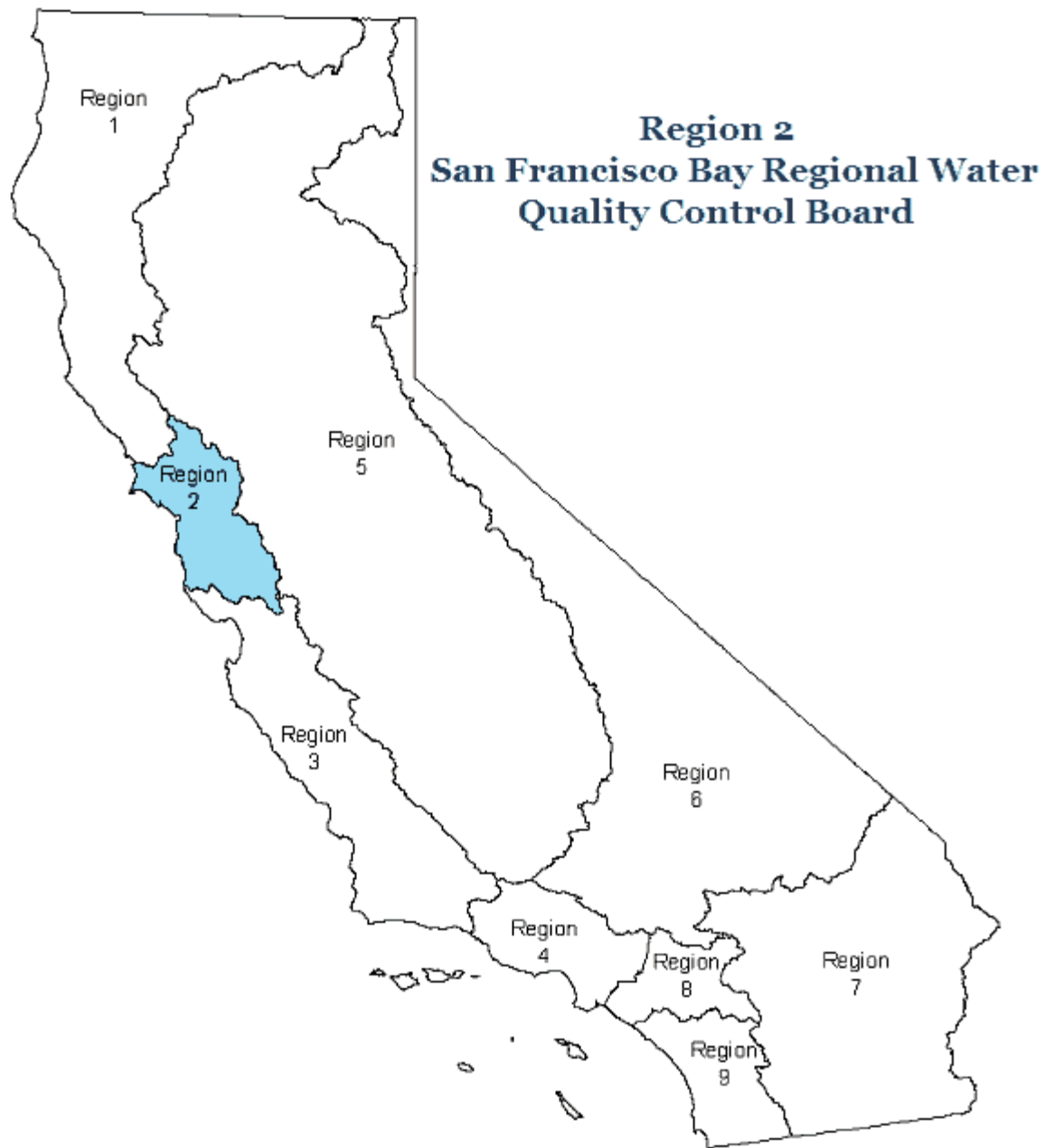


**Draft California 2016 Integrated Report (303(d) List/305(b) Report)
Supporting Information**



**Draft
March 30, 2017**

REGIONAL BOARD 2 - SAN FRANCISCO BAY REGION

- **New or Revised Fact Sheets**

These lines of evidence and/or decisions, which were developed during the last listing cycle, are new or have been revised.

- **Original Fact Sheets**

These lines of evidence and/or decisions were developed during the last listing cycle.

New or Revised Fact Sheets

Delist from 303(d) list (TMDL required list)

Regional Board 2

- **Calabazas Creek**
 - [Diazinon \(34750\)](#)
- **Hearts Desire Beach**
 - [Indicator Bacteria \(34115\)](#)
- **Lawsons Landing**
 - [Indicator Bacteria \(33976\)](#)
- **Marina Lagoon (San Mateo County)**
 - [Indicator Bacteria \(34787\)](#)
- **Napa River**
 - [Nutrients \(34017\)](#)
 - [Pathogens \(35007\)](#)
 - [Sedimentation/Siltation \(44582\)](#)
- **Napa River, tidal**
 - [Sedimentation/Siltation \(54408\)](#)
- **Pacific Ocean at Baker Beach**
 - [Indicator Bacteria \(34385\)](#)
- **Pacific Ocean at Bolinas Beach**
 - [Indicator Bacteria \(34386\)](#)
- **Pacific Ocean at Fitzgerald Marine Reserve**
 - [Indicator Bacteria \(34522\)](#)
- **Pacific Ocean at Muir Beach**
 - [Indicator Bacteria \(33945\)](#)
- **Pacific Ocean at Rockaway Beach**
 - [Indicator Bacteria \(32928\)](#)

- **Sacramento San Joaquin Delta**
 - [Nickel \(34615\)](#)
- **San Francisco Bay, Central**
 - [Diazinon \(32937\)](#)
- **San Francisco Bay, Lower**
 - [Diazinon \(32940\)](#)
 - [Nickel \(34622\)](#)
- **San Francisco Bay, South**
 - [Diazinon \(32941\)](#)
- **San Leandro Bay (part of SF Bay, Lower)**
 - [Diazinon \(33188\)](#)
- **San Pablo Bay**
 - [Diazinon \(32374\)](#)
 - [Nickel \(33887\)](#)
- **Sonoma Creek**
 - [Nutrients \(34403\)](#)
 - [Pathogens \(34086\)](#)
 - [Sedimentation/Siltation \(34404\)](#)
- **Sonoma Creek, tidal**
 - [Sedimentation/Siltation \(53924\)](#)
- **Suisun Bay**
 - [Diazinon \(32818\)](#)

Do Not Delist from 303(d) list (TMDL required list)

Regional Board 2

- **Anderson Reservoir**
 - [Mercury \(33630\)](#)
 - [PCBs \(Polychlorinated biphenyls\) \(33562\)](#)
- **Bon Tempe Reservoir**
 - [Mercury \(33196\)](#)
- **Calaveras Reservoir**
 - [Mercury \(39711\)](#)
- **Carquinez Strait**
 - [Chlordane \(32831\)](#)
 - [DDT \(Dichlorodiphenyltrichloroethane\) \(32832\)](#)
 - [Dieldrin \(34095\)](#)
- **Del Valle Reservoir**
 - [Mercury \(33244\)](#)
 - [PCBs \(Polychlorinated biphenyls\) \(33156\)](#)

- **Golden Hinde Beach**
 - [Indicator Bacteria \(34373\)](#)
- **Lafayette Reservoir**
 - [Mercury \(33200\)](#)
 - [PCBs \(Polychlorinated biphenyls\) \(33201\)](#)
- **Lake Chabot (Alameda Co)**
 - [Chlordane \(33563\)](#)
 - [Dieldrin \(33785\)](#)
 - [Mercury \(33786\)](#)
 - [PCBs \(Polychlorinated biphenyls\) \(33787\)](#)
- **Lake Merced**
 - [Oxygen, Dissolved \(34437\)](#)
 - [pH \(34214\)](#)
- **Lake Merritt**
 - [Trash \(44585\)](#)
- **Nicasio Reservoir**
 - [Mercury \(33202\)](#)
- **Pacific Ocean at Pillar Point Beach**
 - [Indicator Bacteria \(34356\)](#)
- **Pacific Ocean at Venice Beach**
 - [Indicator Bacteria \(34367\)](#)
- **Sacramento San Joaquin Delta**
 - [Chlordane \(33734\)](#)
 - [DDT \(Dichlorodiphenyltrichloroethane\) \(33735\)](#)
 - [Dieldrin \(33736\)](#)
- **San Francisco Bay, Central**
 - [Chlordane \(33581\)](#)
 - [DDT \(Dichlorodiphenyltrichloroethane\) \(33582\)](#)
 - [Dieldrin \(34650\)](#)
- **San Francisco Bay, Lower**
 - [Chlordane \(33517\)](#)
 - [DDT \(Dichlorodiphenyltrichloroethane\) \(33518\)](#)
 - [Dieldrin \(44930\)](#)
 - [Trash \(44675\)](#)
- **San Francisco Bay, South**
 - [Chlordane \(33834\)](#)
 - [DDT \(Dichlorodiphenyltrichloroethane\) \(33835\)](#)
 - [Dieldrin \(33836\)](#)
 - [Selenium \(34460\)](#)
- **San Leandro Bay (part of SF Bay, Lower)**
 - [Chlordane \(33230\)](#)
 - [Dieldrin \(33229\)](#)

San Pablo Bay

- [Chlordane \(33545\)](#)
- [DDT \(Dichlorodiphenyltrichloroethane\) \(34688\)](#)
- [Dieldrin \(33972\)](#)

• San Pablo Reservoir

- [Chlordane \(44665\)](#)
- [Dieldrin \(33130\)](#)
- [Heptachlor epoxide \(33709\)](#)
- [Mercury \(32376\)](#)
- [PCBs \(Polychlorinated biphenyls\) \(33131\)](#)

• Shadow Cliffs Reservoir

- [Mercury \(33759\)](#)
- [PCBs \(Polychlorinated biphenyls\) \(33760\)](#)

• Soulajule Reservoir

- [PCBs \(Polychlorinated biphenyls\) \(33060\)](#)

• Stevens Creek

- [Toxicity \(33884\)](#)

• Stevens Creek Reservoir

- [Chlordane \(34129\)](#)
- [Dieldrin \(34131\)](#)
- [Mercury \(34132\)](#)
- [PCBs \(Polychlorinated biphenyls\) \(34133\)](#)

• Suisun Bay

- [Chlordane \(34583\)](#)
- [DDT \(Dichlorodiphenyltrichloroethane\) \(34584\)](#)
- [Dieldrin \(34585\)](#)

Do Not Delist from 303(d) list (being addressed with USEPA approved TMDL)

Regional Board 2

• Alameda Creek

- [Diazinon \(35114\)](#)

• Almaden Lake

- [Mercury \(35039\)](#)

• Aquatic Park (Marina Lagoon, San Mateo County)

- [Indicator Bacteria \(67371\)](#)

• Aquatic Park Beach

- [Indicator Bacteria \(34366\)](#)

• Calero Reservoir

- [Mercury \(32505\)](#)

• Candlestick Point

- [Indicator Bacteria \(34387\)](#)

- **Carquinez Strait**
 - [PCBs \(Polychlorinated biphenyls\) \(34705\)](#)
 - [Selenium \(34704\)](#)
- **Chicken Ranch Beach**
 - [Indicator Bacteria \(34388\)](#)
- **Corte Madera Creek**
 - [Diazinon \(34646\)](#)
- **Coyote Creek (Santa Clara Co.)**
 - [Diazinon \(34555\)](#)
- **Crissy Field Beach**
 - [Indicator Bacteria \(34372\)](#)
- **Guadalupe Creek**
 - [Mercury \(34072\)](#)
- **Guadalupe Reservoir**
 - [Mercury \(34073\)](#)
- **Guadalupe River**
 - [Diazinon \(35113\)](#)
 - [Mercury \(34432\)](#)
- **Lagunitas Creek**
 - [Sedimentation/Siltation \(34435\)](#)
- **McNears Beach**
 - [Indicator Bacteria \(34277\)](#)
- **Millerton Point**
 - [Indicator Bacteria \(34475\)](#)
- **Mission Creek**
 - [PCBs \(Polychlorinated biphenyls\) \(32782\)](#)
- **Napa River, non-tidal**
 - [Pathogens \(54405\)](#)
 - [Sedimentation/Siltation \(54409\)](#)
- **Oakland Inner Harbor (Fruitvale Site, part of SF Bay, Lower)**
 - [PCBs \(Polychlorinated biphenyls\) \(sediment\) \(33424\)](#)
- **Pacific Ocean at Pacifica State/Linda Mar Beach**
 - [Indicator Bacteria \(34523\)](#)
- **Sacramento San Joaquin Delta**
 - [Mercury \(34769\)](#)
 - [PCBs \(Polychlorinated biphenyls\) \(34616\)](#)
 - [Selenium \(44584\)](#)
- **San Francisco Bay, Central**

- [Mercury \(34078\)](#)
 - [PCBs \(Polychlorinated biphenyls\) \(33595\)](#)
 - [Selenium \(44821\)](#)
- San Francisco Bay, Lower
 - [Mercury \(34781\)](#)
 - [PCBs \(Polychlorinated biphenyls\) \(34684\)](#)
- San Francisco Bay, South
 - [Mercury \(33935\)](#)
 - [PCBs \(Polychlorinated biphenyls\) \(34219\)](#)
- San Leandro Bay (part of SF Bay, Lower)
 - [Mercury \(34525\)](#)
- San Leandro Creek, Lower
 - [Diazinon \(34255\)](#)
- San Pablo Bay
 - [Mercury \(35256\)](#)
 - [PCBs \(Polychlorinated biphenyls\) \(33888\)](#)
 - [Selenium \(34138\)](#)
- San Pedro Creek
 - [Indicator Bacteria \(32377\)](#)
- Sonoma Creek, non-tidal
 - [Sedimentation/Siltation \(53923\)](#)
- Soulajule Reservoir
 - [Mercury \(33059\)](#)
- Stevens Creek
 - [Diazinon \(33996\)](#)
- Suisun Bay
 - [Mercury \(33556\)](#)
 - [PCBs \(Polychlorinated biphenyls\) \(33558\)](#)
 - [Selenium \(33560\)](#)
- Tomales Bay
 - [Mercury \(33561\)](#)
- Walker Creek
 - [Mercury \(32772\)](#)
- Walnut Creek
 - [Diazinon \(33647\)](#)

Do Not Delist from 303(d) list (being addressed with action other than TMDL)

Regional Board 2

- Baxter Creek (Contra Costa County)
 - [Trash \(35258\)](#)

- **Cerrito Creek**
 - [Trash \(35451\)](#)
- **Codornices Creek**
 - [Trash \(35094\)](#)
- **Colma Creek**
 - [Trash \(35076\)](#)
- **Coyote Creek (Santa Clara Co.)**
 - [Trash \(35717\)](#)
- **Damon Slough**
 - [Trash \(35108\)](#)
- **Grayson Creek**
 - [Trash \(35500\)](#)
- **Guadalupe River**
 - [Trash \(34984\)](#)
- **Kirker Creek**
 - [Trash \(35556\)](#)
- **Matadero Creek**
 - [Trash \(35098\)](#)
- **Old Alameda Creek**
 - [Trash \(42437\)](#)
- **Permanente Creek**
 - [Trash \(34848\)](#)
- **Petaluma River**
 - [Trash \(34923\)](#)
- **Rindler Creek**
 - [Trash \(35097\)](#)
- **San Francisquito Creek**
 - [Trash \(35585\)](#)
- **San Leandro Creek, Lower**
 - [Trash \(34767\)](#)
- **San Mateo Creek**
 - [Trash \(34960\)](#)
- **San Pablo Creek**
 - [Trash \(44743\)](#)
- **San Tomas Aquinas Creek**
 - [Trash \(35041\)](#)

- **Saratoga Creek**
 - [Trash \(34977\)](#)
- **Sausal Creek**
 - [Trash \(34799\)](#)
- **Silver Creek (Santa Clara County)**
 - [Trash \(35080\)](#)
- **Stevens Creek**
 - [Trash \(34847\)](#)
- **Strawberry Creek (Alameda County)**
 - [Trash \(35586\)](#)

Do Not List on 303(d) list (TMDL required list)

Regional Board 2

- **Alameda Creek**
 - [Anthracene \(61048\)](#)
 - [Arsenic \(61049\)](#)
 - [Benzo\(a\)anthracene \(61050\)](#)
 - [Benzo\(a\)pyrene \(3,4-Benzopyrene -7-d\) \(61051\)](#)
 - [Bifenthrin \(61052\)](#)
 - [Chlordane \(61054\)](#)
 - [Chlorpyrifos \(61055\)](#)
 - [Chromium \(61056\)](#)
 - [Chrysene \(C1-C4\) \(61057\)](#)
 - [Copper \(61118\)](#)
 - [Cyfluthrin \(61119\)](#)
 - [Cyhalothrin, Lambda \(61120\)](#)
 - [Cypermethrin \(61121\)](#)
 - [DDD \(Dichlorodiphenyldichloroethane\) \(61122\)](#)
 - [DDE \(Dichlorodiphenyldichloroethylene\) \(61123\)](#)
 - [DDT \(Dichlorodiphenyltrichloroethane\) \(61124\)](#)
 - [Deltamethrin \(61125\)](#)
 - [Dieldrin \(61126\)](#)
 - [Endrin \(61127\)](#)
 - [Esfenvalerate/Fenvalerate \(61128\)](#)
 - [Fenpropathrin \(61129\)](#)
 - [Fluoranthene \(61130\)](#)
 - [Fluorene \(61131\)](#)
 - [Lead \(61132\)](#)
 - [Lindane/gamma Hexachlorocyclohexane \(gamma-HCH\) \(61133\)](#)
 - [Mercury \(61134\)](#)
 - [Methyl Parathion \(61135\)](#)
 - [Naphthalene \(61136\)](#)
 - [Nickel \(61137\)](#)
 - [PAHs \(Polycyclic Aromatic Hydrocarbons\) \(61138\)](#)
 - [PCBs \(Polychlorinated biphenyls\) \(61139\)](#)
 - [Permethrin \(61140\)](#)
 - [Phenanthrene \(61141\)](#)
 - [Pyrene \(61142\)](#)
 - [Toxicity \(61144\)](#)
 - [Zinc \(61145\)](#)

- **Alameda Creek Quarry Ponds**

- [Aldrin \(61146\)](#)
- [Chlordane \(61151\)](#)
- [DDT \(Dichlorodiphenyltrichloroethane\) \(61185\)](#)
- [Dieldrin \(61152\)](#)
- [Endosulfan \(61153\)](#)
- [Endrin \(61154\)](#)
- [Heptachlor \(61155\)](#)
- [Heptachlor epoxide \(61156\)](#)
- [Hexachlorobenzene/ HCB \(61157\)](#)
- [Lindane/gamma Hexachlorocyclohexane \(gamma-HCH\) \(61178\)](#)
- [Mercury \(61180\)](#)
- [Mirex \(61181\)](#)
- [PCBs \(Polychlorinated biphenyls\) \(61182\)](#)
- [Selenium \(61184\)](#)

- **Almaden Lake**

- [Aldrin \(61187\)](#)
- [Chlordane \(61188\)](#)
- [DDT \(Dichlorodiphenyltrichloroethane\) \(61207\)](#)
- [Dieldrin \(61189\)](#)
- [Endosulfan \(61191\)](#)
- [Endrin \(61192\)](#)
- [Heptachlor epoxide \(61196\)](#)
- [Hexachlorobenzene/ HCB \(61197\)](#)
- [Lindane/gamma Hexachlorocyclohexane \(gamma-HCH\) \(61198\)](#)
- [Mirex \(61204\)](#)
- [PCBs \(Polychlorinated biphenyls\) \(61205\)](#)

- **American Canyon Creek**

- [Chlorpyrifos \(61245\)](#)
- [Diazinon \(61248\)](#)
- [Toxicity \(61249\)](#)

- **Anderson Reservoir**

- [Aldrin \(61251\)](#)
- [Chlordane \(61259\)](#)
- [DDT \(Dichlorodiphenyltrichloroethane\) \(61269\)](#)
- [Dieldrin \(61260\)](#)
- [Endosulfan \(61261\)](#)
- [Endrin \(61262\)](#)
- [Heptachlor \(61263\)](#)
- [Heptachlor epoxide \(61264\)](#)
- [Hexachlorobenzene/ HCB \(61265\)](#)
- [Lindane/gamma Hexachlorocyclohexane \(gamma-HCH\) \(61266\)](#)
- [Mirex \(61267\)](#)
- [Selenium \(61268\)](#)

- **Arroyo Las Positas**

- [Selenium \(44108\)](#)
- [Toxicity \(43065\)](#)

- **Ballena Isle Marina (part of San Francisco Bay, Lower)**

- [Copper \(61270\)](#)
- [Oxygen, Dissolved \(61271\)](#)
- [Zinc \(61272\)](#)
- [pH \(61273\)](#)

- **Benecia Marina (part of Carquinez Strait)**

- [Copper \(61274\)](#)
- [Oxygen, Dissolved \(61275\)](#)
- [Toxicity \(61276\)](#)
- [Zinc \(61277\)](#)
- [pH \(61278\)](#)

- **Berkeley Marina (part of San Francisco Bay, Central)**

- [Chlordane \(61298\)](#)
- [Chlorpyrifos \(61314\)](#)
- [Copper \(61322\)](#)
- [Diazinon \(61336\)](#)
- [Endosulfan \(61348\)](#)
- [Endrin \(61349\)](#)
- [Heptachlor epoxide \(61350\)](#)
- [Hexachlorobenzene/ HCB \(61351\)](#)
- [Mirex \(61352\)](#)
- [Oxygen, Dissolved \(61353\)](#)
- [PCBs \(Polychlorinated biphenyls\) \(61354\)](#)
- [Toxicity \(61355\)](#)
- [Zinc \(61356\)](#)
- [pH \(61357\)](#)

- **Bon Tempe Reservoir**

- [Aldrin \(61358\)](#)
- [Chlordane \(61359\)](#)
- [DDT \(Dichlorodiphenyltrichloroethane\) \(61370\)](#)
- [Dieldrin \(61360\)](#)
- [Endosulfan \(61361\)](#)
- [Endrin \(61362\)](#)
- [Heptachlor \(61363\)](#)
- [Heptachlor epoxide \(61364\)](#)
- [Hexachlorobenzene/ HCB \(61365\)](#)
- [Lindane/gamma Hexachlorocyclohexane \(gamma-HCH\) \(61366\)](#)
- [Mirex \(61367\)](#)
- [PCBs \(Polychlorinated biphenyls\) \(61368\)](#)
- [Selenium \(61369\)](#)

- **Briones Reservoir**

- [Aldrin \(61371\)](#)
- [Chlordane \(61372\)](#)
- [DDT \(Dichlorodiphenyltrichloroethane\) \(61384\)](#)
- [Dieldrin \(61373\)](#)
- [Endosulfan \(61374\)](#)
- [Endrin \(61375\)](#)
- [Heptachlor \(61376\)](#)
- [Heptachlor epoxide \(61377\)](#)
- [Hexachlorobenzene/ HCB \(61378\)](#)
- [Lindane/gamma Hexachlorocyclohexane \(gamma-HCH\) \(61379\)](#)
- [Mirex \(61381\)](#)
- [PCBs \(Polychlorinated biphenyls\) \(61382\)](#)
- [Selenium \(61383\)](#)

- **Calaveras Reservoir**

- [Aldrin \(61389\)](#)
- [Chlordane \(61391\)](#)
- [DDT \(Dichlorodiphenyltrichloroethane\) \(61416\)](#)
- [Dieldrin \(61392\)](#)
- [Endosulfan \(61393\)](#)

- [Endrin \(61394\)](#)
 - [Heptachlor \(61395\)](#)
 - [Heptachlor epoxide \(61396\)](#)
 - [Hexachlorobenzene/ HCB \(61408\)](#)
 - [Lindane/gamma Hexachlorocyclohexane \(gamma-HCH\) \(61409\)](#)
 - [Mirex \(61411\)](#)
 - [PCBs \(Polychlorinated biphenyls\) \(61412\)](#)
 - [Selenium \(61414\)](#)
- **Calero Reservoir**
 - [Aldrin \(61426\)](#)
 - [Chlordane \(61433\)](#)
 - [DDT \(Dichlorodiphenyltrichloroethane\) \(61476\)](#)
 - [Dieldrin \(61434\)](#)
 - [Endosulfan \(61435\)](#)
 - [Endrin \(61436\)](#)
 - [Heptachlor \(61437\)](#)
 - [Heptachlor epoxide \(61470\)](#)
 - [Hexachlorobenzene/ HCB \(61471\)](#)
 - [Lindane/gamma Hexachlorocyclohexane \(gamma-HCH\) \(61472\)](#)
 - [Mirex \(61473\)](#)
 - [PCBs \(Polychlorinated biphenyls\) \(61474\)](#)
 - [Selenium \(61475\)](#)
- **Carquinez Strait**
 - [Acenaphthene \(61477\)](#)
 - [Aldrin \(61478\)](#)
 - [Arsenic \(61479\)](#)
 - [Cadmium \(61480\)](#)
 - [Chrysene \(C1-C4\) \(61481\)](#)
 - [Copper \(61482\)](#)
 - [Endrin \(61483\)](#)
 - [Fluoranthene \(61581\)](#)
 - [Fluorene \(61582\)](#)
 - [Heptachlor \(61583\)](#)
 - [Heptachlor epoxide \(61584\)](#)
 - [Lead \(61585\)](#)
 - [Manganese \(61586\)](#)
 - [Mirex \(61587\)](#)
 - [Nickel \(61588\)](#)
 - [Oxygen, Dissolved \(61593\)](#)
 - [Pyrene \(61595\)](#)
 - [Zinc \(61597\)](#)
 - [pH \(61594\)](#)
- **Cerrito Creek**
 - [Chlordane \(44333\)](#)
 - [Fluoranthene \(60669\)](#)
 - [Fluorene \(60670\)](#)
 - [PAHs \(Polycyclic Aromatic Hydrocarbons\) \(60674\)](#)
- **Clipper Yacht Club (part of Richardson Bay)**
 - [Copper \(61679\)](#)
 - [Oxygen, Dissolved \(61680\)](#)
 - [Zinc \(61681\)](#)
 - [pH \(61682\)](#)
- **Cordellia Slough, unnamed tributary**
 - [Chlordane \(61683\)](#)

- [DDD \(Dichlorodiphenyldichloroethane\) \(61684\)](#)
 - [DDE \(Dichlorodiphenyldichloroethylene\) \(61685\)](#)
 - [DDT \(Dichlorodiphenyltrichloroethane\) \(61780\)](#)
 - [Dieldrin \(61781\)](#)
 - [Endrin \(61782\)](#)
 - [Lindane/gamma Hexachlorocyclohexane \(gamma-HCH\) \(61783\)](#)
 - [Toxicity \(61785\)](#)
- **Corte Madera Creek**
 - [Bifenthrin \(61786\)](#)
 - [Chlordane \(61812\)](#)
 - [Chlorpyrifos \(61815\)](#)
 - [Cyfluthrin \(61816\)](#)
 - [Cyhalothrin, Lambda \(61817\)](#)
 - [Cypermethrin \(61818\)](#)
 - [DDD \(Dichlorodiphenyldichloroethane\) \(61841\)](#)
 - [DDE \(Dichlorodiphenyldichloroethylene\) \(61842\)](#)
 - [DDT \(Dichlorodiphenyltrichloroethane\) \(61843\)](#)
 - [Deltamethrin \(61844\)](#)
 - [Dieldrin \(61845\)](#)
 - [Endrin \(61846\)](#)
 - [Esfenvalerate/Fenvalerate \(61847\)](#)
 - [Fenpropathrin \(61848\)](#)
 - [Fipronil \(61851\)](#)
 - [Fipronil Sulfide \(61852\)](#)
 - [Fipronil Sulfone \(61853\)](#)
 - [Lindane/gamma Hexachlorocyclohexane \(gamma-HCH\) \(61854\)](#)
 - [Permethrin \(61857\)](#)
 - [Toxicity \(61859\)](#)
- **Coyote Creek (Santa Clara Co.)**
 - [Alkalinity as CaCO₃ \(61860\)](#)
 - [Ammonia \(Unionized\) \(61861\)](#)
 - [Anthracene \(61862\)](#)
 - [Arsenic \(61863\)](#)
 - [Benzo\(a\)anthracene \(61864\)](#)
 - [Benzo\(a\)pyrene \(3,4-Benzopyrene -7-d\) \(61865\)](#)
 - [Bifenthrin \(61866\)](#)
 - [Cadmium \(61867\)](#)
 - [Chlordane \(61868\)](#)
 - [Chloride \(61869\)](#)
 - [Chlorpyrifos \(61870\)](#)
 - [Chromium \(61871\)](#)
 - [Chrysene \(C1-C4\) \(61872\)](#)
 - [Copper \(61873\)](#)
 - [Cyfluthrin \(61874\)](#)
 - [Cyhalothrin, Lambda \(61875\)](#)
 - [Cypermethrin \(61876\)](#)
 - [DDD \(Dichlorodiphenyldichloroethane\) \(61877\)](#)
 - [DDE \(Dichlorodiphenyldichloroethylene\) \(61878\)](#)
 - [DDT \(Dichlorodiphenyltrichloroethane\) \(61879\)](#)
 - [Deltamethrin \(61978\)](#)
 - [Dieldrin \(61982\)](#)
 - [Endrin \(61990\)](#)
 - [Esfenvalerate/Fenvalerate \(61992\)](#)
 - [Fenpropathrin \(61995\)](#)
 - [Fipronil \(61997\)](#)
 - [Fipronil Sulfide \(61998\)](#)
 - [Fipronil Sulfone \(62000\)](#)
 - [Fluoranthene \(62001\)](#)

- [Fluorene \(62002\)](#)
- [Lead \(62011\)](#)
- [Lindane/gamma Hexachlorocyclohexane \(gamma-HCH\) \(62012\)](#)
- [Mercury \(62014\)](#)
- [Methyl Parathion \(62015\)](#)
- [Naphthalene \(62017\)](#)
- [Nickel \(62018\)](#)
- [Nitrate/Nitrite \(Nitrite + Nitrate as N\) \(62019\)](#)
- [Nitrogen, ammonia \(Total Ammonia\) \(62020\)](#)
- [Oxygen, Dissolved \(62021\)](#)
- [PAHs \(Polycyclic Aromatic Hydrocarbons\) \(62022\)](#)
- [PCBs \(Polychlorinated biphenyls\) \(62023\)](#)
- [Permethrin \(62024\)](#)
- [Phenanthrene \(62073\)](#)
- [Pyrene \(62111\)](#)
- [Specific Conductivity \(62114\)](#)
- [Temperature, water \(62119\)](#)
- [Zinc \(62127\)](#)
- [pH \(62135\)](#)

- **Coyote Point County Park (San Francisco Bay, Lower)**
 - [Indicator Bacteria \(62139\)](#)

- **Coyote Point Marina (part of San Francisco Bay, Lower)**
 - [Copper \(64173\)](#)
 - [Oxygen, Dissolved \(64174\)](#)
 - [Zinc \(64175\)](#)
 - [pH \(64176\)](#)

- **Coyote Reservoir**
 - [Aldrin \(61557\)](#)
 - [Chlordane \(61561\)](#)
 - [DDT \(Dichlorodiphenyltrichloroethane\) \(61641\)](#)
 - [Dieldrin \(61622\)](#)
 - [Endosulfan \(61623\)](#)
 - [Endrin \(61626\)](#)
 - [Heptachlor \(61629\)](#)
 - [Heptachlor epoxide \(61630\)](#)
 - [Hexachlorobenzene/ HCB \(61632\)](#)
 - [Lindane/gamma Hexachlorocyclohexane \(gamma-HCH\) \(61635\)](#)
 - [Mirex \(61638\)](#)
 - [PCBs \(Polychlorinated biphenyls\) \(65482\)](#)
 - [Selenium \(61639\)](#)

- **Crissy Field Beach West**
 - [Indicator Bacteria \(64290\)](#)

- **Cunningham, Lake**
 - [Aldrin \(61643\)](#)
 - [Chlordane \(61645\)](#)
 - [DDT \(Dichlorodiphenyltrichloroethane\) \(61660\)](#)
 - [Dieldrin \(61648\)](#)
 - [Endosulfan \(61649\)](#)
 - [Endrin \(61650\)](#)
 - [Heptachlor \(61651\)](#)
 - [Heptachlor epoxide \(61652\)](#)
 - [Hexachlorobenzene/ HCB \(61653\)](#)
 - [Lindane/gamma Hexachlorocyclohexane \(gamma-HCH\) \(61655\)](#)
 - [Mercury \(65483\)](#)

- [Mirex \(61656\)](#)
- [PCBs \(Polychlorinated biphenyls\) \(65484\)](#)
- [Selenium \(61658\)](#)

- **Del Valle Reservoir**
 - [1, 1-dichloroethane \(64291\)](#)
 - [1,1,1-Trichloroethane \(64292\)](#)
 - [1,1,2-Trichloroethane \(64293\)](#)
 - [1,2,4-Trichlorobenzene \(64294\)](#)
 - [1,2-Dibromo-3-chloropropane \(DBCP\) \(64295\)](#)
 - [1,2-Dichloroethane \(64296\)](#)
 - [1,2-Dichloropropane \(64297\)](#)
 - [Aldrin \(64298\)](#)
 - [Benzene \(64345\)](#)
 - [Boron \(64387\)](#)
 - [Bromoform \(64390\)](#)
 - [Carbon tetrachloride \(64391\)](#)
 - [Chlordane \(64392\)](#)
 - [Chlorobenzene \(mono\) \(64393\)](#)
 - [Chlorodibromomethane \(64394\)](#)
 - [Chloroform \(64395\)](#)
 - [DDT \(Dichlorodiphenyltrichloroethane\) \(64415\)](#)
 - [Dichlorobromomethane \(64396\)](#)
 - [Dieldrin \(64398\)](#)
 - [Endosulfan \(64399\)](#)
 - [Endrin \(64400\)](#)
 - [Ethylbenzene \(64401\)](#)
 - [Heptachlor \(64402\)](#)
 - [Heptachlor epoxide \(64403\)](#)
 - [Hexachlorobenzene/ HCB \(64404\)](#)
 - [Hexachlorobutadiene \(64405\)](#)
 - [Lindane/gamma Hexachlorocyclohexane \(gamma-HCH\) \(64406\)](#)
 - [Mirex \(64408\)](#)
 - [Selenium \(64407\)](#)
 - [Specific Conductivity \(64413\)](#)
 - [Toluene \(64414\)](#)
 - [Total Dissolved Solids \(64416\)](#)
 - [cis-1,2-Dichloroethylene \(64397\)](#)
 - [m-Dichlorobenzene \(64409\)](#)
 - [o-Dichlorobenzene \(64410\)](#)
 - [p-Dichlorobenzene \(DCB\) \(64411\)](#)
 - [pH \(64412\)](#)

- **Devils Gulch Creek**
 - [Alkalinity as CaCO3 \(64417\)](#)
 - [Ammonia \(Unionized\) \(64418\)](#)
 - [Benthic Community Effects \(64419\)](#)
 - [Chloride \(64420\)](#)
 - [Nitrate/Nitrite \(Nitrite + Nitrate as N\) \(64421\)](#)
 - [Nitrogen, ammonia \(Total Ammonia\) \(64422\)](#)
 - [Oxygen, Dissolved \(64423\)](#)
 - [Specific Conductivity \(64424\)](#)
 - [Temperature, water \(64426\)](#)
 - [pH \(64425\)](#)

- **Dry Creek (Napa County)**
 - [Benthic Community Effects \(67402\)](#)

- **Elizabeth Lake (Alameda County)**

- [Aldrin \(61929\)](#)
- [Chlordane \(61930\)](#)
- [DDT \(Dichlorodiphenyltrichloroethane\) \(61991\)](#)
- [Dieldrin \(61964\)](#)
- [Endosulfan \(61967\)](#)
- [Endrin \(61968\)](#)
- [Heptachlor \(61969\)](#)
- [Heptachlor epoxide \(61971\)](#)
- [Hexachlorobenzene/ HCB \(61974\)](#)
- [Lindane/gamma Hexachlorocyclohexane \(gamma-HCH\) \(61987\)](#)
- [Mercury \(65485\)](#)
- [Mirex \(61988\)](#)
- [PCBs \(Polychlorinated biphenyls\) \(65486\)](#)
- [Selenium \(61989\)](#)

- **Golden Gate National Recreation Area Marina (part of San Francisco Bay, Central)**
 - [Copper \(64550\)](#)
 - [Oxygen, Dissolved \(64551\)](#)
 - [Toxicity \(64552\)](#)
 - [Zinc \(64553\)](#)
 - [pH \(64557\)](#)

- **Guadalupe River**
 - [Anthracene \(64573\)](#)
 - [Arsenic \(64574\)](#)
 - [Benzo\(a\)anthracene \(64575\)](#)
 - [Benzo\(a\)pyrene \(3,4-Benzopyrene -7-d\) \(64576\)](#)
 - [Bifenthrin \(64577\)](#)
 - [Cadmium \(64578\)](#)
 - [Chlordane \(64580\)](#)
 - [Chlorpyrifos \(64581\)](#)
 - [Chromium \(64582\)](#)
 - [Chrysene \(C1-C4\) \(64583\)](#)
 - [Copper \(64584\)](#)
 - [Cyfluthrin \(64585\)](#)
 - [Cyhalothrin, Lambda \(64586\)](#)
 - [Cypermethrin \(64588\)](#)
 - [DDD \(Dichlorodiphenyldichloroethane\) \(64589\)](#)
 - [DDE \(Dichlorodiphenyldichloroethylene\) \(64590\)](#)
 - [DDT \(Dichlorodiphenyltrichloroethane\) \(64591\)](#)
 - [Deltamethrin \(64592\)](#)
 - [Dieldrin \(64593\)](#)
 - [Endrin \(64594\)](#)
 - [Esfenvalerate/Fenvalerate \(64595\)](#)
 - [Fenpropathrin \(64596\)](#)
 - [Fluoranthene \(64597\)](#)
 - [Fluorene \(64598\)](#)
 - [Lead \(64599\)](#)
 - [Lindane/gamma Hexachlorocyclohexane \(gamma-HCH\) \(64600\)](#)
 - [Methyl Parathion \(64601\)](#)
 - [Naphthalene \(64602\)](#)
 - [Nickel \(64603\)](#)
 - [PAHs \(Polycyclic Aromatic Hydrocarbons\) \(64604\)](#)
 - [PCBs \(Polychlorinated biphenyls\) \(64605\)](#)
 - [Permethrin \(64606\)](#)
 - [Phenanthrene \(64607\)](#)
 - [Pyrene \(64608\)](#)
 - [Toxicity \(64611\)](#)
 - [Zinc \(64613\)](#)

- **Guadalupe Slough**

- [Arsenic \(64614\)](#)
- [Cadmium \(64616\)](#)
- [Chromium \(64619\)](#)
- [Copper \(64620\)](#)
- [Lead \(64866\)](#)
- [Nickel \(64867\)](#)
- [Selenium \(64868\)](#)
- [Silver \(64869\)](#)
- [Zinc \(64870\)](#)

- **Henne, Lake**

- [Aldrin \(62125\)](#)
- [Chlordane \(62126\)](#)
- [DDT \(Dichlorodiphenyltrichloroethane\) \(62138\)](#)
- [Dieldrin \(62128\)](#)
- [Endosulfan \(62129\)](#)
- [Endrin \(62130\)](#)
- [Heptachlor \(62131\)](#)
- [Heptachlor epoxide \(62132\)](#)
- [Hexachlorobenzene/ HCB \(62133\)](#)
- [Lindane/gamma Hexachlorocyclohexane \(gamma-HCH\) \(62134\)](#)
- [Mirex \(62136\)](#)
- [PCBs \(Polychlorinated biphenyls\) \(65488\)](#)
- [Selenium \(62137\)](#)

- **Indian Creek (Alameda County)**

- [Alkalinity as CaCO₃ \(64877\)](#)
- [Ammonia \(Unionized\) \(64878\)](#)
- [Nitrate/Nitrite \(Nitrite + Nitrate as N\) \(64879\)](#)
- [Nitrogen, ammonia \(Total Ammonia\) \(64880\)](#)
- [Oxygen, Dissolved \(64882\)](#)
- [Specific Conductivity \(64885\)](#)
- [Temperature, water \(64893\)](#)
- [pH \(64894\)](#)

- **Kirker Creek**

- [Bifenthrin \(65546\)](#)
- [Cypermethrin \(65776\)](#)
- [Deltamethrin \(65915\)](#)
- [Esfenvalerate/Fenvalerate \(65916\)](#)
- [Fenpropathrin \(65917\)](#)
- [Permethrin \(65918\)](#)

- **Lafayette Reservoir**

- [Aldrin \(64918\)](#)
- [Chlordane \(64919\)](#)
- [DDT \(Dichlorodiphenyltrichloroethane\) \(64940\)](#)
- [Dieldrin \(64920\)](#)
- [Endosulfan \(64921\)](#)
- [Endrin \(64922\)](#)
- [Heptachlor \(64928\)](#)
- [Heptachlor epoxide \(64929\)](#)
- [Hexachlorobenzene/ HCB \(64930\)](#)
- [Lindane/gamma Hexachlorocyclohexane \(gamma-HCH\) \(64937\)](#)
- [Mirex \(64938\)](#)
- [Selenium \(64939\)](#)

Lagunitas Creek

- [Arsenic \(64944\)](#)
- [Bifenthrin \(64945\)](#)
- [Cadmium \(44148\)](#)
- [Chlordane \(64946\)](#)
- [Chlorpyrifos \(64947\)](#)
- [Chromium \(64948\)](#)
- [Copper \(64949\)](#)
- [Cyfluthrin \(64950\)](#)
- [Cyhalothrin, Lambda \(64951\)](#)
- [Cypermethrin \(64953\)](#)
- [DDD \(Dichlorodiphenyldichloroethane\) \(64954\)](#)
- [DDE \(Dichlorodiphenyldichloroethylene\) \(64960\)](#)
- [DDT \(Dichlorodiphenyltrichloroethane\) \(64961\)](#)
- [Deltamethrin \(64962\)](#)
- [Diazinon \(64963\)](#)
- [Dieldrin \(64965\)](#)
- [Endrin \(64966\)](#)
- [Esfenvalerate/Fenvalerate \(64968\)](#)
- [Fenpropathrin \(64969\)](#)
- [Lead \(64971\)](#)
- [Lindane/gamma Hexachlorocyclohexane \(gamma-HCH\) \(64972\)](#)
- [Mercury \(64973\)](#)
- [Methyl Parathion \(64974\)](#)
- [Nickel \(64975\)](#)
- [PCBs \(Polychlorinated biphenyls\) \(64977\)](#)
- [Permethrin \(64976\)](#)
- [Toxicity \(43948\)](#)
- [Zinc \(64979\)](#)

• Lake Chabot (Alameda Co)

- [Aldrin \(63756\)](#)
- [Endosulfan \(63757\)](#)
- [Endrin \(63758\)](#)
- [Heptachlor \(63759\)](#)
- [Heptachlor epoxide \(63760\)](#)
- [Hexachlorobenzene/ HCB \(63761\)](#)
- [Lindane/gamma Hexachlorocyclohexane \(gamma-HCH\) \(63762\)](#)
- [Mirex \(63763\)](#)
- [Selenium \(63764\)](#)

• Lake Chabot (Solano Co)

- [Aldrin \(63766\)](#)
- [Chlordane \(63767\)](#)
- [DDT \(Dichlorodiphenyltrichloroethane\) \(63777\)](#)
- [Dieldrin \(63768\)](#)
- [Endosulfan \(63769\)](#)
- [Endrin \(63770\)](#)
- [Heptachlor \(63771\)](#)
- [Heptachlor epoxide \(63772\)](#)
- [Hexachlorobenzene/ HCB \(63773\)](#)
- [Lindane/gamma Hexachlorocyclohexane \(gamma-HCH\) \(63774\)](#)
- [Mirex \(63775\)](#)
- [PCBs \(Polychlorinated biphenyls\) \(65490\)](#)
- [Selenium \(63776\)](#)

• Las Trampas Creek

- [Alkalinity as CaCO₃ \(64980\)](#)
- [Ammonia \(Unionized\) \(64981\)](#)

- [Nitrate/Nitrite \(Nitrite + Nitrate as N\) \(64982\)](#)
- [Nitrogen, ammonia \(Total Ammonia\) \(64983\)](#)
- [Oxygen, Dissolved \(64984\)](#)
- [Specific Conductivity \(64985\)](#)
- [Temperature, water \(64986\)](#)
- [pH \(64987\)](#)
- **Laurel Creek (Solano County)**
 - [Anthracene \(64988\)](#)
 - [Arsenic \(64989\)](#)
 - [Benzo\(a\)anthracene \(64990\)](#)
 - [Benzo\(a\)pyrene \(3,4-Benzopyrene -7-d\) \(64991\)](#)
 - [Bifenthrin \(64992\)](#)
 - [Cadmium \(64993\)](#)
 - [Chlordane \(64994\)](#)
 - [Chlorpyrifos \(64995\)](#)
 - [Chromium \(64996\)](#)
 - [Chrysene \(C1-C4\) \(64997\)](#)
 - [Copper \(64998\)](#)
 - [Cyfluthrin \(64999\)](#)
 - [Cyhalothrin, Lambda \(65000\)](#)
 - [Cypermethrin \(65001\)](#)
 - [DDD \(Dichlorodiphenyldichloroethane\) \(65002\)](#)
 - [DDE \(Dichlorodiphenyldichloroethylene\) \(65003\)](#)
 - [DDT \(Dichlorodiphenyltrichloroethane\) \(65004\)](#)
 - [Deltamethrin \(65005\)](#)
 - [Diazinon \(65006\)](#)
 - [Dieldrin \(65007\)](#)
 - [Endrin \(65008\)](#)
 - [Esfenvalerate/Fenvalerate \(65009\)](#)
 - [Fenpropathrin \(65012\)](#)
 - [Fluoranthene \(65013\)](#)
 - [Fluorene \(65014\)](#)
 - [Lead \(65015\)](#)
 - [Lindane/gamma Hexachlorocyclohexane \(gamma-HCH\) \(65016\)](#)
 - [Mercury \(65017\)](#)
 - [Methyl Parathion \(65018\)](#)
 - [Naphthalene \(65019\)](#)
 - [Nickel \(65020\)](#)
 - [PAHs \(Polycyclic Aromatic Hydrocarbons\) \(65021\)](#)
 - [PCBs \(Polychlorinated biphenyls\) \(65022\)](#)
 - [Permethrin \(65023\)](#)
 - [Phenanthrene \(65024\)](#)
 - [Pyrene \(65025\)](#)
 - [Toxicity \(65027\)](#)
 - [Zinc \(65028\)](#)
- **Ledgewood Creek**
 - [Trash \(65538\)](#)
- **Loch Lomond Marina (part of San Francisco Bay, Central)**
 - [Copper \(65539\)](#)
 - [Oxygen, Dissolved \(65540\)](#)
 - [Toxicity \(65541\)](#)
 - [Zinc \(65542\)](#)
 - [pH \(65543\)](#)
- **Lower Crystal Springs Reservoir**
 - [Aldrin \(63779\)](#)

- [Chlordane \(63780\)](#)
 - [DDT \(Dichlorodiphenyltrichloroethane\) \(64004\)](#)
 - [Dieldrin \(63781\)](#)
 - [Endosulfan \(63782\)](#)
 - [Endrin \(63783\)](#)
 - [Heptachlor \(63998\)](#)
 - [Heptachlor epoxide \(63999\)](#)
 - [Hexachlorobenzene/ HCB \(64000\)](#)
 - [Lindane/gamma Hexachlorocyclohexane \(gamma-HCH\) \(64001\)](#)
 - [Mirex \(64002\)](#)
 - [PCBs \(Polychlorinated biphenyls\) \(65943\)](#)
 - [Selenium \(64003\)](#)
- **Madigan, Lake**
 - [Aldrin \(64005\)](#)
 - [Chlordane \(64006\)](#)
 - [DDT \(Dichlorodiphenyltrichloroethane\) \(64052\)](#)
 - [Dieldrin \(64007\)](#)
 - [Endosulfan \(64008\)](#)
 - [Endrin \(64009\)](#)
 - [Heptachlor \(64010\)](#)
 - [Heptachlor epoxide \(64011\)](#)
 - [Hexachlorobenzene/ HCB \(64012\)](#)
 - [Lindane/gamma Hexachlorocyclohexane \(gamma-HCH\) \(64045\)](#)
 - [Mercury \(65491\)](#)
 - [Mirex \(64048\)](#)
 - [PCBs \(Polychlorinated biphenyls\) \(65492\)](#)
 - [Selenium \(64050\)](#)
- **Mitchell Creek**
 - [Alkalinity as CaCO₃ \(65137\)](#)
 - [Ammonia \(Unionized\) \(65138\)](#)
 - [Nitrate/Nitrite \(Nitrite + Nitrate as N\) \(65139\)](#)
 - [Nitrogen, ammonia \(Total Ammonia\) \(65140\)](#)
 - [Oxygen, Dissolved \(65141\)](#)
 - [Specific Conductivity \(65144\)](#)
 - [Temperature, water \(65143\)](#)
 - [pH \(65142\)](#)
- **Morses Gulch Creek**
 - [Benthic Community Effects \(67401\)](#)
- **Napa River, Mare Island Strait**
 - [Acenaphthene \(65145\)](#)
 - [Anthracene \(65155\)](#)
 - [Arsenic \(65156\)](#)
 - [Benzo\(a\)pyrene \(3,4-Benzopyrene -7-d\) \(65161\)](#)
 - [Cadmium \(65162\)](#)
 - [Chlorpyrifos \(65306\)](#)
 - [Chrysene \(C1-C4\) \(65307\)](#)
 - [Copper \(65308\)](#)
 - [Cyanide \(65309\)](#)
 - [Endosulfan \(65313\)](#)
 - [Endosulfan sulfate \(65314\)](#)
 - [Endrin \(65315\)](#)
 - [Fluoranthene \(65316\)](#)
 - [Fluorene \(65317\)](#)
 - [Heptachlor \(65318\)](#)
 - [Heptachlor epoxide \(65319\)](#)

- [Hexachlorobenzene/ HCB \(65320\)](#)
 - [Lindane/gamma Hexachlorocyclohexane \(gamma-HCH\) \(65321\)](#)
 - [Manganese \(65322\)](#)
 - [Mirex \(65324\)](#)
 - [Nickel \(65325\)](#)
 - [Oxygen, Dissolved \(65326\)](#)
 - [PAHs \(Polycyclic Aromatic Hydrocarbons\) \(65327\)](#)
 - [Pyrene \(65345\)](#)
 - [Selenium \(65346\)](#)
 - [Toxaphene \(65348\)](#)
 - [Tributyltin TBT \(Tributylstanne\) \(65349\)](#)
 - [Zinc \(65350\)](#)
 - [alpha-Endosulfan \(Endosulfan 1\) \(65157\)](#)
 - [beta-Endosulfan \(Endosulfan 2\) \(65163\)](#)
 - [pH \(65341\)](#)
- **Napa River, non-tidal**
 - [Mercury \(54407\)](#)
- **Nicasio Reservoir**
 - [Aldrin \(64056\)](#)
 - [Chlordane \(64178\)](#)
 - [DDT \(Dichlorodiphenyltrichloroethane\) \(64191\)](#)
 - [Dieldrin \(64179\)](#)
 - [Endosulfan \(64180\)](#)
 - [Endrin \(64181\)](#)
 - [Heptachlor \(64182\)](#)
 - [Heptachlor epoxide \(64184\)](#)
 - [Hexachlorobenzene/ HCB \(64186\)](#)
 - [Lindane/gamma Hexachlorocyclohexane \(gamma-HCH\) \(64187\)](#)
 - [Mirex \(64189\)](#)
 - [PCBs \(Polychlorinated biphenyls\) \(65493\)](#)
 - [Selenium \(64190\)](#)
- **North Slough (Napa County)**
 - [Mercury \(66014\)](#)
- **Oiger Quarry Ponds**
 - [Aldrin \(65029\)](#)
 - [Chlordane \(65043\)](#)
 - [DDT \(Dichlorodiphenyltrichloroethane\) \(65063\)](#)
 - [Dieldrin \(65044\)](#)
 - [Endosulfan \(65045\)](#)
 - [Endrin \(65046\)](#)
 - [Heptachlor \(65055\)](#)
 - [Heptachlor epoxide \(65056\)](#)
 - [Hexachlorobenzene/ HCB \(65057\)](#)
 - [Lindane/gamma Hexachlorocyclohexane \(gamma-HCH\) \(65058\)](#)
 - [Mirex \(65060\)](#)
 - [PCBs \(Polychlorinated biphenyls\) \(65061\)](#)
 - [Selenium \(65062\)](#)
- **Open Ocean - Outside of Golden Gate**
 - [Acenaphthene \(65064\)](#)
 - [Aldrin \(65065\)](#)
 - [Anthracene \(65066\)](#)
 - [Arsenic \(65068\)](#)
 - [Benzo\(a\)pyrene \(3,4-Benzopyrene -7-d\) \(65069\)](#)
 - [Cadmium \(65070\)](#)

- [Chlordane \(65071\)](#)
- [Chlorpyrifos \(65072\)](#)
- [Chrysene \(C1-C4\) \(65073\)](#)
- [Copper \(65074\)](#)
- [Cyanide \(65075\)](#)
- [DDT \(Dichlorodiphenyltrichloroethane\) \(65095\)](#)
- [Diazinon \(65076\)](#)
- [Dieldrin \(65077\)](#)
- [Endosulfan \(65078\)](#)
- [Endosulfan sulfate \(65079\)](#)
- [Endrin \(65080\)](#)
- [Fluoranthene \(65081\)](#)
- [Fluorene \(65082\)](#)
- [Heptachlor \(65083\)](#)
- [Heptachlor epoxide \(65084\)](#)
- [Hexachlorobenzene/ HCB \(65085\)](#)
- [Lead \(65086\)](#)
- [Manganese \(65087\)](#)
- [Mercury \(65088\)](#)
- [Mirex \(65089\)](#)
- [Nickel \(65090\)](#)
- [PCBs \(Polychlorinated biphenyls\) \(65091\)](#)
- [Pyrene \(65092\)](#)
- [Selenium \(65093\)](#)
- [Silver \(65094\)](#)
- [Zinc \(65096\)](#)
- [alpha-Endosulfan \(Endosulfan 1\) \(65067\)](#)
- [beta-Endosulfan \(Endosulfan 2\) \(65097\)](#)

- **Pacific Ocean Montara State Beach**
 - [Indicator Bacteria \(66103\)](#)

- **Pacific Ocean at China Beach**
 - [Indicator Bacteria \(65098\)](#)

- **Pacific Ocean at Dillion Beach**
 - [Indicator Bacteria \(65103\)](#)

- **Pacific Ocean at Drakes Beach**
 - [Indicator Bacteria \(65104\)](#)

- **Pacific Ocean at Dunes State Beach**
 - [Indicator Bacteria \(65105\)](#)

- **Pacific Ocean at Duxbury Reef, Duxbury Point**
 - [Arsenic \(65494\)](#)
 - [Cadmium \(65495\)](#)
 - [Chlordane \(65496\)](#)
 - [Chlorpyrifos \(65497\)](#)
 - [DDT \(Dichlorodiphenyltrichloroethane\) \(65515\)](#)
 - [Dieldrin \(65498\)](#)
 - [Endosulfan \(65499\)](#)
 - [Endrin \(65500\)](#)
 - [Heptachlor epoxide \(65501\)](#)
 - [Hexachlorobenzene/ HCB \(65502\)](#)
 - [Lindane/gamma Hexachlorocyclohexane \(gamma-HCH\) \(65503\)](#)
 - [Mercury \(65509\)](#)
 - [Mirex \(65510\)](#)

- [PAHs \(Polycyclic Aromatic Hydrocarbons\) \(65511\)](#)
 - [PCBs \(Polychlorinated biphenyls\) \(65513\)](#)
 - [Selenium \(65514\)](#)
- **Pacific Ocean at Encinal Beach**
 - [Indicator Bacteria \(65516\)](#)
- **Pacific Ocean at Farallon Islands at East Landing**
 - [Arsenic \(65517\)](#)
 - [Cadmium \(65519\)](#)
 - [Chlordane \(65520\)](#)
 - [Chlorpyrifos \(65524\)](#)
 - [DDT \(Dichlorodiphenyltrichloroethane\) \(65536\)](#)
 - [Dieldrin \(65525\)](#)
 - [Endosulfan \(65526\)](#)
 - [Endrin \(65527\)](#)
 - [Heptachlor epoxide \(65528\)](#)
 - [Hexachlorobenzene/ HCB \(65529\)](#)
 - [Lindane/gamma Hexachlorocyclohexane \(gamma-HCH\) \(65530\)](#)
 - [Mercury \(65531\)](#)
 - [Mirex \(65532\)](#)
 - [PAHs \(Polycyclic Aromatic Hydrocarbons\) \(65533\)](#)
 - [PCBs \(Polychlorinated biphenyls\) \(65534\)](#)
 - [Selenium \(65535\)](#)
- **Pacific Ocean at Fort Funston**
 - [Indicator Bacteria \(66036\)](#)
- **Pacific Ocean at Francis Beach**
 - [Indicator Bacteria \(66037\)](#)
- **Pacific Ocean at Limantour Beach**
 - [Indicator Bacteria \(66221\)](#)
- **Pacific Ocean at Mussel Rock Park (at Skyline Drive)**
 - [Trash \(66766\)](#)
- **Pacific Ocean at Ocean Beach**
 - [Indicator Bacteria \(65990\)](#)
- **Pacific Ocean at Pescadero State Beach**
 - [Indicator Bacteria \(66054\)](#)
- **Pacific Ocean at Point Reyes at Chimney Rock**
 - [Arsenic \(66334\)](#)
 - [Cadmium \(66335\)](#)
 - [Chlordane \(66336\)](#)
 - [Chlorpyrifos \(66337\)](#)
 - [DDT \(Dichlorodiphenyltrichloroethane\) \(66396\)](#)
 - [Dieldrin \(66338\)](#)
 - [Endosulfan \(66339\)](#)
 - [Endrin \(66340\)](#)
 - [Heptachlor epoxide \(66342\)](#)
 - [Hexachlorobenzene/ HCB \(66343\)](#)
 - [Lindane/gamma Hexachlorocyclohexane \(gamma-HCH\) \(66344\)](#)
 - [Mercury \(66391\)](#)
 - [Mirex \(66392\)](#)

- [PAHs \(Polycyclic Aromatic Hydrocarbons\) \(66393\)](#)
 - [PCBs \(Polychlorinated biphenyls\) \(66394\)](#)
 - [Selenium \(66395\)](#)
- **Pacific Ocean at Pomponio State Beach**
 - [Indicator Bacteria \(66060\)](#)
- **Pacific Ocean at Rodeo Beach**
 - [Indicator Bacteria \(66219\)](#)
- **Pacific Ocean at Roosevelt State Beach**
 - [Indicator Bacteria \(66062\)](#)
- **Pacific Ocean at San Gregorio Beach**
 - [Indicator Bacteria \(66063\)](#)
- **Pacific Ocean at Sharp Beach**
 - [Indicator Bacteria \(66024\)](#)
- **Pacific Ocean at Stinson Beach**
 - [Indicator Bacteria \(66173\)](#)
- **Peralta Creek**
 - [Diazinon \(60566\)](#)
 - [Pyrethroids \(60567\)](#)
- **Pescadero Creek**
 - [Alkalinity as CaCO₃ \(66297\)](#)
 - [Ammonia \(Unionized\) \(66300\)](#)
 - [Nitrate/Nitrite \(Nitrite + Nitrate as N\) \(66301\)](#)
 - [Nitrogen, ammonia \(Total Ammonia\) \(66333\)](#)
 - [Oxygen, Dissolved \(32471\)](#)
 - [Specific Conductivity \(66402\)](#)
 - [Temperature, water \(66403\)](#)
 - [pH \(32472\)](#)
- **Pilarcitos Lake**
 - [Aldrin \(64192\)](#)
 - [Chlordane \(64193\)](#)
 - [DDT \(Dichlorodiphenyltrichloroethane\) \(64202\)](#)
 - [Dieldrin \(64194\)](#)
 - [Endosulfan \(64195\)](#)
 - [Endrin \(64196\)](#)
 - [Heptachlor \(64197\)](#)
 - [Heptachlor epoxide \(64198\)](#)
 - [Hexachlorobenzene/ HCB \(64199\)](#)
 - [Lindane/gamma Hexachlorocyclohexane \(gamma-HCH\) \(64200\)](#)
 - [Mirex \(64201\)](#)
 - [PCBs \(Polychlorinated biphenyls\) \(65951\)](#)
- **Pittsburgh Marina (part of Sacramento San Joaquin Delta)**
 - [Copper \(66122\)](#)
 - [Oxygen, Dissolved \(66123\)](#)
 - [Toxicity \(66124\)](#)
 - [Zinc \(66125\)](#)
 - [pH \(66126\)](#)

- **Quimby Creek**

- [Chlordane \(65796\)](#)
- [DDD \(Dichlorodiphenyldichloroethane\) \(65800\)](#)
- [DDE \(Dichlorodiphenyldichloroethylene\) \(65801\)](#)
- [DDT \(Dichlorodiphenyltrichloroethane\) \(65802\)](#)
- [Dieldrin \(65806\)](#)
- [Endrin \(65808\)](#)
- [Lindane/gamma Hexachlorocyclohexane \(gamma-HCH\) \(65811\)](#)
- [Toxicity \(65818\)](#)

- **Redwood Creek (Marin County)**

- [Alkalinity as CaCO3 \(65790\)](#)
- [Ammonia \(Unionized\) \(65791\)](#)
- [Benthic Community Effects \(66836\)](#)
- [Nitrate/Nitrite \(Nitrite + Nitrate as N\) \(65793\)](#)
- [Nitrogen, ammonia \(Total Ammonia\) \(65794\)](#)
- [Oxygen, Dissolved \(66837\)](#)
- [Temperature, water \(66838\)](#)
- [pH \(43755\)](#)

- **Rheem Creek**

- [Bifenthrin \(65689\)](#)
- [Chlordane \(65691\)](#)
- [Chlorpyrifos \(65692\)](#)
- [Cyfluthrin \(65718\)](#)
- [Cyhalothrin, Lambda \(65720\)](#)
- [Cypermethrin \(65722\)](#)
- [DDD \(Dichlorodiphenyldichloroethane\) \(65725\)](#)
- [DDE \(Dichlorodiphenyldichloroethylene\) \(65744\)](#)
- [DDT \(Dichlorodiphenyltrichloroethane\) \(65774\)](#)
- [Deltamethrin \(65775\)](#)
- [Diazinon \(65777\)](#)
- [Dieldrin \(65778\)](#)
- [Endrin \(65779\)](#)
- [Esfenvalerate/Fenvalerate \(65780\)](#)
- [Fenpropathrin \(65781\)](#)
- [Fipronil \(65782\)](#)
- [Fipronil Sulfide \(65783\)](#)
- [Fipronil Sulfone \(65784\)](#)
- [Lindane/gamma Hexachlorocyclohexane \(gamma-HCH\) \(65786\)](#)
- [Permethrin \(65787\)](#)
- [Toxicity \(65789\)](#)

- **Richardson Bay**

- [Arsenic \(66129\)](#)
- [Cadmium \(66130\)](#)
- [Chromium \(66132\)](#)
- [Copper \(66131\)](#)
- [Cyanide \(66133\)](#)
- [Lead \(66261\)](#)
- [Manganese \(66265\)](#)
- [Nickel \(66266\)](#)
- [Oxygen, Dissolved \(66267\)](#)
- [Selenium \(66276\)](#)
- [Silver \(66281\)](#)
- [Toxicity \(66282\)](#)
- [Zinc \(66134\)](#)
- [pH \(66279\)](#)

- **Richmond Marina (part of San Francisco Bay, Central)**

- [Arsenic \(66825\)](#)
- [Cadmium \(66283\)](#)
- [Chlorpyrifos \(66363\)](#)
- [Copper \(66364\)](#)
- [Endosulfan \(66372\)](#)
- [Endrin \(66375\)](#)
- [Heptachlor epoxide \(66376\)](#)
- [Hexachlorobenzene/ HCB \(66377\)](#)
- [Mercury \(66378\)](#)
- [Mirex \(66379\)](#)
- [Oxygen, Dissolved \(66380\)](#)
- [PAHs \(Polycyclic Aromatic Hydrocarbons\) \(66381\)](#)
- [Selenium \(66383\)](#)
- [Toxaphene \(66384\)](#)
- [Toxicity \(66385\)](#)
- [Zinc \(66386\)](#)
- [pH \(66382\)](#)

- **Rindler Creek**

- [Bifenthrin \(65671\)](#)
- [Chlordane \(65672\)](#)
- [Chlorpyrifos \(65673\)](#)
- [Cyfluthrin \(65674\)](#)
- [Cyhalothrin, Lambda \(65675\)](#)
- [Cypermethrin \(65676\)](#)
- [DDD \(Dichlorodiphenyldichloroethane\) \(65677\)](#)
- [DDE \(Dichlorodiphenyldichloroethylene\) \(65678\)](#)
- [DDT \(Dichlorodiphenyltrichloroethane\) \(65679\)](#)
- [Deltamethrin \(65680\)](#)
- [Diazinon \(65681\)](#)
- [Dieldrin \(65682\)](#)
- [Endrin \(65683\)](#)
- [Esfenvalerate/Fenvalerate \(65684\)](#)
- [Fenpropathrin \(65685\)](#)
- [Fipronil \(65702\)](#)
- [Fipronil Sulfide \(65706\)](#)
- [Fipronil Sulfone \(65707\)](#)
- [Lindane/gamma Hexachlorocyclohexane \(gamma-HCH\) \(65686\)](#)
- [Permethrin \(65687\)](#)
- [Toxicity \(65688\)](#)

- **Ritchie Creek**

- [Alkalinity as CaCO₃ \(65662\)](#)
- [Ammonia \(Unionized\) \(65663\)](#)
- [Benthic Community Effects \(65664\)](#)
- [Nitrate/Nitrite \(Nitrite + Nitrate as N\) \(65665\)](#)
- [Nitrogen, ammonia \(Total Ammonia\) \(65666\)](#)
- [Oxygen, Dissolved \(65667\)](#)
- [Specific Conductivity \(65668\)](#)
- [Temperature, water \(65670\)](#)
- [pH \(65669\)](#)

- **Sacramento San Joaquin Delta**

- [Acenaphthene \(66387\)](#)
- [Aldrin \(66388\)](#)
- [Anthracene \(66429\)](#)
- [Arsenic \(66826\)](#)
- [Benzo\(a\)pyrene \(3,4-Benzopyrene -7-d\) \(66389\)](#)

- [Cadmium \(66445\)](#)
- [Chlorpyrifos \(66446\)](#)
- [Chrysene \(C1-C4\) \(66447\)](#)
- [Copper \(66390\)](#)
- [Cyanide \(66448\)](#)
- [Endosulfan \(66449\)](#)
- [Endosulfan sulfate \(66450\)](#)
- [Endrin \(66451\)](#)
- [Fluoranthene \(66452\)](#)
- [Fluorene \(66453\)](#)
- [Heptachlor \(66454\)](#)
- [Heptachlor epoxide \(66455\)](#)
- [Hexachlorobenzene/ HCB \(66456\)](#)
- [Lead \(66457\)](#)
- [Manganese \(66458\)](#)
- [Mirex \(66459\)](#)
- [Oxygen, Dissolved \(66460\)](#)
- [PAHs \(Polycyclic Aromatic Hydrocarbons\) \(66461\)](#)
- [Pyrene \(66462\)](#)
- [Silver \(66463\)](#)
- [Toxaphene \(66464\)](#)
- [Zinc \(66465\)](#)
- [alpha-Endosulfan \(Endosulfan 1\) \(66428\)](#)
- [beta-Endosulfan \(Endosulfan 2\) \(66444\)](#)
- [pH \(66840\)](#)

• **San Francisco Bay, Central**

- [Acenaphthene \(66466\)](#)
- [Aldrin \(66467\)](#)
- [Anthracene \(66469\)](#)
- [Arsenic \(66828\)](#)
- [Benzo\(a\)pyrene \(3,4-Benzopyrene -7-d\) \(66470\)](#)
- [Cadmium \(66472\)](#)
- [Chlorpyrifos \(66473\)](#)
- [Chromium \(66474\)](#)
- [Chrysene \(C1-C4\) \(66475\)](#)
- [Copper \(66476\)](#)
- [Cyanide \(66477\)](#)
- [Endosulfan \(66478\)](#)
- [Endosulfan sulfate \(66485\)](#)
- [Endrin \(66486\)](#)
- [Ethion \(66490\)](#)
- [Fluoranthene \(66492\)](#)
- [Fluorene \(66496\)](#)
- [Heptachlor \(66495\)](#)
- [Heptachlor epoxide \(66505\)](#)
- [Hexachlorobenzene/ HCB \(66506\)](#)
- [Lead \(66508\)](#)
- [Lindane/gamma Hexachlorocyclohexane \(gamma-HCH\) \(66513\)](#)
- [Manganese \(66515\)](#)
- [Mirex \(66516\)](#)
- [Nickel \(66517\)](#)
- [Oxygen, Dissolved \(66518\)](#)
- [PAHs \(Polycyclic Aromatic Hydrocarbons\) \(66829\)](#)
- [Pyrene \(66522\)](#)
- [Silver \(66529\)](#)
- [Toxaphene \(66532\)](#)
- [Tributyltin TBT \(Tributylstanne\) \(66546\)](#)
- [Zinc \(66550\)](#)
- [alpha-Endosulfan \(Endosulfan 1\) \(66468\)](#)

- [beta-Endosulfan \(Endosulfan 2\) \(66471\)](#)
- [pH \(66520\)](#)
- **San Francisco Bay, Lower**
 - [Acenaphthene \(66554\)](#)
 - [Aldrin \(66557\)](#)
 - [Anthracene \(66559\)](#)
 - [Arsenic \(66830\)](#)
 - [Benzo\(a\)pyrene \(3,4-Benzopyrene -7-d\) \(66561\)](#)
 - [Cadmium \(66563\)](#)
 - [Chlorpyrifos \(66564\)](#)
 - [Chromium \(66565\)](#)
 - [Chrysene \(C1-C4\) \(66566\)](#)
 - [Copper \(66567\)](#)
 - [Cyanide \(66568\)](#)
 - [Endosulfan \(66569\)](#)
 - [Endosulfan sulfate \(66571\)](#)
 - [Endrin \(66573\)](#)
 - [Ethion \(66575\)](#)
 - [Fluoranthene \(66576\)](#)
 - [Fluorene \(66577\)](#)
 - [Heptachlor \(66578\)](#)
 - [Heptachlor epoxide \(66579\)](#)
 - [Hexachlorobenzene/ HCB \(66580\)](#)
 - [Lead \(66581\)](#)
 - [Lindane/gamma Hexachlorocyclohexane \(gamma-HCH\) \(66582\)](#)
 - [Manganese \(66778\)](#)
 - [Mirex \(66583\)](#)
 - [Oxygen, Dissolved \(66584\)](#)
 - [PAHs \(Polycyclic Aromatic Hydrocarbons\) \(66831\)](#)
 - [Pyrene \(66774\)](#)
 - [Selenium \(66585\)](#)
 - [Silver \(66775\)](#)
 - [Toxaphene \(66773\)](#)
 - [Tributyltin TBT \(Tributylstanne\) \(66777\)](#)
 - [Zinc \(66587\)](#)
 - [alpha-Endosulfan \(Endosulfan 1\) \(66560\)](#)
 - [beta-Endosulfan \(Endosulfan 2\) \(66562\)](#)
 - [pH \(66772\)](#)
- **San Francisco Bay, South**
 - [Acenaphthene \(65351\)](#)
 - [Aldrin \(65352\)](#)
 - [Anthracene \(65354\)](#)
 - [Arsenic \(65355\)](#)
 - [Benzo\(a\)pyrene \(3,4-Benzopyrene -7-d\) \(65358\)](#)
 - [Cadmium \(65433\)](#)
 - [Chlorpyrifos \(65434\)](#)
 - [Chromium \(65436\)](#)
 - [Chrysene \(C1-C4\) \(65435\)](#)
 - [Copper \(65437\)](#)
 - [Cyanide \(65438\)](#)
 - [Endosulfan \(65440\)](#)
 - [Endosulfan sulfate \(65441\)](#)
 - [Endrin \(65442\)](#)
 - [Ethion \(65444\)](#)
 - [Fluoranthene \(65445\)](#)
 - [Fluorene \(65446\)](#)
 - [Heptachlor \(65447\)](#)
 - [Heptachlor epoxide \(65356\)](#)

- [Hexachlorobenzene/ HCB \(65448\)](#)
 - [Lead \(65449\)](#)
 - [Lindane/gamma Hexachlorocyclohexane \(gamma-HCH\) \(65450\)](#)
 - [Manganese \(65454\)](#)
 - [Mirex \(65455\)](#)
 - [Nickel \(34415\)](#)
 - [PAHs \(Polycyclic Aromatic Hydrocarbons\) \(65357\)](#)
 - [Pyrene \(65456\)](#)
 - [Silver \(65458\)](#)
 - [Toxaphene \(65461\)](#)
 - [Tributyltin TBT \(Tributylstanne\) \(65463\)](#)
 - [Zinc \(65464\)](#)
 - [alpha-Endosulfan \(Endosulfan 1\) \(65353\)](#)
 - [beta-Endosulfan \(Endosulfan 2\) \(65432\)](#)
- **San Leandro Bay (part of SF Bay, Lower)**
 - [Chlorpyrifos \(66779\)](#)
 - [Endosulfan \(66780\)](#)
 - [Endrin \(66781\)](#)
 - [Heptachlor epoxide \(66782\)](#)
 - [Hexachlorobenzene/ HCB \(66783\)](#)
 - [Mirex \(66784\)](#)
 - [Toxaphene \(66785\)](#)
- **San Leandro Creek, Lower**
 - [Alkalinity as CaCO₃ \(44043\)](#)
 - [Ammonia \(Unionized\) \(66121\)](#)
 - [Anthracene \(65690\)](#)
 - [Arsenic \(65944\)](#)
 - [Benzo\(a\)anthracene \(65953\)](#)
 - [Benzo\(a\)pyrene \(3,4-Benzopyrene -7-d\) \(65954\)](#)
 - [Bifenthrin \(65955\)](#)
 - [Cadmium \(43929\)](#)
 - [Chlordane \(65956\)](#)
 - [Chloride \(65957\)](#)
 - [Chlorpyrifos \(66004\)](#)
 - [Chromium \(34421\)](#)
 - [Chrysene \(C1-C4\) \(65960\)](#)
 - [Copper \(65961\)](#)
 - [Cyfluthrin \(65962\)](#)
 - [Cyhalothrin, Lambda \(65963\)](#)
 - [Cypermethrin \(65964\)](#)
 - [DDD \(Dichlorodiphenyldichloroethane\) \(65973\)](#)
 - [DDE \(Dichlorodiphenyldichloroethylene\) \(65974\)](#)
 - [DDT \(Dichlorodiphenyltrichloroethane\) \(65975\)](#)
 - [Deltamethrin \(65976\)](#)
 - [Dieldrin \(65977\)](#)
 - [Endrin \(65978\)](#)
 - [Esfenvalerate/Fenvalerate \(65979\)](#)
 - [Fenpropathrin \(65985\)](#)
 - [Fluoranthene \(65988\)](#)
 - [Fluorene \(65989\)](#)
 - [Lead \(43566\)](#)
 - [Lindane/gamma Hexachlorocyclohexane \(gamma-HCH\) \(65991\)](#)
 - [Mercury \(65992\)](#)
 - [Methyl Parathion \(65993\)](#)
 - [Naphthalene \(65994\)](#)
 - [Nickel \(43567\)](#)
 - [Oxygen, Dissolved \(44040\)](#)
 - [PAHs \(Polycyclic Aromatic Hydrocarbons\) \(65996\)](#)

- [PCBs \(Polychlorinated biphenyls\) \(65998\)](#)
- [Permethrin \(65999\)](#)
- [Phenanthrene \(66000\)](#)
- [Pyrene \(66001\)](#)
- [Sulfates \(66257\)](#)
- [Temperature, water \(66259\)](#)
- [Toxicity \(43383\)](#)
- [Zinc \(66003\)](#)
- [pH \(66255\)](#)

- **San Mateo Creek, Lower**
 - [Anthracene \(66136\)](#)
 - [Arsenic \(66137\)](#)
 - [Benzo\(a\)anthracene \(66138\)](#)
 - [Benzo\(a\)pyrene \(3,4-Benzopyrene -7-d\) \(66139\)](#)
 - [Bifenthrin \(66140\)](#)
 - [Cadmium \(66142\)](#)
 - [Chlordane \(66143\)](#)
 - [Chlorpyrifos \(44032\)](#)
 - [Chromium \(44033\)](#)
 - [Chrysene \(C1-C4\) \(66144\)](#)
 - [Copper \(66145\)](#)
 - [Cyfluthrin \(66147\)](#)
 - [Cyhalothrin, Lambda \(66148\)](#)
 - [Cypermethrin \(66149\)](#)
 - [DDD \(Dichlorodiphenyldichloroethane\) \(66153\)](#)
 - [DDE \(Dichlorodiphenyldichloroethylene\) \(66158\)](#)
 - [DDT \(Dichlorodiphenyltrichloroethane\) \(66161\)](#)
 - [Deltamethrin \(66162\)](#)
 - [Diazinon \(66230\)](#)
 - [Dieldrin \(66231\)](#)
 - [Endrin \(66233\)](#)
 - [Esfenvalerate/Fenvalerate \(66236\)](#)
 - [Fenpropathrin \(66256\)](#)
 - [Fluoranthene \(66329\)](#)
 - [Fluorene \(66284\)](#)
 - [Lead \(66285\)](#)
 - [Lindane/gamma Hexachlorocyclohexane \(gamma-HCH\) \(66286\)](#)
 - [Mercury \(66287\)](#)
 - [Methyl Parathion \(66288\)](#)
 - [Naphthalene \(66289\)](#)
 - [Nickel \(43961\)](#)
 - [PAHs \(Polycyclic Aromatic Hydrocarbons\) \(66290\)](#)
 - [PCBs \(Polychlorinated biphenyls\) \(66291\)](#)
 - [Permethrin \(66292\)](#)
 - [Phenanthrene \(66293\)](#)
 - [Pyrene \(66294\)](#)
 - [Zinc \(66296\)](#)

- **San Pablo Bay**
 - [Acenaphthene \(66032\)](#)
 - [Aldrin \(66050\)](#)
 - [Ammonia \(Unionized\) \(66034\)](#)
 - [Anthracene \(66035\)](#)
 - [Arsenic \(66832\)](#)
 - [Benzo\(a\)pyrene \(3,4-Benzopyrene -7-d\) \(66051\)](#)
 - [Cadmium \(66055\)](#)
 - [Chlorpyrifos \(66061\)](#)
 - [Chromium \(66064\)](#)
 - [Chrysene \(C1-C4\) \(66066\)](#)

- [Copper \(66067\)](#)
- [Cyanide \(66068\)](#)
- [Endosulfan \(66069\)](#)
- [Endosulfan sulfate \(66070\)](#)
- [Endrin \(66071\)](#)
- [Fluoranthene \(66086\)](#)
- [Fluorene \(66088\)](#)
- [Heptachlor \(66089\)](#)
- [Heptachlor epoxide \(66090\)](#)
- [Hexachlorobenzene/ HCB \(66100\)](#)
- [Lead \(66108\)](#)
- [Lindane/gamma Hexachlorocyclohexane \(gamma-HCH\) \(66112\)](#)
- [Manganese \(66786\)](#)
- [Mirex \(66115\)](#)
- [PAHs \(Polycyclic Aromatic Hydrocarbons\) \(66833\)](#)
- [Pyrene \(66116\)](#)
- [Silver \(66117\)](#)
- [Toxaphene \(66118\)](#)
- [Tributyltin TBT \(Tributylstanne\) \(66119\)](#)
- [Zinc \(66120\)](#)
- [alpha-Endosulfan \(Endosulfan 1\) \(66033\)](#)
- [beta-Endosulfan \(Endosulfan 2\) \(66052\)](#)

- **San Pablo Reservoir**
 - [Aldrin \(65030\)](#)
 - [DDT \(Dichlorodiphenyltrichloroethane\) \(65038\)](#)
 - [Endosulfan \(65031\)](#)
 - [Endrin \(65032\)](#)
 - [Heptachlor \(65033\)](#)
 - [Hexachlorobenzene/ HCB \(65034\)](#)
 - [Lindane/gamma Hexachlorocyclohexane \(gamma-HCH\) \(65035\)](#)
 - [Mirex \(65036\)](#)
 - [Selenium \(65037\)](#)

- **Saratoga Creek**
 - [Alkalinity as CaCO₃ \(66048\)](#)
 - [Ammonia \(Unionized\) \(66053\)](#)
 - [Nitrate/Nitrite \(Nitrite + Nitrate as N\) \(66056\)](#)
 - [Nitrogen, ammonia \(Total Ammonia\) \(66065\)](#)
 - [Oxygen, Dissolved \(66135\)](#)
 - [Specific Conductivity \(66404\)](#)
 - [Temperature, water \(66405\)](#)
 - [pH \(66401\)](#)

- **Shadow Cliffs Reservoir**
 - [Aldrin \(65039\)](#)
 - [Chlordane \(65040\)](#)
 - [DDT \(Dichlorodiphenyltrichloroethane\) \(65054\)](#)
 - [Dieldrin \(65041\)](#)
 - [Endosulfan \(65042\)](#)
 - [Endrin \(65047\)](#)
 - [Heptachlor \(65048\)](#)
 - [Heptachlor epoxide \(65049\)](#)
 - [Hexachlorobenzene/ HCB \(65050\)](#)
 - [Lindane/gamma Hexachlorocyclohexane \(gamma-HCH\) \(65051\)](#)
 - [Mirex \(65052\)](#)
 - [Selenium \(65053\)](#)

- **Shell Beach (Tomaes Bay)**

- [Indicator Bacteria \(66128\)](#)
- **Soulajule Reservoir**
 - [Aldrin \(65108\)](#)
 - [Chlordane \(65109\)](#)
 - [DDT \(Dichlorodiphenyltrichloroethane\) \(65119\)](#)
 - [Dieldrin \(65110\)](#)
 - [Endosulfan \(65111\)](#)
 - [Endrin \(65112\)](#)
 - [Heptachlor \(65113\)](#)
 - [Heptachlor epoxide \(65114\)](#)
 - [Hexachlorobenzene/ HCB \(65115\)](#)
 - [Lindane/gamma Hexachlorocyclohexane \(gamma-HCH\) \(65116\)](#)
 - [Mirex \(65117\)](#)
 - [Selenium \(65118\)](#)
- **South Beach Harbor (part of San Francisco Bay, Lower)**
 - [Copper \(66029\)](#)
 - [Oxygen, Dissolved \(66250\)](#)
 - [Toxicity \(66030\)](#)
 - [Zinc \(66031\)](#)
 - [pH \(66254\)](#)
- **Stevens Creek**
 - [Chlorpyrifos \(66841\)](#)
- **Stevens Creek Reservoir**
 - [Aldrin \(65913\)](#)
 - [DDT \(Dichlorodiphenyltrichloroethane\) \(66047\)](#)
 - [Endosulfan \(66038\)](#)
 - [Endrin \(66039\)](#)
 - [Heptachlor \(66040\)](#)
 - [Heptachlor epoxide \(66042\)](#)
 - [Hexachlorobenzene/ HCB \(66043\)](#)
 - [Lindane/gamma Hexachlorocyclohexane \(gamma-HCH\) \(66044\)](#)
 - [Mirex \(66045\)](#)
 - [Selenium \(66046\)](#)
- **Suisun Bay**
 - [Acenaphthene \(66634\)](#)
 - [Aldrin \(66635\)](#)
 - [Ammonia \(Unionized\) \(66637\)](#)
 - [Anthracene \(66640\)](#)
 - [Arsenic \(66834\)](#)
 - [Benzo\(a\)pyrene \(3,4-Benzopyrene -7-d\) \(66642\)](#)
 - [Cadmium \(66643\)](#)
 - [Chlorpyrifos \(66646\)](#)
 - [Chromium \(66647\)](#)
 - [Chrysene \(C1-C4\) \(66650\)](#)
 - [Copper \(66651\)](#)
 - [Cyanide \(66653\)](#)
 - [Endosulfan \(66655\)](#)
 - [Endosulfan sulfate \(66657\)](#)
 - [Endrin \(66658\)](#)
 - [Fluoranthene \(66659\)](#)
 - [Fluorene \(66660\)](#)
 - [Heptachlor \(66661\)](#)
 - [Heptachlor epoxide \(66662\)](#)
 - [Hexachlorobenzene/ HCB \(66663\)](#)

- [Lead \(66664\)](#)
- [Lindane/gamma Hexachlorocyclohexane \(gamma-HCH\) \(66665\)](#)
- [Manganese \(66666\)](#)
- [Mirex \(66667\)](#)
- [PAHs \(Polycyclic Aromatic Hydrocarbons\) \(66835\)](#)
- [Pyrene \(66668\)](#)
- [Silver \(66669\)](#)
- [Toxaphene \(66671\)](#)
- [Tributyltin TBT \(Tributylstanne\) \(66673\)](#)
- [Zinc \(66674\)](#)
- [alpha-Endosulfan \(Endosulfan 1\) \(66638\)](#)
- [beta-Endosulfan \(Endosulfan 2\) \(66644\)](#)
- **Suisun Marsh Wetlands**
 - [Acenaphthene \(66675\)](#)
 - [Aldrin \(66708\)](#)
 - [Arsenic \(66726\)](#)
 - [Benzo\(a\)pyrene \(3,4-Benzopyrene -7-d\) \(66727\)](#)
 - [Chlordane \(66728\)](#)
 - [Chrysene \(C1-C4\) \(66729\)](#)
 - [DDT \(Dichlorodiphenyltrichloroethane\) \(66747\)](#)
 - [Dieldrin \(66730\)](#)
 - [Endosulfan sulfate \(66731\)](#)
 - [Endrin \(66732\)](#)
 - [Fluoranthene \(66733\)](#)
 - [Fluorene \(66739\)](#)
 - [Heptachlor \(66740\)](#)
 - [Heptachlor epoxide \(66741\)](#)
 - [Hexachlorobenzene/ HCB \(66742\)](#)
 - [Manganese \(66743\)](#)
 - [Mirex \(66744\)](#)
 - [Nickel \(66745\)](#)
 - [Pyrene \(66746\)](#)
 - [Zinc \(66748\)](#)
- **Tomaes Bay**
 - [Arsenic \(65746\)](#)
 - [Cadmium \(65758\)](#)
 - [Chlordane \(65759\)](#)
 - [Chlorpyrifos \(65760\)](#)
 - [DDT \(Dichlorodiphenyltrichloroethane\) \(65772\)](#)
 - [Dieldrin \(65761\)](#)
 - [Endosulfan \(65762\)](#)
 - [Endrin \(65763\)](#)
 - [Heptachlor epoxide \(65764\)](#)
 - [Hexachlorobenzene/ HCB \(65765\)](#)
 - [Lindane/gamma Hexachlorocyclohexane \(gamma-HCH\) \(65766\)](#)
 - [Lindane/gamma Hexachlorocyclohexane \(gamma-HCH\) \(65767\)](#)
 - [Mirex \(65768\)](#)
 - [PAHs \(Polycyclic Aromatic Hydrocarbons\) \(65769\)](#)
 - [PCBs \(Polychlorinated biphenyls\) \(65770\)](#)
 - [Selenium \(65771\)](#)
- **Upper San Leandro Reservoir**
 - [Aldrin \(65773\)](#)
 - [Chlordane \(65792\)](#)
 - [DDT \(Dichlorodiphenyltrichloroethane\) \(65823\)](#)
 - [Dieldrin \(65795\)](#)
 - [Endosulfan \(65797\)](#)

- [Endrin \(65798\)](#)
- [Heptachlor \(65785\)](#)
- [Heptachlor epoxide \(65799\)](#)
- [Hexachlorobenzene/ HCB \(65807\)](#)
- [Lindane/gamma Hexachlorocyclohexane \(gamma-HCH\) \(65809\)](#)
- [Mirex \(65810\)](#)
- [PCBs \(Polychlorinated biphenyls\) \(65819\)](#)
- [Selenium \(65821\)](#)

- **Vallejo Marina (part of Napa River)**
 - [Copper \(66749\)](#)
 - [Oxygen, Dissolved \(66750\)](#)
 - [Toxicity \(66753\)](#)
 - [Zinc \(66754\)](#)
 - [pH \(66752\)](#)

- **Vasona Lake**
 - [Aldrin \(65120\)](#)
 - [Chlordane \(65121\)](#)
 - [DDT \(Dichlorodiphenyltrichloroethane\) \(65131\)](#)
 - [Dieldrin \(65122\)](#)
 - [Endosulfan \(65123\)](#)
 - [Endrin \(65124\)](#)
 - [Heptachlor \(65125\)](#)
 - [Heptachlor epoxide \(65126\)](#)
 - [Hexachlorobenzene/ HCB \(65127\)](#)
 - [Lindane/gamma Hexachlorocyclohexane \(gamma-HCH\) \(65128\)](#)
 - [Mercury \(66756\)](#)
 - [Mirex \(65129\)](#)
 - [PCBs \(Polychlorinated biphenyls\) \(66757\)](#)
 - [Selenium \(65130\)](#)

- **Vista Grande Canal**
 - [Trash \(66758\)](#)

- **Walker Creek**
 - [Arsenic \(66356\)](#)
 - [Bifenthrin \(66839\)](#)
 - [Cadmium \(66848\)](#)
 - [Chlordane \(66849\)](#)
 - [Chlorpyrifos \(66850\)](#)
 - [Chromium \(43776\)](#)
 - [Copper \(66851\)](#)
 - [Cyfluthrin \(66852\)](#)
 - [Cyhalothrin, Lambda \(66853\)](#)
 - [Cypermethrin \(66854\)](#)
 - [DDD \(Dichlorodiphenyldichloroethane\) \(66855\)](#)
 - [DDE \(Dichlorodiphenyldichloroethylene\) \(66856\)](#)
 - [DDT \(Dichlorodiphenyltrichloroethane\) \(66857\)](#)
 - [Deltamethrin \(66858\)](#)
 - [Diazinon \(66859\)](#)
 - [Dieldrin \(66860\)](#)
 - [Endrin \(66861\)](#)
 - [Esfenvalerate/Fenvalerate \(66862\)](#)
 - [Fenpropathrin \(66863\)](#)
 - [Lead \(66864\)](#)
 - [Lindane/gamma Hexachlorocyclohexane \(gamma-HCH\) \(66865\)](#)
 - [Methyl Parathion \(66866\)](#)
 - [Nickel \(43785\)](#)

- [PCBs \(Polychlorinated biphenyls\) \(66867\)](#)
- [Permethrin \(66868\)](#)
- [Zinc \(66870\)](#)
- **Walnut Creek**
 - [Anthracene \(65826\)](#)
 - [Arsenic \(65827\)](#)
 - [Benzo\(a\)anthracene \(65828\)](#)
 - [Benzo\(a\)pyrene \(3,4-Benzopyrene -7-d\) \(65829\)](#)
 - [Bifenthrin \(65830\)](#)
 - [Cadmium \(65831\)](#)
 - [Chlordane \(65907\)](#)
 - [Chlorpyrifos \(65832\)](#)
 - [Chromium \(65833\)](#)
 - [Chrysene \(C1-C4\) \(65834\)](#)
 - [Copper \(65835\)](#)
 - [Cyfluthrin \(65836\)](#)
 - [Cyhalothrin, Lambda \(65837\)](#)
 - [Cypermethrin \(65838\)](#)
 - [DDD \(Dichlorodiphenyldichloroethane\) \(65839\)](#)
 - [DDE \(Dichlorodiphenyldichloroethylene\) \(65840\)](#)
 - [DDT \(Dichlorodiphenyltrichloroethane\) \(65841\)](#)
 - [Deltamethrin \(65842\)](#)
 - [Dieldrin \(65843\)](#)
 - [Endrin \(65844\)](#)
 - [Esfenvalerate/Fenvalerate \(65845\)](#)
 - [Fenpropathrin \(65897\)](#)
 - [Fluoranthene \(65898\)](#)
 - [Fluorene \(65899\)](#)
 - [Lead \(65900\)](#)
 - [Lindane/gamma Hexachlorocyclohexane \(gamma-HCH\) \(65901\)](#)
 - [Mercury \(65902\)](#)
 - [Methyl Parathion \(65903\)](#)
 - [Naphthalene \(65904\)](#)
 - [Nickel \(65905\)](#)
 - [PAHs \(Polycyclic Aromatic Hydrocarbons\) \(65906\)](#)
 - [PCBs \(Polychlorinated biphenyls\) \(66842\)](#)
 - [Permethrin \(66843\)](#)
 - [Phenanthrene \(66844\)](#)
 - [Pyrene \(66845\)](#)
 - [Toxicity \(66847\)](#)
 - [Zinc \(66846\)](#)

List on 303(d) list (TMDL required list)

Regional Board 2

- **Briones Reservoir**
 - [Mercury \(61380\)](#)
- **Coyote Creek (Santa Clara Co.)**
 - [Toxicity \(62124\)](#)
- **Coyote Reservoir**
 - [Mercury \(65481\)](#)
- **Crown Beach (San Francisco Bay, Lower)**
 - [Indicator Bacteria \(65965\)](#)

- Drakes Estero (at Schooner Bay oyster beds)
 - [Indicator Bacteria \(64531\)](#)
- Fort Baker, Horseshoe Cove (San Francisco Bay, Central)
 - [Indicator Bacteria \(64549\)](#)
- Guadalupe Slough
 - [Toxicity \(66762\)](#)
- Henne, Lake
 - [Mercury \(65487\)](#)
- Keller Beach (San Francisco Bay, Central)
 - [Indicator Bacteria \(65545\)](#)
- Kiteboard Beach (San Francisco Bay, Lower)
 - [Indicator Bacteria \(65919\)](#)
- Lake Chabot (Solano Co)
 - [Mercury \(65489\)](#)
- Lexington Reservoir
 - [Mercury \(65537\)](#)
- Lower Crystal Springs Reservoir
 - [Mercury \(65942\)](#)
- Napa River, Mare Island Strait
 - [Chlordane \(65305\)](#)
 - [Dieldrin \(65312\)](#)
 - [Total DDT \(sum of 4,4'- and 2,4'- isomers of DDT, DDE, and DDD\) \(67328\)](#)
 - [Toxicity \(66871\)](#)
- Oakland Inner Harbor
 - [Indicator Bacteria \(67329\)](#)
- Oakland Inner Harbor (Pacific Dry-dock Yard 1 Site, part of SF Bay, Lower)
 - [Toxicity \(60569\)](#)
- Oiger Quarry Ponds
 - [Mercury \(65059\)](#)
- Oyster Point Marina (San Francisco Bay, Lower)
 - [Indicator Bacteria \(66016\)](#)
- Paradise Cove Beach (San Francisco Bay, Central)
 - [Indicator Bacteria \(66111\)](#)
- Pilarcitos Lake
 - [Mercury \(65948\)](#)
- San Francisco Bay, Central
 - [Toxicity \(66543\)](#)

- San Francisco Bay, Lower
 - [Toxicity \(66776\)](#)
- San Francisco Bay, South
 - [Toxicity \(65462\)](#)
- San Leandro Bay (part of SF Bay, Lower)
 - [DDT \(Dichlorodiphenyltrichloroethane\) \(33101\)](#)
 - [Toxicity \(60486\)](#)
- San Mateo Creek, Lower
 - [Toxicity \(44070\)](#)
- San Pablo Bay
 - [Toxicity \(66787\)](#)
- Schoonmaker Beach (Richardson Bay)
 - [Indicator Bacteria \(66127\)](#)
- Suisun Bay
 - [Toxicity \(66672\)](#)
- Upper San Leandro Reservoir
 - [Mercury \(65952\)](#)

List on 303(d) list (being addressed by USEPA approved TMDL)

Regional Board 2

- Calabazas Creek (Santa Clara County)
 - [Diazinon \(65147\)](#)
- Lakeshore Park Beach (Marina Lagoon, San Mateo County)
 - [Indicator Bacteria \(65997\)](#)
- Miller Point (Tomales Bay)
 - [Indicator Bacteria \(66013\)](#)
- Napa River, Mare Island Strait
 - [Mercury \(65323\)](#)
 - [PCBs \(Polychlorinated biphenyls\) \(65340\)](#)

REGIONAL BOARD 2 - SAN FRANCISCO BAY REGION

- **New or Revised Fact Sheets**

These lines of evidence and/or decisions, which were developed during the last listing cycle, are new or have been revised.

- **Original Fact Sheets**

These lines of evidence and/or decisions were developed during the last listing cycle.

ORIGINAL FACT SHEETS

Delist from 303(d) list (TMDL required list)

Regional Board 2

- Carquinez Strait
 - [Diazinon \(33265\)](#)
- Central Basin, San Francisco (part of SF Bay, Lower)
 - [Diazinon \(32524\)](#)
- Islais Creek
 - [Endosulfan sulfate \(32366\)](#)
- Mission Creek
 - [Chlorpyrifos \(32966\)](#)
 - [Chromium \(32830\)](#)
 - [Copper \(32467\)](#)
 - [Mirex \(32781\)](#)
- Oakland Inner Harbor (Fruitvale Site, part of SF Bay, Lower)
 - [Diazinon \(32751\)](#)
- Oakland Inner Harbor (Pacific Dry-dock Yard 1 Site, part of SF Bay, Lower)
 - [Chlorpyrifos \(32370\)](#)
 - [Diazinon \(32693\)](#)
 - [Mirex \(32803\)](#)
 - [Tributyltin TBT \(Tributylstanne\) \(32582\)](#)
 - [p,p'-DDE \(32763\)](#)
- Sacramento San Joaquin Delta
 - [Diazinon \(33324\)](#)
- San Leandro Bay (part of SF Bay, Lower)
 - [Selenium \(32672\)](#)
- Suisun Bay
 - [Nickel \(33557\)](#)

Do Not Delist from 303(d) list (TMDL required list)

Regional Board 2

- Butano Creek
 - [Sedimentation/Siltation \(32469\)](#)
- Central Basin, San Francisco (part of SF Bay, Lower)
 - [Dieldrin \(33909\)](#)
 - [PAHs \(Polycyclic Aromatic Hydrocarbons\) \(33160\)](#)
- Islais Creek
 - [Ammonia \(32399\)](#)

- [Chlordane \(32924\)](#)
 - [Dieldrin \(32365\)](#)
 - [Hydrogen Sulfide \(32414\)](#)
- **Lake Chabot (Alameda Co)**
 - [DDT \(Dichlorodiphenyltrichloroethane\) \(34103\)](#)
- **Mission Creek**
 - [Chlordane \(32415\)](#)
 - [Dieldrin \(32908\)](#)
 - [Lead \(32449\)](#)
 - [Mercury \(32448\)](#)
 - [PAHs \(Polycyclic Aromatic Hydrocarbons\) \(32765\)](#)
 - [Silver \(32829\)](#)
 - [Zinc \(32440\)](#)
- **Napa River, non-tidal**
 - [Nutrients \(54402\)](#)
- **Napa River, tidal**
 - [Nutrients \(54401\)](#)
- **Oakland Inner Harbor (Fruitvale Site, part of SF Bay, Lower)**
 - [Chlordane \(34018\)](#)
- **Oakland Inner Harbor (Pacific Dry-dock Yard 1 Site, part of SF Bay, Lower)**
 - [Copper \(32934\)](#)
 - [Dieldrin \(44597\)](#)
 - [Lead \(32488\)](#)
 - [PAHs \(Polycyclic Aromatic Hydrocarbons\) \(sediment\) \(32369\)](#)
 - [Zinc \(32581\)](#)
- **Pescadero Creek**
 - [Sedimentation/Siltation \(32976\)](#)
- **San Gregorio Creek**
 - [Indicator Bacteria \(32375\)](#)
- **San Leandro Bay (part of SF Bay, Lower)**
 - [Lead \(sediment\) \(33088\)](#)
 - [PAHs \(Polycyclic Aromatic Hydrocarbons\) \(sediment\) \(33043\)](#)
 - [Zinc \(33071\)](#)
- **San Vicente Creek**
 - [Indicator Bacteria \(32793\)](#)
- **Sonoma Creek, non-tidal**
 - [Nutrients \(53919\)](#)
- **Sonoma Creek, tidal**
 - [Nutrients \(53920\)](#)

- China Camp Beach
 - [Indicator Bacteria \(44915\)](#)
- Matadero Creek
 - [Diazinon \(34282\)](#)
- Napa River, tidal
 - [Pathogens \(54404\)](#)
- Sonoma Creek, non-tidal
 - [Pathogens \(53921\)](#)
- Sonoma Creek, tidal
 - [Pathogens \(53922\)](#)

Do Not Delist from 303(d) list (being addressed with action other than TMDL)

Regional Board 2

- Stege Marsh
 - [Dieldrin \(32360\)](#)
 - [PCBs \(Polychlorinated biphenyls\) \(32364\)](#)

Do Not List on 303(d) list (TMDL required list)

Regional Board 2

- Adobe Creek (Santa Clara County)
 - [Trash \(61047\)](#)
- Alameda Creek
 - [Cadmium \(61053\)](#)
- Almaden Lake
 - [Heptachlor \(61193\)](#)
 - [Selenium \(61206\)](#)
- Arroyo Las Positas
 - [Ammonia \(Unionized\) | Nitrogen, ammonia \(Total Ammonia\) \(43430\)](#)
 - [Anthracene | Benzo\(a\)anthracene | Benzo\(a\)pyrene \(3,4-Benzopyrene -7-d\) | Chlordane | Chrysene \(C1-C4\) | DDD \(Dichlorodiphenyldichloroethane\) | DDE \(Dichlorodiphenyldichloroethylene\) | DDT \(Dichlorodiphenyltrichloroethane\) | Dieldrin | Endrin | Fluoranthene | Fluorene | Heptachlor epoxide | Lindane/gamma Hexachlorocyclohexane \(gamma-HCH\) | Naphthalene | PAHs \(Polycyclic Aromatic Hydrocarbons\) | PCBs \(Polychlorinated biphenyls\) | Phenanthrene | Pyrene \(43706\)](#)
 - [Arsenic | Cadmium | Copper | Lead | Mercury | Zinc \(43416\)](#)
 - [Arsenic | Chromium \(total\) | Copper | Lead | Nickel | Silver | Zinc \(44261\)](#)
 - [Chlorpyrifos | Dacthal | Diazinon | Disulfoton | Endosulfan | Lindane/gamma Hexachlorocyclohexane \(gamma-HCH\) | Methyl Parathion | PCBs \(Polychlorinated biphenyls\) | Thiobencarb/Bolero \(43584\)](#)
 - [Chromium \(43417\)](#)
 - [Nickel \(39675\)](#)
 - [Temperature, water \(43733\)](#)
- Arroyo Mocho
 - [Anthracene | Benzo\(a\)anthracene | Benzo\(a\)pyrene \(3,4-Benzopyrene -7-d\) | Chlordane | Chrysene \(C1-C4\) | DDD \(Dichlorodiphenyldichloroethane\) | DDE \(Dichlorodiphenyldichloroethylene\) | DDT](#)

- [\(Dichlorodiphenyltrichloroethane\) | Dieldrin | Endrin | Fluoranthene | Fluorene | Heptachlor epoxide | Lindane/gamma Hexachlorocyclohexane \(gamma-HCH\) | Naphthalene | PAHs \(Polycyclic Aromatic Hydrocarbons\) | PCBs \(Polychlorinated biphenyls\) | Phenanthrene | Pyrene \(41832\)](#)
 - o [Arsenic \(60809\)](#)
 - o [Cadmium \(60810\)](#)
 - o [Chlorpyrifos | Dacthal | Diazinon | Disulfoton | Endosulfan | Lindane/gamma Hexachlorocyclohexane \(gamma-HCH\) | Methyl Parathion | PCBs \(Polychlorinated biphenyls\) | Thiobencarb/Bolero \(43523\)](#)
 - o [Chromium \(60811\)](#)
 - o [Copper \(60812\)](#)
 - o [Lead \(60824\)](#)
 - o [Nickel \(43767\)](#)
 - o [Oxygen, Dissolved \(43620\)](#)
 - o [Silver \(60826\)](#)
 - o [Toxicity \(43245\)](#)
 - o [Zinc \(60825\)](#)
 - o [pH \(44109\)](#)
- **Arroyo Viejo Creek**
 - o [Arsenic | Cadmium | Chromium \(total\) | Copper | Lead | Mercury | Nickel \(sediment\) | Sediment Toxicity | Zinc \(41041\)](#)
 - o [Arsenic | Chromium \(total\) | Copper | Lead | Nickel | Silver | Zinc \(43601\)](#)
 - o [Chlordane | DDD \(Dichlorodiphenyldichloroethane\) | DDE \(Dichlorodiphenyldichloroethylene\) | DDT \(Dichlorodiphenyltrichloroethane\) | Dieldrin | Heptachlor epoxide \(44059\)](#)
 - o [Chlorpyrifos | Dacthal | Diazinon | Disulfoton | Endosulfan | Lindane/gamma Hexachlorocyclohexane \(gamma-HCH\) | Methyl Parathion | PCBs \(Polychlorinated biphenyls\) | Thiobencarb/Bolero \(34922\)](#)
 - o [Escherichia coli \(E. coli\) \(43481\)](#)
 - o [Mercury \(44111\)](#)
 - o [Nickel \(44127\)](#)
 - o [Oxygen, Dissolved \(43490\)](#)
 - o [Temperature, water \(44077\)](#)
 - o [Toxicity \(43210\)](#)
 - o [pH \(43255\)](#)
- **Audubon Canyon**
 - o [Escherichia coli \(E. coli\) \(44360\)](#)
 - o [Nitrate \(36611\)](#)
- **Baxter Creek (Contra Costa County)**
 - o [Anthracene | Benzo\(a\)anthracene | Benzo\(a\)pyrene \(3,4-Benzopyrene -7-d\) | Chrysene \(C1-C4\) | DDD \(Dichlorodiphenyldichloroethane\) | DDE \(Dichlorodiphenyldichloroethylene\) | DDT \(Dichlorodiphenyltrichloroethane\) | Dieldrin | Endrin | Fluoranthene | Fluorene | Heptachlor epoxide | Lindane/gamma Hexachlorocyclohexane \(gamma-HCH\) | Naphthalene | PAHs \(Polycyclic Aromatic Hydrocarbons\) | PCBs \(Polychlorinated biphenyls\) | Phenanthrene | Pyrene \(44562\)](#)
 - o [Arsenic | Cadmium | Copper | Lead | Mercury | Zinc \(43820\)](#)
 - o [Arsenic | Chromium \(total\) | Copper | Lead | Nickel | Silver | Zinc \(43053\)](#)
 - o [Chlordane \(43821\)](#)
 - o [Chlorpyrifos | Dacthal | Diazinon | Disulfoton | Endosulfan | Lindane/gamma Hexachlorocyclohexane \(gamma-HCH\) | Methyl Parathion | PCBs \(Polychlorinated biphenyls\) | Thiobencarb/Bolero \(44727\)](#)
 - o [Chromium \(43822\)](#)
 - o [Escherichia coli \(E. coli\) \(44205\)](#)
 - o [Nickel \(44418\)](#)
 - o [Oxygen, Dissolved \(43147\)](#)
 - o [Temperature, water \(43148\)](#)
 - o [Toxicity \(43158\)](#)
 - o [pH \(43603\)](#)
- **Butano Creek**
 - o [Ammonia \(Unionized\) | Nitrogen, ammonia \(Total Ammonia\) \(43533\)](#)
 - o [Anthracene | Benzo\(a\)anthracene | Benzo\(a\)pyrene \(3,4-Benzopyrene -7-d\) | Chlordane | Chrysene \(C1-C4\) | DDD](#)

[\(Dichlorodiphenyldichloroethane\) | DDE \(Dichlorodiphenyldichloroethylene\) | DDT \(Dichlorodiphenyltrichloroethane\) | Dieldrin | Endrin | Fluoranthene | Fluorene | Heptachlor epoxide | Lindane/gamma Hexachlorocyclohexane \(gamma-HCH\) | Naphthalene | PAHs \(Polycyclic Aromatic Hydrocarbons\) | PCBs \(Polychlorinated biphenyls\) | Phenanthrene | Pyrene \(43741\)](#)

- o [Arsenic | Cadmium | Chromium \(total\) | Copper | Lead | Mercury | Nickel | Zinc \(43421\)](#)
- o [Arsenic | Chromium \(total\) | Copper | Lead | Nickel | Silver | Zinc \(43422\)](#)
- o [Cadmium \(43545\)](#)
- o [Chlorpyrifos | Dacthal | Diazinon | Disulfoton | Endosulfan | Lindane/gamma Hexachlorocyclohexane \(gamma-HCH\) | Methyl Parathion | PCBs \(Polychlorinated biphenyls\) | Thiobencarb/Bolero \(43150\)](#)
- o [Copper | Lead | Nickel | Silver | Zinc \(43211\)](#)
- o [Oxygen, Dissolved \(32479\)](#)
- o [Temperature, water \(43111\)](#)
- o [Toxicity \(43149\)](#)
- o [Turbidity \(32482\)](#)
- o [pH \(32481\)](#)

• **Cerrito Creek**

- o [Anthracene \(60628\)](#)
- o [Arsenic \(60730\)](#)
- o [Benzo\(a\)anthracene \(60634\)](#)
- o [Benzo\(a\)pyrene \(3,4-Benzopyrene -7-d\) \(60636\)](#)
- o [Cadmium \(60731\)](#)
- o [Chlorpyrifos \(60754\)](#)
- o [Chromium \(60732\)](#)
- o [Chrysene \(C1-C4\) \(60638\)](#)
- o [Copper \(60734\)](#)
- o [DDD \(Dichlorodiphenyldichloroethane\) \(60664\)](#)
- o [DDE \(Dichlorodiphenyldichloroethylene\) \(60665\)](#)
- o [DDT \(Dichlorodiphenyltrichloroethane\) \(60666\)](#)
- o [Dacthal \(60756\)](#)
- o [Diazinon \(60802\)](#)
- o [Dieldrin \(60667\)](#)
- o [Disulfoton \(60803\)](#)
- o [Endosulfan \(60804\)](#)
- o [Endrin \(60668\)](#)
- o [Heptachlor epoxide \(60671\)](#)
- o [Lead \(60736\)](#)
- o [Lindane/gamma Hexachlorocyclohexane \(gamma-HCH\) \(60672\)](#)
- o [Mercury \(60739\)](#)
- o [Methyl Parathion \(60805\)](#)
- o [Naphthalene \(60673\)](#)
- o [Nickel \(44242\)](#)
- o [Oxygen, Dissolved \(43441\)](#)
- o [PCBs \(Polychlorinated biphenyls\) \(60675\)](#)
- o [Phenanthrene \(60728\)](#)
- o [Pyrene \(60729\)](#)
- o [Silver \(60807\)](#)
- o [Temperature, water \(43535\)](#)
- o [Thiobencarb/Bolero \(60806\)](#)
- o [Toxicity \(44110\)](#)
- o [Zinc \(60751\)](#)
- o [pH \(43389\)](#)

• **Codornices Creek**

- o [Anthracene \(60860\)](#)
- o [Arsenic \(60848\)](#)
- o [Benzo\(a\)anthracene \(60861\)](#)
- o [Benzo\(a\)pyrene \(3,4-Benzopyrene -7-d\) \(60862\)](#)
- o [Cadmium \(60886\)](#)
- o [Chlordane \(43747\)](#)

- [Chlorpyrifos \(60878\)](#)
- [Chromium \(43184\)](#)
- [Chrysene \(C1-C4\) \(60863\)](#)
- [Copper \(60887\)](#)
- [DDD \(Dichlorodiphenyldichloroethane\) \(43582\)](#)
- [DDE \(Dichlorodiphenyldichloroethylene\) \(60865\)](#)
- [DDT \(Dichlorodiphenyltrichloroethane\) \(60866\)](#)
- [Dacthal \(60879\)](#)
- [Diazinon \(60881\)](#)
- [Dieldrin \(60868\)](#)
- [Disulfoton \(60882\)](#)
- [Endosulfan \(60883\)](#)
- [Endrin \(60869\)](#)
- [Fluoranthene \(60870\)](#)
- [Heptachlor epoxide \(60871\)](#)
- [Lead \(60888\)](#)
- [Lindane/gamma Hexachlorocyclohexane \(gamma-HCH\) \(60872\)](#)
- [Mercury \(42882\)](#)
- [Methyl Parathion \(60884\)](#)
- [Naphthalene \(60873\)](#)
- [Nickel \(42883\)](#)
- [Oxygen, Dissolved \(35903\)](#)
- [PAHs \(Polycyclic Aromatic Hydrocarbons\) \(60874\)](#)
- [PCBs \(Polychlorinated biphenyls\) \(60875\)](#)
- [Phenanthrene \(60876\)](#)
- [Pyrene \(60877\)](#)
- [Silver \(60891\)](#)
- [Thiobencarb/Bolero \(60885\)](#)
- [Toxicity \(43079\)](#)
- [Zinc \(60889\)](#)
- [pH \(43591\)](#)

• **Easkoot Creek**

- [Arsenic \(44208\)](#)
- [Benthic Community Effects \(34854\)](#)
- [Cadmium | Copper | Lead | Zinc \(44313\)](#)
- [Chromium \(44314\)](#)
- [Copper \(44723\)](#)
- [Lead \(44523\)](#)
- [Mercury \(60901\)](#)
- [Nickel \(44315\)](#)
- [Selenium \(60902\)](#)
- [Silver \(60903\)](#)
- [Toxicity \(43813\)](#)
- [Zinc \(44524\)](#)
- [pH \(44454\)](#)

• **Glen Echo Creek**

- [Arsenic \(44522\)](#)
- [Cadmium \(44504\)](#)
- [Chlordane \(43993\)](#)
- [Chlorpyrifos \(60910\)](#)
- [Copper \(44479\)](#)
- [DDD \(Dichlorodiphenyldichloroethane\) \(60905\)](#)
- [DDE \(Dichlorodiphenyldichloroethylene\) \(60906\)](#)
- [DDT \(Dichlorodiphenyltrichloroethane\) \(60907\)](#)
- [Dacthal \(60911\)](#)
- [Diazinon \(60912\)](#)
- [Dieldrin \(60908\)](#)
- [Disulfoton \(60913\)](#)

- [Endosulfan \(60914\)](#)
 - [Escherichia coli \(E. coli\) \(43851\)](#)
 - [Heptachlor epoxide \(60909\)](#)
 - [Lead \(44515\)](#)
 - [Lindane/gamma Hexachlorocyclohexane \(gamma-HCH\) \(60915\)](#)
 - [Mercury \(44535\)](#)
 - [Methyl Parathion \(60916\)](#)
 - [Nickel \(44407\)](#)
 - [Oxygen, Dissolved \(43837\)](#)
 - [PCBs \(Polychlorinated biphenyls\) \(60917\)](#)
 - [Temperature, water \(44086\)](#)
 - [Thiobencarb/Bolero \(60918\)](#)
 - [Toxicity \(43480\)](#)
 - [pH \(44668\)](#)
- **Hill Slough**
 - [Mercury \(33014\)](#)
- **Islais Creek**
 - [PCBs \(Polychlorinated biphenyls\) \(32999\)](#)
- **Islais Creek, Upper**
 - [Anthracene \(60919\)](#)
 - [Arsenic | Copper | Lead | Silver | Zinc \(44330\)](#)
 - [Benzo\(a\)anthracene \(60920\)](#)
 - [Benzo\(a\)pyrene \(3,4-Benzopyrene -7-d\) \(60921\)](#)
 - [Chlordane \(60977\)](#)
 - [Chromium \(43757\)](#)
 - [Chrysene \(C1-C4\) \(60989\)](#)
 - [DDD \(Dichlorodiphenyldichloroethane\) \(60994\)](#)
 - [DDE \(Dichlorodiphenyldichloroethylene\) \(60995\)](#)
 - [DDT \(Dichlorodiphenyltrichloroethane\) \(60996\)](#)
 - [Dieldrin \(60997\)](#)
 - [Endrin \(60998\)](#)
 - [Escherichia coli \(E. coli\) \(44270\)](#)
 - [Fluoranthene \(60999\)](#)
 - [Heptachlor epoxide \(61001\)](#)
 - [Lindane/gamma Hexachlorocyclohexane \(gamma-HCH\) \(61003\)](#)
 - [Naphthalene \(61004\)](#)
 - [Nickel \(43758\)](#)
 - [Oxygen, Dissolved \(43786\)](#)
 - [PAHs \(Polycyclic Aromatic Hydrocarbons\) \(61006\)](#)
 - [PCBs \(Polychlorinated biphenyls\) \(61008\)](#)
 - [Phenanthrene \(61009\)](#)
 - [Pyrene \(61011\)](#)
 - [Temperature, water \(43787\)](#)
 - [Toxicity \(44348\)](#)
 - [pH \(44478\)](#)
- **Kirker Creek**
 - [Anthracene | Benzo\(a\)anthracene | Benzo\(a\)pyrene \(3,4-Benzopyrene -7-d\) | Chlordane | Chrysene \(C1-C4\) | DDD \(Dichlorodiphenyldichloroethane\) | DDE \(Dichlorodiphenyldichloroethylene\) | DDT \(Dichlorodiphenyltrichloroethane\) | Dieldrin | Endrin | Fluoranthene | Fluorene | Heptachlor epoxide | Lindane/gamma Hexachlorocyclohexane \(gamma-HCH\) | Naphthalene | PAHs \(Polycyclic Aromatic Hydrocarbons\) | PCBs \(Polychlorinated biphenyls\) | Phenanthrene | Pyrene \(44283\)](#)
 - [Arsenic | Cadmium | Chromium \(total\) | Copper | Lead | Mercury | Nickel | Zinc \(44335\)](#)
 - [Arsenic | Chromium \(total\) | Copper | Lead | Nickel | Silver | Zinc \(44628\)](#)
 - [Chlorpyrifos \(43778\)](#)
 - [Dacthal | Disulfoton | Endosulfan | Lindane/gamma Hexachlorocyclohexane \(gamma-HCH\) | Methyl Parathion |](#)

[PCBs \(Polychlorinated biphenyls\) | Thiobencarb/Bolero \(43779\)](#)

- [Diazinon \(43814\)](#)
- [Escherichia coli \(E. coli\) \(44271\)](#)
- [Oxygen, Dissolved \(43815\)](#)
- [Selenium \(43816\)](#)
- [Temperature, water \(43604\)](#)
- [pH \(43436\)](#)

• **Lagunitas Creek**

- [2-Methylnaphthalene | Acenaphthene | Acenaphthylene | Aldrin | Anthracene | Atrazine | Azinphos-methyl \(Guthion\) | Benzo\(a\)anthracene | Benzo\(a\)pyrene \(3,4-Benzopyrene -7-d\) | Benzo\[b\]fluoranthene | Benzo\[g,h,i\]perylene | Benzo\[k\]fluoranthene | Biphenyl | Chlordane | Chlorpyrifos | Chrysene \(C1-C4\) | Dibenz\[a,h\]anthracene | Fluoranthene | Fluorene | Indeno\[1,2,3-cd\]pyrene | Naphthalene | PAHs \(Polycyclic Aromatic Hydrocarbons\) | PCBs \(Polychlorinated biphenyls\) | Phenanthrene | Pyrene \(43437\)](#)
- [Ammonia \(Unionized\) | Nitrogen, ammonia \(Total Ammonia\) \(44455\)](#)
- [Anthracene | Benzo\(a\)anthracene | Benzo\(a\)pyrene \(3,4-Benzopyrene -7-d\) | Chlordane | Chrysene \(C1-C4\) | DDD \(Dichlorodiphenyldichloroethane\) | DDE \(Dichlorodiphenyldichloroethylene\) | DDT \(Dichlorodiphenyltrichloroethane\) | Dieldrin | Endrin | Fluoranthene | Fluorene | Heptachlor epoxide | Lindane/gamma Hexachlorocyclohexane \(gamma-HCH\) | Naphthalene | PAHs \(Polycyclic Aromatic Hydrocarbons\) | PCBs \(Polychlorinated biphenyls\) | Phenanthrene | Pyrene \(43946\)](#)
- [Arsenic | Cadmium | Copper | Lead | Mercury | Nickel | Zinc \(44386\)](#)
- [Arsenic | Chromium \(total\) | Copper | Lead | Nickel | Silver | Zinc \(43947\)](#)
- [Chlorpyrifos | Dacthal | Diazinon | Disulfoton | Endosulfan | Lindane/gamma Hexachlorocyclohexane \(gamma-HCH\) | Methyl Parathion | PCBs \(Polychlorinated biphenyls\) | Thiobencarb/Bolero \(43487\)](#)
- [Oxygen, Dissolved \(43438\)](#)
- [Temperature, water \(43449\)](#)
- [pH \(43949\)](#)

• **Lion Creek**

- [Escherichia coli \(E. coli\) \(43470\)](#)
- [Oxygen, Dissolved \(37397\)](#)
- [Temperature, water \(43471\)](#)

• **Lobos Creek**

- [Arsenic | Cadmium | Copper | Lead | Mercury | Nickel | Zinc \(44249\)](#)
- [Arsenic | Chromium \(total\) | Copper | Lead | Nickel | Silver | Zinc \(43482\)](#)
- [Chlorpyrifos | Dacthal | Diazinon | Disulfoton | Endosulfan | Lindane/gamma Hexachlorocyclohexane \(gamma-HCH\) | Methyl Parathion | PCBs \(Polychlorinated biphenyls\) | Thiobencarb/Bolero \(43982\)](#)
- [Chromium \(44175\)](#)
- [Mercury \(43842\)](#)
- [Oxygen, Dissolved \(43981\)](#)
- [Toxicity \(35809\)](#)
- [pH \(43983\)](#)

• **Morses Gulch Creek**

- [Nitrate \(36625\)](#)

• **Mt. Diablo Creek**

- [Anthracene | Benzo\(a\)anthracene | Benzo\(a\)pyrene \(3,4-Benzopyrene -7-d\) | Chlordane | Chrysene \(C1-C4\) | DDD \(Dichlorodiphenyldichloroethane\) | DDE \(Dichlorodiphenyldichloroethylene\) | DDT \(Dichlorodiphenyltrichloroethane\) | Dieldrin | Endrin | Fluoranthene | Fluorene | Heptachlor epoxide | Lindane/gamma Hexachlorocyclohexane \(gamma-HCH\) | Naphthalene | PAHs \(Polycyclic Aromatic Hydrocarbons\) | PCBs \(Polychlorinated biphenyls\) | Phenanthrene | Pyrene \(44388\)](#)
- [Arsenic | Cadmium | Chromium \(total\) | Copper | Lead | Mercury | Nickel | Zinc \(44342\)](#)
- [Arsenic | Chromium \(total\) | Copper | Lead | Nickel | Silver | Zinc \(43507\)](#)
- [Dacthal | Disulfoton | Endosulfan | Lindane/gamma Hexachlorocyclohexane \(gamma-HCH\) | Methyl Parathion | PCBs \(Polychlorinated biphenyls\) | Thiobencarb/Bolero \(44343\)](#)
- [Escherichia coli \(E. coli\) \(44412\)](#)
- [Oxygen, Dissolved \(36591\)](#)

- [Temperature, water \(43465\)](#)
 - [pH \(43848\)](#)
- **Napa River, tidal**
 - [Mercury \(54406\)](#)
- **Olema Creek**
 - [Anthracene | Benzo\(a\)anthracene | Benzo\(a\)pyrene \(3,4-Benzopyrene -7-d\) | Chlordane \(sediment\) | Chrysene \(C1-C4\) | DDD \(Dichlorodiphenyldichloroethane\) | DDE \(Dichlorodiphenyldichloroethylene\) | DDT \(Dichlorodiphenyltrichloroethane\) | DDT \(sediment\) | Dieldrin \(sediment\) | Endrin | Fluoranthene | Fluorene | Heptachlor epoxide | Lindane/gamma Hexachlorocyclohexane \(gamma-HCH\) | Naphthalene | PAHs \(Polycyclic Aromatic Hydrocarbons\) \(sediment\) | PCBs \(Polychlorinated biphenyls\) \(sediment\) | Phenanthrene | Pyrene \(44181\)](#)
 - [Arsenic | Chromium \(total\) | Copper | Lead | Nickel | Silver | Zinc \(43827\)](#)
 - [Chlorpyrifos | Dacthal | Diazinon | Disulfoton | Endosulfan | Lindane/gamma Hexachlorocyclohexane \(gamma-HCH\) | Methyl Parathion | PCBs \(Polychlorinated biphenyls\) | Thiobencarb/Bolero \(43828\)](#)
 - [Oxygen, Dissolved \(44630\)](#)
 - [Temperature, water \(44038\)](#)
 - [Toxicity \(43831\)](#)
 - [pH \(44046\)](#)
- **Peralta Creek**
 - [Arsenic \(44437\)](#)
 - [Arsenic | Chromium \(total\) | Copper | Lead | Nickel | Silver | Zinc \(44087\)](#)
 - [Cadmium \(43043\)](#)
 - [Chlordane | DDD \(Dichlorodiphenyldichloroethane\) | DDE \(Dichlorodiphenyldichloroethylene\) | DDT \(Dichlorodiphenyltrichloroethane\) | Dieldrin | Heptachlor epoxide \(43850\)](#)
 - [Chromium \(44124\)](#)
 - [Copper \(44439\)](#)
 - [Disulfoton \(44125\)](#)
 - [Escherichia coli \(E. coli\) \(44126\)](#)
 - [Lead \(44438\)](#)
 - [Mercury \(44050\)](#)
 - [Nickel \(44350\)](#)
 - [Oxygen, Dissolved \(44051\)](#)
 - [Temperature, water \(44052\)](#)
 - [Toxicity \(43841\)](#)
 - [Zinc \(44722\)](#)
 - [pH \(43919\)](#)
- **Permanente Creek**
 - [Ammonia \(Unionized\) | Nitrogen, ammonia \(Total Ammonia\) \(44047\)](#)
 - [Anthracene | Benzo\(a\)anthracene | Benzo\(a\)pyrene \(3,4-Benzopyrene -7-d\) | Chrysene \(C1-C4\) | DDD \(Dichlorodiphenyldichloroethane\) | DDE \(Dichlorodiphenyldichloroethylene\) | DDT \(Dichlorodiphenyltrichloroethane\) | Dieldrin | Endrin | Fluoranthene | Fluorene | Heptachlor epoxide | Lindane/gamma Hexachlorocyclohexane \(gamma-HCH\) | Naphthalene | PAHs \(Polycyclic Aromatic Hydrocarbons\) | PCBs \(Polychlorinated biphenyls\) | Phenanthrene | Pyrene \(42658\)](#)
 - [Arsenic | Cadmium | Chromium \(total\) | Copper | Lead | Mercury | Nickel | Zinc \(44141\)](#)
 - [Arsenic | Chromium \(total\) | Copper | Lead | Nickel | Silver | Zinc \(44088\)](#)
 - [Cadmium \(43379\)](#)
 - [Chlordane \(44142\)](#)
 - [Chlorpyrifos | Dacthal | Diazinon | Disulfoton | Endosulfan | Lindane/gamma Hexachlorocyclohexane \(gamma-HCH\) | Methyl Parathion | PCBs \(Polychlorinated biphenyls\) | Thiobencarb/Bolero \(43387\)](#)
 - [Copper | Lead | Nickel | Silver | Zinc \(43388\)](#)
 - [Escherichia coli \(E. coli\) \(44143\)](#)
 - [Oxygen, Dissolved \(43478\)](#)
 - [Temperature, water \(44017\)](#)
 - [pH \(43386\)](#)

- **Pescadero Creek**

- [Ammonia \(Unionized\) | Nitrogen, ammonia \(Total Ammonia\) \(44215\)](#)
- [Cadmium \(44216\)](#)
- [Copper | Lead | Nickel | Silver | Zinc \(44359\)](#)
- [Turbidity \(32447\)](#)

- **Petaluma River**

- [Anthracene | Benzo\(a\)anthracene | Benzo\(a\)pyrene \(3,4-Benzopyrene -7-d\) | Chlordane | Chrysene \(C1-C4\) | DDD \(Dichlorodiphenyldichloroethane\) | DDE \(Dichlorodiphenyldichloroethylene\) | DDT \(Dichlorodiphenyltrichloroethane\) | Dieldrin | Endrin | Fluoranthene | Fluorene | Heptachlor epoxide | Lindane/gamma Hexachlorocyclohexane \(gamma-HCH\) | Naphthalene | PAHs \(Polycyclic Aromatic Hydrocarbons\) | PCBs \(Polychlorinated biphenyls\) | Phenanthrene | Pyrene \(44358\)](#)
- [Arsenic | Cadmium | Chromium \(total\) | Copper | Lead | Mercury | Nickel | Zinc \(44073\)](#)
- [Arsenic | Chromium \(total\) | Copper | Lead | Nickel | Selenium | Silver | Zinc \(43911\)](#)
- [Escherichia coli \(E. coli\) \(44081\)](#)
- [Oxygen, Dissolved \(43296\)](#)
- [Temperature, water \(43076\)](#)
- [Toxicity \(43987\)](#)
- [pH \(44074\)](#)

- **Peyton Slough**

- [Cadmium \(32463\)](#)
- [Chlordane \(32980\)](#)
- [Copper \(32476\)](#)
- [PCBs \(Polychlorinated biphenyls\) \(32984\)](#)
- [Pyrene \(32885\)](#)
- [Selenium \(32475\)](#)
- [Silver \(32509\)](#)
- [Zinc \(32983\)](#)
- [p,p'-DDE \(32828\)](#)

- **Pine Gulch Creek**

- [Arsenic \(44403\)](#)
- [Arsenic | Chromium \(total\) | Copper | Lead | Mercury | Nickel | Selenium | Silver | Zinc \(43798\)](#)
- [Benthic-Macroinvertebrate Bioassessments | Oxygen, Dissolved | Temperature, water \(34935\)](#)
- [Chromium \(44559\)](#)
- [Copper \(44690\)](#)
- [Lead \(44688\)](#)
- [Mercury \(44687\)](#)
- [Nickel \(44594\)](#)
- [Toxicity \(44619\)](#)
- [Zinc \(44686\)](#)
- [pH \(44620\)](#)

- **Redwood Creek (Marin County)**

- [Escherichia coli \(E. coli\) \(44304\)](#)

- **Rodeo Creek (Marin County)**

- [Benthic-Macroinvertebrate Bioassessments | Oxygen, Dissolved | Temperature, water \(34966\)](#)
- [Escherichia coli \(E. coli\) \(43856\)](#)
- [pH \(43885\)](#)

- **San Antonio Creek (Marin/Sonoma Co)**

- [Arsenic | Chromium \(total\) | Copper | Lead | Nickel | Selenium | Silver | Zinc \(43989\)](#)
- [Oxygen, Dissolved \(42719\)](#)
- [Temperature, water \(33505\)](#)
- [Toxicity \(44023\)](#)
- [pH \(43963\)](#)

- San Francisco Bay, Central
 - [Polybrominated Diphenyl Ethers \(PBDEs\) \(32925\)](#)
- San Francisco Bay, Lower
 - [Polybrominated Diphenyl Ethers \(PBDEs\) \(32864\)](#)
- San Francisco Bay, South
 - [Polybrominated Diphenyl Ethers \(PBDEs\) \(32921\)](#)
- San Francisquito Creek
 - [Oxygen, Dissolved \(32985\)](#)
 - [Turbidity \(32576\)](#)
 - [pH \(32575\)](#)
- San Gregorio Creek
 - [Ammonia \(Unionized\) | Nitrogen, ammonia \(Total Ammonia\) \(44213\)](#)
 - [Cadmium \(44134\)](#)
 - [Copper | Lead | Nickel | Silver | Zinc \(44176\)](#)
- San Leandro Creek, Lower
 - [Ammonia \(Unionized\) | Nitrogen, ammonia \(Total Ammonia\) \(43565\)](#)
 - [Anthracene | Benzo\(a\)anthracene | Benzo\(a\)pyrene \(3,4-Benzopyrene -7-d\) | Chlordane | Chrysene \(C1-C4\) | DDD \(Dichlorodiphenyldichloroethane\) | DDE \(Dichlorodiphenyldichloroethylene\) | DDT \(Dichlorodiphenyltrichloroethane\) | Dieldrin | Endrin | Fluoranthene | Fluorene | Heptachlor epoxide | Lindane/gamma Hexachlorocyclohexane \(gamma-HCH\) | Naphthalene | PAHs \(Polycyclic Aromatic Hydrocarbons\) | PCBs \(Polychlorinated biphenyls\) | Phenanthrene | Pyrene \(43864\)](#)
 - [Arsenic | Cadmium | Copper | Mercury | Zinc \(43865\)](#)
 - [Arsenic | Chromium \(total\) | Copper | Lead | Nickel | Silver | Zinc \(43206\)](#)
 - [Chlorpyrifos | Dacthal | Diazinon | Disulfoton | Endosulfan | Lindane/gamma Hexachlorocyclohexane \(gamma-HCH\) | Methyl Parathion | PCBs \(Polychlorinated biphenyls\) | Thiobencarb/Bolero \(43367\)](#)
 - [Escherichia coli \(E. coli\) \(44102\)](#)
- San Leandro Creek, Upper
 - [Alkalinity as CaCO3 \(44214\)](#)
 - [Ammonia \(Unionized\) | Nitrogen, ammonia \(Total Ammonia\) \(43489\)](#)
 - [Cadmium \(44172\)](#)
 - [Copper | Lead | Nickel | Silver | Zinc \(44173\)](#)
- San Mateo Creek, Lower
 - [Anthracene | Benzo\(a\)anthracene | Benzo\(a\)pyrene \(3,4-Benzopyrene -7-d\) | Chlordane | Chrysene \(C1-C4\) | DDD \(Dichlorodiphenyldichloroethane\) | DDE \(Dichlorodiphenyldichloroethylene\) | DDT \(Dichlorodiphenyltrichloroethane\) | Dieldrin | Endrin | Fluoranthene | Fluorene | Heptachlor epoxide | Lindane/gamma Hexachlorocyclohexane \(gamma-HCH\) | Naphthalene | PAHs \(Polycyclic Aromatic Hydrocarbons\) | PCBs \(Polychlorinated biphenyls\) | Phenanthrene | Pyrene \(44305\)](#)
 - [Arsenic | Cadmium | Copper | Lead | Mercury | Zinc \(44306\)](#)
 - [Arsenic | Chromium \(total\) | Copper | Lead | Nickel | Silver | Zinc \(44080\)](#)
 - [Dacthal | Disulfoton | Endosulfan | Lindane/gamma Hexachlorocyclohexane \(gamma-HCH\) | Methyl Parathion | PCBs \(Polychlorinated biphenyls\) | Thiobencarb/Bolero \(43952\)](#)
 - [Escherichia coli \(E. coli\) \(44048\)](#)
 - [Oxygen, Dissolved \(43904\)](#)
 - [Temperature, water \(43962\)](#)
 - [pH \(43988\)](#)
- San Pablo Bay
 - [Polybrominated Diphenyl Ethers \(PBDEs\) \(32789\)](#)

- **San Pablo Creek**

- [Ammonia \(Unionized\) | Nitrogen, ammonia \(Total Ammonia\) \(43912\)](#)
- [Anthracene | Benzo\(a\)anthracene | Benzo\(a\)pyrene \(3,4-Benzopyrene -7-d\) | Chlordane | Chrysene \(C1-C4\) | DDD \(Dichlorodiphenyldichloroethane\) | DDE \(Dichlorodiphenyldichloroethylene\) | DDT \(Dichlorodiphenyltrichloroethane\) | Dieldrin | Endrin | Fluoranthene | Fluorene | Heptachlor epoxide | Lindane/gamma Hexachlorocyclohexane \(gamma-HCH\) | Naphthalene | PAHs \(Polycyclic Aromatic Hydrocarbons\) | PCBs \(Polychlorinated biphenyls\) | Phenanthrene | Pyrene \(44149\)](#)
- [Arsenic | Cadmium | Chromium \(total\) | Copper | Lead | Mercury | Nickel | Zinc \(44411\)](#)
- [Arsenic | Chromium \(total\) | Copper | Lead | Nickel | Silver | Zinc \(44212\)](#)
- [Cadmium \(43495\)](#)
- [Chlorpyrifos \(43525\)](#)
- [Escherichia coli \(E. coli\) \(43526\)](#)
- [Oxygen, Dissolved \(43538\)](#)
- [Temperature, water \(44156\)](#)
- [Toxicity \(43777\)](#)
- [pH \(43541\)](#)

- **Sausal Creek**

- [Anthracene | Benzo\(a\)anthracene | Benzo\(a\)pyrene \(3,4-Benzopyrene -7-d\) | Chlordane | Chrysene \(C1-C4\) | DDD \(Dichlorodiphenyldichloroethane\) | DDE \(Dichlorodiphenyldichloroethylene\) | DDT \(Dichlorodiphenyltrichloroethane\) | Dieldrin | Endrin | Fluoranthene | Fluorene | Heptachlor epoxide | Lindane/gamma Hexachlorocyclohexane \(gamma-HCH\) | Naphthalene | PAHs \(Polycyclic Aromatic Hydrocarbons\) | PCBs \(Polychlorinated biphenyls\) | Phenanthrene | Pyrene \(44301\)](#)
- [Arsenic | Cadmium | Chromium \(total\) | Copper | Lead | Mercury | Nickel | Zinc \(44405\)](#)
- [Arsenic | Chromium \(total\) | Copper | Lead | Nickel | Silver | Zinc \(43543\)](#)
- [Chlorpyrifos | Dacthal | Diazinon | Disulfoton | Endosulfan | Lindane/gamma Hexachlorocyclohexane \(gamma-HCH\) | Methyl Parathion | PCBs \(Polychlorinated biphenyls\) | Thiobencarb/Bolero \(43836\)](#)
- [Escherichia coli \(E. coli\) \(44416\)](#)
- [Oxygen, Dissolved \(43552\)](#)
- [Temperature, water \(44489\)](#)
- [Toxicity \(43553\)](#)
- [pH \(43424\)](#)

- **Stege Marsh**

- [Dichlorobenzophenone \(32419\)](#)
- [Endosulfan \(32434\)](#)
- [Endosulfan sulfate \(32433\)](#)
- [Heptachlor epoxide \(32418\)](#)
- [Hexachlorocyclohexane \(HCH\) \(mixture\) \(32503\)](#)
- [Mirex \(32485\)](#)
- [Oxadiazon \(32477\)](#)
- [Selenium \(32430\)](#)
- [Toxaphene \(32460\)](#)
- [p,p'-DDE \(32920\)](#)

- **Stevens Creek**

- [Ammonia \(Unionized\) | Nitrogen, ammonia \(Total Ammonia\) \(43410\)](#)
- [Anthracene | Benzo\(a\)anthracene | Benzo\(a\)pyrene \(3,4-Benzopyrene -7-d\) | Chlordane | Chrysene \(C1-C4\) | DDD \(Dichlorodiphenyldichloroethane\) | DDE \(Dichlorodiphenyldichloroethylene\) | DDT \(Dichlorodiphenyltrichloroethane\) | Dieldrin | Endrin | Fluoranthene | Fluorene | Heptachlor epoxide | Lindane/gamma Hexachlorocyclohexane \(gamma-HCH\) | Naphthalene | PAHs \(Polycyclic Aromatic Hydrocarbons\) | PCBs \(Polychlorinated biphenyls\) | Phenanthrene | Pyrene \(44307\)](#)
- [Arsenic | Chromium \(total\) | Copper | Lead | Nickel | Silver | Zinc \(44240\)](#)
- [Cadmium \(43403\)](#)
- [Chlorpyrifos | Dacthal | Diazinon | Disulfoton | Endosulfan | Lindane/gamma Hexachlorocyclohexane \(gamma-HCH\) | Methyl Parathion | PCBs \(Polychlorinated biphenyls\) | Thiobencarb/Bolero \(43411\)](#)
- [Escherichia coli \(E. coli\) \(43557\)](#)
- [Oxygen, Dissolved \(36182\)](#)
- [pH \(43556\)](#)

- **Strawberry Creek (Alameda County)**

- [Anthracene](#) | [Benzo\(a\)anthracene](#) | [Benzo\(a\)pyrene \(3,4-Benzopyrene -7-d\)](#) | [Chlordane](#) | [Chrysene \(C1-C4\)](#) | [DDD \(Dichlorodiphenyldichloroethane\)](#) | [DDE \(Dichlorodiphenyldichloroethylene\)](#) | [DDT \(Dichlorodiphenyltrichloroethane\)](#) | [Dieldrin](#) | [Endrin](#) | [Fluoranthene](#) | [Fluorene](#) | [Heptachlor epoxide](#) | [Lindane/gamma Hexachlorocyclohexane \(gamma-HCH\)](#) | [Naphthalene](#) | [PAHs \(Polycyclic Aromatic Hydrocarbons\)](#) | [PCBs \(Polychlorinated biphenyls\)](#) | [Phenanthrene](#) | [Pyrene \(44374\)](#)
- [Arsenic](#) | [Cadmium](#) | [Chromium \(total\)](#) | [Copper](#) | [Lead](#) | [Mercury](#) | [Zinc \(44375\)](#)
- [Arsenic](#) | [Chromium \(total\)](#) | [Copper](#) | [Lead](#) | [Nickel](#) | [Silver](#) | [Zinc \(44113\)](#)
- [Chlorpyrifos](#) | [Dacthal](#) | [Diazinon](#) | [Disulfoton](#) | [Endosulfan](#) | [Lindane/gamma Hexachlorocyclohexane \(gamma-HCH\)](#) | [Methyl Parathion](#) | [PCBs \(Polychlorinated biphenyls\)](#) | [Thiobencarb/Bolero \(44556\)](#)
- [Nickel \(44417\)](#)
- [Oxygen, Dissolved \(44027\)](#)
- [Temperature, water \(43524\)](#)
- [Toxicity \(43505\)](#)
- [pH \(43528\)](#)

- **Suisun Bay**

- [Polybrominated Diphenyl Ethers \(PBDEs\) \(33007\)](#)

- **Suisun Creek**

- [Ammonia \(Unionized\)](#) | [Nitrogen, ammonia \(Total Ammonia\) \(43880\)](#)
- [Anthracene](#) | [Benzo\(a\)anthracene](#) | [Benzo\(a\)pyrene \(3,4-Benzopyrene -7-d\)](#) | [Chlordane](#) | [Chrysene \(C1-C4\)](#) | [DDD \(Dichlorodiphenyldichloroethane\)](#) | [DDE \(Dichlorodiphenyldichloroethylene\)](#) | [DDT \(Dichlorodiphenyltrichloroethane\)](#) | [Dieldrin](#) | [Endrin](#) | [Fluoranthene](#) | [Fluorene](#) | [Heptachlor epoxide](#) | [Lindane/gamma Hexachlorocyclohexane \(gamma-HCH\)](#) | [Naphthalene](#) | [PAHs \(Polycyclic Aromatic Hydrocarbons\)](#) | [PCBs \(Polychlorinated biphenyls\)](#) | [Phenanthrene](#) | [Pyrene \(43773\)](#)
- [Arsenic](#) | [Cadmium](#) | [Chromium \(total\)](#) | [Copper](#) | [Lead](#) | [Mercury](#) | [Nickel](#) | [Zinc \(43774\)](#)
- [Arsenic](#) | [Chromium \(total\)](#) | [Copper](#) | [Lead](#) | [Nickel](#) | [Silver](#) | [Zinc \(43984\)](#)
- [Cadmium \(43881\)](#)
- [Chlorpyrifos](#) | [Dacthal](#) | [Diazinon](#) | [Disulfoton](#) | [Endosulfan](#) | [Lindane/gamma Hexachlorocyclohexane \(gamma-HCH\)](#) | [Methyl Parathion](#) | [PCBs \(Polychlorinated biphenyls\)](#) | [Thiobencarb/Bolero \(43890\)](#)
- [Toxicity \(43724\)](#)
- [pH \(43789\)](#)

- **Temescal Creek**

- [Chlorpyrifos](#) | [Dacthal](#) | [Diazinon](#) | [Disulfoton](#) | [Endosulfan](#) | [Lindane/gamma Hexachlorocyclohexane \(gamma-HCH\)](#) | [Methyl Parathion](#) | [PCBs \(Polychlorinated biphenyls\)](#) | [Thiobencarb/Bolero \(43920\)](#)
- [Copper](#) | [Lead](#) | [Nickel](#) | [Zinc \(35808\)](#)
- [Escherichia coli \(E. coli\) \(44140\)](#)
- [Oxygen, Dissolved \(44029\)](#)
- [Temperature, water \(43246\)](#)
- [Toxicity \(42309\)](#)
- [pH \(44377\)](#)

- **Tennessee Valley Creek**

- [Benthic-Macroinvertebrate Bioassessments](#) | [Oxygen, Dissolved](#) | [Temperature, water \(34964\)](#)
- [pH \(43608\)](#)

- **Walker Creek**

- [Alkalinity as CaCO3 \(43738\)](#)
- [Ammonia \(Unionized\)](#) | [Nitrogen, ammonia \(Total Ammonia\) \(44097\)](#)
- [Anthracene](#) | [Benzo\(a\)anthracene](#) | [Benzo\(a\)pyrene \(3,4-Benzopyrene -7-d\)](#) | [Chlordane](#) | [Chrysene \(C1-C4\)](#) | [DDD \(Dichlorodiphenyldichloroethane\)](#) | [DDE \(Dichlorodiphenyldichloroethylene\)](#) | [DDT \(Dichlorodiphenyltrichloroethane\)](#) | [Dieldrin](#) | [Endrin](#) | [Fluoranthene](#) | [Fluorene](#) | [Heptachlor epoxide](#) | [Lindane/gamma Hexachlorocyclohexane \(gamma-HCH\)](#) | [Naphthalene](#) | [PAHs \(Polycyclic Aromatic Hydrocarbons\)](#) | [PCBs \(Polychlorinated biphenyls\)](#) | [Phenanthrene](#) | [Pyrene \(44352\)](#)
- [Arsenic](#) | [Cadmium](#) | [Copper](#) | [Lead](#) | [Mercury](#) | [Zinc \(44353\)](#)
- [Oxygen, Dissolved \(43977\)](#)

- [Temperature, water \(36416\)](#)
- [Toxicity \(43784\)](#)
- [pH \(43887\)](#)
- **Webb Creek**
 - [Benthic-Macroinvertebrate Bioassessments | Oxygen, Dissolved | Temperature, water \(34965\)](#)
 - [pH \(43531\)](#)
- **Wildcat Creek**
 - [Ammonia \(Unionized\) | Nitrogen, ammonia \(Total Ammonia\) \(43930\)](#)
 - [Anthracene | Benzo\(a\)anthracene | Benzo\(a\)pyrene \(3,4-Benzopyrene -7-d\) | Chlordane | Chrysene \(C1-C4\) | DDD \(Dichlorodiphenyldichloroethane\) | DDE \(Dichlorodiphenyldichloroethylene\) | DDT \(Dichlorodiphenyltrichloroethane\) | Dieldrin | Endrin | Fluoranthene | Fluorene | Heptachlor epoxide | Lindane/gamma Hexachlorocyclohexane \(gamma-HCH\) | Naphthalene | PAHs \(Polycyclic Aromatic Hydrocarbons\) | PCBs \(Polychlorinated biphenyls\) | Phenanthrene | Pyrene \(43833\)](#)
 - [Arsenic | Cadmium | Chromium \(total\) | Copper | Lead | Mercury | Zinc \(44284\)](#)
 - [Arsenic | Chromium \(total\) | Copper | Lead | Nickel | Silver | Zinc \(36205\)](#)
 - [Chlorpyrifos | Dacthal | Diazinon | Disulfoton | Endosulfan | Lindane/gamma Hexachlorocyclohexane \(gamma-HCH\) | Methyl Parathion | PCBs \(Polychlorinated biphenyls\) | Thiobencarb/Bolero \(43464\)](#)
 - [Escherichia coli \(E. coli\) \(43834\)](#)
 - [Nickel \(44285\)](#)
 - [Oxygen, Dissolved \(43931\)](#)
 - [Temperature, water \(43734\)](#)
 - [Toxicity \(43968\)](#)
 - [pH \(44367\)](#)

List on 303(d) list (TMDL required list)

Regional Board 2

- **Arroyo Las Positas**
 - [Eutrophication \(34169\)](#)
- **Arroyo Mocho**
 - [Temperature, water \(34212\)](#)
- **Carquinez Strait**
 - [Dioxin compounds \(including 2,3,7,8-TCDD\) \(44583\)](#)
 - [Furan Compounds \(34097\)](#)
 - [Invasive Species \(34096\)](#)
- **Central Basin, San Francisco (part of SF Bay, Lower)**
 - [Chlordane \(33907\)](#)
 - [DDT \(Dichlorodiphenyltrichloroethane\) \(33908\)](#)
 - [Dioxin compounds \(including 2,3,7,8-TCDD\) \(34047\)](#)
 - [Furan Compounds \(33814\)](#)
 - [Invasive Species \(34048\)](#)
 - [Selenium \(34071\)](#)
- **Codornices Creek**
 - [Temperature, water \(35335\)](#)
- **Islais Creek**
 - [PAHs \(Polycyclic Aromatic Hydrocarbons\) \(34719\)](#)
 - [Toxicity \(33333\)](#)
- **Kirker Creek**

- [Toxicity \(42397\)](#)
- **Lagunitas Creek**
 - [Nutrients \(34434\)](#)
- **Lake Herman**
 - [Mercury \(34436\)](#)
- **Lake Merritt**
 - [Organic Enrichment/Low Dissolved Oxygen \(34215\)](#)
- **Mission Creek**
 - [Ammonia \(34216\)](#)
 - [Hydrogen Sulfide \(34016\)](#)
- **Mt. Diablo Creek**
 - [Toxicity \(35725\)](#)
- **Oakland Inner Harbor (Fruitvale Site, part of SF Bay, Lower)**
 - [DDT \(Dichlorodiphenyltrichloroethane\) \(34092\)](#)
 - [Dieldrin \(34093\)](#)
 - [Dioxin compounds \(including 2,3,7,8-TCDD\) \(44131\)](#)
 - [Furan Compounds \(34712\)](#)
 - [Invasive Species \(34711\)](#)
 - [Selenium \(34716\)](#)
 - [Toxicity \(33176\)](#)
- **Oakland Inner Harbor (Pacific Dry-dock Yard 1 Site, part of SF Bay, Lower)**
 - [Chlordane \(34717\)](#)
 - [DDT \(Dichlorodiphenyltrichloroethane\) \(34438\)](#)
 - [Dioxin compounds \(including 2,3,7,8-TCDD\) \(34453\)](#)
 - [Furan Compounds \(33662\)](#)
 - [Invasive Species \(34454\)](#)
 - [Selenium \(34582\)](#)
- **Pacific Ocean at Pillar Point**
 - [Mercury \(33020\)](#)
- **Permanente Creek**
 - [Selenium \(35107\)](#)
 - [Toxicity \(35088\)](#)
- **Petaluma River**
 - [Diazinon \(33833\)](#)
 - [Nutrients \(34887\)](#)
 - [Pathogens \(34368\)](#)
 - [Sedimentation/Siltation \(34369\)](#)
- **Petaluma River (tidal portion)**
 - [Diazinon \(34370\)](#)
 - [Nickel \(34371\)](#)
 - [Nutrients \(34888\)](#)
 - [Pathogens \(34574\)](#)
- **Pomponio Creek**
 - [Indicator Bacteria \(44745\)](#)

- **Richardson Bay**
 - [Chlordane \(44929\)](#)
 - [DDT \(Dichlorodiphenyltrichloroethane\) \(34597\)](#)
 - [Dieldrin \(34660\)](#)
 - [Dioxin compounds \(including 2,3,7,8-TCDD\) \(34661\)](#)
 - [Furan Compounds \(33731\)](#)
 - [Invasive Species \(33679\)](#)
- **Sacramento San Joaquin Delta**
 - [Dioxin compounds \(including 2,3,7,8-TCDD\) \(33720\)](#)
 - [Furan Compounds \(34579\)](#)
 - [Invasive Species \(33737\)](#)
- **San Francisco Bay, Central**
 - [Dioxin compounds \(including 2,3,7,8-TCDD\) \(34589\)](#)
 - [Furan Compounds \(34606\)](#)
 - [Invasive Species \(34590\)](#)
 - [Trash \(44456\)](#)
- **San Francisco Bay, Lower**
 - [Dioxin compounds \(including 2,3,7,8-TCDD\) \(34662\)](#)
 - [Furan Compounds \(34683\)](#)
 - [Invasive Species \(34682\)](#)
- **San Francisco Bay, South**
 - [Dioxin compounds \(including 2,3,7,8-TCDD\) \(33837\)](#)
 - [Furan Compounds \(44707\)](#)
 - [Invasive Species \(44818\)](#)
- **San Francisquito Creek**
 - [Sedimentation/Siltation \(44744\)](#)
- **San Gregorio Creek**
 - [Sedimentation/Siltation \(34544\)](#)
- **San Leandro Bay (part of SF Bay, Lower)**
 - [Dioxin compounds \(including 2,3,7,8-TCDD\) \(34502\)](#)
 - [Furan Compounds \(34518\)](#)
 - [Invasive Species \(34519\)](#)
 - [Pesticides \(sediment\) \(34543\)](#)
- **San Pablo Bay**
 - [Dioxin compounds \(including 2,3,7,8-TCDD\) \(33987\)](#)
 - [Furan Compounds \(34598\)](#)
 - [Invasive Species \(42776\)](#)
- **San Pablo Reservoir**
 - [Toxaphene \(33144\)](#)
- **Stevens Creek**
 - [Temperature, water \(35334\)](#)
- **Suisun Bay**
 - [Dioxin compounds \(including 2,3,7,8-TCDD\) \(43220\)](#)
 - [Furan Compounds \(33555\)](#)

- [Invasive Species \(34586\)](#)
- **Suisun Creek**
 - [Oxygen, Dissolved \(34233\)](#)
 - [Temperature, water \(33818\)](#)
- **Suisun Marsh Wetlands**
 - [Mercury \(33578\)](#)
 - [Nutrients \(33579\)](#)
 - [Organic Enrichment/Low Dissolved Oxygen \(44820\)](#)
 - [Salinity/TDS/Chlorides \(33580\)](#)
- **Tomaes Bay**
 - [Nutrients \(33546\)](#)
 - [Sedimentation/Siltation \(33714\)](#)
- **Walker Creek**
 - [Nutrients \(32786\)](#)
 - [Sedimentation/Siltation \(32787\)](#)

List on 303(d) list (being addressed by USEPA approved TMDL)

Regional Board 2

- **Alamitos Creek**
 - [Mercury \(32504\)](#)
- **Almaden Reservoir**
 - [Mercury \(35122\)](#)
- **Arroyo Corte Madera Del Presidio**
 - [Diazinon \(35115\)](#)
- **Arroyo De La Laguna**
 - [Diazinon \(33965\)](#)
- **Arroyo Del Valle**
 - [Diazinon \(34733\)](#)
- **Arroyo Las Positas**
 - [Diazinon \(34081\)](#)
- **Arroyo Mocho**
 - [Diazinon \(35066\)](#)
- **Carquinez Strait**
 - [Mercury \(34876\)](#)
 - [PCBs \(Polychlorinated biphenyls\) \(dioxin-like\) \(34703\)](#)
- **Central Basin, San Francisco (part of SF Bay, Lower)**
 - [Mercury \(34501\)](#)
 - [PCBs \(Polychlorinated biphenyls\) \(33831\)](#)
 - [PCBs \(Polychlorinated biphenyls\) \(dioxin-like\) \(33830\)](#)
- **Coyote Creek (Marin County)**

- [Diazinon \(34155\)](#)
- Gallinas Creek
 - [Diazinon \(34329\)](#)
- Kirker Creek
 - [Pyrethroids \(44629\)](#)
- Lagunitas Creek
 - [Pathogens \(35064\)](#)
- Laurel Creek (Solano Co)
 - [Diazinon \(34276\)](#)
- Ledgewood Creek
 - [Diazinon \(35112\)](#)
- Los Gatos Creek (R2)
 - [Diazinon \(34742\)](#)
- Miller Creek
 - [Diazinon \(34471\)](#)
- Mt. Diablo Creek
 - [Diazinon \(34283\)](#)
- Novato Creek
 - [Diazinon \(35081\)](#)
- Oakland Inner Harbor (Fruitvale Site, part of SF Bay, Lower)
 - [Mercury \(34558\)](#)
- Oakland Inner Harbor (Pacific Dry-dock Yard 1 Site, part of SF Bay, Lower)
 - [Mercury \(33663\)](#)
 - [PCBs \(Polychlorinated biphenyls\) \(34580\)](#)
- Olema Creek
 - [Pathogens \(34694\)](#)
- Permanente Creek
 - [Diazinon \(33575\)](#)
- Pine Creek (Contra Costa Co)
 - [Diazinon \(35130\)](#)
- Pinole Creek
 - [Diazinon \(35131\)](#)
- Richardson Bay
 - [Indicator Bacteria \(34596\)](#)
 - [Mercury \(44632\)](#)
 - [PCBs \(Polychlorinated biphenyls\) \(33732\)](#)
 - [PCBs \(Polychlorinated biphenyls\) \(dioxin-like\) \(33733\)](#)

- Rodeo Creek (Contra Costa County)
 - [Diazinon \(33890\)](#)
- Sacramento San Joaquin Delta
 - [PCBs \(Polychlorinated biphenyls\) \(dioxin-like\) \(34687\)](#)
- San Antonio Creek (Marin/Sonoma Co)
 - [Diazinon \(34199\)](#)
- San Felipe Creek
 - [Diazinon \(35091\)](#)
- San Francisco Bay, Central
 - [PCBs \(Polychlorinated biphenyls\) \(dioxin-like\) \(33934\)](#)
- San Francisco Bay, Lower
 - [PCBs \(Polychlorinated biphenyls\) \(dioxin-like\) \(44121\)](#)
- San Francisco Bay, South
 - [PCBs \(Polychlorinated biphenyls\) \(dioxin-like\) \(34459\)](#)
- San Francisquito Creek
 - [Diazinon \(35157\)](#)
- San Lorenzo Creek
 - [Diazinon \(34724\)](#)
- San Mateo Creek
 - [Diazinon \(34504\)](#)
- San Pablo Bay
 - [PCBs \(Polychlorinated biphenyls\) \(dioxin-like\) \(34398\)](#)
- San Pablo Creek
 - [Diazinon \(44155\)](#)
- San Rafael Creek
 - [Diazinon \(34194\)](#)
- Saratoga Creek
 - [Diazinon \(34563\)](#)
- Suisun Bay
 - [PCBs \(Polychlorinated biphenyls\) \(dioxin-like\) \(33559\)](#)
- Suisun Slough
 - [Diazinon \(33997\)](#)
- Tomales Bay
 - [Pathogens \(35063\)](#)
- Walker Creek
 - [Pathogens \(34552\)](#)

- **Wildcat Creek**
 - [Diazinon \(33851\)](#)

List on 303(d) list (being addressed by action other than TMDL)

Regional Board 2

- **Castro Cove, Richmond (San Pablo Basin)**
 - [Dieldrin \(34968\)](#)
 - [Mercury \(sediment\) \(34069\)](#)
 - [PAHs \(Polycyclic Aromatic Hydrocarbons\) \(34793\)](#)
 - [Selenium \(34794\)](#)
- **Stege Marsh**
 - [Chlordane \(32465\)](#)
 - [Copper \(32500\)](#)
 - [Dacthal \(32935\)](#)
 - [Mercury \(32453\)](#)
 - [Zinc \(32352\)](#)

Draft California 2016 Integrated Report (303(d) List/305(b) Report)

Supporting Information

Regional Board 2 - San Francisco Bay Region

Water Body Name: Tomales Bay
Water Body ID: CAB2011403319980929125721
Water Body Type: Bay & Harbor

DECISION ID 33561 **Region 2**
Tomales Bay

Pollutant: Mercury
Final Listing Decision: Do Not Delist from 303(d) list (being addressed with USEPA approved TMDL)
Last Listing Cycle's Final Listing Decision: Do Not Delist from 303(d) list (TMDL required list)(2012)
Revision Status Revised
Sources: Source Unknown
TMDL Name: Tomales Bay Mercury
TMDL Project Code: 68
Date TMDL Approved by USEPA: 07/03/2012
Impairment from Pollutant or Pollution: Pollutant

Regional Board Staff Conclusion: This pollutant is being considered for removal on the CWA section 303(d) List under sections 2.2 and 4.1 of the Listing Policy. Under section 4.1 of the Policy, a minimum of one line of evidence is needed to assess listing status.

Two lines of evidence are available in the administrative record to assess this pollutant.

Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against removing this water segment-pollutant combination from the CWA section 303(d) List. There is sufficient justification to place it in the Being Addressed portion of the CWA 303(d) List because a TMDL has been completed and approved by RWQCB and USEPA, and is expected to result in attainment of the standard.

This conclusion is based on the staff findings that:

1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy.
2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy.
3. Twenty-seven of fifty-five samples exceeded the evaluation guideline and these exceed the allowable frequency listed in Table 4.1 of the Listing Policy.
4. The Tomales Bay Mercury TMDL was approved by USEPA on 7/3/2012.
5. Pursuant to section 4.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.

Regional Board Staff Decision Recommendation: After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be removed from the section 303(d) list because applicable water quality standards for the pollutant are being exceeded.

Line of Evidence (LOE) for Decision ID 33561, Mercury **Region 2**
Tomales Bay

LOE ID: 4
Pollutant: Mercury
LOE Subgroup: Pollutant-Tissue

Matrix:	Tissue
Fraction:	Total
Beneficial Use:	Commercial or recreational collection of fish, shellfish, or organisms
Number of Samples:	55
Number of Exceedances:	27
Data and Information Type:	Fish tissue analysis
Data Used to Assess Water Quality:	Twenty-seven out of 55 samples exceeded (Health Advisory for Hg in fish and shellfish). Filet composite and individual samples were collected from the following species: bat ray, brown smooth hound shark, California halibut, cockle, jack smelt, leopard shark, Pacific angle shark, red rock crab, redbait surfperch, and shiner surfperch. Species exceeding guideline were bat ray, brown smooth hound shark, cockle, leopard shark, and Pacific angle shark (TSMP, 2002).
Data Reference:	Placeholder reference 2006 303(d)
SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	San Francisco Bay RWQCB Basin Plan: Many pollutants can accumulate on particles, in sediment, or bioaccumulate in fish and other aquatic organisms. Controllable water quality factors shall not cause a detrimental increase in concentrations of toxic substances found in bottom sediments or aquatic life. Effects on aquatic organisms, wildlife, and human health will be considered.
Objective/Criterion Reference:	Placeholder reference 2006 303(d)
Evaluation Guideline:	OEHHA Screening Value of 0.3 ug/g for mercury.
Guideline Reference:	Placeholder reference 2006 303(d)
Spatial Representation:	Seven stations were sampled: Outer Bay, Mid Bay, Blake's Landing, Hamlet, McDonald, Millerton Park, and S. Millerton Ramp.
Temporal Representation:	Samples were collected in 1998-99.
Environmental Conditions:	
QAPP Information:	Data and Quality Assurance/Quality Control Report For Trace Metals - Coastal Fish Contaminant Project Year 1, 1998-1999. Department of Fish and Game.
QAPP Information Reference(s):	

Line of Evidence (LOE) for Decision ID 33561, Mercury

Region 2

Tomales Bay

LOE ID:	93284
Pollutant:	Mercury
LOE Subgroup:	Pollutant-Tissue
Matrix:	Tissue
Fraction:	Shellfish
Beneficial Use:	Shellfish Harvesting
Number of Samples:	1
Number of Exceedances:	0
Data and Information Type:	Shellfish surveys
Data Used to Assess Water Quality:	The one sample did not exceed the guideline. Data were reported on a dry weight basis and were converted to a wet weight basis by multiplying the dry-weight concentration by a factor of 1 minus the percentage of moisture content expressed as a decimal.
Data Reference:	State Mussel Watch Program Data 1977-2000; Winter 2007-Winter 2009. State Water Resources Control Board
SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	Many pollutants can accumulate on particles, in sediment, or bioaccumulate in fish and

Objective/Criterion Reference:	other aquatic organisms. Controllable water quality factors shall not cause a detrimental increase in concentrations of toxic substances found in bottom sediments or aquatic life. Effects on aquatic organisms, wildlife, and human health will be considered. Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	The USEPA 304(a) recommended water quality criterion for concentrations of methylmercury in shellfish tissue (wet weight) is 0.2 ppm. (Brodberg, R.K., and G.A. Pollock, 1999; USEPA, 2001)
Guideline Reference:	Prevalence of Selected Target Chemical Contaminants in Sport Fish From Two California Lakes: Public health designed screening study. Sacramento, CA: Office of Environmental Health Hazard Assessment Water Quality Criterion for the Protection of Human Health: Methylmercury. Final. United States Environmental Protection Agency Office of Science and Technology Office of Water. EPA-823-R-01-001. January 2001
Spatial Representation:	Samples are collected by hand from three sub-locations for each site. The composite samples were collected from site Tomales Bay Spenger's Residence (TBSR).
Temporal Representation:	Representative samples of locally abundant species were collected during the winter on 2/25/2009
Environmental Conditions:	
QAPP Information:	Samples were collected as part of the State Water Board's Mussel Watch Program which is a part of the National Oceanic Administration's (NOAAs) National Status and Trends (NS&T). Mussels are shipped to NOAAs contract labs for analysis of trace constituents and mussel condition. Analytical protocols follow those approved by NOAAs NS&T Program Additional background information can be found at: http://ccma.nos.noaa.gov/stressors/pollution/nsandt/
QAPP Information Reference(s):	

DECISION ID	65746	Region 2
Tomales Bay		
Pollutant:	Arsenic	
Final Listing Decision:	Do Not List on 303(d) list (TMDL required list)	
Last Listing Cycle's Final Listing Decision:	New Decision	
Revision Status	Revised	
Impairment from Pollutant or Pollution:	Pollutant	
Regional Board Staff Conclusion:	<p>This pollutant is being considered for placement on the CWA section 303(d) List under section 3.5 of the Listing Policy. Under section 3.5 a single line of evidence is necessary to assess listing status. One line of evidence is available in the administrative record to assess this pollutant.</p> <p>Zero of one sample exceeds the guideline. Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against placing this water segment-pollutant combination on the CWA section 303(d) List in the Water Quality Limited Segments category.</p> <p>This conclusion is based on the staff findings that:</p> <ol style="list-style-type: none"> 1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy. 2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy. 3. The one sample did not exceed the guideline and this sample size is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating. A minimum of 16 samples is needed to determine if a beneficial use is fully supported using table 3.1. 4. Pursuant to section 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met. 	
Regional Board Staff Decision Recommendation:	After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be placed on the section 303(d) list. The readily available data and information is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating.	

Tomales Bay

LOE ID:	93265
Pollutant:	Arsenic
LOE Subgroup:	Pollutant-Tissue
Matrix:	Tissue
Fraction:	Shellfish
Beneficial Use:	Shellfish Harvesting
Number of Samples:	1
Number of Exceedances:	0
Data and Information Type:	Shellfish surveys
Data Used to Assess Water Quality:	The one sample did not exceed the guideline. Data were reported on a dry weight basis and were converted to a wet weight basis by multiplying the dry-weight concentration by a factor of 1 minus the percentage of moisture content expressed as a decimal. The fraction of total arsenic in inorganic form was taken to be 0.115%, which was the maximum fraction of inorganic arsenic found in shellfish tissue from SF Bay. This number was screened against the guideline.
Data Reference:	State Mussel Watch Program Data 1977-2000; Winter 2007-Winter 2009. State Water Resources Control Board Contaminant Concentrations in Fish from San Francisco Bay, 2000 Calculating Fraction of Inorganic Arsenic in SF Bay Fish and Shellfish
SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	Many pollutants can accumulate on particles, in sediment, or bioaccumulate in fish and other aquatic organisms. Controllable water quality factors shall not cause a detrimental increase in concentrations of toxic substances found in bottom sediments or aquatic life. Effects on aquatic organisms, wildlife, and human health will be considered.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	<p>The modified OEHHA Advisory Tissue Level for arsenic in shellfish tissue is 0.52 ppm. This screening level assumes an average body weight of 70 kg and a consumption rate of 21 g/day for a 30 year exposure over a 70-year lifetime. This constituent is a carcinogen therefore the risk level is set to one in ten thousand. (Brodberg, R.K., and G.A. Pollock, 1999; Klasing, S., and R. Brodberg, 2008; OEHHA, 2004)</p> <p>Advisory Tissue Levels (ATLs), while still conferring no significant health risk to individuals consuming sport fish in the quantities shown over a lifetime, were developed with the recognition that there are unique health benefits associated with fish consumption and that the advisory process should be expanded beyond a simple risk paradigm in order to best promote the overall health of the fish consumer. ATLs provide a number of recommended fish servings that correspond to the range of contaminant concentrations found in fish and are used to provide consumption advice to prevent consumers from being exposed to more than the average daily reference dose for noncarcinogens or to a risk level greater than 1×10^{-4} for carcinogens (not more than one additional cancer case in a population of 10,000 people consuming fish at the given consumption rate over a lifetime). ATLs are designed to encourage consumption of fish that can be eaten in quantities likely to provide significant health benefits, while discouraging consumption of fish that, because of contaminant concentrations, should not be eaten or cannot be eaten in amounts recommended for improving overall health (eight ounces total, prior to cooking, per week). ATLs are one of the criteria that will be used by OEHHA for issuing fish consumption guidelines.</p>
Guideline Reference:	Prevalence of Selected Target Chemical Contaminants in Sport Fish From Two California Lakes: Public health designed screening study. Sacramento, CA: Office of Environmental

[Health Hazard Assessment](#)
[Development of Fish Contaminant Goals and Advisory Tissue Levels for Common Contaminants in California Sport Fish: Chlordane, DDTs, Dieldrin, Methylmercury, PCBs, Selenium, and Toxaphene](#)
[Air Toxics Hotspots Program Risk Assessment Guidelines. Part II Technical Support Document for Describing Available Cancer Potency Values.](#)

Spatial Representation: Samples are collected by hand from three sub-locations for each site. The composite samples were collected from site Tomales Bay Spenger's Residence (TBSR).

Temporal Representation: Representative samples of locally abundant species were collected during the winter on 2/25/2009

Environmental Conditions:

QAPP Information: Samples were collected as part of the State Water Board's Mussel Watch Program which is a part of the National Oceanic Administration's (NOAAs) National Status and Trends (NS&T). Mussels are shipped to NOAAs contract labs for analysis of trace constituents and mussel condition. Analytical protocols follow those approved by NOAAs NS&T Program Additional background information can be found at:
<http://ccma.nos.noaa.gov/stressors/pollution/nsandt/>

QAPP Information Reference(s):

DECISION ID	65758	Region 2
Tomales Bay		

Pollutant: Cadmium

Final Listing Decision: Do Not List on 303(d) list (TMDL required list)

Last Listing Cycle's Final Listing Decision: New Decision

Revision Status: Revised

Impairment from Pollutant or Pollution: Pollutant

Regional Board Staff Conclusion: This pollutant is being considered for placement on the CWA section 303(d) List under section 3.5 of the Listing Policy. Under section 3.5 a single line of evidence is necessary to assess listing status. One line of evidence is available in the administrative record to assess this pollutant.

Zero of one sample exceeds the guideline. Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against placing this water segment-pollutant combination on the CWA section 303(d) List in the Water Quality Limited Segments category.

This conclusion is based on the staff findings that:

1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy.
2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy.
3. The one sample did not exceed the guideline and this sample size is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating. A minimum of 16 samples is needed to determine if a beneficial use is fully supported using table 3.1.
4. Pursuant to section 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.

Regional Board Staff Decision Recommendation: After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be placed on the section 303(d) list. The readily available data and information is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating.

Line of Evidence (LOE) for Decision ID 65758, Cadmium	Region 2
Tomales Bay	

LOE ID: 93266

Pollutant:	Cadmium
LOE Subgroup:	Pollutant-Tissue
Matrix:	Tissue
Fraction:	Shellfish
Beneficial Use:	Shellfish Harvesting
Number of Samples:	1
Number of Exceedances:	0
Data and Information Type:	Shellfish surveys
Data Used to Assess Water Quality:	The one sample did not exceed the guideline. Data were reported on a dry weight basis and were converted to a wet weight basis by multiplying the dry-weight concentration by a factor of 1 minus the percentage of moisture content expressed as a decimal.
Data Reference:	State Mussel Watch Program Data 1977-2000; Winter 2007-Winter 2009. State Water Resources Control Board
SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	Many pollutants can accumulate on particles, in sediment, or bioaccumulate in fish and other aquatic organisms. Controllable water quality factors shall not cause a detrimental increase in concentrations of toxic substances found in bottom sediments or aquatic life. Effects on aquatic organisms, wildlife, and human health will be considered.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	The modified OEHHA Fish Contaminant Goal for cadmium in shellfish tissue is 3.3 ppm. This screening level assumes an average body weight of 70 kg and a consumption rate of 21 g/day. (Brodberg, R.K., and G.A. Pollock, 1999; Klasing, S., and R. Brodberg, 2008; USEPA, 2000)
Guideline Reference:	Prevalence of Selected Target Chemical Contaminants in Sport Fish From Two California Lakes: Public health designed screening study. Sacramento, CA: Office of Environmental Health Hazard Assessment Development of Fish Contaminant Goals and Advisory Tissue Levels for Common Contaminants in California Sport Fish: Chlordane, DDTs, Dieldrin, Methylmercury, PCBs, Selenium, and Toxaphene Guidance for Assessing Chemical Contaminant Data for Use In Fish Advisories Volume 1: Fish Sampling and Analysis
Spatial Representation:	Samples are collected by hand from three sub-locations for each site. The composite samples were collected from site Tomales Bay Spenger's Residence (TBSR).
Temporal Representation:	Representative samples of locally abundant species were collected during the winter on 2/25/2009
Environmental Conditions:	
QAPP Information:	Samples were collected as part of the State Water Board's Mussel Watch Program which is a part of the National Oceanic Administration's (NOAAs) National Status and Trends (NS&T). Mussels are shipped to NOAAs contract labs for analysis of trace constituents and mussel condition. Analytical protocols follow those approved by NOAAs NS&T Program Additional background information can be found at: http://ccma.nos.noaa.gov/stressors/pollution/nsandt/
QAPP Information Reference(s):	

DECISION ID	65759	Region 2
Tomales Bay		

Pollutant:	Chlordane
Final Listing Decision:	Do Not List on 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision:	New Decision
Revision Status	Revised
Impairment from Pollutant or Pollution:	Pollutant

**Regional Board Staff
Conclusion:**

This pollutant is being considered for placement on the CWA section 303(d) List under section 3.5 of the Listing Policy. Under section 3.5 a single line of evidence is necessary to assess listing status. One line of evidence is available in the administrative record to assess this pollutant.

Zero of one sample exceeds the guideline. Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against placing this water segment-pollutant combination on the CWA section 303(d) List in the Water Quality Limited Segments category.

This conclusion is based on the staff findings that:

1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy.
2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy.
3. The one sample did not exceed the guideline and this sample size is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating. A minimum of 16 samples is needed to determine if a beneficial use is fully supported using table 3.1.
4. Pursuant to section 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.

**Regional Board Staff Decision
Recommendation:**

After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be placed on the section 303(d) list. The readily available data and information is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating.

**Line of Evidence (LOE) for Decision ID 65759, Chlordane
Tomaes Bay**

Region 2

LOE ID:	93270
Pollutant:	Chlordane
LOE Subgroup:	Pollutant-Tissue
Matrix:	Tissue
Fraction:	Shellfish
Beneficial Use:	Shellfish Harvesting
Number of Samples:	1
Number of Exceedances:	0
Data and Information Type:	Shellfish surveys
Data Used to Assess Water Quality:	The result did not exceed the guideline. Data were reported on a dry weight basis and were converted to a wet weight basis by multiplying the dry-weight concentration by a factor of 1 minus the percentage of moisture content expressed as a decimal. Chlordane result was calculated by summing the results for chlordane isomers: cis- and trans-nonachlor, alpha- and gamma-chlordane, and oxychlordane.
Data Reference:	State Mussel Watch Program Data 1977-2000; Winter 2007-Winter 2009. State Water Resources Control Board
SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	Many pollutants can accumulate on particles, in sediment, or bioaccumulate in fish and other aquatic organisms. Controllable water quality factors shall not cause a detrimental increase in concentrations of toxic substances found in bottom sediments or aquatic life. Effects on aquatic organisms, wildlife, and human health will be considered.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	The modified OEHHA Fish Contaminant Goal for total chlordane in shellfish tissue is 6.0 ppb. This screening level assumes an average body weight of 70 kg and a consumption rate of 21 g/day for a 30 year exposure over a 70-year lifetime. This constituent is a carcinogen therefore the risk level is set to one in a million. (Brodberg, R.K., and G.A. Pollock, 1999; Klasing, S., and R. Brodberg, 2008)

Guideline Reference:	Prevalence of Selected Target Chemical Contaminants in Sport Fish From Two California Lakes: Public health designed screening study. Sacramento, CA: Office of Environmental Health Hazard Assessment Development of Fish Contaminant Goals and Advisory Tissue Levels for Common Contaminants in California Sport Fish: Chlordane, DDTs, Dieldrin, Methylmercury, PCBs, Selenium, and Toxaphene
Spatial Representation:	Samples are collected by hand from three sub-locations for each site. The composite samples were collected from site Tomales Bay Spenger's Residence (TBSR).
Temporal Representation:	Representative samples of locally abundant species were collected during the winter on 2/25/2009
Environmental Conditions:	
QAPP Information:	Samples were collected as part of the State Water Board's Mussel Watch Program which is a part of the National Oceanic Administration's (NOAAs) National Status and Trends (NS&T). Mussels are shipped to NOAAs contract labs for analysis of trace constituents and mussel condition. Analytical protocols follow those approved by NOAAs NS&T Program Additional background information can be found at: http://ccma.nos.noaa.gov/stressors/pollution/nsandt/
QAPP Information Reference(s):	

DECISION ID	65760	Region 2
Tomales Bay		

Pollutant:	Chlorpyrifos
Final Listing Decision:	Do Not List on 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision:	New Decision
Revision Status	Revised
Impairment from Pollutant or Pollution:	Pollutant

Regional Board Staff Conclusion: This pollutant is being considered for placement on the CWA section 303(d) List under section 3.5 of the Listing Policy. Under section 3.5 a single line of evidence is necessary to assess listing status. One line of evidence is available in the administrative record to assess this pollutant.

Zero of one sample exceeds the guideline. Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against placing this water segment-pollutant combination on the CWA section 303(d) List in the Water Quality Limited Segments category.

This conclusion is based on the staff findings that:

1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy.
2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy.
3. The one sample did not exceed the guideline and this sample size is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating. A minimum of 16 samples is needed to determine if a beneficial use is fully supported using table 3.1.
4. Pursuant to section 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.

Regional Board Staff Decision Recommendation: After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be placed on the section 303(d) list. The readily available data and information is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating.

Line of Evidence (LOE) for Decision ID 65760, Chlorpyrifos	Region 2
Tomales Bay	

LOE ID: 93271

Pollutant:	Chlorpyrifos
LOE Subgroup:	Pollutant-Tissue
Matrix:	Tissue
Fraction:	Shellfish
Beneficial Use:	Shellfish Harvesting
Number of Samples:	1
Number of Exceedances:	0
Data and Information Type:	Shellfish surveys
Data Used to Assess Water Quality:	The result did not exceed the guideline. Data were reported on a dry weight basis and were converted to a wet weight basis by multiplying the dry-weight concentration by a factor of 1 minus the percentage of moisture content expressed as a decimal.
Data Reference:	State Mussel Watch Program Data 1977-2000; Winter 2007-Winter 2009. State Water Resources Control Board
SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	Many pollutants can accumulate on particles, in sediment, or bioaccumulate in fish and other aquatic organisms. Controllable water quality factors shall not cause a detrimental increase in concentrations of toxic substances found in bottom sediments or aquatic life. Effects on aquatic organisms, wildlife, and human health will be considered.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	The modified OEHHA Fish Contaminant Goal for chlorpyrifos in shellfish tissue is 1,000 ppb. This screening level assumes an average body weight of 70 kg and a consumption rate of 21 g/day. (Brodberg, R.K., and G.A. Pollock, 1999; Klasing, S., and R. Brodberg, 2008; USEPA, 2000)
Guideline Reference:	Prevalence of Selected Target Chemical Contaminants in Sport Fish From Two California Lakes: Public health designed screening study. Sacramento, CA: Office of Environmental Health Hazard Assessment Development of Fish Contaminant Goals and Advisory Tissue Levels for Common Contaminants in California Sport Fish: Chlordane, DDTs, Dieldrin, Methylmercury, PCBs, Selenium, and Toxaphene Guidance for Assessing Chemical Contaminant Data for Use In Fish Advisories Volume 1: Fish Sampling and Analysis
Spatial Representation:	Samples are collected by hand from three sub-locations for each site. The composite samples were collected from site Tomales Bay Spenger's Residence (TBSR).
Temporal Representation:	Representative samples of locally abundant species were collected during the winter on 2/25/2009
Environmental Conditions:	
QAPP Information:	Samples were collected as part of the State Water Board's Mussel Watch Program which is a part of the National Oceanic Administration's (NOAAs) National Status and Trends (NS&T). Mussels are shipped to NOAAs contract labs for analysis of trace constituents and mussel condition. Analytical protocols follow those approved by NOAAs NS&T Program Additional background information can be found at: http://ccma.nos.noaa.gov/stressors/pollution/nsandt/
QAPP Information Reference(s):	

DECISION ID	65772	Region 2
Tomales Bay		

Pollutant:	DDT (Dichlorodiphenyltrichloroethane)
Final Listing Decision:	Do Not List on 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision:	New Decision
Revision Status	Revised
Impairment from Pollutant or Pollution:	Pollutant

**Regional Board Staff
Conclusion:**

This pollutant is being considered for placement on the CWA section 303(d) List under section 3.5 of the Listing Policy. Under section 3.5 a single line of evidence is necessary to assess listing status. One line of evidence is available in the administrative record to assess this pollutant.

Zero of one sample exceeds the guideline. Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against placing this water segment-pollutant combination on the CWA section 303(d) List in the Water Quality Limited Segments category.

This conclusion is based on the staff findings that:

1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy.
2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy.
3. The one sample did not exceed the guideline and this sample size is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating. A minimum of 16 samples is needed to determine if a beneficial use is fully supported using table 3.1.
4. Pursuant to section 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.

**Regional Board Staff Decision
Recommendation:**

After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be placed on the section 303(d) list. The readily available data and information is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating.

Line of Evidence (LOE) for Decision ID 65772, DDT (Dichlorodiphenyltrichloroethane)

Region 2

Tomales Bay

LOE ID:	93291
Pollutant:	Total DDT (sum of 4,4'- and 2,4'- isomers of DDT, DDE, and DDD)
LOE Subgroup:	Pollutant-Tissue
Matrix:	Tissue
Fraction:	Shellfish
Beneficial Use:	Shellfish Harvesting
Number of Samples:	1
Number of Exceedances:	0
Data and Information Type:	Shellfish surveys
Data Used to Assess Water Quality:	The result did not exceed the guideline. Data were reported on a dry weight basis and were converted to a wet weight basis by multiplying the dry-weight concentration by a factor of 1 minus the percentage of moisture content expressed as a decimal. The total DDTs were calculated as the sum of 4,4'- and 2,4'- isomers of DDT, DDE, and DDD.
Data Reference:	State Mussel Watch Program Data 1977-2000; Winter 2007-Winter 2009. State Water Resources Control Board
SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	Many pollutants can accumulate on particles, in sediment, or bioaccumulate in fish and other aquatic organisms. Controllable water quality factors shall not cause a detrimental increase in concentrations of toxic substances found in bottom sediments or aquatic life. Effects on aquatic organisms, wildlife, and human health will be considered.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	The modified OEHHA Fish Contaminant Goal for total DDT in shellfish tissue is 23 ppb. This screening level assumes an average body weight of 70 kg and a consumption rate of 21 g/day for a 30 year exposure over a 70-year lifetime. This constituent is a carcinogen therefore the risk level is set to one in a million. (Brodberg, R.K., and G.A. Pollock, 1999; Klasing, S., and R. Brodberg, 2008)
Guideline Reference:	Prevalence of Selected Target Chemical Contaminants in Sport Fish From Two California

[Lakes: Public health designed screening study. Sacramento, CA: Office of Environmental Health Hazard Assessment](#)
[Development of Fish Contaminant Goals and Advisory Tissue Levels for Common Contaminants in California Sport Fish: Chlordane, DDTs, Dieldrin, Methylmercury, PCBs, Selenium, and Toxaphene](#)

Spatial Representation: Samples are collected by hand from three sub-locations for each site. The composite samples were collected from site Tomales Bay Spenger's Residence (TBSR).

Temporal Representation: Representative samples of locally abundant species were collected during the winter on 2/25/2009

Environmental Conditions:

QAPP Information: Samples were collected as part of the State Water Board's Mussel Watch Program which is a part of the National Oceanic Administration's (NOAAs) National Status and Trends (NS&T). Mussels are shipped to NOAAs contract labs for analysis of trace constituents and mussel condition. Analytical protocols follow those approved by NOAAs NS&T Program Additional background information can be found at:
<http://ccma.nos.noaa.gov/stressors/pollution/nsandt/>

QAPP Information Reference(s):

DECISION ID	65761	Region 2
Tomales Bay		

Pollutant: **Dieldrin**

Final Listing Decision: **Do Not List on 303(d) list (TMDL required list)**

Last Listing Cycle's Final Listing Decision: New Decision

Revision Status Revised

Impairment from Pollutant or Pollution: Pollutant

Regional Board Staff Conclusion: This pollutant is being considered for placement on the CWA section 303(d) List under section 3.5 of the Listing Policy. Under section 3.5 a single line of evidence is necessary to assess listing status. One line of evidence is available in the administrative record to assess this pollutant.

Zero of zero sample exceeds the guideline. Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against placing this water segment-pollutant combination on the CWA section 303(d) List in the Water Quality Limited Segments category.

This conclusion is based on the staff findings that:

1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy.
2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy.
3. It is not known if the sample exceeds the guideline. This sample size is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating. A minimum of 16 samples is needed to determine if a beneficial use is fully supported using table 3.1.
4. Pursuant to section 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.

Regional Board Staff Decision Recommendation: After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be placed on the section 303(d) list. The readily available data and information is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating.

Line of Evidence (LOE) for Decision ID 65761, Dieldrin	Region 2
Tomales Bay	

LOE ID: 93272

Pollutant: Dieldrin

LOE Subgroup:	Pollutant-Tissue
Matrix:	Tissue
Fraction:	Shellfish
Beneficial Use:	Shellfish Harvesting
Number of Samples:	0
Number of Exceedances:	0
Data and Information Type:	Shellfish surveys
Data Used to Assess Water Quality:	The detected not quantifiable result was not included in the assessment since the reporting limit was above the evaluation guideline. MDL were provided by NOAA Federal and RL were calculated by multiplying 3.18 by the MDL.
Data Reference:	State Mussel Watch Program Data 1977-2000; Winter 2007-Winter 2009. State Water Resources Control Board
SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	Many pollutants can accumulate on particles, in sediment, or bioaccumulate in fish and other aquatic organisms. Controllable water quality factors shall not cause a detrimental increase in concentrations of toxic substances found in bottom sediments or aquatic life. Effects on aquatic organisms, wildlife, and human health will be considered.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	The modified OEHHA Fish Contaminant Goal for dieldrin in shellfish tissue is 0.49 ppb. This screening level assumes an average body weight of 70 kg and a consumption rate of 21 g/day for a 30 year exposure over a 70-year lifetime. This constituent is a carcinogen therefore the risk level is set to one in a million. (Brodberg, R.K., and G.A. Pollock, 1999; Klasing, S., and R. Brodberg, 2008)
Guideline Reference:	Prevalence of Selected Target Chemical Contaminants in Sport Fish From Two California Lakes: Public health designed screening study. Sacramento, CA: Office of Environmental Health Hazard Assessment Development of Fish Contaminant Goals and Advisory Tissue Levels for Common Contaminants in California Sport Fish: Chlordane, DDTs, Dieldrin, Methylmercury, PCBs, Selenium, and Toxaphene
Spatial Representation:	Samples are collected by hand from three sub-locations for each site. The composite samples were collected from site Tomales Bay Spenger's Residence (TBSR).
Temporal Representation:	Representative samples of locally abundant species were collected during the winter on 2/25/2009
Environmental Conditions:	
QAPP Information:	Samples were collected as part of the State Water Board's Mussel Watch Program which is a part of the National Oceanic Administration's (NOAAs) National Status and Trends (NS&T). Mussels are shipped to NOAAs contract labs for analysis of trace constituents and mussel condition. Analytical protocols follow those approved by NOAAs NS&T Program Additional background information can be found at: http://ccma.nos.noaa.gov/stressors/pollution/nsandt/
QAPP Information Reference(s):	

DECISION ID	65762	Region 2
Tomales Bay		
Pollutant:	Endosulfan	
Final Listing Decision:	Do Not List on 303(d) list (TMDL required list)	
Last Listing Cycle's Final Listing Decision:	New Decision	
Revision Status	Revised	
Impairment from Pollutant or Pollution:	Pollutant	
Regional Board Staff	This pollutant is being considered for placement on the CWA section 303(d) List under section 3.5 of	

Conclusion:	<p>the Listing Policy. Under section 3.5 a single line of evidence is necessary to assess listing status. One line of evidence is available in the administrative record to assess this pollutant.</p> <p>Zero of one sample exceeds the guideline. Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against placing this water segment-pollutant combination on the CWA section 303(d) List in the Water Quality Limited Segments category.</p> <p>This conclusion is based on the staff findings that:</p> <ol style="list-style-type: none"> 1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy. 2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy. 3. The one sample did not exceed the guideline and this sample size is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating. A minimum of 16 samples is needed to determine if a beneficial use is fully supported using table 3.1. 4. Pursuant to section 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.
Regional Board Staff Decision Recommendation:	After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be placed on the section 303(d) list. The readily available data and information is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating.

Line of Evidence (LOE) for Decision ID 65762, Endosulfan

Region 2

Tomales Bay

LOE ID:	93276
Pollutant:	Endosulfan
LOE Subgroup:	Pollutant-Tissue
Matrix:	Tissue
Fraction:	Shellfish
Beneficial Use:	Shellfish Harvesting
Number of Samples:	1
Number of Exceedances:	0
Data and Information Type:	Shellfish surveys
Data Used to Assess Water Quality:	The result did not exceed the guideline. Data were reported on a dry weight basis and were converted to a wet weight basis by multiplying the dry-weight concentration by a factor of 1 minus the percentage of moisture content expressed as a decimal. Total Endosulfan result was calculated by summing the results for Endosulfan I and Endosulfan II.
Data Reference:	State Mussel Watch Program Data 1977-2000; Winter 2007-Winter 2009. State Water Resources Control Board
SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	Many pollutants can accumulate on particles, in sediment, or bioaccumulate in fish and other aquatic organisms. Controllable water quality factors shall not cause a detrimental increase in concentrations of toxic substances found in bottom sediments or aquatic life. Effects on aquatic organisms, wildlife, and human health will be considered.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	The modified OEHHA Fish Contaminant Goal for endosulfan (I and II) in shellfish tissue is 20,000 ppb. This screening level assumes an average body weight of 70 kg and a consumption rate of 21 g/day. (Brodberg, R.K., and G.A. Pollock, 1999; Klasing, S., and R. Brodberg, 2008; USEPA, 2000)
Guideline Reference:	Prevalence of Selected Target Chemical Contaminants in Sport Fish From Two California Lakes: Public health designed screening study. Sacramento, CA: Office of Environmental Health Hazard Assessment

Spatial Representation: Samples are collected by hand from three sub-locations for each site. The composite samples were collected from site Tomales Bay Spenger's Residence (TBSR).

Temporal Representation: Representative samples of locally abundant species were collected during the winter on 2/25/2009

Environmental Conditions:

QAPP Information: Samples were collected as part of the State Water Board's Mussel Watch Program which is a part of the National Oceanic Administration's (NOAAs) National Status and Trends (NS&T). Mussels are shipped to NOAAs contract labs for analysis of trace constituents and mussel condition. Analytical protocols follow those approved by NOAAs NS&T Program Additional background information can be found at:
<http://ccma.nos.noaa.gov/stressors/pollution/nsandt/>

QAPP Information Reference(s):

DECISION ID	65763	Region 2
Tomales Bay		

Pollutant:	Endrin
Final Listing Decision:	Do Not List on 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision:	New Decision
Revision Status	Revised
Impairment from Pollutant or Pollution:	Pollutant

Regional Board Staff Conclusion: This pollutant is being considered for placement on the CWA section 303(d) List under section 3.5 of the Listing Policy. Under section 3.5 a single line of evidence is necessary to assess listing status. One line of evidence is available in the administrative record to assess this pollutant.

Zero of one sample exceeds the guideline. Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against placing this water segment-pollutant combination on the CWA section 303(d) List in the Water Quality Limited Segments category.

This conclusion is based on the staff findings that:

1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy.
2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy.
3. The one sample did not exceed the guideline and this sample size is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating. A minimum of 16 samples is needed to determine if a beneficial use is fully supported using table 3.1.
4. Pursuant to section 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.

Regional Board Staff Decision Recommendation: After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be placed on the section 303(d) list. The readily available data and information is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating.

Line of Evidence (LOE) for Decision ID 65763, Endrin	Region 2
Tomales Bay	

LOE ID: 93277

Pollutant: Endrin

LOE Subgroup:	Pollutant-Tissue
Matrix:	Tissue
Fraction:	Shellfish
Beneficial Use:	Shellfish Harvesting
Number of Samples:	1
Number of Exceedances:	0
Data and Information Type:	Shellfish surveys
Data Used to Assess Water Quality:	The result did not exceed the guideline. Data were reported on a dry weight basis and were converted to a wet weight basis by multiplying the dry-weight concentration by a factor of 1 minus the percentage of moisture content expressed as a decimal.
Data Reference:	State Mussel Watch Program Data 1977-2000; Winter 2007-Winter 2009. State Water Resources Control Board
SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	Many pollutants can accumulate on particles, in sediment, or bioaccumulate in fish and other aquatic organisms. Controllable water quality factors shall not cause a detrimental increase in concentrations of toxic substances found in bottom sediments or aquatic life. Effects on aquatic organisms, wildlife, and human health will be considered.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	The modified OEHHA Fish Contaminant Goal for endrin in shellfish tissue is 1,000 ppb. This screening level assumes an average body weight of 70 kg and a consumption rate of 21 g/day. (Brodberg, R.K., and G.A. Pollock, 1999; Klasing, S., and R. Brodberg, 2008; USEPA, 2000)
Guideline Reference:	Prevalence of Selected Target Chemical Contaminants in Sport Fish From Two California Lakes: Public health designed screening study. Sacramento, CA: Office of Environmental Health Hazard Assessment Development of Fish Contaminant Goals and Advisory Tissue Levels for Common Contaminants in California Sport Fish: Chlordane, DDTs, Dieldrin, Methylmercury, PCBs, Selenium, and Toxaphene Guidance for Assessing Chemical Contaminant Data for Use In Fish Advisories Volume 1: Fish Sampling and Analysis
Spatial Representation:	Samples are collected by hand from three sub-locations for each site. The composite samples were collected from site Tomales Bay Spenger's Residence (TBSR).
Temporal Representation:	Representative samples of locally abundant species were collected during the winter on 2/25/2009
Environmental Conditions:	
QAPP Information:	Samples were collected as part of the State Water Board's Mussel Watch Program which is a part of the National Oceanic Administration's (NOAAs) National Status and Trends (NS&T). Mussels are shipped to NOAAs contract labs for analysis of trace constituents and mussel condition. Analytical protocols follow those approved by NOAAs NS&T Program Additional background information can be found at: http://ccma.nos.noaa.gov/stressors/pollution/nsandt/
QAPP Information Reference(s):	

DECISION ID	65764	Region 2
Tomales Bay		

Pollutant:	Heptachlor epoxide
Final Listing Decision:	Do Not List on 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision:	New Decision
Revision Status	Revised
Impairment from Pollutant or Pollution:	Pollutant

**Regional Board Staff
Conclusion:**

This pollutant is being considered for placement on the CWA section 303(d) List under section 3.5 of the Listing Policy. Under section 3.5 a single line of evidence is necessary to assess listing status. One line of evidence is available in the administrative record to assess this pollutant.

Zero of one sample exceeds the guideline. Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against placing this water segment-pollutant combination on the CWA section 303(d) List in the Water Quality Limited Segments category.

This conclusion is based on the staff findings that:

1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy.
2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy.
3. The one sample did not exceed the guideline and this sample size is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating. A minimum of 16 samples is needed to determine if a beneficial use is fully supported using table 3.1.
4. Pursuant to section 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.

**Regional Board Staff Decision
Recommendation:**

After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be placed on the section 303(d) list. The readily available data and information is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating.

**Line of Evidence (LOE) for Decision ID 65764, Heptachlor epoxide
Tomaes Bay**

Region 2

LOE ID:	93278
Pollutant:	Heptachlor epoxide
LOE Subgroup:	Pollutant-Tissue
Matrix:	Tissue
Fraction:	Shellfish
Beneficial Use:	Shellfish Harvesting
Number of Samples:	1
Number of Exceedances:	0
Data and Information Type:	Shellfish surveys
Data Used to Assess Water Quality:	The results did not exceed the guideline. Data were reported on a dry weight basis and were converted to a wet weight basis by multiplying the dry-weight concentration by a factor of 1 minus the percentage of moisture content expressed as a decimal.
Data Reference:	State Mussel Watch Program Data 1977-2000; Winter 2007-Winter 2009. State Water Resources Control Board
SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	Many pollutants can accumulate on particles, in sediment, or bioaccumulate in fish and other aquatic organisms. Controllable water quality factors shall not cause a detrimental increase in concentrations of toxic substances found in bottom sediments or aquatic life. Effects on aquatic organisms, wildlife, and human health will be considered.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	The modified OEHHA Fish Contaminant Goal for heptachlor epoxide in shellfish tissue is 1.4 ppb. This screening level assumes an average body weight of 70 kg and a consumption rate of 21 g/day for a 30 year exposure over a 70-year lifetime. This constituent is a carcinogen therefore the risk level is set to one in a million. (Brodberg, R.K., and G.A. Pollock, 1999; Klasing, S., and R. Brodberg, 2008; OEHHA, 1999)
Guideline Reference:	Prevalence of Selected Target Chemical Contaminants in Sport Fish From Two California Lakes: Public health designed screening study. Sacramento, CA: Office of Environmental Health Hazard Assessment

Spatial Representation: Samples are collected by hand from three sub-locations for each site. The composite samples were collected from site Tomales Bay Spenger's Residence (TBSR).

Temporal Representation: Representative samples of locally abundant species were collected during the winter on 2/25/2009

Environmental Conditions:

QAPP Information: Samples were collected as part of the State Water Board's Mussel Watch Program which is a part of the National Oceanic Administration's (NOAAs) National Status and Trends (NS&T). Mussels are shipped to NOAAs contract labs for analysis of trace constituents and mussel condition. Analytical protocols follow those approved by NOAAs NS&T Program. Additional background information can be found at: <http://ccma.nos.noaa.gov/stressors/pollution/nsandt/>

QAPP Information Reference(s):

DECISION ID	65765	Region 2
Tomales Bay		

Pollutant: Hexachlorobenzene/ HCB
Final Listing Decision: Do Not List on 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision: New Decision
Revision Status: Revised
Impairment from Pollutant or Pollution: Pollutant

Regional Board Staff Conclusion: This pollutant is being considered for placement on the CWA section 303(d) List under section 3.5 of the Listing Policy. Under section 3.5 a single line of evidence is necessary to assess listing status. One line of evidence is available in the administrative record to assess this pollutant.

Zero of one sample exceeds the guideline. Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against placing this water segment-pollutant combination on the CWA section 303(d) List in the Water Quality Limited Segments category.

This conclusion is based on the staff findings that:

1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy.
2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy.
3. The one sample did not exceed the guideline and this sample size is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating. A minimum of 16 samples is needed to determine if a beneficial use is fully supported using table 3.1.
4. Pursuant to section 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.

Regional Board Staff Decision Recommendation: After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be placed on the section 303(d) list. The readily available data and information is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating.

Line of Evidence (LOE) for Decision ID 65765, Hexachlorobenzene/ HCB	Region 2
Tomales Bay	

LOE ID: 93282

Pollutant: Hexachlorobenzene/ HCB
 LOE Subgroup: Pollutant-Tissue

Matrix:	Tissue
Fraction:	Shellfish
Beneficial Use:	Shellfish Harvesting
Number of Samples:	1
Number of Exceedances:	0
Data and Information Type:	Shellfish surveys
Data Used to Assess Water Quality:	The result did not exceed the guideline. Data were reported on a dry weight basis and were converted to a wet weight basis by multiplying the dry-weight concentration by a factor of 1 minus the percentage of moisture content expressed as a decimal.
Data Reference:	State Mussel Watch Program Data 1977-2000; Winter 2007-Winter 2009. State Water Resources Control Board
SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	Many pollutants can accumulate on particles, in sediment, or bioaccumulate in fish and other aquatic organisms. Controllable water quality factors shall not cause a detrimental increase in concentrations of toxic substances found in bottom sediments or aquatic life. Effects on aquatic organisms, wildlife, and human health will be considered.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	The modified OEHHA Fish Contaminant Goal for hexachlorobenzene in shellfish tissue is 4.3 ppb. This screening level assumes an average body weight of 70 kg and a consumption rate of 21 g/day for a 30 year exposure over a 70-year lifetime. This constituent is a carcinogen therefore the risk level is set to one in a million. (Brodberg, R.K., and G.A. Pollock, 1999; Klasing, S., and R. Brodberg, 2008; OEHHA, 2005)
Guideline Reference:	Prevalence of Selected Target Chemical Contaminants in Sport Fish From Two California Lakes: Public health designed screening study. Sacramento, CA: Office of Environmental Health Hazard Assessment Development of Fish Contaminant Goals and Advisory Tissue Levels for Common Contaminants in California Sport Fish: Chlordane, DDTs, Dieldrin, Methylmercury, PCBs, Selenium, and Toxaphene Air Toxics Hotspots Program Risk Assessment Guidelines. Part II Technical Support Document for Describing Available Cancer Potency Values.
Spatial Representation:	Samples are collected by hand from three sub-locations for each site. The composite samples were collected from site Tomales Bay Spenger's Residence (TBSR).
Temporal Representation:	Representative samples of locally abundant species were collected during the winter on 2/25/2009
Environmental Conditions:	
QAPP Information:	Samples were collected as part of the State Water Board's Mussel Watch Program which is a part of the National Oceanic Administration's (NOAAs) National Status and Trends (NS&T). Mussels are shipped to NOAAs contract labs for analysis of trace constituents and mussel condition. Analytical protocols follow those approved by NOAAs NS&T Program Additional background information can be found at: http://ccma.nos.noaa.gov/stressors/pollution/nsandt/
QAPP Information Reference(s):	

DECISION ID	65766	Region 2
Tomales Bay		
Pollutant:	Lindane/gamma Hexachlorocyclohexane (gamma-HCH)	
Final Listing Decision:	Do Not List on 303(d) list (TMDL required list)	
Last Listing Cycle's Final Listing Decision:	New Decision	
Revision Status	Revised	
Impairment from Pollutant or Pollution:	Pollutant	

**Regional Board Staff
Conclusion:**

This pollutant is being considered for placement on the CWA section 303(d) List under section 3.5 of the Listing Policy. Under section 3.5 a single line of evidence is necessary to assess listing status. One line of evidence is available in the administrative record to assess this pollutant. Zero of one samples exceed the OEHHHA guideline.

Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against placing this water segment-pollutant combination on the CWA section 303(d) List.

This conclusion is based on the staff findings that:

1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy.
2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy.
3. Zero of one samples exceed the OEHHHA guideline and this sample size is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating. A minimum of 16 samples is needed to determine if a beneficial use is fully supported using table 3.1.
4. Pursuant to SECTION 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.

**Regional Board Staff Decision
Recommendation:**

After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be placed on the section 303(d) list. The readily available data and information is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating.

**Line of Evidence (LOE) for Decision ID 65766, Lindane/gamma Hexachlorocyclohexane
(gamma-HCH)**

Region 2

Tomales Bay

LOE ID:	93283
Pollutant:	Lindane/gamma Hexachlorocyclohexane (gamma-HCH)
LOE Subgroup:	Pollutant-Tissue
Matrix:	Tissue
Fraction:	Shellfish
Beneficial Use:	Shellfish Harvesting
Number of Samples:	1
Number of Exceedances:	0
Data and Information Type:	Shellfish surveys
Data Used to Assess Water Quality:	The result did not exceed the guideline. Data were reported on a dry weight basis and were converted to a wet weight basis by multiplying the dry-weight concentration by a factor of 1 minus the percentage of moisture content expressed as a decimal.
Data Reference:	State Mussel Watch Program Data 1977-2000; Winter 2007-Winter 2009. State Water Resources Control Board
SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	Many pollutants can accumulate on particles, in sediment, or bioaccumulate in fish and other aquatic organisms. Controllable water quality factors shall not cause a detrimental increase in concentrations of toxic substances found in bottom sediments or aquatic life. Effects on aquatic organisms, wildlife, and human health will be considered.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	The modified OEHHHA Fish Contaminant Goal for lindane in shellfish tissue is 7.1 ppb. This screening level assumes an average body weight of 70 kg and a consumption rate of 21 g/day for a 30 year exposure over a 70-year lifetime. This constituent is a carcinogen therefore the risk level is set to one in a million. (Brodberg, R.K., and G.A. Pollock, 1999; Klasing, S., and R. Brodberg, 2008; OEHHHA, 2005)
Guideline Reference:	Prevalence of Selected Target Chemical Contaminants in Sport Fish From Two California

[Lakes: Public health designed screening study. Sacramento, CA: Office of Environmental Health Hazard Assessment](#)
[Development of Fish Contaminant Goals and Advisory Tissue Levels for Common Contaminants in California Sport Fish: Chlordane, DDTs, Dieldrin, Methylmercury, PCBs, Selenium, and Toxaphene](#)
[Air Toxics Hotspots Program Risk Assessment Guidelines. Part II Technical Support Document for Describing Available Cancer Potency Values.](#)

Spatial Representation: Samples are collected by hand from three sub-locations for each site. The composite samples were collected from site Tomales Bay Spenger's Residence (TBSR).

Temporal Representation: Representative samples of locally abundant species were collected during the winter on 2/25/2009

Environmental Conditions:

QAPP Information: Samples were collected as part of the State Water Board's Mussel Watch Program which is a part of the National Oceanic Administration's (NOAAs) National Status and Trends (NS&T). Mussels are shipped to NOAAs contract labs for analysis of trace constituents and mussel condition. Analytical protocols follow those approved by NOAAs NS&T Program Additional background information can be found at:
<http://ccma.nos.noaa.gov/stressors/pollution/nsandt/>

QAPP Information Reference(s):

DECISION ID	65767	Region 2
Tomales Bay		

Pollutant: Lindane/gamma Hexachlorocyclohexane (gamma-HCH)
Final Listing Decision: Do Not List on 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision: New Decision
Revision Status Revised
Impairment from Pollutant or Pollution: Pollutant

Regional Board Staff Conclusion: This pollutant is being considered for placement on the CWA section 303(d) List under section 3.5 of the Listing Policy. Under section 3.5 a single line of evidence is necessary to assess listing status. One line of evidence is available in the administrative record to assess this pollutant.

Zero of one sample exceeds the guideline. Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against placing this water segment-pollutant combination on the CWA section 303(d) List in the Water Quality Limited Segments category.

This conclusion is based on the staff findings that:

1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy.
2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy.
3. The one sample did not exceed the guideline and this sample size is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating. A minimum of 16 samples is needed to determine if a beneficial use is fully supported using table 3.1.
4. Pursuant to section 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.

Regional Board Staff Decision Recommendation: After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be placed on the section 303(d) list. The readily available data and information is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating.

Line of Evidence (LOE) for Decision ID 65767, Lindane/gamma Hexachlorocyclohexane (gamma-HCH)	Region 2
Tomales Bay	

LOE ID:	93283
Pollutant:	Lindane/gamma Hexachlorocyclohexane (gamma-HCH)
LOE Subgroup:	Pollutant-Tissue
Matrix:	Tissue
Fraction:	Shellfish
Beneficial Use:	Shellfish Harvesting
Number of Samples:	1
Number of Exceedances:	0
Data and Information Type:	Shellfish surveys
Data Used to Assess Water Quality:	The result did not exceed the guideline. Data were reported on a dry weight basis and were converted to a wet weight basis by multiplying the dry-weight concentration by a factor of 1 minus the percentage of moisture content expressed as a decimal.
Data Reference:	State Mussel Watch Program Data 1977-2000; Winter 2007-Winter 2009. State Water Resources Control Board
SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	Many pollutants can accumulate on particles, in sediment, or bioaccumulate in fish and other aquatic organisms. Controllable water quality factors shall not cause a detrimental increase in concentrations of toxic substances found in bottom sediments or aquatic life. Effects on aquatic organisms, wildlife, and human health will be considered.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	The modified OEHHA Fish Contaminant Goal for lindane in shellfish tissue is 7.1 ppb. This screening level assumes an average body weight of 70 kg and a consumption rate of 21 g/day for a 30 year exposure over a 70-year lifetime. This constituent is a carcinogen therefore the risk level is set to one in a million. (Brodberg, R.K., and G.A. Pollock, 1999; Klasing, S., and R. Brodberg, 2008; OEHHA, 2005)
Guideline Reference:	Prevalence of Selected Target Chemical Contaminants in Sport Fish From Two California Lakes: Public health designed screening study. Sacramento, CA: Office of Environmental Health Hazard Assessment Development of Fish Contaminant Goals and Advisory Tissue Levels for Common Contaminants in California Sport Fish: Chlordane, DDTs, Dieldrin, Methylmercury, PCBs, Selenium, and Toxaphene Air Toxics Hotspots Program Risk Assessment Guidelines. Part II Technical Support Document for Describing Available Cancer Potency Values.
Spatial Representation:	Samples are collected by hand from three sub-locations for each site. The composite samples were collected from site Tomales Bay Spenger's Residence (TBSR).
Temporal Representation:	Representative samples of locally abundant species were collected during the winter on 2/25/2009
Environmental Conditions:	
QAPP Information:	Samples were collected as part of the State Water Board's Mussel Watch Program which is a part of the National Oceanic Administration's (NOAAs) National Status and Trends (NS&T). Mussels are shipped to NOAAs contract labs for analysis of trace constituents and mussel condition. Analytical protocols follow those approved by NOAAs NS&T Program Additional background information can be found at: http://ccma.nos.noaa.gov/stressors/pollution/nsandt/
QAPP Information Reference(s):	

DECISION ID	65768	Region 2
Tomales Bay		
Pollutant:	Mirex	
Final Listing Decision:	Do Not List on 303(d) list (TMDL required list)	
Last Listing Cycle's Final Listing Decision:	New Decision	

Revision Status
Impairment from Pollutant or
Pollution:

Revised
Pollutant

Regional Board Staff
Conclusion:

This pollutant is being considered for placement on the CWA section 303(d) List under section 3.5 of the Listing Policy. Under section 3.5 a single line of evidence is necessary to assess listing status. One line of evidence is available in the administrative record to assess this pollutant.

Zero of zero sample exceeds the guideline. Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against placing this water segment-pollutant combination on the CWA section 303(d) List in the Water Quality Limited Segments category.

This conclusion is based on the staff findings that:

1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy.
2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy.
3. It is not known if the sample exceeds the guideline. This sample size is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating. A minimum of 16 samples is needed to determine if a beneficial use is fully supported using table 3.1.
4. Pursuant to section 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.

Regional Board Staff Decision
Recommendation:

After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be placed on the section 303(d) list. The readily available data and information is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating.

Line of Evidence (LOE) for Decision ID 65768, Mirex
Tomales Bay

Region 2

LOE ID:	93287
Pollutant:	Mirex
LOE Subgroup:	Pollutant-Tissue
Matrix:	Tissue
Fraction:	Shellfish
Beneficial Use:	Shellfish Harvesting
Number of Samples:	0
Number of Exceedances:	0
Data and Information Type:	Shellfish surveys
Data Used to Assess Water Quality:	The non detect result was not included in the assessment since the reporting limit was above the evaluation guideline. MDL were provided by NOAA Federal and RL were calculated by multiplying 3.18 by the MDL.
Data Reference:	State Mussel Watch Program Data 1977-2000; Winter 2007-Winter 2009. State Water Resources Control Board
SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	Many pollutants can accumulate on particles, in sediment, or bioaccumulate in fish and other aquatic organisms. Controllable water quality factors shall not cause a detrimental increase in concentrations of toxic substances found in bottom sediments or aquatic life. Effects on aquatic organisms, wildlife, and human health will be considered.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	The modified OEHHA Fish Contaminant Goal for mirex in shellfish tissue is 0.43 ppb. This screening level assumes an average body weight of 70 kg and a consumption rate of 21 g/day. (Brodberg, R.K., and G.A. Pollock, 1999; Klasing, S., and R. Brodberg, 2008; OEHHA, 1992)

Guideline Reference:	Prevalence of Selected Target Chemical Contaminants in Sport Fish From Two California Lakes: Public health designed screening study. Sacramento, CA: Office of Environmental Health Hazard Assessment Development of Fish Contaminant Goals and Advisory Tissue Levels for Common Contaminants in California Sport Fish: Chlordane, DDTs, Dieldrin, Methylmercury, PCBs, Selenium, and Toxaphene Expedited Cancer Potency Values and Proposed Regulatory Levels for Certain Proposition 65 Carcinogens.
Spatial Representation:	Samples are collected by hand from three sub-locations for each site. The composite samples were collected from site Tomales Bay Spenger's Residence (TBSR).
Temporal Representation:	Representative samples of locally abundant species were collected during the winter on 2/25/2009
Environmental Conditions:	
QAPP Information:	Samples were collected as part of the State Water Board's Mussel Watch Program which is a part of the National Oceanic Administration's (NOAAs) National Status and Trends (NS&T). Mussels are shipped to NOAAs contract labs for analysis of trace constituents and mussel condition. Analytical protocols follow those approved by NOAAs NS&T Program Additional background information can be found at: http://ccma.nos.noaa.gov/stressors/pollution/nsandt/
QAPP Information Reference(s):	

DECISION ID	65769	Region 2
Tomales Bay		
Pollutant:	PAHs (Polycyclic Aromatic Hydrocarbons)	
Final Listing Decision:	Do Not List on 303(d) list (TMDL required list)	
Last Listing Cycle's Final Listing Decision:	New Decision	
Revision Status	Revised	
Impairment from Pollutant or Pollution:	Pollutant	
Regional Board Staff Conclusion:	<p>This pollutant is being considered for placement on the CWA section 303(d) List under section 3.5 of the Listing Policy. Under section 3.5 a single line of evidence is necessary to assess listing status. One line of evidence is available in the administrative record to assess this pollutant.</p> <p>Zero of one sample exceeds the guideline. Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against placing this water segment-pollutant combination on the CWA section 303(d) List in the Water Quality Limited Segments category.</p> <p>This conclusion is based on the staff findings that:</p> <ol style="list-style-type: none"> 1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy. 2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy. 3. The one sample did not exceed the guideline and this sample size is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating. A minimum of 16 samples is needed to determine if a beneficial use is fully supported using table 3.1. 4. Pursuant to section 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met. 	
Regional Board Staff Decision Recommendation:	After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be placed on the section 303(d) list. The readily available data and information is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating.	
Line of Evidence (LOE) for Decision ID 65769, PAHs (Polycyclic Aromatic Hydrocarbons)		Region 2
Tomales Bay		

LOE ID:	93288
Pollutant:	PAHs (Polycyclic Aromatic Hydrocarbons)
LOE Subgroup:	Pollutant-Tissue
Matrix:	Tissue
Fraction:	Shellfish
Beneficial Use:	Shellfish Harvesting
Number of Samples:	1
Number of Exceedances:	0
Data and Information Type:	Shellfish surveys
Data Used to Assess Water Quality:	The result did not exceed the guideline. Data were reported on a dry weight basis and were converted to a wet weight basis by multiplying the dry-weight concentration by a factor of 1 minus the percentage of moisture content expressed as a decimal. The total PAHs were calculated as the potency equivalency concentration or the sum of the toxic equivalency factors multiplied by the concentrations of: Acenaphthene, Acenaphthylene, Anthracene, Benz[a]anthracene, Benzo[a]pyrene, Benzo[b]fluoranthene, Benzo[g,h,i]perylene, Benzo[k]fluoranthene, Dibenzo[a,h]anthracene, Chrysene, Fluoranthene, Fluorene, Indeno[1,2,3-c,d]pyrene, Phenanthrene, and Pyrene.
Data Reference:	State Mussel Watch Program Data 1977-2000; Winter 2007-Winter 2009. State Water Resources Control Board
SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	Many pollutants can accumulate on particles, in sediment, or bioaccumulate in fish and other aquatic organisms. Controllable water quality factors shall not cause a detrimental increase in concentrations of toxic substances found in bottom sediments or aquatic life. Effects on aquatic organisms, wildlife, and human health will be considered.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	The modified OEHHA Fish Contaminant Goal for polycyclic aromatic hydrocarbons in shellfish tissue is 1.1 ppb. This screening level assumes an average body weight of 70 kg and a consumption rate of 21 g/day for a 30 year exposure over a 70-year lifetime. This constituent is a carcinogen therefore the risk level is set to one in a million. (Brodberg, R.K., and G.A. Pollock, 1999; Klasing, S., and R. Brodberg, 2008; USEPA, 2000)
Guideline Reference:	Prevalence of Selected Target Chemical Contaminants in Sport Fish From Two California Lakes: Public health designed screening study. Sacramento, CA: Office of Environmental Health Hazard Assessment Development of Fish Contaminant Goals and Advisory Tissue Levels for Common Contaminants in California Sport Fish: Chlordane, DDTs, Dieldrin, Methylmercury, PCBs, Selenium, and Toxaphene Guidance for Assessing Chemical Contaminant Data for Use In Fish Advisories Volume 1: Fish Sampling and Analysis
Spatial Representation:	Samples are collected by hand from three sub-locations for each site. The composite samples were collected from site Tomales Bay Spenger's Residence (TBSR).
Temporal Representation:	Representative samples of locally abundant species were collected during the winter on 2/25/2009
Environmental Conditions:	
QAPP Information:	Samples were collected as part of the State Water Board's Mussel Watch Program which is a part of the National Oceanic Administration's (NOAAs) National Status and Trends (NS&T). Mussels are shipped to NOAAs contract labs for analysis of trace constituents and mussel condition. Analytical protocols follow those approved by NOAAs NS&T Program Additional background information can be found at: http://ccma.nos.noaa.gov/stressors/pollution/nsandt/
QAPP Information Reference(s):	

Pollutant:	PCBs (Polychlorinated biphenyls)
Final Listing Decision:	Do Not List on 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision:	New Decision
Revision Status	Revised
Impairment from Pollutant or Pollution:	Pollutant

Regional Board Staff Conclusion: This pollutant is being considered for placement on the CWA section 303(d) List under section 3.5 of the Listing Policy. Under section 3.5 a single line of evidence is necessary to assess listing status. One line of evidence is available in the administrative record to assess this pollutant.

One of one sample exceeds the guideline. Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against placing this water segment-pollutant combination on the CWA section 303(d) List in the Water Quality Limited Segments category.

This conclusion is based on the staff findings that:

1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy.
2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy.
3. The one sample did exceed the guideline and this sample size is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating. A minimum of 16 samples is needed to determine if a beneficial use is fully supported using table 3.1.
4. Pursuant to section 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.

Regional Board Staff Decision Recommendation: After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be placed on the section 303(d) list. The readily available data and information is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating.

Line of Evidence (LOE) for Decision ID 65770, PCBs (Polychlorinated biphenyls)

Region 2

Tomales Bay

LOE ID:	93289
Pollutant:	PCBs (Polychlorinated biphenyls)
LOE Subgroup:	Pollutant-Tissue
Matrix:	Tissue
Fraction:	Shellfish
Beneficial Use:	Shellfish Harvesting
Number of Samples:	1
Number of Exceedances:	1
Data and Information Type:	Shellfish surveys
Data Used to Assess Water Quality:	The result did exceed the guideline. Data were reported on a dry weight basis and were converted to a wet weight basis by multiplying the dry-weight concentration by a factor of 1 minus the percentage of moisture content expressed as a decimal. Total PCB was assessed for as follows: PCB aroclors and congeners were summed separately and the sum that yielded the highest value was used for the assessment.
Data Reference:	State Mussel Watch Program Data 1977-2000; Winter 2007-Winter 2009. State Water Resources Control Board
SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	Many pollutants can accumulate on particles, in sediment, or bioaccumulate in fish and other aquatic organisms. Controllable water quality factors shall not cause a detrimental increase in concentrations of toxic substances found in bottom sediments or aquatic life.

Objective/Criterion Reference:	Effects on aquatic organisms, wildlife, and human health will be considered. Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	The modified OEHHA Fish Contaminant Goal for polychlorinated biphenyls in shellfish tissue is 3.9 ppb. This screening level assumes an average body weight of 70 kg and a consumption rate of 21 g/day for a 30 year exposure over a 70-year lifetime. This constituent is a carcinogen therefore the risk level is set to one in a million. (Brodberg, R.K., and G.A. Pollock, 1999; Klasing, S., and R. Brodberg, 2008)
Guideline Reference:	Prevalence of Selected Target Chemical Contaminants in Sport Fish From Two California Lakes: Public health designed screening study. Sacramento, CA: Office of Environmental Health Hazard Assessment Development of Fish Contaminant Goals and Advisory Tissue Levels for Common Contaminants in California Sport Fish: Chlordane, DDTs, Dieldrin, Methylmercury, PCBs, Selenium, and Toxaphene
Spatial Representation:	Samples are collected by hand from three sub-locations for each site. The composite samples were collected from site Tomales Bay Spenger's Residence (TBSR).
Temporal Representation:	Representative samples of locally abundant species were collected during the winter on 2/25/2009
Environmental Conditions:	
QAPP Information:	Samples were collected as part of the State Water Board's Mussel Watch Program which is a part of the National Oceanic Administration's (NOAAs) National Status and Trends (NS&T). Mussels are shipped to NOAAs contract labs for analysis of trace constituents and mussel condition. Analytical protocols follow those approved by NOAAs NS&T Program Additional background information can be found at: http://ccma.nos.noaa.gov/stressors/pollution/nsandt/
QAPP Information Reference(s):	

DECISION ID 65771 Region 2	
Tomales Bay	
Pollutant:	Selenium
Final Listing Decision:	Do Not List on 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision:	New Decision
Revision Status	Revised
Impairment from Pollutant or Pollution:	Pollutant
Regional Board Staff Conclusion:	<p>This pollutant is being considered for placement on the CWA section 303(d) List under section 3.5 of the Listing Policy. Under section 3.5 a single line of evidence is necessary to assess listing status. One line of evidence is available in the administrative record to assess this pollutant.</p> <p>Zero of one sample exceeds the guideline. Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against placing this water segment-pollutant combination on the CWA section 303(d) List in the Water Quality Limited Segments category.</p> <p>This conclusion is based on the staff findings that:</p> <ol style="list-style-type: none"> 1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy. 2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy. 3. The one sample did not exceed the guideline and this sample size is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating. A minimum of 16 samples is needed to determine if a beneficial use is fully supported using table 3.1. 4. Pursuant to section 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.
Regional Board Staff Decision Recommendation:	After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be placed on the section 303(d) list. The readily available data and information is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating.

Tomaes Bay

LOE ID:	93290
Pollutant:	Selenium
LOE Subgroup:	Pollutant-Tissue
Matrix:	Tissue
Fraction:	Shellfish
Beneficial Use:	Shellfish Harvesting
Number of Samples:	1
Number of Exceedances:	0
Data and Information Type:	Shellfish surveys
Data Used to Assess Water Quality:	The one sample did not exceed the guideline. Data were reported on a dry weight basis and were converted to a wet weight basis by multiplying the dry-weight concentration by a factor of 1 minus the percentage of moisture content expressed as a decimal.
Data Reference:	State Mussel Watch Program Data 1977-2000; Winter 2007-Winter 2009, State Water Resources Control Board
SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	Many pollutants can accumulate on particles, in sediment, or bioaccumulate in fish and other aquatic organisms. Controllable water quality factors shall not cause a detrimental increase in concentrations of toxic substances found in bottom sediments or aquatic life. Effects on aquatic organisms, wildlife, and human health will be considered.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	The modified OEHHA Fish Contaminant Goal for selenium in shellfish tissue is 11 ppm. This screening level assumes an average body weight of 70 kg and a consumption rate of 21 g/day. A background dietary consumption rate of 0.114 mg/day is applied for this micronutrient. (Brodberg, R.K., and G.A. Pollock, 1999; Klasing, S., and R. Brodberg, 2008)
Guideline Reference:	Prevalence of Selected Target Chemical Contaminants in Sport Fish From Two California Lakes: Public health designed screening study, Sacramento, CA: Office of Environmental Health Hazard Assessment Development of Fish Contaminant Goals and Advisory Tissue Levels for Common Contaminants in California Sport Fish: Chlordane, DDTs, Dieldrin, Methylmercury, PCBs, Selenium, and Toxaphene
Spatial Representation:	Samples are collected by hand from three sub-locations for each site. The composite samples were collected from site Tomaes Bay Spenger's Residence (TBSR).
Temporal Representation:	Representative samples of locally abundant species were collected during the winter on 2/25/2009
Environmental Conditions:	
QAPP Information:	Samples were collected as part of the State Water Board's Mussel Watch Program which is a part of the National Oceanic Administration's (NOAAs) National Status and Trends (NS&T). Mussels are shipped to NOAAs contract labs for analysis of trace constituents and mussel condition. Analytical protocols follow those approved by NOAAs NS&T Program Additional background information can be found at: http://ccma.nos.noaa.gov/stressors/pollution/nsandt/
QAPP Information Reference(s):	

Pollutant:	Nutrients
Final Listing Decision:	List on 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision:	List on 303(d) list (TMDL required list)(2012)
Revision Status	Original
Sources:	Source Unknown
Expected TMDL Completion Date:	2029
Impairment from Pollutant or Pollution:	Pollutant

Regional Board Staff Conclusion: 303(d) listing decisions made prior to 2006 were not held in an assessment database. The Regional Boards will update this decision when new data and information become available and are assessed.

Regional Board Staff Decision Recommendation: This is a decision previously approved by the State Water Resources Control Board and the USEPA. No new data were assessed by the Regional Board for the current. The decision has not changed.

Line of Evidence (LOE) for Decision ID 33546, Nutrients

Region 2

Tomales Bay

LOE ID:	3712
Pollutant:	Nutrients
LOE Subgroup:	Pollutant-Water
Matrix:	Water
Fraction:	Not Recorded
Beneficial Use:	Estuarine Habitat
Number of Samples:	0
Number of Exceedances:	0
Data and Information Type:	Not Specified
Data Used to Assess Water Quality:	Unspecified--This LOE is a placeholder to support a 303(d) listing decision made prior to 2006.
Data Reference:	Placeholder reference pre-2006 303(d)
SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	
Objective/Criterion Reference:	
Evaluation Guideline:	
Guideline Reference:	
Spatial Representation:	Unspecified
Temporal Representation:	Unspecified
Environmental Conditions:	Unspecified
QAPP Information:	Unspecified
QAPP Information Reference(s):	

DECISION ID 33714

Region 2

Tomales Bay

Pollutant:	Sedimentation/Siltation
Final Listing Decision:	List on 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision:	List on 303(d) list (TMDL required list)(2012)
Revision Status	Original

Sources: Source Unknown
Expected TMDL Completion Date: 2013
Impairment from Pollutant or Pollution: Pollutant

Regional Board Staff Conclusion: 303(d) listing decisions made prior to 2006 were not held in an assessment database. The Regional Boards will update this decision when new data and information become available and are assessed.

Regional Board Staff Decision Recommendation: This is a decision previously approved by the State Water Resources Control Board and the USEPA. No new data were assessed by the Regional Board for the current. The decision has not changed.

Line of Evidence (LOE) for Decision ID 33714, Sedimentation/Siltation

Region 2

Tomales Bay

LOE ID: 3713

Pollutant: Sedimentation/Siltation
LOE Subgroup: Pollutant-Water
Matrix: Water
Fraction: Not Recorded

Beneficial Use: Estuarine Habitat

Number of Samples: 0
Number of Exceedances: 0

Data and Information Type: Not Specified
Data Used to Assess Water Quality: Unspecified--This LOE is a placeholder to support a 303(d) listing decision made prior to 2006.

Data Reference: [Placeholder reference pre-2006 303\(d\)](#)

SWAMP Data: Non-SWAMP

Water Quality Objective/Criterion:
Objective/Criterion Reference:

Evaluation Guideline:
Guideline Reference:

Spatial Representation: Unspecified
Temporal Representation: Unspecified
Environmental Conditions: Unspecified
QAPP Information: Unspecified
QAPP Information Reference(s):

DECISION ID 35063

Region 2

Tomales Bay

Pollutant: Pathogens
Final Listing Decision: List on 303(d) list (being addressed by USEPA approved TMDL)
Last Listing Cycle's Final Listing Decision: List on 303(d) list (being addressed by USEPA approved TMDL)(2012)
Revision Status: Original
Sources: Source Unknown
TMDL Name: Tomales Bay Pathogens
TMDL Project Code: 10
Date TMDL Approved by USEPA: 01/10/2007

Impairment from Pollutant or Pollution: Pollutant

Regional Board Staff Conclusion:

This pollutant is being considered for listing under section 2.2 of the Listing Policy. Under this section of the Policy, a minimum of one line of evidence is needed to assess listing status. A TMDL has been developed and approved by USEPA and an approved implementation plan is expected to result in attainment of the standard. The Tomales Bay Pathogens TMDL was approved by RWQCB in September 2005 and subsequently approved by USEPA 1/10/07. Based on the readily available information, the weight of evidence indicates that there is sufficient justification in favor of placing this water segment-pollutant combination in the Water Quality Limited Segments Being Addressed portion of the section 303(d) list.

Regional Board Staff Decision Recommendation:

This is a decision previously approved by the State Water Resources Control Board and the USEPA. No new data were assessed by the Regional Board for the current. The decision has not changed.

Line of Evidence (LOE) for Decision ID 35063, Pathogens

Region 2

Tomales Bay

LOE ID:	5
Pollutant:	Pathogens
LOE Subgroup:	Pollutant-Water
Matrix:	Water
Fraction:	Not Recorded
Beneficial Use:	Water Contact Recreation
Number of Samples:	0
Number of Exceedances:	0
Data and Information Type:	Not Specified
Data Used to Assess Water Quality:	Unspecified--This LOE is a placeholder to support a 303(d) listing decision made prior to 2006.
Data Reference:	Placeholder reference 2006 303(d)
SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	
Objective/Criterion Reference:	
Evaluation Guideline:	
Guideline Reference:	
Spatial Representation:	
Temporal Representation:	
Environmental Conditions:	
QAPP Information:	QA Info Missing
QAPP Information Reference(s):	

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Supporting Information

Regional Board 2 - San Francisco Bay Region

Water Body Name: Richardson Bay
Water Body ID: CAB2031201019980929120559
Water Body Type: Bay & Harbor

DECISION ID 66129 **Region 2**
Richardson Bay

Pollutant: Arsenic
Final Listing Decision: Do Not List on 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision: New Decision
Revision Status Revised
Impairment from Pollutant or Pollution: Pollutant

Regional Board Staff Conclusion: This pollutant is being considered for placement on the CWA section 303(d) List under section 3.1 of the Listing Policy. Under section 3.1 a single line of evidence is necessary to assess listing status.

Two lines of evidence are available in the administrative record to assess this pollutant. Zero of twenty-five samples exceed the guideline.

Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against placing this water segment-pollutant combination on the CWA section 303(d) List in the Water Quality Limited Segments category.

This conclusion is based on the staff findings that:

1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy.
2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy.
3. Zero of twenty-five samples exceed the guideline and this does not exceed the allowable frequency listed in Table 3.1 of the Listing Policy.
4. Pursuant to section 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.

Regional Board Staff Decision Recommendation: After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be placed on the section 303(d) list because applicable water quality standards are not being exceeded.

Line of Evidence (LOE) for Decision ID 66129, Arsenic **Region 2**
Richardson Bay

LOE ID: 92687
Pollutant: Arsenic
LOE Subgroup: Pollutant-Water
Matrix: Water
Fraction: Dissolved
Beneficial Use: Estuarine Habitat
Number of Samples: 25
Number of Exceedances: 0

Data and Information Type:	PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality:	State Water Board staff assessed SFEI data for Richardson Bay to determine beneficial use support and results are as follows: 0 of 25 samples exceed the criterion for Arsenic.
Data Reference:	Regional Monitoring Program data, Feb. 1993-Sep. 2008
SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	The dissolved arsenic criterion continuous concentration (expressed as a 4-day average) to protect aquatic life in saline water is 0.036 mg/L (California Toxics Rule, 2000).
Objective/Criterion Reference:	Code of Federal Regulations 40 part 131.38 Establishment of numeric criteria for priority toxic pollutants for the State of California. 7/1/2011 Edition
Evaluation Guideline:	
Guideline Reference:	
Spatial Representation:	Data for this line of evidence for Richardson Bay was collected at 1 monitoring site [Richardson Bay - BC30]
Temporal Representation:	Data was collected over the time period 3/3/1993-8/2/2001.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	The 1999 Quality Assurance Project Plan Regional Monitoring Program for Trace Substances was used.
QAPP Information Reference(s):	1999 Quality Assurance Project Plan Regional Monitoring Program for Trace Substances

Line of Evidence (LOE) for Decision ID 66129, Arsenic

Region 2

Richardson Bay

LOE ID:	92686
Pollutant:	Arsenic
LOE Subgroup:	Pollutant-Water
Matrix:	Water
Fraction:	Total
Beneficial Use:	Commercial or recreational collection of fish, shellfish, or organisms
Number of Samples:	25
Number of Exceedances:	0
Data and Information Type:	PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality:	State Water Board staff assessed SFEI data for Richardson Bay to determine beneficial use support and results are as follows: 0 of 25 samples exceed the criterion for Arsenic.
Data Reference:	Regional Monitoring Program data, Feb. 1993-Sep. 2008
SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	Surface?waters?shall?not?contain?concentrations?of?chemical?constituents?in? amounts?that?adversely?affect?any?designated?beneficial?use.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	The Arsenic criteria for the protection of human health from consumption of organisms only is 0.14 ug/L (National Recommended Water Quality Criteria, 2009).
Guideline Reference:	National Recommended Water Quality Criteria. United States Environmental Protection Agency. Office of Water. Office of Science and Technology
Spatial Representation:	Data for this line of evidence for Richardson Bay was collected at 1 monitoring site [Richardson Bay - BC30]
Temporal Representation:	Data was collected over the time period 3/3/1993-8/2/2001.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	The 1999 Quality Assurance Project Plan Regional Monitoring Program for Trace Substances was used.
QAPP Information Reference(s):	1999 Quality Assurance Project Plan Regional Monitoring Program for Trace Substances

DECISION ID	66130	Region 2
Richardson Bay		

Pollutant: Cadmium
Final Listing Decision: Do Not List on 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision: New Decision
Revision Status: Revised
Impairment from Pollutant or Pollution: Pollutant

Regional Board Staff Conclusion: This pollutant is being considered for placement on the CWA section 303(d) List under section 3.1 of the Listing Policy. Under section 3.1 a single line of evidence is necessary to assess listing status.

One line of evidence is available in the administrative record to assess this pollutant. Zero of twenty-five samples exceed the guideline.

Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against placing this water segment-pollutant combination on the CWA section 303(d) List in the Water Quality Limited Segments category.

This conclusion is based on the staff findings that:

1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy.
2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy.
3. Zero of twenty-five samples exceed the guideline and this does not exceed the allowable frequency listed in Table 3.1 of the Listing Policy.
4. Pursuant to section 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.

Regional Board Staff Decision Recommendation: After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be placed on the section 303(d) list because applicable water quality standards are not being exceeded.

Line of Evidence (LOE) for Decision ID 66130, Cadmium	Region 2
Richardson Bay	

LOE ID: 92688
Pollutant: Cadmium
LOE Subgroup: Pollutant-Water
Matrix: Water
Fraction: Dissolved
Beneficial Use: Estuarine Habitat
Number of Samples: 25
Number of Exceedances: 0
Data and Information Type: PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality: State Water Board staff assessed SFEI data for Richardson Bay to determine beneficial use support and results are as follows: 0 of 25 samples exceed the criterion for Cadmium.
Data Reference: [Regional Monitoring Program data, Feb. 1993-Sep. 2008](#)
SWAMP Data: Non-SWAMP
Water Quality Objective/Criterion: The dissolved cadmium criterion continuous concentration (expressed as a 4-day average) to protect aquatic life in saline water is 0.093 mg/L (California Toxics Rule, 2000).
Objective/Criterion Reference: [Code of Federal Regulations 40 part 131.38 Establishment of numeric criteria for priority](#)

Evaluation Guideline:

Guideline Reference:

Spatial Representation:

Data for this line of evidence for Richardson Bay was collected at 1 monitoring site [Richardson Bay - BC30]

Temporal Representation:

Data was collected over the time period 3/3/1993-8/2/2001.

Environmental Conditions:

Staff is not aware of any special conditions that might affect interpretation of the data.

QAPP Information:

The 1999 Quality Assurance Project Plan Regional Monitoring Program for Trace Substances was used.

QAPP Information Reference(s):

[1999 Quality Assurance Project Plan Regional Monitoring Program for Trace Substances](#)

DECISION ID	66132	Region 2
Richardson Bay		

Pollutant: Chromium

Final Listing Decision: Do Not List on 303(d) list (TMDL required list)

Last Listing Cycle's Final Listing Decision: New Decision

Revision Status

Revised

Impairment from Pollutant or Pollution:

Pollutant

Regional Board Staff Conclusion:

This pollutant is being considered for placement on the CWA section 303(d) List under section 3.1 of the Listing Policy. Under section 3.1 a single line of evidence is necessary to assess listing status.

One line of evidence is available in the administrative record to assess this pollutant. Zero of twenty samples exceed the guideline.

Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against placing this water segment-pollutant combination on the CWA section 303(d) List in the Water Quality Limited Segments category.

This conclusion is based on the staff findings that:

1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy.
2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy.
3. Zero of twenty samples exceed the guideline and this does not exceed the allowable frequency listed in Table 3.1 of the Listing Policy.
4. Pursuant to section 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.

Regional Board Staff Decision Recommendation:

After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be placed on the section 303(d) list because applicable water quality standards are not being exceeded.

Line of Evidence (LOE) for Decision ID 66132, Chromium	Region 2
Richardson Bay	

LOE ID: 92689

Pollutant: Chromium

LOE Subgroup: Pollutant-Water

Matrix: Water

Fraction: Dissolved

Beneficial Use: Estuarine Habitat

Number of Samples: 20

Number of Exceedances: 0

Data and Information Type: PHYSICAL/CHEMICAL MONITORING

Data Used to Assess Water Quality: State Water Board staff assessed SFEI data for Richardson Bay to determine beneficial use support and results are as follows: 0 of 20 samples exceed the criterion for Chromium.

Data Reference: [Regional Monitoring Program data, Feb. 1993-Sep. 2008](#)

SWAMP Data: Non-SWAMP

Water Quality Objective/Criterion: The dissolved chromium (III) criterion continuous concentration (expressed as a 4-day average) to protect aquatic life in freshwater is 0.180 mg/L (California Toxics Rule, 2000).

Objective/Criterion Reference: [Code of Federal Regulations 40 part 131.38 Establishment of numeric criteria for priority toxic pollutants for the State of California, 7/1/2011 Edition](#)

Evaluation Guideline:

Guideline Reference:

Spatial Representation: Data for this line of evidence for Richardson Bay was collected at 1 monitoring site [Richardson Bay - BC30]

Temporal Representation: Data was collected over the time period 3/3/1993-7/15/1999.

Environmental Conditions: Staff is not aware of any special conditions that might affect interpretation of the data.

QAPP Information: The 1999 Quality Assurance Project Plan Regional Monitoring Program for Trace Substances was used.

QAPP Information Reference(s): [1999 Quality Assurance Project Plan Regional Monitoring Program for Trace Substances](#)

DECISION ID 66131		Region 2
Richardson Bay		
Pollutant:	Copper	
Final Listing Decision:	Do Not List on 303(d) list (TMDL required list)	
Last Listing Cycle's Final Listing Decision:	New Decision	
Revision Status	Revised	
Impairment from Pollutant or Pollution:	Pollutant	
Regional Board Staff Conclusion:	<p>This pollutant is being considered for placement on the CWA section 303(d) List under section 3.1 of the Listing Policy. Under section 3.1 a single line of evidence is necessary to assess listing status.</p> <p>Two lines of evidence are available in the administrative record to assess this pollutant. Zero of twenty-five samples exceed the guideline.</p> <p>Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against placing this water segment-pollutant combination on the CWA section 303(d) List in the Water Quality Limited Segments category.</p> <p>This conclusion is based on the staff findings that:</p> <ol style="list-style-type: none"> 1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy. 2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy. 3. Zero of twenty-five samples exceed the guideline and this does not exceed the allowable frequency listed in Table 3.1 of the Listing Policy. 4. Pursuant to section 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met. 	
Regional Board Staff Decision Recommendation:	After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be placed on the section 303(d) list because applicable water quality standards are not being exceeded.	
Line of Evidence (LOE) for Decision ID 66131, Copper		Region 2

Richardson Bay

LOE ID:	92690
Pollutant:	Copper
LOE Subgroup:	Pollutant-Water
Matrix:	Water
Fraction:	None
Beneficial Use:	Estuarine Habitat
Number of Samples:	25
Number of Exceedances:	0
Data and Information Type:	PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality:	State Water Board staff assessed SFEI data for Richardson Bay to determine beneficial use support and results are as follows: 0 of 25 samples exceed the criterion for Copper.
Data Reference:	Regional Monitoring Program data, Feb. 1993-Sep. 2008
SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	According to table 3-3A, the Copper site-specific objective for Richardson Bay is 6 ug/L.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	
Guideline Reference:	
Spatial Representation:	Data for this line of evidence for Richardson Bay was collected at 1 monitoring site [Richardson Bay - BC30]
Temporal Representation:	Data was collected over the time period 3/3/1993-8/2/2001.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	The 1999 Quality Assurance Project Plan Regional Monitoring Program for Trace Substances was used.
QAPP Information Reference(s):	1999 Quality Assurance Project Plan Regional Monitoring Program for Trace Substances

Line of Evidence (LOE) for Decision ID 66131, Copper

Region 2

Richardson Bay

LOE ID:	92691
Pollutant:	Copper
LOE Subgroup:	Pollutant-Water
Matrix:	Water
Fraction:	Dissolved
Beneficial Use:	Estuarine Habitat
Number of Samples:	3
Number of Exceedances:	0
Data and Information Type:	Fixed station physical/chemical (conventional plus toxic pollutants)
Data Used to Assess Water Quality:	None of the three samples exceeded the SSO value of 6 ug/L for dissolved copper.
Data Reference:	Data for Various Pollutants in California Marinas, 2006.
SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	Waters shall not contain chemical constituents in concentrations that adversely affect beneficial uses. Table 3.3A lists a site specific objective (SSO) for criteria continuous concentration of dissolved copper. The SSO for dissolved copper in this portion of the San Francisco Bay Delta is 6.0 ug/L.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)

Evaluation Guideline:

Guideline Reference:

Spatial Representation:

A total of four separate grab samples were collected from outside the marina basin (Sites 5, 6, 7, & 8), these sites were averaged per sample event.

Temporal Representation:

Samples were collected on three separate sampling events during the dry season (July - October) in 2006.

Environmental Conditions:

Samples were collected during the dry season only.

QAPP Information:

Samples were collected and analyzed in accordance with a Quality Assurance Project Plan that was prepared per State Water Resources Control Board Agreement No. 05-218-250 California Department of Pesticide Regulation, Sacramento, CA. (Available online at http://www.cdpr.ca.gov/docs/emon/surfwttr/protocols/qapp_study236.pdf)

QAPP Information Reference(s):

DECISION ID	66133	Region 2
Richardson Bay		

Pollutant: Cyanide

Final Listing Decision: Do Not List on 303(d) list (TMDL required list)

Last Listing Cycle's Final Listing Decision: New Decision

Revision Status

Revised

Impairment from Pollutant or Pollution:

Pollutant

Regional Board Staff Conclusion:

This pollutant is being considered for placement on the CWA section 303(d) List under section 3.1 of the Listing Policy. Under section 3.1 a single line of evidence is necessary to assess listing status. Two lines of evidence are available in the administrative record to assess this pollutant. Zero of three samples exceed the guideline.

Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against placing this water segment-pollutant combination on the CWA section 303(d) List.

This conclusion is based on the staff findings that:

1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy.
2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy.
3. Zero of three samples exceed the guideline and this sample size is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating. A minimum of 16 samples is needed to determine if a beneficial use is fully supported using table 3.1.
4. Pursuant to SECTION 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.

Regional Board Staff Recommendation:

After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be placed on the section 303(d) list. The readily available data and information is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating.

Line of Evidence (LOE) for Decision ID 66133, Cyanide	Region 2
Richardson Bay	

LOE ID: 92693

Pollutant: Cyanide

LOE Subgroup: Pollutant-Water

Matrix: Water

Fraction: Total

Beneficial Use: Commercial or recreational collection of fish, shellfish, or organisms

Number of Samples:	3
Number of Exceedances:	0
Data and Information Type:	PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality:	State Water Board staff assessed SFEI data for Richardson Bay to determine beneficial use support and results are as follows: 0 of 3 samples exceed the criterion for Cyanide.
Data Reference:	Regional Monitoring Program data, Feb. 1993-Sep. 2008
SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	The cyanide criteria for the protection of human health from consumption of organisms only is 220,000 ug/L (California Toxics Rule, 2000).
Objective/Criterion Reference:	Code of Federal Regulations 40 part 131.38 Establishment of numeric criteria for priority toxic pollutants for the State of California. 7/1/2011 Edition
Evaluation Guideline:	
Guideline Reference:	
Spatial Representation:	Data for this line of evidence for Richardson Bay was collected at 1 monitoring site [Richardson Bay - BC30]
Temporal Representation:	Data was collected over the time period 3/3/1993-9/14/1993.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	The 1999 Quality Assurance Project Plan Regional Monitoring Program for Trace Substances was used.
QAPP Information Reference(s):	1999 Quality Assurance Project Plan Regional Monitoring Program for Trace Substances

Line of Evidence (LOE) for Decision ID 66133, Cyanide

Region 2

Richardson Bay

LOE ID:	92692
Pollutant:	Cyanide
LOE Subgroup:	Pollutant-Water
Matrix:	Water
Fraction:	None
Beneficial Use:	Estuarine Habitat
Number of Samples:	3
Number of Exceedances:	0
Data and Information Type:	PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality:	State Water Board staff assessed SFEI data for Richardson Bay to determine beneficial use support and results are as follows: 0 of 3 samples exceed the criterion for Cyanide.
Data Reference:	Regional Monitoring Program data, Feb. 1993-Sep. 2008
SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	According to table 3-3C, the Cyanide site-specific objective for Richardson Bay is 2.9 ug/L.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	
Guideline Reference:	
Spatial Representation:	Data for this line of evidence for Richardson Bay was collected at 1 monitoring site [Richardson Bay - BC30]
Temporal Representation:	Data was collected over the time period 3/3/1993-9/14/1993.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	The 1999 Quality Assurance Project Plan Regional Monitoring Program for Trace Substances was used.

DECISION ID	66261	Region 2
Richardson Bay		

Pollutant: Lead
Final Listing Decision: Do Not List on 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision: New Decision
Revision Status: Revised
Impairment from Pollutant or Pollution: Pollutant

Regional Board Staff Conclusion: This pollutant is being considered for placement on the CWA section 303(d) List under section 3.1 of the Listing Policy. Under section 3.1 a single line of evidence is necessary to assess listing status.

One line of evidence is available in the administrative record to assess this pollutant. Zero of twenty-five samples exceed the guideline.

Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against placing this water segment-pollutant combination on the CWA section 303(d) List in the Water Quality Limited Segments category.

This conclusion is based on the staff findings that:

1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy.
2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy.
3. Zero of twenty-five samples exceed the guideline and this does not exceed the allowable frequency listed in Table 3.1 of the Listing Policy.
4. Pursuant to section 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.

Regional Board Staff Decision Recommendation: After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be placed on the section 303(d) list because applicable water quality standards are not being exceeded.

Line of Evidence (LOE) for Decision ID 66261, Lead	Region 2
Richardson Bay	

LOE ID: 92694
Pollutant: Lead
LOE Subgroup: Pollutant-Water
Matrix: Water
Fraction: Dissolved
Beneficial Use: Estuarine Habitat
Number of Samples: 25
Number of Exceedances: 0
Data and Information Type: PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality: State Water Board staff assessed SFEI data for Richardson Bay to determine beneficial use support and results are as follows: 0 of 25 samples exceed the criterion for Lead.
Data Reference: [Regional Monitoring Program data, Feb. 1993-Sep. 2008](#)
SWAMP Data: Non-SWAMP
Water Quality Objective/Criterion: The dissolved lead criterion continuous concentration (expressed as a 4-day average) to protect aquatic life in saline water is 0.0081 mg/L (California Toxics Rule, 2000).

Objective/Criterion Reference: [Code of Federal Regulations 40 part 131.38 Establishment of numeric criteria for priority toxic pollutants for the State of California. 7/1/2011 Edition](#)

Evaluation Guideline:
Guideline Reference:

Spatial Representation: Data for this line of evidence for Richardson Bay was collected at 1 monitoring site [Richardson Bay - BC30]

Temporal Representation: Data was collected over the time period 3/3/1993-8/2/2001.

Environmental Conditions: Staff is not aware of any special conditions that might affect interpretation of the data.

QAPP Information: The 1999 Quality Assurance Project Plan Regional Monitoring Program for Trace Substances was used.

QAPP Information Reference(s): [1999 Quality Assurance Project Plan Regional Monitoring Program for Trace Substances](#)

DECISION ID	66265	Region 2
Richardson Bay		

Pollutant: Manganese
Final Listing Decision: Do Not List on 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision: New Decision
Revision Status: Revised
Impairment from Pollutant or Pollution: Pollutant

Regional Board Staff Conclusion: This pollutant is being considered for placement on the CWA section 303(d) List under section 3.1 of the Listing Policy. Under section 3.1 a single line of evidence is necessary to assess listing status. One line of evidence is available in the administrative record to assess this pollutant. Zero of four samples exceed the guideline.

Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against placing this water segment-pollutant combination on the CWA section 303(d) List.

This conclusion is based on the staff findings that:

1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy.
2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy.
3. Zero of four samples exceed the guideline and this sample size is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating. A minimum of 16 samples is needed to determine if a beneficial use is fully supported using table 3.1.
4. Pursuant to SECTION 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.

Regional Board Staff Decision Recommendation: After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be placed on the section 303(d) list. The readily available data and information is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating.

Line of Evidence (LOE) for Decision ID 66265, Manganese	Region 2
Richardson Bay	

LOE ID: 92695

Pollutant: Manganese
 LOE Subgroup: Pollutant-Water
 Matrix: Water
 Fraction: Total

Beneficial Use: Commercial or recreational collection of fish, shellfish, or organisms

Number of Samples:	4
Number of Exceedances:	0
Data and Information Type:	PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality:	State Water Board staff assessed SFEI data for Richardson Bay to determine beneficial use support and results are as follows: 0 of 4 samples exceed the criterion for Manganese.
Data Reference:	Regional Monitoring Program data, Feb. 1993-Sep. 2008
SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	The Manganese criteria for the protection of human health from the consumption of organisms only is 100 ug/L (California Toxics Rule, 2000).
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	The Lead criteria for the protection of human health from fish consumption only is 100 ug/L (National Recommended Water Quality Criteria, 2009).
Guideline Reference:	National Recommended Water Quality Criteria. United States Environmental Protection Agency. Office of Water. Office of Science and Technology
Spatial Representation:	Data for this line of evidence for Richardson Bay was collected at 1 monitoring site [Richardson Bay - BC30]
Temporal Representation:	Data was collected over the time period 2/3/2000-8/2/2001.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	The 1999 Quality Assurance Project Plan Regional Monitoring Program for Trace Substances was used.
QAPP Information Reference(s):	1999 Quality Assurance Project Plan Regional Monitoring Program for Trace Substances

DECISION ID	66266	Region 2
Richardson Bay		

Pollutant:	Nickel
Final Listing Decision:	Do Not List on 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision:	New Decision
Revision Status	Revised
Impairment from Pollutant or Pollution:	Pollutant

Regional Board Staff Conclusion: This pollutant is being considered for placement on the CWA section 303(d) List under section 3.1 of the Listing Policy. Under section 3.1 a single line of evidence is necessary to assess listing status.

Two lines of evidence are available in the administrative record to assess this pollutant. Zero of twenty-five samples exceed the guideline.

Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against placing this water segment-pollutant combination on the CWA section 303(d) List in the Water Quality Limited Segments category.

This conclusion is based on the staff findings that:

1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy.
2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy.
3. Zero of twenty-five samples exceed the guideline and this does not exceed the allowable frequency listed in Table 3.1 of the Listing Policy.
4. Pursuant to section 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.

Regional Board Staff Decision Recommendation: After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be placed on the section 303(d) list because applicable water quality standards are not being exceeded.

Line of Evidence (LOE) for Decision ID 66266, Nickel**Region 2****Richardson Bay**

LOE ID:	92697
Pollutant:	Nickel
LOE Subgroup:	Pollutant-Water
Matrix:	Water
Fraction:	Total
Beneficial Use:	Commercial or recreational collection of fish, shellfish, or organisms
Number of Samples:	25
Number of Exceedances:	0
Data and Information Type:	PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality:	State Water Board staff assessed SFEI data for Richardson Bay to determine beneficial use support and results are as follows: 0 of 25 samples exceed the criterion for Nickel.
Data Reference:	Regional Monitoring Program data, Feb. 1993-Sep. 2008
SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	The Nickel criteria for the protection of human health from consumption of organisms only is 4.6 mg/L (California Toxics Rule, 2000).
Objective/Criterion Reference:	Code of Federal Regulations 40 part 131.38 Establishment of numeric criteria for priority toxic pollutants for the State of California. 7/1/2011 Edition
Evaluation Guideline:	
Guideline Reference:	
Spatial Representation:	Data for this line of evidence for Richardson Bay was collected at 1 monitoring site [Richardson Bay - BC30]
Temporal Representation:	Data was collected over the time period 3/3/1993-8/2/2001.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	The 1999 Quality Assurance Project Plan Regional Monitoring Program for Trace Substances was used.
QAPP Information Reference(s):	1999 Quality Assurance Project Plan Regional Monitoring Program for Trace Substances

Line of Evidence (LOE) for Decision ID 66266, Nickel**Region 2****Richardson Bay**

LOE ID:	92696
Pollutant:	Nickel
LOE Subgroup:	Pollutant-Water
Matrix:	Water
Fraction:	Dissolved
Beneficial Use:	Estuarine Habitat
Number of Samples:	25
Number of Exceedances:	0
Data and Information Type:	PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality:	State Water Board staff assessed SFEI data for Richardson Bay to determine beneficial use support and results are as follows: 0 of 25 samples exceed the criterion for Nickel.
Data Reference:	Regional Monitoring Program data, Feb. 1993-Sep. 2008
SWAMP Data:	Non-SWAMP

Water Quality Objective/Criterion: The dissolved nickel criterion continuous concentration (expressed as a 4-day average) to protect aquatic life in saline water is 0.0082 mg/L (California Toxics Rule, 2000).

Objective/Criterion Reference: [Water Quality Control Plan \(Basin Plan\) San Francisco Bay Basin \(Region 2\)](#)

Evaluation Guideline:

Guideline Reference:

Spatial Representation: Data for this line of evidence for Richardson Bay was collected at 1 monitoring site [Richardson Bay - BC30]

Temporal Representation: Data was collected over the time period 3/3/1993-8/2/2001.

Environmental Conditions: Staff is not aware of any special conditions that might affect interpretation of the data.

QAPP Information: The 1999 Quality Assurance Project Plan Regional Monitoring Program for Trace Substances was used.

QAPP Information Reference(s): [1999 Quality Assurance Project Plan Regional Monitoring Program for Trace Substances](#)

DECISION ID	66267	Region 2
Richardson Bay		

Pollutant: Oxygen, Dissolved

Final Listing Decision: Do Not List on 303(d) list (TMDL required list)

Last Listing Cycle's Final Listing Decision: New Decision

Revision Status: Revised

Impairment from Pollutant or Pollution: Pollutant

Regional Board Staff Conclusion: This pollutant is being considered for placement on the CWA section 303(d) List under section 3.2 of the Listing Policy. Under section 3.2 a single line of evidence is necessary to assess listing status. One line of evidence is available in the administrative record to assess this pollutant. Zero of twelve samples exceed the objective.

Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against placing this water segment-pollutant combination on the CWA section 303(d) List.

This conclusion is based on the staff findings that:

1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy.
2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy.
3. Zero of twelve samples exceed the objective and this sample size is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating. A minimum of 26 samples is needed to determine if a beneficial use is fully supported using table 3.2.
4. Pursuant to SECTION 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.

Regional Board Staff Decision Recommendation: After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be placed on the section 303(d) list. The readily available data and information is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating.

Line of Evidence (LOE) for Decision ID 66267, Oxygen, Dissolved	Region 2
Richardson Bay	

LOE ID: 92698

Pollutant: Oxygen, Dissolved

LOE Subgroup: Pollutant-Water

Matrix: Water

Fraction: Dissolved

Beneficial Use:	Estuarine Habitat
Number of Samples:	12
Number of Exceedances:	0
Data and Information Type:	PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality:	Numeric data generated from 12 minimum samples of Dissolved Oxygen concentrations had no exceedences.
Data Reference:	Data for Various Pollutants in California Marinas, 2006.
SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	The dissolved oxygen content of bays/estuaries downstream of the Carquinez Bridge must be above 5 mg/L.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	
Guideline Reference:	
Spatial Representation:	Samples were collected from the following stations: Clipper Yacht Harbor 5.1 Clipper Yacht Harbor 5.2 Clipper Yacht Harbor 5.3 Clipper Yacht Harbor 6.1 Clipper Yacht Harbor 6.2 Clipper Yacht Harbor 6.3 Clipper Yacht Harbor 7.1 Clipper Yacht Harbor 7.2 Clipper Yacht Harbor 7.3 Clipper Yacht Harbor 8.1 Clipper Yacht Harbor 8.2 Clipper Yacht Harbor 8.3
Temporal Representation:	Samples were collected on the following dates: 7/27/2006 8/25/2006 9/19/2006
Environmental Conditions:	
QAPP Information:	Samples were collected and analyzed in accordance with a Quality Assurance Project Plan that was prepared per State Water Resources Control Board Agreement No. 05-218-250 California Department of Pesticide Regulation, Sacramento, CA. (Available online at http://www.cdpr.ca.gov/docs/emon/surfwttr/protocols/qapp_study236.pdf)
QAPP Information Reference(s):	

DECISION ID	66276	Region 2
Richardson Bay		

Pollutant:	Selenium
Final Listing Decision:	Do Not List on 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision:	New Decision
Revision Status	Revised
Impairment from Pollutant or Pollution:	Pollutant

Regional Board Staff Conclusion:

This pollutant is being considered for placement on the CWA section 303(d) List under section 3.1 of the Listing Policy. Under section 3.1 a single line of evidence is necessary to assess listing status.

One line of evidence is available in the administrative record to assess this pollutant. Zero of twenty-five samples exceed the guideline.

Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against placing this water segment-pollutant combination on the CWA section 303(d) List in the Water Quality Limited Segments category.

This conclusion is based on the staff findings that:

1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy.
2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy.
3. Zero of twenty-five samples exceed the guideline and this does not exceed the allowable frequency listed in Table 3.1 of the Listing Policy.
4. Pursuant to section 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.

Regional Board Staff Decision Recommendation: After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be placed on the section 303(d) list because applicable water quality standards are not being exceeded.

**Line of Evidence (LOE) for Decision ID 66276, Selenium
Richardson Bay**

Region 2

LOE ID: 92699

Pollutant: Selenium
LOE Subgroup: Pollutant-Water
Matrix: Water
Fraction: Dissolved

Beneficial Use: Estuarine Habitat

Number of Samples: 25
Number of Exceedances: 0

Data and Information Type: PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality: State Water Board staff assessed SFEI data for Richardson Bay to determine beneficial use support and results are as follows: 0 of 25 samples exceed the criterion for Selenium.
Data Reference: [Regional Monitoring Program data, Feb. 1993-Sep. 2008](#)

SWAMP Data: Non-SWAMP

Water Quality Objective/Criterion: The dissolved selenium criterion continuous concentration (expressed as a 4-day average) to protect aquatic life in saline water is 5 ug/L (California Toxics Rule, 2000).
Objective/Criterion Reference: [Code of Federal Regulations 40 part 131.38 Establishment of numeric criteria for priority toxic pollutants for the State of California. 7/1/2011 Edition](#)

Evaluation Guideline:
Guideline Reference:

Spatial Representation: Data for this line of evidence for Richardson Bay was collected at 1 monitoring site [Richardson Bay - BC30]

Temporal Representation: Data was collected over the time period 3/3/1993-8/2/2001.

Environmental Conditions: Staff is not aware of any special conditions that might affect interpretation of the data.

QAPP Information: The 1999 Quality Assurance Project Plan Regional Monitoring Program for Trace Substances was used.

QAPP Information Reference(s): [1999 Quality Assurance Project Plan Regional Monitoring Program for Trace Substances](#)

**DECISION ID 66281
Richardson Bay**

Region 2

Pollutant: Silver
Final Listing Decision: Do Not List on 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision: New Decision
Revision Status: Revised
Impairment from Pollutant or Pollution: Pollutant

Regional Board Staff Conclusion: This pollutant is being considered for placement on the CWA section 303(d) List under section 3.1 of the Listing Policy. Under section 3.1 a single line of evidence is necessary to assess listing status.

One line of evidence is available in the administrative record to assess this pollutant. Zero of twenty-one samples exceed the guideline.

Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against placing this water segment-pollutant combination on the CWA section 303(d) List in the Water Quality Limited Segments category.

This conclusion is based on the staff findings that:

1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy.
2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy.
3. Zero of twenty-one samples exceed the guideline and this does not exceed the allowable frequency listed in Table 3.1 of the Listing Policy.
4. Pursuant to section 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.

Regional Board Staff Decision Recommendation: After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be placed on the section 303(d) list because applicable water quality standards are not being exceeded.

**Line of Evidence (LOE) for Decision ID 66281, Silver
Richardson Bay**

Region 2

LOE ID: 92700

Pollutant: Silver
LOE Subgroup: Pollutant-Water
Matrix: Water
Fraction: Dissolved

Beneficial Use: Estuarine Habitat

Number of Samples: 21
Number of Exceedances: 0

Data and Information Type: PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality: State Water Board staff assessed SFEI data for Richardson Bay to determine beneficial use support and results are as follows: 0 of 21 samples exceed the criterion for Silver.

Data Reference: [Regional Monitoring Program data, Feb. 1993-Sep. 2008](#)

SWAMP Data: Non-SWAMP

Water Quality Objective/Criterion: The dissolved silver criterion maximum concentration to protect aquatic life in saline water is 0.0019 mg/L (California Toxics Rule, 2000).

Objective/Criterion Reference: [Code of Federal Regulations 40 part 131.38 Establishment of numeric criteria for priority toxic pollutants for the State of California. 7/1/2011 Edition](#)

Evaluation Guideline:
Guideline Reference:

Spatial Representation: Data for this line of evidence for Richardson Bay was collected at 1 monitoring site [Richardson Bay - BC30]

Temporal Representation: Data was collected over the time period 3/3/1993-8/2/2001.

Environmental Conditions: Staff is not aware of any special conditions that might affect interpretation of the data.

QAPP Information: The 1999 Quality Assurance Project Plan Regional Monitoring Program for Trace Substances was used.

QAPP Information Reference(s): [1999 Quality Assurance Project Plan Regional Monitoring Program for Trace Substances](#)

**DECISION ID 66282
Richardson Bay**

Region 2

Pollutant: Toxicity

Final Listing Decision:
Last Listing Cycle's Final Listing Decision:
Revision Status
Impairment from Pollutant or Pollution:

Do Not List on 303(d) list (TMDL required list)
New Decision

Revised
Pollutant

Regional Board Staff Conclusion:

This pollutant is being considered for placement on the CWA section 303(d) List under section 3.6 of the Listing Policy. Under section 3.6 at least two lines of evidence are necessary to assess listing status for pollutants in sediment, and pollutant concentrations in sediment must be associated with sediment toxicity to justify adding that pollutant to the CWA section 303(d) List.

One line of evidence is available in the administrative record to assess this pollutant. Zero of two samples exceed the sediment toxicity guideline.

Based on the readily available data and information, the weight of evidence indicates that there is insufficient justification for placing this water segment-pollutant combination on the CWA section 303(d) List.

This conclusion is based on the staff findings that:

1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy.
2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy.
3. Zero of two samples exceed the sediment chemistry guideline and this sample size is sufficient to determine beneficial use support, with the power and confidence of the Listing Policy. A minimum of 16 samples is needed to determine if a beneficial use is fully supported using table 3.1. Sediment toxicity data are not available for the same times and locations of the sediment chemistry. Therefore, a listing decision cannot be made because the sediment chemistry data are insufficient on their own.
4. Pursuant to section 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.

Regional Board Staff Decision Recommendation:

After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be placed on the section 303(d) list. The readily available data and information is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating.

Line of Evidence (LOE) for Decision ID 66282, Toxicity

Region 2

Richardson Bay

LOE ID: 95804

Pollutant: Toxicity
LOE Subgroup: Toxicity
Matrix: Sediment
Fraction: None

Beneficial Use: Estuarine Habitat

Number of Samples: 2
Number of Exceedances: 0

Data and Information Type: TOXICITY TESTING
Data Used to Assess Water Quality: Zero of the 2 samples exhibited toxicity. A sample may have multiple toxicity test results but will be counted only once. A sample is defined as being collected on the same day at the same location with the same lab sample id (if provided).

The following test organisms and parameters were utilized for the toxicity tests: Eohaustorius estuarius (mean % survival), 2002 and 2007; Mytilus galloprovincialis (mean % normal alive), 2007. One result was not included in the assessment due to percent normal alive of less than 90 percent for the control

Data Reference: [Regional Monitoring Program data, Feb. 1993-Sep. 2008](#)

SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	All waters shall be maintained free of toxic substances in concentrations that are toxic to, or that produce detrimental physiological responses in, human, plant, animal, or aquatic life. Region 2 Basin Plan.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) - San Francisco Bay Region (Region 2)
Evaluation Guideline:	Toxicity is defined as a significant reduction of test organism relative to the control (alpha < 0.01) and test organism survival is 80% or less than the control survival (at least 20% effect).
Guideline Reference:	SWAMP Memo Toxicity Data Interpretation Methods for Assessing the Toxicity of Sediment-associated Contaminants with Estuarine and Marine Amphipods. June 1994. EPA 600/R-94/025 Short-term Methods for Estimating the Chronic Toxicity of Effluents and Receiving Waters to West Coast Marine and Estuarine Organisms. EPA/600/R-95-136.
Spatial Representation:	Samples were collected at site CB003S.
Temporal Representation:	The samples were collected during the summers of 2002 and 2007.
Environmental Conditions:	
QAPP Information:	Data collected after 1999 follows the San Francisco Estuary Institute 1999 Quality Assurance Project Plan Regional Monitoring Program for Trace Substances.
QAPP Information Reference(s):	1999 Quality Assurance Project Plan Regional Monitoring Program for Trace Substances

DECISION ID	66134	Region 2
Richardson Bay		
Pollutant:	Zinc	
Final Listing Decision:	Do Not List on 303(d) list (TMDL required list)	
Last Listing Cycle's Final Listing Decision:	New Decision	
Revision Status	Revised	
Impairment from Pollutant or Pollution:	Pollutant	
Regional Board Staff Conclusion:	<p>This pollutant is being considered for placement on the CWA section 303(d) List under section 3.1 of the Listing Policy. Under section 3.1 a single line of evidence is necessary to assess listing status.</p> <p>Two lines of evidence are available in the administrative record to assess this pollutant. Zero of twenty-eight samples exceed the guideline.</p> <p>Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against placing this water segment-pollutant combination on the CWA section 303(d) List in the Water Quality Limited Segments category.</p> <p>This conclusion is based on the staff findings that:</p> <ol style="list-style-type: none"> 1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy. 2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy. 3. Zero of twenty-eight samples exceed the guideline and this does not exceed the allowable frequency listed in Table 3.1 of the Listing Policy. 4. Pursuant to section 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met. 	
Regional Board Staff Decision Recommendation:	After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be placed on the section 303(d) list because applicable water quality standards are not being exceeded.	

Line of Evidence (LOE) for Decision ID 66134, Zinc	Region 2
Richardson Bay	

LOE ID:	92703
Pollutant:	Zinc
LOE Subgroup:	Pollutant-Water
Matrix:	Water
Fraction:	Dissolved
Beneficial Use:	Estuarine Habitat
Number of Samples:	3
Number of Exceedances:	0
Data and Information Type:	Fixed station physical/chemical (conventional plus toxic pollutants)
Data Used to Assess Water Quality:	None of the three samples exceeded the CTR value of 81 ug/L for dissolved zinc in saline water.
Data Reference:	Data for Various Pollutants in California Marinas, 2006.
SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	Waters shall not contain chemical constituents in concentrations that adversely affect beneficial uses. California Toxics Rule (CTR) lists criterion continuous concentrations to protect aquatic life in saline water. The CTR value is 81 ug/L.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	
Guideline Reference:	
Spatial Representation:	A total of four separate grab samples were collected from outside the marina basin (Sites 5, 6, 7, & 8), these sites were averaged per sample event.
Temporal Representation:	Samples were collected on three separate sampling events during the dry season (July - October) in 2006.
Environmental Conditions:	Samples were collected during the dry season only.
QAPP Information:	Samples were collected and analyzed in accordance with a Quality Assurance Project Plan that was prepared per State Water Resources Control Board Agreement No. 05-218-250 California Department of Pesticide Regulation, Sacramento, CA. (Available online at http://www.cdpr.ca.gov/docs/emon/surfwttr/protocols/qapp_study236.pdf)
QAPP Information Reference(s):	

Line of Evidence (LOE) for Decision ID 66134, Zinc
Richardson Bay

Region 2

LOE ID:	92701
Pollutant:	Zinc
LOE Subgroup:	Pollutant-Water
Matrix:	Water
Fraction:	Total
Beneficial Use:	Commercial or recreational collection of fish, shellfish, or organisms
Number of Samples:	25
Number of Exceedances:	0
Data and Information Type:	PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality:	State Water Board staff assessed SFEI data for Richardson Bay to determine beneficial use support and results are as follows: 0 of 25 samples exceed the criterion for Zinc.
Data Reference:	Regional Monitoring Program data, Feb. 1993-Sep. 2008
SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	Surface?waters?shall?not?contain?concentrations?of?chemical?constituents?in?

Objective/Criterion Reference:	amounts?that?adversely?affect?any?designated?beneficial?use. Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	The Zinc criteria for the protection of human health from consumption of fish only is 26000 ug/L (National Recommended Water Quality Criteria, 2009).
Guideline Reference:	National Recommended Water Quality Criteria. United States Environmental Protection Agency. Office of Water. Office of Science and Technology
Spatial Representation:	Data for this line of evidence for Richardson Bay was collected at 1 monitoring site [Richardson Bay - BC30]
Temporal Representation:	Data was collected over the time period 3/3/1993-8/2/2001.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	The 1999 Quality Assurance Project Plan Regional Monitoring Program for Trace Substances was used.
QAPP Information Reference(s):	1999 Quality Assurance Project Plan Regional Monitoring Program for Trace Substances

**Line of Evidence (LOE) for Decision ID 66134, Zinc
Richardson Bay**

Region 2

LOE ID:	92702
Pollutant:	Zinc
LOE Subgroup:	Pollutant-Water
Matrix:	Water
Fraction:	Dissolved
Beneficial Use:	Estuarine Habitat
Number of Samples:	25
Number of Exceedances:	0
Data and Information Type:	PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality:	State Water Board staff assessed SFEI data for Richardson Bay to determine beneficial use support and results are as follows: 0 of 25 samples exceed the criterion for Zinc.
Data Reference:	Regional Monitoring Program data, Feb. 1993-Sep. 2008
SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	The dissolved zinc criterion continuous concentration (expressed as a 4-day average) to protect aquatic life in saline water is 0.081 mg/L (California Toxics Rule, 2000).
Objective/Criterion Reference:	Code of Federal Regulations 40 part 131.38 Establishment of numeric criteria for priority toxic pollutants for the State of California. 7/1/2011 Edition
Evaluation Guideline:	
Guideline Reference:	
Spatial Representation:	Data for this line of evidence for Richardson Bay was collected at 1 monitoring site [Richardson Bay - BC30]
Temporal Representation:	Data was collected over the time period 3/3/1993-8/2/2001.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	The 1999 Quality Assurance Project Plan Regional Monitoring Program for Trace Substances was used.
QAPP Information Reference(s):	1999 Quality Assurance Project Plan Regional Monitoring Program for Trace Substances

**DECISION ID 66279
Richardson Bay**

Region 2

Pollutant:	pH
Final Listing Decision:	Do Not List on 303(d) list (TMDL required list)
Last Listing Cycle's Final	New Decision

Listing Decision:
Revision Status Revised
Impairment from Pollutant or Pollution: Pollutant

Regional Board Staff Conclusion: This pollutant is being considered for placement on the CWA section 303(d) List under section 3.2 of the Listing Policy. Under section 3.2 a single line of evidence is necessary to assess listing status. One line of evidence is available in the administrative record to assess this pollutant. Zero of twelve samples exceed the objective.

Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against placing this water segment-pollutant combination on the CWA section 303(d) List.

This conclusion is based on the staff findings that:

1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy.
2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy.
3. Zero of twelve samples exceed the objective and this sample size is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating. A minimum of 26 samples is needed to determine if a beneficial use is fully supported using table 3.2.
4. Pursuant to SECTION 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.

Regional Board Staff Decision Recommendation: After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be placed on the section 303(d) list. The readily available data and information is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating.

Line of Evidence (LOE) for Decision ID 66279, pH

Region 2

Richardson Bay

LOE ID: 90735

Pollutant: pH
LOE Subgroup: Pollutant-Water
Matrix: Water
Fraction: Dissolved

Beneficial Use: Estuarine Habitat

Number of Samples: 12
Number of Exceedances: 0

Data and Information Type: PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality: Numeric data generated from 12 minimums and maximums had no exceedences.
Data Reference: [Data for Various Pollutants in California Marinas, 2006.](#)

SWAMP Data: Non-SWAMP

Water Quality Objective/Criterion: The pH shall not be depressed below 6.5 nor raised above 8.5.
Objective/Criterion Reference: [Water Quality Control Plan \(Basin Plan\) San Francisco Bay Basin \(Region 2\)](#)

Evaluation Guideline:
Guideline Reference:

Spatial Representation: Samples were collected from the following stations: Clipper Yacht Harbor 5.1 Clipper Yacht Harbor 5.2 Clipper Yacht Harbor 5.3 Clipper Yacht Harbor 6.1 Clipper Yacht Harbor 6.2 Clipper Yacht Harbor 6.3 Clipper Yacht Harbor 7.1 Clipper Yacht Harbor 7.2 Clipper Yacht Harbor 7.3 Clipper Yacht Harbor 8.1 Clipper Yacht Harbor 8.2 Clipper Yacht Harbor 8.3

Temporal Representation: Samples were collected once a month from July 2006 to September 2006.

Environmental Conditions:
QAPP Information:
QAPP Information Reference(s):

NPDES quality assurance.
[Study report on paint data collected in California Marinas.](#)

DECISION ID	44929	Region 2
Richardson Bay		

Pollutant:	Chlordane
Final Listing Decision:	List on 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision:	List on 303(d) list (TMDL required list)(2012)
Revision Status	Original
Sources:	Source Unknown
Expected TMDL Completion Date:	2013
Impairment from Pollutant or Pollution:	Pollutant

Regional Board Staff Conclusion: 303(d) listing decisions made prior to 2006 were not held in an assessment database. The Regional Boards will update this decision when new data and information become available and are assessed.

Regional Board Staff Decision Recommendation: This is a decision previously approved by the State Water Resources Control Board and the USEPA. No new data were assessed by the Regional Board for the current. The decision has not changed.

Line of Evidence (LOE) for Decision ID 44929, Chlordane	Region 2
Richardson Bay	

LOE ID:	3802
Pollutant:	Chlordane
LOE Subgroup:	Pollutant-Tissue
Matrix:	Tissue
Fraction:	Not Recorded
Beneficial Use:	Commercial or recreational collection of fish, shellfish, or organisms
Number of Samples:	0
Number of Exceedances:	0
Data and Information Type:	Not Specified
Data Used to Assess Water Quality:	Unspecified--This LOE is a placeholder to support a 303(d) listing decision made prior to 2006.
Data Reference:	Placeholder reference pre-2006 303(d)
SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	Unspecified
Objective/Criterion Reference:	Placeholder reference pre-2006 303(d)
Evaluation Guideline:	Unspecified
Guideline Reference:	Placeholder reference pre-2006 303(d)
Spatial Representation:	Unspecified
Temporal Representation:	Unspecified
Environmental Conditions:	Unspecified
QAPP Information:	Unspecified
QAPP Information Reference(s):	

DECISION ID	34597	Region 2
Richardson Bay		

Pollutant:	DDT (Dichlorodiphenyltrichloroethane)
Final Listing Decision:	List on 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision:	List on 303(d) list (TMDL required list)(2012)
Revision Status	Original
Sources:	Source Unknown
Expected TMDL Completion Date:	2013
Impairment from Pollutant or Pollution:	Pollutant

Regional Board Staff Conclusion:	303(d) listing decisions made prior to 2006 were not held in an assessment database. The Regional Boards will update this decision when new data and information become available and are assessed.
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Regional Board Staff Decision Recommendation:	This is a decision previously approved by the State Water Resources Control Board and the USEPA. No new data were assessed by the Regional Board for the current. The decision has not changed.
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Line of Evidence (LOE) for Decision ID 34597, DDT (Dichlorodiphenyltrichloroethane)	Region 2
Richardson Bay	

LOE ID:	3804
Pollutant:	DDT (Dichlorodiphenyltrichloroethane)
LOE Subgroup:	Pollutant-Tissue
Matrix:	Tissue
Fraction:	Not Recorded
Beneficial Use:	Commercial or recreational collection of fish, shellfish, or organisms
Number of Samples:	0
Number of Exceedances:	0
Data and Information Type:	Not Specified
Data Used to Assess Water Quality:	Unspecified--This LOE is a placeholder to support a 303(d) listing decision made prior to 2006.
Data Reference:	Placeholder reference pre-2006 303(d)
SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	Unspecified
Objective/Criterion Reference:	Placeholder reference pre-2006 303(d)
Evaluation Guideline:	Unspecified
Guideline Reference:	Placeholder reference pre-2006 303(d)
Spatial Representation:	Unspecified
Temporal Representation:	Unspecified
Environmental Conditions:	Unspecified
QAPP Information:	Unspecified
QAPP Information Reference(s):	

DECISION ID	34660	Region 2
Richardson Bay		

Pollutant:	Dieldrin
Final Listing Decision:	List on 303(d) list (TMDL required list)

Last Listing Cycle's Final Listing Decision:	List on 303(d) list (TMDL required list)(2012)
Revision Status	Original
Sources:	Source Unknown
Expected TMDL Completion Date:	2013
Impairment from Pollutant or Pollution:	Pollutant

Regional Board Staff Conclusion: 303(d) listing decisions made prior to 2006 were not held in an assessment database. The Regional Boards will update this decision when new data and information become available and are assessed.

Regional Board Staff Decision Recommendation: This is a decision previously approved by the State Water Resources Control Board and the USEPA. No new data were assessed by the Regional Board for the current. The decision has not changed.

Line of Evidence (LOE) for Decision ID 34660, Dieldrin

Region 2

Richardson Bay

LOE ID:	3805
Pollutant:	Dieldrin
LOE Subgroup:	Pollutant-Tissue
Matrix:	Tissue
Fraction:	Not Recorded
Beneficial Use:	Commercial or recreational collection of fish, shellfish, or organisms
Number of Samples:	0
Number of Exceedances:	0
Data and Information Type:	Not Specified
Data Used to Assess Water Quality:	Unspecified--This LOE is a placeholder to support a 303(d) listing decision made prior to 2006.
Data Reference:	Placeholder reference pre-2006 303(d)
SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	Unspecified
Objective/Criterion Reference:	Placeholder reference pre-2006 303(d)
Evaluation Guideline:	Unspecified
Guideline Reference:	Placeholder reference pre-2006 303(d)
Spatial Representation:	Unspecified
Temporal Representation:	Unspecified
Environmental Conditions:	Unspecified
QAPP Information:	Unspecified
QAPP Information Reference(s):	

DECISION ID 34661

Region 2

Richardson Bay

Pollutant:	Dioxin compounds (including 2,3,7,8-TCDD)
Final Listing Decision:	List on 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision:	List on 303(d) list (TMDL required list)(2012)
Revision Status	Original
Sources:	Source Unknown
Expected TMDL Completion	2019

Date:

Impairment from Pollutant or Pollution: Pollutant

Regional Board Staff Conclusion: 303(d) listing decisions made prior to 2006 were not held in an assessment database. The Regional Boards will update this decision when new data and information become available and are assessed.

Regional Board Staff Decision Recommendation: This is a decision previously approved by the State Water Resources Control Board and the USEPA. No new data were assessed by the Regional Board for the current. The decision has not changed.

Line of Evidence (LOE) for Decision ID 34661, Dioxin compounds (including 2,3,7,8-TCDD)

Region 2

Richardson Bay

LOE ID: 3806

Pollutant: Dioxin compounds (including 2,3,7,8-TCDD)

LOE Subgroup: Pollutant-Tissue

Matrix: Tissue

Fraction: Not Recorded

Beneficial Use: Commercial or recreational collection of fish, shellfish, or organisms

Number of Samples: 0

Number of Exceedances: 0

Data and Information Type: Not Specified

Data Used to Assess Water Quality: Unspecified--This LOE is a placeholder to support a 303(d) listing decision made prior to 2006.

Data Reference: [Placeholder reference pre-2006 303\(d\)](#)

SWAMP Data: Non-SWAMP

Water Quality Objective/Criterion: Unspecified

Objective/Criterion Reference: [Placeholder reference pre-2006 303\(d\)](#)

Evaluation Guideline: Unspecified

Guideline Reference: [Placeholder reference pre-2006 303\(d\)](#)

Spatial Representation: Unspecified

Temporal Representation: Unspecified

Environmental Conditions: Unspecified

QAPP Information: Unspecified

QAPP Information Reference(s):

DECISION ID 33731

Region 2

Richardson Bay

Pollutant: Furan Compounds

Final Listing Decision: List on 303(d) list (TMDL required list)

Last Listing Cycle's Final Listing Decision: List on 303(d) list (TMDL required list)(2012)

Revision Status: Original

Sources: Source Unknown

Expected TMDL Completion Date: 2019

Impairment from Pollutant or Pollution: Pollutant

Regional Board Staff 303(d) listing decisions made prior to 2006 were not held in an assessment database. The Regional

Conclusion: Boards will update this decision when new data and information become available and are assessed.

Regional Board Staff Decision Recommendation: This is a decision previously approved by the State Water Resources Control Board and the USEPA. No new data were assessed by the Regional Board for the current. The decision has not changed.

Line of Evidence (LOE) for Decision ID 33731, Furan Compounds

Region 2

Richardson Bay

LOE ID: 3808

Pollutant: Furan Compounds
LOE Subgroup: Pollutant-Tissue
Matrix: Tissue
Fraction: Not Recorded

Beneficial Use: Commercial or recreational collection of fish, shellfish, or organisms

Number of Samples: 0
Number of Exceedances: 0

Data and Information Type: Not Specified
Data Used to Assess Water Quality: Unspecified--This LOE is a placeholder to support a 303(d) listing decision made prior to 2006.
Data Reference: [Placeholder reference pre-2006 303\(d\)](#)

SWAMP Data: Non-SWAMP

Water Quality Objective/Criterion: Unspecified
Objective/Criterion Reference: [Placeholder reference pre-2006 303\(d\)](#)

Evaluation Guideline: Unspecified
Guideline Reference: [Placeholder reference pre-2006 303\(d\)](#)

Spatial Representation: Unspecified
Temporal Representation: Unspecified
Environmental Conditions: Unspecified
QAPP Information: Unspecified
QAPP Information Reference(s):

DECISION ID

33679

Region 2

Richardson Bay

Pollutant: Invasive Species
Final Listing Decision: List on 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision: List on 303(d) list (TMDL required list)(2012)
Revision Status Original
Sources: Source Unknown
Expected TMDL Completion Date: 2019
Impairment from Pollutant or Pollution: Pollutant

Regional Board Staff Conclusion: 303(d) listing decisions made prior to 2006 were not held in an assessment database. The Regional Boards will update this decision when new data and information become available and are assessed.

Regional Board Staff Decision Recommendation: This is a decision previously approved by the State Water Resources Control Board and the USEPA. No new data were assessed by the Regional Board for the current. The decision has not changed.

Line of Evidence (LOE) for Decision ID 33679, Invasive Species**Region 2****Richardson Bay**

LOE ID:	3807
Pollutant:	Invasive Species
LOE Subgroup:	Population/Community Degradation
Matrix:	Water
Fraction:	Not Recorded
Beneficial Use:	Estuarine Habitat
Number of Samples:	0
Number of Exceedances:	0
Data and Information Type:	Not Specified
Data Used to Assess Water Quality:	Unspecified--This LOE is a placeholder to support a 303(d) listing decision made prior to 2006.
Data Reference:	Placeholder reference pre-2006 303(d)
SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	
Objective/Criterion Reference:	Placeholder reference pre-2006 303(d)
Evaluation Guideline:	
Guideline Reference:	Placeholder reference pre-2006 303(d)
Spatial Representation:	Unspecified
Temporal Representation:	Unspecified
Environmental Conditions:	Unspecified
QAPP Information:	Unspecified
QAPP Information Reference(s):	

DECISION ID**34596****Region 2****Richardson Bay**

Pollutant:	Indicator Bacteria
Final Listing Decision:	List on 303(d) list (being addressed by USEPA approved TMDL)
Last Listing Cycle's Final Listing Decision:	List on 303(d) list (TMDL required list)(2012)
Revision Status	Original
Sources:	Source Unknown
TMDL Name:	Richardson Bay Pathogens
TMDL Project Code:	560
Date TMDL Approved by USEPA:	12/18/2009
Impairment from Pollutant or Pollution:	Pollutant

Regional Board Staff Conclusion: 303(d) listing decisions made prior to 2006 were not held in an assessment database. The Regional Boards will update this decision when new data and information become available and are assessed.

Regional Board Staff Decision Recommendation: This is a decision previously approved by the State Water Resources Control Board and the USEPA. No new data were assessed by the Regional Board for the current. The decision has not changed.

Line of Evidence (LOE) for Decision ID 34596, Indicator Bacteria**Region 2****Richardson Bay**

LOE ID:	3803
Pollutant:	Coliform Bacteria
LOE Subgroup:	Pollutant-Water
Matrix:	Water
Fraction:	Not Recorded
Beneficial Use:	Water Contact Recreation
Number of Samples:	0
Number of Exceedances:	0
Data and Information Type:	Not Specified
Data Used to Assess Water Quality:	Unspecified--This LOE is a placeholder to support a 303(d) listing decision made prior to 2006.
Data Reference:	Placeholder reference pre-2006 303(d)
SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	
Objective/Criterion Reference:	
Evaluation Guideline:	
Guideline Reference:	
Spatial Representation:	Unspecified
Temporal Representation:	Unspecified
Environmental Conditions:	Unspecified
QAPP Information:	Unspecified
QAPP Information Reference(s):	

DECISION ID	44632	Region 2
Richardson Bay		

Pollutant:	Mercury
Final Listing Decision:	List on 303(d) list (being addressed by USEPA approved TMDL)
Last Listing Cycle's Final Listing Decision:	List on 303(d) list (being addressed by USEPA approved TMDL)(2012)
Revision Status	Original
Sources:	Source Unknown
TMDL Name:	San Francisco Bay Mercury
TMDL Project Code:	6
Date TMDL Approved by USEPA:	02/29/2008
Impairment from Pollutant or Pollution:	Pollutant

Regional Board Staff Conclusion: 303(d) listing decisions made prior to 2006 were not held in an assessment database. The Regional Boards will update this decision when new data and information become available and are assessed. A TMDL has been developed and approved by USEPA (2/29/2008) and an approved implementation plan is expected to result in attainment of the standard. This provides a sufficient justification in favor of placing this water segment-pollutant combination in the Water Quality Limited Segments Being Addressed portion of the section 303(d) list.

Regional Board Staff Decision Recommendation: This is a decision previously approved by the State Water Resources Control Board and the USEPA. No new data were assessed by the Regional Board for the current. The decision has not changed.

Line of Evidence (LOE) for Decision ID 44632, Mercury	Region 2
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Richardson Bay

LOE ID:	3809
Pollutant:	Mercury
LOE Subgroup:	Pollutant-Tissue
Matrix:	Tissue
Fraction:	Not Recorded
Beneficial Use:	Commercial or recreational collection of fish, shellfish, or organisms
Number of Samples:	0
Number of Exceedances:	0
Data and Information Type:	Not Specified
Data Used to Assess Water Quality:	Unspecified--This LOE is a placeholder to support a 303(d) listing decision made prior to 2006.
Data Reference:	Placeholder reference pre-2006 303(d)
SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	Unspecified
Objective/Criterion Reference:	Placeholder reference pre-2006 303(d)
Evaluation Guideline:	Unspecified
Guideline Reference:	Placeholder reference pre-2006 303(d)
Spatial Representation:	Unspecified
Temporal Representation:	Unspecified
Environmental Conditions:	Unspecified
QAPP Information:	Unspecified
QAPP Information Reference(s):	

DECISION ID	33732	Region 2
Richardson Bay		

Pollutant:	PCBs (Polychlorinated biphenyls)
Final Listing Decision:	List on 303(d) list (being addressed by USEPA approved TMDL)
Last Listing Cycle's Final Listing Decision:	List on 303(d) list (TMDL required list)(2012)
Revision Status	Original
Sources:	Source Unknown
TMDL Name:	San Francisco Bay PCBs
TMDL Project Code:	7
Date TMDL Approved by USEPA:	03/29/2010
Impairment from Pollutant or Pollution:	Pollutant

Regional Board Staff Conclusion:	303(d) listing decisions made prior to 2006 were not held in an assessment database. The Regional Boards will update this decision when new data and information become available and are assessed.
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Regional Board Staff Decision Recommendation:	This is a decision previously approved by the State Water Resources Control Board and the USEPA. No new data were assessed by the Regional Board for the current. The decision has not changed.
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Line of Evidence (LOE) for Decision ID 33732, PCBs (Polychlorinated biphenyls)	Region 2
Richardson Bay	

LOE ID:	3810
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Pollutant:	PCBs (Polychlorinated biphenyls)
LOE Subgroup:	Pollutant-Tissue
Matrix:	Tissue
Fraction:	Not Recorded
Beneficial Use:	Commercial or recreational collection of fish, shellfish, or organisms
Number of Samples:	0
Number of Exceedances:	0
Data and Information Type:	Not Specified
Data Used to Assess Water Quality:	Unspecified--This LOE is a placeholder to support a 303(d) listing decision made prior to 2006.
Data Reference:	Placeholder reference pre-2006 303(d)
SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	Unspecified
Objective/Criterion Reference:	Placeholder reference pre-2006 303(d)
Evaluation Guideline:	Unspecified
Guideline Reference:	Placeholder reference pre-2006 303(d)
Spatial Representation:	Unspecified
Temporal Representation:	Unspecified
Environmental Conditions:	Unspecified
QAPP Information:	Unspecified
QAPP Information Reference(s):	

DECISION ID	33733	Region 2
Richardson Bay		

Pollutant:	PCBs (Polychlorinated biphenyls) (dioxin-like)
Final Listing Decision:	List on 303(d) list (being addressed by USEPA approved TMDL)
Last Listing Cycle's Final Listing Decision:	List on 303(d) list (TMDL required list)(2012)
Revision Status	Original
Sources:	Source Unknown
TMDL Name:	San Francisco Bay PCBs
TMDL Project Code:	7
Date TMDL Approved by USEPA:	03/29/2010
Impairment from Pollutant or Pollution:	Pollutant
Regional Board Staff Conclusion:	303(d) listing decisions made prior to 2006 were not held in an assessment database. The Regional Boards will update this decision when new data and information become available and are assessed.
Regional Board Staff Decision Recommendation:	This is a decision previously approved by the State Water Resources Control Board and the USEPA. No new data were assessed by the Regional Board for the current. The decision has not changed.

Line of Evidence (LOE) for Decision ID 33733, PCBs (Polychlorinated biphenyls) (dioxin-like)	Region 2
Richardson Bay	

LOE ID:	3811
Pollutant:	PCBs (Polychlorinated biphenyls) (dioxin-like)
LOE Subgroup:	Pollutant-Tissue

Matrix:	Tissue
Fraction:	Not Recorded
Beneficial Use:	Commercial or recreational collection of fish, shellfish, or organisms
Number of Samples:	0
Number of Exceedances:	0
Data and Information Type:	Not Specified
Data Used to Assess Water Quality:	Unspecified--This LOE is a placeholder to support a 303(d) listing decision made prior to 2006.
Data Reference:	Placeholder reference pre-2006 303(d)
SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	Unspecified
Objective/Criterion Reference:	Placeholder reference pre-2006 303(d)
Evaluation Guideline:	Unspecified
Guideline Reference:	Placeholder reference pre-2006 303(d)
Spatial Representation:	Unspecified
Temporal Representation:	Unspecified
Environmental Conditions:	Unspecified
QAPP Information:	Unspecified
QAPP Information Reference(s):	

Draft California 2016 Integrated Report (303(d) List/305(b) Report)

Supporting Information

Regional Board 2 - San Francisco Bay Region

Water Body Name: San Francisco Bay, Central
Water Body ID: CAB2031201019981217171707
Water Body Type: Bay & Harbor

DECISION ID 32937 **Region 2**
San Francisco Bay, Central

Pollutant: Diazinon
Final Listing Decision: Delist from 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision: Delist from 303(d) list (TMDL required list)(2012)
Revision Status Revised
Reason for Delisting: Applicable WQS attained; reason for recovery unspecified
Impairment from Pollutant or Pollution: Pollutant

Regional Board Staff Conclusion: This pollutant is being considered for placement on the CWA section 303(d) List under section 3.1 of the Listing Policy. Under section 3.1 a single line of evidence is necessary to assess listing status.

Seven lines of evidence are available in the administrative record to assess this pollutant. Zero of seventy-nine samples exceed the guideline.

Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against placing this water segment-pollutant combination on the CWA section 303(d) List in the Water Quality Limited Segments category.

This conclusion is based on the staff findings that:

1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy.
2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy.
3. Zero of seventy-nine samples exceed the guideline and this does not exceed the allowable frequency listed in Table 3.1 of the Listing Policy.
4. Pursuant to section 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.

Regional Board Staff Decision Recommendation: After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be placed on the section 303(d) list because applicable water quality standards are not being exceeded.

Line of Evidence (LOE) for Decision ID 32937, Diazinon **Region 2**
San Francisco Bay, Central

LOE ID: 8
Pollutant: Diazinon
LOE Subgroup: Narrative Description Data
Matrix: -N/A
Fraction: None
Beneficial Use: Estuarine Habitat
Number of Samples: 0
Number of Exceedances: 0

Data and Information Type:	Not Specified
Data Used to Assess Water Quality:	In response to the RMP observations of ambient water toxicity, and given the linkage established between similar toxicity and pesticides in upstream ambient water, the SFBRWQCB identified all San Francisco Bay segments as being impaired due to Pesticides in 1998:
	Pesticides have been added as a cause of impairment to all Bay segments. The pesticide diazinon has been measured at levels that cause water column toxicity. The pesticide chlorpyrifos may also be a problem. This listing is consistent with listing of the Delta for these pesticides by the Central Valley Regional Water Quality Control Board. This listing was subsequently made specific for the organophosphate pesticide diazinon by the USEPA.
Data Reference:	Placeholder reference 2006 303(d)
SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	All waters shall be maintained free of toxic substances in concentrations that are lethal to or that produce other detrimental responses in aquatic organisms. Detrimental responses include, but are not limited to, decreased growth rate and decreased reproductive success of resident or indicator species. There shall be no acute toxicity in ambient waters. There shall be no chronic toxicity in ambient waters.
Objective/Criterion Reference:	Placeholder reference 2006 303(d)
Evaluation Guideline:	
Guideline Reference:	
Spatial Representation:	
Temporal Representation:	
Environmental Conditions:	
QAPP Information:	QA Info Missing
QAPP Information Reference(s):	

Line of Evidence (LOE) for Decision ID 32937, Diazinon
San Francisco Bay, Central

Region 2

LOE ID:	9
Pollutant:	Diazinon
LOE Subgroup:	Toxicity
Matrix:	Not Specified
Fraction:	None
Beneficial Use:	Estuarine Habitat
Number of Samples:	0
Number of Exceedances:	0

Data and Information Type:	TOXICITY TESTING
Data Used to Assess Water Quality:	<p>Ambient water toxicity in San Francisco Bay appears to have disappeared. The results of ambient water toxicity monitoring at Mallard Island indicate a significant reduction in the frequency, duration, and magnitude of toxicity: 4-5% of the ambient water samples were toxic in 1998-99 (34 total samples) and 1999-2000 (23 samples), relative to 14% toxicity frequency observed in 1997-98 (27 samples); none of the 28 samples collected during the 2000-2001 season were significantly toxic.</p> <p>In addition, the 1998-2000 and 2000-2001 monitoring at Mallard Island did not document any sets of consecutively toxic samples indicative of an extended period of ambient water toxicity, such as were observed in February and May of 1998. The magnitude of toxicity (as reflected by the degree [or percentage] of test organism mortality) is also markedly reduced in the later years, indicating a reduction in the degree of ambient water toxicity. Subsequent RMP monitoring of ambient water toxicity in water samples collected from</p>

10/2001 through 4/2003 also indicated an absence of toxicity to the test organisms (Ogle, 2004).

Data Reference: [Placeholder reference 2006 303\(d\)](#)

SWAMP Data: Non-SWAMP

Water Quality Objective/Criterion: Basin Plan: There shall be no acute toxicity in ambient waters. There shall be no chronic toxicity in ambient waters.

Objective/Criterion Reference: [Placeholder reference 2006 303\(d\)](#)

Evaluation Guideline:

Guideline Reference:

Spatial Representation:

Temporal Representation:

Environmental Conditions:

QAPP Information:

QA Info Missing

QAPP Information Reference(s):

Line of Evidence (LOE) for Decision ID 32937, Diazinon

Region 2

San Francisco Bay, Central

LOE ID: 11

Pollutant: Diazinon
LOE Subgroup: Pollutant-Water
Matrix: Water
Fraction: Total Dissolved

Beneficial Use: Estuarine Habitat

Number of Samples: 34
Number of Exceedances: 0

Data and Information Type: PHYSICAL/CHEMICAL MONITORING

Data Used to Assess Water Quality: 1st sample site: None of the 18 samples exceeded, pollutant range: 240-32,000 pg/l, average: 3,492.8.
2nd sample site: None of the 16 viable samples exceeded, pollutant range: 370-13,000 pg/l, average: 2,907.5 (SFEI, 2001).

Data Reference: [Placeholder reference 2006 303\(d\)](#)

SWAMP Data: Non-SWAMP

Water Quality Objective/Criterion: All waters shall be maintained free of toxic substances in concentrations that are lethal to or that produce other detrimental responses in aquatic organisms. Detrimental responses include, but are not limited to, decreased growth rate and decreased reproductive success of resident or indicator species. There shall be no acute toxicity in ambient waters. There shall be no chronic toxicity in ambient waters.

Objective/Criterion Reference: [Placeholder reference 2006 303\(d\)](#)

Evaluation Guideline: For salt water, USEPA has developed draft water quality criteria of 820 ng/L (acute) and 400 ng/L (chronic). The use of these values may not comply with all the requirements of section 6.1.3 of the Listing Policy.

Guideline Reference: [Placeholder reference 2006 303\(d\)](#)

Spatial Representation: Two sample sites.

Temporal Representation: 1st sample site: Date Range: 02/07/94-08/02/01.

2nd sample site: Date Range: 03/03/93-08/03/01.

Environmental Conditions:

QAPP Information:

SFEI RMP QA/QC program.

QAPP Information Reference(s):

San Francisco Bay, Central

LOE ID:	10
Pollutant:	Diazinon
LOE Subgroup:	Pollutant-Water
Matrix:	Water
Fraction:	Dissolved
Beneficial Use:	Estuarine Habitat
Number of Samples:	33
Number of Exceedances:	0
Data and Information Type:	PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality:	1st sample site: None of the 17 samples exceeded, pollutant range: 240-32,000 pg/L, average: 3,555.0. 2nd sample site: None of the 16 samples exceeded, pollutant range: 370-13,000 pg/L, average: 2,898.0 (SFEI, 2001).
Data Reference:	Placeholder reference 2006 303(d)
SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	All waters shall be maintained free of toxic substances in concentrations that are lethal to or that produce other detrimental responses in aquatic organisms. Detrimental responses include, but are not limited to, decreased growth rate and decreased reproductive success of resident or indicator species. There shall be no acute toxicity in ambient waters. There shall be no chronic toxicity in ambient waters.
Objective/Criterion Reference:	Placeholder reference 2006 303(d)
Evaluation Guideline:	For salt water, USEPA has developed draft water quality criteria of 820 ng/L (acute) and 400 ng/L (chronic). The use of these values may not comply with all the requirements of section 6.1.3 of the Listing Policy.
Guideline Reference:	Placeholder reference 2006 303(d)
Spatial Representation:	Two sample sites.
Temporal Representation:	1st sample site: Date Range: 02/07/94-08/02/01. 2nd sample site: Date Range: 03/03/93-08/03/01
Environmental Conditions:	
QAPP Information:	SFEI RMP QA/QC program.
QAPP Information Reference(s):	

Line of Evidence (LOE) for Decision ID 32937, Diazinon

Region 2

San Francisco Bay, Central

LOE ID:	95160
Pollutant:	Diazinon
LOE Subgroup:	Pollutant-Tissue
Matrix:	Tissue
Fraction:	Fish fillet
Beneficial Use:	Commercial or recreational collection of fish, shellfish, or organisms
Number of Samples:	51
Number of Exceedances:	0
Data and Information Type:	Fish tissue analysis
Data Used to Assess Water Quality:	Water Board staff assessed Regional Monitoring Program data for Central San Francisco Bay to determine beneficial use support and results are as follows: 0 of 51 samples

Data Reference:	exceed the criterion for diazinon. No samples were discarded for being non-detect, unquantifiable or the reporting limit exceeding the water quality objective. Regional Monitoring Program data, Feb. 1993-Sep. 2008
SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	Water Quality Control Plan for the San Francisco Bay Basin: Controllable water quality factors shall not cause a detrimental increase in concentrations of toxic substances found in bottom sediments or aquatic life. Effects on aquatic organisms, wildlife, and human health will be considered.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	The modified OEHHA Fish Contaminant Goal for diazinon in fish tissue is 1,500 ppb. This screening level assumes an average body weight of 70 kg and a consumption rate of 32 g/day. A cooking reduction factor of 1 is applied for skin-off fillets. (Klasing, S., and R. Brodberg, 2008; USEPA, 2000)
Guideline Reference:	Development of Fish Contaminant Goals and Advisory Tissue Levels for Common Contaminants in California Sport Fish: Chlordane, DDTs, Dieldrin, Methylmercury, PCBs, Selenium, and Toxaphene Guidance for Assessing Chemical Contaminant Data for Use In Fish Advisories Volume 1: Fish Sampling and Analysis
Spatial Representation:	The samples were collected at five sites throughout Central San Francisco Bay.
Temporal Representation:	The samples were collected in May 2000, June 2000, July 2003, August 2003, and June 2006.
Environmental Conditions:	
QAPP Information:	The 1999 Quality Assurance Project Plan Regional Monitoring Program for Trace Substances was used.
QAPP Information Reference(s):	1999 Quality Assurance Project Plan Regional Monitoring Program for Trace Substances

Line of Evidence (LOE) for Decision ID 32937, Diazinon

Region 2

San Francisco Bay, Central

LOE ID:	92818
Pollutant:	Diazinon
LOE Subgroup:	Pollutant-Water
Matrix:	Water
Fraction:	Dissolved
Beneficial Use:	Estuarine Habitat
Number of Samples:	46
Number of Exceedances:	0
Data and Information Type:	PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality:	State Water Board staff assessed SFEI data for San Francisco Bay, Central to determine beneficial use support and results are as follows: 0 of 46 samples exceed the criterion for Diazinon.
Data Reference:	Regional Monitoring Program data, Feb. 1993-Sep. 2008
SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	All waters shall be maintained free of toxic substances in concentrations which are toxic to, or which produce detrimental physiological responses in, human, plant, animal, or aquatic life. (Water Quality Control Plan, Central Coast Basin, Chapter III, Section II.A.2 Objectives for all Inland Surface Waters, Enclosed Bays and Estuaries).
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	The freshwater chronic value for diazinon is 0.1 ug/L, expressed as a continuous concentration (Finlayson, 2004).
Guideline Reference:	Water quality for diazinon. Memorandum to J. Karkoski, Central Valley RWQCB, Rancho

Spatial Representation: Data for this line of evidence for San Francisco Bay, Central was collected at 10 monitoring sites [Yerba Buena Island - BC10, Red Rock - BC60, Central Bay - CB007W, Central Bay - CB006W, Central Bay - CB005W, Central Bay - CB008W, Central Bay - CB013W, Central Bay - CB001W, Central Bay - CB015W, Central Bay - CB003W]

Temporal Representation: Data was collected over the time period 4/20/1994-8/12/2005.

Environmental Conditions: Staff is not aware of any special conditions that might affect interpretation of the data.

QAPP Information: The 1999 Quality Assurance Project Plan Regional Monitoring Program for Trace Substances was used.

QAPP Information Reference(s): [1999 Quality Assurance Project Plan Regional Monitoring Program for Trace Substances](#)

Line of Evidence (LOE) for Decision ID 32937, Diazinon

Region 2

San Francisco Bay, Central

LOE ID: 92817

Pollutant: Diazinon

LOE Subgroup: Pollutant-Water

Matrix: Water

Fraction: Dissolved

Beneficial Use: Marine Habitat

Number of Samples: 46

Number of Exceedances: 0

Data and Information Type: PHYSICAL/CHEMICAL MONITORING

Data Used to Assess Water Quality: State Water Board staff assessed SFEI data for San Francisco Bay, Central to determine beneficial use support and results are as follows: 0 of 46 samples exceed the criterion for Diazinon.

Data Reference: [Regional Monitoring Program data, Feb. 1993-Sep. 2008](#)

SWAMP Data: Non-SWAMP

Water Quality Objective/Criterion: All waters shall be maintained free of toxic substances in concentrations which are toxic to, or which produce detrimental physiological responses in, human, plant, animal, or aquatic life. (Water Quality Control Plan, Central Coast Basin, Chapter III, Section II.A.2 Objectives for all Inland Surface Waters, Enclosed Bays and Estuaries).

Objective/Criterion Reference: [Water Quality Control Plan \(Basin Plan\) San Francisco Bay Basin \(Region 2\)](#)

Evaluation Guideline: The chronic criterion for diazinon to protect saltwater aquatic organisms is 0.82 ug/L (EPA-822-R-05-006).

Guideline Reference: [Water quality for diazinon. Memorandum to J. Karkoski, Central Valley RWQCB. Rancho Cordova, CA: Pesticide Investigation Unit, CA Department of Fish and Game](#)

Spatial Representation: Data for this line of evidence for San Francisco Bay, Central was collected at 10 monitoring sites [Yerba Buena Island - BC10, Red Rock - BC60, Central Bay - CB007W, Central Bay - CB006W, Central Bay - CB005W, Central Bay - CB008W, Central Bay - CB013W, Central Bay - CB001W, Central Bay - CB015W, Central Bay - CB003W]

Temporal Representation: Data was collected over the time period 4/20/1994-8/12/2005.

Environmental Conditions: Staff is not aware of any special conditions that might affect interpretation of the data.

QAPP Information: The 1999 Quality Assurance Project Plan Regional Monitoring Program for Trace Substances was used.

QAPP Information Reference(s): [1999 Quality Assurance Project Plan Regional Monitoring Program for Trace Substances](#)

DECISION ID

33581

Region 2

San Francisco Bay, Central

Pollutant:

Chlordane

Final Listing Decision:	Do Not Delist from 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision:	List on 303(d) list (TMDL required list)(2012)
Revision Status	Revised
Sources:	Source Unknown
Expected TMDL Completion Date:	2013
Impairment from Pollutant or Pollution:	Pollutant

Regional Board Staff Conclusion: This pollutant is being considered for removal from the CWA section 303(d) List under section 4.1 of the Listing Policy. Under this section a single line of evidence is necessary to assess listing status.

Eight lines of evidence are available in the administrative record to assess pollutant. Thirty-seven of the hundred samples exceed the guideline.

Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against removing this water segment-pollutant combination from the CWA section 303(d) List.

This conclusion is based on the staff findings that:

1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy.
2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy.
3. Thirty-seven of the hundred samples exceed the guideline and this exceeds the allowable frequency listed in Table 4.1 of the Listing Policy.
4. Pursuant to section 4.11 of the Listing Policy, no additional data and information are available indicating that standards are met.

Regional Board Staff Decision Recommendation: After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be removed from the section 303(d) list because applicable water quality standards for the pollutant are being exceeded.

Line of Evidence (LOE) for Decision ID 33581, Chlordane San Francisco Bay, Central

Region 2

LOE ID:	93624
Pollutant:	Chlordane
LOE Subgroup:	Pollutant-Tissue
Matrix:	Tissue
Fraction:	Shellfish
Beneficial Use:	Shellfish Harvesting
Number of Samples:	51
Number of Exceedances:	0
Data and Information Type:	Shellfish surveys
Data Used to Assess Water Quality:	None of the 51 samples exceeded the guideline. All composite samples were comprised of <i>Mytilus californianus</i> . Data were reported on a dry weight basis and were converted to a wet weight basis by multiplying the dry-weight concentration by a factor of 1 minus the percentage of moisture content expressed as a decimal. Laboratory replicates were averaged. Total chlordane was calculated as the sum of the following chlordane isomers: cis- and trans-chlordane, cis- and trans-nonachlor, and oxychlordane.
Data Reference:	Regional Monitoring Program data, Feb. 1993-Sep. 2008
SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	Water Quality Control Plan for the San Francisco Bay Basin: Controllable water quality factors shall not cause a detrimental increase in concentrations of toxic substances found in bottom sediments or aquatic life. Effects on aquatic organisms, wildlife, and human

Objective/Criterion Reference:	health will be considered. Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	The modified OEHHA Fish Contaminant Goal for total chlordane in shellfish tissue is 6.0 ppb. This screening level assumes an average body weight of 70 kg and a consumption rate of 21 g/day for a 30 year exposure over a 70-year lifetime. This constituent is a carcinogen therefore the risk level is set to one in a million. (Brodberg, R.K., and G.A. Pollock, 1999; Klasing, S., and R. Brodberg, 2008)
Guideline Reference:	Prevalence of Selected Target Chemical Contaminants in Sport Fish From Two California Lakes: Public health designed screening study. Sacramento, CA: Office of Environmental Health Hazard Assessment Development of Fish Contaminant Goals and Advisory Tissue Levels for Common Contaminants in California Sport Fish: Chlordane, DDTs, Dieldrin, Methylmercury, PCBs, Selenium, and Toxaphene
Spatial Representation:	Samples were collected at the following stations: BC21 - Horseshoe Bay, BC61 - Red Rock and BC10 - Yerba Buena Island.
Temporal Representation:	Samples were generally collected in spring and fall seasons from years 1993 - 1999 and then during most fall seasons during years 2000 - 2008. Samples collected at BC21 through year 2002. Samples collected at BC10 and BC61 through year 2008.
Environmental Conditions:	
QAPP Information:	1999 Quality Assurance Project Plan Regional Monitoring Program for Trace Substances.
QAPP Information Reference(s):	1999 Quality Assurance Project Plan Regional Monitoring Program for Trace Substances

Line of Evidence (LOE) for Decision ID 33581, Chlordane
San Francisco Bay, Central

Region 2

LOE ID:	92803
Pollutant:	Chlordane
LOE Subgroup:	Pollutant-Tissue
Matrix:	Tissue
Fraction:	Shellfish
Beneficial Use:	Shellfish Harvesting
Number of Samples:	3
Number of Exceedances:	0
Data and Information Type:	Shellfish surveys
Data Used to Assess Water Quality:	The results did not exceed the guideline. Data were reported on a dry weight basis and were converted to a wet weight basis by multiplying the dry-weight concentration by a factor of 1 minus the percentage of moisture content expressed as a decimal. Chlordane result was calculated by summing the results for chlordane isomers: cis- and trans-nonachlor, alpha- and gamma-chlordane, and oxychlordane.
Data Reference:	State Mussel Watch Program Data 1977-2000; Winter 2007-Winter 2009. State Water Resources Control Board
SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	Many pollutants can accumulate on particles, in sediment, or bioaccumulate in fish and other aquatic organisms. Controllable water quality factors shall not cause a detrimental increase in concentrations of toxic substances found in bottom sediments or aquatic life. Effects on aquatic organisms, wildlife, and human health will be considered.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	The modified OEHHA Fish Contaminant Goal for total chlordane in shellfish tissue is 6.0 ppb. This screening level assumes an average body weight of 70 kg and a consumption rate of 21 g/day for a 30 year exposure over a 70-year lifetime. This constituent is a carcinogen therefore the risk level is set to one in a million. (Brodberg, R.K., and G.A. Pollock, 1999; Klasing, S., and R. Brodberg, 2008)
Guideline Reference:	Prevalence of Selected Target Chemical Contaminants in Sport Fish From Two California

[Lakes: Public health designed screening study. Sacramento, CA: Office of Environmental Health Hazard Assessment](#)
[Development of Fish Contaminant Goals and Advisory Tissue Levels for Common Contaminants in California Sport Fish: Chlordane, DDTs, Dieldrin, Methylmercury, PCBs, Selenium, and Toxaphene](#)

Spatial Representation:	Samples are collected by hand from three sub-locations for each site. The composite samples were collected from sites San Francisco Bay Emeryville (SFEM) and two separate years from site San Francisco Bay Yerba Buena Island (SFYB).
Temporal Representation:	Representative samples of locally abundant species were collected during the winter on 12/22/2007, 12/8/2008, and 2/4/2009.
Environmental Conditions:	
QAPP Information:	Samples were collected as part of the State Water Board's Mussel Watch Program which is a part of the National Oceanic Administration's (NOAAs) National Status and Trends (NS&T). Mussels are shipped to NOAAs contract labs for analysis of trace constituents and mussel condition. Analytical protocols follow those approved by NOAAs NS&T Program. Additional background information can be found at: http://ccma.nos.noaa.gov/stressors/pollution/nsandt/
QAPP Information Reference(s):	

Line of Evidence (LOE) for Decision ID 33581, Chlordane
San Francisco Bay, Central

Region 2

LOE ID:	3823
Pollutant:	Chlordane
LOE Subgroup:	Pollutant-Tissue
Matrix:	Tissue
Fraction:	Not Recorded
Beneficial Use:	Commercial or recreational collection of fish, shellfish, or organisms
Number of Samples:	0
Number of Exceedances:	0
Data and Information Type:	Not Specified
Data Used to Assess Water Quality:	Unspecified--This LOE is a placeholder to support a 303(d) listing decision made prior to 2006.
Data Reference:	Placeholder reference pre-2006 303(d)
SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	Unspecified
Objective/Criterion Reference:	Placeholder reference pre-2006 303(d)
Evaluation Guideline:	Unspecified
Guideline Reference:	Placeholder reference pre-2006 303(d)
Spatial Representation:	Unspecified
Temporal Representation:	Unspecified
Environmental Conditions:	Unspecified
QAPP Information:	Unspecified
QAPP Information Reference(s):	

Line of Evidence (LOE) for Decision ID 33581, Chlordane
San Francisco Bay, Central

Region 2

LOE ID:	92806
Pollutant:	Chlordane
LOE Subgroup:	Pollutant-Water

Matrix:	Water
Fraction:	Total
Beneficial Use:	Commercial or recreational collection of fish, shellfish, or organisms
Number of Samples:	60
Number of Exceedances:	0
Data and Information Type:	PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality:	State Water Board staff assessed SFEI data for San Francisco Bay, Central to determine beneficial use support and results are as follows: 0 of 60 samples exceed the criterion for Chlordane, Total.
Data Reference:	Regional Monitoring Program data, Feb. 1993-Sep. 2008
SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	The Chlordane, Total criteria for the protection of human health from consumption of organisms only is 0.00059 ug/L (California Toxics Rule, 2000).
Objective/Criterion Reference:	Code of Federal Regulations 40 part 131.38 Establishment of numeric criteria for priority toxic pollutants for the State of California. 7/1/2011 Edition
Evaluation Guideline:	
Guideline Reference:	
Spatial Representation:	Data for this line of evidence for San Francisco Bay, Central was collected at 16 monitoring sites [Yerba Buena Island - BC10, Red Rock - BC60, Central Bay - CB001W, Central Bay - CB003W, Central Bay - CB005W, Central Bay - CB006W, Central Bay - CB007W, Central Bay - CB008W, Central Bay - CB009W, Central Bay - CB011W, Central Bay - CB013W, Central Bay - CB015W, Central Bay - CB017W, Central Bay - CB019W, Central Bay - CB021W, Central Bay - CB023W]
Temporal Representation:	Data was collected over the time period 3/3/1993-8/13/2007.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	The 1999 Quality Assurance Project Plan Regional Monitoring Program for Trace Substances was used.
QAPP Information Reference(s):	1999 Quality Assurance Project Plan Regional Monitoring Program for Trace Substances

Line of Evidence (LOE) for Decision ID 33581, Chlordane
San Francisco Bay, Central

Region 2

LOE ID:	92805
Pollutant:	Chlordane
LOE Subgroup:	Pollutant-Water
Matrix:	Water
Fraction:	Dissolved
Beneficial Use:	Estuarine Habitat
Number of Samples:	56
Number of Exceedances:	0
Data and Information Type:	PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality:	State Water Board staff assessed SFEI data for San Francisco Bay, Central to determine beneficial use support and results are as follows: 0 of 56 samples exceed the criterion for Chlordane, Total.
Data Reference:	Regional Monitoring Program data, Feb. 1993-Sep. 2008
SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	The chlordane criterion continuous concentration (expressed as a 4-day average) to protect aquatic life in saline water is 0.004 ug/L (California Toxics Rule, 2000).
Objective/Criterion Reference:	Code of Federal Regulations 40 part 131.38 Establishment of numeric criteria for priority

Evaluation Guideline:

Guideline Reference:

Spatial Representation:

Data for this line of evidence for San Francisco Bay, Central was collected at 13 monitoring sites [Yerba Buena Island - BC10, Red Rock - BC60, Central Bay - CB011W, Central Bay - CB007W, Central Bay - CB006W, Central Bay - CB005W, Central Bay - CB008W, Central Bay - CB013W, Central Bay - CB001W, Central Bay - CB009W, Central Bay - CB023W, Central Bay - CB015W, Central Bay - CB003W]

Temporal Representation:

Data was collected over the time period 3/3/1993-8/13/2007.

Environmental Conditions:

Staff is not aware of any special conditions that might affect interpretation of the data.

QAPP Information:

The 1999 Quality Assurance Project Plan Regional Monitoring Program for Trace Substances was used.

QAPP Information Reference(s):

[1999 Quality Assurance Project Plan Regional Monitoring Program for Trace Substances](#)

Line of Evidence (LOE) for Decision ID 33581, Chlordane

Region 2

San Francisco Bay, Central

LOE ID: 95205

Pollutant: Chlordane
LOE Subgroup: Pollutant-Tissue
Matrix: Tissue
Fraction: Fish fillet

Beneficial Use: Commercial or recreational collection of fish, shellfish, or organisms

Number of Samples: 100

Number of Exceedances: 36

Data and Information Type: Fish tissue analysis

Data Used to Assess Water Quality: Water Board staff assessed Regional Monitoring Program data for Central San Francisco Bay to determine beneficial use support and results are as follows: 36 of 100 samples exceed the criterion for chlordane. No samples were discarded for being non-detect, unquantifiable or the reporting limit exceeding the water quality objective.

Data Reference: [Regional Monitoring Program data, Feb. 1993-Sep. 2008](#)

SWAMP Data: Non-SWAMP

Water Quality Objective/Criterion: Water Quality Control Plan for the San Francisco Bay Basin: Controllable water quality factors shall not cause a detrimental increase in concentrations of toxic substances found in bottom sediments or aquatic life. Effects on aquatic organisms, wildlife, and human health will be considered.

Objective/Criterion Reference: [Water Quality Control Plan \(Basin Plan\) San Francisco Bay Basin \(Region 2\)](#)

Evaluation Guideline: The modified OEHHA Fish Contaminant Goal for total chlordane in fish tissue is 3.9 ppb. This screening level assumes an average body weight of 70 kg and a consumption rate of 32 g/day for a 30 year exposure over a 70-year lifetime. This constituent is a carcinogen therefore the risk level is set to one in a million. A cooking reduction factor of 1 is applied for skin-off fillets. (Klasing, S., and R. Brodberg, 2008)

Guideline Reference: [Development of Fish Contaminant Goals and Advisory Tissue Levels for Common Contaminants in California Sport Fish: Chlordane, DDTs, Dieldrin, Methylmercury, PCBs, Selenium, and Toxaphene](#)

Spatial Representation: The samples were collected at fifteen sites throughout Central San Francisco Bay.

Temporal Representation: The samples were collected every three years from May 1994 through June 2006.

Environmental Conditions:

QAPP Information: The 1999 Quality Assurance Project Plan Regional Monitoring Program for Trace Substances was used.

QAPP Information Reference(s): [1999 Quality Assurance Project Plan Regional Monitoring Program for Trace Substances](#)

Line of Evidence (LOE) for Decision ID 33581, Chlordane**Region 2****San Francisco Bay, Central**

LOE ID:	95882
Pollutant:	Chlordane
LOE Subgroup:	Pollutant-Tissue
Matrix:	Tissue
Fraction:	Fish fillet
Beneficial Use:	Commercial or recreational collection of fish, shellfish, or organisms
Number of Samples:	4
Number of Exceedances:	3
Data and Information Type:	Fish tissue analysis
Data Used to Assess Water Quality:	Water Board staff assessed Regional Monitoring Program data for the Richmond Marina to determine beneficial use support and results are as follows: 3 of 4 samples exceed the criterion for chlordane. No samples were discarded for being non-detect, unquantifiable or the reporting limit exceeding the water quality objective.
Data Reference:	Regional Monitoring Program data, Feb. 1993-Sep. 2008
SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	Water Quality Control Plan for the San Francisco Bay Basin: Controllable water quality factors shall not cause a detrimental increase in concentrations of toxic substances found in bottom sediments or aquatic life. Effects on aquatic organisms, wildlife, and human health will be considered.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	The modified OEHHA Fish Contaminant Goal for total chlordane in fish tissue is 3.9 ppb. This screening level assumes an average body weight of 70 kg and a consumption rate of 32 g/day for a 30 year exposure over a 70-year lifetime. This constituent is a carcinogen therefore the risk level is set to one in a million. A cooking reduction factor of 1 is applied for skin-off fillets. (Klasing, S., and R. Brodberg, 2008)
Guideline Reference:	Development of Fish Contaminant Goals and Advisory Tissue Levels for Common Contaminants in California Sport Fish: Chlordane, DDTs, Dieldrin, Methylmercury, PCBs, Selenium, and Toxaphene
Spatial Representation:	The samples were collected at one site in the Richmond Marina. Because these sportfish are wide-ranging, the contaminants they accumulate best represent conditions in the Central San Francisco Bay.
Temporal Representation:	The samples were collected in May 1994.
Environmental Conditions:	
QAPP Information:	The 1999 Quality Assurance Project Plan Regional Monitoring Program for Trace Substances was used.
QAPP Information Reference(s):	1999 Quality Assurance Project Plan Regional Monitoring Program for Trace Substances

Line of Evidence (LOE) for Decision ID 33581, Chlordane**Region 2****San Francisco Bay, Central**

LOE ID:	92804
Pollutant:	Chlordane
LOE Subgroup:	Pollutant-Water
Matrix:	Water
Fraction:	Dissolved
Beneficial Use:	Marine Habitat
Number of Samples:	56

Number of Exceedances:	0
Data and Information Type:	PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality:	State Water Board staff assessed SFEI data for San Francisco Bay, Central to determine beneficial use support and results are as follows: 0 of 56 samples exceed the criterion for Chlordane, Total.
Data Reference:	Regional Monitoring Program data, Feb. 1993-Sep. 2008
SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	The chlordane criterion continuous concentration (expressed as a 4-day average) to protect aquatic life in saline water is 0.004 ug/L (California Toxics Rule, 2000).
Objective/Criterion Reference:	Code of Federal Regulations 40 part 131.38 Establishment of numeric criteria for priority toxic pollutants for the State of California. 7/1/2011 Edition
Evaluation Guideline:	
Guideline Reference:	
Spatial Representation:	Data for this line of evidence for San Francisco Bay, Central was collected at 13 monitoring sites [Yerba Buena Island - BC10, Red Rock - BC60, Central Bay - CB011W, Central Bay - CB007W, Central Bay - CB006W, Central Bay - CB005W, Central Bay - CB008W, Central Bay - CB013W, Central Bay - CB001W, Central Bay - CB009W, Central Bay - CB023W, Central Bay - CB015W, Central Bay - CB003W]
Temporal Representation:	Data was collected over the time period 3/3/1993-8/13/2007.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	The 1999 Quality Assurance Project Plan Regional Monitoring Program for Trace Substances was used.
QAPP Information Reference(s):	1999 Quality Assurance Project Plan Regional Monitoring Program for Trace Substances

DECISION ID	33582	Region 2
San Francisco Bay, Central		

Pollutant:	DDT (Dichlorodiphenyltrichloroethane)
Final Listing Decision:	Do Not Delist from 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision:	List on 303(d) list (TMDL required list)(2012)
Revision Status	Revised
Sources:	Source Unknown
Expected TMDL Completion Date:	2013
Impairment from Pollutant or Pollution:	Pollutant

Regional Board Staff Conclusion:	<p>This pollutant is being considered for removal from the CWA section 303(d) List under section 4.5 of the Listing Policy. Under this section a single line of evidence is necessary to assess listing status.</p> <p>Nine lines of evidence are available in the administrative record to assess pollutant. Seventy-five of one hundred seven samples exceed the guideline.</p> <p>Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against removing this water segment-pollutant combination from the CWA section 303(d) List.</p> <p>This conclusion is based on the staff findings that:</p> <ol style="list-style-type: none"> 1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy. 2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy. 3. Seventy-five of one hundred seven samples exceed the guideline and this exceeds the allowable frequency listed in Table 4.1 of the Listing Policy. 4. Pursuant to section 4.11 of the Listing Policy, no additional data and information are available indicating that standards are met.
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Regional Board Staff Decision Recommendation: After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be removed from the section 303(d) list because applicable water quality standards for the pollutant are being exceeded.

Line of Evidence (LOE) for Decision ID 33582, DDT (Dichlorodiphenyltrichloroethane)
San Francisco Bay, Central

Region 2

LOE ID: 95880

Pollutant: DDT (Dichlorodiphenyltrichloroethane)
LOE Subgroup: Pollutant-Tissue
Matrix: Tissue
Fraction: Fish fillet

Beneficial Use: Commercial or recreational collection of fish, shellfish, or organisms

Number of Samples: 3
Number of Exceedances: 3

Data and Information Type: Fish tissue analysis
Data Used to Assess Water Quality: Water Board staff assessed Regional Monitoring Program data for Berkeley Marina to determine beneficial use support and results are as follows: Three of three samples exceed the criterion for DDT. No samples were discarded for being non-detect, unquantifiable or the reporting limit exceeding the water quality objective.

Data Reference: [Regional Monitoring Program data, Feb. 1993-Sep. 2008](#)

SWAMP Data: Non-SWAMP

Water Quality Objective/Criterion: Water Quality Control Plan for the San Francisco Bay Basin: Controllable water quality factors shall not cause a detrimental increase in concentrations of toxic substances found in bottom sediments or aquatic life. Effects on aquatic organisms, wildlife, and human health will be considered.

Objective/Criterion Reference: [Water Quality Control Plan \(Basin Plan\) San Francisco Bay Basin \(Region 2\)](#)

Evaluation Guideline: The modified OEHHA Fish Contaminant Goal for total DDT in fish tissue is 15 ppb. This screening level assumes an average body weight of 70 kg and a consumption rate of 32 g/day for a 30 year exposure over a 70-year lifetime. This constituent is a carcinogen therefore the risk level is set to one in a million. A cooking reduction factor of 1 is applied for skin-off fillets. (Klasing, S., and R. Brodberg, 2008)

Guideline Reference: [Development of Fish Contaminant Goals and Advisory Tissue Levels for Common Contaminants in California Sport Fish: Chlordane, DDTs, Dieldrin, Methylmercury, PCBs, Selenium, and Toxaphene](#)

Spatial Representation: The samples were collected at one site in Berkeley Marina, but these sportfish represent contaminant concentrations in the Central San Francisco Bay.

Temporal Representation: The samples were collected in July 2006.

Environmental Conditions:

QAPP Information: The 1999 Quality Assurance Project Plan Regional Monitoring Program for Trace Substances was used.

QAPP Information Reference(s): [1999 Quality Assurance Project Plan Regional Monitoring Program for Trace Substances](#)

Line of Evidence (LOE) for Decision ID 33582, DDT (Dichlorodiphenyltrichloroethane)
San Francisco Bay, Central

Region 2

LOE ID: 95194

Pollutant: DDT (Dichlorodiphenyltrichloroethane)
LOE Subgroup: Pollutant-Tissue
Matrix: Tissue
Fraction: Fish fillet

Beneficial Use:	Commercial or recreational collection of fish, shellfish, or organisms
Number of Samples:	100
Number of Exceedances:	69
Data and Information Type:	Fish tissue analysis
Data Used to Assess Water Quality:	Water Board staff assessed Regional Monitoring Program data for Central San Francisco Bay to determine beneficial use support and results are as follows: 69 of 100 samples exceed the criterion for DDT. No samples were discarded for being non-detect, unquantifiable or the reporting limit exceeding the water quality objective.
Data Reference:	Regional Monitoring Program data, Feb. 1993-Sep. 2008
SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	Water Quality Control Plan for the San Francisco Bay Basin: Controllable water quality factors shall not cause a detrimental increase in concentrations of toxic substances found in bottom sediments or aquatic life. Effects on aquatic organisms, wildlife, and human health will be considered.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	The modified OEHHA Fish Contaminant Goal for total DDT in fish tissue is 15 ppb. This screening level assumes an average body weight of 70 kg and a consumption rate of 32 g/day for a 30 year exposure over a 70-year lifetime. This constituent is a carcinogen therefore the risk level is set to one in a million. A cooking reduction factor of 1 is applied for skin-off fillets. (Klasing, S., and R. Brodberg, 2008)
Guideline Reference:	Development of Fish Contaminant Goals and Advisory Tissue Levels for Common Contaminants in California Sport Fish: Chlordane, DDTs, Dieldrin, Methylmercury, PCBs, Selenium, and Toxaphene
Spatial Representation:	The samples were collected at fifteen sites throughout Central San Francisco Bay.
Temporal Representation:	The samples were collected every three years from May 1994 through June 2006.
Environmental Conditions:	
QAPP Information:	The 1999 Quality Assurance Project Plan Regional Monitoring Program for Trace Substances was used.
QAPP Information Reference(s):	1999 Quality Assurance Project Plan Regional Monitoring Program for Trace Substances

Line of Evidence (LOE) for Decision ID 33582, DDT (Dichlorodiphenyltrichloroethane)
San Francisco Bay, Central

Region 2

LOE ID:	92994
Pollutant:	Total DDT (sum of 4,4'- and 2,4'- isomers of DDT, DDE, and DDD)
LOE Subgroup:	Pollutant-Tissue
Matrix:	Tissue
Fraction:	Shellfish
Beneficial Use:	Shellfish Harvesting
Number of Samples:	3
Number of Exceedances:	1
Data and Information Type:	Shellfish surveys
Data Used to Assess Water Quality:	One of the three results did exceed the guideline. Data were reported on a dry weight basis and were converted to a wet weight basis by multiplying the dry-weight concentration by a factor of 1 minus the percentage of moisture content expressed as a decimal. The total DDTs were calculated as the sum of 4,4'- and 2,4'- isomers of DDT, DDE, and DDD.
Data Reference:	State Mussel Watch Program Data 1977-2000; Winter 2007-Winter 2009. State Water Resources Control Board
SWAMP Data:	Non-SWAMP

Water Quality Objective/Criterion:	Many pollutants can accumulate on particles, in sediment, or bioaccumulate in fish and other aquatic organisms. Controllable water quality factors shall not cause a detrimental increase in concentrations of toxic substances found in bottom sediments or aquatic life. Effects on aquatic organisms, wildlife, and human health will be considered.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	The modified OEHHA Fish Contaminant Goal for total DDT in shellfish tissue is 23 ppb. This screening level assumes an average body weight of 70 kg and a consumption rate of 21 g/day for a 30 year exposure over a 70-year lifetime. This constituent is a carcinogen therefore the risk level is set to one in a million. (Brodberg, R.K., and G.A. Pollock, 1999; Klasing, S., and R. Brodberg, 2008)
Guideline Reference:	Prevalence of Selected Target Chemical Contaminants in Sport Fish From Two California Lakes: Public health designed screening study. Sacramento, CA: Office of Environmental Health Hazard Assessment Development of Fish Contaminant Goals and Advisory Tissue Levels for Common Contaminants in California Sport Fish: Chlordane, DDTs, Dieldrin, Methylmercury, PCBs, Selenium, and Toxaphene
Spatial Representation:	Samples are collected by hand from three sub-locations for each site. The composite samples were collected from sites San Francisco Bay Emeryville (SFEM) and two separate years from site San Francisco Bay Yerba Buena Island (SFYB).
Temporal Representation:	Representative samples of locally abundant species were collected during the winter on 12/22/2007, 12/8/2008, and 2/4/2009.
Environmental Conditions:	
QAPP Information:	Samples were collected as part of the State Water Board's Mussel Watch Program which is a part of the National Oceanic Administration's (NOAAs) National Status and Trends (NS&T). Mussels are shipped to NOAAs contract labs for analysis of trace constituents and mussel condition. Analytical protocols follow those approved by NOAAs NS&T Program Additional background information can be found at: http://ccma.nos.noaa.gov/stressors/pollution/nsandt/
QAPP Information Reference(s):	

Line of Evidence (LOE) for Decision ID 33582, DDT (Dichlorodiphenyltrichloroethane)
San Francisco Bay, Central

Region 2

LOE ID:	92995
Pollutant:	Total DDT (sum of 4,4'- and 2,4'- isomers of DDT, DDE, and DDD)
LOE Subgroup:	Pollutant-Water
Matrix:	Water
Fraction:	Dissolved
Beneficial Use:	Marine Habitat
Number of Samples:	57
Number of Exceedances:	0
Data and Information Type:	PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality:	State Water Board staff assessed SFEI data for San Francisco Bay, Central to determine beneficial use support and results are as follows: 0 of 57 samples exceed the criterion for DDT, Total.
Data Reference:	Regional Monitoring Program data, Feb. 1993-Sep. 2008
SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	The DDT criterion continuous concentration (expressed as a 4-day average) to protect aquatic life in saline water is 0.001 ug/L (California Toxics Rule, 2000).
Objective/Criterion Reference:	Code of Federal Regulations 40 part 131.38 Establishment of numeric criteria for priority toxic pollutants for the State of California. 7/1/2011 Edition
Evaluation Guideline:	

Guideline Reference:

Spatial Representation:

Data for this line of evidence for San Francisco Bay, Central was collected at 13 monitoring sites [Yerba Buena Island - BC10, Red Rock - BC60, Central Bay - CB011W, Central Bay - CB007W, Central Bay - CB006W, Central Bay - CB005W, Central Bay - CB008W, Central Bay - CB013W, Central Bay - CB001W, Central Bay - CB009W, Central Bay - CB023W, Central Bay - CB015W, Central Bay - CB003W]

Temporal Representation:

Data was collected over the time period 3/3/1993-8/13/2007.

Environmental Conditions:

Staff is not aware of any special conditions that might affect interpretation of the data.

QAPP Information:

The 1999 Quality Assurance Project Plan Regional Monitoring Program for Trace Substances was used.

QAPP Information Reference(s):

[1999 Quality Assurance Project Plan Regional Monitoring Program for Trace Substances](#)

Line of Evidence (LOE) for Decision ID 33582, DDT (Dichlorodiphenyltrichloroethane)

Region 2

San Francisco Bay, Central

LOE ID:

93625

Pollutant:

Total DDT (sum of 4,4'- and 2,4'- isomers of DDT, DDE, and DDD)

LOE Subgroup:

Pollutant-Tissue

Matrix:

Tissue

Fraction:

Shellfish

Beneficial Use:

Shellfish Harvesting

Number of Samples:

51

Number of Exceedances:

0

Data and Information Type:

Shellfish surveys

Data Used to Assess Water Quality:

None of the 51 samples exceeded the guideline. All composite samples were comprised of *Mytilus californianus*. Data were reported on a dry weight basis and were converted to a wet weight basis by multiplying the dry-weight concentration by a factor of 1 minus the percentage of moisture content expressed as a decimal. Laboratory replicates were averaged. Total DDT was calculated as the sum of 4,4'- and 2,4'- isomers of DDT, DDE, and DDD.

Data Reference:

[Regional Monitoring Program data, Feb. 1993-Sep. 2008](#)

SWAMP Data:

Non-SWAMP

Water Quality Objective/Criterion:

Water Quality Control Plan for the San Francisco Bay Basin: Controllable water quality factors shall not cause a detrimental increase in concentrations of toxic substances found in bottom sediments or aquatic life. Effects on aquatic organisms, wildlife, and human health will be considered.

Objective/Criterion Reference:

[Water Quality Control Plan \(Basin Plan\) San Francisco Bay Basin \(Region 2\)](#)

Evaluation Guideline:

The modified OEHHA Fish Contaminant Goal for total DDT in shellfish tissue is 23 ppb. This screening level assumes an average body weight of 70 kg and a consumption rate of 21 g/day for a 30 year exposure over a 70-year lifetime. This constituent is a carcinogen therefore the risk level is set to one in a million. (Brodberg, R.K., and G.A. Pollock, 1999; Klasing, S., and R. Brodberg, 2008)

Guideline Reference:

[Prevalence of Selected Target Chemical Contaminants in Sport Fish From Two California Lakes: Public health designed screening study. Sacramento, CA: Office of Environmental Health Hazard Assessment](#)
[Development of Fish Contaminant Goals and Advisory Tissue Levels for Common Contaminants in California Sport Fish: Chlordane, DDTs, Dieldrin, Methylmercury, PCBs, Selenium, and Toxaphene](#)

Spatial Representation:

Samples were collected at the following stations: BC21 - Horseshoe Bay, BC61 - Red Rock and BC10 - Yerba Buena Island.

Temporal Representation:

Samples were generally collected in spring and fall seasons from years 1993 - 1999 and then during most fall seasons during years 2000 - 2008. Samples collected at BC21 through year 2002. Samples collected at BC10 and BC61 through year 2008.

Environmental Conditions:

QAPP Information:

QAPP Information Reference(s):

1999 Quality Assurance Project Plan Regional Monitoring Program for Trace Substances.

[1999 Quality Assurance Project Plan Regional Monitoring Program for Trace Substances](#)

Line of Evidence (LOE) for Decision ID 33582, DDT (Dichlorodiphenyltrichloroethane)

Region 2

San Francisco Bay, Central

LOE ID: 95884

Pollutant: DDT (Dichlorodiphenyltrichloroethane)

LOE Subgroup: Pollutant-Tissue

Matrix: Tissue

Fraction: Fish fillet

Beneficial Use: Commercial or recreational collection of fish, shellfish, or organisms

Number of Samples: 4

Number of Exceedances: 3

Data and Information Type: Fish tissue analysis

Data Used to Assess Water Quality: Water Board staff assessed Regional Monitoring Program data for the Richmond Marina to determine beneficial use support and results are as follows: 3 of 4 samples exceed the criterion for DDT. No samples were discarded for being non-detect, unquantifiable or the reporting limit exceeding the water quality objective.

Data Reference: [Regional Monitoring Program data, Feb. 1993-Sep. 2008](#)

SWAMP Data: Non-SWAMP

Water Quality Objective/Criterion: Water Quality Control Plan for the San Francisco Bay Basin: Controllable water quality factors shall not cause a detrimental increase in concentrations of toxic substances found in bottom sediments or aquatic life. Effects on aquatic organisms, wildlife, and human health will be considered.

Objective/Criterion Reference: [Water Quality Control Plan \(Basin Plan\) San Francisco Bay Basin \(Region 2\)](#)

Evaluation Guideline: The modified OEHHA Fish Contaminant Goal for total DDT in fish tissue is 15 ppb. This screening level assumes an average body weight of 70 kg and a consumption rate of 32 g/day for a 30 year exposure over a 70-year lifetime. This constituent is a carcinogen therefore the risk level is set to one in a million. A cooking reduction factor of 1 is applied for skin-off fillets. (Klasing, S., and R. Brodberg, 2008)

Guideline Reference: [Development of Fish Contaminant Goals and Advisory Tissue Levels for Common Contaminants in California Sport Fish: Chlordane, DDTs, Dieldrin, Methylmercury, PCBs, Selenium, and Toxaphene](#)

Spatial Representation: The samples were collected at one site in the Richmond Marina. The sportfish sampled are wide-ranging species so these data represent Central San Francisco Bay.

Temporal Representation: The samples were collected in May 1994.

Environmental Conditions:

QAPP Information:

QAPP Information Reference(s): The 1999 Quality Assurance Project Plan Regional Monitoring Program for Trace Substances was used.

[1999 Quality Assurance Project Plan Regional Monitoring Program for Trace Substances](#)

Line of Evidence (LOE) for Decision ID 33582, DDT (Dichlorodiphenyltrichloroethane)

Region 2

San Francisco Bay, Central

LOE ID: 3824

Pollutant: DDT (Dichlorodiphenyltrichloroethane)

LOE Subgroup: Pollutant-Tissue

Matrix: Tissue

Fraction: Not Recorded

Beneficial Use:	Commercial or recreational collection of fish, shellfish, or organisms
Number of Samples:	0
Number of Exceedances:	0
Data and Information Type:	Not Specified
Data Used to Assess Water Quality:	Unspecified--This LOE is a placeholder to support a 303(d) listing decision made prior to 2006.
Data Reference:	Placeholder reference pre-2006 303(d)
SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	Unspecified
Objective/Criterion Reference:	Placeholder reference pre-2006 303(d)
Evaluation Guideline:	Unspecified
Guideline Reference:	Placeholder reference pre-2006 303(d)
Spatial Representation:	Unspecified
Temporal Representation:	Unspecified
Environmental Conditions:	Unspecified
QAPP Information:	Unspecified
QAPP Information Reference(s):	

Line of Evidence (LOE) for Decision ID 33582, DDT (Dichlorodiphenyltrichloroethane)
San Francisco Bay, Central

Region 2

LOE ID:	92997
Pollutant:	Total DDT (sum of 4,4'- and 2,4'- isomers of DDT, DDE, and DDD)
LOE Subgroup:	Pollutant-Water
Matrix:	Water
Fraction:	Total
Beneficial Use:	Commercial or recreational collection of fish, shellfish, or organisms
Number of Samples:	60
Number of Exceedances:	1
Data and Information Type:	PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality:	State Water Board staff assessed SFEI data for San Francisco Bay, Central to determine beneficial use support and results are as follows: 1 of 60 samples exceed the criterion for DDT, Total.
Data Reference:	Regional Monitoring Program data, Feb. 1993-Sep. 2008
SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	The DDT, Total criteria for the protection of human health from consumption of organisms only is 0.00059 ug/L (California Toxics Rule, 2000).
Objective/Criterion Reference:	Code of Federal Regulations 40 part 131.38 Establishment of numeric criteria for priority toxic pollutants for the State of California. 7/1/2011 Edition
Evaluation Guideline:	
Guideline Reference:	
Spatial Representation:	Data for this line of evidence for San Francisco Bay, Central was collected at 16 monitoring sites [Yerba Buena Island - BC10, Red Rock - BC60, Central Bay - CB001W, Central Bay - CB003W, Central Bay - CB005W, Central Bay - CB006W, Central Bay - CB007W, Central Bay - CB008W, Central Bay - CB009W, Central Bay - CB011W, Central Bay - CB013W, Central Bay - CB015W, Central Bay - CB017W, Central Bay - CB019W, Central Bay - CB021W, Central Bay - CB023W]
Temporal Representation:	Data was collected over the time period 3/3/1993-8/13/2007.

Environmental Conditions: Staff is not aware of any special conditions that might affect interpretation of the data.
 QAPP Information: The 1999 Quality Assurance Project Plan Regional Monitoring Program for Trace Substances was used.
 QAPP Information Reference(s): [1999 Quality Assurance Project Plan Regional Monitoring Program for Trace Substances](#)

Line of Evidence (LOE) for Decision ID 33582, DDT (Dichlorodiphenyltrichloroethane)	Region 2
San Francisco Bay, Central	

LOE ID: 92996

Pollutant: Total DDT (sum of 4,4'- and 2,4'- isomers of DDT, DDE, and DDD)
 LOE Subgroup: Pollutant-Water
 Matrix: Water
 Fraction: Dissolved

Beneficial Use: Estuarine Habitat

Number of Samples: 57
 Number of Exceedances: 0

Data and Information Type: PHYSICAL/CHEMICAL MONITORING
 Data Used to Assess Water Quality: State Water Board staff assessed SFEI data for San Francisco Bay, Central to determine beneficial use support and results are as follows: 0 of 57 samples exceed the criterion for DDT, Total.

Data Reference: [Regional Monitoring Program data, Feb. 1993-Sep. 2008](#)

SWAMP Data: Non-SWAMP

Water Quality Objective/Criterion: The DDT criterion continuous concentration (expressed as a 4-day average) to protect aquatic life in saline water is 0.001 ug/L (California Toxics Rule, 2000).

Objective/Criterion Reference: [Code of Federal Regulations 40 part 131.38 Establishment of numeric criteria for priority toxic pollutants for the State of California. 7/1/2011 Edition](#)

Evaluation Guideline:
 Guideline Reference:

Spatial Representation: Data for this line of evidence for San Francisco Bay, Central was collected at 13 monitoring sites [Yerba Buena Island - BC10, Red Rock - BC60, Central Bay - CB011W, Central Bay - CB007W, Central Bay - CB006W, Central Bay - CB005W, Central Bay - CB008W, Central Bay - CB013W, Central Bay - CB001W, Central Bay - CB009W, Central Bay - CB023W, Central Bay - CB015W, Central Bay - CB003W]

Temporal Representation: Data was collected over the time period 3/3/1993-8/13/2007.

Environmental Conditions: Staff is not aware of any special conditions that might affect interpretation of the data.
 QAPP Information: The 1999 Quality Assurance Project Plan Regional Monitoring Program for Trace Substances was used.
 QAPP Information Reference(s): [1999 Quality Assurance Project Plan Regional Monitoring Program for Trace Substances](#)

DECISION ID	34650	Region 2
San Francisco Bay, Central		

Pollutant: Dieldrin
Final Listing Decision: Do Not Delist from 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision: List on 303(d) list (TMDL required list)(2012)
Revision Status Revised
Sources: Source Unknown
Expected TMDL Completion Date: 2013
Impairment from Pollutant or Pollution: Pollutant

**Regional Board Staff
Conclusion:**

This pollutant is being considered for removal from the CWA section 303(d) List under section 4.1 of the Listing Policy. Under this section a single line of evidence is necessary to assess listing status.

Eight lines of evidence are available in the administrative record to assess pollutant. Sixty-five of sixty-six samples exceed the evaluation guideline.

Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against removing this water segment-pollutant combination from the CWA section 303(d) List.

This conclusion is based on the staff findings that:

1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy.
2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy.
3. Sixty-five of sixty-six samples exceed the evaluation guideline and this exceeds the allowable frequency listed in Table 4.1 of the Listing Policy.
4. Pursuant to section 4.11 of the Listing Policy, no additional data and information are available indicating that standards are met.

**Regional Board Staff Decision
Recommendation:**

After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be removed from the section 303(d) list because applicable water quality standards for the pollutant are being exceeded.

**Line of Evidence (LOE) for Decision ID 34650, Dieldrin
San Francisco Bay, Central**

Region 2

LOE ID:	3825
Pollutant:	Dieldrin
LOE Subgroup:	Pollutant-Tissue
Matrix:	Tissue
Fraction:	Not Recorded
Beneficial Use:	Commercial or recreational collection of fish, shellfish, or organisms
Number of Samples:	0
Number of Exceedances:	0
Data and Information Type:	Not Specified
Data Used to Assess Water Quality:	Unspecified--This LOE is a placeholder to support a 303(d) listing decision made prior to 2006.
Data Reference:	Placeholder reference pre-2006 303(d)
SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	Unspecified
Objective/Criterion Reference:	Placeholder reference pre-2006 303(d)
Evaluation Guideline:	Unspecified
Guideline Reference:	Placeholder reference pre-2006 303(d)
Spatial Representation:	Unspecified
Temporal Representation:	Unspecified
Environmental Conditions:	Unspecified
QAPP Information:	Unspecified
QAPP Information Reference(s):	

**Line of Evidence (LOE) for Decision ID 34650, Dieldrin
San Francisco Bay, Central**

Region 2

LOE ID:	93626
Pollutant:	Dieldrin
LOE Subgroup:	Pollutant-Tissue
Matrix:	Tissue
Fraction:	Shellfish
Beneficial Use:	Shellfish Harvesting
Number of Samples:	51
Number of Exceedances:	49
Data and Information Type:	Shellfish surveys
Data Used to Assess Water Quality:	Fourty-nine of the 51 samples exceeded the guideline. All composite samples were comprised of <i>Mytilus californianus</i> . Data were reported on a dry weight basis and were converted to a wet weight basis by multiplying the dry-weight concentration by a factor of 1 minus the percentage of moisture content expressed as a decimal. Laboratory replicates were averaged.
Data Reference:	Regional Monitoring Program data, Feb. 1993-Sep. 2008
SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	Water Quality Control Plan for the San Francisco Bay Basin: Controllable water quality factors shall not cause a detrimental increase in concentrations of toxic substances found in bottom sediments or aquatic life. Effects on aquatic organisms, wildlife, and human health will be considered.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	The modified OEHHA Fish Contaminant Goal for dieldrin in shellfish tissue is 0.49 ppb. This screening level assumes an average body weight of 70 kg and a consumption rate of 21 g/day for a 30 year exposure over a 70-year lifetime. This constituent is a carcinogen therefore the risk level is set to one in a million. (Brodberg, R.K., and G.A. Pollock, 1999; Klasing, S., and R. Brodberg, 2008)
Guideline Reference:	Prevalence of Selected Target Chemical Contaminants in Sport Fish From Two California Lakes: Public health designed screening study. Sacramento, CA: Office of Environmental Health Hazard Assessment Development of Fish Contaminant Goals and Advisory Tissue Levels for Common Contaminants in California Sport Fish: Chlordane, DDTs, Dieldrin, Methylmercury, PCBs, Selenium, and Toxaphene
Spatial Representation:	Samples were collected at the following stations: BC21 - Horseshoe Bay, BC61 - Red Rock and BC10 - Yerba Buena Island.
Temporal Representation:	Samples were generally collected in spring and fall seasons from years 1993 - 1999 and then during most fall seasons during years 2000 - 2008. Samples collected at BC21 through year 2002. Samples collected at BC10 and BC61 through year 2008.
Environmental Conditions:	
QAPP Information:	1999 Quality Assurance Project Plan Regional Monitoring Program for Trace Substances.
QAPP Information Reference(s):	1999 Quality Assurance Project Plan Regional Monitoring Program for Trace Substances

Line of Evidence (LOE) for Decision ID 34650, Dieldrin

Region 2

San Francisco Bay, Central

LOE ID:	95885
Pollutant:	Dieldrin
LOE Subgroup:	Pollutant-Tissue
Matrix:	Tissue
Fraction:	Fish fillet
Beneficial Use:	Commercial or recreational collection of fish, shellfish, or organisms
Number of Samples:	4

Number of Exceedances:	4
Data and Information Type:	Fish tissue analysis
Data Used to Assess Water Quality:	Water Board staff assessed Regional Monitoring Program data for the Richmond Marina to determine beneficial use support and results are as follows: 4 of 4 samples exceed the criterion for dieldrin. No samples were discarded for being non-detect, unquantifiable or the reporting limit exceeding the water quality objective.
Data Reference:	Regional Monitoring Program data, Feb. 1993-Sep. 2008
SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	Water Quality Control Plan for the San Francisco Bay Basin: Controllable water quality factors shall not cause a detrimental increase in concentrations of toxic substances found in bottom sediments or aquatic life. Effects on aquatic organisms, wildlife, and human health will be considered.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	The modified OEHHA Fish Contaminant Goal for dieldrin in fish tissue is 0.32 ppb. This screening level assumes an average body weight of 70 kg and a consumption rate of 32 g/day for a 30 year exposure over a 70-year lifetime. This constituent is a carcinogen therefore the risk level is set to one in a million. A cooking reduction factor of 1 is applied for skin-off fillets. (Klasing, S., and R. Brodberg, 2008)
Guideline Reference:	Development of Fish Contaminant Goals and Advisory Tissue Levels for Common Contaminants in California Sport Fish: Chlordane, DDTs, Dieldrin, Methylmercury, PCBs, Selenium, and Toxaphene
Spatial Representation:	The samples were collected at one site in the Richmond Marina. These sportfish are wide-ranging so these data represent Central San Francisco Bay.
Temporal Representation:	The samples were collected in May 1994.
Environmental Conditions:	
QAPP Information:	The 1999 Quality Assurance Project Plan Regional Monitoring Program for Trace Substances was used.
QAPP Information Reference(s):	1999 Quality Assurance Project Plan Regional Monitoring Program for Trace Substances

Line of Evidence (LOE) for Decision ID 34650, Dieldrin
San Francisco Bay, Central

Region 2

LOE ID:	95881
Pollutant:	Dieldrin
LOE Subgroup:	Pollutant-Tissue
Matrix:	Tissue
Fraction:	Fish fillet
Beneficial Use:	Commercial or recreational collection of fish, shellfish, or organisms
Number of Samples:	3
Number of Exceedances:	3
Data and Information Type:	Fish tissue analysis
Data Used to Assess Water Quality:	Water Board staff assessed Regional Monitoring Program data for Berkeley Marina to determine beneficial use support and results are as follows: Three of three samples exceed the criterion for dieldrin. No samples were discarded for being non-detect, unquantifiable or the reporting limit exceeding the water quality objective.
Data Reference:	Regional Monitoring Program data, Feb. 1993-Sep. 2008
SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	Water Quality Control Plan for the San Francisco Bay Basin: Controllable water quality factors shall not cause a detrimental increase in concentrations of toxic substances found in bottom sediments or aquatic life. Effects on aquatic organisms, wildlife, and human health will be considered.

Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	The modified OEHHA Fish Contaminant Goal for dieldrin in fish tissue is 0.32 ppb. This screening level assumes an average body weight of 70 kg and a consumption rate of 32 g/day for a 30 year exposure over a 70-year lifetime. This constituent is a carcinogen therefore the risk level is set to one in a million. A cooking reduction factor of 1 is applied for skin-off fillets. (Klasing, S., and R. Brodberg, 2008)
Guideline Reference:	Development of Fish Contaminant Goals and Advisory Tissue Levels for Common Contaminants in California Sport Fish: Chlordane, DDTs, Dieldrin, Methylmercury, PCBs, Selenium, and Toxaphene
Spatial Representation:	The samples were collected at one site in Berkeley Marina, but the sportfish have a wide range. Thus, these fish represent conditions in Central San Francisco Bay.
Temporal Representation:	The samples were collected in July 2006.
Environmental Conditions:	
QAPP Information:	The 1999 Quality Assurance Project Plan Regional Monitoring Program for Trace Substances was used.
QAPP Information Reference(s):	1999 Quality Assurance Project Plan Regional Monitoring Program for Trace Substances

Line of Evidence (LOE) for Decision ID 34650, Dieldrin
San Francisco Bay, Central

Region 2

LOE ID:	95167
Pollutant:	Dieldrin
LOE Subgroup:	Pollutant-Tissue
Matrix:	Tissue
Fraction:	Fish fillet
Beneficial Use:	Commercial or recreational collection of fish, shellfish, or organisms
Number of Samples:	66
Number of Exceedances:	65
Data and Information Type:	Fish tissue analysis
Data Used to Assess Water Quality:	Water Board staff assessed Regional Monitoring Program data for Central San Francisco Bay to determine beneficial use support and results are as follows: 65 of 66 samples exceed the criterion for dieldrin. 49 samples were discarded for being non-detect, unquantifiable or the reporting limit exceeding the water quality objective.
Data Reference:	Regional Monitoring Program data, Feb. 1993-Sep. 2008
SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	Water Quality Control Plan for the San Francisco Bay Basin: Controllable water quality factors shall not cause a detrimental increase in concentrations of toxic substances found in bottom sediments or aquatic life. Effects on aquatic organisms, wildlife, and human health will be considered.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	The modified OEHHA Fish Contaminant Goal for dieldrin in fish tissue is 0.32 ppb. This screening level assumes an average body weight of 70 kg and a consumption rate of 32 g/day for a 30 year exposure over a 70-year lifetime. This constituent is a carcinogen therefore the risk level is set to one in a million. A cooking reduction factor of 1 is applied for skin-off fillets. (Klasing, S., and R. Brodberg, 2008)
Guideline Reference:	Development of Fish Contaminant Goals and Advisory Tissue Levels for Common Contaminants in California Sport Fish: Chlordane, DDTs, Dieldrin, Methylmercury, PCBs, Selenium, and Toxaphene
Spatial Representation:	The samples were collected at fourteen sites throughout Central San Francisco Bay.
Temporal Representation:	The samples were collected every three years from May 1994 through August 2003.
Environmental Conditions:	
QAPP Information:	The 1999 Quality Assurance Project Plan Regional Monitoring Program for Trace

QAPP Information Reference(s):	Substances was used. 1999 Quality Assurance Project Plan Regional Monitoring Program for Trace Substances
Line of Evidence (LOE) for Decision ID 34650, Dieldrin	
San Francisco Bay, Central	
LOE ID:	92822
Pollutant:	Dieldrin
LOE Subgroup:	Pollutant-Water
Matrix:	Water
Fraction:	Dissolved
Beneficial Use:	Marine Habitat
Number of Samples:	57
Number of Exceedances:	0
Data and Information Type:	PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality:	State Water Board staff assessed SFEI data for San Francisco Bay, Central to determine beneficial use support and results are as follows: 0 of 57 samples exceed the criterion for Dieldrin.
Data Reference:	Regional Monitoring Program data, Feb. 1993-Sep. 2008
SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	The Dieldrin criterion continuous concentration (expressed as a 4-day average) to protect aquatic life in saline water is 0.0019 ug/L (California Toxics Rule, 2000).
Objective/Criterion Reference:	Code of Federal Regulations 40 part 131.38 Establishment of numeric criteria for priority toxic pollutants for the State of California. 7/1/2011 Edition
Evaluation Guideline:	
Guideline Reference:	
Spatial Representation:	Data for this line of evidence for San Francisco Bay, Central was collected at 13 monitoring sites [Yerba Buena Island - BC10, Red Rock - BC60, Central Bay - CB011W, Central Bay - CB007W, Central Bay - CB006W, Central Bay - CB005W, Central Bay - CB008W, Central Bay - CB013W, Central Bay - CB001W, Central Bay - CB009W, Central Bay - CB023W, Central Bay - CB015W, Central Bay - CB003W]
Temporal Representation:	Data was collected over the time period 3/3/1993-8/13/2007.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	The 1999 Quality Assurance Project Plan Regional Monitoring Program for Trace Substances was used.
QAPP Information Reference(s):	1999 Quality Assurance Project Plan Regional Monitoring Program for Trace Substances

Line of Evidence (LOE) for Decision ID 34650, Dieldrin	
San Francisco Bay, Central	
LOE ID:	92821
Pollutant:	Dieldrin
LOE Subgroup:	Pollutant-Water
Matrix:	Water
Fraction:	Total
Beneficial Use:	Commercial or recreational collection of fish, shellfish, or organisms
Number of Samples:	60
Number of Exceedances:	5
Data and Information Type:	PHYSICAL/CHEMICAL MONITORING

Data Used to Assess Water Quality:	State Water Board staff assessed SFEI data for San Francisco Bay, Central to determine beneficial use support and results are as follows: 5 of 60 samples exceed the criterion for Dieldrin.
Data Reference:	Regional Monitoring Program data, Feb. 1993-Sep. 2008
SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	The Dieldrin criteria for the protection of human health from consumption of organisms only is 0.00014 ug/L (California Toxics Rule, 2000).
Objective/Criterion Reference:	Code of Federal Regulations 40 part 131.38 Establishment of numeric criteria for priority toxic pollutants for the State of California. 7/1/2011 Edition
Evaluation Guideline:	
Guideline Reference:	
Spatial Representation:	Data for this line of evidence for San Francisco Bay, Central was collected at 16 monitoring sites [Yerba Buena Island - BC10, Red Rock - BC60, Central Bay - CB001W, Central Bay - CB003W, Central Bay - CB005W, Central Bay - CB006W, Central Bay - CB007W, Central Bay - CB008W, Central Bay - CB009W, Central Bay - CB011W, Central Bay - CB013W, Central Bay - CB015W, Central Bay - CB017W, Central Bay - CB019W, Central Bay - CB021W, Central Bay - CB023W]
Temporal Representation:	Data was collected over the time period 3/3/1993-8/13/2007.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	The 1999 Quality Assurance Project Plan Regional Monitoring Program for Trace Substances was used.
QAPP Information Reference(s):	1999 Quality Assurance Project Plan Regional Monitoring Program for Trace Substances

Line of Evidence (LOE) for Decision ID 34650, Dieldrin

Region 2

San Francisco Bay, Central

LOE ID:	92820
Pollutant:	Dieldrin
LOE Subgroup:	Pollutant-Water
Matrix:	Water
Fraction:	Dissolved
Beneficial Use:	Estuarine Habitat
Number of Samples:	57
Number of Exceedances:	0
Data and Information Type:	PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality:	State Water Board staff assessed SFEI data for San Francisco Bay, Central to determine beneficial use support and results are as follows: 0 of 57 samples exceed the criterion for Dieldrin.
Data Reference:	Regional Monitoring Program data, Feb. 1993-Sep. 2008
SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	The Dieldrin criterion continuous concentration (expressed as a 4-day average) to protect aquatic life in saline water is 0.0019 ug/L (California Toxics Rule, 2000).
Objective/Criterion Reference:	Code of Federal Regulations 40 part 131.38 Establishment of numeric criteria for priority toxic pollutants for the State of California. 7/1/2011 Edition
Evaluation Guideline:	
Guideline Reference:	
Spatial Representation:	Data for this line of evidence for San Francisco Bay, Central was collected at 13 monitoring sites [Yerba Buena Island - BC10, Red Rock - BC60, Central Bay - CB011W, Central Bay - CB007W, Central Bay - CB006W, Central Bay - CB005W, Central Bay - CB008W, Central Bay - CB013W, Central Bay - CB001W, Central Bay - CB009W, Central

Temporal Representation:	Bay - CB023W, Central Bay - CB015W, Central Bay - CB003W]
Environmental Conditions:	Data was collected over the time period 3/3/1993-8/13/2007.
QAPP Information:	Staff is not aware of any special conditions that might affect interpretation of the data.
	The 1999 Quality Assurance Project Plan Regional Monitoring Program for Trace Substances was used.
QAPP Information Reference(s):	1999 Quality Assurance Project Plan Regional Monitoring Program for Trace Substances

Line of Evidence (LOE) for Decision ID 34650, Dieldrin
San Francisco Bay, Central

Region 2

LOE ID:	92819
Pollutant:	Dieldrin
LOE Subgroup:	Pollutant-Tissue
Matrix:	Tissue
Fraction:	Shellfish
Beneficial Use:	Shellfish Harvesting
Number of Samples:	3
Number of Exceedances:	3
Data and Information Type:	Shellfish surveys
Data Used to Assess Water Quality:	All three results exceeded the guideline. Data were reported on a dry weight basis and were converted to a wet weight basis by multiplying the dry-weight concentration by a factor of 1 minus the percentage of moisture content expressed as a decimal.
Data Reference:	State Mussel Watch Program Data 1977-2000; Winter 2007-Winter 2009. State Water Resources Control Board
SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	Many pollutants can accumulate on particles, in sediment, or bioaccumulate in fish and other aquatic organisms. Controllable water quality factors shall not cause a detrimental increase in concentrations of toxic substances found in bottom sediments or aquatic life. Effects on aquatic organisms, wildlife, and human health will be considered.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	The modified OEHHA Fish Contaminant Goal for dieldrin in shellfish tissue is 0.49 ppb. This screening level assumes an average body weight of 70 kg and a consumption rate of 21 g/day for a 30 year exposure over a 70-year lifetime. This constituent is a carcinogen therefore the risk level is set to one in a million. (Brodberg, R.K., and G.A. Pollock, 1999; Klasing, S., and R. Brodberg, 2008)
Guideline Reference:	Prevalence of Selected Target Chemical Contaminants in Sport Fish From Two California Lakes: Public health designed screening study. Sacramento, CA: Office of Environmental Health Hazard Assessment Development of Fish Contaminant Goals and Advisory Tissue Levels for Common Contaminants in California Sport Fish: Chlordane, DDTs, Dieldrin, Methylmercury, PCBs, Selenium, and Toxaphene
Spatial Representation:	Samples are collected by hand from three sub-locations for each site. The composite samples were collected from sites San Francisco Bay Emeryville (SFEM) and two separate years from site San Francisco Bay Yerba Buena Island (SFYB).
Temporal Representation:	Representative samples of locally abundant species were collected during the winter on 12/22/2007, 12/8/2008, and 2/4/2009.
Environmental Conditions:	
QAPP Information:	Samples were collected as part of the State Water Board's Mussel Watch Program which is a part of the National Oceanic Administration's (NOAAs) National Status and Trends (NS&T). Mussels are shipped to NOAAs contract labs for analysis of trace constituents and mussel condition. Analytical protocols follow those approved by NOAAs NS&T Program Additional background information can be found at: http://ccma.nos.noaa.gov/stressors/pollution/nsandt/
QAPP Information Reference(s):	

Pollutant:	Mercury
Final Listing Decision:	Do Not Delist from 303(d) list (being addressed with USEPA approved TMDL)
Last Listing Cycle's Final Listing Decision:	List on 303(d) list (being addressed by USEPA approved TMDL)(2012)
Revision Status	Revised
Sources:	Atmospheric Deposition Industrial Point Sources Municipal Point Sources Natural Sources Nonpoint Source Resource Extraction
TMDL Name:	San Francisco Bay Mercury
TMDL Project Code:	6
Date TMDL Approved by USEPA:	02/12/2008
Impairment from Pollutant or Pollution:	Pollutant
Regional Board Staff Conclusion:	<p>This pollutant is being considered for removal on the CWA section 303(d) List under sections 2.2 and Section 4.1 of the Listing Policy. Under Section 4.1 of the Policy, a minimum of one line of evidence is needed to assess listing status.</p> <p>Four lines of evidence are available in the administrative record to assess this pollutant.</p> <p>Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against removing this water segment-pollutant combination from the CWA section 303(d) List. There is sufficient justification to place it in the Being Addressed portion of the CWA 303(d) List because a TMDL has been completed and approved by RWQCB and USEPA, and is expected to result in attainment of the standard.</p> <p>This conclusion is based on the staff findings that:</p> <ol style="list-style-type: none"> 1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy. 2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy. 3. Eighty of one hundred eighty five samples exceeded the evaluation guidelines and these exceed the allowable frequency listed in Table 4.1 of the Listing Policy. 4. The SF Bay Mercury TMDL was approved by USEPA on 2/12/2008. 5. Pursuant to section 4.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.
Regional Board Staff Decision Recommendation:	After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be removed from the section 303(d) list because applicable water quality standards for the pollutant are being exceeded.

Line of Evidence (LOE) for Decision ID 34078, Mercury	Region 2
San Francisco Bay, Central	

LOE ID:	95178
Pollutant:	Mercury
LOE Subgroup:	Pollutant-Tissue
Matrix:	Tissue
Fraction:	Fish fillet
Beneficial Use:	Commercial or recreational collection of fish, shellfish, or organisms
Number of Samples:	157
Number of Exceedances:	78
Data and Information Type:	Fish tissue analysis

Data Used to Assess Water Quality:	Water Board staff assessed Regional Monitoring Program data for Central San Francisco Bay to determine beneficial use support and results are as follows: 78 of 157 samples exceed the criterion for mercury. No samples were discarded for being non-detect, unquantifiable or the reporting limit exceeding the water quality objective.
Data Reference:	Regional Monitoring Program data, Feb. 1993-Sep. 2008
SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	Water Quality Control Plan for the San Francisco Bay Basin: Controllable water quality factors shall not cause a detrimental increase in concentrations of toxic substances found in bottom sediments or aquatic life. Effects on aquatic organisms, wildlife, and human health will be considered.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	The Water Quality Control Plan for the San Francisco Bay Basin has a water quality objective in all parts of San Francisco Bay of 0.2 mg mercury per kg fish tissue for the protection of human health.
Guideline Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Spatial Representation:	The samples were collected at sixteen sites throughout Central San Francisco Bay.
Temporal Representation:	The samples were collected every three years from May 1994 through October 2006.
Environmental Conditions:	
QAPP Information:	The 1999 Quality Assurance Project Plan Regional Monitoring Program for Trace Substances was used.
QAPP Information Reference(s):	1999 Quality Assurance Project Plan Regional Monitoring Program for Trace Substances

Line of Evidence (LOE) for Decision ID 34078, Mercury San Francisco Bay, Central

Region 2

LOE ID:	3829
Pollutant:	Mercury
LOE Subgroup:	Pollutant-Tissue
Matrix:	Tissue
Fraction:	Not Recorded
Beneficial Use:	Commercial or recreational collection of fish, shellfish, or organisms
Number of Samples:	0
Number of Exceedances:	0
Data and Information Type:	Not Specified
Data Used to Assess Water Quality:	Unspecified--This LOE is a placeholder to support a 303(d) listing decision made prior to 2006.
Data Reference:	Placeholder reference pre-2006 303(d)
SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	Unspecified
Objective/Criterion Reference:	Placeholder reference pre-2006 303(d)
Evaluation Guideline:	Unspecified
Guideline Reference:	Placeholder reference pre-2006 303(d)
Spatial Representation:	Unspecified
Temporal Representation:	Unspecified
Environmental Conditions:	Unspecified
QAPP Information:	Unspecified
QAPP Information Reference(s):	

Line of Evidence (LOE) for Decision ID 34078, Mercury

Region 2

San Francisco Bay, Central

LOE ID:	92848
Pollutant:	Mercury
LOE Subgroup:	Pollutant-Tissue
Matrix:	Tissue
Fraction:	Shellfish
Beneficial Use:	Shellfish Harvesting
Number of Samples:	3
Number of Exceedances:	0
Data and Information Type:	Shellfish surveys
Data Used to Assess Water Quality:	The three samples did not exceed the guideline. Data were reported on a dry weight basis and were converted to a wet weight basis by multiplying the dry-weight concentration by a factor of 1 minus the percentage of moisture content expressed as a decimal.
Data Reference:	State Mussel Watch Program Data 1977-2000; Winter 2007-Winter 2009. State Water Resources Control Board
SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	Many pollutants can accumulate on particles, in sediment, or bioaccumulate in fish and other aquatic organisms. Controllable water quality factors shall not cause a detrimental increase in concentrations of toxic substances found in bottom sediments or aquatic life. Effects on aquatic organisms, wildlife, and human health will be considered.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	The USEPA 304(a) recommended water quality criterion for concentrations of methylmercury in shellfish tissue (wet weight) is 0.2 ppm. (Brodberg, R.K., and G.A. Pollock, 1999; USEPA, 2001)
Guideline Reference:	Prevalence of Selected Target Chemical Contaminants in Sport Fish From Two California Lakes: Public health designed screening study. Sacramento, CA: Office of Environmental Health Hazard Assessment Water Quality Criterion for the Protection of Human Health: Methylmercury. Final. United States Environmental Protection Agency Office of Science and Technology Office of Water. EPA-823-R-01-001. January 2001
Spatial Representation:	Samples are collected by hand from three sub-locations for each site. The composite samples were collected from sites San Francisco Bay Emeryville (SFEM) and two separate years from site San Francisco Bay Yerba Buena Island (SFYB).
Temporal Representation:	Representative samples of locally abundant species were collected during the winter on 12/22/2007, 12/8/2008, and 2/4/2009.
Environmental Conditions:	
QAPP Information:	Samples were collected as part of the State Water Board's Mussel Watch Program which is a part of the National Oceanic Administration's (NOAAs) National Status and Trends (NS&T). Mussels are shipped to NOAAs contract labs for analysis of trace constituents and mussel condition. Analytical protocols follow those approved by NOAAs NS&T Program Additional background information can be found at: http://ccma.nos.noaa.gov/stressors/pollution/nsandt/
QAPP Information Reference(s):	

Line of Evidence (LOE) for Decision ID 34078, Mercury**Region 2****San Francisco Bay, Central**

LOE ID:	93689
Pollutant:	Mercury
LOE Subgroup:	Pollutant-Tissue
Matrix:	Tissue

Fraction:	Shellfish
Beneficial Use:	Shellfish Harvesting
Number of Samples:	34
Number of Exceedances:	0
Data and Information Type:	Shellfish surveys
Data Used to Assess Water Quality:	None of the 34 samples exceeded the guideline. All composite samples were comprised of <i>Mytilus californianus</i> . Data were reported on a dry weight basis and were converted to a wet weight basis by multiplying the dry-weight concentration by a factor of 1 minus the percentage of moisture content expressed as a decimal. Laboratory replicates were averaged. If a dry weight result did not have a corresponding moisture result for conversion to wet weight, the sample was not included in the assessment.
Data Reference:	Regional Monitoring Program data, Feb. 1993-Sep. 2008
SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	Water Quality Control Plan for the San Francisco Bay Basin: Controllable water quality factors shall not cause a detrimental increase in concentrations of toxic substances found in bottom sediments or aquatic life. Effects on aquatic organisms, wildlife, and human health will be considered.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	The USEPA 304(a) recommended water quality criterion for concentrations of methylmercury in shellfish tissue (wet weight) is 0.20 ppm. (Brodberg, R.K., and G.A. Pollock, 1999; USEPA, 2001)
Guideline Reference:	Prevalence of Selected Target Chemical Contaminants in Sport Fish From Two California Lakes: Public health designed screening study. Sacramento, CA: Office of Environmental Health Hazard Assessment Water Quality Criterion for the Protection of Human Health: Methylmercury. Final. United States Environmental Protection Agency Office of Science and Technology Office of Water. EPA-823-R-01-001. January 2001
Spatial Representation:	Samples were collected at the following stations: BC21 - Horseshoe Bay, BC61 - Red Rock and BC10 - Yerba Buena Island.
Temporal Representation:	Samples were generally collected in spring and fall seasons from years 1993 - 1999.
Environmental Conditions:	
QAPP Information:	1999 Quality Assurance Project Plan Regional Monitoring Program for Trace Substances.
QAPP Information Reference(s):	1999 Quality Assurance Project Plan Regional Monitoring Program for Trace Substances

DECISION ID	33595	Region 2
San Francisco Bay, Central		

Pollutant:	PCBs (Polychlorinated biphenyls)
Final Listing Decision:	Do Not Delist from 303(d) list (being addressed with USEPA approved TMDL)
Last Listing Cycle's Final Listing Decision:	List on 303(d) list (TMDL required list)(2012)
Revision Status	Revised
Sources:	Source Unknown
TMDL Name:	San Francisco Bay PCBs
TMDL Project Code:	7
Date TMDL Approved by USEPA:	03/29/2010
Impairment from Pollutant or Pollution:	Pollutant
Regional Board Staff Conclusion:	This pollutant is being considered for removal on the CWA section 303(d) List under sections 2.2 and Section 4.1 of the Listing Policy. Under Section 4.1 of the Policy, a minimum of one line of evidence is needed to assess listing status.

Eight lines of evidence are available in the administrative record to assess this pollutant.

Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against removing this water segment-pollutant combination from the CWA section 303(d) List. There is sufficient justification to place it in the Being Addressed portion of the CWA 303(d) List because a TMDL has been completed and approved by RWQCB and USEPA, and is expected to result in attainment of the standard.

This conclusion is based on the staff findings that:

1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy.
2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy.
3. Fifty-two of fifty-four samples exceeded the evaluation guidelines and these exceed the allowable frequency listed in Table 4.1 of the Listing Policy.
4. The SF Bay PCBs TMDL was approved by USEPA on March 29, 2010.
5. Pursuant to section 4.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.

Regional Board Staff Decision Recommendation: After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be removed from the section 303(d) list because applicable water quality standards for the pollutant are being exceeded.

Line of Evidence (LOE) for Decision ID 33595, PCBs (Polychlorinated biphenyls)

Region 2

San Francisco Bay, Central

LOE ID:	95883
Pollutant:	PCBs (Polychlorinated biphenyls)
LOE Subgroup:	Pollutant-Tissue
Matrix:	Tissue
Fraction:	Fish fillet
Beneficial Use:	Commercial or recreational collection of fish, shellfish, or organisms
Number of Samples:	4
Number of Exceedances:	3
Data and Information Type:	Fish tissue analysis
Data Used to Assess Water Quality:	Water Board staff assessed Regional Monitoring Program data for the Richmond Marina to determine beneficial use support and results are as follows: 3 of 4 samples exceed the criterion for PCBs. No samples were discarded for being non-detect, unquantifiable or the reporting limit exceeding the water quality objective.
Data Reference:	Regional Monitoring Program data, Feb. 1993-Sep. 2008
SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	Water Quality Control Plan for the San Francisco Bay Basin: Controllable water quality factors shall not cause a detrimental increase in concentrations of toxic substances found in bottom sediments or aquatic life. Effects on aquatic organisms, wildlife, and human health will be considered.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	The modified OEHHA Fish Contaminant Goal for polychlorinated biphenyls in fish tissue is 2.6 ppb. This screening level assumes an average body weight of 70 kg and a consumption rate of 32 g/day for a 30 year exposure over a 70-year lifetime. This constituent is a carcinogen therefore the risk level is set to one in a million. A cooking reduction factor of 1 is applied for skin-off fillets. (Klasing, S., and R. Brodberg, 2008)
Guideline Reference:	Development of Fish Contaminant Goals and Advisory Tissue Levels for Common Contaminants in California Sport Fish: Chlordane, DDTs, Dieldrin, Methylmercury, PCBs, Selenium, and Toxaphene
Spatial Representation:	The samples were collected at one site in the Richmond Marina. The sportfish are wide-

Temporal Representation:	ranging so these data represent fish from Central San Francisco Bay.
Environmental Conditions:	The samples were collected in May 1994.
QAPP Information:	The 1999 Quality Assurance Project Plan Regional Monitoring Program for Trace Substances was used.
QAPP Information Reference(s):	1999 Quality Assurance Project Plan Regional Monitoring Program for Trace Substances

Line of Evidence (LOE) for Decision ID 33595, PCBs (Polychlorinated biphenyls)	Region 2
San Francisco Bay, Central	

LOE ID:	95101
Pollutant:	PCBs (Polychlorinated biphenyls)
LOE Subgroup:	Pollutant-Tissue
Matrix:	Tissue
Fraction:	Fish fillet
Beneficial Use:	Commercial or recreational collection of fish, shellfish, or organisms
Number of Samples:	127
Number of Exceedances:	31
Data and Information Type:	Fish tissue analysis
Data Used to Assess Water Quality:	Water Board staff assessed Regional Monitoring Program data for Central San Francisco Bay to determine beneficial use support and results are as follows: 31 of 127 samples exceed the criterion for PCBs. No samples were discarded for being non-detect, unquantifiable or the reporting limit exceeding the water quality objective.
Data Reference:	Regional Monitoring Program data, Feb. 1993-Sep. 2008
SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	Water Quality Control Plan for the San Francisco Bay Basin: Controllable water quality factors shall not cause a detrimental increase in concentrations of toxic substances found in bottom sediments or aquatic life. Effects on aquatic organisms, wildlife, and human health will be considered.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	The modified OEHHA Fish Contaminant Goal for polychlorinated biphenyls in fish tissue is 2.6 ppb. This screening level assumes an average body weight of 70 kg and a consumption rate of 32 g/day for a 30 year exposure over a 70-year lifetime. This constituent is a carcinogen therefore the risk level is set to one in a million. A cooking reduction factor of 1 is applied for skin-off fillets. (Klasing, S., and R. Brodberg, 2008)
Guideline Reference:	Development of Fish Contaminant Goals and Advisory Tissue Levels for Common Contaminants in California Sport Fish: Chlordane, DDTs, Dieldrin, Methylmercury, PCBs, Selenium, and Toxaphene
Spatial Representation:	The samples were collected at seventeen sites throughout Central San Francisco Bay.
Temporal Representation:	The samples were collected every three years from May 1994 through October 2006.
Environmental Conditions:	
QAPP Information:	The 1999 Quality Assurance Project Plan Regional Monitoring Program for Trace Substances was used.
QAPP Information Reference(s):	1999 Quality Assurance Project Plan Regional Monitoring Program for Trace Substances

Line of Evidence (LOE) for Decision ID 33595, PCBs (Polychlorinated biphenyls)	Region 2
San Francisco Bay, Central	

LOE ID:	92780
Pollutant:	PCBs (Polychlorinated biphenyls)
LOE Subgroup:	Pollutant-Water
Matrix:	Water

Fraction:	Total
Beneficial Use:	Commercial or recreational collection of fish, shellfish, or organisms
Number of Samples:	60
Number of Exceedances:	51
Data and Information Type:	PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality:	State Water Board staff assessed SFEI data for San Francisco Bay, Central to determine beneficial use support and results are as follows: 51 of 60 samples exceed the criterion for PCB, Total.
Data Reference:	Regional Monitoring Program data, Feb. 1993-Sep. 2008
SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	The Polychlorinated Biphenyls criteria for the protection of human health from consumption of organisms only is 0.00017 ug/L (California Toxics Rule, 2000).
Objective/Criterion Reference:	Code of Federal Regulations 40 part 131.38 Establishment of numeric criteria for priority toxic pollutants for the State of California. 7/1/2011 Edition
Evaluation Guideline:	
Guideline Reference:	
Spatial Representation:	Data for this line of evidence for San Francisco Bay, Central was collected at 16 monitoring sites [Yerba Buena Island - BC10, Red Rock - BC60, Central Bay - CB001W, Central Bay - CB003W, Central Bay - CB005W, Central Bay - CB006W, Central Bay - CB007W, Central Bay - CB008W, Central Bay - CB009W, Central Bay - CB011W, Central Bay - CB013W, Central Bay - CB015W, Central Bay - CB017W, Central Bay - CB019W, Central Bay - CB021W, Central Bay - CB023W]
Temporal Representation:	Data was collected over the time period 3/3/1993-8/13/2007.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	The 1999 Quality Assurance Project Plan Regional Monitoring Program for Trace Substances was used.
QAPP Information Reference(s):	1999 Quality Assurance Project Plan Regional Monitoring Program for Trace Substances

Line of Evidence (LOE) for Decision ID 33595, PCBs (Polychlorinated biphenyls)

Region 2

San Francisco Bay, Central

LOE ID:	93666
Pollutant:	PCBs (Polychlorinated biphenyls)
LOE Subgroup:	Pollutant-Tissue
Matrix:	Tissue
Fraction:	Shellfish
Beneficial Use:	Shellfish Harvesting
Number of Samples:	51
Number of Exceedances:	49
Data and Information Type:	Shellfish surveys
Data Used to Assess Water Quality:	Forty-nine of the 51 samples exceeded the guideline. Composite samples were comprised of <i>Mytilus californianus</i> . Data were reported on a dry weight basis and were converted to a wet weight basis by multiplying the dry-weight concentration by a factor of 1 minus the percentage of moisture content expressed as a decimal. Laboratory replicates were averaged. Total PCB was assessed for as follows: PCB aroclors and congeners were summed separately and the sum that yielded the highest value was used for the assessment. The results for Station BC61 collected on 5/8/1997 were not valid samples and so were not used in the assessment.
Data Reference:	Regional Monitoring Program data, Feb. 1993-Sep. 2008
SWAMP Data:	Non-SWAMP

Water Quality Objective/Criterion:	Water Quality Control Plan for the San Francisco Bay Basin (2013): Controllable water quality factors shall not cause a detrimental increase in concentrations of toxic substances found in bottom sediments or aquatic life. Effects on aquatic organisms, wildlife, and human health will be considered.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	The modified OEHHA Fish Contaminant Goal for polychlorinated biphenyls in shellfish tissue is 3.9 ppb. This screening level assumes an average body weight of 70 kg and a consumption rate of 21 g/day for a 30 year exposure over a 70-year lifetime. This constituent is a carcinogen therefore the risk level is set to one in a million. (Brodberg, R.K., and G.A. Pollock, 1999; Klasing, S., and R. Brodberg, 2008)
Guideline Reference:	Prevalence of Selected Target Chemical Contaminants in Sport Fish From Two California Lakes: Public health designed screening study. Sacramento, CA: Office of Environmental Health Hazard Assessment Development of Fish Contaminant Goals and Advisory Tissue Levels for Common Contaminants in California Sport Fish: Chlordane, DDTs, Dieldrin, Methylmercury, PCBs, Selenium, and Toxaphene
Spatial Representation:	Samples were collected at the following stations: BC10 - Yerba Buena Island, BC21 - Horseshoe Bay, and BC61 - Red Rock.
Temporal Representation:	Samples were generally collected in spring and fall seasons from years 1993 - 1999 and then during fall season from years 2000 - 2008.
Environmental Conditions:	
QAPP Information:	1999 Quality Assurance Project Plan Regional Monitoring Program for Trace Substances.
QAPP Information Reference(s):	1999 Quality Assurance Project Plan Regional Monitoring Program for Trace Substances

Line of Evidence (LOE) for Decision ID 33595, PCBs (Polychlorinated biphenyls)
San Francisco Bay, Central

Region 2

LOE ID:	92778
Pollutant:	PCBs (Polychlorinated biphenyls)
LOE Subgroup:	Pollutant-Water
Matrix:	Water
Fraction:	Dissolved
Beneficial Use:	Marine Habitat
Number of Samples:	57
Number of Exceedances:	0
Data and Information Type:	PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality:	State Water Board staff assessed SFEI data for San Francisco Bay, Central to determine beneficial use support and results are as follows: 0 of 57 samples exceed the criterion for PCB, Total.
Data Reference:	Regional Monitoring Program data, Feb. 1993-Sep. 2008
SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	The PCB, Total criterion continuous concentration (expressed as a 4-day average) to protect aquatic life in saltwater is 0.03 ug/L (California Toxics Rule, 2000).
Objective/Criterion Reference:	Code of Federal Regulations 40 part 131.38 Establishment of numeric criteria for priority toxic pollutants for the State of California. 7/1/2011 Edition
Evaluation Guideline:	
Guideline Reference:	
Spatial Representation:	Data for this line of evidence for San Francisco Bay, Central was collected at 13 monitoring sites [Yerba Buena Island - BC10, Red Rock - BC60, Central Bay - CB011W, Central Bay - CB007W, Central Bay - CB006W, Central Bay - CB005W, Central Bay - CB008W, Central Bay - CB013W, Central Bay - CB001W, Central Bay - CB009W, Central

Temporal Representation:	Bay - CB023W, Central Bay - CB015W, Central Bay - CB003W]
Environmental Conditions:	Data was collected over the time period 3/3/1993-8/13/2007.
QAPP Information:	Staff is not aware of any special conditions that might affect interpretation of the data.
	The 1999 Quality Assurance Project Plan Regional Monitoring Program for Trace Substances was used.
QAPP Information Reference(s):	1999 Quality Assurance Project Plan Regional Monitoring Program for Trace Substances

Line of Evidence (LOE) for Decision ID 33595, PCBs (Polychlorinated biphenyls)	Region 2
San Francisco Bay, Central	

LOE ID:	3830
Pollutant:	PCBs (Polychlorinated biphenyls)
LOE Subgroup:	Pollutant-Tissue
Matrix:	Tissue
Fraction:	Not Recorded
Beneficial Use:	Commercial or recreational collection of fish, shellfish, or organisms
Number of Samples:	0
Number of Exceedances:	0
Data and Information Type:	Not Specified
Data Used to Assess Water Quality:	Unspecified--This LOE is a placeholder to support a 303(d) listing decision made prior to 2006.
Data Reference:	Placeholder reference pre-2006 303(d)
SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	Unspecified
Objective/Criterion Reference:	Placeholder reference pre-2006 303(d)
Evaluation Guideline:	Unspecified
Guideline Reference:	Placeholder reference pre-2006 303(d)
Spatial Representation:	Unspecified
Temporal Representation:	Unspecified
Environmental Conditions:	Unspecified
QAPP Information:	Unspecified
QAPP Information Reference(s):	

Line of Evidence (LOE) for Decision ID 33595, PCBs (Polychlorinated biphenyls)	Region 2
San Francisco Bay, Central	

LOE ID:	92779
Pollutant:	PCBs (Polychlorinated biphenyls)
LOE Subgroup:	Pollutant-Water
Matrix:	Water
Fraction:	Dissolved
Beneficial Use:	Estuarine Habitat
Number of Samples:	57
Number of Exceedances:	0
Data and Information Type:	PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality:	State Water Board staff assessed SFEI data for San Francisco Bay, Central to determine beneficial use support and results are as follows: 0 of 57 samples exceed the criterion for PCB, Total.
Data Reference:	Regional Monitoring Program data, Feb. 1993-Sep. 2008

SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	The PCB, Total criterion continuous concentration (expressed as a 4-day average) to protect aquatic life in saltwater is 0.03 ug/L (California Toxics Rule, 2000).
Objective/Criterion Reference:	Code of Federal Regulations 40 part 131.38 Establishment of numeric criteria for priority toxic pollutants for the State of California. 7/1/2011 Edition
Evaluation Guideline:	
Guideline Reference:	
Spatial Representation:	Data for this line of evidence for San Francisco Bay, Central was collected at 13 monitoring sites [Yerba Buena Island - BC10, Red Rock - BC60, Central Bay - CB011W, Central Bay - CB007W, Central Bay - CB006W, Central Bay - CB005W, Central Bay - CB008W, Central Bay - CB013W, Central Bay - CB001W, Central Bay - CB009W, Central Bay - CB023W, Central Bay - CB015W, Central Bay - CB003W]
Temporal Representation:	Data was collected over the time period 3/3/1993-8/13/2007.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	The 1999 Quality Assurance Project Plan Regional Monitoring Program for Trace Substances was used.
QAPP Information Reference(s):	1999 Quality Assurance Project Plan Regional Monitoring Program for Trace Substances

Line of Evidence (LOE) for Decision ID 33595, PCBs (Polychlorinated biphenyls)

Region 2

San Francisco Bay, Central

LOE ID:	92777
Pollutant:	PCBs (Polychlorinated biphenyls)
LOE Subgroup:	Pollutant-Tissue
Matrix:	Tissue
Fraction:	Shellfish
Beneficial Use:	Shellfish Harvesting
Number of Samples:	3
Number of Exceedances:	3
Data and Information Type:	Shellfish surveys
Data Used to Assess Water Quality:	All three results did exceed the guideline. Data were reported on a dry weight basis and were converted to a wet weight basis by multiplying the dry-weight concentration by a factor of 1 minus the percentage of moisture content expressed as a decimal. Total PCB was assessed for as follows: PCB aroclors and congeners were summed separately and the sum that yielded the highest value was used for the assessment.
Data Reference:	State Mussel Watch Program Data 1977-2000; Winter 2007-Winter 2009. State Water Resources Control Board
SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	Many pollutants can accumulate on particles, in sediment, or bioaccumulate in fish and other aquatic organisms. Controllable water quality factors shall not cause a detrimental increase in concentrations of toxic substances found in bottom sediments or aquatic life. Effects on aquatic organisms, wildlife, and human health will be considered.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	The modified OEHHA Fish Contaminant Goal for polychlorinated biphenyls in shellfish tissue is 3.9 ppb. This screening level assumes an average body weight of 70 kg and a consumption rate of 21 g/day for a 30 year exposure over a 70-year lifetime. This constituent is a carcinogen therefore the risk level is set to one in a million. (Brodberg, R.K., and G.A. Pollock, 1999; Klasing, S., and R. Brodberg, 2008)
Guideline Reference:	Prevalence of Selected Target Chemical Contaminants in Sport Fish From Two California Lakes: Public health designed screening study. Sacramento, CA: Office of Environmental Health Hazard Assessment

Spatial Representation:	Samples are collected by hand from three sub-locations for each site. The composite samples were collected from sites San Francisco Bay Emeryville (SFEM) and two separate years from site San Francisco Bay Yerba Buena Island (SFYB).
Temporal Representation:	Representative samples of locally abundant species were collected during the winter on 12/22/2007, 12/8/2008, and 2/4/2009.
Environmental Conditions:	
QAPP Information:	Samples were collected as part of the State Water Board's Mussel Watch Program which is a part of the National Oceanic Administration's (NOAAs) National Status and Trends (NS&T). Mussels are shipped to NOAAs contract labs for analysis of trace constituents and mussel condition. Analytical protocols follow those approved by NOAAs NS&T Program. Additional background information can be found at: http://ccma.nos.noaa.gov/stressors/pollution/nsandt/
QAPP Information Reference(s):	

DECISION ID	44821	Region 2
San Francisco Bay, Central		

Pollutant:	Selenium
Final Listing Decision:	Do Not Delist from 303(d) list (being addressed with USEPA approved TMDL)
Last Listing Cycle's Final Listing Decision:	List on 303(d) list (TMDL required list)(2012)
Revision Status	Revised
Sources:	Source Unknown
TMDL Name:	San Francisco Bay Selenium - North Bay
TMDL Project Code:	540
Date TMDL Approved by USEPA:	08/23/2016
Impairment from Pollutant or Pollution:	Pollutant
Regional Board Staff Conclusion:	<p>This pollutant is being considered for removal on the CWA section 303(d) List under sections 2.2 and 4.1 of the Listing Policy. Under 4.1 of the Policy, a minimum of one line of evidence is needed to assess listing status.</p> <p>Six lines of evidence are available in the administrative record to assess this pollutant.</p> <p>Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against removing this water segment-pollutant combination from the CWA section 303(d) List. There is sufficient justification to place it in the Being Addressed portion of the CWA 303(d) List because a TMDL has been completed and approved by RWQCB and USEPA, and is expected to result in attainment of the standard.</p> <p>This conclusion is based on the staff findings that:</p> <ol style="list-style-type: none"> 1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy. 2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy. 3. Impairment should be based on protection of aquatic life beneficial uses and the existing aquatic life value referenced in the CTR is not sufficiently protective of sensitive fish species. Numeric targets to protect aquatic life are included in the North SF Bay Selenium TMDL and this listing will be reevaluated in accordance with the TMDL. 4. The North SF Bay Selenium TMDL was approved by USEPA on 8/23/2016. 5. Pursuant to section 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.
Regional Board Staff Decision Recommendation:	After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be removed from the section 303(d) list because applicable water quality standards for the pollutant are being exceeded. Impairment should be based on protection of aquatic life beneficial uses and the existing aquatic life value referenced in the CTR is not sufficiently

protective of sensitive fish species. Numeric targets to protect aquatic life are included in the North SF Bay Selenium TMDL and this listing will be reevaluated in accordance with the TMDL

Line of Evidence (LOE) for Decision ID 44821, Selenium

Region 2

San Francisco Bay, Central

LOE ID:	93690
Pollutant:	Selenium
LOE Subgroup:	Pollutant-Tissue
Matrix:	Tissue
Fraction:	Shellfish
Beneficial Use:	Shellfish Harvesting
Number of Samples:	44
Number of Exceedances:	0
Data and Information Type:	Shellfish surveys
Data Used to Assess Water Quality:	None of the 44 samples exceeded the guideline. All composite samples were comprised of <i>Mytilus californianus</i> . Data were reported on a dry weight basis and were converted to a wet weight basis by multiplying the dry-weight concentration by a factor of 1 minus the percentage of moisture content expressed as a decimal. Laboratory replicates were averaged. If a dry weight result did not have a corresponding moisture result for conversion to wet weight, the sample was not included in the assessment.
Data Reference:	Regional Monitoring Program data, Feb. 1993-Sep. 2008
SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	Water Quality Control Plan for the San Francisco Bay Basin: Controllable water quality factors shall not cause a detrimental increase in concentrations of toxic substances found in bottom sediments or aquatic life. Effects on aquatic organisms, wildlife, and human health will be considered.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	The modified OEHHA Fish Contaminant Goal for selenium in shellfish tissue is 11 ppm. This screening level assumes an average body weight of 70 kg and a consumption rate of 21 g/day. A background dietary consumption rate of 0.114 mg/day is applied for this micronutrient. (Brodberg, R.K., and G.A. Pollock, 1999; Klasing, S., and R. Brodberg, 2008)
Guideline Reference:	Prevalence of Selected Target Chemical Contaminants in Sport Fish From Two California Lakes: Public health designed screening study. Sacramento, CA: Office of Environmental Health Hazard Assessment Development of Fish Contaminant Goals and Advisory Tissue Levels for Common Contaminants in California Sport Fish: Chlordane, DDTs, Dieldrin, Methylmercury, PCBs, Selenium, and Toxaphene
Spatial Representation:	Samples were collected at the following stations: BC21 - Horseshoe Bay, BC61 - Red Rock and BC10 - Yerba Buena Island.
Temporal Representation:	Samples were generally collected in spring and fall seasons from years 1993 - 1999 and then during fall of 2000 and 2001. Samples were collected at BC10 and BC61 during fall 2008.
Environmental Conditions:	
QAPP Information:	1999 Quality Assurance Project Plan Regional Monitoring Program for Trace Substances.
QAPP Information Reference(s):	1999 Quality Assurance Project Plan Regional Monitoring Program for Trace Substances

Line of Evidence (LOE) for Decision ID 44821, Selenium

Region 2

San Francisco Bay, Central

LOE ID: 3832

Pollutant:	Selenium
LOE Subgroup:	Pollutant-Water
Matrix:	Water
Fraction:	Not Recorded
Beneficial Use:	Estuarine Habitat
Number of Samples:	0
Number of Exceedances:	0
Data and Information Type:	Not Specified
Data Used to Assess Water Quality:	Unspecified--This LOE is a placeholder to support a 303(d) listing decision made prior to 2006.
Data Reference:	Placeholder reference pre-2006 303(d)
SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	Unspecified
Objective/Criterion Reference:	Placeholder reference pre-2006 303(d)
Evaluation Guideline:	Unspecified
Guideline Reference:	Placeholder reference pre-2006 303(d)
Spatial Representation:	Unspecified
Temporal Representation:	Unspecified
Environmental Conditions:	Unspecified
QAPP Information:	Unspecified
QAPP Information Reference(s):	

Line of Evidence (LOE) for Decision ID 44821, Selenium
San Francisco Bay, Central

Region 2

LOE ID:	92789
Pollutant:	Selenium
LOE Subgroup:	Pollutant-Water
Matrix:	Water
Fraction:	Dissolved
Beneficial Use:	Marine Habitat
Number of Samples:	94
Number of Exceedances:	0
Data and Information Type:	PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality:	State Water Board staff assessed SFEI data for San Francisco Bay, Central to determine beneficial use support and results are as follows: 0 of 94 samples exceed the criterion for Selenium.
Data Reference:	Regional Monitoring Program data, Feb. 1993-Sep. 2008
SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	The dissolved selenium criterion continuous concentration (expressed as a 4-day average) to protect aquatic life in saline water is 5 ug/L (California Toxics Rule, 2000).
Objective/Criterion Reference:	Code of Federal Regulations 40 part 131.38 Establishment of numeric criteria for priority toxic pollutants for the State of California, 7/1/2011 Edition
Evaluation Guideline:	
Guideline Reference:	
Spatial Representation:	Data for this line of evidence for San Francisco Bay, Central was collected at 18

monitoring sites [Yerba Buena Island - BC10, Point Isabel - BC41, Red Rock - BC60, Central Bay - CB011W, Central Bay - CB007W, Central Bay - CB006W, Central Bay - CB005W, Central Bay - CB017W, Central Bay - CB021W, Central Bay - CB008W, Central Bay - CB013W, Central Bay - CB001W, Central Bay - CB009W, Central Bay - CB023W, Central Bay - CB015W, Central Bay - CB003W, Central Bay - CB019W, Central Bay - CB025W]

Temporal Representation:

Data was collected over the time period 3/2/1993-7/15/2008.

Environmental Conditions:

Staff is not aware of any special conditions that might affect interpretation of the data.

QAPP Information:

The 1999 Quality Assurance Project Plan Regional Monitoring Program for Trace Substances was used.

QAPP Information Reference(s):

[1999 Quality Assurance Project Plan Regional Monitoring Program for Trace Substances](#)

Line of Evidence (LOE) for Decision ID 44821, Selenium

Region 2

San Francisco Bay, Central

LOE ID: 92790

Pollutant: Selenium

LOE Subgroup: Pollutant-Water

Matrix: Water

Fraction: Dissolved

Beneficial Use: Estuarine Habitat

Number of Samples: 94

Number of Exceedances: 0

Data and Information Type: PHYSICAL/CHEMICAL MONITORING

Data Used to Assess Water Quality: State Water Board staff assessed SFEI data for San Francisco Bay, Central to determine beneficial use support and results are as follows: 0 of 94 samples exceed the criterion for Selenium.

Data Reference: [Regional Monitoring Program data, Feb. 1993-Sep. 2008](#)

SWAMP Data: Non-SWAMP

Water Quality Objective/Criterion: The dissolved selenium criterion continuous concentration (expressed as a 4-day average) to protect aquatic life in saline water is 5 ug/L (California Toxics Rule, 2000).

Objective/Criterion Reference: [Code of Federal Regulations 40 part 131.38 Establishment of numeric criteria for priority toxic pollutants for the State of California. 7/1/2011 Edition](#)

Evaluation Guideline:

Guideline Reference:

Spatial Representation: Data for this line of evidence for San Francisco Bay, Central was collected at 18 monitoring sites [Yerba Buena Island - BC10, Point Isabel - BC41, Red Rock - BC60, Central Bay - CB001W, Central Bay - CB003W, Central Bay - CB005W, Central Bay - CB006W, Central Bay - CB007W, Central Bay - CB008W, Central Bay - CB009W, Central Bay - CB011W, Central Bay - CB013W, Central Bay - CB015W, Central Bay - CB017W, Central Bay - CB019W, Central Bay - CB021W, Central Bay - CB023W, Central Bay - CB025W]

Temporal Representation: Data was collected over the time period 3/2/1993-7/15/2008.

Environmental Conditions: Staff is not aware of any special conditions that might affect interpretation of the data.

QAPP Information: The 1999 Quality Assurance Project Plan Regional Monitoring Program for Trace Substances was used.

QAPP Information Reference(s):

[1999 Quality Assurance Project Plan Regional Monitoring Program for Trace Substances](#)

Line of Evidence (LOE) for Decision ID 44821, Selenium

Region 2

San Francisco Bay, Central

LOE ID: 95105

Pollutant:	Selenium
LOE Subgroup:	Pollutant-Tissue
Matrix:	Tissue
Fraction:	Fish fillet
Beneficial Use:	Commercial or recreational collection of fish, shellfish, or organisms
Number of Samples:	22
Number of Exceedances:	0
Data and Information Type:	Fish tissue analysis
Data Used to Assess Water Quality:	Water Board staff assessed Regional Monitoring Program data for Central San Francisco Bay to determine beneficial use support and results are as follows: 0 of 22 samples exceed the criterion for selenium. No samples were discarded for being non-detect, unquantifiable or the reporting limit exceeding the water quality objective.
Data Reference:	Regional Monitoring Program data, Feb. 1993-Sep. 2008
SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	Water Quality Control Plan for the San Francisco Bay Basin: Controllable water quality factors shall not cause a detrimental increase in concentrations of toxic substances found in bottom sediments or aquatic life. Effects on aquatic organisms, wildlife, and human health will be considered.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	The OEHHA Fish Contaminant Goal for selenium in fish tissue is 7.4 ppm. This screening level assumes an average body weight of 70 kg and a consumption rate of 32 g/day. A background dietary consumption rate of 0.114 mg/day is applied for this micronutrient. (Klasing, S., and R. Brodberg, 2008)
Guideline Reference:	Development of Fish Contaminant Goals and Advisory Tissue Levels for Common Contaminants in California Sport Fish: Chlordane, DDTs, Dieldrin, Methylmercury, PCBs, Selenium, and Toxaphene
Spatial Representation:	The samples were collected at eight sites throughout Central San Francisco Bay.
Temporal Representation:	The samples were collected in May 1994.
Environmental Conditions:	
QAPP Information:	The 1999 Quality Assurance Project Plan Regional Monitoring Program for Trace Substances was used.
QAPP Information Reference(s):	1999 Quality Assurance Project Plan Regional Monitoring Program for Trace Substances

Line of Evidence (LOE) for Decision ID 44821, Selenium
San Francisco Bay, Central

Region 2

LOE ID:	92788
Pollutant:	Selenium
LOE Subgroup:	Pollutant-Tissue
Matrix:	Tissue
Fraction:	Shellfish
Beneficial Use:	Shellfish Harvesting
Number of Samples:	3
Number of Exceedances:	0
Data and Information Type:	Shellfish surveys
Data Used to Assess Water Quality:	The three samples did not exceed the guideline. Data were reported on a dry weight basis and were converted to a wet weight basis by multiplying the dry-weight concentration by a factor of 1 minus the percentage of moisture content expressed as a decimal.
Data Reference:	State Mussel Watch Program Data 1977-2000; Winter 2007-Winter 2009. State Water Resources Control Board

SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	Many pollutants can accumulate on particles, in sediment, or bioaccumulate in fish and other aquatic organisms. Controllable water quality factors shall not cause a detrimental increase in concentrations of toxic substances found in bottom sediments or aquatic life. Effects on aquatic organisms, wildlife, and human health will be considered.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	The modified OEHHA Fish Contaminant Goal for selenium in shellfish tissue is 11 ppm. This screening level assumes an average body weight of 70 kg and a consumption rate of 21 g/day. A background dietary consumption rate of 0.114 mg/day is applied for this micronutrient. (Brodberg, R.K., and G.A. Pollock, 1999; Klasing, S., and R. Brodberg, 2008)
Guideline Reference:	Prevalence of Selected Target Chemical Contaminants in Sport Fish From Two California Lakes: Public health designed screening study. Sacramento, CA: Office of Environmental Health Hazard Assessment Development of Fish Contaminant Goals and Advisory Tissue Levels for Common Contaminants in California Sport Fish: Chlordane, DDTs, Dieldrin, Methylmercury, PCBs, Selenium, and Toxaphene
Spatial Representation:	Samples are collected by hand from three sub-locations for each site. The composite samples were collected from sites San Francisco Bay Emeryville (SFEM) and two separate years from site San Francisco Bay Yerba Buena Island (SFYB).
Temporal Representation:	Representative samples of locally abundant species were collected during the winter on 12/22/2007, 12/8/2008, and 2/4/2009.
Environmental Conditions:	
QAPP Information:	Samples were collected as part of the State Water Board's Mussel Watch Program which is a part of the National Oceanic Administration's (NOAAs) National Status and Trends (NS&T). Mussels are shipped to NOAAs contract labs for analysis of trace constituents and mussel condition. Analytical protocols follow those approved by NOAAs NS&T Program Additional background information can be found at: http://ccma.nos.noaa.gov/stressors/pollution/nsandt/
QAPP Information Reference(s):	

DECISION ID	66466	Region 2
San Francisco Bay, Central		
Pollutant:	Acenaphthene	
Final Listing Decision:	Do Not List on 303(d) list (TMDL required list)	
Last Listing Cycle's Final Listing Decision:	New Decision	
Revision Status	Revised	
Impairment from Pollutant or Pollution:	Pollutant	
Regional Board Staff Conclusion:	<p>This pollutant is being considered for placement on the CWA section 303(d) List under section 3.1 of the Listing Policy. Under section 3.1 a single line of evidence is necessary to assess listing status.</p> <p>Three lines of evidence are available in the administrative record to assess this pollutant. Zero of forty-four samples exceed the guideline.</p> <p>Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against placing this water segment-pollutant combination on the CWA section 303(d) List in the Water Quality Limited Segments category.</p> <p>This conclusion is based on the staff findings that:</p> <ol style="list-style-type: none"> 1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy. 2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy. 3. Zero of forty-four samples exceed the guideline and this does not exceed the allowable frequency listed in Table 3.1 of the Listing Policy. 	

4. Pursuant to section 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.

Regional Board Staff Decision Recommendation: After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be placed on the section 303(d) list because applicable water quality standards are not being exceeded.

**Line of Evidence (LOE) for Decision ID 66466, Acenaphthene
San Francisco Bay, Central**

Region 2

LOE ID: 92782

Pollutant: Acenaphthene
LOE Subgroup: Pollutant-Water
Matrix: Water
Fraction: Dissolved

Beneficial Use: Estuarine Habitat

Number of Samples: 44
Number of Exceedances: 0

Data and Information Type: PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality: State Water Board staff assessed SFEI data for San Francisco Bay, Central to determine beneficial use support and results are as follows: 0 of 44 samples exceed the criterion for Acenaphthene.

Data Reference: [Regional Monitoring Program data, Feb. 1993-Sep. 2008](#)

SWAMP Data: Non-SWAMP

Water Quality Objective/Criterion: No individual pesticide or combination of pesticides shall be present in concentrations that adversely affect beneficial uses.

Objective/Criterion Reference: [Water Quality Control Plan \(Basin Plan\) San Francisco Bay Basin \(Region 2\)](#)

Evaluation Guideline: The available data for acenaphthene indicate that chronic toxicity to saltwater aquatic life occurs at concentrations as low as 710 ug/L and would occur at lower concentrations among species that are more sensitive than those tested. (USEPA Gold Book - EPA 440/5-86-001)

Guideline Reference: [Quality Criteria for Water 1986. United States Environmental Protection Agency. Office of Water. Regulations and Standards. Washington D.C. EPA 440/5-86-001.](#)

Spatial Representation: Data for this line of evidence for San Francisco Bay, Central was collected at 13 monitoring sites [Yerba Buena Island - BC10, Red Rock - BC60, Central Bay - CB011W, Central Bay - CB007W, Central Bay - CB006W, Central Bay - CB005W, Central Bay - CB008W, Central Bay - CB013W, Central Bay - CB001W, Central Bay - CB009W, Central Bay - CB023W, Central Bay - CB015W, Central Bay - CB003W]

Temporal Representation: Data was collected over the time period 2/7/1996-7/15/2008.

Environmental Conditions: Staff is not aware of any special conditions that might affect interpretation of the data.

QAPP Information: The 1999 Quality Assurance Project Plan Regional Monitoring Program for Trace Substances was used.

QAPP Information Reference(s): [1999 Quality Assurance Project Plan Regional Monitoring Program for Trace Substances](#)

**Line of Evidence (LOE) for Decision ID 66466, Acenaphthene
San Francisco Bay, Central**

Region 2

LOE ID: 92783

Pollutant: Acenaphthene
LOE Subgroup: Pollutant-Water
Matrix: Water

Fraction:	Total
Beneficial Use:	Commercial or recreational collection of fish, shellfish, or organisms
Number of Samples:	38
Number of Exceedances:	0
Data and Information Type:	PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality:	State Water Board staff assessed SFEI data for San Francisco Bay, Central to determine beneficial use support and results are as follows: 0 of 38 samples exceed the criterion for Acenaphthene.
Data Reference:	Regional Monitoring Program data, Feb. 1993-Sep. 2008
SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	The Acenaphthene criteria for the protection of human health from consumption of organisms only is 2,700 ug/L (California Toxics Rule, 2000).
Objective/Criterion Reference:	Code of Federal Regulations 40 part 131.38 Establishment of numeric criteria for priority toxic pollutants for the State of California. 7/1/2011 Edition
Evaluation Guideline:	
Guideline Reference:	
Spatial Representation:	Data for this line of evidence for San Francisco Bay, Central was collected at 11 monitoring sites [Yerba Buena Island - BC10, Red Rock - BC60, Central Bay - CB001W, Central Bay - CB005W, Central Bay - CB006W, Central Bay - CB007W, Central Bay - CB008W, Central Bay - CB017W, Central Bay - CB021W, Central Bay - CB023W, Central Bay - CB025W]
Temporal Representation:	Data was collected over the time period 2/7/1996-7/15/2008.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	The 1999 Quality Assurance Project Plan Regional Monitoring Program for Trace Substances was used.
QAPP Information Reference(s):	1999 Quality Assurance Project Plan Regional Monitoring Program for Trace Substances

Line of Evidence (LOE) for Decision ID 66466, Acenaphthene
San Francisco Bay, Central

Region 2

LOE ID:	92781
Pollutant:	Acenaphthene
LOE Subgroup:	Pollutant-Water
Matrix:	Water
Fraction:	Dissolved
Beneficial Use:	Marine Habitat
Number of Samples:	44
Number of Exceedances:	0
Data and Information Type:	PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality:	State Water Board staff assessed SFEI data for San Francisco Bay, Central to determine beneficial use support and results are as follows: 0 of 44 samples exceed the criterion for Acenaphthene.
Data Reference:	Regional Monitoring Program data, Feb. 1993-Sep. 2008
SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	No individual pesticide or combination of pesticides shall be present in concentrations that adversely affect beneficial uses.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	The available data for acenaphthene indicate that chronic toxicity to saltwater aquatic life

occurs at concentrations as low as 710 ug/L and would occur at lower concentrations among species that are more sensitive than those tested. (USEPA Gold Book - EPA 440/5-86-001)

Guideline Reference: [Quality Criteria for Water 1986. United States Environmental Protection Agency. Office of Water. Regulations and Standards. Washington D.C. EPA 440/5-86-001.](#)

Spatial Representation: Data for this line of evidence for San Francisco Bay, Central was collected at 13 monitoring sites [Yerba Buena Island - BC10, Red Rock - BC60, Central Bay - CB011W, Central Bay - CB007W, Central Bay - CB006W, Central Bay - CB005W, Central Bay - CB008W, Central Bay - CB013W, Central Bay - CB001W, Central Bay - CB009W, Central Bay - CB023W, Central Bay - CB015W, Central Bay - CB003W]

Temporal Representation: Data was collected over the time period 2/7/1996-7/15/2008.

Environmental Conditions: Staff is not aware of any special conditions that might affect interpretation of the data.

QAPP Information: The 1999 Quality Assurance Project Plan Regional Monitoring Program for Trace Substances was used.

QAPP Information Reference(s): [1999 Quality Assurance Project Plan Regional Monitoring Program for Trace Substances](#)

DECISION ID	66467	Region 2
San Francisco Bay, Central		

Pollutant:	Aldrin
Final Listing Decision:	Do Not List on 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision:	New Decision
Revision Status	Revised
Impairment from Pollutant or Pollution:	Pollutant

Regional Board Staff Conclusion: This pollutant is being considered for placement on the CWA section 303(d) List under section 3.1 of the Listing Policy. Under section 3.1 a single line of evidence is necessary to assess listing status. Three lines of evidence are available in the administrative record to assess this pollutant. Zero of eight samples exceed the guideline.

Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against placing this water segment-pollutant combination on the CWA section 303(d) List.

This conclusion is based on the staff findings that:

1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy.
2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy.
3. Zero of eight samples exceed the guideline and this sample size is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating. A minimum of 16 samples is needed to determine if a beneficial use is fully supported using table 3.1.
4. Pursuant to SECTION 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.

Regional Board Staff Decision Recommendation: After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be placed on the section 303(d) list. The readily available data and information is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating.

Line of Evidence (LOE) for Decision ID 66467, Aldrin	Region 2
San Francisco Bay, Central	

LOE ID:	92785
Pollutant:	Aldrin
LOE Subgroup:	Pollutant-Water
Matrix:	Water

Fraction:	Dissolved
Beneficial Use:	Estuarine Habitat
Number of Samples:	8
Number of Exceedances:	0
Data and Information Type:	PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality:	State Water Board staff assessed SFEI data for San Francisco Bay, Central to determine beneficial use support and results are as follows: 0 of 8 samples exceed the criterion for Aldrin.
Data Reference:	Regional Monitoring Program data, Feb. 1993-Sep. 2008
SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	The aldrin criterion maximum concentration to protect aquatic life in saline water is 1.3 ug/L (California Toxics Rule, 2000).
Objective/Criterion Reference:	Code of Federal Regulations 40 part 131.38 Establishment of numeric criteria for priority toxic pollutants for the State of California. 7/1/2011 Edition
Evaluation Guideline:	
Guideline Reference:	
Spatial Representation:	Data for this line of evidence for San Francisco Bay, Central was collected at 5 monitoring sites [Yerba Buena Island - BC10, Central Bay - CB011W, Central Bay - CB005W, Central Bay - CB009W, Central Bay - CB023W]
Temporal Representation:	Data was collected over the time period 8/12/2003-8/13/2007.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	The 1999 Quality Assurance Project Plan Regional Monitoring Program for Trace Substances was used.
QAPP Information Reference(s):	1999 Quality Assurance Project Plan Regional Monitoring Program for Trace Substances

Line of Evidence (LOE) for Decision ID 66467, Aldrin

Region 2

San Francisco Bay, Central

LOE ID:	92786
Pollutant:	Aldrin
LOE Subgroup:	Pollutant-Water
Matrix:	Water
Fraction:	Total
Beneficial Use:	Commercial or recreational collection of fish, shellfish, or organisms
Number of Samples:	3
Number of Exceedances:	0
Data and Information Type:	PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality:	State Water Board staff assessed SFEI data for San Francisco Bay, Central to determine beneficial use support and results are as follows: 0 of 3 samples exceed the criterion for Aldrin.
Data Reference:	Regional Monitoring Program data, Feb. 1993-Sep. 2008
SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	The Aldrin criteria for the protection of human health from consumption of organisms only is 0.00014 ug/L (California Toxics Rule, 2000).
Objective/Criterion Reference:	Code of Federal Regulations 40 part 131.38 Establishment of numeric criteria for priority toxic pollutants for the State of California. 7/1/2011 Edition
Evaluation Guideline:	
Guideline Reference:	

Spatial Representation:	Data for this line of evidence for San Francisco Bay, Central was collected at 1 monitoring site [Yerba Buena Island - BC10]
Temporal Representation:	Data was collected over the time period 7/19/2004-8/13/2007.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	The 1999 Quality Assurance Project Plan Regional Monitoring Program for Trace Substances was used.
QAPP Information Reference(s):	1999 Quality Assurance Project Plan Regional Monitoring Program for Trace Substances

Line of Evidence (LOE) for Decision ID 66467, Aldrin	Region 2
San Francisco Bay, Central	

LOE ID:	92784
Pollutant:	Aldrin
LOE Subgroup:	Pollutant-Water
Matrix:	Water
Fraction:	Dissolved
Beneficial Use:	Marine Habitat
Number of Samples:	8
Number of Exceedances:	0
Data and Information Type:	PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality:	State Water Board staff assessed SFEI data for San Francisco Bay, Central to determine beneficial use support and results are as follows: 0 of 8 samples exceed the criterion for Aldrin.
Data Reference:	Regional Monitoring Program data, Feb. 1993-Sep. 2008
SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	The aldrin criterion maximum concentration to protect aquatic life in saline water is 1.3 ug/L (California Toxics Rule, 2000).
Objective/Criterion Reference:	Code of Federal Regulations 40 part 131.38 Establishment of numeric criteria for priority toxic pollutants for the State of California. 7/1/2011 Edition
Evaluation Guideline:	
Guideline Reference:	
Spatial Representation:	Data for this line of evidence for San Francisco Bay, Central was collected at 5 monitoring sites [Yerba Buena Island - BC10, Central Bay - CB011W, Central Bay - CB005W, Central Bay - CB009W, Central Bay - CB023W]
Temporal Representation:	Data was collected over the time period 8/12/2003-8/13/2007.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	The 1999 Quality Assurance Project Plan Regional Monitoring Program for Trace Substances was used.
QAPP Information Reference(s):	1999 Quality Assurance Project Plan Regional Monitoring Program for Trace Substances

DECISION ID	66469	Region 2
San Francisco Bay, Central		

Pollutant:	Anthracene
Final Listing Decision:	Do Not List on 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision:	New Decision
Revision Status	Revised
Impairment from Pollutant or Pollution:	Pollutant

**Regional Board Staff
Conclusion:**

This pollutant is being considered for placement on the CWA section 303(d) List under section 3.1 of the Listing Policy. Under section 3.1 a single line of evidence is necessary to assess listing status.

One line of evidence is available in the administrative record to assess this pollutant. Zero of forty-four samples exceed the guideline.

Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against placing this water segment-pollutant combination on the CWA section 303(d) List in the Water Quality Limited Segments category.

This conclusion is based on the staff findings that:

1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy.
2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy.
3. Zero of forty-four samples exceed the guideline and this does not exceed the allowable frequency listed in Table 3.1 of the Listing Policy.
4. Pursuant to section 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.

**Regional Board Staff Decision
Recommendation:**

After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be placed on the section 303(d) list because applicable water quality standards are not being exceeded.

**Line of Evidence (LOE) for Decision ID 66469, Anthracene
San Francisco Bay, Central**

Region 2

LOE ID:	92793
Pollutant:	Anthracene
LOE Subgroup:	Pollutant-Water
Matrix:	Water
Fraction:	Total
Beneficial Use:	Commercial or recreational collection of fish, shellfish, or organisms
Number of Samples:	44
Number of Exceedances:	0
Data and Information Type:	PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality:	State Water Board staff assessed SFEI data for San Francisco Bay, Central to determine beneficial use support and results are as follows: 0 of 44 samples exceed the criterion for Anthracene.
Data Reference:	Regional Monitoring Program data, Feb. 1993-Sep. 2008
SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	The Anthracene criteria for the protection of human health from consumption of organisms only is 110,000 ug/L (California Toxics Rule, 2000).
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	
Guideline Reference:	Code of Federal Regulations 40 part 131.38 Establishment of numeric criteria for priority toxic pollutants for the State of California. 7/1/2011 Edition
Spatial Representation:	Data for this line of evidence for San Francisco Bay, Central was collected at 9 monitoring sites [Yerba Buena Island - BC10, Red Rock - BC60, Central Bay - CB001W, Central Bay - CB003W, Central Bay - CB017W, Central Bay - CB019W, Central Bay - CB021W, Central Bay - CB023W, Central Bay - CB025W]
Temporal Representation:	Data was collected over the time period 3/3/1993-7/15/2008.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	The 1999 Quality Assurance Project Plan Regional Monitoring Program for Trace Substances was used.

DECISION ID	66828	Region 2
San Francisco Bay, Central		

Pollutant: Arsenic
Final Listing Decision: Do Not List on 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision: New Decision
Revision Status: Revised
Impairment from Pollutant or Pollution: Pollutant

Regional Board Staff Conclusion: This pollutant is being considered for placement on the CWA section 303(d) List under section 3.1 of the Listing Policy. Under section 3.1 a single line of evidence is necessary to assess listing status.

Six lines of evidence are available in the administrative record to assess this pollutant. Zero of ninety-four samples exceed the guideline.

Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against placing this water segment-pollutant combination on the CWA section 303(d) List in the Water Quality Limited Segments category.

This conclusion is based on the staff findings that:

1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy.
2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy.
3. Zero of ninety-four samples exceed the guideline and this does not exceed the allowable frequency listed in Table 3.1 of the Listing Policy.
4. Pursuant to section 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.

Regional Board Staff Decision Recommendation: After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be placed on the section 303(d) list because applicable water quality standards are not being exceeded.

Line of Evidence (LOE) for Decision ID 66828, Arsenic	Region 2
San Francisco Bay, Central	

LOE ID: 92797

Pollutant: Arsenic
LOE Subgroup: Pollutant-Water
Matrix: Water
Fraction: Dissolved

Beneficial Use: Estuarine Habitat

Number of Samples: 94
Number of Exceedances: 0

Data and Information Type: PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality: State Water Board staff assessed SFEI data for San Francisco Bay, Central to determine beneficial use support and results are as follows: 0 of 94 samples exceed the criterion for Arsenic.

Data Reference: [Regional Monitoring Program data, Feb. 1993-Sep. 2008](#)

SWAMP Data: Non-SWAMP

Water Quality Objective/Criterion: The dissolved arsenic criterion continuous concentration (expressed as a 4-day average)

Objective/Criterion Reference: to protect aquatic life in saline water is 0.036 mg/L (California Toxics Rule, 2000).
[Code of Federal Regulations 40 part 131.38 Establishment of numeric criteria for priority toxic pollutants for the State of California. 7/1/2011 Edition](#)

Evaluation Guideline:

Guideline Reference:

Spatial Representation: Data for this line of evidence for San Francisco Bay, Central was collected at 18 monitoring sites [Yerba Buena Island - BC10, Point Isabel - BC41, Red Rock - BC60, Central Bay - CB011W, Central Bay - CB007W, Central Bay - CB006W, Central Bay - CB005W, Central Bay - CB017W, Central Bay - CB021W, Central Bay - CB008W, Central Bay - CB013W, Central Bay - CB001W, Central Bay - CB009W, Central Bay - CB023W, Central Bay - CB015W, Central Bay - CB003W, Central Bay - CB019W, Central Bay - CB025W]

Temporal Representation: Data was collected over the time period 3/2/1993-7/15/2008.

Environmental Conditions: Staff is not aware of any special conditions that might affect interpretation of the data.

QAPP Information: The 1999 Quality Assurance Project Plan Regional Monitoring Program for Trace Substances was used.

QAPP Information Reference(s): [1999 Quality Assurance Project Plan Regional Monitoring Program for Trace Substances](#)

Line of Evidence (LOE) for Decision ID 66828, Arsenic

Region 2

San Francisco Bay, Central

LOE ID: 93687

Pollutant: Arsenic

LOE Subgroup: Pollutant-Tissue

Matrix: Tissue

Fraction: Shellfish

Beneficial Use: Shellfish Harvesting

Number of Samples: 35

Number of Exceedances: 0

Data and Information Type: Shellfish surveys

Data Used to Assess Water Quality: Zero of the thirty-five samples exceeded the guideline. All composite samples were comprised of *Mytilus californianus*. Data were reported on a dry weight basis and were converted to a wet weight basis by multiplying the dry-weight concentration by a factor of 1 minus the percentage of moisture content expressed as a decimal. The fraction of total arsenic in inorganic form was taken to be 0.115%, which was the maximum fraction of inorganic arsenic found in shellfish tissue from SF Bay. This number was screened against the guideline. Laboratory replicates were averaged. If a dry weight result did not have a corresponding moisture result for conversion to wet weight, the sample was not included in the assessment.

Data Reference: [Regional Monitoring Program data, Feb. 1993-Sep. 2008](#)
[Contaminant Concentrations in Fish from San Francisco Bay, 2000](#)
[Calculating Fraction of Inorganic Arsenic in SF Bay Fish and Shellfish](#)

SWAMP Data: Non-SWAMP

Water Quality Objective/Criterion: Water Quality Control Plan for the San Francisco Bay Basin: Controllable water quality factors shall not cause a detrimental increase in concentrations of toxic substances found in bottom sediments or aquatic life. Effects on aquatic organisms, wildlife, and human health will be considered.

Objective/Criterion Reference: [Water Quality Control Plan \(Basin Plan\) San Francisco Bay Basin \(Region 2\)](#)

Evaluation Guideline: The modified OEHHA Advisory Tissue Level for arsenic in shellfish tissue is 0.52 ppm. This screening level assumes an average body weight of 70 kg and a consumption rate of 21 g/day for a 30 year exposure over a 70-year lifetime. This constituent is a carcinogen therefore the risk level is set to one in ten thousand. (Brodberg, R.K., and G.A. Pollock, 1999; Klasing, S., and R. Brodberg, 2008; OEHHA, 2004)

Advisory Tissue Levels (ATLs), while still conferring no significant health risk to individuals consuming sport fish in the quantities shown over a lifetime, were developed with the recognition that there are unique health benefits associated with fish consumption and that the advisory process should be expanded beyond a simple risk paradigm in order to best promote the overall health of the fish consumer. ATLs provide a number of recommended fish servings that correspond to the range of contaminant concentrations found in fish and are used to provide consumption advice to prevent consumers from being exposed to more than the average daily reference dose for noncarcinogens or to a risk level greater than 1×10^{-4} for carcinogens (not more than one additional cancer case in a population of 10,000 people consuming fish at the given consumption rate over a lifetime). ATLs are designed to encourage consumption of fish that can be eaten in quantities likely to provide significant health benefits, while discouraging consumption of fish that, because of contaminant concentrations, should not be eaten or cannot be eaten in amounts recommended for improving overall health (eight ounces total, prior to cooking, per week). ATLs are one of the criteria that will be used by OEHHA for issuing fish consumption guidelines.

Guideline Reference: [Prevalence of Selected Target Chemical Contaminants in Sport Fish From Two California Lakes: Public health designed screening study. Sacramento, CA: Office of Environmental Health Hazard Assessment](#)
[Development of Fish Contaminant Goals and Advisory Tissue Levels for Common Contaminants in California Sport Fish: Chlordane, DDTs, Dieldrin, Methylmercury, PCBs, Selenium, and Toxaphene](#)
[Air Toxics Hotspots Program Risk Assessment Guidelines. Part II Technical Support Document for Describing Available Cancer Potency Values.](#)

Spatial Representation: Samples were collected at the following stations: BC21 - Horseshoe Bay, BC61 - Red Rock and BC10 - Yerba Buena Island.

Temporal Representation: Samples were generally collected in spring and fall seasons from years 1993 - 1999 and then during fall 2008.

Environmental Conditions:

QAPP Information: 1999 Quality Assurance Project Plan Regional Monitoring Program for Trace Substances.

QAPP Information Reference(s): [1999 Quality Assurance Project Plan Regional Monitoring Program for Trace Substances](#)

Line of Evidence (LOE) for Decision ID 66828, Arsenic
San Francisco Bay, Central

Region 2

LOE ID: 95215

Pollutant: Arsenic

LOE Subgroup: Pollutant-Tissue

Matrix: Tissue

Fraction: Fish fillet

Beneficial Use: Commercial or recreational collection of fish, shellfish, or organisms

Number of Samples: 24

Number of Exceedances: 0

Data and Information Type: Fish tissue analysis

Data Used to Assess Water Quality: Water Board staff assessed Regional Monitoring Program data for Central San Francisco Bay to determine beneficial use support and results are as follows: 0 of 24 samples exceed the criterion for Arsenic. The fraction of total arsenic in inorganic form was taken to be 3.2%, which was the maximum fraction of inorganic arsenic found in shark tissue from SF Bay. No samples were discarded for being non-detect, unquantifiable or the reporting limit exceeding the water quality objective.

Data Reference: [Regional Monitoring Program data, Feb. 1993-Sep. 2008](#)
[Contaminant Concentrations in Fish from San Francisco Bay, 2000](#)
[Calculating Fraction of Inorganic Arsenic in SF Bay Fish and Shellfish](#)

SWAMP Data: Non-SWAMP

Water Quality Objective/Criterion:	Water Quality Control Plan for the San Francisco Bay Basin: Controllable water quality factors shall not cause a detrimental increase in concentrations of toxic substances found in bottom sediments or aquatic life. Effects on aquatic organisms, wildlife, and human health will be considered.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	<p>The modified OEHHA Advisory Tissue Level for arsenic in fish tissue is 0.34 ppm. This screening level assumes an average body weight of 70 kg and a consumption rate of 32 g/day for a 30 year exposure over a 70-year lifetime. This constituent is a carcinogen therefore the risk level is set to one in ten thousand. (Klasing, S., and R. Brodberg, 2008; OEHHA, 2004).</p> <p>Advisory Tissue Levels (ATLs), while still conferring no significant health risk to individuals consuming sport fish in the quantities shown over a lifetime, were developed with the recognition that there are unique health benefits associated with fish consumption and that the advisory process should be expanded beyond a simple risk paradigm in order to best promote the overall health of the fish consumer. ATLs provide a number of recommended fish servings that correspond to the range of contaminant concentrations found in fish and are used to provide consumption advice to prevent consumers from being exposed to more than the average daily reference dose for noncarcinogens or to a risk level greater than 1×10^{-4} for carcinogens (not more than one additional cancer case in a population of 10,000 people consuming fish at the given consumption rate over a lifetime). ATLs are designed to encourage consumption of fish that can be eaten in quantities likely to provide significant health benefits, while discouraging consumption of fish that, because of contaminant concentrations, should not be eaten or cannot be eaten in amounts recommended for improving overall health (eight ounces total, prior to cooking, per week). ATLs are one of the criteria that will be used by OEHHA for issuing fish consumption guidelines.</p>
Guideline Reference:	Development of Fish Contaminant Goals and Advisory Tissue Levels for Common Contaminants in California Sport Fish: Chlordane, DDTs, Dieldrin, Methylmercury, PCBs, Selenium, and Toxaphene Air Toxics Hotspots Program Risk Assessment Guidelines. Part II Technical Support Document for Describing Available Cancer Potency Values.
Spatial Representation:	The samples were collected at nine sites throughout Central San Francisco Bay.
Temporal Representation:	The samples were collected in May 1994 and June 2003.
Environmental Conditions:	
QAPP Information:	The 1999 Quality Assurance Project Plan Regional Monitoring Program for Trace Substances was used.
QAPP Information Reference(s):	1999 Quality Assurance Project Plan Regional Monitoring Program for Trace Substances

Line of Evidence (LOE) for Decision ID 66828, Arsenic
San Francisco Bay, Central

Region 2

LOE ID:	92794
Pollutant:	Arsenic
LOE Subgroup:	Pollutant-Water
Matrix:	Water
Fraction:	Total
Beneficial Use:	Commercial or recreational collection of fish, shellfish, or organisms
Number of Samples:	93
Number of Exceedances:	0
Data and Information Type:	PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality:	State Water Board staff assessed SFEI data for San Francisco Bay, Central to determine beneficial use support and results are as follows: 0 of 93 samples exceed the criterion for Arsenic.

Data Reference:	Regional Monitoring Program data, Feb. 1993-Sep. 2008
SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	Surface?waters?shall?not?contain?concentrations?of?chemical?constituents?in?amounts?that?adversely?affect?any?designated?beneficial?use.
Objective/Criterion Reference:	Code of Federal Regulations 40 part 131.38 Establishment of numeric criteria for priority toxic pollutants for the State of California. 7/1/2011 Edition
Evaluation Guideline:	The Arsenic criteria for the protection of human health from consumption of organisms only is 0.14 ug/L (National Recommended Water Quality Criteria, 2009).
Guideline Reference:	National Recommended Water Quality Criteria. United States Environmental Protection Agency. Office of Water. Office of Science and Technology
Spatial Representation:	Data for this line of evidence for San Francisco Bay, Central was collected at 18 monitoring sites [Yerba Buena Island - BC10, Point Isabel - BC41, Red Rock - BC60, Central Bay - CB001W, Central Bay - CB003W, Central Bay - CB005W, Central Bay - CB006W, Central Bay - CB007W, Central Bay - CB008W, Central Bay - CB009W, Central Bay - CB011W, Central Bay - CB013W, Central Bay - CB015W, Central Bay - CB017W, Central Bay - CB019W, Central Bay - CB021W, Central Bay - CB023W, Central Bay - CB025W]
Temporal Representation:	Data was collected over the time period 3/2/1993-7/15/2008.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	The 1999 Quality Assurance Project Plan Regional Monitoring Program for Trace Substances was used.
QAPP Information Reference(s):	1999 Quality Assurance Project Plan Regional Monitoring Program for Trace Substances

Line of Evidence (LOE) for Decision ID 66828, Arsenic

Region 2

San Francisco Bay, Central

LOE ID:	92796
Pollutant:	Arsenic
LOE Subgroup:	Pollutant-Water
Matrix:	Water
Fraction:	Dissolved
Beneficial Use:	Marine Habitat
Number of Samples:	94
Number of Exceedances:	0
Data and Information Type:	PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality:	State Water Board staff assessed SFEI data for San Francisco Bay, Central to determine beneficial use support and results are as follows: 0 of 94 samples exceed the criterion for Arsenic.
Data Reference:	Regional Monitoring Program data, Feb. 1993-Sep. 2008
SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	The dissolved arsenic criterion continuous concentration (expressed as a 4-day average) to protect aquatic life in saline water is 0.036 mg/L (California Toxics Rule, 2000).
Objective/Criterion Reference:	Code of Federal Regulations 40 part 131.38 Establishment of numeric criteria for priority toxic pollutants for the State of California. 7/1/2011 Edition
Evaluation Guideline:	
Guideline Reference:	
Spatial Representation:	Data for this line of evidence for San Francisco Bay, Central was collected at 18 monitoring sites [Yerba Buena Island - BC10, Point Isabel - BC41, Red Rock - BC60, Central Bay - CB011W, Central Bay - CB007W, Central Bay - CB006W, Central Bay - CB005W, Central Bay - CB017W, Central Bay - CB021W, Central Bay - CB008W, Central

	Bay - CB013W, Central Bay - CB001W, Central Bay - CB009W, Central Bay - CB023W, Central Bay - CB015W, Central Bay - CB003W, Central Bay - CB019W, Central Bay - CB025W]
Temporal Representation:	Data was collected over the time period 3/2/1993-7/15/2008.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	The 1999 Quality Assurance Project Plan Regional Monitoring Program for Trace Substances was used.
QAPP Information Reference(s):	1999 Quality Assurance Project Plan Regional Monitoring Program for Trace Substances

Line of Evidence (LOE) for Decision ID 66828, Arsenic	Region 2
San Francisco Bay, Central	

LOE ID:	92795
Pollutant:	Arsenic
LOE Subgroup:	Pollutant-Tissue
Matrix:	Tissue
Fraction:	Shellfish
Beneficial Use:	Shellfish Harvesting
Number of Samples:	3
Number of Exceedances:	0
Data and Information Type:	Shellfish surveys
Data Used to Assess Water Quality:	Zero of three samples exceeded the guideline. Data were reported on a dry weight basis and were converted to a wet weight basis by multiplying the dry-weight concentration by a factor of 1 minus the percentage of moisture content expressed as a decimal. The fraction of total arsenic in inorganic form was taken to be 0.115%, which was the maximum fraction of inorganic arsenic found in shellfish tissue from SF Bay. This number was screened against the guideline.
Data Reference:	State Mussel Watch Program Data 1977-2000; Winter 2007-Winter 2009. State Water Resources Control Board Contaminant Concentrations in Fish from San Francisco Bay, 2000 Calculating Fraction of Inorganic Arsenic in SF Bay Fish and Shellfish
SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	Many pollutants can accumulate on particles, in sediment, or bioaccumulate in fish and other aquatic organisms. Controllable water quality factors shall not cause a detrimental increase in concentrations of toxic substances found in bottom sediments or aquatic life. Effects on aquatic organisms, wildlife, and human health will be considered.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	<p>The modified OEHHA Advisory Tissue Level for arsenic in shellfish tissue is 0.52 ppm. This screening level assumes an average body weight of 70 kg and a consumption rate of 21 g/day for a 30 year exposure over a 70-year lifetime. This constituent is a carcinogen therefore the risk level is set to one in ten thousand. (Brodberg, R.K., and G.A. Pollock, 1999; Klasing, S., and R. Brodberg, 2008; OEHHA, 2004)</p> <p>Advisory Tissue Levels (ATLs), while still conferring no significant health risk to individuals consuming sport fish in the quantities shown over a lifetime, were developed with the recognition that there are unique health benefits associated with fish consumption and that the advisory process should be expanded beyond a simple risk paradigm in order to best promote the overall health of the fish consumer. ATLs provide a number of recommended fish servings that correspond to the range of contaminant concentrations found in fish and are used to provide consumption advice to prevent consumers from being exposed to more than the average daily reference dose for noncarcinogens or to a risk level greater than 1x10⁻⁴ for carcinogens (not more than one additional cancer case in a population of 10,000 people consuming fish at the given consumption rate over a lifetime). ATLs are designed to encourage consumption of fish</p>

Guideline Reference:	that can be eaten in quantities likely to provide significant health benefits, while discouraging consumption of fish that, because of contaminant concentrations, should not be eaten or cannot be eaten in amounts recommended for improving overall health (eight ounces total, prior to cooking, per week). ATLs are one of the criteria that will be used by OEHHA for issuing fish consumption guidelines. Prevalence of Selected Target Chemical Contaminants in Sport Fish From Two California Lakes: Public health designed screening study. Sacramento, CA: Office of Environmental Health Hazard Assessment Development of Fish Contaminant Goals and Advisory Tissue Levels for Common Contaminants in California Sport Fish: Chlordane, DDTs, Dieldrin, Methylmercury, PCBs, Selenium, and Toxaphene Air Toxics Hotspots Program Risk Assessment Guidelines. Part II Technical Support Document for Describing Available Cancer Potency Values.
Spatial Representation:	Samples are collected by hand from three sub-locations for each site. The composite samples were collected from sites San Francisco Bay Emeryville (SFEM) and two separate years from site San Francisco Bay Yerba Buena Island (SFYB).
Temporal Representation:	Representative samples of locally abundant species were collected during the winter on 12/22/2007, 12/8/2008, and 2/4/2009.
Environmental Conditions:	
QAPP Information:	Samples were collected as part of the State Water Board's Mussel Watch Program which is a part of the National Oceanic Administration's (NOAAs) National Status and Trends (NS&T). Mussels are shipped to NOAAs contract labs for analysis of trace constituents and mussel condition. Analytical protocols follow those approved by NOAAs NS&T Program Additional background information can be found at: http://ccma.nos.noaa.gov/stressors/pollution/nsandt/
QAPP Information Reference(s):	

DECISION ID 66470 Region 2	
San Francisco Bay, Central	
Pollutant:	Benzo(a)pyrene (3,4-Benzopyrene -7-d)
Final Listing Decision:	Do Not List on 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision:	New Decision
Revision Status	Revised
Impairment from Pollutant or Pollution:	Pollutant
Regional Board Staff Conclusion:	<p>This pollutant is being considered for placement on the CWA section 303(d) List under section 3.1 of the Listing Policy. Under section 3.1 a single line of evidence is necessary to assess listing status.</p> <p>One line of evidence is available in the administrative record to assess this pollutant. Zero of fifty-three samples exceed the guideline.</p> <p>Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against placing this water segment-pollutant combination on the CWA section 303(d) List in the Water Quality Limited Segments category.</p> <p>This conclusion is based on the staff findings that:</p> <ol style="list-style-type: none"> 1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy. 2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy. 3. Zero of fifty-three samples exceed the guideline and this does not exceed the allowable frequency listed in Table 3.1 of the Listing Policy. 4. Pursuant to section 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.
Regional Board Staff Decision Recommendation:	After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be placed on the section 303(d) list because applicable water quality standards are not being exceeded.

San Francisco Bay, Central

LOE ID:	92798
Pollutant:	Benzo(a)pyrene (3,4-Benzopyrene -7-d)
LOE Subgroup:	Pollutant-Water
Matrix:	Water
Fraction:	Total
Beneficial Use:	Commercial or recreational collection of fish, shellfish, or organisms
Number of Samples:	53
Number of Exceedances:	0
Data and Information Type:	PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality:	State Water Board staff assessed SFEI data for San Francisco Bay, Central to determine beneficial use support and results are as follows: 0 of 53 samples exceed the criterion for Indeno(1, 2, 3-C, D)Pyrene.
Data Reference:	Regional Monitoring Program data, Feb. 1993-Sep. 2008
SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	The Indeno(1, 2, 3-C, D)Pyrene criteria for the protection of human health from consumption of organisms only is 0.049 ug/L (California Toxics Rule, 2000).
Objective/Criterion Reference:	Code of Federal Regulations 40 part 131.38 Establishment of numeric criteria for priority toxic pollutants for the State of California. 7/1/2011 Edition
Evaluation Guideline:	
Guideline Reference:	
Spatial Representation:	Data for this line of evidence for San Francisco Bay, Central was collected at 12 monitoring sites [Yerba Buena Island - BC10, Red Rock - BC60, Central Bay - CB001W, Central Bay - CB006W, Central Bay - CB007W, Central Bay - CB008W, Central Bay - CB013W, Central Bay - CB017W, Central Bay - CB019W, Central Bay - CB021W, Central Bay - CB023W, Central Bay - CB025W]
Temporal Representation:	Data was collected over the time period 3/3/1993-7/14/2008.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	The 1999 Quality Assurance Project Plan Regional Monitoring Program for Trace Substances was used.
QAPP Information Reference(s):	1999 Quality Assurance Project Plan Regional Monitoring Program for Trace Substances

DECISION ID

66472

Region 2

San Francisco Bay, Central

Pollutant:	Cadmium
Final Listing Decision:	Do Not List on 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision:	New Decision
Revision Status	Revised
Impairment from Pollutant or Pollution:	Pollutant
Regional Board Staff Conclusion:	<p>This pollutant is being considered for placement on the CWA section 303(d) List under section 3.1 of the Listing Policy. Under section 3.1 a single line of evidence is necessary to assess listing status.</p> <p>Five lines of evidence are available in the administrative record to assess this pollutant. Zero of ninety-three samples exceed the guideline.</p>

Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against placing this water segment-pollutant combination on the CWA section 303(d) List in the Water Quality Limited Segments category.

This conclusion is based on the staff findings that:

1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy.
2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy.
3. Zero of ninety-three samples exceed the guideline and this does not exceed the allowable frequency listed in Table 3.1 of the Listing Policy.
4. Pursuant to section 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.

Regional Board Staff Decision Recommendation: After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be placed on the section 303(d) list because applicable water quality standards are not being exceeded.

**Line of Evidence (LOE) for Decision ID 66472, Cadmium
San Francisco Bay, Central**

Region 2

LOE ID:	92802
Pollutant:	Cadmium
LOE Subgroup:	Pollutant-Water
Matrix:	Water
Fraction:	Dissolved
Beneficial Use:	Estuarine Habitat
Number of Samples:	93
Number of Exceedances:	0
Data and Information Type:	PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality:	State Water Board staff assessed SFEI data for San Francisco Bay, Central to determine beneficial use support and results are as follows: 0 of 93 samples exceed the criterion for Cadmium.
Data Reference:	Regional Monitoring Program data, Feb. 1993-Sep. 2008
SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	The dissolved cadmium criterion continuous concentration (expressed as a 4-day average) to protect aquatic life in saline water is 0.093 mg/L (California Toxics Rule, 2000).
Objective/Criterion Reference:	Code of Federal Regulations 40 part 131.38 Establishment of numeric criteria for priority toxic pollutants for the State of California. 7/1/2011 Edition
Evaluation Guideline:	
Guideline Reference:	
Spatial Representation:	Data for this line of evidence for San Francisco Bay, Central was collected at 18 monitoring sites [Yerba Buena Island - BC10, Point Isabel - BC41, Red Rock - BC60, Central Bay - CB011W, Central Bay - CB007W, Central Bay - CB006W, Central Bay - CB005W, Central Bay - CB017W, Central Bay - CB021W, Central Bay - CB008W, Central Bay - CB013W, Central Bay - CB001W, Central Bay - CB009W, Central Bay - CB023W, Central Bay - CB015W, Central Bay - CB003W, Central Bay - CB019W, Central Bay - CB025W]
Temporal Representation:	Data was collected over the time period 3/2/1993-7/15/2008.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	The 1999 Quality Assurance Project Plan Regional Monitoring Program for Trace Substances was used.
QAPP Information Reference(s):	1999 Quality Assurance Project Plan Regional Monitoring Program for Trace Substances

San Francisco Bay, Central

LOE ID:	92801
Pollutant:	Cadmium
LOE Subgroup:	Pollutant-Water
Matrix:	Water
Fraction:	Dissolved
Beneficial Use:	Marine Habitat
Number of Samples:	93
Number of Exceedances:	0
Data and Information Type:	PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality:	State Water Board staff assessed SFEI data for San Francisco Bay, Central to determine beneficial use support and results are as follows: 0 of 93 samples exceed the criterion for Cadmium.
Data Reference:	Regional Monitoring Program data, Feb. 1993-Sep. 2008
SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	The dissolved cadmium criterion continuous concentration (expressed as a 4-day average) to protect aquatic life in saline water is 0.093 mg/L (California Toxics Rule, 2000).
Objective/Criterion Reference:	Code of Federal Regulations 40 part 131.38 Establishment of numeric criteria for priority toxic pollutants for the State of California. 7/1/2011 Edition
Evaluation Guideline:	
Guideline Reference:	
Spatial Representation:	Data for this line of evidence for San Francisco Bay, Central was collected at 18 monitoring sites [Yerba Buena Island - BC10, Point Isabel - BC41, Red Rock - BC60, Central Bay - CB011W, Central Bay - CB007W, Central Bay - CB006W, Central Bay - CB005W, Central Bay - CB017W, Central Bay - CB021W, Central Bay - CB008W, Central Bay - CB013W, Central Bay - CB001W, Central Bay - CB009W, Central Bay - CB023W, Central Bay - CB015W, Central Bay - CB003W, Central Bay - CB019W, Central Bay - CB025W]
Temporal Representation:	Data was collected over the time period 3/2/1993-7/15/2008.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	The 1999 Quality Assurance Project Plan Regional Monitoring Program for Trace Substances was used.
QAPP Information Reference(s):	1999 Quality Assurance Project Plan Regional Monitoring Program for Trace Substances

Line of Evidence (LOE) for Decision ID 66472, Cadmium

Region 2

San Francisco Bay, Central

LOE ID:	92800
Pollutant:	Cadmium
LOE Subgroup:	Pollutant-Tissue
Matrix:	Tissue
Fraction:	Shellfish
Beneficial Use:	Shellfish Harvesting
Number of Samples:	3
Number of Exceedances:	0
Data and Information Type:	Shellfish surveys

Data Used to Assess Water Quality:	The three samples did not exceed the guideline. Data were reported on a dry weight basis and were converted to a wet weight basis by multiplying the dry-weight concentration by a factor of 1 minus the percentage of moisture content expressed as a decimal.
Data Reference:	State Mussel Watch Program Data 1977-2000; Winter 2007-Winter 2009. State Water Resources Control Board
SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	Many pollutants can accumulate on particles, in sediment, or bioaccumulate in fish and other aquatic organisms. Controllable water quality factors shall not cause a detrimental increase in concentrations of toxic substances found in bottom sediments or aquatic life. Effects on aquatic organisms, wildlife, and human health will be considered.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	The modified OEHHA Fish Contaminant Goal for cadmium in shellfish tissue is 3.3 ppm. This screening level assumes an average body weight of 70 kg and a consumption rate of 21 g/day. (Brodberg, R.K., and G.A. Pollock, 1999; Klasing, S., and R. Brodberg, 2008; USEPA, 2000)
Guideline Reference:	Prevalence of Selected Target Chemical Contaminants in Sport Fish From Two California Lakes: Public health designed screening study. Sacramento, CA: Office of Environmental Health Hazard Assessment Development of Fish Contaminant Goals and Advisory Tissue Levels for Common Contaminants in California Sport Fish: Chlordane, DDTs, Dieldrin, Methylmercury, PCBs, Selenium, and Toxaphene Guidance for Assessing Chemical Contaminant Data for Use In Fish Advisories Volume 1: Fish Sampling and Analysis
Spatial Representation:	Samples are collected by hand from three sub-locations for each site. The composite samples were collected from sites San Francisco Bay Emeryville (SFEM) and two separate years from site San Francisco Bay Yerba Buena Island (SFYB).
Temporal Representation:	Representative samples of locally abundant species were collected during the winter on 12/22/2007, 12/8/2008, and 2/4/2009.
Environmental Conditions:	
QAPP Information:	Samples were collected as part of the State Water Board's Mussel Watch Program which is a part of the National Oceanic Administration's (NOAAs) National Status and Trends (NS&T). Mussels are shipped to NOAAs contract labs for analysis of trace constituents and mussel condition. Analytical protocols follow those approved by NOAAs NS&T Program Additional background information can be found at: http://ccma.nos.noaa.gov/stressors/pollution/nsandt/
QAPP Information Reference(s):	

Line of Evidence (LOE) for Decision ID 66472, Cadmium	Region 2
San Francisco Bay, Central	

LOE ID:	93688
Pollutant:	Cadmium
LOE Subgroup:	Pollutant-Tissue
Matrix:	Tissue
Fraction:	Shellfish
Beneficial Use:	Shellfish Harvesting
Number of Samples:	42
Number of Exceedances:	0
Data and Information Type:	Shellfish surveys
Data Used to Assess Water Quality:	None of the 42 samples exceeded the guideline. All composite samples were comprised of <i>Mytilus californianus</i> . Data were reported on a dry weight basis and were converted to a wet weight basis by multiplying the dry-weight concentration by a factor of 1 minus the percentage of moisture content expressed as a decimal. Laboratory replicates were

	averaged. If a dry weight result did not have a corresponding moisture result for conversion to wet weight, the sample was not included in the assessment.
Data Reference:	Regional Monitoring Program data, Feb. 1993-Sep. 2008
SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	Water Quality Control Plan for the San Francisco Bay Basin: Controllable water quality factors shall not cause a detrimental increase in concentrations of toxic substances found in bottom sediments or aquatic life. Effects on aquatic organisms, wildlife, and human health will be considered.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	The modified OEHHA Fish Contaminant Goal for cadmium in shellfish tissue is 3.3 ppm. This screening level assumes an average body weight of 70 kg and a consumption rate of 21 g/day. (Brodberg, R.K., and G.A. Pollock, 1999; Klasing, S., and R. Brodberg, 2008; USEPA, 2000)
Guideline Reference:	Prevalence of Selected Target Chemical Contaminants in Sport Fish From Two California Lakes: Public health designed screening study. Sacramento, CA: Office of Environmental Health Hazard Assessment Development of Fish Contaminant Goals and Advisory Tissue Levels for Common Contaminants in California Sport Fish: Chlordane, DDTs, Dieldrin, Methylmercury, PCBs, Selenium, and Toxaphene Guidance for Assessing Chemical Contaminant Data for Use In Fish Advisories Volume 1: Fish Sampling and Analysis
Spatial Representation:	Samples were collected at the following stations: BC21 - Horseshoe Bay, BC61 - Red Rock and BC10 - Yerba Buena Island.
Temporal Representation:	Samples were generally collected in spring and fall seasons from years 1993 - 1999 and then during fall of 2000 and 2001. Samples were collected at BC10 and BC61 during fall 2008.
Environmental Conditions:	
QAPP Information:	1999 Quality Assurance Project Plan Regional Monitoring Program for Trace Substances.
QAPP Information Reference(s):	1999 Quality Assurance Project Plan Regional Monitoring Program for Trace Substances

Line of Evidence (LOE) for Decision ID 66472, Cadmium
San Francisco Bay, Central

Region 2

LOE ID:	95144
Pollutant:	Cadmium
LOE Subgroup:	Pollutant-Tissue
Matrix:	Tissue
Fraction:	Fish fillet
Beneficial Use:	Commercial or recreational collection of fish, shellfish, or organisms
Number of Samples:	22
Number of Exceedances:	0
Data and Information Type:	Fish tissue analysis
Data Used to Assess Water Quality:	Water Board staff assessed Regional Monitoring Program data for Central San Francisco Bay to determine beneficial use support and results are as follows: 0 of 22 samples exceed the criterion for cadmium. No samples were discarded for being non-detect, unquantifiable or the reporting limit exceeding the water quality objective.
Data Reference:	Regional Monitoring Program data, Feb. 1993-Sep. 2008
SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	Water Quality Control Plan for the San Francisco Bay Basin: Controllable water quality factors shall not cause a detrimental increase in concentrations of toxic substances found in bottom sediments or aquatic life. Effects on aquatic organisms, wildlife, and human health will be considered.

Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	The modified OEHHA Fish Contaminant Goal for cadmium in fish tissue is 2.2 ppm. This screening level assumes an average body weight of 70 kg and a consumption rate of 32 g/day. (Klasing, S., and R. Brodberg, 2008; USEPA, 2000)
Guideline Reference:	Development of Fish Contaminant Goals and Advisory Tissue Levels for Common Contaminants in California Sport Fish: Chlordane, DDTs, Dieldrin, Methylmercury, PCBs, Selenium, and Toxaphene Guidance for Assessing Chemical Contaminant Data for Use In Fish Advisories Volume 1: Fish Sampling and Analysis
Spatial Representation:	The samples were collected at eight sites throughout Central San Francisco Bay.
Temporal Representation:	The samples were collected in May 1994.
Environmental Conditions:	
QAPP Information:	The 1999 Quality Assurance Project Plan Regional Monitoring Program for Trace Substances was used.
QAPP Information Reference(s):	1999 Quality Assurance Project Plan Regional Monitoring Program for Trace Substances

DECISION ID 66473 Region 2	
San Francisco Bay, Central	
Pollutant: Final Listing Decision: Last Listing Cycle's Final Listing Decision: Revision Status Impairment from Pollutant or Pollution:	Chlorpyrifos Do Not List on 303(d) list (TMDL required list) New Decision Revised Pollutant
Regional Board Staff Conclusion:	<p>This pollutant is being considered for placement on the CWA section 303(d) List under section 3.5 of the Listing Policy. Under section 3.5 a single line of evidence is necessary to assess listing status.</p> <p>Four lines of evidence are available in the administrative record to assess this pollutant. Zero of one hundred samples exceed the guideline.</p> <p>Based on the readily available data and information, the weight of evidence indicates that there is not sufficient justification in favor of placing this water segment-pollutant combination on the CWA section 303(d) List.</p> <p>This conclusion is based on the staff findings that:</p> <ol style="list-style-type: none"> 1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy. 2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy. 3. Zero of one hundred samples exceed the OEHHA guideline and this number does not exceed the allowable frequency listed in Table 3.1 of the Listing Policy. 4. There is not a fish consumption advisory in effect for this waterbody. 5. Pursuant to section 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.
Regional Board Staff Decision Recommendation:	After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be placed on the section 303(d) list because applicable water quality standards are not being exceeded.

Line of Evidence (LOE) for Decision ID 66473, Chlorpyrifos Region 2	
San Francisco Bay, Central	
LOE ID:	95151
Pollutant:	Chlorpyrifos
LOE Subgroup:	Pollutant-Tissue

Matrix:	Tissue
Fraction:	Fish fillet
Beneficial Use:	Commercial or recreational collection of fish, shellfish, or organisms
Number of Samples:	100
Number of Exceedances:	0
Data and Information Type:	Fish tissue analysis
Data Used to Assess Water Quality:	Water Board staff assessed Regional Monitoring Program data for Central San Francisco Bay to determine beneficial use support and results are as follows: 0 of 100 samples exceed the criterion for chlorpyrifos. One sample was discarded for being non-detect, unquantifiable or the reporting limit exceeding the water quality objective.
Data Reference:	Regional Monitoring Program data, Feb. 1993-Sep. 2008
SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	Water Quality Control Plan for the San Francisco Bay Basin: Controllable water quality factors shall not cause a detrimental increase in concentrations of toxic substances found in bottom sediments or aquatic life. Effects on aquatic organisms, wildlife, and human health will be considered.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	The modified OEHHA Fish Contaminant Goal for chlorpyrifos in fish tissue is 660 ppb. This screening level assumes an average body weight of 70 kg and a consumption rate of 32 g/day. A cooking reduction factor of 1 is applied for skin-off fillets. (Klasing, S., and R. Brodberg, 2008; USEPA, 2000)
Guideline Reference:	Development of Fish Contaminant Goals and Advisory Tissue Levels for Common Contaminants in California Sport Fish: Chlordane, DDTs, Dieldrin, Methylmercury, PCBs, Selenium, and Toxaphene Guidance for Assessing Chemical Contaminant Data for Use In Fish Advisories Volume 1: Fish Sampling and Analysis
Spatial Representation:	The samples were collected at fifteen sites throughout Central San Francisco Bay.
Temporal Representation:	The samples were collected every three years from May 1994 through June 2006.
Environmental Conditions:	
QAPP Information:	The 1999 Quality Assurance Project Plan Regional Monitoring Program for Trace Substances was used.
QAPP Information Reference(s):	1999 Quality Assurance Project Plan Regional Monitoring Program for Trace Substances

Line of Evidence (LOE) for Decision ID 66473, Chlorpyrifos
San Francisco Bay, Central

Region 2

LOE ID:	92807
Pollutant:	Chlorpyrifos
LOE Subgroup:	Pollutant-Tissue
Matrix:	Tissue
Fraction:	Shellfish
Beneficial Use:	Shellfish Harvesting
Number of Samples:	3
Number of Exceedances:	0
Data and Information Type:	Shellfish surveys
Data Used to Assess Water Quality:	All three results did not exceed the guideline. Data were reported on a dry weight basis and were converted to a wet weight basis by multiplying the dry-weight concentration by a factor of 1 minus the percentage of moisture content expressed as a decimal.
Data Reference:	State Mussel Watch Program Data 1977-2000; Winter 2007-Winter 2009. State Water Resources Control Board

SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	Many pollutants can accumulate on particles, in sediment, or bioaccumulate in fish and other aquatic organisms. Controllable water quality factors shall not cause a detrimental increase in concentrations of toxic substances found in bottom sediments or aquatic life. Effects on aquatic organisms, wildlife, and human health will be considered.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	The modified OEHHA Fish Contaminant Goal for chlorpyrifos in shellfish tissue is 1,000 ppb. This screening level assumes an average body weight of 70 kg and a consumption rate of 21 g/day. (Brodberg, R.K., and G.A. Pollock, 1999; Klasing, S., and R. Brodberg, 2008; USEPA, 2000)
Guideline Reference:	Prevalence of Selected Target Chemical Contaminants in Sport Fish From Two California Lakes: Public health designed screening study. Sacramento, CA: Office of Environmental Health Hazard Assessment Development of Fish Contaminant Goals and Advisory Tissue Levels for Common Contaminants in California Sport Fish: Chlordane, DDTs, Dieldrin, Methylmercury, PCBs, Selenium, and Toxaphene Guidance for Assessing Chemical Contaminant Data for Use In Fish Advisories Volume 1: Fish Sampling and Analysis
Spatial Representation:	Samples are collected by hand from three sub-locations for each site. The composite samples were collected from sites San Francisco Bay Emeryville (SFEM) and two separate years from site San Francisco Bay Yerba Buena Island (SFYB).
Temporal Representation:	Representative samples of locally abundant species were collected during the winter on 12/22/2007, 12/8/2008, and 2/4/2009.
Environmental Conditions:	
QAPP Information:	Samples were collected as part of the State Water Board's Mussel Watch Program which is a part of the National Oceanic Administration's (NOAAs) National Status and Trends (NS&T). Mussels are shipped to NOAAs contract labs for analysis of trace constituents and mussel condition. Analytical protocols follow those approved by NOAAs NS&T Program Additional background information can be found at: http://ccma.nos.noaa.gov/stressors/pollution/nsandt/
QAPP Information Reference(s):	

Line of Evidence (LOE) for Decision ID 66473, Chlorpyrifos

Region 2

San Francisco Bay, Central

LOE ID:	92809
Pollutant:	Chlorpyrifos
LOE Subgroup:	Pollutant-Water
Matrix:	Water
Fraction:	Dissolved
Beneficial Use:	Estuarine Habitat
Number of Samples:	50
Number of Exceedances:	0
Data and Information Type:	PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality:	State Water Board staff assessed SFEI data for San Francisco Bay, Central to determine beneficial use support and results are as follows: 0 of 50 samples exceed the criterion for Chlorpyrifos.
Data Reference:	Regional Monitoring Program data, Feb. 1993-Sep. 2008
SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	All waters shall be maintained free of toxic substances in concentrations which are toxic to, or which produce detrimental physiological responses in, human, plant, animal, or aquatic life. (Basin Plan).
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)

Evaluation Guideline:	The saltwater criterion continuous concentration to protect aquatic organisms is 0.009 ug/L (Siepmann and Finlayson 2000).
Guideline Reference:	10-Day toxicity test exposing freshwater amphipods (Hyaella azteca) to fenprothrin applied to formulated sediment under static-renewal conditions. Springborn Smithers Laboratories Study No. 13656.6137, Wareham, MA. Submitted to pyrethroid working group. DPR record number 254438
Spatial Representation:	Data for this line of evidence for San Francisco Bay, Central was collected at 10 monitoring sites [Yerba Buena Island - BC10, Red Rock - BC60, Central Bay - CB007W, Central Bay - CB006W, Central Bay - CB005W, Central Bay - CB008W, Central Bay - CB013W, Central Bay - CB001W, Central Bay - CB015W, Central Bay - CB003W]
Temporal Representation:	Data was collected over the time period 3/3/1993-8/12/2005.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	The 1999 Quality Assurance Project Plan Regional Monitoring Program for Trace Substances was used.
QAPP Information Reference(s):	1999 Quality Assurance Project Plan Regional Monitoring Program for Trace Substances

Line of Evidence (LOE) for Decision ID 66473, Chlorpyrifos

Region 2

San Francisco Bay, Central

LOE ID:	92808
Pollutant:	Chlorpyrifos
LOE Subgroup:	Pollutant-Water
Matrix:	Water
Fraction:	Dissolved
Beneficial Use:	Marine Habitat
Number of Samples:	50
Number of Exceedances:	0
Data and Information Type:	PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality:	State Water Board staff assessed SFEI data for San Francisco Bay, Central to determine beneficial use support and results are as follows: 0 of 50 samples exceed the criterion for Chlorpyrifos.
Data Reference:	Regional Monitoring Program data, Feb. 1993-Sep. 2008
SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	All waters shall be maintained free of toxic substances in concentrations which are toxic to, or which produce detrimental physiological responses in, human, plant, animal, or aquatic life. (Basin Plan).
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	The saltwater criterion continuous concentration to protect aquatic organisms is 0.009 ug/L (Siepmann and Finlayson 2000).
Guideline Reference:	10-Day toxicity test exposing freshwater amphipods (Hyaella azteca) to fenprothrin applied to formulated sediment under static-renewal conditions. Springborn Smithers Laboratories Study No. 13656.6137, Wareham, MA. Submitted to pyrethroid working group. DPR record number 254438
Spatial Representation:	Data for this line of evidence for San Francisco Bay, Central was collected at 10 monitoring sites [Yerba Buena Island - BC10, Red Rock - BC60, Central Bay - CB007W, Central Bay - CB006W, Central Bay - CB005W, Central Bay - CB008W, Central Bay - CB013W, Central Bay - CB001W, Central Bay - CB015W, Central Bay - CB003W]
Temporal Representation:	Data was collected over the time period 3/3/1993-8/12/2005.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	The 1999 Quality Assurance Project Plan Regional Monitoring Program for Trace Substances was used.
QAPP Information Reference(s):	1999 Quality Assurance Project Plan Regional Monitoring Program for Trace Substances

DECISION ID	66474	Region 2
San Francisco Bay, Central		

Pollutant:	Chromium
Final Listing Decision:	Do Not List on 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision:	New Decision
Revision Status	Revised
Impairment from Pollutant or Pollution:	Pollutant
Regional Board Staff Conclusion:	<p>This pollutant is being considered for placement on the CWA section 303(d) List under section 3.1 of the Listing Policy. Under section 3.1 a single line of evidence is necessary to assess listing status.</p> <p>One line of evidence is available in the administrative record to assess this pollutant. Zero of fifty-nine samples exceed the guideline.</p> <p>Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against placing this water segment-pollutant combination on the CWA section 303(d) List in the Water Quality Limited Segments category.</p> <p>This conclusion is based on the staff findings that:</p> <ol style="list-style-type: none"> 1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy. 2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy. 3. Zero of fifty-nine samples exceed the guideline and this does not exceed the allowable frequency listed in Table 3.1 of the Listing Policy. 4. Pursuant to section 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.
Regional Board Staff Decision Recommendation:	After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be placed on the section 303(d) list because applicable water quality standards are not being exceeded.

Line of Evidence (LOE) for Decision ID 66474, Chromium	Region 2
San Francisco Bay, Central	

LOE ID:	92810
Pollutant:	Chromium
LOE Subgroup:	Pollutant-Water
Matrix:	Water
Fraction:	Dissolved
Beneficial Use:	Estuarine Habitat
Number of Samples:	59
Number of Exceedances:	0
Data and Information Type:	PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality:	State Water Board staff assessed SFEI data for San Francisco Bay, Central to determine beneficial use support and results are as follows: 0 of 59 samples exceed the criterion for Chromium.
Data Reference:	Regional Monitoring Program data, Feb. 1993-Sep. 2008
SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	The dissolved chromium (III) criterion continuous concentration (expressed as a 4-day average) to protect aquatic life in freshwater is 0.180 mg/L (California Toxics Rule, 2000).

Objective/Criterion Reference: [Code of Federal Regulations 40 part 131.38 Establishment of numeric criteria for priority toxic pollutants for the State of California. 7/1/2011 Edition](#)

Evaluation Guideline:
Guideline Reference:

Spatial Representation: Data for this line of evidence for San Francisco Bay, Central was collected at 3 monitoring sites [Yerba Buena Island - BC10, Point Isabel - BC41, Red Rock - BC60]

Temporal Representation: Data was collected over the time period 3/2/1993-7/16/1999.

Environmental Conditions: Staff is not aware of any special conditions that might affect interpretation of the data.

QAPP Information: The 1999 Quality Assurance Project Plan Regional Monitoring Program for Trace Substances was used.

QAPP Information Reference(s): [1999 Quality Assurance Project Plan Regional Monitoring Program for Trace Substances](#)

DECISION ID	66475	Region 2
San Francisco Bay, Central		

Pollutant: Chrysene (C1-C4)
Final Listing Decision: Do Not List on 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision: New Decision
Revision Status: Revised
Impairment from Pollutant or Pollution: Pollutant

Regional Board Staff Conclusion: This pollutant is being considered for placement on the CWA section 303(d) List under section 3.1 of the Listing Policy. Under section 3.1 a single line of evidence is necessary to assess listing status.

One line of evidence is available in the administrative record to assess this pollutant. Zero of fifty-eight samples exceed the guideline.

Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against placing this water segment-pollutant combination on the CWA section 303(d) List in the Water Quality Limited Segments category.

This conclusion is based on the staff findings that:

1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy.
2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy.
3. Zero of fifty-eight samples exceed the guideline and this does not exceed the allowable frequency listed in Table 3.1 of the Listing Policy.
4. Pursuant to section 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.

Regional Board Staff Decision Recommendation: After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be placed on the section 303(d) list because applicable water quality standards are not being exceeded.

Line of Evidence (LOE) for Decision ID 66475, Chrysene (C1-C4)	Region 2
San Francisco Bay, Central	

LOE ID: 92811

Pollutant: Chrysene (C1-C4)
 LOE Subgroup: Pollutant-Water
 Matrix: Water
 Fraction: Total

Beneficial Use: Commercial or recreational collection of fish, shellfish, or organisms

Number of Samples:	58
Number of Exceedances:	0
Data and Information Type:	PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality:	State Water Board staff assessed SFEI data for San Francisco Bay, Central to determine beneficial use support and results are as follows: 0 of 58 samples exceed the criterion for Chrysene.
Data Reference:	Regional Monitoring Program data, Feb. 1993-Sep. 2008
SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	The Chrysene criteria for the protection of human health from consumption of organisms only is 0.049 ug/L (California Toxics Rule, 2000).
Objective/Criterion Reference:	Code of Federal Regulations 40 part 131.38 Establishment of numeric criteria for priority toxic pollutants for the State of California. 7/1/2011 Edition
Evaluation Guideline:	
Guideline Reference:	
Spatial Representation:	Data for this line of evidence for San Francisco Bay, Central was collected at 15 monitoring sites [Yerba Buena Island - BC10, Red Rock - BC60, Central Bay - CB001W, Central Bay - CB003W, Central Bay - CB005W, Central Bay - CB006W, Central Bay - CB007W, Central Bay - CB008W, Central Bay - CB009W, Central Bay - CB011W, Central Bay - CB017W, Central Bay - CB019W, Central Bay - CB021W, Central Bay - CB023W, Central Bay - CB025W]
Temporal Representation:	Data was collected over the time period 3/3/1993-7/15/2008.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	The 1999 Quality Assurance Project Plan Regional Monitoring Program for Trace Substances was used.
QAPP Information Reference(s):	1999 Quality Assurance Project Plan Regional Monitoring Program for Trace Substances

DECISION ID	66476	Region 2
San Francisco Bay, Central		

Pollutant:	Copper
Final Listing Decision:	Do Not List on 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision:	New Decision
Revision Status	Revised
Impairment from Pollutant or Pollution:	Pollutant

Regional Board Staff Conclusion:

This pollutant is being considered for placement on the CWA section 303(d) List under section 3.1 of the Listing Policy. Under section 3.1 a single line of evidence is necessary to assess listing status.

Two lines of evidence are available in the administrative record to assess this pollutant. Zero of one hundred three samples exceed the guideline.

Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against placing this water segment-pollutant combination on the CWA section 303(d) List in the Water Quality Limited Segments category.

This conclusion is based on the staff findings that:

1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy.
2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy.
3. Zero of one hundred three samples exceed the guideline and this does not exceed the allowable frequency listed in Table 3.1 of the Listing Policy.
4. Pursuant to section 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.

Regional Board Staff Decision After review of the available data and information, RWQCB staff concludes that the water body-

Recommendation: pollutant combination should not be placed on the section 303(d) list because applicable water quality standards are not being exceeded.

Line of Evidence (LOE) for Decision ID 66476, Copper
San Francisco Bay, Central

Region 2

LOE ID: 92813

Pollutant: Copper
LOE Subgroup: Pollutant-Water
Matrix: Water
Fraction: Dissolved

Beneficial Use: Estuarine Habitat

Number of Samples: 9
Number of Exceedances: 0

Data and Information Type: Fixed station physical/chemical (conventional plus toxic pollutants)
Data Used to Assess Water Quality: None of the nine samples exceeded the SSO value of 6 ug/L for dissolved copper.
Data Reference: [Data for Various Pollutants in California Marinas, 2006.](#)

SWAMP Data: Non-SWAMP

Water Quality Objective/Criterion: Waters shall not contain chemical constituents in concentrations that adversely affect beneficial uses. Table 3.3A lists a site specific objective (SSO) for criteria continuous concentration of dissolved copper. The SSO for dissolved copper in this portion of the Central San Francisco Bay is 6.0 ug/L.

Objective/Criterion Reference: [Water Quality Control Plan \(Basin Plan\) San Francisco Bay Basin \(Region 2\)](#)

Evaluation Guideline:
Guideline Reference:

Spatial Representation: A total of four separate grab samples were collected at the same sampling event from outside three marina basins (Berkeley, Loch Lomond, and San Francisco). The four grab samples were averaged into one result.

Temporal Representation: Samples were collected on three separate sampling events during the dry season (July - October) in 2006.

Environmental Conditions: Samples were collected during the dry season only.

QAPP Information: Samples were collected and analyzed in accordance with a Quality Assurance Project Plan that was prepared per State Water Resources Control Board Agreement No. 05-218-250 California Department of Pesticide Regulation, Sacramento, CA. (Available online at http://www.cdpr.ca.gov/docs/emon/surfwttr/protocols/qapp_study236.pdf)

QAPP Information Reference(s):

Line of Evidence (LOE) for Decision ID 66476, Copper
San Francisco Bay, Central

Region 2

LOE ID: 92812

Pollutant: Copper
LOE Subgroup: Pollutant-Water
Matrix: Water
Fraction: Dissolved

Beneficial Use: Estuarine Habitat

Number of Samples: 94
Number of Exceedances: 0

Data and Information Type:	PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality:	State Water Board staff assessed SFEI data for San Francisco Bay, Central to determine beneficial use support and results are as follows: 0 of 94 samples exceed the criterion for Copper.
Data Reference:	Regional Monitoring Program data, Feb. 1993-Sep. 2008
SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	According to table 3-3A, the Copper site-specific objective for San Francisco Bay, Central is 6 ug/L.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	
Guideline Reference:	
Spatial Representation:	Data for this line of evidence for San Francisco Bay, Central was collected at 18 monitoring sites [Yerba Buena Island - BC10, Point Isabel - BC41, Red Rock - BC60, Central Bay - CB011W, Central Bay - CB007W, Central Bay - CB006W, Central Bay - CB005W, Central Bay - CB017W, Central Bay - CB021W, Central Bay - CB008W, Central Bay - CB013W, Central Bay - CB001W, Central Bay - CB009W, Central Bay - CB023W, Central Bay - CB015W, Central Bay - CB003W, Central Bay - CB019W, Central Bay - CB025W]
Temporal Representation:	Data was collected over the time period 3/2/1993-7/15/2008.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	The 1999 Quality Assurance Project Plan Regional Monitoring Program for Trace Substances was used.
QAPP Information Reference(s):	1999 Quality Assurance Project Plan Regional Monitoring Program for Trace Substances

DECISION ID 66477		Region 2
San Francisco Bay, Central		
Pollutant:	Cyanide	
Final Listing Decision:	Do Not List on 303(d) list (TMDL required list)	
Last Listing Cycle's Final Listing Decision:	New Decision	
Revision Status	Revised	
Impairment from Pollutant or Pollution:	Pollutant	
Regional Board Staff Conclusion:	<p>This pollutant is being considered for placement on the CWA section 303(d) List under section 3.1 of the Listing Policy. Under section 3.1 a single line of evidence is necessary to assess listing status. Three lines of evidence are available in the administrative record to assess this pollutant. Zero of six samples exceed the guideline.</p> <p>Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against placing this water segment-pollutant combination on the CWA section 303(d) List.</p> <p>This conclusion is based on the staff findings that:</p> <ol style="list-style-type: none"> 1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy. 2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy. 3. Zero of six samples exceed the guideline and this sample size is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating. A minimum of 16 samples is needed to determine if a beneficial use is fully supported using table 3.1. 4. Pursuant to SECTION 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met. 	
Regional Board Staff Decision Recommendation:	After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be placed on the section 303(d) list. The readily available data and information is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating.	

**Line of Evidence (LOE) for Decision ID 66477, Cyanide
San Francisco Bay, Central**

Region 2

LOE ID:	92816
Pollutant:	Cyanide
LOE Subgroup:	Pollutant-Water
Matrix:	Water
Fraction:	Total
Beneficial Use:	Commercial or recreational collection of fish, shellfish, or organisms
Number of Samples:	6
Number of Exceedances:	0
Data and Information Type:	PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality:	State Water Board staff assessed SFEI data for San Francisco Bay, Central to determine beneficial use support and results are as follows: 0 of 6 samples exceed the criterion for Cyanide.
Data Reference:	Regional Monitoring Program data, Feb. 1993-Sep. 2008
SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	The cyanide criteria for the protection of human health from consumption of organisms only is 220,000 ug/L (California Toxics Rule, 2000).
Objective/Criterion Reference:	Code of Federal Regulations 40 part 131.38 Establishment of numeric criteria for priority toxic pollutants for the State of California. 7/1/2011 Edition
Evaluation Guideline:	
Guideline Reference:	
Spatial Representation:	Data for this line of evidence for San Francisco Bay, Central was collected at 2 monitoring sites [Yerba Buena Island - BC10, Point Isabel - BC41]
Temporal Representation:	Data was collected over the time period 3/2/1993-9/14/1993.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	The 1999 Quality Assurance Project Plan Regional Monitoring Program for Trace Substances was used.
QAPP Information Reference(s):	1999 Quality Assurance Project Plan Regional Monitoring Program for Trace Substances

**Line of Evidence (LOE) for Decision ID 66477, Cyanide
San Francisco Bay, Central**

Region 2

LOE ID:	92815
Pollutant:	Cyanide
LOE Subgroup:	Pollutant-Water
Matrix:	Water
Fraction:	Dissolved
Beneficial Use:	Estuarine Habitat
Number of Samples:	6
Number of Exceedances:	0
Data and Information Type:	PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality:	State Water Board staff assessed SFEI data for San Francisco Bay, Central to determine beneficial use support and results are as follows: 0 of 6 samples exceed the criterion for Cyanide.
Data Reference:	Regional Monitoring Program data, Feb. 1993-Sep. 2008

SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	The Cyanide criterion continuous concentration (expressed as a 4-day average) to protect aquatic life in saline water is 0.001 mg/L (California Toxics Rule, 2000).
Objective/Criterion Reference:	Code of Federal Regulations 40 part 131.38 Establishment of numeric criteria for priority toxic pollutants for the State of California. 7/1/2011 Edition
Evaluation Guideline:	
Guideline Reference:	
Spatial Representation:	Data for this line of evidence for San Francisco Bay, Central was collected at 2 monitoring sites [Yerba Buena Island - BC10, Point Isabel - BC41]
Temporal Representation:	Data was collected over the time period 3/2/1993-9/14/1993.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	The 1999 Quality Assurance Project Plan Regional Monitoring Program for Trace Substances was used.
QAPP Information Reference(s):	1999 Quality Assurance Project Plan Regional Monitoring Program for Trace Substances

Line of Evidence (LOE) for Decision ID 66477, Cyanide

Region 2

San Francisco Bay, Central

LOE ID:	92814
Pollutant:	Cyanide
LOE Subgroup:	Pollutant-Water
Matrix:	Water
Fraction:	Dissolved
Beneficial Use:	Marine Habitat
Number of Samples:	6
Number of Exceedances:	0
Data and Information Type:	PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality:	State Water Board staff assessed SFEI data for San Francisco Bay, Central to determine beneficial use support and results are as follows: 0 of 6 samples exceed the criterion for Cyanide.
Data Reference:	Regional Monitoring Program data, Feb. 1993-Sep. 2008
SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	According to table 3-3C, the Cyanide site-specific objective for San Francisco Bay, Central is 2.9 ug/L.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	
Guideline Reference:	
Spatial Representation:	Data for this line of evidence for San Francisco Bay, Central was collected at 2 monitoring sites [Yerba Buena Island - BC10, Point Isabel - BC41]
Temporal Representation:	Data was collected over the time period 3/2/1993-9/14/1993.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	The 1999 Quality Assurance Project Plan Regional Monitoring Program for Trace Substances was used.
QAPP Information Reference(s):	1999 Quality Assurance Project Plan Regional Monitoring Program for Trace Substances

DECISION ID

66478

Region 2

San Francisco Bay, Central

Pollutant:	Endosulfan
Final Listing Decision:	Do Not List on 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision:	New Decision
Revision Status	Revised
Impairment from Pollutant or Pollution:	Pollutant

Regional Board Staff Conclusion: This pollutant is being considered for placement on the CWA section 303(d) List under section 3.5 of the Listing Policy. Under section 3.5 a single line of evidence is necessary to assess listing status.

Five lines of evidence are available in the administrative record to assess this pollutant. Zero of seventy-three samples exceed the guideline.

Based on the readily available data and information, the weight of evidence indicates that there is not sufficient justification in favor of placing this water segment-pollutant combination on the CWA section 303(d) List.

This conclusion is based on the staff findings that:

1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy.
2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy.
3. Zero of seventy-three samples exceed the OEHHHA guideline and this number exceeds the allowable frequency listed in Table 3.1 of the Listing Policy.
4. There is not a fish consumption advisory in effect for this waterbody.
5. Pursuant to section 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.

Regional Board Staff Decision Recommendation: After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be placed on the section 303(d) list because applicable water quality standards are not being exceeded.

Line of Evidence (LOE) for Decision ID 66478, Endosulfan San Francisco Bay, Central

Region 2

LOE ID: 95134

Pollutant:	Endosulfan
LOE Subgroup:	Pollutant-Tissue
Matrix:	Tissue
Fraction:	Fish fillet

Beneficial Use: Commercial or recreational collection of fish, shellfish, or organisms

Number of Samples: 73
Number of Exceedances: 0

Data and Information Type: Fish tissue analysis
Data Used to Assess Water Quality: Water Board staff assessed Regional Monitoring Program data for Central San Francisco Bay to determine beneficial use support and results are as follows: 0 of 73 samples exceed the criterion for endosulfan. 27 samples were discarded for being non-detect, unquantifiable or the reporting limit exceeding the water quality objective.

Data Reference: [Regional Monitoring Program data, Feb. 1993-Sep. 2008](#)

SWAMP Data: Non-SWAMP

Water Quality Objective/Criterion: Water Quality Control Plan for the San Francisco Bay Basin: Controllable water quality factors shall not cause a detrimental increase in concentrations of toxic substances found in bottom sediments or aquatic life. Effects on aquatic organisms, wildlife, and human health will be considered.

Objective/Criterion Reference: [Water Quality Control Plan \(Basin Plan\) San Francisco Bay Basin \(Region 2\)](#)

Evaluation Guideline:	The modified OEHHA Fish Contaminant Goal for endosulfan (I and II) in fish tissue is 13,000 ppb. This screening level assumes an average body weight of 70 kg and a consumption rate of 32 g/day. A cooking reduction factor of 1 is applied for skin-off fillets. (Klasing, S., and R. Brodberg, 2008; USEPA, 2000)
Guideline Reference:	Development of Fish Contaminant Goals and Advisory Tissue Levels for Common Contaminants in California Sport Fish: Chlordane, DDTs, Dieldrin, Methylmercury, PCBs, Selenium, and Toxaphene Guidance for Assessing Chemical Contaminant Data for Use In Fish Advisories Volume 1: Fish Sampling and Analysis
Spatial Representation:	The samples were collected at fifteen sites throughout Central San Francisco Bay.
Temporal Representation:	The samples were collected every three years from May 1994 through June 2006.
Environmental Conditions:	
QAPP Information:	The 1999 Quality Assurance Project Plan Regional Monitoring Program for Trace Substances was used.
QAPP Information Reference(s):	1999 Quality Assurance Project Plan Regional Monitoring Program for Trace Substances

Line of Evidence (LOE) for Decision ID 66478, Endosulfan
San Francisco Bay, Central

Region 2

LOE ID:	92825
Pollutant:	Endosulfan
LOE Subgroup:	Pollutant-Water
Matrix:	Water
Fraction:	Dissolved
Beneficial Use:	Estuarine Habitat
Number of Samples:	47
Number of Exceedances:	0
Data and Information Type:	PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality:	State Water Board staff assessed SFEI data for San Francisco Bay, Central to determine beneficial use support and results are as follows: 0 of 47 samples exceed the criterion for Endosulfan, Total.
Data Reference:	Regional Monitoring Program data, Feb. 1993-Sep. 2008
SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	The total Endosulfan criterion continuous concentration (expressed as a 4-day average) to protect aquatic life in saltwater is 0.0087 ug/L (California Toxics Rule, 2000).
Objective/Criterion Reference:	Code of Federal Regulations 40 part 131.38 Establishment of numeric criteria for priority toxic pollutants for the State of California. 7/1/2011 Edition
Evaluation Guideline:	
Guideline Reference:	
Spatial Representation:	Data for this line of evidence for San Francisco Bay, Central was collected at 6 monitoring sites [Yerba Buena Island - BC10, Red Rock - BC60, Central Bay - CB023W, Central Bay - CB015W, Central Bay - CB003W, Central Bay - CB001W]
Temporal Representation:	Data was collected over the time period 3/3/1993-8/13/2007.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	The 1999 Quality Assurance Project Plan Regional Monitoring Program for Trace Substances was used.
QAPP Information Reference(s):	1999 Quality Assurance Project Plan Regional Monitoring Program for Trace Substances

Line of Evidence (LOE) for Decision ID 66478, Endosulfan
San Francisco Bay, Central

Region 2

LOE ID:	92823
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Pollutant:	Endosulfan
LOE Subgroup:	Pollutant-Tissue
Matrix:	Tissue
Fraction:	Shellfish
Beneficial Use:	Shellfish Harvesting
Number of Samples:	3
Number of Exceedances:	0
Data and Information Type:	Shellfish surveys
Data Used to Assess Water Quality:	The result did not exceed the guideline. Data were reported on a dry weight basis and were converted to a wet weight basis by multiplying the dry-weight concentration by a factor of 1 minus the percentage of moisture content expressed as a decimal. Total Endosulfan result was calculated by summing the results for Endosulfan I and Endosulfan II.
Data Reference:	State Mussel Watch Program Data 1977-2000; Winter 2007-Winter 2009. State Water Resources Control Board
SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	Many pollutants can accumulate on particles, in sediment, or bioaccumulate in fish and other aquatic organisms. Controllable water quality factors shall not cause a detrimental increase in concentrations of toxic substances found in bottom sediments or aquatic life. Effects on aquatic organisms, wildlife, and human health will be considered.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	The modified OEHHA Fish Contaminant Goal for endosulfan (I and II) in shellfish tissue is 20,000 ppb. This screening level assumes an average body weight of 70 kg and a consumption rate of 21 g/day. (Brodberg, R.K., and G.A. Pollock, 1999; Klasing, S., and R. Brodberg, 2008; USEPA, 2000)
Guideline Reference:	Prevalence of Selected Target Chemical Contaminants in Sport Fish From Two California Lakes: Public health designed screening study. Sacramento, CA: Office of Environmental Health Hazard Assessment Development of Fish Contaminant Goals and Advisory Tissue Levels for Common Contaminants in California Sport Fish: Chlordane, DDTs, Dieldrin, Methylmercury, PCBs, Selenium, and Toxaphene Guidance for Assessing Chemical Contaminant Data for Use In Fish Advisories Volume 1: Fish Sampling and Analysis
Spatial Representation:	Samples are collected by hand from three sub-locations for each site. The composite samples were collected from sites San Francisco Bay Emeryville (SFEM) and two separate years from site San Francisco Bay Yerba Buena Island (SFYB).
Temporal Representation:	Representative samples of locally abundant species were collected during the winter on 12/22/2007, 12/8/2008, and 2/4/2009.
Environmental Conditions:	
QAPP Information:	Samples were collected as part of the State Water Board's Mussel Watch Program which is a part of the National Oceanic Administration's (NOAAs) National Status and Trends (NS&T). Mussels are shipped to NOAAs contract labs for analysis of trace constituents and mussel condition. Analytical protocols follow those approved by NOAAs NS&T Program Additional background information can be found at: http://ccma.nos.noaa.gov/stressors/pollution/nsandt/
QAPP Information Reference(s):	

Line of Evidence (LOE) for Decision ID 66478, Endosulfan
San Francisco Bay, Central

Region 2

LOE ID:	92824
Pollutant:	Endosulfan
LOE Subgroup:	Pollutant-Water

Matrix:	Water
Fraction:	Dissolved
Beneficial Use:	Marine Habitat
Number of Samples:	47
Number of Exceedances:	0
Data and Information Type:	PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality:	State Water Board staff assessed SFEI data for San Francisco Bay, Central to determine beneficial use support and results are as follows: 0 of 47 samples exceed the criterion for Endosulfan, Total.
Data Reference:	Regional Monitoring Program data, Feb. 1993-Sep. 2008
SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	The total Endosulfan criterion continuous concentration (expressed as a 4-day average) to protect aquatic life in saltwater is 0.0087 ug/L (California Toxics Rule, 2000).
Objective/Criterion Reference:	Code of Federal Regulations 40 part 131.38 Establishment of numeric criteria for priority toxic pollutants for the State of California. 7/1/2011 Edition
Evaluation Guideline:	
Guideline Reference:	
Spatial Representation:	Data for this line of evidence for San Francisco Bay, Central was collected at 6 monitoring sites [Yerba Buena Island - BC10, Red Rock - BC60, Central Bay - CB023W, Central Bay - CB015W, Central Bay - CB003W, Central Bay - CB001W]
Temporal Representation:	Data was collected over the time period 3/3/1993-8/13/2007.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	The 1999 Quality Assurance Project Plan Regional Monitoring Program for Trace Substances was used.
QAPP Information Reference(s):	1999 Quality Assurance Project Plan Regional Monitoring Program for Trace Substances

Line of Evidence (LOE) for Decision ID 66478, Endosulfan

Region 2

San Francisco Bay, Central

LOE ID:	93627
Pollutant:	Endosulfan
LOE Subgroup:	Pollutant-Tissue
Matrix:	Tissue
Fraction:	Shellfish
Beneficial Use:	Shellfish Harvesting
Number of Samples:	5
Number of Exceedances:	0
Data and Information Type:	Shellfish surveys
Data Used to Assess Water Quality:	None of the 5 samples exceeded the guideline. All composite samples were comprised of <i>Mytilus californianus</i> . Data were reported on a dry weight basis and were converted to a wet weight basis by multiplying the dry-weight concentration by a factor of 1 minus the percentage of moisture content expressed as a decimal.
Data Reference:	Regional Monitoring Program data, Feb. 1993-Sep. 2008
SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	Water Quality Control Plan for the San Francisco Bay Basin: Controllable water quality factors shall not cause a detrimental increase in concentrations of toxic substances found in bottom sediments or aquatic life. Effects on aquatic organisms, wildlife, and human health will be considered.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)

Evaluation Guideline:	The modified OEHHA Fish Contaminant Goal for endosulfan (I and II) in shellfish tissue is 20,000 ppb. This screening level assumes an average body weight of 70 kg and a consumption rate of 21 g/day. (Brodberg, R.K., and G.A. Pollock, 1999; Klasing, S., and R. Brodberg, 2008; USEPA, 2000)
Guideline Reference:	Prevalence of Selected Target Chemical Contaminants in Sport Fish From Two California Lakes: Public health designed screening study. Sacramento, CA: Office of Environmental Health Hazard Assessment Development of Fish Contaminant Goals and Advisory Tissue Levels for Common Contaminants in California Sport Fish: Chlordane, DDTs, Dieldrin, Methylmercury, PCBs, Selenium, and Toxaphene Guidance for Assessing Chemical Contaminant Data for Use In Fish Advisories Volume 1: Fish Sampling and Analysis
Spatial Representation:	Samples were collected at the following stations: BC21 - Horseshoe Bay, BC61 - Red Rock and BC10 - Yerba Buena Island.
Temporal Representation:	Samples were collected at BC21 on 9/5/2002, and at BC61 and BC10 on 9/5/2002 and 9/24/2003.
Environmental Conditions:	
QAPP Information:	1999 Quality Assurance Project Plan Regional Monitoring Program for Trace Substances.
QAPP Information Reference(s):	1999 Quality Assurance Project Plan Regional Monitoring Program for Trace Substances

DECISION ID	66485	Region 2
San Francisco Bay, Central		

Pollutant:	Endosulfan sulfate
Final Listing Decision:	Do Not List on 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision:	New Decision
Revision Status	Revised
Impairment from Pollutant or Pollution:	Pollutant

Regional Board Staff Conclusion:	<p>This pollutant is being considered for placement on the CWA section 303(d) List under section 3.1 of the Listing Policy. Under section 3.1 a single line of evidence is necessary to assess listing status.</p> <p>One line of evidence is available in the administrative record to assess this pollutant. Zero of fifty-five samples exceed the guideline.</p> <p>Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against placing this water segment-pollutant combination on the CWA section 303(d) List in the Water Quality Limited Segments category.</p> <p>This conclusion is based on the staff findings that:</p> <ol style="list-style-type: none"> 1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy. 2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy. 3. Zero of fifty-five samples exceed the guideline and this does not exceed the allowable frequency listed in Table 3.1 of the Listing Policy. 4. Pursuant to section 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.
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Regional Board Staff Decision Recommendation:	After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be placed on the section 303(d) list because applicable water quality standards are not being exceeded.
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Line of Evidence (LOE) for Decision ID 66485, Endosulfan sulfate	Region 2
San Francisco Bay, Central	

LOE ID:	92826
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Pollutant:	Endosulfan sulfate
LOE Subgroup:	Pollutant-Water
Matrix:	Water
Fraction:	Total
Beneficial Use:	Commercial or recreational collection of fish, shellfish, or organisms
Number of Samples:	55
Number of Exceedances:	0
Data and Information Type:	PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality:	State Water Board staff assessed SFEI data for San Francisco Bay, Central to determine beneficial use support and results are as follows: 0 of 55 samples exceed the criterion for Endosulfan Sulfate.
Data Reference:	Regional Monitoring Program data, Feb. 1993-Sep. 2008
SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	The Endosulfan Sulfate criteria for the protection of human health from consumption of organisms only is 240 ug/L (California Toxics Rule, 2000).
Objective/Criterion Reference:	Code of Federal Regulations 40 part 131.38 Establishment of numeric criteria for priority toxic pollutants for the State of California. 7/1/2011 Edition
Evaluation Guideline:	
Guideline Reference:	
Spatial Representation:	Data for this line of evidence for San Francisco Bay, Central was collected at 14 monitoring sites [Yerba Buena Island - BC10, Red Rock - BC60, Central Bay - CB001W, Central Bay - CB003W, Central Bay - CB005W, Central Bay - CB006W, Central Bay - CB007W, Central Bay - CB008W, Central Bay - CB013W, Central Bay - CB015W, Central Bay - CB017W, Central Bay - CB019W, Central Bay - CB021W, Central Bay - CB023W]
Temporal Representation:	Data was collected over the time period 2/3/1994-8/13/2007.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	The 1999 Quality Assurance Project Plan Regional Monitoring Program for Trace Substances was used.
QAPP Information Reference(s):	1999 Quality Assurance Project Plan Regional Monitoring Program for Trace Substances

DECISION ID	66486	Region 2
San Francisco Bay, Central		

Pollutant: Final Listing Decision: Last Listing Cycle's Final Listing Decision: Revision Status Impairment from Pollutant or Pollution:	Endrin Do Not List on 303(d) list (TMDL required list) New Decision Revised Pollutant
Regional Board Staff Conclusion:	<p>This pollutant is being considered for placement on the CWA section 303(d) List under section 3.5 of the Listing Policy. Under section 3.5 a single line of evidence is necessary to assess listing status.</p> <p>Six lines of evidence are available in the administrative record to assess this pollutant. Zero of ninety-nine samples exceed the guideline.</p> <p>Based on the readily available data and information, the weight of evidence indicates that there is not sufficient justification in favor of placing this water segment-pollutant combination on the CWA section 303(d) List.</p> <p>This conclusion is based on the staff findings that:</p> <ol style="list-style-type: none"> 1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy.

2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy.
3. Zero of ninety-nine samples exceed the OEHHHA guideline and this number does not exceed the allowable frequency listed in Table 3.1 of the Listing Policy.
4. There is not a fish consumption advisory in effect for this waterbody.
5. Pursuant to section 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.

Regional Board Staff Decision Recommendation: After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be placed on the section 303(d) list because applicable water quality standards are not being exceeded.

**Line of Evidence (LOE) for Decision ID 66486, Endrin
San Francisco Bay, Central**

Region 2

LOE ID: 92830

Pollutant: Endrin
LOE Subgroup: Pollutant-Water
Matrix: Water
Fraction: Total

Beneficial Use: Commercial or recreational collection of fish, shellfish, or organisms

Number of Samples: 50
Number of Exceedances: 0

Data and Information Type: PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality: State Water Board staff assessed SFEI data for San Francisco Bay, Central to determine beneficial use support and results are as follows: 0 of 50 samples exceed the criterion for Endrin.

Data Reference: [Regional Monitoring Program data, Feb. 1993-Sep. 2008](#)

SWAMP Data: Non-SWAMP

Water Quality Objective/Criterion: The Endrin criteria for the protection of human health from consumption of organisms only is 0.81ug/L (California Toxics Rule, 2000).

Objective/Criterion Reference: [Code of Federal Regulations 40 part 131.38 Establishment of numeric criteria for priority toxic pollutants for the State of California. 7/1/2011 Edition](#)

Evaluation Guideline:
Guideline Reference:

Spatial Representation: Data for this line of evidence for San Francisco Bay, Central was collected at 14 monitoring sites [Yerba Buena Island - BC10, Red Rock - BC60, Central Bay - CB001W, Central Bay - CB003W, Central Bay - CB005W, Central Bay - CB007W, Central Bay - CB008W, Central Bay - CB009W, Central Bay - CB011W, Central Bay - CB013W, Central Bay - CB017W, Central Bay - CB019W, Central Bay - CB021W, Central Bay - CB023W]

Temporal Representation: Data was collected over the time period 8/17/1994-8/13/2007.

Environmental Conditions: Staff is not aware of any special conditions that might affect interpretation of the data.

QAPP Information: The 1999 Quality Assurance Project Plan Regional Monitoring Program for Trace Substances was used.

QAPP Information Reference(s): [1999 Quality Assurance Project Plan Regional Monitoring Program for Trace Substances](#)

**Line of Evidence (LOE) for Decision ID 66486, Endrin
San Francisco Bay, Central**

Region 2

LOE ID: 93628

Pollutant: Endrin
LOE Subgroup: Pollutant-Tissue

Matrix:	Tissue
Fraction:	Shellfish
Beneficial Use:	Shellfish Harvesting
Number of Samples:	51
Number of Exceedances:	0
Data and Information Type:	Shellfish surveys
Data Used to Assess Water Quality:	None of the 51 samples exceeded the guideline. All composite samples were comprised of <i>Mytilus californianus</i> . Data were reported on a dry weight basis and were converted to a wet weight basis by multiplying the dry-weight concentration by a factor of 1 minus the percentage of moisture content expressed as a decimal. Laboratory replicates were averaged.
Data Reference:	Regional Monitoring Program data, Feb. 1993-Sep. 2008
SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	Water Quality Control Plan for the San Francisco Bay Basin: Controllable water quality factors shall not cause a detrimental increase in concentrations of toxic substances found in bottom sediments or aquatic life. Effects on aquatic organisms, wildlife, and human health will be considered.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	The modified OEHHA Fish Contaminant Goal for endrin in shellfish tissue is 1,000 ppb. This screening level assumes an average body weight of 70 kg and a consumption rate of 21 g/day. (Brodberg, R.K., and G.A. Pollock, 1999; Klasing, S., and R. Brodberg, 2008; USEPA, 2000)
Guideline Reference:	Prevalence of Selected Target Chemical Contaminants in Sport Fish From Two California Lakes: Public health designed screening study. Sacramento, CA: Office of Environmental Health Hazard Assessment Development of Fish Contaminant Goals and Advisory Tissue Levels for Common Contaminants in California Sport Fish: Chlordane, DDTs, Dieldrin, Methylmercury, PCBs, Selenium, and Toxaphene Guidance for Assessing Chemical Contaminant Data for Use In Fish Advisories Volume 1: Fish Sampling and Analysis
Spatial Representation:	Samples were collected at the following stations: BC21 - Horseshoe Bay, BC61 - Red Rock and BC10 - Yerba Buena Island.
Temporal Representation:	Samples were generally collected in spring and fall seasons from years 1993 - 1999 and then during most fall seasons during years 2000 - 2008. Samples collected at BC21 through year 2002. Samples collected at BC10 and BC61 through year 2008.
Environmental Conditions:	
QAPP Information:	1999 Quality Assurance Project Plan Regional Monitoring Program for Trace Substances.
QAPP Information Reference(s):	1999 Quality Assurance Project Plan Regional Monitoring Program for Trace Substances

Line of Evidence (LOE) for Decision ID 66486, Endrin

Region 2

San Francisco Bay, Central

LOE ID:	92827
Pollutant:	Endrin
LOE Subgroup:	Pollutant-Tissue
Matrix:	Tissue
Fraction:	Shellfish
Beneficial Use:	Shellfish Harvesting
Number of Samples:	3
Number of Exceedances:	0
Data and Information Type:	Shellfish surveys

Data Used to Assess Water Quality:	The result did not exceed the guideline. Data were reported on a dry weight basis and were converted to a wet weight basis by multiplying the dry-weight concentration by a factor of 1 minus the percentage of moisture content expressed as a decimal.
Data Reference:	State Mussel Watch Program Data 1977-2000; Winter 2007-Winter 2009. State Water Resources Control Board
SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	Many pollutants can accumulate on particles, in sediment, or bioaccumulate in fish and other aquatic organisms. Controllable water quality factors shall not cause a detrimental increase in concentrations of toxic substances found in bottom sediments or aquatic life. Effects on aquatic organisms, wildlife, and human health will be considered.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	The modified OEHHA Fish Contaminant Goal for endrin in shellfish tissue is 1,000 ppb. This screening level assumes an average body weight of 70 kg and a consumption rate of 21 g/day. (Brodberg, R.K., and G.A. Pollock, 1999; Klasing, S., and R. Brodberg, 2008; USEPA, 2000)
Guideline Reference:	Prevalence of Selected Target Chemical Contaminants in Sport Fish From Two California Lakes: Public health designed screening study. Sacramento, CA: Office of Environmental Health Hazard Assessment Development of Fish Contaminant Goals and Advisory Tissue Levels for Common Contaminants in California Sport Fish: Chlordane, DDTs, Dieldrin, Methylmercury, PCBs, Selenium, and Toxaphene Guidance for Assessing Chemical Contaminant Data for Use In Fish Advisories Volume 1: Fish Sampling and Analysis
Spatial Representation:	Samples are collected by hand from three sub-locations for each site. The composite samples were collected from sites San Francisco Bay Emeryville (SFEM) and two separate years from site San Francisco Bay Yerba Buena Island (SFYB).
Temporal Representation:	Representative samples of locally abundant species were collected during the winter on 12/22/2007, 12/8/2008, and 2/4/2009.
Environmental Conditions:	
QAPP Information:	Samples were collected as part of the State Water Board's Mussel Watch Program which is a part of the National Oceanic Administration's (NOAAs) National Status and Trends (NS&T). Mussels are shipped to NOAAs contract labs for analysis of trace constituents and mussel condition. Analytical protocols follow those approved by NOAAs NS&T Program Additional background information can be found at: http://ccma.nos.noaa.gov/stressors/pollution/nsandt/
QAPP Information Reference(s):	

**Line of Evidence (LOE) for Decision ID 66486, Endrin
San Francisco Bay, Central**

Region 2

LOE ID:	95102
Pollutant:	Endrin
LOE Subgroup:	Pollutant-Tissue
Matrix:	Tissue
Fraction:	Fish fillet
Beneficial Use:	Commercial or recreational collection of fish, shellfish, or organisms
Number of Samples:	99
Number of Exceedances:	0
Data and Information Type:	Fish tissue analysis
Data Used to Assess Water Quality:	Water Board staff assessed Regional Monitoring Program data for Central San Francisco Bay to determine beneficial use support and results are as follows: 0 of 99 samples exceed the criterion for endrin. One sample was discarded for being non-detect, unquantifiable or the reporting limit exceeding the water quality objective.
Data Reference:	Regional Monitoring Program data, Feb. 1993-Sep. 2008

SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	Water Quality Control Plan for the San Francisco Bay Basin: Controllable water quality factors shall not cause a detrimental increase in concentrations of toxic substances found in bottom sediments or aquatic life. Effects on aquatic organisms, wildlife, and human health will be considered.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	The modified OEHHA Fish Contaminant Goal for endrin in fish tissue is 660 ppb. This screening level assumes an average body weight of 70 kg and a consumption rate of 32 g/day. A cooking reduction factor of 1 is applied for skin-off fillets. (Klasing, S., and R. Brodberg, 2008; USEPA, 2000)
Guideline Reference:	Development of Fish Contaminant Goals and Advisory Tissue Levels for Common Contaminants in California Sport Fish: Chlordane, DDTs, Dieldrin, Methylmercury, PCBs, Selenium, and Toxaphene Guidance for Assessing Chemical Contaminant Data for Use In Fish Advisories Volume 1: Fish Sampling and Analysis
Spatial Representation:	The samples were collected at fourteen sites throughout Central San Francisco Bay.
Temporal Representation:	The samples were collected every three years from May 1994 through June 2006.
Environmental Conditions:	
QAPP Information:	The 1999 Quality Assurance Project Plan Regional Monitoring Program for Trace Substances was used.
QAPP Information Reference(s):	1999 Quality Assurance Project Plan Regional Monitoring Program for Trace Substances

Line of Evidence (LOE) for Decision ID 66486, Endrin

Region 2

San Francisco Bay, Central

LOE ID:	92828
Pollutant:	Endrin
LOE Subgroup:	Pollutant-Water
Matrix:	Water
Fraction:	Dissolved
Beneficial Use:	Marine Habitat
Number of Samples:	47
Number of Exceedances:	0
Data and Information Type:	PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality:	State Water Board staff assessed SFEI data for San Francisco Bay, Central to determine beneficial use support and results are as follows: 0 of 47 samples exceed the criterion for Endrin.
Data Reference:	Regional Monitoring Program data, Feb. 1993-Sep. 2008
SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	The Endrin criterion continuous concentration (expressed as a 4-day average) to protect aquatic life in saline water is 0.0023 ug/L (California Toxics Rule, 2000).
Objective/Criterion Reference:	Code of Federal Regulations 40 part 131.38 Establishment of numeric criteria for priority toxic pollutants for the State of California. 7/1/2011 Edition
Evaluation Guideline:	
Guideline Reference:	
Spatial Representation:	Data for this line of evidence for San Francisco Bay, Central was collected at 11 monitoring sites [Yerba Buena Island - BC10, Red Rock - BC60, Central Bay - CB011W, Central Bay - CB007W, Central Bay - CB005W, Central Bay - CB008W, Central Bay - CB013W, Central Bay - CB001W, Central Bay - CB009W, Central Bay - CB023W, Central Bay - CB003W]

Temporal Representation: Data was collected over the time period 8/17/1994-8/13/2007.
 Environmental Conditions: Staff is not aware of any special conditions that might affect interpretation of the data.
 QAPP Information: The 1999 Quality Assurance Project Plan Regional Monitoring Program for Trace Substances was used.
 QAPP Information Reference(s): [1999 Quality Assurance Project Plan Regional Monitoring Program for Trace Substances](#)

Line of Evidence (LOE) for Decision ID 66486, Endrin
San Francisco Bay, Central

Region 2

LOE ID: 92829

Pollutant: Endrin
 LOE Subgroup: Pollutant-Water
 Matrix: Water
 Fraction: Dissolved

Beneficial Use: Estuarine Habitat

Number of Samples: 47
 Number of Exceedances: 0

Data and Information Type: PHYSICAL/CHEMICAL MONITORING
 Data Used to Assess Water Quality: State Water Board staff assessed SFEI data for San Francisco Bay, Central to determine beneficial use support and results are as follows: 0 of 47 samples exceed the criterion for Endrin.

Data Reference: [Regional Monitoring Program data, Feb. 1993-Sep. 2008](#)

SWAMP Data: Non-SWAMP

Water Quality Objective/Criterion: The Endrin criterion continuous concentration (expressed as a 4-day average) to protect aquatic life in saline water is 0.0023 ug/L (California Toxics Rule, 2000).

Objective/Criterion Reference: [Code of Federal Regulations 40 part 131.38 Establishment of numeric criteria for priority toxic pollutants for the State of California, 7/1/2011 Edition](#)

Evaluation Guideline:
 Guideline Reference:

Spatial Representation: Data for this line of evidence for San Francisco Bay, Central was collected at 11 monitoring sites [Yerba Buena Island - BC10, Red Rock - BC60, Central Bay - CB011W, Central Bay - CB007W, Central Bay - CB005W, Central Bay - CB008W, Central Bay - CB013W, Central Bay - CB001W, Central Bay - CB009W, Central Bay - CB023W, Central Bay - CB003W]

Temporal Representation: Data was collected over the time period 8/17/1994-8/13/2007.
 Environmental Conditions: Staff is not aware of any special conditions that might affect interpretation of the data.
 QAPP Information: The 1999 Quality Assurance Project Plan Regional Monitoring Program for Trace Substances was used.
 QAPP Information Reference(s): [1999 Quality Assurance Project Plan Regional Monitoring Program for Trace Substances](#)

DECISION ID 66490
San Francisco Bay, Central

Region 2

Pollutant: Ethion
 Final Listing Decision: Do Not List on 303(d) list (TMDL required list)
 Last Listing Cycle's Final Listing Decision: New Decision
 Revision Status: Revised
 Impairment from Pollutant or Pollution: Pollutant

Regional Board Staff This pollutant is being considered for placement on the CWA section 303(d) List under section 3.5 of

Conclusion:	<p>the Listing Policy. Under section 3.5 a single line of evidence is necessary to assess listing status.</p> <p>One line of evidence is available in the administrative record to assess this pollutant. Zero of twenty samples exceed the guideline.</p> <p>Based on the readily available data and information, the weight of evidence indicates that there is not sufficient justification in favor of placing this water segment-pollutant combination on the CWA section 303(d) List.</p> <p>This conclusion is based on the staff findings that:</p> <ol style="list-style-type: none"> 1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy. 2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy. 3. Zero of twenty samples exceed the OEHHA guideline and this number does not exceed the allowable frequency listed in Table 3.1 of the Listing Policy. 4. There is not a fish consumption advisory in effect for this waterbody. 5. Pursuant to section 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.
Regional Board Staff Decision Recommendation:	After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be placed on the section 303(d) list because applicable water quality standards are not being exceeded.

**Line of Evidence (LOE) for Decision ID 66490, Ethion
San Francisco Bay, Central**

Region 2

LOE ID:	95071
Pollutant:	Ethion
LOE Subgroup:	Pollutant-Tissue
Matrix:	Tissue
Fraction:	Fish fillet
Beneficial Use:	Commercial or recreational collection of fish, shellfish, or organisms
Number of Samples:	20
Number of Exceedances:	0
Data and Information Type:	Fish tissue analysis
Data Used to Assess Water Quality:	Water Board staff assessed Regional Monitoring Program data for Central San Francisco Bay to determine beneficial use support and results are as follows: 0 of 20 samples exceed the criterion for ethion. No samples were discarded for being non-detect, unquantifiable or the reporting limit exceeding the water quality objective.
Data Reference:	Regional Monitoring Program data, Feb. 1993-Sep. 2008
SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	Water Quality Control Plan for the San Francisco Bay Basin: Controllable water quality factors shall not cause a detrimental increase in concentrations of toxic substances found in bottom sediments or aquatic life. Effects on aquatic organisms, wildlife, and human health will be considered.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	The modified OEHHA Fish Contaminant Goal for ethion in fish tissue is 1,100 ppb. This screening level assumes an average body weight of 70 kg and a consumption rate of 32 g/day. A cooking reduction factor of 1 is applied for skin-off fillets. (Klasing, S., and R. Brodberg, 2008; USEPA, 2000)
Guideline Reference:	Development of Fish Contaminant Goals and Advisory Tissue Levels for Common Contaminants in California Sport Fish: Chlordane, DDTs, Dieldrin, Methylmercury, PCBs, Selenium, and Toxaphene Guidance for Assessing Chemical Contaminant Data for Use In Fish Advisories Volume 1: Fish Sampling and Analysis

Spatial Representation:	The samples were collected at two sites in Central San Francisco Bay.
Temporal Representation:	The samples were collected in May and June 2000..
Environmental Conditions:	
QAPP Information:	The 1999 Quality Assurance Project Plan Regional Monitoring Program for Trace Substances was used.
QAPP Information Reference(s):	1999 Quality Assurance Project Plan Regional Monitoring Program for Trace Substances

DECISION ID	66492	Region 2
San Francisco Bay, Central		

Pollutant:	Fluoranthene
Final Listing Decision:	Do Not List on 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision:	New Decision
Revision Status	Revised
Impairment from Pollutant or Pollution:	Pollutant

Regional Board Staff Conclusion:

This pollutant is being considered for placement on the CWA section 303(d) List under section 3.1 of the Listing Policy. Under section 3.1 a single line of evidence is necessary to assess listing status.

Three lines of evidence are available in the administrative record to assess this pollutant. Zero of fifty-nine samples exceed the guideline.

Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against placing this water segment-pollutant combination on the CWA section 303(d) List in the Water Quality Limited Segments category.

This conclusion is based on the staff findings that:

1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy.
2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy.
3. Zero of fifty-nine samples exceed the guideline and this does not exceed the allowable frequency listed in Table 3.1 of the Listing Policy.
4. Pursuant to section 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.

Regional Board Staff Decision Recommendation: After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be placed on the section 303(d) list because applicable water quality standards are not being exceeded.

Line of Evidence (LOE) for Decision ID 66492, Fluoranthene	Region 2
San Francisco Bay, Central	

LOE ID:	92833
Pollutant:	Fluoranthene
LOE Subgroup:	Pollutant-Water
Matrix:	Water
Fraction:	Total
Beneficial Use:	Commercial or recreational collection of fish, shellfish, or organisms
Number of Samples:	59
Number of Exceedances:	0
Data and Information Type:	PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality:	State Water Board staff assessed SFEI data for San Francisco Bay, Central to determine beneficial use support and results are as follows: 0 of 59 samples exceed the criterion for

Data Reference:	Fluoranthene. Regional Monitoring Program data, Feb. 1993-Sep. 2008
SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	The Fluoranthene criteria for the protection of human health from consumption of organisms only is 370 ug/L (California Toxics Rule, 2000).
Objective/Criterion Reference:	Code of Federal Regulations 40 part 131.38 Establishment of numeric criteria for priority toxic pollutants for the State of California. 7/1/2011 Edition
Evaluation Guideline:	
Guideline Reference:	
Spatial Representation:	Data for this line of evidence for San Francisco Bay, Central was collected at 17 monitoring sites [Yerba Buena Island - BC10, Red Rock - BC60, Central Bay - CB001W, Central Bay - CB003W, Central Bay - CB005W, Central Bay - CB006W, Central Bay - CB007W, Central Bay - CB008W, Central Bay - CB009W, Central Bay - CB011W, Central Bay - CB013W, Central Bay - CB015W, Central Bay - CB017W, Central Bay - CB019W, Central Bay - CB021W, Central Bay - CB023W, Central Bay - CB025W]
Temporal Representation:	Data was collected over the time period 3/3/1993-7/15/2008.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	The 1999 Quality Assurance Project Plan Regional Monitoring Program for Trace Substances was used.
QAPP Information Reference(s):	1999 Quality Assurance Project Plan Regional Monitoring Program for Trace Substances

Line of Evidence (LOE) for Decision ID 66492, Fluoranthene

Region 2

San Francisco Bay, Central

LOE ID:	92832
Pollutant:	Fluoranthene
LOE Subgroup:	Pollutant-Water
Matrix:	Water
Fraction:	Dissolved
Beneficial Use:	Estuarine Habitat
Number of Samples:	57
Number of Exceedances:	0
Data and Information Type:	PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality:	State Water Board staff assessed SFEI data for San Francisco Bay, Central to determine beneficial use support and results are as follows: 0 of 57 samples exceed the criterion for Fluoranthene.
Data Reference:	Regional Monitoring Program data, Feb. 1993-Sep. 2008
SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	No individual pesticide or combination of pesticides shall be present in concentrations that adversely affect beneficial uses.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	The available data for Fluoranthene indicate that chronic toxicity to saltwater aquatic life occurs at concentrations as low as 16 ug/L and would occur at lower concentrations among species that are more sensitive than those tested. (USEPA Gold Book - EPA 440/5-86-001)
Guideline Reference:	Quality Criteria for Water 1986. United States Environmental Protection Agency. Office of Water. Regulations and Standards. Washington D.C. EPA 440/5-86-001.
Spatial Representation:	Data for this line of evidence for San Francisco Bay, Central was collected at 13 monitoring sites [Yerba Buena Island - BC10, Red Rock - BC60, Central Bay - CB011W, Central Bay - CB007W, Central Bay - CB006W, Central Bay - CB005W, Central Bay -

Temporal Representation:	CB008W, Central Bay - CB013W, Central Bay - CB001W, Central Bay - CB009W, Central Bay - CB023W, Central Bay - CB015W, Central Bay - CB003W]
Environmental Conditions:	Data was collected over the time period 3/3/1993-7/15/2008.
QAPP Information:	Staff is not aware of any special conditions that might affect interpretation of the data.
	The 1999 Quality Assurance Project Plan Regional Monitoring Program for Trace Substances was used.
QAPP Information Reference(s):	1999 Quality Assurance Project Plan Regional Monitoring Program for Trace Substances

Line of Evidence (LOE) for Decision ID 66492, Fluoranthene
San Francisco Bay, Central

Region 2

LOE ID:	92831
Pollutant:	Fluoranthene
LOE Subgroup:	Pollutant-Water
Matrix:	Water
Fraction:	Dissolved
Beneficial Use:	Marine Habitat
Number of Samples:	57
Number of Exceedances:	0
Data and Information Type:	PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality:	State Water Board staff assessed SFEI data for San Francisco Bay, Central to determine beneficial use support and results are as follows: 0 of 57 samples exceed the criterion for Fluoranthene.
Data Reference:	Regional Monitoring Program data, Feb. 1993-Sep. 2008
SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	No individual pesticide or combination of pesticides shall be present in concentrations that adversely affect beneficial uses.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	The available data for Fluoranthene indicate that chronic toxicity to saltwater aquatic life occurs at concentrations as low as 16 ug/L and would occur at lower concentrations among species that are more sensitive than those tested. (USEPA Gold Book - EPA 440/5-86-001)
Guideline Reference:	Quality Criteria for Water 1986. United States Environmental Protection Agency. Office of Water. Regulations and Standards. Washington D.C. EPA 440/5-86-001.
Spatial Representation:	Data for this line of evidence for San Francisco Bay, Central was collected at 13 monitoring sites [Yerba Buena Island - BC10, Red Rock - BC60, Central Bay - CB011W, Central Bay - CB007W, Central Bay - CB006W, Central Bay - CB005W, Central Bay - CB008W, Central Bay - CB013W, Central Bay - CB001W, Central Bay - CB009W, Central Bay - CB023W, Central Bay - CB015W, Central Bay - CB003W]
Temporal Representation:	Data was collected over the time period 3/3/1993-7/15/2008.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	The 1999 Quality Assurance Project Plan Regional Monitoring Program for Trace Substances was used.
QAPP Information Reference(s):	1999 Quality Assurance Project Plan Regional Monitoring Program for Trace Substances

DECISION ID 66496
San Francisco Bay, Central

Region 2

Pollutant:	Fluorene
Final Listing Decision:	Do Not List on 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision:	New Decision

Revision Status
Impairment from Pollutant or Pollution:

Revised
Pollutant

Regional Board Staff Conclusion:

This pollutant is being considered for placement on the CWA section 303(d) List under section 3.1 of the Listing Policy. Under section 3.1 a single line of evidence is necessary to assess listing status.

One line of evidence is available in the administrative record to assess this pollutant. Zero of forty-one samples exceed the guideline.

Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against placing this water segment-pollutant combination on the CWA section 303(d) List in the Water Quality Limited Segments category.

This conclusion is based on the staff findings that:

1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy.
2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy.
3. Zero of forty-one samples exceed the guideline and this does not exceed the allowable frequency listed in Table 3.1 of the Listing Policy.
4. Pursuant to section 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.

Regional Board Staff Decision Recommendation:

After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be placed on the section 303(d) list because applicable water quality standards are not being exceeded.

Line of Evidence (LOE) for Decision ID 66496, Fluorene
San Francisco Bay, Central

Region 2

LOE ID:	92834
Pollutant:	Fluorene
LOE Subgroup:	Pollutant-Water
Matrix:	Water
Fraction:	Total
Beneficial Use:	Commercial or recreational collection of fish, shellfish, or organisms
Number of Samples:	41
Number of Exceedances:	0
Data and Information Type:	PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality:	State Water Board staff assessed SFEI data for San Francisco Bay, Central to determine beneficial use support and results are as follows: 0 of 41 samples exceed the criterion for Fluorene.
Data Reference:	Regional Monitoring Program data, Feb. 1993-Sep. 2008
SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	The Fluorene criteria for the protection of human health from consumption of organisms only is 14,000 ug/L (California Toxics Rule, 2000).
Objective/Criterion Reference:	Code of Federal Regulations 40 part 131.38 Establishment of numeric criteria for priority toxic pollutants for the State of California. 7/1/2011 Edition
Evaluation Guideline:	
Guideline Reference:	
Spatial Representation:	Data for this line of evidence for San Francisco Bay, Central was collected at 13 monitoring sites [Yerba Buena Island - BC10, Red Rock - BC60, Central Bay - CB001W, Central Bay - CB003W, Central Bay - CB006W, Central Bay - CB008W, Central Bay - CB009W, Central Bay - CB011W, Central Bay - CB017W, Central Bay - CB019W, Central

Temporal Representation:	Bay - CB021W, Central Bay - CB023W, Central Bay - CB025W]
Environmental Conditions:	Data was collected over the time period 2/7/1996-7/14/2008.
QAPP Information:	Staff is not aware of any special conditions that might affect interpretation of the data. The 1999 Quality Assurance Project Plan Regional Monitoring Program for Trace Substances was used.
QAPP Information Reference(s):	1999 Quality Assurance Project Plan Regional Monitoring Program for Trace Substances

DECISION ID	66495	Region 2
San Francisco Bay, Central		

Pollutant:	Heptachlor
Final Listing Decision:	Do Not List on 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision:	New Decision
Revision Status	Revised
Impairment from Pollutant or Pollution:	Pollutant

Regional Board Staff Conclusion:

This pollutant is being considered for placement on the CWA section 303(d) List under section 3.1 of the Listing Policy. Under section 3.1 a single line of evidence is necessary to assess listing status.

Three lines of evidence are available in the administrative record to assess this pollutant. Zero of fifty samples exceed the guideline.

Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against placing this water segment-pollutant combination on the CWA section 303(d) List in the Water Quality Limited Segments category.

This conclusion is based on the staff findings that:

1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy.
2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy.
3. Zero of fifty samples exceed the guideline and this does not exceed the allowable frequency listed in Table 3.1 of the Listing Policy.
4. Pursuant to section 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.

Regional Board Staff Decision Recommendation: After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be placed on the section 303(d) list because applicable water quality standards are not being exceeded.

Line of Evidence (LOE) for Decision ID 66495, Heptachlor	Region 2
San Francisco Bay, Central	

LOE ID:	92836
Pollutant:	Heptachlor
LOE Subgroup:	Pollutant-Water
Matrix:	Water
Fraction:	Dissolved
Beneficial Use:	Estuarine Habitat
Number of Samples:	50
Number of Exceedances:	0
Data and Information Type:	PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality:	State Water Board staff assessed SFEI data for San Francisco Bay, Central to determine beneficial use support and results are as follows: 0 of 50 samples exceed the criterion for Heptachlor.

Data Reference: [Regional Monitoring Program data, Feb. 1993-Sep. 2008](#)

SWAMP Data: Non-SWAMP

Water Quality Objective/Criterion: The Heptachlor criterion continuous concentration (expressed as a 4-day average) to protect aquatic life in saline water is 0.0036 ug/L (California Toxics Rule, 2000).

Objective/Criterion Reference: [Code of Federal Regulations 40 part 131.38 Establishment of numeric criteria for priority toxic pollutants for the State of California. 7/1/2011 Edition](#)

Evaluation Guideline:
Guideline Reference:

Spatial Representation: Data for this line of evidence for San Francisco Bay, Central was collected at 11 monitoring sites [Yerba Buena Island - BC10, Red Rock - BC60, Central Bay - CB011W, Central Bay - CB007W, Central Bay - CB006W, Central Bay - CB005W, Central Bay - CB008W, Central Bay - CB001W, Central Bay - CB009W, Central Bay - CB023W, Central Bay - CB003W]

Temporal Representation: Data was collected over the time period 4/20/1994-8/13/2007.

Environmental Conditions: Staff is not aware of any special conditions that might affect interpretation of the data.

QAPP Information: The 1999 Quality Assurance Project Plan Regional Monitoring Program for Trace Substances was used.

QAPP Information Reference(s): [1999 Quality Assurance Project Plan Regional Monitoring Program for Trace Substances](#)

Line of Evidence (LOE) for Decision ID 66495, Heptachlor
San Francisco Bay, Central

Region 2

LOE ID: 92835

Pollutant: Heptachlor

LOE Subgroup: Pollutant-Water

Matrix: Water

Fraction: Dissolved

Beneficial Use: Marine Habitat

Number of Samples: 50

Number of Exceedances: 0

Data and Information Type: PHYSICAL/CHEMICAL MONITORING

Data Used to Assess Water Quality: State Water Board staff assessed SFEI data for San Francisco Bay, Central to determine beneficial use support and results are as follows: 0 of 50 samples exceed the criterion for Heptachlor.

Data Reference: [Regional Monitoring Program data, Feb. 1993-Sep. 2008](#)

SWAMP Data: Non-SWAMP

Water Quality Objective/Criterion: The Heptachlor criterion continuous concentration (expressed as a 4-day average) to protect aquatic life in saline water is 0.0036 ug/L (California Toxics Rule, 2000).

Objective/Criterion Reference: [Code of Federal Regulations 40 part 131.38 Establishment of numeric criteria for priority toxic pollutants for the State of California. 7/1/2011 Edition](#)

Evaluation Guideline:
Guideline Reference:

Spatial Representation: Data for this line of evidence for San Francisco Bay, Central was collected at 11 monitoring sites [Yerba Buena Island - BC10, Red Rock - BC60, Central Bay - CB011W, Central Bay - CB007W, Central Bay - CB006W, Central Bay - CB005W, Central Bay - CB008W, Central Bay - CB001W, Central Bay - CB009W, Central Bay - CB023W, Central Bay - CB003W]

Temporal Representation: Data was collected over the time period 4/20/1994-8/13/2007.

Environmental Conditions: Staff is not aware of any special conditions that might affect interpretation of the data.

QAPP Information: The 1999 Quality Assurance Project Plan Regional Monitoring Program for Trace

QAPP Information Reference(s):	Substances was used. 1999 Quality Assurance Project Plan Regional Monitoring Program for Trace Substances
Line of Evidence (LOE) for Decision ID 66495, Heptachlor	
San Francisco Bay, Central	
LOE ID:	92837
Pollutant:	Heptachlor
LOE Subgroup:	Pollutant-Water
Matrix:	Water
Fraction:	Total
Beneficial Use:	Commercial or recreational collection of fish, shellfish, or organisms
Number of Samples:	38
Number of Exceedances:	0
Data and Information Type:	PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality:	State Water Board staff assessed SFEI data for San Francisco Bay, Central to determine beneficial use support and results are as follows: 0 of 38 samples exceed the criterion for Heptachlor.
Data Reference:	Regional Monitoring Program data, Feb. 1993-Sep. 2008
SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	The Heptachlor criteria for the protection of human health from consumption of organisms only is 0.00021 ug/L (California Toxics Rule, 2000).
Objective/Criterion Reference:	Code of Federal Regulations 40 part 131.38 Establishment of numeric criteria for priority toxic pollutants for the State of California. 7/1/2011 Edition
Evaluation Guideline:	
Guideline Reference:	
Spatial Representation:	Data for this line of evidence for San Francisco Bay, Central was collected at 5 monitoring sites [Yerba Buena Island - BC10, Red Rock - BC60, Central Bay - CB001W, Central Bay - CB009W, Central Bay - CB011W]
Temporal Representation:	Data was collected over the time period 4/20/1994-8/13/2007.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	The 1999 Quality Assurance Project Plan Regional Monitoring Program for Trace Substances was used.
QAPP Information Reference(s):	1999 Quality Assurance Project Plan Regional Monitoring Program for Trace Substances

DECISION ID	66505	Region 2
San Francisco Bay, Central		
Pollutant:	Heptachlor epoxide	
Final Listing Decision:	Do Not List on 303(d) list (TMDL required list)	
Last Listing Cycle's Final Listing Decision:	New Decision	
Revision Status	Revised	
Impairment from Pollutant or Pollution:	Pollutant	
Regional Board Staff Conclusion:	<p>This pollutant is being considered for placement on the CWA section 303(d) List under section 3.1 of the Listing Policy. Under section 3.1 a single line of evidence is necessary to assess listing status.</p> <p>Six lines of evidence are available in the administrative record to assess this pollutant. Zero of fifty-four samples exceed the guideline.</p>	

Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against placing this water segment-pollutant combination on the CWA section 303(d) List in the Water Quality Limited Segments category.

This conclusion is based on the staff findings that:

1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy.
2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy.
3. Zero of fifty-four samples exceed the guideline and this does not exceed the allowable frequency listed in Table 3.1 of the Listing Policy.
4. Pursuant to section 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.

Regional Board Staff Decision Recommendation: After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be placed on the section 303(d) list because applicable water quality standards are not being exceeded.

**Line of Evidence (LOE) for Decision ID 66505, Heptachlor epoxide
San Francisco Bay, Central**

Region 2

LOE ID:	92838
Pollutant:	Heptachlor epoxide
LOE Subgroup:	Pollutant-Tissue
Matrix:	Tissue
Fraction:	Shellfish
Beneficial Use:	Shellfish Harvesting
Number of Samples:	3
Number of Exceedances:	0
Data and Information Type:	Shellfish surveys
Data Used to Assess Water Quality:	The result did not exceed the guideline. Data were reported on a dry weight basis and were converted to a wet weight basis by multiplying the dry-weight concentration by a factor of 1 minus the percentage of moisture content expressed as a decimal.
Data Reference:	State Mussel Watch Program Data 1977-2000; Winter 2007-Winter 2009. State Water Resources Control Board
SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	California's Ocean Plan states that, "The concentration of organic materials in fish, shellfish or other marine resources used for human consumption shall not bioaccumulate to levels that are harmful to human health".
Objective/Criterion Reference:	California Ocean Plan Water Quality Control Plan Ocean Waters of California 2009
Evaluation Guideline:	The modified OEHHA Fish Contaminant Goal for heptachlor epoxide in shellfish tissue is 1.4 ppb. This screening level assumes an average body weight of 70 kg and a consumption rate of 21 g/day for a 30 year exposure over a 70-year lifetime. This constituent is a carcinogen therefore the risk level is set to one in a million. (Brodberg, R.K., and G.A. Pollock, 1999; Klasing, S., and R. Brodberg, 2008; OEHHA, 1999)
Guideline Reference:	Prevalence of Selected Target Chemical Contaminants in Sport Fish From Two California Lakes: Public health designed screening study. Sacramento, CA: Office of Environmental Health Hazard Assessment Development of Fish Contaminant Goals and Advisory Tissue Levels for Common Contaminants in California Sport Fish: Chlordane, DDTs, Dieldrin, Methylmercury, PCBs, Selenium, and Toxaphene Public Health Goal for Heptachlor and Heptachlor Epoxide in Drinking Water
Spatial Representation:	Samples are collected by hand from three sub-locations for each site. The composite samples were collected from sites San Francisco Bay Emeryville (SFEM) and two separate years from site San Francisco Bay Yerba Buena Island (SFYB).

Temporal Representation: Representative samples of locally abundant species were collected during the winter on 12/22/2007, 12/8/2008, and 2/4/2009.

Environmental Conditions:

QAPP Information: Samples were collected as part of the State Water Board's Mussel Watch Program which is a part of the National Oceanic Administration's (NOAAs) National Status and Trends (NS&T). Mussels are shipped to NOAAs contract labs for analysis of trace constituents and mussel condition. Analytical protocols follow those approved by NOAAs NS&T Program Additional background information can be found at: <http://ccma.nos.noaa.gov/stressors/pollution/nsandt/>

QAPP Information Reference(s):

Line of Evidence (LOE) for Decision ID 66505, Heptachlor epoxide
San Francisco Bay, Central

Region 2

LOE ID: 95085

Pollutant: Heptachlor epoxide
 LOE Subgroup: Pollutant-Tissue
 Matrix: Tissue
 Fraction: Fish fillet

Beneficial Use: Commercial or recreational collection of fish, shellfish, or organisms

Number of Samples: 49
 Number of Exceedances: 0

Data and Information Type: Fish tissue analysis
 Data Used to Assess Water Quality: Water Board staff assessed Regional Monitoring Program data for Central San Francisco Bay to determine beneficial use support and results are as follows: 0 of 50 samples exceed the criterion for Heptachlor epoxide. Sixty-eight samples were discarded for being non-detect, unquantifiable or the reporting limit exceeding the water quality objective.

Data Reference: [Regional Monitoring Program data, Feb. 1993-Sep. 2008](#)

SWAMP Data: Non-SWAMP

Water Quality Objective/Criterion: Water Quality Control Plan for the San Francisco Bay Basin: Controllable water quality factors shall not cause a detrimental increase in concentrations of toxic substances found in bottom sediments or aquatic life. Effects on aquatic organisms, wildlife, and human health will be considered.

Objective/Criterion Reference: [Water Quality Control Plan \(Basin Plan\) San Francisco Bay Basin \(Region 2\)](#)

Evaluation Guideline: The modified OEHHA Fish Contaminant Goal for heptachlor epoxide in fish tissue is 0.93 ppb. This screening level assumes an average body weight of 70 kg and a consumption rate of 32 g/day for a 30 year exposure over a 70-year lifetime. This constituent is a carcinogen therefore the risk level is set to one in a million. A cooking reduction factor of 1 is applied for skin-off fillets. (Klasing, S., and R. Brodberg, 2008; OEHHA, 1999)

Guideline Reference: [Development of Fish Contaminant Goals and Advisory Tissue Levels for Common Contaminants in California Sport Fish: Chlordane, DDTs, Dieldrin, Methylmercury, PCBs, Selenium, and Toxaphene](#)
[Public Health Goal for Heptachlor and Heptachlor Epoxide in Drinking Water](#)

Spatial Representation: The samples were collected at fifteen sites throughout Central San Francisco Bay.

Temporal Representation: The samples were collected every three years from May 1994 through June 2006.

Environmental Conditions:

QAPP Information: The 1999 Quality Assurance Project Plan Regional Monitoring Program for Trace Substances was used.

QAPP Information Reference(s): [1999 Quality Assurance Project Plan Regional Monitoring Program for Trace Substances](#)

Line of Evidence (LOE) for Decision ID 66505, Heptachlor epoxide
San Francisco Bay, Central

Region 2

LOE ID:	92839
Pollutant:	Heptachlor epoxide
LOE Subgroup:	Pollutant-Water
Matrix:	Water
Fraction:	Dissolved
Beneficial Use:	Marine Habitat
Number of Samples:	54
Number of Exceedances:	0
Data and Information Type:	PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality:	State Water Board staff assessed SFEI data for San Francisco Bay, Central to determine beneficial use support and results are as follows: 0 of 54 samples exceed the criterion for Heptachlor Epoxide.
Data Reference:	Regional Monitoring Program data, Feb. 1993-Sep. 2008
SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	The Heptachlor Epoxide criterion continuous concentration (expressed as a 4-day average) to protect aquatic life in saline water is 0.0036 ug/L (California Toxics Rule, 2000).
Objective/Criterion Reference:	Code of Federal Regulations 40 part 131.38 Establishment of numeric criteria for priority toxic pollutants for the State of California. 7/1/2011 Edition
Evaluation Guideline:	
Guideline Reference:	
Spatial Representation:	Data for this line of evidence for San Francisco Bay, Central was collected at 13 monitoring sites [Yerba Buena Island - BC10, Red Rock - BC60, Central Bay - CB011W, Central Bay - CB007W, Central Bay - CB006W, Central Bay - CB005W, Central Bay - CB008W, Central Bay - CB013W, Central Bay - CB001W, Central Bay - CB009W, Central Bay - CB023W, Central Bay - CB015W, Central Bay - CB003W]
Temporal Representation:	Data was collected over the time period 2/3/1994-8/13/2007.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	The 1999 Quality Assurance Project Plan Regional Monitoring Program for Trace Substances was used.
QAPP Information Reference(s):	1999 Quality Assurance Project Plan Regional Monitoring Program for Trace Substances

Line of Evidence (LOE) for Decision ID 66505, Heptachlor epoxide
San Francisco Bay, Central

Region 2

LOE ID:	92840
Pollutant:	Heptachlor epoxide
LOE Subgroup:	Pollutant-Water
Matrix:	Water
Fraction:	Dissolved
Beneficial Use:	Estuarine Habitat
Number of Samples:	54
Number of Exceedances:	0
Data and Information Type:	PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality:	State Water Board staff assessed SFEI data for San Francisco Bay, Central to determine beneficial use support and results are as follows: 0 of 54 samples exceed the criterion for Heptachlor Epoxide.
Data Reference:	Regional Monitoring Program data, Feb. 1993-Sep. 2008
SWAMP Data:	Non-SWAMP

Water Quality Objective/Criterion: The Heptachlor Epoxide criterion continuous concentration (expressed as a 4-day average) to protect aquatic life in saline water is 0.0036 ug/L (California Toxics Rule, 2000).

Objective/Criterion Reference: [Code of Federal Regulations 40 part 131.38 Establishment of numeric criteria for priority toxic pollutants for the State of California. 7/1/2011 Edition](#)

Evaluation Guideline:

Guideline Reference:

Spatial Representation: Data for this line of evidence for San Francisco Bay, Central was collected at 13 monitoring sites [Yerba Buena Island - BC10, Red Rock - BC60, Central Bay - CB011W, Central Bay - CB007W, Central Bay - CB006W, Central Bay - CB005W, Central Bay - CB008W, Central Bay - CB013W, Central Bay - CB001W, Central Bay - CB009W, Central Bay - CB023W, Central Bay - CB015W, Central Bay - CB003W]

Temporal Representation: Data was collected over the time period 2/3/1994-8/13/2007.

Environmental Conditions: Staff is not aware of any special conditions that might affect interpretation of the data.

QAPP Information: The 1999 Quality Assurance Project Plan Regional Monitoring Program for Trace Substances was used.

QAPP Information Reference(s): [1999 Quality Assurance Project Plan Regional Monitoring Program for Trace Substances](#)

Line of Evidence (LOE) for Decision ID 66505, Heptachlor epoxide
San Francisco Bay, Central

Region 2

LOE ID: 92841

Pollutant: Heptachlor epoxide

LOE Subgroup: Pollutant-Water

Matrix: Water

Fraction: Total

Beneficial Use: Commercial or recreational collection of fish, shellfish, or organisms

Number of Samples: 53

Number of Exceedances: 1

Data and Information Type: PHYSICAL/CHEMICAL MONITORING

Data Used to Assess Water Quality: State Water Board staff assessed SFEI data for San Francisco Bay, Central to determine beneficial use support and results are as follows: 1 of 53 samples exceed the criterion for Heptachlor Epoxide.

Data Reference: [Regional Monitoring Program data, Feb. 1993-Sep. 2008](#)

SWAMP Data: Non-SWAMP

Water Quality Objective/Criterion: The Heptachlor Epoxide criteria for the protection of human health from consumption of organisms only is 0.00011 ug/L (California Toxics Rule, 2000).

Objective/Criterion Reference: [Code of Federal Regulations 40 part 131.38 Establishment of numeric criteria for priority toxic pollutants for the State of California. 7/1/2011 Edition](#)

Evaluation Guideline:

Guideline Reference:

Spatial Representation: Data for this line of evidence for San Francisco Bay, Central was collected at 13 monitoring sites [Yerba Buena Island - BC10, Red Rock - BC60, Central Bay - CB001W, Central Bay - CB003W, Central Bay - CB005W, Central Bay - CB009W, Central Bay - CB011W, Central Bay - CB013W, Central Bay - CB015W, Central Bay - CB017W, Central Bay - CB019W, Central Bay - CB021W, Central Bay - CB023W]

Temporal Representation: Data was collected over the time period 2/3/1994-8/13/2007.

Environmental Conditions: Staff is not aware of any special conditions that might affect interpretation of the data.

QAPP Information: The 1999 Quality Assurance Project Plan Regional Monitoring Program for Trace Substances was used.

QAPP Information Reference(s): [1999 Quality Assurance Project Plan Regional Monitoring Program for Trace Substances](#)

**Line of Evidence (LOE) for Decision ID 66505, Heptachlor epoxide
San Francisco Bay, Central**

Region 2

LOE ID:	93629
Pollutant:	Heptachlor epoxide
LOE Subgroup:	Pollutant-Tissue
Matrix:	Tissue
Fraction:	Shellfish
Beneficial Use:	Shellfish Harvesting
Number of Samples:	46
Number of Exceedances:	0
Data and Information Type:	Shellfish surveys
Data Used to Assess Water Quality:	None of the 46 samples exceeded the guideline. All composite samples were comprised of <i>Mytilus californianus</i> . Data were reported on a dry weight basis and were converted to a wet weight basis by multiplying the dry-weight concentration by a factor of 1 minus the percentage of moisture content expressed as a decimal. Laboratory replicates were averaged. Five samples were not used in the assessment because the laboratory data reporting limit(s) were above the objective and therefore the results could not be quantified with the level of certainty required by the Listing Policy.
Data Reference:	Regional Monitoring Program data, Feb. 1993-Sep. 2008
SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	Water Quality Control Plan for the San Francisco Bay Basin: Controllable water quality factors shall not cause a detrimental increase in concentrations of toxic substances found in bottom sediments or aquatic life. Effects on aquatic organisms, wildlife, and human health will be considered.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	The modified OEHHA Fish Contaminant Goal for heptachlor epoxide in shellfish tissue is 1.4 ppb. This screening level assumes an average body weight of 70 kg and a consumption rate of 21 g/day for a 30 year exposure over a 70-year lifetime. This constituent is a carcinogen therefore the risk level is set to one in a million. (Brodberg, R.K., and G.A. Pollock, 1999; Klasing, S., and R. Brodberg, 2008; OEHHA, 1999)
Guideline Reference:	Prevalence of Selected Target Chemical Contaminants in Sport Fish From Two California Lakes: Public health designed screening study. Sacramento, CA: Office of Environmental Health Hazard Assessment Development of Fish Contaminant Goals and Advisory Tissue Levels for Common Contaminants in California Sport Fish: Chlordane, DDTs, Dieldrin, Methylmercury, PCBs, Selenium, and Toxaphene Public Health Goal for Heptachlor and Heptachlor Epoxide in Drinking Water
Spatial Representation:	Samples were collected at the following stations: BC21 - Horseshoe Bay, BC61 - Red Rock and BC10 - Yerba Buena Island.
Temporal Representation:	Samples were generally collected in spring and fall seasons from years 1993 - 1999 and then during most fall seasons during years 2000 - 2008. Samples collected at BC21 through year 2002. Samples collected at BC10 and BC61 through year 2008.
Environmental Conditions:	
QAPP Information:	1999 Quality Assurance Project Plan Regional Monitoring Program for Trace Substances.
QAPP Information Reference(s):	1999 Quality Assurance Project Plan Regional Monitoring Program for Trace Substances

DECISION ID 66506
San Francisco Bay, Central

Region 2

Pollutant: Hexachlorobenzene/ HCB

Final Listing Decision:	Do Not List on 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision:	New Decision
Revision Status	Revised
Impairment from Pollutant or Pollution:	Pollutant

Regional Board Staff Conclusion: This pollutant is being considered for placement on the CWA section 303(d) List under section 3.5 of the Listing Policy. Under section 3.5 a single line of evidence is necessary to assess listing status.

Four lines of evidence are available in the administrative record to assess this pollutant. Zero of ninety-nine samples exceed the guideline.

Based on the readily available data and information, the weight of evidence indicates that there is not sufficient justification in favor of placing this water segment-pollutant combination on the CWA section 303(d) List.

This conclusion is based on the staff findings that:

1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy.
2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy.
3. Zero of ninety-nine samples exceed the OEHHHA guideline and this number does not exceed the allowable frequency listed in Table 3.1 of the Listing Policy.
4. There is not a fish consumption advisory in effect for this waterbody.
5. Pursuant to section 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.

Regional Board Staff Decision Recommendation: After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be placed on the section 303(d) list because applicable water quality standards are not being exceeded.

Line of Evidence (LOE) for Decision ID 66506, Hexachlorobenzene/ HCB San Francisco Bay, Central

Region 2

LOE ID:	93630
Pollutant:	Hexachlorobenzene/ HCB
LOE Subgroup:	Pollutant-Tissue
Matrix:	Tissue
Fraction:	Shellfish
Beneficial Use:	Shellfish Harvesting
Number of Samples:	51
Number of Exceedances:	0
Data and Information Type:	Shellfish surveys
Data Used to Assess Water Quality:	None of the 51 samples exceeded the guideline. All composite samples were comprised of <i>Mytilus californianus</i> . Data were reported on a dry weight basis and were converted to a wet weight basis by multiplying the dry-weight concentration by a factor of 1 minus the percentage of moisture content expressed as a decimal. Laboratory replicates were averaged.
Data Reference:	Regional Monitoring Program data, Feb. 1993-Sep. 2008
SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	Water Quality Control Plan for the San Francisco Bay Basin: Controllable water quality factors shall not cause a detrimental increase in concentrations of toxic substances found in bottom sediments or aquatic life. Effects on aquatic organisms, wildlife, and human health will be considered.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)

Evaluation Guideline:	The modified OEHHA Fish Contaminant Goal for hexachlorobenzene in shellfish tissue is 4.3 ppb. This screening level assumes an average body weight of 70 kg and a consumption rate of 21 g/day for a 30 year exposure over a 70-year lifetime. This constituent is a carcinogen therefore the risk level is set to one in a million. (Brodberg, R.K., and G.A. Pollock, 1999; Klasing, S., and R. Brodberg, 2008; OEHHA, 2005)
Guideline Reference:	Prevalence of Selected Target Chemical Contaminants in Sport Fish From Two California Lakes: Public health designed screening study. Sacramento, CA: Office of Environmental Health Hazard Assessment Development of Fish Contaminant Goals and Advisory Tissue Levels for Common Contaminants in California Sport Fish: Chlordane, DDTs, Dieldrin, Methylmercury, PCBs, Selenium, and Toxaphene Air Toxics Hotspots Program Risk Assessment Guidelines. Part II Technical Support Document for Describing Available Cancer Potency Values.
Spatial Representation:	Samples were collected at the following stations: BC21 - Horseshoe Bay, BC61 - Red Rock and BC10 - Yerba Buena Island.
Temporal Representation:	Samples were generally collected in spring and fall seasons from years 1993 - 1999 and then during most fall seasons during years 2000 - 2008. Samples collected at BC21 through year 2002. Samples collected at BC10 and BC61 through year 2008.
Environmental Conditions:	
QAPP Information:	1999 Quality Assurance Project Plan Regional Monitoring Program for Trace Substances.
QAPP Information Reference(s):	1999 Quality Assurance Project Plan Regional Monitoring Program for Trace Substances

Line of Evidence (LOE) for Decision ID 66506, Hexachlorobenzene/ HCB

Region 2

San Francisco Bay, Central

LOE ID:	95081
Pollutant:	Hexachlorobenzene/ HCB
LOE Subgroup:	Pollutant-Tissue
Matrix:	Tissue
Fraction:	Fish fillet
Beneficial Use:	Commercial or recreational collection of fish, shellfish, or organisms
Number of Samples:	99
Number of Exceedances:	0
Data and Information Type:	Fish tissue analysis
Data Used to Assess Water Quality:	Water Board staff assessed Regional Monitoring Program data for Central San Francisco Bay to determine beneficial use support and results are as follows: 0 of 99 samples exceed the criterion for hexachlorobenzene. One sample was discarded for being non-detect, unquantifiable or the reporting limit exceeding the water quality objective.
Data Reference:	Regional Monitoring Program data, Feb. 1993-Sep. 2008
SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	Water Quality Control Plan for the San Francisco Bay Basin: Controllable water quality factors shall not cause a detrimental increase in concentrations of toxic substances found in bottom sediments or aquatic life. Effects on aquatic organisms, wildlife, and human health will be considered.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	The modified OEHHA Fish Contaminant Goal for hexachlorobenzene in fish tissue is 2.8 ppb. This screening level assumes an average body weight of 70 kg and a consumption rate of 32 g/day for a 30 year exposure over a 70-year lifetime. This constituent is a carcinogen therefore the risk level is set to one in a million. A cooking reduction factor of 1 is applied for skin-off fillets. (Klasing, S., and R. Brodberg, 2008; OEHHA, 2005)
Guideline Reference:	Development of Fish Contaminant Goals and Advisory Tissue Levels for Common Contaminants in California Sport Fish: Chlordane, DDTs, Dieldrin, Methylmercury, PCBs, Selenium, and Toxaphene Air Toxics Hotspots Program Risk Assessment Guidelines. Part II Technical Support

Spatial Representation: The samples were collected at fourteen sites throughout Central San Francisco Bay.
Temporal Representation: The samples were collected every three years from May 1994 through June 2006.
Environmental Conditions:
QAPP Information: The 1999 Quality Assurance Project Plan Regional Monitoring Program for Trace Substances was used.
QAPP Information Reference(s): [1999 Quality Assurance Project Plan Regional Monitoring Program for Trace Substances](#)

Line of Evidence (LOE) for Decision ID 66506, Hexachlorobenzene/ HCB

Region 2

San Francisco Bay, Central

LOE ID: 92843

Pollutant: Hexachlorobenzene/ HCB
LOE Subgroup: Pollutant-Water
Matrix: Water
Fraction: Total

Beneficial Use: Commercial or recreational collection of fish, shellfish, or organisms

Number of Samples: 41
Number of Exceedances: 0

Data and Information Type: PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality: State Water Board staff assessed SFEI data for San Francisco Bay, Central to determine beneficial use support and results are as follows: 0 of 41 samples exceed the criterion for Hexachlorobenzene.

Data Reference: [Regional Monitoring Program data, Feb. 1993-Sep. 2008](#)

SWAMP Data: Non-SWAMP

Water Quality Objective/Criterion: The Hexachlorobenzene criteria for the protection of human health from consumption of organisms only is 0.00077 ug/L (California Toxics Rule, 2000).

Objective/Criterion Reference: [Code of Federal Regulations 40 part 131.38 Establishment of numeric criteria for priority toxic pollutants for the State of California. 7/1/2011 Edition](#)

Evaluation Guideline:
Guideline Reference:

Spatial Representation: Data for this line of evidence for San Francisco Bay, Central was collected at 5 monitoring sites [Yerba Buena Island - BC10, Red Rock - BC60, Central Bay - CB017W, Central Bay - CB019W, Central Bay - CB021W]

Temporal Representation: Data was collected over the time period 3/3/1993-8/13/2007.

Environmental Conditions: Staff is not aware of any special conditions that might affect interpretation of the data.

QAPP Information: The 1999 Quality Assurance Project Plan Regional Monitoring Program for Trace Substances was used.

QAPP Information Reference(s): [1999 Quality Assurance Project Plan Regional Monitoring Program for Trace Substances](#)

Line of Evidence (LOE) for Decision ID 66506, Hexachlorobenzene/ HCB

Region 2

San Francisco Bay, Central

LOE ID: 92842

Pollutant: Hexachlorobenzene/ HCB
LOE Subgroup: Pollutant-Tissue
Matrix: Tissue
Fraction: Shellfish

Beneficial Use: Shellfish Harvesting

Number of Samples:	3
Number of Exceedances:	0
Data and Information Type:	Shellfish surveys
Data Used to Assess Water Quality:	The results did not exceed the guideline. Data were reported on a dry weight basis and were converted to a wet weight basis by multiplying the dry-weight concentration by a factor of 1 minus the percentage of moisture content expressed as a decimal.
Data Reference:	State Mussel Watch Program Data 1977-2000; Winter 2007-Winter 2009. State Water Resources Control Board
SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	Many pollutants can accumulate on particles, in sediment, or bioaccumulate in fish and other aquatic organisms. Controllable water quality factors shall not cause a detrimental increase in concentrations of toxic substances found in bottom sediments or aquatic life. Effects on aquatic organisms, wildlife, and human health will be considered.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	The modified OEHHA Fish Contaminant Goal for hexachlorobenzene in shellfish tissue is 4.3 ppb. This screening level assumes an average body weight of 70 kg and a consumption rate of 21 g/day for a 30 year exposure over a 70-year lifetime. This constituent is a carcinogen therefore the risk level is set to one in a million. (Brodberg, R.K., and G.A. Pollock, 1999; Klasing, S., and R. Brodberg, 2008; OEHHA, 2005)
Guideline Reference:	Prevalence of Selected Target Chemical Contaminants in Sport Fish From Two California Lakes: Public health designed screening study. Sacramento, CA: Office of Environmental Health Hazard Assessment Development of Fish Contaminant Goals and Advisory Tissue Levels for Common Contaminants in California Sport Fish: Chlordane, DDTs, Dieldrin, Methylmercury, PCBs, Selenium, and Toxaphene Air Toxics Hotspots Program Risk Assessment Guidelines. Part II Technical Support Document for Describing Available Cancer Potency Values.
Spatial Representation:	Samples are collected by hand from three sub-locations for each site. The composite samples were collected from sites San Francisco Bay Emeryville (SFEM) and two separate years from site San Francisco Bay Yerba Buena Island (SFYB).
Temporal Representation:	Representative samples of locally abundant species were collected during the winter on 12/22/2007, 12/8/2008, and 2/4/2009.
Environmental Conditions:	
QAPP Information:	Samples were collected as part of the State Water Board's Mussel Watch Program which is a part of the National Oceanic Administration's (NOAAs) National Status and Trends (NS&T). Mussels are shipped to NOAAs contract labs for analysis of trace constituents and mussel condition. Analytical protocols follow those approved by NOAAs NS&T Program Additional background information can be found at: http://ccma.nos.noaa.gov/stressors/pollution/nsandt/
QAPP Information Reference(s):	

DECISION ID	66508	Region 2
San Francisco Bay, Central		
Pollutant:	Lead	
Final Listing Decision:	Do Not List on 303(d) list (TMDL required list)	
Last Listing Cycle's Final Listing Decision:	New Decision	
Revision Status	Revised	
Impairment from Pollutant or Pollution:	Pollutant	
Regional Board Staff Conclusion:	<p>This pollutant is being considered for placement on the CWA section 303(d) List under section 3.1 of the Listing Policy. Under section 3.1 a single line of evidence is necessary to assess listing status.</p> <p>Two lines of evidence are available in the administrative record to assess this pollutant. Zero of</p>	

ninety samples exceed the guideline.

Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against placing this water segment-pollutant combination on the CWA section 303(d) List in the Water Quality Limited Segments category.

This conclusion is based on the staff findings that:

1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy.
2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy.
3. Zero of ninety samples exceed the guideline and this does not exceed the allowable frequency listed in Table 3.1 of the Listing Policy.
4. Pursuant to section 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.

Regional Board Staff Decision Recommendation: After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be placed on the section 303(d) list because applicable water quality standards are not being exceeded.

**Line of Evidence (LOE) for Decision ID 66508, Lead
San Francisco Bay, Central**

Region 2

LOE ID:	92845
Pollutant:	Lead
LOE Subgroup:	Pollutant-Water
Matrix:	Water
Fraction:	Dissolved
Beneficial Use:	Estuarine Habitat
Number of Samples:	90
Number of Exceedances:	0
Data and Information Type:	PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality:	State Water Board staff assessed SFEI data for San Francisco Bay, Central to determine beneficial use support and results are as follows: 0 of 90 samples exceed the criterion for Lead.
Data Reference:	Regional Monitoring Program data, Feb. 1993-Sep. 2008
SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	The dissolved lead criterion continuous concentration (expressed as a 4-day average) to protect aquatic life in saline water is 0.0081 mg/L (California Toxics Rule, 2000).
Objective/Criterion Reference:	Code of Federal Regulations 40 part 131.38 Establishment of numeric criteria for priority toxic pollutants for the State of California. 7/1/2011 Edition
Evaluation Guideline:	
Guideline Reference:	
Spatial Representation:	Data for this line of evidence for San Francisco Bay, Central was collected at 16 monitoring sites [Yerba Buena Island - BC10, Point Isabel - BC41, Red Rock - BC60, Central Bay - CB001W, Central Bay - CB003W, Central Bay - CB005W, Central Bay - CB006W, Central Bay - CB007W, Central Bay - CB008W, Central Bay - CB009W, Central Bay - CB011W, Central Bay - CB013W, Central Bay - CB015W, Central Bay - CB017W, Central Bay - CB019W, Central Bay - CB025W]
Temporal Representation:	Data was collected over the time period 3/2/1993-7/15/2008.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	The 1999 Quality Assurance Project Plan Regional Monitoring Program for Trace Substances was used.
QAPP Information Reference(s):	1999 Quality Assurance Project Plan Regional Monitoring Program for Trace Substances

LOE ID:	92844
Pollutant:	Lead
LOE Subgroup:	Pollutant-Water
Matrix:	Water
Fraction:	Dissolved
Beneficial Use:	Marine Habitat
Number of Samples:	90
Number of Exceedances:	0
Data and Information Type:	PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality:	State Water Board staff assessed SFEI data for San Francisco Bay, Central to determine beneficial use support and results are as follows: 0 of 90 samples exceed the criterion for Lead.
Data Reference:	Regional Monitoring Program data, Feb. 1993-Sep. 2008
SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	The dissolved lead criterion continuous concentration (expressed as a 4-day average) to protect aquatic life in saline water is 0.0081 mg/L (California Toxics Rule, 2000).
Objective/Criterion Reference:	Code of Federal Regulations 40 part 131.38 Establishment of numeric criteria for priority toxic pollutants for the State of California. 7/1/2011 Edition
Evaluation Guideline:	
Guideline Reference:	
Spatial Representation:	Data for this line of evidence for San Francisco Bay, Central was collected at 16 monitoring sites [Yerba Buena Island - BC10, Point Isabel - BC41, Red Rock - BC60, Central Bay - CB011W, Central Bay - CB007W, Central Bay - CB006W, Central Bay - CB005W, Central Bay - CB017W, Central Bay - CB008W, Central Bay - CB013W, Central Bay - CB001W, Central Bay - CB009W, Central Bay - CB015W, Central Bay - CB003W, Central Bay - CB019W, Central Bay - CB025W]
Temporal Representation:	Data was collected over the time period 3/2/1993-7/15/2008.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	The 1999 Quality Assurance Project Plan Regional Monitoring Program for Trace Substances was used.
QAPP Information Reference(s):	1999 Quality Assurance Project Plan Regional Monitoring Program for Trace Substances

DECISION ID 66513

Region 2

San Francisco Bay, Central

Pollutant:	Lindane/gamma Hexachlorocyclohexane (gamma-HCH)
Final Listing Decision:	Do Not List on 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision:	New Decision
Revision Status	Revised
Impairment from Pollutant or Pollution:	Pollutant
Regional Board Staff Conclusion:	<p>This pollutant is being considered for placement on the CWA section 303(d) List under section 3.5 of the Listing Policy. Under section 3.5 a single line of evidence is necessary to assess listing status.</p> <p>Two lines of evidence are available in the administrative record to assess this pollutant. Zero of fifty-four samples exceed the guideline.</p>

Based on the readily available data and information, the weight of evidence indicates that there is not sufficient justification in favor of placing this water segment-pollutant combination on the CWA section 303(d) List.

This conclusion is based on the staff findings that:

1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy.
2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy.
3. Zero of fifty-four samples exceed the OEHHHA guideline and this number does not exceed the allowable frequency listed in Table 3.1 of the Listing Policy.
4. There is not a fish consumption advisory in effect for this waterbody.
5. Pursuant to section 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.

Regional Board Staff Decision Recommendation: After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be placed on the section 303(d) list because applicable water quality standards are not being exceeded.

Line of Evidence (LOE) for Decision ID 66513, Lindane/gamma Hexachlorocyclohexane (gamma-HCH)

Region 2

San Francisco Bay, Central

LOE ID:	93631
Pollutant:	Lindane/gamma Hexachlorocyclohexane (gamma-HCH)
LOE Subgroup:	Pollutant-Tissue
Matrix:	Tissue
Fraction:	Shellfish
Beneficial Use:	Shellfish Harvesting
Number of Samples:	51
Number of Exceedances:	0
Data and Information Type:	Shellfish surveys
Data Used to Assess Water Quality:	None of the 51 samples exceeded the guideline. All composite samples were comprised of <i>Mytilus californianus</i> . Data were reported on a dry weight basis and were converted to a wet weight basis by multiplying the dry-weight concentration by a factor of 1 minus the percentage of moisture content expressed as a decimal. Laboratory replicates were averaged.
Data Reference:	Regional Monitoring Program data, Feb. 1993-Sep. 2008
SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	Water Quality Control Plan for the San Francisco Bay Basin: Controllable water quality factors shall not cause a detrimental increase in concentrations of toxic substances found in bottom sediments or aquatic life. Effects on aquatic organisms, wildlife, and human health will be considered.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	The modified OEHHHA Fish Contaminant Goal for lindane in shellfish tissue is 7.1 ppb. This screening level assumes an average body weight of 70 kg and a consumption rate of 21 g/day for a 30 year exposure over a 70-year lifetime. This constituent is a carcinogen therefore the risk level is set to one in a million. (Brodberg, R.K., and G.A. Pollock, 1999; Klasing, S., and R. Brodberg, 2008; OEHHHA, 2005)
Guideline Reference:	Prevalence of Selected Target Chemical Contaminants in Sport Fish From Two California Lakes: Public health designed screening study. Sacramento, CA: Office of Environmental Health Hazard Assessment Development of Fish Contaminant Goals and Advisory Tissue Levels for Common Contaminants in California Sport Fish: Chlordane, DDTs, Dieldrin, Methylmercury, PCBs, Selenium, and Toxaphene Air Toxics Hotspots Program Risk Assessment Guidelines. Part II Technical Support

Spatial Representation: Samples were collected at the following stations: BC21 - Horseshoe Bay, BC61 - Red Rock and BC10 - Yerba Buena Island.

Temporal Representation: Samples were generally collected in spring and fall seasons from years 1993 - 1999 and then during most fall seasons during years 2000 - 2008. Samples collected at BC21 through year 2002. Samples collected at BC10 and BC61 through year 2008.

Environmental Conditions:

QAPP Information: 1999 Quality Assurance Project Plan Regional Monitoring Program for Trace Substances.

QAPP Information Reference(s): [1999 Quality Assurance Project Plan Regional Monitoring Program for Trace Substances](#)

Line of Evidence (LOE) for Decision ID 66513, Lindane/gamma Hexachlorocyclohexane (gamma-HCH)

Region 2

San Francisco Bay, Central

LOE ID: 92846

Pollutant: Lindane/gamma Hexachlorocyclohexane (gamma-HCH)

LOE Subgroup: Pollutant-Tissue

Matrix: Tissue

Fraction: Shellfish

Beneficial Use: Shellfish Harvesting

Number of Samples: 3

Number of Exceedances: 0

Data and Information Type: Shellfish surveys

Data Used to Assess Water Quality: The result did not exceed the guideline. Data were reported on a dry weight basis and were converted to a wet weight basis by multiplying the dry-weight concentration by a factor of 1 minus the percentage of moisture content expressed as a decimal.

Data Reference: [State Mussel Watch Program Data 1977-2000; Winter 2007-Winter 2009. State Water Resources Control Board](#)

SWAMP Data: Non-SWAMP

Water Quality Objective/Criterion: Many pollutants can accumulate on particles, in sediment, or bioaccumulate in fish and other aquatic organisms. Controllable water quality factors shall not cause a detrimental increase in concentrations of toxic substances found in bottom sediments or aquatic life. Effects on aquatic organisms, wildlife, and human health will be considered.

Objective/Criterion Reference: [Water Quality Control Plan \(Basin Plan\) San Francisco Bay Basin \(Region 2\)](#)

Evaluation Guideline: The modified OEHHA Fish Contaminant Goal for lindane in shellfish tissue is 7.1 ppb. This screening level assumes an average body weight of 70 kg and a consumption rate of 21 g/day for a 30 year exposure over a 70-year lifetime. This constituent is a carcinogen therefore the risk level is set to one in a million. (Brodberg, R.K., and G.A. Pollock, 1999; Klasing, S., and R. Brodberg, 2008; OEHHA, 2005)

Guideline Reference: [Prevalence of Selected Target Chemical Contaminants in Sport Fish From Two California Lakes: Public health designed screening study. Sacramento, CA: Office of Environmental Health Hazard Assessment](#)
[Development of Fish Contaminant Goals and Advisory Tissue Levels for Common Contaminants in California Sport Fish: Chlordane, DDTs, Dieldrin, Methylmercury, PCBs, Selenium, and Toxaphene](#)
[Air Toxics Hotspots Program Risk Assessment Guidelines. Part II Technical Support Document for Describing Available Cancer Potency Values.](#)

Spatial Representation: Samples are collected by hand from three sub-locations for each site. The composite samples were collected from sites San Francisco Bay Emeryville (SFEM) and two separate years from site San Francisco Bay Yerba Buena Island (SFYB).

Temporal Representation: Representative samples of locally abundant species were collected during the winter on 12/22/2007, 12/8/2008, and 2/4/2009.

Environmental Conditions:

QAPP Information:

Samples were collected as part of the State Water Board's Mussel Watch Program which is a part of the National Oceanic Administration's (NOAAs) National Status and Trends (NS&T). Mussels are shipped to NOAAs contract labs for analysis of trace constituents and mussel condition. Analytical protocols follow those approved by NOAAs NS&T Program. Additional background information can be found at: <http://ccma.nos.noaa.gov/stressors/pollution/nsandt/>

QAPP Information Reference(s):

DECISION ID	66515	Region 2
San Francisco Bay, Central		

Pollutant:	Manganese
Final Listing Decision:	Do Not List on 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision:	New Decision
Revision Status	Revised
Impairment from Pollutant or Pollution:	Pollutant

Regional Board Staff Conclusion:	<p>This pollutant is being considered for placement on the CWA section 303(d) List under section 3.1 of the Listing Policy. Under section 3.1 a single line of evidence is necessary to assess listing status.</p> <p>One line of evidence is available in the administrative record to assess this pollutant. Zero of thirty-four samples exceed the guideline.</p> <p>Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against placing this water segment-pollutant combination on the CWA section 303(d) List in the Water Quality Limited Segments category.</p> <p>This conclusion is based on the staff findings that:</p> <ol style="list-style-type: none">1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy.2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy.3. Zero of thirty-four samples exceed the guideline and this does not exceed the allowable frequency listed in Table 3.1 of the Listing Policy.4. Pursuant to section 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.
Regional Board Staff Decision Recommendation:	After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be placed on the section 303(d) list because applicable water quality standards are not being exceeded.

Line of Evidence (LOE) for Decision ID 66515, Manganese	Region 2
San Francisco Bay, Central	

LOE ID:	92847
Pollutant:	Manganese
LOE Subgroup:	Pollutant-Water
Matrix:	Water
Fraction:	Total
Beneficial Use:	Commercial or recreational collection of fish, shellfish, or organisms
Number of Samples:	34
Number of Exceedances:	0
Data and Information Type:	PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality:	State Water Board staff assessed SFEI data for San Francisco Bay, Central to determine beneficial use support and results are as follows: 0 of 34 samples exceed the criterion for

Data Reference: [Manganese. Regional Monitoring Program data, Feb. 1993-Sep. 2008](#)

SWAMP Data: Non-SWAMP

Water Quality Objective/Criterion: The Manganese criteria for the protection of human health from the consumption of organisms only is 100 ug/L (California Toxics Rule, 2000).

Objective/Criterion Reference: [Water Quality Control Plan \(Basin Plan\) San Francisco Bay Basin \(Region 2\)](#)

Evaluation Guideline: The Lead criteria for the protection of human health from fish consumption only is 100 ug/L (National Recommended Water Quality Criteria, 2009).

Guideline Reference: [National Recommended Water Quality Criteria. United States Environmental Protection Agency. Office of Water. Office of Science and Technology](#)

Spatial Representation: Data for this line of evidence for San Francisco Bay, Central was collected at 18 monitoring sites [Yerba Buena Island - BC10, Point Isabel - BC41, Red Rock - BC60, Central Bay - CB001W, Central Bay - CB003W, Central Bay - CB005W, Central Bay - CB006W, Central Bay - CB007W, Central Bay - CB008W, Central Bay - CB009W, Central Bay - CB011W, Central Bay - CB013W, Central Bay - CB015W, Central Bay - CB017W, Central Bay - CB019W, Central Bay - CB021W, Central Bay - CB023W, Central Bay - CB025W]

Temporal Representation: Data was collected over the time period 2/3/2000-7/15/2008.

Environmental Conditions: Staff is not aware of any special conditions that might affect interpretation of the data.

QAPP Information: The 1999 Quality Assurance Project Plan Regional Monitoring Program for Trace Substances was used.

QAPP Information Reference(s): [1999 Quality Assurance Project Plan Regional Monitoring Program for Trace Substances](#)

DECISION ID 66516		Region 2
San Francisco Bay, Central		
Pollutant:	Mirex	
Final Listing Decision:	Do Not List on 303(d) list (TMDL required list)	
Last Listing Cycle's Final Listing Decision:	New Decision	
Revision Status	Revised	
Impairment from Pollutant or Pollution:	Pollutant	
Regional Board Staff Conclusion:	<p>This pollutant is being considered for placement on the CWA section 303(d) List under section 3.1 of the Listing Policy. Under section 3.1 a single line of evidence is necessary to assess listing status.</p> <p>Six lines of evidence are available in the administrative record to assess this pollutant. Zero of forty-seven samples exceed the guideline.</p> <p>Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against placing this water segment-pollutant combination on the CWA section 303(d) List in the Water Quality Limited Segments category.</p> <p>This conclusion is based on the staff findings that:</p> <ol style="list-style-type: none"> 1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy. 2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy. 3. Zero of forty-seven samples exceed the guideline and this does not exceed the allowable frequency listed in Table 3.1 of the Listing Policy. 4. Pursuant to section 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met. 	
Regional Board Staff Decision Recommendation:	After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be placed on the section 303(d) list because applicable water quality standards are not being exceeded.	

San Francisco Bay, Central

LOE ID:	95228
Pollutant:	Mirex
LOE Subgroup:	Pollutant-Tissue
Matrix:	Tissue
Fraction:	Fish fillet
Beneficial Use:	Commercial or recreational collection of fish, shellfish, or organisms
Number of Samples:	0
Number of Exceedances:	0
Data and Information Type:	Fish tissue analysis
Data Used to Assess Water Quality:	Water Board staff assessed Regional Monitoring Program data for Central San Francisco Bay to determine beneficial use support and results are as follows: 0 of 0 samples exceed the criterion for Mirex. 119 samples were discarded for being non-detect, unquantifiable or the reporting limit exceeding the water quality objective.
Data Reference:	Regional Monitoring Program data, Feb. 1993-Sep. 2008
SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	Water Quality Control Plan for the San Francisco Bay Basin: Controllable water quality factors shall not cause a detrimental increase in concentrations of toxic substances found in bottom sediments or aquatic life. Effects on aquatic organisms, wildlife, and human health will be considered.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	The modified OEHHA Fish Contaminant Goal for mirex in fish tissue is 0.28 ppb. This screening level assumes an average body weight of 70 kg and a consumption rate of 32 g/day. A cooking reduction factor of 1 is applied for skin-off fillets. (Klasing, S., and R. Brodberg, 2008; OEHHA, 1992)
Guideline Reference:	Development of Fish Contaminant Goals and Advisory Tissue Levels for Common Contaminants in California Sport Fish: Chlordane, DDTs, Dieldrin, Methylmercury, PCBs, Selenium, and Toxaphene Expedited Cancer Potency Values and Proposed Regulatory Levels for Certain Proposition 65 Carcinogens.
Spatial Representation:	The samples were collected at fourteen sites throughout Central San Francisco Bay.
Temporal Representation:	The samples were collected every three years from May 1994 through June 2006.
Environmental Conditions:	
QAPP Information:	The 1999 Quality Assurance Project Plan Regional Monitoring Program for Trace Substances was used.
QAPP Information Reference(s):	1999 Quality Assurance Project Plan Regional Monitoring Program for Trace Substances

Line of Evidence (LOE) for Decision ID 66516, Mirex

Region 2

San Francisco Bay, Central

LOE ID:	92770
Pollutant:	Mirex
LOE Subgroup:	Pollutant-Water
Matrix:	Water
Fraction:	Dissolved
Beneficial Use:	Marine Habitat
Number of Samples:	47
Number of Exceedances:	0

Data and Information Type:	PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality:	State Water Board staff assessed SFEI data for San Francisco Bay, Central to determine beneficial use support and results are as follows: 0 of 47 samples exceed the criterion for Mirex.
Data Reference:	Regional Monitoring Program data, Feb. 1993-Sep. 2008
SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	No individual pesticide or combination of pesticides shall be present in concentrations that adversely affect beneficial uses.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	The USEPA Gold Book states 0.001 ug/L for the protection of freshwater and marine aquatic life. (USEPA Gold Book - EPA 440/5-86-001)
Guideline Reference:	Quality Criteria for Water 1986. United States Environmental Protection Agency. Office of Water. Regulations and Standards. Washington D.C. EPA 440/5-86-001.
Spatial Representation:	Data for this line of evidence for San Francisco Bay, Central was collected at 7 monitoring sites [Yerba Buena Island - BC10, Red Rock - BC60, Central Bay - CB011W, Central Bay - CB001W, Central Bay - CB009W, Central Bay - CB023W, Central Bay - CB003W]
Temporal Representation:	Data was collected over the time period 4/20/1994-8/13/2007.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	The 1999 Quality Assurance Project Plan Regional Monitoring Program for Trace Substances was used.
QAPP Information Reference(s):	1999 Quality Assurance Project Plan Regional Monitoring Program for Trace Substances

**Line of Evidence (LOE) for Decision ID 66516, Mirex
San Francisco Bay, Central**

Region 2

LOE ID:	92771
Pollutant:	Mirex
LOE Subgroup:	Pollutant-Water
Matrix:	Water
Fraction:	Dissolved
Beneficial Use:	Estuarine Habitat
Number of Samples:	47
Number of Exceedances:	0
Data and Information Type:	PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality:	State Water Board staff assessed SFEI data for San Francisco Bay, Central to determine beneficial use support and results are as follows: 0 of 47 samples exceed the criterion for Mirex.
Data Reference:	Regional Monitoring Program data, Feb. 1993-Sep. 2008
SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	No individual pesticide or combination of pesticides shall be present in concentrations that adversely affect beneficial uses.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	The USEPA Gold Book states 0.001 ug/L for the protection of freshwater and marine aquatic life. (USEPA Gold Book - EPA 440/5-86-001)
Guideline Reference:	Quality Criteria for Water 1986. United States Environmental Protection Agency. Office of Water. Regulations and Standards. Washington D.C. EPA 440/5-86-001.
Spatial Representation:	Data for this line of evidence for San Francisco Bay, Central was collected at 7 monitoring sites [Yerba Buena Island - BC10, Red Rock - BC60, Central Bay - CB011W,

	Central Bay - CB001W, Central Bay - CB009W, Central Bay - CB023W, Central Bay - CB003W]
Temporal Representation:	Data was collected over the time period 4/20/1994-8/13/2007.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	The 1999 Quality Assurance Project Plan Regional Monitoring Program for Trace Substances was used.
QAPP Information Reference(s):	1999 Quality Assurance Project Plan Regional Monitoring Program for Trace Substances

Line of Evidence (LOE) for Decision ID 66516, Mirex
San Francisco Bay, Central

Region 2

LOE ID:	92769
Pollutant:	Mirex
LOE Subgroup:	Pollutant-Water
Matrix:	Water
Fraction:	Total
Beneficial Use:	Commercial or recreational collection of fish, shellfish, or organisms
Number of Samples:	47
Number of Exceedances:	0
Data and Information Type:	PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality:	State Water Board staff assessed SFEI data for San Francisco Bay, Central to determine beneficial use support and results are as follows: 0 of 47 samples exceed the criterion for Mirex.
Data Reference:	Regional Monitoring Program data, Feb. 1993-Sep. 2008
SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	No individual pesticide or combination of pesticides shall be present in concentrations that adversely affect beneficial uses.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	The Mirex criteria for the protection of human health from consumption of organisms only is 0.000097 ug/L (National Recommended Water Quality Criteria, 2009).
Guideline Reference:	National Recommended Water Quality Criteria. United States Environmental Protection Agency. Office of Water. Office of Science and Technology
Spatial Representation:	Data for this line of evidence for San Francisco Bay, Central was collected at 8 monitoring sites [Yerba Buena Island - BC10, Red Rock - BC60, Central Bay - CB001W, Central Bay - CB003W, Central Bay - CB009W, Central Bay - CB011W, Central Bay - CB017W, Central Bay - CB019W]
Temporal Representation:	Data was collected over the time period 4/20/1994-8/13/2007.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	The 1999 Quality Assurance Project Plan Regional Monitoring Program for Trace Substances was used.
QAPP Information Reference(s):	1999 Quality Assurance Project Plan Regional Monitoring Program for Trace Substances

Line of Evidence (LOE) for Decision ID 66516, Mirex
San Francisco Bay, Central

Region 2

LOE ID:	92768
Pollutant:	Mirex
LOE Subgroup:	Pollutant-Tissue
Matrix:	Tissue
Fraction:	Shellfish
Beneficial Use:	Shellfish Harvesting

Number of Samples:	0
Number of Exceedances:	0
Data and Information Type:	Shellfish surveys
Data Used to Assess Water Quality:	The non detect result was not included in the assessment since the reporting limit was above the evaluation guideline. MDL were provided by NOAA Federal and RL were calculated by multiplying 3.18 by the MDL.
Data Reference:	State Mussel Watch Program Data 1977-2000; Winter 2007-Winter 2009. State Water Resources Control Board
SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	Many pollutants can accumulate on particles, in sediment, or bioaccumulate in fish and other aquatic organisms. Controllable water quality factors shall not cause a detrimental increase in concentrations of toxic substances found in bottom sediments or aquatic life. Effects on aquatic organisms, wildlife, and human health will be considered.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	The modified OEHHA Fish Contaminant Goal for mirex in shellfish tissue is 0.43 ppb. This screening level assumes an average body weight of 70 kg and a consumption rate of 21 g/day. (Brodberg, R.K., and G.A. Pollock, 1999; Klasing, S., and R. Brodberg, 2008; OEHHA, 1992)
Guideline Reference:	Prevalence of Selected Target Chemical Contaminants in Sport Fish From Two California Lakes: Public health designed screening study. Sacramento, CA: Office of Environmental Health Hazard Assessment Development of Fish Contaminant Goals and Advisory Tissue Levels for Common Contaminants in California Sport Fish: Chlordane, DDTs, Dieldrin, Methylmercury, PCBs, Selenium, and Toxaphene Expedited Cancer Potency Values and Proposed Regulatory Levels for Certain Proposition 65 Carcinogens.
Spatial Representation:	Samples are collected by hand from three sub-locations for each site. The composite samples were collected from sites San Francisco Bay Emeryville (SFEM) and two separate years from site San Francisco Bay Yerba Buena Island (SFYB).
Temporal Representation:	Representative samples of locally abundant species were collected during the winter on 2/4/2009
Environmental Conditions:	
QAPP Information:	Samples were collected as part of the State Water Board's Mussel Watch Program which is a part of the National Oceanic Administration's (NOAAs) National Status and Trends (NS&T). Mussels are shipped to NOAAs contract labs for analysis of trace constituents and mussel condition. Analytical protocols follow those approved by NOAAs NS&T Program Additional background information can be found at: http://ccma.nos.noaa.gov/stressors/pollution/nsandt/
QAPP Information Reference(s):	

Line of Evidence (LOE) for Decision ID 66516, Mirex

Region 2

San Francisco Bay, Central

LOE ID:	93632
Pollutant:	Mirex
LOE Subgroup:	Pollutant-Tissue
Matrix:	Tissue
Fraction:	Shellfish
Beneficial Use:	Shellfish Harvesting
Number of Samples:	17
Number of Exceedances:	0
Data and Information Type:	Shellfish surveys

Data Used to Assess Water Quality:	None of the 17 samples exceeded the guideline. All composite samples were comprised of <i>Mytilus californianus</i> . Data were reported on a dry weight basis and were converted to a wet weight basis by multiplying the dry-weight concentration by a factor of 1 minus the percentage of moisture content expressed as a decimal. Thirty-four samples were not used in the assessment because the laboratory data reporting limit(s) were above the objective and therefore the results could not be quantified with the level of certainty required by the Listing Policy.
Data Reference:	Regional Monitoring Program data, Feb. 1993-Sep. 2008
SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	Water Quality Control Plan for the San Francisco Bay Basin: Controllable water quality factors shall not cause a detrimental increase in concentrations of toxic substances found in bottom sediments or aquatic life. Effects on aquatic organisms, wildlife, and human health will be considered.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	The modified OEHHA Fish Contaminant Goal for mirex in shellfish tissue is 0.43 ppb. This screening level assumes an average body weight of 70 kg and a consumption rate of 21 g/day. This constituent is a carcinogen therefore the risk level is set to one in a million. (Brodberg, R.K., and G.A. Pollock, 1999; Klasing, S., and R. Brodberg, 2008; OEHHA, 1992)
Guideline Reference:	Prevalence of Selected Target Chemical Contaminants in Sport Fish From Two California Lakes: Public health designed screening study. Sacramento, CA: Office of Environmental Health Hazard Assessment Development of Fish Contaminant Goals and Advisory Tissue Levels for Common Contaminants in California Sport Fish: Chlordane, DDTs, Dieldrin, Methylmercury, PCBs, Selenium, and Toxaphene Expedited Cancer Potency Values and Proposed Regulatory Levels for Certain Proposition 65 Carcinogens.
Spatial Representation:	Samples were collected at the following stations: BC21 - Horseshoe Bay, BC61 - Red Rock and BC10 - Yerba Buena Island.
Temporal Representation:	Samples were generally collected in spring and fall seasons from years 1993 - 1999 and then during most fall seasons during years 2000 - 2008. Samples collected at BC21 through year 2002. Samples collected at BC10 and BC61 through year 2008.
Environmental Conditions:	
QAPP Information:	1999 Quality Assurance Project Plan Regional Monitoring Program for Trace Substances.
QAPP Information Reference(s):	1999 Quality Assurance Project Plan Regional Monitoring Program for Trace Substances

DECISION ID	66517	Region 2
San Francisco Bay, Central		
Pollutant:	Nickel	
Final Listing Decision:	Do Not List on 303(d) list (TMDL required list)	
Last Listing Cycle's Final Listing Decision:	New Decision	
Revision Status	Revised	
Impairment from Pollutant or Pollution:	Pollutant	
Regional Board Staff Conclusion:	<p>This pollutant is being considered for placement on the CWA section 303(d) List under section 3.1 of the Listing Policy. Under section 3.1 a single line of evidence is necessary to assess listing status.</p> <p>Three lines of evidence are available in the administrative record to assess this pollutant. Zero of ninety-four samples exceed the guideline.</p> <p>Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against placing this water segment-pollutant combination on the CWA section 303(d) List in the Water Quality Limited Segments category.</p>	

This conclusion is based on the staff findings that:

1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy.
2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy.
3. Zero of ninety-four samples exceed the guideline and this does not exceed the allowable frequency listed in Table 3.1 of the Listing Policy.
4. Pursuant to section 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.

Regional Board Staff Decision Recommendation: After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be placed on the section 303(d) list because applicable water quality standards are not being exceeded.

**Line of Evidence (LOE) for Decision ID 66517, Nickel
San Francisco Bay, Central**

Region 2

LOE ID: 92772

Pollutant: Nickel
LOE Subgroup: Pollutant-Water
Matrix: Water
Fraction: Dissolved

Beneficial Use: Marine Habitat

Number of Samples: 93
Number of Exceedances: 0

Data and Information Type: PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality: State Water Board staff assessed SFEI data for San Francisco Bay, Central to determine beneficial use support and results are as follows: 0 of 93 samples exceed the criterion for Nickel.

Data Reference: [Regional Monitoring Program data, Feb. 1993-Sep. 2008](#)

SWAMP Data: Non-SWAMP

Water Quality Objective/Criterion: The dissolved nickel criterion continuous concentration (expressed as a 4-day average) to protect aquatic life in saline water is 0.0082 mg/L (California Toxics Rule, 2000).

Objective/Criterion Reference: [Code of Federal Regulations 40 part 131.38 Establishment of numeric criteria for priority toxic pollutants for the State of California. 7/1/2011 Edition](#)

Evaluation Guideline:
Guideline Reference:

Spatial Representation: Data for this line of evidence for San Francisco Bay, Central was collected at 17 monitoring sites [Yerba Buena Island - BC10, Point Isabel - BC41, Red Rock - BC60, Central Bay - CB011W, Central Bay - CB007W, Central Bay - CB006W, Central Bay - CB005W, Central Bay - CB017W, Central Bay - CB021W, Central Bay - CB008W, Central Bay - CB013W, Central Bay - CB001W, Central Bay - CB009W, Central Bay - CB015W, Central Bay - CB003W, Central Bay - CB019W, Central Bay - CB025W]

Temporal Representation: Data was collected over the time period 3/2/1993-7/15/2008.

Environmental Conditions: Staff is not aware of any special conditions that might affect interpretation of the data.

QAPP Information: The 1999 Quality Assurance Project Plan Regional Monitoring Program for Trace Substances was used.

QAPP Information Reference(s): [1999 Quality Assurance Project Plan Regional Monitoring Program for Trace Substances](#)

**Line of Evidence (LOE) for Decision ID 66517, Nickel
San Francisco Bay, Central**

Region 2

LOE ID: 92774

Pollutant:	Nickel
LOE Subgroup:	Pollutant-Water
Matrix:	Water
Fraction:	Total
Beneficial Use:	Commercial or recreational collection of fish, shellfish, or organisms
Number of Samples:	94
Number of Exceedances:	0
Data and Information Type:	PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality:	State Water Board staff assessed SFEI data for San Francisco Bay, Central to determine beneficial use support and results are as follows: 0 of 94 samples exceed the criterion for Nickel.
Data Reference:	Regional Monitoring Program data, Feb. 1993-Sep. 2008
SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	The Nickel criteria for the protection of human health from consumption of organisms only is 4.6 mg/L (California Toxics Rule, 2000).
Objective/Criterion Reference:	Code of Federal Regulations 40 part 131.38 Establishment of numeric criteria for priority toxic pollutants for the State of California. 7/1/2011 Edition
Evaluation Guideline:	
Guideline Reference:	
Spatial Representation:	Data for this line of evidence for San Francisco Bay, Central was collected at 18 monitoring sites [Yerba Buena Island - BC10, Point Isabel - BC41, Red Rock - BC60, Central Bay - CB001W, Central Bay - CB003W, Central Bay - CB005W, Central Bay - CB006W, Central Bay - CB007W, Central Bay - CB008W, Central Bay - CB009W, Central Bay - CB011W, Central Bay - CB013W, Central Bay - CB015W, Central Bay - CB017W, Central Bay - CB019W, Central Bay - CB021W, Central Bay - CB023W, Central Bay - CB025W]
Temporal Representation:	Data was collected over the time period 3/2/1993-7/15/2008.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	The 1999 Quality Assurance Project Plan Regional Monitoring Program for Trace Substances was used.
QAPP Information Reference(s):	1999 Quality Assurance Project Plan Regional Monitoring Program for Trace Substances

Line of Evidence (LOE) for Decision ID 66517, Nickel

Region 2

San Francisco Bay, Central

LOE ID:	92773
Pollutant:	Nickel
LOE Subgroup:	Pollutant-Water
Matrix:	Water
Fraction:	Dissolved
Beneficial Use:	Estuarine Habitat
Number of Samples:	93
Number of Exceedances:	0
Data and Information Type:	PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality:	State Water Board staff assessed SFEI data for San Francisco Bay, Central to determine beneficial use support and results are as follows: 0 of 93 samples exceed the criterion for Nickel.
Data Reference:	Regional Monitoring Program data, Feb. 1993-Sep. 2008
SWAMP Data:	Non-SWAMP

Water Quality Objective/Criterion: The dissolved nickel criterion continuous concentration (expressed as a 4-day average) to protect aquatic life in saline water is 0.0082 mg/L (California Toxics Rule, 2000).

Objective/Criterion Reference: [Water Quality Control Plan \(Basin Plan\) San Francisco Bay Basin \(Region 2\)](#)

Evaluation Guideline:

Guideline Reference:

Spatial Representation: Data for this line of evidence for San Francisco Bay, Central was collected at 17 monitoring sites [Yerba Buena Island - BC10, Point Isabel - BC41, Red Rock - BC60, Central Bay - CB011W, Central Bay - CB007W, Central Bay - CB006W, Central Bay - CB005W, Central Bay - CB017W, Central Bay - CB021W, Central Bay - CB008W, Central Bay - CB013W, Central Bay - CB001W, Central Bay - CB009W, Central Bay - CB015W, Central Bay - CB003W, Central Bay - CB019W, Central Bay - CB025W]

Temporal Representation: Data was collected over the time period 3/2/1993-7/15/2008.

Environmental Conditions: Staff is not aware of any special conditions that might affect interpretation of the data.

QAPP Information: The 1999 Quality Assurance Project Plan Regional Monitoring Program for Trace Substances was used.

QAPP Information Reference(s): [1999 Quality Assurance Project Plan Regional Monitoring Program for Trace Substances](#)

DECISION ID	66518	Region 2
San Francisco Bay, Central		

Pollutant: Oxygen, Dissolved

Final Listing Decision: Do Not List on 303(d) list (TMDL required list)

Last Listing Cycle's Final Listing Decision: New Decision

Revision Status Revised

Impairment from Pollutant or Pollution: Pollutant

Regional Board Staff Conclusion:

This pollutant is being considered for placement on the CWA section 303(d) List under section 3.2 of the Listing Policy. Under section 3.1 a single line of evidence is necessary to assess listing status.

One line of evidence is available in the administrative record to assess this pollutant. Zero of thirty-six samples exceed the guideline.

Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against placing this water segment-pollutant combination on the CWA section 303(d) List in the Water Quality Limited Segments category.

This conclusion is based on the staff findings that:

1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy.
2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy.
3. Zero of thirty-six samples exceed the guideline and this does not exceed the allowable frequency listed in Table 3.2 of the Listing Policy.
4. Pursuant to section 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.

Regional Board Staff Decision Recommendation: After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be placed on the section 303(d) list because applicable water quality standards are not being exceeded.

Line of Evidence (LOE) for Decision ID 66518, Oxygen, Dissolved	Region 2
San Francisco Bay, Central	

LOE ID: 92775

Pollutant: Oxygen, Dissolved

LOE Subgroup: Pollutant-Water

Matrix:	Water
Fraction:	Dissolved
Beneficial Use:	Estuarine Habitat
Number of Samples:	36
Number of Exceedances:	0
Data and Information Type:	PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality:	Numeric data generated from 36 minimum samples of Dissolved Oxygen concentrations had no exceedences.
Data Reference:	Data for Various Pollutants in California Marinas, 2006.
SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	The dissolved oxygen content of bays/estuaries downstream of the Carquinez Bridge must be above 5 mg/L.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	
Guideline Reference:	
Spatial Representation:	Samples were collected from the following stations: Berkeley Marina 5.1 Berkeley Marina 5.2 Berkeley Marina 5.3 Berkeley Marina 6.1 Berkeley Marina 6.2 Berkeley Marina 6.3 Berkeley Marina 7.1 Berkeley Marina 7.2 Berkeley Marina 7.3 Berkeley Marina 8.1 Berkeley Marina 8.2 Berkeley Marina 8.3 Loch Lomond Marina 5.1 Loch Lomond Marina 5.2 Loch Lomond Marina 5.3 Loch Lomond Marina 6.1 Loch Lomond Marina 6.2 Loch Lomond Marina 6.3 Loch Lomond Marina 7.1 Loch Lomond Marina 7.2 Loch Lomond Marina 7.3 Loch Lomond Marina 8.1 Loch Lomond Marina 8.2 Loch Lomond Marina 8.3 San Francisco Marina 5.1 San Francisco Marina 5.2 San Francisco Marina 5.3 San Francisco Marina 6.1 San Francisco Marina 6.2 San Francisco Marina 6.3 San Francisco Marina 7.1 San Francisco Marina 7.2 San Francisco Marina 7.3 San Francisco Marina 8.1 San Francisco Marina 8.2 San Francisco Marina 8.3
Temporal Representation:	Samples were collected on the following dates: 7/24/2006 7/25/2006 7/26/2006 8/21/2006 8/22/2006 8/23/2006 9/18/2006 9/19/2006 9/20/2006
Environmental Conditions:	
QAPP Information:	Samples were collected and analyzed in accordance with a Quality Assurance Project Plan that was prepared per State Water Resources Control Board Agreement No. 05-218-250 California Department of Pesticide Regulation, Sacramento, CA. (Available online at http://www.cdpr.ca.gov/docs/emon/surfwttr/protocols/qapp_study236.pdf)
QAPP Information Reference(s):	

DECISION ID	66829	Region 2
San Francisco Bay, Central		
Pollutant:	PAHs (Polycyclic Aromatic Hydrocarbons)	
Final Listing Decision:	Do Not List on 303(d) list (TMDL required list)	
Last Listing Cycle's Final Listing Decision:	New Decision	
Revision Status	Revised	
Impairment from Pollutant or Pollution:	Pollutant	
Regional Board Staff Conclusion:	<p>This pollutant is being considered for placement on the CWA section 303(d) List under section 3.5 of the Listing Policy. Under section 3.5 a single line of evidence is necessary to assess listing status.</p> <p>Three lines of evidence are available in the administrative record to assess this pollutant. Zero of fifty-five samples exceed the guideline.</p> <p>Based on the readily available data and information, the weight of evidence indicates that there is not sufficient justification in favor of placing this water segment-pollutant combination on the CWA</p>	

section 303(d) List.

This conclusion is based on the staff findings that:

1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy.
2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy.
3. Zero of fifty-five samples exceed the OEHHHA guideline and this number does not exceed the allowable frequency listed in Table 3.1 of the Listing Policy.
4. There is not a fish consumption advisory in effect for this waterbody.
5. Pursuant to section 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.

Regional Board Staff Decision Recommendation: After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be placed on the section 303(d) list because applicable water quality standards are not being exceeded.

Line of Evidence (LOE) for Decision ID 66829, PAHs (Polycyclic Aromatic Hydrocarbons)

Region 2

San Francisco Bay, Central

LOE ID:	95069
Pollutant:	PAHs (Polycyclic Aromatic Hydrocarbons)
LOE Subgroup:	Pollutant-Tissue
Matrix:	Tissue
Fraction:	Fish fillet
Beneficial Use:	Commercial or recreational collection of fish, shellfish, or organisms
Number of Samples:	22
Number of Exceedances:	0
Data and Information Type:	Fish tissue analysis
Data Used to Assess Water Quality:	Water Board staff assessed Regional Monitoring Program data for Central San Francisco Bay to determine beneficial use support and results are as follows: 0 of 22 samples exceed the criterion for polycyclic aromatic hydrocarbons. No samples were discarded for being non-detect, unquantifiable or the reporting limit exceeding the water quality objective.
Data Reference:	Regional Monitoring Program data, Feb. 1993-Sep. 2008
SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	Water Quality Control Plan for the San Francisco Bay Basin: Controllable water quality factors shall not cause a detrimental increase in concentrations of toxic substances found in bottom sediments or aquatic life. Effects on aquatic organisms, wildlife, and human health will be considered.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	The modified OEHHHA Fish Contaminant Goal for polycyclic aromatic hydrocarbons in fish tissue is 0.7 ppb. This screening level assumes an average body weight of 70 kg and a consumption rate of 32 g/day for a 30 year exposure over a 70-year lifetime. This constituent is a carcinogen therefore the risk level is set to one in a million. (Klasing, S., and R. Brodberg, 2008; USEPA, 2000)
Guideline Reference:	Development of Fish Contaminant Goals and Advisory Tissue Levels for Common Contaminants in California Sport Fish: Chlordane, DDTs, Dieldrin, Methylmercury, PCBs, Selenium, and Toxaphene Guidance for Assessing Chemical Contaminant Data for Use In Fish Advisories Volume 1: Fish Sampling and Analysis
Spatial Representation:	The samples were collected at eight sites throughout Central San Francisco Bay.
Temporal Representation:	The samples were collected in May 1994.
Environmental Conditions:	
QAPP Information:	The 1999 Quality Assurance Project Plan Regional Monitoring Program for Trace Substances was used.

Line of Evidence (LOE) for Decision ID 66829, PAHs (Polycyclic Aromatic Hydrocarbons)**Region 2****San Francisco Bay, Central**

LOE ID:	93672
Pollutant:	PAHs (Polycyclic Aromatic Hydrocarbons)
LOE Subgroup:	Pollutant-Tissue
Matrix:	Tissue
Fraction:	Shellfish
Beneficial Use:	Shellfish Harvesting
Number of Samples:	52
Number of Exceedances:	0
Data and Information Type:	Shellfish surveys
Data Used to Assess Water Quality:	Zero of the fifty-two samples exceeded the guideline. Data were reported on a dry weight basis and were converted to a wet weight basis by multiplying the dry-weight concentration by a factor of 1 minus the percentage of moisture content expressed as a decimal. Laboratory replicates were averaged. The total PAHs were calculated as the potency equivalency concentration or the sum of the toxic equivalency factors multiplied by the concentrations of: Acenaphthene, Acenaphthylene, Anthracene, Benz[a]anthracene, Benzo[a]pyrene, Benzo[b]fluoranthene, Benzo[g,h,i]perylene, Benzo[k]fluoranthene, Dibenzo[a,h]anthracene, Chrysene, Fluoranthene, Fluorene, Indeno[1,2,3-c,d]pyrene, Phenanthrene, and Pyrene.
Data Reference:	State Mussel Watch Program Data 1977-2000; Winter 2007-Winter 2009. State Water Resources Control Board
SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	Water Quality Control Plan for the San Francisco Bay Basin: Controllable water quality factors shall not cause a detrimental increase in concentrations of toxic substances found in bottom sediments or aquatic life. Effects on aquatic organisms, wildlife, and human health will be considered.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	<p>The modified OEHHA Advisory Tissue Level for polycyclic aromatic hydrocarbons in shellfish tissue is 110 ppb. This screening level assumes an average body weight of 70 kg and a consumption rate of 21 g/day for a 30 year exposure over a 70-year lifetime. This constituent is a carcinogen therefore the risk level is set to one in ten thousand. (Brodberg, R.K., and G.A. Pollock, 1999; Klasing, S., and R. Brodberg, 2008; USEPA, 2000)</p> <p>Advisory Tissue Levels (ATLs), while still conferring no significant health risk to individuals consuming sport fish in the quantities shown over a lifetime, were developed with the recognition that there are unique health benefits associated with fish consumption and that the advisory process should be expanded beyond a simple risk paradigm in order to best promote the overall health of the fish consumer. ATLs provide a number of recommended fish servings that correspond to the range of contaminant concentrations found in fish and are used to provide consumption advice to prevent consumers from being exposed to more than the average daily reference dose for noncarcinogens or to a risk level greater than 1×10^{-4} for carcinogens (not more than one additional cancer case in a population of 10,000 people consuming fish at the given consumption rate over a lifetime). ATLs are designed to encourage consumption of fish that can be eaten in quantities likely to provide significant health benefits, while discouraging consumption of fish that, because of contaminant concentrations, should not be eaten or cannot be eaten in amounts recommended for improving overall health (eight ounces total, prior to cooking, per week). ATLs are one of the criteria that will be used by OEHHA for issuing fish consumption guidelines.</p>

Guideline Reference:	Prevalence of Selected Target Chemical Contaminants in Sport Fish From Two California Lakes: Public health designed screening study. Sacramento, CA: Office of Environmental Health Hazard Assessment Development of Fish Contaminant Goals and Advisory Tissue Levels for Common Contaminants in California Sport Fish: Chlordane, DDTs, Dieldrin, Methylmercury, PCBs, Selenium, and Toxaphene Guidance for Assessing Chemical Contaminant Data for Use In Fish Advisories Volume 1: Fish Sampling and Analysis
Spatial Representation:	Samples were generally collected in spring and fall seasons from years 1993 - 1999 and then during most fall seasons during years 2000 - 2008. Samples collected at BC21 through year 2002. Samples collected at BC10 and BC61 through year 2008.
Temporal Representation:	Samples were collected at the following stations: BC21 - Horseshoe Bay, BC61 - Red Rock and BC10 - Yerba Buena Island.
Environmental Conditions:	
QAPP Information:	1999 Quality Assurance Project Plan Regional Monitoring Program for Trace Substances.
QAPP Information Reference(s):	

Line of Evidence (LOE) for Decision ID 66829, PAHs (Polycyclic Aromatic Hydrocarbons)

Region 2

San Francisco Bay, Central

LOE ID:	92776
Pollutant:	PAHs (Polycyclic Aromatic Hydrocarbons)
LOE Subgroup:	Pollutant-Tissue
Matrix:	Tissue
Fraction:	Shellfish
Beneficial Use:	Shellfish Harvesting
Number of Samples:	3
Number of Exceedances:	0
Data and Information Type:	Shellfish surveys
Data Used to Assess Water Quality:	Zero of three samples exceeded the guideline. Data were reported on a dry weight basis and were converted to a wet weight basis by multiplying the dry-weight concentration by a factor of 1 minus the percentage of moisture content expressed as a decimal. The total PAHs were calculated as the potency equivalency concentration or the sum of the toxic equivalency factors multiplied by the concentrations of: Acenaphthene, Acenaphthylene, Anthracene, Benz[a]anthracene, Benzo[a]pyrene, Benzo[b]fluoranthene, Benzo[g,h,i]perylene, Benzo[k]fluoranthene, Dibenzo[a,h]anthracene, Chrysene, Fluoranthene, Fluorene, Indeno[1,2,3-c,d]pyrene, Phenanthrene, and Pyrene.
Data Reference:	State Mussel Watch Program Data 1977-2000; Winter 2007-Winter 2009. State Water Resources Control Board
SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	Many pollutants can accumulate on particles, in sediment, or bioaccumulate in fish and other aquatic organisms. Controllable water quality factors shall not cause a detrimental increase in concentrations of toxic substances found in bottom sediments or aquatic life. Effects on aquatic organisms, wildlife, and human health will be considered.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	The modified OEHHA Advisory Tissue Level for polycyclic aromatic hydrocarbons in shellfish tissue is 110 ppb. This screening level assumes an average body weight of 70 kg and a consumption rate of 21 g/day for a 30 year exposure over a 70-year lifetime. This constituent is a carcinogen therefore the risk level is set to one in ten thousand. (Brodberg, R.K., and G.A. Pollock, 1999; Klasing, S., and R. Brodberg, 2008; USEPA, 2000)
	Advisory Tissue Levels (ATLs), while still conferring no significant health risk to individuals consuming sport fish in the quantities shown over a lifetime, were developed

with the recognition that there are unique health benefits associated with fish consumption and that the advisory process should be expanded beyond a simple risk paradigm in order to best promote the overall health of the fish consumer. ATLs provide a number of recommended fish servings that correspond to the range of contaminant concentrations found in fish and are used to provide consumption advice to prevent consumers from being exposed to more than the average daily reference dose for noncarcinogens or to a risk level greater than 1×10^{-4} for carcinogens (not more than one additional cancer case in a population of 10,000 people consuming fish at the given consumption rate over a lifetime). ATLs are designed to encourage consumption of fish that can be eaten in quantities likely to provide significant health benefits, while discouraging consumption of fish that, because of contaminant concentrations, should not be eaten or cannot be eaten in amounts recommended for improving overall health (eight ounces total, prior to cooking, per week). ATLs are one of the criteria that will be used by OEHHA for issuing fish consumption guidelines.

Guideline Reference:

[Prevalence of Selected Target Chemical Contaminants in Sport Fish From Two California Lakes: Public health designed screening study. Sacramento, CA: Office of Environmental Health Hazard Assessment](#)
[Development of Fish Contaminant Goals and Advisory Tissue Levels for Common Contaminants in California Sport Fish: Chlordane, DDTs, Dieldrin, Methylmercury, PCBs, Selenium, and Toxaphene](#)
[Guidance for Assessing Chemical Contaminant Data for Use In Fish Advisories Volume 1: Fish Sampling and Analysis](#)

Spatial Representation:

Samples are collected by hand from three sub-locations for each site. The composite samples were collected from sites San Francisco Bay Emeryville (SFEM) and two separate years from site San Francisco Bay Yerba Buena Island (SFYB).

Temporal Representation:

Representative samples of locally abundant species were collected during the winter on 12/22/2007, 12/8/2008, and 2/4/2009.

Environmental Conditions:

QAPP Information:

Samples were collected as part of the State Water Board's Mussel Watch Program which is a part of the National Oceanic Administration's (NOAAs) National Status and Trends (NS&T). Mussels are shipped to NOAAs contract labs for analysis of trace constituents and mussel condition. Analytical protocols follow those approved by NOAAs NS&T Program Additional background information can be found at: <http://ccma.nos.noaa.gov/stressors/pollution/nsandt/>

QAPP Information Reference(s):

DECISION ID	66522	Region 2
San Francisco Bay, Central		

Pollutant:	Pyrene
Final Listing Decision:	Do Not List on 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision:	New Decision
Revision Status	Revised
Impairment from Pollutant or Pollution:	Pollutant

Regional Board Staff Conclusion:

This pollutant is being considered for placement on the CWA section 303(d) List under section 3.1 of the Listing Policy. Under section 3.1 a single line of evidence is necessary to assess listing status.

One line of evidence is available in the administrative record to assess this pollutant. Zero of fifty-four samples exceed the guideline.

Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against placing this water segment-pollutant combination on the CWA section 303(d) List in the Water Quality Limited Segments category.

This conclusion is based on the staff findings that:

1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy.

2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy.
3. Zero of fifty-four samples exceed the guideline and this does not exceed the allowable frequency listed in Table 3.1 of the Listing Policy.
4. Pursuant to section 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.

Regional Board Staff Decision Recommendation: After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be placed on the section 303(d) list because applicable water quality standards are not being exceeded.

**Line of Evidence (LOE) for Decision ID 66522, Pyrene
San Francisco Bay, Central**

Region 2

LOE ID: 92787

Pollutant: Pyrene
LOE Subgroup: Pollutant-Water
Matrix: Water
Fraction: Total

Beneficial Use: Commercial or recreational collection of fish, shellfish, or organisms

Number of Samples: 54
Number of Exceedances: 0

Data and Information Type: PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality: State Water Board staff assessed SFEI data for San Francisco Bay, Central to determine beneficial use support and results are as follows: 0 of 54 samples exceed the criterion for Pyrene.

Data Reference: [Regional Monitoring Program data, Feb. 1993-Sep. 2008](#)

SWAMP Data: Non-SWAMP

Water Quality Objective/Criterion: The Pyrene criteria for the protection of human health from consumption of organisms only is 11,000 ug/L (California Toxics Rule, 2000).

Objective/Criterion Reference: [Code of Federal Regulations 40 part 131.38 Establishment of numeric criteria for priority toxic pollutants for the State of California. 7/1/2011 Edition](#)

Evaluation Guideline:
Guideline Reference:

Spatial Representation: Data for this line of evidence for San Francisco Bay, Central was collected at 16 monitoring sites [Yerba Buena Island - BC10, Red Rock - BC60, Central Bay - CB001W, Central Bay - CB003W, Central Bay - CB005W, Central Bay - CB006W, Central Bay - CB007W, Central Bay - CB008W, Central Bay - CB009W, Central Bay - CB011W, Central Bay - CB013W, Central Bay - CB015W, Central Bay - CB019W, Central Bay - CB021W, Central Bay - CB023W, Central Bay - CB025W]

Temporal Representation: Data was collected over the time period 3/3/1993-7/14/2008.

Environmental Conditions: Staff is not aware of any special conditions that might affect interpretation of the data.

QAPP Information: The 1999 Quality Assurance Project Plan Regional Monitoring Program for Trace Substances was used.

QAPP Information Reference(s): [1999 Quality Assurance Project Plan Regional Monitoring Program for Trace Substances](#)

**DECISION ID 66529
San Francisco Bay, Central**

Region 2

Pollutant: Silver
Final Listing Decision: Do Not List on 303(d) list (TMDL required list)
Last Listing Cycle's Final New Decision

Listing Decision:**Revision Status**

Revised

Impairment from Pollutant or Pollution:

Pollutant

Regional Board Staff**Conclusion:**

This pollutant is being considered for placement on the CWA section 303(d) List under section 3.1 of the Listing Policy. Under section 3.1 a single line of evidence is necessary to assess listing status.

Two lines of evidence are available in the administrative record to assess this pollutant. Zero of seventy-five samples exceed the guideline.

Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against placing this water segment-pollutant combination on the CWA section 303(d) List in the Water Quality Limited Segments category.

This conclusion is based on the staff findings that:

1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy.
2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy.
3. Zero of seventy-five samples exceed the guideline and this does not exceed the allowable frequency listed in Table 3.1 of the Listing Policy.
4. Pursuant to section 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.

Regional Board Staff Decision Recommendation:

After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be placed on the section 303(d) list because applicable water quality standards are not being exceeded.

Line of Evidence (LOE) for Decision ID 66529, Silver**Region 2****San Francisco Bay, Central**

LOE ID: 92993

Pollutant: Silver
LOE Subgroup: Pollutant-Water
Matrix: Water
Fraction: Dissolved

Beneficial Use: Estuarine Habitat

Number of Samples: 75
Number of Exceedances: 0

Data and Information Type: PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality: State Water Board staff assessed SFEI data for San Francisco Bay, Central to determine beneficial use support and results are as follows: 0 of 75 samples exceed the criterion for Silver.

Data Reference: [Regional Monitoring Program data, Feb. 1993-Sep. 2008](#)

SWAMP Data: Non-SWAMP

Water Quality Objective/Criterion: The dissolved silver criterion maximum concentration to protect aquatic life in saline water is 0.0019 mg/L (California Toxics Rule, 2000).

Objective/Criterion Reference: [Code of Federal Regulations 40 part 131.38 Establishment of numeric criteria for priority toxic pollutants for the State of California. 7/1/2011 Edition](#)

Evaluation Guideline:
Guideline Reference:

Spatial Representation: Data for this line of evidence for San Francisco Bay, Central was collected at 14 monitoring sites [Yerba Buena Island - BC10, Point Isabel - BC41, Red Rock - BC60, Central Bay - CB001W, Central Bay - CB003W, Central Bay - CB005W, Central Bay -

Temporal Representation:	CB006W, Central Bay - CB007W, Central Bay - CB008W, Central Bay - CB013W, Central Bay - CB015W, Central Bay - CB021W, Central Bay - CB023W, Central Bay - CB025W]
Environmental Conditions:	Data was collected over the time period 3/2/1993-7/15/2008.
QAPP Information:	Staff is not aware of any special conditions that might affect interpretation of the data.
	The 1999 Quality Assurance Project Plan Regional Monitoring Program for Trace Substances was used.
QAPP Information Reference(s):	1999 Quality Assurance Project Plan Regional Monitoring Program for Trace Substances

Line of Evidence (LOE) for Decision ID 66529, Silver
San Francisco Bay, Central

Region 2

LOE ID:	92791
Pollutant:	Silver
LOE Subgroup:	Pollutant-Water
Matrix:	Water
Fraction:	Dissolved
Beneficial Use:	Marine Habitat
Number of Samples:	75
Number of Exceedances:	0
Data and Information Type:	PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality:	State Water Board staff assessed SFEI data for San Francisco Bay, Central to determine beneficial use support and results are as follows: 0 of 75 samples exceed the criterion for Silver.
Data Reference:	Regional Monitoring Program data, Feb. 1993-Sep. 2008
SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	The dissolved silver criterion maximum concentration to protect aquatic life in saline water is 0.0019 mg/L (California Toxics Rule, 2000).
Objective/Criterion Reference:	Code of Federal Regulations 40 part 131.38 Establishment of numeric criteria for priority toxic pollutants for the State of California. 7/1/2011 Edition
Evaluation Guideline:	
Guideline Reference:	
Spatial Representation:	Data for this line of evidence for San Francisco Bay, Central was collected at 14 monitoring sites [Yerba Buena Island - BC10, Point Isabel - BC41, Red Rock - BC60, Central Bay - CB007W, Central Bay - CB006W, Central Bay - CB005W, Central Bay - CB021W, Central Bay - CB008W, Central Bay - CB013W, Central Bay - CB001W, Central Bay - CB023W, Central Bay - CB015W, Central Bay - CB003W, Central Bay - CB025W]
Temporal Representation:	Data was collected over the time period 3/2/1993-7/15/2008.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	The 1999 Quality Assurance Project Plan Regional Monitoring Program for Trace Substances was used.
QAPP Information Reference(s):	1999 Quality Assurance Project Plan Regional Monitoring Program for Trace Substances

DECISION ID 66532
San Francisco Bay, Central

Region 2

Pollutant:	Toxaphene
Final Listing Decision:	Do Not List on 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision:	New Decision
Revision Status	Revised
Impairment from Pollutant or Pollution:	Pollutant

**Regional Board Staff
Conclusion:**

This pollutant is being considered for placement on the CWA section 303(d) List under section 3.5 of the Listing Policy. Under section 3.5 a single line of evidence is necessary to assess listing status. Two lines of evidence are available in the administrative record to assess this pollutant. Zero of zero samples exceed the OEHHA guideline.

Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against placing this water segment-pollutant combination on the CWA section 303(d) List.

This conclusion is based on the staff findings that:

1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy.
2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy.
3. Zero of zero samples exceed the OEHHA guideline and this sample size is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating. A minimum of 16 samples is needed to determine if a beneficial use is fully supported using table 3.1.
4. Pursuant to SECTION 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.

**Regional Board Staff Decision
Recommendation:**

After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be placed on the section 303(d) list. The readily available data and information is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating.

**Line of Evidence (LOE) for Decision ID 66532, Toxaphene
San Francisco Bay, Central**

Region 2

LOE ID:	93633
Pollutant:	Toxaphene
LOE Subgroup:	Pollutant-Tissue
Matrix:	Tissue
Fraction:	Shellfish
Beneficial Use:	Shellfish Harvesting
Number of Samples:	0
Number of Exceedances:	0
Data and Information Type:	Shellfish surveys
Data Used to Assess Water Quality:	The five samples were not used in the assessment because the laboratory data reporting limit(s) were above the objective and therefore the results could not be quantified with the level of certainty required by the Listing Policy. All composite samples were comprised of <i>Mytilus californianus</i> .
Data Reference:	Regional Monitoring Program data, Feb. 1993-Sep. 2008
SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	Water Quality Control Plan for the San Francisco Bay Basin: Controllable water quality factors shall not cause a detrimental increase in concentrations of toxic substances found in bottom sediments or aquatic life. Effects on aquatic organisms, wildlife, and human health will be considered.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	The modified OEHHA Fish Contaminant Goal for toxaphene in shellfish tissue is 6.5 ppb. This screening level assumes an average body weight of 70 kg and a consumption rate of 21 g/day for a 30 year exposure over a 70-year lifetime. This constituent is a carcinogen therefore the risk level is set to one in a million. (Brodberg, R.K., and G.A. Pollock, 1999; Klasing, S., and R. Brodberg, 2008)
Guideline Reference:	Prevalence of Selected Target Chemical Contaminants in Sport Fish From Two California

[Lakes: Public health designed screening study. Sacramento, CA: Office of Environmental Health Hazard Assessment](#)
[Development of Fish Contaminant Goals and Advisory Tissue Levels for Common Contaminants in California Sport Fish: Chlordane, DDTs, Dieldrin, Methylmercury, PCBs, Selenium, and Toxaphene](#)

Spatial Representation: Samples were collected at the following stations: BC21 - Horseshoe Bay, BC61 - Red Rock and BC10 - Yerba Buena Island.

Temporal Representation: Samples were collected at BC21 on 9/5/2002, and at BC10 and BC61 on 9/5/2002 and 9/24/2003.

Environmental Conditions:

QAPP Information: 1999 Quality Assurance Project Plan Regional Monitoring Program for Trace Substances.

QAPP Information Reference(s): [1999 Quality Assurance Project Plan Regional Monitoring Program for Trace Substances](#)

Line of Evidence (LOE) for Decision ID 66532, Toxaphene
San Francisco Bay, Central

Region 2

LOE ID: 95123

Pollutant: Toxaphene

LOE Subgroup: Pollutant-Tissue

Matrix: Tissue

Fraction: Fish fillet

Beneficial Use: Commercial or recreational collection of fish, shellfish, or organisms

Number of Samples: 0

Number of Exceedances: 0

Data and Information Type: Fish tissue analysis

Data Used to Assess Water Quality: Water Board staff assessed Regional Monitoring Program data for Central San Francisco Bay to determine beneficial use support and results are as follows: 0 of 0 samples exceed the criterion for toxaphene. Eighty-nine samples were discarded for being non-detect, unquantifiable or the reporting limit exceeding the water quality objective.

Data Reference: [Regional Monitoring Program data, Feb. 1993-Sep. 2008](#)

SWAMP Data: Non-SWAMP

Water Quality Objective/Criterion: Water Quality Control Plan for the San Francisco Bay Basin: Controllable water quality factors shall not cause a detrimental increase in concentrations of toxic substances found in bottom sediments or aquatic life. Effects on aquatic organisms, wildlife, and human health will be considered.

Objective/Criterion Reference: [Water Quality Control Plan \(Basin Plan\) San Francisco Bay Basin \(Region 2\)](#)

Evaluation Guideline: The modified OEHHA Fish Contaminant Goal for toxaphene in fish tissue is 4.3 ppb. This screening level assumes an average body weight of 70 kg and a consumption rate of 32 g/day for a 30 year exposure over a 70-year lifetime. This constituent is a carcinogen therefore the risk level is set to one in a million. A cooking reduction factor of 1 is applied for skin-off fillets. (Klasing, S., and R. Brodberg, 2008)

Guideline Reference: [Development of Fish Contaminant Goals and Advisory Tissue Levels for Common Contaminants in California Sport Fish: Chlordane, DDTs, Dieldrin, Methylmercury, PCBs, Selenium, and Toxaphene](#)

Spatial Representation: The samples were collected at eleven sites throughout Central San Francisco Bay.

Temporal Representation: The samples were collected every three years from May 1994 through August 2003.

Environmental Conditions:

QAPP Information: The 1999 Quality Assurance Project Plan Regional Monitoring Program for Trace Substances was used.

QAPP Information Reference(s): [1999 Quality Assurance Project Plan Regional Monitoring Program for Trace Substances](#)

DECISION ID

66546

Region 2

San Francisco Bay, Central

Pollutant: Tributyltin TBT (Tributylstanne)
Final Listing Decision: Do Not List on 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision: New Decision
Revision Status: Revised
Impairment from Pollutant or Pollution: Pollutant

Regional Board Staff Conclusion: This pollutant is being considered for placement on the CWA section 303(d) List under section 3.5 of the Listing Policy. Under section 3.5 a single line of evidence is necessary to assess listing status.

One line of evidence is available in the administrative record to assess this pollutant. Zero of thirty-eight samples exceed the guideline.

Based on the readily available data and information, the weight of evidence indicates that there is not sufficient justification in favor of placing this water segment-pollutant combination on the CWA section 303(d) List.

This conclusion is based on the staff findings that:

1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy.
2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy.
3. Zero of thirty-eight samples exceed the OEHHA guideline and this number does not exceed the allowable frequency listed in Table 3.1 of the Listing Policy.
4. There is not a fish consumption advisory in effect for this waterbody.
5. Pursuant to section 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.

Regional Board Staff Decision Recommendation: After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be placed on the section 303(d) list because applicable water quality standards are not being exceeded.

Line of Evidence (LOE) for Decision ID 66546, Tributyltin TBT (Tributylstanne)

Region 2

San Francisco Bay, Central

LOE ID: 93691

Pollutant: Tributyltin TBT (Tributylstanne)
LOE Subgroup: Pollutant-Tissue
Matrix: Tissue
Fraction: Shellfish

Beneficial Use: Shellfish Harvesting

Number of Samples: 38
Number of Exceedances: 0

Data and Information Type: Shellfish surveys
Data Used to Assess Water Quality: None of the 38 samples exceeded the guideline. All composite samples were comprised of *Mytilus californianus*. Data were reported on a dry weight basis and were converted to a wet weight basis by multiplying the dry-weight concentration by a factor of 1 minus the percentage of moisture content expressed as a decimal. Three samples were not used in the assessment because the laboratory data reporting limit was above the objective and therefore the results could not be quantified with the level of certainty required by the Listing Policy. Laboratory replicates were averaged. If a dry weight result did not have a corresponding moisture result for conversion to wet weight, the sample was not included in the assessment.

Data Reference: [Regional Monitoring Program data, Feb. 1993-Sep. 2008](#)

SWAMP Data: Non-SWAMP

Water Quality Objective/Criterion:	Water Quality Control Plan for the San Francisco Bay Basin: Controllable water quality factors shall not cause a detrimental increase in concentrations of toxic substances found in bottom sediments or aquatic life. Effects on aquatic organisms, wildlife, and human health will be considered.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	The modified OEHHA Fish Contaminant Goal for tributyltin in shellfish tissue is 1 ppm. This screening level assumes an average body weight of 70 kg and a consumption rate of 21 g/day. (Brodberg, R.K., and G.A. Pollock, 1999; Klasing, S., and R. Brodberg, 2008; USEPA, 2000)
Guideline Reference:	Prevalence of Selected Target Chemical Contaminants in Sport Fish From Two California Lakes: Public health designed screening study. Sacramento, CA: Office of Environmental Health Hazard Assessment Development of Fish Contaminant Goals and Advisory Tissue Levels for Common Contaminants in California Sport Fish: Chlordane, DDTs, Dieldrin, Methylmercury, PCBs, Selenium, and Toxaphene Guidance for Assessing Chemical Contaminant Data for Use In Fish Advisories Volume 1: Fish Sampling and Analysis
Spatial Representation:	Samples were collected at the following stations: BC21 - Horseshoe Bay, BC61 - Red Rock and BC10 - Yerba Buena Island.
Temporal Representation:	Samples were generally collected in spring and fall seasons from years 1993 - 1999 and then during fall of 2000 and 2001.
Environmental Conditions:	
QAPP Information:	1999 Quality Assurance Project Plan Regional Monitoring Program for Trace Substances.
QAPP Information Reference(s):	1999 Quality Assurance Project Plan Regional Monitoring Program for Trace Substances

DECISION ID	66550	Region 2
San Francisco Bay, Central		
Pollutant:	Zinc	
Final Listing Decision:	Do Not List on 303(d) list (TMDL required list)	
Last Listing Cycle's Final Listing Decision:	New Decision	
Revision Status	Revised	
Impairment from Pollutant or Pollution:	Pollutant	
Regional Board Staff Conclusion:	<p>This pollutant is being considered for placement on the CWA section 303(d) List under section 3.1 of the Listing Policy. Under section 3.1 a single line of evidence is necessary to assess listing status.</p> <p>Four lines of evidence are available in the administrative record to assess this pollutant. Zero of one hundred two samples exceed the guideline.</p> <p>Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against placing this water segment-pollutant combination on the CWA section 303(d) List in the Water Quality Limited Segments category.</p> <p>This conclusion is based on the staff findings that:</p> <ol style="list-style-type: none"> 1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy. 2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy. 3. Zero of one hundred two samples exceed the guideline and this does not exceed the allowable frequency listed in Table 3.1 of the Listing Policy. 4. Pursuant to section 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met. 	
Regional Board Staff Decision Recommendation:	After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be placed on the section 303(d) list because applicable water quality standards are not being exceeded.	

**Line of Evidence (LOE) for Decision ID 66550, Zinc
San Francisco Bay, Central**

Region 2

LOE ID:	92884
Pollutant:	Zinc
LOE Subgroup:	Pollutant-Water
Matrix:	Water
Fraction:	Total
Beneficial Use:	Commercial or recreational collection of fish, shellfish, or organisms
Number of Samples:	94
Number of Exceedances:	0
Data and Information Type:	PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality:	State Water Board staff assessed SFEI data for San Francisco Bay, Central to determine beneficial use support and results are as follows: 0 of 94 samples exceed the criterion for Zinc.
Data Reference:	Regional Monitoring Program data, Feb. 1993-Sep. 2008
SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	Surface waters shall not contain concentrations of chemical constituents in amounts that adversely affect any designated beneficial use.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	The Zinc criteria for the protection of human health from consumption of fish only is 26000 ug/L (National Recommended Water Quality Criteria, 2009).
Guideline Reference:	National Recommended Water Quality Criteria. United States Environmental Protection Agency. Office of Water. Office of Science and Technology
Spatial Representation:	Data for this line of evidence for San Francisco Bay, Central was collected at 18 monitoring sites [Yerba Buena Island - BC10, Point Isabel - BC41, Red Rock - BC60, Central Bay - CB001W, Central Bay - CB003W, Central Bay - CB005W, Central Bay - CB006W, Central Bay - CB007W, Central Bay - CB008W, Central Bay - CB009W, Central Bay - CB011W, Central Bay - CB013W, Central Bay - CB015W, Central Bay - CB017W, Central Bay - CB019W, Central Bay - CB021W, Central Bay - CB023W, Central Bay - CB025W]
Temporal Representation:	Data was collected over the time period 3/2/1993-7/15/2008.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	The 1999 Quality Assurance Project Plan Regional Monitoring Program for Trace Substances was used.
QAPP Information Reference(s):	1999 Quality Assurance Project Plan Regional Monitoring Program for Trace Substances

**Line of Evidence (LOE) for Decision ID 66550, Zinc
San Francisco Bay, Central**

Region 2

LOE ID:	92887
Pollutant:	Zinc
LOE Subgroup:	Pollutant-Water
Matrix:	Water
Fraction:	Dissolved
Beneficial Use:	Estuarine Habitat
Number of Samples:	9
Number of Exceedances:	0

Data and Information Type:	Fixed station physical/chemical (conventional plus toxic pollutants)
Data Used to Assess Water Quality:	None of the nine samples exceeded the CTR value of 81 ug/L for dissolved zinc in saline water.
Data Reference:	Data for Various Pollutants in California Marinas, 2006.
SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	Waters shall not contain chemical constituents in concentrations that adversely affect beneficial uses. California Toxics Rule (CTR) lists criterion continuous concentrations to protect aquatic life in saline water. The CTR value is 81 ug/L.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	
Guideline Reference:	
Spatial Representation:	A total of four separate grab samples were collected at the same sampling event from outside three marina basins (Berkeley, Loch Lomond, and San Francisco). The four grab samples were averaged into one result.
Temporal Representation:	Samples were collected on three separate sampling events during the dry season (July - October) in 2006.
Environmental Conditions:	Samples were collected during the dry season only.
QAPP Information:	Samples were collected and analyzed in accordance with a Quality Assurance Project Plan that was prepared per State Water Resources Control Board Agreement No. 05-218-250 California Department of Pesticide Regulation, Sacramento, CA. (Available online at http://www.cdpr.ca.gov/docs/emon/surfwtpr/protocols/qapp_study236.pdf)
QAPP Information Reference(s):	

**Line of Evidence (LOE) for Decision ID 66550, Zinc
San Francisco Bay, Central**

Region 2

LOE ID:	92886
Pollutant:	Zinc
LOE Subgroup:	Pollutant-Water
Matrix:	Water
Fraction:	Dissolved
Beneficial Use:	Estuarine Habitat
Number of Samples:	93
Number of Exceedances:	0
Data and Information Type:	PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality:	State Water Board staff assessed SFEI data for San Francisco Bay, Central to determine beneficial use support and results are as follows: 0 of 93 samples exceed the criterion for Zinc.
Data Reference:	Regional Monitoring Program data, Feb. 1993-Sep. 2008
SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	The dissolved zinc criterion continuous concentration (expressed as a 4-day average) to protect aquatic life in saline water is 0.081 mg/L (California Toxics Rule, 2000).
Objective/Criterion Reference:	Code of Federal Regulations 40 part 131.38 Establishment of numeric criteria for priority toxic pollutants for the State of California. 7/1/2011 Edition
Evaluation Guideline:	
Guideline Reference:	
Spatial Representation:	Data for this line of evidence for San Francisco Bay, Central was collected at 18 monitoring sites [Yerba Buena Island - BC10, Point Isabel - BC41, Red Rock - BC60, Central Bay - CB001W, Central Bay - CB003W, Central Bay - CB005W, Central Bay - CB006W, Central Bay - CB007W, Central Bay - CB008W, Central Bay - CB009W, Central

	Bay - CB011W, Central Bay - CB013W, Central Bay - CB015W, Central Bay - CB017W, Central Bay - CB019W, Central Bay - CB021W, Central Bay - CB023W, Central Bay - CB025W]
Temporal Representation:	Data was collected over the time period 3/2/1993-7/15/2008.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	The 1999 Quality Assurance Project Plan Regional Monitoring Program for Trace Substances was used.
QAPP Information Reference(s):	1999 Quality Assurance Project Plan Regional Monitoring Program for Trace Substances

Line of Evidence (LOE) for Decision ID 66550, Zinc

Region 2

San Francisco Bay, Central

LOE ID:	92885
Pollutant:	Zinc
LOE Subgroup:	Pollutant-Water
Matrix:	Water
Fraction:	Dissolved
Beneficial Use:	Marine Habitat
Number of Samples:	93
Number of Exceedances:	0
Data and Information Type:	PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality:	State Water Board staff assessed SFEI data for San Francisco Bay, Central to determine beneficial use support and results are as follows: 0 of 93 samples exceed the criterion for Zinc.
Data Reference:	Regional Monitoring Program data, Feb. 1993-Sep. 2008
SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	The dissolved zinc criterion continuous concentration (expressed as a 4-day average) to protect aquatic life in saline water is 0.081 mg/L (California Toxics Rule, 2000).
Objective/Criterion Reference:	Code of Federal Regulations 40 part 131.38 Establishment of numeric criteria for priority toxic pollutants for the State of California. 7/1/2011 Edition
Evaluation Guideline:	
Guideline Reference:	
Spatial Representation:	Data for this line of evidence for San Francisco Bay, Central was collected at 18 monitoring sites [Yerba Buena Island - BC10, Point Isabel - BC41, Red Rock - BC60, Central Bay - CB011W, Central Bay - CB007W, Central Bay - CB006W, Central Bay - CB005W, Central Bay - CB017W, Central Bay - CB021W, Central Bay - CB008W, Central Bay - CB013W, Central Bay - CB001W, Central Bay - CB009W, Central Bay - CB023W, Central Bay - CB015W, Central Bay - CB003W, Central Bay - CB019W, Central Bay - CB025W]
Temporal Representation:	Data was collected over the time period 3/2/1993-7/15/2008.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	The 1999 Quality Assurance Project Plan Regional Monitoring Program for Trace Substances was used.
QAPP Information Reference(s):	1999 Quality Assurance Project Plan Regional Monitoring Program for Trace Substances

DECISION ID 66468

Region 2

San Francisco Bay, Central

Pollutant:	alpha-Endosulfan (Endosulfan 1)
Final Listing Decision:	Do Not List on 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision:	New Decision

Revision Status
Impairment from Pollutant or Pollution:

Revised
Pollutant

Regional Board Staff Conclusion:

This pollutant is being considered for placement on the CWA section 303(d) List under section 3.1 of the Listing Policy. Under section 3.1 a single line of evidence is necessary to assess listing status.

One line of evidence is available in the administrative record to assess this pollutant. Zero of forty-six samples exceed the guideline.

Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against placing this water segment-pollutant combination on the CWA section 303(d) List in the Water Quality Limited Segments category.

This conclusion is based on the staff findings that:

1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy.
2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy.
3. Zero of forty-six samples exceed the guideline and this does not exceed the allowable frequency listed in Table 3.1 of the Listing Policy.
4. Pursuant to section 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.

Regional Board Staff Decision Recommendation:

After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be placed on the section 303(d) list because applicable water quality standards are not being exceeded.

Line of Evidence (LOE) for Decision ID 66468, alpha-Endosulfan (Endosulfan 1)
San Francisco Bay, Central

Region 2

LOE ID:	92792
Pollutant:	alpha-Endosulfan (Endosulfan 1)
LOE Subgroup:	Pollutant-Water
Matrix:	Water
Fraction:	Total
Beneficial Use:	Commercial or recreational collection of fish, shellfish, or organisms
Number of Samples:	46
Number of Exceedances:	0
Data and Information Type:	PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality:	State Water Board staff assessed SFEI data for San Francisco Bay, Central to determine beneficial use support and results are as follows: 0 of 46 samples exceed the criterion for Endosulfan I.
Data Reference:	Regional Monitoring Program data, Feb. 1993-Sep. 2008
SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	The Endosulfan I criteria for the protection of human health from consumption of organisms only is 240 ug/L (California Toxics Rule, 2000).
Objective/Criterion Reference:	Code of Federal Regulations 40 part 131.38 Establishment of numeric criteria for priority toxic pollutants for the State of California. 7/1/2011 Edition
Evaluation Guideline:	
Guideline Reference:	
Spatial Representation:	Data for this line of evidence for San Francisco Bay, Central was collected at 6 monitoring sites [Yerba Buena Island - BC10, Red Rock - BC60, Central Bay - CB003W, Central Bay - CB015W, Central Bay - CB017W, Central Bay - CB019W]
Temporal Representation:	Data was collected over the time period 3/3/1993-8/13/2007.

Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	The 1999 Quality Assurance Project Plan Regional Monitoring Program for Trace Substances was used.
QAPP Information Reference(s):	1999 Quality Assurance Project Plan Regional Monitoring Program for Trace Substances

DECISION ID	66471	Region 2
San Francisco Bay, Central		

Pollutant:	beta-Endosulfan (Endosulfan 2)
Final Listing Decision:	Do Not List on 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision:	New Decision
Revision Status	Revised
Impairment from Pollutant or Pollution:	Pollutant

Regional Board Staff Conclusion:

This pollutant is being considered for placement on the CWA section 303(d) List under section 3.1 of the Listing Policy. Under section 3.1 a single line of evidence is necessary to assess listing status.

One line of evidence is available in the administrative record to assess this pollutant. Zero of forty-five samples exceed the guideline.

Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against placing this water segment-pollutant combination on the CWA section 303(d) List in the Water Quality Limited Segments category.

This conclusion is based on the staff findings that:

1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy.
2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy.
3. Zero of forty-five samples exceed the guideline and this does not exceed the allowable frequency listed in Table 3.1 of the Listing Policy.
4. Pursuant to section 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.

Regional Board Staff Decision Recommendation:	After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be placed on the section 303(d) list because applicable water quality standards are not being exceeded.
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Line of Evidence (LOE) for Decision ID 66471, beta-Endosulfan (Endosulfan 2)	Region 2
San Francisco Bay, Central	

LOE ID:	92799
Pollutant:	beta-Endosulfan (Endosulfan 2)
LOE Subgroup:	Pollutant-Water
Matrix:	Water
Fraction:	Total
Beneficial Use:	Commercial or recreational collection of fish, shellfish, or organisms
Number of Samples:	45
Number of Exceedances:	0
Data and Information Type:	PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality:	State Water Board staff assessed SFEI data for San Francisco Bay, Central to determine beneficial use support and results are as follows: 0 of 45 samples exceed the criterion for Endosulfan II.
Data Reference:	Regional Monitoring Program data, Feb. 1993-Sep. 2008

SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	The Endosulfan II criteria for the protection of human health from consumption of organisms only is 240 ug/L (California Toxics Rule, 2000).
Objective/Criterion Reference:	Code of Federal Regulations 40 part 131.38 Establishment of numeric criteria for priority toxic pollutants for the State of California. 7/1/2011 Edition
Evaluation Guideline:	
Guideline Reference:	
Spatial Representation:	Data for this line of evidence for San Francisco Bay, Central was collected at 6 monitoring sites [Yerba Buena Island - BC10, Red Rock - BC60, Central Bay - CB001W, Central Bay - CB003W, Central Bay - CB017W, Central Bay - CB019W]
Temporal Representation:	Data was collected over the time period 2/3/1994-8/13/2007.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	The 1999 Quality Assurance Project Plan Regional Monitoring Program for Trace Substances was used.
QAPP Information Reference(s):	1999 Quality Assurance Project Plan Regional Monitoring Program for Trace Substances

DECISION ID	66520	Region 2
San Francisco Bay, Central		
Pollutant:	pH	
Final Listing Decision:	Do Not List on 303(d) list (TMDL required list)	
Last Listing Cycle's Final Listing Decision:	New Decision	
Revision Status	Revised	
Impairment from Pollutant or Pollution:	Pollutant	
Regional Board Staff Conclusion:	<p>This pollutant is being considered for placement on the CWA section 303(d) List under section 3.2 of the Listing Policy. Under section 3.2 a single line of evidence is necessary to assess listing status. One line of evidence is available in the administrative record to assess this pollutant. Zero of twenty-four samples exceed the objective.</p> <p>Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against placing this water segment-pollutant combination on the CWA section 303(d) List.</p> <p>This conclusion is based on the staff findings that:</p> <ol style="list-style-type: none"> 1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy. 2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy. 3. Zero of twenty-four samples exceed the objective and this sample size is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating. A minimum of 26 samples is needed to determine if a beneficial use is fully supported using table 3.2. 4. Pursuant to SECTION 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met. 	
Regional Board Staff Decision Recommendation:	After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be placed on the section 303(d) list. The readily available data and information is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating.	

Line of Evidence (LOE) for Decision ID 66520, pH	Region 2
San Francisco Bay, Central	
LOE ID:	90737
Pollutant:	pH

LOE Subgroup:	Pollutant-Water
Matrix:	Water
Fraction:	Dissolved
Beneficial Use:	Marine Habitat
Number of Samples:	24
Number of Exceedances:	0
Data and Information Type:	PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality:	Numeric data generated from 24 minimums and maximums had no exceedences.
Data Reference:	Data for Various Pollutants in California Marinas, 2006.
SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	The pH shall not be depressed below 6.5 nor raised above 8.5.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	
Guideline Reference:	
Spatial Representation:	Samples were collected from the following stations: City of Berkeley Marina 5.1 City of Berkeley Marina 5.2 City of Berkeley Marina 5.3* City of Berkeley Marina 6.1 City of Berkeley Marina 6.2 City of Berkeley Marina 6.3 City of Berkeley Marina 7.1 City of Berkeley Marina 7.2 City of Berkeley Marina 7.3 City of Berkeley Marina 8.1 City of Berkeley Marina 8.2 City of Berkeley Marina 8.3 Loch Lomond Marina 5.1 Loch Lomond Marina 5.2 Loch Lomond Marina 5.3 Loch Lomond Marina 6.1 Loch Lomond Marina 6.2 Loch Lomond Marina 6.3 Loch Lomond Marina 7.1 Loch Lomond Marina 7.2 Loch Lomond Marina 7.3 Loch Lomond Marina 8.1 Loch Lomond Marina 8.2 Loch Lomond Marina 8.3 San Francisco Marina 5.1 San Francisco Marina 5.2 San Francisco Marina 5.3 San Francisco Marina 6.1 San Francisco Marina 6.2 San Francisco Marina 6.3 San Francisco Marina 7.1 San Francisco Marina 7.2 San Francisco Marina 7.3 San Francisco Marina 8.1 San Francisco Marina 8.2 San Francisco Marina 8.3
Temporal Representation:	Samples were collected twice a month from July 2006 to September 2006.
Environmental Conditions:	
QAPP Information:	NPDES quality assurance.
QAPP Information Reference(s):	Study report on paint data collected in California Marinas.

DECISION ID	66543	Region 2
San Francisco Bay, Central		

Pollutant:	Toxicity
Final Listing Decision:	List on 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision:	New Decision
Revision Status	Revised
Sources:	Source Unknown
Expected TMDL Completion Date:	2029
Impairment from Pollutant or Pollution:	Pollutant
Regional Board Staff Conclusion:	<p>This pollutant is being considered for placement on the CWA section 303(d) List under section 3.6 of the Listing Policy. Under section 3.6 a single line of evidence is necessary to assess listing status.</p> <p>Two lines of evidence are available in the administrative record to assess this pollutant. Twenty-nine of the eighty-five samples exceed the guideline.</p> <p>Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification in favor of placing this water segment-pollutant combination on the CWA section 303(d) List.</p>

This conclusion is based on the staff findings that:

1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy.
2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy.
3. Twenty-nine of the eighty-five samples exceed the guideline and this exceeds the allowable frequency listed in Table 3.1 of the Listing Policy.
4. Pursuant to section 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.

Regional Board Staff Decision Recommendation: After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should be placed on the section 303(d) list because applicable water quality standards are exceeded and a pollutant contributes to or causes the problem.

**Line of Evidence (LOE) for Decision ID 66543, Toxicity
San Francisco Bay, Central**

Region 2

LOE ID:	95751
Pollutant:	Toxicity
LOE Subgroup:	Toxicity
Matrix:	Water
Fraction:	None
Beneficial Use:	Estuarine Habitat
Number of Samples:	24
Number of Exceedances:	0
Data and Information Type:	TOXICITY TESTING
Data Used to Assess Water Quality:	<p>Zero of the 24 samples exhibited toxicity. A sample may have multiple toxicity test results but will be counted only once. A sample is defined as being collected on the same day at the same location with the same lab sample id (if provided).</p> <p>The following test organisms and parameters were utilized for the toxicity tests: <i>Thalassiosira pseudonana</i> (cell count), 1993; <i>Crassostrea gigas</i> (mean % normal development), 1993; <i>Mytilus edulis</i> (mean % normal development), 1993-1996; <i>Americamysis bahia</i> - formerly <i>Mysidopsis bahia</i> (mean % survival), 1994-96, 2002, and 2007.</p> <p>Additional results were not included in the assessment due to control results of less than 90 percent for test parameter.</p>
Data Reference:	Regional Monitoring Program data, Feb. 1993-Sep. 2008
SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	All waters shall be maintained free of toxic substances in concentrations that are toxic to, or that produce detrimental physiological responses in, human, plant, animal, or aquatic life. Region 2 Basin Plan.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) - San Francisco Bay Region (Region 2)
Evaluation Guideline:	Toxicity is defined as a significant reduction of test organism relative to the control ($\alpha < 0.05$) and test organism survival is 80% or less than the control survival (at least 20% effect).
Guideline Reference:	SWAMP Memo Toxicity Data Interpretation Method 1007.0: Mysid, Mysidopsis bahia, Survival, Growth, and Fecundity Test; Chronic Toxicity. Excerpt from: Short-Term Methods for Estimating the Chronic Toxicity of Effluents and Receiving Waters to Marine and Estuarine Organisms. 3rd edition EPA-821-R-02-014 Short-Term Methods for Estimating the Chronic Toxicity of Effluents and Receiving Water to Marine and Estuarine Organisms. EPA/600/4-91-003.

Spatial Representation:	Samples were collected at sites BB70, BC10, BC60, CB001W, and CB021W
Temporal Representation:	The samples were collected twice each year (generally winter and summer) from 1993-96, 2002, and 2007.
Environmental Conditions:	
QAPP Information:	Data collected after 1999 follows the San Francisco Estuary Institute 1999 Quality Assurance Project Plan Regional Monitoring Program for Trace Substances.
QAPP Information Reference(s):	1999 Quality Assurance Project Plan Regional Monitoring Program for Trace Substances

Line of Evidence (LOE) for Decision ID 66543, Toxicity

Region 2

San Francisco Bay, Central

LOE ID:	95805
Pollutant:	Toxicity
LOE Subgroup:	Toxicity
Matrix:	Sediment
Fraction:	None
Beneficial Use:	Estuarine Habitat
Number of Samples:	85
Number of Exceedances:	29
Data and Information Type:	TOXICITY TESTING
Data Used to Assess Water Quality:	<p>Twenty-nine of the 85 samples exhibited toxicity. A sample may have multiple toxicity test results but will be counted only once. A sample is defined as being collected on the same day at the same location with the same lab sample id (if provided).</p> <p>The following test organisms and parameters were utilized for the toxicity tests: Eohaustorius estuarius (mean % survival), 1993-2008; Mytilus edulis (mean % normal alive), 1993-97; Mytilus galloprovincialis (mean % normal alive), 1998-2001, 2005-08; and Strongylocentrotus purpuratus (mean % normal development), 1998.</p> <p>The following samples exhibited toxicity: Eohaustorius estuarius collected during 1993, and 1995-2008; Mytilus edulis collected 1995; and Mytilus galloprovincialis collected 1998, 2005 and 2007-08. Additional results were not included in the assessment due to control results of less than 90 percent for test parameter.</p>
Data Reference:	Regional Monitoring Program data, Feb. 1993-Sep. 2008
SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	All waters shall be maintained free of toxic substances in concentrations that are toxic to, or that produce detrimental physiological responses in, human, plant, animal, or aquatic life. Region 2 Basin Plan.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) - San Francisco Bay Region (Region 2)
Evaluation Guideline:	Toxicity is defined as a significant reduction of test organism relative to the control (alpha < 0.01) and test organism survival is 80% or less than the control survival (at least 20% effect).
Guideline Reference:	SWAMP Memo Toxicity Data Interpretation Methods for Assessing the Toxicity of Sediment-associated Contaminants with Estuarine and Marine Amphipods. June 1994. EPA 600/R-94/025 Short-term Methods for Estimating the Chronic Toxicity of Effluents and Receiving Waters to West Coast Marine and Estuarine Organisms. EPA/600/R-95-136.
Spatial Representation:	Samples were collected at sites BC21, BC60, BC11, BB70, CB001S, CB004S, CB005S, CB007S, CB011S, CB013S, CB021S, CB023S, CB025S, CB027S, CB029S, CB037S, CB039S, CB075S, and CB077S.
Temporal Representation:	The samples were collected twice each year (winter and summer) from 1993, 1995 - 1999 and the summers of 2000 - 2008.
Environmental Conditions:	
QAPP Information:	Data collected after 1999 follows the San Francisco Estuary Institute 1999 Quality

DECISION ID	32925	Region 2
San Francisco Bay, Central		

Pollutant: Polybrominated Diphenyl Ethers (PBDEs)
Final Listing Decision: Do Not List on 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision: Do Not List on 303(d) list (TMDL required list)(2012)
Revision Status: Original
Impairment from Pollutant or Pollution: Pollutant

Regional Board Staff Conclusion: This pollutant is being considered for listing under sections 2.1 and 3.5 of the Listing Policy. Under section 3.5 a single line of evidence is necessary to assess listing status. Two lines of evidence are available in the administrative record to assess this pollutant. Based on section 3.5, some data are available showing concentrations of this pollutant in animal tissues. It cannot be determined if the pollutant is likely to cause or contribute to the adverse effects because a numeric guideline or water quality objective is not available. Based on the readily available data and information, the weight of evidence indicates that there is not sufficient justification in favor of placing this water segment-pollutant combination on the section 303(d) list in the Water Quality Limited Segments category. This conclusion is based on the staff findings that: 1. An evaluation guideline is not available that complies with the requirements of section 6.1.3 of the Policy. 2. Pursuant to section 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.

Regional Board Staff Decision Recommendation: This is a decision previously approved by the State Water Resources Control Board and the USEPA. No new data were assessed by the Regional Board for the current. The decision has not changed.

Line of Evidence (LOE) for Decision ID 32925, Polybrominated Diphenyl Ethers (PBDEs)	Region 2
San Francisco Bay, Central	

LOE ID: 6

Pollutant: Polybrominated Diphenyl Ethers (PBDEs)
LOE Subgroup: Pollutant-Tissue
Matrix: Not Specified
Fraction: None

Beneficial Use: Estuarine Habitat

Number of Samples: 0
Number of Exceedances: 0

Data and Information Type: Not Specified
Data Used to Assess Water Quality: 2004 List Comments:

Numeric information, along with circumstantial, anecdotal, and non-specific referenced evidence, was submitted in 2004 with the request that the San Francisco Bay (presumably San Pablo Bay; San Francisco Bay, Central; San Francisco Bay, South; San Francisco Bay, Lower; and/or Suisun Bay) be listed for the PBDE family of flame retardant chemicals.

Studies based on findings from other states and other countries (Sweden) cannot, by themselves, provide sufficient evidence to list a pollutant for a California water body. Instead, this data provides background information only.

Data on contamination by PBDEs of human (breast) tissue from residents in and around the Bay is not usable for listing those water bodies due to the fact that there is no way to

meaningfully link such contamination directly to water quality and to a particular water body. The presence of PBDEs in eggs and seal tissues is also inadequate to list a water body.

The report does not specify where bird's nests and seal carcasses were sampled in relation to the five Bay area water bodies. Even if specific sample sites were included, it would be difficult to determine the relationship between the presence of PBDEs in the tissues of a widely ranging species, and the water of a specific water body. It is easier to establish this link when the tissues of filter-feeding organisms (e.g., mussels and clams) or organisms that forage locally are exclusively used.

While some data presented was from local fish species, the volume and reliability of the data is questionable. Leopard shark, halibut, striped bass, and other species may move considerable distances before being captured, making it difficult to establish a relationship between pollutants in tissue and the water body of capture. The 'tainted catch' report states: 'PBDE levels varied widely among fish species and between individuals of the same species in part due to location in the Bay.'

Data Reference: [Placeholder reference 2006 303\(d\)](#)

SWAMP Data: Non-SWAMP

Water Quality Objective/Criterion: Basin Plan Narrative Objectives:

"Many pollutants can accumulate on particles, in sediment, or bioaccumulate in fish or other aquatic organisms. Controllable water quality factors shall not cause a detrimental increase in concentrations of toxic substances found in bottom sediments or aquatic life. Effects on aquatic organisms, wildlife, and human health will be considered."

Objective/Criterion Reference: "Controllable water quality factors shall not cause a detrimental increase in the concentrations of toxic pollutants in sediments or aquatic life."
[Placeholder reference 2006 303\(d\)](#)

Evaluation Guideline: None available.
Guideline Reference: [Placeholder reference 2006 303\(d\)](#)

Spatial Representation: Unknown.
Temporal Representation: Multiple studies are cited (She et al., 2002). PBDEs in the San Francisco Bay Area: measurements in harbor seal blubber and human breast adipose tissue. Chemosphere 46(2002): 697-707; Petreas et al., 2003. High Body Burdens of 2,2',4,4'-Tetrabromodiphenyl Ether (BDE-47) in California Women. Environ. Health Perspect. 111(9): 1175-1179; She et al., 2003. High PBDE Levels in Shorebird Eggs from the San Francisco Bay and Washington State. Proceedings. 2003 Georgia Basin/Puget Sound Research Conference.

Environmental Conditions:
QAPP Information: QA Info Missing
QAPP Information Reference(s):

Line of Evidence (LOE) for Decision ID 32925, Polybrominated Diphenyl Ethers (PBDEs)

Region 2

San Francisco Bay, Central

LOE ID: 7

Pollutant: Polybrominated Diphenyl Ethers (PBDEs)
LOE Subgroup: Testimonial Evidence
Matrix: -N/A
Fraction: None

Beneficial Use: Estuarine Habitat

Number of Samples: 0
Number of Exceedances: 0

Data and Information Type: Not Specified
Data Used to Assess Water Quality: 2002 List Fact Sheet Information:

PBDEs research literature will be reviewed by the RWQCB to ascertain any new information on actual effects thresholds for these persistent bioaccumulative substances in the next listing cycle. These actions can be conducted regionally through the RMP, the Bay Area Pollution Prevention Group, or other association of dischargers. During the subsequent listing cycle, RWQCB staff evaluation of current research, applicable water quality criteria, and local actions to characterize sources and pollution prevention of PBDEs will determine whether a listing is needed.

Data Reference: [Placeholder reference 2006 303\(d\)](#)

SWAMP Data: Non-SWAMP

Water Quality Objective/Criterion: Basin Plan Narrative Objectives:

"Many pollutants can accumulate on particles, in sediment, or bioaccumulate in fish or other aquatic organisms. Controllable water quality factors shall not cause a detrimental increase in concentrations of toxic substances found in bottom sediments or aquatic life. Effects on aquatic organisms, wildlife, and human health will be considered."

"Controllable water quality factors shall not cause a detrimental increase in the concentrations of toxic pollutants in sediments or aquatic life."

Objective/Criterion Reference: [Placeholder reference 2006 303\(d\)](#)

Evaluation Guideline:
Guideline Reference:

Spatial Representation:
Temporal Representation:
Environmental Conditions:

QAPP Information: QA Info Missing
QAPP Information Reference(s):

DECISION ID	34589	Region 2
San Francisco Bay, Central		

Pollutant:	Dioxin compounds (including 2,3,7,8-TCDD)
Final Listing Decision:	List on 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision:	List on 303(d) list (TMDL required list)(2012)
Revision Status	Original
Sources:	Source Unknown
Expected TMDL Completion Date:	2019
Impairment from Pollutant or Pollution:	Pollutant

Regional Board Staff Conclusion: 303(d) listing decisions made prior to 2006 were not held in an assessment database. The Regional Boards will update this decision when new data and information become available and are assessed.

Regional Board Staff Decision Recommendation: This is a decision previously approved by the State Water Resources Control Board and the USEPA. No new data were assessed by the Regional Board for the current. The decision has not changed.

Line of Evidence (LOE) for Decision ID 34589, Dioxin compounds (including 2,3,7,8-TCDD)	Region 2
San Francisco Bay, Central	

LOE ID: 3826

Pollutant:	Dioxin compounds (including 2,3,7,8-TCDD)
LOE Subgroup:	Pollutant-Tissue
Matrix:	Tissue
Fraction:	Not Recorded
Beneficial Use:	Commercial or recreational collection of fish, shellfish, or organisms
Number of Samples:	0
Number of Exceedances:	0
Data and Information Type:	Not Specified
Data Used to Assess Water Quality:	Unspecified--This LOE is a placeholder to support a 303(d) listing decision made prior to 2006.
Data Reference:	Placeholder reference pre-2006 303(d)
SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	Unspecified
Objective/Criterion Reference:	Placeholder reference pre-2006 303(d)
Evaluation Guideline:	Unspecified
Guideline Reference:	Placeholder reference pre-2006 303(d)
Spatial Representation:	Unspecified
Temporal Representation:	Unspecified
Environmental Conditions:	Unspecified
QAPP Information:	Unspecified
QAPP Information Reference(s):	

DECISION ID	34606	Region 2
San Francisco Bay, Central		

Pollutant:	Furan Compounds
Final Listing Decision:	List on 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision:	List on 303(d) list (TMDL required list)(2012)
Revision Status	Original
Sources:	Source Unknown
Expected TMDL Completion Date:	2019
Impairment from Pollutant or Pollution:	Pollutant

Regional Board Staff Conclusion: 303(d) listing decisions made prior to 2006 were not held in an assessment database. The Regional Boards will update this decision when new data and information become available and are assessed.

Regional Board Staff Decision Recommendation: This is a decision previously approved by the State Water Resources Control Board and the USEPA. No new data were assessed by the Regional Board for the current. The decision has not changed.

Line of Evidence (LOE) for Decision ID 34606, Furan Compounds	Region 2
San Francisco Bay, Central	

LOE ID:	3828
Pollutant:	Furan Compounds
LOE Subgroup:	Pollutant-Tissue
Matrix:	Tissue
Fraction:	Not Recorded

Beneficial Use:	Commercial or recreational collection of fish, shellfish, or organisms
Number of Samples:	0
Number of Exceedances:	0
Data and Information Type:	Not Specified
Data Used to Assess Water Quality:	Unspecified--This LOE is a placeholder to support a 303(d) listing decision made prior to 2006.
Data Reference:	Placeholder reference pre-2006 303(d)
SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	Unspecified
Objective/Criterion Reference:	Placeholder reference pre-2006 303(d)
Evaluation Guideline:	Unspecified
Guideline Reference:	Placeholder reference pre-2006 303(d)
Spatial Representation:	Unspecified
Temporal Representation:	Unspecified
Environmental Conditions:	Unspecified
QAPP Information:	Unspecified
QAPP Information Reference(s):	

DECISION ID	34590	Region 2
San Francisco Bay, Central		

Pollutant:	Invasive Species
Final Listing Decision:	List on 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision:	List on 303(d) list (TMDL required list)(2012)
Revision Status	Original
Sources:	Source Unknown
Expected TMDL Completion Date:	2019
Impairment from Pollutant or Pollution:	Pollutant

Regional Board Staff Conclusion:	303(d) listing decisions made prior to 2006 were not held in an assessment database. The Regional Boards will update this decision when new data and information become available and are assessed.
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Regional Board Staff Decision Recommendation:	This is a decision previously approved by the State Water Resources Control Board and the USEPA. No new data were assessed by the Regional Board for the current. The decision has not changed.
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Line of Evidence (LOE) for Decision ID 34590, Invasive Species	Region 2
San Francisco Bay, Central	

LOE ID:	3827
Pollutant:	Invasive Species
LOE Subgroup:	Population/Community Degradation
Matrix:	Water
Fraction:	Not Recorded
Beneficial Use:	Estuarine Habitat
Number of Samples:	0
Number of Exceedances:	0

Data and Information Type:	Not Specified
Data Used to Assess Water Quality:	Unspecified--This LOE is a placeholder to support a 303(d) listing decision made prior to 2006.
Data Reference:	Placeholder reference pre-2006 303(d)
SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	
Objective/Criterion Reference:	
Evaluation Guideline:	
Guideline Reference:	
Spatial Representation:	Unspecified
Temporal Representation:	Unspecified
Environmental Conditions:	Unspecified
QAPP Information:	Unspecified
QAPP Information Reference(s):	

DECISION ID	44456	Region 2
San Francisco Bay, Central		

Pollutant:	Trash
Final Listing Decision:	List on 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision:	List on 303(d) list (TMDL required list)(2012)
Revision Status	Original
Sources:	Source Unknown
Expected TMDL Completion Date:	2021
Impairment from Pollutant or Pollution:	Pollutant

Regional Board Staff Conclusion:	<p>This pollutant is being considered for placement on the section 303(d) list under section 3.11 of the Listing Policy. Under section 3.11, listing may be proposed based on the situation-specific weight of evidence. Two lines of evidence are available in the administrative record to assess this pollutant. Both lines of evidence rely on inspection of photographic evidence by Regional Water Board staff trained to conduct the Rapid Trash Assessment (RTA) methodology. The staff inspected these photos and applied the RTA methodology to develop Category 1 (Level of Trash) and Category 3 (Threat to Aquatic Life) scores for each photograph. Based on the readily available photographic evidence for this water body, the weight of evidence indicates that there is sufficient justification available in favor of placing this water segment-pollutant combination to the section 303(d) list in the Water Quality Limited Segments category. This conclusion is based on the staff findings that: 1. Photographic evidence has been evaluated that supports this decision. 2. Applying the Rapid Trash Assessment methodology to the photographic evidence suggests that this waterbody had level of trash parameter scores in the poor category (indicating impairment of non-contact water recreational beneficial uses) at two locations on two different dates. This waterbody also had threat to aquatic life parameter scores in the poor category (indicating threat to Wildlife Habitat beneficial uses) at eight different locations on three different dates. 3. This waterbody is considered impaired by trash because there were exceedances of the evaluation guidelines (poor condition category for the trash assessment metrics) in more than one location or on more than one date. 4. The data used satisfy the data quality requirements of section 6.1.4 of the Policy. 5. The data used satisfy the data quantity requirements of section 6.1 of the Policy.</p>
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Regional Board Staff Decision Recommendation:	<p>This is a decision previously approved by the State Water Resources Control Board and the USEPA. No new data were assessed by the Regional Board for the current. The decision has not changed.</p>
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Line of Evidence (LOE) for Decision ID 44456, Trash		Region 2
San Francisco Bay, Central		

LOE ID:	5509
Pollutant:	Trash
LOE Subgroup:	Pollutant-Nuisance
Matrix:	Not Specified
Fraction:	None
Beneficial Use:	Non-Contact Recreation
Number of Samples:	8
Number of Exceedances:	2
Data and Information Type:	Occurrence of conditions judged to cause impairment
Data Used to Assess Water Quality:	<p>Data available consist of photographic evidence of trash and interpretation of these photos by an experienced trash assessment specialist. Each photograph was analyzed to establish the RTA score for the level of trash and threat to aquatic life parameters, which relate to impairment of REC2 and WILD, respectively. Only those photos clear enough to establish these RTA scores were relied on for the listing determination. These results are available for the following dates and locations along the Bay shoreline:</p> <p>Virginia St., Eastshore State Park on 12/15/2006 Mouth of Strawberry Creek, Berkeley on 12/15/2006 Mouth Temescal Creek, 12/15/06 Powell St., Emeryville on 12/15/2006 Frontage Road Beach, north of Ashby St. on 12/15/2006 Bayfront Park in Richardson Bay on 1/24/2003 Enchanted Knolls Park on 1/24/2003 Richmond Field Station unknown date in 2007</p>
Data Reference:	<p>This waterbody had level of trash parameter scores in the poor category (indicating impairment of non-contact water recreational beneficial uses) at two locations on two different dates.</p> <p>Report from Roger James and Larry Kolb containing Trash Photos submitted for consideration in 2008 303(d) listing process Assessment by Matt Cover of Trash Photos (submitted to Region 2 in response to 2008 Data Solicitation) Archive of Trash Photos for San Francisco Bay submitted for 2008 303(d) list consideration</p>
SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	<p>The Basin Plan prohibits discharge of Rubbish, refuse, bark, sawdust, or other solid wastes into surface waters or at any place where they would contact or where they would be eventually transported to surface waters, including flood plain areas.</p> <p>The Basin Plan has a narrative objective for floating material, Waters shall not contain floating material, including solids, liquids, foams, and scum, in concentrations that cause nuisance or adversely affect beneficial uses.</p> <p>The Basin Plan has a narrative objective for settleable material, Waters shall not contain substances in concentrations that result in the deposition of material that cause nuisance or adversely affect beneficial uses.</p>
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) - San Francisco Bay Region (Region 2)
Evaluation Guideline:	<p>If the Rapid Trash Assessment (RTA) Parameter 1 (Level of Trash) is in the poor condition category (scores 0-5), REC2 is not supported. This level of trash distracts the eye on first glance, making the site unsuitable for recreation. The RTA defines poor condition for this parameter as follows, trash distracts the eye on first glance. Stream, bank surfaces, and immediate riparian zone contain substantial levels of litter and debris (>100 pieces). Evidence of site being used frequently by people: many cans, bottles, and food wrappers, blankets, clothing. Regional Water Board staff trained in the RTA inspected the available photographic evidence and applied the assessment method to determine the Level of Trash score.</p>

If the RTA Parameter 3 (Threat to Aquatic Life) is in the poor condition category (scores 0-5), then WILD is not supported. This level of trash is a large amount (>50 pieces) of transportable, persistent, buoyant litter that is detrimental to aquatic life. The RTA defines poor condition for this parameter as follows, large amount (>50 pieces) of transportable, persistent, buoyant litter such as: hard or soft plastics, balloons, Styrofoam, cigarette butts; toxic items such as batteries, lighters, or spray cans; large clumps of yard waste or dumped leaf litter; or large amount (>50 pieces) of settleable glass or metal. Regional Water Board staff trained in the RTA inspected the available photographic evidence and applied the assessment method to determine the Threat to Aquatic Life score.

Guideline Reference:

[A Rapid Trash Assessment Method Applied to Waters of the San Francisco Bay Region: Trash Measurement in Streams](#)

Spatial Representation:

Photographic evidence was analyzed using the RTA methodology for this waterbody for 8 different locations spanning dates from 2003 through 2007.

Temporal Representation:

The photographic evidence inspected spans dates between January 2003 through 2007.

Environmental Conditions:

QAPP Information:

Assessments of the photographic evidence using the RTA were performed by Regional Water Board staff person who was a co-author of the Rapid Trash Assessment methodology.

Assessments based on photographic evidence were only conducted when sufficient reach-scale and close-up photos were available for a site on a specific date. Photos used for the evaluation needed to be numerous enough and clear enough to document the level of trash at the site in a similar way as the assessor would experience during an actual site visit in the field. For example, at a minimum, one reach-scale photograph (showing at least a 100 linear foot section of the waterbody) and two close-up photographs (of representative trash deposits) were required.

QAPP Information Reference(s):

**Line of Evidence (LOE) for Decision ID 44456, Trash
San Francisco Bay, Central**

Region 2

LOE ID: 5508

Pollutant: Trash

LOE Subgroup: Pollutant-Nuisance

Matrix: Not Specified

Fraction: None

Beneficial Use: Wildlife Habitat

Number of Samples: 8

Number of Exceedances: 8

Data and Information Type: Occurrence of conditions judged to cause impairment

Data Used to Assess Water Quality: Data available consist of photographic evidence of trash and interpretation of these photos by an experienced trash assessment specialist. Each photograph was analyzed to establish the RTA score for the level of trash and threat to aquatic life parameters, which relate to impairment of REC2 and WILD, respectively. Only those photos clear enough to establish these RTA scores were relied on for the listing determination. These results are available for the following dates and locations along the Bay shoreline:
Virginia St., Eastshore State Park on 12/15/2006
Mouth of Strawberry Creek, Berkeley on 12/15/2006
Mouth Temescal Creek, 12/15/06
Powell St., Emeryville on 12/15/2006
Frontage Road Beach, north of Ashby St. on 12/15/2006
Bayfront Park in Richardson Bay on 1/24/2003
Enchanted Knolls Park on 1/24/2003
Richmond Field Station unknown date in 2007

This waterbody had threat to aquatic life parameter scores in the poor category (indicating

	threat to Wildlife Habitat beneficial uses) at eight different locations on three different dates.
Data Reference:	Report from Roger James and Larry Kolb containing Trash Photos submitted for consideration in 2008 303(d) listing process Assessment by Matt Cover of Trash Photos (submitted to Region 2 in response to 2008 Data Solicitation) Archive of Trash Photos for San Francisco Bay submitted for 2008 303(d) list consideration
SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	<p>The Basin Plan prohibits discharge of Rubbish, refuse, bark, sawdust, or other solid wastes into surface waters or at any place where they would contact or where they would be eventually transported to surface waters, including flood plain areas.</p> <p>The Basin Plan has a narrative objective for floating material, Waters shall not contain floating material, including solids, liquids, foams, and scum, in concentrations that cause nuisance or adversely affect beneficial uses.</p> <p>The Basin Plan has a narrative objective for settleable material, Waters shall not contain substances in concentrations that result in the deposition of material that cause nuisance or adversely affect beneficial uses.</p>
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) - San Francisco Bay Region (Region 2)
Evaluation Guideline:	<p>If the Rapid Trash Assessment (RTA) Parameter 1 (Level of Trash) is in the poor condition category (scores 0-5), REC2 is not supported. This level of trash distracts the eye on first glance, making the site unsuitable for recreation. The RTA defines poor condition for this parameter as follows, trash distracts the eye on first glance. Stream, bank surfaces, and immediate riparian zone contain substantial levels of litter and debris (>100 pieces). Evidence of site being used frequently by people: many cans, bottles, and food wrappers, blankets, clothing. Regional Water Board staff trained in the RTA inspected the available photographic evidence and applied the assessment method to determine the Level of Trash score.</p> <p>If the RTA Parameter 3 (Threat to Aquatic Life) is in the poor condition category (scores 0-5), then WILD is not supported. This level of trash is a large amount (>50 pieces) of transportable, persistent, buoyant litter that is detrimental to aquatic life. The RTA defines poor condition for this parameter as follows, large amount (>50 pieces) of transportable, persistent, buoyant litter such as: hard or soft plastics, balloons, Styrofoam, cigarette butts; toxic items such as batteries, lighters, or spray cans; large clumps of yard waste or dumped leaf litter; or large amount (>50 pieces) of settleable glass or metal. Regional Water Board staff trained in the RTA inspected the available photographic evidence and applied the assessment method to determine the Threat to Aquatic Life score.</p>
Guideline Reference:	A Rapid Trash Assessment Method Applied to Waters of the San Francisco Bay Region:Trash Measurement in Streams
Spatial Representation:	Photographic evidence was analyzed using the RTA methodology for this waterbody for 8 different locations spanning dates from 2003 through 2007.
Temporal Representation:	The photographic evidence inspected spans dates between January 2003 through February 2007.
Environmental Conditions:	
QAPP Information:	<p>Assessments of the photographic evidence using the RTA were performed by Regional Water Board staff person who was a co-author of the Rapid Trash Assessment methodology.</p> <p>Assessments based on photographic evidence were only conducted when sufficient reach-scale and close-up photos were available for a site on a specific date. Photos used for the evaluation needed to be numerous enough and clear enough to document the level of trash at the site in a similar way as the assessor would experience during an actual site visit in the field. For example, at a minimum, one reach-scale photograph (showing at least a 100 linear foot section of the waterbody) and two close-up photographs (of representative trash deposits) were required.</p>
QAPP Information Reference(s):	

DECISION ID	33934	Region 2
San Francisco Bay, Central		

Pollutant: PCBs (Polychlorinated biphenyls) (dioxin-like)
Final Listing Decision: List on 303(d) list (being addressed by USEPA approved TMDL)
Last Listing Cycle's Final Listing Decision: List on 303(d) list (TMDL required list)(2012)
Revision Status: Original
Sources: Source Unknown
TMDL Name: San Francisco Bay PCBs
TMDL Project Code: 7
Date TMDL Approved by USEPA: 03/29/2010
Impairment from Pollutant or Pollution: Pollutant

Regional Board Staff Conclusion: 303(d) listing decisions made prior to 2006 were not held in an assessment database. The Regional Boards will update this decision when new data and information become available and are assessed.

Regional Board Staff Decision Recommendation: This is a decision previously approved by the State Water Resources Control Board and the USEPA. No new data were assessed by the Regional Board for the current. The decision has not changed.

Line of Evidence (LOE) for Decision ID 33934, PCBs (Polychlorinated biphenyls) (dioxin-like)	Region 2
San Francisco Bay, Central	

LOE ID: 3831
Pollutant: PCBs (Polychlorinated biphenyls) (dioxin-like)
LOE Subgroup: Pollutant-Tissue
Matrix: Tissue
Fraction: Not Recorded
Beneficial Use: Commercial or recreational collection of fish, shellfish, or organisms
Number of Samples: 0
Number of Exceedances: 0
Data and Information Type: Not Specified
Data Used to Assess Water Quality: Unspecified--This LOE is a placeholder to support a 303(d) listing decision made prior to 2006.
Data Reference: [Placeholder reference pre-2006 303\(d\)](#)
SWAMP Data: Non-SWAMP
Water Quality Objective/Criterion: Unspecified
Objective/Criterion Reference: [Placeholder reference pre-2006 303\(d\)](#)
Evaluation Guideline: Unspecified
Guideline Reference: [Placeholder reference pre-2006 303\(d\)](#)
Spatial Representation: Unspecified
Temporal Representation: Unspecified
Environmental Conditions: Unspecified
QAPP Information: Unspecified
QAPP Information Reference(s):

Draft California 2016 Integrated Report (303(d) List/305(b) Report)

Supporting Information

Regional Board 2 - San Francisco Bay Region

Water Body Name: San Francisco Bay, Lower
Water Body ID: CAB2041001019980925131322
Water Body Type: Bay & Harbor

DECISION ID 32940 **Region 2**
San Francisco Bay, Lower

Pollutant: Diazinon
Final Listing Decision: Delist from 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision: Delist from 303(d) list (TMDL required list)(2012)
Revision Status Revised
Reason for Delisting: Applicable WQS attained; reason for recovery unspecified
Impairment from Pollutant or Pollution: Pollutant

Regional Board Staff Conclusion: This pollutant is being considered for placement on the CWA section 303(d) List under section 3.1 of the Listing Policy. Under section 3.1 a single line of evidence is necessary to assess listing status.

Six lines of evidence are available in the administrative record to assess this pollutant. Zero of seventy-six samples exceed the evaluation guideline.

Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against placing this water segment-pollutant combination on the CWA section 303(d) List in the Water Quality Limited Segments category.

This conclusion is based on the staff findings that:

1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy.
2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy.
3. Zero of seventy-six samples exceed the evaluation guideline and this does not exceed the allowable frequency listed in Table 3.1 of the Listing Policy.
4. Pursuant to section 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.

Regional Board Staff Decision Recommendation: After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be placed on the section 303(d) list because applicable water quality standards are not being exceeded.

Line of Evidence (LOE) for Decision ID 32940, Diazinon **Region 2**
San Francisco Bay, Lower

LOE ID: 92949
Pollutant: Diazinon
LOE Subgroup: Pollutant-Water
Matrix: Water
Fraction: Dissolved
Beneficial Use: Estuarine Habitat
Number of Samples: 61
Number of Exceedances: 0

Data and Information Type:	PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality:	State Water Board staff assessed SFEI data for San Francisco Bay, Lower to determine beneficial use support and results are as follows: 0 of 61 samples exceed the criterion for Diazinon.
Data Reference:	Regional Monitoring Program data, Feb. 1993-Sep. 2008
SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	All waters shall be maintained free of toxic substances in concentrations which are toxic to, or which produce detrimental physiological responses in, human, plant, animal, or aquatic life. (Water Quality Control Plan, Central Coast Basin, Chapter III, Section II.A.2 Objectives for all Inland Surface Waters, Enclosed Bays and Estuaries).
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	The freshwater chronic value for diazinon is 0.1 ug/L, expressed as a continuous concentration (Finlayson, 2004).
Guideline Reference:	Water quality for diazinon. Memorandum to J. Karkoski, Central Valley RWQCB. Rancho Cordova, CA: Pesticide Investigation Unit, CA Department of Fish and Game
Spatial Representation:	Data for this line of evidence for San Francisco Bay, Lower was collected at 11 monitoring sites [Dumbarton Bridge - BA30, Redwood Creek - BA40, Alameda - BB70, South Bay - SB014W, Central Bay - CB014W, South Bay - SB013W, South Bay - SB015W, South Bay - SB006W, Central Bay - CB016W, Central Bay - CB002W, Central Bay - CB004W]
Temporal Representation:	Data was collected over the time period 1/31/1994-8/18/2005.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	The 1999 Quality Assurance Project Plan Regional Monitoring Program for Trace Substances was used.
QAPP Information Reference(s):	1999 Quality Assurance Project Plan Regional Monitoring Program for Trace Substances

Line of Evidence (LOE) for Decision ID 32940, Diazinon

Region 2

San Francisco Bay, Lower

LOE ID:	18
Pollutant:	Diazinon
LOE Subgroup:	Toxicity
Matrix:	Not Specified
Fraction:	None
Beneficial Use:	Estuarine Habitat
Number of Samples:	0
Number of Exceedances:	0

Data and Information Type:	TOXICITY TESTING
Data Used to Assess Water Quality:	<p>Ambient water toxicity in San Francisco Bay appears to have disappeared. The results of ambient water toxicity monitoring at Mallard Island indicate a significant reduction in the frequency, duration, and magnitude of toxicity: 4-5% of the ambient water samples were toxic in 1998-99 (34 total samples) and 1999-2000 (23 samples), relative to 14% toxicity frequency observed in 1997-98 (27 samples); none of the 28 samples collected during the 2000-2001 season were significantly toxic.</p> <p>In addition, the 1998-2000 and 2000-2001 monitoring at Mallard Island did not document any sets of consecutively toxic samples indicative of an extended period of ambient water toxicity, such as those which were observed in February and May of 1998. The magnitude of toxicity (as reflected by the degree [or percentage] of test organism mortality) is also markedly reduced in the later years, indicating a reduction in the degree of ambient water toxicity. Subsequent RMP monitoring of ambient water toxicity in water samples collected from 10/2001 through 4/2003 also indicated an absence of toxicity to the test organisms (Ogle, 2004).</p>

Data Reference:	Placeholder reference 2006 303(d)
SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	Basin Plan: There shall be no acute toxicity in ambient waters. There shall be no chronic toxicity in ambient waters.
Objective/Criterion Reference:	Placeholder reference 2006 303(d)
Evaluation Guideline:	
Guideline Reference:	
Spatial Representation:	
Temporal Representation:	
Environmental Conditions:	
QAPP Information:	QA Info Missing
QAPP Information Reference(s):	

Line of Evidence (LOE) for Decision ID 32940, Diazinon
San Francisco Bay, Lower

Region 2

LOE ID:	17
Pollutant:	Diazinon
LOE Subgroup:	Narrative Description Data
Matrix:	-N/A
Fraction:	None
Beneficial Use:	Estuarine Habitat
Number of Samples:	0
Number of Exceedances:	0
Data and Information Type:	Not Specified
Data Used to Assess Water Quality:	In response to the RMP observations of ambient water toxicity, and given the linkage established between similar toxicity and pesticides in upstream ambient water, the SFBRWQCB identified all San Francisco Bay segments as being impaired due to 'Pesticides' in 1998: 'Pesticides have been added as a cause of impairment to all Bay segments. The pesticide diazinon has been measured at levels that cause water column toxicity. The pesticide chlorpyrifos may also be a problem. This listing is consistent with listing of the Delta for these pesticides by the Central Valley Regional Water Quality Control Board.' This listing was subsequently made specific for the OP pesticide diazinon by the USEPA.
Data Reference:	Placeholder reference 2006 303(d)
SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	
Objective/Criterion Reference:	
Evaluation Guideline:	
Guideline Reference:	
Spatial Representation:	
Temporal Representation:	
Environmental Conditions:	
QAPP Information:	QA Info Missing
QAPP Information Reference(s):	

Line of Evidence (LOE) for Decision ID 32940, Diazinon
San Francisco Bay, Lower

Region 2

LOE ID:	20
Pollutant:	Diazinon
LOE Subgroup:	Pollutant-Water
Matrix:	Water
Fraction:	None
Beneficial Use:	Estuarine Habitat
Number of Samples:	0
Number of Exceedances:	0
Data and Information Type:	PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality:	Seventeen samples, pollutant range: 52-9,537 pg/L, average: 2,600.1 (SFEI, 2001).
Data Reference:	Placeholder reference 2006 303(d)
SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	All waters shall be maintained free of toxic substances in concentrations that are lethal to or that produce other detrimental responses in aquatic organisms. Detrimental responses include, but are not limited to, decreased growth rate and decreased reproductive success of resident or indicator species. There shall be no acute toxicity in ambient waters. There shall be no chronic toxicity in ambient waters.
Objective/Criterion Reference:	Placeholder reference 2006 303(d)
Evaluation Guideline:	For salt water, USEPA has developed draft water quality criteria of 820 ng/L (acute) and 400 ng/L (chronic). The use of these values may not comply all the requirements of section 6.1.3 of the Listing Policy.
Guideline Reference:	Placeholder reference 2006 303(d)
Spatial Representation:	One sample site.
Temporal Representation:	Date Range: 2/3/94-8/3/01.
Environmental Conditions:	
QAPP Information:	SFEI RMP QA/QC program.
QAPP Information Reference(s):	

Line of Evidence (LOE) for Decision ID 32940, Diazinon
San Francisco Bay, Lower

Region 2

LOE ID:	95159
Pollutant:	Diazinon
LOE Subgroup:	Pollutant-Tissue
Matrix:	Tissue
Fraction:	Fish fillet
Beneficial Use:	Commercial or recreational collection of fish, shellfish, or organisms
Number of Samples:	22
Number of Exceedances:	0
Data and Information Type:	Fish tissue analysis
Data Used to Assess Water Quality:	Water Board staff assessed Regional Monitoring Program data for Lower San Francisco Bay to determine beneficial use support and results are as follows: 0 of 22 samples exceed the criterion for diazinon. No samples were discarded for being non-detect, unquantifiable or the reporting limit exceeding the water quality objective.
Data Reference:	Regional Monitoring Program data, Feb. 1993-Sep. 2008
SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	Water Quality Control Plan for the San Francisco Bay Basin: Controllable water quality

Objective/Criterion Reference:	factors shall not cause a detrimental increase in concentrations of toxic substances found in bottom sediments or aquatic life. Effects on aquatic organisms, wildlife, and human health will be considered. Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	The modified OEHHA Fish Contaminant Goal for diazinon in fish tissue is 1,500 ppb. This screening level assumes an average body weight of 70 kg and a consumption rate of 32 g/day. A cooking reduction factor of 1 is applied for skin-off fillets. (Klasing, S., and R. Brodberg, 2008; USEPA, 2000)
Guideline Reference:	Development of Fish Contaminant Goals and Advisory Tissue Levels for Common Contaminants in California Sport Fish: Chlordane, DDTs, Dieldrin, Methylmercury, PCBs, Selenium, and Toxaphene Guidance for Assessing Chemical Contaminant Data for Use In Fish Advisories Volume 1: Fish Sampling and Analysis
Spatial Representation:	The samples were collected at three sites in Lower San Francisco Bay.
Temporal Representation:	The samples were collected in June 2000, July 2003 and June 2006, July 2006, and August 2006.
Environmental Conditions:	
QAPP Information:	The 1999 Quality Assurance Project Plan Regional Monitoring Program for Trace Substances was used.
QAPP Information Reference(s):	1999 Quality Assurance Project Plan Regional Monitoring Program for Trace Substances

Line of Evidence (LOE) for Decision ID 32940, Diazinon

Region 2

San Francisco Bay, Lower

LOE ID:	19
Pollutant:	Diazinon
LOE Subgroup:	Pollutant-Water
Matrix:	Water
Fraction:	Dissolved
Beneficial Use:	Estuarine Habitat
Number of Samples:	15
Number of Exceedances:	0
Data and Information Type:	Not Specified
Data Used to Assess Water Quality:	None of the 15 samples exceeded, pollutant range: 620-9,500 pg/L, average: 2,801.1 (SFEI, 2001).
Data Reference:	Placeholder reference 2006 303(d)
SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	All waters shall be maintained free of toxic substances in concentrations that are lethal to or that produce other detrimental responses in aquatic organisms. Detrimental responses include, but are not limited to, decreased growth rate and decreased reproductive success of resident or indicator species. There shall be no acute toxicity in ambient waters. There shall be no chronic toxicity in ambient waters.
Objective/Criterion Reference:	Placeholder reference 2006 303(d)
Evaluation Guideline:	For salt water, USEPA has developed draft water quality criteria of 820 ng/L (acute) and 400 ng/L (chronic). The use of these values may not comply all the requirements of section 6.1.3 of the Listing Policy.
Guideline Reference:	Placeholder reference 2006 303(d)
Spatial Representation:	One sample site.
Temporal Representation:	Date Range: 2/3/94-8/3/01.
Environmental Conditions:	
QAPP Information:	SFEI RMP QA/QC program.
QAPP Information Reference(s):	

DECISION ID	34622	Region 2
San Francisco Bay, Lower		

Pollutant:	Nickel
Final Listing Decision:	Delist from 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision:	Delist from 303(d) list (TMDL required list)(2012)
Revision Status	Revised
Reason for Delisting:	Applicable WQS attained; reason for recovery unspecified
Impairment from Pollutant or Pollution:	Pollutant

Regional Board Staff Conclusion: This pollutant is being considered for removal from the CWA section 303(d) List under section 4.1 of the Listing Policy. Under this section a single line of evidence is necessary to assess listing status.

Three lines of evidence are available in the administrative record to assess this pollutant. Zero of two hundred fourteen samples exceeded the objective.

Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification for removing this water segment-pollutant combination from the CWA section 303(d) List.

This conclusion is based on the staff findings that:

1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy.
2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy.
3. Zero of two hundred fourteen samples exceeded the objective and this does not exceed the allowable frequency listed in Table 4.1 of the Listing Policy.
4. Pursuant to section 4.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.

Regional Board Staff Decision Recommendation: After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should be removed from the section 303(d) list because applicable water quality standards for the pollutant are not being exceeded.

Line of Evidence (LOE) for Decision ID 34622, Nickel	Region 2
San Francisco Bay, Lower	

LOE ID:	92858
Pollutant:	Nickel
LOE Subgroup:	Pollutant-Water
Matrix:	Water
Fraction:	Total
Beneficial Use:	Commercial or recreational collection of fish, shellfish, or organisms
Number of Samples:	142
Number of Exceedances:	0
Data and Information Type:	PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality:	State Water Board staff assessed SFEI data for San Francisco Bay, Lower to determine beneficial use support and results are as follows: 0 of 142 samples exceed the criterion for Nickel.
Data Reference:	Regional Monitoring Program data, Feb. 1993-Sep. 2008
SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	The Nickel criteria for the protection of human health from consumption of organisms only

Objective/Criterion Reference: is 4.6 mg/L (California Toxics Rule, 2000).
[Code of Federal Regulations 40 part 131.38 Establishment of numeric criteria for priority toxic pollutants for the State of California. 7/1/2011 Edition](#)

Evaluation Guideline:
Guideline Reference:

Spatial Representation: Data for this line of evidence for San Francisco Bay, Lower was collected at 22 monitoring sites [Dumbarton Bridge - BA30, Redwood Creek - BA40, San Bruno Shoal - BB15, Oyster Point - BB30, Alameda - BB70, Central Bay - CB002W, Central Bay - CB004W, Central Bay - CB010W, Central Bay - CB012W, Central Bay - CB014W, Central Bay - CB016W, Central Bay - CB018W, Central Bay - CB020W, Central Bay - CB024W, Central Bay - CB026W, South Bay - SB006W, South Bay - SB013W, South Bay - SB014W, South Bay - SB015W, South Bay - SB020W, South Bay - SB021W, South Bay - SB026W]

Temporal Representation: Data was collected over the time period 3/2/1993-7/18/2008.
Environmental Conditions: Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information: The 1999 Quality Assurance Project Plan Regional Monitoring Program for Trace Substances was used.

QAPP Information Reference(s): [1999 Quality Assurance Project Plan Regional Monitoring Program for Trace Substances](#)

Line of Evidence (LOE) for Decision ID 34622, Nickel

Region 2

San Francisco Bay, Lower

LOE ID: 92857

Pollutant: Nickel
LOE Subgroup: Pollutant-Water
Matrix: Water
Fraction: Dissolved

Beneficial Use: Estuarine Habitat

Number of Samples: 144
Number of Exceedances: 0

Data and Information Type: PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality: State Water Board staff assessed SFEI data for San Francisco Bay, Lower to determine beneficial use support and results are as follows: 0 of 144 samples exceed the criterion for Nickel.

Data Reference: [Regional Monitoring Program data, Feb. 1993-Sep. 2008](#)

SWAMP Data: Non-SWAMP

Water Quality Objective/Criterion: The dissolved nickel criterion continuous concentration (expressed as a 4-day average) to protect aquatic life in saline water is 0.0082 mg/L (California Toxics Rule, 2000).

Objective/Criterion Reference: [Water Quality Control Plan \(Basin Plan\) San Francisco Bay Basin \(Region 2\)](#)

Evaluation Guideline:
Guideline Reference:

Spatial Representation: Data for this line of evidence for San Francisco Bay, Lower was collected at 23 monitoring sites [San Bruno Shoal - BB15, Dumbarton Bridge - BA30, Redwood Creek - BA40, Oyster Point - BB30, Alameda - BB70, Central Bay - CB018W, South Bay - SB014W, Central Bay - CB014W, South Bay - SB013W, South Bay - SB015W, South Bay - SB006W, South Bay - SB020W, Central Bay - CB016W, South Bay - SB026W, Central Bay - CB022W, Central Bay - CB020W, South Bay - SB021W, Central Bay - CB010W, Central Bay - CB002W, Central Bay - CB012W, Central Bay - CB004W, Central Bay - CB026W, Central Bay - CB024W]

Temporal Representation: Data was collected over the time period 3/2/1993-7/18/2008.
Environmental Conditions: Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information: The 1999 Quality Assurance Project Plan Regional Monitoring Program for Trace

QAPP Information Reference(s): Substances was used.
[1999 Quality Assurance Project Plan Regional Monitoring Program for Trace Substances](#)

**Line of Evidence (LOE) for Decision ID 34622, Nickel
San Francisco Bay, Lower**

Region 2

LOE ID: 21

Pollutant: Nickel
LOE Subgroup: Pollutant-Water
Matrix: Water
Fraction: Dissolved

Beneficial Use: Estuarine Habitat

Number of Samples: 70
Number of Exceedances: 0

Data and Information Type: PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality: Taken from the San Francisco Bay Estuary Institute (SFEI) - Regional Monitoring Program (RMP). None of the 70 samples exceeded the site-specific water quality objective
Data Reference: [Placeholder reference 2006 303\(d\)](#)

SWAMP Data: Non-SWAMP

Water Quality Objective/Criterion: The Regional Water Board Basin Plan contains water quality objectives for nickel in San Francisco Bay - Lower of 8.2ug/l, 4-day average and, 74ug/l 1-hour average. These objectives were approved by USEPA in January 2005 and are contained in the Regional Board Basin Plan in Table 3-3.
Objective/Criterion Reference: [Placeholder reference 2006 303\(d\)](#)

Evaluation Guideline:
Guideline Reference:

Spatial Representation: 21 sampling locations
Temporal Representation: Samples were taken from 1993 to 2003 with three samples taken each year, on average. A total of 70 samples were taken during the aforementioned time period.

Environmental Conditions:
QAPP Information: SFEI RMP OA/QC program
QAPP Information Reference(s):

**DECISION ID 33517
San Francisco Bay, Lower**

Region 2

Pollutant: Chlordane
Final Listing Decision: Do Not Delist from 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision: List on 303(d) list (TMDL required list)(2012)
Revision Status Revised
Sources: Source Unknown
Expected TMDL Completion Date: 2013
Impairment from Pollutant or Pollution: Pollutant

Regional Board Staff Conclusion: This pollutant is being considered for removal from the CWA section 303(d) List under section 4.1 of the Listing Policy. Under this section a single line of evidence is necessary to assess listing status.

Six lines of evidence are available in the administrative record to assess pollutant. Fifty-four of sixty-nine samples exceed the guideline.

Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against removing this water segment-pollutant combination from the CWA section 303(d) List.

This conclusion is based on the staff findings that:

1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy.
2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy.
3. Fifty-four of sixty-nine samples exceed the guideline and this exceeds the allowable frequency listed in Table 4.1 of the Listing Policy.
4. Pursuant to section 4.11 of the Listing Policy, no additional data and information are available indicating that standards are met.

Regional Board Staff Decision Recommendation: After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be removed from the section 303(d) list because applicable water quality standards for the pollutant are being exceeded.

Line of Evidence (LOE) for Decision ID 33517, Chlordane

Region 2

San Francisco Bay, Lower

LOE ID:	3833
Pollutant:	Chlordane
LOE Subgroup:	Pollutant-Tissue
Matrix:	Tissue
Fraction:	Not Recorded
Beneficial Use:	Commercial or recreational collection of fish, shellfish, or organisms
Number of Samples:	0
Number of Exceedances:	0
Data and Information Type:	Not Specified
Data Used to Assess Water Quality:	Unspecified--This LOE is a placeholder to support a 303(d) listing decision made prior to 2006.
Data Reference:	Placeholder reference pre-2006 303(d)
SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	Unspecified
Objective/Criterion Reference:	Placeholder reference pre-2006 303(d)
Evaluation Guideline:	Unspecified
Guideline Reference:	Placeholder reference pre-2006 303(d)
Spatial Representation:	Unspecified
Temporal Representation:	Unspecified
Environmental Conditions:	Unspecified
QAPP Information:	Unspecified
QAPP Information Reference(s):	

Line of Evidence (LOE) for Decision ID 33517, Chlordane

Region 2

San Francisco Bay, Lower

LOE ID:	92919
Pollutant:	Chlordane
LOE Subgroup:	Pollutant-Tissue
Matrix:	Tissue
Fraction:	Shellfish

Beneficial Use:	Shellfish Harvesting
Number of Samples:	1
Number of Exceedances:	0
Data and Information Type:	Shellfish surveys
Data Used to Assess Water Quality:	The result did not exceed the guideline. Data were reported on a dry weight basis and were converted to a wet weight basis by multiplying the dry-weight concentration by a factor of 1 minus the percentage of moisture content expressed as a decimal. Chlordane result was calculated by summing the results for chlordane isomers: cis- and trans-nonachlor, alpha- and gamma-chlordane, and oxychlordane.
Data Reference:	State Mussel Watch Program Data 1977-2000; Winter 2007-Winter 2009. State Water Resources Control Board
SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	Many pollutants can accumulate on particles, in sediment, or bioaccumulate in fish and other aquatic organisms. Controllable water quality factors shall not cause a detrimental increase in concentrations of toxic substances found in bottom sediments or aquatic life. Effects on aquatic organisms, wildlife, and human health will be considered.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	The modified OEHHA Fish Contaminant Goal for total chlordane in shellfish tissue is 6.0 ppb. This screening level assumes an average body weight of 70 kg and a consumption rate of 21 g/day for a 30 year exposure over a 70-year lifetime. This constituent is a carcinogen therefore the risk level is set to one in a million. (Brodberg, R.K., and G.A. Pollock, 1999; Klasing, S., and R. Brodberg, 2008)
Guideline Reference:	Prevalence of Selected Target Chemical Contaminants in Sport Fish From Two California Lakes: Public health designed screening study. Sacramento, CA: Office of Environmental Health Hazard Assessment Development of Fish Contaminant Goals and Advisory Tissue Levels for Common Contaminants in California Sport Fish: Chlordane, DDTs, Dieldrin, Methylmercury, PCBs, Selenium, and Toxaphene
Spatial Representation:	Samples are collected by hand from three sub-locations for each site. The composite sample was collected from site San Francisco Bay San Mateo Bridge (SFSM).
Temporal Representation:	Representative samples of locally abundant species were collected during the winter on 2/3/2009
Environmental Conditions:	
QAPP Information:	Samples were collected as part of the State Water Board's Mussel Watch Program which is a part of the National Oceanic Administration's (NOAAs) National Status and Trends (NS&T). Mussels are shipped to NOAAs contract labs for analysis of trace constituents and mussel condition. Analytical protocols follow those approved by NOAAs NS&T Program Additional background information can be found at: http://ccma.nos.noaa.gov/stressors/pollution/nsandt/
QAPP Information Reference(s):	

Line of Evidence (LOE) for Decision ID 33517, Chlordane
San Francisco Bay, Lower

Region 2

LOE ID:	93634
Pollutant:	Chlordane
LOE Subgroup:	Pollutant-Tissue
Matrix:	Tissue
Fraction:	Shellfish
Beneficial Use:	Shellfish Harvesting
Number of Samples:	55
Number of Exceedances:	2

Data and Information Type:	Shellfish surveys
Data Used to Assess Water Quality:	Two of the 55 samples exceeded the guideline. All composite samples were comprised of <i>Mytilus californianus</i> except for 1 composite that was comprised of <i>Crassostrea gigas</i> . Data were reported on a dry weight basis and were converted to a wet weight basis by multiplying the dry-weight concentration by a factor of 1 minus the percentage of moisture content expressed as a decimal. Laboratory replicates were averaged. Laboratory replicates were averaged. Total chlordane was calculated as the sum of the following chlordane isomers: cis- and trans-chlordane, cis- and trans-nonachlor, and oxychlordane.
Data Reference:	Regional Monitoring Program data, Feb. 1993-Sep. 2008
SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	Water Quality Control Plan for the San Francisco Bay Basin: Controllable water quality factors shall not cause a detrimental increase in concentrations of toxic substances found in bottom sediments or aquatic life. Effects on aquatic organisms, wildlife, and human health will be considered.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	The modified OEHHA Fish Contaminant Goal for total chlordane in shellfish tissue is 6.0 ppb. This screening level assumes an average body weight of 70 kg and a consumption rate of 21 g/day for a 30 year exposure over a 70-year lifetime. This constituent is a carcinogen therefore the risk level is set to one in a million. (Brodberg, R.K., and G.A. Pollock, 1999; Klasing, S., and R. Brodberg, 2008)
Guideline Reference:	Prevalence of Selected Target Chemical Contaminants in Sport Fish From Two California Lakes: Public health designed screening study. Sacramento, CA: Office of Environmental Health Hazard Assessment Development of Fish Contaminant Goals and Advisory Tissue Levels for Common Contaminants in California Sport Fish: Chlordane, DDTs, Dieldrin, Methylmercury, PCBs, Selenium, and Toxaphene
Spatial Representation:	Samples were collected at the following stations: BA30 - Dumbarton Bridge, BA40 - Redwood Creek and BB71 - Alameda.
Temporal Representation:	Samples were generally collected in spring and fall seasons from years 1993 - 1999 and then during most fall seasons during years 2000 - 2008.
Environmental Conditions:	
QAPP Information:	1999 Quality Assurance Project Plan Regional Monitoring Program for Trace Substances.
QAPP Information Reference(s):	1999 Quality Assurance Project Plan Regional Monitoring Program for Trace Substances

Line of Evidence (LOE) for Decision ID 33517, Chlordane
San Francisco Bay, Lower

Region 2

LOE ID:	92928
Pollutant:	Chlordane
LOE Subgroup:	Pollutant-Water
Matrix:	Water
Fraction:	Total
Beneficial Use:	Commercial or recreational collection of fish, shellfish, or organisms
Number of Samples:	83
Number of Exceedances:	1
Data and Information Type:	PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality:	State Water Board staff assessed SFEI data for San Francisco Bay, Lower to determine beneficial use support and results are as follows: 1 of 83 samples exceed the criterion for Chlordane, Total.
Data Reference:	Regional Monitoring Program data, Feb. 1993-Sep. 2008
SWAMP Data:	Non-SWAMP

Water Quality Objective/Criterion:	The Chlordane, Total criteria for the protection of human health from consumption of organisms only is 0.00059 ug/L (California Toxics Rule, 2000).
Objective/Criterion Reference:	Code of Federal Regulations 40 part 131.38 Establishment of numeric criteria for priority toxic pollutants for the State of California. 7/1/2011 Edition
Evaluation Guideline:	
Guideline Reference:	
Spatial Representation:	Data for this line of evidence for San Francisco Bay, Lower was collected at 18 monitoring sites [Dumbarton Bridge - BA30, Redwood Creek - BA40, Alameda - BB70, Central Bay - CB002W, Central Bay - CB004W, Central Bay - CB010W, Central Bay - CB012W, Central Bay - CB014W, Central Bay - CB016W, Central Bay - CB018W, Central Bay - CB020W, Central Bay - CB022W, South Bay - SB006W, South Bay - SB013W, South Bay - SB015W, South Bay - SB020W, South Bay - SB021W, South Bay - SB026W]
Temporal Representation:	Data was collected over the time period 3/2/1993-8/16/2007.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	The 1999 Quality Assurance Project Plan Regional Monitoring Program for Trace Substances was used.
QAPP Information Reference(s):	1999 Quality Assurance Project Plan Regional Monitoring Program for Trace Substances

Line of Evidence (LOE) for Decision ID 33517, Chlordane

Region 2

San Francisco Bay, Lower

LOE ID:	95206
Pollutant:	Chlordane
LOE Subgroup:	Pollutant-Tissue
Matrix:	Tissue
Fraction:	Fish fillet
Beneficial Use:	Commercial or recreational collection of fish, shellfish, or organisms
Number of Samples:	69
Number of Exceedances:	54
Data and Information Type:	Fish tissue analysis
Data Used to Assess Water Quality:	Water Board staff assessed Regional Monitoring Program data for Lower San Francisco Bay to determine beneficial use support and results are as follows: 54 of 69 samples exceed the criterion for chlordane. No samples were discarded for being non-detect, unquantifiable or the reporting limit exceeding the water quality objective.
Data Reference:	Regional Monitoring Program data, Feb. 1993-Sep. 2008
SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	Water Quality Control Plan for the San Francisco Bay Basin: Controllable water quality factors shall not cause a detrimental increase in concentrations of toxic substances found in bottom sediments or aquatic life. Effects on aquatic organisms, wildlife, and human health will be considered.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	The modified OEHHA Fish Contaminant Goal for total chlordane in fish tissue is 3.9 ppb. This screening level assumes an average body weight of 70 kg and a consumption rate of 32 g/day for a 30 year exposure over a 70-year lifetime. This constituent is a carcinogen therefore the risk level is set to one in a million. A cooking reduction factor of 1 is applied for skin-off fillets. (Klasing, S., and R. Brodberg, 2008)
Guideline Reference:	Development of Fish Contaminant Goals and Advisory Tissue Levels for Common Contaminants in California Sport Fish: Chlordane, DDTs, Dieldrin, Methylmercury, PCBs, Selenium, and Toxaphene
Spatial Representation:	The samples were collected at fourteen sites throughout Lower San Francisco Bay.
Temporal Representation:	The samples were collected every three years from May 1994 through August 2006.
Environmental Conditions:	

QAPP Information: The 1999 Quality Assurance Project Plan Regional Monitoring Program for Trace Substances was used.

QAPP Information Reference(s): [1999 Quality Assurance Project Plan Regional Monitoring Program for Trace Substances](#)

Line of Evidence (LOE) for Decision ID 33517, Chlordane
San Francisco Bay, Lower

Region 2

LOE ID: 92927

Pollutant: Chlordane
LOE Subgroup: Pollutant-Water
Matrix: Water
Fraction: Dissolved

Beneficial Use: Estuarine Habitat

Number of Samples: 80
Number of Exceedances: 0

Data and Information Type: PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality: State Water Board staff assessed SFEI data for San Francisco Bay, Lower to determine beneficial use support and results are as follows: 0 of 80 samples exceed the criterion for Chlordane, Total.

Data Reference: [Regional Monitoring Program data, Feb. 1993-Sep. 2008](#)

SWAMP Data: Non-SWAMP

Water Quality Objective/Criterion: The chlordane criterion continuous concentration (expressed as a 4-day average) to protect aquatic life in saline water is 0.004 ug/L (California Toxics Rule, 2000).

Objective/Criterion Reference: [Code of Federal Regulations 40 part 131.38 Establishment of numeric criteria for priority toxic pollutants for the State of California. 7/1/2011 Edition](#)

Evaluation Guideline:
Guideline Reference:

Spatial Representation: Data for this line of evidence for San Francisco Bay, Lower was collected at 16 monitoring sites [Dumbarton Bridge - BA30, Redwood Creek - BA40, Alameda - BB70, South Bay - SB014W, Central Bay - CB014W, South Bay - SB013W, South Bay - SB015W, South Bay - SB006W, South Bay - SB020W, Central Bay - CB016W, South Bay - SB026W, South Bay - SB021W, Central Bay - CB010W, Central Bay - CB002W, Central Bay - CB012W, Central Bay - CB004W]

Temporal Representation: Data was collected over the time period 3/2/1993-8/16/2007.

Environmental Conditions: Staff is not aware of any special conditions that might affect interpretation of the data.

QAPP Information: The 1999 Quality Assurance Project Plan Regional Monitoring Program for Trace Substances was used.

QAPP Information Reference(s): [1999 Quality Assurance Project Plan Regional Monitoring Program for Trace Substances](#)

DECISION ID 33518

Region 2

San Francisco Bay, Lower

Pollutant: DDT (Dichlorodiphenyltrichloroethane)
Final Listing Decision: Do Not Delist from 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision: List on 303(d) list (TMDL required list)(2012)
Revision Status Revised
Sources: Source Unknown
Expected TMDL Completion Date: 2013
Impairment from Pollutant or Pollution: Pollutant

**Regional Board Staff
Conclusion:**

This pollutant is being considered for removal from the CWA section 303(d) List under section 4.5 of the Listing Policy. Under this section a single line of evidence is necessary to assess listing status. Six lines of evidence are available in the administrative record to assess pollutant. Fifty-six of sixty-nine samples exceed the guideline.

Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against removing this water segment-pollutant combination from the CWA section 303(d) List.

This conclusion is based on the staff findings that:

1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy.
2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy.
3. Fifty-six of sixty-nine samples exceed the guideline and this exceeds the allowable frequency listed in Table 4.1 of the Listing Policy.
4. Pursuant to section 4.11 of the Listing Policy, no additional data and information are available indicating that standards are met.

**Regional Board Staff Decision
Recommendation:**

After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be removed from the section 303(d) list because applicable water quality standards for the pollutant are being exceeded.

Line of Evidence (LOE) for Decision ID 33518, DDT (Dichlorodiphenyltrichloroethane)

Region 2

San Francisco Bay, Lower

LOE ID:	3834
Pollutant:	DDT (Dichlorodiphenyltrichloroethane)
LOE Subgroup:	Pollutant-Tissue
Matrix:	Tissue
Fraction:	Not Recorded
Beneficial Use:	Commercial or recreational collection of fish, shellfish, or organisms
Number of Samples:	0
Number of Exceedances:	0
Data and Information Type:	Not Specified
Data Used to Assess Water Quality:	Unspecified--This LOE is a placeholder to support a 303(d) listing decision made prior to 2006.
Data Reference:	Placeholder reference pre-2006 303(d)
SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	Unspecified
Objective/Criterion Reference:	Placeholder reference pre-2006 303(d)
Evaluation Guideline:	Unspecified
Guideline Reference:	Placeholder reference pre-2006 303(d)
Spatial Representation:	Unspecified
Temporal Representation:	Unspecified
Environmental Conditions:	Unspecified
QAPP Information:	Unspecified
QAPP Information Reference(s):	

Line of Evidence (LOE) for Decision ID 33518, DDT (Dichlorodiphenyltrichloroethane)

Region 2

San Francisco Bay, Lower

LOE ID: 92879

Pollutant:	Total DDT (sum of 4,4'- and 2,4'- isomers of DDT, DDE, and DDD)
LOE Subgroup:	Pollutant-Water
Matrix:	Water
Fraction:	Total
Beneficial Use:	Commercial or recreational collection of fish, shellfish, or organisms
Number of Samples:	83
Number of Exceedances:	6
Data and Information Type:	PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality:	State Water Board staff assessed SFEI data for San Francisco Bay, Lower to determine beneficial use support and results are as follows: 6 of 83 samples exceed the criterion for DDT, Total.
Data Reference:	Regional Monitoring Program data, Feb. 1993-Sep. 2008
SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	The DDT, Total criteria for the protection of human health from consumption of organisms only is 0.00059 ug/L (California Toxics Rule, 2000).
Objective/Criterion Reference:	Code of Federal Regulations 40 part 131.38 Establishment of numeric criteria for priority toxic pollutants for the State of California. 7/1/2011 Edition
Evaluation Guideline:	
Guideline Reference:	
Spatial Representation:	Data for this line of evidence for San Francisco Bay, Lower was collected at 18 monitoring sites [Dumbarton Bridge - BA30, Redwood Creek - BA40, Alameda - BB70, Central Bay - CB002W, Central Bay - CB004W, Central Bay - CB010W, Central Bay - CB012W, Central Bay - CB014W, Central Bay - CB016W, Central Bay - CB018W, Central Bay - CB020W, Central Bay - CB022W, South Bay - SB006W, South Bay - SB013W, South Bay - SB015W, South Bay - SB020W, South Bay - SB021W, South Bay - SB026W]
Temporal Representation:	Data was collected over the time period 3/2/1993-8/16/2007.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	The 1999 Quality Assurance Project Plan Regional Monitoring Program for Trace Substances was used.
QAPP Information Reference(s):	1999 Quality Assurance Project Plan Regional Monitoring Program for Trace Substances

Line of Evidence (LOE) for Decision ID 33518, DDT (Dichlorodiphenyltrichloroethane)

Region 2

San Francisco Bay, Lower

LOE ID:	92878
Pollutant:	Total DDT (sum of 4,4'- and 2,4'- isomers of DDT, DDE, and DDD)
LOE Subgroup:	Pollutant-Water
Matrix:	Water
Fraction:	Dissolved
Beneficial Use:	Estuarine Habitat
Number of Samples:	81
Number of Exceedances:	0
Data and Information Type:	PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality:	State Water Board staff assessed SFEI data for San Francisco Bay, Lower to determine beneficial use support and results are as follows: 0 of 81 samples exceed the criterion for DDT, Total.
Data Reference:	Regional Monitoring Program data, Feb. 1993-Sep. 2008
SWAMP Data:	Non-SWAMP

Water Quality Objective/Criterion:	The DDT criterion continuous concentration (expressed as a 4-day average) to protect aquatic life in saline water is 0.001 ug/L (California Toxics Rule, 2000).
Objective/Criterion Reference:	Code of Federal Regulations 40 part 131.38 Establishment of numeric criteria for priority toxic pollutants for the State of California. 7/1/2011 Edition
Evaluation Guideline:	
Guideline Reference:	
Spatial Representation:	Data for this line of evidence for San Francisco Bay, Lower was collected at 16 monitoring sites [Dumbarton Bridge - BA30, Redwood Creek - BA40, Alameda - BB70, South Bay - SB014W, Central Bay - CB014W, South Bay - SB013W, South Bay - SB015W, South Bay - SB006W, South Bay - SB020W, Central Bay - CB016W, South Bay - SB026W, South Bay - SB021W, Central Bay - CB010W, Central Bay - CB002W, Central Bay - CB012W, Central Bay - CB004W]
Temporal Representation:	Data was collected over the time period 3/2/1993-8/16/2007.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	The 1999 Quality Assurance Project Plan Regional Monitoring Program for Trace Substances was used.
QAPP Information Reference(s):	1999 Quality Assurance Project Plan Regional Monitoring Program for Trace Substances

Line of Evidence (LOE) for Decision ID 33518, DDT (Dichlorodiphenyltrichloroethane)

Region 2

San Francisco Bay, Lower

LOE ID:	95195
Pollutant:	DDT (Dichlorodiphenyltrichloroethane)
LOE Subgroup:	Pollutant-Tissue
Matrix:	Tissue
Fraction:	Fish fillet
Beneficial Use:	Commercial or recreational collection of fish, shellfish, or organisms
Number of Samples:	69
Number of Exceedances:	56
Data and Information Type:	Fish tissue analysis
Data Used to Assess Water Quality:	Water Board staff assessed Regional Monitoring Program data for Lower San Francisco Bay to determine beneficial use support and results are as follows: 56 of 69 samples exceed the criterion for DDT. No samples were discarded for being non-detect, unquantifiable or the reporting limit exceeding the water quality objective.
Data Reference:	Regional Monitoring Program data, Feb. 1993-Sep. 2008
SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	Water Quality Control Plan for the San Francisco Bay Basin: Controllable water quality factors shall not cause a detrimental increase in concentrations of toxic substances found in bottom sediments or aquatic life. Effects on aquatic organisms, wildlife, and human health will be considered.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	The modified OEHHA Fish Contaminant Goal for total DDT in fish tissue is 15 ppb. This screening level assumes an average body weight of 70 kg and a consumption rate of 32 g/day for a 30 year exposure over a 70-year lifetime. This constituent is a carcinogen therefore the risk level is set to one in a million. A cooking reduction factor of 1 is applied for skin-off fillets. (Klasing, S., and R. Brodberg, 2008)
Guideline Reference:	Development of Fish Contaminant Goals and Advisory Tissue Levels for Common Contaminants in California Sport Fish: Chlordane, DDTs, Dieldrin, Methylmercury, PCBs, Selenium, and Toxaphene
Spatial Representation:	The samples were collected at fourteen sites throughout Lower San Francisco Bay.
Temporal Representation:	The samples were collected every three years from May 1994 through August 2006.
Environmental Conditions:	

QAPP Information: The 1999 Quality Assurance Project Plan Regional Monitoring Program for Trace Substances was used.

QAPP Information Reference(s): [1999 Quality Assurance Project Plan Regional Monitoring Program for Trace Substances](#)

Line of Evidence (LOE) for Decision ID 33518, DDT (Dichlorodiphenyltrichloroethane)

Region 2

San Francisco Bay, Lower

LOE ID: 93712

Pollutant: Total DDT (sum of 4,4'- and 2,4'- isomers of DDT, DDE, and DDD)

LOE Subgroup: Pollutant-Tissue

Matrix: Tissue

Fraction: Shellfish

Beneficial Use: Shellfish Harvesting

Number of Samples: 55

Number of Exceedances: 0

Data and Information Type: Shellfish surveys

Data Used to Assess Water Quality: None of the 55 samples exceeded the guideline. All composite samples were comprised of *Mytilus californianus* except for 1 composite that was comprised of *Crassostrea gigas*. Data were reported on a dry weight basis and were converted to a wet weight basis by multiplying the dry-weight concentration by a factor of 1 minus the percentage of moisture content expressed as a decimal. Laboratory replicates were averaged. Total DDT was calculated as the sum of 4,4'- and 2,4'- isomers of DDT, DDE, and DDD.

Data Reference: [Regional Monitoring Program data, Feb. 1993-Sep. 2008](#)

SWAMP Data: Non-SWAMP

Water Quality Objective/Criterion: Water Quality Control Plan for the San Francisco Bay Basin: Controllable water quality factors shall not cause a detrimental increase in concentrations of toxic substances found in bottom sediments or aquatic life. Effects on aquatic organisms, wildlife, and human health will be considered.

Objective/Criterion Reference: [Water Quality Control Plan \(Basin Plan\) San Francisco Bay Basin \(Region 2\)](#)

Evaluation Guideline: The modified OEHHA Fish Contaminant Goal for total DDT in shellfish tissue is 23 ppb. This screening level assumes an average body weight of 70 kg and a consumption rate of 21 g/day for a 30 year exposure over a 70-year lifetime. This constituent is a carcinogen therefore the risk level is set to one in a million. (Brodberg, R.K., and G.A. Pollock, 1999; Klasing, S., and R. Brodberg, 2008)

Guideline Reference: [Prevalence of Selected Target Chemical Contaminants in Sport Fish From Two California Lakes: Public health designed screening study. Sacramento, CA: Office of Environmental Health Hazard Assessment](#)
[Development of Fish Contaminant Goals and Advisory Tissue Levels for Common Contaminants in California Sport Fish: Chlordane, DDTs, Dieldrin, Methylmercury, PCBs, Selenium, and Toxaphene](#)

Spatial Representation: Samples were collected at the following stations: BA30 - Dumbarton Bridge, BA40 - Redwood Creek and BB71 - Alameda.

Temporal Representation: Samples were generally collected in spring and fall seasons from years 1993 - 1999 and then during most fall seasons during years 2000 - 2008.

Environmental Conditions:

QAPP Information: 1999 Quality Assurance Project Plan Regional Monitoring Program for Trace Substances.

QAPP Information Reference(s): [1999 Quality Assurance Project Plan Regional Monitoring Program for Trace Substances](#)

Line of Evidence (LOE) for Decision ID 33518, DDT (Dichlorodiphenyltrichloroethane)

Region 2

San Francisco Bay, Lower

LOE ID: 92877

Pollutant:	Total DDT (sum of 4,4'- and 2,4'- isomers of DDT, DDE, and DDD)
LOE Subgroup:	Pollutant-Tissue
Matrix:	Tissue
Fraction:	Shellfish
Beneficial Use:	Shellfish Harvesting
Number of Samples:	1
Number of Exceedances:	0
Data and Information Type:	Shellfish surveys
Data Used to Assess Water Quality:	The result did not exceed the guideline. Data were reported on a dry weight basis and were converted to a wet weight basis by multiplying the dry-weight concentration by a factor of 1 minus the percentage of moisture content expressed as a decimal. The total DDTs were calculated as the sum of 4,4'- and 2,4'- isomers of DDT, DDE, and DDD.
Data Reference:	State Mussel Watch Program Data 1977-2000; Winter 2007-Winter 2009, State Water Resources Control Board
SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	Many pollutants can accumulate on particles, in sediment, or bioaccumulate in fish and other aquatic organisms. Controllable water quality factors shall not cause a detrimental increase in concentrations of toxic substances found in bottom sediments or aquatic life. Effects on aquatic organisms, wildlife, and human health will be considered.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	The modified OEHHA Fish Contaminant Goal for total DDT in shellfish tissue is 23 ppb. This screening level assumes an average body weight of 70 kg and a consumption rate of 21 g/day for a 30 year exposure over a 70-year lifetime. This constituent is a carcinogen therefore the risk level is set to one in a million. (Brodberg, R.K., and G.A. Pollock, 1999; Klasing, S., and R. Brodberg, 2008)
Guideline Reference:	Prevalence of Selected Target Chemical Contaminants in Sport Fish From Two California Lakes: Public health designed screening study. Sacramento, CA: Office of Environmental Health Hazard Assessment Development of Fish Contaminant Goals and Advisory Tissue Levels for Common Contaminants in California Sport Fish: Chlordane, DDTs, Dieldrin, Methylmercury, PCBs, Selenium, and Toxaphene
Spatial Representation:	Samples are collected by hand from three sub-locations for each site. The composite sample was collected from site San Francisco Bay San Mateo Bridge (SFSM).
Temporal Representation:	Representative samples of locally abundant species were collected during the winter on 2/3/2009
Environmental Conditions:	
QAPP Information:	Samples were collected as part of the State Water Board's Mussel Watch Program which is a part of the National Oceanic Administration's (NOAAs) National Status and Trends (NS&T). Mussels are shipped to NOAAs contract labs for analysis of trace constituents and mussel condition. Analytical protocols follow those approved by NOAAs NS&T Program. Additional background information can be found at: http://ccma.nos.noaa.gov/stressors/pollution/nsandt/
QAPP Information Reference(s):	

DECISION ID	44930	Region 2
San Francisco Bay, Lower		
Pollutant:	Dieldrin	
Final Listing Decision:	Do Not Delist from 303(d) list (TMDL required list)	
Last Listing Cycle's Final Listing Decision:	List on 303(d) list (TMDL required list)(2012)	
Revision Status	Revised	
Sources:	Source Unknown	
Expected TMDL Completion	2013	

Date:	
Impairment from Pollutant or Pollution:	Pollutant
Regional Board Staff Conclusion:	<p>This pollutant is being considered for removal from the CWA section 303(d) List under section 4.1 of the Listing Policy. Under this section a single line of evidence is necessary to assess listing status.</p> <p>Six lines of evidence are available in the administrative record to assess pollutant. Fifty-six of fifty-six samples exceed the guideline.</p> <p>Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against removing this water segment-pollutant combination from the CWA section 303(d) List.</p> <p>This conclusion is based on the staff findings that:</p> <ol style="list-style-type: none"> 1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy. 2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy. 3. Fifty-six of fifty-six samples exceed the guideline and this exceeds the allowable frequency listed in Table 4.1 of the Listing Policy. 4. Pursuant to section 4.11 of the Listing Policy, no additional data and information are available indicating that standards are met.
Regional Board Staff Decision Recommendation:	After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be removed from the section 303(d) list because applicable water quality standards for the pollutant are being exceeded.

Line of Evidence (LOE) for Decision ID 44930, Dieldrin
San Francisco Bay, Lower

Region 2

LOE ID:	92950
Pollutant:	Dieldrin
LOE Subgroup:	Pollutant-Tissue
Matrix:	Tissue
Fraction:	Shellfish
Beneficial Use:	Shellfish Harvesting
Number of Samples:	1
Number of Exceedances:	0
Data and Information Type:	Shellfish surveys
Data Used to Assess Water Quality:	The result did not exceed the guideline. Data were reported on a dry weight basis and were converted to a wet weight basis by multiplying the dry-weight concentration by a factor of 1 minus the percentage of moisture content expressed as a decimal.
Data Reference:	State Mussel Watch Program Data 1977-2000; Winter 2007-Winter 2009. State Water Resources Control Board
SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	Many pollutants can accumulate on particles, in sediment, or bioaccumulate in fish and other aquatic organisms. Controllable water quality factors shall not cause a detrimental increase in concentrations of toxic substances found in bottom sediments or aquatic life. Effects on aquatic organisms, wildlife, and human health will be considered.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	The modified OEHHA Fish Contaminant Goal for dieldrin in shellfish tissue is 0.49 ppb. This screening level assumes an average body weight of 70 kg and a consumption rate of 21 g/day for a 30 year exposure over a 70-year lifetime. This constituent is a carcinogen therefore the risk level is set to one in a million. (Brodberg, R.K., and G.A. Pollock, 1999; Klasing, S., and R. Brodberg, 2008)

Guideline Reference:	Prevalence of Selected Target Chemical Contaminants in Sport Fish From Two California Lakes: Public health designed screening study. Sacramento, CA: Office of Environmental Health Hazard Assessment Development of Fish Contaminant Goals and Advisory Tissue Levels for Common Contaminants in California Sport Fish: Chlordane, DDTs, Dieldrin, Methylmercury, PCBs, Selenium, and Toxaphene
Spatial Representation:	Samples are collected by hand from three sub-locations for each site. The composite sample was collected from site San Francisco Bay San Mateo Bridge (SFSM).
Temporal Representation:	Representative samples of locally abundant species were collected during the winter on 2/3/2009
Environmental Conditions:	
QAPP Information:	Samples were collected as part of the State Water Board's Mussel Watch Program which is a part of the National Oceanic Administration's (NOAAs) National Status and Trends (NS&T). Mussels are shipped to NOAAs contract labs for analysis of trace constituents and mussel condition. Analytical protocols follow those approved by NOAAs NS&T Program. Additional background information can be found at: http://ccma.nos.noaa.gov/stressors/pollution/nsandt/
QAPP Information Reference(s):	

Line of Evidence (LOE) for Decision ID 44930, Dieldrin
San Francisco Bay, Lower

Region 2

LOE ID:	3835
Pollutant:	Dieldrin
LOE Subgroup:	Pollutant-Tissue
Matrix:	Tissue
Fraction:	Not Recorded
Beneficial Use:	Commercial or recreational collection of fish, shellfish, or organisms
Number of Samples:	0
Number of Exceedances:	0
Data and Information Type:	Not Specified
Data Used to Assess Water Quality:	Unspecified--This LOE is a placeholder to support a 303(d) listing decision made prior to 2006.
Data Reference:	Placeholder reference pre-2006 303(d)
SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	Unspecified
Objective/Criterion Reference:	Placeholder reference pre-2006 303(d)
Evaluation Guideline:	Unspecified
Guideline Reference:	Placeholder reference pre-2006 303(d)
Spatial Representation:	Unspecified
Temporal Representation:	Unspecified
Environmental Conditions:	Unspecified
QAPP Information:	Unspecified
QAPP Information Reference(s):	

Line of Evidence (LOE) for Decision ID 44930, Dieldrin
San Francisco Bay, Lower

Region 2

LOE ID:	92952
Pollutant:	Dieldrin
LOE Subgroup:	Pollutant-Water

Matrix:	Water
Fraction:	Total
Beneficial Use:	Commercial or recreational collection of fish, shellfish, or organisms
Number of Samples:	83
Number of Exceedances:	7
Data and Information Type:	PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality:	State Water Board staff assessed SFEI data for San Francisco Bay, Lower to determine beneficial use support and results are as follows: 7 of 83 samples exceed the criterion for Dieldrin.
Data Reference:	Regional Monitoring Program data, Feb. 1993-Sep. 2008
SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	The Dieldrin criteria for the protection of human health from consumption of organisms only is 0.00014 ug/L (California Toxics Rule, 2000).
Objective/Criterion Reference:	Code of Federal Regulations 40 part 131.38 Establishment of numeric criteria for priority toxic pollutants for the State of California. 7/1/2011 Edition
Evaluation Guideline:	
Guideline Reference:	
Spatial Representation:	Data for this line of evidence for San Francisco Bay, Lower was collected at 19 monitoring sites [Dumbarton Bridge - BA30, Redwood Creek - BA40, Alameda - BB70, Central Bay - CB002W, Central Bay - CB004W, Central Bay - CB010W, Central Bay - CB012W, Central Bay - CB014W, Central Bay - CB016W, Central Bay - CB018W, Central Bay - CB020W, Central Bay - CB022W, South Bay - SB006W, South Bay - SB013W, South Bay - SB014W, South Bay - SB015W, South Bay - SB020W, South Bay - SB021W, South Bay - SB026W]
Temporal Representation:	Data was collected over the time period 3/2/1993-8/16/2007.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	The 1999 Quality Assurance Project Plan Regional Monitoring Program for Trace Substances was used.
QAPP Information Reference(s):	1999 Quality Assurance Project Plan Regional Monitoring Program for Trace Substances

Line of Evidence (LOE) for Decision ID 44930, Dieldrin

Region 2

San Francisco Bay, Lower

LOE ID:	95168
Pollutant:	Dieldrin
LOE Subgroup:	Pollutant-Tissue
Matrix:	Tissue
Fraction:	Fish fillet
Beneficial Use:	Commercial or recreational collection of fish, shellfish, or organisms
Number of Samples:	52
Number of Exceedances:	51
Data and Information Type:	Fish tissue analysis
Data Used to Assess Water Quality:	Water Board staff assessed Regional Monitoring Program data for Lower San Francisco Bay to determine beneficial use support and results are as follows: 51 of 52 samples exceed the criterion for dieldrin. Fourteen samples were discarded for being non-detect, unquantifiable or the reporting limit exceeding the water quality objective.
Data Reference:	Regional Monitoring Program data, Feb. 1993-Sep. 2008
SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	Water Quality Control Plan for the San Francisco Bay Basin: Controllable water quality

factors shall not cause a detrimental increase in concentrations of toxic substances found in bottom sediments or aquatic life. Effects on aquatic organisms, wildlife, and human health will be considered.

Objective/Criterion Reference:

[Water Quality Control Plan \(Basin Plan\) San Francisco Bay Basin \(Region 2\)](#)

Evaluation Guideline:

The modified OEHHA Fish Contaminant Goal for dieldrin in fish tissue is 0.32 ppb. This screening level assumes an average body weight of 70 kg and a consumption rate of 32 g/day for a 30 year exposure over a 70-year lifetime. This constituent is a carcinogen therefore the risk level is set to one in a million. A cooking reduction factor of 1 is applied for skin-off fillets. (Klasing, S., and R. Brodberg, 2008)

Guideline Reference:

[Development of Fish Contaminant Goals and Advisory Tissue Levels for Common Contaminants in California Sport Fish: Chlordane, DDTs, Dieldrin, Methylmercury, PCBs, Selenium, and Toxaphene](#)

Spatial Representation:

The samples were collected at fourteen sites throughout Lower San Francisco Bay.

Temporal Representation:

The samples were collected every three years from May 1994 through August 2006.

Environmental Conditions:

QAPP Information:

The 1999 Quality Assurance Project Plan Regional Monitoring Program for Trace Substances was used.

QAPP Information Reference(s):

[1999 Quality Assurance Project Plan Regional Monitoring Program for Trace Substances](#)

Line of Evidence (LOE) for Decision ID 44930, Dieldrin

Region 2

San Francisco Bay, Lower

LOE ID: 92951

Pollutant: Dieldrin
LOE Subgroup: Pollutant-Water
Matrix: Water
Fraction: Dissolved

Beneficial Use: Estuarine Habitat

Number of Samples: 79
Number of Exceedances: 0

Data and Information Type: PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality: State Water Board staff assessed SFEI data for San Francisco Bay, Lower to determine beneficial use support and results are as follows: 0 of 79 samples exceed the criterion for Dieldrin.

Data Reference: [Regional Monitoring Program data, Feb. 1993-Sep. 2008](#)

SWAMP Data: Non-SWAMP

Water Quality Objective/Criterion: The Dieldrin criterion continuous concentration (expressed as a 4-day average) to protect aquatic life in saline water is 0.0019 ug/L (California Toxics Rule, 2000).

Objective/Criterion Reference: [Code of Federal Regulations 40 part 131.38 Establishment of numeric criteria for priority toxic pollutants for the State of California. 7/1/2011 Edition](#)

Evaluation Guideline:

Guideline Reference:

Spatial Representation: Data for this line of evidence for San Francisco Bay, Lower was collected at 16 monitoring sites [Dumbarton Bridge - BA30, Redwood Creek - BA40, Alameda - BB70, South Bay - SB014W, Central Bay - CB014W, South Bay - SB013W, South Bay - SB015W, South Bay - SB006W, South Bay - SB020W, Central Bay - CB016W, South Bay - SB026W, South Bay - SB021W, Central Bay - CB010W, Central Bay - CB002W, Central Bay - CB012W, Central Bay - CB004W]

Temporal Representation: Data was collected over the time period 3/2/1993-8/16/2007.

Environmental Conditions: Staff is not aware of any special conditions that might affect interpretation of the data.

QAPP Information: The 1999 Quality Assurance Project Plan Regional Monitoring Program for Trace Substances was used.

Line of Evidence (LOE) for Decision ID 44930, Dieldrin**Region 2****San Francisco Bay, Lower**

LOE ID:	93635
Pollutant:	Dieldrin
LOE Subgroup:	Pollutant-Tissue
Matrix:	Tissue
Fraction:	Shellfish
Beneficial Use:	Shellfish Harvesting
Number of Samples:	55
Number of Exceedances:	52
Data and Information Type:	Shellfish surveys
Data Used to Assess Water Quality:	Fifty-two of the 55 samples exceeded the guideline. All composite samples were comprised of <i>Mytilus californianus</i> except for 1 composite that was comprised of <i>Crassostrea gigas</i> . Data were reported on a dry weight basis and were converted to a wet weight basis by multiplying the dry-weight concentration by a factor of 1 minus the percentage of moisture content expressed as a decimal. Laboratory replicates were averaged.
Data Reference:	Regional Monitoring Program data, Feb. 1993-Sep. 2008
SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	Water Quality Control Plan for the San Francisco Bay Basin: Controllable water quality factors shall not cause a detrimental increase in concentrations of toxic substances found in bottom sediments or aquatic life. Effects on aquatic organisms, wildlife, and human health will be considered.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	The modified OEHHA Fish Contaminant Goal for dieldrin in shellfish tissue is 0.49 ppb. This screening level assumes an average body weight of 70 kg and a consumption rate of 21 g/day for a 30 year exposure over a 70-year lifetime. This constituent is a carcinogen therefore the risk level is set to one in a million. (Brodberg, R.K., and G.A. Pollock, 1999; Klasing, S., and R. Brodberg, 2008)
Guideline Reference:	Prevalence of Selected Target Chemical Contaminants in Sport Fish From Two California Lakes: Public health designed screening study. Sacramento, CA: Office of Environmental Health Hazard Assessment Development of Fish Contaminant Goals and Advisory Tissue Levels for Common Contaminants in California Sport Fish: Chlordane, DDTs, Dieldrin, Methylmercury, PCBs, Selenium, and Toxaphene
Spatial Representation:	Samples were collected at the following stations: BA30 - Dumbarton Bridge, BA40 - Redwood Creek and BB71 - Alameda.
Temporal Representation:	Samples were generally collected in spring and fall seasons from years 1993 - 1999 and then during most fall seasons during years 2000 - 2008.
Environmental Conditions:	
QAPP Information:	1999 Quality Assurance Project Plan Regional Monitoring Program for Trace Substances.
QAPP Information Reference(s):	1999 Quality Assurance Project Plan Regional Monitoring Program for Trace Substances

DECISION ID**44675****Region 2****San Francisco Bay, Lower**

Pollutant:	Trash
Final Listing Decision:	Do Not Delist from 303(d) list (TMDL required list)
Last Listing Cycle's Final	List on 303(d) list (TMDL required list)(2012)

Listing Decision:	
Revision Status	Revised
Sources:	Source Unknown
Expected TMDL Completion Date:	2021
Impairment from Pollutant or Pollution:	Pollutant
Regional Board Staff Conclusion:	<p>This pollutant is being considered for removal from the CWA section 303(d) List under section 4.11 of the Listing Policy. Under this section a single line of evidence is necessary to assess listing status.</p> <p>Four lines of evidence are available in the administrative record to assess pollutant. Six of six samples exceed the evaluation guideline.</p> <p>Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against removing this water segment-pollutant combination from the CWA section 303(d) List.</p> <p>This conclusion is based on the staff findings that:</p> <ol style="list-style-type: none"> 1. Four lines of evidence are available in the administrative record to assess this pollutant. All lines of evidence involve inspection of photographic evidence by Regional Water Board staff trained to conduct the Rapid Trash Assessment (RTA) methodology. The staff inspected these photos and applied the RTA methodology to develop Category 1 (Level of Trash) and Category 3 (Threat to Aquatic Life) scores for each photograph. Based on the readily available photographic evidence for this waterbody, the weight of evidence indicates that there is sufficient justification available in favor of leaving this water segment-pollutant combination on the section 303(d) list in the Water Quality Limited Segments category. 2. Photographic evidence has been evaluated that supports this decision. 3. Applying the Rapid Trash Assessment methodology to the photographic evidence suggests that this waterbody had level of trash parameter scores in the poor category (indicating impairment of non-contact water recreational beneficial uses). 4. This waterbody also had threat to aquatic life parameter scores in the poor category (indicating threat to Wildlife Habitat beneficial uses) in more than one location or on more than one date. 5. This waterbody is considered impaired by trash because there were exceedances of the evaluation guidelines (poor condition category for the trash assessment metrics) in more than one location or on more than one date. 6. Six of six samples collected exceeded the evaluation guideline. 7. Pursuant to section 4.11 of the Listing Policy, no additional data and information are available indicating that standards are met. 8. The data used satisfy the data quality requirements of section 6.1.4 of the Policy. 9. The data used satisfy the data quantity requirements of section 6.1.5 of the Policy.
Regional Board Staff Decision Recommendation:	After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be removed from the section 303(d) list because applicable water quality standards for the pollutant are being exceeded.

Line of Evidence (LOE) for Decision ID 44675, Trash
San Francisco Bay, Lower

Region 2

LOE ID:	92898
Pollutant:	Trash
LOE Subgroup:	Pollutant-Nuisance
Matrix:	Not Specified
Fraction:	None
Beneficial Use:	Wildlife Habitat

Number of Samples:	1
Number of Exceedances:	1
Data and Information Type:	Occurrence of conditions judged to cause impairment
Data Used to Assess Water Quality:	Data available consist of photographic evidence of trash and interpretation of these photos by an experienced trash assessment specialist. Each photograph was analyzed to establish the RTA score for the level of trash and threat to aquatic life parameters, which relate to impairment of REC2 and WILD, respectively. Only those photos clear enough to establish these RTA scores were relied on for the listing determination. These results are available for photos taken on 11/28/07 at Oakport Street and Martin Luther King Jr. Regional Park. This waterbody had threat to aquatic life parameter scores in the poor category (indicating threat to Wildlife Habitat beneficial uses) for all three of the four photos taken at Oakport Street and Martin Luther King Jr. Regional Park on 11/28/07.
Data Reference:	Photos of trash in various San Francisco Bay water bodies, Mar. 2007-Mar. 2008
SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	The Basin Plan prohibits discharge of Rubbish, refuse, bark, sawdust, or other solid wastes into surface waters or at any place where they would contact or where they would be eventually transported to surface waters, including flood plain areas. The Basin Plan has a narrative objective for floating material, Waters shall not contain floating material, including solids, liquids, foams, and scum, in concentrations that cause nuisance or adversely affect beneficial uses. The Basin Plan has a narrative objective for settleable material, Waters shall not contain substances in concentrations that result in the deposition of material that cause nuisance or adversely affect beneficial uses.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	If the Rapid Trash Assessment (RTA) Parameter 1 (Level of Trash) is in the poor condition category (scores 0-5), REC2 is not supported. This level of trash distracts the eye on first glance, making the site unsuitable for recreation. The RTA defines poor condition for this parameter as follows, trash distracts the eye on first glance. Stream, bank surfaces, and immediate riparian zone contain substantial levels of litter and debris (>100 pieces). Evidence of site being used frequently by people: many cans, bottles, and food wrappers, blankets, clothing. State Water Board staff trained in the RTA inspected the available photographic evidence and applied the assessment method to determine the Level of Trash score. If the RTA Parameter 3 (Threat to Aquatic Life) is in the poor condition category (scores 0-5), then WILD is not supported. This level of trash is a large amount (>50 pieces) of transportable, persistent, buoyant litter that is detrimental to aquatic life. The RTA defines poor condition for this parameter as follows, large amount (>50 pieces) of transportable, persistent, buoyant litter such as: hard or soft plastics, balloons, Styrofoam, cigarette butts; toxic items such as batteries, lighters, or spray cans; large clumps of yard waste or dumped leaf litter; or large amount (>50 pieces) of settleable glass or metal. State Water Board staff trained in the RTA inspected the available photographic evidence and applied the assessment method to determine the Threat to Aquatic Life score.
Guideline Reference:	A Rapid Trash Assessment Method Applied to Waters of the San Francisco Bay Region:Trash Measurement in Streams
Spatial Representation:	All photos were taken at Oakport Street and Martin Luther King Jr. Regional Park.
Temporal Representation:	All photos were taken on 11/28/07.
Environmental Conditions:	
QAPP Information:	Assessments of the photographic evidence using the RTA were performed by a State Water Board staff person. Assessments based on photographic evidence were only conducted when sufficient reach-scale and close-up photos were available for a site on a specific date. Photos used for the evaluation needed to be numerous enough and clear enough to document the level of trash at the site in a similar way as the assessor would experience during an actual site visit in the field. For example, at a minimum, one reach-scale photograph (showing at least a 100 linear foot section of the waterbody) and two close-up photographs (of representative trash deposits) were required.
QAPP Information Reference(s):	

LOE ID:	5511
Pollutant:	Trash
LOE Subgroup:	Pollutant-Nuisance
Matrix:	Not Specified
Fraction:	None
Beneficial Use:	Non-Contact Recreation
Number of Samples:	5
Number of Exceedances:	3
Data and Information Type:	Occurrence of conditions judged to cause impairment
Data Used to Assess Water Quality:	<p>Data available consist of photographic evidence of trash and interpretation of these photos by an experienced trash assessment specialist. Each photograph was analyzed to establish the RTA score for the level of trash and threat to aquatic life parameters, which relate to impairment of REC2 and WILD, respectively. Only those photos clear enough to establish these RTA scores were relied on for the listing determination. These results are available for the following dates and locations along the Bay shoreline:</p> <p>Mouth of Ryder Ct. Park on 12/10/2003 and 4/1/2006</p> <p>Tidal Area, near mouth at Oakport on 12/10/2003, 12/16/2004, 1/5/2005, 12/19/2005, 3/29/2006, 2/23/2007</p> <p>This waterbody had level of trash parameter scores in the poor category (indicating impairment of non-contact water recreational beneficial uses) at two locations on two different dates.</p>
Data Reference:	<p>Report from Roger James and Larry Kolb containing Trash Photos submitted for consideration in 2008 303(d) listing process</p> <p>Assessment by Matt Cover of Trash Photos (submitted to Region 2 in response to 2008 Data Solicitation)</p> <p>Archive of Trash Photos for San Francisco Bay submitted for 2008 303(d) list consideration</p>
SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	<p>The Basin Plan prohibits discharge of Rubbish, refuse, bark, sawdust, or other solid wastes into surface waters or at any place where they would contact or where they would be eventually transported to surface waters, including flood plain areas.</p> <p>The Basin Plan has a narrative objective for floating material, Waters shall not contain floating material, including solids, liquids, foams, and scum, in concentrations that cause nuisance or adversely affect beneficial uses.</p> <p>The Basin Plan has a narrative objective for settleable material, Waters shall not contain substances in concentrations that result in the deposition of material that cause nuisance or adversely affect beneficial uses.</p>
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) - San Francisco Bay Region (Region 2)
Evaluation Guideline:	<p>If the Rapid Trash Assessment (RTA) Parameter 1 (Level of Trash) is in the poor condition category (scores 0-5), REC2 is not supported. This level of trash distracts the eye on first glance, making the site unsuitable for recreation. The RTA defines poor condition for this parameter as follows, trash distracts the eye on first glance. Stream, bank surfaces, and immediate riparian zone contain substantial levels of litter and debris (>100 pieces). Evidence of site being used frequently by people: many cans, bottles, and food wrappers, blankets, clothing. Regional Water Board staff trained in the RTA inspected the available photographic evidence and applied the assessment method to determine the Level of Trash score.</p> <p>If the RTA Parameter 3 (Threat to Aquatic Life) is in the poor condition category (scores 0-5), then WILD is not supported. This level of trash is a large amount (>50 pieces) of transportable, persistent, buoyant litter that is detrimental to aquatic life. The RTA defines</p>

	poor condition for this parameter as follows, large amount (>50 pieces) of transportable, persistent, buoyant litter such as: hard or soft plastics, balloons, Styrofoam, cigarette butts; toxic items such as batteries, lighters, or spray cans; large clumps of yard waste or dumped leaf litter; or large amount (>50 pieces) of settleable glass or metal. Regional Water Board staff trained in the RTA inspected the available photographic evidence and applied the assessment method to determine the Threat to Aquatic Life score.
Guideline Reference:	A Rapid Trash Assessment Method Applied to Waters of the San Francisco Bay Region: Trash Measurement in Streams
Spatial Representation:	Photographic evidence was analyzed using the RTA methodology for this waterbody for 2 different locations spanning dates from 2003 through 2007.
Temporal Representation:	The photographic evidence inspected spans dates between January 2003 through February 2007.
Environmental Conditions:	
QAPP Information:	Assessments of the photographic evidence using the RTA were performed by Regional Water Board staff person who was a co-author of the Rapid Trash Assessment methodology.
	Assessments based on photographic evidence were only conducted when sufficient reach-scale and close-up photos were available for a site on a specific date. Photos used for the evaluation needed to be numerous enough and clear enough to document the level of trash at the site in a similar way as the assessor would experience during an actual site visit in the field. For example, at a minimum, one reach-scale photograph (showing at least a 100 linear foot section of the waterbody) and two close-up photographs (of representative trash deposits) were required.
QAPP Information Reference(s):	

Line of Evidence (LOE) for Decision ID 44675, Trash

Region 2

San Francisco Bay, Lower

LOE ID:	5510
Pollutant:	Trash
LOE Subgroup:	Pollutant-Nuisance
Matrix:	Not Specified
Fraction:	None
Beneficial Use:	Wildlife Habitat
Number of Samples:	5
Number of Exceedances:	5
Data and Information Type:	Occurrence of conditions judged to cause impairment
Data Used to Assess Water Quality:	Data available consist of photographic evidence of trash and interpretation of these photos by an experienced trash assessment specialist. Each photograph was analyzed to establish the RTA score for the level of trash and threat to aquatic life parameters, which relate to impairment of REC2 and WILD, respectively. Only those photos clear enough to establish these RTA scores were relied on for the listing determination. These results are available for the following dates and locations along the Bay shoreline: Mouth of Ryder Ct. Park on 12/10/2003 and 4/1/2006 Tidal Area, near mouth at Oakport on 12/10/2003, 12/16/2004, 1/5/2005, 12/19/2005, 3/29/2006, 2/23/2007
Data Reference:	This waterbody had threat to aquatic life parameter scores in the poor category (indicating threat to Wildlife Habitat beneficial uses) at two location on four different dates. Report from Roger James and Larry Kolb containing Trash Photos submitted for consideration in 2008 303(d) listing process Assessment by Matt Cover of Trash Photos (submitted to Region 2 in response to 2008 Data Solicitation) Archive of Trash Photos for San Francisco Bay submitted for 2008 303(d) list consideration

SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	<p>The Basin Plan prohibits discharge of Rubbish, refuse, bark, sawdust, or other solid wastes into surface waters or at any place where they would contact or where they would be eventually transported to surface waters, including flood plain areas.</p> <p>The Basin Plan has a narrative objective for floating material, Waters shall not contain floating material, including solids, liquids, foams, and scum, in concentrations that cause nuisance or adversely affect beneficial uses.</p> <p>The Basin Plan has a narrative objective for settleable material, Waters shall not contain substances in concentrations that result in the deposition of material that cause nuisance or adversely affect beneficial uses.</p>
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) - San Francisco Bay Region (Region 2)
Evaluation Guideline:	<p>If the Rapid Trash Assessment (RTA) Parameter 1 (Level of Trash) is in the poor condition category (scores 0-5), REC2 is not supported. This level of trash distracts the eye on first glance, making the site unsuitable for recreation. The RTA defines poor condition for this parameter as follows, trash distracts the eye on first glance. Stream, bank surfaces, and immediate riparian zone contain substantial levels of litter and debris (>100 pieces). Evidence of site being used frequently by people: many cans, bottles, and food wrappers, blankets, clothing. Regional Water Board staff trained in the RTA inspected the available photographic evidence and applied the assessment method to determine the Level of Trash score.</p> <p>If the RTA Parameter 3 (Threat to Aquatic Life) is in the poor condition category (scores 0-5), then WILD is not supported. This level of trash is a large amount (>50 pieces) of transportable, persistent, buoyant litter that is detrimental to aquatic life. The RTA defines poor condition for this parameter as follows, large amount (>50 pieces) of transportable, persistent, buoyant litter such as: hard or soft plastics, balloons, Styrofoam, cigarette butts; toxic items such as batteries, lighters, or spray cans; large clumps of yard waste or dumped leaf litter; or large amount (>50 pieces) of settleable glass or metal. Regional Water Board staff trained in the RTA inspected the available photographic evidence and applied the assessment method to determine the Threat to Aquatic Life score.</p>
Guideline Reference:	A Rapid Trash Assessment Method Applied to Waters of the San Francisco Bay Region:Trash Measurement in Streams
Spatial Representation:	Photographic evidence was analyzed using the RTA methodology for this waterbody for 2 different locations spanning dates from 2003 through 2007.
Temporal Representation:	The photographic evidence inspected spans dates between January 2003 through February 2007.
Environmental Conditions:	
QAPP Information:	<p>Assessments of the photographic evidence using the RTA were performed by Regional Water Board staff person who was a co-author of the Rapid Trash Assessment methodology.</p> <p>Assessments based on photographic evidence were only conducted when sufficient reach-scale and close-up photos were available for a site on a specific date. Photos used for the evaluation needed to be numerous enough and clear enough to document the level of trash at the site in a similar way as the assessor would experience during an actual site visit in the field. For example, at a minimum, one reach-scale photograph (showing at least a 100 linear foot section of the waterbody) and two close-up photographs (of representative trash deposits) were required.</p>
QAPP Information Reference(s):	

Line of Evidence (LOE) for Decision ID 44675, Trash
San Francisco Bay, Lower

Region 2

LOE ID:	92889
Pollutant:	Trash
LOE Subgroup:	Pollutant-Nuisance

Matrix:	Not Specified
Fraction:	None
Beneficial Use:	Non-Contact Recreation
Number of Samples:	1
Number of Exceedances:	1
Data and Information Type:	Occurrence of conditions judged to cause impairment
Data Used to Assess Water Quality:	Data available consist of photographic evidence of trash and interpretation of these photos by an experienced trash assessment specialist. Each photograph was analyzed to establish the RTA score for the level of trash and threat to aquatic life parameters, which relate to impairment of REC2 and WILD, respectively. Only those photos clear enough to establish these RTA scores were relied on for the listing determination. These results are available for photos taken on 11/28/07 at Oakport Street and Martin Luther King Jr. Regional Park. This waterbody had level of trash parameter scores in the poor category (indicating impairment of non-contact water recreational beneficial uses).
Data Reference:	Photos of trash in various San Francisco Bay water bodies, Mar. 2007-Mar. 2008
SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	The Basin Plan prohibits discharge of Rubbish, refuse, bark, sawdust, or other solid wastes into surface waters or at any place where they would contact or where they would be eventually transported to surface waters, including flood plain areas. The Basin Plan has a narrative objective for floating material, Waters shall not contain floating material, including solids, liquids, foams, and scum, in concentrations that cause nuisance or adversely affect beneficial uses. The Basin Plan has a narrative objective for settleable material, Waters shall not contain substances in concentrations that result in the deposition of material that cause nuisance or adversely affect beneficial uses.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	If the Rapid Trash Assessment (RTA) Parameter 1 (Level of Trash) is in the poor condition category (scores 0-5), REC2 is not supported. This level of trash distracts the eye on first glance, making the site unsuitable for recreation. The RTA defines poor condition for this parameter as follows, trash distracts the eye on first glance. Stream, bank surfaces, and immediate riparian zone contain substantial levels of litter and debris (>100 pieces). Evidence of site being used frequently by people: many cans, bottles, and food wrappers, blankets, clothing. State Water Board staff trained in the RTA inspected the available photographic evidence and applied the assessment method to determine the Level of Trash score. If the RTA Parameter 3 (Threat to Aquatic Life) is in the poor condition category (scores 0-5), then WILD is not supported. This level of trash is a large amount (>50 pieces) of transportable, persistent, buoyant litter that is detrimental to aquatic life. The RTA defines poor condition for this parameter as follows, large amount (>50 pieces) of transportable, persistent, buoyant litter such as: hard or soft plastics, balloons, Styrofoam, cigarette butts; toxic items such as batteries, lighters, or spray cans; large clumps of yard waste or dumped leaf litter; or large amount (>50 pieces) of settleable glass or metal. State Water Board staff trained in the RTA inspected the available photographic evidence and applied the assessment method to determine the Threat to Aquatic Life score.
Guideline Reference:	A Rapid Trash Assessment Method Applied to Waters of the San Francisco Bay Region: Trash Measurement in Streams
Spatial Representation:	All photos were taken at Oakport Street and Martin Luther King Jr. Regional Park.
Temporal Representation:	All photos were taken on 11/28/07.
Environmental Conditions:	
QAPP Information:	Assessments of the photographic evidence using the RTA were performed by a State Water Board staff person. Assessments based on photographic evidence were only conducted when sufficient reach-scale and close-up photos were available for a site on a specific date. Photos used for the evaluation needed to be numerous enough and clear enough to document the level of trash at the site in a similar way as the assessor would experience during an actual site visit in the field. For example, at a minimum, one reach-scale photograph (showing at least a 100 linear foot section of the waterbody) and two close-up photographs (of representative trash deposits) were required.

DECISION ID	34781	Region 2
San Francisco Bay, Lower		

Pollutant:	Mercury
Final Listing Decision:	Do Not Delist from 303(d) list (being addressed with USEPA approved TMDL)
Last Listing Cycle's Final Listing Decision:	List on 303(d) list (being addressed by USEPA approved TMDL)(2012)
Revision Status	Revised
Sources:	Source Unknown
TMDL Name:	San Francisco Bay Mercury
TMDL Project Code:	6
Date TMDL Approved by USEPA:	02/12/2008
Impairment from Pollutant or Pollution:	Pollutant

Regional Board Staff Conclusion:	<p>This pollutant is being considered for removal on the CWA section 303(d) List under sections 2.2 and section 4.1 of the Listing Policy. Under section 4.1 of the Policy, a minimum of one line of evidence is needed to assess listing status.</p> <p>Four lines of evidence are available in the administrative record to assess this pollutant.</p> <p>Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against removing this water segment-pollutant combination from the CWA section 303(d) List. There is sufficient justification to place it in the Being Addressed portion of the CWA 303(d) List because a TMDL has been completed and approved by RWQCB and USEPA, and is expected to result in attainment of the standard.</p> <p>This conclusion is based on the staff findings that:</p> <ol style="list-style-type: none"> 1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy. 2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy. 3. Twenty-seven of seventy samples exceeded the guideline and these exceed the allowable frequency listed in Table 4.1 of the Listing Policy. 4. The SF Bay Mercury TMDL was approved by USEPA on 2/12/2008. 5. Pursuant to section 3.11 and 4.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.
Regional Board Staff Decision Recommendation:	After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be removed from the section 303(d) list because applicable water quality standards for the pollutant are being exceeded.

Line of Evidence (LOE) for Decision ID 34781, Mercury	Region 2
San Francisco Bay, Lower	

LOE ID:	95179
Pollutant:	Mercury
LOE Subgroup:	Pollutant-Tissue
Matrix:	Tissue
Fraction:	Fish fillet
Beneficial Use:	Commercial or recreational collection of fish, shellfish, or organisms
Number of Samples:	69
Number of Exceedances:	27
Data and Information Type:	Fish tissue analysis

Data Used to Assess Water Quality:	Water Board staff assessed Regional Monitoring Program data for Lower San Francisco Bay to determine beneficial use support and results are as follows: 27 of 69 samples exceed the criterion for mercury. No samples were discarded for being non-detect, unquantifiable or the reporting limit exceeding the water quality objective.
Data Reference:	Regional Monitoring Program data, Feb. 1993-Sep. 2008
SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	Water Quality Control Plan for the San Francisco Bay Basin: Controllable water quality factors shall not cause a detrimental increase in concentrations of toxic substances found in bottom sediments or aquatic life. Effects on aquatic organisms, wildlife, and human health will be considered.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	The Water Quality Control Plan for the San Francisco Bay Basin has a water quality objective in all parts of San Francisco Bay of 0.2 mg mercury per kg fish tissue for the protection of human health.
Guideline Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Spatial Representation:	The samples were collected at thirteen sites throughout Lower San Francisco Bay.
Temporal Representation:	The samples were collected every three years from May 1994 through July 2003.
Environmental Conditions:	
QAPP Information:	The 1999 Quality Assurance Project Plan Regional Monitoring Program for Trace Substances was used.
QAPP Information Reference(s):	1999 Quality Assurance Project Plan Regional Monitoring Program for Trace Substances

Line of Evidence (LOE) for Decision ID 34781, Mercury

Region 2

San Francisco Bay, Lower

LOE ID:	92850
Pollutant:	Mercury
LOE Subgroup:	Pollutant-Tissue
Matrix:	Tissue
Fraction:	Shellfish
Beneficial Use:	Shellfish Harvesting
Number of Samples:	1
Number of Exceedances:	0
Data and Information Type:	Shellfish surveys
Data Used to Assess Water Quality:	The one sample did not exceed the guideline. Data were reported on a dry weight basis and were converted to a wet weight basis by multiplying the dry-weight concentration by a factor of 1 minus the percentage of moisture content expressed as a decimal.
Data Reference:	State Mussel Watch Program Data 1977-2000; Winter 2007-Winter 2009. State Water Resources Control Board
SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	California's Ocean Plan states that, "The concentration of organic materials in fish, shellfish or other marine resources used for human consumption shall not bioaccumulate to levels that are harmful to human health".
Objective/Criterion Reference:	California Ocean Plan Water Quality Control Plan Ocean Waters of California 2009
Evaluation Guideline:	The USEPA 304(a) recommended water quality criterion for concentrations of methylmercury in shellfish tissue (wet weight) is 0.2 ppm. (Brodberg, R.K., and G.A. Pollock, 1999; USEPA, 2001)
Guideline Reference:	Prevalence of Selected Target Chemical Contaminants in Sport Fish From Two California Lakes: Public health designed screening study. Sacramento, CA: Office of Environmental Health Hazard Assessment Water Quality Criterion for the Protection of Human Health: Methylmercury. Final. United

Spatial Representation:	Samples are collected by hand from three sub-locations for each site. The composite sample was collected from site San Francisco Bay San Mateo Bridge (SFSM).
Temporal Representation:	Representative samples of locally abundant species were collected during the winter on 2/3/2009
Environmental Conditions:	
QAPP Information:	Samples were collected as part of the State Water Board's Mussel Watch Program which is a part of the National Oceanic Administration's (NOAAs) National Status and Trends (NS&T). Mussels are shipped to NOAAs contract labs for analysis of trace constituents and mussel condition. Analytical protocols follow those approved by NOAAs NS&T Program Additional background information can be found at: http://ccma.nos.noaa.gov/stressors/pollution/nsandt/
QAPP Information Reference(s):	

Line of Evidence (LOE) for Decision ID 34781, Mercury
San Francisco Bay, Lower

Region 2

LOE ID:	3839
Pollutant:	Mercury
LOE Subgroup:	Pollutant-Tissue
Matrix:	Tissue
Fraction:	Not Recorded
Beneficial Use:	Commercial or recreational collection of fish, shellfish, or organisms
Number of Samples:	0
Number of Exceedances:	0
Data and Information Type:	Not Specified
Data Used to Assess Water Quality:	Unspecified--This LOE is a placeholder to support a 303(d) listing decision made prior to 2006.
Data Reference:	Placeholder reference pre-2006 303(d)
SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	Unspecified
Objective/Criterion Reference:	Placeholder reference pre-2006 303(d)
Evaluation Guideline:	Unspecified
Guideline Reference:	Placeholder reference pre-2006 303(d)
Spatial Representation:	Unspecified
Temporal Representation:	Unspecified
Environmental Conditions:	Unspecified
QAPP Information:	Unspecified
QAPP Information Reference(s):	

Line of Evidence (LOE) for Decision ID 34781, Mercury
San Francisco Bay, Lower

Region 2

LOE ID:	93694
Pollutant:	Mercury
LOE Subgroup:	Pollutant-Tissue
Matrix:	Tissue
Fraction:	Shellfish
Beneficial Use:	Shellfish Harvesting

Number of Samples:	34
Number of Exceedances:	0
Data and Information Type:	Shellfish surveys
Data Used to Assess Water Quality:	The 34 samples did not exceed the guideline. All composite samples were comprised of <i>Mytilus californianus</i> . Data were reported on a dry weight basis and were converted to a wet weight basis by multiplying the dry-weight concentration by a factor of 1 minus the percentage of moisture content expressed as a decimal. Laboratory replicates were averaged. If a dry weight result did not have a corresponding moisture result for conversion to wet weight, the sample was not included in the assessment.
Data Reference:	Regional Monitoring Program data, Feb. 1993-Sep. 2008
SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	Water Quality Control Plan for the San Francisco Bay Basin: Controllable water quality factors shall not cause a detrimental increase in concentrations of toxic substances found in bottom sediments or aquatic life. Effects on aquatic organisms, wildlife, and human health will be considered.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	The USEPA 304(a) recommended water quality criterion for concentrations of methylmercury in shellfish tissue (wet weight) is 0.20 ppm. (Brodberg, R.K., and G.A. Pollock, 1999; USEPA, 2001)
Guideline Reference:	Prevalence of Selected Target Chemical Contaminants in Sport Fish From Two California Lakes: Public health designed screening study. Sacramento, CA: Office of Environmental Health Hazard Assessment Water Quality Criterion for the Protection of Human Health: Methylmercury. Final. United States Environmental Protection Agency Office of Science and Technology Office of Water. EPA-823-R-01-001. January 2001
Spatial Representation:	Samples were collected at the following stations: BA30 - Dumbarton Bridge, BA40 - Redwood Creek and BB71 - Alameda.
Temporal Representation:	Samples were generally collected in spring and fall seasons from years 1993 - 1999.
Environmental Conditions:	
QAPP Information:	1999 Quality Assurance Project Plan Regional Monitoring Program for Trace Substances.
QAPP Information Reference(s):	1999 Quality Assurance Project Plan Regional Monitoring Program for Trace Substances

DECISION ID	34684	Region 2
San Francisco Bay, Lower		

Pollutant:	PCBs (Polychlorinated biphenyls)
Final Listing Decision:	Do Not Delist from 303(d) list (being addressed with USEPA approved TMDL)
Last Listing Cycle's Final Listing Decision:	List on 303(d) list (TMDL required list)(2012)
Revision Status	Revised
Sources:	Source Unknown
TMDL Name:	San Francisco Bay PCBs
TMDL Project Code:	7
Date TMDL Approved by USEPA:	03/29/2010
Impairment from Pollutant or Pollution:	Pollutant
Regional Board Staff Conclusion:	<p>This pollutant is being considered for removal on the CWA section 303(d) List under sections 2.2 and section 4.1 of the Listing Policy. Under section 4.1 of the Policy, a minimum of one line of evidence is needed to assess listing status.</p> <p>Seven lines of evidence are available in the administrative record to assess this pollutant.</p> <p>Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against removing this water segment-pollutant combination from the CWA</p>

section 303(d) List. There is sufficient justification to place it in the Being Addressed portion of the CWA 303(d) List because a TMDL has been completed and approved by RWQCB and USEPA, and is expected to result in attainment of the standard.

This conclusion is based on the staff findings that:

1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy.
2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy.
3. Seventy-nine of eighty-four samples exceeded the guideline and these exceed the allowable frequency listed in Table 4.1 of the Listing Policy.
4. The SF Bay PCBs TMDL was approved by USEPA on 3/29/2010.
5. Pursuant to section 3.11 and 4.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.

Regional Board Staff Decision Recommendation: After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be removed from the section 303(d) list because applicable water quality standards for the pollutant are being exceeded.

Line of Evidence (LOE) for Decision ID 34684, PCBs (Polychlorinated biphenyls)

Region 2

San Francisco Bay, Lower

LOE ID:	92864
Pollutant:	PCBs (Polychlorinated biphenyls)
LOE Subgroup:	Pollutant-Tissue
Matrix:	Tissue
Fraction:	Shellfish
Beneficial Use:	Shellfish Harvesting
Number of Samples:	1
Number of Exceedances:	1
Data and Information Type:	Shellfish surveys
Data Used to Assess Water Quality:	The result did exceed the guideline. Data were reported on a dry weight basis and were converted to a wet weight basis by multiplying the dry-weight concentration by a factor of 1 minus the percentage of moisture content expressed as a decimal. Total PCB was assessed for as follows: PCB aroclors and congeners were summed separately and the sum that yielded the highest value was used for the assessment.
Data Reference:	State Mussel Watch Program Data 1977-2000; Winter 2007-Winter 2009. State Water Resources Control Board
SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	Many pollutants can accumulate on particles, in sediment, or bioaccumulate in fish and other aquatic organisms. Controllable water quality factors shall not cause a detrimental increase in concentrations of toxic substances found in bottom sediments or aquatic life. Effects on aquatic organisms, wildlife, and human health will be considered.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	The modified OEHHA Fish Contaminant Goal for polychlorinated biphenyls in shellfish tissue is 3.9 ppb. This screening level assumes an average body weight of 70 kg and a consumption rate of 21 g/day for a 30 year exposure over a 70-year lifetime. This constituent is a carcinogen therefore the risk level is set to one in a million. (Brodberg, R.K., and G.A. Pollock, 1999; Klasing, S., and R. Brodberg, 2008)
Guideline Reference:	Prevalence of Selected Target Chemical Contaminants in Sport Fish From Two California Lakes: Public health designed screening study. Sacramento, CA: Office of Environmental Health Hazard Assessment Development of Fish Contaminant Goals and Advisory Tissue Levels for Common Contaminants in California Sport Fish: Chlordane, DDTs, Dieldrin, Methylmercury, PCBs, Selenium, and Toxaphene

Spatial Representation:	Samples are collected by hand from three sub-locations for each site. The composite sample was collected from site San Francisco Bay San Mateo Bridge (SFSM).
Temporal Representation:	Representative samples of locally abundant species were collected during the winter on 2/3/2009
Environmental Conditions:	
QAPP Information:	Samples were collected as part of the State Water Board's Mussel Watch Program which is a part of the National Oceanic Administration's (NOAAs) National Status and Trends (NS&T). Mussels are shipped to NOAAs contract labs for analysis of trace constituents and mussel condition. Analytical protocols follow those approved by NOAAs NS&T Program Additional background information can be found at: http://ccma.nos.noaa.gov/stressors/pollution/nsandt/
QAPP Information Reference(s):	

Line of Evidence (LOE) for Decision ID 34684, PCBs (Polychlorinated biphenyls)	Region 2
San Francisco Bay, Lower	

LOE ID:	95184
Pollutant:	PCBs (Polychlorinated biphenyls)
LOE Subgroup:	Pollutant-Tissue
Matrix:	Tissue
Fraction:	Fish fillet
Beneficial Use:	Commercial or recreational collection of fish, shellfish, or organisms
Number of Samples:	69
Number of Exceedances:	46
Data and Information Type:	Fish tissue analysis
Data Used to Assess Water Quality:	Water Board staff assessed Regional Monitoring Program data for Lower San Francisco Bay to determine beneficial use support and results are as follows: 46 of 69 samples exceed the criterion for PCBs. No samples were discarded for being non-detect, unquantifiable or the reporting limit exceeding the water quality objective.
Data Reference:	Regional Monitoring Program data, Feb. 1993-Sep. 2008
SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	Water Quality Control Plan for the San Francisco Bay Basin: Controllable water quality factors shall not cause a detrimental increase in concentrations of toxic substances found in bottom sediments or aquatic life. Effects on aquatic organisms, wildlife, and human health will be considered.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	The modified OEHHA Fish Contaminant Goal for polychlorinated biphenyls in fish tissue is 2.6 ppb. This screening level assumes an average body weight of 70 kg and a consumption rate of 32 g/day for a 30 year exposure over a 70-year lifetime. This constituent is a carcinogen therefore the risk level is set to one in a million. A cooking reduction factor of 1 is applied for skin-off fillets. (Klasing, S., and R. Brodberg, 2008)
Guideline Reference:	Development of Fish Contaminant Goals and Advisory Tissue Levels for Common Contaminants in California Sport Fish: Chlordane, DDTs, Dieldrin, Methylmercury, PCBs, Selenium, and Toxaphene
Spatial Representation:	The samples were collected at fourteen sites throughout Lower San Francisco Bay.
Temporal Representation:	The samples were collected every three years from May 1994 through August 2006.
Environmental Conditions:	
QAPP Information:	The 1999 Quality Assurance Project Plan Regional Monitoring Program for Trace Substances was used.
QAPP Information Reference(s):	1999 Quality Assurance Project Plan Regional Monitoring Program for Trace Substances

Line of Evidence (LOE) for Decision ID 34684, PCBs (Polychlorinated biphenyls)	Region 2
San Francisco Bay, Lower	

LOE ID: 92865

Pollutant: PCBs (Polychlorinated biphenyls)
 LOE Subgroup: Pollutant-Water
 Matrix: Water
 Fraction: Dissolved

Beneficial Use: Estuarine Habitat

Number of Samples: 81
 Number of Exceedances: 0

Data and Information Type: PHYSICAL/CHEMICAL MONITORING
 Data Used to Assess Water Quality: State Water Board staff assessed SFEI data for San Francisco Bay, Lower to determine beneficial use support and results are as follows: 0 of 81 samples exceed the criterion for PCB, Total.

Data Reference: [Regional Monitoring Program data, Feb. 1993-Sep. 2008](#)

SWAMP Data: Non-SWAMP

Water Quality Objective/Criterion: The PCB, Total criterion continuous concentration (expressed as a 4-day average) to protect aquatic life in saltwater is 0.03 ug/L (California Toxics Rule, 2000).

Objective/Criterion Reference: [Code of Federal Regulations 40 part 131.38 Establishment of numeric criteria for priority toxic pollutants for the State of California. 7/1/2011 Edition](#)

Evaluation Guideline:
 Guideline Reference:

Spatial Representation: Data for this line of evidence for San Francisco Bay, Lower was collected at 16 monitoring sites [Dumbarton Bridge - BA30, Redwood Creek - BA40, Alameda - BB70, South Bay - SB014W, Central Bay - CB014W, South Bay - SB013W, South Bay - SB015W, South Bay - SB006W, South Bay - SB020W, Central Bay - CB016W, South Bay - SB026W, South Bay - SB021W, Central Bay - CB010W, Central Bay - CB002W, Central Bay - CB012W, Central Bay - CB004W]

Temporal Representation: Data was collected over the time period 3/2/1993-8/16/2007.

Environmental Conditions: Staff is not aware of any special conditions that might affect interpretation of the data.

QAPP Information: The 1999 Quality Assurance Project Plan Regional Monitoring Program for Trace Substances was used.

QAPP Information Reference(s): [1999 Quality Assurance Project Plan Regional Monitoring Program for Trace Substances](#)

Line of Evidence (LOE) for Decision ID 34684, PCBs (Polychlorinated biphenyls)
San Francisco Bay, Lower

Region 2

LOE ID: 92869

Pollutant: PCBs (Polychlorinated biphenyls)
 LOE Subgroup: Pollutant-Water
 Matrix: Water
 Fraction: Total

Beneficial Use: Commercial or recreational collection of fish, shellfish, or organisms

Number of Samples: 84
 Number of Exceedances: 79

Data and Information Type: PHYSICAL/CHEMICAL MONITORING
 Data Used to Assess Water Quality: State Water Board staff assessed SFEI data for San Francisco Bay, Lower to determine beneficial use support and results are as follows: 79 of 84 samples exceed the criterion for PCB, Total.

Data Reference: [Regional Monitoring Program data, Feb. 1993-Sep. 2008](#)

SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	The Polychlorinated Biphenyls criteria for the protection of human health from consumption of organisms only is 0.00017 ug/L (California Toxics Rule, 2000).
Objective/Criterion Reference:	Code of Federal Regulations 40 part 131.38 Establishment of numeric criteria for priority toxic pollutants for the State of California. 7/1/2011 Edition
Evaluation Guideline:	
Guideline Reference:	
Spatial Representation:	Data for this line of evidence for San Francisco Bay, Lower was collected at 19 monitoring sites [Dumbarton Bridge - BA30, Redwood Creek - BA40, Alameda - BB70, Central Bay - CB002W, Central Bay - CB004W, Central Bay - CB010W, Central Bay - CB012W, Central Bay - CB014W, Central Bay - CB016W, Central Bay - CB018W, Central Bay - CB020W, Central Bay - CB022W, South Bay - SB006W, South Bay - SB013W, South Bay - SB014W, South Bay - SB015W, South Bay - SB020W, South Bay - SB021W, South Bay - SB026W]
Temporal Representation:	Data was collected over the time period 3/2/1993-8/16/2007.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	The 1999 Quality Assurance Project Plan Regional Monitoring Program for Trace Substances was used.
QAPP Information Reference(s):	1999 Quality Assurance Project Plan Regional Monitoring Program for Trace Substances

Line of Evidence (LOE) for Decision ID 34684, PCBs (Polychlorinated biphenyls)

Region 2

San Francisco Bay, Lower

LOE ID:	95886
Pollutant:	PCBs (Polychlorinated biphenyls)
LOE Subgroup:	Pollutant-Tissue
Matrix:	Tissue
Fraction:	Fish fillet
Beneficial Use:	Commercial or recreational collection of fish, shellfish, or organisms
Number of Samples:	3
Number of Exceedances:	3
Data and Information Type:	Fish tissue analysis
Data Used to Assess Water Quality:	Water Board staff assessed Regional Monitoring Program data for San Leandro Marina to determine beneficial use support and results are as follows: 3 of 3 samples exceed the criterion for PCBs. No samples were discarded for being non-detect, unquantifiable or the reporting limit exceeding the water quality objective.
Data Reference:	Regional Monitoring Program data, Feb. 1993-Sep. 2008
SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	Water Quality Control Plan for the San Francisco Bay Basin: Controllable water quality factors shall not cause a detrimental increase in concentrations of toxic substances found in bottom sediments or aquatic life. Effects on aquatic organisms, wildlife, and human health will be considered.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	The modified OEHHA Fish Contaminant Goal for polychlorinated biphenyls in fish tissue is 2.6 ppb. This screening level assumes an average body weight of 70 kg and a consumption rate of 32 g/day for a 30 year exposure over a 70-year lifetime. This constituent is a carcinogen therefore the risk level is set to one in a million. A cooking reduction factor of 1 is applied for skin-off fillets. (Klasing, S., and R. Brodberg, 2008)
Guideline Reference:	Development of Fish Contaminant Goals and Advisory Tissue Levels for Common Contaminants in California Sport Fish: Chlordane, DDTs, Dieldrin, Methylmercury, PCBs, Selenium, and Toxaphene

Spatial Representation:	The samples were collected at one site in the San Leandro Marina. Because these sport fish are wide-ranging species, these data represent conditions in Lower San Francisco Bay.
Temporal Representation:	The samples were collected in November 2000.
Environmental Conditions:	
QAPP Information:	The 1999 Quality Assurance Project Plan Regional Monitoring Program for Trace Substances was used.
QAPP Information Reference(s):	1999 Quality Assurance Project Plan Regional Monitoring Program for Trace Substances

Line of Evidence (LOE) for Decision ID 34684, PCBs (Polychlorinated biphenyls)	Region 2
San Francisco Bay, Lower	

LOE ID:	93667
Pollutant:	PCBs (Polychlorinated biphenyls)
LOE Subgroup:	Pollutant-Tissue
Matrix:	Tissue
Fraction:	Shellfish
Beneficial Use:	Shellfish Harvesting
Number of Samples:	55
Number of Exceedances:	53
Data and Information Type:	Shellfish surveys
Data Used to Assess Water Quality:	Fifty-three of the 55 samples exceeded the guideline. Composite samples were comprised of <i>Mytilus californianus</i> , except for one sample that was comprised of <i>Crassostrea gigas</i> . Data were reported on a dry weight basis and were converted to a wet weight basis by multiplying the dry-weight concentration by a factor of 1 minus the percentage of moisture content expressed as a decimal. Total PCB was assessed for as follows: PCB aroclors and congeners were summed separately and the sum that yielded the highest value was used for the assessment. Laboratory replicates were averaged. Results for Stations BA30 and BA40 (collected on 5/7/1997) were not valid samples and so were not used in the assessment.
Data Reference:	Regional Monitoring Program data, Feb. 1993-Sep. 2008
SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	Water Quality Control Plan for the San Francisco Bay Basin (2013): Controllable water quality factors shall not cause a detrimental increase in concentrations of toxic substances found in bottom sediments or aquatic life. Effects on aquatic organisms, wildlife, and human health will be considered.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	The modified OEHHA Fish Contaminant Goal for polychlorinated biphenyls in shellfish tissue is 3.9 ppb. This screening level assumes an average body weight of 70 kg and a consumption rate of 21 g/day for a 30 year exposure over a 70-year lifetime. This constituent is a carcinogen therefore the risk level is set to one in a million. (Brodberg, R.K., and G.A. Pollock, 1999; Klasing, S., and R. Brodberg, 2008)
Guideline Reference:	Prevalence of Selected Target Chemical Contaminants in Sport Fish From Two California Lakes: Public health designed screening study. Sacramento, CA: Office of Environmental Health Hazard Assessment Development of Fish Contaminant Goals and Advisory Tissue Levels for Common Contaminants in California Sport Fish: Chlordane, DDTs, Dieldrin, Methylmercury, PCBs, Selenium, and Toxaphene
Spatial Representation:	Samples were collected at the following stations: BA30 - Dumbarton Bridge, BA40 - Redwood Creek, and BB71 - Alameda.
Temporal Representation:	Samples were generally collected in spring and fall seasons from years 1993 - 1999 and then during fall season from years 2000 - 2008.
Environmental Conditions:	
QAPP Information:	1999 Quality Assurance Project Plan Regional Monitoring Program for Trace Substances.

Line of Evidence (LOE) for Decision ID 34684, PCBs (Polychlorinated biphenyls)**Region 2****San Francisco Bay, Lower**

LOE ID:	3840
Pollutant:	PCBs (Polychlorinated biphenyls)
LOE Subgroup:	Pollutant-Tissue
Matrix:	Tissue
Fraction:	Not Recorded
Beneficial Use:	Commercial or recreational collection of fish, shellfish, or organisms
Number of Samples:	0
Number of Exceedances:	0
Data and Information Type:	Not Specified
Data Used to Assess Water Quality:	Unspecified--This LOE is a placeholder to support a 303(d) listing decision made prior to 2006.
Data Reference:	Placeholder reference pre-2006 303(d)
SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	Unspecified
Objective/Criterion Reference:	Placeholder reference pre-2006 303(d)
Evaluation Guideline:	Unspecified
Guideline Reference:	Placeholder reference pre-2006 303(d)
Spatial Representation:	Unspecified
Temporal Representation:	Unspecified
Environmental Conditions:	Unspecified
QAPP Information:	Unspecified
QAPP Information Reference(s):	

DECISION ID**66554****Region 2****San Francisco Bay, Lower**

Pollutant:	Acenaphthene
Final Listing Decision:	Do Not List on 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision:	New Decision
Revision Status	Revised
Impairment from Pollutant or Pollution:	Pollutant

Regional Board Staff Conclusion:

This pollutant is being considered for placement on the CWA section 303(d) List under section 3.1 of the Listing Policy. Under section 3.1 a single line of evidence is necessary to assess listing status.

Two lines of evidence are available in the administrative record to assess this pollutant. Zero of fifty-eight samples exceed the guideline.

Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against placing this water segment-pollutant combination on the CWA section 303(d) List in the Water Quality Limited Segments category.

This conclusion is based on the staff findings that:

1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy.
2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy.

3. Zero of fifty-eight samples exceed the guideline and this does not exceed the allowable frequency listed in Table 3.1 of the Listing Policy.

4. Pursuant to section 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.

Regional Board Staff Decision Recommendation: After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be placed on the section 303(d) list because applicable water quality standards are not being exceeded.

Line of Evidence (LOE) for Decision ID 66554, Acenaphthene

Region 2

San Francisco Bay, Lower

LOE ID: 92888

Pollutant: Acenaphthene
LOE Subgroup: Pollutant-Water
Matrix: Water
Fraction: Dissolved

Beneficial Use: Estuarine Habitat

Number of Samples: 58
Number of Exceedances: 0

Data and Information Type: PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality: State Water Board staff assessed SFEI data for San Francisco Bay, Lower to determine beneficial use support and results are as follows: 0 of 58 samples exceed the criterion for Acenaphthene.

Data Reference: [Regional Monitoring Program data, Feb. 1993-Sep. 2008](#)

SWAMP Data: Non-SWAMP

Water Quality Objective/Criterion: No individual pesticide or combination of pesticides shall be present in concentrations that adversely affect beneficial uses.

Objective/Criterion Reference: [Water Quality Control Plan \(Basin Plan\) San Francisco Bay Basin \(Region 2\)](#)

Evaluation Guideline: The available data for acenaphthene indicate that chronic toxicity to saltwater aquatic life occurs at concentrations as low as 710 ug/L and would occur at lower concentrations among species that are more sensitive than those tested. (USEPA Gold Book - EPA 440/5-86-001)

Guideline Reference: [Quality Criteria for Water 1986. United States Environmental Protection Agency. Office of Water. Regulations and Standards. Washington D.C. EPA 440/5-86-001.](#)

Spatial Representation: Data for this line of evidence for San Francisco Bay, Lower was collected at 14 monitoring sites [Dumbarton Bridge - BA30, Redwood Creek - BA40, Alameda - BB70, South Bay - SB014W, Central Bay - CB014W, South Bay - SB013W, South Bay - SB015W, South Bay - SB006W, Central Bay - CB016W, South Bay - SB021W, Central Bay - CB010W, Central Bay - CB002W, Central Bay - CB012W, Central Bay - CB004W]

Temporal Representation: Data was collected over the time period 2/5/1996-8/16/2007.

Environmental Conditions: Staff is not aware of any special conditions that might affect interpretation of the data.

QAPP Information: The 1999 Quality Assurance Project Plan Regional Monitoring Program for Trace Substances was used.

QAPP Information Reference(s): [1999 Quality Assurance Project Plan Regional Monitoring Program for Trace Substances](#)

Line of Evidence (LOE) for Decision ID 66554, Acenaphthene

Region 2

San Francisco Bay, Lower

LOE ID: 92893

Pollutant: Acenaphthene

LOE Subgroup:	Pollutant-Water
Matrix:	Water
Fraction:	Total
Beneficial Use:	Commercial or recreational collection of fish, shellfish, or organisms
Number of Samples:	48
Number of Exceedances:	0
Data and Information Type:	PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality:	State Water Board staff assessed SFEI data for San Francisco Bay, Lower to determine beneficial use support and results are as follows: 0 of 48 samples exceed the criterion for Acenaphthene.
Data Reference:	Regional Monitoring Program data, Feb. 1993-Sep. 2008
SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	The Acenaphthene criteria for the protection of human health from consumption of organisms only is 2,700 ug/L (California Toxics Rule, 2000).
Objective/Criterion Reference:	Code of Federal Regulations 40 part 131.38 Establishment of numeric criteria for priority toxic pollutants for the State of California. 7/1/2011 Edition
Evaluation Guideline:	
Guideline Reference:	
Spatial Representation:	Data for this line of evidence for San Francisco Bay, Lower was collected at 11 monitoring sites [Dumbarton Bridge - BA30, Redwood Creek - BA40, Alameda - BB70, Central Bay - CB002W, Central Bay - CB018W, Central Bay - CB022W, Central Bay - CB024W, Central Bay - CB026W, South Bay - SB013W, South Bay - SB014W, South Bay - SB015W]
Temporal Representation:	Data was collected over the time period 2/5/1996-7/18/2008.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	The 1999 Quality Assurance Project Plan Regional Monitoring Program for Trace Substances was used.
QAPP Information Reference(s):	1999 Quality Assurance Project Plan Regional Monitoring Program for Trace Substances

DECISION ID	66557	Region 2
San Francisco Bay, Lower		
Pollutant:	Aldrin	
Final Listing Decision:	Do Not List on 303(d) list (TMDL required list)	
Last Listing Cycle's Final Listing Decision:	New Decision	
Revision Status	Revised	
Impairment from Pollutant or Pollution:	Pollutant	
Regional Board Staff Conclusion:	<p>This pollutant is being considered for placement on the CWA section 303(d) List under section 3.1 of the Listing Policy. Under section 3.1 a single line of evidence is necessary to assess listing status. Two lines of evidence are available in the administrative record to assess this pollutant. Zero of thirteen samples exceed the guideline.</p> <p>Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against placing this water segment-pollutant combination on the CWA section 303(d) List.</p> <p>This conclusion is based on the staff findings that:</p> <ol style="list-style-type: none"> 1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy. 2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy. 3. Zero of thirteen samples exceed the guideline and this sample size is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating. A 	

minimum of 16 samples is needed to determine if a beneficial use is fully supported using table 3.1.
4. Pursuant to SECTION 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.

Regional Board Staff Decision Recommendation: After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be placed on the section 303(d) list. The readily available data and information is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating.

Line of Evidence (LOE) for Decision ID 66557, Aldrin

Region 2

San Francisco Bay, Lower

LOE ID: 92895

Pollutant: Aldrin
LOE Subgroup: Pollutant-Water
Matrix: Water
Fraction: Total

Beneficial Use: Commercial or recreational collection of fish, shellfish, or organisms

Number of Samples: 8
Number of Exceedances: 0

Data and Information Type: PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality: State Water Board staff assessed SFEI data for San Francisco Bay, Lower to determine beneficial use support and results are as follows: 0 of 8 samples exceed the criterion for Aldrin.

Data Reference: [Regional Monitoring Program data, Feb. 1993-Sep. 2008](#)

SWAMP Data: Non-SWAMP

Water Quality Objective/Criterion: The Aldrin criteria for the protection of human health from consumption of organisms only is 0.00014 ug/L (California Toxics Rule, 2000).

Objective/Criterion Reference: [Code of Federal Regulations 40 part 131.38 Establishment of numeric criteria for priority toxic pollutants for the State of California. 7/1/2011 Edition](#)

Evaluation Guideline:
Guideline Reference:

Spatial Representation: Data for this line of evidence for San Francisco Bay, Lower was collected at 6 monitoring sites [Dumbarton Bridge - BA30, Central Bay - CB010W, Central Bay - CB012W, South Bay - SB020W, South Bay - SB021W, South Bay - SB026W]

Temporal Representation: Data was collected over the time period 7/13/2004-8/16/2007.

Environmental Conditions: Staff is not aware of any special conditions that might affect interpretation of the data.

QAPP Information: The 1999 Quality Assurance Project Plan Regional Monitoring Program for Trace Substances was used.

QAPP Information Reference(s): [1999 Quality Assurance Project Plan Regional Monitoring Program for Trace Substances](#)

Line of Evidence (LOE) for Decision ID 66557, Aldrin

Region 2

San Francisco Bay, Lower

LOE ID: 92894

Pollutant: Aldrin
LOE Subgroup: Pollutant-Water
Matrix: Water
Fraction: Dissolved

Beneficial Use: Estuarine Habitat

Number of Samples:	13
Number of Exceedances:	0
Data and Information Type:	PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality:	State Water Board staff assessed SFEI data for San Francisco Bay, Lower to determine beneficial use support and results are as follows: 0 of 13 samples exceed the criterion for Aldrin.
Data Reference:	Regional Monitoring Program data, Feb. 1993-Sep. 2008
SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	The aldrin criterion maximum concentration to protect aquatic life in saline water is 1.3 ug/L (California Toxics Rule, 2000).
Objective/Criterion Reference:	Code of Federal Regulations 40 part 131.38 Establishment of numeric criteria for priority toxic pollutants for the State of California. 7/1/2011 Edition
Evaluation Guideline:	
Guideline Reference:	
Spatial Representation:	Data for this line of evidence for San Francisco Bay, Lower was collected at 10 monitoring sites [Dumbarton Bridge - BA30, South Bay - SB014W, Central Bay - CB014W, South Bay - SB015W, South Bay - SB020W, Central Bay - CB016W, South Bay - SB026W, South Bay - SB021W, Central Bay - CB010W, Central Bay - CB012W]
Temporal Representation:	Data was collected over the time period 8/5/2003-8/16/2007.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	The 1999 Quality Assurance Project Plan Regional Monitoring Program for Trace Substances was used.
QAPP Information Reference(s):	1999 Quality Assurance Project Plan Regional Monitoring Program for Trace Substances

DECISION ID 66559		Region 2
San Francisco Bay, Lower		
Pollutant:	Anthracene	
Final Listing Decision:	Do Not List on 303(d) list (TMDL required list)	
Last Listing Cycle's Final Listing Decision:	New Decision	
Revision Status	Revised	
Impairment from Pollutant or Pollution:	Pollutant	
Regional Board Staff Conclusion:	<p>This pollutant is being considered for placement on the CWA section 303(d) List under section 3.1 of the Listing Policy. Under section 3.1 a single line of evidence is necessary to assess listing status.</p> <p>One line of evidence is available in the administrative record to assess this pollutant. Zero of sixty-one samples exceed the guideline.</p> <p>Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against placing this water segment-pollutant combination on the CWA section 303(d) List in the Water Quality Limited Segments category.</p> <p>This conclusion is based on the staff findings that:</p> <ol style="list-style-type: none"> 1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy. 2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy. 3. Zero of sixty-one samples exceed the guideline and this does not exceed the allowable frequency listed in Table 3.1 of the Listing Policy. 4. Pursuant to section 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met. 	
Regional Board Staff Decision Recommendation:	After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be placed on the section 303(d) list because applicable water	

quality standards are not being exceeded.

Line of Evidence (LOE) for Decision ID 66559, Anthracene

Region 2

San Francisco Bay, Lower

LOE ID:	92897
Pollutant:	Anthracene
LOE Subgroup:	Pollutant-Water
Matrix:	Water
Fraction:	Total
Beneficial Use:	Commercial or recreational collection of fish, shellfish, or organisms
Number of Samples:	61
Number of Exceedances:	0
Data and Information Type:	PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality:	State Water Board staff assessed SFEI data for San Francisco Bay, Lower to determine beneficial use support and results are as follows: 0 of 61 samples exceed the criterion for Anthracene.
Data Reference:	Regional Monitoring Program data, Feb. 1993-Sep. 2008
SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	The Anthracene criteria for the protection of human health from consumption of organisms only is 110,000 ug/L (California Toxics Rule, 2000).
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	
Guideline Reference:	Code of Federal Regulations 40 part 131.38 Establishment of numeric criteria for priority toxic pollutants for the State of California. 7/1/2011 Edition
Spatial Representation:	Data for this line of evidence for San Francisco Bay, Lower was collected at 10 monitoring sites [Dumbarton Bridge - BA30, Redwood Creek - BA40, Alameda - BB70, Central Bay - CB002W, Central Bay - CB004W, Central Bay - CB020W, Central Bay - CB022W, Central Bay - CB024W, Central Bay - CB026W, South Bay - SB021W]
Temporal Representation:	Data was collected over the time period 3/2/1993-7/18/2008.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	The 1999 Quality Assurance Project Plan Regional Monitoring Program for Trace Substances was used.
QAPP Information Reference(s):	1999 Quality Assurance Project Plan Regional Monitoring Program for Trace Substances

DECISION ID

66830

Region 2

San Francisco Bay, Lower

Pollutant:	Arsenic
Final Listing Decision:	Do Not List on 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision:	New Decision
Revision Status	Revised
Impairment from Pollutant or Pollution:	Pollutant
Regional Board Staff Conclusion:	<p>This pollutant is being considered for placement on the CWA section 303(d) List under section 3.1 of the Listing Policy. Under section 3.1 a single line of evidence is necessary to assess listing status.</p> <p>Six lines of evidence are available in the administrative record to assess this pollutant. Zero of one hundred forty-four samples exceed the guideline.</p>

Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against placing this water segment-pollutant combination on the CWA section 303(d) List in the Water Quality Limited Segments category.

This conclusion is based on the staff findings that:

1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy.
2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy.
3. Zero of one hundred forty-four samples exceed the guideline and this does not exceed the allowable frequency listed in Table 3.1 of the Listing Policy.
4. Pursuant to section 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.

Regional Board Staff Decision Recommendation: After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be placed on the section 303(d) list because applicable water quality standards are not being exceeded.

**Line of Evidence (LOE) for Decision ID 66830, Arsenic
San Francisco Bay, Lower**

Region 2

LOE ID:	92905
Pollutant:	Arsenic
LOE Subgroup:	Pollutant-Tissue
Matrix:	Tissue
Fraction:	Fish fillet
Beneficial Use:	Shellfish Harvesting
Number of Samples:	1
Number of Exceedances:	0
Data and Information Type:	Shellfish surveys
Data Used to Assess Water Quality:	The one sample did not exceed the guideline. Data were reported on a dry weight basis and were converted to a wet weight basis by multiplying the dry-weight concentration by a factor of 1 minus the percentage of moisture content expressed as a decimal. The fraction of total arsenic in inorganic form was taken to be 0.115%, which was the maximum fraction of inorganic arsenic found in shellfish tissue from SF Bay. This number was screened against the guideline.
Data Reference:	State Mussel Watch Program Data 1977-2000; Winter 2007-Winter 2009. State Water Resources Control Board Contaminant Concentrations in Fish from San Francisco Bay, 2000 Calculating Fraction of Inorganic Arsenic in SF Bay Fish and Shellfish
SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	California's Ocean Plan states that, "The concentration of organic materials in fish, shellfish or other marine resources used for human consumption shall not bioaccumulate to levels that are harmful to human health".
Objective/Criterion Reference:	California Ocean Plan Water Quality Control Plan Ocean Waters of California 2009
Evaluation Guideline:	The modified OEHHA Advisory Tissue Level for arsenic in shellfish tissue is 0.52 ppm. This screening level assumes an average body weight of 70 kg and a consumption rate of 21 g/day for a 30 year exposure over a 70-year lifetime. This constituent is a carcinogen therefore the risk level is set to one in ten thousand. (Brodberg, R.K., and G.A. Pollock, 1999; Klasing, S., and R. Brodberg, 2008; OEHHA, 2004) Advisory Tissue Levels (ATLs), while still conferring no significant health risk to individuals consuming sport fish in the quantities shown over a lifetime, were developed with the recognition that there are unique health benefits associated with fish consumption and that the advisory process should be expanded beyond a simple risk

paradigm in order to best promote the overall health of the fish consumer. ATLS provide a number of recommended fish servings that correspond to the range of contaminant concentrations found in fish and are used to provide consumption advice to prevent consumers from being exposed to more than the average daily reference dose for noncarcinogens or to a risk level greater than 1×10^{-4} for carcinogens (not more than one additional cancer case in a population of 10,000 people consuming fish at the given consumption rate over a lifetime). ATLS are designed to encourage consumption of fish that can be eaten in quantities likely to provide significant health benefits, while discouraging consumption of fish that, because of contaminant concentrations, should not be eaten or cannot be eaten in amounts recommended for improving overall health (eight ounces total, prior to cooking, per week). ATLS are one of the criteria that will be used by OEHHA for issuing fish consumption guidelines.

Guideline Reference:

[Prevalence of Selected Target Chemical Contaminants in Sport Fish From Two California Lakes: Public health designed screening study. Sacramento, CA: Office of Environmental Health Hazard Assessment](#)
[Development of Fish Contaminant Goals and Advisory Tissue Levels for Common Contaminants in California Sport Fish: Chlordane, DDTs, Dieldrin, Methylmercury, PCBs, Selenium, and Toxaphene](#)
[Air Toxics Hotspots Program Risk Assessment Guidelines. Part II Technical Support Document for Describing Available Cancer Potency Values.](#)

Spatial Representation:

Samples are collected by hand from three sub-locations for each site. The composite sample was collected from site San Francisco Bay San Mateo Bridge (SFSM).

Temporal Representation:

Representative samples of locally abundant species were collected during the winter on 2/3/2009

Environmental Conditions:

QAPP Information:

Samples were collected as part of the State Water Board's Mussel Watch Program which is a part of the National Oceanic Administration's (NOAAs) National Status and Trends (NS&T). Mussels are shipped to NOAAs contract labs for analysis of trace constituents and mussel condition. Analytical protocols follow those approved by NOAAs NS&T Program Additional background information can be found at:
<http://ccma.nos.noaa.gov/stressors/pollution/nsandt/>

QAPP Information Reference(s):

Line of Evidence (LOE) for Decision ID 66830, Arsenic

Region 2

San Francisco Bay, Lower

LOE ID: 92907

Pollutant: Arsenic
 LOE Subgroup: Pollutant-Water
 Matrix: Water
 Fraction: Dissolved

Beneficial Use: Estuarine Habitat

Number of Samples: 144
 Number of Exceedances: 0

Data and Information Type: PHYSICAL/CHEMICAL MONITORING
 Data Used to Assess Water Quality: State Water Board staff assessed SFEI data for San Francisco Bay, Lower to determine beneficial use support and results are as follows: 0 of 144 samples exceed the criterion for Arsenic.

Data Reference: [Regional Monitoring Program data, Feb. 1993-Sep. 2008](#)

SWAMP Data: Non-SWAMP

Water Quality Objective/Criterion: The dissolved arsenic criterion continuous concentration (expressed as a 4-day average) to protect aquatic life in saline water is 0.036 mg/L (California Toxics Rule, 2000).

Objective/Criterion Reference: [Water Quality Control Plan \(Basin Plan\) San Francisco Bay Basin \(Region 2\)](#)

Evaluation Guideline:	
Guideline Reference:	National Recommended Water Quality Criteria. United States Environmental Protection Agency. Office of Water. Office of Science and Technology
Spatial Representation:	Data for this line of evidence for San Francisco Bay, Lower was collected at 23 monitoring sites [San Bruno Shoal - BB15, Dumbarton Bridge - BA30, Redwood Creek - BA40, Oyster Point - BB30, Alameda - BB70, Central Bay - CB018W, South Bay - SB014W, Central Bay - CB014W, South Bay - SB013W, South Bay - SB015W, South Bay - SB006W, South Bay - SB020W, Central Bay - CB016W, South Bay - SB026W, Central Bay - CB022W, Central Bay - CB020W, South Bay - SB021W, Central Bay - CB010W, Central Bay - CB002W, Central Bay - CB012W, Central Bay - CB004W, Central Bay - CB026W, Central Bay - CB024W]
Temporal Representation:	Data was collected over the time period 3/2/1993-7/18/2008.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	The 1999 Quality Assurance Project Plan Regional Monitoring Program for Trace Substances was used.
QAPP Information Reference(s):	1999 Quality Assurance Project Plan Regional Monitoring Program for Trace Substances

Line of Evidence (LOE) for Decision ID 66830, Arsenic

Region 2

San Francisco Bay, Lower

LOE ID:	92906
Pollutant:	Arsenic
LOE Subgroup:	Pollutant-Water
Matrix:	Water
Fraction:	Total
Beneficial Use:	Commercial or recreational collection of fish, shellfish, or organisms
Number of Samples:	143
Number of Exceedances:	0
Data and Information Type:	PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality:	State Water Board staff assessed SFEI data for San Francisco Bay, Lower to determine beneficial use support and results are as follows: 0 of 143 samples exceed the criterion for Arsenic.
Data Reference:	Regional Monitoring Program data, Feb. 1993-Sep. 2008
SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	Surface?waters?shall?not?contain?concentrations?of?chemical?constituents?in?amounts?that?adversely?affect?any?designated?beneficial?use.
Objective/Criterion Reference:	Code of Federal Regulations 40 part 131.38 Establishment of numeric criteria for priority toxic pollutants for the State of California. 7/1/2011 Edition
Evaluation Guideline:	The Arsenic criteria for the protection of human health from consumption of organisms only is 0.14 ug/L (National Recommended Water Quality Criteria, 2009).
Guideline Reference:	National Recommended Water Quality Criteria. United States Environmental Protection Agency. Office of Water. Office of Science and Technology
Spatial Representation:	Data for this line of evidence for San Francisco Bay, Lower was collected at 23 monitoring sites [Dumbarton Bridge - BA30, Redwood Creek - BA40, San Bruno Shoal - BB15, Oyster Point - BB30, Alameda - BB70, Central Bay - CB002W, Central Bay - CB004W, Central Bay - CB010W, Central Bay - CB012W, Central Bay - CB014W, Central Bay - CB016W, Central Bay - CB018W, Central Bay - CB020W, Central Bay - CB022W, Central Bay - CB024W, Central Bay - CB026W, South Bay - SB006W, South Bay - SB013W, South Bay - SB014W, South Bay - SB015W, South Bay - SB020W, South Bay - SB021W, South Bay - SB026W]
Temporal Representation:	Data was collected over the time period 3/2/1993-7/18/2008.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	The 1999 Quality Assurance Project Plan Regional Monitoring Program for Trace

QAPP Information Reference(s): Substances was used.
[1999 Quality Assurance Project Plan Regional Monitoring Program for Trace Substances](#)

Line of Evidence (LOE) for Decision ID 66830, Arsenic
San Francisco Bay, Lower

Region 2

LOE ID: 93692

Pollutant: Arsenic
LOE Subgroup: Pollutant-Tissue
Matrix: Tissue
Fraction: Shellfish

Beneficial Use: Shellfish Harvesting

Number of Samples: 36
Number of Exceedances: 0

Data and Information Type: Shellfish surveys
Data Used to Assess Water Quality: 0 of the 36 samples exceeded the guideline. All composite samples were comprised of *Mytilus californianus*. Data were reported on a dry weight basis and were converted to a wet weight basis by multiplying the dry-weight concentration by a factor of 1 minus the percentage of moisture content expressed as a decimal. The fraction of total arsenic in inorganic form was taken to be 0.115%, which was the maximum fraction of inorganic arsenic found in shellfish tissue from SF Bay. This number was screened against the guideline. Laboratory replicates were averaged. If a dry weight result did not have a corresponding moisture result for conversion to wet weight, the sample was not included in the assessment.

Data Reference: [Regional Monitoring Program data, Feb. 1993-Sep. 2008](#)
[Contaminant Concentrations in Fish from San Francisco Bay, 2000](#)
[Calculating Fraction of Inorganic Arsenic in SF Bay Fish and Shellfish](#)

SWAMP Data: Non-SWAMP

Water Quality Objective/Criterion: Water Quality Control Plan for the San Francisco Bay Basin: Controllable water quality factors shall not cause a detrimental increase in concentrations of toxic substances found in bottom sediments or aquatic life. Effects on aquatic organisms, wildlife, and human health will be considered.

Objective/Criterion Reference: [Water Quality Control Plan \(Basin Plan\) San Francisco Bay Basin \(Region 2\)](#)

Evaluation Guideline: The modified OEHHA Advisory Tissue Level for arsenic in shellfish tissue is 0.52 ppm. This screening level assumes an average body weight of 70 kg and a consumption rate of 21 g/day for a 30 year exposure over a 70-year lifetime. This constituent is a carcinogen therefore the risk level is set to one in ten thousand. (Brodberg, R.K., and G.A. Pollock, 1999; Klasing, S., and R. Brodberg, 2008; OEHHA, 2004)

Advisory Tissue Levels (ATLs), while still conferring no significant health risk to individuals consuming sport fish in the quantities shown over a lifetime, were developed with the recognition that there are unique health benefits associated with fish consumption and that the advisory process should be expanded beyond a simple risk paradigm in order to best promote the overall health of the fish consumer. ATLs provide a number of recommended fish servings that correspond to the range of contaminant concentrations found in fish and are used to provide consumption advice to prevent consumers from being exposed to more than the average daily reference dose for noncarcinogens or to a risk level greater than 1×10^{-4} for carcinogens (not more than one additional cancer case in a population of 10,000 people consuming fish at the given consumption rate over a lifetime). ATLs are designed to encourage consumption of fish that can be eaten in quantities likely to provide significant health benefits, while discouraging consumption of fish that, because of contaminant concentrations, should not be eaten or cannot be eaten in amounts recommended for improving overall health (eight ounces total, prior to cooking, per week). ATLs are one of the criteria that will be used

Guideline Reference:	by OEHHA for issuing fish consumption guidelines. Prevalence of Selected Target Chemical Contaminants in Sport Fish From Two California Lakes: Public health designed screening study. Sacramento, CA: Office of Environmental Health Hazard Assessment Development of Fish Contaminant Goals and Advisory Tissue Levels for Common Contaminants in California Sport Fish: Chlordane, DDTs, Dieldrin, Methylmercury, PCBs, Selenium, and Toxaphene Air Toxics Hotspots Program Risk Assessment Guidelines. Part II Technical Support Document for Describing Available Cancer Potency Values.
Spatial Representation:	Samples were collected at the following stations: BA30 - Dumbarton Bridge, BA40 - Redwood Creek and BB71 - Alameda.
Temporal Representation:	Samples were generally collected in spring and fall seasons from years 1993 - 1999 and then during fall 2008.
Environmental Conditions:	
QAPP Information:	1999 Quality Assurance Project Plan Regional Monitoring Program for Trace Substances.
QAPP Information Reference(s):	1999 Quality Assurance Project Plan Regional Monitoring Program for Trace Substances

Line of Evidence (LOE) for Decision ID 66830, Arsenic

Region 2

San Francisco Bay, Lower

LOE ID:	95216
Pollutant:	Arsenic
LOE Subgroup:	Pollutant-Tissue
Matrix:	Tissue
Fraction:	Fish fillet
Beneficial Use:	Commercial or recreational collection of fish, shellfish, or organisms
Number of Samples:	26
Number of Exceedances:	0
Data and Information Type:	Fish tissue analysis
Data Used to Assess Water Quality:	Water Board staff assessed Regional Monitoring Program data for Lower San Francisco Bay to determine beneficial use support and results are as follows: 0 of 26 samples exceed the criterion for Arsenic. The fraction of total arsenic in inorganic form was taken to be 3.2%, which was the maximum fraction of inorganic arsenic found in shark tissue from SF Bay. No samples were discarded for being non-detect, unquantifiable or the reporting limit exceeding the water quality objective.
Data Reference:	Regional Monitoring Program data, Feb. 1993-Sep. 2008 Contaminant Concentrations in Fish from San Francisco Bay, 2000 Calculating Fraction of Inorganic Arsenic in SF Bay Fish and Shellfish
SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	Water Quality Control Plan for the San Francisco Bay Basin: Controllable water quality factors shall not cause a detrimental increase in concentrations of toxic substances found in bottom sediments or aquatic life. Effects on aquatic organisms, wildlife, and human health will be considered.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	The modified OEHHA Advisory Tissue Level for arsenic in fish tissue is 0.34 ppm. This screening level assumes an average body weight of 70 kg and a consumption rate of 32 g/day for a 30 year exposure over a 70-year lifetime. This constituent is a carcinogen therefore the risk level is set to one in ten thousand. (Klasing, S., and R. Brodberg, 2008; OEHHA, 2004).
	Advisory Tissue Levels (ATLs), while still conferring no significant health risk to individuals consuming sport fish in the quantities shown over a lifetime, were developed with the recognition that there are unique health benefits associated with fish consumption and that the advisory process should be expanded beyond a simple risk

paradigm in order to best promote the overall health of the fish consumer. ATLS provide a number of recommended fish servings that correspond to the range of contaminant concentrations found in fish and are used to provide consumption advice to prevent consumers from being exposed to more than the average daily reference dose for noncarcinogens or to a risk level greater than 1×10^{-4} for carcinogens (not more than one additional cancer case in a population of 10,000 people consuming fish at the given consumption rate over a lifetime). ATLS are designed to encourage consumption of fish that can be eaten in quantities likely to provide significant health benefits, while discouraging consumption of fish that, because of contaminant concentrations, should not be eaten or cannot be eaten in amounts recommended for improving overall health (eight ounces total, prior to cooking, per week). ATLS are one of the criteria that will be used by OEHHA for issuing fish consumption guidelines.

Guideline Reference:

[Development of Fish Contaminant Goals and Advisory Tissue Levels for Common Contaminants in California Sport Fish: Chlordane, DDTs, Dieldrin, Methylmercury, PCBs, Selenium, and Toxaphene](#)
[Air Toxics Hotspots Program Risk Assessment Guidelines. Part II Technical Support Document for Describing Available Cancer Potency Values.](#)

Spatial Representation:

The samples were collected at ten sites throughout Lower San Francisco Bay.

Temporal Representation:

The samples were collected in May 1994.

Environmental Conditions:

QAPP Information:

The 1999 Quality Assurance Project Plan Regional Monitoring Program for Trace Substances was used.

QAPP Information Reference(s):

[1999 Quality Assurance Project Plan Regional Monitoring Program for Trace Substances](#)

DECISION ID	66561	Region 2
San Francisco Bay, Lower		

Pollutant: Benzo(a)pyrene (3,4-Benzopyrene -7-d)
Final Listing Decision: Do Not List on 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision: New Decision
Revision Status: Revised
Impairment from Pollutant or Pollution: Pollutant

Regional Board Staff Conclusion:

This pollutant is being considered for placement on the CWA section 303(d) List under section 3.1 of the Listing Policy. Under section 3.1 a single line of evidence is necessary to assess listing status.

One line of evidence is available in the administrative record to assess this pollutant. One of eighty-two samples exceed the guideline.

Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against placing this water segment-pollutant combination on the CWA section 303(d) List in the Water Quality Limited Segments category.

This conclusion is based on the staff findings that:

1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy.
2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy.
3. One of eighty-two samples exceed the guideline and this does not exceed the allowable frequency listed in Table 3.1 of the Listing Policy.
4. Pursuant to section 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.

Regional Board Staff Decision Recommendation:

After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be placed on the section 303(d) list because applicable water quality standards are not being exceeded.

Line of Evidence (LOE) for Decision ID 66561, Benzo(a)pyrene (3,4-Benzopyrene -7-d)	Region 2
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San Francisco Bay, Lower

LOE ID:	92908
Pollutant:	Benzo(a)pyrene (3,4-Benzopyrene -7-d)
LOE Subgroup:	Pollutant-Water
Matrix:	Water
Fraction:	Total
Beneficial Use:	Commercial or recreational collection of fish, shellfish, or organisms
Number of Samples:	82
Number of Exceedances:	1
Data and Information Type:	PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality:	State Water Board staff assessed SFEI data for San Francisco Bay, Lower to determine beneficial use support and results are as follows: 1 of 82 samples exceed the criterion for Indeno(1, 2, 3-C, D)Pyrene.
Data Reference:	Regional Monitoring Program data, Feb. 1993-Sep. 2008
SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	The Indeno(1, 2, 3-C, D)Pyrene criteria for the protection of human health from consumption of organisms only is 0.049 ug/L (California Toxics Rule, 2000).
Objective/Criterion Reference:	Code of Federal Regulations 40 part 131.38 Establishment of numeric criteria for priority toxic pollutants for the State of California. 7/1/2011 Edition
Evaluation Guideline:	
Guideline Reference:	
Spatial Representation:	Data for this line of evidence for San Francisco Bay, Lower was collected at 20 monitoring sites [Dumbarton Bridge - BA30, Redwood Creek - BA40, Alameda - BB70, Central Bay - CB002W, Central Bay - CB004W, Central Bay - CB010W, Central Bay - CB012W, Central Bay - CB014W, Central Bay - CB016W, Central Bay - CB018W, Central Bay - CB020W, Central Bay - CB022W, Central Bay - CB024W, Central Bay - CB026W, South Bay - SB006W, South Bay - SB013W, South Bay - SB015W, South Bay - SB020W, South Bay - SB021W, South Bay - SB026W]
Temporal Representation:	Data was collected over the time period 3/2/1993-7/18/2008.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	The 1999 Quality Assurance Project Plan Regional Monitoring Program for Trace Substances was used.
QAPP Information Reference(s):	1999 Quality Assurance Project Plan Regional Monitoring Program for Trace Substances

DECISION ID	66563	Region 2
San Francisco Bay, Lower		
Pollutant:	Cadmium	
Final Listing Decision:	Do Not List on 303(d) list (TMDL required list)	
Last Listing Cycle's Final Listing Decision:	New Decision	
Revision Status	Revised	
Impairment from Pollutant or Pollution:	Pollutant	
Regional Board Staff Conclusion:	<p>This pollutant is being considered for placement on the CWA section 303(d) List under section 3.1 of the Listing Policy. Under section 3.1 a single line of evidence is necessary to assess listing status.</p> <p>Four lines of evidence are available in the administrative record to assess this pollutant. Zero of one hundred forty-three samples exceed the guideline.</p> <p>Based on the readily available data and information, the weight of evidence indicates that there is</p>	

sufficient justification against placing this water segment-pollutant combination on the CWA section 303(d) List in the Water Quality Limited Segments category.

This conclusion is based on the staff findings that:

1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy.
2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy.
3. Zero of one hundred forty-three samples exceed the guideline and this does not exceed the allowable frequency listed in Table 3.1 of the Listing Policy.
4. Pursuant to section 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.

Regional Board Staff Decision Recommendation: After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be placed on the section 303(d) list because applicable water quality standards are not being exceeded.

Line of Evidence (LOE) for Decision ID 66563, Cadmium

Region 2

San Francisco Bay, Lower

LOE ID:	92918
Pollutant:	Cadmium
LOE Subgroup:	Pollutant-Water
Matrix:	Water
Fraction:	Dissolved
Beneficial Use:	Estuarine Habitat
Number of Samples:	143
Number of Exceedances:	0
Data and Information Type:	PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality:	State Water Board staff assessed SFEI data for San Francisco Bay, Lower to determine beneficial use support and results are as follows: 0 of 143 samples exceed the criterion for Cadmium.
Data Reference:	Regional Monitoring Program data, Feb. 1993-Sep. 2008
SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	The dissolved cadmium criterion continuous concentration (expressed as a 4-day average) to protect aquatic life in saline water is 0.093 mg/L (California Toxics Rule, 2000).
Objective/Criterion Reference:	Code of Federal Regulations 40 part 131.38 Establishment of numeric criteria for priority toxic pollutants for the State of California. 7/1/2011 Edition
Evaluation Guideline:	
Guideline Reference:	
Spatial Representation:	Data for this line of evidence for San Francisco Bay, Lower was collected at 23 monitoring sites [San Bruno Shoal - BB15, Dumbarton Bridge - BA30, Redwood Creek - BA40, Oyster Point - BB30, Alameda - BB70, Central Bay - CB018W, South Bay - SB014W, Central Bay - CB014W, South Bay - SB013W, South Bay - SB015W, South Bay - SB006W, South Bay - SB020W, Central Bay - CB016W, South Bay - SB026W, Central Bay - CB022W, Central Bay - CB020W, South Bay - SB021W, Central Bay - CB010W, Central Bay - CB002W, Central Bay - CB012W, Central Bay - CB004W, Central Bay - CB026W, Central Bay - CB024W]
Temporal Representation:	Data was collected over the time period 3/2/1993-7/18/2008.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	The 1999 Quality Assurance Project Plan Regional Monitoring Program for Trace Substances was used.
QAPP Information Reference(s):	1999 Quality Assurance Project Plan Regional Monitoring Program for Trace Substances

San Francisco Bay, Lower

LOE ID:	93693
Pollutant:	Cadmium
LOE Subgroup:	Pollutant-Tissue
Matrix:	Tissue
Fraction:	Shellfish
Beneficial Use:	Shellfish Harvesting
Number of Samples:	43
Number of Exceedances:	0
Data and Information Type:	Shellfish surveys
Data Used to Assess Water Quality:	The 43 samples did not exceed the guideline. All composite samples were comprised of <i>Mytilus californianus</i> , except for one composite comprised of <i>Crassostrea gigas</i> . Data were reported on a dry weight basis and were converted to a wet weight basis by multiplying the dry-weight concentration by a factor of 1 minus the percentage of moisture content expressed as a decimal. Laboratory replicates were averaged. If a dry weight result did not have a corresponding moisture result for conversion to wet weight, the sample was not included in the assessment.
Data Reference:	Regional Monitoring Program data, Feb. 1993-Sep. 2008
SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	Water Quality Control Plan for the San Francisco Bay Basin: Controllable water quality factors shall not cause a detrimental increase in concentrations of toxic substances found in bottom sediments or aquatic life. Effects on aquatic organisms, wildlife, and human health will be considered.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	The modified OEHHA Fish Contaminant Goal for cadmium in shellfish tissue is 3.3 ppm. This screening level assumes an average body weight of 70 kg and a consumption rate of 21 g/day. (Brodberg, R.K., and G.A. Pollock, 1999; Klasing, S., and R. Brodberg, 2008; USEPA, 2000)
Guideline Reference:	Prevalence of Selected Target Chemical Contaminants in Sport Fish From Two California Lakes: Public health designed screening study. Sacramento, CA: Office of Environmental Health Hazard Assessment Development of Fish Contaminant Goals and Advisory Tissue Levels for Common Contaminants in California Sport Fish: Chlordane, DDTs, Dieldrin, Methylmercury, PCBs, Selenium, and Toxaphene Guidance for Assessing Chemical Contaminant Data for Use In Fish Advisories Volume 1: Fish Sampling and Analysis
Spatial Representation:	Samples were collected at the following stations: BA30 - Dumbarton Bridge, BA40 - Redwood Creek and BB71 - Alameda.
Temporal Representation:	Samples were generally collected in spring and fall seasons from years 1993 - 1999 and then during fall 2008.
Environmental Conditions:	
QAPP Information:	1999 Quality Assurance Project Plan Regional Monitoring Program for Trace Substances.
QAPP Information Reference(s):	1999 Quality Assurance Project Plan Regional Monitoring Program for Trace Substances

Line of Evidence (LOE) for Decision ID 66563, Cadmium

Region 2

San Francisco Bay, Lower

LOE ID:	92917
Pollutant:	Cadmium
LOE Subgroup:	Pollutant-Tissue

Matrix:	Tissue
Fraction:	Shellfish
Beneficial Use:	Shellfish Harvesting
Number of Samples:	1
Number of Exceedances:	0
Data and Information Type:	Shellfish surveys
Data Used to Assess Water Quality:	The one sample did not exceed the guideline. Data were reported on a dry weight basis and were converted to a wet weight basis by multiplying the dry-weight concentration by a factor of 1 minus the percentage of moisture content expressed as a decimal.
Data Reference:	State Mussel Watch Program Data 1977-2000; Winter 2007-Winter 2009. State Water Resources Control Board
SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	California's Ocean Plan states that, "The concentration of organic materials in fish, shellfish or other marine resources used for human consumption shall not bioaccumulate to levels that are harmful to human health".
Objective/Criterion Reference:	California Ocean Plan Water Quality Control Plan Ocean Waters of California 2009
Evaluation Guideline:	The modified OEHHA Fish Contaminant Goal for cadmium in shellfish tissue is 3.3 ppm. This screening level assumes an average body weight of 70 kg and a consumption rate of 21 g/day. (Brodberg, R.K., and G.A. Pollock, 1999; Klasing, S., and R. Brodberg, 2008; USEPA, 2000)
Guideline Reference:	Prevalence of Selected Target Chemical Contaminants in Sport Fish From Two California Lakes: Public health designed screening study. Sacramento, CA: Office of Environmental Health Hazard Assessment Development of Fish Contaminant Goals and Advisory Tissue Levels for Common Contaminants in California Sport Fish: Chlordane, DDTs, Dieldrin, Methylmercury, PCBs, Selenium, and Toxaphene Guidance for Assessing Chemical Contaminant Data for Use In Fish Advisories Volume 1: Fish Sampling and Analysis
Spatial Representation:	Samples are collected by hand from three sub-locations for each site. The composite sample was collected from site San Francisco Bay San Mateo Bridge (SFSM).
Temporal Representation:	Representative samples of locally abundant species were collected during the winter on 2/3/2009
Environmental Conditions:	
QAPP Information:	Samples were collected as part of the State Water Board's Mussel Watch Program which is a part of the National Oceanic Administration's (NOAAs) National Status and Trends (NS&T). Mussels are shipped to NOAAs contract labs for analysis of trace constituents and mussel condition. Analytical protocols follow those approved by NOAAs NS&T Program Additional background information can be found at: http://ccma.nos.noaa.gov/stressors/pollution/nsandt/
QAPP Information Reference(s):	

Line of Evidence (LOE) for Decision ID 66563, Cadmium

Region 2

San Francisco Bay, Lower

LOE ID:	95145
Pollutant:	Cadmium
LOE Subgroup:	Pollutant-Tissue
Matrix:	Tissue
Fraction:	Fish fillet
Beneficial Use:	Commercial or recreational collection of fish, shellfish, or organisms
Number of Samples:	26
Number of Exceedances:	0

Data and Information Type:	Fish tissue analysis
Data Used to Assess Water Quality:	Water Board staff assessed Regional Monitoring Program data for Lower San Francisco Bay to determine beneficial use support and results are as follows: 0 of 26 samples exceed the criterion for cadmium. No samples were discarded for being non-detect, unquantifiable or the reporting limit exceeding the water quality objective.
Data Reference:	Regional Monitoring Program data, Feb. 1993-Sep. 2008
SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	Water Quality Control Plan for the San Francisco Bay Basin: Controllable water quality factors shall not cause a detrimental increase in concentrations of toxic substances found in bottom sediments or aquatic life. Effects on aquatic organisms, wildlife, and human health will be considered.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	The modified OEHHA Fish Contaminant Goal for cadmium in fish tissue is 2.2 ppm. This screening level assumes an average body weight of 70 kg and a consumption rate of 32 g/day. (Klasing, S., and R. Brodberg, 2008; USEPA, 2000)
Guideline Reference:	Development of Fish Contaminant Goals and Advisory Tissue Levels for Common Contaminants in California Sport Fish: Chlordane, DDTs, Dieldrin, Methylmercury, PCBs, Selenium, and Toxaphene Guidance for Assessing Chemical Contaminant Data for Use In Fish Advisories Volume 1: Fish Sampling and Analysis
Spatial Representation:	The samples were collected at six sites throughout Lower San Francisco Bay.
Temporal Representation:	The samples were collected in May 1994.
Environmental Conditions:	
QAPP Information:	The 1999 Quality Assurance Project Plan Regional Monitoring Program for Trace Substances was used.
QAPP Information Reference(s):	1999 Quality Assurance Project Plan Regional Monitoring Program for Trace Substances

DECISION ID	66564	Region 2
San Francisco Bay, Lower		

Pollutant:	Chlorpyrifos
Final Listing Decision:	Do Not List on 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision:	New Decision
Revision Status	Revised
Impairment from Pollutant or Pollution:	Pollutant
Regional Board Staff Conclusion:	<p>This pollutant is being considered for placement on the CWA section 303(d) List under section 3.1 of the Listing Policy. Under section 3.1 a single line of evidence is necessary to assess listing status.</p> <p>Three lines of evidence are available in the administrative record to assess this pollutant. Zero of seventy-one samples exceed the guideline.</p> <p>Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against placing this water segment-pollutant combination on the CWA section 303(d) List in the Water Quality Limited Segments category.</p> <p>This conclusion is based on the staff findings that:</p> <ol style="list-style-type: none"> 1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy. 2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy. 3. Zero of seventy-one samples exceed the guideline and this does not exceed the allowable frequency listed in Table 3.1 of the Listing Policy. 4. Pursuant to section 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.

Regional Board Staff Decision Recommendation: After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be placed on the section 303(d) list because applicable water quality standards are not being exceeded.

Line of Evidence (LOE) for Decision ID 66564, Chlorpyrifos
San Francisco Bay, Lower

Region 2

LOE ID: 95153

Pollutant: Chlorpyrifos
LOE Subgroup: Pollutant-Tissue
Matrix: Tissue
Fraction: Fish fillet

Beneficial Use: Commercial or recreational collection of fish, shellfish, or organisms

Number of Samples: 68
Number of Exceedances: 0

Data and Information Type: Fish tissue analysis
Data Used to Assess Water Quality: Water Board staff assessed Regional Monitoring Program data for Lower San Francisco Bay to determine beneficial use support and results are as follows: 0 of 68 samples exceed the criterion for chlorpyrifos. One sample was discarded for being non-detect, unquantifiable or the reporting limit exceeding the water quality objective.

Data Reference: [Regional Monitoring Program data, Feb. 1993-Sep. 2008](#)

SWAMP Data: Non-SWAMP

Water Quality Objective/Criterion: Water Quality Control Plan for the San Francisco Bay Basin: Controllable water quality factors shall not cause a detrimental increase in concentrations of toxic substances found in bottom sediments or aquatic life. Effects on aquatic organisms, wildlife, and human health will be considered.

Objective/Criterion Reference: [Water Quality Control Plan \(Basin Plan\) San Francisco Bay Basin \(Region 2\)](#)

Evaluation Guideline: The modified OEHHA Fish Contaminant Goal for chlorpyrifos in fish tissue is 660 ppb. This screening level assumes an average body weight of 70 kg and a consumption rate of 32 g/day. A cooking reduction factor of 1 is applied for skin-off fillets. (Klasing, S., and R. Brodberg, 2008; USEPA, 2000)

Guideline Reference: [Development of Fish Contaminant Goals and Advisory Tissue Levels for Common Contaminants in California Sport Fish: Chlordane, DDTs, Dieldrin, Methylmercury, PCBs, Selenium, and Toxaphene](#)
[Guidance for Assessing Chemical Contaminant Data for Use In Fish Advisories Volume 1: Fish Sampling and Analysis](#)

Spatial Representation: The samples were collected at fourteen sites throughout Lower San Francisco Bay.
Temporal Representation: The samples were collected in May 1994, March 1997, May 1997, and June 1997.
Environmental Conditions:
QAPP Information: The 1999 Quality Assurance Project Plan Regional Monitoring Program for Trace Substances was used.

QAPP Information Reference(s): [1999 Quality Assurance Project Plan Regional Monitoring Program for Trace Substances](#)

Line of Evidence (LOE) for Decision ID 66564, Chlorpyrifos
San Francisco Bay, Lower

Region 2

LOE ID: 92930

Pollutant: Chlorpyrifos
LOE Subgroup: Pollutant-Water
Matrix: Water
Fraction: Dissolved

Beneficial Use:	Estuarine Habitat
Number of Samples:	71
Number of Exceedances:	0
Data and Information Type:	PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality:	State Water Board staff assessed SFEI data for San Francisco Bay, Lower to determine beneficial use support and results are as follows: 0 of 71 samples exceed the criterion for Chlorpyrifos.
Data Reference:	Regional Monitoring Program data, Feb. 1993-Sep. 2008
SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	All waters shall be maintained free of toxic substances in concentrations which are toxic to, or which produce detrimental physiological responses in, human, plant, animal, or aquatic life. (Basin Plan).
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	The saltwater criterion continuous concentration to protect aquatic organisms is 0.009 ug/L (Siepmann and Finlayson 2000).
Guideline Reference:	10-Day toxicity test exposing freshwater amphipods (Hyaella azteca) to fenprothrin applied to formulated sediment under static-renewal conditions. Springborn Smithers Laboratories Study No. 13656.6137. Wareham, MA. Submitted to pyrethroid working group. DPR record number 254438
Spatial Representation:	Data for this line of evidence for San Francisco Bay, Lower was collected at 11 monitoring sites [Dumbarton Bridge - BA30, Redwood Creek - BA40, Alameda - BB70, South Bay - SB014W, Central Bay - CB014W, South Bay - SB013W, South Bay - SB015W, South Bay - SB006W, Central Bay - CB016W, Central Bay - CB002W, Central Bay - CB004W]
Temporal Representation:	Data was collected over the time period 3/2/1993-8/18/2005.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	The 1999 Quality Assurance Project Plan Regional Monitoring Program for Trace Substances was used.
QAPP Information Reference(s):	1999 Quality Assurance Project Plan Regional Monitoring Program for Trace Substances

Line of Evidence (LOE) for Decision ID 66564, Chlorpyrifos
San Francisco Bay, Lower

Region 2

LOE ID:	92929
Pollutant:	Chlorpyrifos
LOE Subgroup:	Pollutant-Tissue
Matrix:	Tissue
Fraction:	Shellfish
Beneficial Use:	Shellfish Harvesting
Number of Samples:	1
Number of Exceedances:	0
Data and Information Type:	Shellfish surveys
Data Used to Assess Water Quality:	The result did not exceed the guideline. Data were reported on a dry weight basis and were converted to a wet weight basis by multiplying the dry-weight concentration by a factor of 1 minus the percentage of moisture content expressed as a decimal.
Data Reference:	State Mussel Watch Program Data 1977-2000; Winter 2007-Winter 2009. State Water Resources Control Board
SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	Many pollutants can accumulate on particles, in sediment, or bioaccumulate in fish and

Objective/Criterion Reference:	other aquatic organisms. Controllable water quality factors shall not cause a detrimental increase in concentrations of toxic substances found in bottom sediments or aquatic life. Effects on aquatic organisms, wildlife, and human health will be considered. Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	The modified OEHHA Fish Contaminant Goal for chlorpyrifos in shellfish tissue is 1,000 ppb. This screening level assumes an average body weight of 70 kg and a consumption rate of 21 g/day. (Brodberg, R.K., and G.A. Pollock, 1999; Klasing, S., and R. Brodberg, 2008; USEPA, 2000)
Guideline Reference:	Prevalence of Selected Target Chemical Contaminants in Sport Fish From Two California Lakes: Public health designed screening study. Sacramento, CA: Office of Environmental Health Hazard Assessment Development of Fish Contaminant Goals and Advisory Tissue Levels for Common Contaminants in California Sport Fish: Chlordane, DDTs, Dieldrin, Methylmercury, PCBs, Selenium, and Toxaphene Guidance for Assessing Chemical Contaminant Data for Use In Fish Advisories Volume 1: Fish Sampling and Analysis
Spatial Representation:	Samples are collected by hand from three sub-locations for each site. The composite sample was collected from site San Francisco Bay San Mateo Bridge (SFSM).
Temporal Representation:	Representative samples of locally abundant species were collected during the winter on 2/3/2009
Environmental Conditions:	
QAPP Information:	Samples were collected as part of the State Water Board's Mussel Watch Program which is a part of the National Oceanic Administration's (NOAAs) National Status and Trends (NS&T). Mussels are shipped to NOAAs contract labs for analysis of trace constituents and mussel condition. Analytical protocols follow those approved by NOAAs NS&T Program Additional background information can be found at: http://ccma.nos.noaa.gov/stressors/pollution/nsandt/
QAPP Information Reference(s):	

DECISION ID	66565	Region 2
San Francisco Bay, Lower		

Pollutant:	Chromium
Final Listing Decision:	Do Not List on 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision:	New Decision
Revision Status	Revised
Impairment from Pollutant or Pollution:	Pollutant
Regional Board Staff Conclusion:	<p>This pollutant is being considered for placement on the CWA section 303(d) List under section 3.1 of the Listing Policy. Under section 3.1 a single line of evidence is necessary to assess listing status.</p> <p>One line of evidence is available in the administrative record to assess this pollutant. Zero of ninety-six samples exceed the guideline.</p> <p>Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against placing this water segment-pollutant combination on the CWA section 303(d) List in the Water Quality Limited Segments category.</p> <p>This conclusion is based on the staff findings that:</p> <ol style="list-style-type: none"> 1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy. 2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy. 3. Zero of ninety-six samples exceed the guideline and this does not exceed the allowable frequency listed in Table 3.1 of the Listing Policy. 4. Pursuant to section 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.
Regional Board Staff Decision	After review of the available data and information, RWQCB staff concludes that the water body-

Recommendation: pollutant combination should not be placed on the section 303(d) list because applicable water quality standards are not being exceeded.

Line of Evidence (LOE) for Decision ID 66565, Chromium

Region 2

San Francisco Bay, Lower

LOE ID: 92931

Pollutant: Chromium
LOE Subgroup: Pollutant-Water
Matrix: Water
Fraction: Dissolved

Beneficial Use: Estuarine Habitat

Number of Samples: 96
Number of Exceedances: 0

Data and Information Type: PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality: State Water Board staff assessed SFEI data for San Francisco Bay, Lower to determine beneficial use support and results are as follows: 0 of 96 samples exceed the criterion for Chromium.

Data Reference: [Regional Monitoring Program data, Feb. 1993-Sep. 2008](#)

SWAMP Data: Non-SWAMP

Water Quality Objective/Criterion: The dissolved chromium (III) criterion continuous concentration (expressed as a 4-day average) to protect aquatic life in freshwater is 0.180 mg/L (California Toxics Rule, 2000).

Objective/Criterion Reference: [Code of Federal Regulations 40 part 131.38 Establishment of numeric criteria for priority toxic pollutants for the State of California. 7/1/2011 Edition](#)

Evaluation Guideline:
Guideline Reference:

Spatial Representation: Data for this line of evidence for San Francisco Bay, Lower was collected at 5 monitoring sites [San Bruno Shoal - BB15, Dumbarton Bridge - BA30, Redwood Creek - BA40, Oyster Point - BB30, Alameda - BB70]

Temporal Representation: Data was collected over the time period 3/2/1993-7/16/1999.

Environmental Conditions: Staff is not aware of any special conditions that might affect interpretation of the data.

QAPP Information: The 1999 Quality Assurance Project Plan Regional Monitoring Program for Trace Substances was used.

QAPP Information Reference(s): [1999 Quality Assurance Project Plan Regional Monitoring Program for Trace Substances](#)

DECISION ID

66566

Region 2

San Francisco Bay, Lower

Pollutant: Chrysene (C1-C4)
Final Listing Decision: Do Not List on 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision: New Decision
Revision Status: Revised
Impairment from Pollutant or Pollution: Pollutant

Regional Board Staff Conclusion: This pollutant is being considered for placement on the CWA section 303(d) List under section 3.1 of the Listing Policy. Under section 3.1 a single line of evidence is necessary to assess listing status.

One line of evidence is available in the administrative record to assess this pollutant. Zero of eighty samples exceed the guideline.

Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against placing this water segment-pollutant combination on the CWA section 303(d) List in the Water Quality Limited Segments category.

This conclusion is based on the staff findings that:

1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy.
2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy.
3. Zero of eighty samples exceed the guideline and this does not exceed the allowable frequency listed in Table 3.1 of the Listing Policy.
4. Pursuant to section 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.

Regional Board Staff Decision Recommendation: After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be placed on the section 303(d) list because applicable water quality standards are not being exceeded.

Line of Evidence (LOE) for Decision ID 66566, Chrysene (C1-C4)

Region 2

San Francisco Bay, Lower

LOE ID:	92938
Pollutant:	Chrysene (C1-C4)
LOE Subgroup:	Pollutant-Water
Matrix:	Water
Fraction:	Total
Beneficial Use:	Commercial or recreational collection of fish, shellfish, or organisms
Number of Samples:	80
Number of Exceedances:	0
Data and Information Type:	PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality:	State Water Board staff assessed SFEI data for San Francisco Bay, Lower to determine beneficial use support and results are as follows: 0 of 80 samples exceed the criterion for Chrysene.
Data Reference:	Regional Monitoring Program data, Feb. 1993-Sep. 2008
SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	The Chrysene criteria for the protection of human health from consumption of organisms only is 0.049 ug/L (California Toxics Rule, 2000).
Objective/Criterion Reference:	Code of Federal Regulations 40 part 131.38 Establishment of numeric criteria for priority toxic pollutants for the State of California. 7/1/2011 Edition
Evaluation Guideline:	
Guideline Reference:	
Spatial Representation:	Data for this line of evidence for San Francisco Bay, Lower was collected at 19 monitoring sites [Dumbarton Bridge - BA30, Redwood Creek - BA40, Alameda - BB70, Central Bay - CB002W, Central Bay - CB004W, Central Bay - CB010W, Central Bay - CB012W, Central Bay - CB018W, Central Bay - CB020W, Central Bay - CB022W, Central Bay - CB024W, Central Bay - CB026W, South Bay - SB006W, South Bay - SB013W, South Bay - SB014W, South Bay - SB015W, South Bay - SB020W, South Bay - SB021W, South Bay - SB026W]
Temporal Representation:	Data was collected over the time period 3/2/1993-7/18/2008.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	The 1999 Quality Assurance Project Plan Regional Monitoring Program for Trace Substances was used.
QAPP Information Reference(s):	1999 Quality Assurance Project Plan Regional Monitoring Program for Trace Substances

DECISION ID	66567	Region 2
San Francisco Bay, Lower		

Pollutant:	Copper
Final Listing Decision:	Do Not List on 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision:	New Decision
Revision Status	Revised
Impairment from Pollutant or Pollution:	Pollutant

Regional Board Staff Conclusion: This pollutant is being considered for placement on the CWA section 303(d) List under section 3.1 of the Listing Policy. Under section 3.1 a single line of evidence is necessary to assess listing status.

Two lines of evidence are available in the administrative record to assess this pollutant. Zero of one hundred fifty-two samples exceed the guideline.

Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against placing this water segment-pollutant combination on the CWA section 303(d) List in the Water Quality Limited Segments category.

This conclusion is based on the staff findings that:

1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy.
2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy.
3. Zero of one hundred fifty-two samples exceed the guideline and this does not exceed the allowable frequency listed in Table 3.1 of the Listing Policy.
4. Pursuant to section 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.

Regional Board Staff Decision Recommendation: After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be placed on the section 303(d) list because applicable water quality standards are not being exceeded.

Line of Evidence (LOE) for Decision ID 66567, Copper	Region 2
San Francisco Bay, Lower	

LOE ID:	92940
Pollutant:	Copper
LOE Subgroup:	Pollutant-Water
Matrix:	Water
Fraction:	Dissolved
Beneficial Use:	Estuarine Habitat
Number of Samples:	8
Number of Exceedances:	0
Data and Information Type:	Fixed station physical/chemical (conventional plus toxic pollutants)
Data Used to Assess Water Quality:	None of the eight samples exceeded the SSO value of 6.9 ug/L for dissolved copper.
Data Reference:	Data for Various Pollutants in California Marinas, 2006.
SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	Waters shall not contain chemical constituents in concentrations that adversely affect beneficial uses. Table 3.3A lists a site specific objective (SSO) for criteria continuous concentration of dissolved copper. The SSO value of 6.9 ug/L is used for dissolved copper in the Lower San Francisco Bay.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)

Evaluation Guideline:
Guideline Reference:

Spatial Representation: A total of four separate grab samples were collected from outside three marina basins (Ballena Isle, Coyote Point, and South Beach). The four grab samples were averaged into one result.

Temporal Representation: Samples were collected from outside Ballena Isle and South Beach marinas on three separate sampling events during the dry season (July - October) in 2006. Samples were collected from outside Coyote Point marina on two separate sampling events during the dry season (July - October) in 2006.

Environmental Conditions: Samples were collected during the dry season only.

QAPP Information: Samples were collected and analyzed in accordance with a Quality Assurance Project Plan that was prepared per State Water Resources Control Board Agreement No. 05-218-250 California Department of Pesticide Regulation, Sacramento, CA. (Available online at http://www.cdpr.ca.gov/docs/emon/surfwttr/protocols/qapp_study236.pdf)

QAPP Information Reference(s):

Line of Evidence (LOE) for Decision ID 66567, Copper
San Francisco Bay, Lower

Region 2

LOE ID: 92939

Pollutant: Copper
LOE Subgroup: Pollutant-Water
Matrix: Water
Fraction: Dissolved

Beneficial Use: Estuarine Habitat

Number of Samples: 144
Number of Exceedances: 0

Data and Information Type: PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality: State Water Board staff assessed SFEI data for San Francisco Bay, Lower to determine beneficial use support and results are as follows: 0 of 144 samples exceed the criterion for Copper.

Data Reference: [Regional Monitoring Program data, Feb. 1993-Sep. 2008](#)

SWAMP Data: Non-SWAMP

Water Quality Objective/Criterion: According to table 3-3A, the Copper site-specific objective for San Francisco Bay, Lower is 6 ug/L.

Objective/Criterion Reference: [Water Quality Control Plan \(Basin Plan\) San Francisco Bay Basin \(Region 2\)](#)

Evaluation Guideline:
Guideline Reference:

Spatial Representation: Data for this line of evidence for San Francisco Bay, Lower was collected at 23 monitoring sites [San Bruno Shoal - BB15, Dumbarton Bridge - BA30, Redwood Creek - BA40, Oyster Point - BB30, Alameda - BB70, Central Bay - CB018W, South Bay - SB014W, Central Bay - CB014W, South Bay - SB013W, South Bay - SB015W, South Bay - SB006W, South Bay - SB020W, Central Bay - CB016W, South Bay - SB026W, Central Bay - CB022W, Central Bay - CB020W, South Bay - SB021W, Central Bay - CB010W, Central Bay - CB002W, Central Bay - CB012W, Central Bay - CB004W, Central Bay - CB026W, Central Bay - CB024W]

Temporal Representation: Data was collected over the time period 3/2/1993-7/18/2008.

Environmental Conditions: Staff is not aware of any special conditions that might affect interpretation of the data.

QAPP Information: The 1999 Quality Assurance Project Plan Regional Monitoring Program for Trace Substances was used.

QAPP Information Reference(s): [1999 Quality Assurance Project Plan Regional Monitoring Program for Trace Substances](#)

DECISION ID	66568	Region 2
San Francisco Bay, Lower		

Pollutant:	Cyanide
Final Listing Decision:	Do Not List on 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision:	New Decision
Revision Status	Revised
Impairment from Pollutant or Pollution:	Pollutant

Regional Board Staff Conclusion: This pollutant is being considered for placement on the CWA section 303(d) List under section 3.1 of the Listing Policy. Under section 3.1 a single line of evidence is necessary to assess listing status. Two lines of evidence are available in the administrative record to assess this pollutant. Zero of nine samples exceed the guideline.

Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against placing this water segment-pollutant combination on the CWA section 303(d) List.

This conclusion is based on the staff findings that:

1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy.
2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy.
3. Zero of nine samples exceed the guideline and this sample size is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating. A minimum of 16 samples is needed to determine if a beneficial use is fully supported using table 3.1.
4. Pursuant to SECTION 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.

Regional Board Staff Decision Recommendation: After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be placed on the section 303(d) list. The readily available data and information is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating.

Line of Evidence (LOE) for Decision ID 66568, Cyanide	Region 2
San Francisco Bay, Lower	

LOE ID:	92941
Pollutant:	Cyanide
LOE Subgroup:	Pollutant-Water
Matrix:	Water
Fraction:	None
Beneficial Use:	Estuarine Habitat
Number of Samples:	9
Number of Exceedances:	0
Data and Information Type:	PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality:	State Water Board staff assessed SFEI data for San Francisco Bay, Lower to determine beneficial use support and results are as follows: 0 of 9 samples exceed the criterion for Cyanide.
Data Reference:	Regional Monitoring Program data, Feb. 1993-Sep. 2008
SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	According to table 3-3C, the Cyanide site-specific objective for San Francisco Bay, Lower is 2.9 ug/L.

Objective/Criterion Reference: [Water Quality Control Plan \(Basin Plan\) San Francisco Bay Basin \(Region 2\)](#)

Evaluation Guideline:
Guideline Reference:

Spatial Representation: Data for this line of evidence for San Francisco Bay, Lower was collected at 3 monitoring sites [Dumbarton Bridge - BA30, Redwood Creek - BA40, Oyster Point - BB30]

Temporal Representation: Data was collected over the time period 3/2/1993-9/13/1993.

Environmental Conditions: Staff is not aware of any special conditions that might affect interpretation of the data.

QAPP Information: The 1999 Quality Assurance Project Plan Regional Monitoring Program for Trace Substances was used.

QAPP Information Reference(s): [1999 Quality Assurance Project Plan Regional Monitoring Program for Trace Substances](#)

Line of Evidence (LOE) for Decision ID 66568, Cyanide
San Francisco Bay, Lower

Region 2

LOE ID: 92942

Pollutant: Cyanide
LOE Subgroup: Pollutant-Water
Matrix: Water
Fraction: Total

Beneficial Use: Commercial or recreational collection of fish, shellfish, or organisms

Number of Samples: 9
Number of Exceedances: 0

Data and Information Type: PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality: State Water Board staff assessed SFEI data for San Francisco Bay, Lower to determine beneficial use support and results are as follows: 0 of 9 samples exceed the criterion for Cyanide.

Data Reference: [Regional Monitoring Program data, Feb. 1993-Sep. 2008](#)

SWAMP Data: Non-SWAMP

Water Quality Objective/Criterion: The cyanide criteria for the protection of human health from consumption of organisms only is 220,000 ug/L (California Toxics Rule, 2000).

Objective/Criterion Reference: [Code of Federal Regulations 40 part 131.38 Establishment of numeric criteria for priority toxic pollutants for the State of California. 7/1/2011 Edition](#)

Evaluation Guideline:
Guideline Reference:

Spatial Representation: Data for this line of evidence for San Francisco Bay, Lower was collected at 3 monitoring sites [Dumbarton Bridge - BA30, Redwood Creek - BA40, Oyster Point - BB30]

Temporal Representation: Data was collected over the time period 3/2/1993-9/13/1993.

Environmental Conditions: Staff is not aware of any special conditions that might affect interpretation of the data.

QAPP Information: The 1999 Quality Assurance Project Plan Regional Monitoring Program for Trace Substances was used.

QAPP Information Reference(s): [1999 Quality Assurance Project Plan Regional Monitoring Program for Trace Substances](#)

DECISION ID 66569
San Francisco Bay, Lower

Region 2

Pollutant: Endosulfan
Final Listing Decision: Do Not List on 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision: New Decision
Revision Status Revised

Impairment from Pollutant or Pollution: Pollutant

Regional Board Staff Conclusion:

This pollutant is being considered for placement on the CWA section 303(d) List under section 3.1 of the Listing Policy. Under section 3.1 a single line of evidence is necessary to assess listing status.

Four lines of evidence are available in the administrative record to assess this pollutant. Zero of seventy-two samples exceed the guideline.

Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against placing this water segment-pollutant combination on the CWA section 303(d) List in the Water Quality Limited Segments category.

This conclusion is based on the staff findings that:

1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy.
2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy.
3. Zero of seventy-two samples exceed the guideline and this does not exceed the allowable frequency listed in Table 3.1 of the Listing Policy.
4. Pursuant to section 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.

Regional Board Staff Decision Recommendation:

After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be placed on the section 303(d) list because applicable water quality standards are not being exceeded.

**Line of Evidence (LOE) for Decision ID 66569, Endosulfan
San Francisco Bay, Lower**

Region 2

LOE ID:	92959
Pollutant:	Endosulfan
LOE Subgroup:	Pollutant-Tissue
Matrix:	Tissue
Fraction:	Shellfish
Beneficial Use:	Shellfish Harvesting
Number of Samples:	1
Number of Exceedances:	0
Data and Information Type:	Shellfish surveys
Data Used to Assess Water Quality:	The result did not exceed the guideline. Data were reported on a dry weight basis and were converted to a wet weight basis by multiplying the dry-weight concentration by a factor of 1 minus the percentage of moisture content expressed as a decimal. Total Endosulfan result was calculated by summing the results for Endosulfan I and Endosulfan II.
Data Reference:	State Mussel Watch Program Data 1977-2000; Winter 2007-Winter 2009. State Water Resources Control Board
SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	Many pollutants can accumulate on particles, in sediment, or bioaccumulate in fish and other aquatic organisms. Controllable water quality factors shall not cause a detrimental increase in concentrations of toxic substances found in bottom sediments or aquatic life. Effects on aquatic organisms, wildlife, and human health will be considered.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	The modified OEHHA Fish Contaminant Goal for endosulfan (I and II) in shellfish tissue is 20,000 ppb. This screening level assumes an average body weight of 70 kg and a consumption rate of 21 g/day. (Brodberg, R.K., and G.A. Pollock, 1999; Klasing, S., and R. Brodberg, 2008; USEPA, 2000)

Guideline Reference:	Prevalence of Selected Target Chemical Contaminants in Sport Fish From Two California Lakes: Public health designed screening study. Sacramento, CA: Office of Environmental Health Hazard Assessment Development of Fish Contaminant Goals and Advisory Tissue Levels for Common Contaminants in California Sport Fish: Chlordane, DDTs, Dieldrin, Methylmercury, PCBs, Selenium, and Toxaphene Guidance for Assessing Chemical Contaminant Data for Use In Fish Advisories Volume 1: Fish Sampling and Analysis
Spatial Representation:	Samples are collected by hand from three sub-locations for each site. The composite sample was collected from site San Francisco Bay San Mateo Bridge (SFSM).
Temporal Representation:	Representative samples of locally abundant species were collected during the winter on 2/3/2009
Environmental Conditions:	
QAPP Information:	Samples were collected as part of the State Water Board's Mussel Watch Program which is a part of the National Oceanic Administration's (NOAAs) National Status and Trends (NS&T). Mussels are shipped to NOAAs contract labs for analysis of trace constituents and mussel condition. Analytical protocols follow those approved by NOAAs NS&T Program Additional background information can be found at: http://ccma.nos.noaa.gov/stressors/pollution/nsandt/
QAPP Information Reference(s):	

Line of Evidence (LOE) for Decision ID 66569, Endosulfan

Region 2

San Francisco Bay, Lower

LOE ID:	92960
Pollutant:	Endosulfan
LOE Subgroup:	Pollutant-Water
Matrix:	Water
Fraction:	Dissolved
Beneficial Use:	Estuarine Habitat
Number of Samples:	72
Number of Exceedances:	0
Data and Information Type:	PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality:	State Water Board staff assessed SFEI data for San Francisco Bay, Lower to determine beneficial use support and results are as follows: 0 of 72 samples exceed the criterion for Endosulfan, Total.
Data Reference:	Regional Monitoring Program data, Feb. 1993-Sep. 2008
SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	The total Endosulfan criterion continuous concentration (expressed as a 4-day average) to protect aquatic life in saltwater is 0.0087 ug/L (California Toxics Rule, 2000).
Objective/Criterion Reference:	Code of Federal Regulations 40 part 131.38 Establishment of numeric criteria for priority toxic pollutants for the State of California. 7/1/2011 Edition
Evaluation Guideline:	
Guideline Reference:	
Spatial Representation:	Data for this line of evidence for San Francisco Bay, Lower was collected at 13 monitoring sites [Dumbarton Bridge - BA30, Redwood Creek - BA40, Alameda - BB70, South Bay - SB014W, Central Bay - CB014W, South Bay - SB020W, Central Bay - CB016W, South Bay - SB026W, Central Bay - CB010W, Central Bay - CB002W, Central Bay - CB012W, Central Bay - CB004W, South Bay - SB021W]
Temporal Representation:	Data was collected over the time period 1/31/1994-8/16/2007.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	The 1999 Quality Assurance Project Plan Regional Monitoring Program for Trace Substances was used.

Line of Evidence (LOE) for Decision ID 66569, Endosulfan

Region 2

San Francisco Bay, Lower

LOE ID:	95135
Pollutant:	Endosulfan
LOE Subgroup:	Pollutant-Tissue
Matrix:	Tissue
Fraction:	Fish fillet
Beneficial Use:	Commercial or recreational collection of fish, shellfish, or organisms
Number of Samples:	48
Number of Exceedances:	0
Data and Information Type:	Fish tissue analysis
Data Used to Assess Water Quality:	Water Board staff assessed Regional Monitoring Program data for Lower San Francisco Bay to determine beneficial use support and results are as follows: 0 of 48 samples exceed the criterion for endosulfan. Twenty-one samples were discarded for being non-detect, unquantifiable or the reporting limit exceeding the water quality objective.
Data Reference:	Regional Monitoring Program data, Feb. 1993-Sep. 2008
SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	Water Quality Control Plan for the San Francisco Bay Basin: Controllable water quality factors shall not cause a detrimental increase in concentrations of toxic substances found in bottom sediments or aquatic life. Effects on aquatic organisms, wildlife, and human health will be considered.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	The modified OEHHA Fish Contaminant Goal for endosulfan (I and II) in fish tissue is 13,000 ppb. This screening level assumes an average body weight of 70 kg and a consumption rate of 32 g/day. A cooking reduction factor of 1 is applied for skin-off fillets. (Klasing, S., and R. Brodberg, 2008; USEPA, 2000)
Guideline Reference:	Development of Fish Contaminant Goals and Advisory Tissue Levels for Common Contaminants in California Sport Fish: Chlordane, DDTs, Dieldrin, Methylmercury, PCBs, Selenium, and Toxaphene Guidance for Assessing Chemical Contaminant Data for Use In Fish Advisories Volume 1: Fish Sampling and Analysis
Spatial Representation:	The samples were collected at fourteen sites throughout Lower San Francisco Bay.
Temporal Representation:	The samples were collected in May 1994, March 1997, May 1997, and June 1997.
Environmental Conditions:	
QAPP Information:	The 1999 Quality Assurance Project Plan Regional Monitoring Program for Trace Substances was used.
QAPP Information Reference(s):	1999 Quality Assurance Project Plan Regional Monitoring Program for Trace Substances

Line of Evidence (LOE) for Decision ID 66569, Endosulfan

Region 2

San Francisco Bay, Lower

LOE ID:	93636
Pollutant:	Endosulfan
LOE Subgroup:	Pollutant-Tissue
Matrix:	Tissue
Fraction:	Shellfish
Beneficial Use:	Shellfish Harvesting

Number of Samples:	6
Number of Exceedances:	0
Data and Information Type:	Shellfish surveys
Data Used to Assess Water Quality:	None of the 6 samples exceeded the guideline. All composite samples were comprised of <i>Mytilus californianus</i> . Data were reported on a dry weight basis and were converted to a wet weight basis by multiplying the dry-weight concentration by a factor of 1 minus the percentage of moisture content expressed as a decimal.
Data Reference:	Regional Monitoring Program data, Feb. 1993-Sep. 2008
SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	Water Quality Control Plan for the San Francisco Bay Basin: Controllable water quality factors shall not cause a detrimental increase in concentrations of toxic substances found in bottom sediments or aquatic life. Effects on aquatic organisms, wildlife, and human health will be considered.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	The modified OEHHA Fish Contaminant Goal for endosulfan (I and II) in shellfish tissue is 20,000 ppb. This screening level assumes an average body weight of 70 kg and a consumption rate of 21 g/day. (Brodberg, R.K., and G.A. Pollock, 1999; Klasing, S., and R. Brodberg, 2008; USEPA, 2000)
Guideline Reference:	Prevalence of Selected Target Chemical Contaminants in Sport Fish From Two California Lakes: Public health designed screening study. Sacramento, CA: Office of Environmental Health Hazard Assessment Development of Fish Contaminant Goals and Advisory Tissue Levels for Common Contaminants in California Sport Fish: Chlordane, DDTs, Dieldrin, Methylmercury, PCBs, Selenium, and Toxaphene Guidance for Assessing Chemical Contaminant Data for Use In Fish Advisories Volume 1: Fish Sampling and Analysis
Spatial Representation:	Samples were collected at the following stations: BA30 - Dumbarton Bridge, BA40 - Redwood Creek and BB71 - Alameda.
Temporal Representation:	Samples were collected at BB71, BA30 and BA40 on 9/3/2002 and 9/24-25/2003.
Environmental Conditions:	
QAPP Information:	1999 Quality Assurance Project Plan Regional Monitoring Program for Trace Substances.
QAPP Information Reference(s):	1999 Quality Assurance Project Plan Regional Monitoring Program for Trace Substances

DECISION ID	66571	Region 2
San Francisco Bay, Lower		
Pollutant:	Endosulfan sulfate	
Final Listing Decision:	Do Not List on 303(d) list (TMDL required list)	
Last Listing Cycle's Final Listing Decision:	New Decision	
Revision Status	Revised	
Impairment from Pollutant or Pollution:	Pollutant	
Regional Board Staff Conclusion:	<p>This pollutant is being considered for placement on the CWA section 303(d) List under section 3.1 of the Listing Policy. Under section 3.1 a single line of evidence is necessary to assess listing status.</p> <p>One line of evidence is available in the administrative record to assess this pollutant. Zero of seventy-three samples exceed the guideline.</p> <p>Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against placing this water segment-pollutant combination on the CWA section 303(d) List in the Water Quality Limited Segments category.</p> <p>This conclusion is based on the staff findings that:</p> <ol style="list-style-type: none"> 1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy. 	

2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy.
3. Zero of seventy-three samples exceed the guideline and this does not exceed the allowable frequency listed in Table 3.1 of the Listing Policy.
4. Pursuant to section 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.

Regional Board Staff Decision Recommendation: After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be placed on the section 303(d) list because applicable water quality standards are not being exceeded.

**Line of Evidence (LOE) for Decision ID 66571, Endosulfan sulfate
San Francisco Bay, Lower**

Region 2

LOE ID: 92961

Pollutant: Endosulfan sulfate
LOE Subgroup: Pollutant-Water
Matrix: Water
Fraction: Total

Beneficial Use: Commercial or recreational collection of fish, shellfish, or organisms

Number of Samples: 73
Number of Exceedances: 0

Data and Information Type: PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality: State Water Board staff assessed SFEI data for San Francisco Bay, Lower to determine beneficial use support and results are as follows: 0 of 73 samples exceed the criterion for Endosulfan Sulfate.

Data Reference: [Regional Monitoring Program data, Feb. 1993-Sep. 2008](#)

SWAMP Data: Non-SWAMP

Water Quality Objective/Criterion: The Endosulfan Sulfate criteria for the protection of human health from consumption of organisms only is 240 ug/L (California Toxics Rule, 2000).

Objective/Criterion Reference: [Code of Federal Regulations 40 part 131.38 Establishment of numeric criteria for priority toxic pollutants for the State of California. 7/1/2011 Edition](#)

Evaluation Guideline:
Guideline Reference:

Spatial Representation: Data for this line of evidence for San Francisco Bay, Lower was collected at 14 monitoring sites [Dumbarton Bridge - BA30, Redwood Creek - BA40, Alameda - BB70, Central Bay - CB002W, Central Bay - CB004W, Central Bay - CB014W, Central Bay - CB016W, Central Bay - CB018W, Central Bay - CB020W, Central Bay - CB022W, South Bay - SB006W, South Bay - SB013W, South Bay - SB014W, South Bay - SB015W]

Temporal Representation: Data was collected over the time period 3/2/1993-8/16/2007.

Environmental Conditions: Staff is not aware of any special conditions that might affect interpretation of the data.

QAPP Information: The 1999 Quality Assurance Project Plan Regional Monitoring Program for Trace Substances was used.

QAPP Information Reference(s): [1999 Quality Assurance Project Plan Regional Monitoring Program for Trace Substances](#)

**DECISION ID 66573
San Francisco Bay, Lower**

Region 2

Pollutant: Endrin
Final Listing Decision: Do Not List on 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision: New Decision

Revision Status
Impairment from Pollutant or Pollution:

Revised
Pollutant

Regional Board Staff Conclusion:

This pollutant is being considered for placement on the CWA section 303(d) List under section 3.1 of the Listing Policy. Under section 3.1 a single line of evidence is necessary to assess listing status.

Five lines of evidence are available in the administrative record to assess this pollutant. Zero of seventy-two samples exceed the guideline.

Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against placing this water segment-pollutant combination on the CWA section 303(d) List in the Water Quality Limited Segments category.

This conclusion is based on the staff findings that:

1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy.
2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy.
3. Zero of seventy-two samples exceed the guideline and this does not exceed the allowable frequency listed in Table 3.1 of the Listing Policy.
4. Pursuant to section 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.

Regional Board Staff Decision Recommendation:

After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be placed on the section 303(d) list because applicable water quality standards are not being exceeded.

Line of Evidence (LOE) for Decision ID 66573, Endrin

Region 2

San Francisco Bay, Lower

LOE ID:	95112
Pollutant:	Endrin
LOE Subgroup:	Pollutant-Tissue
Matrix:	Tissue
Fraction:	Fish fillet
Beneficial Use:	Commercial or recreational collection of fish, shellfish, or organisms
Number of Samples:	68
Number of Exceedances:	0
Data and Information Type:	Fish tissue analysis
Data Used to Assess Water Quality:	Water Board staff assessed Regional Monitoring Program data for Lower San Francisco Bay to determine beneficial use support and results are as follows: 0 of 68 samples exceed the criterion for endrin. One sample was discarded for being non-detect, unquantifiable or the reporting limit exceeding the water quality objective.
Data Reference:	Regional Monitoring Program data, Feb. 1993-Sep. 2008
SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	Water Quality Control Plan for the San Francisco Bay Basin: Controllable water quality factors shall not cause a detrimental increase in concentrations of toxic substances found in bottom sediments or aquatic life. Effects on aquatic organisms, wildlife, and human health will be considered.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	The modified OEHHA Fish Contaminant Goal for endrin in fish tissue is 660 ppb. This screening level assumes an average body weight of 70 kg and a consumption rate of 32 g/day. A cooking reduction factor of 1 is applied for skin-off fillets. (Klasing, S., and R. Brodberg, 2008; USEPA, 2000)
Guideline Reference:	Development of Fish Contaminant Goals and Advisory Tissue Levels for Common

[Contaminants in California Sport Fish: Chlordane, DDTs, Dieldrin, Methylmercury, PCBs, Selenium, and Toxaphene](#)
[Guidance for Assessing Chemical Contaminant Data for Use In Fish Advisories Volume 1: Fish Sampling and Analysis](#)

Spatial Representation: The samples were collected at thirteen sites throughout Lower San Francisco Bay.
Temporal Representation: The samples were collected in May 1994, March 1997, May 1997, and June 1997.
Environmental Conditions:
QAPP Information: The 1999 Quality Assurance Project Plan Regional Monitoring Program for Trace Substances was used.
QAPP Information Reference(s): [1999 Quality Assurance Project Plan Regional Monitoring Program for Trace Substances](#)

**Line of Evidence (LOE) for Decision ID 66573, Endrin
San Francisco Bay, Lower**

Region 2

LOE ID: 93642

Pollutant: Endrin
LOE Subgroup: Pollutant-Tissue
Matrix: Tissue
Fraction: Shellfish

Beneficial Use: Shellfish Harvesting

Number of Samples: 55
Number of Exceedances: 0

Data and Information Type: Shellfish surveys
Data Used to Assess Water Quality: None of the 55 samples exceeded the guideline. All composite samples were comprised of *Mytilus californianus* except for 1 composite that was comprised of *Crassostrea gigas*. Data were reported on a dry weight basis and were converted to a wet weight basis by multiplying the dry-weight concentration by a factor of 1 minus the percentage of moisture content expressed as a decimal. Laboratory replicates were averaged.

Data Reference: [Regional Monitoring Program data, Feb. 1993-Sep. 2008](#)

SWAMP Data: Non-SWAMP

Water Quality Objective/Criterion: Water Quality Control Plan for the San Francisco Bay Basin: Controllable water quality factors shall not cause a detrimental increase in concentrations of toxic substances found in bottom sediments or aquatic life. Effects on aquatic organisms, wildlife, and human health will be considered.

Objective/Criterion Reference: [Water Quality Control Plan \(Basin Plan\) San Francisco Bay Basin \(Region 2\)](#)

Evaluation Guideline: The modified OEHHA Fish Contaminant Goal for endrin in shellfish tissue is 1,000 ppb. This screening level assumes an average body weight of 70 kg and a consumption rate of 21 g/day. (Brodberg, R.K., and G.A. Pollock, 1999; Klasing, S., and R. Brodberg, 2008; USEPA, 2000)

Guideline Reference: [Prevalence of Selected Target Chemical Contaminants in Sport Fish From Two California Lakes: Public health designed screening study. Sacramento, CA: Office of Environmental Health Hazard Assessment](#)
[Development of Fish Contaminant Goals and Advisory Tissue Levels for Common Contaminants in California Sport Fish: Chlordane, DDTs, Dieldrin, Methylmercury, PCBs, Selenium, and Toxaphene](#)
[Guidance for Assessing Chemical Contaminant Data for Use In Fish Advisories Volume 1: Fish Sampling and Analysis](#)

Spatial Representation: Samples were collected at the following stations: BA30 - Dumbarton Bridge, BA40 - Redwood Creek and BB71 - Alameda.

Temporal Representation: Samples were generally collected in spring and fall seasons from years 1993 - 1999 and then during most fall seasons during years 2000 - 2008.

Environmental Conditions:
QAPP Information: 1999 Quality Assurance Project Plan Regional Monitoring Program for Trace Substances.

Line of Evidence (LOE) for Decision ID 66573, Endrin**Region 2****San Francisco Bay, Lower**

LOE ID:	92962
Pollutant:	Endrin
LOE Subgroup:	Pollutant-Tissue
Matrix:	Tissue
Fraction:	Shellfish
Beneficial Use:	Shellfish Harvesting
Number of Samples:	1
Number of Exceedances:	0
Data and Information Type:	Shellfish surveys
Data Used to Assess Water Quality:	The result did not exceed the guideline. Data were reported on a dry weight basis and were converted to a wet weight basis by multiplying the dry-weight concentration by a factor of 1 minus the percentage of moisture content expressed as a decimal.
Data Reference:	State Mussel Watch Program Data 1977-2000; Winter 2007-Winter 2009, State Water Resources Control Board
SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	Many pollutants can accumulate on particles, in sediment, or bioaccumulate in fish and other aquatic organisms. Controllable water quality factors shall not cause a detrimental increase in concentrations of toxic substances found in bottom sediments or aquatic life. Effects on aquatic organisms, wildlife, and human health will be considered.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	The modified OEHHA Fish Contaminant Goal for endrin in shellfish tissue is 1,000 ppb. This screening level assumes an average body weight of 70 kg and a consumption rate of 21 g/day. (Brodberg, R.K., and G.A. Pollock, 1999; Klasing, S., and R. Brodberg, 2008; USEPA, 2000)
Guideline Reference:	Prevalence of Selected Target Chemical Contaminants in Sport Fish From Two California Lakes: Public health designed screening study. Sacramento, CA: Office of Environmental Health Hazard Assessment Development of Fish Contaminant Goals and Advisory Tissue Levels for Common Contaminants in California Sport Fish: Chlordane, DDTs, Dieldrin, Methylmercury, PCBs, Selenium, and Toxaphene Guidance for Assessing Chemical Contaminant Data for Use In Fish Advisories Volume 1: Fish Sampling and Analysis
Spatial Representation:	Samples are collected by hand from three sub-locations for each site. The composite sample was collected from site San Francisco Bay San Mateo Bridge (SFSM).
Temporal Representation:	Representative samples of locally abundant species were collected during the winter on 2/3/2009
Environmental Conditions:	
QAPP Information:	Samples were collected as part of the State Water Board's Mussel Watch Program which is a part of the National Oceanic Administration's (NOAAs) National Status and Trends (NS&T). Mussels are shipped to NOAAs contract labs for analysis of trace constituents and mussel condition. Analytical protocols follow those approved by NOAAs NS&T Program Additional background information can be found at: http://ccma.nos.noaa.gov/stressors/pollution/nsandt/
QAPP Information Reference(s):	

Line of Evidence (LOE) for Decision ID 66573, Endrin**Region 2****San Francisco Bay, Lower**

LOE ID:	92969
Pollutant:	Endrin
LOE Subgroup:	Pollutant-Water
Matrix:	Water
Fraction:	Total
Beneficial Use:	Commercial or recreational collection of fish, shellfish, or organisms
Number of Samples:	72
Number of Exceedances:	0
Data and Information Type:	PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality:	State Water Board staff assessed SFEI data for San Francisco Bay, Lower to determine beneficial use support and results are as follows: 0 of 72 samples exceed the criterion for Endrin.
Data Reference:	Regional Monitoring Program data, Feb. 1993-Sep. 2008
SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	The Endrin criteria for the protection of human health from consumption of organisms only is 0.81ug/L (California Toxics Rule, 2000).
Objective/Criterion Reference:	Code of Federal Regulations 40 part 131.38 Establishment of numeric criteria for priority toxic pollutants for the State of California. 7/1/2011 Edition
Evaluation Guideline:	
Guideline Reference:	
Spatial Representation:	Data for this line of evidence for San Francisco Bay, Lower was collected at 17 monitoring sites [Dumbarton Bridge - BA30, Redwood Creek - BA40, Alameda - BB70, Central Bay - CB002W, Central Bay - CB004W, Central Bay - CB010W, Central Bay - CB012W, Central Bay - CB014W, Central Bay - CB016W, Central Bay - CB018W, Central Bay - CB020W, Central Bay - CB022W, South Bay - SB006W, South Bay - SB013W, South Bay - SB020W, South Bay - SB021W, South Bay - SB026W]
Temporal Representation:	Data was collected over the time period 8/15/1994-8/16/2007.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	The 1999 Quality Assurance Project Plan Regional Monitoring Program for Trace Substances was used.
QAPP Information Reference(s):	1999 Quality Assurance Project Plan Regional Monitoring Program for Trace Substances

Line of Evidence (LOE) for Decision ID 66573, Endrin
San Francisco Bay, Lower

Region 2

LOE ID:	92968
Pollutant:	Endrin
LOE Subgroup:	Pollutant-Water
Matrix:	Water
Fraction:	Dissolved
Beneficial Use:	Estuarine Habitat
Number of Samples:	71
Number of Exceedances:	0
Data and Information Type:	PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality:	State Water Board staff assessed SFEI data for San Francisco Bay, Lower to determine beneficial use support and results are as follows: 0 of 71 samples exceed the criterion for Endrin.
Data Reference:	Regional Monitoring Program data, Feb. 1993-Sep. 2008
SWAMP Data:	Non-SWAMP

Water Quality Objective/Criterion: The Endrin criterion continuous concentration (expressed as a 4-day average) to protect aquatic life in saline water is 0.0023 ug/L (California Toxics Rule, 2000).

Objective/Criterion Reference: [Code of Federal Regulations 40 part 131.38 Establishment of numeric criteria for priority toxic pollutants for the State of California. 7/1/2011 Edition](#)

Evaluation Guideline:

Guideline Reference:

Spatial Representation: Data for this line of evidence for San Francisco Bay, Lower was collected at 16 monitoring sites [Dumbarton Bridge - BA30, Redwood Creek - BA40, Alameda - BB70, South Bay - SB014W, Central Bay - CB014W, South Bay - SB013W, South Bay - SB015W, South Bay - SB006W, South Bay - SB020W, Central Bay - CB016W, South Bay - SB026W, South Bay - SB021W, Central Bay - CB010W, Central Bay - CB002W, Central Bay - CB012W, Central Bay - CB004W]

Temporal Representation: Data was collected over the time period 8/15/1994-8/16/2007.

Environmental Conditions: Staff is not aware of any special conditions that might affect interpretation of the data.

QAPP Information: The 1999 Quality Assurance Project Plan Regional Monitoring Program for Trace Substances was used.

QAPP Information Reference(s): [1999 Quality Assurance Project Plan Regional Monitoring Program for Trace Substances](#)

DECISION ID		66575	Region 2
San Francisco Bay, Lower			
Pollutant:	Ethion		
Final Listing Decision:	Do Not List on 303(d) list (TMDL required list)		
Last Listing Cycle's Final Listing Decision:	New Decision		
Revision Status	Revised		
Impairment from Pollutant or Pollution:	Pollutant		
Regional Board Staff Conclusion:	<p>This pollutant is being considered for placement on the CWA section 303(d) List under section 3.5 of the Listing Policy. Under section 3.5 a single line of evidence is necessary to assess listing status. One line of evidence is available in the administrative record to assess this pollutant. Zero of nine samples exceed the OEHHA guideline.</p> <p>Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against placing this water segment-pollutant combination on the CWA section 303(d) List.</p> <p>This conclusion is based on the staff findings that:</p> <ol style="list-style-type: none">1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy.2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy.3. Zero of nine samples exceed the OEHHA guideline and this sample size is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating. A minimum of 16 samples is needed to determine if a beneficial use is fully supported using table 3.1.4. Pursuant to SECTION 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.		
Regional Board Staff Decision Recommendation:	After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be placed on the section 303(d) list. The readily available data and information is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating.		
Line of Evidence (LOE) for Decision ID 66575, Ethion			Region 2
San Francisco Bay, Lower			

LOE ID:	95070
Pollutant:	Ethion
LOE Subgroup:	Pollutant-Tissue
Matrix:	Tissue
Fraction:	Fish fillet
Beneficial Use:	Commercial or recreational collection of fish, shellfish, or organisms
Number of Samples:	9
Number of Exceedances:	0
Data and Information Type:	Fish tissue analysis
Data Used to Assess Water Quality:	Water Board staff assessed Regional Monitoring Program data for lower San Francisco Bay to determine beneficial use support and results are as follows: 0 of 9 samples exceed the criterion for ethion. No samples were discarded for being non-detect, unquantifiable or the reporting limit exceeding the water quality objective.
Data Reference:	Regional Monitoring Program data, Feb. 1993-Sep. 2008
SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	Water Quality Control Plan for the San Francisco Bay Basin: Controllable water quality factors shall not cause a detrimental increase in concentrations of toxic substances found in bottom sediments or aquatic life. Effects on aquatic organisms, wildlife, and human health will be considered.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	The modified OEHHA Fish Contaminant Goal for ethion in fish tissue is 1,100 ppb. This screening level assumes an average body weight of 70 kg and a consumption rate of 32 g/day. A cooking reduction factor of 1 is applied for skin-off fillets. (Klasing, S., and R. Brodberg, 2008; USEPA, 2000)
Guideline Reference:	Development of Fish Contaminant Goals and Advisory Tissue Levels for Common Contaminants in California Sport Fish: Chlordane, DDTs, Dieldrin, Methylmercury, PCBs, Selenium, and Toxaphene Guidance for Assessing Chemical Contaminant Data for Use In Fish Advisories Volume 1: Fish Sampling and Analysis
Spatial Representation:	The samples were collected at one site in Lower San Francisco Bay
Temporal Representation:	The samples were collected in June 2000.
Environmental Conditions:	
QAPP Information:	The 1999 Quality Assurance Project Plan Regional Monitoring Program for Trace Substances was used.
QAPP Information Reference(s):	1999 Quality Assurance Project Plan Regional Monitoring Program for Trace Substances

DECISION ID	66576	Region 2
San Francisco Bay, Lower		
Pollutant:	Fluoranthene	
Final Listing Decision:	Do Not List on 303(d) list (TMDL required list)	
Last Listing Cycle's Final Listing Decision:	New Decision	
Revision Status	Revised	
Impairment from Pollutant or Pollution:	Pollutant	
Regional Board Staff Conclusion:	<p>This pollutant is being considered for placement on the CWA section 303(d) List under section 3.1 of the Listing Policy. Under section 3.1 a single line of evidence is necessary to assess listing status.</p> <p>Two lines of evidence are available in the administrative record to assess this pollutant. Zero of seventy-nine samples exceed the guideline.</p>	

Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against placing this water segment-pollutant combination on the CWA section 303(d) List in the Water Quality Limited Segments category.

This conclusion is based on the staff findings that:

1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy.
2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy.
3. Zero of seventy-nine samples exceed the guideline and this does not exceed the allowable frequency listed in Table 3.1 of the Listing Policy.
4. Pursuant to section 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.

Regional Board Staff Decision Recommendation: After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be placed on the section 303(d) list because applicable water quality standards are not being exceeded.

**Line of Evidence (LOE) for Decision ID 66576, Fluoranthene
San Francisco Bay, Lower**

Region 2

LOE ID:	92970
Pollutant:	Fluoranthene
LOE Subgroup:	Pollutant-Water
Matrix:	Water
Fraction:	Dissolved
Beneficial Use:	Estuarine Habitat
Number of Samples:	77
Number of Exceedances:	0
Data and Information Type:	PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality:	State Water Board staff assessed SFEI data for San Francisco Bay, Lower to determine beneficial use support and results are as follows: 0 of 77 samples exceed the criterion for Fluoranthene.
Data Reference:	Regional Monitoring Program data, Feb. 1993-Sep. 2008
SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	No individual pesticide or combination of pesticides shall be present in concentrations that adversely affect beneficial uses.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	The available data for Fluoranthene indicate that chronic toxicity to saltwater aquatic life occurs at concentrations as low as 16 ug/L and would occur at lower concentrations among species that are more sensitive than those tested. (USEPA Gold Book - EPA 440/5-86-001)
Guideline Reference:	Quality Criteria for Water 1986. United States Environmental Protection Agency. Office of Water. Regulations and Standards. Washington D.C. EPA 440/5-86-001.
Spatial Representation:	Data for this line of evidence for San Francisco Bay, Lower was collected at 15 monitoring sites [Dumbarton Bridge - BA30, Redwood Creek - BA40, Alameda - BB70, South Bay - SB014W, Central Bay - CB014W, South Bay - SB013W, South Bay - SB015W, South Bay - SB006W, South Bay - SB020W, Central Bay - CB016W, South Bay - SB021W, Central Bay - CB010W, Central Bay - CB002W, Central Bay - CB012W, Central Bay - CB004W]
Temporal Representation:	Data was collected over the time period 3/2/1993-8/16/2007.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	The 1999 Quality Assurance Project Plan Regional Monitoring Program for Trace Substances was used.
QAPP Information Reference(s):	1999 Quality Assurance Project Plan Regional Monitoring Program for Trace Substances

San Francisco Bay, Lower

LOE ID:	92971
Pollutant:	Fluoranthene
LOE Subgroup:	Pollutant-Water
Matrix:	Water
Fraction:	Total
Beneficial Use:	Commercial or recreational collection of fish, shellfish, or organisms
Number of Samples:	79
Number of Exceedances:	0
Data and Information Type:	PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality:	State Water Board staff assessed SFEI data for San Francisco Bay, Lower to determine beneficial use support and results are as follows: 0 of 79 samples exceed the criterion for Fluoranthene.
Data Reference:	Regional Monitoring Program data, Feb. 1993-Sep. 2008
SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	The Fluoranthene criteria for the protection of human health from consumption of organisms only is 370 ug/L (California Toxics Rule, 2000).
Objective/Criterion Reference:	Code of Federal Regulations 40 part 131.38 Establishment of numeric criteria for priority toxic pollutants for the State of California. 7/1/2011 Edition
Evaluation Guideline:	
Guideline Reference:	
Spatial Representation:	Data for this line of evidence for San Francisco Bay, Lower was collected at 20 monitoring sites [Dumbarton Bridge - BA30, Redwood Creek - BA40, Alameda - BB70, Central Bay - CB002W, Central Bay - CB004W, Central Bay - CB010W, Central Bay - CB012W, Central Bay - CB014W, Central Bay - CB016W, Central Bay - CB018W, Central Bay - CB020W, Central Bay - CB022W, Central Bay - CB024W, Central Bay - CB026W, South Bay - SB006W, South Bay - SB013W, South Bay - SB014W, South Bay - SB015W, South Bay - SB020W, South Bay - SB021W]
Temporal Representation:	Data was collected over the time period 3/2/1993-7/18/2008.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	The 1999 Quality Assurance Project Plan Regional Monitoring Program for Trace Substances was used.
QAPP Information Reference(s):	1999 Quality Assurance Project Plan Regional Monitoring Program for Trace Substances

DECISION ID 66577

Region 2

San Francisco Bay, Lower

Pollutant:	Fluorene
Final Listing Decision:	Do Not List on 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision:	New Decision
Revision Status	Revised
Impairment from Pollutant or Pollution:	Pollutant
Regional Board Staff Conclusion:	<p>This pollutant is being considered for placement on the CWA section 303(d) List under section 3.1 of the Listing Policy. Under section 3.1 a single line of evidence is necessary to assess listing status.</p> <p>One line of evidence is available in the administrative record to assess this pollutant. Zero of fifty-</p>

one samples exceed the guideline.

Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against placing this water segment-pollutant combination on the CWA section 303(d) List in the Water Quality Limited Segments category.

This conclusion is based on the staff findings that:

1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy.
2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy.
3. Zero of fifty-one samples exceed the guideline and this does not exceed the allowable frequency listed in Table 3.1 of the Listing Policy.
4. Pursuant to section 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.

Regional Board Staff Decision Recommendation: After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be placed on the section 303(d) list because applicable water quality standards are not being exceeded.

**Line of Evidence (LOE) for Decision ID 66577, Fluorene
San Francisco Bay, Lower**

Region 2

LOE ID:	92972
Pollutant:	Fluorene
LOE Subgroup:	Pollutant-Water
Matrix:	Water
Fraction:	Total
Beneficial Use:	Commercial or recreational collection of fish, shellfish, or organisms
Number of Samples:	51
Number of Exceedances:	0
Data and Information Type:	PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality:	State Water Board staff assessed SFEI data for San Francisco Bay, Lower to determine beneficial use support and results are as follows: 0 of 51 samples exceed the criterion for Fluorene.
Data Reference:	Regional Monitoring Program data, Feb. 1993-Sep. 2008
SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	The Fluorene criteria for the protection of human health from consumption of organisms only is 14,000 ug/L (California Toxics Rule, 2000).
Objective/Criterion Reference:	Code of Federal Regulations 40 part 131.38 Establishment of numeric criteria for priority toxic pollutants for the State of California. 7/1/2011 Edition
Evaluation Guideline:	
Guideline Reference:	
Spatial Representation:	Data for this line of evidence for San Francisco Bay, Lower was collected at 13 monitoring sites [Dumbarton Bridge - BA30, Redwood Creek - BA40, Alameda - BB70, Central Bay - CB002W, Central Bay - CB004W, Central Bay - CB018W, Central Bay - CB020W, Central Bay - CB022W, Central Bay - CB024W, Central Bay - CB026W, South Bay - SB006W, South Bay - SB014W, South Bay - SB021W]
Temporal Representation:	Data was collected over the time period 2/5/1996-7/18/2008.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	The 1999 Quality Assurance Project Plan Regional Monitoring Program for Trace Substances was used.
QAPP Information Reference(s):	1999 Quality Assurance Project Plan Regional Monitoring Program for Trace Substances

Pollutant:	Heptachlor
Final Listing Decision:	Do Not List on 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision:	New Decision
Revision Status	Revised
Impairment from Pollutant or Pollution:	Pollutant

Regional Board Staff Conclusion:

This pollutant is being considered for placement on the CWA section 303(d) List under section 3.1 of the Listing Policy. Under section 3.1 a single line of evidence is necessary to assess listing status.

Two lines of evidence are available in the administrative record to assess this pollutant. Zero of seventy-three samples exceed the guideline.

Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against placing this water segment-pollutant combination on the CWA section 303(d) List in the Water Quality Limited Segments category.

This conclusion is based on the staff findings that:

1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy.
2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy.
3. Zero of seventy-three samples exceed the guideline and this does not exceed the allowable frequency listed in Table 3.1 of the Listing Policy.
4. Pursuant to section 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.

Regional Board Staff Decision Recommendation: After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be placed on the section 303(d) list because applicable water quality standards are not being exceeded.

Line of Evidence (LOE) for Decision ID 66578, Heptachlor	Region 2
San Francisco Bay, Lower	

LOE ID:	92979
Pollutant:	Heptachlor
LOE Subgroup:	Pollutant-Water
Matrix:	Water
Fraction:	Total
Beneficial Use:	Commercial or recreational collection of fish, shellfish, or organisms
Number of Samples:	64
Number of Exceedances:	0
Data and Information Type:	PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality:	State Water Board staff assessed SFEI data for San Francisco Bay, Lower to determine beneficial use support and results are as follows: 0 of 64 samples exceed the criterion for Heptachlor.
Data Reference:	Regional Monitoring Program data, Feb. 1993-Sep. 2008
SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	The Heptachlor criteria for the protection of human health from consumption of organisms only is 0.00021 ug/L (California Toxics Rule, 2000).
Objective/Criterion Reference:	Code of Federal Regulations 40 part 131.38 Establishment of numeric criteria for priority toxic pollutants for the State of California. 7/1/2011 Edition

Evaluation Guideline:
Guideline Reference:

Spatial Representation: Data for this line of evidence for San Francisco Bay, Lower was collected at 13 monitoring sites [Dumbarton Bridge - BA30, Redwood Creek - BA40, Alameda - BB70, Central Bay - CB002W, Central Bay - CB010W, Central Bay - CB012W, Central Bay - CB014W, Central Bay - CB016W, Central Bay - CB022W, South Bay - SB006W, South Bay - SB020W, South Bay - SB021W, South Bay - SB026W]

Temporal Representation: Data was collected over the time period 4/18/1994-8/16/2007.

Environmental Conditions: Staff is not aware of any special conditions that might affect interpretation of the data.

QAPP Information: The 1999 Quality Assurance Project Plan Regional Monitoring Program for Trace Substances was used.

QAPP Information Reference(s): [1999 Quality Assurance Project Plan Regional Monitoring Program for Trace Substances](#)

Line of Evidence (LOE) for Decision ID 66578, Heptachlor

Region 2

San Francisco Bay, Lower

LOE ID: 92978

Pollutant: Heptachlor

LOE Subgroup: Pollutant-Water

Matrix: Water

Fraction: Dissolved

Beneficial Use: Estuarine Habitat

Number of Samples: 73

Number of Exceedances: 0

Data and Information Type: PHYSICAL/CHEMICAL MONITORING

Data Used to Assess Water Quality: State Water Board staff assessed SFEI data for San Francisco Bay, Lower to determine beneficial use support and results are as follows: 0 of 73 samples exceed the criterion for Heptachlor.

Data Reference: [Regional Monitoring Program data, Feb. 1993-Sep. 2008](#)

SWAMP Data: Non-SWAMP

Water Quality Objective/Criterion: The Heptachlor criterion continuous concentration (expressed as a 4-day average) to protect aquatic life in saline water is 0.0036 ug/L (California Toxics Rule, 2000).

Objective/Criterion Reference: [Code of Federal Regulations 40 part 131.38 Establishment of numeric criteria for priority toxic pollutants for the State of California. 7/1/2011 Edition](#)

Evaluation Guideline:
Guideline Reference:

Spatial Representation: Data for this line of evidence for San Francisco Bay, Lower was collected at 15 monitoring sites [Dumbarton Bridge - BA30, Redwood Creek - BA40, Alameda - BB70, South Bay - SB014W, Central Bay - CB014W, South Bay - SB013W, South Bay - SB015W, South Bay - SB006W, South Bay - SB020W, Central Bay - CB016W, South Bay - SB026W, South Bay - SB021W, Central Bay - CB010W, Central Bay - CB002W, Central Bay - CB012W]

Temporal Representation: Data was collected over the time period 4/18/1994-8/16/2007.

Environmental Conditions: Staff is not aware of any special conditions that might affect interpretation of the data.

QAPP Information: The 1999 Quality Assurance Project Plan Regional Monitoring Program for Trace Substances was used.

QAPP Information Reference(s): [1999 Quality Assurance Project Plan Regional Monitoring Program for Trace Substances](#)

DECISION ID 66579

Region 2

San Francisco Bay, Lower

Pollutant:	Heptachlor epoxide
Final Listing Decision:	Do Not List on 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision:	New Decision
Revision Status	Revised
Impairment from Pollutant or Pollution:	Pollutant

Regional Board Staff Conclusion: This pollutant is being considered for placement on the CWA section 303(d) List under section 3.1 of the Listing Policy. Under section 3.1 a single line of evidence is necessary to assess listing status.

Five lines of evidence are available in the administrative record to assess this pollutant. Four of seventy-six samples exceed the guideline.

Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against placing this water segment-pollutant combination on the CWA section 303(d) List in the Water Quality Limited Segments category.

This conclusion is based on the staff findings that:

1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy.
2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy.
3. Four of seventy-six samples exceed the guideline and this does not exceed the allowable frequency listed in Table 3.1 of the Listing Policy.
4. Pursuant to section 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.

Regional Board Staff Decision Recommendation: After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be placed on the section 303(d) list because applicable water quality standards are not being exceeded.

Line of Evidence (LOE) for Decision ID 66579, Heptachlor epoxide San Francisco Bay, Lower

Region 2

LOE ID:	95090
Pollutant:	Heptachlor epoxide
LOE Subgroup:	Pollutant-Tissue
Matrix:	Tissue
Fraction:	Fish fillet
Beneficial Use:	Commercial or recreational collection of fish, shellfish, or organisms
Number of Samples:	47
Number of Exceedances:	0
Data and Information Type:	Fish tissue analysis
Data Used to Assess Water Quality:	Water Board staff assessed Regional Monitoring Program data for Lower San Francisco Bay to determine beneficial use support and results are as follows: 0 of 47 samples exceed the criterion for Heptachlor epoxide. Twenty-three samples were discarded for being non-detect, unquantifiable or the reporting limit exceeding the water quality objective.
Data Reference:	Regional Monitoring Program data, Feb. 1993-Sep. 2008
SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	Water Quality Control Plan for the San Francisco Bay Basin: Controllable water quality factors shall not cause a detrimental increase in concentrations of toxic substances found in bottom sediments or aquatic life. Effects on aquatic organisms, wildlife, and human health will be considered.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)

Evaluation Guideline:	The modified OEHHA Fish Contaminant Goal for heptachlor epoxide in fish tissue is 0.93 ppb. This screening level assumes an average body weight of 70 kg and a consumption rate of 32 g/day for a 30 year exposure over a 70-year lifetime. This constituent is a carcinogen therefore the risk level is set to one in a million. A cooking reduction factor of 1 is applied for skin-off fillets. (Klasing, S., and R. Brodberg, 2008; OEHHA, 1999)
Guideline Reference:	Development of Fish Contaminant Goals and Advisory Tissue Levels for Common Contaminants in California Sport Fish: Chlordane, DDTs, Dieldrin, Methylmercury, PCBs, Selenium, and Toxaphene Public Health Goal for Heptachlor and Heptachlor Epoxide in Drinking Water
Spatial Representation:	The samples were collected at nine sites throughout Lower San Francisco Bay.
Temporal Representation:	The samples were collected in May 1994, March 1997, May 1997, and June 1997.
Environmental Conditions:	
QAPP Information:	The 1999 Quality Assurance Project Plan Regional Monitoring Program for Trace Substances was used.
QAPP Information Reference(s):	1999 Quality Assurance Project Plan Regional Monitoring Program for Trace Substances

Line of Evidence (LOE) for Decision ID 66579, Heptachlor epoxide
San Francisco Bay, Lower

Region 2

LOE ID:	93637
Pollutant:	Heptachlor epoxide
LOE Subgroup:	Pollutant-Tissue
Matrix:	Tissue
Fraction:	Shellfish
Beneficial Use:	Shellfish Harvesting
Number of Samples:	46
Number of Exceedances:	0
Data and Information Type:	Shellfish surveys
Data Used to Assess Water Quality:	None of the 46 samples exceeded the guideline. All composite samples were comprised of <i>Mytilus californianus</i> except for 1 sample comprised of <i>Crassostrea gigas</i> . Data were reported on a dry weight basis and were converted to a wet weight basis by multiplying the dry-weight concentration by a factor of 1 minus the percentage of moisture content expressed as a decimal. Nine samples were not used in the assessment because the laboratory data reporting limit(s) were above the objective and therefore the results could not be quantified with the level of certainty required by the Listing Policy. Laboratory replicates were averaged.
Data Reference:	Regional Monitoring Program data, Feb. 1993-Sep. 2008
SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	Water Quality Control Plan for the San Francisco Bay Basin: Controllable water quality factors shall not cause a detrimental increase in concentrations of toxic substances found in bottom sediments or aquatic life. Effects on aquatic organisms, wildlife, and human health will be considered.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	The modified OEHHA Fish Contaminant Goal for heptachlor epoxide in shellfish tissue is 1.4 ppb. This screening level assumes an average body weight of 70 kg and a consumption rate of 21 g/day for a 30 year exposure over a 70-year lifetime. This constituent is a carcinogen therefore the risk level is set to one in a million. (Brodberg, R.K., and G.A. Pollock, 1999; Klasing, S., and R. Brodberg, 2008; OEHHA, 1999)
Guideline Reference:	Prevalence of Selected Target Chemical Contaminants in Sport Fish From Two California Lakes: Public health designed screening study. Sacramento, CA: Office of Environmental Health Hazard Assessment Development of Fish Contaminant Goals and Advisory Tissue Levels for Common Contaminants in California Sport Fish: Chlordane, DDTs, Dieldrin, Methylmercury, PCBs,

Spatial Representation: Samples were collected at the following stations: BA30 - Dumbarton Bridge, BA40 - Redwood Creek and BB71 - Alameda.

Temporal Representation: Samples were generally collected in spring and fall seasons from years 1993 - 1999 and then during most fall seasons during years 2000 - 2008.

Environmental Conditions:

QAPP Information: 1999 Quality Assurance Project Plan Regional Monitoring Program for Trace Substances.

QAPP Information Reference(s): [1999 Quality Assurance Project Plan Regional Monitoring Program for Trace Substances](#)

Line of Evidence (LOE) for Decision ID 66579, Heptachlor epoxide
San Francisco Bay, Lower

Region 2

LOE ID: 92982

Pollutant: Heptachlor epoxide
 LOE Subgroup: Pollutant-Water
 Matrix: Water
 Fraction: Total

Beneficial Use: Commercial or recreational collection of fish, shellfish, or organisms

Number of Samples: 76
 Number of Exceedances: 4

Data and Information Type: PHYSICAL/CHEMICAL MONITORING
 Data Used to Assess Water Quality: State Water Board staff assessed SFEI data for San Francisco Bay, Lower to determine beneficial use support and results are as follows: 4 of 76 samples exceed the criterion for Heptachlor Epoxide.

Data Reference: [Regional Monitoring Program data, Feb. 1993-Sep. 2008](#)

SWAMP Data: Non-SWAMP

Water Quality Objective/Criterion: The Heptachlor Epoxide criteria for the protection of human health from consumption of organisms only is 0.00011 ug/L (California Toxics Rule, 2000).

Objective/Criterion Reference: [Code of Federal Regulations 40 part 131.38 Establishment of numeric criteria for priority toxic pollutants for the State of California. 7/1/2011 Edition](#)

Evaluation Guideline:

Guideline Reference:

Spatial Representation: Data for this line of evidence for San Francisco Bay, Lower was collected at 18 monitoring sites [Dumbarton Bridge - BA30, Redwood Creek - BA40, Alameda - BB70, Central Bay - CB002W, Central Bay - CB004W, Central Bay - CB010W, Central Bay - CB012W, Central Bay - CB014W, Central Bay - CB016W, Central Bay - CB018W, Central Bay - CB020W, Central Bay - CB022W, South Bay - SB006W, South Bay - SB013W, South Bay - SB014W, South Bay - SB020W, South Bay - SB021W, South Bay - SB026W]

Temporal Representation: Data was collected over the time period 1/31/1994-8/16/2007.

Environmental Conditions: Staff is not aware of any special conditions that might affect interpretation of the data.

QAPP Information: The 1999 Quality Assurance Project Plan Regional Monitoring Program for Trace Substances was used.

QAPP Information Reference(s): [1999 Quality Assurance Project Plan Regional Monitoring Program for Trace Substances](#)

Line of Evidence (LOE) for Decision ID 66579, Heptachlor epoxide
San Francisco Bay, Lower

Region 2

LOE ID: 92981

Pollutant: Heptachlor epoxide
 LOE Subgroup: Pollutant-Water

Matrix:	Water
Fraction:	Dissolved
Beneficial Use:	Estuarine Habitat
Number of Samples:	76
Number of Exceedances:	0
Data and Information Type:	PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality:	State Water Board staff assessed SFEI data for San Francisco Bay, Lower to determine beneficial use support and results are as follows: 0 of 76 samples exceed the criterion for Heptachlor Epoxide.
Data Reference:	Regional Monitoring Program data, Feb. 1993-Sep. 2008
SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	The Heptachlor Epoxide criterion continuous concentration (expressed as a 4-day average) to protect aquatic life in saline water is 0.0036 ug/L (California Toxics Rule, 2000).
Objective/Criterion Reference:	Code of Federal Regulations 40 part 131.38 Establishment of numeric criteria for priority toxic pollutants for the State of California. 7/1/2011 Edition
Evaluation Guideline:	
Guideline Reference:	
Spatial Representation:	Data for this line of evidence for San Francisco Bay, Lower was collected at 16 monitoring sites [Dumbarton Bridge - BA30, Redwood Creek - BA40, Alameda - BB70, South Bay - SB014W, Central Bay - CB014W, South Bay - SB013W, South Bay - SB015W, South Bay - SB006W, South Bay - SB020W, Central Bay - CB016W, South Bay - SB026W, South Bay - SB021W, Central Bay - CB010W, Central Bay - CB002W, Central Bay - CB012W, Central Bay - CB004W]
Temporal Representation:	Data was collected over the time period 1/31/1994-8/16/2007.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	The 1999 Quality Assurance Project Plan Regional Monitoring Program for Trace Substances was used.
QAPP Information Reference(s):	1999 Quality Assurance Project Plan Regional Monitoring Program for Trace Substances

Line of Evidence (LOE) for Decision ID 66579, Heptachlor epoxide
San Francisco Bay, Lower

Region 2

LOE ID:	92980
Pollutant:	Heptachlor epoxide
LOE Subgroup:	Pollutant-Tissue
Matrix:	Tissue
Fraction:	Shellfish
Beneficial Use:	Shellfish Harvesting
Number of Samples:	1
Number of Exceedances:	0
Data and Information Type:	Shellfish surveys
Data Used to Assess Water Quality:	The result did not exceed the guideline. Data were reported on a dry weight basis and were converted to a wet weight basis by multiplying the dry-weight concentration by a factor of 1 minus the percentage of moisture content expressed as a decimal.
Data Reference:	State Mussel Watch Program Data 1977-2000; Winter 2007-Winter 2009. State Water Resources Control Board
SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	California's Ocean Plan states that, "The concentration of organic materials in fish,

Objective/Criterion Reference:	shellfish or other marine resources used for human consumption shall not bioaccumulate to levels that are harmful to human health". California Ocean Plan Water Quality Control Plan Ocean Waters of California 2009
Evaluation Guideline:	The modified OEHHA Fish Contaminant Goal for heptachlor epoxide in shellfish tissue is 1.4 ppb. This screening level assumes an average body weight of 70 kg and a consumption rate of 21 g/day for a 30 year exposure over a 70-year lifetime. This constituent is a carcinogen therefore the risk level is set to one in a million. (Brodberg, R.K., and G.A. Pollock, 1999; Klasing, S., and R. Brodberg, 2008; OEHHA, 1999)
Guideline Reference:	Prevalence of Selected Target Chemical Contaminants in Sport Fish From Two California Lakes: Public health designed screening study. Sacramento, CA: Office of Environmental Health Hazard Assessment Development of Fish Contaminant Goals and Advisory Tissue Levels for Common Contaminants in California Sport Fish: Chlordane, DDTs, Dieldrin, Methylmercury, PCBs, Selenium, and Toxaphene Public Health Goal for Heptachlor and Heptachlor Epoxide in Drinking Water
Spatial Representation:	Samples are collected by hand from three sub-locations for each site. The composite sample was collected from site San Francisco Bay San Mateo Bridge (SFSM).
Temporal Representation:	Representative samples of locally abundant species were collected during the winter on 2/3/2009
Environmental Conditions:	
QAPP Information:	Samples were collected as part of the State Water Board's Mussel Watch Program which is a part of the National Oceanic Administration's (NOAAs) National Status and Trends (NS&T). Mussels are shipped to NOAAs contract labs for analysis of trace constituents and mussel condition. Analytical protocols follow those approved by NOAAs NS&T Program Additional background information can be found at: http://ccma.nos.noaa.gov/stressors/pollution/nsandt/
QAPP Information Reference(s):	

DECISION ID	66580	Region 2
San Francisco Bay, Lower		
Pollutant:	Hexachlorobenzene/ HCB	
Final Listing Decision:	Do Not List on 303(d) list (TMDL required list)	
Last Listing Cycle's Final Listing Decision:	New Decision	
Revision Status	Revised	
Impairment from Pollutant or Pollution:	Pollutant	
Regional Board Staff Conclusion:	<p>This pollutant is being considered for placement on the CWA section 303(d) List under section 3.5 of the Listing Policy. Under section 3.5 a single line of evidence is necessary to assess listing status.</p> <p>Four lines of evidence are available in the administrative record to assess this pollutant. Zero of sixty-nine samples exceed the guideline.</p> <p>Based on the readily available data and information, the weight of evidence indicates that there is not sufficient justification in favor of placing this water segment-pollutant combination on the CWA section 303(d) List.</p> <p>This conclusion is based on the staff findings that:</p> <ol style="list-style-type: none"> 1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy. 2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy. 3. Zero of sixty-nine samples exceed the OEHHA guideline and this number does not exceed the allowable frequency listed in Table 3.1 of the Listing Policy. 4. There is not a fish consumption advisory in effect for this waterbody. 5. Pursuant to section 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met. 	
Regional Board Staff Decision	After review of the available data and information, RWQCB staff concludes that the water body-	

Recommendation: pollutant combination should not be placed on the section 303(d) list because applicable water quality standards are not being exceeded.

Line of Evidence (LOE) for Decision ID 66580, Hexachlorobenzene/ HCB

Region 2

San Francisco Bay, Lower

LOE ID: 93638

Pollutant: Hexachlorobenzene/ HCB
LOE Subgroup: Pollutant-Tissue
Matrix: Tissue
Fraction: Shellfish

Beneficial Use: Shellfish Harvesting

Number of Samples: 55
Number of Exceedances: 0

Data and Information Type: Shellfish surveys
Data Used to Assess Water Quality: None of the 55 samples exceeded the guideline. All composite samples were comprised of *Mytilus californianus* except for 1 sample comprised of *Crassostrea gigas*. Data were reported on a dry weight basis and were converted to a wet weight basis by multiplying the dry-weight concentration by a factor of 1 minus the percentage of moisture content expressed as a decimal. Laboratory replicates were averaged.

Data Reference: [Regional Monitoring Program data, Feb. 1993-Sep. 2008](#)

SWAMP Data: Non-SWAMP

Water Quality Objective/Criterion: Water Quality Control Plan for the San Francisco Bay Basin: Controllable water quality factors shall not cause a detrimental increase in concentrations of toxic substances found in bottom sediments or aquatic life. Effects on aquatic organisms, wildlife, and human health will be considered.

Objective/Criterion Reference: [Water Quality Control Plan \(Basin Plan\) San Francisco Bay Basin \(Region 2\)](#)

Evaluation Guideline: The modified OEHHA Fish Contaminant Goal for hexachlorobenzene in shellfish tissue is 4.3 ppb. This screening level assumes an average body weight of 70 kg and a consumption rate of 21 g/day for a 30 year exposure over a 70-year lifetime. This constituent is a carcinogen therefore the risk level is set to one in a million. (Brodberg, R.K., and G.A. Pollock, 1999; Klasing, S., and R. Brodberg, 2008; OEHHA, 2005)

Guideline Reference: [Prevalence of Selected Target Chemical Contaminants in Sport Fish From Two California Lakes: Public health designed screening study. Sacramento, CA: Office of Environmental Health Hazard Assessment](#)
[Development of Fish Contaminant Goals and Advisory Tissue Levels for Common Contaminants in California Sport Fish: Chlordane, DDTs, Dieldrin, Methylmercury, PCBs, Selenium, and Toxaphene](#)
[Air Toxics Hotspots Program Risk Assessment Guidelines. Part II Technical Support Document for Describing Available Cancer Potency Values.](#)

Spatial Representation: Samples were collected at the following stations: BA30 - Dumbarton Bridge, BA40 - Redwood Creek and BB71 - Alameda.

Temporal Representation: Samples were generally collected in spring and fall seasons from years 1993 - 1999 and then during most fall seasons during years 2000 - 2008.

Environmental Conditions:

QAPP Information: 1999 Quality Assurance Project Plan Regional Monitoring Program for Trace Substances.

QAPP Information Reference(s): [1999 Quality Assurance Project Plan Regional Monitoring Program for Trace Substances](#)

Line of Evidence (LOE) for Decision ID 66580, Hexachlorobenzene/ HCB

Region 2

San Francisco Bay, Lower

LOE ID: 92987

Pollutant:	Hexachlorobenzene/ HCB
LOE Subgroup:	Pollutant-Water
Matrix:	Water
Fraction:	Total
Beneficial Use:	Commercial or recreational collection of fish, shellfish, or organisms
Number of Samples:	58
Number of Exceedances:	0
Data and Information Type:	PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality:	State Water Board staff assessed SFEI data for San Francisco Bay, Lower to determine beneficial use support and results are as follows: 0 of 58 samples exceed the criterion for Hexachlorobenzene.
Data Reference:	Regional Monitoring Program data, Feb. 1993-Sep. 2008
SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	The Hexachlorobenzene criteria for the protection of human health from consumption of organisms only is 0.00077 ug/L (California Toxics Rule, 2000).
Objective/Criterion Reference:	Code of Federal Regulations 40 part 131.38 Establishment of numeric criteria for priority toxic pollutants for the State of California. 7/1/2011 Edition
Evaluation Guideline:	
Guideline Reference:	
Spatial Representation:	Data for this line of evidence for San Francisco Bay, Lower was collected at 5 monitoring sites [Dumbarton Bridge - BA30, Redwood Creek - BA40, Alameda - BB70, Central Bay - CB018W, Central Bay - CB020W]
Temporal Representation:	Data was collected over the time period 3/2/1993-8/21/2006.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	The 1999 Quality Assurance Project Plan Regional Monitoring Program for Trace Substances was used.
QAPP Information Reference(s):	1999 Quality Assurance Project Plan Regional Monitoring Program for Trace Substances

Line of Evidence (LOE) for Decision ID 66580, Hexachlorobenzene/ HCB
San Francisco Bay, Lower

Region 2

LOE ID:	92986
Pollutant:	Hexachlorobenzene/ HCB
LOE Subgroup:	Pollutant-Tissue
Matrix:	Tissue
Fraction:	Shellfish
Beneficial Use:	Shellfish Harvesting
Number of Samples:	1
Number of Exceedances:	0
Data and Information Type:	Shellfish surveys
Data Used to Assess Water Quality:	The result did not exceed the guideline. Data were reported on a dry weight basis and were converted to a wet weight basis by multiplying the dry-weight concentration by a factor of 1 minus the percentage of moisture content expressed as a decimal.
Data Reference:	State Mussel Watch Program Data 1977-2000; Winter 2007-Winter 2009. State Water Resources Control Board
SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	Many pollutants can accumulate on particles, in sediment, or bioaccumulate in fish and other aquatic organisms. Controllable water quality factors shall not cause a detrimental

Objective/Criterion Reference:	increase in concentrations of toxic substances found in bottom sediments or aquatic life. Effects on aquatic organisms, wildlife, and human health will be considered. Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	The modified OEHHA Fish Contaminant Goal for hexachlorobenzene in shellfish tissue is 4.3 ppb. This screening level assumes an average body weight of 70 kg and a consumption rate of 21 g/day for a 30 year exposure over a 70-year lifetime. This constituent is a carcinogen therefore the risk level is set to one in a million. (Brodberg, R.K., and G.A. Pollock, 1999; Klasing, S., and R. Brodberg, 2008; OEHHA, 2005)
Guideline Reference:	Prevalence of Selected Target Chemical Contaminants in Sport Fish From Two California Lakes: Public health designed screening study. Sacramento, CA: Office of Environmental Health Hazard Assessment Development of Fish Contaminant Goals and Advisory Tissue Levels for Common Contaminants in California Sport Fish: Chlordane, DDTs, Dieldrin, Methylmercury, PCBs, Selenium, and Toxaphene Air Toxics Hotspots Program Risk Assessment Guidelines. Part II Technical Support Document for Describing Available Cancer Potency Values.
Spatial Representation:	Samples are collected by hand from three sub-locations for each site. The composite sample was collected from site San Francisco Bay San Mateo Bridge (SFSM).
Temporal Representation:	Representative samples of locally abundant species were collected during the winter on 2/3/2009
Environmental Conditions:	
QAPP Information:	Samples were collected as part of the State Water Board's Mussel Watch Program which is a part of the National Oceanic Administration's (NOAAs) National Status and Trends (NS&T). Mussels are shipped to NOAAs contract labs for analysis of trace constituents and mussel condition. Analytical protocols follow those approved by NOAAs NS&T Program Additional background information can be found at: http://ccma.nos.noaa.gov/stressors/pollution/nsandt/
QAPP Information Reference(s):	

**Line of Evidence (LOE) for Decision ID 66580, Hexachlorobenzene/ HCB
San Francisco Bay, Lower**

Region 2

LOE ID:	95086
Pollutant:	Hexachlorobenzene/ HCB
LOE Subgroup:	Pollutant-Tissue
Matrix:	Tissue
Fraction:	Fish fillet
Beneficial Use:	Commercial or recreational collection of fish, shellfish, or organisms
Number of Samples:	69
Number of Exceedances:	0
Data and Information Type:	Fish tissue analysis
Data Used to Assess Water Quality:	Water Board staff assessed Regional Monitoring Program data for Lower San Francisco Bay to determine beneficial use support and results are as follows: 0 of 69 samples exceed the criterion for hexachlorobenzene. One sample was discarded for being non-detect, unquantifiable or the reporting limit exceeding the water quality objective.
Data Reference:	Regional Monitoring Program data, Feb. 1993-Sep. 2008
SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	Water Quality Control Plan for the San Francisco Bay Basin: Controllable water quality factors shall not cause a detrimental increase in concentrations of toxic substances found in bottom sediments or aquatic life. Effects on aquatic organisms, wildlife, and human health will be considered.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	The modified OEHHA Fish Contaminant Goal for hexachlorobenzene in fish tissue is 2.8

Guideline Reference:	ppb. This screening level assumes an average body weight of 70 kg and a consumption rate of 32 g/day for a 30 year exposure over a 70-year lifetime. This constituent is a carcinogen therefore the risk level is set to one in a million. A cooking reduction factor of 1 is applied for skin-off fillets. (Klasing, S., and R. Brodberg, 2008; OEHHA, 2005) Development of Fish Contaminant Goals and Advisory Tissue Levels for Common Contaminants in California Sport Fish: Chlordane, DDTs, Dieldrin, Methylmercury, PCBs, Selenium, and Toxaphene Air Toxics Hotspots Program Risk Assessment Guidelines. Part II Technical Support Document for Describing Available Cancer Potency Values.
Spatial Representation:	The samples were collected at thirteen sites throughout Lower San Francisco Bay.
Temporal Representation:	The samples were collected in May 1994, March 1997, May 1997, and June 1997.
Environmental Conditions:	
QAPP Information:	The 1999 Quality Assurance Project Plan Regional Monitoring Program for Trace Substances was used.
QAPP Information Reference(s):	1999 Quality Assurance Project Plan Regional Monitoring Program for Trace Substances

DECISION ID 66581		Region 2
San Francisco Bay, Lower		
Pollutant:	Lead	
Final Listing Decision:	Do Not List on 303(d) list (TMDL required list)	
Last Listing Cycle's Final Listing Decision:	New Decision	
Revision Status	Revised	
Impairment from Pollutant or Pollution:	Pollutant	
Regional Board Staff Conclusion:	<p>This pollutant is being considered for placement on the CWA section 303(d) List under section 3.1 of the Listing Policy. Under section 3.1 a single line of evidence is necessary to assess listing status.</p> <p>One line of evidence is available in the administrative record to assess this pollutant. Zero of one hundred forty-two samples exceed the guideline.</p> <p>Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against placing this water segment-pollutant combination on the CWA section 303(d) List in the Water Quality Limited Segments category.</p> <p>This conclusion is based on the staff findings that:</p> <ol style="list-style-type: none"> 1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy. 2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy. 3. Zero of one hundred forty-two samples exceed the guideline and this does not exceed the allowable frequency listed in Table 3.1 of the Listing Policy. 4. Pursuant to section 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met. 	
Regional Board Staff Decision Recommendation:	After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be placed on the section 303(d) list because applicable water quality standards are not being exceeded.	

Line of Evidence (LOE) for Decision ID 66581, Lead		Region 2
San Francisco Bay, Lower		
LOE ID:	92988	
Pollutant:	Lead	
LOE Subgroup:	Pollutant-Water	
Matrix:	Water	
Fraction:	Dissolved	

Beneficial Use:	Estuarine Habitat
Number of Samples:	142
Number of Exceedances:	0
Data and Information Type:	PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality:	State Water Board staff assessed SFEI data for San Francisco Bay, Lower to determine beneficial use support and results are as follows: 0 of 142 samples exceed the criterion for Lead.
Data Reference:	Regional Monitoring Program data, Feb. 1993-Sep. 2008
SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	The dissolved lead criterion continuous concentration (expressed as a 4-day average) to protect aquatic life in saline water is 0.0081 mg/L (California Toxics Rule, 2000).
Objective/Criterion Reference:	Code of Federal Regulations 40 part 131.38 Establishment of numeric criteria for priority toxic pollutants for the State of California. 7/1/2011 Edition
Evaluation Guideline:	
Guideline Reference:	
Spatial Representation:	Data for this line of evidence for San Francisco Bay, Lower was collected at 22 monitoring sites [Dumbarton Bridge - BA30, Redwood Creek - BA40, San Bruno Shoal - BB15, Oyster Point - BB30, Alameda - BB70, Central Bay - CB002W, Central Bay - CB004W, Central Bay - CB010W, Central Bay - CB012W, Central Bay - CB014W, Central Bay - CB016W, Central Bay - CB018W, Central Bay - CB020W, Central Bay - CB024W, Central Bay - CB026W, South Bay - SB006W, South Bay - SB013W, South Bay - SB014W, South Bay - SB015W, South Bay - SB020W, South Bay - SB021W, South Bay - SB026W]
Temporal Representation:	Data was collected over the time period 3/2/1993-7/18/2008.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	The 1999 Quality Assurance Project Plan Regional Monitoring Program for Trace Substances was used.
QAPP Information Reference(s):	1999 Quality Assurance Project Plan Regional Monitoring Program for Trace Substances

DECISION ID	66582	Region 2
San Francisco Bay, Lower		
Pollutant:	Lindane/gamma Hexachlorocyclohexane (gamma-HCH)	
Final Listing Decision:	Do Not List on 303(d) list (TMDL required list)	
Last Listing Cycle's Final Listing Decision:	New Decision	
Revision Status	Revised	
Impairment from Pollutant or Pollution:	Pollutant	
Regional Board Staff Conclusion:	<p>This pollutant is being considered for placement on the CWA section 303(d) List under section 3.5 of the Listing Policy. Under section 3.5 a single line of evidence is necessary to assess listing status.</p> <p>Two lines of evidence are available in the administrative record to assess this pollutant. Zero of fifty-six samples exceed the guideline.</p> <p>Based on the readily available data and information, the weight of evidence indicates that there is not sufficient justification in favor of placing this water segment-pollutant combination on the CWA section 303(d) List.</p> <p>This conclusion is based on the staff findings that:</p> <ol style="list-style-type: none"> 1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy. 2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy. 3. Zero of fifty-six samples exceed the OEHHA guideline and this number does not exceed the 	

allowable frequency listed in Table 3.1 of the Listing Policy.

4. There is not a fish consumption advisory in effect for this waterbody.

5. Pursuant to section 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.

Regional Board Staff Decision Recommendation: After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be placed on the section 303(d) list because applicable water quality standards are not being exceeded.

Line of Evidence (LOE) for Decision ID 66582, Lindane/gamma Hexachlorocyclohexane (gamma-HCH)

Region 2

San Francisco Bay, Lower

LOE ID:	93639
Pollutant:	Lindane/gamma Hexachlorocyclohexane (gamma-HCH)
LOE Subgroup:	Pollutant-Tissue
Matrix:	Tissue
Fraction:	Shellfish
Beneficial Use:	Shellfish Harvesting
Number of Samples:	55
Number of Exceedances:	0
Data and Information Type:	Shellfish surveys
Data Used to Assess Water Quality:	None of the 55 samples exceeded the guideline. All composite samples were comprised of <i>Mytilus californianus</i> except for 1 sample comprised of <i>Crassostrea gigas</i> . Data were reported on a dry weight basis and were converted to a wet weight basis by multiplying the dry-weight concentration by a factor of 1 minus the percentage of moisture content expressed as a decimal. Laboratory replicates were averaged.
Data Reference:	Regional Monitoring Program data, Feb. 1993-Sep. 2008
SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	Water Quality Control Plan for the San Francisco Bay Basin: Controllable water quality factors shall not cause a detrimental increase in concentrations of toxic substances found in bottom sediments or aquatic life. Effects on aquatic organisms, wildlife, and human health will be considered.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	The modified OEHHA Fish Contaminant Goal for lindane in shellfish tissue is 7.1 ppb. This screening level assumes an average body weight of 70 kg and a consumption rate of 21 g/day for a 30 year exposure over a 70-year lifetime. This constituent is a carcinogen therefore the risk level is set to one in a million. (Brodberg, R.K., and G.A. Pollock, 1999; Klasing, S., and R. Brodberg, 2008; OEHHA, 2005)
Guideline Reference:	Prevalence of Selected Target Chemical Contaminants in Sport Fish From Two California Lakes: Public health designed screening study. Sacramento, CA: Office of Environmental Health Hazard Assessment Development of Fish Contaminant Goals and Advisory Tissue Levels for Common Contaminants in California Sport Fish: Chlordane, DDTs, Dieldrin, Methylmercury, PCBs, Selenium, and Toxaphene Air Toxics Hotspots Program Risk Assessment Guidelines. Part II Technical Support Document for Describing Available Cancer Potency Values.
Spatial Representation:	Samples were collected at the following stations: BA30 - Dumbarton Bridge, BA40 - Redwood Creek and BB71 - Alameda.
Temporal Representation:	Samples were generally collected in spring and fall seasons from years 1993 - 1999 and then during most fall seasons during years 2000 - 2008.
Environmental Conditions:	
QAPP Information:	1999 Quality Assurance Project Plan Regional Monitoring Program for Trace Substances.

Line of Evidence (LOE) for Decision ID 66582, Lindane/gamma Hexachlorocyclohexane (gamma-HCH)**Region 2****San Francisco Bay, Lower**

LOE ID:	92989
Pollutant:	Lindane/gamma Hexachlorocyclohexane (gamma-HCH)
LOE Subgroup:	Pollutant-Tissue
Matrix:	Tissue
Fraction:	Shellfish
Beneficial Use:	Shellfish Harvesting
Number of Samples:	1
Number of Exceedances:	0
Data and Information Type:	Shellfish surveys
Data Used to Assess Water Quality:	The results did not exceed the guideline. Data were reported on a dry weight basis and were converted to a wet weight basis by multiplying the dry-weight concentration by a factor of 1 minus the percentage of moisture content expressed as a decimal.
Data Reference:	State Mussel Watch Program Data 1977-2000; Winter 2007-Winter 2009. State Water Resources Control Board
SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	Many pollutants can accumulate on particles, in sediment, or bioaccumulate in fish and other aquatic organisms. Controllable water quality factors shall not cause a detrimental increase in concentrations of toxic substances found in bottom sediments or aquatic life. Effects on aquatic organisms, wildlife, and human health will be considered.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	The modified OEHHA Fish Contaminant Goal for lindane in shellfish tissue is 7.1 ppb. This screening level assumes an average body weight of 70 kg and a consumption rate of 21 g/day for a 30 year exposure over a 70-year lifetime. This constituent is a carcinogen therefore the risk level is set to one in a million. (Brodberg, R.K., and G.A. Pollock, 1999; Klasing, S., and R. Brodberg, 2008; OEHHA, 2005)
Guideline Reference:	Prevalence of Selected Target Chemical Contaminants in Sport Fish From Two California Lakes: Public health designed screening study. Sacramento, CA: Office of Environmental Health Hazard Assessment Development of Fish Contaminant Goals and Advisory Tissue Levels for Common Contaminants in California Sport Fish: Chlordane, DDTs, Dieldrin, Methylmercury, PCBs, Selenium, and Toxaphene Air Toxics Hotspots Program Risk Assessment Guidelines. Part II Technical Support Document for Describing Available Cancer Potency Values.
Spatial Representation:	Samples are collected by hand from three sub-locations for each site. The composite sample was collected from site San Francisco Bay San Mateo Bridge (SFSM).
Temporal Representation:	Representative samples of locally abundant species were collected during the winter on 2/3/2009
Environmental Conditions:	
QAPP Information:	Samples were collected as part of the State Water Board's Mussel Watch Program which is a part of the National Oceanic Administration's (NOAAs) National Status and Trends (NS&T). Mussels are shipped to NOAAs contract labs for analysis of trace constituents and mussel condition. Analytical protocols follow those approved by NOAAs NS&T Program Additional background information can be found at: http://ccma.nos.noaa.gov/stressors/pollution/nsandt/
QAPP Information Reference(s):	

San Francisco Bay, Lower

Pollutant:	Manganese
Final Listing Decision:	Do Not List on 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision:	New Decision
Revision Status	Revised
Impairment from Pollutant or Pollution:	Pollutant

Regional Board Staff Conclusion: This pollutant is being considered for placement on the CWA section 303(d) List under section 3.1 of the Listing Policy. Under section 3.1 a single line of evidence is necessary to assess listing status.

One line of evidence is available in the administrative record to assess this pollutant. Zero of forty-five samples exceed the guideline.

Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against placing this water segment-pollutant combination on the CWA section 303(d) List in the Water Quality Limited Segments category.

This conclusion is based on the staff findings that:

1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy.
2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy.
3. Zero of forty-five samples exceed the guideline and this does not exceed the allowable frequency listed in Table 3.1 of the Listing Policy.
4. Pursuant to section 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.

Regional Board Staff Decision Recommendation: After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be placed on the section 303(d) list because applicable water quality standards are not being exceeded.

Line of Evidence (LOE) for Decision ID 66778, Manganese San Francisco Bay, Lower

Region 2

LOE ID:	92849
Pollutant:	Manganese
LOE Subgroup:	Pollutant-Water
Matrix:	Water
Fraction:	Total
Beneficial Use:	Commercial or recreational collection of fish, shellfish, or organisms
Number of Samples:	45
Number of Exceedances:	0
Data and Information Type:	PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality:	State Water Board staff assessed SFEI data for San Francisco Bay, Lower to determine beneficial use support and results are as follows: 0 of 45 samples exceed the criterion for Manganese.
Data Reference:	Regional Monitoring Program data, Feb. 1993-Sep. 2008
SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	The Manganese criteria for the protection of human health from the consumption of organisms only is 100 ug/L (California Toxics Rule, 2000).
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	The Lead criteria for the protection of human health from fish consumption only is 100 ug/L (National Recommended Water Quality Criteria, 2009).

Guideline Reference:	National Recommended Water Quality Criteria. United States Environmental Protection Agency. Office of Water. Office of Science and Technology
Spatial Representation:	Data for this line of evidence for San Francisco Bay, Lower was collected at 23 monitoring sites [Dumbarton Bridge - BA30, Redwood Creek - BA40, San Bruno Shoal - BB15, Oyster Point - BB30, Alameda - BB70, Central Bay - CB002W, Central Bay - CB004W, Central Bay - CB010W, Central Bay - CB012W, Central Bay - CB014W, Central Bay - CB016W, Central Bay - CB018W, Central Bay - CB020W, Central Bay - CB022W, Central Bay - CB024W, Central Bay - CB026W, South Bay - SB006W, South Bay - SB013W, South Bay - SB014W, South Bay - SB015W, South Bay - SB020W, South Bay - SB021W, South Bay - SB026W]
Temporal Representation:	Data was collected over the time period 2/1/2000-7/18/2008.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	The 1999 Quality Assurance Project Plan Regional Monitoring Program for Trace Substances was used.
QAPP Information Reference(s):	1999 Quality Assurance Project Plan Regional Monitoring Program for Trace Substances

DECISION ID	66583	Region 2
San Francisco Bay, Lower		
Pollutant:	Mirex	
Final Listing Decision:	Do Not List on 303(d) list (TMDL required list)	
Last Listing Cycle's Final Listing Decision:	New Decision	
Revision Status	Revised	
Impairment from Pollutant or Pollution:	Pollutant	
Regional Board Staff Conclusion:	<p>This pollutant is being considered for placement on the CWA section 303(d) List under section 3.1 of the Listing Policy. Under section 3.1 a single line of evidence is necessary to assess listing status.</p> <p>Five lines of evidence are available in the administrative record to assess this pollutant. Zero of seventy-three samples exceed the guideline.</p> <p>Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against placing this water segment-pollutant combination on the CWA section 303(d) List in the Water Quality Limited Segments category.</p> <p>This conclusion is based on the staff findings that:</p> <ol style="list-style-type: none"> 1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy. 2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy. 3. Zero of seventy-three samples exceed the guideline and this does not exceed the allowable frequency listed in Table 3.1 of the Listing Policy. 4. Pursuant to section 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met. 	
Regional Board Staff Decision Recommendation:	After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be placed on the section 303(d) list because applicable water quality standards are not being exceeded.	

Line of Evidence (LOE) for Decision ID 66583, Mirex	Region 2
San Francisco Bay, Lower	
LOE ID:	92856
Pollutant:	Mirex
LOE Subgroup:	Pollutant-Water
Matrix:	Water
Fraction:	Dissolved

Beneficial Use:	Estuarine Habitat
Number of Samples:	73
Number of Exceedances:	0
Data and Information Type:	PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality:	State Water Board staff assessed SFEI data for San Francisco Bay, Lower to determine beneficial use support and results are as follows: 0 of 73 samples exceed the criterion for Mirex.
Data Reference:	Regional Monitoring Program data, Feb. 1993-Sep. 2008
SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	No individual pesticide or combination of pesticides shall be present in concentrations that adversely affect beneficial uses.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	The USEPA Gold Book states 0.001 ug/L for the protection of freshwater and marine aquatic life. (USEPA Gold Book - EPA 440/5-86-001)
Guideline Reference:	Quality Criteria for Water 1986. United States Environmental Protection Agency. Office of Water. Regulations and Standards. Washington D.C. EPA 440/5-86-001.
Spatial Representation:	Data for this line of evidence for San Francisco Bay, Lower was collected at 15 monitoring sites [Dumbarton Bridge - BA30, Redwood Creek - BA40, Alameda - BB70, South Bay - SB014W, Central Bay - CB014W, South Bay - SB015W, South Bay - SB006W, South Bay - SB020W, Central Bay - CB016W, South Bay - SB026W, South Bay - SB021W, Central Bay - CB010W, Central Bay - CB002W, Central Bay - CB012W, Central Bay - CB004W]
Temporal Representation:	Data was collected over the time period 4/18/1994-8/16/2007.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	The 1999 Quality Assurance Project Plan Regional Monitoring Program for Trace Substances was used.
QAPP Information Reference(s):	1999 Quality Assurance Project Plan Regional Monitoring Program for Trace Substances

Line of Evidence (LOE) for Decision ID 66583, Mirex
San Francisco Bay, Lower

Region 2

LOE ID:	95229
Pollutant:	Mirex
LOE Subgroup:	Pollutant-Tissue
Matrix:	Tissue
Fraction:	Fish fillet
Beneficial Use:	Commercial or recreational collection of fish, shellfish, or organisms
Number of Samples:	0
Number of Exceedances:	0
Data and Information Type:	Fish tissue analysis
Data Used to Assess Water Quality:	Water Board staff assessed Regional Monitoring Program data for Lower San Francisco Bay to determine beneficial use support and results are as follows: 0 of 0 samples exceed the criterion for Mirex. Seventy samples were discarded for being non-detect, unquantifiable or the reporting limit exceeding the water quality objective.
Data Reference:	Regional Monitoring Program data, Feb. 1993-Sep. 2008
SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	Water Quality Control Plan for the San Francisco Bay Basin: Controllable water quality factors shall not cause a detrimental increase in concentrations of toxic substances found in bottom sediments or aquatic life. Effects on aquatic organisms, wildlife, and human

Objective/Criterion Reference:	health will be considered. Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	The modified OEHHA Fish Contaminant Goal for mirex in fish tissue is 0.28 ppb. This screening level assumes an average body weight of 70 kg and a consumption rate of 32 g/day. A cooking reduction factor of 1 is applied for skin-off fillets. (Klasing, S., and R. Brodberg, 2008; OEHHA, 1992)
Guideline Reference:	Development of Fish Contaminant Goals and Advisory Tissue Levels for Common Contaminants in California Sport Fish: Chlordane, DDTs, Dieldrin, Methylmercury, PCBs, Selenium, and Toxaphene Expedited Cancer Potency Values and Proposed Regulatory Levels for Certain Proposition 65 Carcinogens.
Spatial Representation:	The samples were collected at thirteen sites throughout Lower San Francisco Bay.
Temporal Representation:	The samples were collected in May 1994, March 1997, May 1997, and June 1997.
Environmental Conditions:	
QAPP Information:	The 1999 Quality Assurance Project Plan Regional Monitoring Program for Trace Substances was used.
QAPP Information Reference(s):	1999 Quality Assurance Project Plan Regional Monitoring Program for Trace Substances

Line of Evidence (LOE) for Decision ID 66583, Mirex

Region 2

San Francisco Bay, Lower

LOE ID:	93640
Pollutant:	Mirex
LOE Subgroup:	Pollutant-Tissue
Matrix:	Tissue
Fraction:	Shellfish
Beneficial Use:	Shellfish Harvesting
Number of Samples:	13
Number of Exceedances:	0
Data and Information Type:	Shellfish surveys
Data Used to Assess Water Quality:	None of the 55 samples exceeded the guideline. All composite samples were comprised of <i>Mytilus californianus</i> except for 1 sample comprised of <i>Crassostrea gigas</i> . Data were reported on a dry weight basis and were converted to a wet weight basis by multiplying the dry-weight concentration by a factor of 1 minus the percentage of moisture content expressed as a decimal. Forty-two samples were not used in the assessment because the laboratory data reporting limit(s) were above the objective and therefore the results could not be quantified with the level of certainty required by the Listing Policy. Laboratory replicates were averaged.
Data Reference:	Regional Monitoring Program data, Feb. 1993-Sep. 2008
SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	Water Quality Control Plan for the San Francisco Bay Basin: Controllable water quality factors shall not cause a detrimental increase in concentrations of toxic substances found in bottom sediments or aquatic life. Effects on aquatic organisms, wildlife, and human health will be considered.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	The modified OEHHA Fish Contaminant Goal for mirex in shellfish tissue is 0.43 ppb. This screening level assumes an average body weight of 70 kg and a consumption rate of 21 g/day. This constituent is a carcinogen therefore the risk level is set to one in a million. (Brodberg, R.K., and G.A. Pollock, 1999; Klasing, S., and R. Brodberg, 2008; OEHHA, 1992)
Guideline Reference:	Prevalence of Selected Target Chemical Contaminants in Sport Fish From Two California Lakes: Public health designed screening study. Sacramento, CA: Office of Environmental Health Hazard Assessment

[Development of Fish Contaminant Goals and Advisory Tissue Levels for Common Contaminants in California Sport Fish: Chlordane, DDTs, Dieldrin, Methylmercury, PCBs, Selenium, and Toxaphene](#)
[Expedited Cancer Potency Values and Proposed Regulatory Levels for Certain Proposition 65 Carcinogens.](#)

Spatial Representation: Samples were collected at the following stations: BA30 - Dumbarton Bridge, BA40 - Redwood Creek and BB71 - Alameda.

Temporal Representation: Samples were generally collected in spring and fall seasons from years 1993 - 1999 and then during most fall seasons during years 2000 - 2008.

Environmental Conditions:

QAPP Information: 1999 Quality Assurance Project Plan Regional Monitoring Program for Trace Substances.

QAPP Information Reference(s): [1999 Quality Assurance Project Plan Regional Monitoring Program for Trace Substances](#)

Line of Evidence (LOE) for Decision ID 66583, Mirex
San Francisco Bay, Lower

Region 2

LOE ID: 92852

Pollutant: Mirex

LOE Subgroup: Pollutant-Water

Matrix: Water

Fraction: Total

Beneficial Use: Commercial or recreational collection of fish, shellfish, or organisms

Number of Samples: 72

Number of Exceedances: 0

Data and Information Type: PHYSICAL/CHEMICAL MONITORING

Data Used to Assess Water Quality: State Water Board staff assessed SFEI data for San Francisco Bay, Lower to determine beneficial use support and results are as follows: 0 of 72 samples exceed the criterion for Mirex.

Data Reference: [Regional Monitoring Program data, Feb. 1993-Sep. 2008](#)

SWAMP Data: Non-SWAMP

Water Quality Objective/Criterion: No individual pesticide or combination of pesticides shall be present in concentrations that adversely affect beneficial uses.

Objective/Criterion Reference: [Water Quality Control Plan \(Basin Plan\) San Francisco Bay Basin \(Region 2\)](#)

Evaluation Guideline: The Mirex criteria for the protection of human health from consumption of organisms only is 0.000097 ug/L (National Recommended Water Quality Criteria, 2009).

Guideline Reference: [National Recommended Water Quality Criteria. United States Environmental Protection Agency. Office of Water. Office of Science and Technology](#)

Spatial Representation: Data for this line of evidence for San Francisco Bay, Lower was collected at 15 monitoring sites [Dumbarton Bridge - BA30, Redwood Creek - BA40, Alameda - BB70, Central Bay - CB002W, Central Bay - CB004W, Central Bay - CB010W, Central Bay - CB012W, Central Bay - CB014W, Central Bay - CB016W, Central Bay - CB018W, Central Bay - CB020W, South Bay - SB006W, South Bay - SB020W, South Bay - SB021W, South Bay - SB026W]

Temporal Representation: Data was collected over the time period 4/18/1994-8/16/2007.

Environmental Conditions: Staff is not aware of any special conditions that might affect interpretation of the data.

QAPP Information: The 1999 Quality Assurance Project Plan Regional Monitoring Program for Trace Substances was used.

QAPP Information Reference(s): [1999 Quality Assurance Project Plan Regional Monitoring Program for Trace Substances](#)

Line of Evidence (LOE) for Decision ID 66583, Mirex
San Francisco Bay, Lower

Region 2

LOE ID:	92851
Pollutant:	Mirex
LOE Subgroup:	Pollutant-Tissue
Matrix:	Tissue
Fraction:	Shellfish
Beneficial Use:	Shellfish Harvesting
Number of Samples:	0
Number of Exceedances:	0
Data and Information Type:	Shellfish surveys
Data Used to Assess Water Quality:	The non detect result was not included in the assessment since the reporting limit was above the evaluation guideline. MDL were provided by NOAA Federal and RL were calculated by multiplying 3.18 by the MDL.
Data Reference:	State Mussel Watch Program Data 1977-2000; Winter 2007-Winter 2009. State Water Resources Control Board
SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	Many pollutants can accumulate on particles, in sediment, or bioaccumulate in fish and other aquatic organisms. Controllable water quality factors shall not cause a detrimental increase in concentrations of toxic substances found in bottom sediments or aquatic life. Effects on aquatic organisms, wildlife, and human health will be considered.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	The modified OEHHA Fish Contaminant Goal for mirex in shellfish tissue is 0.43 ppb. This screening level assumes an average body weight of 70 kg and a consumption rate of 21 g/day. (Brodberg, R.K., and G.A. Pollock, 1999; Klasing, S., and R. Brodberg, 2008; OEHHA, 1992)
Guideline Reference:	Prevalence of Selected Target Chemical Contaminants in Sport Fish From Two California Lakes: Public health designed screening study. Sacramento, CA: Office of Environmental Health Hazard Assessment Development of Fish Contaminant Goals and Advisory Tissue Levels for Common Contaminants in California Sport Fish: Chlordane, DDTs, Dieldrin, Methylmercury, PCBs, Selenium, and Toxaphene Expedited Cancer Potency Values and Proposed Regulatory Levels for Certain Proposition 65 Carcinogens.
Spatial Representation:	Samples are collected by hand from three sub-locations for each site. The composite sample was collected from site San Francisco Bay San Mateo Bridge (SFSM).
Temporal Representation:	Representative samples of locally abundant species were collected during the winter on 2/3/2009
Environmental Conditions:	
QAPP Information:	Samples were collected as part of the State Water Board's Mussel Watch Program which is a part of the National Oceanic Administration's (NOAAs) National Status and Trends (NS&T). Mussels are shipped to NOAAs contract labs for analysis of trace constituents and mussel condition. Analytical protocols follow those approved by NOAAs NS&T Program Additional background information can be found at: http://ccma.nos.noaa.gov/stressors/pollution/nsandt/
QAPP Information Reference(s):	

DECISION ID	66584	Region 2
San Francisco Bay, Lower		
Pollutant:	Oxygen, Dissolved	
Final Listing Decision:	Do Not List on 303(d) list (TMDL required list)	
Last Listing Cycle's Final Listing Decision:	New Decision	
Revision Status	Revised	

Impairment from Pollutant or Pollution: Pollutant

Regional Board Staff Conclusion:

This pollutant is being considered for placement on the CWA section 303(d) List under section 3.2 of the Listing Policy. Under section 3.2 a single line of evidence is necessary to assess listing status.

One line of evidence is available in the administrative record to assess this pollutant. Zero of thirty-five samples exceed the guideline.

Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against placing this water segment-pollutant combination on the CWA section 303(d) List in the Water Quality Limited Segments category.

This conclusion is based on the staff findings that:

1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy.
2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy.
3. Zero of thirty-five samples exceed the guideline and this does not exceed the allowable frequency listed in Table 3.2 of the Listing Policy.
4. Pursuant to section 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.

Regional Board Staff Decision Recommendation:

After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be placed on the section 303(d) list because applicable water quality standards are not being exceeded.

**Line of Evidence (LOE) for Decision ID 66584, Oxygen, Dissolved
San Francisco Bay, Lower**

Region 2

LOE ID:	92859
Pollutant:	Oxygen, Dissolved
LOE Subgroup:	Pollutant-Water
Matrix:	Water
Fraction:	Dissolved
Beneficial Use:	Estuarine Habitat
Number of Samples:	35
Number of Exceedances:	0
Data and Information Type:	PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality:	Numeric data generated from 35 minimum samples of Dissolved Oxygen concentrations had no exceedences.
Data Reference:	Data for Various Pollutants in California Marinas, 2006.
SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	The dissolved oxygen content of bays/estuaries downstream of the Carquinez Bridge must be above 5 mg/L.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	
Guideline Reference:	
Spatial Representation:	Samples were collected from the following stations: Ballena Isle Marina 5.1 Ballena Isle Marina 5.2 Ballena Isle Marina 5.3 Ballena Isle Marina 6.1 Ballena Isle Marina 6.2 Ballena Isle Marina 6.3 Ballena Isle Marina 7.1 Ballena Isle Marina 7.2 Ballena Isle Marina 7.3 Ballena Isle Marina 8.1 Ballena Isle Marina 8.2 Ballena Isle Marina 8.3 Coyote Point Marina 5.1 Coyote Point Marina 5.2 Coyote Point Marina 6.1 Coyote Point Marina 6.2 Coyote Point Marina 7.1 Coyote Point Marina 7.2 Coyote Point Marina 8.1 Coyote Point Marina 8.2 South Beach Harbor 4.1 South Beach Harbor 4.2 South Beach Harbor 4.3

South Beach Harbor 5.1 South Beach Harbor 5.2 South Beach Harbor 5.3 South Beach Harbor 6.1 South Beach Harbor 6.2 South Beach Harbor 6.3 South Beach Harbor 7.1 South Beach Harbor 7.2 South Beach Harbor 7.3 South Beach Harbor 8.1 South Beach Harbor 8.2 South Beach Harbor 8.3

Temporal Representation: Samples were collected on the following dates: 7/26/2006 7/27/2006 7/28/2006 8/23/2006 8/24/2006 8/25/2006 9/20/2006 9/21/2006

Environmental Conditions:

QAPP Information: Samples were collected and analyzed in accordance with a Quality Assurance Project Plan that was prepared per State Water Resources Control Board Agreement No. 05-218-250 California Department of Pesticide Regulation, Sacramento, CA. (Available online at http://www.cdpr.ca.gov/docs/emon/surfwttr/protocols/qapp_study236.pdf)

QAPP Information Reference(s):

DECISION ID	66831	Region 2
San Francisco Bay, Lower		

Pollutant: PAHs (Polycyclic Aromatic Hydrocarbons)

Final Listing Decision: Do Not List on 303(d) list (TMDL required list)

Last Listing Cycle's Final Listing Decision: New Decision

Revision Status: Revised

Impairment from Pollutant or Pollution: Pollutant

Regional Board Staff Conclusion:

This pollutant is being considered for placement on the CWA section 303(d) List under section 3.5 of the Listing Policy. Under section 3.5 a single line of evidence is necessary to assess listing status.

Three lines of evidence are available in the administrative record to assess this pollutant. Zero of fifty-five samples exceed the guideline.

Based on the readily available data and information, the weight of evidence indicates that there is not sufficient justification in favor of placing this water segment-pollutant combination on the CWA section 303(d) List.

This conclusion is based on the staff findings that:

1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy.
2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy.
3. Zero of fifty-five samples exceed the OEHHHA guideline and this number does not exceed the allowable frequency listed in Table 3.1 of the Listing Policy.
4. There is not a fish consumption advisory in effect for this waterbody.
5. Pursuant to section 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.

Regional Board Staff Decision Recommendation: After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be placed on the section 303(d) list because applicable water quality standards are not being exceeded.

Line of Evidence (LOE) for Decision ID 66831, PAHs (Polycyclic Aromatic Hydrocarbons)	Region 2
San Francisco Bay, Lower	

LOE ID: 92863

Pollutant: PAHs (Polycyclic Aromatic Hydrocarbons)

LOE Subgroup: Pollutant-Tissue

Matrix: Tissue

Fraction: Shellfish

Beneficial Use: Shellfish Harvesting

Number of Samples:	1
Number of Exceedances:	0
Data and Information Type:	Shellfish surveys
Data Used to Assess Water Quality:	The result did not exceed the guideline. Data were reported on a dry weight basis and were converted to a wet weight basis by multiplying the dry-weight concentration by a factor of 1 minus the percentage of moisture content expressed as a decimal. The total PAHs were calculated as the potency equivalency concentration or the sum of the toxic equivalency factors multiplied by the concentrations of: Acenaphthene, Acenaphthylene, Anthracene, Benz[a]anthracene, Benzo[a]pyrene, Benzo[b]fluoranthene, Benzo[g,h,i]perylene, Benzo[k]fluoranthene, Dibenzo[a,h]anthracene, Chrysene, Fluoranthene, Fluorene, Indeno[1,2,3-c,d]pyrene, Phenanthrene, and Pyrene.
Data Reference:	State Mussel Watch Program Data 1977-2000; Winter 2007-Winter 2009. State Water Resources Control Board
SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	Many pollutants can accumulate on particles, in sediment, or bioaccumulate in fish and other aquatic organisms. Controllable water quality factors shall not cause a detrimental increase in concentrations of toxic substances found in bottom sediments or aquatic life. Effects on aquatic organisms, wildlife, and human health will be considered.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	<p>The modified OEHHA Advisory Tissue Level for polycyclic aromatic hydrocarbons in shellfish tissue is 110 ppb. This screening level assumes an average body weight of 70 kg and a consumption rate of 21 g/day for a 30 year exposure over a 70-year lifetime. This constituent is a carcinogen therefore the risk level is set to one in ten thousand. (Brodberg, R.K., and G.A. Pollock, 1999; Klasing, S., and R. Brodberg, 2008; USEPA, 2000)</p> <p>Advisory Tissue Levels (ATLs), while still conferring no significant health risk to individuals consuming sport fish in the quantities shown over a lifetime, were developed with the recognition that there are unique health benefits associated with fish consumption and that the advisory process should be expanded beyond a simple risk paradigm in order to best promote the overall health of the fish consumer. ATLs provide a number of recommended fish servings that correspond to the range of contaminant concentrations found in fish and are used to provide consumption advice to prevent consumers from being exposed to more than the average daily reference dose for noncarcinogens or to a risk level greater than 1×10^{-4} for carcinogens (not more than one additional cancer case in a population of 10,000 people consuming fish at the given consumption rate over a lifetime). ATLs are designed to encourage consumption of fish that can be eaten in quantities likely to provide significant health benefits, while discouraging consumption of fish that, because of contaminant concentrations, should not be eaten or cannot be eaten in amounts recommended for improving overall health (eight ounces total, prior to cooking, per week). ATLs are one of the criteria that will be used by OEHHA for issuing fish consumption guidelines.</p>
Guideline Reference:	Prevalence of Selected Target Chemical Contaminants in Sport Fish From Two California Lakes: Public health designed screening study. Sacramento, CA: Office of Environmental Health Hazard Assessment Development of Fish Contaminant Goals and Advisory Tissue Levels for Common Contaminants in California Sport Fish: Chlordane, DDTs, Dieldrin, Methylmercury, PCBs, Selenium, and Toxaphene Guidance for Assessing Chemical Contaminant Data for Use In Fish Advisories Volume 1: Fish Sampling and Analysis
Spatial Representation:	Samples are collected by hand from three sub-locations for each site. The composite sample was collected from site San Francisco Bay San Mateo Bridge (SFSM).
Temporal Representation:	Representative samples of locally abundant species were collected during the winter on 2/3/2009
Environmental Conditions:	
QAPP Information:	Samples were collected as part of the State Water Board's Mussel Watch Program which is a part of the National Oceanic Administration's (NOAAs) National Status and Trends

(NS&T). Mussels are shipped to NOAA's contract labs for analysis of trace constituents and mussel condition. Analytical protocols follow those approved by NOAA's NS&T Program. Additional background information can be found at:
<http://ccma.nos.noaa.gov/stressors/pollution/nsandt/>

QAPP Information Reference(s):

Line of Evidence (LOE) for Decision ID 66831, PAHs (Polycyclic Aromatic Hydrocarbons)
San Francisco Bay, Lower

Region 2

LOE ID: 95074

Pollutant: PAHs (Polycyclic Aromatic Hydrocarbons)
LOE Subgroup: Pollutant-Tissue
Matrix: Tissue
Fraction: Fish fillet

Beneficial Use: Commercial or recreational collection of fish, shellfish, or organisms

Number of Samples: 26
Number of Exceedances: 0

Data and Information Type: Fish tissue analysis
Data Used to Assess Water Quality: Water Board staff assessed Regional Monitoring Program data for Lower San Francisco Bay to determine beneficial use support and results are as follows: 0 of 26 samples exceed the criterion for polycyclic aromatic hydrocarbons. No samples were discarded for being non-detect, unquantifiable or the reporting limit exceeding the water quality objective.

Data Reference: [Regional Monitoring Program data, Feb. 1993-Sep. 2008](#)

SWAMP Data: Non-SWAMP

Water Quality Objective/Criterion: Water Quality Control Plan for the San Francisco Bay Basin: Controllable water quality factors shall not cause a detrimental increase in concentrations of toxic substances found in bottom sediments or aquatic life. Effects on aquatic organisms, wildlife, and human health will be considered.

Objective/Criterion Reference: [Water Quality Control Plan \(Basin Plan\) San Francisco Bay Basin \(Region 2\)](#)

Evaluation Guideline: The modified OEHA Fish Contaminant Goal for polycyclic aromatic hydrocarbons in fish tissue is 0.7 ppb. This screening level assumes an average body weight of 70 kg and a consumption rate of 32 g/day for a 30 year exposure over a 70-year lifetime. This constituent is a carcinogen therefore the risk level is set to one in a million. (Klasing, S., and R. Brodberg, 2008; USEPA, 2000)

Guideline Reference: [Development of Fish Contaminant Goals and Advisory Tissue Levels for Common Contaminants in California Sport Fish: Chlordane, DDTs, Dieldrin, Methylmercury, PCBs, Selenium, and Toxaphene](#)
[Guidance for Assessing Chemical Contaminant Data for Use In Fish Advisories Volume 1: Fish Sampling and Analysis](#)

Spatial Representation: The samples were collected at ten sites throughout Lower San Francisco Bay.
Temporal Representation: The samples were collected in May 1994.
Environmental Conditions:
QAPP Information: The 1999 Quality Assurance Project Plan Regional Monitoring Program for Trace Substances was used.

QAPP Information Reference(s): [1999 Quality Assurance Project Plan Regional Monitoring Program for Trace Substances](#)

Line of Evidence (LOE) for Decision ID 66831, PAHs (Polycyclic Aromatic Hydrocarbons)
San Francisco Bay, Lower

Region 2

LOE ID: 93673

Pollutant: PAHs (Polycyclic Aromatic Hydrocarbons)
LOE Subgroup: Pollutant-Tissue

Matrix:	Tissue
Fraction:	Shellfish
Beneficial Use:	Shellfish Harvesting
Number of Samples:	54
Number of Exceedances:	0
Data and Information Type:	Shellfish surveys
Data Used to Assess Water Quality:	Zero of the fifty-four samples exceeded the guideline. All composite samples were comprised of <i>Mytilus californianus</i> except for 1 composite that was comprised of <i>Crassostrea gigas</i> . Data were reported on a dry weight basis and were converted to a wet weight basis by multiplying the dry-weight concentration by a factor of 1 minus the percentage of moisture content expressed as a decimal. Laboratory replicates were averaged. PAH, Total is calculated as a potency weighted concentration with respect to benzo(a)pyrene and was calculated based on the following analytes: Dibenzo(a,h)anthracene, Benzo(a)pyrene, Benz(a)anthracene, Benzo(b)fluoranthene, Benzo(k)fluoranthene, Indeno(1,2,3-c,d)pyrene, Anthracene, Benzo(g,h,i)perylene, Chrysene, Acenaphthene, Acenaphthylene, Fluoranthene, Fluorene, Phenanthrene, and Pyrene.
Data Reference:	Regional Monitoring Program data, Feb. 1993-Sep. 2008
SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	Water Quality Control Plan for the San Francisco Bay Basin: Controllable water quality factors shall not cause a detrimental increase in concentrations of toxic substances found in bottom sediments or aquatic life. Effects on aquatic organisms, wildlife, and human health will be considered.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	<p>The modified OEHHA Advisory Tissue Level for polycyclic aromatic hydrocarbons in shellfish tissue is 110 ppb. This screening level assumes an average body weight of 70 kg and a consumption rate of 21 g/day for a 30 year exposure over a 70-year lifetime. This constituent is a carcinogen therefore the risk level is set to one in ten thousand. (Brodberg, R.K., and G.A. Pollock, 1999; Klasing, S., and R. Brodberg, 2008; USEPA, 2000)</p> <p>Advisory Tissue Levels (ATLs), while still conferring no significant health risk to individuals consuming sport fish in the quantities shown over a lifetime, were developed with the recognition that there are unique health benefits associated with fish consumption and that the advisory process should be expanded beyond a simple risk paradigm in order to best promote the overall health of the fish consumer. ATLs provide a number of recommended fish servings that correspond to the range of contaminant concentrations found in fish and are used to provide consumption advice to prevent consumers from being exposed to more than the average daily reference dose for noncarcinogens or to a risk level greater than 1×10^{-4} for carcinogens (not more than one additional cancer case in a population of 10,000 people consuming fish at the given consumption rate over a lifetime). ATLs are designed to encourage consumption of fish that can be eaten in quantities likely to provide significant health benefits, while discouraging consumption of fish that, because of contaminant concentrations, should not be eaten or cannot be eaten in amounts recommended for improving overall health (eight ounces total, prior to cooking, per week). ATLs are one of the criteria that will be used by OEHHA for issuing fish consumption guidelines.</p>
Guideline Reference:	Prevalence of Selected Target Chemical Contaminants in Sport Fish From Two California Lakes: Public health designed screening study. Sacramento, CA: Office of Environmental Health Hazard Assessment Development of Fish Contaminant Goals and Advisory Tissue Levels for Common Contaminants in California Sport Fish: Chlordane, DDTs, Dieldrin, Methylmercury, PCBs, Selenium, and Toxaphene Guidance for Assessing Chemical Contaminant Data for Use In Fish Advisories Volume 1: Fish Sampling and Analysis

Spatial Representation:	Samples were collected at the following stations: BA30 - Dumbarton Bridge, BA40 - Redwood Creek and BB71 - Alameda.
Temporal Representation:	Samples were generally collected in spring and fall seasons from years 1993 - 1999 and then during most fall seasons during years 2000 - 2008.
Environmental Conditions:	
QAPP Information:	1999 Quality Assurance Project Plan Regional Monitoring Program for Trace Substances.
QAPP Information Reference(s):	1999 Quality Assurance Project Plan Regional Monitoring Program for Trace Substances

DECISION ID	66774	Region 2
San Francisco Bay, Lower		

Pollutant:	Pyrene
Final Listing Decision:	Do Not List on 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision:	New Decision
Revision Status	Revised
Impairment from Pollutant or Pollution:	Pollutant

Regional Board Staff Conclusion: This pollutant is being considered for placement on the CWA section 303(d) List under section 3.1 of the Listing Policy. Under section 3.1 a single line of evidence is necessary to assess listing status.

One line of evidence is available in the administrative record to assess this pollutant. Zero of seventy-six samples exceed the guideline.

Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against placing this water segment-pollutant combination on the CWA section 303(d) List in the Water Quality Limited Segments category.

This conclusion is based on the staff findings that:

1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy.
2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy.
3. Zero of seventy-six samples exceed the guideline and this does not exceed the allowable frequency listed in Table 3.1 of the Listing Policy.
4. Pursuant to section 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.

Regional Board Staff Decision Recommendation: After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be placed on the section 303(d) list because applicable water quality standards are not being exceeded.

Line of Evidence (LOE) for Decision ID 66774, Pyrene	Region 2
San Francisco Bay, Lower	

LOE ID:	92870
Pollutant:	Pyrene
LOE Subgroup:	Pollutant-Water
Matrix:	Water
Fraction:	Total
Beneficial Use:	Commercial or recreational collection of fish, shellfish, or organisms
Number of Samples:	76
Number of Exceedances:	0
Data and Information Type:	PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality:	State Water Board staff assessed SFEI data for San Francisco Bay, Lower to determine beneficial use support and results are as follows: 0 of 76 samples exceed the criterion for

Data Reference:	Pyrene. Regional Monitoring Program data, Feb. 1993-Sep. 2008
SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	The Pyrene criteria for the protection of human health from consumption of organisms only is 11,000 ug/L (California Toxics Rule, 2000).
Objective/Criterion Reference:	Code of Federal Regulations 40 part 131.38 Establishment of numeric criteria for priority toxic pollutants for the State of California. 7/1/2011 Edition
Evaluation Guideline:	
Guideline Reference:	
Spatial Representation:	Data for this line of evidence for San Francisco Bay, Lower was collected at 20 monitoring sites [Dumbarton Bridge - BA30, Redwood Creek - BA40, Alameda - BB70, Central Bay - CB002W, Central Bay - CB004W, Central Bay - CB010W, Central Bay - CB012W, Central Bay - CB014W, Central Bay - CB016W, Central Bay - CB018W, Central Bay - CB020W, Central Bay - CB022W, Central Bay - CB024W, Central Bay - CB026W, South Bay - SB006W, South Bay - SB013W, South Bay - SB014W, South Bay - SB015W, South Bay - SB020W, South Bay - SB021W]
Temporal Representation:	Data was collected over the time period 3/2/1993-7/18/2008.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	The 1999 Quality Assurance Project Plan Regional Monitoring Program for Trace Substances was used.
QAPP Information Reference(s):	1999 Quality Assurance Project Plan Regional Monitoring Program for Trace Substances

DECISION ID 66585 Region 2	
San Francisco Bay, Lower	
Pollutant:	Selenium
Final Listing Decision:	Do Not List on 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision:	New Decision
Revision Status	Revised
Impairment from Pollutant or Pollution:	Pollutant
Regional Board Staff Conclusion:	<p>This pollutant is being considered for placement on the CWA section 303(d) List under section 3.1 of the Listing Policy. Under section 3.1 a single line of evidence is necessary to assess listing status.</p> <p>Four lines of evidence are available in the administrative record to assess this pollutant. Zero of one hundred forty-four samples exceed the guideline.</p> <p>Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against placing this water segment-pollutant combination on the CWA section 303(d) List in the Water Quality Limited Segments category.</p> <p>This conclusion is based on the staff findings that:</p> <ol style="list-style-type: none"> 1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy. 2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy. 3. Zero of one hundred forty-four samples exceed the guideline and this does not exceed the allowable frequency listed in Table 3.1 of the Listing Policy. 4. Pursuant to section 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.
Regional Board Staff Decision Recommendation:	After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be placed on the section 303(d) list because applicable water quality standards are not being exceeded.
Line of Evidence (LOE) for Decision ID 66585, Selenium Region 2	

San Francisco Bay, Lower

LOE ID:	93695
Pollutant:	Selenium
LOE Subgroup:	Pollutant-Tissue
Matrix:	Tissue
Fraction:	Shellfish
Beneficial Use:	Shellfish Harvesting
Number of Samples:	43
Number of Exceedances:	0
Data and Information Type:	Shellfish surveys
Data Used to Assess Water Quality:	The 43 samples did not exceed the guideline. All composite samples were comprised of <i>Mytilus californianus</i> , except for one composite comprised of <i>Crassostrea gigas</i> . Data were reported on a dry weight basis and were converted to a wet weight basis by multiplying the dry-weight concentration by a factor of 1 minus the percentage of moisture content expressed as a decimal. Laboratory replicates were averaged. If a dry weight result did not have a corresponding moisture result for conversion to wet weight, the sample was not included in the assessment.
Data Reference:	Regional Monitoring Program data, Feb. 1993-Sep. 2008
SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	Water Quality Control Plan for the San Francisco Bay Basin: Controllable water quality factors shall not cause a detrimental increase in concentrations of toxic substances found in bottom sediments or aquatic life. Effects on aquatic organisms, wildlife, and human health will be considered.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	The modified OEHHA Fish Contaminant Goal for selenium in shellfish tissue is 11 ppm. This screening level assumes an average body weight of 70 kg and a consumption rate of 21 g/day. A background dietary consumption rate of 0.114 mg/day is applied for this micronutrient. (Brodberg, R.K., and G.A. Pollock, 1999; Klasing, S., and R. Brodberg, 2008)
Guideline Reference:	Prevalence of Selected Target Chemical Contaminants in Sport Fish From Two California Lakes: Public health designed screening study. Sacramento, CA: Office of Environmental Health Hazard Assessment Development of Fish Contaminant Goals and Advisory Tissue Levels for Common Contaminants in California Sport Fish: Chlordane, DDTs, Dieldrin, Methylmercury, PCBs, Selenium, and Toxaphene
Spatial Representation:	Samples were collected at the following stations: BA30 - Dumbarton Bridge, BA40 - Redwood Creek and BB71 - Alameda.
Temporal Representation:	Samples were generally collected in spring and fall seasons from years 1993 - 1999 and then during fall 2000, 2001, and 2008.
Environmental Conditions:	
QAPP Information:	1999 Quality Assurance Project Plan Regional Monitoring Program for Trace Substances.
QAPP Information Reference(s):	1999 Quality Assurance Project Plan Regional Monitoring Program for Trace Substances

Line of Evidence (LOE) for Decision ID 66585, Selenium

Region 2

San Francisco Bay, Lower

LOE ID:	95106
Pollutant:	Selenium
LOE Subgroup:	Pollutant-Tissue
Matrix:	Tissue
Fraction:	Fish fillet

Beneficial Use:	Commercial or recreational collection of fish, shellfish, or organisms
Number of Samples:	32
Number of Exceedances:	0
Data and Information Type:	Fish tissue analysis
Data Used to Assess Water Quality:	Water Board staff assessed Regional Monitoring Program data for Lower San Francisco Bay to determine beneficial use support and results are as follows: 0 of 32 samples exceed the criterion for selenium. No samples were discarded for being non-detect, unquantifiable or the reporting limit exceeding the water quality objective.
Data Reference:	Regional Monitoring Program data, Feb. 1993-Sep. 2008
SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	Water Quality Control Plan for the San Francisco Bay Basin: Controllable water quality factors shall not cause a detrimental increase in concentrations of toxic substances found in bottom sediments or aquatic life. Effects on aquatic organisms, wildlife, and human health will be considered.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	The OEHHA Fish Contaminant Goal for selenium in fish tissue is 7.4 ppm. This screening level assumes an average body weight of 70 kg and a consumption rate of 32 g/day. A background dietary consumption rate of 0.114 mg/day is applied for this micronutrient. (Klasing, S., and R. Brodberg, 2008)
Guideline Reference:	Development of Fish Contaminant Goals and Advisory Tissue Levels for Common Contaminants in California Sport Fish: Chlordane, DDTs, Dieldrin, Methylmercury, PCBs, Selenium, and Toxaphene
Spatial Representation:	The samples were collected at eleven sites throughout Lower San Francisco Bay.
Temporal Representation:	The samples were collected in May 1994, March 1997 and June 1997.
Environmental Conditions:	
QAPP Information:	The 1999 Quality Assurance Project Plan Regional Monitoring Program for Trace Substances was used.
QAPP Information Reference(s):	1999 Quality Assurance Project Plan Regional Monitoring Program for Trace Substances

Line of Evidence (LOE) for Decision ID 66585, Selenium
San Francisco Bay, Lower

Region 2

LOE ID:	92872
Pollutant:	Selenium
LOE Subgroup:	Pollutant-Water
Matrix:	Water
Fraction:	Dissolved
Beneficial Use:	Estuarine Habitat
Number of Samples:	144
Number of Exceedances:	0
Data and Information Type:	PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality:	State Water Board staff assessed SFEI data for San Francisco Bay, Lower to determine beneficial use support and results are as follows: 0 of 144 samples exceed the criterion for Selenium.
Data Reference:	Regional Monitoring Program data, Feb. 1993-Sep. 2008
SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	The dissolved selenium criterion continuous concentration (expressed as a 4-day average) to protect aquatic life in saline water is 5 ug/L (California Toxics Rule, 2000).
Objective/Criterion Reference:	Code of Federal Regulations 40 part 131.38 Establishment of numeric criteria for priority toxic pollutants for the State of California. 7/1/2011 Edition

Evaluation Guideline:
Guideline Reference:

Spatial Representation:

Data for this line of evidence for San Francisco Bay, Lower was collected at 23 monitoring sites [Dumbarton Bridge - BA30, Redwood Creek - BA40, San Bruno Shoal - BB15, Oyster Point - BB30, Alameda - BB70, Central Bay - CB002W, Central Bay - CB004W, Central Bay - CB010W, Central Bay - CB012W, Central Bay - CB014W, Central Bay - CB016W, Central Bay - CB018W, Central Bay - CB020W, Central Bay - CB022W, Central Bay - CB024W, Central Bay - CB026W, South Bay - SB006W, South Bay - SB013W, South Bay - SB014W, South Bay - SB015W, South Bay - SB020W, South Bay - SB021W, South Bay - SB026W]

Temporal Representation:

Data was collected over the time period 3/2/1993-7/18/2008.

Environmental Conditions:

Staff is not aware of any special conditions that might affect interpretation of the data.

QAPP Information:

The 1999 Quality Assurance Project Plan Regional Monitoring Program for Trace Substances was used.

QAPP Information Reference(s):

[1999 Quality Assurance Project Plan Regional Monitoring Program for Trace Substances](#)

Line of Evidence (LOE) for Decision ID 66585, Selenium

Region 2

San Francisco Bay, Lower

LOE ID: 92871

Pollutant: Selenium

LOE Subgroup: Pollutant-Tissue

Matrix: Tissue

Fraction: Shellfish

Beneficial Use: Shellfish Harvesting

Number of Samples: 1

Number of Exceedances: 0

Data and Information Type: Shellfish surveys

Data Used to Assess Water Quality: The one sample did not exceed the guideline. Data were reported on a dry weight basis and were converted to a wet weight basis by multiplying the dry-weight concentration by a factor of 1 minus the percentage of moisture content expressed as a decimal.

Data Reference: [State Mussel Watch Program Data 1977-2000; Winter 2007-Winter 2009. State Water Resources Control Board](#)

SWAMP Data: Non-SWAMP

Water Quality Objective/Criterion: California's Ocean Plan states that, "The concentration of organic materials in fish, shellfish or other marine resources used for human consumption shall not bioaccumulate to levels that are harmful to human health".

Objective/Criterion Reference: [California Ocean Plan Water Quality Control Plan Ocean Waters of California 2009](#)

Evaluation Guideline: The modified OEHHA Fish Contaminant Goal for selenium in shellfish tissue is 11 ppm. This screening level assumes an average body weight of 70 kg and a consumption rate of 21 g/day. A background dietary consumption rate of 0.114 mg/day is applied for this micronutrient. (Brodberg, R.K., and G.A. Pollock, 1999; Klasing, S., and R. Brodberg, 2008)

Guideline Reference: [Prevalence of Selected Target Chemical Contaminants in Sport Fish From Two California Lakes: Public health designed screening study. Sacramento, CA: Office of Environmental Health Hazard Assessment](#)
[Development of Fish Contaminant Goals and Advisory Tissue Levels for Common Contaminants in California Sport Fish: Chlordane, DDTs, Dieldrin, Methylmercury, PCBs, Selenium, and Toxaphene](#)

Spatial Representation: Samples are collected by hand from three sub-locations for each site. The composite sample was collected from site San Francisco Bay San Mateo Bridge (SFSM).

Temporal Representation: Representative samples of locally abundant species were collected during the winter on

2/3/2009

Environmental Conditions:
QAPP Information:

Samples were collected as part of the State Water Board's Mussel Watch Program which is a part of the National Oceanic Administration's (NOAAs) National Status and Trends (NS&T). Mussels are shipped to NOAAs contract labs for analysis of trace constituents and mussel condition. Analytical protocols follow those approved by NOAAs NS&T Program Additional background information can be found at:
<http://ccma.nos.noaa.gov/stressors/pollution/nsandt/>

QAPP Information Reference(s):

DECISION ID	66775	Region 2
San Francisco Bay, Lower		

Pollutant:	Silver
Final Listing Decision:	Do Not List on 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision:	New Decision
Revision Status	Revised
Impairment from Pollutant or Pollution:	Pollutant

Regional Board Staff Conclusion:

This pollutant is being considered for placement on the CWA section 303(d) List under section 3.1 of the Listing Policy. Under section 3.1 a single line of evidence is necessary to assess listing status.

One line of evidence is available in the administrative record to assess this pollutant. Zero of one hundred fifteen samples exceed the guideline.

Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against placing this water segment-pollutant combination on the CWA section 303(d) List in the Water Quality Limited Segments category.

This conclusion is based on the staff findings that:

1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy.
2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy.
3. Zero of one hundred fifteen samples exceed the guideline and this does not exceed the allowable frequency listed in Table 3.1 of the Listing Policy.
4. Pursuant to section 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.

Regional Board Staff Decision Recommendation: After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be placed on the section 303(d) list because applicable water quality standards are not being exceeded.

Line of Evidence (LOE) for Decision ID 66775, Silver	Region 2
San Francisco Bay, Lower	

LOE ID:	92873
Pollutant:	Silver
LOE Subgroup:	Pollutant-Water
Matrix:	Water
Fraction:	Dissolved
Beneficial Use:	Estuarine Habitat
Number of Samples:	115
Number of Exceedances:	0
Data and Information Type:	PHYSICAL/CHEMICAL MONITORING

Data Used to Assess Water Quality: State Water Board staff assessed SFEI data for San Francisco Bay, Lower to determine beneficial use support and results are as follows: 0 of 115 samples exceed the criterion for Silver.

Data Reference: [Regional Monitoring Program data, Feb. 1993-Sep. 2008](#)

SWAMP Data: Non-SWAMP

Water Quality Objective/Criterion: The dissolved silver criterion maximum concentration to protect aquatic life in saline water is 0.0019 mg/L (California Toxics Rule, 2000).

Objective/Criterion Reference: [Code of Federal Regulations 40 part 131.38 Establishment of numeric criteria for priority toxic pollutants for the State of California. 7/1/2011 Edition](#)

Evaluation Guideline:

Guideline Reference:

Spatial Representation: Data for this line of evidence for San Francisco Bay, Lower was collected at 16 monitoring sites [Dumbarton Bridge - BA30, Redwood Creek - BA40, San Bruno Shoal - BB15, Oyster Point - BB30, Alameda - BB70, Central Bay - CB002W, Central Bay - CB004W, Central Bay - CB014W, Central Bay - CB016W, Central Bay - CB022W, Central Bay - CB024W, Central Bay - CB026W, South Bay - SB006W, South Bay - SB013W, South Bay - SB014W, South Bay - SB015W]

Temporal Representation: Data was collected over the time period 3/2/1993-7/18/2008.

Environmental Conditions: Staff is not aware of any special conditions that might affect interpretation of the data.

QAPP Information: The 1999 Quality Assurance Project Plan Regional Monitoring Program for Trace Substances was used.

QAPP Information Reference(s): [1999 Quality Assurance Project Plan Regional Monitoring Program for Trace Substances](#)

DECISION ID 66773		Region 2
San Francisco Bay, Lower		
Pollutant:	Toxaphene	
Final Listing Decision:	Do Not List on 303(d) list (TMDL required list)	
Last Listing Cycle's Final Listing Decision:	New Decision	
Revision Status	Revised	
Impairment from Pollutant or Pollution:	Pollutant	
Regional Board Staff Conclusion:	<p>This pollutant is being considered for placement on the CWA section 303(d) List under section 3.5 of the Listing Policy. Under section 3.5 a single line of evidence is necessary to assess listing status. Two lines of evidence are available in the administrative record to assess this pollutant. Zero of zero samples exceed the OEHHHA guideline.</p> <p>Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against placing this water segment-pollutant combination on the CWA section 303(d) List.</p> <p>This conclusion is based on the staff findings that:</p> <ol style="list-style-type: none"> 1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy. 2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy. 3. Zero of zero samples exceed the OEHHHA guideline and this sample size is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating. A minimum of 16 samples is needed to determine if a beneficial use is fully supported using table 3.1. 4. Pursuant to SECTION 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met. 	
Regional Board Staff Decision Recommendation:	After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be placed on the section 303(d) list. The readily available data and information is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating.	

Line of Evidence (LOE) for Decision ID 66773, Toxaphene
San Francisco Bay, Lower

Region 2

LOE ID:	95124
Pollutant:	Toxaphene
LOE Subgroup:	Pollutant-Tissue
Matrix:	Tissue
Fraction:	Fish fillet
Beneficial Use:	Commercial or recreational collection of fish, shellfish, or organisms
Number of Samples:	0
Number of Exceedances:	0
Data and Information Type:	Fish tissue analysis
Data Used to Assess Water Quality:	Water Board staff assessed Regional Monitoring Program data for Lower San Francisco Bay to determine beneficial use support and results are as follows: 0 of 0 samples exceed the criterion for toxaphene. Forty-three samples were discarded for being non-detect, unquantifiable or the reporting limit exceeding the water quality objective.
Data Reference:	Regional Monitoring Program data, Feb. 1993-Sep. 2008
SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	Water Quality Control Plan for the San Francisco Bay Basin: Controllable water quality factors shall not cause a detrimental increase in concentrations of toxic substances found in bottom sediments or aquatic life. Effects on aquatic organisms, wildlife, and human health will be considered.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	The modified OEHHA Fish Contaminant Goal for toxaphene in fish tissue is 4.3 ppb. This screening level assumes an average body weight of 70 kg and a consumption rate of 32 g/day for a 30 year exposure over a 70-year lifetime. This constituent is a carcinogen therefore the risk level is set to one in a million. A cooking reduction factor of 1 is applied for skin-off fillets. (Klasing, S., and R. Brodberg, 2008)
Guideline Reference:	Development of Fish Contaminant Goals and Advisory Tissue Levels for Common Contaminants in California Sport Fish: Chlordane, DDTs, Dieldrin, Methylmercury, PCBs, Selenium, and Toxaphene
Spatial Representation:	The samples were collected at eleven sites throughout Lower San Francisco Bay.
Temporal Representation:	The samples were collected in May 1994, May 2003, August 2003, and September 2003.
Environmental Conditions:	
QAPP Information:	The 1999 Quality Assurance Project Plan Regional Monitoring Program for Trace Substances was used.
QAPP Information Reference(s):	1999 Quality Assurance Project Plan Regional Monitoring Program for Trace Substances

Line of Evidence (LOE) for Decision ID 66773, Toxaphene
San Francisco Bay, Lower

Region 2

LOE ID:	93641
Pollutant:	Toxaphene
LOE Subgroup:	Pollutant-Tissue
Matrix:	Tissue
Fraction:	Shellfish
Beneficial Use:	Shellfish Harvesting
Number of Samples:	0

Number of Exceedances:	0
Data and Information Type:	Shellfish surveys
Data Used to Assess Water Quality:	Six samples were not used in the assessment because the laboratory data reporting limit(s) were above the objective and therefore the results could not be quantified with the level of certainty required by the Listing Policy. All composite samples were comprised of <i>Mytilus californianus</i> except for 1 sample comprised of <i>Crassostrea gigas</i> .
Data Reference:	Regional Monitoring Program data, Feb. 1993-Sep. 2008
SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	Water Quality Control Plan for the San Francisco Bay Basin: Controllable water quality factors shall not cause a detrimental increase in concentrations of toxic substances found in bottom sediments or aquatic life. Effects on aquatic organisms, wildlife, and human health will be considered.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	The modified OEHHA Fish Contaminant Goal for toxaphene in shellfish tissue is 6.5 ppb. This screening level assumes an average body weight of 70 kg and a consumption rate of 21 g/day for a 30 year exposure over a 70-year lifetime. This constituent is a carcinogen therefore the risk level is set to one in a million. (Brodberg, R.K., and G.A. Pollock, 1999; Klasing, S., and R. Brodberg, 2008)
Guideline Reference:	Prevalence of Selected Target Chemical Contaminants in Sport Fish From Two California Lakes: Public health designed screening study. Sacramento, CA: Office of Environmental Health Hazard Assessment Development of Fish Contaminant Goals and Advisory Tissue Levels for Common Contaminants in California Sport Fish: Chlordane, DDTs, Dieldrin, Methylmercury, PCBs, Selenium, and Toxaphene
Spatial Representation:	Samples were collected at the following stations: BA30 - Dumbarton Bridge, BA40 - Redwood Creek and BB71 - Alameda.
Temporal Representation:	Samples were generally collected in spring and fall seasons from years 1993 - 1999 and then during most fall seasons during years 2000 - 2008.
Environmental Conditions:	
QAPP Information:	1999 Quality Assurance Project Plan Regional Monitoring Program for Trace Substances.
QAPP Information Reference(s):	1999 Quality Assurance Project Plan Regional Monitoring Program for Trace Substances

DECISION ID	66777	Region 2
San Francisco Bay, Lower		
Pollutant:	Tributyltin TBT (Tributylstanne)	
Final Listing Decision:	Do Not List on 303(d) list (TMDL required list)	
Last Listing Cycle's Final Listing Decision:	New Decision	
Revision Status	Revised	
Impairment from Pollutant or Pollution:	Pollutant	
Regional Board Staff Conclusion:	<p>This pollutant is being considered for placement on the CWA section 303(d) List under section 3.5 of the Listing Policy. Under section 3.5 a single line of evidence is necessary to assess listing status.</p> <p>One line of evidence is available in the administrative record to assess this pollutant. Zero of thirty-seven samples exceed the guideline.</p> <p>Based on the readily available data and information, the weight of evidence indicates that there is not sufficient justification in favor of placing this water segment-pollutant combination on the CWA section 303(d) List.</p> <p>This conclusion is based on the staff findings that:</p> <ol style="list-style-type: none"> 1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy. 2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy. 	

3. Zero of thirty-seven samples exceed the OEHHA guideline and this number does not exceed the allowable frequency listed in Table 3.1 of the Listing Policy.
4. There is not a fish consumption advisory in effect for this waterbody.
5. Pursuant to section 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.

Regional Board Staff Decision Recommendation: After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be placed on the section 303(d) list because applicable water quality standards are not being exceeded.

**Line of Evidence (LOE) for Decision ID 66777, Tributyltin TBT (Tributylstanne)
San Francisco Bay, Lower**

Region 2

LOE ID:	93696
Pollutant:	Tributyltin TBT (Tributylstanne)
LOE Subgroup:	Pollutant-Tissue
Matrix:	Tissue
Fraction:	Shellfish
Beneficial Use:	Shellfish Harvesting
Number of Samples:	37
Number of Exceedances:	0
Data and Information Type:	Shellfish surveys
Data Used to Assess Water Quality:	The 37 samples did not exceed the guideline. All composite samples were comprised of <i>Mytilus californianus</i> , except for one composite comprised of <i>Crassostrea gigas</i> . Data were reported on a dry weight basis and were converted to a wet weight basis by multiplying the dry-weight concentration by a factor of 1 minus the percentage of moisture content expressed as a decimal. Five samples were not used in the assessment because the laboratory data reporting limit was above the objective and therefore the results could not be quantified with the level of certainty required by the Listing Policy. Laboratory replicates were averaged. If a dry weight result did not have a corresponding moisture result for conversion to wet weight, the sample was not included in the assessment.
Data Reference:	Regional Monitoring Program data, Feb. 1993-Sep. 2008
SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	Water Quality Control Plan for the San Francisco Bay Basin: Controllable water quality factors shall not cause a detrimental increase in concentrations of toxic substances found in bottom sediments or aquatic life. Effects on aquatic organisms, wildlife, and human health will be considered.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	The modified OEHHA Fish Contaminant Goal for tributyltin in shellfish tissue is 1 ppm. This screening level assumes an average body weight of 70 kg and a consumption rate of 21 g/day. (Brodberg, R.K., and G.A. Pollock, 1999; Klasing, S., and R. Brodberg, 2008; USEPA, 2000)
Guideline Reference:	Prevalence of Selected Target Chemical Contaminants in Sport Fish From Two California Lakes: Public health designed screening study. Sacramento, CA: Office of Environmental Health Hazard Assessment Development of Fish Contaminant Goals and Advisory Tissue Levels for Common Contaminants in California Sport Fish: Chlordane, DDTs, Dieldrin, Methylmercury, PCBs, Selenium, and Toxaphene Guidance for Assessing Chemical Contaminant Data for Use In Fish Advisories Volume 1: Fish Sampling and Analysis
Spatial Representation:	Samples were collected at the following stations: BA30 - Dumbarton Bridge, BA40 - Redwood Creek and BB71 - Alameda.
Temporal Representation:	Samples were generally collected in spring and fall seasons from years 1993 - 1999 and

then during fall 2000 and 2001.

Environmental Conditions:

QAPP Information:

QAPP Information Reference(s):

1999 Quality Assurance Project Plan Regional Monitoring Program for Trace Substances.
[1999 Quality Assurance Project Plan Regional Monitoring Program for Trace Substances](#)

DECISION ID	66587	Region 2
San Francisco Bay, Lower		

Pollutant: Zinc
Final Listing Decision: Do Not List on 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision: New Decision
Revision Status: Revised
Impairment from Pollutant or Pollution: Pollutant

Regional Board Staff Conclusion: This pollutant is being considered for placement on the CWA section 303(d) List under section 3.1 of the Listing Policy. Under section 3.1 a single line of evidence is necessary to assess listing status.

Three lines of evidence are available in the administrative record to assess this pollutant. Zero of one hundred fifty-one samples exceed the guideline.

Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against placing this water segment-pollutant combination on the CWA section 303(d) List in the Water Quality Limited Segments category.

This conclusion is based on the staff findings that:

1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy.
2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy.
3. Zero of one hundred fifty-one samples exceed the guideline and this does not exceed the allowable frequency listed in Table 3.1 of the Listing Policy.
4. Pursuant to section 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.

Regional Board Staff Decision Recommendation: After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be placed on the section 303(d) list because applicable water quality standards are not being exceeded.

Line of Evidence (LOE) for Decision ID 66587, Zinc	Region 2
San Francisco Bay, Lower	

LOE ID: 92900

Pollutant: Zinc
LOE Subgroup: Pollutant-Water
Matrix: Water
Fraction: Dissolved

Beneficial Use: Estuarine Habitat

Number of Samples: 143
Number of Exceedances: 0

Data and Information Type: PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality: State Water Board staff assessed SFEI data for San Francisco Bay, Lower to determine beneficial use support and results are as follows: 0 of 143 samples exceed the criterion for Zinc.

Data Reference: [Regional Monitoring Program data, Feb. 1993-Sep. 2008](#)

SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	The dissolved zinc criterion continuous concentration (expressed as a 4-day average) to protect aquatic life in saline water is 0.081 mg/L (California Toxics Rule, 2000).
Objective/Criterion Reference:	Code of Federal Regulations 40 part 131.38 Establishment of numeric criteria for priority toxic pollutants for the State of California. 7/1/2011 Edition
Evaluation Guideline:	
Guideline Reference:	
Spatial Representation:	Data for this line of evidence for San Francisco Bay, Lower was collected at 23 monitoring sites [Dumbarton Bridge - BA30, Redwood Creek - BA40, San Bruno Shoal - BB15, Oyster Point - BB30, Alameda - BB70, Central Bay - CB002W, Central Bay - CB004W, Central Bay - CB010W, Central Bay - CB012W, Central Bay - CB014W, Central Bay - CB016W, Central Bay - CB018W, Central Bay - CB020W, Central Bay - CB022W, Central Bay - CB024W, Central Bay - CB026W, South Bay - SB006W, South Bay - SB013W, South Bay - SB014W, South Bay - SB015W, South Bay - SB020W, South Bay - SB021W, South Bay - SB026W]
Temporal Representation:	Data was collected over the time period 3/2/1993-7/18/2008.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	The 1999 Quality Assurance Project Plan Regional Monitoring Program for Trace Substances was used.
QAPP Information Reference(s):	1999 Quality Assurance Project Plan Regional Monitoring Program for Trace Substances

Line of Evidence (LOE) for Decision ID 66587, Zinc
San Francisco Bay, Lower

Region 2

LOE ID:	92899
Pollutant:	Zinc
LOE Subgroup:	Pollutant-Water
Matrix:	Water
Fraction:	Total
Beneficial Use:	Commercial or recreational collection of fish, shellfish, or organisms
Number of Samples:	143
Number of Exceedances:	0
Data and Information Type:	PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality:	State Water Board staff assessed SFEI data for San Francisco Bay, Lower to determine beneficial use support and results are as follows: 0 of 143 samples exceed the criterion for Zinc.
Data Reference:	Regional Monitoring Program data, Feb. 1993-Sep. 2008
SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	Surface?waters?shall?not?contain?concentrations?of?chemical?constituents?in?amounts?that?adversely?affect?any?designated?beneficial?use.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	The Zinc criteria for the protection of human health from consumption of fish only is 26000 ug/L (National Recommended Water Quality Criteria, 2009).
Guideline Reference:	National Recommended Water Quality Criteria. United States Environmental Protection Agency. Office of Water. Office of Science and Technology
Spatial Representation:	Data for this line of evidence for San Francisco Bay, Lower was collected at 23 monitoring sites [Dumbarton Bridge - BA30, Redwood Creek - BA40, San Bruno Shoal - BB15, Oyster Point - BB30, Alameda - BB70, Central Bay - CB002W, Central Bay - CB004W, Central Bay - CB010W, Central Bay - CB012W, Central Bay - CB014W, Central Bay - CB016W, Central Bay - CB018W, Central Bay - CB020W, Central Bay - CB022W, Central Bay - CB024W, Central Bay - CB026W, South Bay - SB006W, South Bay -

	SB013W, South Bay - SB014W, South Bay - SB015W, South Bay - SB020W, South Bay - SB021W, South Bay - SB026W]
Temporal Representation:	Data was collected over the time period 3/2/1993-7/18/2008.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	The 1999 Quality Assurance Project Plan Regional Monitoring Program for Trace Substances was used.
QAPP Information Reference(s):	1999 Quality Assurance Project Plan Regional Monitoring Program for Trace Substances

Line of Evidence (LOE) for Decision ID 66587, Zinc	Region 2
San Francisco Bay, Lower	

LOE ID:	92909
Pollutant:	Zinc
LOE Subgroup:	Pollutant-Water
Matrix:	Water
Fraction:	Dissolved
Beneficial Use:	Estuarine Habitat
Number of Samples:	8
Number of Exceedances:	0
Data and Information Type:	Fixed station physical/chemical (conventional plus toxic pollutants)
Data Used to Assess Water Quality:	None of the eight samples exceeded the CTR value of 81 ug/L for dissolved zinc in saline water.
Data Reference:	Data for Various Pollutants in California Marinas, 2006.
SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	Waters shall not contain chemical constituents in concentrations that adversely affect beneficial uses. California Toxics Rule (CTR) lists criterion continuous concentrations to protect aquatic life in saline water. The CTR value is 81 ug/L.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	
Guideline Reference:	
Spatial Representation:	A total of four separate grab samples were collected from outside three marina basins (Ballena Isle, Coyote Point, and South Beach). The four grab samples were averaged into one result.
Temporal Representation:	Samples were collected from outside Ballena Isle and South Beach marinas on three separate sampling events during the dry season (July - October) in 2006. Samples were collected from outside Coyote Point marina on two separate sampling events during the dry season (July - October) in 2006.
Environmental Conditions:	Samples were collected during the dry season only.
QAPP Information:	Samples were collected and analyzed in accordance with a Quality Assurance Project Plan that was prepared per State Water Resources Control Board Agreement No. 05-218-250 California Department of Pesticide Regulation, Sacramento, CA. (Available online at http://www.cdpr.ca.gov/docs/emon/surfwttr/protocols/qapp_study236.pdf)
QAPP Information Reference(s):	

DECISION ID	66560	Region 2
San Francisco Bay, Lower		

Pollutant:	alpha-Endosulfan (Endosulfan 1)
Final Listing Decision:	Do Not List on 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision:	New Decision
Revision Status	Revised

Impairment from Pollutant or Pollution: Pollutant

Regional Board Staff Conclusion:

This pollutant is being considered for placement on the CWA section 303(d) List under section 3.1 of the Listing Policy. Under section 3.1 a single line of evidence is necessary to assess listing status.

One line of evidence is available in the administrative record to assess this pollutant. Zero of seventy-two samples exceed the guideline.

Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against placing this water segment-pollutant combination on the CWA section 303(d) List in the Water Quality Limited Segments category.

This conclusion is based on the staff findings that:

1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy.
2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy.
3. Zero of seventy-two samples exceed the guideline and this does not exceed the allowable frequency listed in Table 3.1 of the Listing Policy.
4. Pursuant to section 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.

Regional Board Staff Decision Recommendation:

After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be placed on the section 303(d) list because applicable water quality standards are not being exceeded.

**Line of Evidence (LOE) for Decision ID 66560, alpha-Endosulfan (Endosulfan 1)
San Francisco Bay, Lower**

Region 2

LOE ID:	92896
Pollutant:	alpha-Endosulfan (Endosulfan 1)
LOE Subgroup:	Pollutant-Water
Matrix:	Water
Fraction:	Total
Beneficial Use:	Commercial or recreational collection of fish, shellfish, or organisms
Number of Samples:	72
Number of Exceedances:	0
Data and Information Type:	PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality:	State Water Board staff assessed SFEI data for San Francisco Bay, Lower to determine beneficial use support and results are as follows: 0 of 72 samples exceed the criterion for Endosulfan I.
Data Reference:	Regional Monitoring Program data, Feb. 1993-Sep. 2008
SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	The Endosulfan I criteria for the protection of human health from consumption of organisms only is 240 ug/L (California Toxics Rule, 2000).
Objective/Criterion Reference:	Code of Federal Regulations 40 part 131.38 Establishment of numeric criteria for priority toxic pollutants for the State of California. 7/1/2011 Edition
Evaluation Guideline:	
Guideline Reference:	
Spatial Representation:	Data for this line of evidence for San Francisco Bay, Lower was collected at 13 monitoring sites [Dumbarton Bridge - BA30, Redwood Creek - BA40, Alameda - BB70, Central Bay - CB002W, Central Bay - CB004W, Central Bay - CB010W, Central Bay - CB012W, Central Bay - CB014W, Central Bay - CB016W, Central Bay - CB018W, Central Bay - CB020W, South Bay - SB020W, South Bay - SB026W]

Temporal Representation:	Data was collected over the time period 1/31/1994-8/16/2007.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	The 1999 Quality Assurance Project Plan Regional Monitoring Program for Trace Substances was used.
QAPP Information Reference(s):	1999 Quality Assurance Project Plan Regional Monitoring Program for Trace Substances

DECISION ID	66562	Region 2
San Francisco Bay, Lower		

Pollutant:	beta-Endosulfan (Endosulfan 2)
Final Listing Decision:	Do Not List on 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision:	New Decision
Revision Status	Revised
Impairment from Pollutant or Pollution:	Pollutant

Regional Board Staff Conclusion: This pollutant is being considered for placement on the CWA section 303(d) List under section 3.1 of the Listing Policy. Under section 3.1 a single line of evidence is necessary to assess listing status.

One line of evidence is available in the administrative record to assess this pollutant. Zero of sixty-nine samples exceed the guideline.

Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against placing this water segment-pollutant combination on the CWA section 303(d) List in the Water Quality Limited Segments category.

This conclusion is based on the staff findings that:

1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy.
2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy.
3. Zero of sixty-nine samples exceed the guideline and this does not exceed the allowable frequency listed in Table 3.1 of the Listing Policy.
4. Pursuant to section 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.

Regional Board Staff Decision Recommendation: After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be placed on the section 303(d) list because applicable water quality standards are not being exceeded.

Line of Evidence (LOE) for Decision ID 66562, beta-Endosulfan (Endosulfan 2)		Region 2
San Francisco Bay, Lower		

LOE ID: 92916

Pollutant:	beta-Endosulfan (Endosulfan 2)
LOE Subgroup:	Pollutant-Water
Matrix:	Water
Fraction:	Total

Beneficial Use: Commercial or recreational collection of fish, shellfish, or organisms

Number of Samples:	69
Number of Exceedances:	0

Data and Information Type:	PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality:	State Water Board staff assessed SFEI data for San Francisco Bay, Lower to determine beneficial use support and results are as follows: 0 of 69 samples exceed the criterion for Endosulfan II.

Data Reference: [Regional Monitoring Program data, Feb. 1993-Sep. 2008](#)

SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	The Endosulfan II criteria for the protection of human health from consumption of organisms only is 240 ug/L (California Toxics Rule, 2000).
Objective/Criterion Reference:	Code of Federal Regulations 40 part 131.38 Establishment of numeric criteria for priority toxic pollutants for the State of California. 7/1/2011 Edition
Evaluation Guideline:	
Guideline Reference:	
Spatial Representation:	Data for this line of evidence for San Francisco Bay, Lower was collected at 10 monitoring sites [Dumbarton Bridge - BA30, Redwood Creek - BA40, Alameda - BB70, Central Bay - CB010W, Central Bay - CB012W, Central Bay - CB014W, Central Bay - CB016W, Central Bay - CB018W, Central Bay - CB020W, South Bay - SB021W]
Temporal Representation:	Data was collected over the time period 3/2/1993-8/16/2007.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	The 1999 Quality Assurance Project Plan Regional Monitoring Program for Trace Substances was used.
QAPP Information Reference(s):	1999 Quality Assurance Project Plan Regional Monitoring Program for Trace Substances

DECISION ID	66772	Region 2
San Francisco Bay, Lower		
Pollutant:	pH	
Final Listing Decision:	Do Not List on 303(d) list (TMDL required list)	
Last Listing Cycle's Final Listing Decision:	New Decision	
Revision Status	Revised	
Impairment from Pollutant or Pollution:	Pollutant	
Regional Board Staff Conclusion:	<p>This pollutant is being considered for placement on the CWA section 303(d) List under section 3.2 of the Listing Policy. Under section 3.2 a single line of evidence is necessary to assess listing status.</p> <p>One line of evidence is available in the administrative record to assess this pollutant. Three of thirty-five samples exceed the objective.</p> <p>Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against placing this water segment-pollutant combination on the CWA section 303(d) List.</p> <p>This conclusion is based on the staff findings that:</p> <ol style="list-style-type: none"> 1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy. 2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy. 3. Three of thirty-five samples exceed the objective and this does not exceed the allowable frequency listed in Table 3.2 of the Listing Policy. 4. Pursuant to section 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met. 	
Regional Board Staff Decision Recommendation:	After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be placed on the section 303(d) list because applicable water quality standards are not being exceeded.	

Line of Evidence (LOE) for Decision ID 66772, pH	Region 2
San Francisco Bay, Lower	

LOE ID: 90738

Pollutant:	pH
LOE Subgroup:	Pollutant-Water
Matrix:	Water
Fraction:	Dissolved
Beneficial Use:	Marine Habitat
Number of Samples:	35
Number of Exceedances:	3
Data and Information Type:	PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality:	Numeric data generated from 35 minimums and maximums had 3 exceedences.
Data Reference:	Data for Various Pollutants in California Marinas, 2006.
SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	The pH shall not be depressed below 6.5 nor raised above 8.5.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	
Guideline Reference:	
Spatial Representation:	Samples were collected from the following stations: Ballena Isle Marina 5.1 Ballena Isle Marina 5.2 Ballena Isle Marina 5.3 Ballena Isle Marina 6.1 Ballena Isle Marina 6.2 Ballena Isle Marina 6.3 Ballena Isle Marina 7.1 Ballena Isle Marina 7.2 Ballena Isle Marina 7.3 Ballena Isle Marina 8.1 Ballena Isle Marina 8.2 Ballena Isle Marina 8.3 Coyote Point Marina 5.1 Coyote Point Marina 5.2* Coyote Point Marina 6.1 Coyote Point Marina 6.2* Coyote Point Marina 7.1 Coyote Point Marina 7.2* Coyote Point Marina 8.1 Coyote Point Marina 8.2* South Beach Harbor 4.1 South Beach Harbor 4.2 South Beach Harbor 4.3* South Beach Harbor 5.1 South Beach Harbor 5.2 South Beach Harbor 5.3 South Beach Harbor 6.1 South Beach Harbor 6.2 South Beach Harbor 6.3 South Beach Harbor 7.1 South Beach Harbor 7.2 South Beach Harbor 7.3 South Beach Harbor 8.1 South Beach Harbor 8.2 South Beach Harbor 8.3
Temporal Representation:	Samples were collected thrice a month from July 2006 to September 2006.
Environmental Conditions:	
QAPP Information:	NPDES quality assurance.
QAPP Information Reference(s):	Study report on paint data collected in California Marinas.

DECISION ID	66776	Region 2
San Francisco Bay, Lower		

Pollutant:	Toxicity
Final Listing Decision:	List on 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision:	New Decision
Revision Status	Revised
Sources:	Source Unknown
Expected TMDL Completion Date:	2029
Impairment from Pollutant or Pollution:	Pollutant
Regional Board Staff Conclusion:	<p>This pollutant is being considered for placement on the CWA section 303(d) List under section 3.6 of the Listing Policy. Under section 3.6 a single line of evidence is necessary to assess listing status.</p> <p>Three lines of evidence are available in the administrative record to assess this pollutant. Thirty-seven of the seventy-two samples exceed the guideline.</p> <p>Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification in favor of placing this water segment-pollutant combination on the CWA section 303(d) List.</p>

This conclusion is based on the staff findings that:

1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy.
2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy.
3. Thirty-seven of the seventy-two samples exceed the guideline and this exceeds the allowable frequency listed in Table 3.1 of the Listing Policy.
4. Pursuant to section 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.

Regional Board Staff Decision Recommendation: After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should be placed on the section 303(d) list because applicable water quality standards are exceeded and a pollutant contributes to or causes the problem.

**Line of Evidence (LOE) for Decision ID 66776, Toxicity
San Francisco Bay, Lower**

Region 2

LOE ID:	95752
Pollutant:	Toxicity
LOE Subgroup:	Toxicity
Matrix:	Water
Fraction:	None
Beneficial Use:	Estuarine Habitat
Number of Samples:	19
Number of Exceedances:	1
Data and Information Type:	TOXICITY TESTING
Data Used to Assess Water Quality:	<p>One of the 19 samples exhibited toxicity. A sample may have multiple toxicity test results but will be counted only once. A sample is defined as being collected on the same day at the same location with the same lab sample id (if provided).</p> <p>The following test organisms and parameters were utilized for the toxicity tests: <i>Thalassiosira pseudonana</i> (cell count), 1993; <i>Crassostrea gigas</i> (mean % normal development), 1993; <i>Mytilus edulis</i> (mean % normal development), 1993-94, 1996-97; and <i>Americamysis bahia</i> - formerly <i>Mysidopsis bahia</i> (mean % survival), 1994-2000, and 2007. The sample which exhibited toxicity was for <i>Americamysis bahia</i> collected July 1997.</p> <p>Additional results were not included in the assessment due to control results of less than 90 percent for test parameter.</p>
Data Reference:	Regional Monitoring Program data, Feb. 1993-Sep. 2008
SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	All waters shall be maintained free of toxic substances in concentrations that are toxic to, or that produce detrimental physiological responses in, human, plant, animal, or aquatic life. Region 2 Basin Plan.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) - San Francisco Bay Region (Region 2)
Evaluation Guideline:	Toxicity is defined as a significant reduction of test organism relative to the control ($\alpha < 0.05$) and test organism survival is 80% or less than the control survival (at least 20% effect).
Guideline Reference:	SWAMP Memo Toxicity Data Interpretation Method 1007.0: Mysid, Mysidopsis bahia, Survival, Growth, and Fecundity Test; Chronic Toxicity. Excerpt from: Short-Term Methods for Estimating the Chronic Toxicity of Effluents and Receiving Waters to Marine and Estuarine Organisms. 3rd edition EPA-821-R-02-014
Spatial Representation:	Samples were collected at sites BA30, BA40, SB001W, SB003W, SB008W, SB010W, and SB047W.

Temporal Representation:	The samples were collected twice each year (generally winter and summer) from 1993-2001, and during the summer of 2002 and 2007.
Environmental Conditions:	
QAPP Information:	Data collected after 1999 follows the San Francisco Estuary Institute 1999 Quality Assurance Project Plan Regional Monitoring Program for Trace Substances.
QAPP Information Reference(s):	1999 Quality Assurance Project Plan Regional Monitoring Program for Trace Substances

Line of Evidence (LOE) for Decision ID 66776, Toxicity

Region 2

San Francisco Bay, Lower

LOE ID:	95808
Pollutant:	Toxicity
LOE Subgroup:	Toxicity
Matrix:	Sediment
Fraction:	None
Beneficial Use:	Estuarine Habitat
Number of Samples:	72
Number of Exceedances:	37
Data and Information Type:	TOXICITY TESTING
Data Used to Assess Water Quality:	<p>Thirty-seven of the seventy-two samples exhibited toxicity. A sample may have multiple toxicity test results but will be counted only once. A sample is defined as being collected on the same day at the same location with the same lab sample id (if provided).</p> <p>The following test organisms and parameters were utilized for the toxicity tests: Eohaustorius estuarius (mean % survival), 1993-2008; Mytilus edulis (mean % normal alive), 1993-1995, 1997; Mytilus galloprovincialis (mean % normal alive), 1998-2001, 2005-08; and Strongylocentrotus purpuratus (mean % normal development), 1998. The following samples exhibited toxicity: Eohaustorius estuarius collected 1993-2003, 2005-08; Mytilus galloprovincialis collected 2005, 2007-08.</p> <p>Additional results were not included in the assessment due to control results of less than 90 percent for test parameter.</p>
Data Reference:	Regional Monitoring Program data, Feb. 1993-Sep. 2008
SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	All waters shall be maintained free of toxic substances in concentrations that are toxic to, or that produce detrimental physiological responses in, human, plant, animal, or aquatic life. Region 2 Basin Plan.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) - San Francisco Bay Region (Region 2)
Evaluation Guideline:	Toxicity is defined as a significant reduction of test organism relative to the control ($\alpha < 0.01$) and test organism survival is 80% or less than the control survival (at least 20% effect).
Guideline Reference:	SWAMP Memo Toxicity Data Interpretation Methods for Assessing the Toxicity of Sediment-associated Contaminants with Estuarine and Marine Amphipods. June 1994. EPA 600/R-94/025 Short-term Methods for Estimating the Chronic Toxicity of Effluents and Receiving Waters to West Coast Marine and Estuarine Organisms. EPA/600/R-95-136.
Spatial Representation:	Samples were collected at sites BA30, BA41, BB15, CB002S, CB038S, CB040S, CB074S, CB078S, CB082S, SB001S, SB002S, SB003S, SB004S, SB005S, SB007S, SB009S, SB011S, SB013S, SB015S, SB017S, SB019S, SB021S, SB023S, SB025S, SB027S, SB029S, SB031S, SB037S, SB038S, SB039S, SB040S, and SB073S.
Temporal Representation:	The samples were collected twice each year (generally winter and summer) from 1993-1999, and during the summers of 2000 and 2008.
Environmental Conditions:	
QAPP Information:	Data collected after 1999 follows the San Francisco Estuary Institute 1999 Quality

Line of Evidence (LOE) for Decision ID 66776, Toxicity **Region 2**
San Francisco Bay, Lower

LOE ID: 92880

Pollutant: Toxicity
 LOE Subgroup: Toxicity
 Matrix: Water
 Fraction: None

Beneficial Use: Estuarine Habitat

Number of Samples: 1
 Number of Exceedances: 0

Data and Information Type: TOXICITY TESTING
 Data Used to Assess Water Quality: One sample was tested for toxicity. None of the samples exhibited a statistically significant effect relative to control. The toxicity test used was the mussel embryo development test (EPA 1995) using *Mytilus galloprovincialis*. Toxic effects are expressed as percent reduction in normal development relative to controls.

Data Reference: [Data for Various Pollutants in California Marinas, 2006.](#)

SWAMP Data: Non-SWAMP

Water Quality Objective/Criterion: All waters shall be maintained free of toxic substances in concentrations that are lethal to or that produce other detrimental responses in aquatic organisms. Detrimental responses include, but are not limited to, decreased growth rate and decreased reproductive success of resident or indicator species.

Objective/Criterion Reference: [Water Quality Control Plan \(Basin Plan\) - San Francisco Bay Region \(Region 2\)](#)

Evaluation Guideline: Toxicity is defined as a statistically significant effect in the sample exposure compared to the control using EPA-recommended hypothesis testing (parametric Dunnett's Test or non-parametric Kruskal-Wallis or Wilcoxon Two-sample Test). The t-test is used to determine if there is a statistically significant decrease in organism response in the sample as compared to the control.

Guideline Reference: [Method 1007.0: Mysid, Mysidopsis bahia, Survival, Growth, and Fecundity Test; Chronic Toxicity. Excerpt from: Short-Term Methods for Estimating the Chronic Toxicity of Effluents and Receiving Waters to Marine and Estuarine Organisms. 3rd edition EPA-821-R-02-014](#)

Spatial Representation: The samples were collected at South Beach Harbor 4.2.
 Temporal Representation: Samples were collected on 8/23/2006.
 Environmental Conditions:
 QAPP Information: Data quality is good. The data and QA information is provided in Appendix G and I to the report Monitoring For Indicators of Antifouling Paint Pollution In California Marinas, Department of Pesticide Regulation. The Southern California Coastal Water Research Project laboratory conducted the toxicity tests.

QAPP Information Reference(s):

DECISION ID **32864** **Region 2**
San Francisco Bay, Lower

Pollutant: Polybrominated Diphenyl Ethers (PBDEs)
Final Listing Decision: Do Not List on 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision: Do Not List on 303(d) list (TMDL required list)(2012)
Revision Status Original

Impairment from Pollutant or Pollution: Pollutant

Regional Board Staff Conclusion:

This pollutant is being considered for listing under sections 2.1 and 3.5 of the Listing Policy. Under section 3.5 a single line of evidence is necessary to assess listing status. Two lines of evidence are available in the administrative record to assess this pollutant. Based on section 3.5, some data are available showing concentrations of this pollutant in animal tissues. It cannot be determined if the pollutant is likely to cause or contribute to the adverse effects because a numeric guideline or water quality objective is not available. Based on the readily available data and information, the weight of evidence indicates that there is not sufficient justification in favor of placing this water segment-pollutant combination on the section 303(d) list in the Water Quality Limited Segments category. This conclusion is based on the staff findings that: 1. An evaluation guideline is not available that complies with the requirements of section 6.1.3 of the Policy. 2. Pursuant to section 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.

Regional Board Staff Decision Recommendation:

This is a decision previously approved by the State Water Resources Control Board and the USEPA. No new data were assessed by the Regional Board for the current. The decision has not changed.

Line of Evidence (LOE) for Decision ID 32864, Polybrominated Diphenyl Ethers (PBDEs)

Region 2

San Francisco Bay, Lower

LOE ID: 16

Pollutant: Polybrominated Diphenyl Ethers (PBDEs)
LOE Subgroup: Testimonial Evidence
Matrix: -N/A
Fraction: None

Beneficial Use: Estuarine Habitat

Number of Samples: 0
Number of Exceedances: 0

Data and Information Type: Not Specified
Data Used to Assess Water Quality: 2002 List Fact Sheet Information:

PBDEs research literature will be reviewed by the RWQCB to ascertain any new information on actual effects thresholds for these persistent bioaccumulative substances in the next listing cycle. These actions can be conducted regionally through the RMP, the Bay Area Pollution Prevention Group, or other association of dischargers. During the subsequent listing cycle, RWQCB staff evaluation of current research, applicable water quality criteria, and local actions to characterize sources and pollution prevention of PBDEs will determine whether a listing is needed.

Data Reference: [Placeholder reference 2006 303\(d\)](#)

SWAMP Data: Non-SWAMP

Water Quality Objective/Criterion: Basin Plan Narrative Objectives:

"Many pollutants can accumulate on particles, in sediment, or bioaccumulate in fish or other aquatic organisms. Controllable water quality factors shall not cause a detrimental increase in concentrations of toxic substances found in bottom sediments or aquatic life. Effects on aquatic organisms, wildlife, and human health will be considered."

Objective/Criterion Reference: "Controllable water quality factors shall not cause a detrimental increase in the concentrations of toxic pollutants in sediments or aquatic life."
[Placeholder reference 2006 303\(d\)](#)

Evaluation Guideline:
Guideline Reference:

Spatial Representation:
Temporal Representation:
Environmental Conditions:
QAPP Information: QA Info Missing
QAPP Information Reference(s):

Line of Evidence (LOE) for Decision ID 32864, Polybrominated Diphenyl Ethers (PBDEs)

Region 2

San Francisco Bay, Lower

LOE ID: 15

Pollutant: Polybrominated Diphenyl Ethers (PBDEs)

LOE Subgroup: Pollutant-Tissue

Matrix: Not Specified

Fraction: None

Beneficial Use: Estuarine Habitat

Number of Samples: 0

Number of Exceedances: 0

Data and Information Type: Not Specified

Data Used to Assess Water Quality: 2004 List Comments:

Numeric information, along with circumstantial, anecdotal, and non-specific referenced evidence, was submitted in 2004 with the request that the San Francisco Bay (presumably San Pablo Bay; San Francisco Bay, Central; San Francisco Bay, South; San Francisco Bay, Lower; and/or Suisun Bay) be listed for the PBDE family of flame retardant chemicals.

Studies based on findings from other states and other countries (Sweden) cannot, by themselves, provide sufficient evidence to list a pollutant for a California water body. Instead, this data provides background information only.

Data on contamination by PBDEs of human (breast) tissue from residents in and around the Bay is not usable for listing those water bodies due to the fact that there is no way to meaningfully link such contamination directly to water quality and to a particular water body. The presence of PBDEs in eggs and seal tissues is also inadequate to list a water body.

The report does not specify where bird's nests and seal carcasses were sampled in relation to the five Bay area water bodies. Even if specific sample sites were included, it would be difficult to determine the relationship between the presence of PBDEs in the tissues of a widely ranging species, and the water of a specific water body. It is easier to establish this link when the tissues of filter-feeding organisms (e.g., mussels and clams) or organisms that forage locally are exclusively used.

While some data presented was from local fish species, the volume and reliability of the data is questionable. Leopard shark, halibut, striped bass, and other species may move considerable distances before being captured, making it difficult to establish a relationship between pollutants in tissue and the water body of capture. The 'tainted catch' report states: 'PBDE levels varied widely among fish species and between individuals of the same species in part due to location in the Bay.'

Data Reference: [Placeholder reference 2006 303\(d\)](#)

SWAMP Data: Non-SWAMP

Water Quality Objective/Criterion: Basin Plan Narrative Objectives:

"Many pollutants can accumulate on particles, in sediment, or bioaccumulate in fish or other aquatic organisms. Controllable water quality factors shall not cause a detrimental increase in concentrations of toxic substances found in bottom sediments or aquatic life.

Effects on aquatic organisms, wildlife, and human health will be considered."

"Controllable water quality factors shall not cause a detrimental increase in the concentrations of toxic pollutants in sediments or aquatic life."

Objective/Criterion Reference:

[Placeholder reference 2006 303\(d\)](#)

Evaluation Guideline:

None available.

Guideline Reference:

[Placeholder reference 2006 303\(d\)](#)

Spatial Representation:

Temporal Representation:

Multiple studies are cited (e.g., California studies: She et al., 2002). PBDEs in the San Francisco Bay Area: measurements in harbor seal blubber and human breast adipose tissue. Chemosphere 46(2002): 697-707; Petreas et al., 2003. High Body Burdens of 2,2',4,4'-Tetrabromodiphenyl Ether (BDE-47) in California Women. Environ. Health Perspect. 111(9): 1175-1179; She et al., 2003. High PBDE Levels in Shorebird Eggs from the San Francisco Bay and Washington State. Proceedings. 2003 Georgia Basin/Puget Sound Research Conference.

Environmental Conditions:

QAPP Information:

QA Info Missing

QAPP Information Reference(s):

DECISION ID	34662	Region 2
San Francisco Bay, Lower		

Pollutant: Dioxin compounds (including 2,3,7,8-TCDD)

Final Listing Decision: List on 303(d) list (TMDL required list)

Last Listing Cycle's Final Listing Decision: List on 303(d) list (TMDL required list)(2012)

Revision Status

Original

Sources:

Source Unknown

Expected TMDL Completion Date:

2019

Impairment from Pollutant or Pollution:

Pollutant

Regional Board Staff Conclusion:

303(d) listing decisions made prior to 2006 were not held in an assessment database. The Regional Boards will update this decision when new data and information become available and are assessed.

Regional Board Staff Decision Recommendation:

This is a decision previously approved by the State Water Resources Control Board and the USEPA. No new data were assessed by the Regional Board for the current. The decision has not changed.

Line of Evidence (LOE) for Decision ID 34662, Dioxin compounds (including 2,3,7,8-TCDD)	Region 2
San Francisco Bay, Lower	

LOE ID: 3836

Pollutant: Dioxin compounds (including 2,3,7,8-TCDD)

LOE Subgroup: Pollutant-Tissue

Matrix: Tissue

Fraction: Not Recorded

Beneficial Use: Commercial or recreational collection of fish, shellfish, or organisms

Number of Samples: 0

Number of Exceedances: 0

Data and Information Type: Not Specified

Data Used to Assess Water Quality: Unspecified--This LOE is a placeholder to support a 303(d) listing decision made prior to 2006.

Data Reference:	Placeholder reference pre-2006 303(d)
SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	Unspecified
Objective/Criterion Reference:	Placeholder reference pre-2006 303(d)
Evaluation Guideline:	Unspecified
Guideline Reference:	Placeholder reference pre-2006 303(d)
Spatial Representation:	Unspecified
Temporal Representation:	Unspecified
Environmental Conditions:	Unspecified
QAPP Information:	Unspecified
QAPP Information Reference(s):	

DECISION ID	34683	Region 2
San Francisco Bay, Lower		

Pollutant:	Furan Compounds
Final Listing Decision:	List on 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision:	List on 303(d) list (TMDL required list)(2012)
Revision Status	Original
Sources:	Source Unknown
Expected TMDL Completion Date:	2019
Impairment from Pollutant or Pollution:	Pollutant

Regional Board Staff Conclusion:	303(d) listing decisions made prior to 2006 were not held in an assessment database. The Regional Boards will update this decision when new data and information become available and are assessed.
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Regional Board Staff Decision Recommendation:	This is a decision previously approved by the State Water Resources Control Board and the USEPA. No new data were assessed by the Regional Board for the current. The decision has not changed.
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Line of Evidence (LOE) for Decision ID 34683, Furan Compounds	Region 2
San Francisco Bay, Lower	

LOE ID:	3838
Pollutant:	Furan Compounds
LOE Subgroup:	Pollutant-Tissue
Matrix:	Tissue
Fraction:	Not Recorded
Beneficial Use:	Commercial or recreational collection of fish, shellfish, or organisms
Number of Samples:	0
Number of Exceedances:	0
Data and Information Type:	Not Specified
Data Used to Assess Water Quality:	Unspecified--This LOE is a placeholder to support a 303(d) listing decision made prior to 2006.
Data Reference:	Placeholder reference pre-2006 303(d)
SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	Unspecified

Objective/Criterion Reference:	Placeholder reference pre-2006 303(d)
Evaluation Guideline:	Unspecified
Guideline Reference:	Placeholder reference pre-2006 303(d)
Spatial Representation:	Unspecified
Temporal Representation:	Unspecified
Environmental Conditions:	Unspecified
QAPP Information:	Unspecified
QAPP Information Reference(s):	

DECISION ID	34682	Region 2
San Francisco Bay, Lower		

Pollutant:	Invasive Species
Final Listing Decision:	List on 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision:	List on 303(d) list (TMDL required list)(2012)
Revision Status	Original
Sources:	Source Unknown
Expected TMDL Completion Date:	2019
Impairment from Pollutant or Pollution:	Pollutant

Regional Board Staff Conclusion:	303(d) listing decisions made prior to 2006 were not held in an assessment database. The Regional Boards will update this decision when new data and information become available and are assessed.
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Regional Board Staff Decision Recommendation:	This is a decision previously approved by the State Water Resources Control Board and the USEPA. No new data were assessed by the Regional Board for the current. The decision has not changed.
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Line of Evidence (LOE) for Decision ID 34682, Invasive Species	Region 2
San Francisco Bay, Lower	

LOE ID:	3837
Pollutant:	Invasive Species
LOE Subgroup:	Population/Community Degradation
Matrix:	Water
Fraction:	Not Recorded
Beneficial Use:	Estuarine Habitat
Number of Samples:	0
Number of Exceedances:	0
Data and Information Type:	Not Specified
Data Used to Assess Water Quality:	Unspecified--This LOE is a placeholder to support a 303(d) listing decision made prior to 2006.
Data Reference:	Placeholder reference pre-2006 303(d)
SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	
Objective/Criterion Reference:	
Evaluation Guideline:	
Guideline Reference:	

Spatial Representation:	Unspecified
Temporal Representation:	Unspecified
Environmental Conditions:	Unspecified
QAPP Information:	Unspecified
QAPP Information Reference(s):	

DECISION ID	44121	Region 2
San Francisco Bay, Lower		

Pollutant:	PCBs (Polychlorinated biphenyls) (dioxin-like)
Final Listing Decision:	List on 303(d) list (being addressed by USEPA approved TMDL)
Last Listing Cycle's Final Listing Decision:	List on 303(d) list (TMDL required list)(2012)
Revision Status	Original
Sources:	Source Unknown
TMDL Name:	San Francisco Bay PCBs
TMDL Project Code:	7
Date TMDL Approved by USEPA:	03/29/2010
Impairment from Pollutant or Pollution:	Pollutant

Regional Board Staff Conclusion:	303(d) listing decisions made prior to 2006 were not held in an assessment database. The Regional Boards will update this decision when new data and information become available and are assessed.
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Regional Board Staff Decision Recommendation:	This is a decision previously approved by the State Water Resources Control Board and the USEPA. No new data were assessed by the Regional Board for the current. The decision has not changed.
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Line of Evidence (LOE) for Decision ID 44121, PCBs (Polychlorinated biphenyls) (dioxin-like)	Region 2
San Francisco Bay, Lower	

LOE ID:	3841
Pollutant:	PCBs (Polychlorinated biphenyls) (dioxin-like)
LOE Subgroup:	Pollutant-Tissue
Matrix:	Tissue
Fraction:	Not Recorded
Beneficial Use:	Commercial or recreational collection of fish, shellfish, or organisms
Number of Samples:	0
Number of Exceedances:	0
Data and Information Type:	Not Specified
Data Used to Assess Water Quality:	Unspecified--This LOE is a placeholder to support a 303(d) listing decision made prior to 2006.
Data Reference:	Placeholder reference pre-2006 303(d)
SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	Unspecified
Objective/Criterion Reference:	Placeholder reference pre-2006 303(d)
Evaluation Guideline:	Unspecified
Guideline Reference:	Placeholder reference pre-2006 303(d)
Spatial Representation:	Unspecified
Temporal Representation:	Unspecified
Environmental Conditions:	Unspecified

QAPP Information:
QAPP Information Reference(s):

Unspecified

Draft California 2016 Integrated Report (303(d) List/305(b) Report)

Supporting Information

Regional Board 2 - San Francisco Bay Region

Water Body Name: Oakland Inner Harbor (Fruitvale Site, part of SF Bay, Lower)
Water Body ID: CAB2042004020020930181423
Water Body Type: Bay & Harbor

DECISION ID 33424 **Region 2**
Oakland Inner Harbor (Fruitvale Site, part of SF Bay, Lower)

Pollutant: PCBs (Polychlorinated biphenyls) (sediment)
Final Listing Decision: Do Not Delist from 303(d) list (being addressed with USEPA approved TMDL)
Last Listing Cycle's Final Listing Decision: Do Not Delist from 303(d) list (TMDL required list)(2012)
Revision Status Revised
Sources: Source Unknown
TMDL Name: San Francisco Bay PCBs
TMDL Project Code: 7
Date TMDL Approved by USEPA: 03/29/2010
Impairment from Pollutant or Pollution: Pollutant

Regional Board Staff Conclusion: 303(d) listing decisions made prior to 2006 were not held in an assessment database. This is a placeholder decision for a CWA section 303(d) Listing made in a previous assessment cycle. The Regional Boards will update this decision when new data and information become available and are assessed.

Regional Board Staff Decision Recommendation: This is a decision previously approved by the State Water Resources Control Board and the USEPA. No new data were assessed by the Regional Board for the current. The decision has not changed.

Line of Evidence (LOE) for Decision ID 33424, PCBs (Polychlorinated biphenyls) (sediment) **Region 2**
Oakland Inner Harbor (Fruitvale Site, part of SF Bay, Lower)

LOE ID: 22
Pollutant: Sediment Toxicity
LOE Subgroup: Toxicity
Matrix: Sediment
Fraction: None
Beneficial Use: Estuarine Habitat
Number of Samples: 2
Number of Exceedances: 2
Data and Information Type: Toxicity testing of sediments
Data Used to Assess Water Quality: Significant amphipod toxicity in 2 of 2 samples. No significant toxicity in two urchin toxicity tests (Hunt et al., 1998b).
Data Reference: [Placeholder reference 2006 303\(d\)](#)
SWAMP Data: Non-SWAMP
Water Quality Objective/Criterion: All waters shall be maintained free of toxic substances in concentrations that are lethal to or that produce other detrimental responses in aquatic organisms.

Objective/Criterion Reference:	There shall be no chronic toxicity in ambient waters. Chronic toxicity is a detrimental biological effect on growth rate, reproduction, fertilization success, larval development, population abundance, community composition, or any other relevant measure of the health of an organism, population, or community. Placeholder reference 2006 303(d)
Evaluation Guideline:	Reference envelope approach used.
Guideline Reference:	Placeholder reference 2006 303(d)
Spatial Representation:	Data were synoptically collected with chemical measurements in sediments.
Temporal Representation:	Data collected between April 1995 and April 1997.
Environmental Conditions:	
QAPP Information:	Methods used were equivalent to those used in the BPTCP QAPP. All reported data met QA requirements.
QAPP Information Reference(s):	

Line of Evidence (LOE) for Decision ID 33424, PCBs (Polychlorinated biphenyls) (sediment)	Region 2
Oakland Inner Harbor (Fruitvale Site, part of SF Bay, Lower)	

LOE ID:	24
Pollutant:	PCBs (Polychlorinated biphenyls)
LOE Subgroup:	Pollutant-Sediment
Matrix:	Sediment
Fraction:	Total
Beneficial Use:	Estuarine Habitat
Number of Samples:	2
Number of Exceedances:	
Data and Information Type:	Chemical monitoring of sediments
Data Used to Assess Water Quality:	None of 2 samples exceeded the sediment quality guideline (Hunt et al., 1998b).
Data Reference:	Placeholder reference 2006 303(d)
SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	All waters shall be maintained free of toxic substances in concentrations that are lethal to or that produce other detrimental responses in aquatic organisms. There shall be no chronic toxicity in ambient waters. Chronic toxicity is a detrimental biological effect on growth rate, reproduction, fertilization success, larval development, population abundance, community composition, or any other relevant measure of the health of an organism, population, or community.
Objective/Criterion Reference:	Placeholder reference 2006 303(d)
Evaluation Guideline:	A sediment quality guideline of 400 ng/g was used (McDonald et al., 2000). This guideline is higher than the guideline used in previous analyses (Hunt et al., 1998b).
Guideline Reference:	Placeholder reference 2006 303(d)
Spatial Representation:	Data was synoptically collected with toxicity measurements.
Temporal Representation:	Data collected April 1994 and April 1997.
Environmental Conditions:	
QAPP Information:	Methods used were equivalent to those used in the BPTCP QAPP. All reported data met QA requirements.
QAPP Information Reference(s):	

DECISION ID	32751	Region 2
Oakland Inner Harbor (Fruitvale Site, part of SF Bay, Lower)		

Pollutant:	Diazinon
Final Listing Decision:	Delist from 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision:	Delist from 303(d) list (TMDL required list)(2012)
Revision Status	Original
Reason for Delisting:	Applicable WQS attained; reason for recovery unspecified
Impairment from Pollutant or Pollution:	Pollutant

Regional Board Staff Conclusion:	<p>This pollutant is being considered for delisting under sections 4.1 of the Listing Policy. Under section 4.1 a single line of evidence is necessary to assess listing status. Five lines of evidence are available in the administrative record to assess this pollutant. The basis for listing in 1998 was ambient water toxicity and detections of diazinon in Bay waters. In the current assessment, the evaluation guideline available may not satisfy the requirements of the Listing Policy but even if the guideline were used all measurements are much lower than the recommended concentration. Recent measures of toxicity show that ambient water toxicity no longer exists in Bay waters. The RWQCB is also developing a Water Quality Attainment Strategy that calls for preventive actions to keep diazinon from entering the Bay. Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification available in favor of removing this water segment-pollutant combination from the section 303(d) list in the Water Quality Limited Segments category. This conclusion is based on the staff findings that: 1. The evaluation guideline may not comply with the requirements of section 6.1.3 of the Policy. 2. The data used satisfies the data quantity requirements of section 6.1.4 of the Policy. 3. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy. 4. None of samples exceeded the draft guideline and ambient water toxicity in the Bay appears to have disappeared. These frequencies do not exceed the allowable frequency listed in Table 4.1 of the Listing Policy. 5. Pursuant to section 4.11 of the Listing Policy, no additional data and information are available indicating that standards are met.</p>
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Regional Board Staff Decision Recommendation:	<p>This is a decision previously approved by the State Water Resources Control Board and the USEPA. No new data were assessed by the Regional Board for the current. The decision has not changed.</p>
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Line of Evidence (LOE) for Decision ID 32751, Diazinon	Region 2
Oakland Inner Harbor (Fruitvale Site, part of SF Bay, Lower)	

LOE ID:	25
Pollutant:	Diazinon
LOE Subgroup:	Narrative Description Data
Matrix:	-N/A
Fraction:	None
Beneficial Use:	Estuarine Habitat
Number of Samples:	
Number of Exceedances:	
Data and Information Type:	Not Specified
Data Used to Assess Water Quality:	<p>Diazinon is one of the pollutants listed for this segment on the 2002 section 303(d) list. The data and information used to assess this pollutant-water segment is subsumed in diazinon listing for San Francisco Bay, Central. The conclusions drawn for San Francisco Bay, Central should be applied to this segment.</p>
Data Reference:	Placeholder reference 2006 303(d)
SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	
Objective/Criterion Reference:	
Evaluation Guideline:	
Guideline Reference:	

Spatial Representation:
Temporal Representation:
Environmental Conditions:
QAPP Information: QA Info Missing
QAPP Information Reference(s):

DECISION ID	34018	Region 2
Oakland Inner Harbor (Fruitvale Site, part of SF Bay, Lower)		

Pollutant:	Chlordane
Final Listing Decision:	Do Not Delist from 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision:	List on 303(d) list (TMDL required list)(2012)
Revision Status	Original
Sources:	Source Unknown
Expected TMDL Completion Date:	2013
Impairment from Pollutant or Pollution:	Pollutant
Regional Board Staff Conclusion:	303(d) listing decisions made prior to 2006 were not held in an assessment database. The Regional Boards will update this decision when new data and information become available and are assessed.
Regional Board Staff Decision Recommendation:	This is a decision previously approved by the State Water Resources Control Board and the USEPA. No new data were assessed by the Regional Board for the current. The decision has not changed.

Line of Evidence (LOE) for Decision ID 34018, Chlordane	Region 2
Oakland Inner Harbor (Fruitvale Site, part of SF Bay, Lower)	

LOE ID:	23
Pollutant:	Chlordane
LOE Subgroup:	Pollutant-Sediment
Matrix:	Sediment
Fraction:	Total
Beneficial Use:	Estuarine Habitat
Number of Samples:	2
Number of Exceedances:	0
Data and Information Type:	Chemical monitoring of sediments
Data Used to Assess Water Quality:	None of the 2 samples exceed the sediment quality guideline (Hunt et al., 1998b).
Data Reference:	Placeholder reference 2006 303(d)
SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	All waters shall be maintained free of toxic substances in concentrations that are lethal to or that produce other detrimental responses in aquatic organisms. There shall be no chronic toxicity in ambient waters. Chronic toxicity is a detrimental biological effect on growth rate, reproduction, fertilization success, larval development, population abundance, community composition, or any other relevant measure of the health of an organism, population, or community.
Objective/Criterion Reference:	Placeholder reference 2006 303(d)
Evaluation Guideline:	An Effects Range Median guideline of 6 ng/g dw was used to evaluate Total Chlordane data. This guideline is higher than the guideline used in previous analyses.

Guideline Reference: [Placeholder reference 2006 303\(d\)](#)

Spatial Representation: One station. Data was synoptically collected with toxicity measurements.

Temporal Representation: Data collected in April 1995 and April 1997.

Environmental Conditions:

QAPP Information: Methods used were equivalent to those used in the BPTCP QAPP. All reported data met QA requirements.

QAPP Information Reference(s):

Line of Evidence (LOE) for Decision ID 34018, Chlordane
Oakland Inner Harbor (Fruitvale Site, part of SF Bay, Lower)

Region 2

LOE ID: 3770

Pollutant: Chlordane

LOE Subgroup: Pollutant-Tissue

Matrix: Tissue

Fraction: Not Recorded

Beneficial Use: Commercial or recreational collection of fish, shellfish, or organisms

Number of Samples: 0

Number of Exceedances: 0

Data and Information Type: Not Specified

Data Used to Assess Water Quality: Unspecified--This LOE is a placeholder to support a 303(d) listing decision made prior to 2006.

Data Reference: [Placeholder reference pre-2006 303\(d\)](#)

SWAMP Data: Non-SWAMP

Water Quality Objective/Criterion: Unspecified

Objective/Criterion Reference: [Placeholder reference pre-2006 303\(d\)](#)

Evaluation Guideline: Unspecified

Guideline Reference: [Placeholder reference pre-2006 303\(d\)](#)

Spatial Representation: Unspecified

Temporal Representation: Unspecified

Environmental Conditions: Unspecified

QAPP Information: Unspecified

QAPP Information Reference(s):

DECISION ID 34092

Region 2

Oakland Inner Harbor (Fruitvale Site, part of SF Bay, Lower)

Pollutant: DDT (Dichlorodiphenyltrichloroethane)

Final Listing Decision: List on 303(d) list (TMDL required list)

Last Listing Cycle's Final Listing Decision: List on 303(d) list (TMDL required list)(2012)

Revision Status Original

Sources: Source Unknown

Expected TMDL Completion Date: 2013

Impairment from Pollutant or Pollution: Pollutant

Regional Board Staff Conclusion: 303(d) listing decisions made prior to 2006 were not held in an assessment database. The Regional Boards will update this decision when new data and information become available and are assessed.

Regional Board Staff Decision Recommendation: This is a decision previously approved by the State Water Resources Control Board and the USEPA. No new data were assessed by the Regional Board for the current. The decision has not changed.

Line of Evidence (LOE) for Decision ID 34092, DDT (Dichlorodiphenyltrichloroethane)
Oakland Inner Harbor (Fruitvale Site, part of SF Bay, Lower)

Region 2

LOE ID: 3771

Pollutant: DDT (Dichlorodiphenyltrichloroethane)
LOE Subgroup: Pollutant-Tissue
Matrix: Tissue
Fraction: Not Recorded

Beneficial Use: Commercial or recreational collection of fish, shellfish, or organisms

Number of Samples: 0
Number of Exceedances: 0

Data and Information Type: Not Specified
Data Used to Assess Water Quality: Unspecified--This LOE is a placeholder to support a 303(d) listing decision made prior to 2006.
Data Reference: [Placeholder reference pre-2006 303\(d\)](#)

SWAMP Data: Non-SWAMP

Water Quality Objective/Criterion: Unspecified
Objective/Criterion Reference: [Placeholder reference pre-2006 303\(d\)](#)

Evaluation Guideline: Unspecified
Guideline Reference: [Placeholder reference pre-2006 303\(d\)](#)

Spatial Representation: Unspecified
Temporal Representation: Unspecified
Environmental Conditions: Unspecified
QAPP Information: Unspecified
QAPP Information Reference(s):

DECISION ID 34093

Region 2

Oakland Inner Harbor (Fruitvale Site, part of SF Bay, Lower)

Pollutant: Dieldrin
Final Listing Decision: List on 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision: List on 303(d) list (TMDL required list)(2012)
Revision Status: Original
Sources: Source Unknown
Expected TMDL Completion Date: 2013
Impairment from Pollutant or Pollution: Pollutant

Regional Board Staff Conclusion: 303(d) listing decisions made prior to 2006 were not held in an assessment database. The Regional Boards will update this decision when new data and information become available and are assessed.

Regional Board Staff Decision Recommendation: This is a decision previously approved by the State Water Resources Control Board and the USEPA. No new data were assessed by the Regional Board for the current. The decision has not changed.

Line of Evidence (LOE) for Decision ID 34093, Dieldrin

Region 2

Oakland Inner Harbor (Fruitvale Site, part of SF Bay, Lower)

LOE ID: 3772

Pollutant: Dieldrin
LOE Subgroup: Pollutant-Tissue
Matrix: Tissue
Fraction: Not Recorded

Beneficial Use: Commercial or recreational collection of fish, shellfish, or organisms

Number of Samples: 0
Number of Exceedances: 0

Data and Information Type: Not Specified
Data Used to Assess Water Quality: Unspecified--This LOE is a placeholder to support a 303(d) listing decision made prior to 2006.
Data Reference: [Placeholder reference pre-2006 303\(d\)](#)

SWAMP Data: Non-SWAMP

Water Quality Objective/Criterion:
Objective/Criterion Reference:

Evaluation Guideline:
Guideline Reference:

Spatial Representation: Unspecified
Temporal Representation: Unspecified
Environmental Conditions: Unspecified
QAPP Information: Unspecified
QAPP Information Reference(s):

DECISION ID	44131	Region 2
Oakland Inner Harbor (Fruitvale Site, part of SF Bay, Lower)		

Pollutant: Dioxin compounds (including 2,3,7,8-TCDD)
Final Listing Decision: List on 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision: List on 303(d) list (TMDL required list)(2012)
Revision Status Original
Sources: Source Unknown
Expected TMDL Completion Date: 2019
Impairment from Pollutant or Pollution: Pollutant

Regional Board Staff Conclusion: 303(d) listing decisions made prior to 2006 were not held in an assessment database. The Regional Boards will update this decision when new data and information become available and are assessed.

Regional Board Staff Decision Recommendation: This is a decision previously approved by the State Water Resources Control Board and the USEPA. No new data were assessed by the Regional Board for the current. The decision has not changed.

Line of Evidence (LOE) for Decision ID 44131, Dioxin compounds (including 2,3,7,8-TCDD)	Region 2
Oakland Inner Harbor (Fruitvale Site, part of SF Bay, Lower)	

LOE ID: 3773

Pollutant: Dioxin compounds (including 2,3,7,8-TCDD)

LOE Subgroup:	Pollutant-Tissue
Matrix:	Tissue
Fraction:	Not Recorded
Beneficial Use:	Commercial or recreational collection of fish, shellfish, or organisms
Number of Samples:	0
Number of Exceedances:	0
Data and Information Type:	Not Specified
Data Used to Assess Water Quality:	Unspecified--This LOE is a placeholder to support a 303(d) listing decision made prior to 2006.
Data Reference:	Placeholder reference pre-2006 303(d)
SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	Unspecified
Objective/Criterion Reference:	Placeholder reference pre-2006 303(d)
Evaluation Guideline:	Unspecified
Guideline Reference:	Placeholder reference pre-2006 303(d)
Spatial Representation:	Unspecified
Temporal Representation:	Unspecified
Environmental Conditions:	Unspecified
QAPP Information:	Unspecified
QAPP Information Reference(s):	

DECISION ID	34712	Region 2
Oakland Inner Harbor (Fruitvale Site, part of SF Bay, Lower)		

Pollutant:	Furan Compounds
Final Listing Decision:	List on 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision:	List on 303(d) list (TMDL required list)(2012)
Revision Status	Original
Sources:	Source Unknown
Expected TMDL Completion Date:	2019
Impairment from Pollutant or Pollution:	Pollutant

Regional Board Staff Conclusion: 303(d) listing decisions made prior to 2006 were not held in an assessment database. The Regional Boards will update this decision when new data and information become available and are assessed.

Regional Board Staff Decision Recommendation: This is a decision previously approved by the State Water Resources Control Board and the USEPA. No new data were assessed by the Regional Board for the current. The decision has not changed.

Line of Evidence (LOE) for Decision ID 34712, Furan Compounds	Region 2
Oakland Inner Harbor (Fruitvale Site, part of SF Bay, Lower)	

LOE ID:	3775
Pollutant:	Furan Compounds
LOE Subgroup:	Pollutant-Tissue
Matrix:	Tissue
Fraction:	Not Recorded
Beneficial Use:	Commercial or recreational collection of fish, shellfish, or organisms

Number of Samples:	0
Number of Exceedances:	0
Data and Information Type:	Not Specified
Data Used to Assess Water Quality:	Unspecified--This LOE is a placeholder to support a 303(d) listing decision made prior to 2006.
Data Reference:	Placeholder reference pre-2006 303(d)
SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	Unspecified
Objective/Criterion Reference:	Placeholder reference pre-2006 303(d)
Evaluation Guideline:	Unspecified
Guideline Reference:	Placeholder reference pre-2006 303(d)
Spatial Representation:	Unspecified
Temporal Representation:	Unspecified
Environmental Conditions:	Unspecified
QAPP Information:	Unspecified
QAPP Information Reference(s):	

DECISION ID	34711	Region 2
Oakland Inner Harbor (Fruitvale Site, part of SF Bay, Lower)		

Pollutant:	Invasive Species
Final Listing Decision:	List on 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision:	List on 303(d) list (TMDL required list)(2012)
Revision Status	Original
Sources:	Source Unknown
Expected TMDL Completion Date:	2019
Impairment from Pollutant or Pollution:	Pollutant

Regional Board Staff Conclusion:	303(d) listing decisions made prior to 2006 were not held in an assessment database. The Regional Boards will update this decision when new data and information become available and are assessed.
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Regional Board Staff Decision Recommendation:	This is a decision previously approved by the State Water Resources Control Board and the USEPA. No new data were assessed by the Regional Board for the current. The decision has not changed.
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Line of Evidence (LOE) for Decision ID 34711, Invasive Species	Region 2
Oakland Inner Harbor (Fruitvale Site, part of SF Bay, Lower)	

LOE ID:	3774
Pollutant:	Invasive Species
LOE Subgroup:	Population/Community Degradation
Matrix:	Water
Fraction:	Not Recorded
Beneficial Use:	Estuarine Habitat
Number of Samples:	0
Number of Exceedances:	0
Data and Information Type:	Not Specified

Data Used to Assess Water Quality:	Unspecified--This LOE is a placeholder to support a 303(d) listing decision made prior to 2006.
Data Reference:	Placeholder reference pre-2006 303(d)
SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	
Objective/Criterion Reference:	
Evaluation Guideline:	
Guideline Reference:	
Spatial Representation:	Unspecified
Temporal Representation:	Unspecified
Environmental Conditions:	Unspecified
QAPP Information:	Unspecified
QAPP Information Reference(s):	

DECISION ID	34716	Region 2
Oakland Inner Harbor (Fruitvale Site, part of SF Bay, Lower)		

Pollutant:	Selenium
Final Listing Decision:	List on 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision:	List on 303(d) list (TMDL required list)(2012)
Revision Status	Original
Sources:	Source Unknown
Expected TMDL Completion Date:	2019
Impairment from Pollutant or Pollution:	Pollutant

Regional Board Staff Conclusion:	303(d) listing decisions made prior to 2006 were not held in an assessment database. The Regional Boards will update this decision when new data and information become available and are assessed.
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Regional Board Staff Decision Recommendation:	This is a decision previously approved by the State Water Resources Control Board and the USEPA. No new data were assessed by the Regional Board for the current. The decision has not changed.
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Line of Evidence (LOE) for Decision ID 34716, Selenium	Region 2
Oakland Inner Harbor (Fruitvale Site, part of SF Bay, Lower)	

LOE ID:	3779
Pollutant:	Selenium
LOE Subgroup:	Pollutant-Water
Matrix:	Water
Fraction:	Not Recorded
Beneficial Use:	Estuarine Habitat
Number of Samples:	0
Number of Exceedances:	0
Data and Information Type:	Not Specified
Data Used to Assess Water Quality:	Unspecified--This LOE is a placeholder to support a 303(d) listing decision made prior to 2006.
Data Reference:	Placeholder reference pre-2006 303(d)
SWAMP Data:	Non-SWAMP

Water Quality Objective/Criterion:	Unspecified
Objective/Criterion Reference:	Placeholder reference pre-2006 303(d)
Evaluation Guideline:	Unspecified
Guideline Reference:	Placeholder reference pre-2006 303(d)
Spatial Representation:	Unspecified
Temporal Representation:	Unspecified
Environmental Conditions:	Unspecified
QAPP Information:	Unspecified
QAPP Information Reference(s):	

DECISION ID	33176	Region 2
Oakland Inner Harbor (Fruitvale Site, part of SF Bay, Lower)		

Pollutant:	Toxicity
Final Listing Decision:	List on 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision:	List on 303(d) list (TMDL required list)(2012)
Revision Status	Original
Sources:	Source Unknown
Expected TMDL Completion Date:	2019
Impairment from Pollutant or Pollution:	Pollutant

Regional Board Staff Conclusion: This pollutant is being considered for delisting under sections 4.6 of the Listing Policy. Under section 4.6 a single line of evidence is necessary to assess listing status. Two lines of evidence are available in the administrative record to assess this pollutant. Based on section 4.6, it cannot be determined if the site has significant sediment toxicity or whether the pollutant is likely to cause or contribute to any toxic effect. Based on the readily available data and information, the weight of evidence indicates that there is insufficient justification in favor of removing this water segment-pollutant combination from the section 303(d) list in the Water Quality Limited Segments category. This conclusion is based on the staff findings that: 1. The sediment quality guideline used complies with the requirements of section 6.1.3 of the Policy. 2. The data used satisfies the data quality requirements of section 6.1.4 of the Policy. 3. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy. 4. None of 2 samples exceeded the sediment guideline, 2 of 2 samples exhibit toxicity, but the number of samples is insufficient to determine with the confidence and power required by the Listing Policy. 5. Pursuant to section 4.11 of the Listing Policy, no additional data and information are available indicating that standards are met.

Regional Board Staff Decision Recommendation: This is a decision previously approved by the State Water Resources Control Board and the USEPA. No new data were assessed by the Regional Board for the current. The decision has not changed.

Line of Evidence (LOE) for Decision ID 33176, Toxicity	Region 2
Oakland Inner Harbor (Fruitvale Site, part of SF Bay, Lower)	

LOE ID:	22
Pollutant:	Sediment Toxicity
LOE Subgroup:	Toxicity
Matrix:	Sediment
Fraction:	None
Beneficial Use:	Estuarine Habitat
Number of Samples:	2
Number of Exceedances:	2

Data and Information Type:	Toxicity testing of sediments
Data Used to Assess Water Quality:	Significant amphipod toxicity in 2 of 2 samples. No significant toxicity in two urchin toxicity tests (Hunt et al., 1998b).
Data Reference:	Placeholder reference 2006 303(d)
SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	All waters shall be maintained free of toxic substances in concentrations that are lethal to or that produce other detrimental responses in aquatic organisms. There shall be no chronic toxicity in ambient waters. Chronic toxicity is a detrimental biological effect on growth rate, reproduction, fertilization success, larval development, population abundance, community composition, or any other relevant measure of the health of an organism, population, or community.
Objective/Criterion Reference:	Placeholder reference 2006 303(d)
Evaluation Guideline:	Reference envelope approach used.
Guideline Reference:	Placeholder reference 2006 303(d)
Spatial Representation:	Data were synoptically collected with chemical measurements in sediments.
Temporal Representation:	Data collected between April 1995 and April 1997.
Environmental Conditions:	
QAPP Information:	Methods used were equivalent to those used in the BPTCP QAPP. All reported data met QA requirements.
QAPP Information Reference(s):	

DECISION ID	34558	Region 2
Oakland Inner Harbor (Fruitvale Site, part of SF Bay, Lower)		

Pollutant:	Mercury
Final Listing Decision:	List on 303(d) list (being addressed by USEPA approved TMDL)
Last Listing Cycle's Final Listing Decision:	List on 303(d) list (being addressed by USEPA approved TMDL)(2012)
Revision Status	Original
Sources:	Source Unknown
TMDL Name:	San Francisco Bay Mercury
TMDL Project Code:	6
Date TMDL Approved by USEPA:	02/12/2008
Impairment from Pollutant or Pollution:	Pollutant

Regional Board Staff Conclusion: 303(d) listing decisions made prior to 2006 were not held in an assessment database. The Regional Boards will update this decision when new data and information become available and are assessed. A TMDL has been developed and approved by USEPA (2/29/2008) and an approved implementation plan is expected to result in attainment of the standard. This provides a sufficient justification in favor of placing this water segment-pollutant combination in the Water Quality Limited Segments Being Addressed portion of the section 303(d) list.

Regional Board Staff Decision Recommendation: This is a decision previously approved by the State Water Resources Control Board and the USEPA. No new data were assessed by the Regional Board for the current. The decision has not changed.

Line of Evidence (LOE) for Decision ID 34558, Mercury	Region 2
Oakland Inner Harbor (Fruitvale Site, part of SF Bay, Lower)	

LOE ID:	3776
Pollutant:	Mercury

LOE Subgroup:	Pollutant-Tissue
Matrix:	Tissue
Fraction:	Not Recorded
Beneficial Use:	Commercial or recreational collection of fish, shellfish, or organisms
Number of Samples:	0
Number of Exceedances:	0
Data and Information Type:	Not Specified
Data Used to Assess Water Quality:	Unspecified--This LOE is a placeholder to support a 303(d) listing decision made prior to 2006.
Data Reference:	Placeholder reference pre-2006 303(d)
SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	Unspecified
Objective/Criterion Reference:	Placeholder reference pre-2006 303(d)
Evaluation Guideline:	Unspecified
Guideline Reference:	Placeholder reference pre-2006 303(d)
Spatial Representation:	Unspecified
Temporal Representation:	Unspecified
Environmental Conditions:	Unspecified
QAPP Information:	Unspecified
QAPP Information Reference(s):	

Draft California 2016 Integrated Report (303(d) List/305(b) Report)

Supporting Information

Regional Board 2 - San Francisco Bay Region

Water Body Name: Oakland Inner Harbor (Pacific Dry-dock Yard 1 Site, part of SF Bay, Lower)
Water Body ID: CAB2042004020020930184151
Water Body Type: Bay & Harbor

DECISION ID 60569 **Region 2**
Oakland Inner Harbor (Pacific Dry-dock Yard 1 Site, part of SF Bay, Lower)

Pollutant: Toxicity
Final Listing Decision: List on 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision: New Decision
Revision Status Revised
Sources: Source Unknown
Expected TMDL Completion Date: 2029
Impairment from Pollutant or Pollution: Pollutant

Regional Board Staff Conclusion: This pollutant is being considered for placement on the CWA section 303(d) List under section 3.1 of the Listing Policy. Under section 3.1 a single line of evidence is necessary to assess listing status.

One lines of evidence are available in the administrative record to assess this pollutant. Two of four samples exceed the guideline.

Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification in favor of placing this water segment-pollutant combination on the CWA section 303(d) List.

This conclusion is based on the staff findings that:

1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy.
2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy.
3. Two of four samples exceed the guideline and this exceeds the allowable frequency listed in Table 3.1 of the Listing Policy.
4. Pursuant to section 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.

Regional Board Staff Decision Recommendation: After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should be placed on the section 303(d) list because applicable water quality standards are exceeded and a pollutant contributes to or causes the problem.

Line of Evidence (LOE) for Decision ID 60569, Toxicity **Region 2**
Oakland Inner Harbor (Pacific Dry-dock Yard 1 Site, part of SF Bay, Lower)

LOE ID: 38
Pollutant: Sediment Toxicity
LOE Subgroup: Toxicity
Matrix: Sediment
Fraction: None
Beneficial Use: Estuarine Habitat

Number of Samples:	4
Number of Exceedances:	2
Data and Information Type:	Toxicity testing of sediments
Data Used to Assess Water Quality:	Significant amphipod toxicity in 2 of 4 tests. No significant urchin toxicity (4 tests) (Hunt et al., 1998b).
Data Reference:	Placeholder reference 2006 303(d)
SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	All waters shall be maintained free of toxic substances in concentrations that are lethal to or that produce other detrimental responses in aquatic organisms. There shall be no chronic toxicity in ambient waters. Chronic toxicity is a detrimental biological effect on growth rate, reproduction, fertilization success, larval development, population abundance, community composition, or any other relevant measure of the health of an organism, population, or community.
Objective/Criterion Reference:	Placeholder reference 2006 303(d)
Evaluation Guideline:	BPTCP reference envelope approach used.
Guideline Reference:	Placeholder reference 2006 303(d)
Spatial Representation:	Spatial distribution of samples is described in the report
Temporal Representation:	Data collected during 4/95- 4/97.
Environmental Conditions:	
QAPP Information:	Used BPTCP QA/QC.
QAPP Information Reference(s):	

DECISION ID	32370	Region 2
Oakland Inner Harbor (Pacific Dry-dock Yard 1 Site, part of SF Bay, Lower)		

Pollutant:	Chlorpyrifos
Final Listing Decision:	Delist from 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision:	Delist from 303(d) list (TMDL required list)(2012)
Revision Status	Original
Reason for Delisting:	Applicable WQS attained; reason for recovery unspecified
Impairment from Pollutant or Pollution:	Pollutant

Regional Board Staff Conclusion:	This pollutant is being considered for removal from the section 303(d) list under section 4.6 of the Listing Policy. Under section 4.6 two lines of evidence are necessary to assess listing status. Two lines of evidence are available in the administrative record to assess this pollutant. A sediment guideline is not available and it cannot be determined if the pollutant is likely to cause or contribute to the toxic effect. Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification in favor of removing this water segment-pollutant combination from the section 303(d) list. This conclusion is based on the staff findings that: 1. A sediment quality guideline that complies with the requirements of section 6.1.3 of the Policy is not available. 2. The data used satisfies the data quality requirements of section 6.1.4 of the Policy. 3. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy. 4. Pursuant to section 4.11 of the Listing Policy, no additional data and information are available indicating that standards are met.
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Regional Board Staff Decision Recommendation:	This is a decision previously approved by the State Water Resources Control Board and the USEPA. No new data were assessed by the Regional Board for the current. The decision has not changed.
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Line of Evidence (LOE) for Decision ID 32370, Chlorpyrifos	Region 2
Oakland Inner Harbor (Pacific Dry-dock Yard 1 Site, part of SF Bay, Lower)	

LOE ID:	34
Pollutant:	Chlorpyrifos
LOE Subgroup:	Pollutant-Sediment
Matrix:	Sediment
Fraction:	Total
Beneficial Use:	Estuarine Habitat
Number of Samples:	0
Number of Exceedances:	0
Data and Information Type:	Chemical monitoring of sediments
Data Used to Assess Water Quality:	Two measurements (Hunt et al., 1998b).
Data Reference:	Placeholder reference 2006 303(d)
SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	All waters shall be maintained free of toxic substances in concentrations that are lethal to or that produce other detrimental responses in aquatic organisms. There shall be no chronic toxicity in ambient waters. Chronic toxicity is a detrimental biological effect on growth rate, reproduction, fertilization success, larval development, population abundance, community composition, or any other relevant measure of the health of an organism, population, or community.
Objective/Criterion Reference:	Placeholder reference 2006 303(d)
Evaluation Guideline:	No applicable sediment quality guideline is available.
Guideline Reference:	Placeholder reference 2006 303(d)
Spatial Representation:	Spatial distribution of samples is described in the report
Temporal Representation:	Data collected during 1995.
Environmental Conditions:	
QAPP Information:	Used BPTCP QA/QC.
QAPP Information Reference(s):	

Line of Evidence (LOE) for Decision ID 32370, Chlorpyrifos

Region 2

Oakland Inner Harbor (Pacific Dry-dock Yard 1 Site, part of SF Bay, Lower)

LOE ID:	38
Pollutant:	Sediment Toxicity
LOE Subgroup:	Toxicity
Matrix:	Sediment
Fraction:	None
Beneficial Use:	Estuarine Habitat
Number of Samples:	4
Number of Exceedances:	2
Data and Information Type:	Toxicity testing of sediments
Data Used to Assess Water Quality:	Significant amphipod toxicity in 2 of 4 tests. No significant urchin toxicity (4 tests) (Hunt et al., 1998b).
Data Reference:	Placeholder reference 2006 303(d)
SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	All waters shall be maintained free of toxic substances in concentrations that are lethal to or that produce other detrimental responses in aquatic organisms. There shall be no chronic toxicity in ambient waters. Chronic toxicity is a detrimental

Objective/Criterion Reference:	biological effect on growth rate, reproduction, fertilization success, larval development, population abundance, community composition, or any other relevant measure of the health of an organism, population, or community. Placeholder reference 2006 303(d)
Evaluation Guideline:	BPTCP reference envelope approach used.
Guideline Reference:	Placeholder reference 2006 303(d)
Spatial Representation:	Spatial distribution of samples is described in the report
Temporal Representation:	Data collected during 4/95- 4/97.
Environmental Conditions:	
QAPP Information:	Used BPTCP QA/QC.
QAPP Information Reference(s):	

DECISION ID	32693	Region 2
Oakland Inner Harbor (Pacific Dry-dock Yard 1 Site, part of SF Bay, Lower)		

Pollutant:	Diazinon
Final Listing Decision:	Delist from 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision:	Delist from 303(d) list (TMDL required list)(2012)
Revision Status	Original
Reason for Delisting:	Applicable WQS attained; reason for recovery unspecified
Impairment from Pollutant or Pollution:	Pollutant

Regional Board Staff Conclusion:	<p>This pollutant is being considered for delisting under sections 4.1 of the Listing Policy. Under section 4.1 a single line of evidence is necessary to assess listing status. Five lines of evidence are available in the administrative record to assess this pollutant. The basis for listing in 1998 was ambient water toxicity and detections of diazinon in Bay waters. In the current assessment, the evaluation guideline available may not satisfy the requirements of the Listing Policy. Even if the guideline were used, all measurements are much lower than the recommended concentration. Recent measures of toxicity show that ambient water toxicity no longer exists in Bay waters. The RWQCB is also developing a Water Quality Attainment Strategy that calls for preventive actions to keep diazinon from entering the Bay. Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification available in favor of removing this water segment-pollutant combination from the section 303(d) list in the Water Quality Limited Segments category. This conclusion is based on the staff findings that: 1. An evaluation guideline may not comply with the requirements of section 6.1.3 of the Policy. 2. The data used satisfies the data quality requirements of section 6.1.4 of the Policy. 3. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy. 4. None of samples exceeded the draft guideline and ambient water toxicity in the Bay appears to have disappeared. These frequencies do not exceed the allowable frequency listed in Table 4.1 of the Listing Policy. 5. Pursuant to section 4.11 of the Listing Policy, no additional data and information are available indicating that standards are met.</p>
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Regional Board Staff Decision Recommendation:	This is a decision previously approved by the State Water Resources Control Board and the USEPA. No new data were assessed by the Regional Board for the current. The decision has not changed.
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Line of Evidence (LOE) for Decision ID 32693, Diazinon	Region 2
Oakland Inner Harbor (Pacific Dry-dock Yard 1 Site, part of SF Bay, Lower)	

LOE ID:	39
Pollutant:	Diazinon
LOE Subgroup:	Narrative Description Data
Matrix:	-N/A
Fraction:	None
Beneficial Use:	Estuarine Habitat

Number of Samples:	0
Number of Exceedances:	0
Data and Information Type:	Not Specified
Data Used to Assess Water Quality:	Diazinon is one of the pollutants listed for this segment on the 2002 section 303(d) list. The data and information used to assess this pollutant-water segment is subsumed in diazinon listing for San Francisco Bay, Central. The conclusions drawn for San Francisco Bay, Central should be applied to this segment (SFEI, 2001).
Data Reference:	Placeholder reference 2006 303(d)
SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	
Objective/Criterion Reference:	
Evaluation Guideline:	
Guideline Reference:	
Spatial Representation:	
Temporal Representation:	
Environmental Conditions:	
QAPP Information:	QA Info Missing
QAPP Information Reference(s):	

DECISION ID	32803	Region 2
Oakland Inner Harbor (Pacific Dry-dock Yard 1 Site, part of SF Bay, Lower)		

Pollutant:	Mirex
Final Listing Decision:	Delist from 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision:	Delist from 303(d) list (TMDL required list)(2012)
Revision Status	Original
Reason for Delisting:	Applicable WQS attained; reason for recovery unspecified
Impairment from Pollutant or Pollution:	Pollutant

Regional Board Staff Conclusion:	This pollutant is being considered for delisting under sections 4.6 and 4.10 of the Listing Policy. Two lines of evidence are available in the administrative record to assess this pollutant. The site has significant sediment toxicity but it cannot be determined if the pollutant is likely to cause or contribute to the toxic effect. Based on the readily available data and information, the weight of evidence indicates that there is not sufficient justification in favor of removing this water segment-pollutant combination from the section 303(d) list in the Water Quality Limited Segments category. This conclusion is based on the staff findings that: 1. A sediment quality guideline is not available that complies with the requirements of section 6.1.3 of the Policy. 2. The data used satisfies the data quality requirements of section 6.1.4 of the Policy. 3. The number of samples is insufficient to determine with the confidence and power required by the Listing Policy. 4. Pursuant to section 4.11 of the Listing Policy, no additional data and information are available indicating that standards are met.
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Regional Board Staff Decision Recommendation:	This is a decision previously approved by the State Water Resources Control Board and the USEPA. No new data were assessed by the Regional Board for the current. The decision has not changed.
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Line of Evidence (LOE) for Decision ID 32803, Mirex		Region 2
Oakland Inner Harbor (Pacific Dry-dock Yard 1 Site, part of SF Bay, Lower)		

LOE ID:	37
Pollutant:	Mirex

LOE Subgroup:	Pollutant-Sediment
Matrix:	Sediment
Fraction:	Total
Beneficial Use:	Estuarine Habitat
Number of Samples:	0
Number of Exceedances:	0
Data and Information Type:	Chemical monitoring of sediments
Data Used to Assess Water Quality:	Three measurements (Hunt et al., 1998b).
Data Reference:	Placeholder reference 2006 303(d)
SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	All waters shall be maintained free of toxic substances in concentrations that are lethal to or that produce other detrimental responses in aquatic organisms. There shall be no chronic toxicity in ambient waters. Chronic toxicity is a detrimental biological effect on growth rate, reproduction, fertilization success, larval development, population abundance, community composition, or any other relevant measure of the health of an organism, population, or community.
Objective/Criterion Reference:	Placeholder reference 2006 303(d)
Evaluation Guideline:	There is no applicable sediment quality guideline available.
Guideline Reference:	Placeholder reference 2006 303(d)
Spatial Representation:	Spatial distribution of samples is described in the report: Sediment quality and biological effects in San Francisco Bay (Bay Protection and Toxic Cleanup Program), dated August 1998.
Temporal Representation:	Data collected during 4/95- 4/97.
Environmental Conditions:	
QAPP Information:	Used BPTCP QA/QC.
QAPP Information Reference(s):	

Line of Evidence (LOE) for Decision ID 32803, Mirex

Region 2

Oakland Inner Harbor (Pacific Dry-dock Yard 1 Site, part of SF Bay, Lower)

LOE ID:	38
Pollutant:	Sediment Toxicity
LOE Subgroup:	Toxicity
Matrix:	Sediment
Fraction:	None
Beneficial Use:	Estuarine Habitat
Number of Samples:	4
Number of Exceedances:	2
Data and Information Type:	Toxicity testing of sediments
Data Used to Assess Water Quality:	Significant amphipod toxicity in 2 of 4 tests. No significant urchin toxicity (4 tests) (Hunt et al., 1998b).
Data Reference:	Placeholder reference 2006 303(d)
SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	All waters shall be maintained free of toxic substances in concentrations that are lethal to or that produce other detrimental responses in aquatic organisms. There shall be no chronic toxicity in ambient waters. Chronic toxicity is a detrimental biological effect on growth rate, reproduction, fertilization success, larval development,

population abundance, community composition, or any other relevant measure of the health of an organism, population, or community.
[Placeholder reference 2006 303\(d\)](#)

Objective/Criterion Reference:

Evaluation Guideline: BPTCP reference envelope approach used.
[Placeholder reference 2006 303\(d\)](#)

Guideline Reference:

Spatial Representation: Spatial distribution of samples is described in the report

Temporal Representation: Data collected during 4/95- 4/97.

Environmental Conditions:

QAPP Information: Used BPTCP QA/QC.

QAPP Information Reference(s):

DECISION ID	32582	Region 2
Oakland Inner Harbor (Pacific Dry-dock Yard 1 Site, part of SF Bay, Lower)		

Pollutant: Tributyltin TBT (Tributylstanne)
Final Listing Decision: Delist from 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision: Delist from 303(d) list (TMDL required list)(2012)
Revision Status Original
Reason for Delisting: Applicable WQS attained; reason for recovery unspecified
Impairment from Pollutant or Pollution: Pollutant

Regional Board Staff Conclusion: This pollutant is being considered for removal from the section 303(d) list under sections 4.6 of the Listing Policy. Under section 4.6 a single line of evidence is necessary to assess delisting status. Two lines of evidence are available in the administrative record to assess this pollutant. The site has significant sediment toxicity and the pollutant concentration does not exceed the sediment guideline but there are only a few chemical measurements. The number of samples is insufficient to determine with the confidence and power required by the Listing Policy. Based on the readily available data and information, the weight of evidence indicates that there is insufficient justification in favor of removing this water segment-pollutant combination from the section 303(d) list in the Water Quality Limited Segments category. This conclusion is based on the staff findings that: 1. The sediment quality guideline used complies with the requirements of section 6.1.3 of the Policy. 2. The data used satisfies the data quality requirements of section 6.1.4 of the Policy. 3. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy. 4. None of 2 samples exceeded the sediment guideline, 2 of 4 samples exhibit toxicity. The number of samples is insufficient to determine if standards are attained. 5. Pursuant to section 4.11 of the Listing Policy, no additional data and information are available indicating that standards are met.

Regional Board Staff Decision Recommendation: This is a decision previously approved by the State Water Resources Control Board and the USEPA. No new data were assessed by the Regional Board for the current. The decision has not changed.

Line of Evidence (LOE) for Decision ID 32582, Tributyltin TBT (Tributylstanne)	Region 2
Oakland Inner Harbor (Pacific Dry-dock Yard 1 Site, part of SF Bay, Lower)	

LOE ID: 30

Pollutant: Tributyltin TBT (Tributylstanne)
 LOE Subgroup: Pollutant-Sediment
 Matrix: Sediment
 Fraction: Total

Beneficial Use: Estuarine Habitat

Number of Samples: 0
 Number of Exceedances: 0

Data and Information Type:	Chemical monitoring of sediments
Data Used to Assess Water Quality:	Two measurements (Hunt et al., 1998b).
Data Reference:	Placeholder reference 2006 303(d)
SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	All waters shall be maintained free of toxic substances in concentrations that are lethal to or that produce other detrimental responses in aquatic organisms. There shall be no chronic toxicity in ambient waters. Chronic toxicity is a detrimental biological effect on growth rate, reproduction, fertilization success, larval development, population abundance, community composition, or any other relevant measure of the health of an organism, population, or community.
Objective/Criterion Reference:	Placeholder reference 2006 303(d)
Evaluation Guideline:	No applicable sediment guideline available.
Guideline Reference:	Placeholder reference 2006 303(d)
Spatial Representation:	Spatial distribution of samples is described in the report
Temporal Representation:	Data collected in 1995.
Environmental Conditions:	
QAPP Information:	Used BPTCP QA/QC.
QAPP Information Reference(s):	

Line of Evidence (LOE) for Decision ID 32582, Tributyltin TBT (Tributylstanne)
Oakland Inner Harbor (Pacific Dry-dock Yard 1 Site, part of SF Bay, Lower)

Region 2

LOE ID:	38
Pollutant:	Sediment Toxicity
LOE Subgroup:	Toxicity
Matrix:	Sediment
Fraction:	None
Beneficial Use:	Estuarine Habitat
Number of Samples:	4
Number of Exceedances:	2
Data and Information Type:	Toxicity testing of sediments
Data Used to Assess Water Quality:	Significant amphipod toxicity in 2 of 4 tests. No significant urchin toxicity (4 tests) (Hunt et al., 1998b).
Data Reference:	Placeholder reference 2006 303(d)
SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	All waters shall be maintained free of toxic substances in concentrations that are lethal to or that produce other detrimental responses in aquatic organisms. There shall be no chronic toxicity in ambient waters. Chronic toxicity is a detrimental biological effect on growth rate, reproduction, fertilization success, larval development, population abundance, community composition, or any other relevant measure of the health of an organism, population, or community.
Objective/Criterion Reference:	Placeholder reference 2006 303(d)
Evaluation Guideline:	BPTCP reference envelope approach used.
Guideline Reference:	Placeholder reference 2006 303(d)
Spatial Representation:	Spatial distribution of samples is described in the report
Temporal Representation:	Data collected during 4/95- 4/97.
Environmental Conditions:	
QAPP Information:	Used BPTCP QA/QC.

DECISION ID	32763	Region 2
Oakland Inner Harbor (Pacific Dry-dock Yard 1 Site, part of SF Bay, Lower)		

Pollutant: p,p'-DDE
Final Listing Decision: Delist from 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision: Delist from 303(d) list (TMDL required list)(2012)
Revision Status: Original
Reason for Delisting: Applicable WQS attained; reason for recovery unspecified
Impairment from Pollutant or Pollution: Pollutant

Regional Board Staff Conclusion: This pollutant is being considered for removal from the section 303(d) list under sections 4.6 of the Listing Policy. Under section 4.6 a single line of evidence is necessary to assess delisting status. Two lines of evidence are available in the administrative record to assess this pollutant. The site has significant sediment toxicity and the pollutant concentration does not exceed the sediment guideline but there are only a few chemical measurements. The number of samples is insufficient to determine with the confidence and power required by the Listing Policy. Based on the readily available data and information, the weight of evidence indicates that there is insufficient justification in favor of removing this water segment-pollutant combination from the section 303(d) list in the Water Quality Limited Segments category. This conclusion is based on the staff findings that: 1. The sediment quality guideline used complies with the requirements of section 6.1.3 of the Policy. 2. The data used satisfies the data quality requirements of section 6.1.4 of the Policy. 3. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy. 4. None of 2 samples exceeded the sediment guideline, 2 of 4 samples exhibit toxicity. The number of samples is insufficient to determine if standards are attained. 5. Pursuant to section 4.11 of the Listing Policy, no additional data and information are available indicating that standards are met.

Regional Board Staff Decision Recommendation: This is a decision previously approved by the State Water Resources Control Board and the USEPA. No new data were assessed by the Regional Board for the current. The decision has not changed.

Line of Evidence (LOE) for Decision ID 32763, p,p'-DDE	Region 2
Oakland Inner Harbor (Pacific Dry-dock Yard 1 Site, part of SF Bay, Lower)	

LOE ID: 31
Pollutant: p,p'-DDE
LOE Subgroup: Pollutant-Sediment
Matrix: Sediment
Fraction: Total
Beneficial Use: Estuarine Habitat
Number of Samples: 0
Number of Exceedances: 0
Data and Information Type: Chemical monitoring of sediments
Data Used to Assess Water Quality: Two measurements ranging in concentration from ND to 51.2 ng/g (Hunt et al., 1998b).
Data Reference: [Placeholder reference 2006 303\(d\)](#)
SWAMP Data: Non-SWAMP
Water Quality Objective/Criterion: All waters shall be maintained free of toxic substances in concentrations that are lethal to or that produce other detrimental responses in aquatic organisms.
 There shall be no chronic toxicity in ambient waters. Chronic toxicity is a detrimental biological effect on growth rate, reproduction, fertilization success, larval development,

Objective/Criterion Reference:	population abundance, community composition, or any other relevant measure of the health of an organism, population, or community. Placeholder reference 2006 303(d)
Evaluation Guideline:	No applicable sediment guideline available.
Guideline Reference:	Placeholder reference 2006 303(d)
Spatial Representation:	Spatial distribution of samples is described in the report
Temporal Representation:	Data collected in 1995.
Environmental Conditions:	
QAPP Information:	Used BPTCP QA/QC.
QAPP Information Reference(s):	

Line of Evidence (LOE) for Decision ID 32763, p,p'-DDE

Region 2

Oakland Inner Harbor (Pacific Dry-dock Yard 1 Site, part of SF Bay, Lower)

LOE ID:	38
Pollutant:	Sediment Toxicity
LOE Subgroup:	Toxicity
Matrix:	Sediment
Fraction:	None
Beneficial Use:	Estuarine Habitat
Number of Samples:	4
Number of Exceedances:	2
Data and Information Type:	Toxicity testing of sediments
Data Used to Assess Water Quality:	Significant amphipod toxicity in 2 of 4 tests. No significant urchin toxicity (4 tests) (Hunt et al., 1998b).
Data Reference:	Placeholder reference 2006 303(d)
SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	All waters shall be maintained free of toxic substances in concentrations that are lethal to or that produce other detrimental responses in aquatic organisms. There shall be no chronic toxicity in ambient waters. Chronic toxicity is a detrimental biological effect on growth rate, reproduction, fertilization success, larval development, population abundance, community composition, or any other relevant measure of the health of an organism, population, or community.
Objective/Criterion Reference:	Placeholder reference 2006 303(d)
Evaluation Guideline:	BPTCP reference envelope approach used.
Guideline Reference:	Placeholder reference 2006 303(d)
Spatial Representation:	Spatial distribution of samples is described in the report
Temporal Representation:	Data collected during 4/95- 4/97.
Environmental Conditions:	
QAPP Information:	Used BPTCP QA/QC.
QAPP Information Reference(s):	

DECISION ID

32934

Region 2

Oakland Inner Harbor (Pacific Dry-dock Yard 1 Site, part of SF Bay, Lower)

Pollutant:	Copper
Final Listing Decision:	Do Not Delist from 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision:	Do Not Delist from 303(d) list (TMDL required list)(2012)

Revision Status	Original
Sources:	Source Unknown
Expected TMDL Completion Date:	2019
Impairment from Pollutant or Pollution:	Pollutant

Regional Board Staff Conclusion:	This pollutant is being considered for removal from the section 303(d) list under sections 4.6 of the Listing Policy. Under section 4.6 a single line of evidence is necessary to assess delisting status. Two lines of evidence are available in the administrative record to assess this pollutant. The site has significant sediment toxicity and the pollutant concentration does not exceed the sediment guideline but there are only a few chemical measurements. The number of samples is insufficient to determine with the confidence and power required by the Listing Policy. Based on the readily available data and information, the weight of evidence indicates that there is insufficient justification in favor of removing this water segment-pollutant combination from the section 303(d) list in the Water Quality Limited Segments category. This conclusion is based on the staff findings that: 1. The sediment quality guideline used complies with the requirements of section 6.1.3 of the Policy. 2. The data used satisfies the data quality requirements of section 6.1.4 of the Policy. 3. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy. 4. None of 2 samples exceeded the sediment guideline, 2 of 4 samples exhibit toxicity. The number of samples is insufficient to determine if standards are attained. 5. Pursuant to section 4.11 of the Listing Policy, no additional data and information are available indicating that standards are met.
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Regional Board Staff Decision Recommendation:	This is a decision previously approved by the State Water Resources Control Board and the USEPA. No new data were assessed by the Regional Board for the current. The decision has not changed.
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Line of Evidence (LOE) for Decision ID 32934, Copper

Region 2

Oakland Inner Harbor (Pacific Dry-dock Yard 1 Site, part of SF Bay, Lower)

LOE ID:	26
Pollutant:	Copper
LOE Subgroup:	Pollutant-Sediment
Matrix:	Sediment
Fraction:	Total
Beneficial Use:	Estuarine Habitat
Number of Samples:	2
Number of Exceedances:	
Data and Information Type:	Chemical monitoring of sediments
Data Used to Assess Water Quality:	Two samples, no samples exceeding (Hunt et al., 1998b).
Data Reference:	Placeholder reference 2006 303(d)
SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	All waters shall be maintained free of toxic substances in concentrations that are lethal to or that produce other detrimental responses in aquatic organisms. There shall be no chronic toxicity in ambient waters. Chronic toxicity is a detrimental biological effect on growth rate, reproduction, fertilization success, larval development, population abundance, community composition, or any other relevant measure of the health of an organism, population, or community.
Objective/Criterion Reference:	Placeholder reference 2006 303(d)
Evaluation Guideline:	ERM of 270 ug/g was used (Long et al., 1995).
Guideline Reference:	Placeholder reference 2006 303(d)
Spatial Representation:	Spatial distribution of samples is described in the report
Temporal Representation:	Data collected during 4/95- 4/97.

Environmental Conditions:
QAPP Information: Used BPTCP QA/QC.
QAPP Information Reference(s):

Line of Evidence (LOE) for Decision ID 32934, Copper

Region 2

Oakland Inner Harbor (Pacific Dry-dock Yard 1 Site, part of SF Bay, Lower)

LOE ID: 38

Pollutant: Sediment Toxicity
LOE Subgroup: Toxicity
Matrix: Sediment
Fraction: None

Beneficial Use: Estuarine Habitat

Number of Samples: 4
Number of Exceedances: 2

Data and Information Type: Toxicity testing of sediments
Data Used to Assess Water Quality: Significant amphipod toxicity in 2 of 4 tests. No significant urchin toxicity (4 tests) (Hunt et al., 1998b).
Data Reference: [Placeholder reference 2006 303\(d\)](#)

SWAMP Data: Non-SWAMP

Water Quality Objective/Criterion: All waters shall be maintained free of toxic substances in concentrations that are lethal to or that produce other detrimental responses in aquatic organisms.

Objective/Criterion Reference: There shall be no chronic toxicity in ambient waters. Chronic toxicity is a detrimental biological effect on growth rate, reproduction, fertilization success, larval development, population abundance, community composition, or any other relevant measure of the health of an organism, population, or community.
[Placeholder reference 2006 303\(d\)](#)

Evaluation Guideline: BPTCP reference envelope approach used.
Guideline Reference: [Placeholder reference 2006 303\(d\)](#)

Spatial Representation: Spatial distribution of samples is described in the report
Temporal Representation: Data collected during 4/95- 4/97.

Environmental Conditions:
QAPP Information: Used BPTCP QA/QC.
QAPP Information Reference(s):

DECISION ID

44597

Region 2

Oakland Inner Harbor (Pacific Dry-dock Yard 1 Site, part of SF Bay, Lower)

Pollutant: Dieldrin
Final Listing Decision: Do Not Delist from 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision: List on 303(d) list (TMDL required list)(2012)
Revision Status: Original
Sources: Source Unknown
Expected TMDL Completion Date: 2013
Impairment from Pollutant or Pollution: Pollutant

Regional Board Staff Conclusion: 303(d) listing decisions made prior to 2006 were not held in an assessment database. The Regional Boards will update this decision when new data and information become available and are assessed.

Regional Board Staff Decision Recommendation: This is a decision previously approved by the State Water Resources Control Board and the USEPA. No new data were assessed by the Regional Board for the current. The decision has not changed.

Line of Evidence (LOE) for Decision ID 44597, Dieldrin

Region 2

Oakland Inner Harbor (Pacific Dry-dock Yard 1 Site, part of SF Bay, Lower)

LOE ID: 36

Pollutant: Dieldrin (sediment)
LOE Subgroup: Pollutant-Sediment
Matrix: Sediment
Fraction: Total

Beneficial Use: Estuarine Habitat

Number of Samples: 2
Number of Exceedances: 1

Data and Information Type: Chemical monitoring of sediments
Data Used to Assess Water Quality: One of 2 samples exceed the sediment quality guideline (Hunt et al., 1998b).
Data Reference: [Placeholder reference 2006 303\(d\)](#)

SWAMP Data: Non-SWAMP

Water Quality Objective/Criterion: All waters shall be maintained free of toxic substances in concentrations that are lethal to or that produce other detrimental responses in aquatic organisms.

Objective/Criterion Reference: There shall be no chronic toxicity in ambient waters. Chronic toxicity is a detrimental biological effect on growth rate, reproduction, fertilization success, larval development, population abundance, community composition, or any other relevant measure of the health of an organism, population, or community.
[Placeholder reference 2006 303\(d\)](#)

Evaluation Guideline: ERM of 8 ng/g used (Long et al., 1995).
Guideline Reference: [Placeholder reference 2006 303\(d\)](#)

Spatial Representation: Spatial distribution of samples is described in the report
Temporal Representation: Data collected during 4/95- 4/97.
Environmental Conditions:
QAPP Information: Used BPTCP QA/QC.
QAPP Information Reference(s):

Line of Evidence (LOE) for Decision ID 44597, Dieldrin

Region 2

Oakland Inner Harbor (Pacific Dry-dock Yard 1 Site, part of SF Bay, Lower)

LOE ID: 38

Pollutant: Sediment Toxicity
LOE Subgroup: Toxicity
Matrix: Sediment
Fraction: None

Beneficial Use: Estuarine Habitat

Number of Samples: 4
Number of Exceedances: 2

Data and Information Type: Toxicity testing of sediments
Data Used to Assess Water Quality: Significant amphipod toxicity in 2 of 4 tests. No significant urchin toxicity (4 tests) (Hunt et

Data Reference:	al., 1998b). Placeholder reference 2006 303(d)
SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	All waters shall be maintained free of toxic substances in concentrations that are lethal to or that produce other detrimental responses in aquatic organisms. There shall be no chronic toxicity in ambient waters. Chronic toxicity is a detrimental biological effect on growth rate, reproduction, fertilization success, larval development, population abundance, community composition, or any other relevant measure of the health of an organism, population, or community.
Objective/Criterion Reference:	Placeholder reference 2006 303(d)
Evaluation Guideline:	BPTCP reference envelope approach used.
Guideline Reference:	Placeholder reference 2006 303(d)
Spatial Representation:	Spatial distribution of samples is described in the report
Temporal Representation:	Data collected during 4/95- 4/97.
Environmental Conditions:	
QAPP Information:	Used BPTCP QA/QC.
QAPP Information Reference(s):	

Line of Evidence (LOE) for Decision ID 44597, Dieldrin

Region 2

Oakland Inner Harbor (Pacific Dry-dock Yard 1 Site, part of SF Bay, Lower)

LOE ID:	3782
Pollutant:	Dieldrin
LOE Subgroup:	Pollutant-Tissue
Matrix:	Tissue
Fraction:	Not Recorded
Beneficial Use:	Commercial or recreational collection of fish, shellfish, or organisms
Number of Samples:	0
Number of Exceedances:	0
Data and Information Type:	Not Specified
Data Used to Assess Water Quality:	Unspecified--This LOE is a placeholder to support a 303(d) listing decision made prior to 2006.
Data Reference:	Placeholder reference pre-2006 303(d)
SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	
Objective/Criterion Reference:	
Evaluation Guideline:	
Guideline Reference:	
Spatial Representation:	Unspecified
Temporal Representation:	Unspecified
Environmental Conditions:	Unspecified
QAPP Information:	Unspecified
QAPP Information Reference(s):	

DECISION ID

32488

Region 2

Oakland Inner Harbor (Pacific Dry-dock Yard 1 Site, part of SF Bay, Lower)

Pollutant:	Lead
Final Listing Decision:	Do Not Delist from 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision:	Do Not Delist from 303(d) list (TMDL required list)(2012)
Revision Status	Original
Sources:	Source Unknown
Expected TMDL Completion Date:	2019
Impairment from Pollutant or Pollution:	Pollutant

Regional Board Staff Conclusion: This pollutant is being considered for removal from the section 303(d) list under section 4.6 of the Listing Policy. Under section 4.6 two lines of evidence are necessary to assess listing status. Two lines of evidence are available in the administrative record to assess this pollutant. One sample exceeds the sediment guideline but the number of samples is insufficient to determine with the confidence and power required by the Listing Policy. The sediments at this site are toxic. Based on the readily available data and information, the weight of evidence indicates that there is insufficient justification in favor of removing this water segment-pollutant combination from the section 303(d) list. This conclusion is based on the staff findings that: 1. The sediment quality guideline used complies with the requirements of section 6.1.3 of the Policy. 2. The data used satisfies the data quality requirements of section 6.1.4 of the Policy. 3. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy. 4. One sample exceeded the guideline. At least 28 samples are needed before a pollutant can be considered for removal from the list using the frequencies presented in Table 4.1 of the Listing Policy. 5. Pursuant to section 4.11 of the Listing Policy, no additional data and information are available indicating that standards are met.

Regional Board Staff Decision Recommendation: This is a decision previously approved by the State Water Resources Control Board and the USEPA. No new data were assessed by the Regional Board for the current. The decision has not changed.

Line of Evidence (LOE) for Decision ID 32488, Lead	Region 2
Oakland Inner Harbor (Pacific Dry-dock Yard 1 Site, part of SF Bay, Lower)	

LOE ID:	38
Pollutant:	Sediment Toxicity
LOE Subgroup:	Toxicity
Matrix:	Sediment
Fraction:	None
Beneficial Use:	Estuarine Habitat
Number of Samples:	4
Number of Exceedances:	2
Data and Information Type:	Toxicity testing of sediments
Data Used to Assess Water Quality:	Significant amphipod toxicity in 2 of 4 tests. No significant urchin toxicity (4 tests) (Hunt et al., 1998b).
Data Reference:	Placeholder reference 2006 303(d)
SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	All waters shall be maintained free of toxic substances in concentrations that are lethal to or that produce other detrimental responses in aquatic organisms.
	There shall be no chronic toxicity in ambient waters. Chronic toxicity is a detrimental biological effect on growth rate, reproduction, fertilization success, larval development, population abundance, community composition, or any other relevant measure of the health of an organism, population, or community.
Objective/Criterion Reference:	Placeholder reference 2006 303(d)
Evaluation Guideline:	BPTCP reference envelope approach used.

Guideline Reference:	Placeholder reference 2006 303(d)
Spatial Representation:	Spatial distribution of samples is described in the report
Temporal Representation:	Data collected during 4/95- 4/97.
Environmental Conditions:	
QAPP Information:	Used BPTCP QA/QC.
QAPP Information Reference(s):	

Line of Evidence (LOE) for Decision ID 32488, Lead

Region 2

Oakland Inner Harbor (Pacific Dry-dock Yard 1 Site, part of SF Bay, Lower)

LOE ID:	27
Pollutant:	Lead (sediment)
LOE Subgroup:	Pollutant-Sediment
Matrix:	Sediment
Fraction:	Total
Beneficial Use:	Estuarine Habitat
Number of Samples:	1
Number of Exceedances:	1
Data and Information Type:	Chemical monitoring of sediments
Data Used to Assess Water Quality:	One sample exceeds the sediment quality guideline (Hunt et al., 1998-b).
Data Reference:	Placeholder reference 2006 303(d)
SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	All waters shall be maintained free of toxic substances in concentrations that are lethal to or that produce other detrimental responses in aquatic organisms. There shall be no chronic toxicity in ambient waters. Chronic toxicity is a detrimental biological effect on growth rate, reproduction, fertilization success, larval development, population abundance, community composition, or any other relevant measure of the health of an organism, population, or community.
Objective/Criterion Reference:	Placeholder reference 2006 303(d)
Evaluation Guideline:	Probable Effects Level of 112.18 ug/g was used (McDonald et al., 1996).
Guideline Reference:	Placeholder reference 2006 303(d)
Spatial Representation:	Spatial distribution of samples is described in the report
Temporal Representation:	Data collected during 4/95- 4/97.
Environmental Conditions:	
QAPP Information:	Used BPTCP QA/QC.
QAPP Information Reference(s):	

DECISION ID 32369

Region 2

Oakland Inner Harbor (Pacific Dry-dock Yard 1 Site, part of SF Bay, Lower)

Pollutant:	PAHs (Polycyclic Aromatic Hydrocarbons) (sediment)
Final Listing Decision:	Do Not Delist from 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision:	Do Not Delist from 303(d) list (TMDL required list)(2012)
Revision Status	Original
Sources:	Source Unknown
Expected TMDL Completion Date:	2019
Impairment from Pollutant or Pollution:	Pollutant

**Regional Board Staff
Conclusion:**

This pollutant is being considered for removal from the section 303(d) list under section 4.6 of the Listing Policy. Under section 4.6 two lines of evidence are necessary to assess listing status. Two lines of evidence are available in the administrative record to assess this pollutant. One sample exceeds the sediment guideline but the number of samples is insufficient to determine with the confidence and power required by the Listing Policy. The sediments at this site are toxic. Based on the readily available data and information, the weight of evidence indicates that there is insufficient justification in favor of removing this water segment-pollutant combination from the section 303(d) list. This conclusion is based on the staff findings that: 1. The sediment quality guideline used complies with the requirements of section 6.1.3 of the Policy. 2. The data used satisfies the data quality requirements of section 6.1.4 of the Policy. 3. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy. 4. One sample exceeded the guideline. At least 28 samples are needed before a pollutant can be considered for removal from the list using the frequencies presented in Table 4.1 of the Listing Policy. The sediments are toxic in 2 of 4 tests. 5. Pursuant to section 4.11 of the Listing Policy, no additional data and information are available indicating that standards are met.

**Regional Board Staff Decision
Recommendation:**

This is a decision previously approved by the State Water Resources Control Board and the USEPA. No new data were assessed by the Regional Board for the current. The decision has not changed.

**Line of Evidence (LOE) for Decision ID 32369, PAHs (Polycyclic Aromatic Hydrocarbons)
(sediment)**

Region 2

Oakland Inner Harbor (Pacific Dry-dock Yard 1 Site, part of SF Bay, Lower)

LOE ID:	33
Pollutant:	PAHs (Polycyclic Aromatic Hydrocarbons)
LOE Subgroup:	Pollutant-Sediment
Matrix:	Sediment
Fraction:	Total
Beneficial Use:	Estuarine Habitat
Number of Samples:	1
Number of Exceedances:	1
Data and Information Type:	Chemical monitoring of sediments
Data Used to Assess Water Quality:	One sample exceeded the sediment quality guideline (Hunt et al., 1998b).
Data Reference:	Placeholder reference 2006 303(d)
SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	All waters shall be maintained free of toxic substances in concentrations that are lethal to or that produce other detrimental responses in aquatic organisms. There shall be no chronic toxicity in ambient waters. Chronic toxicity is a detrimental biological effect on growth rate, reproduction, fertilization success, larval development, population abundance, community composition, or any other relevant measure of the health of an organism, population, or community.
Objective/Criterion Reference:	Placeholder reference 2006 303(d)
Evaluation Guideline:	ERM of 9,600 ng/g used (Long et al., 1995).
Guideline Reference:	Placeholder reference 2006 303(d)
Spatial Representation:	Spatial distribution of samples is described in the report
Temporal Representation:	Data collected in 1997.
Environmental Conditions:	
QAPP Information:	Used BPTCP QA/QC.
QAPP Information Reference(s):	

Line of Evidence (LOE) for Decision ID 32369, PAHs (Polycyclic Aromatic Hydrocarbons)

(sediment)

Region 2

Oakland Inner Harbor (Pacific Dry-dock Yard 1 Site, part of SF Bay, Lower)

LOE ID:	38
Pollutant:	Sediment Toxicity
LOE Subgroup:	Toxicity
Matrix:	Sediment
Fraction:	None
Beneficial Use:	Estuarine Habitat
Number of Samples:	4
Number of Exceedances:	2
Data and Information Type:	Toxicity testing of sediments
Data Used to Assess Water Quality:	Significant amphipod toxicity in 2 of 4 tests. No significant urchin toxicity (4 tests) (Hunt et al., 1998b).
Data Reference:	Placeholder reference 2006 303(d)
SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	All waters shall be maintained free of toxic substances in concentrations that are lethal to or that produce other detrimental responses in aquatic organisms. There shall be no chronic toxicity in ambient waters. Chronic toxicity is a detrimental biological effect on growth rate, reproduction, fertilization success, larval development, population abundance, community composition, or any other relevant measure of the health of an organism, population, or community.
Objective/Criterion Reference:	Placeholder reference 2006 303(d)
Evaluation Guideline:	BPTCP reference envelope approach used.
Guideline Reference:	Placeholder reference 2006 303(d)
Spatial Representation:	Spatial distribution of samples is described in the report
Temporal Representation:	Data collected during 4/95- 4/97.
Environmental Conditions:	
QAPP Information:	Used BPTCP QA/QC.
QAPP Information Reference(s):	

DECISION ID

32581

Region 2

Oakland Inner Harbor (Pacific Dry-dock Yard 1 Site, part of SF Bay, Lower)

Pollutant:	Zinc
Final Listing Decision:	Do Not Delist from 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision:	Do Not Delist from 303(d) list (TMDL required list)(2012)
Revision Status	Original
Sources:	Source Unknown
Expected TMDL Completion Date:	2019
Impairment from Pollutant or Pollution:	Pollutant
Regional Board Staff Conclusion:	Region 2 data was not included in the 2012 Integrated Report so all decisions are carried over from the 2010 listing cycle.
Regional Board Staff Decision Recommendation:	This is a decision previously approved by the State Water Resources Control Board and the USEPA. No new data were assessed by the Regional Board for the current. The decision has not changed.

Line of Evidence (LOE) for Decision ID 32581, Zinc**Region 2****Oakland Inner Harbor (Pacific Dry-dock Yard 1 Site, part of SF Bay, Lower)**

LOE ID:	38
Pollutant:	Sediment Toxicity
LOE Subgroup:	Toxicity
Matrix:	Sediment
Fraction:	None
Beneficial Use:	Estuarine Habitat
Number of Samples:	4
Number of Exceedances:	2
Data and Information Type:	Toxicity testing of sediments
Data Used to Assess Water Quality:	Significant amphipod toxicity in 2 of 4 tests. No significant urchin toxicity (4 tests) (Hunt et al., 1998b).
Data Reference:	Placeholder reference 2006 303(d)
SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	All waters shall be maintained free of toxic substances in concentrations that are lethal to or that produce other detrimental responses in aquatic organisms. There shall be no chronic toxicity in ambient waters. Chronic toxicity is a detrimental biological effect on growth rate, reproduction, fertilization success, larval development, population abundance, community composition, or any other relevant measure of the health of an organism, population, or community.
Objective/Criterion Reference:	Placeholder reference 2006 303(d)
Evaluation Guideline:	BPTCP reference envelope approach used.
Guideline Reference:	Placeholder reference 2006 303(d)
Spatial Representation:	Spatial distribution of samples is described in the report
Temporal Representation:	Data collected during 4/95- 4/97.
Environmental Conditions:	
QAPP Information:	Used BPTCP QA/QC.
QAPP Information Reference(s):	

Line of Evidence (LOE) for Decision ID 32581, Zinc**Region 2****Oakland Inner Harbor (Pacific Dry-dock Yard 1 Site, part of SF Bay, Lower)**

LOE ID:	29
Pollutant:	Zinc
LOE Subgroup:	Pollutant-Sediment
Matrix:	Sediment
Fraction:	Total
Beneficial Use:	Estuarine Habitat
Number of Samples:	2
Number of Exceedances:	1
Data and Information Type:	Chemical monitoring of sediments
Data Used to Assess Water Quality:	One of 2 samples exceed the sediment guideline (Hunt et al., 1998b).
Data Reference:	Placeholder reference 2006 303(d)
SWAMP Data:	Non-SWAMP

Water Quality Objective/Criterion:	All waters shall be maintained free of toxic substances in concentrations that are lethal to or that produce other detrimental responses in aquatic organisms.
	There shall be no chronic toxicity in ambient waters. Chronic toxicity is a detrimental biological effect on growth rate, reproduction, fertilization success, larval development, population abundance, community composition, or any other relevant measure of the health of an organism, population, or community.
Objective/Criterion Reference:	Placeholder reference 2006 303(d)
Evaluation Guideline:	ERM of 410 ug/g used (Long et al., 1995).
Guideline Reference:	Placeholder reference 2006 303(d)
Spatial Representation:	Spatial distribution of samples is described in the report
Temporal Representation:	Data collected during 4/95- 4/97.
Environmental Conditions:	
QAPP Information:	Used BPTCP QA/QC.
QAPP Information Reference(s):	

DECISION ID	34717	Region 2
Oakland Inner Harbor (Pacific Dry-dock Yard 1 Site, part of SF Bay, Lower)		

Pollutant:	Chlordane
Final Listing Decision:	List on 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision:	List on 303(d) list (TMDL required list)(2012)
Revision Status	Original
Sources:	Source Unknown
Expected TMDL Completion Date:	2013
Impairment from Pollutant or Pollution:	Pollutant

Regional Board Staff Conclusion:	303(d) listing decisions made prior to 2006 were not held in an assessment database. The Regional Boards will update this decision when new data and information become available and are assessed.
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Regional Board Staff Decision Recommendation:	This is a decision previously approved by the State Water Resources Control Board and the USEPA. No new data were assessed by the Regional Board for the current. The decision has not changed.
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Line of Evidence (LOE) for Decision ID 34717, Chlordane	Region 2
Oakland Inner Harbor (Pacific Dry-dock Yard 1 Site, part of SF Bay, Lower)	

LOE ID:	3780
Pollutant:	Chlordane
LOE Subgroup:	Pollutant-Tissue
Matrix:	Tissue
Fraction:	Not Recorded
Beneficial Use:	Commercial or recreational collection of fish, shellfish, or organisms
Number of Samples:	0
Number of Exceedances:	0
Data and Information Type:	Not Specified
Data Used to Assess Water Quality:	Unspecified--This LOE is a placeholder to support a 303(d) listing decision made prior to 2006.
Data Reference:	Placeholder reference pre-2006 303(d)

SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	Unspecified
Objective/Criterion Reference:	Placeholder reference pre-2006 303(d)
Evaluation Guideline:	Unspecified
Guideline Reference:	Placeholder reference pre-2006 303(d)
Spatial Representation:	Unspecified
Temporal Representation:	Unspecified
Environmental Conditions:	Unspecified
QAPP Information:	Unspecified
QAPP Information Reference(s):	

Line of Evidence (LOE) for Decision ID 34717, Chlordane

Region 2

Oakland Inner Harbor (Pacific Dry-dock Yard 1 Site, part of SF Bay, Lower)

LOE ID:	38
Pollutant:	Sediment Toxicity
LOE Subgroup:	Toxicity
Matrix:	Sediment
Fraction:	None
Beneficial Use:	Estuarine Habitat
Number of Samples:	4
Number of Exceedances:	2
Data and Information Type:	Toxicity testing of sediments
Data Used to Assess Water Quality:	Significant amphipod toxicity in 2 of 4 tests. No significant urchin toxicity (4 tests) (Hunt et al., 1998b).
Data Reference:	Placeholder reference 2006 303(d)
SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	All waters shall be maintained free of toxic substances in concentrations that are lethal to or that produce other detrimental responses in aquatic organisms.
	There shall be no chronic toxicity in ambient waters. Chronic toxicity is a detrimental biological effect on growth rate, reproduction, fertilization success, larval development, population abundance, community composition, or any other relevant measure of the health of an organism, population, or community.
Objective/Criterion Reference:	Placeholder reference 2006 303(d)
Evaluation Guideline:	BPTCP reference envelope approach used.
Guideline Reference:	Placeholder reference 2006 303(d)
Spatial Representation:	Spatial distribution of samples is described in the report
Temporal Representation:	Data collected during 4/95- 4/97.
Environmental Conditions:	
QAPP Information:	Used BPTCP QA/QC.
QAPP Information Reference(s):	

Line of Evidence (LOE) for Decision ID 34717, Chlordane

Region 2

Oakland Inner Harbor (Pacific Dry-dock Yard 1 Site, part of SF Bay, Lower)

LOE ID:	35
Pollutant:	Chlordane (sediment)
LOE Subgroup:	Pollutant-Sediment

Matrix:	Sediment
Fraction:	Total
Beneficial Use:	Estuarine Habitat
Number of Samples:	2
Number of Exceedances:	1
Data and Information Type:	Chemical monitoring of sediments
Data Used to Assess Water Quality:	One of 2 samples exceed the sediment quality guideline (Hunt et al, 1998b).
Data Reference:	Placeholder reference 2006 303(d)
SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	All waters shall be maintained free of toxic substances in concentrations that are lethal to or that produce other detrimental responses in aquatic organisms (BPTCP, 1998). There shall be no chronic toxicity in ambient waters. Chronic toxicity is a detrimental biological effect on growth rate, reproduction, fertilization success, larval development, population abundance, community composition, or any other relevant measure of the health of an organism, population, or community.
Objective/Criterion Reference:	Placeholder reference 2006 303(d)
Evaluation Guideline:	ERM of 6 ng/g used (Long and Morgan, 1990).
Guideline Reference:	Placeholder reference 2006 303(d)
Spatial Representation:	Spatial distribution of samples is described in the report: Sediment quality and biological effects in San Francisco Bay (Bay Protection and Toxic Cleanup Program), dated August 1998.
Temporal Representation:	Data collected in 1995.
Environmental Conditions:	
QAPP Information:	Used BPTCP QA/QC.
QAPP Information Reference(s):	

DECISION ID	34438	Region 2
Oakland Inner Harbor (Pacific Dry-dock Yard 1 Site, part of SF Bay, Lower)		

Pollutant:	DDT (Dichlorodiphenyltrichloroethane)
Final Listing Decision:	List on 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision:	List on 303(d) list (TMDL required list)(2012)
Revision Status	Original
Sources:	Source Unknown
Expected TMDL Completion Date:	2013
Impairment from Pollutant or Pollution:	Pollutant
Regional Board Staff Conclusion:	303(d) listing decisions made prior to 2006 were not held in an assessment database. The Regional Boards will update this decision when new data and information become available and are assessed.
Regional Board Staff Decision Recommendation:	This is a decision previously approved by the State Water Resources Control Board and the USEPA. No new data were assessed by the Regional Board for the current. The decision has not changed.

Line of Evidence (LOE) for Decision ID 34438, DDT (Dichlorodiphenyltrichloroethane)	Region 2
Oakland Inner Harbor (Pacific Dry-dock Yard 1 Site, part of SF Bay, Lower)	

LOE ID: 3781

Pollutant:	DDT (Dichlorodiphenyltrichloroethane)
LOE Subgroup:	Pollutant-Tissue
Matrix:	Tissue
Fraction:	Not Recorded
Beneficial Use:	Commercial or recreational collection of fish, shellfish, or organisms
Number of Samples:	0
Number of Exceedances:	0
Data and Information Type:	Not Specified
Data Used to Assess Water Quality:	Unspecified--This LOE is a placeholder to support a 303(d) listing decision made prior to 2006.
Data Reference:	Placeholder reference pre-2006 303(d)
SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	Unspecified
Objective/Criterion Reference:	Placeholder reference pre-2006 303(d)
Evaluation Guideline:	Unspecified
Guideline Reference:	Placeholder reference pre-2006 303(d)
Spatial Representation:	Unspecified
Temporal Representation:	Unspecified
Environmental Conditions:	Unspecified
QAPP Information:	Unspecified
QAPP Information Reference(s):	

DECISION ID	34453	Region 2
Oakland Inner Harbor (Pacific Dry-dock Yard 1 Site, part of SF Bay, Lower)		

Pollutant:	Dioxin compounds (including 2,3,7,8-TCDD)
Final Listing Decision:	List on 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision:	List on 303(d) list (TMDL required list)(2012)
Revision Status	Original
Sources:	Source Unknown
Expected TMDL Completion Date:	2019
Impairment from Pollutant or Pollution:	Pollutant

Regional Board Staff Conclusion: 303(d) listing decisions made prior to 2006 were not held in an assessment database. The Regional Boards will update this decision when new data and information become available and are assessed.

Regional Board Staff Decision Recommendation: This is a decision previously approved by the State Water Resources Control Board and the USEPA. No new data were assessed by the Regional Board for the current. The decision has not changed.

Line of Evidence (LOE) for Decision ID 34453, Dioxin compounds (including 2,3,7,8-TCDD)	Region 2
Oakland Inner Harbor (Pacific Dry-dock Yard 1 Site, part of SF Bay, Lower)	

LOE ID:	3783
Pollutant:	Dioxin compounds (including 2,3,7,8-TCDD)
LOE Subgroup:	Pollutant-Tissue
Matrix:	Tissue
Fraction:	Not Recorded

Beneficial Use:	Commercial or recreational collection of fish, shellfish, or organisms
Number of Samples:	0
Number of Exceedances:	0
Data and Information Type:	Not Specified
Data Used to Assess Water Quality:	Unspecified--This LOE is a placeholder to support a 303(d) listing decision made prior to 2006.
Data Reference:	Placeholder reference pre-2006 303(d)
SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	Unspecified
Objective/Criterion Reference:	Placeholder reference pre-2006 303(d)
Evaluation Guideline:	Unspecified
Guideline Reference:	Placeholder reference pre-2006 303(d)
Spatial Representation:	Unspecified
Temporal Representation:	Unspecified
Environmental Conditions:	Unspecified
QAPP Information:	Unspecified
QAPP Information Reference(s):	

DECISION ID	33662	Region 2
Oakland Inner Harbor (Pacific Dry-dock Yard 1 Site, part of SF Bay, Lower)		

Pollutant:	Furan Compounds
Final Listing Decision:	List on 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision:	List on 303(d) list (TMDL required list)(2012)
Revision Status	Original
Sources:	Source Unknown
Expected TMDL Completion Date:	2019
Impairment from Pollutant or Pollution:	Pollutant

Regional Board Staff Conclusion:	303(d) listing decisions made prior to 2006 were not held in an assessment database. The Regional Boards will update this decision when new data and information become available and are assessed.
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Regional Board Staff Decision Recommendation:	This is a decision previously approved by the State Water Resources Control Board and the USEPA. No new data were assessed by the Regional Board for the current. The decision has not changed.
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Line of Evidence (LOE) for Decision ID 33662, Furan Compounds	Region 2
Oakland Inner Harbor (Pacific Dry-dock Yard 1 Site, part of SF Bay, Lower)	

LOE ID:	3785
Pollutant:	Furan Compounds
LOE Subgroup:	Pollutant-Tissue
Matrix:	Tissue
Fraction:	Not Recorded
Beneficial Use:	Commercial or recreational collection of fish, shellfish, or organisms
Number of Samples:	0
Number of Exceedances:	0

Data and Information Type:	Not Specified
Data Used to Assess Water Quality:	Unspecified--This LOE is a placeholder to support a 303(d) listing decision made prior to 2006.
Data Reference:	Placeholder reference pre-2006 303(d)
SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	Unspecified
Objective/Criterion Reference:	Placeholder reference pre-2006 303(d)
Evaluation Guideline:	Unspecified
Guideline Reference:	Placeholder reference pre-2006 303(d)
Spatial Representation:	Unspecified
Temporal Representation:	Unspecified
Environmental Conditions:	Unspecified
QAPP Information:	Unspecified
QAPP Information Reference(s):	

DECISION ID	34454	Region 2
Oakland Inner Harbor (Pacific Dry-dock Yard 1 Site, part of SF Bay, Lower)		

Pollutant:	Invasive Species
Final Listing Decision:	List on 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision:	List on 303(d) list (TMDL required list)(2012)
Revision Status	Original
Sources:	Source Unknown
Expected TMDL Completion Date:	2019
Impairment from Pollutant or Pollution:	Pollutant

Regional Board Staff Conclusion:	303(d) listing decisions made prior to 2006 were not held in an assessment database. The Regional Boards will update this decision when new data and information become available and are assessed.
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Regional Board Staff Decision Recommendation:	This is a decision previously approved by the State Water Resources Control Board and the USEPA. No new data were assessed by the Regional Board for the current. The decision has not changed.
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Line of Evidence (LOE) for Decision ID 34454, Invasive Species		Region 2
Oakland Inner Harbor (Pacific Dry-dock Yard 1 Site, part of SF Bay, Lower)		

LOE ID:	3784
Pollutant:	Invasive Species
LOE Subgroup:	Pollutant-Water
Matrix:	Water
Fraction:	Not Recorded

Beneficial Use:	Estuarine Habitat
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Number of Samples:	0
Number of Exceedances:	0

Data and Information Type:	Not Specified
Data Used to Assess Water Quality:	Unspecified--This LOE is a placeholder to support a 303(d) listing decision made prior to 2006.
Data Reference:	Placeholder reference pre-2006 303(d)

SWAMP Data: Non-SWAMP

Water Quality Objective/Criterion:
Objective/Criterion Reference:

Evaluation Guideline:
Guideline Reference:

Spatial Representation: Unspecified
Temporal Representation: Unspecified
Environmental Conditions: Unspecified
QAPP Information: Unspecified
QAPP Information Reference(s):

DECISION ID 34582 Region 2
Oakland Inner Harbor (Pacific Dry-dock Yard 1 Site, part of SF Bay, Lower)

Pollutant: Selenium
Final Listing Decision: List on 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision: List on 303(d) list (TMDL required list)(2012)
Revision Status Original
Sources: Source Unknown
Expected TMDL Completion Date: 2019
Impairment from Pollutant or Pollution: Pollutant

Regional Board Staff Conclusion: 303(d) listing decisions made prior to 2006 were not held in an assessment database. The Regional Boards will update this decision when new data and information become available and are assessed.

Regional Board Staff Decision Recommendation: This is a decision previously approved by the State Water Resources Control Board and the USEPA. No new data were assessed by the Regional Board for the current. The decision has not changed.

Line of Evidence (LOE) for Decision ID 34582, Selenium Region 2
Oakland Inner Harbor (Pacific Dry-dock Yard 1 Site, part of SF Bay, Lower)

LOE ID: 3789

Pollutant: Selenium
LOE Subgroup: Pollutant-Water
Matrix: Water
Fraction: Not Recorded

Beneficial Use: Estuarine Habitat

Number of Samples: 0
Number of Exceedances: 0

Data and Information Type: Not Specified
Data Used to Assess Water Quality: Unspecified--This LOE is a placeholder to support a 303(d) listing decision made prior to 2006.
Data Reference: [Placeholder reference pre-2006 303\(d\)](#)

SWAMP Data: Non-SWAMP

Water Quality Objective/Criterion: Unspecified
Objective/Criterion Reference: [Placeholder reference pre-2006 303\(d\)](#)

Evaluation Guideline:	Unspecified
Guideline Reference:	Placeholder reference pre-2006 303(d)
Spatial Representation:	Unspecified
Temporal Representation:	Unspecified
Environmental Conditions:	Unspecified
QAPP Information:	Unspecified
QAPP Information Reference(s):	

DECISION ID	33663	Region 2
Oakland Inner Harbor (Pacific Dry-dock Yard 1 Site, part of SF Bay, Lower)		

Pollutant:	Mercury
Final Listing Decision:	List on 303(d) list (being addressed by USEPA approved TMDL)
Last Listing Cycle's Final Listing Decision:	List on 303(d) list (being addressed by USEPA approved TMDL)(2012)
Revision Status	Original
Sources:	Source Unknown
TMDL Name:	San Francisco Bay Mercury
TMDL Project Code:	6
Date TMDL Approved by USEPA:	02/12/2008
Impairment from Pollutant or Pollution:	Pollutant

Regional Board Staff Conclusion: The two mercury decisions on this water body were combined to simplify decision making.

303(d) listing decisions made prior to 2006 were not held in an assessment database. The Regional Boards will update this decision when new data and information become available and are assessed. A TMDL has been developed and approved by USEPA (2/29/2008) and an approved implementation plan is expected to result in attainment of the standard. This provides a sufficient justification in favor of placing this water segment-pollutant combination in the Water Quality Limited Segments Being Addressed portion of the section 303(d) list.

Regional Board Staff Decision Recommendation: This is a decision previously approved by the State Water Resources Control Board and the USEPA. No new data were assessed by the Regional Board for the current. The decision has not changed.

Line of Evidence (LOE) for Decision ID 33663, Mercury	Region 2
Oakland Inner Harbor (Pacific Dry-dock Yard 1 Site, part of SF Bay, Lower)	

LOE ID:	38
Pollutant:	Sediment Toxicity
LOE Subgroup:	Toxicity
Matrix:	Sediment
Fraction:	None
Beneficial Use:	Estuarine Habitat
Number of Samples:	4
Number of Exceedances:	2
Data and Information Type:	Toxicity testing of sediments
Data Used to Assess Water Quality:	Significant amphipod toxicity in 2 of 4 tests. No significant urchin toxicity (4 tests) (Hunt et al., 1998b).
Data Reference:	Placeholder reference 2006 303(d)
SWAMP Data:	Non-SWAMP

Water Quality Objective/Criterion:	All waters shall be maintained free of toxic substances in concentrations that are lethal to or that produce other detrimental responses in aquatic organisms.
	There shall be no chronic toxicity in ambient waters. Chronic toxicity is a detrimental biological effect on growth rate, reproduction, fertilization success, larval development, population abundance, community composition, or any other relevant measure of the health of an organism, population, or community.
Objective/Criterion Reference:	Placeholder reference 2006 303(d)
Evaluation Guideline:	BPTCP reference envelope approach used.
Guideline Reference:	Placeholder reference 2006 303(d)
Spatial Representation:	Spatial distribution of samples is described in the report
Temporal Representation:	Data collected during 4/95- 4/97.
Environmental Conditions:	
QAPP Information:	Used BPTCP QA/QC.
QAPP Information Reference(s):	

Line of Evidence (LOE) for Decision ID 33663, Mercury

Region 2

Oakland Inner Harbor (Pacific Dry-dock Yard 1 Site, part of SF Bay, Lower)

LOE ID:	28
Pollutant:	Mercury (sediment)
LOE Subgroup:	Pollutant-Sediment
Matrix:	Sediment
Fraction:	Total
Beneficial Use:	Estuarine Habitat
Number of Samples:	2
Number of Exceedances:	1
Data and Information Type:	Chemical monitoring of sediments
Data Used to Assess Water Quality:	One of 2 samples exceed the sediment quality guideline (Hunt et al., 1998b).
Data Reference:	Placeholder reference 2006 303(d)
SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	All waters shall be maintained free of toxic substances in concentrations that are lethal to or that produce other detrimental responses in aquatic organisms.
	There shall be no chronic toxicity in ambient waters. Chronic toxicity is a detrimental biological effect on growth rate, reproduction, fertilization success, larval development, population abundance, community composition, or any other relevant measure of the health of an organism, population, or community.
Objective/Criterion Reference:	Placeholder reference 2006 303(d)
Evaluation Guideline:	Sediment guideline of 2.1 ug/g was used (PTI Environmental Services, 1991).
Guideline Reference:	Placeholder reference 2006 303(d)
Spatial Representation:	Spatial distribution of samples is described in the report
Temporal Representation:	Data collected during 4/95- 4/97.
Environmental Conditions:	
QAPP Information:	Used BPTCP QA/QC.
QAPP Information Reference(s):	

Line of Evidence (LOE) for Decision ID 33663, Mercury

Region 2

Oakland Inner Harbor (Pacific Dry-dock Yard 1 Site, part of SF Bay, Lower)

LOE ID:	3786
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Pollutant:	Mercury
LOE Subgroup:	Pollutant-Tissue
Matrix:	Tissue
Fraction:	Not Recorded
Beneficial Use:	Commercial or recreational collection of fish, shellfish, or organisms
Number of Samples:	0
Number of Exceedances:	0
Data and Information Type:	Not Specified
Data Used to Assess Water Quality:	Unspecified--This LOE is a placeholder to support a 303(d) listing decision made prior to 2006.
Data Reference:	Placeholder reference pre-2006 303(d)
SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	Unspecified
Objective/Criterion Reference:	Placeholder reference pre-2006 303(d)
Evaluation Guideline:	Unspecified
Guideline Reference:	Placeholder reference pre-2006 303(d)
Spatial Representation:	Unspecified
Temporal Representation:	Unspecified
Environmental Conditions:	Unspecified
QAPP Information:	Unspecified
QAPP Information Reference(s):	

DECISION ID	34580	Region 2
Oakland Inner Harbor (Pacific Dry-dock Yard 1 Site, part of SF Bay, Lower)		

Pollutant:	PCBs (Polychlorinated biphenyls)
Final Listing Decision:	List on 303(d) list (being addressed by USEPA approved TMDL)
Last Listing Cycle's Final Listing Decision:	List on 303(d) list (TMDL required list)(2012)
Revision Status	Original
Sources:	Source Unknown
TMDL Name:	San Francisco Bay PCBs
TMDL Project Code:	7
Date TMDL Approved by USEPA:	03/29/2010
Impairment from Pollutant or Pollution:	Pollutant
Regional Board Staff Conclusion:	303(d) listing decisions made prior to 2006 were not held in an assessment database. The Regional Boards will update this decision when new data and information become available and are assessed.
Regional Board Staff Decision Recommendation:	This is a decision previously approved by the State Water Resources Control Board and the USEPA. No new data were assessed by the Regional Board for the current. The decision has not changed.

Line of Evidence (LOE) for Decision ID 34580, PCBs (Polychlorinated biphenyls)	Region 2
Oakland Inner Harbor (Pacific Dry-dock Yard 1 Site, part of SF Bay, Lower)	

LOE ID:	38
Pollutant:	Sediment Toxicity
LOE Subgroup:	Toxicity

Matrix:	Sediment
Fraction:	None
Beneficial Use:	Estuarine Habitat
Number of Samples:	4
Number of Exceedances:	2
Data and Information Type:	Toxicity testing of sediments
Data Used to Assess Water Quality:	Significant amphipod toxicity in 2 of 4 tests. No significant urchin toxicity (4 tests) (Hunt et al., 1998b).
Data Reference:	Placeholder reference 2006 303(d)
SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	All waters shall be maintained free of toxic substances in concentrations that are lethal to or that produce other detrimental responses in aquatic organisms. There shall be no chronic toxicity in ambient waters. Chronic toxicity is a detrimental biological effect on growth rate, reproduction, fertilization success, larval development, population abundance, community composition, or any other relevant measure of the health of an organism, population, or community.
Objective/Criterion Reference:	Placeholder reference 2006 303(d)
Evaluation Guideline:	BPTCP reference envelope approach used.
Guideline Reference:	Placeholder reference 2006 303(d)
Spatial Representation:	Spatial distribution of samples is described in the report
Temporal Representation:	Data collected during 4/95- 4/97.
Environmental Conditions:	
QAPP Information:	Used BPTCP QA/QC.
QAPP Information Reference(s):	

Line of Evidence (LOE) for Decision ID 34580, PCBs (Polychlorinated biphenyls)
Oakland Inner Harbor (Pacific Dry-dock Yard 1 Site, part of SF Bay, Lower)

Region 2

LOE ID:	3788
Pollutant:	PCBs (Polychlorinated biphenyls)
LOE Subgroup:	Pollutant-Tissue
Matrix:	Tissue
Fraction:	Not Recorded
Beneficial Use:	Commercial or recreational collection of fish, shellfish, or organisms
Number of Samples:	0
Number of Exceedances:	0
Data and Information Type:	Not Specified
Data Used to Assess Water Quality:	Unspecified--This LOE is a placeholder to support a 303(d) listing decision made prior to 2006.
Data Reference:	Placeholder reference pre-2006 303(d)
SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	Unspecified
Objective/Criterion Reference:	Placeholder reference pre-2006 303(d)
Evaluation Guideline:	Unspecified
Guideline Reference:	Placeholder reference pre-2006 303(d)
Spatial Representation:	Unspecified

Temporal Representation:	Unspecified
Environmental Conditions:	Unspecified
QAPP Information:	Unspecified
QAPP Information Reference(s):	

Line of Evidence (LOE) for Decision ID 34580, PCBs (Polychlorinated biphenyls)
Oakland Inner Harbor (Pacific Dry-dock Yard 1 Site, part of SF Bay, Lower)

Region 2

LOE ID:	32
Pollutant:	PCBs (Polychlorinated biphenyls)
LOE Subgroup:	Pollutant-Sediment
Matrix:	Sediment
Fraction:	Total
Beneficial Use:	Estuarine Habitat
Number of Samples:	1
Number of Exceedances:	1
Data and Information Type:	Chemical monitoring of sediments
Data Used to Assess Water Quality:	One sample exceeds the sediment guideline (Hunt et al., 1998b).
Data Reference:	Placeholder reference 2006 303(d)
SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	All waters shall be maintained free of toxic substances in concentrations that are lethal to or that produce other detrimental responses in aquatic organisms. There shall be no chronic toxicity in ambient waters. Chronic toxicity is a detrimental biological effect on growth rate, reproduction, fertilization success, larval development, population abundance, community composition, or any other relevant measure of the health of an organism, population, or community.
Objective/Criterion Reference:	Placeholder reference 2006 303(d)
Evaluation Guideline:	Sediment guideline of 400 ng/g used (McDonald et al., 2000).
Guideline Reference:	Placeholder reference 2006 303(d)
Spatial Representation:	Spatial distribution of samples is described in the report
Temporal Representation:	Data collected in 1997.
Environmental Conditions:	
QAPP Information:	Used BPTCP QA/QC.
QAPP Information Reference(s):	

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Supporting Information

Regional Board 2 - San Francisco Bay Region

Water Body Name: San Leandro Bay (part of SF Bay, Lower)
Water Body ID: CAB2042004020020930194957
Water Body Type: Bay & Harbor

DECISION ID 33188 **Region 2**
San Leandro Bay (part of SF Bay, Lower)

Pollutant: Diazinon
Final Listing Decision: Delist from 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision: Delist from 303(d) list (TMDL required list)(2012)
Revision Status Revised
Reason for Delisting: Applicable WQS attained; reason for recovery unspecified
Impairment from Pollutant or Pollution: Pollutant

Regional Board Staff Conclusion: This pollutant is being considered for delisting under sections 4.1 of the Listing Policy. Under section 4.1 a single line of evidence is necessary to assess listing status. Two lines of evidence are available in the administrative record to assess this pollutant. The basis for listing in 1998 was ambient water toxicity and detections of diazinon in Bay waters. Recent measures of toxicity show that ambient water toxicity no longer exists in Bay waters. The RWQCB has developed a Water Quality Attainment Strategy that calls for preventive actions to keep diazinon from entering the Bay. Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification available in favor of removing this water segment-pollutant combination from the section 303(d) list in the Water Quality Limited Segments category. This conclusion is based on the staff findings that:

1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy.
2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy.
3. None of three samples exceeded the evaluation guideline and these frequencies do not exceed the allowable frequency listed in Table 4.1 of the Listing Policy.
4. Pursuant to section 4.11 of the Listing Policy, no additional data and information are available indicating that standards are met.

Regional Board Staff Decision Recommendation: After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should be removed from the section 303(d) list because applicable water quality standards for the pollutant are not being exceeded.

Line of Evidence (LOE) for Decision ID 33188, Diazinon **Region 2**
San Leandro Bay (part of SF Bay, Lower)

LOE ID: 95165
Pollutant: Diazinon
LOE Subgroup: Pollutant-Tissue
Matrix: Tissue
Fraction: Fish fillet
Beneficial Use: Commercial or recreational collection of fish, shellfish, or organisms
Number of Samples: 3
Number of Exceedances: 0

Data and Information Type:	Fish tissue analysis
Data Used to Assess Water Quality:	Water Board staff assessed Regional Monitoring Program data for San Leandro Marina to determine beneficial use support and results are as follows: 0 of 3 samples exceed the criterion for diazinon. No samples were discarded for being non-detect, unquantifiable or the reporting limit exceeding the water quality objective.
Data Reference:	Regional Monitoring Program data, Feb. 1993-Sep. 2008
SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	Water Quality Control Plan for the San Francisco Bay Basin: Controllable water quality factors shall not cause a detrimental increase in concentrations of toxic substances found in bottom sediments or aquatic life. Effects on aquatic organisms, wildlife, and human health will be considered.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	The modified OEHHA Fish Contaminant Goal for diazinon in fish tissue is 1,500 ppb. This screening level assumes an average body weight of 70 kg and a consumption rate of 32 g/day. A cooking reduction factor of 1 is applied for skin-off fillets. (Klasing, S., and R. Brodberg, 2008; USEPA, 2000)
Guideline Reference:	Development of Fish Contaminant Goals and Advisory Tissue Levels for Common Contaminants in California Sport Fish: Chlordane, DDTs, Dieldrin, Methylmercury, PCBs, Selenium, and Toxaphene Guidance for Assessing Chemical Contaminant Data for Use In Fish Advisories Volume 1: Fish Sampling and Analysis
Spatial Representation:	The samples were collected at one site in the San Leandro Marina.
Temporal Representation:	The samples were collected in November 2000.
Environmental Conditions:	
QAPP Information:	The 1999 Quality Assurance Project Plan Regional Monitoring Program for Trace Substances was used.
QAPP Information Reference(s):	1999 Quality Assurance Project Plan Regional Monitoring Program for Trace Substances

Line of Evidence (LOE) for Decision ID 33188, Diazinon
San Leandro Bay (part of SF Bay, Lower)

Region 2

LOE ID:	51
Pollutant:	Diazinon
LOE Subgroup:	Narrative Description Data
Matrix:	-N/A
Fraction:	None
Beneficial Use:	Estuarine Habitat
Number of Samples:	
Number of Exceedances:	
Data and Information Type:	Not Specified
Data Used to Assess Water Quality:	Diazinon is one of the pollutants listed for this segment on the 2002 section 303(d) list. The data and information used to assess this pollutant-water segment is subsumed in diazinon listing for San Francisco Bay, Central. The conclusions drawn for San Francisco Bay, Central should be applied to this segment.
Data Reference:	Placeholder reference 2006 303(d)
SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	
Objective/Criterion Reference:	
Evaluation Guideline:	
Guideline Reference:	

Spatial Representation:
Temporal Representation:
Environmental Conditions:
QAPP Information: QA Info Missing
QAPP Information Reference(s):

DECISION ID	33230	Region 2
San Leandro Bay (part of SF Bay, Lower)		

Pollutant:	Chlordane
Final Listing Decision:	Do Not Delist from 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision:	Do Not Delist from 303(d) list (TMDL required list)(2012)
Revision Status	Revised
Sources:	Source Unknown
Expected TMDL Completion Date:	2013
Impairment from Pollutant or Pollution:	Pollutant

Regional Board Staff Conclusion:

This pollutant is being considered for removal from the CWA section 303(d) List under section 4.1 of the Listing Policy. Under this section a single line of evidence is necessary to assess listing status.

Five lines of evidence are available in the administrative record to assess pollutant. Seven of seven samples exceed the guideline.

Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against removing this water segment-pollutant combination from the CWA section 303(d) List.

This conclusion is based on the staff findings that:

1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy.
2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy.
3. Seven of seven samples exceed the guideline and this exceeds the allowable frequency listed in Table 4.1 of the Listing Policy.
4. Pursuant to section 4.11 of the Listing Policy, no additional data and information are available indicating that standards are met.

Regional Board Staff Decision Recommendation: After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be removed from the section 303(d) list because applicable water quality standards for the pollutant are being exceeded.

Line of Evidence (LOE) for Decision ID 33230, Chlordane	Region 2
San Leandro Bay (part of SF Bay, Lower)	

LOE ID:	41
Pollutant:	Estuarine Bioassessments
LOE Subgroup:	Population/Community Degradation
Matrix:	Sediment
Fraction:	None
Beneficial Use:	Estuarine Habitat
Number of Samples:	5
Number of Exceedances:	0
Data and Information Type:	Benthic macroinvertebrate surveys

Data Used to Assess Water Quality:	BPTCP benthic index values were 0.60, 0.60, 0.67, 1.0, and 0.66 (Hunt et al, 1998b).
Data Reference:	Placeholder reference 2006 303(d)
SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	All waters shall be maintained free of toxic substances in concentrations that are lethal to or that produce other detrimental responses in aquatic organisms. There shall be no chronic toxicity in ambient waters. Chronic toxicity is a detrimental biological effect on growth rate, reproduction, fertilization success, larval development, population abundance, community composition, or any other relevant measure of the health of an organism, population, or community.
Objective/Criterion Reference:	Placeholder reference 2006 303(d)
Evaluation Guideline:	Evaluations of the benthic data were completed using the approaches developed by scientists associated with the BPTCP. The relative benthic index used is a calculated value considering the total fauna, total mollusk species, crustacean species and indicator species at a site. The index ranges from 0 to 1.0. An index value of less than or equal to 0.3 is an indication that pollutants or other factors are negatively impacting the benthic community.
Guideline Reference:	Placeholder reference 2006 303(d)
Spatial Representation:	Five stations. Data was synoptically collected with chemical and toxicity measurements.
Temporal Representation:	Samples were collected in April 1995 and April 1997.
Environmental Conditions:	
QAPP Information:	BPTCP Quality Assurance Project Plan.
QAPP Information Reference(s):	

Line of Evidence (LOE) for Decision ID 33230, Chlordane

Region 2

San Leandro Bay (part of SF Bay, Lower)

LOE ID:	48
Pollutant:	Pesticides (sediment)
LOE Subgroup:	Narrative Description Data
Matrix:	-N/A
Fraction:	None
Beneficial Use:	Estuarine Habitat
Number of Samples:	0
Number of Exceedances:	0
Data and Information Type:	Not Specified
Data Used to Assess Water Quality:	The 2002 section 303(d) listing for Pesticides is too general to be reviewed. In the data and information available there are many measurements of pesticides. Only Chlordane and Dieldrin have numeric guidelines. The data for these chemicals are presented in fact sheets.
Data Reference:	Placeholder reference 2006 303(d)
SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	
Objective/Criterion Reference:	
Evaluation Guideline:	
Guideline Reference:	
Spatial Representation:	
Temporal Representation:	
Environmental Conditions:	
QAPP Information:	QA Info Missing

Line of Evidence (LOE) for Decision ID 33230, Chlordane**Region 2****San Leandro Bay (part of SF Bay, Lower)**

LOE ID:	50
Pollutant:	Chlordane
LOE Subgroup:	Pollutant-Sediment
Matrix:	Sediment
Fraction:	None
Beneficial Use:	Estuarine Habitat
Number of Samples:	7
Number of Exceedances:	7
Data and Information Type:	Chemical monitoring of sediments
Data Used to Assess Water Quality:	Seven of 7 measurements exceed the ERM (Hunt et al., 1998b).
Data Reference:	Placeholder reference 2006 303(d)
SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	<p>All waters shall be maintained free of toxic substances in concentrations that are lethal to or that produce other detrimental responses in aquatic organisms.</p> <p>There shall be no chronic toxicity in ambient waters. Chronic toxicity is a detrimental biological effect on growth rate, reproduction, fertilization success, larval development, population abundance, community composition, or any other relevant measure of the health of an organism, population, or community.</p>
Objective/Criterion Reference:	Placeholder reference 2006 303(d)
Evaluation Guideline:	Effects Range-Median of 6 ng/g was used (Long and Morgan, 1990).
Guideline Reference:	Placeholder reference 2006 303(d)
Spatial Representation:	Data was synoptically collected with benthic community and toxicity measurements.
Temporal Representation:	Samples were collected in April 1995 and April 1997.
Environmental Conditions:	
QAPP Information:	BPTCP Quality Assurance Project Plan.
QAPP Information Reference(s):	

Line of Evidence (LOE) for Decision ID 33230, Chlordane**Region 2****San Leandro Bay (part of SF Bay, Lower)**

LOE ID:	40
Pollutant:	Sediment Toxicity
LOE Subgroup:	Toxicity
Matrix:	Sediment
Fraction:	None
Beneficial Use:	Estuarine Habitat
Number of Samples:	7
Number of Exceedances:	4
Data and Information Type:	Toxicity testing of sediments
Data Used to Assess Water Quality:	Significant amphipod toxicity in 4 of 7 tests. Significant sea urchin toxicity in 3 of 7 tests (Hunt et al., 1998b).
Data Reference:	Placeholder reference 2006 303(d)

SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	All waters shall be maintained free of toxic substances in concentrations that are lethal to or that produce other detrimental responses in aquatic organisms. There shall be no chronic toxicity in ambient waters. Chronic toxicity is a detrimental biological effect on growth rate, reproduction, fertilization success, larval development, population abundance, community composition, or any other relevant measure of the health of an organism, population, or community.
Objective/Criterion Reference:	Placeholder reference 2006 303(d)
Evaluation Guideline:	BPTCP Reference envelope approach.
Guideline Reference:	Placeholder reference 2006 303(d)
Spatial Representation:	Data was synoptically collected with chemical and toxicity measurements at 7 sampling sites.
Temporal Representation:	Samples were collected during April 1995 and April 1997.
Environmental Conditions:	
QAPP Information:	BPTCP Quality Assurance Project Plan.
QAPP Information Reference(s):	

Line of Evidence (LOE) for Decision ID 33230, Chlordane

Region 2

San Leandro Bay (part of SF Bay, Lower)

LOE ID:	95208
Pollutant:	Chlordane
LOE Subgroup:	Pollutant-Tissue
Matrix:	Tissue
Fraction:	Fish fillet
Beneficial Use:	Commercial or recreational collection of fish, shellfish, or organisms
Number of Samples:	3
Number of Exceedances:	3
Data and Information Type:	Fish tissue analysis
Data Used to Assess Water Quality:	Water Board staff assessed Regional Monitoring Program data for San Leandro Marina to determine beneficial use support and results are as follows: 3 of 3 samples exceed the criterion for chlordane. No samples were discarded for being non-detect, unquantifiable or the reporting limit exceeding the water quality objective.
Data Reference:	Regional Monitoring Program data, Feb. 1993-Sep. 2008
SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	Water Quality Control Plan for the San Francisco Bay Basin: Controllable water quality factors shall not cause a detrimental increase in concentrations of toxic substances found in bottom sediments or aquatic life. Effects on aquatic organisms, wildlife, and human health will be considered.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	The modified OEHHA Fish Contaminant Goal for total chlordane in fish tissue is 3.9 ppb. This screening level assumes an average body weight of 70 kg and a consumption rate of 32 g/day for a 30 year exposure over a 70-year lifetime. This constituent is a carcinogen therefore the risk level is set to one in a million. A cooking reduction factor of 1 is applied for skin-off fillets. (Klasing, S., and R. Brodberg, 2008)
Guideline Reference:	Development of Fish Contaminant Goals and Advisory Tissue Levels for Common Contaminants in California Sport Fish: Chlordane, DDTs, Dieldrin, Methylmercury, PCBs, Selenium, and Toxaphene
Spatial Representation:	The samples were collected at one site in the San Leandro Marina.
Temporal Representation:	The samples were collected in November 2000.

Environmental Conditions:

QAPP Information:

The 1999 Quality Assurance Project Plan Regional Monitoring Program for Trace Substances was used.

QAPP Information Reference(s):

[1999 Quality Assurance Project Plan Regional Monitoring Program for Trace Substances](#)

DECISION ID	33229	Region 2
San Leandro Bay (part of SF Bay, Lower)		

Pollutant:	Dieldrin
Final Listing Decision:	Do Not Delist from 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision:	Do Not Delist from 303(d) list (TMDL required list)(2012)
Revision Status	Revised
Sources:	Source Unknown
Expected TMDL Completion Date:	2013
Impairment from Pollutant or Pollution:	Pollutant

Regional Board Staff Conclusion:

This pollutant is being considered for removal from the CWA section 303(d) List under section 4.1 of the Listing Policy. Under this section a single line of evidence is necessary to assess listing status.

Five lines of evidence are available in the administrative record to assess pollutant. Four of seven samples exceed the guideline.

Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against removing this water segment-pollutant combination from the CWA section 303(d) List.

This conclusion is based on the staff findings that:

1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy.
2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy.
3. Four of seven samples exceed the guideline and this exceeds the allowable frequency listed in Table 4.1 of the Listing Policy.
4. Pursuant to section 4.11 of the Listing Policy, no additional data and information are available indicating that standards are met.

Regional Board Staff Decision Recommendation:

After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be removed from the section 303(d) list because applicable water quality standards for the pollutant are being exceeded.

Line of Evidence (LOE) for Decision ID 33229, Dieldrin	Region 2
San Leandro Bay (part of SF Bay, Lower)	

LOE ID:	95173
Pollutant:	Dieldrin
LOE Subgroup:	Pollutant-Tissue
Matrix:	Tissue
Fraction:	Fish fillet
Beneficial Use:	Commercial or recreational collection of fish, shellfish, or organisms
Number of Samples:	3
Number of Exceedances:	3
Data and Information Type:	Fish tissue analysis
Data Used to Assess Water Quality:	Water Board staff assessed Regional Monitoring Program data for San Leandro Marina to determine beneficial use support and results are as follows: 3 of 3 samples exceed the

	<p>criterion for dieldrin. No samples were discarded for being non-detect, unquantifiable or the reporting limit exceeding the water quality objective.</p> <p>Regional Monitoring Program data, Feb. 1993-Sep. 2008</p>
Data Reference:	
SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	Water Quality Control Plan for the San Francisco Bay Basin: Controllable water quality factors shall not cause a detrimental increase in concentrations of toxic substances found in bottom sediments or aquatic life. Effects on aquatic organisms, wildlife, and human health will be considered.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	The modified OEHHA Fish Contaminant Goal for dieldrin in fish tissue is 0.32 ppb. This screening level assumes an average body weight of 70 kg and a consumption rate of 32 g/day for a 30 year exposure over a 70-year lifetime. This constituent is a carcinogen therefore the risk level is set to one in a million. A cooking reduction factor of 1 is applied for skin-off fillets. (Klasing, S., and R. Brodberg, 2008)
Guideline Reference:	Development of Fish Contaminant Goals and Advisory Tissue Levels for Common Contaminants in California Sport Fish: Chlordane, DDTs, Dieldrin, Methylmercury, PCBs, Selenium, and Toxaphene
Spatial Representation:	The samples were collected at one site in the San Leandro Marina.
Temporal Representation:	The samples were collected in November 2000.
Environmental Conditions:	
QAPP Information:	The 1999 Quality Assurance Project Plan Regional Monitoring Program for Trace Substances was used.
QAPP Information Reference(s):	1999 Quality Assurance Project Plan Regional Monitoring Program for Trace Substances

Line of Evidence (LOE) for Decision ID 33229, Dieldrin
San Leandro Bay (part of SF Bay, Lower)

Region 2

LOE ID:	48
Pollutant:	Pesticides (sediment)
LOE Subgroup:	Narrative Description Data
Matrix:	-N/A
Fraction:	None
Beneficial Use:	Estuarine Habitat
Number of Samples:	0
Number of Exceedances:	0
Data and Information Type:	Not Specified
Data Used to Assess Water Quality:	The 2002 section 303(d) listing for Pesticides is too general to be reviewed. In the data and information available there are many measurements of pesticides. Only Chlordane and Dieldrin have numeric guidelines. The data for these chemicals are presented in fact sheets.
Data Reference:	Placeholder reference 2006 303(d)
SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	
Objective/Criterion Reference:	
Evaluation Guideline:	
Guideline Reference:	
Spatial Representation:	
Temporal Representation:	
Environmental Conditions:	
QAPP Information:	QA Info Missing

Line of Evidence (LOE) for Decision ID 33229, Dieldrin**Region 2****San Leandro Bay (part of SF Bay, Lower)**

LOE ID:	41
Pollutant:	Estuarine Bioassessments
LOE Subgroup:	Population/Community Degradation
Matrix:	Sediment
Fraction:	None
Beneficial Use:	Estuarine Habitat
Number of Samples:	5
Number of Exceedances:	0
Data and Information Type:	Benthic macroinvertebrate surveys
Data Used to Assess Water Quality:	BPTCP benthic index values were 0.60, 0.60, 0.67, 1.0, and 0.66 (Hunt et al, 1998b).
Data Reference:	Placeholder reference 2006 303(d)
SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	<p>All waters shall be maintained free of toxic substances in concentrations that are lethal to or that produce other detrimental responses in aquatic organisms.</p> <p>There shall be no chronic toxicity in ambient waters. Chronic toxicity is a detrimental biological effect on growth rate, reproduction, fertilization success, larval development, population abundance, community composition, or any other relevant measure of the health of an organism, population, or community.</p>
Objective/Criterion Reference:	Placeholder reference 2006 303(d)
Evaluation Guideline:	Evaluations of the benthic data were completed using the approaches developed by scientists associated with the BPTCP. The relative benthic index used is a calculated value considering the total fauna, total mollusk species, crustacean species and indicator species at a site. The index ranges from 0 to 1.0. An index value of less than or equal to 0.3 is an indication that pollutants or other factors are negatively impacting the benthic community.
Guideline Reference:	Placeholder reference 2006 303(d)
Spatial Representation:	Five stations. Data was synoptically collected with chemical and toxicity measurements.
Temporal Representation:	Samples were collected in April 1995 and April 1997.
Environmental Conditions:	
QAPP Information:	BPTCP Quality Assurance Project Plan.
QAPP Information Reference(s):	

Line of Evidence (LOE) for Decision ID 33229, Dieldrin**Region 2****San Leandro Bay (part of SF Bay, Lower)**

LOE ID:	40
Pollutant:	Sediment Toxicity
LOE Subgroup:	Toxicity
Matrix:	Sediment
Fraction:	None
Beneficial Use:	Estuarine Habitat
Number of Samples:	7
Number of Exceedances:	4

Data and Information Type:	Toxicity testing of sediments
Data Used to Assess Water Quality:	Significant amphipod toxicity in 4 of 7 tests. Significant sea urchin toxicity in 3 of 7 tests (Hunt et al., 1998b).
Data Reference:	Placeholder reference 2006 303(d)
SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	All waters shall be maintained free of toxic substances in concentrations that are lethal to or that produce other detrimental responses in aquatic organisms. There shall be no chronic toxicity in ambient waters. Chronic toxicity is a detrimental biological effect on growth rate, reproduction, fertilization success, larval development, population abundance, community composition, or any other relevant measure of the health of an organism, population, or community.
Objective/Criterion Reference:	Placeholder reference 2006 303(d)
Evaluation Guideline:	BPTCP Reference envelope approach.
Guideline Reference:	Placeholder reference 2006 303(d)
Spatial Representation:	Data was synoptically collected with chemical and toxicity measurements at 7 sampling sites.
Temporal Representation:	Samples were collected during April 1995 and April 1997.
Environmental Conditions:	
QAPP Information:	BPTCP Quality Assurance Project Plan.
QAPP Information Reference(s):	

Line of Evidence (LOE) for Decision ID 33229, Dieldrin

Region 2

San Leandro Bay (part of SF Bay, Lower)

LOE ID:	49
Pollutant:	Dieldrin
LOE Subgroup:	Pollutant-Sediment
Matrix:	Sediment
Fraction:	None
Beneficial Use:	Estuarine Habitat
Number of Samples:	7
Number of Exceedances:	4
Data and Information Type:	Chemical monitoring of sediments
Data Used to Assess Water Quality:	Four of 7 measurements exceed the ERM (Hunt et al., 1998b).
Data Reference:	Placeholder reference 2006 303(d)
SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	All waters shall be maintained free of toxic substances in concentrations that are lethal to or that produce other detrimental responses in aquatic organisms. There shall be no chronic toxicity in ambient waters. Chronic toxicity is a detrimental biological effect on growth rate, reproduction, fertilization success, larval development, population abundance, community composition, or any other relevant measure of the health of an organism, population, or community.
Objective/Criterion Reference:	Placeholder reference 2006 303(d)
Evaluation Guideline:	Effects Range-Median of 8 ng/g was used (Long et al., 1995).
Guideline Reference:	Placeholder reference 2006 303(d)
Spatial Representation:	Data was synoptically collected with benthic community and toxicity measurements.
Temporal Representation:	Samples were collected in April 1995 and April 1997.
Environmental Conditions:	

DECISION ID	34525	Region 2
San Leandro Bay (part of SF Bay, Lower)		

Pollutant:	Mercury
Final Listing Decision:	Do Not Delist from 303(d) list (being addressed with USEPA approved TMDL)
Last Listing Cycle's Final Listing Decision:	List on 303(d) list (being addressed by USEPA approved TMDL)(2012)
Revision Status	Revised
Sources:	Source Unknown
TMDL Name:	San Francisco Bay Mercury
TMDL Project Code:	6
Date TMDL Approved by USEPA:	02/12/2008
Impairment from Pollutant or Pollution:	Pollutant

Regional Board Staff Conclusion:

This pollutant is being considered for removal on the CWA section 303(d) List under sections 2.2 and 4.1 of the Listing Policy. Under section 4.1 of the Policy, a minimum of one line of evidence is needed to assess listing status.

Three lines of evidence are available in the administrative record to assess this pollutant.

Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against removing this water segment-pollutant combination from the CWA section 303(d) List. There is sufficient justification to place it in the Being Addressed portion of the CWA 303(d) List because a TMDL has been completed and approved by RWQCB and USEPA, and is expected to result in attainment of the standard.

This conclusion is based on the staff findings that:

1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy.
2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy.
3. Zero of seven samples exceeded the guideline. However, there are not a sufficient number of samples (28) to de-list this waterbody according to Table 4.1 of the Listing Policy.
4. The SF Bay mercury TMDL was approved by USEPA on 2/12/2008.
5. Pursuant to section 4.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.

Regional Board Staff Decision Recommendation: After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be removed from the section 303(d) list because applicable water quality standards for the pollutant are being exceeded.

Line of Evidence (LOE) for Decision ID 34525, Mercury	Region 2
San Leandro Bay (part of SF Bay, Lower)	

LOE ID:	41
Pollutant:	Estuarine Bioassessments
LOE Subgroup:	Population/Community Degradation
Matrix:	Sediment
Fraction:	None
Beneficial Use:	Estuarine Habitat
Number of Samples:	5
Number of Exceedances:	0

Data and Information Type:	Benthic macroinvertebrate surveys
Data Used to Assess Water Quality:	BPTCP benthic index values were 0.60, 0.60, 0.67, 1.0, and 0.66 (Hunt et al, 1998b).
Data Reference:	Placeholder reference 2006 303(d)
SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	All waters shall be maintained free of toxic substances in concentrations that are lethal to or that produce other detrimental responses in aquatic organisms. There shall be no chronic toxicity in ambient waters. Chronic toxicity is a detrimental biological effect on growth rate, reproduction, fertilization success, larval development, population abundance, community composition, or any other relevant measure of the health of an organism, population, or community.
Objective/Criterion Reference:	Placeholder reference 2006 303(d)
Evaluation Guideline:	Evaluations of the benthic data were completed using the approaches developed by scientists associated with the BPTCP. The relative benthic index used is a calculated value considering the total fauna, total mollusk species, crustacean species and indicator species at a site. The index ranges from 0 to 1.0. An index value of less than or equal to 0.3 is an indication that pollutants or other factors are negatively impacting the benthic community.
Guideline Reference:	Placeholder reference 2006 303(d)
Spatial Representation:	Five stations. Data was synoptically collected with chemical and toxicity measurements.
Temporal Representation:	Samples were collected in April 1995 and April 1997.
Environmental Conditions:	
QAPP Information:	BPTCP Quality Assurance Project Plan.
QAPP Information Reference(s):	

Line of Evidence (LOE) for Decision ID 34525, Mercury

Region 2

San Leandro Bay (part of SF Bay, Lower)

LOE ID:	42
Pollutant:	Mercury (sediment)
LOE Subgroup:	Pollutant-Sediment
Matrix:	Sediment
Fraction:	None
Beneficial Use:	Estuarine Habitat
Number of Samples:	7
Number of Exceedances:	0
Data and Information Type:	Chemical monitoring of sediments
Data Used to Assess Water Quality:	None of 7 measurements exceeded the sediment quality guideline. In previous BPTCP analyses the guideline used was much lower than the guideline used in the current analysis (Hunt et al., 1998b).
Data Reference:	Placeholder reference 2006 303(d)
SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	All waters shall be maintained free of toxic substances in concentrations that are lethal to or that produce other detrimental responses in aquatic organisms. There shall be no chronic toxicity in ambient waters. Chronic toxicity is a detrimental biological effect on growth rate, reproduction, fertilization success, larval development, population abundance, community composition, or any other relevant measure of the health of an organism, population, or community.
Objective/Criterion Reference:	Placeholder reference 2006 303(d)
Evaluation Guideline:	Sediment quality guideline of 2.1 ug/g was used (PTI Environmental Services, 1991).

Guideline Reference: [Placeholder reference 2006 303\(d\)](#)

Spatial Representation: Data was synoptically collected with benthic community and toxicity measurements.

Temporal Representation: Samples were collected in April 1995 and April 1997.

Environmental Conditions:

QAPP Information: BPTCP Quality Assurance Project Plan.

QAPP Information Reference(s):

Line of Evidence (LOE) for Decision ID 34525, Mercury
San Leandro Bay (part of SF Bay, Lower)

Region 2

LOE ID: 3857

Pollutant: Mercury

LOE Subgroup: Pollutant-Tissue

Matrix: Tissue

Fraction: Not Recorded

Beneficial Use: Commercial or recreational collection of fish, shellfish, or organisms

Number of Samples: 0

Number of Exceedances: 0

Data and Information Type: Not Specified

Data Used to Assess Water Quality: Unspecified--This LOE is a placeholder to support a 303(d) listing decision made prior to 2006.

Data Reference: [Placeholder reference pre-2006 303\(d\)](#)

SWAMP Data: Non-SWAMP

Water Quality Objective/Criterion:

Objective/Criterion Reference:

Evaluation Guideline:

Guideline Reference:

Spatial Representation: Unspecified

Temporal Representation: Unspecified

Environmental Conditions: Unspecified

QAPP Information: Unspecified

QAPP Information Reference(s):

Line of Evidence (LOE) for Decision ID 34525, Mercury
San Leandro Bay (part of SF Bay, Lower)

Region 2

LOE ID: 40

Pollutant: Sediment Toxicity

LOE Subgroup: Toxicity

Matrix: Sediment

Fraction: None

Beneficial Use: Estuarine Habitat

Number of Samples: 7

Number of Exceedances: 4

Data and Information Type: Toxicity testing of sediments

Data Used to Assess Water Quality: Significant amphipod toxicity in 4 of 7 tests. Significant sea urchin toxicity in 3 of 7 tests (Hunt et al., 1998b).

Data Reference: [Placeholder reference 2006 303\(d\)](#)

SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	All waters shall be maintained free of toxic substances in concentrations that are lethal to or that produce other detrimental responses in aquatic organisms. There shall be no chronic toxicity in ambient waters. Chronic toxicity is a detrimental biological effect on growth rate, reproduction, fertilization success, larval development, population abundance, community composition, or any other relevant measure of the health of an organism, population, or community.
Objective/Criterion Reference:	Placeholder reference 2006 303(d)
Evaluation Guideline:	BPTCP Reference envelope approach.
Guideline Reference:	Placeholder reference 2006 303(d)
Spatial Representation:	Data was synoptically collected with chemical and toxicity measurements at 7 sampling sites.
Temporal Representation:	Samples were collected during April 1995 and April 1997.
Environmental Conditions:	
QAPP Information:	BPTCP Quality Assurance Project Plan.
QAPP Information Reference(s):	

Line of Evidence (LOE) for Decision ID 34525, Mercury

Region 2

San Leandro Bay (part of SF Bay, Lower)

LOE ID:	95183
Pollutant:	Mercury
LOE Subgroup:	Pollutant-Tissue
Matrix:	Tissue
Fraction:	Fish fillet
Beneficial Use:	Commercial or recreational collection of fish, shellfish, or organisms
Number of Samples:	3
Number of Exceedances:	0
Data and Information Type:	Fish tissue analysis
Data Used to Assess Water Quality:	Water Board staff assessed Regional Monitoring Program data for San Leandro Marina to determine beneficial use support and results are as follows: 0 of 3 samples exceed the criterion for mercury. No samples were discarded for being non-detect, unquantifiable or the reporting limit exceeding the water quality objective.
Data Reference:	Regional Monitoring Program data, Feb. 1993-Sep. 2008
SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	Water Quality Control Plan for the San Francisco Bay Basin: Controllable water quality factors shall not cause a detrimental increase in concentrations of toxic substances found in bottom sediments or aquatic life. Effects on aquatic organisms, wildlife, and human health will be considered.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	The Water Quality Control Plan for the San Francisco Bay Basin has a water quality objective in all parts of San Francisco Bay of 0.2 mg mercury per kg fish tissue for the protection of human health.
Guideline Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Spatial Representation:	The samples were collected at one site in the San Leandro Marina.
Temporal Representation:	The samples were collected in November 2000.
Environmental Conditions:	
QAPP Information:	The 1999 Quality Assurance Project Plan Regional Monitoring Program for Trace Substances was used.

DECISION ID	66779	Region 2
San Leandro Bay (part of SF Bay, Lower)		

Pollutant: Chlorpyrifos
Final Listing Decision: Do Not List on 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision: New Decision
Revision Status: Revised
Impairment from Pollutant or Pollution: Pollutant

Regional Board Staff Conclusion: This pollutant is being considered for placement on the CWA section 303(d) List under section 3.5 of the Listing Policy. Under section 3.5 a single line of evidence is necessary to assess listing status. One line of evidence is available in the administrative record to assess this pollutant. Zero of three samples exceed the OEHHHA guideline.

Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against placing this water segment-pollutant combination on the CWA section 303(d) List.

This conclusion is based on the staff findings that:

1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy.
2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy.
3. Zero of three samples exceed the OEHHHA guideline and this sample size is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating. A minimum of 16 samples is needed to determine if a beneficial use is fully supported using table 3.1.
4. Pursuant to SECTION 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.

Regional Board Staff Decision Recommendation: After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be placed on the section 303(d) list. The readily available data and information is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating.

Line of Evidence (LOE) for Decision ID 66779, Chlorpyrifos	Region 2
San Leandro Bay (part of SF Bay, Lower)	

LOE ID: 95158
Pollutant: Chlorpyrifos
LOE Subgroup: Pollutant-Tissue
Matrix: Tissue
Fraction: Fish fillet
Beneficial Use: Commercial or recreational collection of fish, shellfish, or organisms
Number of Samples: 3
Number of Exceedances: 0
Data and Information Type: Fish tissue analysis
Data Used to Assess Water Quality: Water Board staff assessed Regional Monitoring Program data for San Leandro Marina to determine beneficial use support and results are as follows: 0 of 3 samples exceed the criterion for chlorpyrifos. No samples were discarded for being non-detect, unquantifiable or the reporting limit exceeding the water quality objective.
Data Reference: [Regional Monitoring Program data, Feb. 1993-Sep. 2008](#)

SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	Water Quality Control Plan for the San Francisco Bay Basin: Controllable water quality factors shall not cause a detrimental increase in concentrations of toxic substances found in bottom sediments or aquatic life. Effects on aquatic organisms, wildlife, and human health will be considered.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	The modified OEHHA Fish Contaminant Goal for chlorpyrifos in fish tissue is 660 ppb. This screening level assumes an average body weight of 70 kg and a consumption rate of 32 g/day. A cooking reduction factor of 1 is applied for skin-off fillets. (Klasing, S., and R. Brodberg, 2008; USEPA, 2000)
Guideline Reference:	Development of Fish Contaminant Goals and Advisory Tissue Levels for Common Contaminants in California Sport Fish: Chlordane, DDTs, Dieldrin, Methylmercury, PCBs, Selenium, and Toxaphene Guidance for Assessing Chemical Contaminant Data for Use In Fish Advisories Volume 1: Fish Sampling and Analysis
Spatial Representation:	The samples were collected at one site in the San Leandro Marina.
Temporal Representation:	The samples were collected in November 2000.
Environmental Conditions:	
QAPP Information:	The 1999 Quality Assurance Project Plan Regional Monitoring Program for Trace Substances was used.
QAPP Information Reference(s):	1999 Quality Assurance Project Plan Regional Monitoring Program for Trace Substances

DECISION ID 66780 Region 2	
San Leandro Bay (part of SF Bay, Lower)	
Pollutant: Final Listing Decision: Last Listing Cycle's Final Listing Decision: Revision Status Impairment from Pollutant or Pollution:	Endosulfan Do Not List on 303(d) list (TMDL required list) New Decision Revised Pollutant
Regional Board Staff Conclusion:	<p>This pollutant is being considered for placement on the CWA section 303(d) List under section 3.5 of the Listing Policy. Under section 3.5 a single line of evidence is necessary to assess listing status. One line of evidence is available in the administrative record to assess this pollutant. Zero of three samples exceed the OEHHA guideline.</p> <p>Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against placing this water segment-pollutant combination on the CWA section 303(d) List.</p> <p>This conclusion is based on the staff findings that:</p> <ol style="list-style-type: none"> 1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy. 2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy. 3. Zero of three samples exceed the OEHHA guideline and this sample size is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating. A minimum of 16 samples is needed to determine if a beneficial use is fully supported using table 3.1. 4. Pursuant to SECTION 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.
Regional Board Staff Decision Recommendation:	After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be placed on the section 303(d) list. The readily available data and information is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating.

San Leandro Bay (part of SF Bay, Lower)

LOE ID:	95137
Pollutant:	Endosulfan
LOE Subgroup:	Pollutant-Tissue
Matrix:	Tissue
Fraction:	Fish fillet
Beneficial Use:	Commercial or recreational collection of fish, shellfish, or organisms
Number of Samples:	3
Number of Exceedances:	0
Data and Information Type:	Fish tissue analysis
Data Used to Assess Water Quality:	Water Board staff assessed Regional Monitoring Program data for San Leandro Marina to determine beneficial use support and results are as follows: 0 of 3 samples exceed the criterion for endosulfan. No samples were discarded for being non-detect, unquantifiable or the reporting limit exceeding the water quality objective.
Data Reference:	Regional Monitoring Program data, Feb. 1993-Sep. 2008
SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	Water Quality Control Plan for the San Francisco Bay Basin: Controllable water quality factors shall not cause a detrimental increase in concentrations of toxic substances found in bottom sediments or aquatic life. Effects on aquatic organisms, wildlife, and human health will be considered.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	The modified OEHHA Fish Contaminant Goal for endosulfan (I and II) in fish tissue is 13,000 ppb. This screening level assumes an average body weight of 70 kg and a consumption rate of 32 g/day. A cooking reduction factor of 1 is applied for skin-off fillets. (Klasing, S., and R. Brodberg, 2008; USEPA, 2000)
Guideline Reference:	Development of Fish Contaminant Goals and Advisory Tissue Levels for Common Contaminants in California Sport Fish: Chlordane, DDTs, Dieldrin, Methylmercury, PCBs, Selenium, and Toxaphene Guidance for Assessing Chemical Contaminant Data for Use In Fish Advisories Volume 1: Fish Sampling and Analysis
Spatial Representation:	The samples were collected at one site in the San Leandro Marina.
Temporal Representation:	The samples were collected in November 2000.
Environmental Conditions:	
QAPP Information:	The 1999 Quality Assurance Project Plan Regional Monitoring Program for Trace Substances was used.
QAPP Information Reference(s):	1999 Quality Assurance Project Plan Regional Monitoring Program for Trace Substances

DECISION ID

66781

Region 2

San Leandro Bay (part of SF Bay, Lower)

Pollutant:	Endrin
Final Listing Decision:	Do Not List on 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision:	New Decision
Revision Status	Revised
Impairment from Pollutant or Pollution:	Pollutant

Regional Board Staff Conclusion:

This pollutant is being considered for placement on the CWA section 303(d) List under section 3.5 of the Listing Policy. Under section 3.5 a single line of evidence is necessary to assess listing status.

One line of evidence is available in the administrative record to assess this pollutant. Zero of three samples exceed the OEHHA guideline.

Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against placing this water segment-pollutant combination on the CWA section 303(d) List.

This conclusion is based on the staff findings that:

1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy.
2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy.
3. Zero of three samples exceed the OEHHA guideline and this sample size is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating. A minimum of 16 samples is needed to determine if a beneficial use is fully supported using table 3.1.
4. Pursuant to SECTION 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.

Regional Board Staff Decision Recommendation: After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be placed on the section 303(d) list. The readily available data and information is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating.

Line of Evidence (LOE) for Decision ID 66781, Endrin

Region 2

San Leandro Bay (part of SF Bay, Lower)

LOE ID:	95162
Pollutant:	Endrin
LOE Subgroup:	Pollutant-Tissue
Matrix:	Tissue
Fraction:	Fish fillet
Beneficial Use:	Commercial or recreational collection of fish, shellfish, or organisms
Number of Samples:	3
Number of Exceedances:	0
Data and Information Type:	Fish tissue analysis
Data Used to Assess Water Quality:	Water Board staff assessed Regional Monitoring Program data for San Leandro Marina to determine beneficial use support and results are as follows: 0 of 3 samples exceed the criterion for endrin. No samples were discarded for being non-detect, unquantifiable or the reporting limit exceeding the water quality objective.
Data Reference:	Regional Monitoring Program data, Feb. 1993-Sep. 2008
SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	Water Quality Control Plan for the San Francisco Bay Basin: Controllable water quality factors shall not cause a detrimental increase in concentrations of toxic substances found in bottom sediments or aquatic life. Effects on aquatic organisms, wildlife, and human health will be considered.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	The modified OEHHA Fish Contaminant Goal for endrin in fish tissue is 660 ppb. This screening level assumes an average body weight of 70 kg and a consumption rate of 32 g/day. A cooking reduction factor of 1 is applied for skin-off fillets. (Klasing, S., and R. Brodberg, 2008; USEPA, 2000)
Guideline Reference:	Development of Fish Contaminant Goals and Advisory Tissue Levels for Common Contaminants in California Sport Fish: Chlordane, DDTs, Dieldrin, Methylmercury, PCBs, Selenium, and Toxaphene Guidance for Assessing Chemical Contaminant Data for Use In Fish Advisories Volume 1: Fish Sampling and Analysis

Spatial Representation:	The samples were collected at one site in the San Leandro Marina.
Temporal Representation:	The samples were collected in November 2000.
Environmental Conditions:	
QAPP Information:	The 1999 Quality Assurance Project Plan Regional Monitoring Program for Trace Substances was used.
QAPP Information Reference(s):	1999 Quality Assurance Project Plan Regional Monitoring Program for Trace Substances

DECISION ID	66782	Region 2
San Leandro Bay (part of SF Bay, Lower)		

Pollutant:	Heptachlor epoxide
Final Listing Decision:	Do Not List on 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision:	New Decision
Revision Status	Revised
Impairment from Pollutant or Pollution:	Pollutant

Regional Board Staff Conclusion: This pollutant is being considered for placement on the CWA section 303(d) List under section 3.5 of the Listing Policy. Under section 3.5 a single line of evidence is necessary to assess listing status. One line of evidence is available in the administrative record to assess this pollutant. Zero of zero samples exceed the OEHHA guideline.

Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against placing this water segment-pollutant combination on the CWA section 303(d) List.

This conclusion is based on the staff findings that:

1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy.
2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy.
3. Zero of zero samples exceed the OEHHA guideline and this sample size is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating. A minimum of 16 samples is needed to determine if a beneficial use is fully supported using table 3.1.
4. Pursuant to SECTION 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.

Regional Board Staff Decision Recommendation:	After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be placed on the section 303(d) list. The readily available data and information is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating.
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Line of Evidence (LOE) for Decision ID 66782, Heptachlor epoxide	Region 2
San Leandro Bay (part of SF Bay, Lower)	

LOE ID:	95108
Pollutant:	Heptachlor epoxide
LOE Subgroup:	Pollutant-Tissue
Matrix:	Tissue
Fraction:	Fish fillet
Beneficial Use:	Commercial or recreational collection of fish, shellfish, or organisms
Number of Samples:	0
Number of Exceedances:	0
Data and Information Type:	Fish tissue analysis

Data Used to Assess Water Quality:	Water Board staff assessed Regional Monitoring Program data for San Leandro Marina to determine beneficial use support and results are as follows: 0 of 0 samples exceed the criterion for Heptachlor epoxide. Three samples were discarded for being non-detect, unquantifiable or the reporting limit exceeding the water quality objective.
Data Reference:	Regional Monitoring Program data, Feb. 1993-Sep. 2008
SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	Water Quality Control Plan for the San Francisco Bay Basin: Controllable water quality factors shall not cause a detrimental increase in concentrations of toxic substances found in bottom sediments or aquatic life. Effects on aquatic organisms, wildlife, and human health will be considered.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	The modified OEHHA Fish Contaminant Goal for heptachlor epoxide in fish tissue is 0.93 ppb. This screening level assumes an average body weight of 70 kg and a consumption rate of 32 g/day for a 30 year exposure over a 70-year lifetime. This constituent is a carcinogen therefore the risk level is set to one in a million. A cooking reduction factor of 1 is applied for skin-off fillets. (Klasing, S., and R. Brodberg, 2008; OEHHA, 1999)
Guideline Reference:	Development of Fish Contaminant Goals and Advisory Tissue Levels for Common Contaminants in California Sport Fish: Chlordane, DDTs, Dieldrin, Methylmercury, PCBs, Selenium, and Toxaphene Public Health Goal for Heptachlor and Heptachlor Epoxide in Drinking Water
Spatial Representation:	The samples were collected at one site in the San Leandro Marina.
Temporal Representation:	The samples were collected in November 2000.
Environmental Conditions:	
QAPP Information:	The 1999 Quality Assurance Project Plan Regional Monitoring Program for Trace Substances was used.
QAPP Information Reference(s):	1999 Quality Assurance Project Plan Regional Monitoring Program for Trace Substances

DECISION ID	66783	Region 2
San Leandro Bay (part of SF Bay, Lower)		

Pollutant:	Hexachlorobenzene/ HCB
Final Listing Decision:	Do Not List on 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision:	New Decision
Revision Status	Revised
Impairment from Pollutant or Pollution:	Pollutant

Regional Board Staff Conclusion:	<p>This pollutant is being considered for placement on the CWA section 303(d) List under section 3.5 of the Listing Policy. Under section 3.5 a single line of evidence is necessary to assess listing status. One line of evidence is available in the administrative record to assess this pollutant. Zero of three samples exceed the OEHHA guideline.</p> <p>Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against placing this water segment-pollutant combination on the CWA section 303(d) List.</p> <p>This conclusion is based on the staff findings that:</p> <ol style="list-style-type: none"> 1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy. 2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy. 3. Zero of three samples exceed the OEHHA guideline and this sample size is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating. A minimum of 16 samples is needed to determine if a beneficial use is fully supported using table 3.1. 4. Pursuant to SECTION 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.
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Regional Board Staff Decision Recommendation: After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be placed on the section 303(d) list. The readily available data and information is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating.

Line of Evidence (LOE) for Decision ID 66783, Hexachlorobenzene/ HCB
San Leandro Bay (part of SF Bay, Lower)

Region 2

LOE ID: 95095

Pollutant: Hexachlorobenzene/ HCB
LOE Subgroup: Pollutant-Tissue
Matrix: Tissue
Fraction: Fish fillet

Beneficial Use: Commercial or recreational collection of fish, shellfish, or organisms

Number of Samples: 3
Number of Exceedances: 0

Data and Information Type: Fish tissue analysis
Data Used to Assess Water Quality: Water Board staff assessed Regional Monitoring Program data for San Leandro Marina to determine beneficial use support and results are as follows: 0 of 3 samples exceed the criterion for hexachlorobenzene. No samples were discarded for being non-detect, unquantifiable or the reporting limit exceeding the water quality objective.

Data Reference: [Regional Monitoring Program data, Feb. 1993-Sep. 2008](#)

SWAMP Data: Non-SWAMP

Water Quality Objective/Criterion: Water Quality Control Plan for the San Francisco Bay Basin: Controllable water quality factors shall not cause a detrimental increase in concentrations of toxic substances found in bottom sediments or aquatic life. Effects on aquatic organisms, wildlife, and human health will be considered.

Objective/Criterion Reference: [Water Quality Control Plan \(Basin Plan\) San Francisco Bay Basin \(Region 2\)](#)

Evaluation Guideline: The modified OEHHA Fish Contaminant Goal for hexachlorobenzene in fish tissue is 2.8 ppb. This screening level assumes an average body weight of 70 kg and a consumption rate of 32 g/day for a 30 year exposure over a 70-year lifetime. This constituent is a carcinogen therefore the risk level is set to one in a million. A cooking reduction factor of 1 is applied for skin-off fillets. (Klasing, S., and R. Brodberg, 2008; OEHHA, 2005)

Guideline Reference: [Development of Fish Contaminant Goals and Advisory Tissue Levels for Common Contaminants in California Sport Fish: Chlordane, DDTs, Dieldrin, Methylmercury, PCBs, Selenium, and Toxaphene](#)
[Air Toxics Hotspots Program Risk Assessment Guidelines, Part II Technical Support Document for Describing Available Cancer Potency Values.](#)

Spatial Representation: The samples were collected at one site in the San Leandro Marina.
Temporal Representation: The samples were collected in November 2000.
Environmental Conditions:
QAPP Information: The 1999 Quality Assurance Project Plan Regional Monitoring Program for Trace Substances was used.

QAPP Information Reference(s): [1999 Quality Assurance Project Plan Regional Monitoring Program for Trace Substances](#)

DECISION ID 66784
San Leandro Bay (part of SF Bay, Lower)

Region 2

Pollutant: Mirex
Final Listing Decision: Do Not List on 303(d) list (TMDL required list)
Last Listing Cycle's Final New Decision

Listing Decision:**Revision Status**

Revised

Impairment from Pollutant or Pollution:

Pollutant

Regional Board Staff**Conclusion:**

This pollutant is being considered for placement on the CWA section 303(d) List under section 3.5 of the Listing Policy. Under section 3.5 a single line of evidence is necessary to assess listing status. One line of evidence is available in the administrative record to assess this pollutant. Zero of zero samples exceed the OEHHA guideline.

Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against placing this water segment-pollutant combination on the CWA section 303(d) List.

This conclusion is based on the staff findings that:

1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy.
2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy.
3. Zero of zero samples exceed the OEHHA guideline and this sample size is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating. A minimum of 16 samples is needed to determine if a beneficial use is fully supported using table 3.1.
4. Pursuant to SECTION 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.

Regional Board Staff Decision Recommendation:

After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be placed on the section 303(d) list. The readily available data and information is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating.

Line of Evidence (LOE) for Decision ID 66784, Mirex**Region 2****San Leandro Bay (part of SF Bay, Lower)**

LOE ID: 95238

Pollutant: Mirex
LOE Subgroup: Pollutant-Tissue
Matrix: Tissue
Fraction: Fish fillet

Beneficial Use: Commercial or recreational collection of fish, shellfish, or organisms

Number of Samples: 0
Number of Exceedances: 0

Data and Information Type: Fish tissue analysis
Data Used to Assess Water Quality: Water Board staff assessed Regional Monitoring Program data for San Leandro Marina to determine beneficial use support and results are as follows: 0 of 0 samples exceed the criterion for Mirex. Three samples were discarded for being non-detect, unquantifiable or the reporting limit exceeding the water quality objective.

Data Reference: [Regional Monitoring Program data, Feb. 1993-Sep. 2008](#)

SWAMP Data: Non-SWAMP

Water Quality Objective/Criterion: Water Quality Control Plan for the San Francisco Bay Basin: Controllable water quality factors shall not cause a detrimental increase in concentrations of toxic substances found in bottom sediments or aquatic life. Effects on aquatic organisms, wildlife, and human health will be considered.

Objective/Criterion Reference: [Water Quality Control Plan \(Basin Plan\) San Francisco Bay Basin \(Region 2\)](#)

Evaluation Guideline: The modified OEHHA Fish Contaminant Goal for mirex in fish tissue is 0.28 ppb. This screening level assumes an average body weight of 70 kg and a consumption rate of 32

Guideline Reference:	g/day. A cooking reduction factor of 1 is applied for skin-off fillets. (Klasing, S., and R. Brodberg, 2008; OEHHA, 1992) Development of Fish Contaminant Goals and Advisory Tissue Levels for Common Contaminants in California Sport Fish: Chlordane, DDTs, Dieldrin, Methylmercury, PCBs, Selenium, and Toxaphene Expedited Cancer Potency Values and Proposed Regulatory Levels for Certain Proposition 65 Carcinogens.
Spatial Representation:	The samples were collected at one site in the San Leandro Marina.
Temporal Representation:	The samples were collected in November 2000.
Environmental Conditions:	
QAPP Information:	The 1999 Quality Assurance Project Plan Regional Monitoring Program for Trace Substances was used.
QAPP Information Reference(s):	1999 Quality Assurance Project Plan Regional Monitoring Program for Trace Substances

DECISION ID	66785	Region 2
San Leandro Bay (part of SF Bay, Lower)		

Pollutant:	Toxaphene
Final Listing Decision:	Do Not List on 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision:	New Decision
Revision Status	Revised
Impairment from Pollutant or Pollution:	Pollutant
Regional Board Staff Conclusion:	<p>This pollutant is being considered for placement on the CWA section 303(d) List under section 3.5 of the Listing Policy. Under section 3.5 a single line of evidence is necessary to assess listing status. One line of evidence is available in the administrative record to assess this pollutant. Zero of zero samples exceed the OEHHA guideline.</p> <p>Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against placing this water segment-pollutant combination on the CWA section 303(d) List.</p> <p>This conclusion is based on the staff findings that:</p> <ol style="list-style-type: none"> 1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy. 2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy. 3. Zero of zero samples exceed the OEHHA guideline and this sample size is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating. A minimum of 16 samples is needed to determine if a beneficial use is fully supported using table 3.1. 4. Pursuant to SECTION 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.
Regional Board Staff Decision Recommendation:	After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be placed on the section 303(d) list. The readily available data and information is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating.

Line of Evidence (LOE) for Decision ID 66785, Toxaphene	Region 2
San Leandro Bay (part of SF Bay, Lower)	

LOE ID:	95128
Pollutant:	Toxaphene
LOE Subgroup:	Pollutant-Tissue
Matrix:	Tissue
Fraction:	Fish fillet

Beneficial Use:	Commercial or recreational collection of fish, shellfish, or organisms
Number of Samples:	0
Number of Exceedances:	0
Data and Information Type:	Fish tissue analysis
Data Used to Assess Water Quality:	Water Board staff assessed Regional Monitoring Program data for San Leandro Marina to determine beneficial use support and results are as follows: 0 of 0 samples exceed the criterion for toxaphene. Three samples were discarded for being non-detect, unquantifiable or the reporting limit exceeding the water quality objective.
Data Reference:	Regional Monitoring Program data, Feb. 1993-Sep. 2008
SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	Water Quality Control Plan for the San Francisco Bay Basin: Controllable water quality factors shall not cause a detrimental increase in concentrations of toxic substances found in bottom sediments or aquatic life. Effects on aquatic organisms, wildlife, and human health will be considered.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	The modified OEHHA Fish Contaminant Goal for toxaphene in fish tissue is 4.3 ppb. This screening level assumes an average body weight of 70 kg and a consumption rate of 32 g/day for a 30 year exposure over a 70-year lifetime. This constituent is a carcinogen therefore the risk level is set to one in a million. A cooking reduction factor of 1 is applied for skin-off fillets. (Klasing, S., and R. Brodberg, 2008)
Guideline Reference:	Development of Fish Contaminant Goals and Advisory Tissue Levels for Common Contaminants in California Sport Fish: Chlordane, DDTs, Dieldrin, Methylmercury, PCBs, Selenium, and Toxaphene
Spatial Representation:	The samples were collected at one site in the San Leandro Marina.
Temporal Representation:	The samples were collected in November 2000.
Environmental Conditions:	
QAPP Information:	The 1999 Quality Assurance Project Plan Regional Monitoring Program for Trace Substances was used.
QAPP Information Reference(s):	1999 Quality Assurance Project Plan Regional Monitoring Program for Trace Substances

DECISION ID	33101	Region 2
San Leandro Bay (part of SF Bay, Lower)		

Pollutant:	DDT (Dichlorodiphenyltrichloroethane)
Final Listing Decision:	List on 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision:	Delist from 303(d) list (TMDL required list)(2012)
Revision Status	Revised
Sources:	Source Unknown
Expected TMDL Completion Date:	2029
Impairment from Pollutant or Pollution:	Pollutant
Regional Board Staff Conclusion:	<p>This pollutant is being considered for placement on the CWA section 303(d) List under section 3.1 of the Listing Policy. Under section 3.1 a single line of evidence is necessary to assess listing status.</p> <p>Four lines of evidence are available in the administrative record to assess this pollutant. Three of three samples exceed the guideline.</p> <p>The lines of evidence for sediment toxicity and benthic organism surveys are associated with evaluating the effects of DDT on benthos. There is no evidence that DDT is the responsible agent for impacting benthic organisms so the exceedances and samples for sediment toxicity were not used in the impairment assessment for this waterbody relative to DDT.</p>

Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification in favor of placing this water segment-pollutant combination on the CWA section 303(d) List.

This conclusion is based on the staff findings that:

1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy.
2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy.
3. Three of three samples exceed the guideline and this exceeds the allowable frequency listed in Table 3.1 of the Listing Policy.
4. Pursuant to section 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.

Regional Board Staff Decision Recommendation: After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should be placed on the section 303(d) list because applicable water quality standards are exceeded and a pollutant contributes to or causes the problem.

Line of Evidence (LOE) for Decision ID 33101, DDT (Dichlorodiphenyltrichloroethane)

Region 2

San Leandro Bay (part of SF Bay, Lower)

LOE ID:	95197
Pollutant:	DDT (Dichlorodiphenyltrichloroethane)
LOE Subgroup:	Pollutant-Tissue
Matrix:	Tissue
Fraction:	Fish fillet
Beneficial Use:	Commercial or recreational collection of fish, shellfish, or organisms
Number of Samples:	3
Number of Exceedances:	3
Data and Information Type:	Fish tissue analysis
Data Used to Assess Water Quality:	Water Board staff assessed Regional Monitoring Program data for San Leandro Marina to determine beneficial use support and results are as follows: 3 of 3 samples exceed the criterion for DDT. No samples were discarded for being non-detect, unquantifiable or the reporting limit exceeding the water quality objective.
Data Reference:	Regional Monitoring Program data, Feb. 1993-Sep. 2008
SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	Water Quality Control Plan for the San Francisco Bay Basin: Controllable water quality factors shall not cause a detrimental increase in concentrations of toxic substances found in bottom sediments or aquatic life. Effects on aquatic organisms, wildlife, and human health will be considered.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	The modified OEHHA Fish Contaminant Goal for total DDT in fish tissue is 15 ppb. This screening level assumes an average body weight of 70 kg and a consumption rate of 32 g/day for a 30 year exposure over a 70-year lifetime. This constituent is a carcinogen therefore the risk level is set to one in a million. A cooking reduction factor of 1 is applied for skin-off fillets. (Klasing, S., and R. Brodberg, 2008)
Guideline Reference:	Development of Fish Contaminant Goals and Advisory Tissue Levels for Common Contaminants in California Sport Fish: Chlordane, DDTs, Dieldrin, Methylmercury, PCBs, Selenium, and Toxaphene
Spatial Representation:	The samples were collected at one site in the San Leandro Marina.
Temporal Representation:	The samples were collected in November 2000.
Environmental Conditions:	
QAPP Information:	The 1999 Quality Assurance Project Plan Regional Monitoring Program for Trace Substances was used.

Line of Evidence (LOE) for Decision ID 33101, DDT (Dichlorodiphenyltrichloroethane)**Region 2****San Leandro Bay (part of SF Bay, Lower)**

LOE ID:	41
Pollutant:	Estuarine Bioassessments
LOE Subgroup:	Population/Community Degradation
Matrix:	Sediment
Fraction:	None
Beneficial Use:	Estuarine Habitat
Number of Samples:	5
Number of Exceedances:	0
Data and Information Type:	Benthic macroinvertebrate surveys
Data Used to Assess Water Quality:	BPTCP benthic index values were 0.60, 0.60, 0.67, 1.0, and 0.66 (Hunt et al, 1998b).
Data Reference:	Placeholder reference 2006 303(d)
SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	<p>All waters shall be maintained free of toxic substances in concentrations that are lethal to or that produce other detrimental responses in aquatic organisms.</p> <p>There shall be no chronic toxicity in ambient waters. Chronic toxicity is a detrimental biological effect on growth rate, reproduction, fertilization success, larval development, population abundance, community composition, or any other relevant measure of the health of an organism, population, or community.</p>
Objective/Criterion Reference:	Placeholder reference 2006 303(d)
Evaluation Guideline:	Evaluations of the benthic data were completed using the approaches developed by scientists associated with the BPTCP. The relative benthic index used is a calculated value considering the total fauna, total mollusk species, crustacean species and indicator species at a site. The index ranges from 0 to 1.0. An index value of less than or equal to 0.3 is an indication that pollutants or other factors are negatively impacting the benthic community.
Guideline Reference:	Placeholder reference 2006 303(d)
Spatial Representation:	Five stations. Data was synoptically collected with chemical and toxicity measurements.
Temporal Representation:	Samples were collected in April 1995 and April 1997.
Environmental Conditions:	
QAPP Information:	BPTCP Quality Assurance Project Plan.
QAPP Information Reference(s):	

Line of Evidence (LOE) for Decision ID 33101, DDT (Dichlorodiphenyltrichloroethane)**Region 2****San Leandro Bay (part of SF Bay, Lower)**

LOE ID:	40
Pollutant:	Sediment Toxicity
LOE Subgroup:	Toxicity
Matrix:	Sediment
Fraction:	None
Beneficial Use:	Estuarine Habitat
Number of Samples:	7
Number of Exceedances:	4

Data and Information Type:	Toxicity testing of sediments
Data Used to Assess Water Quality:	Significant amphipod toxicity in 4 of 7 tests. Significant sea urchin toxicity in 3 of 7 tests (Hunt et al., 1998b).
Data Reference:	Placeholder reference 2006 303(d)
SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	All waters shall be maintained free of toxic substances in concentrations that are lethal to or that produce other detrimental responses in aquatic organisms. There shall be no chronic toxicity in ambient waters. Chronic toxicity is a detrimental biological effect on growth rate, reproduction, fertilization success, larval development, population abundance, community composition, or any other relevant measure of the health of an organism, population, or community.
Objective/Criterion Reference:	Placeholder reference 2006 303(d)
Evaluation Guideline:	BPTCP Reference envelope approach.
Guideline Reference:	Placeholder reference 2006 303(d)
Spatial Representation:	Data was synoptically collected with chemical and toxicity measurements at 7 sampling sites.
Temporal Representation:	Samples were collected during April 1995 and April 1997.
Environmental Conditions:	
QAPP Information:	BPTCP Quality Assurance Project Plan.
QAPP Information Reference(s):	

Line of Evidence (LOE) for Decision ID 33101, DDT (Dichlorodiphenyltrichloroethane)
San Leandro Bay (part of SF Bay, Lower)

Region 2

LOE ID:	47
Pollutant:	DDT (Dichlorodiphenyltrichloroethane)
LOE Subgroup:	Pollutant-Sediment
Matrix:	Sediment
Fraction:	None
Beneficial Use:	Estuarine Habitat
Number of Samples:	0
Number of Exceedances:	0
Data and Information Type:	Chemical monitoring of sediments
Data Used to Assess Water Quality:	Seven measurements ranging in concentrations from 31.26 to 211.23 ppb (Hunt et al., 1998b).
Data Reference:	Placeholder reference 2006 303(d)
SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	All waters shall be maintained free of toxic substances in concentrations that are lethal to or that produce other detrimental responses in aquatic organisms. There shall be no chronic toxicity in ambient waters. Chronic toxicity is a detrimental biological effect on growth rate, reproduction, fertilization success, larval development, population abundance, community composition, or any other relevant measure of the health of an organism, population, or community.
Objective/Criterion Reference:	Placeholder reference 2006 303(d)
Evaluation Guideline:	No sediment quality guideline is available that meets the requirements of section 6.1.3 of the Listing Policy.
Guideline Reference:	Placeholder reference 2006 303(d)
Spatial Representation:	Data was synoptically collected with benthic community and toxicity measurements.

Temporal Representation:	Samples were collected in April 1995 and April 1997.
Environmental Conditions:	
QAPP Information:	BPTCP Quality Assurance Project Plan.
QAPP Information Reference(s):	

DECISION ID	60486	Region 2
San Leandro Bay (part of SF Bay, Lower)		

Pollutant:	Toxicity
Final Listing Decision:	List on 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision:	New Decision
Revision Status	Revised
Sources:	Source Unknown
Expected TMDL Completion Date:	2029
Impairment from Pollutant or Pollution:	Pollutant

Regional Board Staff Conclusion: This pollutant is being considered for placement on the CWA section 303(d) List under section 3.1 of the Listing Policy. Under section 3.1 a single line of evidence is necessary to assess listing status.

One line of evidence are available in the administrative record to assess this pollutant. Four of seven samples exceed the guideline.

Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification in favor of placing this water segment-pollutant combination on the CWA section 303(d) List.

This conclusion is based on the staff findings that:

1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy.
2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy.
3. Four of seven samples exceed the guideline and this exceeds the allowable frequency listed in Table 3.1 of the Listing Policy.
4. Pursuant to section 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.

Regional Board Staff Decision Recommendation: After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should be placed on the section 303(d) list because applicable water quality standards are exceeded and a pollutant contributes to or causes the problem.

Line of Evidence (LOE) for Decision ID 60486, Toxicity	Region 2
San Leandro Bay (part of SF Bay, Lower)	

LOE ID: 40

Pollutant:	Sediment Toxicity
LOE Subgroup:	Toxicity
Matrix:	Sediment
Fraction:	None

Beneficial Use: Estuarine Habitat

Number of Samples:	7
Number of Exceedances:	4

Data and Information Type:	Toxicity testing of sediments
Data Used to Assess Water Quality:	Significant amphipod toxicity in 4 of 7 tests. Significant sea urchin toxicity in 3 of 7 tests (Hunt et al., 1998b).

Data Reference:	Placeholder reference 2006 303(d)
SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	All waters shall be maintained free of toxic substances in concentrations that are lethal to or that produce other detrimental responses in aquatic organisms. There shall be no chronic toxicity in ambient waters. Chronic toxicity is a detrimental biological effect on growth rate, reproduction, fertilization success, larval development, population abundance, community composition, or any other relevant measure of the health of an organism, population, or community.
Objective/Criterion Reference:	Placeholder reference 2006 303(d)
Evaluation Guideline:	BPTCP Reference envelope approach.
Guideline Reference:	Placeholder reference 2006 303(d)
Spatial Representation:	Data was synoptically collected with chemical and toxicity measurements at 7 sampling sites.
Temporal Representation:	Samples were collected during April 1995 and April 1997.
Environmental Conditions:	
QAPP Information:	BPTCP Quality Assurance Project Plan.
QAPP Information Reference(s):	

DECISION ID	32672	Region 2
San Leandro Bay (part of SF Bay, Lower)		

Pollutant:	Selenium
Final Listing Decision:	Delist from 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision:	Delist from 303(d) list (TMDL required list)(2012)
Revision Status	Original
Reason for Delisting:	Applicable WQS attained; reason for recovery unspecified
Impairment from Pollutant or Pollution:	Pollutant

Regional Board Staff Conclusion:	This pollutant is being considered for delisting under sections 4.6 and 4.9 of the Listing Policy. Under section 4.6 a single line of evidence is necessary to assess listing status while under section 4.9, a minimum of two lines of evidence are needed to assess listing status. Three lines of evidence are available in the administrative record to assess this pollutant. Based on section 4.6, the water body has significant sediment toxicity and it cannot be determined if the pollutant causes or contributes to any toxic effect. Based on the readily available data and information, the weight of evidence indicates that there is insufficient justification in favor of removing this water segment-pollutant combination from the section 303(d) list in the Water Quality Limited Segments category. This conclusion is based on the staff findings that: 1. The sediment quality guideline used complies with the requirements of section 6.1.3 of the Policy. 2. The data used satisfies the data quality requirements of section 6.1.4 of the Policy. 3. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy. 4. None of 7 samples exceeded the sediment guideline, 3 of 7 samples exhibit toxicity, and these do not meet the minimum data required for delisting as presented in Table 4.1 of the Listing Policy. 5. Pursuant to section 4.11 of the Listing Policy, no additional data and information are available indicating that standards are met.
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Regional Board Staff Decision Recommendation:	This is a decision previously approved by the State Water Resources Control Board and the USEPA. No new data were assessed by the Regional Board for the current. The decision has not changed.
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Line of Evidence (LOE) for Decision ID 32672, Selenium	Region 2
San Leandro Bay (part of SF Bay, Lower)	

LOE ID:	41
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Pollutant:	Estuarine Bioassessments
LOE Subgroup:	Population/Community Degradation
Matrix:	Sediment
Fraction:	None
Beneficial Use:	Estuarine Habitat
Number of Samples:	5
Number of Exceedances:	0
Data and Information Type:	Benthic macroinvertebrate surveys
Data Used to Assess Water Quality:	BPTCP benthic index values were 0.60, 0.60, 0.67, 1.0, and 0.66 (Hunt et al, 1998b).
Data Reference:	Placeholder reference 2006 303(d)
SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	All waters shall be maintained free of toxic substances in concentrations that are lethal to or that produce other detrimental responses in aquatic organisms. There shall be no chronic toxicity in ambient waters. Chronic toxicity is a detrimental biological effect on growth rate, reproduction, fertilization success, larval development, population abundance, community composition, or any other relevant measure of the health of an organism, population, or community.
Objective/Criterion Reference:	Placeholder reference 2006 303(d)
Evaluation Guideline:	Evaluations of the benthic data were completed using the approaches developed by scientists associated with the BPTCP. The relative benthic index used is a calculated value considering the total fauna, total mollusk species, crustacean species and indicator species at a site. The index ranges from 0 to 1.0. An index value of less than or equal to 0.3 is an indication that pollutants or other factors are negatively impacting the benthic community.
Guideline Reference:	Placeholder reference 2006 303(d)
Spatial Representation:	Five stations. Data was synoptically collected with chemical and toxicity measurements.
Temporal Representation:	Samples were collected in April 1995 and April 1997.
Environmental Conditions:	
QAPP Information:	BPTCP Quality Assurance Project Plan.
QAPP Information Reference(s):	

Line of Evidence (LOE) for Decision ID 32672, Selenium

Region 2

San Leandro Bay (part of SF Bay, Lower)

LOE ID:	44
Pollutant:	Selenium
LOE Subgroup:	Pollutant-Sediment
Matrix:	Sediment
Fraction:	None
Beneficial Use:	Estuarine Habitat
Number of Samples:	0
Number of Exceedances:	0
Data and Information Type:	Chemical monitoring of sediments
Data Used to Assess Water Quality:	Seven measurements ranging in concentrations from 0.528 to 2.830 ppm (Hunt et al., 1998b).
Data Reference:	Placeholder reference 2006 303(d)
SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	All waters shall be maintained free of toxic substances in concentrations that are lethal to

or that produce other detrimental responses in aquatic organisms.

There shall be no chronic toxicity in ambient waters. Chronic toxicity is a detrimental biological effect on growth rate, reproduction, fertilization success, larval development, population abundance, community composition, or any other relevant measure of the health of an organism, population, or community.

Objective/Criterion Reference:

[Placeholder reference 2006 303\(d\)](#)

Evaluation Guideline:

No sediment quality guideline is available that meets the requirements of section 6.1.3 of the Listing Policy.

Guideline Reference:

[Placeholder reference 2006 303\(d\)](#)

Spatial Representation:

Data was synoptically collected with benthic community and toxicity measurements.

Temporal Representation:

Samples were collected in April 1995 and April 1997.

Environmental Conditions:

QAPP Information:

BPTCP Quality Assurance Project Plan.

QAPP Information Reference(s):

Line of Evidence (LOE) for Decision ID 32672, Selenium

Region 2

San Leandro Bay (part of SF Bay, Lower)

LOE ID: 40

Pollutant: Sediment Toxicity

LOE Subgroup: Toxicity

Matrix: Sediment

Fraction: None

Beneficial Use: Estuarine Habitat

Number of Samples: 7

Number of Exceedances: 4

Data and Information Type: Toxicity testing of sediments

Data Used to Assess Water Quality: Significant amphipod toxicity in 4 of 7 tests. Significant sea urchin toxicity in 3 of 7 tests (Hunt et al., 1998b).

Data Reference: [Placeholder reference 2006 303\(d\)](#)

SWAMP Data: Non-SWAMP

Water Quality Objective/Criterion: All waters shall be maintained free of toxic substances in concentrations that are lethal to or that produce other detrimental responses in aquatic organisms.

There shall be no chronic toxicity in ambient waters. Chronic toxicity is a detrimental biological effect on growth rate, reproduction, fertilization success, larval development, population abundance, community composition, or any other relevant measure of the health of an organism, population, or community.

Objective/Criterion Reference:

[Placeholder reference 2006 303\(d\)](#)

Evaluation Guideline:

BPTCP Reference envelope approach.

Guideline Reference:

[Placeholder reference 2006 303\(d\)](#)

Spatial Representation:

Data was synoptically collected with chemical and toxicity measurements at 7 sampling sites.

Temporal Representation:

Samples were collected during April 1995 and April 1997.

Environmental Conditions:

QAPP Information:

BPTCP Quality Assurance Project Plan.

QAPP Information Reference(s):

DECISION ID

33088

Region 2

San Leandro Bay (part of SF Bay, Lower)

Pollutant:	Lead (sediment)
Final Listing Decision:	Do Not Delist from 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision:	Do Not Delist from 303(d) list (TMDL required list)(2012)
Revision Status	Original
Sources:	Source Unknown
Expected TMDL Completion Date:	2019
Impairment from Pollutant or Pollution:	Pollutant

Regional Board Staff Conclusion: This pollutant is being considered for delisting under sections 4.6 and 4.9 of the Listing Policy. Under section 4.6 a single line of evidence is necessary to assess listing status while under section 4.9, a minimum of two lines of evidence are needed to assess listing status. Three lines of evidence are available in the administrative record to assess this pollutant. Based on section 4.6, the water body has significant sediment toxicity and it cannot be determined if the pollutant causes or contributes to any toxic effect. Based on the readily available data and information, the weight of evidence indicates that there is insufficient justification in favor of removing this water segment-pollutant combination from the section 303(d) list in the Water Quality Limited Segments category. This conclusion is based on the staff findings that: 1. The sediment quality guideline used complies with the requirements of section 6.1.3 of the Policy. 2. The data used satisfies the data quality requirements of section 6.1.4 of the Policy. 3. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy. 4. None of 7 samples exceeded the sediment guideline, 3 of 7 samples exhibit toxicity, and these do not meet the minimum data required for delisting as presented in Table 4.1 of the Listing Policy. 5. Pursuant to section 4.11 of the Listing Policy, no additional data and information are available indicating that standards are met.

Regional Board Staff Decision Recommendation: This is a decision previously approved by the State Water Resources Control Board and the USEPA. No new data were assessed by the Regional Board for the current. The decision has not changed.

Line of Evidence (LOE) for Decision ID 33088, Lead (sediment)**Region 2****San Leandro Bay (part of SF Bay, Lower)**

LOE ID:	41
Pollutant:	Estuarine Bioassessments
LOE Subgroup:	Population/Community Degradation
Matrix:	Sediment
Fraction:	None
Beneficial Use:	Estuarine Habitat
Number of Samples:	5
Number of Exceedances:	0
Data and Information Type:	Benthic macroinvertebrate surveys
Data Used to Assess Water Quality:	BPTCP benthic index values were 0.60, 0.60, 0.67, 1.0, and 0.66 (Hunt et al, 1998b).
Data Reference:	Placeholder reference 2006 303(d)
SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	All waters shall be maintained free of toxic substances in concentrations that are lethal to or that produce other detrimental responses in aquatic organisms. There shall be no chronic toxicity in ambient waters. Chronic toxicity is a detrimental biological effect on growth rate, reproduction, fertilization success, larval development, population abundance, community composition, or any other relevant measure of the health of an organism, population, or community.
Objective/Criterion Reference:	Placeholder reference 2006 303(d)

Evaluation Guideline:	Evaluations of the benthic data were completed using the approaches developed by scientists associated with the BPTCP. The relative benthic index used is a calculated value considering the total fauna, total mollusk species, crustacean species and indicator species at a site. The index ranges from 0 to 1.0. An index value of less than or equal to 0.3 is an indication that pollutants or other factors are negatively impacting the benthic community.
Guideline Reference:	Placeholder reference 2006 303(d)
Spatial Representation:	Five stations. Data was synoptically collected with chemical and toxicity measurements.
Temporal Representation:	Samples were collected in April 1995 and April 1997.
Environmental Conditions:	
QAPP Information:	BPTCP Quality Assurance Project Plan.
QAPP Information Reference(s):	

Line of Evidence (LOE) for Decision ID 33088, Lead (sediment)

Region 2

San Leandro Bay (part of SF Bay, Lower)

LOE ID:	40
Pollutant:	Sediment Toxicity
LOE Subgroup:	Toxicity
Matrix:	Sediment
Fraction:	None
Beneficial Use:	Estuarine Habitat
Number of Samples:	7
Number of Exceedances:	4
Data and Information Type:	Toxicity testing of sediments
Data Used to Assess Water Quality:	Significant amphipod toxicity in 4 of 7 tests. Significant sea urchin toxicity in 3 of 7 tests (Hunt et al., 1998b).
Data Reference:	Placeholder reference 2006 303(d)
SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	All waters shall be maintained free of toxic substances in concentrations that are lethal to or that produce other detrimental responses in aquatic organisms. There shall be no chronic toxicity in ambient waters. Chronic toxicity is a detrimental biological effect on growth rate, reproduction, fertilization success, larval development, population abundance, community composition, or any other relevant measure of the health of an organism, population, or community.
Objective/Criterion Reference:	Placeholder reference 2006 303(d)
Evaluation Guideline:	BPTCP Reference envelope approach.
Guideline Reference:	Placeholder reference 2006 303(d)
Spatial Representation:	Data was synoptically collected with chemical and toxicity measurements at 7 sampling sites.
Temporal Representation:	Samples were collected during April 1995 and April 1997.
Environmental Conditions:	
QAPP Information:	BPTCP Quality Assurance Project Plan.
QAPP Information Reference(s):	

Line of Evidence (LOE) for Decision ID 33088, Lead (sediment)

Region 2

San Leandro Bay (part of SF Bay, Lower)

LOE ID:	43
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Pollutant:	Lead (sediment)
LOE Subgroup:	Pollutant-Sediment
Matrix:	Sediment
Fraction:	None
Beneficial Use:	Estuarine Habitat
Number of Samples:	7
Number of Exceedances:	4
Data and Information Type:	Chemical monitoring of sediments
Data Used to Assess Water Quality:	Four of 7 measurements exceeded the sediment quality guideline (Hunt et al., 1998b).
Data Reference:	Placeholder reference 2006 303(d)
SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	All waters shall be maintained free of toxic substances in concentrations that are lethal to or that produce other detrimental responses in aquatic organisms. There shall be no chronic toxicity in ambient waters. Chronic toxicity is a detrimental biological effect on growth rate, reproduction, fertilization success, larval development, population abundance, community composition, or any other relevant measure of the health of an organism, population, or community.
Objective/Criterion Reference:	Placeholder reference 2006 303(d)
Evaluation Guideline:	Probable Effects Level of 112.18 ug/g was used (MacDonald et al., 1996).
Guideline Reference:	Placeholder reference 2006 303(d)
Spatial Representation:	Data was synoptically collected with benthic community and toxicity measurements.
Temporal Representation:	Samples were collected in April 1995 and April 1997.
Environmental Conditions:	
QAPP Information:	BPTCP Quality Assurance Project Plan.
QAPP Information Reference(s):	

DECISION ID	33043	Region 2
San Leandro Bay (part of SF Bay, Lower)		

Pollutant:	PAHs (Polycyclic Aromatic Hydrocarbons) (sediment)
Final Listing Decision:	Do Not Delist from 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision:	Do Not Delist from 303(d) list (TMDL required list)(2012)
Revision Status	Original
Sources:	Source Unknown
Expected TMDL Completion Date:	2019
Impairment from Pollutant or Pollution:	Pollutant

Regional Board Staff Conclusion:	<p>This pollutant is being considered for delisting under sections 4.6 and 4.9 of the Listing Policy. Under section 4.6 a single line of evidence is necessary to assess listing status while under section 4.9, a minimum of two lines of evidence are needed to assess listing status. Three lines of evidence are available in the administrative record to assess this pollutant. Based on section 4.6, the water body has significant sediment toxicity and it cannot be determined if the pollutant causes or contributes to any toxic effect. Based on the readily available data and information, the weight of evidence indicates that there is insufficient justification in favor of removing this water segment-pollutant combination from the section 303(d) list in the Water Quality Limited Segments category. This conclusion is based on the staff findings that: 1. The sediment quality guideline used complies with the requirements of section 6.1.3 of the Policy. 2. The data used satisfies the data quality requirements of section 6.1.4 of the Policy. 3. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy. 4. None of 7 samples exceeded the sediment guideline, 3 of 7 samples exhibit toxicity, and these do not meet the minimum data required for delisting as presented in Table 4.1 of the Listing Policy. 5.</p>
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Pursuant to section 4.11 of the Listing Policy, no additional data and information are available indicating that standards are met.

Regional Board Staff Decision Recommendation: This is a decision previously approved by the State Water Resources Control Board and the USEPA. No new data were assessed by the Regional Board for the current. The decision has not changed.

Line of Evidence (LOE) for Decision ID 33043, PAHs (Polycyclic Aromatic Hydrocarbons) (sediment)

Region 2

San Leandro Bay (part of SF Bay, Lower)

LOE ID: 46

Pollutant: PAHs (Polycyclic Aromatic Hydrocarbons) (sediment)
LOE Subgroup: Pollutant-Sediment
Matrix: Sediment
Fraction: None

Beneficial Use: Estuarine Habitat

Number of Samples: 7
Number of Exceedances: 2

Data and Information Type: Chemical monitoring of sediments
Data Used to Assess Water Quality: Two of 7 samples exceed the guideline for high molecular weight PAHs (Hunt et al., 1998).
Data Reference: [Placeholder reference 2006 303\(d\)](#)

SWAMP Data: Non-SWAMP

Water Quality Objective/Criterion: All waters shall be maintained free of toxic substances in concentrations that are lethal to or that produce other detrimental responses in aquatic organisms.

Objective/Criterion Reference: There shall be no chronic toxicity in ambient waters. Chronic toxicity is a detrimental biological effect on growth rate, reproduction, fertilization success, larval development, population abundance, community composition, or any other relevant measure of the health of an organism, population, or community.
[Placeholder reference 2006 303\(d\)](#)

Evaluation Guideline: Effects Range-Median for high molecular weight PAHs of 9,600 ng/g was used (Long et al., 1995). Probable Effects Level for low molecular weight PAHs of 1,442 ng/g was used (MacDonald et al., 1996).
Guideline Reference: [Placeholder reference 2006 303\(d\)](#)

Spatial Representation: Data was synoptically collected with benthic community and toxicity measurements.
Temporal Representation: Samples were collected in April 1995 and April 1997.
Environmental Conditions:
QAPP Information: BPTCP Quality Assurance Project Plan.
QAPP Information Reference(s):

Line of Evidence (LOE) for Decision ID 33043, PAHs (Polycyclic Aromatic Hydrocarbons) (sediment)

Region 2

San Leandro Bay (part of SF Bay, Lower)

LOE ID: 41

Pollutant: Estuarine Bioassessments
LOE Subgroup: Population/Community Degradation
Matrix: Sediment
Fraction: None

Beneficial Use:	Estuarine Habitat
Number of Samples:	5
Number of Exceedances:	0
Data and Information Type:	Benthic macroinvertebrate surveys
Data Used to Assess Water Quality:	BPTCP benthic index values were 0.60, 0.60, 0.67, 1.0, and 0.66 (Hunt et al, 1998b).
Data Reference:	Placeholder reference 2006 303(d)
SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	All waters shall be maintained free of toxic substances in concentrations that are lethal to or that produce other detrimental responses in aquatic organisms. There shall be no chronic toxicity in ambient waters. Chronic toxicity is a detrimental biological effect on growth rate, reproduction, fertilization success, larval development, population abundance, community composition, or any other relevant measure of the health of an organism, population, or community.
Objective/Criterion Reference:	Placeholder reference 2006 303(d)
Evaluation Guideline:	Evaluations of the benthic data were completed using the approaches developed by scientists associated with the BPTCP. The relative benthic index used is a calculated value considering the total fauna, total mollusk species, crustacean species and indicator species at a site. The index ranges from 0 to 1.0. An index value of less than or equal to 0.3 is an indication that pollutants or other factors are negatively impacting the benthic community.
Guideline Reference:	Placeholder reference 2006 303(d)
Spatial Representation:	Five stations. Data was synoptically collected with chemical and toxicity measurements.
Temporal Representation:	Samples were collected in April 1995 and April 1997.
Environmental Conditions:	
QAPP Information:	BPTCP Quality Assurance Project Plan.
QAPP Information Reference(s):	

Line of Evidence (LOE) for Decision ID 33043, PAHs (Polycyclic Aromatic Hydrocarbons) (sediment)

Region 2

San Leandro Bay (part of SF Bay, Lower)

LOE ID:	40
Pollutant:	Sediment Toxicity
LOE Subgroup:	Toxicity
Matrix:	Sediment
Fraction:	None
Beneficial Use:	Estuarine Habitat
Number of Samples:	7
Number of Exceedances:	4
Data and Information Type:	Toxicity testing of sediments
Data Used to Assess Water Quality:	Significant amphipod toxicity in 4 of 7 tests. Significant sea urchin toxicity in 3 of 7 tests (Hunt et al., 1998b).
Data Reference:	Placeholder reference 2006 303(d)
SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	All waters shall be maintained free of toxic substances in concentrations that are lethal to or that produce other detrimental responses in aquatic organisms. There shall be no chronic toxicity in ambient waters. Chronic toxicity is a detrimental biological effect on growth rate, reproduction, fertilization success, larval development,

Objective/Criterion Reference:	population abundance, community composition, or any other relevant measure of the health of an organism, population, or community. Placeholder reference 2006 303(d)
Evaluation Guideline:	BPTCP Reference envelope approach.
Guideline Reference:	Placeholder reference 2006 303(d)
Spatial Representation:	Data was synoptically collected with chemical and toxicity measurements at 7 sampling sites.
Temporal Representation:	Samples were collected during April 1995 and April 1997.
Environmental Conditions:	
QAPP Information:	BPTCP Quality Assurance Project Plan.
QAPP Information Reference(s):	

DECISION ID	33071	Region 2
San Leandro Bay (part of SF Bay, Lower)		

Pollutant:	Zinc
Final Listing Decision:	Do Not Delist from 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision:	Do Not Delist from 303(d) list (TMDL required list)(2012)
Revision Status	Original
Sources:	Source Unknown
Expected TMDL Completion Date:	2019
Impairment from Pollutant or Pollution:	Pollutant

Regional Board Staff Conclusion:	This pollutant is being considered for removal from the section 303(d) list under sections 4.6 and 4.9 of the Listing Policy. Under section 4.6 a single line of evidence is necessary to assess delisting status while under section 4.9, a minimum of two lines of evidence are needed to assess listing status. Three lines of evidence are available in the administrative record to assess this pollutant. Based on section 4.6, the site has significant sediment toxicity and the pollutant concentration exceeds the sediment guideline. The benthic community is not impacted. Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against removing this water segment-pollutant combination from the section 303(d) list in the Water Quality Limited Segments category. This conclusion is based on the staff findings that: 1. The sediment quality guideline used complies with the requirements of section 6.1.3 of the Policy. 2. The data used satisfies the data quality requirements of section 6.1.4 of the Policy. 3. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy. 4. Four of 7 samples exceeded the sediment quality guideline of 410 ug/g, 3 of 7 samples exhibit toxicity, and these exceed the allowable frequency listed in Table 4.1. In addition, at least 28 total samples are required before a pollutant can be considered for removal from the 303(d) list using the frequencies presented in table 4.1 of the Listing Policy. The benthic community in this water body is not impacted. 5. Pursuant to section 4.11 of the Listing Policy, no additional data and information are available indicating that standards are met.
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Regional Board Staff Decision Recommendation:	This is a decision previously approved by the State Water Resources Control Board and the USEPA. No new data were assessed by the Regional Board for the current. The decision has not changed.
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Line of Evidence (LOE) for Decision ID 33071, Zinc	Region 2
San Leandro Bay (part of SF Bay, Lower)	

LOE ID:	41
Pollutant:	Estuarine Bioassessments
LOE Subgroup:	Population/Community Degradation
Matrix:	Sediment
Fraction:	None

Beneficial Use:	Estuarine Habitat
Number of Samples:	5
Number of Exceedances:	0
Data and Information Type:	Benthic macroinvertebrate surveys
Data Used to Assess Water Quality:	BPTCP benthic index values were 0.60, 0.60, 0.67, 1.0, and 0.66 (Hunt et al, 1998b).
Data Reference:	Placeholder reference 2006 303(d)
SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	All waters shall be maintained free of toxic substances in concentrations that are lethal to or that produce other detrimental responses in aquatic organisms. There shall be no chronic toxicity in ambient waters. Chronic toxicity is a detrimental biological effect on growth rate, reproduction, fertilization success, larval development, population abundance, community composition, or any other relevant measure of the health of an organism, population, or community.
Objective/Criterion Reference:	Placeholder reference 2006 303(d)
Evaluation Guideline:	Evaluations of the benthic data were completed using the approaches developed by scientists associated with the BPTCP. The relative benthic index used is a calculated value considering the total fauna, total mollusk species, crustacean species and indicator species at a site. The index ranges from 0 to 1.0. An index value of less than or equal to 0.3 is an indication that pollutants or other factors are negatively impacting the benthic community.
Guideline Reference:	Placeholder reference 2006 303(d)
Spatial Representation:	Five stations. Data was synoptically collected with chemical and toxicity measurements.
Temporal Representation:	Samples were collected in April 1995 and April 1997.
Environmental Conditions:	
QAPP Information:	BPTCP Quality Assurance Project Plan.
QAPP Information Reference(s):	

Line of Evidence (LOE) for Decision ID 33071, Zinc
San Leandro Bay (part of SF Bay, Lower)

Region 2

LOE ID:	40
Pollutant:	Sediment Toxicity
LOE Subgroup:	Toxicity
Matrix:	Sediment
Fraction:	None
Beneficial Use:	Estuarine Habitat
Number of Samples:	7
Number of Exceedances:	4
Data and Information Type:	Toxicity testing of sediments
Data Used to Assess Water Quality:	Significant amphipod toxicity in 4 of 7 tests. Significant sea urchin toxicity in 3 of 7 tests (Hunt et al., 1998b).
Data Reference:	Placeholder reference 2006 303(d)
SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	All waters shall be maintained free of toxic substances in concentrations that are lethal to or that produce other detrimental responses in aquatic organisms. There shall be no chronic toxicity in ambient waters. Chronic toxicity is a detrimental biological effect on growth rate, reproduction, fertilization success, larval development,

Objective/Criterion Reference:	population abundance, community composition, or any other relevant measure of the health of an organism, population, or community. Placeholder reference 2006 303(d)
Evaluation Guideline: Guideline Reference:	BPTCP Reference envelope approach. Placeholder reference 2006 303(d)
Spatial Representation:	Data was synoptically collected with chemical and toxicity measurements at 7 sampling sites.
Temporal Representation:	Samples were collected during April 1995 and April 1997.
Environmental Conditions:	
QAPP Information:	BPTCP Quality Assurance Project Plan.
QAPP Information Reference(s):	

Line of Evidence (LOE) for Decision ID 33071, Zinc
San Leandro Bay (part of SF Bay, Lower)

Region 2

LOE ID:	45
Pollutant:	Zinc (sediment)
LOE Subgroup:	Pollutant-Sediment
Matrix:	Sediment
Fraction:	None
Beneficial Use:	Estuarine Habitat
Number of Samples:	7
Number of Exceedances:	4
Data and Information Type:	Chemical monitoring of sediments
Data Used to Assess Water Quality:	Four of 7 measurements exceed the ERM (Hunt et al., 1998b).
Data Reference:	Placeholder reference 2006 303(d)
SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	All waters shall be maintained free of toxic substances in concentrations that are lethal to or that produce other detrimental responses in aquatic organisms. There shall be no chronic toxicity in ambient waters. Chronic toxicity is a detrimental biological effect on growth rate, reproduction, fertilization success, larval development, population abundance, community composition, or any other relevant measure of the health of an organism, population, or community.
Objective/Criterion Reference:	Placeholder reference 2006 303(d)
Evaluation Guideline: Guideline Reference:	Effects Range-Median of 410 ug/g was used (Long et al., 1995). Placeholder reference 2006 303(d)
Spatial Representation:	Data was synoptically collected with benthic community and toxicity measurements.
Temporal Representation:	Samples were collected in April 1995 and April 1997.
Environmental Conditions:	
QAPP Information:	BPTCP Quality Assurance Project Plan.
QAPP Information Reference(s):	

DECISION ID 34502
San Leandro Bay (part of SF Bay, Lower)

Region 2

Pollutant:	Dioxin compounds (including 2,3,7,8-TCDD)
Final Listing Decision:	List on 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision:	List on 303(d) list (TMDL required list)(2012)

Revision Status	Original
Sources:	Source Unknown
Expected TMDL Completion Date:	2019
Impairment from Pollutant or Pollution:	Pollutant

Regional Board Staff Conclusion:	303(d) listing decisions made prior to 2006 were not held in an assessment database. The Regional Boards will update this decision when new data and information become available and are assessed.
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Regional Board Staff Decision Recommendation:	This is a decision previously approved by the State Water Resources Control Board and the USEPA. No new data were assessed by the Regional Board for the current. The decision has not changed.
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Line of Evidence (LOE) for Decision ID 34502, Dioxin compounds (including 2,3,7,8-TCDD)**Region 2****San Leandro Bay (part of SF Bay, Lower)**

LOE ID:	3854
Pollutant:	Dioxin compounds (including 2,3,7,8-TCDD)
LOE Subgroup:	Pollutant-Tissue
Matrix:	Tissue
Fraction:	Not Recorded
Beneficial Use:	Commercial or recreational collection of fish, shellfish, or organisms
Number of Samples:	0
Number of Exceedances:	0
Data and Information Type:	Not Specified
Data Used to Assess Water Quality:	Unspecified--This LOE is a placeholder to support a 303(d) listing decision made prior to 2006.
Data Reference:	Placeholder reference pre-2006 303(d)
SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	Unspecified
Objective/Criterion Reference:	Placeholder reference pre-2006 303(d)
Evaluation Guideline:	Unspecified
Guideline Reference:	Placeholder reference pre-2006 303(d)
Spatial Representation:	Unspecified
Temporal Representation:	Unspecified
Environmental Conditions:	Unspecified
QAPP Information:	Unspecified
QAPP Information Reference(s):	

DECISION ID 34518**Region 2****San Leandro Bay (part of SF Bay, Lower)**

Pollutant:	Furan Compounds
Final Listing Decision:	List on 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision:	List on 303(d) list (TMDL required list)(2012)
Revision Status	Original
Sources:	Source Unknown
Expected TMDL Completion Date:	2019
Impairment from Pollutant or	Pollutant

Pollution:

Regional Board Staff Conclusion: 303(d) listing decisions made prior to 2006 were not held in an assessment database. The Regional Boards will update this decision when new data and information become available and are assessed.

Regional Board Staff Decision Recommendation: This is a decision previously approved by the State Water Resources Control Board and the USEPA. No new data were assessed by the Regional Board for the current. The decision has not changed.

Line of Evidence (LOE) for Decision ID 34518, Furan Compounds**Region 2****San Leandro Bay (part of SF Bay, Lower)**

LOE ID: 3856

Pollutant: Furan Compounds
LOE Subgroup: Pollutant-Tissue
Matrix: Tissue
Fraction: Not Recorded

Beneficial Use: Commercial or recreational collection of fish, shellfish, or organisms

Number of Samples: 0
Number of Exceedances: 0

Data and Information Type: Not Specified
Data Used to Assess Water Quality: Unspecified--This LOE is a placeholder to support a 303(d) listing decision made prior to 2006.
Data Reference: [Placeholder reference pre-2006 303\(d\)](#)

SWAMP Data: Non-SWAMP

Water Quality Objective/Criterion: Unspecified
Objective/Criterion Reference: [Placeholder reference pre-2006 303\(d\)](#)

Evaluation Guideline: Unspecified
Guideline Reference: [Placeholder reference pre-2006 303\(d\)](#)

Spatial Representation: Unspecified
Temporal Representation: Unspecified
Environmental Conditions: Unspecified
QAPP Information: Unspecified
QAPP Information Reference(s):

DECISION ID**34519****Region 2****San Leandro Bay (part of SF Bay, Lower)**

Pollutant: Invasive Species
Final Listing Decision: List on 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision: List on 303(d) list (TMDL required list)(2012)
Revision Status Original
Sources: Source Unknown
Expected TMDL Completion Date: 2019
Impairment from Pollutant or Pollution: Pollutant

Regional Board Staff Conclusion: 303(d) listing decisions made prior to 2006 were not held in an assessment database. The Regional Boards will update this decision when new data and information become available and are assessed.

Regional Board Staff Decision Recommendation: This is a decision previously approved by the State Water Resources Control Board and the USEPA. No new data were assessed by the Regional Board for the current. The decision has not changed.

Line of Evidence (LOE) for Decision ID 34519, Invasive Species

Region 2

San Leandro Bay (part of SF Bay, Lower)

LOE ID: 3855

Pollutant: Invasive Species
LOE Subgroup: Population/Community Degradation
Matrix: Water
Fraction: Not Recorded

Beneficial Use: Estuarine Habitat

Number of Samples: 0
Number of Exceedances: 0

Data and Information Type: Not Specified
Data Used to Assess Water Quality: Unspecified--This LOE is a placeholder to support a 303(d) listing decision made prior to 2006.
Data Reference: [Placeholder reference pre-2006 303\(d\)](#)

SWAMP Data: Non-SWAMP

Water Quality Objective/Criterion:
Objective/Criterion Reference:

Evaluation Guideline:
Guideline Reference:

Spatial Representation: Unspecified
Temporal Representation: Unspecified
Environmental Conditions: Unspecified
QAPP Information: Unspecified
QAPP Information Reference(s):

DECISION ID

34543

Region 2

San Leandro Bay (part of SF Bay, Lower)

Pollutant: Pesticides (sediment)
Final Listing Decision: List on 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision: List on 303(d) list (TMDL required list)(2012)
Revision Status Original
Sources: Source Unknown
Expected TMDL Completion Date: 2019
Impairment from Pollutant or Pollution: Pollutant

Regional Board Staff Conclusion: This pollutant is being considered for removal from the section 303(d) list under sections 4.6 and 4.9 of the Listing Policy. Under section 4.6 a single line of evidence is necessary to assess listing status while under section 4.9, a minimum of two lines of evidence are needed to assess listing status. Four lines of evidence are available in the administrative record to assess this pollutant. Based on section 4.6 the site has significant sediment toxicity and the pollutant is likely to cause or contribute to the toxic effect. The benthic community is not impacted. Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification in favor of placing this water segment-pollutant combination on the section 303(d) list in the Water Quality Limited

Segments category. This conclusion is based on the staff findings that: 1. The sediment quality guideline used complies with the requirements of section 6.1.3 of the Policy. 2. The data used satisfies the data quality requirements of section 6.1.4 of the Policy. 3. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy. 4. Four of 7 samples exceeded the sediment guideline, 3 of 7 samples exhibit toxicity. This is not enough information to delist this water body for this pollutant. 5. Pursuant to section 4.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.

Regional Board Staff Decision Recommendation: This is a decision previously approved by the State Water Resources Control Board and the USEPA. No new data were assessed by the Regional Board for the current. The decision has not changed.

Line of Evidence (LOE) for Decision ID 34543, Pesticides (sediment)

Region 2

San Leandro Bay (part of SF Bay, Lower)

LOE ID:	48
Pollutant:	Pesticides (sediment)
LOE Subgroup:	Narrative Description Data
Matrix:	-N/A
Fraction:	None
Beneficial Use:	Estuarine Habitat
Number of Samples:	0
Number of Exceedances:	0
Data and Information Type:	Not Specified
Data Used to Assess Water Quality:	The 2002 section 303(d) listing for Pesticides is too general to be reviewed. In the data and information available there are many measurements of pesticides. Only Chlordane and Dieldrin have numeric guidelines. The data for these chemicals are presented in fact sheets.
Data Reference:	Placeholder reference 2006 303(d)
SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	
Objective/Criterion Reference:	
Evaluation Guideline:	
Guideline Reference:	
Spatial Representation:	
Temporal Representation:	
Environmental Conditions:	
QAPP Information:	QA Info Missing
QAPP Information Reference(s):	

Draft California 2016 Integrated Report (303(d) List/305(b) Report)

Supporting Information

Regional Board 2 - San Francisco Bay Region

Water Body Name: Central Basin, San Francisco (part of SF Bay, Lower)
Water Body ID: CAB2044001020020930154937
Water Body Type: Bay & Harbor

DECISION ID 32524 **Region 2**
Central Basin, San Francisco (part of SF Bay, Lower)

Pollutant: Diazinon
Final Listing Decision: Delist from 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision: Delist from 303(d) list (TMDL required list)(2012)
Revision Status Original
Reason for Delisting: Applicable WQS attained; reason for recovery unspecified
Impairment from Pollutant or Pollution: Pollutant

Regional Board Staff Conclusion: This pollutant is being considered for listing under sections 2.1 and 3.1 of the Listing Policy. Under section 3.1 a single line of evidence is necessary to assess listing status. Four lines of evidence are available in the administrative record to assess this pollutant. The basis for listing in 1998 was ambient water toxicity and detections of diazinon in Bay waters. In the current assessment, the evaluation guideline available may not satisfy the requirements of the Listing Policy but even if the guideline were used all measurements are much lower than the recommended concentration. Recent measures of toxicity show that ambient water toxicity no longer exists in Bay waters. The RWQCB is also developing a Water Quality Attainment Strategy that calls for preventive actions to keep diazinon from entering the Bay. Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification available in favor of removing this water segment-pollutant combination from the section 303(d) list in the Water Quality Limited Segments category. This conclusion is based on the staff findings that: 1. The evaluation guideline may not comply with the requirements of section 6.1.3 of the Policy. 2. The data used satisfies the data quality requirements of section 6.1.4 of the Policy. 3. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy. 4. None of samples exceeded the draft guideline and ambient water toxicity in the Bay appears to have disappeared. These frequencies do not exceed the allowable frequency listed in Table 4.1 of the Listing Policy. 5. Pursuant to section 4.11 of the Listing Policy, no additional data and information are available indicating that standards are met.

Regional Board Staff Decision Recommendation: This is a decision previously approved by the State Water Resources Control Board and the USEPA. No new data were assessed by the Regional Board for the current. The decision has not changed.

Line of Evidence (LOE) for Decision ID 32524, Diazinon **Region 2**
Central Basin, San Francisco (part of SF Bay, Lower)

LOE ID: 55
Pollutant: Diazinon
LOE Subgroup: Narrative Description Data
Matrix: Not Specified
Fraction: None
Beneficial Use: Estuarine Habitat
Number of Samples: 0
Number of Exceedances: 0

Data and Information Type:	Not Specified
Data Used to Assess Water Quality:	Diazinon is one of the pollutants listed for this segment on the 2002 section 303(d) list. The data and information used to assess this pollutant-water segment is subsumed in diazinon listing for San Francisco Bay, Central. The conclusions drawn for San Francisco Bay, Central should be applied to this segment.
Data Reference:	Placeholder reference 2006 303(d)
SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	
Objective/Criterion Reference:	
Evaluation Guideline:	
Guideline Reference:	
Spatial Representation:	
Temporal Representation:	
Environmental Conditions:	
QAPP Information:	QA Info Missing
QAPP Information Reference(s):	

DECISION ID	33909	Region 2
Central Basin, San Francisco (part of SF Bay, Lower)		

Pollutant:	Dieldrin
Final Listing Decision:	Do Not Delist from 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision:	Do Not Delist from 303(d) list (TMDL required list)(2012)
Revision Status	Original
Sources:	Source Unknown
Expected TMDL Completion Date:	2013
Impairment from Pollutant or Pollution:	Pollutant

Regional Board Staff Conclusion:	303(d) listing decisions made prior to 2006 were not held in an assessment database. The Regional Boards will update this decision when new data and information become available and are assessed.
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Regional Board Staff Decision Recommendation:	This is a decision previously approved by the State Water Resources Control Board and the USEPA. No new data were assessed by the Regional Board for the current. The decision has not changed.
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Line of Evidence (LOE) for Decision ID 33909, Dieldrin	Region 2
Central Basin, San Francisco (part of SF Bay, Lower)	

LOE ID:	3740
Pollutant:	Dieldrin
LOE Subgroup:	Pollutant-Tissue
Matrix:	Tissue
Fraction:	Not Recorded
Beneficial Use:	Commercial or recreational collection of fish, shellfish, or organisms
Number of Samples:	0
Number of Exceedances:	0
Data and Information Type:	Not Specified
Data Used to Assess Water Quality:	Unspecified--This LOE is a placeholder to support a 303(d) listing decision made prior to

2006.
 Data Reference: [Placeholder reference pre-2006 303\(d\)](#)
 SWAMP Data: Non-SWAMP
 Water Quality Objective/Criterion:
 Objective/Criterion Reference:
 Evaluation Guideline:
 Guideline Reference:
 Spatial Representation: Unspecified
 Temporal Representation: Unspecified
 Environmental Conditions: Unspecified
 QAPP Information: Unspecified
 QAPP Information Reference(s):

DECISION ID	33160	Region 2
Central Basin, San Francisco (part of SF Bay, Lower)		

Pollutant: PAHs (Polycyclic Aromatic Hydrocarbons)
Final Listing Decision: Do Not Delist from 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision: Do Not Delist from 303(d) list (TMDL required list)(2012)
Revision Status Original
Sources: Source Unknown
Expected TMDL Completion Date: 2019
Impairment from Pollutant or Pollution: Pollutant

Regional Board Staff Conclusion: This pollutant is being considered for delisting under sections 4.6 of the Listing Policy. Under section 4.6 a single line of evidence is necessary to assess listing status. Two lines of evidence are available in the administrative record to assess this pollutant. Based on section 4.6, it cannot be determined if the site has significant sediment toxicity or whether the pollutant is likely to cause or contribute to any toxic effect. Based on the readily available data and information, the weight of evidence indicates that there is insufficient justification in favor of removing this water segment-pollutant combination from the section 303(d) list in the Water Quality Limited Segments category. This conclusion is based on the staff findings that: 1. The sediment quality guideline used complies, with the requirements of section 6.1.3 of the Policy. 2. The data used satisfies the data quality requirements of section 6.1.4 of the Policy. 3. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy. 4. One of 3 samples exceeded the sediment guideline, 1 of 2 samples exhibit toxicity, and these do not meet the minimum data required for delisting as presented in Table 4.1 of the Listing Policy. 5. Pursuant to section 4.11 of the Listing Policy, no additional data and information are available indicating that standards are met.

Regional Board Staff Decision Recommendation: This is a decision previously approved by the State Water Resources Control Board and the USEPA. No new data were assessed by the Regional Board for the current. The decision has not changed.

Line of Evidence (LOE) for Decision ID 33160, PAHs (Polycyclic Aromatic Hydrocarbons)	Region 2
Central Basin, San Francisco (part of SF Bay, Lower)	

LOE ID: 53
 Pollutant: PAHs (Polycyclic Aromatic Hydrocarbons) (sediment)
 LOE Subgroup: Pollutant-Sediment
 Matrix: Sediment
 Fraction: None

Beneficial Use:	Estuarine Habitat
Number of Samples:	3
Number of Exceedances:	1
Data and Information Type:	Chemical monitoring of sediments
Data Used to Assess Water Quality:	One of 3 samples exceeded the guideline for low molecular weight PAHs. One of 3 samples exceeded the guideline for high molecular weight PAHs (Hunt et al., 1998b).
Data Reference:	Placeholder reference 2006 303(d)
SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	All waters shall be maintained free of toxic substances in concentrations that are lethal to or that produce other detrimental responses in aquatic organisms. There shall be no chronic toxicity in ambient waters. Chronic toxicity is a detrimental biological effect on growth rate, reproduction, fertilization success, larval development, population abundance, community composition, or any other relevant measure of the health of an organism, population, or community.
Objective/Criterion Reference:	Placeholder reference 2006 303(d)
Evaluation Guideline:	Effects Range-Median for high molecular weight PAHs of 9,600 ng/g was used (Long et al., 1995). Probable Effects Level for low molecular weight PAHs of 1,442 ng/g was used (MacDonald et al., 1996).
Guideline Reference:	Placeholder reference 2006 303(d)
Spatial Representation:	Data was synoptically collected with toxicity measurements.
Temporal Representation:	Samples collected in December 1995 and April 1997. Temporal distribution of samples is described in the report: Sediment quality and biological effects of San Francisco Bay (Bay Protection and Toxic Cleanup Program), data August 1998.
Environmental Conditions:	
QAPP Information:	BPTCP Quality Assurance Project Plan.
QAPP Information Reference(s):	

**Line of Evidence (LOE) for Decision ID 33160, PAHs (Polycyclic Aromatic Hydrocarbons)
Central Basin, San Francisco (part of SF Bay, Lower)**

Region 2

LOE ID:	52
Pollutant:	Sediment Toxicity
LOE Subgroup:	Toxicity
Matrix:	Sediment
Fraction:	None
Beneficial Use:	Estuarine Habitat
Number of Samples:	2
Number of Exceedances:	1
Data and Information Type:	Toxicity testing of sediments
Data Used to Assess Water Quality:	Significant amphipod toxicity in 1 of 2 tests. Urchin toxicity in 1 of 2 samples (Hunt et al., 1998b).
Data Reference:	Placeholder reference 2006 303(d)
SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	All waters shall be maintained free of toxic substances in concentrations that are lethal to or that produce other detrimental responses in aquatic organisms. There shall be no chronic toxicity in ambient waters. Chronic toxicity is a detrimental biological effect on growth rate, reproduction, fertilization success, larval development, population abundance, community composition, or any other relevant measure of the

health of an organism, population, or community.
 Objective/Criterion Reference: [Placeholder reference 2006 303\(d\)](#)

Evaluation Guideline: BPTCP Reference envelope approach.
 Guideline Reference: [Placeholder reference 2006 303\(d\)](#)

Spatial Representation: Data was synoptically collected with chemical measurements.
 Temporal Representation: Samples collected in December 1995 and April 1997. Temporal distribution of samples is described in the report: Sediment quality and biological effects of San Francisco Bay (Bay Protection and Toxic Cleanup Program), data August 1998.

Environmental Conditions:
 QAPP Information: BPTCP Quality Assurance Project Plan.
 QAPP Information Reference(s):

DECISION ID	33907	Region 2
Central Basin, San Francisco (part of SF Bay, Lower)		

Pollutant: Chlordane
Final Listing Decision: List on 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision: List on 303(d) list (TMDL required list)(2012)
Revision Status Original
Sources: Source Unknown
Expected TMDL Completion Date: 2013
Impairment from Pollutant or Pollution: Pollutant

Regional Board Staff Conclusion: 303(d) listing decisions made prior to 2006 were not held in an assessment database. The Regional Boards will update this decision when new data and information become available and are assessed.

Regional Board Staff Decision Recommendation: This is a decision previously approved by the State Water Resources Control Board and the USEPA. No new data were assessed by the Regional Board for the current. The decision has not changed.

Line of Evidence (LOE) for Decision ID 33907, Chlordane	Region 2
Central Basin, San Francisco (part of SF Bay, Lower)	

LOE ID: 3738

Pollutant: Chlordane
LOE Subgroup: Pollutant-Tissue
Matrix: Tissue
Fraction: Not Recorded

Beneficial Use: Commercial or recreational collection of fish, shellfish, or organisms

Number of Samples: 0
Number of Exceedances: 0

Data and Information Type: Not Specified
Data Used to Assess Water Quality: Unspecified--This LOE is a placeholder to support a 303(d) listing decision made prior to 2006.
Data Reference: [Placeholder reference pre-2006 303\(d\)](#)

SWAMP Data: Non-SWAMP

Water Quality Objective/Criterion:
Objective/Criterion Reference:

Evaluation Guideline:

Guideline Reference:

Spatial Representation: Unspecified

Temporal Representation: Unspecified

Environmental Conditions: Unspecified

QAPP Information: Unspecified

QAPP Information Reference(s):

DECISION ID

33908

Region 2

Central Basin, San Francisco (part of SF Bay, Lower)

Pollutant: DDT (Dichlorodiphenyltrichloroethane)
Final Listing Decision: List on 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision: List on 303(d) list (TMDL required list)(2012)
Revision Status Original
Sources: Source Unknown
Expected TMDL Completion Date: 2013
Impairment from Pollutant or Pollution: Pollutant

Regional Board Staff Conclusion: 303(d) listing decisions made prior to 2006 were not held in an assessment database. The Regional Boards will update this decision when new data and information become available and are assessed.

Regional Board Staff Decision Recommendation: This is a decision previously approved by the State Water Resources Control Board and the USEPA. No new data were assessed by the Regional Board for the current. The decision has not changed.

Line of Evidence (LOE) for Decision ID 33908, DDT (Dichlorodiphenyltrichloroethane)

Region 2

Central Basin, San Francisco (part of SF Bay, Lower)

LOE ID: 3739

Pollutant: DDT (Dichlorodiphenyltrichloroethane)
LOE Subgroup: Pollutant-Tissue
Matrix: Tissue
Fraction: Not Recorded

Beneficial Use: Commercial or recreational collection of fish, shellfish, or organisms

Number of Samples: 0
Number of Exceedances: 0

Data and Information Type: Not Specified
Data Used to Assess Water Quality: Unspecified--This LOE is a placeholder to support a 303(d) listing decision made prior to 2006.

Data Reference: [Placeholder reference pre-2006 303\(d\)](#)

SWAMP Data: Non-SWAMP

Water Quality Objective/Criterion: Unspecified
Objective/Criterion Reference: [Placeholder reference pre-2006 303\(d\)](#)

Evaluation Guideline: Unspecified
Guideline Reference: [Placeholder reference pre-2006 303\(d\)](#)

Spatial Representation: Unspecified
Temporal Representation: Unspecified

Environmental Conditions: Unspecified
QAPP Information: Unspecified
QAPP Information Reference(s):

DECISION ID	34047	Region 2
Central Basin, San Francisco (part of SF Bay, Lower)		

Pollutant: Dioxin compounds (including 2,3,7,8-TCDD)
Final Listing Decision: List on 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision: List on 303(d) list (TMDL required list)(2012)
Revision Status: Original
Sources: Source Unknown
Expected TMDL Completion Date: 2019
Impairment from Pollutant or Pollution: Pollutant

Regional Board Staff Conclusion: 303(d) listing decisions made prior to 2006 were not held in an assessment database. The Regional Boards will update this decision when new data and information become available and are assessed.

Regional Board Staff Decision Recommendation: This is a decision previously approved by the State Water Resources Control Board and the USEPA. No new data were assessed by the Regional Board for the current. The decision has not changed.

Line of Evidence (LOE) for Decision ID 34047, Dioxin compounds (including 2,3,7,8-TCDD)	Region 2
Central Basin, San Francisco (part of SF Bay, Lower)	

LOE ID: 3741

Pollutant: Dioxin compounds (including 2,3,7,8-TCDD)
LOE Subgroup: Pollutant-Tissue
Matrix: Tissue
Fraction: Not Recorded

Beneficial Use: Commercial or recreational collection of fish, shellfish, or organisms

Number of Samples: 0
Number of Exceedances: 0

Data and Information Type: Not Specified
Data Used to Assess Water Quality: Unspecified--This LOE is a placeholder to support a 303(d) listing decision made prior to 2006.
Data Reference: [Placeholder reference pre-2006 303\(d\)](#)

SWAMP Data: Non-SWAMP

Water Quality Objective/Criterion: Unspecified
Objective/Criterion Reference: [Placeholder reference pre-2006 303\(d\)](#)

Evaluation Guideline: Unspecified
Guideline Reference: [Placeholder reference pre-2006 303\(d\)](#)

Spatial Representation: Unspecified
Temporal Representation: Unspecified
Environmental Conditions: Unspecified
QAPP Information: Unspecified
QAPP Information Reference(s):

DECISION ID	33814	Region 2
Central Basin, San Francisco (part of SF Bay, Lower)		

Pollutant:	Furan Compounds
Final Listing Decision:	List on 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision:	List on 303(d) list (TMDL required list)(2012)
Revision Status	Original
Sources:	Source Unknown
Expected TMDL Completion Date:	2019
Impairment from Pollutant or Pollution:	Pollutant

Regional Board Staff Conclusion:	303(d) listing decisions made prior to 2006 were not held in an assessment database. The Regional Boards will update this decision when new data and information become available and are assessed.
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Regional Board Staff Decision Recommendation:	This is a decision previously approved by the State Water Resources Control Board and the USEPA. No new data were assessed by the Regional Board for the current. The decision has not changed.
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Line of Evidence (LOE) for Decision ID 33814, Furan Compounds	Region 2
Central Basin, San Francisco (part of SF Bay, Lower)	

LOE ID:	3743
Pollutant:	Furan Compounds
LOE Subgroup:	Pollutant-Tissue
Matrix:	Tissue
Fraction:	Not Recorded
Beneficial Use:	Commercial or recreational collection of fish, shellfish, or organisms
Number of Samples:	0
Number of Exceedances:	0
Data and Information Type:	Not Specified
Data Used to Assess Water Quality:	Unspecified--This LOE is a placeholder to support a 303(d) listing decision made prior to 2006.
Data Reference:	Placeholder reference pre-2006 303(d)
SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	Unspecified
Objective/Criterion Reference:	Placeholder reference pre-2006 303(d)
Evaluation Guideline:	Unspecified
Guideline Reference:	Placeholder reference pre-2006 303(d)
Spatial Representation:	Unspecified
Temporal Representation:	Unspecified
Environmental Conditions:	Unspecified
QAPP Information:	Unspecified
QAPP Information Reference(s):	

DECISION ID	34048	Region 2
Central Basin, San Francisco (part of SF Bay, Lower)		

Pollutant:	Invasive Species
Final Listing Decision:	List on 303(d) list (TMDL required list)

Last Listing Cycle's Final Listing Decision:	List on 303(d) list (TMDL required list)(2012)
Revision Status	Original
Sources:	Source Unknown
Expected TMDL Completion Date:	2019
Impairment from Pollutant or Pollution:	Pollutant

Regional Board Staff Conclusion: 303(d) listing decisions made prior to 2006 were not held in an assessment database. The Regional Boards will update this decision when new data and information become available and are assessed.

Regional Board Staff Decision Recommendation: This is a decision previously approved by the State Water Resources Control Board and the USEPA. No new data were assessed by the Regional Board for the current. The decision has not changed.

Line of Evidence (LOE) for Decision ID 34048, Invasive Species

Region 2

Central Basin, San Francisco (part of SF Bay, Lower)

LOE ID:	3742
Pollutant:	Invasive Species
LOE Subgroup:	Population/Community Degradation
Matrix:	Water
Fraction:	Not Recorded
Beneficial Use:	Estuarine Habitat
Number of Samples:	0
Number of Exceedances:	0
Data and Information Type:	Not Specified
Data Used to Assess Water Quality:	Unspecified--This LOE is a placeholder to support a 303(d) listing decision made prior to 2006.
Data Reference:	Placeholder reference pre-2006 303(d)
SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	
Objective/Criterion Reference:	
Evaluation Guideline:	
Guideline Reference:	
Spatial Representation:	Unspecified
Temporal Representation:	Unspecified
Environmental Conditions:	Unspecified
QAPP Information:	Unspecified
QAPP Information Reference(s):	

DECISION ID 34071

Region 2

Central Basin, San Francisco (part of SF Bay, Lower)

Pollutant:	Selenium
Final Listing Decision:	List on 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision:	List on 303(d) list (TMDL required list)(2012)
Revision Status	Original
Sources:	Source Unknown
Expected TMDL Completion	2019

Date:

Impairment from Pollutant or Pollution: Pollutant

Regional Board Staff Conclusion: 303(d) listing decisions made prior to 2006 were not held in an assessment database. The Regional Boards will update this decision when new data and information become available and are assessed.

Regional Board Staff Decision Recommendation: This is a decision previously approved by the State Water Resources Control Board and the USEPA. No new data were assessed by the Regional Board for the current. The decision has not changed.

Line of Evidence (LOE) for Decision ID 34071, Selenium
Central Basin, San Francisco (part of SF Bay, Lower)

Region 2

LOE ID: 3748

Pollutant: Selenium

LOE Subgroup: Pollutant-Water

Matrix: Water

Fraction: Not Recorded

Beneficial Use: Estuarine Habitat

Number of Samples: 0

Number of Exceedances: 0

Data and Information Type: Not Specified

Data Used to Assess Water Quality: Unspecified--This LOE is a placeholder to support a 303(d) listing decision made prior to 2006.

Data Reference: [Placeholder reference pre-2006 303\(d\)](#)

SWAMP Data: Non-SWAMP

Water Quality Objective/Criterion: Unspecified

Objective/Criterion Reference: [Placeholder reference pre-2006 303\(d\)](#)

Evaluation Guideline: Unspecified

Guideline Reference: [Placeholder reference pre-2006 303\(d\)](#)

Spatial Representation: Unspecified

Temporal Representation: Unspecified

Environmental Conditions: Unspecified

QAPP Information: Unspecified

QAPP Information Reference(s):

DECISION ID 34501

Region 2

Central Basin, San Francisco (part of SF Bay, Lower)

Pollutant: Mercury

Final Listing Decision: List on 303(d) list (being addressed by USEPA approved TMDL)

Last Listing Cycle's Final Listing Decision: List on 303(d) list (being addressed by USEPA approved TMDL)(2012)

Revision Status Original

Sources: Atmospheric Deposition | Industrial Point Sources | Minor Industrial Point Source | Municipal Point Sources | Natural Sources | Nonpoint Source | Resource Extraction

TMDL Name: San Francisco Bay Mercury

TMDL Project Code: 6

Date TMDL Approved by USEPA: 02/12/2008

Impairment from Pollutant or Pollutant

Pollution:**Regional Board Staff Conclusion:**

The two mercury decisions on this water body were combined to simplify the decision making process. 303(d) listing decisions made prior to 2006 were not held in an assessment database. The Regional Boards will update this decision when new data and information become available and are assessed.

A TMDL has been developed and approved by USEPA (02/12/2006) and an approved implementation plan is expected to result in attainment of the standard. This provides a sufficient justification in favor of placing this water segment-pollutant combination in the Water Quality Limited Segments Being Addressed portion of the section 303(d) list. This pollutant is being considered for delisting under sections 4.6 of the Listing Policy. Under section 4.6 a single line of evidence is necessary to assess listing status. Two lines of evidence are available in the administrative record to assess this pollutant. Based on section 4.6, it cannot be determined if the site has significant sediment toxicity or whether the pollutant is likely to cause or contribute to any toxic effect. Based on the readily available data and information, the weight of evidence indicates that there is insufficient justification in favor of removing this water segment-pollutant combination from the section 303(d) list in the Water Quality Limited Segments category. This conclusion is based on the staff findings that:

1. The sediment quality guideline used complies, with the requirements of section 6.1.3 of the Policy.
2. The data used satisfies the data quality requirements of section 6.1.4 of the Policy.
3. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy.
4. None of 3 samples exceeded the 2.1 µg/g sediment quality guideline, 1 of 2 samples exhibit toxicity, and these do not meet the minimum data required for delisting as presented in Table 4.1 of the Listing Policy.
5. Pursuant to section 4.11 of the Listing Policy, no additional data and information are available indicating that standards are met.

Regional Board Staff Decision Recommendation:

This is a decision previously approved by the State Water Resources Control Board and the USEPA. No new data were assessed by the Regional Board for the current. The decision has not changed.

**Line of Evidence (LOE) for Decision ID 34501, Mercury
Central Basin, San Francisco (part of SF Bay, Lower)****Region 2**

LOE ID:	52
Pollutant:	Sediment Toxicity
LOE Subgroup:	Toxicity
Matrix:	Sediment
Fraction:	None
Beneficial Use:	Estuarine Habitat
Number of Samples:	2
Number of Exceedances:	1
Data and Information Type:	Toxicity testing of sediments
Data Used to Assess Water Quality:	Significant amphipod toxicity in 1 of 2 tests. Urchin toxicity in 1 of 2 samples (Hunt et al., 1998b).
Data Reference:	Placeholder reference 2006 303(d)
SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	All waters shall be maintained free of toxic substances in concentrations that are lethal to or that produce other detrimental responses in aquatic organisms. There shall be no chronic toxicity in ambient waters. Chronic toxicity is a detrimental biological effect on growth rate, reproduction, fertilization success, larval development, population abundance, community composition, or any other relevant measure of the health of an organism, population, or community.
Objective/Criterion Reference:	Placeholder reference 2006 303(d)
Evaluation Guideline:	BPTCP Reference envelope approach.

Guideline Reference:	Placeholder reference 2006 303(d)
Spatial Representation:	Data was synoptically collected with chemical measurements.
Temporal Representation:	Samples collected in December 1995 and April 1997. Temporal distribution of samples is described in the report: Sediment quality and biological effects of San Francisco Bay (Bay Protection and Toxic Cleanup Program), data August 1998.
Environmental Conditions:	
QAPP Information:	BPTCP Quality Assurance Project Plan.
QAPP Information Reference(s):	

Line of Evidence (LOE) for Decision ID 34501, Mercury	Region 2
Central Basin, San Francisco (part of SF Bay, Lower)	

LOE ID:	3744
Pollutant:	Mercury
LOE Subgroup:	Pollutant-Tissue
Matrix:	Tissue
Fraction:	Not Recorded
Beneficial Use:	Commercial or recreational collection of fish, shellfish, or organisms
Number of Samples:	0
Number of Exceedances:	0
Data and Information Type:	Not Specified
Data Used to Assess Water Quality:	Unspecified--This LOE is a placeholder to support a 303(d) listing decision made prior to 2006.
Data Reference:	Placeholder reference pre-2006 303(d)
SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	
Objective/Criterion Reference:	
Evaluation Guideline:	
Guideline Reference:	
Spatial Representation:	Unspecified
Temporal Representation:	Unspecified
Environmental Conditions:	Unspecified
QAPP Information:	Unspecified
QAPP Information Reference(s):	

Line of Evidence (LOE) for Decision ID 34501, Mercury	Region 2
Central Basin, San Francisco (part of SF Bay, Lower)	

LOE ID:	54
Pollutant:	Mercury (sediment)
LOE Subgroup:	Pollutant-Sediment
Matrix:	Sediment
Fraction:	None
Beneficial Use:	Estuarine Habitat
Number of Samples:	3
Number of Exceedances:	
Data and Information Type:	Chemical monitoring of sediments
Data Used to Assess Water Quality:	None of 3 samples exceed the sediment quality guideline. Previous BPTCP analyses

	used a guideline that was a factor of 3 lower than the guideline used in the current analysis (Hunt et al., 1998b).
Data Reference:	Placeholder reference 2006 303(d)
SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	All waters shall be maintained free of toxic substances in concentrations that are lethal to or that produce other detrimental responses in aquatic organisms. There shall be no chronic toxicity in ambient waters. Chronic toxicity is a detrimental biological effect on growth rate, reproduction, fertilization success, larval development, population abundance, community composition, or any other relevant measure of the health of an organism, population, or community.
Objective/Criterion Reference:	Placeholder reference 2006 303(d)
Evaluation Guideline:	Sediment quality guideline of 2.1 ug/g used (PTI Environmental Services, 1991).
Guideline Reference:	Placeholder reference 2006 303(d)
Spatial Representation:	Data was synoptically collected with toxicity measurements.
Temporal Representation:	Samples collected in December 1995 and April 1997. Temporal distribution of samples is described in the report: Sediment quality and biological effects of San Francisco Bay (Bay Protection and Toxic Cleanup Program), data August 1998.
Environmental Conditions:	
QAPP Information:	BPTCP Quality Assurance Project Plan.
QAPP Information Reference(s):	

DECISION ID	33831	Region 2
Central Basin, San Francisco (part of SF Bay, Lower)		

Pollutant:	PCBs (Polychlorinated biphenyls)
Final Listing Decision:	List on 303(d) list (being addressed by USEPA approved TMDL)
Last Listing Cycle's Final Listing Decision:	List on 303(d) list (TMDL required list)(2012)
Revision Status	Original
Sources:	Source Unknown
TMDL Name:	San Francisco Bay PCBs
TMDL Project Code:	7
Date TMDL Approved by USEPA:	03/29/2010
Impairment from Pollutant or Pollution:	Pollutant

Regional Board Staff Conclusion:	303(d) listing decisions made prior to 2006 were not held in an assessment database. The Regional Boards will update this decision when new data and information become available and are assessed.
Regional Board Staff Decision Recommendation:	This is a decision previously approved by the State Water Resources Control Board and the USEPA. No new data were assessed by the Regional Board for the current. The decision has not changed.

Line of Evidence (LOE) for Decision ID 33831, PCBs (Polychlorinated biphenyls)	Region 2
Central Basin, San Francisco (part of SF Bay, Lower)	

LOE ID:	3746
Pollutant:	PCBs (Polychlorinated biphenyls)
LOE Subgroup:	Pollutant-Tissue
Matrix:	Tissue
Fraction:	Not Recorded
Beneficial Use:	Commercial or recreational collection of fish, shellfish, or organisms

Number of Samples:	0
Number of Exceedances:	0
Data and Information Type:	Not Specified
Data Used to Assess Water Quality:	Unspecified--This LOE is a placeholder to support a 303(d) listing decision made prior to 2006.
Data Reference:	Placeholder reference pre-2006 303(d)
SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	Unspecified
Objective/Criterion Reference:	Placeholder reference pre-2006 303(d)
Evaluation Guideline:	Unspecified
Guideline Reference:	Placeholder reference pre-2006 303(d)
Spatial Representation:	Unspecified
Temporal Representation:	Unspecified
Environmental Conditions:	Unspecified
QAPP Information:	Unspecified
QAPP Information Reference(s):	

DECISION ID	33830	Region 2
Central Basin, San Francisco (part of SF Bay, Lower)		

Pollutant:	PCBs (Polychlorinated biphenyls) (dioxin-like)
Final Listing Decision:	List on 303(d) list (being addressed by USEPA approved TMDL)
Last Listing Cycle's Final Listing Decision:	List on 303(d) list (TMDL required list)(2012)
Revision Status	Original
Sources:	Source Unknown
TMDL Name:	San Francisco Bay PCBs
TMDL Project Code:	7
Date TMDL Approved by USEPA:	03/29/2010
Impairment from Pollutant or Pollution:	Pollutant

Regional Board Staff Conclusion:	303(d) listing decisions made prior to 2006 were not held in an assessment database. The Regional Boards will update this decision when new data and information become available and are assessed.
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Regional Board Staff Decision Recommendation:	This is a decision previously approved by the State Water Resources Control Board and the USEPA. No new data were assessed by the Regional Board for the current. The decision has not changed.
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Line of Evidence (LOE) for Decision ID 33830, PCBs (Polychlorinated biphenyls) (dioxin-like)	Region 2
Central Basin, San Francisco (part of SF Bay, Lower)	

LOE ID:	3747
Pollutant:	PCBs (Polychlorinated biphenyls) (dioxin-like)
LOE Subgroup:	Pollutant-Tissue
Matrix:	Tissue
Fraction:	Not Recorded
Beneficial Use:	Commercial or recreational collection of fish, shellfish, or organisms
Number of Samples:	0
Number of Exceedances:	0

Data and Information Type:	Not Specified
Data Used to Assess Water Quality:	Unspecified--This LOE is a placeholder to support a 303(d) listing decision made prior to 2006.
Data Reference:	Placeholder reference pre-2006 303(d)
SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	Unspecified
Objective/Criterion Reference:	Placeholder reference pre-2006 303(d)
Evaluation Guideline:	Unspecified
Guideline Reference:	Placeholder reference pre-2006 303(d)
Spatial Representation:	Unspecified
Temporal Representation:	Unspecified
Environmental Conditions:	Unspecified
QAPP Information:	Unspecified
QAPP Information Reference(s):	

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Supporting Information

Regional Board 2 - San Francisco Bay Region

Water Body Name: San Francisco Bay, South
Water Body ID: CAB2051000019980916164839
Water Body Type: Bay & Harbor

DECISION ID 32941 **Region 2**
San Francisco Bay, South

Pollutant: Diazinon
Final Listing Decision: Delist from 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision: Delist from 303(d) list (TMDL required list)(2012)
Revision Status Revised
Reason for Delisting: Applicable WQS attained; reason for recovery unspecified
Impairment from Pollutant or Pollution: Pollutant

Regional Board Staff Conclusion: This pollutant is being considered for removal from the CWA section 303(d) List under section 4.1 of the Listing Policy. Under this section a single line of evidence is necessary to assess listing status.

Six lines of evidence are available in the administrative record to assess this pollutant. Zero of fifty-seven samples exceeded the guideline.

Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification for removing this water segment-pollutant combination from the CWA section 303(d) List.

This conclusion is based on the staff findings that:

1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy.
2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy.
3. Zero of fifty-seven samples exceeded the guideline and this does not exceed the allowable frequency listed in Table 4.1 of the Listing Policy.
4. Pursuant to section 4.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.

Regional Board Staff Decision Recommendation: After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should be removed from the section 303(d) list because applicable water quality standards for the pollutant are not being exceeded.

Line of Evidence (LOE) for Decision ID 32941, Diazinon **Region 2**
San Francisco Bay, South

LOE ID: 95161
Pollutant: Diazinon
LOE Subgroup: Pollutant-Tissue
Matrix: Tissue
Fraction: Fish fillet
Beneficial Use: Commercial or recreational collection of fish, shellfish, or organisms
Number of Samples: 38
Number of Exceedances: 0

Data and Information Type:	Fish tissue analysis
Data Used to Assess Water Quality:	Water Board staff assessed Regional Monitoring Program data for South San Francisco Bay to determine beneficial use support and results are as follows: 0 of 38 samples exceed the criterion for diazinon. No samples were discarded for being non-detect, unquantifiable or the reporting limit exceeding the water quality objective.
Data Reference:	Regional Monitoring Program data, Feb. 1993-Sep. 2008
SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	Water Quality Control Plan for the San Francisco Bay Basin: Controllable water quality factors shall not cause a detrimental increase in concentrations of toxic substances found in bottom sediments or aquatic life. Effects on aquatic organisms, wildlife, and human health will be considered.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	The modified OEHHA Fish Contaminant Goal for diazinon in fish tissue is 1,500 ppb. This screening level assumes an average body weight of 70 kg and a consumption rate of 32 g/day. A cooking reduction factor of 1 is applied for skin-off fillets. (Klasing, S., and R. Brodberg, 2008; USEPA, 2000)
Guideline Reference:	Development of Fish Contaminant Goals and Advisory Tissue Levels for Common Contaminants in California Sport Fish: Chlordane, DDTs, Dieldrin, Methylmercury, PCBs, Selenium, and Toxaphene Guidance for Assessing Chemical Contaminant Data for Use In Fish Advisories Volume 1: Fish Sampling and Analysis
Spatial Representation:	The samples were collected at three sites throughout South San Francisco Bay.
Temporal Representation:	The samples were collected in April 2000, May 2000, May 2003, August 2003, September 2003, May 2006, June 2006.
Environmental Conditions:	
QAPP Information:	The 1999 Quality Assurance Project Plan Regional Monitoring Program for Trace Substances was used.
QAPP Information Reference(s):	1999 Quality Assurance Project Plan Regional Monitoring Program for Trace Substances

Line of Evidence (LOE) for Decision ID 32941, Diazinon
San Francisco Bay, South

Region 2

LOE ID:	61
Pollutant:	Diazinon
LOE Subgroup:	Pollutant-Water
Matrix:	Water
Fraction:	Dissolved
Beneficial Use:	Estuarine Habitat
Number of Samples:	0
Number of Exceedances:	0
Data and Information Type:	Not Specified
Data Used to Assess Water Quality:	1st sample site: 16 samples, pollutant range: 2,500-97,628 pg/l, average: 10,862.3 2nd sample site: 17 samples, pollutant range: 610-18,426 pg/l, average: 5,814.1. 3rd sample site: 15 samples, pollutant range: 520-7,120 pg/l, average: 3,274.4. 4th sample site: 17 samples, pollutant range: 6,500-36,000 pg/l, average: 14,867.1 (SFEI, 2001).
Data Reference:	Placeholder reference 2006 303(d)
SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	All waters shall be maintained free of toxic substances in concentrations that are lethal to or that produce other detrimental responses in aquatic organisms. Detrimental responses include, but are not limited to, decreased growth rate and decreased reproductive success

Objective/Criterion Reference:	of resident or indicator species. There shall be no acute toxicity in ambient waters. There shall be no chronic toxicity in ambient waters. Placeholder reference 2006 303(d)
Evaluation Guideline:	For salt water, USEPA has developed a draft water quality criteria of 820 ng/L (acute) and 400 ng/L (chronic). The use of these values may not comply with all the requirements of section 6.1.3 of the Listing Policy.
Guideline Reference:	Placeholder reference 2006 303(d)
Spatial Representation:	Four sample sites.
Temporal Representation:	1st sample site: Date Range: 02/01/94-07/31/01. 2nd sample site: Date Range: 03/02/93-08/01/01 3rd sample site: Date Range: 03/02/93-07/31/01 4th sample site: Date Range: 02/06/96-08/01/01
Environmental Conditions:	
QAPP Information:	SFEI RMP QA/QC program.
QAPP Information Reference(s):	

Line of Evidence (LOE) for Decision ID 32941, Diazinon

Region 2

San Francisco Bay, South

LOE ID:	62
Pollutant:	Diazinon
LOE Subgroup:	Pollutant-Water
Matrix:	Water
Fraction:	Total Dissolved
Beneficial Use:	Estuarine Habitat
Number of Samples:	0
Number of Exceedances:	0
Data and Information Type:	PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality:	1st sample site: 16 samples, pollutant range: 2,500-98,002 pg/l, average: 11,066.5 2nd sample site: 17 samples, pollutant range: 610-18,469 pg/l, average: 5,881.1. 3rd sample site: 15 viable samples, pollutant range: 520-7,133 pg/l, average: 3,288.8. 4th sample site: 12 viable samples, pollutant range: 6,500-36,150 pg/l, average: 15,207.8 (SFEI, 2001).
Data Reference:	Placeholder reference 2006 303(d)
SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	All waters shall be maintained free of toxic substances in concentrations that are lethal to or that produce other detrimental responses in aquatic organisms. Detrimental responses include, but are not limited to, decreased growth rate and decreased reproductive success of resident or indicator species. There shall be no acute toxicity in ambient waters. There shall be no chronic toxicity in ambient waters.
Objective/Criterion Reference:	Placeholder reference 2006 303(d)
Evaluation Guideline:	For salt water, USEPA has developed draft water quality criteria of 820 ng/L (acute) and 400 ng/L (chronic). The use of these values may not comply with all the requirements of section 6.1.3 of the Listing Policy.
Guideline Reference:	Placeholder reference 2006 303(d)
Spatial Representation:	Four sample sites.
Temporal Representation:	1st sample site: Date Range: 02/01/94-07/31/01. 2nd sample site: Date Range: 03/02/93-08/01/01 3rd sample site: Date Range: 03/02/93-07/31/01 4th sample site: Date Range: 02/06/96-08/01/01
Environmental Conditions:	
QAPP Information:	SFEI RMP QA/QC program.

Line of Evidence (LOE) for Decision ID 32941, Diazinon**Region 2****San Francisco Bay, South**

LOE ID:	59
Pollutant:	Diazinon
LOE Subgroup:	Narrative Description Data
Matrix:	-N/A
Fraction:	None
Beneficial Use:	Estuarine Habitat
Number of Samples:	0
Number of Exceedances:	0
Data and Information Type:	Not Specified
Data Used to Assess Water Quality:	In response to the RMP observations of ambient water toxicity, and given the linkage established between similar toxicity and pesticides in upstream ambient water, the SFBRWQCB identified all San Francisco Bay segments as being impaired due to Pesticides in 1998: Pesticides have been added as a cause of impairment to all Bay segments. The pesticide diazinon has been measured at levels that cause water column toxicity. The pesticide chlorpyrifos may also be a problem. This listing is consistent with listing of the Delta for these pesticides by the Central Valley Regional Water Quality Control Board. This listing was subsequently made specific for the OP pesticide diazinon by the USEPA.
Data Reference:	Placeholder reference 2006 303(d)
SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	
Objective/Criterion Reference:	
Evaluation Guideline:	
Guideline Reference:	
Spatial Representation:	
Temporal Representation:	
Environmental Conditions:	
QAPP Information:	QA Info Missing
QAPP Information Reference(s):	

Line of Evidence (LOE) for Decision ID 32941, Diazinon**Region 2****San Francisco Bay, South**

LOE ID:	60
Pollutant:	Diazinon
LOE Subgroup:	Toxicity
Matrix:	Not Specified
Fraction:	None
Beneficial Use:	Estuarine Habitat
Number of Samples:	0
Number of Exceedances:	0
Data and Information Type:	TOXICITY TESTING
Data Used to Assess Water Quality:	Ambient water toxicity in San Francisco Bay appears to have disappeared. The results of

ambient water toxicity monitoring at Mallard Island indicate a significant reduction in the frequency, duration, and magnitude of toxicity: 4-5% of the ambient water samples were toxic in 1998-99 (34 total samples) and 1999-2000 (23 samples), relative to 14% toxicity frequency observed in 1997-98 (27 samples); none of the 28 samples collected during the 2000-2001 season were significantly toxic.

In addition, the 1998-2000 and 2000-2001 monitoring at Mallard Island did not document any sets of consecutively toxic samples indicative of an extended period of ambient water toxicity, such as were observed in February and May of 1998. Moreover, the magnitude of toxicity (as reflected by the degree [or percentage] of test organism mortality) is also markedly reduced in the later years, again suggesting a reduction in the degree of ambient water toxicity. Subsequent RMP monitoring of ambient water toxicity in water samples collected from October, 2001 through April 2003, also indicated an absence of toxicity to the test organisms (Ogle, 2004).

Data Reference: [Placeholder reference 2006 303\(d\)](#)

SWAMP Data: Non-SWAMP

Water Quality Objective/Criterion: Basin Plan: There shall be no acute toxicity in ambient waters. There shall be no chronic toxicity in ambient waters.

Objective/Criterion Reference: [Placeholder reference 2006 303\(d\)](#)

Evaluation Guideline:
Guideline Reference:

Spatial Representation:

Temporal Representation:

Environmental Conditions:

QAPP Information:

QA Info Missing

QAPP Information Reference(s):

Line of Evidence (LOE) for Decision ID 32941, Diazinon

Region 2

San Francisco Bay, South

LOE ID: 92983

Pollutant: Diazinon
LOE Subgroup: Pollutant-Water
Matrix: Water
Fraction: Dissolved

Beneficial Use: Estuarine Habitat

Number of Samples: 57
Number of Exceedances: 0

Data and Information Type: PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality: State Water Board staff assessed SFEI data for San Francisco Bay, South to determine beneficial use support and results are as follows: 0 of 57 samples exceed the criterion for Diazinon.

Data Reference: [Regional Monitoring Program data, Feb. 1993-Sep. 2008](#)

SWAMP Data: Non-SWAMP

Water Quality Objective/Criterion: All waters shall be maintained free of toxic substances in concentrations which are toxic to, or which produce detrimental physiological responses in, human, plant, animal, or aquatic life. (Water Quality Control Plan, Central Coast Basin, Chapter III, Section II.A.2 Objectives for all Inland Surface Waters, Enclosed Bays and Estuaries).

Objective/Criterion Reference: [Water Quality Control Plan \(Basin Plan\) San Francisco Bay Basin \(Region 2\)](#)

Evaluation Guideline: The freshwater chronic value for diazinon is 0.1 ug/L, expressed as a continuous concentration (Finlayson, 2004).

Guideline Reference: [Water quality for diazinon. Memorandum to J. Karkoski, Central Valley RWQCB, Rancho Cordova, CA: Pesticide Investigation Unit, CA Department of Fish and Game](#)

Spatial Representation: Data for this line of evidence for San Francisco Bay, South was collected at 28 monitoring sites [Coyote Creek - BA10, Lower South Bay - LSB002W, Lower South Bay - LSB008W, Lower South Bay - LSB017W, Lower South Bay - LSB021W, Lower South Bay - LSB018W, Lower South Bay - LSB020W, Lower South Bay - LSB011W, Lower South Bay - LSB010W, Lower South Bay - LSB009W, Lower South Bay - LSB019W, Lower South Bay - LSB007W, South Bay - SB030W, South Bay - SB034W, South Bay - SB036W, Lower South Bay - LSB003W, South Bay - SB037W, South Bay - SB032W, South Bay - SB029W, Lower South Bay - LSB006W, South Bay - SB033W, South Bay - SB035W, South Bay - SB031W, South Bay - SB016W, Lower South Bay - LSB004W, South Bay - SB012W, Lower South Bay - LSB005W, Lower South Bay - LSB001W]

Temporal Representation: Data was collected over the time period 2/1/1994-8/19/2005.

Environmental Conditions: Staff is not aware of any special conditions that might affect interpretation of the data.

QAPP Information: The 1999 Quality Assurance Project Plan Regional Monitoring Program for Trace Substances was used.

QAPP Information Reference(s): [1999 Quality Assurance Project Plan Regional Monitoring Program for Trace Substances](#)

DECISION ID	33834	Region 2
San Francisco Bay, South		

Pollutant: Chlordane

Final Listing Decision: Do Not Delist from 303(d) list (TMDL required list)

Last Listing Cycle's Final Listing Decision: List on 303(d) list (TMDL required list)(2012)

Revision Status Revised

Sources: Source Unknown

Expected TMDL Completion Date: 2013

Impairment from Pollutant or Pollution: Pollutant

Regional Board Staff Conclusion:

This pollutant is being considered for removal from the CWA section 303(d) List under section 4.1 of the Listing Policy. Under this section a single line of evidence is necessary to assess listing status.

Seven lines of evidence are available in the administrative record to assess pollutant. Twenty-six of forty-one samples exceed the guideline.

Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against removing this water segment-pollutant combination from the CWA section 303(d) List.

This conclusion is based on the staff findings that:

1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy.
2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy.
3. Twenty-six of forty-one samples exceed the guideline and this exceeds the allowable frequency listed in Table 4.1 of the Listing Policy.
4. Pursuant to section 4.11 of the Listing Policy, no additional data and information are available indicating that standards are met.

Regional Board Staff Decision Recommendation: After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be removed from the section 303(d) list because applicable water quality standards for the pollutant are being exceeded.

Line of Evidence (LOE) for Decision ID 33834, Chlordane	Region 2
San Francisco Bay, South	

LOE ID: 92963

Pollutant:	Chlordane
LOE Subgroup:	Pollutant-Water
Matrix:	Water
Fraction:	Total
Beneficial Use:	Commercial or recreational collection of fish, shellfish, or organisms
Number of Samples:	92
Number of Exceedances:	4
Data and Information Type:	PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality:	State Water Board staff assessed SFEI data for San Francisco Bay, South to determine beneficial use support and results are as follows: 4 of 92 samples exceed the criterion for Chlordane, Total.
Data Reference:	Regional Monitoring Program data, Feb. 1993-Sep. 2008
SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	The Chlordane, Total criteria for the protection of human health from consumption of organisms only is 0.00059 ug/L (California Toxics Rule, 2000).
Objective/Criterion Reference:	Code of Federal Regulations 40 part 131.38 Establishment of numeric criteria for priority toxic pollutants for the State of California. 7/1/2011 Edition
Evaluation Guideline:	
Guideline Reference:	
Spatial Representation:	Data for this line of evidence for San Francisco Bay, South was collected at 50 monitoring sites [Coyote Creek - BA10, Lower South Bay - LSB001W, Lower South Bay - LSB002W, Lower South Bay - LSB003W, Lower South Bay - LSB004W, Lower South Bay - LSB005W, Lower South Bay - LSB006W, Lower South Bay - LSB007W, Lower South Bay - LSB008W, Lower South Bay - LSB009W, Lower South Bay - LSB010W, Lower South Bay - LSB011W, Lower South Bay - LSB012W, Lower South Bay - LSB013W, Lower South Bay - LSB014W, Lower South Bay - LSB015W, Lower South Bay - LSB016W, Lower South Bay - LSB017W, Lower South Bay - LSB018W, Lower South Bay - LSB019W, Lower South Bay - LSB020W, Lower South Bay - LSB021W, Lower South Bay - LSB022W, Lower South Bay - LSB023W, Lower South Bay - LSB024W, Lower South Bay - LSB025W, Lower South Bay - LSB026W, Lower South Bay - LSB027W, Lower South Bay - LSB028W, Lower South Bay - LSB029W, Lower South Bay - LSB030W, Lower South Bay - LSB032W, South Bay - SB031W, South Bay - SB033W, South Bay - SB034W, South Bay - SB035W, South Bay - SB036W, South Bay - SB037W, South Bay - SB038W, South Bay - SB039W, South Bay - SB040W, South Bay - SB041W, South Bay - SB042W, South Bay - SB043W, South Bay - SB044W, South Bay - SB045W, South Bay - SB046W, South Bay - SB047W, South Bay - SB048W, South Bay - SB049W]
Temporal Representation:	Data was collected over the time period 2/1/1994-8/16/2007.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	The 1999 Quality Assurance Project Plan Regional Monitoring Program for Trace Substances was used.
QAPP Information Reference(s):	1999 Quality Assurance Project Plan Regional Monitoring Program for Trace Substances

Line of Evidence (LOE) for Decision ID 33834, Chlordane
San Francisco Bay, South

Region 2

LOE ID:	3842
Pollutant:	Chlordane
LOE Subgroup:	Pollutant-Tissue
Matrix:	Tissue
Fraction:	Not Recorded
Beneficial Use:	Commercial or recreational collection of fish, shellfish, or organisms

Number of Samples:	0
Number of Exceedances:	0
Data and Information Type:	Not Specified
Data Used to Assess Water Quality:	Unspecified--This LOE is a placeholder to support a 303(d) listing decision made prior to 2006.
Data Reference:	Placeholder reference pre-2006 303(d)
SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	Unspecified
Objective/Criterion Reference:	Placeholder reference pre-2006 303(d)
Evaluation Guideline:	Unspecified
Guideline Reference:	Placeholder reference pre-2006 303(d)
Spatial Representation:	Unspecified
Temporal Representation:	Unspecified
Environmental Conditions:	Unspecified
QAPP Information:	Unspecified
QAPP Information Reference(s):	

**Line of Evidence (LOE) for Decision ID 33834, Chlordane
San Francisco Bay, South**

Region 2

LOE ID:	95207
Pollutant:	Chlordane
LOE Subgroup:	Pollutant-Tissue
Matrix:	Tissue
Fraction:	Fish fillet
Beneficial Use:	Commercial or recreational collection of fish, shellfish, or organisms
Number of Samples:	41
Number of Exceedances:	26
Data and Information Type:	Fish tissue analysis
Data Used to Assess Water Quality:	Water Board staff assessed Regional Monitoring Program data for South San Francisco Bay to determine beneficial use support and results are as follows: 26 of 41 samples exceed the criterion for chlordane. No samples were discarded for being non-detect, unquantifiable or the reporting limit exceeding the water quality objective.
Data Reference:	Regional Monitoring Program data, Feb. 1993-Sep. 2008
SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	Water Quality Control Plan for the San Francisco Bay Basin: Controllable water quality factors shall not cause a detrimental increase in concentrations of toxic substances found in bottom sediments or aquatic life. Effects on aquatic organisms, wildlife, and human health will be considered.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	The modified OEHHA Fish Contaminant Goal for total chlordane in fish tissue is 3.9 ppb. This screening level assumes an average body weight of 70 kg and a consumption rate of 32 g/day for a 30 year exposure over a 70-year lifetime. This constituent is a carcinogen therefore the risk level is set to one in a million. A cooking reduction factor of 1 is applied for skin-off fillets. (Klasing, S., and R. Brodberg, 2008)
Guideline Reference:	Development of Fish Contaminant Goals and Advisory Tissue Levels for Common Contaminants in California Sport Fish: Chlordane, DDTs, Dieldrin, Methylmercury, PCBs, Selenium, and Toxaphene
Spatial Representation:	The samples were collected at three sites throughout South San Francisco Bay.

Temporal Representation: The samples were collected in April 2000, May 2000, May 2003, August 2003, September 2003, May 2006, June 2006, and August 2006..

Environmental Conditions:

QAPP Information: The 1999 Quality Assurance Project Plan Regional Monitoring Program for Trace Substances was used.

QAPP Information Reference(s): [1999 Quality Assurance Project Plan Regional Monitoring Program for Trace Substances](#)

Line of Evidence (LOE) for Decision ID 33834, Chlordane
San Francisco Bay, South

Region 2

LOE ID: 92954

Pollutant: Chlordane
 LOE Subgroup: Pollutant-Tissue
 Matrix: Tissue
 Fraction: Shellfish

Beneficial Use: Shellfish Harvesting

Number of Samples: 1
 Number of Exceedances: 0

Data and Information Type: Shellfish surveys
 Data Used to Assess Water Quality: The result did not exceed the guideline. Data were reported on a dry weight basis and were converted to a wet weight basis by multiplying the dry-weight concentration by a factor of 1 minus the percentage of moisture content expressed as a decimal. Chlordane result was calculated by summing the results for chlordane isomers: cis- and trans-nonachlor, alpha- and gamma-chlordane, and oxychlordane.

Data Reference: [State Mussel Watch Program Data 1977-2000; Winter 2007-Winter 2009. State Water Resources Control Board](#)

SWAMP Data: Non-SWAMP

Water Quality Objective/Criterion: Many pollutants can accumulate on particles, in sediment, or bioaccumulate in fish and other aquatic organisms. Controllable water quality factors shall not cause a detrimental increase in concentrations of toxic substances found in bottom sediments or aquatic life. Effects on aquatic organisms, wildlife, and human health will be considered.

Objective/Criterion Reference: [Water Quality Control Plan \(Basin Plan\) San Francisco Bay Basin \(Region 2\)](#)

Evaluation Guideline: The modified OEHHA Fish Contaminant Goal for total chlordane in shellfish tissue is 6.0 ppb. This screening level assumes an average body weight of 70 kg and a consumption rate of 21 g/day for a 30 year exposure over a 70-year lifetime. This constituent is a carcinogen therefore the risk level is set to one in a million. (Brodberg, R.K., and G.A. Pollock, 1999; Klasing, S., and R. Brodberg, 2008)

Guideline Reference: [Prevalence of Selected Target Chemical Contaminants in Sport Fish From Two California Lakes: Public health designed screening study. Sacramento, CA: Office of Environmental Health Hazard Assessment](#)
[Development of Fish Contaminant Goals and Advisory Tissue Levels for Common Contaminants in California Sport Fish: Chlordane, DDTs, Dieldrin, Methylmercury, PCBs, Selenium, and Toxaphene](#)

Spatial Representation: Samples are collected by hand from three sub-locations for each site. The composite sample was collected from site San Francisco Bay Dumbarton Bridge (SFDB).

Temporal Representation: Representative samples of locally abundant species were collected during the winter on 2/3/2009

Environmental Conditions:

QAPP Information: Samples were collected as part of the State Water Board's Mussel Watch Program which is a part of the National Oceanic Administration's (NOAAs) National Status and Trends (NS&T). Mussels are shipped to NOAAs contract labs for analysis of trace constituents and mussel condition. Analytical protocols follow those approved by NOAAs NS&T Program Additional background information can be found at: <http://ccma.nos.noaa.gov/stressors/pollution/nsandt/>

Line of Evidence (LOE) for Decision ID 33834, Chlordane
San Francisco Bay, South

Region 2

LOE ID:	92955
Pollutant:	Chlordane
LOE Subgroup:	Pollutant-Water
Matrix:	Water
Fraction:	Dissolved
Beneficial Use:	Estuarine Habitat
Number of Samples:	70
Number of Exceedances:	0
Data and Information Type:	PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality:	State Water Board staff assessed SFEI data for San Francisco Bay, South to determine beneficial use support and results are as follows: 0 of 70 samples exceed the criterion for Chlordane, Total.
Data Reference:	Regional Monitoring Program data, Feb. 1993-Sep. 2008
SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	The chlordane criterion continuous concentration (expressed as a 4-day average) to protect aquatic life in saline water is 0.004 ug/L (California Toxics Rule, 2000).
Objective/Criterion Reference:	Code of Federal Regulations 40 part 131.38 Establishment of numeric criteria for priority toxic pollutants for the State of California. 7/1/2011 Edition
Evaluation Guideline:	
Guideline Reference:	
Spatial Representation:	Data for this line of evidence for San Francisco Bay, South was collected at 37 monitoring sites [Coyote Creek - BA10, Lower South Bay - LSB002W, Lower South Bay - LSB008W, Lower South Bay - LSB017W, Lower South Bay - LSB021W, Lower South Bay - LSB018W, Lower South Bay - LSB020W, Lower South Bay - LSB011W, Lower South Bay - LSB010W, Lower South Bay - LSB009W, Lower South Bay - LSB019W, Lower South Bay - LSB007W, South Bay - SB030W, South Bay - SB034W, South Bay - SB036W, Lower South Bay - LSB015W, Lower South Bay - LSB003W, Lower South Bay - LSB014W, Lower South Bay - LSB013W, South Bay - SB037W, Lower South Bay - LSB016W, South Bay - SB032W, South Bay - SB029W, Lower South Bay - LSB006W, South Bay - SB033W, Lower South Bay - LSB012W, South Bay - SB035W, South Bay - SB022W, South Bay - SB031W, Lower South Bay - LSB004W, South Bay - SB027W, South Bay - SB028W, Lower South Bay - LSB005W, South Bay - SB025W, South Bay - SB024W, South Bay - SB023W, Lower South Bay - LSB001W]
Temporal Representation:	Data was collected over the time period 2/1/1994-8/19/2005.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	The 1999 Quality Assurance Project Plan Regional Monitoring Program for Trace Substances was used.
QAPP Information Reference(s):	1999 Quality Assurance Project Plan Regional Monitoring Program for Trace Substances

Line of Evidence (LOE) for Decision ID 33834, Chlordane
San Francisco Bay, South

Region 2

LOE ID:	93643
Pollutant:	Chlordane
LOE Subgroup:	Pollutant-Tissue
Matrix:	Tissue
Fraction:	Shellfish

Beneficial Use:	Shellfish Harvesting
Number of Samples:	18
Number of Exceedances:	6
Data and Information Type:	Shellfish surveys
Data Used to Assess Water Quality:	Six of the 18 samples exceeded the guideline. All composite samples were comprised of <i>Crassostrea gigas</i> except for 3 composites that were comprised of <i>Mytilus californianus</i> . Data were reported on a dry weight basis and were converted to a wet weight basis by multiplying the dry-weight concentration by a factor of 1 minus the percentage of moisture content expressed as a decimal.
Data Reference:	Regional Monitoring Program data, Feb. 1993-Sep. 2008
SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	Water Quality Control Plan for the San Francisco Bay Basin: Controllable water quality factors shall not cause a detrimental increase in concentrations of toxic substances found in bottom sediments or aquatic life. Effects on aquatic organisms, wildlife, and human health will be considered.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	The modified OEHHA Fish Contaminant Goal for total chlordane in shellfish tissue is 6.0 ppb. This screening level assumes an average body weight of 70 kg and a consumption rate of 21 g/day for a 30 year exposure over a 70-year lifetime. This constituent is a carcinogen therefore the risk level is set to one in a million. (Brodberg, R.K., and G.A. Pollock, 1999; Klasing, S., and R. Brodberg, 2008)
Guideline Reference:	Prevalence of Selected Target Chemical Contaminants in Sport Fish From Two California Lakes: Public health designed screening study. Sacramento, CA: Office of Environmental Health Hazard Assessment Development of Fish Contaminant Goals and Advisory Tissue Levels for Common Contaminants in California Sport Fish: Chlordane, DDTs, Dieldrin, Methylmercury, PCBs, Selenium, and Toxaphene
Spatial Representation:	Samples were collected at the following station: BA10 - Coyote Creek.
Temporal Representation:	Samples were generally collected in spring and fall seasons from years 1994 - 1999 and then during most fall seasons during years 2000 - 2008.
Environmental Conditions:	
QAPP Information:	1999 Quality Assurance Project Plan Regional Monitoring Program for Trace Substances.
QAPP Information Reference(s):	1999 Quality Assurance Project Plan Regional Monitoring Program for Trace Substances

DECISION ID	33835	Region 2
San Francisco Bay, South		

Pollutant:	DDT (Dichlorodiphenyltrichloroethane)
Final Listing Decision:	Do Not Delist from 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision:	List on 303(d) list (TMDL required list)(2012)
Revision Status	Revised
Sources:	Source Unknown
Expected TMDL Completion Date:	2013
Impairment from Pollutant or Pollution:	Pollutant
Regional Board Staff Conclusion:	<p>This pollutant is being considered for removal from the CWA section 303(d) List under section 4.1 of the Listing Policy. Under this section a single line of evidence is necessary to assess listing status.</p> <p>Six lines of evidence are available in the administrative record to assess pollutant. Thirty-one of the thirty-seven samples exceed the guideline.</p>

Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against removing this water segment-pollutant combination from the CWA section 303(d) List.

This conclusion is based on the staff findings that:

1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy.
2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy.
3. Thirty-one of the thirty-seven samples exceed the guideline and this exceeds the allowable frequency listed in Table 4.1 of the Listing Policy.
4. Pursuant to section 4.11 of the Listing Policy, no additional data and information are available indicating that standards are met.

Regional Board Staff Decision Recommendation: After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be removed from the section 303(d) list because applicable water quality standards for the pollutant are being exceeded.

Line of Evidence (LOE) for Decision ID 33835, DDT (Dichlorodiphenyltrichloroethane)

Region 2

San Francisco Bay, South

LOE ID:	92957
Pollutant:	Total DDT (sum of 4,4'- and 2,4'- isomers of DDT, DDE, and DDD)
LOE Subgroup:	Pollutant-Water
Matrix:	Water
Fraction:	Total
Beneficial Use:	Commercial or recreational collection of fish, shellfish, or organisms
Number of Samples:	92
Number of Exceedances:	12
Data and Information Type:	PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality:	State Water Board staff assessed SFEI data for San Francisco Bay, South to determine beneficial use support and results are as follows: 12 of 92 samples exceed the criterion for DDT, Total.
Data Reference:	Regional Monitoring Program data, Feb. 1993-Sep. 2008
SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	The DDT, Total criteria for the protection of human health from consumption of organisms only is 0.00059 ug/L (California Toxics Rule, 2000).
Objective/Criterion Reference:	Code of Federal Regulations 40 part 131.38 Establishment of numeric criteria for priority toxic pollutants for the State of California. 7/1/2011 Edition
Evaluation Guideline:	
Guideline Reference:	
Spatial Representation:	Data for this line of evidence for San Francisco Bay, South was collected at 50 monitoring sites [Coyote Creek - BA10, Lower South Bay - LSB001W, Lower South Bay - LSB002W, Lower South Bay - LSB003W, Lower South Bay - LSB004W, Lower South Bay - LSB005W, Lower South Bay - LSB006W, Lower South Bay - LSB007W, Lower South Bay - LSB008W, Lower South Bay - LSB009W, Lower South Bay - LSB010W, Lower South Bay - LSB011W, Lower South Bay - LSB012W, Lower South Bay - LSB013W, Lower South Bay - LSB014W, Lower South Bay - LSB015W, Lower South Bay - LSB016W, Lower South Bay - LSB017W, Lower South Bay - LSB018W, Lower South Bay - LSB019W, Lower South Bay - LSB020W, Lower South Bay - LSB021W, Lower South Bay - LSB022W, Lower South Bay - LSB023W, Lower South Bay - LSB024W, Lower South Bay - LSB025W, Lower South Bay - LSB026W, Lower South Bay - LSB027W, Lower South Bay - LSB028W, Lower South Bay - LSB029W, Lower South Bay - LSB030W, Lower South Bay - LSB032W, South Bay - SB031W, South Bay - SB033W, South Bay - SB034W, South Bay - SB035W, South Bay - SB036W, South Bay - SB037W, South Bay -

Temporal Representation:	SB038W, South Bay - SB039W, South Bay - SB040W, South Bay - SB041W, South Bay - SB042W, South Bay - SB043W, South Bay - SB044W, South Bay - SB045W, South Bay - SB046W, South Bay - SB047W, South Bay - SB048W, South Bay - SB049W]
Environmental Conditions:	Data was collected over the time period 2/1/1994-8/16/2007.
QAPP Information:	Staff is not aware of any special conditions that might affect interpretation of the data.
	The 1999 Quality Assurance Project Plan Regional Monitoring Program for Trace Substances was used.
QAPP Information Reference(s):	1999 Quality Assurance Project Plan Regional Monitoring Program for Trace Substances

Line of Evidence (LOE) for Decision ID 33835, DDT (Dichlorodiphenyltrichloroethane)	Region 2
San Francisco Bay, South	

LOE ID:	95196
Pollutant:	DDT (Dichlorodiphenyltrichloroethane)
LOE Subgroup:	Pollutant-Tissue
Matrix:	Tissue
Fraction:	Fish fillet
Beneficial Use:	Commercial or recreational collection of fish, shellfish, or organisms
Number of Samples:	37
Number of Exceedances:	31
Data and Information Type:	Fish tissue analysis
Data Used to Assess Water Quality:	Water Board staff assessed Regional Monitoring Program data for South San Francisco Bay to determine beneficial use support and results are as follows: 31 of 37 samples exceed the criterion for DDT. No samples were discarded for being non-detect, unquantifiable or the reporting limit exceeding the water quality objective.
Data Reference:	Regional Monitoring Program data, Feb. 1993-Sep. 2008
SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	Water Quality Control Plan for the San Francisco Bay Basin: Controllable water quality factors shall not cause a detrimental increase in concentrations of toxic substances found in bottom sediments or aquatic life. Effects on aquatic organisms, wildlife, and human health will be considered.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	The modified OEHHA Fish Contaminant Goal for total DDT in fish tissue is 15 ppb. This screening level assumes an average body weight of 70 kg and a consumption rate of 32 g/day for a 30 year exposure over a 70-year lifetime. This constituent is a carcinogen therefore the risk level is set to one in a million. A cooking reduction factor of 1 is applied for skin-off fillets. (Klasing, S., and R. Brodberg, 2008)
Guideline Reference:	Development of Fish Contaminant Goals and Advisory Tissue Levels for Common Contaminants in California Sport Fish: Chlordane, DDTs, Dieldrin, Methylmercury, PCBs, Selenium, and Toxaphene
Spatial Representation:	The samples were collected at three sites throughout South San Francisco Bay.
Temporal Representation:	The samples were collected in April 2000, May 2000, May 2003, August 2003, September 2003, May 2006, and June 2006.
Environmental Conditions:	
QAPP Information:	The 1999 Quality Assurance Project Plan Regional Monitoring Program for Trace Substances was used.
QAPP Information Reference(s):	1999 Quality Assurance Project Plan Regional Monitoring Program for Trace Substances

Line of Evidence (LOE) for Decision ID 33835, DDT (Dichlorodiphenyltrichloroethane)	Region 2
San Francisco Bay, South	

LOE ID:	92956
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Pollutant:	Total DDT (sum of 4,4'- and 2,4'- isomers of DDT, DDE, and DDD)
LOE Subgroup:	Pollutant-Water
Matrix:	Water
Fraction:	Dissolved
Beneficial Use:	Estuarine Habitat
Number of Samples:	70
Number of Exceedances:	0
Data and Information Type:	PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality:	State Water Board staff assessed SFEI data for San Francisco Bay, South to determine beneficial use support and results are as follows: 0 of 70 samples exceed the criterion for DDT, Total.
Data Reference:	Regional Monitoring Program data, Feb. 1993-Sep. 2008
SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	The DDT criterion continuous concentration (expressed as a 4-day average) to protect aquatic life in saline water is 0.001 ug/L (California Toxics Rule, 2000).
Objective/Criterion Reference:	Code of Federal Regulations 40 part 131.38 Establishment of numeric criteria for priority toxic pollutants for the State of California. 7/1/2011 Edition
Evaluation Guideline:	
Guideline Reference:	
Spatial Representation:	Data for this line of evidence for San Francisco Bay, South was collected at 37 monitoring sites [Coyote Creek - BA10, Lower South Bay - LSB002W, Lower South Bay - LSB008W, Lower South Bay - LSB017W, Lower South Bay - LSB021W, Lower South Bay - LSB018W, Lower South Bay - LSB020W, Lower South Bay - LSB011W, Lower South Bay - LSB010W, Lower South Bay - LSB009W, Lower South Bay - LSB019W, Lower South Bay - LSB007W, South Bay - SB030W, South Bay - SB034W, South Bay - SB036W, Lower South Bay - LSB015W, Lower South Bay - LSB003W, Lower South Bay - LSB014W, Lower South Bay - LSB013W, South Bay - SB037W, Lower South Bay - LSB016W, South Bay - SB032W, South Bay - SB029W, Lower South Bay - LSB006W, South Bay - SB033W, Lower South Bay - LSB012W, South Bay - SB035W, South Bay - SB022W, South Bay - SB031W, Lower South Bay - LSB004W, South Bay - SB027W, South Bay - SB028W, Lower South Bay - LSB005W, South Bay - SB025W, South Bay - SB024W, South Bay - SB023W, Lower South Bay - LSB001W]
Temporal Representation:	Data was collected over the time period 2/1/1994-8/19/2005.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	The 1999 Quality Assurance Project Plan Regional Monitoring Program for Trace Substances was used.
QAPP Information Reference(s):	1999 Quality Assurance Project Plan Regional Monitoring Program for Trace Substances

Line of Evidence (LOE) for Decision ID 33835, DDT (Dichlorodiphenyltrichloroethane)

Region 2

San Francisco Bay, South

LOE ID:	92948
Pollutant:	Total DDT (sum of 4,4'- and 2,4'- isomers of DDT, DDE, and DDD)
LOE Subgroup:	Pollutant-Tissue
Matrix:	Tissue
Fraction:	Shellfish
Beneficial Use:	Shellfish Harvesting
Number of Samples:	1
Number of Exceedances:	0
Data and Information Type:	Shellfish surveys
Data Used to Assess Water Quality:	The result did not exceed the guideline. Data were reported on a dry weight basis and

Data Reference:	were converted to a wet weight basis by multiplying the dry-weight concentration by a factor of 1 minus the percentage of moisture content expressed as a decimal. The total DDTs were calculated as the sum of 4,4- and 2,4- isomers of DDT, DDE, and DDD. State Mussel Watch Program Data 1977-2000; Winter 2007-Winter 2009. State Water Resources Control Board
SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	Many pollutants can accumulate on particles, in sediment, or bioaccumulate in fish and other aquatic organisms. Controllable water quality factors shall not cause a detrimental increase in concentrations of toxic substances found in bottom sediments or aquatic life. Effects on aquatic organisms, wildlife, and human health will be considered.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	The modified OEHHA Fish Contaminant Goal for total DDT in shellfish tissue is 23 ppb. This screening level assumes an average body weight of 70 kg and a consumption rate of 21 g/day for a 30 year exposure over a 70-year lifetime. This constituent is a carcinogen therefore the risk level is set to one in a million. (Brodberg, R.K., and G.A. Pollock, 1999; Klasing, S., and R. Brodberg, 2008)
Guideline Reference:	Prevalence of Selected Target Chemical Contaminants in Sport Fish From Two California Lakes: Public health designed screening study. Sacramento, CA: Office of Environmental Health Hazard Assessment Development of Fish Contaminant Goals and Advisory Tissue Levels for Common Contaminants in California Sport Fish: Chlordane, DDTs, Dieldrin, Methylmercury, PCBs, Selenium, and Toxaphene
Spatial Representation:	Samples are collected by hand from three sub-locations for each site. The composite sample was collected from site San Francisco Bay Dumbarton Bridge (SFDB).
Temporal Representation:	Representative samples of locally abundant species were collected during the winter on 2/3/2009
Environmental Conditions:	
QAPP Information:	Samples were collected as part of the State Water Board's Mussel Watch Program which is a part of the National Oceanic Administration's (NOAAs) National Status and Trends (NS&T). Mussels are shipped to NOAAs contract labs for analysis of trace constituents and mussel condition. Analytical protocols follow those approved by NOAAs NS&T Program Additional background information can be found at: http://ccma.nos.noaa.gov/stressors/pollution/nsandt/
QAPP Information Reference(s):	

Line of Evidence (LOE) for Decision ID 33835, DDT (Dichlorodiphenyltrichloroethane)
San Francisco Bay, South

Region 2

LOE ID:	3843
Pollutant:	DDT (Dichlorodiphenyltrichloroethane)
LOE Subgroup:	Pollutant-Tissue
Matrix:	Tissue
Fraction:	Not Recorded
Beneficial Use:	Commercial or recreational collection of fish, shellfish, or organisms
Number of Samples:	0
Number of Exceedances:	0
Data and Information Type:	Not Specified
Data Used to Assess Water Quality:	Unspecified--This LOE is a placeholder to support a 303(d) listing decision made prior to 2006.
Data Reference:	Placeholder reference pre-2006 303(d)
SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	

Objective/Criterion Reference:

Evaluation Guideline:

Guideline Reference:

Spatial Representation: Unspecified

Temporal Representation: Unspecified

Environmental Conditions: Unspecified

QAPP Information: Unspecified

QAPP Information Reference(s):

DECISION ID	33836	Region 2
San Francisco Bay, South		

Pollutant: Dieldrin
Final Listing Decision: Do Not Delist from 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision: List on 303(d) list (TMDL required list)(2012)
Revision Status Revised
Sources: Source Unknown
Expected TMDL Completion Date: 2013
Impairment from Pollutant or Pollution: Pollutant

Regional Board Staff Conclusion: This pollutant is being considered for removal from the CWA section 303(d) List under section 4.1 of the Listing Policy. Under this section a single line of evidence is necessary to assess listing status.

Six lines of evidence are available in the administrative record to assess pollutant. Twenty-four of twenty-four samples exceed the guideline.

Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against removing this water segment-pollutant combination from the CWA section 303(d) List.

This conclusion is based on the staff findings that:

1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy.
2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy.
3. Thirty-two of thirty-two samples exceed the guideline and this exceeds the allowable frequency listed in Table 4.1 of the Listing Policy.
4. Pursuant to section 4.11 of the Listing Policy, no additional data and information are available indicating that standards are met.

Regional Board Staff Decision Recommendation: After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be removed from the section 303(d) list because applicable water quality standards for the pollutant are being exceeded.

Line of Evidence (LOE) for Decision ID 33836, Dieldrin	Region 2
San Francisco Bay, South	

LOE ID: 3844

Pollutant: Dieldrin
LOE Subgroup: Pollutant-Tissue
Matrix: Tissue
Fraction: Not Recorded

Beneficial Use: Commercial or recreational collection of fish, shellfish, or organisms

Number of Samples:	0
Number of Exceedances:	0
Data and Information Type:	Not Specified
Data Used to Assess Water Quality:	Unspecified--This LOE is a placeholder to support a 303(d) listing decision made prior to 2006.
Data Reference:	Placeholder reference pre-2006 303(d)
SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	
Objective/Criterion Reference:	
Evaluation Guideline:	
Guideline Reference:	
Spatial Representation:	Unspecified
Temporal Representation:	Unspecified
Environmental Conditions:	Unspecified
QAPP Information:	Unspecified
QAPP Information Reference(s):	

Line of Evidence (LOE) for Decision ID 33836, Dieldrin

Region 2

San Francisco Bay, South

LOE ID:	92984
Pollutant:	Dieldrin
LOE Subgroup:	Pollutant-Tissue
Matrix:	Tissue
Fraction:	Shellfish
Beneficial Use:	Shellfish Harvesting
Number of Samples:	1
Number of Exceedances:	0
Data and Information Type:	Shellfish surveys
Data Used to Assess Water Quality:	The result did not exceed the guideline. Data were reported on a dry weight basis and were converted to a wet weight basis by multiplying the dry-weight concentration by a factor of 1 minus the percentage of moisture content expressed as a decimal.
Data Reference:	State Mussel Watch Program Data 1977-2000; Winter 2007-Winter 2009. State Water Resources Control Board
SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	Many pollutants can accumulate on particles, in sediment, or bioaccumulate in fish and other aquatic organisms. Controllable water quality factors shall not cause a detrimental increase in concentrations of toxic substances found in bottom sediments or aquatic life. Effects on aquatic organisms, wildlife, and human health will be considered.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	The modified OEHHA Fish Contaminant Goal for dieldrin in shellfish tissue is 0.49 ppb. This screening level assumes an average body weight of 70 kg and a consumption rate of 21 g/day for a 30 year exposure over a 70-year lifetime. This constituent is a carcinogen therefore the risk level is set to one in a million. (Brodberg, R.K., and G.A. Pollock, 1999; Klasing, S., and R. Brodberg, 2008)
Guideline Reference:	Prevalence of Selected Target Chemical Contaminants in Sport Fish From Two California Lakes: Public health designed screening study. Sacramento, CA: Office of Environmental Health Hazard Assessment Development of Fish Contaminant Goals and Advisory Tissue Levels for Common Contaminants in California Sport Fish: Chlordane, DDTs, Dieldrin, Methylmercury, PCBs.

Selenium, and Toxaphene

Spatial Representation:	Samples are collected by hand from three sub-locations for each site. The composite sample was collected from site San Francisco Bay Dumbarton Bridge (SFDB).
Temporal Representation:	Representative samples of locally abundant species were collected during the winter on 2/3/2009
Environmental Conditions:	
QAPP Information:	Samples were collected as part of the State Water Board's Mussel Watch Program which is a part of the National Oceanic Administration's (NOAAs) National Status and Trends (NS&T). Mussels are shipped to NOAAs contract labs for analysis of trace constituents and mussel condition. Analytical protocols follow those approved by NOAAs NS&T Program Additional background information can be found at: http://ccma.nos.noaa.gov/stressors/pollution/nsandt/
QAPP Information Reference(s):	

Line of Evidence (LOE) for Decision ID 33836, Dieldrin

Region 2

San Francisco Bay, South

LOE ID:	92985
Pollutant:	Dieldrin
LOE Subgroup:	Pollutant-Water
Matrix:	Water
Fraction:	Dissolved
Beneficial Use:	Estuarine Habitat
Number of Samples:	69
Number of Exceedances:	0
Data and Information Type:	PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality:	State Water Board staff assessed SFEI data for San Francisco Bay, South to determine beneficial use support and results are as follows: 0 of 69 samples exceed the criterion for Dieldrin.
Data Reference:	Regional Monitoring Program data, Feb. 1993-Sep. 2008
SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	The Dieldrin criterion continuous concentration (expressed as a 4-day average) to protect aquatic life in saline water is 0.0019 ug/L (California Toxics Rule, 2000).
Objective/Criterion Reference:	Code of Federal Regulations 40 part 131.38 Establishment of numeric criteria for priority toxic pollutants for the State of California. 7/1/2011 Edition
Evaluation Guideline:	
Guideline Reference:	
Spatial Representation:	Data for this line of evidence for San Francisco Bay, South was collected at 37 monitoring sites [Coyote Creek - BA10, Lower South Bay - LSB002W, Lower South Bay - LSB008W, Lower South Bay - LSB017W, Lower South Bay - LSB021W, Lower South Bay - LSB018W, Lower South Bay - LSB020W, Lower South Bay - LSB011W, Lower South Bay - LSB010W, Lower South Bay - LSB009W, Lower South Bay - LSB019W, Lower South Bay - LSB007W, South Bay - SB030W, South Bay - SB034W, South Bay - SB036W, Lower South Bay - LSB015W, Lower South Bay - LSB003W, Lower South Bay - LSB014W, Lower South Bay - LSB013W, South Bay - SB037W, Lower South Bay - LSB016W, South Bay - SB032W, South Bay - SB029W, Lower South Bay - LSB006W, South Bay - SB033W, Lower South Bay - LSB012W, South Bay - SB035W, South Bay - SB022W, South Bay - SB031W, Lower South Bay - LSB004W, South Bay - SB027W, South Bay - SB028W, Lower South Bay - LSB005W, South Bay - SB025W, South Bay - SB024W, South Bay - SB023W, Lower South Bay - LSB001W]
Temporal Representation:	Data was collected over the time period 2/1/1994-8/19/2005.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	The 1999 Quality Assurance Project Plan Regional Monitoring Program for Trace

QAPP Information Reference(s): Substances was used.
[1999 Quality Assurance Project Plan Regional Monitoring Program for Trace Substances](#)

Line of Evidence (LOE) for Decision ID 33836, Dieldrin
San Francisco Bay, South

Region 2

LOE ID: 92990

Pollutant: Dieldrin
LOE Subgroup: Pollutant-Water
Matrix: Water
Fraction: Total

Beneficial Use: Commercial or recreational collection of fish, shellfish, or organisms

Number of Samples: 92
Number of Exceedances: 3

Data and Information Type: PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality: State Water Board staff assessed SFEI data for San Francisco Bay, South to determine beneficial use support and results are as follows: 3 of 92 samples exceed the criterion for Dieldrin.

Data Reference: [Regional Monitoring Program data, Feb. 1993-Sep. 2008](#)

SWAMP Data: Non-SWAMP

Water Quality Objective/Criterion: The Dieldrin criteria for the protection of human health from consumption of organisms only is 0.00014 ug/L (California Toxics Rule, 2000).

Objective/Criterion Reference: [Code of Federal Regulations 40 part 131.38 Establishment of numeric criteria for priority toxic pollutants for the State of California. 7/1/2011 Edition](#)

Evaluation Guideline:
Guideline Reference:

Spatial Representation: Data for this line of evidence for San Francisco Bay, South was collected at 50 monitoring sites [Coyote Creek - BA10, Lower South Bay - LSB001W, Lower South Bay - LSB002W, Lower South Bay - LSB003W, Lower South Bay - LSB004W, Lower South Bay - LSB005W, Lower South Bay - LSB006W, Lower South Bay - LSB007W, Lower South Bay - LSB008W, Lower South Bay - LSB009W, Lower South Bay - LSB010W, Lower South Bay - LSB011W, Lower South Bay - LSB012W, Lower South Bay - LSB013W, Lower South Bay - LSB014W, Lower South Bay - LSB015W, Lower South Bay - LSB016W, Lower South Bay - LSB017W, Lower South Bay - LSB018W, Lower South Bay - LSB019W, Lower South Bay - LSB020W, Lower South Bay - LSB021W, Lower South Bay - LSB022W, Lower South Bay - LSB023W, Lower South Bay - LSB024W, Lower South Bay - LSB025W, Lower South Bay - LSB026W, Lower South Bay - LSB027W, Lower South Bay - LSB028W, Lower South Bay - LSB029W, Lower South Bay - LSB030W, Lower South Bay - LSB032W, South Bay - SB031W, South Bay - SB033W, South Bay - SB034W, South Bay - SB035W, South Bay - SB036W, South Bay - SB037W, South Bay - SB038W, South Bay - SB039W, South Bay - SB040W, South Bay - SB041W, South Bay - SB042W, South Bay - SB043W, South Bay - SB044W, South Bay - SB045W, South Bay - SB046W, South Bay - SB047W, South Bay - SB048W, South Bay - SB049W]

Temporal Representation: Data was collected over the time period 2/1/1994-8/16/2007.

Environmental Conditions: Staff is not aware of any special conditions that might affect interpretation of the data.

QAPP Information: The 1999 Quality Assurance Project Plan Regional Monitoring Program for Trace Substances was used.

QAPP Information Reference(s): [1999 Quality Assurance Project Plan Regional Monitoring Program for Trace Substances](#)

Line of Evidence (LOE) for Decision ID 33836, Dieldrin
San Francisco Bay, South

Region 2

LOE ID: 95169

Pollutant:	Dieldrin
LOE Subgroup:	Pollutant-Tissue
Matrix:	Tissue
Fraction:	Fish fillet
Beneficial Use:	Commercial or recreational collection of fish, shellfish, or organisms
Number of Samples:	24
Number of Exceedances:	24
Data and Information Type:	Fish tissue analysis
Data Used to Assess Water Quality:	Water Board staff assessed Regional Monitoring Program data for South San Francisco Bay to determine beneficial use support and results are as follows: 24 of 24 samples exceed the criterion for dieldrin. 19 samples were discarded for being non-detect, unquantifiable or the reporting limit exceeding the water quality objective.
Data Reference:	Regional Monitoring Program data, Feb. 1993-Sep. 2008
SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	Water Quality Control Plan for the San Francisco Bay Basin: Controllable water quality factors shall not cause a detrimental increase in concentrations of toxic substances found in bottom sediments or aquatic life. Effects on aquatic organisms, wildlife, and human health will be considered.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	The modified OEHHA Fish Contaminant Goal for dieldrin in fish tissue is 0.32 ppb. This screening level assumes an average body weight of 70 kg and a consumption rate of 32 g/day for a 30 year exposure over a 70-year lifetime. This constituent is a carcinogen therefore the risk level is set to one in a million. A cooking reduction factor of 1 is applied for skin-off fillets. (Klasing, S., and R. Brodberg, 2008)
Guideline Reference:	Development of Fish Contaminant Goals and Advisory Tissue Levels for Common Contaminants in California Sport Fish: Chlordane, DDTs, Dieldrin, Methylmercury, PCBs, Selenium, and Toxaphene
Spatial Representation:	The samples were collected at three sites throughout South San Francisco Bay.
Temporal Representation:	The samples were collected in April 2000, May 2000, May 2003, August 2003, September 2003, May 2006, and June 2006.
Environmental Conditions:	
QAPP Information:	The 1999 Quality Assurance Project Plan Regional Monitoring Program for Trace Substances was used.
QAPP Information Reference(s):	1999 Quality Assurance Project Plan Regional Monitoring Program for Trace Substances

Line of Evidence (LOE) for Decision ID 33836, Dieldrin
San Francisco Bay, South

Region 2

LOE ID:	93645
Pollutant:	Dieldrin
LOE Subgroup:	Pollutant-Tissue
Matrix:	Tissue
Fraction:	Shellfish
Beneficial Use:	Shellfish Harvesting
Number of Samples:	16
Number of Exceedances:	8
Data and Information Type:	Shellfish surveys
Data Used to Assess Water Quality:	Eight of the 16 samples exceeded the guideline. All composite samples were comprised of Crassostrea gigas except for 3 composites that were comprised of Mytilus californianus. Data were reported on a dry weight basis and were converted to a wet weight basis by

	<p>multiplying the dry-weight concentration by a factor of 1 minus the percentage of moisture content expressed as a decimal. Two samples were not used in the assessment because the laboratory data reporting limit(s) were above the objective and therefore the results could not be quantified with the level of certainty required by the Listing Policy.</p>
Data Reference:	Regional Monitoring Program data, Feb. 1993-Sep. 2008
SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	Water Quality Control Plan for the San Francisco Bay Basin: Controllable water quality factors shall not cause a detrimental increase in concentrations of toxic substances found in bottom sediments or aquatic life. Effects on aquatic organisms, wildlife, and human health will be considered.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	The modified OEHHA Fish Contaminant Goal for dieldrin in shellfish tissue is 0.49 ppb. This screening level assumes an average body weight of 70 kg and a consumption rate of 21 g/day for a 30 year exposure over a 70-year lifetime. This constituent is a carcinogen therefore the risk level is set to one in a million. (Brodberg, R.K., and G.A. Pollock, 1999; Klasing, S., and R. Brodberg, 2008)
Guideline Reference:	Prevalence of Selected Target Chemical Contaminants in Sport Fish From Two California Lakes: Public health designed screening study. Sacramento, CA: Office of Environmental Health Hazard Assessment Development of Fish Contaminant Goals and Advisory Tissue Levels for Common Contaminants in California Sport Fish: Chlordane, DDTs, Dieldrin, Methylmercury, PCBs, Selenium, and Toxaphene
Spatial Representation:	Samples were collected at the following station: BA10 - Coyote Creek.
Temporal Representation:	Samples were generally collected in spring and fall seasons from years 1994 - 1999 and then during most fall seasons during years 2000 - 2008.
Environmental Conditions:	
QAPP Information:	1999 Quality Assurance Project Plan Regional Monitoring Program for Trace Substances.
QAPP Information Reference(s):	1999 Quality Assurance Project Plan Regional Monitoring Program for Trace Substances

DECISION ID	34460	Region 2
San Francisco Bay, South		

Pollutant:	Selenium
Final Listing Decision:	Do Not Delist from 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision:	List on 303(d) list (TMDL required list)(2012)
Revision Status	Revised
Sources:	Source Unknown
Expected TMDL Completion Date:	2021
Impairment from Pollutant or Pollution:	Pollutant
Regional Board Staff Conclusion:	<p>This pollutant is being considered for removal on the CWA section 303(d) List under sections 2.2 and 4.1 of the Listing Policy. Under 4.1 of the Policy, a minimum of one line of evidence is needed to assess listing status.</p> <p>Five lines of evidence are available in the administrative record to assess this pollutant.</p> <p>Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against removing this water segment-pollutant combination from the CWA section 303(d) List.</p> <p>This conclusion is based on the staff findings that:</p> <ol style="list-style-type: none"> 1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy. 2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy. 3. Impairment should be based on protection of aquatic life beneficial uses and the existing aquatic

life value referenced in the CTR value is not sufficiently protective of sensitive fish species. Due to outstanding concerns about the protectiveness of the existing aquatic life value, this water body will remain identified as impaired until addressed via a TMDL and/or a standards action.

Regional Board Staff Decision Recommendation:

After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be removed from the section 303(d) list because applicable water quality standards for the pollutant are being exceeded. Impairment should be based on protection of aquatic life beneficial uses and the existing aquatic life value referenced in the CTR value is not sufficiently protective of sensitive fish species. Due to outstanding concerns about the protectiveness of the existing aquatic life value, this water body will remain identified as impaired until addressed via a TMDL and/or a standards action.

**Line of Evidence (LOE) for Decision ID 34460, Selenium
San Francisco Bay, South**

Region 2

LOE ID:	92937
Pollutant:	Selenium
LOE Subgroup:	Pollutant-Tissue
Matrix:	Tissue
Fraction:	Shellfish
Beneficial Use:	Shellfish Harvesting
Number of Samples:	1
Number of Exceedances:	0
Data and Information Type:	Shellfish surveys
Data Used to Assess Water Quality:	The one sample did not exceed the guideline. Data were reported on a dry weight basis and were converted to a wet weight basis by multiplying the dry-weight concentration by a factor of 1 minus the percentage of moisture content expressed as a decimal.
Data Reference:	State Mussel Watch Program Data 1977-2000; Winter 2007-Winter 2009. State Water Resources Control Board
SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	California's Ocean Plan states that, "The concentration of organic materials in fish, shellfish or other marine resources used for human consumption shall not bioaccumulate to levels that are harmful to human health".
Objective/Criterion Reference:	California Ocean Plan Water Quality Control Plan Ocean Waters of California 2009
Evaluation Guideline:	The modified OEHHA Fish Contaminant Goal for selenium in shellfish tissue is 11 ppm. This screening level assumes an average body weight of 70 kg and a consumption rate of 21 g/day. A background dietary consumption rate of 0.114 mg/day is applied for this micronutrient. (Brodberg, R.K., and G.A. Pollock, 1999; Klasing, S., and R. Brodberg, 2008)
Guideline Reference:	Prevalence of Selected Target Chemical Contaminants in Sport Fish From Two California Lakes: Public health designed screening study. Sacramento, CA: Office of Environmental Health Hazard Assessment Development of Fish Contaminant Goals and Advisory Tissue Levels for Common Contaminants in California Sport Fish: Chlordane, DDTs, Dieldrin, Methylmercury, PCBs, Selenium, and Toxaphene
Spatial Representation:	Samples are collected by hand from three sub-locations for each site. The composite sample was collected from site San Francisco Bay Dumbarton Bridge (SFDB).
Temporal Representation:	Representative samples of locally abundant species were collected during the winter on 2/3/2009
Environmental Conditions:	
QAPP Information:	Samples were collected as part of the State Water Board's Mussel Watch Program which is a part of the National Oceanic Administration's (NOAAs) National Status and Trends (NS&T). Mussels are shipped to NOAAs contract labs for analysis of trace constituents

and mussel condition. Analytical protocols follow those approved by NOAAs NS&T Program Additional background information can be found at:
<http://ccma.nos.noaa.gov/stressors/pollution/nsandt/>

QAPP Information Reference(s):

Line of Evidence (LOE) for Decision ID 34460, Selenium

Region 2

San Francisco Bay, South

LOE ID: 93700

Pollutant: Selenium
LOE Subgroup: Pollutant-Tissue
Matrix: Tissue
Fraction: Shellfish

Beneficial Use: Shellfish Harvesting

Number of Samples: 15
Number of Exceedances: 0

Data and Information Type: Shellfish surveys
Data Used to Assess Water Quality: None of the 15 samples exceeded the guideline. All composite samples were comprised of *Crassostrea gigas*, except for one that was comprised of *Mytilus californianus*. Data were reported on a dry weight basis and were converted to a wet weight basis by multiplying the dry-weight concentration by a factor of 1 minus the percentage of moisture content expressed as a decimal.

Data Reference: [Regional Monitoring Program data, Feb. 1993-Sep. 2008](#)

SWAMP Data: Non-SWAMP

Water Quality Objective/Criterion: Water Quality Control Plan for the San Francisco Bay Basin: Controllable water quality factors shall not cause a detrimental increase in concentrations of toxic substances found in bottom sediments or aquatic life. Effects on aquatic organisms, wildlife, and human health will be considered.

Objective/Criterion Reference: [Water Quality Control Plan \(Basin Plan\) San Francisco Bay Basin \(Region 2\)](#)

Evaluation Guideline: The modified OEHHA Fish Contaminant Goal for selenium in shellfish tissue is 11 ppm. This screening level assumes an average body weight of 70 kg and a consumption rate of 21 g/day. A background dietary consumption rate of 0.114 mg/day is applied for this micronutrient. (Brodberg, R.K., and G.A. Pollock, 1999; Klasing, S., and R. Brodberg, 2008)

Guideline Reference: [Prevalence of Selected Target Chemical Contaminants in Sport Fish From Two California Lakes: Public health designed screening study. Sacramento, CA: Office of Environmental Health Hazard Assessment](#)
[Development of Fish Contaminant Goals and Advisory Tissue Levels for Common Contaminants in California Sport Fish: Chlordane, DDTs, Dieldrin, Methylmercury, PCBs, Selenium, and Toxaphene](#)

Spatial Representation: The samples were collected at the following station: BA10 - Coyote Creek.
Temporal Representation: Samples were generally collected in spring and fall seasons from years 1994 - 1999 and then fall 2000, 2001, and 2008.

Environmental Conditions:
QAPP Information: 1999 Quality Assurance Project Plan Regional Monitoring Program for Trace Substances.
QAPP Information Reference(s): [1999 Quality Assurance Project Plan Regional Monitoring Program for Trace Substances](#)

Line of Evidence (LOE) for Decision ID 34460, Selenium

Region 2

San Francisco Bay, South

LOE ID: 95107

Pollutant: Selenium

LOE Subgroup:	Pollutant-Tissue
Matrix:	Tissue
Fraction:	Fish fillet
Beneficial Use:	Commercial or recreational collection of fish, shellfish, or organisms
Number of Samples:	17
Number of Exceedances:	0
Data and Information Type:	Fish tissue analysis
Data Used to Assess Water Quality:	Water Board staff assessed Regional Monitoring Program data for South San Francisco Bay to determine beneficial use support and results are as follows: 0 of 17 samples exceed the criterion for selenium. No samples were discarded for being non-detect, unquantifiable or the reporting limit exceeding the water quality objective.
Data Reference:	Regional Monitoring Program data, Feb. 1993-Sep. 2008
SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	Water Quality Control Plan for the San Francisco Bay Basin: Controllable water quality factors shall not cause a detrimental increase in concentrations of toxic substances found in bottom sediments or aquatic life. Effects on aquatic organisms, wildlife, and human health will be considered.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	The OEHHA Fish Contaminant Goal for selenium in fish tissue is 7.4 ppm. This screening level assumes an average body weight of 70 kg and a consumption rate of 32 g/day. A background dietary consumption rate of 0.114 mg/day is applied for this micronutrient. (Klasing, S., and R. Brodberg, 2008)
Guideline Reference:	Development of Fish Contaminant Goals and Advisory Tissue Levels for Common Contaminants in California Sport Fish: Chlordane, DDTs, Dieldrin, Methylmercury, PCBs, Selenium, and Toxaphene
Spatial Representation:	The samples were collected at three sites throughout South San Francisco Bay.
Temporal Representation:	The samples were collected in April 2000, May 2000, May 2003, June 2003, August 2003, September 2003, May 2006, and June 2006.
Environmental Conditions:	
QAPP Information:	The 1999 Quality Assurance Project Plan Regional Monitoring Program for Trace Substances was used.
QAPP Information Reference(s):	1999 Quality Assurance Project Plan Regional Monitoring Program for Trace Substances

Line of Evidence (LOE) for Decision ID 34460, Selenium
San Francisco Bay, South

Region 2

LOE ID:	3851
Pollutant:	Selenium
LOE Subgroup:	Pollutant-Water
Matrix:	Water
Fraction:	Not Recorded
Beneficial Use:	Estuarine Habitat
Number of Samples:	0
Number of Exceedances:	0
Data and Information Type:	Not Specified
Data Used to Assess Water Quality:	Unspecified--This LOE is a placeholder to support a 303(d) listing decision made prior to 2006.
Data Reference:	Placeholder reference pre-2006 303(d)
SWAMP Data:	Non-SWAMP

Water Quality Objective/Criterion:	Unspecified
Objective/Criterion Reference:	Placeholder reference pre-2006 303(d)
Evaluation Guideline:	Unspecified
Guideline Reference:	Placeholder reference pre-2006 303(d)
Spatial Representation:	Unspecified
Temporal Representation:	Unspecified
Environmental Conditions:	Unspecified
QAPP Information:	Unspecified
QAPP Information Reference(s):	

Line of Evidence (LOE) for Decision ID 34460, Selenium
San Francisco Bay, South

Region 2

LOE ID:	92946
Pollutant:	Selenium
LOE Subgroup:	Pollutant-Water
Matrix:	Water
Fraction:	Dissolved
Beneficial Use:	Estuarine Habitat
Number of Samples:	128
Number of Exceedances:	0
Data and Information Type:	PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality:	State Water Board staff assessed SFEI data for San Francisco Bay, South to determine beneficial use support and results are as follows: 0 of 128 samples exceed the criterion for Selenium.
Data Reference:	Regional Monitoring Program data, Feb. 1993-Sep. 2008
SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	The dissolved selenium criterion continuous concentration (expressed as a 4-day average) to protect aquatic life in saline water is 5 ug/L (California Toxics Rule, 2000).
Objective/Criterion Reference:	Code of Federal Regulations 40 part 131.38 Establishment of numeric criteria for priority toxic pollutants for the State of California. 7/1/2011 Edition
Evaluation Guideline:	
Guideline Reference:	
Spatial Representation:	Data for this line of evidence for San Francisco Bay, South was collected at 54 monitoring sites [Coyote Creek - BA10, South Bay - BA20, Lower South Bay - LSB001W, Lower South Bay - LSB002W, Lower South Bay - LSB003W, Lower South Bay - LSB004W, Lower South Bay - LSB005W, Lower South Bay - LSB006W, Lower South Bay - LSB007W, Lower South Bay - LSB008W, Lower South Bay - LSB009W, Lower South Bay - LSB010W, Lower South Bay - LSB011W, Lower South Bay - LSB012W, Lower South Bay - LSB013W, Lower South Bay - LSB014W, Lower South Bay - LSB015W, Lower South Bay - LSB016W, Lower South Bay - LSB017W, Lower South Bay - LSB018W, Lower South Bay - LSB019W, Lower South Bay - LSB020W, Lower South Bay - LSB021W, Lower South Bay - LSB022W, Lower South Bay - LSB023W, Lower South Bay - LSB024W, Lower South Bay - LSB025W, Lower South Bay - LSB026W, Lower South Bay - LSB027W, Lower South Bay - LSB028W, Lower South Bay - LSB029W, Lower South Bay - LSB030W, Lower South Bay - LSB032W, Lower South Bay - LSB033W, Lower South Bay - LSB034W, Lower South Bay - LSB035W, Lower South Bay - LSB036W, Lower South Bay - LSB037W, South Bay - SB031W, South Bay - SB038W, South Bay - SB039W, South Bay - SB040W, South Bay - SB041W, South Bay - SB042W, South Bay - SB043W, South Bay - SB044W, South Bay - SB045W, South Bay - SB046W, South Bay - SB047W, South Bay - SB048W, South Bay - SB049W, South Bay - SB050W, South Bay - SB051W, South Bay - SB053W]

Temporal Representation:	Data was collected over the time period 3/2/1993-7/18/2008.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	The 1999 Quality Assurance Project Plan Regional Monitoring Program for Trace Substances was used.
QAPP Information Reference(s):	1999 Quality Assurance Project Plan Regional Monitoring Program for Trace Substances

DECISION ID	33935	Region 2
San Francisco Bay, South		

Pollutant:	Mercury
Final Listing Decision:	Do Not Delist from 303(d) list (being addressed with USEPA approved TMDL)
Last Listing Cycle's Final Listing Decision:	List on 303(d) list (being addressed by USEPA approved TMDL)(2012)
Revision Status	Revised
Sources:	Source Unknown
TMDL Name:	San Francisco Bay Mercury
TMDL Project Code:	6
Date TMDL Approved by USEPA:	02/12/2008
Impairment from Pollutant or Pollution:	Pollutant
 Regional Board Staff Conclusion:	<p>This pollutant is being considered for removal on the CWA section 303(d) List under sections 2.2 and section 4.1 of the Listing Policy. Under [SECTION] of the Policy, a minimum of one line of evidence is needed to assess listing status.</p> <p>Six lines of evidence are available in the administrative record to assess this pollutant.</p> <p>Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against removing this water segment-pollutant combination from the CWA section 303(d) List. There is sufficient justification to place it in the Being Addressed portion of the CWA 303(d) List because a TMDL has been completed and approved by RWQCB and USEPA, and is expected to result in attainment of the standard.</p> <p>This conclusion is based on the staff findings that:</p> <ol style="list-style-type: none"> 1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy. 2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy. 3. Fifty-three of seventy-one samples exceeded the guideline and these exceed the allowable frequency listed in Table [NUMBER] of the Listing Policy. 4. The SF Bay Mercury TMDL was approved by USEPA on 2/12/2008. 5. Pursuant to section 4.11 of the Listing Policy, no additional data and information are available indicating that standards are not met. <p>Regional Board Staff Decision Recommendation: After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be removed from the section 303(d) list because applicable water quality standards for the pollutant are being exceeded.</p>

Line of Evidence (LOE) for Decision ID 33935, Mercury	Region 2
San Francisco Bay, South	

LOE ID:	95180
Pollutant:	Mercury
LOE Subgroup:	Pollutant-Tissue
Matrix:	Tissue
Fraction:	Fish fillet
 Beneficial Use:	 Commercial or recreational collection of fish, shellfish, or organisms

Number of Samples:	71
Number of Exceedances:	53
Data and Information Type:	Fish tissue analysis
Data Used to Assess Water Quality:	Water Board staff assessed Regional Monitoring Program data for South San Francisco Bay to determine beneficial use support and results are as follows: 53 of 71 samples exceed the criterion for mercury. No samples were discarded for being non-detect, unquantifiable or the reporting limit exceeding the water quality objective.
Data Reference:	Regional Monitoring Program data, Feb. 1993-Sep. 2008
SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	Water Quality Control Plan for the San Francisco Bay Basin: Controllable water quality factors shall not cause a detrimental increase in concentrations of toxic substances found in bottom sediments or aquatic life. Effects on aquatic organisms, wildlife, and human health will be considered.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	The Water Quality Control Plan for the San Francisco Bay Basin has a water quality objective in all parts of San Francisco Bay of 0.2 mg mercury per kg fish tissue for the protection of human health.
Guideline Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Spatial Representation:	The samples were collected at three sites throughout South San Francisco Bay.
Temporal Representation:	The samples were collected in April 2000, May 2000, May 2003, August 2003, September 2003, May 2006, June 2006 and August 2006.
Environmental Conditions:	
QAPP Information:	The 1999 Quality Assurance Project Plan Regional Monitoring Program for Trace Substances was used.
QAPP Information Reference(s):	1999 Quality Assurance Project Plan Regional Monitoring Program for Trace Substances

Line of Evidence (LOE) for Decision ID 33935, Mercury
San Francisco Bay, South

Region 2

LOE ID:	3848
Pollutant:	Mercury
LOE Subgroup:	Pollutant-Tissue
Matrix:	Tissue
Fraction:	Not Recorded
Beneficial Use:	Commercial or recreational collection of fish, shellfish, or organisms
Number of Samples:	0
Number of Exceedances:	0
Data and Information Type:	Not Specified
Data Used to Assess Water Quality:	Unspecified--This LOE is a placeholder to support a 303(d) listing decision made prior to 2006.
Data Reference:	Placeholder reference pre-2006 303(d)
SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	Unspecified
Objective/Criterion Reference:	Placeholder reference pre-2006 303(d)
Evaluation Guideline:	Unspecified
Guideline Reference:	Placeholder reference pre-2006 303(d)
Spatial Representation:	Unspecified
Temporal Representation:	Unspecified
Environmental Conditions:	Unspecified

QAPP Information: Unspecified
QAPP Information Reference(s):

Line of Evidence (LOE) for Decision ID 33935, Mercury
San Francisco Bay, South

Region 2

LOE ID: 92901

Pollutant: Mercury
LOE Subgroup: Pollutant-Water
Matrix: Water
Fraction: Total

Beneficial Use: Commercial or recreational collection of fish, shellfish, or organisms

Number of Samples: 84
Number of Exceedances: 0

Data and Information Type: PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality: State Water Board staff assessed SFEI data for San Francisco Bay, South to determine beneficial use support and results are as follows: 0 of 84 samples exceed the criterion for Mercury, methyl.

Data Reference: [Regional Monitoring Program data, Feb. 1993-Sep. 2008](#)

SWAMP Data: Non-SWAMP

Water Quality Objective/Criterion: The Mercury, methyl criteria for the protection of human health from consumption of organisms only is 0.051 ug/L (California Toxics Rule, 2000).

Objective/Criterion Reference: [Code of Federal Regulations 40 part 131.38 Establishment of numeric criteria for priority toxic pollutants for the State of California. 7/1/2011 Edition](#)

Evaluation Guideline:
Guideline Reference:

Spatial Representation: Data for this line of evidence for San Francisco Bay, South was collected at 54 monitoring sites [Coyote Creek - BA10, South Bay - BA20, Lower South Bay - LSB001W, Lower South Bay - LSB002W, Lower South Bay - LSB003W, Lower South Bay - LSB004W, Lower South Bay - LSB005W, Lower South Bay - LSB006W, Lower South Bay - LSB007W, Lower South Bay - LSB008W, Lower South Bay - LSB009W, Lower South Bay - LSB010W, Lower South Bay - LSB011W, Lower South Bay - LSB012W, Lower South Bay - LSB013W, Lower South Bay - LSB014W, Lower South Bay - LSB015W, Lower South Bay - LSB016W, Lower South Bay - LSB017W, Lower South Bay - LSB018W, Lower South Bay - LSB019W, Lower South Bay - LSB020W, Lower South Bay - LSB021W, Lower South Bay - LSB022W, Lower South Bay - LSB023W, Lower South Bay - LSB024W, Lower South Bay - LSB025W, Lower South Bay - LSB026W, Lower South Bay - LSB027W, Lower South Bay - LSB028W, Lower South Bay - LSB029W, Lower South Bay - LSB030W, Lower South Bay - LSB032W, Lower South Bay - LSB033W, Lower South Bay - LSB034W, Lower South Bay - LSB035W, Lower South Bay - LSB036W, Lower South Bay - LSB037W, South Bay - SB031W, South Bay - SB038W, South Bay - SB039W, South Bay - SB040W, South Bay - SB041W, South Bay - SB042W, South Bay - SB043W, South Bay - SB044W, South Bay - SB045W, South Bay - SB046W, South Bay - SB047W, South Bay - SB048W, South Bay - SB049W, South Bay - SB050W, South Bay - SB051W, South Bay - SB053W]

Temporal Representation: Data was collected over the time period 2/7/2001-7/18/2008.

Environmental Conditions: Staff is not aware of any special conditions that might affect interpretation of the data.

QAPP Information: The 1999 Quality Assurance Project Plan Regional Monitoring Program for Trace Substances was used.

QAPP Information Reference(s): [1999 Quality Assurance Project Plan Regional Monitoring Program for Trace Substances](#)

Line of Evidence (LOE) for Decision ID 33935, Mercury
San Francisco Bay, South

Region 2

LOE ID:	92902
Pollutant:	Mercury
LOE Subgroup:	Pollutant-Water
Matrix:	Water
Fraction:	Total
Beneficial Use:	Estuarine Habitat
Number of Samples:	56
Number of Exceedances:	0
Data and Information Type:	Non-fixed station physical/chemical (conventional + toxicants)
Data Used to Assess Water Quality:	None of the 56 samples exceeded the evaluation guideline.
Data Reference:	NPDES receiving water data for bacteria and metals in San Francisco Bay, Jan. 2005-Sep. 2009
SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	All waters shall be maintained free of toxic substances that are lethal to or that produce other detrimental responses in aquatic organisms.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	USEPA National Recommended Water Quality Criteria (4-day avg.) for mercury is 0.94 ug/L.
Guideline Reference:	National Recommended Water Quality Criteria, United States Environmental Protection Agency, Office of Water, Office of Science and Technology
Spatial Representation:	Samples were taken from two sample locations in the receiving water of an adjacent waste-water treatment plant. Samples collected within 1-week were averaged.
Temporal Representation:	Samples were collected monthly from January of 2005 through September of 2009.
Environmental Conditions:	
QAPP Information:	Samples were collected for NPDES ORDER No. R2-2010-0054.
QAPP Information Reference(s):	

Line of Evidence (LOE) for Decision ID 33935, Mercury
San Francisco Bay, South

Region 2

LOE ID:	92892
Pollutant:	Mercury
LOE Subgroup:	Pollutant-Tissue
Matrix:	Tissue
Fraction:	Shellfish
Beneficial Use:	Shellfish Harvesting
Number of Samples:	1
Number of Exceedances:	0
Data and Information Type:	Shellfish surveys
Data Used to Assess Water Quality:	The one sample did not exceed the guideline. Data were reported on a dry weight basis and were converted to a wet weight basis by multiplying the dry-weight concentration by a factor of 1 minus the percentage of moisture content expressed as a decimal.
Data Reference:	State Mussel Watch Program Data 1977-2000; Winter 2007-Winter 2009. State Water Resources Control Board
SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	California's Ocean Plan states that, "The concentration of organic materials in fish, shellfish or other marine resources used for human consumption shall not bioaccumulate

Objective/Criterion Reference:	to levels that are harmful to human health". California Ocean Plan Water Quality Control Plan Ocean Waters of California 2009
Evaluation Guideline:	The USEPA 304(a) recommended water quality criterion for concentrations of methylmercury in shellfish tissue (wet weight) is 0.2 ppm. (Brodberg, R.K., and G.A. Pollock, 1999; USEPA, 2001)
Guideline Reference:	Prevalence of Selected Target Chemical Contaminants in Sport Fish From Two California Lakes: Public health designed screening study. Sacramento, CA: Office of Environmental Health Hazard Assessment Water Quality Criterion for the Protection of Human Health: Methylmercury. Final. United States Environmental Protection Agency Office of Science and Technology Office of Water. EPA-823-R-01-001. January 2001
Spatial Representation:	Samples are collected by hand from three sub-locations for each site. The composite sample was collected from site San Francisco Bay Dumbarton Bridge (SFDB).
Temporal Representation:	Representative samples of locally abundant species were collected during the winter on 2/3/2009
Environmental Conditions:	
QAPP Information:	Samples were collected as part of the State Water Board's Mussel Watch Program which is a part of the National Oceanic Administration's (NOAAs) National Status and Trends (NS&T). Mussels are shipped to NOAAs contract labs for analysis of trace constituents and mussel condition. Analytical protocols follow those approved by NOAAs NS&T Program Additional background information can be found at: http://ccma.nos.noaa.gov/stressors/pollution/nsandt/
QAPP Information Reference(s):	

Line of Evidence (LOE) for Decision ID 33935, Mercury
San Francisco Bay, South

Region 2

LOE ID:	93699
Pollutant:	Mercury
LOE Subgroup:	Pollutant-Tissue
Matrix:	Tissue
Fraction:	Shellfish
Beneficial Use:	Shellfish Harvesting
Number of Samples:	12
Number of Exceedances:	0
Data and Information Type:	Shellfish surveys
Data Used to Assess Water Quality:	None of the 12 samples exceeded the guideline. All composite samples were comprised of Crassostrea gigas, except for one that was comprised of Mytilus californianus. Data were reported on a dry weight basis and were converted to a wet weight basis by multiplying the dry-weight concentration by a factor of 1 minus the percentage of moisture content expressed as a decimal. Laboratory replicates were averaged.
Data Reference:	Regional Monitoring Program data, Feb. 1993-Sep. 2008
SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	Water Quality Control Plan for the San Francisco Bay Basin: Controllable water quality factors shall not cause a detrimental increase in concentrations of toxic substances found in bottom sediments or aquatic life. Effects on aquatic organisms, wildlife, and human health will be considered.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	The USEPA 304(a) recommended water quality criterion for concentrations of methylmercury in shellfish tissue (wet weight) is 0.20 ppm. (Brodberg, R.K., and G.A. Pollock, 1999; USEPA, 2001)
Guideline Reference:	Prevalence of Selected Target Chemical Contaminants in Sport Fish From Two California Lakes: Public health designed screening study. Sacramento, CA: Office of Environmental

Spatial Representation: The samples were collected at the following station: BA10 - Coyote Creek.
 Temporal Representation: Samples were generally collected in spring and fall seasons from years 1994 - 1999.
 Environmental Conditions:
 QAPP Information: 1999 Quality Assurance Project Plan Regional Monitoring Program for Trace Substances.
 QAPP Information Reference(s): [1999 Quality Assurance Project Plan Regional Monitoring Program for Trace Substances](#)

DECISION ID	34219	Region 2
San Francisco Bay, South		

Pollutant: PCBs (Polychlorinated biphenyls)
Final Listing Decision: Do Not Delist from 303(d) list (being addressed with USEPA approved TMDL)
Last Listing Cycle's Final Listing Decision: List on 303(d) list (TMDL required list)(2012)
Revision Status Revised
Sources: Source Unknown
TMDL Name: San Francisco Bay PCBs
TMDL Project Code: 7
Date TMDL Approved by USEPA: 03/29/2010
Impairment from Pollutant or Pollution: Pollutant

Regional Board Staff Conclusion:

This pollutant is being considered for removal on the CWA section 303(d) List under sections 2.2 and 4.1 of the Listing Policy. Under section 4.1 of the Policy, a minimum of one line of evidence is needed to assess listing status.

Seven lines of evidence are available in the administrative record to assess this pollutant.

Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against removing this water segment-pollutant combination from the CWA section 303(d) List. There is sufficient justification to place it in the Being Addressed portion of the CWA 303(d) List because a TMDL has been completed and approved by RWQCB and USEPA, and is expected to result in attainment of the standard.

This conclusion is based on the staff findings that:

1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy.
2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy.
3. Eighty-seven of ninety-two samples exceeded the guideline and these exceed the allowable frequency listed in Table 4.1 of the Listing Policy.
4. The SF Bay PCBs TMDL was approved by USEPA on 3/29/2010.
5. Pursuant to section 3.11 and 4.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.

Regional Board Staff Decision Recommendation: After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be removed from the section 303(d) list because applicable water quality standards for the pollutant are being exceeded.

Line of Evidence (LOE) for Decision ID 34219, PCBs (Polychlorinated biphenyls)	Region 2
San Francisco Bay, South	

LOE ID: 92925
 Pollutant: PCBs (Polychlorinated biphenyls)
 LOE Subgroup: Pollutant-Tissue

Matrix:	Tissue
Fraction:	Shellfish
Beneficial Use:	Shellfish Harvesting
Number of Samples:	1
Number of Exceedances:	1
Data and Information Type:	Shellfish surveys
Data Used to Assess Water Quality:	The result did exceed the guideline. Data were reported on a dry weight basis and were converted to a wet weight basis by multiplying the dry-weight concentration by a factor of 1 minus the percentage of moisture content expressed as a decimal. Total PCB was assessed for as follows: PCB aroclors and congeners were summed separately and the sum that yielded the highest value was used for the assessment.
Data Reference:	State Mussel Watch Program Data 1977-2000; Winter 2007-Winter 2009. State Water Resources Control Board
SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	Many pollutants can accumulate on particles, in sediment, or bioaccumulate in fish and other aquatic organisms. Controllable water quality factors shall not cause a detrimental increase in concentrations of toxic substances found in bottom sediments or aquatic life. Effects on aquatic organisms, wildlife, and human health will be considered.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	The modified OEHHA Fish Contaminant Goal for polychlorinated biphenyls in shellfish tissue is 3.9 ppb. This screening level assumes an average body weight of 70 kg and a consumption rate of 21 g/day for a 30 year exposure over a 70-year lifetime. This constituent is a carcinogen therefore the risk level is set to one in a million. (Brodberg, R.K., and G.A. Pollock, 1999; Klasing, S., and R. Brodberg, 2008)
Guideline Reference:	Prevalence of Selected Target Chemical Contaminants in Sport Fish From Two California Lakes: Public health designed screening study. Sacramento, CA: Office of Environmental Health Hazard Assessment Development of Fish Contaminant Goals and Advisory Tissue Levels for Common Contaminants in California Sport Fish: Chlordane, DDTs, Dieldrin, Methylmercury, PCBs, Selenium, and Toxaphene
Spatial Representation:	Samples are collected by hand from three sub-locations for each site. The composite sample was collected from site San Francisco Bay Dumbarton Bridge (SFDB).
Temporal Representation:	Representative samples of locally abundant species were collected during the winter on 2/3/2009
Environmental Conditions:	
QAPP Information:	Samples were collected as part of the State Water Board's Mussel Watch Program which is a part of the National Oceanic Administration's (NOAAs) National Status and Trends (NS&T). Mussels are shipped to NOAAs contract labs for analysis of trace constituents and mussel condition. Analytical protocols follow those approved by NOAAs NS&T Program Additional background information can be found at: http://ccma.nos.noaa.gov/stressors/pollution/nsandt/
QAPP Information Reference(s):	

Line of Evidence (LOE) for Decision ID 34219, PCBs (Polychlorinated biphenyls)
San Francisco Bay, South

Region 2

LOE ID:	95185
Pollutant:	PCBs (Polychlorinated biphenyls)
LOE Subgroup:	Pollutant-Tissue
Matrix:	Tissue
Fraction:	Fish fillet
Beneficial Use:	Commercial or recreational collection of fish, shellfish, or organisms

Number of Samples:	44
Number of Exceedances:	16
Data and Information Type:	Fish tissue analysis
Data Used to Assess Water Quality:	Water Board staff assessed Regional Monitoring Program data for South San Francisco Bay to determine beneficial use support and results are as follows: 16 of 44 samples exceed the criterion for PCBs. No samples were discarded for being non-detect, unquantifiable or the reporting limit exceeding the water quality objective.
Data Reference:	Regional Monitoring Program data, Feb. 1993-Sep. 2008
SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	Water Quality Control Plan for the San Francisco Bay Basin: Controllable water quality factors shall not cause a detrimental increase in concentrations of toxic substances found in bottom sediments or aquatic life. Effects on aquatic organisms, wildlife, and human health will be considered.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	The modified OEHHA Fish Contaminant Goal for polychlorinated biphenyls in fish tissue is 2.6 ppb. This screening level assumes an average body weight of 70 kg and a consumption rate of 32 g/day for a 30 year exposure over a 70-year lifetime. This constituent is a carcinogen therefore the risk level is set to one in a million. A cooking reduction factor of 1 is applied for skin-off fillets. (Klasing, S., and R. Brodberg, 2008)
Guideline Reference:	Development of Fish Contaminant Goals and Advisory Tissue Levels for Common Contaminants in California Sport Fish: Chlordane, DDTs, Dieldrin, Methylmercury, PCBs, Selenium, and Toxaphene
Spatial Representation:	The samples were collected at six sites throughout South San Francisco Bay.
Temporal Representation:	The samples were collected in April 2000, May 2000, May 2003, August 2003, September 2003, May 2006, June 2006, and August 2006.
Environmental Conditions:	
QAPP Information:	The 1999 Quality Assurance Project Plan Regional Monitoring Program for Trace Substances was used.
QAPP Information Reference(s):	1999 Quality Assurance Project Plan Regional Monitoring Program for Trace Substances

Line of Evidence (LOE) for Decision ID 34219, PCBs (Polychlorinated biphenyls)
San Francisco Bay, South

Region 2

LOE ID:	93668
Pollutant:	PCBs (Polychlorinated biphenyls)
LOE Subgroup:	Pollutant-Tissue
Matrix:	Tissue
Fraction:	Shellfish
Beneficial Use:	Shellfish Harvesting
Number of Samples:	18
Number of Exceedances:	18
Data and Information Type:	Shellfish surveys
Data Used to Assess Water Quality:	Eighteen of the 18 samples exceeded the guideline. Composite samples were comprised of Crassostrea gigas, except for 3 samples comprised of Mytilus californianus. Data were reported on a dry weight basis and were converted to a wet weight basis by multiplying the dry-weight concentration by a factor of 1 minus the percentage of moisture content expressed as a decimal. Laboratory replicates were averaged. Total PCB was assessed for as follows: PCB aroclors and congeners were summed separately and the sum that yielded the highest value was used for the assessment.
Data Reference:	Regional Monitoring Program data, Feb. 1993-Sep. 2008
SWAMP Data:	Non-SWAMP

Water Quality Objective/Criterion:	Water Quality Control Plan for the San Francisco Bay Basin (2013): Controllable water quality factors shall not cause a detrimental increase in concentrations of toxic substances found in bottom sediments or aquatic life. Effects on aquatic organisms, wildlife, and human health will be considered.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	The modified OEHHA Fish Contaminant Goal for polychlorinated biphenyls in shellfish tissue is 3.9 ppb. This screening level assumes an average body weight of 70 kg and a consumption rate of 21 g/day for a 30 year exposure over a 70-year lifetime. This constituent is a carcinogen therefore the risk level is set to one in a million. (Brodberg, R.K., and G.A. Pollock, 1999; Klasing, S., and R. Brodberg, 2008)
Guideline Reference:	Prevalence of Selected Target Chemical Contaminants in Sport Fish From Two California Lakes: Public health designed screening study. Sacramento, CA: Office of Environmental Health Hazard Assessment Development of Fish Contaminant Goals and Advisory Tissue Levels for Common Contaminants in California Sport Fish: Chlordane, DDTs, Dieldrin, Methylmercury, PCBs, Selenium, and Toxaphene
Spatial Representation:	Samples were collected at the following station: BA10 - Coyote Creek.
Temporal Representation:	Samples were generally collected in spring and fall seasons from years 1993 - 1999 and then during fall season from years 2000 - 2008.
Environmental Conditions:	
QAPP Information:	1999 Quality Assurance Project Plan Regional Monitoring Program for Trace Substances.
QAPP Information Reference(s):	1999 Quality Assurance Project Plan Regional Monitoring Program for Trace Substances

Line of Evidence (LOE) for Decision ID 34219, PCBs (Polychlorinated biphenyls)

Region 2

San Francisco Bay, South

LOE ID:	92935
Pollutant:	PCBs (Polychlorinated biphenyls)
LOE Subgroup:	Pollutant-Water
Matrix:	Water
Fraction:	Total
Beneficial Use:	Commercial or recreational collection of fish, shellfish, or organisms
Number of Samples:	92
Number of Exceedances:	87
Data and Information Type:	PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality:	State Water Board staff assessed SFEI data for San Francisco Bay, South to determine beneficial use support and results are as follows: 87 of 92 samples exceed the criterion for PCB, Total.
Data Reference:	Regional Monitoring Program data, Feb. 1993-Sep. 2008
SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	The Polychlorinated Biphenyls criteria for the protection of human health from consumption of organisms only is 0.00017 ug/L (California Toxics Rule, 2000).
Objective/Criterion Reference:	Code of Federal Regulations 40 part 131.38 Establishment of numeric criteria for priority toxic pollutants for the State of California. 7/1/2011 Edition
Evaluation Guideline:	
Guideline Reference:	
Spatial Representation:	Data for this line of evidence for San Francisco Bay, South was collected at 50 monitoring sites [Coyote Creek - BA10, Lower South Bay - LSB001W, Lower South Bay - LSB002W, Lower South Bay - LSB003W, Lower South Bay - LSB004W, Lower South Bay - LSB005W, Lower South Bay - LSB006W, Lower South Bay - LSB007W, Lower South Bay - LSB008W, Lower South Bay - LSB009W, Lower South Bay - LSB010W, Lower South Bay - LSB011W, Lower South Bay - LSB012W, Lower South Bay - LSB013W, Lower

South Bay - LSB014W, Lower South Bay - LSB015W, Lower South Bay - LSB016W, Lower South Bay - LSB017W, Lower South Bay - LSB018W, Lower South Bay - LSB019W, Lower South Bay - LSB020W, Lower South Bay - LSB021W, Lower South Bay - LSB022W, Lower South Bay - LSB023W, Lower South Bay - LSB024W, Lower South Bay - LSB025W, Lower South Bay - LSB026W, Lower South Bay - LSB027W, Lower South Bay - LSB028W, Lower South Bay - LSB029W, Lower South Bay - LSB030W, Lower South Bay - LSB032W, South Bay - SB031W, South Bay - SB033W, South Bay - SB034W, South Bay - SB035W, South Bay - SB036W, South Bay - SB037W, South Bay - SB038W, South Bay - SB039W, South Bay - SB040W, South Bay - SB041W, South Bay - SB042W, South Bay - SB043W, South Bay - SB044W, South Bay - SB045W, South Bay - SB046W, South Bay - SB047W, South Bay - SB048W, South Bay - SB049W]

Temporal Representation:

Data was collected over the time period 2/1/1994-8/16/2007.

Environmental Conditions:

Staff is not aware of any special conditions that might affect interpretation of the data.

QAPP Information:

The 1999 Quality Assurance Project Plan Regional Monitoring Program for Trace Substances was used.

QAPP Information Reference(s):

[1999 Quality Assurance Project Plan Regional Monitoring Program for Trace Substances](#)

Line of Evidence (LOE) for Decision ID 34219, PCBs (Polychlorinated biphenyls)

Region 2

San Francisco Bay, South

LOE ID: 3849

Pollutant: PCBs (Polychlorinated biphenyls)

LOE Subgroup: Pollutant-Tissue

Matrix: Tissue

Fraction: Not Recorded

Beneficial Use: Commercial or recreational collection of fish, shellfish, or organisms

Number of Samples: 0

Number of Exceedances: 0

Data and Information Type: Not Specified

Data Used to Assess Water Quality: Unspecified--This LOE is a placeholder to support a 303(d) listing decision made prior to 2006.

Data Reference: [Placeholder reference pre-2006 303\(d\)](#)

SWAMP Data: Non-SWAMP

Water Quality Objective/Criterion: Unspecified

Objective/Criterion Reference: [Placeholder reference pre-2006 303\(d\)](#)

Evaluation Guideline: Unspecified

Guideline Reference: [Placeholder reference pre-2006 303\(d\)](#)

Spatial Representation: Unspecified

Temporal Representation: Unspecified

Environmental Conditions: Unspecified

QAPP Information: Unspecified

QAPP Information Reference(s):

Line of Evidence (LOE) for Decision ID 34219, PCBs (Polychlorinated biphenyls)

Region 2

San Francisco Bay, South

LOE ID: 92926

Pollutant: PCBs (Polychlorinated biphenyls)

LOE Subgroup: Pollutant-Water

Matrix: Water

Fraction: Dissolved

Beneficial Use:	Estuarine Habitat
Number of Samples:	70
Number of Exceedances:	0
Data and Information Type:	PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality:	State Water Board staff assessed SFEI data for San Francisco Bay, South to determine beneficial use support and results are as follows: 0 of 70 samples exceed the criterion for PCB, Total.
Data Reference:	Regional Monitoring Program data, Feb. 1993-Sep. 2008
SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	The PCB, Total criterion continuous concentration (expressed as a 4-day average) to protect aquatic life in saltwater is 0.03 ug/L (California Toxics Rule, 2000).
Objective/Criterion Reference:	Code of Federal Regulations 40 part 131.38 Establishment of numeric criteria for priority toxic pollutants for the State of California. 7/1/2011 Edition
Evaluation Guideline:	
Guideline Reference:	
Spatial Representation:	Data for this line of evidence for San Francisco Bay, South was collected at 37 monitoring sites [Coyote Creek - BA10, Lower South Bay - LSB002W, Lower South Bay - LSB008W, Lower South Bay - LSB017W, Lower South Bay - LSB021W, Lower South Bay - LSB018W, Lower South Bay - LSB020W, Lower South Bay - LSB011W, Lower South Bay - LSB010W, Lower South Bay - LSB009W, Lower South Bay - LSB019W, Lower South Bay - LSB007W, South Bay - SB030W, South Bay - SB034W, South Bay - SB036W, Lower South Bay - LSB015W, Lower South Bay - LSB003W, Lower South Bay - LSB014W, Lower South Bay - LSB013W, South Bay - SB037W, Lower South Bay - LSB016W, South Bay - SB032W, South Bay - SB029W, Lower South Bay - LSB006W, South Bay - SB033W, Lower South Bay - LSB012W, South Bay - SB035W, South Bay - SB022W, South Bay - SB031W, Lower South Bay - LSB004W, South Bay - SB027W, South Bay - SB028W, Lower South Bay - LSB005W, South Bay - SB025W, South Bay - SB024W, South Bay - SB023W, Lower South Bay - LSB001W]
Temporal Representation:	Data was collected over the time period 2/1/1994-8/19/2005.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	The 1999 Quality Assurance Project Plan Regional Monitoring Program for Trace Substances was used.
QAPP Information Reference(s):	1999 Quality Assurance Project Plan Regional Monitoring Program for Trace Substances

DECISION ID	65351	Region 2
San Francisco Bay, South		

Pollutant:	Acenaphthene
Final Listing Decision:	Do Not List on 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision:	New Decision
Revision Status	Revised
Impairment from Pollutant or Pollution:	Pollutant
Regional Board Staff Conclusion:	<p>This pollutant is being considered for placement on the CWA section 303(d) List under section 3.1 of the Listing Policy. Under section 3.1 a single line of evidence is necessary to assess listing status.</p> <p>Two lines of evidence are available in the administrative record to assess this pollutant. Zero of sixty-one samples exceed the guideline.</p> <p>Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against placing this water segment-pollutant combination on the CWA section 303(d) List in the Water Quality Limited Segments category.</p>

This conclusion is based on the staff findings that:

1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy.
2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy.
3. Zero of sixty-one samples exceed the guideline and this does not exceed the allowable frequency listed in Table 3.1 of the Listing Policy.
4. Pursuant to section 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.

Regional Board Staff Decision Recommendation: After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be placed on the section 303(d) list because applicable water quality standards are not being exceeded.

**Line of Evidence (LOE) for Decision ID 65351, Acenaphthene
San Francisco Bay, South**

Region 2

LOE ID:	92911
Pollutant:	Acenaphthene
LOE Subgroup:	Pollutant-Water
Matrix:	Water
Fraction:	Total
Beneficial Use:	Commercial or recreational collection of fish, shellfish, or organisms
Number of Samples:	61
Number of Exceedances:	0
Data and Information Type:	PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality:	State Water Board staff assessed SFEI data for San Francisco Bay, South to determine beneficial use support and results are as follows: 0 of 61 samples exceed the criterion for Acenaphthene.
Data Reference:	Regional Monitoring Program data, Feb. 1993-Sep. 2008
SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	The Acenaphthene criteria for the protection of human health from consumption of organisms only is 2,700 ug/L (California Toxics Rule, 2000).
Objective/Criterion Reference:	Code of Federal Regulations 40 part 131.38 Establishment of numeric criteria for priority toxic pollutants for the State of California. 7/1/2011 Edition
Evaluation Guideline:	
Guideline Reference:	
Spatial Representation:	Data for this line of evidence for San Francisco Bay, South was collected at 46 monitoring sites [Coyote Creek - BA10, Lower South Bay - LSB002W, Lower South Bay - LSB003W, Lower South Bay - LSB004W, Lower South Bay - LSB006W, Lower South Bay - LSB007W, Lower South Bay - LSB008W, Lower South Bay - LSB009W, Lower South Bay - LSB010W, Lower South Bay - LSB011W, Lower South Bay - LSB012W, Lower South Bay - LSB022W, Lower South Bay - LSB023W, Lower South Bay - LSB024W, Lower South Bay - LSB025W, Lower South Bay - LSB026W, Lower South Bay - LSB027W, Lower South Bay - LSB028W, Lower South Bay - LSB029W, Lower South Bay - LSB030W, Lower South Bay - LSB032W, Lower South Bay - LSB033W, Lower South Bay - LSB034W, Lower South Bay - LSB035W, Lower South Bay - LSB036W, Lower South Bay - LSB037W, South Bay - SB001W, South Bay - SB016W, South Bay - SB017W, South Bay - SB018W, South Bay - SB019W, South Bay - SB038W, South Bay - SB039W, South Bay - SB040W, South Bay - SB041W, South Bay - SB042W, South Bay - SB043W, South Bay - SB044W, South Bay - SB045W, South Bay - SB046W, South Bay - SB047W, South Bay - SB048W, South Bay - SB049W, South Bay - SB050W, South Bay - SB051W, South Bay - SB053W]
Temporal Representation:	Data was collected over the time period 2/6/1996-7/18/2008.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.

QAPP Information: The 1999 Quality Assurance Project Plan Regional Monitoring Program for Trace Substances was used.

QAPP Information Reference(s): [1999 Quality Assurance Project Plan Regional Monitoring Program for Trace Substances](#)

Line of Evidence (LOE) for Decision ID 65351, Acenaphthene
San Francisco Bay, South

Region 2

LOE ID: 92910

Pollutant: Acenaphthene
LOE Subgroup: Pollutant-Water
Matrix: Water
Fraction: Dissolved

Beneficial Use: Estuarine Habitat

Number of Samples: 60
Number of Exceedances: 0

Data and Information Type: PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality: State Water Board staff assessed SFEI data for San Francisco Bay, South to determine beneficial use support and results are as follows: 0 of 60 samples exceed the criterion for Acenaphthene.

Data Reference: [Regional Monitoring Program data, Feb. 1993-Sep. 2008](#)

SWAMP Data: Non-SWAMP

Water Quality Objective/Criterion: No individual pesticide or combination of pesticides shall be present in concentrations that adversely affect beneficial uses.

Objective/Criterion Reference: [Water Quality Control Plan \(Basin Plan\) San Francisco Bay Basin \(Region 2\)](#)

Evaluation Guideline: The available data for acenaphthene indicate that chronic toxicity to saltwater aquatic life occurs at concentrations as low as 710 ug/L and would occur at lower concentrations among species that are more sensitive than those tested. (USEPA Gold Book - EPA 440/5-86-001)

Guideline Reference: [Quality Criteria for Water 1986. United States Environmental Protection Agency. Office of Water. Regulations and Standards. Washington D.C. EPA 440/5-86-001.](#)

Spatial Representation: Data for this line of evidence for San Francisco Bay, South was collected at 33 monitoring sites [Coyote Creek - BA10, Lower South Bay - LSB002W, Lower South Bay - LSB008W, Lower South Bay - LSB017W, Lower South Bay - LSB021W, Lower South Bay - LSB018W, Lower South Bay - LSB020W, Lower South Bay - LSB011W, Lower South Bay - LSB010W, Lower South Bay - LSB033W, Lower South Bay - LSB009W, Lower South Bay - LSB019W, Lower South Bay - LSB007W, South Bay - SB030W, South Bay - SB034W, South Bay - SB036W, Lower South Bay - LSB015W, Lower South Bay - LSB003W, Lower South Bay - LSB013W, South Bay - SB037W, Lower South Bay - LSB016W, South Bay - SB032W, South Bay - SB029W, Lower South Bay - LSB006W, Lower South Bay - LSB012W, South Bay - SB035W, South Bay - SB022W, South Bay - SB031W, Lower South Bay - LSB004W, South Bay - SB028W, Lower South Bay - LSB005W, South Bay - SB023W, Lower South Bay - LSB001W]

Temporal Representation: Data was collected over the time period 2/6/1996-7/18/2008.

Environmental Conditions: Staff is not aware of any special conditions that might affect interpretation of the data.

QAPP Information: The 1999 Quality Assurance Project Plan Regional Monitoring Program for Trace Substances was used.

QAPP Information Reference(s): [1999 Quality Assurance Project Plan Regional Monitoring Program for Trace Substances](#)

DECISION ID 65352
San Francisco Bay, South

Region 2

Pollutant: Aldrin

Final Listing Decision:
Last Listing Cycle's Final Listing Decision:
Revision Status
Impairment from Pollutant or Pollution:

Do Not List on 303(d) list (TMDL required list)
New Decision

Revised
Pollutant

Regional Board Staff Conclusion:

This pollutant is being considered for placement on the CWA section 303(d) List under section 3.1 of the Listing Policy. Under section 3.1 a single line of evidence is necessary to assess listing status.

Two lines of evidence are available in the administrative record to assess this pollutant. Zero of thirty samples exceed the guideline.

Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against placing this water segment-pollutant combination on the CWA section 303(d) List in the Water Quality Limited Segments category.

This conclusion is based on the staff findings that:

1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy.
2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy.
3. Zero of thirty samples exceed the guideline and this does not exceed the allowable frequency listed in Table 3.1 of the Listing Policy.
4. Pursuant to section 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.

Regional Board Staff Decision Recommendation:

After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be placed on the section 303(d) list because applicable water quality standards are not being exceeded.

Line of Evidence (LOE) for Decision ID 65352, Aldrin
San Francisco Bay, South

Region 2

LOE ID: 92912

Pollutant: Aldrin
LOE Subgroup: Pollutant-Water
Matrix: Water
Fraction: Total

Beneficial Use: Commercial or recreational collection of fish, shellfish, or organisms

Number of Samples: 24
Number of Exceedances: 0

Data and Information Type: PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality: State Water Board staff assessed SFEI data for San Francisco Bay, South to determine beneficial use support and results are as follows: 0 of 24 samples exceed the criterion for Aldrin.

Data Reference: [Regional Monitoring Program data, Feb. 1993-Sep. 2008](#)

SWAMP Data: Non-SWAMP

Water Quality Objective/Criterion: The Aldrin criteria for the protection of human health from consumption of organisms only is 0.00014 ug/L (California Toxics Rule, 2000).

Objective/Criterion Reference: [Code of Federal Regulations 40 part 131.38 Establishment of numeric criteria for priority toxic pollutants for the State of California. 7/1/2011 Edition](#)

Evaluation Guideline:
Guideline Reference:

Spatial Representation: Data for this line of evidence for San Francisco Bay, South was collected at 21 monitoring

sites [Lower South Bay - LSB012W, Lower South Bay - LSB013W, Lower South Bay - LSB014W, Lower South Bay - LSB015W, Lower South Bay - LSB016W, Lower South Bay - LSB027W, Lower South Bay - LSB028W, Lower South Bay - LSB029W, Lower South Bay - LSB030W, Lower South Bay - LSB032W, South Bay - SB022W, South Bay - SB023W, South Bay - SB024W, South Bay - SB025W, South Bay - SB031W, South Bay - SB034W, South Bay - SB036W, South Bay - SB044W, South Bay - SB047W, South Bay - SB048W, South Bay - SB049W]

Temporal Representation:

Data was collected over the time period 7/12/2004-8/16/2007.

Environmental Conditions:

Staff is not aware of any special conditions that might affect interpretation of the data.

QAPP Information:

The 1999 Quality Assurance Project Plan Regional Monitoring Program for Trace Substances was used.

QAPP Information Reference(s):

[1999 Quality Assurance Project Plan Regional Monitoring Program for Trace Substances](#)

Line of Evidence (LOE) for Decision ID 65352, Aldrin

Region 2

San Francisco Bay, South

LOE ID: 92920

Pollutant: Aldrin

LOE Subgroup: Pollutant-Water

Matrix: Water

Fraction: Dissolved

Beneficial Use: Estuarine Habitat

Number of Samples: 30

Number of Exceedances: 0

Data and Information Type:

PHYSICAL/CHEMICAL MONITORING

Data Used to Assess Water Quality:

State Water Board staff assessed SFEI data for San Francisco Bay, South to determine beneficial use support and results are as follows: 0 of 30 samples exceed the criterion for Aldrin.

Data Reference:

[Regional Monitoring Program data, Feb. 1993-Sep. 2008](#)

SWAMP Data:

Non-SWAMP

Water Quality Objective/Criterion:

The aldrin criterion maximum concentration to protect aquatic life in saline water is 1.3 ug/L (California Toxics Rule, 2000).

Objective/Criterion Reference:

[Code of Federal Regulations 40 part 131.38 Establishment of numeric criteria for priority toxic pollutants for the State of California. 7/1/2011 Edition](#)

Evaluation Guideline:

Guideline Reference:

Spatial Representation:

Data for this line of evidence for San Francisco Bay, South was collected at 27 monitoring sites [Lower South Bay - LSB008W, Lower South Bay - LSB011W, Lower South Bay - LSB010W, Lower South Bay - LSB009W, Lower South Bay - LSB007W, South Bay - SB034W, South Bay - SB036W, Lower South Bay - LSB015W, Lower South Bay - LSB014W, Lower South Bay - LSB013W, South Bay - SB037W, Lower South Bay - LSB016W, South Bay - SB032W, South Bay - SB029W, South Bay - SB033W, Lower South Bay - LSB012W, South Bay - SB035W, South Bay - SB017W, South Bay - SB022W, South Bay - SB031W, South Bay - SB019W, South Bay - SB018W, South Bay - SB027W, South Bay - SB028W, South Bay - SB025W, South Bay - SB024W, South Bay - SB023W]

Temporal Representation:

Data was collected over the time period 8/5/2003-8/19/2005.

Environmental Conditions:

Staff is not aware of any special conditions that might affect interpretation of the data.

QAPP Information:

The 1999 Quality Assurance Project Plan Regional Monitoring Program for Trace Substances was used.

QAPP Information Reference(s):

[1999 Quality Assurance Project Plan Regional Monitoring Program for Trace Substances](#)

DECISION ID

65354

Region 2

San Francisco Bay, South

Pollutant: Anthracene
Final Listing Decision: Do Not List on 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision: New Decision
Revision Status: Revised
Impairment from Pollutant or Pollution: Pollutant

Regional Board Staff Conclusion: This pollutant is being considered for placement on the CWA section 303(d) List under section 3.1 of the Listing Policy. Under section 3.1 a single line of evidence is necessary to assess listing status.

One line of evidence is available in the administrative record to assess this pollutant. Zero of fifty-six samples exceed the guideline.

Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against placing this water segment-pollutant combination on the CWA section 303(d) List in the Water Quality Limited Segments category.

This conclusion is based on the staff findings that:

1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy.
2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy.
3. Zero of fifty-six samples exceed the guideline and this does not exceed the allowable frequency listed in Table 3.1 of the Listing Policy.
4. Pursuant to section 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.

Regional Board Staff Decision Recommendation: After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be placed on the section 303(d) list because applicable water quality standards are not being exceeded.

Line of Evidence (LOE) for Decision ID 65354, Anthracene San Francisco Bay, South

Region 2

LOE ID: 92922

Pollutant: Anthracene
LOE Subgroup: Pollutant-Water
Matrix: Water
Fraction: Total

Beneficial Use: Commercial or recreational collection of fish, shellfish, or organisms

Number of Samples: 56
Number of Exceedances: 0

Data and Information Type: PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality: State Water Board staff assessed SFEI data for San Francisco Bay, South to determine beneficial use support and results are as follows: 0 of 56 samples exceed the criterion for Anthracene.

Data Reference: [Regional Monitoring Program data, Feb. 1993-Sep. 2008](#)

SWAMP Data: Non-SWAMP

Water Quality Objective/Criterion: The Anthracene criteria for the protection of human health from consumption of organisms only is 110,000 ug/L (California Toxics Rule, 2000).

Objective/Criterion Reference: [Water Quality Control Plan \(Basin Plan\) San Francisco Bay Basin \(Region 2\)](#)

Evaluation Guideline: [Code of Federal Regulations 40 part 131.38 Establishment of numeric criteria for priority](#)

Spatial Representation:

Data for this line of evidence for San Francisco Bay, South was collected at 35 monitoring sites [Coyote Creek - BA10, Lower South Bay - LSB001W, Lower South Bay - LSB002W, Lower South Bay - LSB003W, Lower South Bay - LSB004W, Lower South Bay - LSB005W, Lower South Bay - LSB006W, Lower South Bay - LSB012W, Lower South Bay - LSB013W, Lower South Bay - LSB015W, Lower South Bay - LSB016W, Lower South Bay - LSB022W, Lower South Bay - LSB023W, Lower South Bay - LSB024W, Lower South Bay - LSB025W, Lower South Bay - LSB026W, Lower South Bay - LSB027W, Lower South Bay - LSB028W, Lower South Bay - LSB029W, Lower South Bay - LSB030W, Lower South Bay - LSB032W, Lower South Bay - LSB033W, Lower South Bay - LSB034W, Lower South Bay - LSB035W, Lower South Bay - LSB036W, Lower South Bay - LSB037W, South Bay - SB038W, South Bay - SB042W, South Bay - SB046W, South Bay - SB047W, South Bay - SB048W, South Bay - SB049W, South Bay - SB050W, South Bay - SB051W, South Bay - SB053W]

Temporal Representation:

Data was collected over the time period 2/1/1994-7/18/2008.

Environmental Conditions:

Staff is not aware of any special conditions that might affect interpretation of the data.

QAPP Information:

The 1999 Quality Assurance Project Plan Regional Monitoring Program for Trace Substances was used.

QAPP Information Reference(s):

[1999 Quality Assurance Project Plan Regional Monitoring Program for Trace Substances](#)

DECISION ID 65355		Region 2
San Francisco Bay, South		
Pollutant:	Arsenic	
Final Listing Decision:	Do Not List on 303(d) list (TMDL required list)	
Last Listing Cycle's Final Listing Decision:	New Decision	
Revision Status	Revised	
Impairment from Pollutant or Pollution:	Pollutant	
Regional Board Staff Conclusion:	<p>This pollutant is being considered for placement on the CWA section 303(d) List under section 3.1 of the Listing Policy. Under section 3.1 a single line of evidence is necessary to assess listing status.</p> <p>Six lines of evidence are available in the administrative record to assess this pollutant. Zero of one hundred twenty-eight samples exceed the guideline.</p> <p>Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against placing this water segment-pollutant combination on the CWA section 303(d) List in the Water Quality Limited Segments category.</p> <p>This conclusion is based on the staff findings that:</p> <ol style="list-style-type: none">1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy.2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy.3. Zero of one hundred twenty-eight samples exceed the guideline and this does not exceed the allowable frequency listed in Table 3.1 of the Listing Policy.4. Pursuant to section 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.	
Regional Board Staff Decision Recommendation:	After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be placed on the section 303(d) list because applicable water quality standards are not being exceeded.	

Line of Evidence (LOE) for Decision ID 65355, Arsenic		Region 2
San Francisco Bay, South		

LOE ID: 95217

Pollutant:	Arsenic
LOE Subgroup:	Pollutant-Tissue
Matrix:	Tissue
Fraction:	Fish fillet
Beneficial Use:	Commercial or recreational collection of fish, shellfish, or organisms
Number of Samples:	5
Number of Exceedances:	0
Data and Information Type:	Fish tissue analysis
Data Used to Assess Water Quality:	Water Board staff assessed Regional Monitoring Program data for South San Francisco Bay to determine beneficial use support and results are as follows: 0 of 5 samples exceed the criterion for Arsenic. The fraction of total arsenic in inorganic form was taken to be 3.2%, which was the maximum fraction of inorganic arsenic found in shark tissue from SF Bay. No samples were discarded for being non-detect, unquantifiable or the reporting limit exceeding the water quality objective.
Data Reference:	Regional Monitoring Program data, Feb. 1993-Sep. 2008 Contaminant Concentrations in Fish from San Francisco Bay, 2000 Calculating Fraction of Inorganic Arsenic in SF Bay Fish and Shellfish
SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	Water Quality Control Plan for the San Francisco Bay Basin: Controllable water quality factors shall not cause a detrimental increase in concentrations of toxic substances found in bottom sediments or aquatic life. Effects on aquatic organisms, wildlife, and human health will be considered.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	<p>The modified OEHHA Advisory Tissue Level for arsenic in fish tissue is 0.34 ppm. This screening level assumes an average body weight of 70 kg and a consumption rate of 32 g/day for a 30 year exposure over a 70-year lifetime. This constituent is a carcinogen therefore the risk level is set to one in ten thousand. (Klasing, S., and R. Brodberg, 2008; OEHHA, 2004).</p> <p>Advisory Tissue Levels (ATLs), while still conferring no significant health risk to individuals consuming sport fish in the quantities shown over a lifetime, were developed with the recognition that there are unique health benefits associated with fish consumption and that the advisory process should be expanded beyond a simple risk paradigm in order to best promote the overall health of the fish consumer. ATLs provide a number of recommended fish servings that correspond to the range of contaminant concentrations found in fish and are used to provide consumption advice to prevent consumers from being exposed to more than the average daily reference dose for noncarcinogens or to a risk level greater than 1×10^{-4} for carcinogens (not more than one additional cancer case in a population of 10,000 people consuming fish at the given consumption rate over a lifetime). ATLs are designed to encourage consumption of fish that can be eaten in quantities likely to provide significant health benefits, while discouraging consumption of fish that, because of contaminant concentrations, should not be eaten or cannot be eaten in amounts recommended for improving overall health (eight ounces total, prior to cooking, per week). ATLs are one of the criteria that will be used by OEHHA for issuing fish consumption guidelines.</p>
Guideline Reference:	Development of Fish Contaminant Goals and Advisory Tissue Levels for Common Contaminants in California Sport Fish: Chlordane, DDTs, Dieldrin, Methylmercury, PCBs, Selenium, and Toxaphene Air Toxics Hotspots Program Risk Assessment Guidelines. Part II Technical Support Document for Describing Available Cancer Potency Values.
Spatial Representation:	The samples were collected at one site in South San Francisco Bay.
Temporal Representation:	The samples were collected in May 2003.
Environmental Conditions:	
QAPP Information:	The 1999 Quality Assurance Project Plan Regional Monitoring Program for Trace Substances was used.

Line of Evidence (LOE) for Decision ID 65355, Arsenic**Region 2****San Francisco Bay, South**

LOE ID:	93697
Pollutant:	Arsenic
LOE Subgroup:	Pollutant-Tissue
Matrix:	Tissue
Fraction:	Shellfish
Beneficial Use:	Shellfish Harvesting
Number of Samples:	12
Number of Exceedances:	0
Data and Information Type:	Shellfish surveys
Data Used to Assess Water Quality:	Zero of the twelve samples exceeded the guideline. All composite samples were comprised of <i>Crassostrea gigas</i> except for one sample comprised of <i>Mytilus californianus</i> . Data were reported on a dry weight basis and were converted to a wet weight basis by multiplying the dry-weight concentration by a factor of 1 minus the percentage of moisture content expressed as a decimal. The fraction of total arsenic in inorganic form was taken to be 0.115%, which was the maximum fraction of inorganic arsenic found in shellfish tissue from SF Bay. This number was screened against the guideline.
Data Reference:	Regional Monitoring Program data, Feb. 1993-Sep. 2008 Contaminant Concentrations in Fish from San Francisco Bay, 2000 Calculating Fraction of Inorganic Arsenic in SF Bay Fish and Shellfish
SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	Water Quality Control Plan for the San Francisco Bay Basin: Controllable water quality factors shall not cause a detrimental increase in concentrations of toxic substances found in bottom sediments or aquatic life. Effects on aquatic organisms, wildlife, and human health will be considered.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	<p>The modified OEHHA Advisory Tissue Level for arsenic in shellfish tissue is 0.52 ppm. This screening level assumes an average body weight of 70 kg and a consumption rate of 21 g/day for a 30 year exposure over a 70-year lifetime. This constituent is a carcinogen therefore the risk level is set to one in ten thousand. (Brodberg, R.K., and G.A. Pollock, 1999; Klasing, S., and R. Brodberg, 2008; OEHHA, 2004)</p> <p>Advisory Tissue Levels (ATLs), while still conferring no significant health risk to individuals consuming sport fish in the quantities shown over a lifetime, were developed with the recognition that there are unique health benefits associated with fish consumption and that the advisory process should be expanded beyond a simple risk paradigm in order to best promote the overall health of the fish consumer. ATLs provide a number of recommended fish servings that correspond to the range of contaminant concentrations found in fish and are used to provide consumption advice to prevent consumers from being exposed to more than the average daily reference dose for noncarcinogens or to a risk level greater than 1×10^{-4} for carcinogens (not more than one additional cancer case in a population of 10,000 people consuming fish at the given consumption rate over a lifetime). ATLs are designed to encourage consumption of fish that can be eaten in quantities likely to provide significant health benefits, while discouraging consumption of fish that, because of contaminant concentrations, should not be eaten or cannot be eaten in amounts recommended for improving overall health (eight ounces total, prior to cooking, per week). ATLs are one of the criteria that will be used by OEHHA for issuing fish consumption guidelines.</p>
Guideline Reference:	Prevalence of Selected Target Chemical Contaminants in Sport Fish From Two California Lakes: Public health designed screening study. Sacramento, CA: Office of Environmental

[Health Hazard Assessment](#)
[Development of Fish Contaminant Goals and Advisory Tissue Levels for Common Contaminants in California Sport Fish: Chlordane, DDTs, Dieldrin, Methylmercury, PCBs, Selenium, and Toxaphene](#)
[Air Toxics Hotspots Program Risk Assessment Guidelines. Part II Technical Support Document for Describing Available Cancer Potency Values.](#)

Spatial Representation: Samples were collected at the following station: BA10 - Coyote Creek.
 Temporal Representation: Samples were generally collected in spring and fall seasons from years 1993 - 1999 and then during fall 2008.
 Environmental Conditions:
 QAPP Information: 1999 Quality Assurance Project Plan Regional Monitoring Program for Trace Substances.
 QAPP Information Reference(s): [1999 Quality Assurance Project Plan Regional Monitoring Program for Trace Substances](#)

Line of Evidence (LOE) for Decision ID 65355, Arsenic
San Francisco Bay, South

Region 2

LOE ID: 95888

Pollutant: Arsenic
 LOE Subgroup: Pollutant-Tissue
 Matrix: Tissue
 Fraction: Fish fillet

Beneficial Use: Commercial or recreational collection of fish, shellfish, or organisms

Number of Samples: 4
 Number of Exceedances: 0

Data and Information Type: Fish tissue analysis
 Data Used to Assess Water Quality: Water Board staff assessed Regional Monitoring Program data for Coyote Creek to determine beneficial use support and results are as follows: 0 of 4 samples exceed the criterion for Arsenic. The fraction of total arsenic in inorganic form was taken to be 3.2%, which was the maximum fraction of inorganic arsenic found in shark tissue from SF Bay data. No samples were discarded for being non-detect, unquantifiable or the reporting limit exceeding the water quality objective.

Data Reference: [Regional Monitoring Program data, Feb. 1993-Sep. 2008](#)
[Calculating Fraction of Inorganic Arsenic in SF Bay Fish and Shellfish](#)

SWAMP Data: Non-SWAMP

Water Quality Objective/Criterion: Water Quality Control Plan for the San Francisco Bay Basin: Controllable water quality factors shall not cause a detrimental increase in concentrations of toxic substances found in bottom sediments or aquatic life. Effects on aquatic organisms, wildlife, and human health will be considered.

Objective/Criterion Reference: [Water Quality Control Plan \(Basin Plan\) San Francisco Bay Basin \(Region 2\)](#)

Evaluation Guideline: The modified OEHHA Advisory Tissue Level for arsenic in fish tissue is 0.34 ppm. This screening level assumes an average body weight of 70 kg and a consumption rate of 32 g/day for a 30 year exposure over a 70-year lifetime. This constituent is a carcinogen therefore the risk level is set to one in ten thousand. (Klasing, S., and R. Brodberg, 2008; OEHHA, 2004).

Advisory Tissue Levels (ATLs), while still conferring no significant health risk to individuals consuming sport fish in the quantities shown over a lifetime, were developed with the recognition that there are unique health benefits associated with fish consumption and that the advisory process should be expanded beyond a simple risk paradigm in order to best promote the overall health of the fish consumer. ATLs provide a number of recommended fish servings that correspond to the range of contaminant concentrations found in fish and are used to provide consumption advice to prevent consumers from being exposed to more than the average daily reference dose for noncarcinogens

or to a risk level greater than 1×10^{-4} for carcinogens (not more than one additional cancer case in a population of 10,000 people consuming fish at the given consumption rate over a lifetime). ATLs are designed to encourage consumption of fish that can be eaten in quantities likely to provide significant health benefits, while discouraging consumption of fish that, because of contaminant concentrations, should not be eaten or cannot be eaten in amounts recommended for improving overall health (eight ounces total, prior to cooking, per week). ATLs are one of the criteria that will be used by OEHHA for issuing fish consumption guidelines.

Guideline Reference:

[Development of Fish Contaminant Goals and Advisory Tissue Levels for Common Contaminants in California Sport Fish: Chlordane, DDTs, Dieldrin, Methylmercury, PCBs, Selenium, and Toxaphene](#)
[Air Toxics Hotspots Program Risk Assessment Guidelines. Part II Technical Support Document for Describing Available Cancer Potency Values.](#)

Spatial Representation:

The samples were collected at one site in South SF Bay near the mouth of Coyote Creek

Temporal Representation:

The samples were collected in May 1994.

Environmental Conditions:

QAPP Information:

The 1999 Quality Assurance Project Plan Regional Monitoring Program for Trace Substances was used.

QAPP Information Reference(s):

[1999 Quality Assurance Project Plan Regional Monitoring Program for Trace Substances](#)

Line of Evidence (LOE) for Decision ID 65355, Arsenic

Region 2

San Francisco Bay, South

LOE ID: 92933

Pollutant: Arsenic

LOE Subgroup: Pollutant-Water

Matrix: Water

Fraction: Dissolved

Beneficial Use: Estuarine Habitat

Number of Samples: 128

Number of Exceedances: 0

Data and Information Type: PHYSICAL/CHEMICAL MONITORING

Data Used to Assess Water Quality: State Water Board staff assessed SFEI data for San Francisco Bay, South to determine beneficial use support and results are as follows: 0 of 128 samples exceed the criterion for Arsenic.

Data Reference: [Regional Monitoring Program data, Feb. 1993-Sep. 2008](#)

SWAMP Data: Non-SWAMP

Water Quality Objective/Criterion: The dissolved arsenic criterion continuous concentration (expressed as a 4-day average) to protect aquatic life in saline water is 0.036 mg/L (California Toxics Rule, 2000).

Objective/Criterion Reference: [Water Quality Control Plan \(Basin Plan\) San Francisco Bay Basin \(Region 2\)](#)

Evaluation Guideline:

Guideline Reference: [National Recommended Water Quality Criteria. United States Environmental Protection Agency. Office of Water. Office of Science and Technology](#)

Spatial Representation:

Data for this line of evidence for San Francisco Bay, South was collected at 60 monitoring sites [South Bay - BA20, Coyote Creek - BA10, Lower South Bay - LSB002W, Lower South Bay - LSB026W, Lower South Bay - LSB024W, Lower South Bay - LSB025W, Lower South Bay - LSB022W, Lower South Bay - LSB008W, Lower South Bay - LSB017W, Lower South Bay - LSB021W, Lower South Bay - LSB023W, Lower South Bay - LSB018W, South Bay - SB046W, South Bay - SB038W, Lower South Bay - LSB020W, South Bay - SB040W, Lower South Bay - LSB011W, South Bay - SB044W, South Bay - SB039W, Lower South Bay - LSB010W, Lower South Bay - LSB033W, South Bay - SB042W, South Bay - SB041W, Lower South Bay - LSB009W, Lower South Bay - LSB019W, Lower South Bay - LSB007W, South Bay - SB030W, South Bay - SB034W,

South Bay - SB036W, Lower South Bay - LSB015W, Lower South Bay - LSB003W, Lower South Bay - LSB014W, South Bay - SB045W, Lower South Bay - LSB034W, Lower South Bay - LSB013W, South Bay - SB037W, Lower South Bay - LSB028W, Lower South Bay - LSB016W, South Bay - SB032W, Lower South Bay - LSB029W, Lower South Bay - LSB006W, South Bay - SB050W, Lower South Bay - LSB030W, Lower South Bay - LSB036W, Lower South Bay - LSB012W, South Bay - SB053W, South Bay - SB043W, Lower South Bay - LSB027W, South Bay - SB035W, South Bay - SB048W, South Bay - SB047W, South Bay - SB051W, South Bay - SB031W, Lower South Bay - LSB037W, Lower South Bay - LSB004W, Lower South Bay - LSB035W, South Bay - SB049W, Lower South Bay - LSB032W, Lower South Bay - LSB005W, Lower South Bay - LSB001W]

Data was collected over the time period 3/2/1993-7/18/2008.

Temporal Representation:

Environmental Conditions:

QAPP Information:

Staff is not aware of any special conditions that might affect interpretation of the data.

The 1999 Quality Assurance Project Plan Regional Monitoring Program for Trace Substances was used.

QAPP Information Reference(s):

[1999 Quality Assurance Project Plan Regional Monitoring Program for Trace Substances](#)

Line of Evidence (LOE) for Decision ID 65355, Arsenic

Region 2

San Francisco Bay, South

LOE ID: 92934

Pollutant: Arsenic
LOE Subgroup: Pollutant-Water
Matrix: Water
Fraction: Total

Beneficial Use: Estuarine Habitat

Number of Samples: 56
Number of Exceedances: 0

Data and Information Type: Non-fixed station physical/chemical (conventional + toxicants)
Data Used to Assess Water Quality: None of the 56 samples exceeded the CTR.
Data Reference: [NPDES receiving water data for bacteria and metals in San Francisco Bay, Jan. 2005-Sep. 2009](#)

SWAMP Data: Non-SWAMP

Water Quality Objective/Criterion: The California Toxics Rule (CTR) lists criterion continuous concentrations (4-day average) to protect aquatic life in saline water. The CTR for arsenic is 36 ug/L.

Objective/Criterion Reference: [Code of Federal Regulations 40 part 131.38 Establishment of numeric criteria for priority toxic pollutants for the State of California. 7/1/2011 Edition](#)

Evaluation Guideline:
Guideline Reference:

Spatial Representation: Samples were taken from two sample locations in the receiving water of an adjacent waste-water treatment plant. Samples collected within 1-week were averaged.

Temporal Representation: Samples were collected monthly from January of 2005 through September of 2009.

Environmental Conditions:

QAPP Information:

Samples were collected for NPDES ORDER No. R2-2010-0054.

QAPP Information Reference(s):

Line of Evidence (LOE) for Decision ID 65355, Arsenic

Region 2

San Francisco Bay, South

LOE ID: 92932

Pollutant: Arsenic
LOE Subgroup: Pollutant-Water
Matrix: Water

Fraction:	Total
Beneficial Use:	Commercial or recreational collection of fish, shellfish, or organisms
Number of Samples:	128
Number of Exceedances:	0
Data and Information Type:	PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality:	State Water Board staff assessed SFEI data for San Francisco Bay, South to determine beneficial use support and results are as follows: 0 of 128 samples exceed the criterion for Arsenic.
Data Reference:	Regional Monitoring Program data, Feb. 1993-Sep. 2008
SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	Surface waters shall not contain concentrations of chemical constituents in amounts that adversely affect any designated beneficial use.
Objective/Criterion Reference:	Code of Federal Regulations 40 part 131.38 Establishment of numeric criteria for priority toxic pollutants for the State of California. 7/1/2011 Edition
Evaluation Guideline:	The Arsenic criteria for the protection of human health from consumption of organisms only is 0.14 ug/L (National Recommended Water Quality Criteria, 2009).
Guideline Reference:	National Recommended Water Quality Criteria. United States Environmental Protection Agency. Office of Water. Office of Science and Technology
Spatial Representation:	Data for this line of evidence for San Francisco Bay, South was collected at 54 monitoring sites [Coyote Creek - BA10, South Bay - BA20, Lower South Bay - LSB001W, Lower South Bay - LSB002W, Lower South Bay - LSB003W, Lower South Bay - LSB004W, Lower South Bay - LSB005W, Lower South Bay - LSB006W, Lower South Bay - LSB007W, Lower South Bay - LSB008W, Lower South Bay - LSB009W, Lower South Bay - LSB010W, Lower South Bay - LSB011W, Lower South Bay - LSB012W, Lower South Bay - LSB013W, Lower South Bay - LSB014W, Lower South Bay - LSB015W, Lower South Bay - LSB016W, Lower South Bay - LSB017W, Lower South Bay - LSB018W, Lower South Bay - LSB019W, Lower South Bay - LSB020W, Lower South Bay - LSB021W, Lower South Bay - LSB022W, Lower South Bay - LSB023W, Lower South Bay - LSB024W, Lower South Bay - LSB025W, Lower South Bay - LSB026W, Lower South Bay - LSB027W, Lower South Bay - LSB028W, Lower South Bay - LSB029W, Lower South Bay - LSB030W, Lower South Bay - LSB032W, Lower South Bay - LSB033W, Lower South Bay - LSB034W, Lower South Bay - LSB035W, Lower South Bay - LSB036W, Lower South Bay - LSB037W, South Bay - SB031W, South Bay - SB038W, South Bay - SB039W, South Bay - SB040W, South Bay - SB041W, South Bay - SB042W, South Bay - SB043W, South Bay - SB044W, South Bay - SB045W, South Bay - SB046W, South Bay - SB047W, South Bay - SB048W, South Bay - SB049W, South Bay - SB050W, South Bay - SB051W, South Bay - SB053W]
Temporal Representation:	Data was collected over the time period 3/2/1993-7/18/2008.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	The 1999 Quality Assurance Project Plan Regional Monitoring Program for Trace Substances was used.
QAPP Information Reference(s):	1999 Quality Assurance Project Plan Regional Monitoring Program for Trace Substances

Line of Evidence (LOE) for Decision ID 65355, Arsenic

Region 2

San Francisco Bay, South

LOE ID:	92923
Pollutant:	Arsenic
LOE Subgroup:	Pollutant-Tissue
Matrix:	Tissue
Fraction:	Shellfish
Beneficial Use:	Shellfish Harvesting

Number of Samples:	1
Number of Exceedances:	0
Data and Information Type:	Shellfish surveys
Data Used to Assess Water Quality:	The one sample did exceed the guideline. Data were reported on a dry weight basis and were converted to a wet weight basis by multiplying the dry-weight concentration by a factor of 1 minus the percentage of moisture content expressed as a decimal. The fraction of total arsenic in inorganic form was taken to be 0.115%, which was the maximum fraction of inorganic arsenic found in shellfish tissue from SF Bay. This number was screened against the guideline.
Data Reference:	State Mussel Watch Program Data 1977-2000; Winter 2007-Winter 2009. State Water Resources Control Board Contaminant Concentrations in Fish from San Francisco Bay, 2000 Calculating Fraction of Inorganic Arsenic in SF Bay Fish and Shellfish
SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	California's Ocean Plan states that, "The concentration of organic materials in fish, shellfish or other marine resources used for human consumption shall not bioaccumulate to levels that are harmful to human health".
Objective/Criterion Reference:	California Ocean Plan Water Quality Control Plan Ocean Waters of California 2009
Evaluation Guideline:	<p>The modified OEHHA Advisory Tissue Level for arsenic in shellfish tissue is 0.52 ppm. This screening level assumes an average body weight of 70 kg and a consumption rate of 21 g/day for a 30 year exposure over a 70-year lifetime. This constituent is a carcinogen therefore the risk level is set to one in ten thousand. (Brodberg, R.K., and G.A. Pollock, 1999; Klasing, S., and R. Brodberg, 2008; OEHHA, 2004)</p> <p>Advisory Tissue Levels (ATLs), while still conferring no significant health risk to individuals consuming sport fish in the quantities shown over a lifetime, were developed with the recognition that there are unique health benefits associated with fish consumption and that the advisory process should be expanded beyond a simple risk paradigm in order to best promote the overall health of the fish consumer. ATLs provide a number of recommended fish servings that correspond to the range of contaminant concentrations found in fish and are used to provide consumption advice to prevent consumers from being exposed to more than the average daily reference dose for noncarcinogens or to a risk level greater than 1×10^{-4} for carcinogens (not more than one additional cancer case in a population of 10,000 people consuming fish at the given consumption rate over a lifetime). ATLs are designed to encourage consumption of fish that can be eaten in quantities likely to provide significant health benefits, while discouraging consumption of fish that, because of contaminant concentrations, should not be eaten or cannot be eaten in amounts recommended for improving overall health (eight ounces total, prior to cooking, per week). ATLs are one of the criteria that will be used by OEHHA for issuing fish consumption guidelines.</p>
Guideline Reference:	Prevalence of Selected Target Chemical Contaminants in Sport Fish From Two California Lakes: Public health designed screening study. Sacramento, CA: Office of Environmental Health Hazard Assessment Development of Fish Contaminant Goals and Advisory Tissue Levels for Common Contaminants in California Sport Fish: Chlordane, DDTs, Dieldrin, Methylmercury, PCBs, Selenium, and Toxaphene Air Toxics Hotspots Program Risk Assessment Guidelines. Part II Technical Support Document for Describing Available Cancer Potency Values.
Spatial Representation:	Samples are collected by hand from three sub-locations for each site. The composite sample was collected from site San Francisco Bay Dumbarton Bridge (SFDB).
Temporal Representation:	Representative samples of locally abundant species were collected during the winter on 2/3/2009
Environmental Conditions:	
QAPP Information:	Samples were collected as part of the State Water Board's Mussel Watch Program which is a part of the National Oceanic Administration's (NOAAs) National Status and Trends (NS&T). Mussels are shipped to NOAAs contract labs for analysis of trace constituents and mussel condition. Analytical protocols follow those approved by NOAAs NS&T

QAPP Information Reference(s):

DECISION ID	65358	Region 2
San Francisco Bay, South		

Pollutant: Benzo(a)pyrene (3,4-Benzopyrene -7-d)
Final Listing Decision: Do Not List on 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision: New Decision
Revision Status: Revised
Impairment from Pollutant or Pollution: Pollutant

Regional Board Staff Conclusion: This pollutant is being considered for placement on the CWA section 303(d) List under section 3.1 of the Listing Policy. Under section 3.1 a single line of evidence is necessary to assess listing status.

One line of evidence is available in the administrative record to assess this pollutant. One of ninety-two samples exceed the guideline.

Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against placing this water segment-pollutant combination on the CWA section 303(d) List in the Water Quality Limited Segments category.

This conclusion is based on the staff findings that:

1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy.
2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy.
3. One of ninety-two samples exceed the guideline and this does not exceed the allowable frequency listed in Table 3.1 of the Listing Policy.
4. Pursuant to section 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.

Regional Board Staff Decision Recommendation: After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be placed on the section 303(d) list because applicable water quality standards are not being exceeded.

Line of Evidence (LOE) for Decision ID 65358, Benzo(a)pyrene (3,4-Benzopyrene -7-d)	Region 2
San Francisco Bay, South	

LOE ID: 92943

Pollutant: Benzo(a)pyrene (3,4-Benzopyrene -7-d)
LOE Subgroup: Pollutant-Water
Matrix: Water
Fraction: Total

Beneficial Use: Commercial or recreational collection of fish, shellfish, or organisms

Number of Samples: 92
Number of Exceedances: 1

Data and Information Type: PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality: State Water Board staff assessed SFEI data for San Francisco Bay, South to determine beneficial use support and results are as follows: 1 of 92 samples exceed the criterion for Indeno(1, 2, 3-C, D)Pyrene.

Data Reference: [Regional Monitoring Program data, Feb. 1993-Sep. 2008](#)

SWAMP Data: Non-SWAMP

Water Quality Objective/Criterion: The Indeno(1, 2, 3-C, D)Pyrene criteria for the protection of human health from consumption of organisms only is 0.049 ug/L (California Toxics Rule, 2000).

Objective/Criterion Reference: [Code of Federal Regulations 40 part 131.38 Establishment of numeric criteria for priority toxic pollutants for the State of California. 7/1/2011 Edition](#)

Evaluation Guideline:

Guideline Reference:

Spatial Representation: Data for this line of evidence for San Francisco Bay, South was collected at 51 monitoring sites [Coyote Creek - BA10, Lower South Bay - LSB001W, Lower South Bay - LSB002W, Lower South Bay - LSB003W, Lower South Bay - LSB004W, Lower South Bay - LSB005W, Lower South Bay - LSB006W, Lower South Bay - LSB007W, Lower South Bay - LSB008W, Lower South Bay - LSB009W, Lower South Bay - LSB010W, Lower South Bay - LSB011W, Lower South Bay - LSB014W, Lower South Bay - LSB015W, Lower South Bay - LSB017W, Lower South Bay - LSB018W, Lower South Bay - LSB019W, Lower South Bay - LSB020W, Lower South Bay - LSB021W, Lower South Bay - LSB022W, Lower South Bay - LSB023W, Lower South Bay - LSB024W, Lower South Bay - LSB025W, Lower South Bay - LSB026W, Lower South Bay - LSB027W, Lower South Bay - LSB028W, Lower South Bay - LSB029W, Lower South Bay - LSB030W, Lower South Bay - LSB032W, Lower South Bay - LSB033W, Lower South Bay - LSB034W, Lower South Bay - LSB035W, Lower South Bay - LSB036W, Lower South Bay - LSB037W, South Bay - SB016W, South Bay - SB031W, South Bay - SB038W, South Bay - SB039W, South Bay - SB040W, South Bay - SB041W, South Bay - SB042W, South Bay - SB043W, South Bay - SB044W, South Bay - SB045W, South Bay - SB046W, South Bay - SB047W, South Bay - SB048W, South Bay - SB049W, South Bay - SB050W, South Bay - SB051W, South Bay - SB053W]

Temporal Representation: Data was collected over the time period 2/1/1994-7/18/2008.

Environmental Conditions: Staff is not aware of any special conditions that might affect interpretation of the data.

QAPP Information: The 1999 Quality Assurance Project Plan Regional Monitoring Program for Trace Substances was used.

QAPP Information Reference(s): [1999 Quality Assurance Project Plan Regional Monitoring Program for Trace Substances](#)

DECISION ID	65433	Region 2
San Francisco Bay, South		

Pollutant: Cadmium

Final Listing Decision: Do Not List on 303(d) list (TMDL required list)

Last Listing Cycle's Final Listing Decision: New Decision

Revision Status: Revised

Impairment from Pollutant or Pollution: Pollutant

Regional Board Staff Conclusion:

This pollutant is being considered for placement on the CWA section 303(d) List under section 3.1 of the Listing Policy. Under section 3.1 a single line of evidence is necessary to assess listing status.

Four lines of evidence are available in the administrative record to assess this pollutant. Zero of one hundred twenty-seven samples exceed the guideline.

Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against placing this water segment-pollutant combination on the CWA section 303(d) List in the Water Quality Limited Segments category.

This conclusion is based on the staff findings that:

1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy.
2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy.
3. Zero of one hundred twenty-seven samples exceed the guideline and this does not exceed the allowable frequency listed in Table 3.1 of the Listing Policy.
4. Pursuant to section 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.

Regional Board Staff Decision Recommendation: After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be placed on the section 303(d) list because applicable water quality standards are not being exceeded.

**Line of Evidence (LOE) for Decision ID 65433, Cadmium
San Francisco Bay, South**

Region 2

LOE ID: 92945

Pollutant: Cadmium
LOE Subgroup: Pollutant-Tissue
Matrix: Tissue
Fraction: Shellfish

Beneficial Use: Shellfish Harvesting

Number of Samples: 1
Number of Exceedances: 0

Data and Information Type: Shellfish surveys
Data Used to Assess Water Quality: The one sample did not exceed the guideline. Data were reported on a dry weight basis and were converted to a wet weight basis by multiplying the dry-weight concentration by a factor of 1 minus the percentage of moisture content expressed as a decimal.

Data Reference: [State Mussel Watch Program Data 1977-2000; Winter 2007-Winter 2009. State Water Resources Control Board](#)

SWAMP Data: Non-SWAMP

Water Quality Objective/Criterion: California's Ocean Plan states that, "The concentration of organic materials in fish, shellfish or other marine resources used for human consumption shall not bioaccumulate to levels that are harmful to human health".

Objective/Criterion Reference: [California Ocean Plan Water Quality Control Plan Ocean Waters of California 2009](#)

Evaluation Guideline: The modified OEHHA Fish Contaminant Goal for cadmium in shellfish tissue is 3.3 ppm. This screening level assumes an average body weight of 70 kg and a consumption rate of 21 g/day. (Brodberg, R.K., and G.A. Pollock, 1999; Klasing, S., and R. Brodberg, 2008; USEPA, 2000)

Guideline Reference: [Prevalence of Selected Target Chemical Contaminants in Sport Fish From Two California Lakes: Public health designed screening study. Sacramento, CA: Office of Environmental Health Hazard Assessment](#)
[Development of Fish Contaminant Goals and Advisory Tissue Levels for Common Contaminants in California Sport Fish: Chlordane, DDTs, Dieldrin, Methylmercury, PCBs, Selenium, and Toxaphene](#)
[Guidance for Assessing Chemical Contaminant Data for Use In Fish Advisories Volume 1: Fish Sampling and Analysis](#)

Spatial Representation: Samples are collected by hand from three sub-locations for each site. The composite sample was collected from site San Francisco Bay Dumbarton Bridge (SFDB).

Temporal Representation: Representative samples of locally abundant species were collected during the winter on 2/3/2009

Environmental Conditions:
QAPP Information: Samples were collected as part of the State Water Board's Mussel Watch Program which is a part of the National Oceanic Administration's (NOAAs) National Status and Trends (NS&T). Mussels are shipped to NOAAs contract labs for analysis of trace constituents and mussel condition. Analytical protocols follow those approved by NOAAs NS&T Program Additional background information can be found at:
<http://ccma.nos.noaa.gov/stressors/pollution/nsandt/>

QAPP Information Reference(s):

Line of Evidence (LOE) for Decision ID 65433, Cadmium

Region 2

San Francisco Bay, South

LOE ID:	93698
Pollutant:	Cadmium
LOE Subgroup:	Pollutant-Tissue
Matrix:	Tissue
Fraction:	Shellfish
Beneficial Use:	Shellfish Harvesting
Number of Samples:	15
Number of Exceedances:	0
Data and Information Type:	Shellfish surveys
Data Used to Assess Water Quality:	None of the 15 samples exceeded the guideline. All composite samples were comprised of <i>Crassostrea gigas</i> except for one sample comprised of <i>Mytilus californianus</i> . Data were reported on a dry weight basis and were converted to a wet weight basis by multiplying the dry-weight concentration by a factor of 1 minus the percentage of moisture content expressed as a decimal. Laboratory replicates were averaged.
Data Reference:	Regional Monitoring Program data, Feb. 1993-Sep. 2008
SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	Water Quality Control Plan for the San Francisco Bay Basin: Controllable water quality factors shall not cause a detrimental increase in concentrations of toxic substances found in bottom sediments or aquatic life. Effects on aquatic organisms, wildlife, and human health will be considered.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	The modified OEHHA Fish Contaminant Goal for cadmium in shellfish tissue is 3.3 ppm. This screening level assumes an average body weight of 70 kg and a consumption rate of 21 g/day. (Brodberg, R.K., and G.A. Pollock, 1999; Klasing, S., and R. Brodberg, 2008; USEPA, 2000)
Guideline Reference:	Prevalence of Selected Target Chemical Contaminants in Sport Fish From Two California Lakes: Public health designed screening study. Sacramento, CA: Office of Environmental Health Hazard Assessment Development of Fish Contaminant Goals and Advisory Tissue Levels for Common Contaminants in California Sport Fish: Chlordane, DDTs, Dieldrin, Methylmercury, PCBs, Selenium, and Toxaphene Guidance for Assessing Chemical Contaminant Data for Use In Fish Advisories Volume 1: Fish Sampling and Analysis
Spatial Representation:	Samples were collected at the following station: BA10 - Coyote Creek.
Temporal Representation:	Samples were generally collected in spring and fall seasons from years 1993 - 1999 and then during fall 2000, 2001, and 2008.
Environmental Conditions:	
QAPP Information:	1999 Quality Assurance Project Plan Regional Monitoring Program for Trace Substances.
QAPP Information Reference(s):	1999 Quality Assurance Project Plan Regional Monitoring Program for Trace Substances

Line of Evidence (LOE) for Decision ID 65433, Cadmium

Region 2

San Francisco Bay, South

LOE ID:	92953
Pollutant:	Cadmium
LOE Subgroup:	Pollutant-Water
Matrix:	Water
Fraction:	Dissolved
Beneficial Use:	Estuarine Habitat

Number of Samples:	127
Number of Exceedances:	0
Data and Information Type:	PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality:	State Water Board staff assessed SFEI data for San Francisco Bay, South to determine beneficial use support and results are as follows: 0 of 127 samples exceed the criterion for Cadmium.
Data Reference:	Regional Monitoring Program data, Feb. 1993-Sep. 2008
SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	The dissolved cadmium criterion continuous concentration (expressed as a 4-day average) to protect aquatic life in saline water is 0.093 mg/L (California Toxics Rule, 2000).
Objective/Criterion Reference:	Code of Federal Regulations 40 part 131.38 Establishment of numeric criteria for priority toxic pollutants for the State of California. 7/1/2011 Edition
Evaluation Guideline:	
Guideline Reference:	
Spatial Representation:	Data for this line of evidence for San Francisco Bay, South was collected at 60 monitoring sites [South Bay - BA20, Coyote Creek - BA10, Lower South Bay - LSB002W, Lower South Bay - LSB026W, Lower South Bay - LSB024W, Lower South Bay - LSB025W, Lower South Bay - LSB022W, Lower South Bay - LSB008W, Lower South Bay - LSB017W, Lower South Bay - LSB021W, Lower South Bay - LSB023W, Lower South Bay - LSB018W, South Bay - SB046W, South Bay - SB038W, Lower South Bay - LSB020W, South Bay - SB040W, Lower South Bay - LSB011W, South Bay - SB044W, South Bay - SB039W, Lower South Bay - LSB010W, Lower South Bay - LSB033W, South Bay - SB042W, South Bay - SB041W, Lower South Bay - LSB009W, Lower South Bay - LSB019W, Lower South Bay - LSB007W, South Bay - SB030W, South Bay - SB034W, South Bay - SB036W, Lower South Bay - LSB015W, Lower South Bay - LSB003W, Lower South Bay - LSB014W, South Bay - SB045W, Lower South Bay - LSB034W, Lower South Bay - LSB013W, South Bay - SB037W, Lower South Bay - LSB028W, Lower South Bay - LSB016W, South Bay - SB032W, South Bay - SB029W, Lower South Bay - LSB006W, South Bay - SB050W, Lower South Bay - LSB030W, Lower South Bay - LSB036W, Lower South Bay - LSB012W, South Bay - SB053W, South Bay - SB043W, Lower South Bay - LSB027W, South Bay - SB035W, South Bay - SB048W, South Bay - SB047W, South Bay - SB051W, South Bay - SB031W, Lower South Bay - LSB037W, Lower South Bay - LSB004W, Lower South Bay - LSB035W, South Bay - SB049W, Lower South Bay - LSB032W, Lower South Bay - LSB005W, Lower South Bay - LSB001W]
Temporal Representation:	Data was collected over the time period 3/2/1993-7/18/2008.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	The 1999 Quality Assurance Project Plan Regional Monitoring Program for Trace Substances was used.
QAPP Information Reference(s):	1999 Quality Assurance Project Plan Regional Monitoring Program for Trace Substances

DECISION ID	65434	Region 2
San Francisco Bay, South		
Pollutant:	Chlorpyrifos	
Final Listing Decision:	Do Not List on 303(d) list (TMDL required list)	
Last Listing Cycle's Final Listing Decision:	New Decision	
Revision Status	Revised	
Impairment from Pollutant or Pollution:	Pollutant	
Regional Board Staff Conclusion:	<p>This pollutant is being considered for placement on the CWA section 303(d) List under section 3.1 of the Listing Policy. Under section 3.1 a single line of evidence is necessary to assess listing status.</p> <p>Four lines of evidence are available in the administrative record to assess this pollutant. Zero of fifty-</p>	

eight samples exceed the guideline.

Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against placing this water segment-pollutant combination on the CWA section 303(d) List in the Water Quality Limited Segments category.

This conclusion is based on the staff findings that:

1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy.
2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy.
3. Zero of fifty-eight samples exceed the guideline and this does not exceed the allowable frequency listed in Table 3.1 of the Listing Policy.
4. Pursuant to section 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.

Regional Board Staff Decision Recommendation: After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be placed on the section 303(d) list because applicable water quality standards are not being exceeded.

**Line of Evidence (LOE) for Decision ID 65434, Chlorpyrifos
San Francisco Bay, South**

Region 2

LOE ID:	92964
Pollutant:	Chlorpyrifos
LOE Subgroup:	Pollutant-Tissue
Matrix:	Tissue
Fraction:	Shellfish
Beneficial Use:	Shellfish Harvesting
Number of Samples:	1
Number of Exceedances:	0
Data and Information Type:	Shellfish surveys
Data Used to Assess Water Quality:	The result did not exceed the guideline. Data were reported on a dry weight basis and were converted to a wet weight basis by multiplying the dry-weight concentration by a factor of 1 minus the percentage of moisture content expressed as a decimal.
Data Reference:	State Mussel Watch Program Data 1977-2000; Winter 2007-Winter 2009. State Water Resources Control Board
SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	Many pollutants can accumulate on particles, in sediment, or bioaccumulate in fish and other aquatic organisms. Controllable water quality factors shall not cause a detrimental increase in concentrations of toxic substances found in bottom sediments or aquatic life. Effects on aquatic organisms, wildlife, and human health will be considered.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	The modified OEHHA Fish Contaminant Goal for chlorpyrifos in shellfish tissue is 1,000 ppb. This screening level assumes an average body weight of 70 kg and a consumption rate of 21 g/day. (Brodberg, R.K., and G.A. Pollock, 1999; Klasing, S., and R. Brodberg, 2008; USEPA, 2000)
Guideline Reference:	Prevalence of Selected Target Chemical Contaminants in Sport Fish From Two California Lakes: Public health designed screening study. Sacramento, CA: Office of Environmental Health Hazard Assessment Development of Fish Contaminant Goals and Advisory Tissue Levels for Common Contaminants in California Sport Fish: Chlordane, DDTs, Dieldrin, Methylmercury, PCBs, Selenium, and Toxaphene Guidance for Assessing Chemical Contaminant Data for Use In Fish Advisories Volume 1: Fish Sampling and Analysis

Spatial Representation:	Samples are collected by hand from three sub-locations for each site. The composite sample was collected from site San Francisco Bay Dumbarton Bridge (SFDB).
Temporal Representation:	Representative samples of locally abundant species were collected during the winter on 2/3/2009
Environmental Conditions:	
QAPP Information:	Samples were collected as part of the State Water Board's Mussel Watch Program which is a part of the National Oceanic Administration's (NOAAs) National Status and Trends (NS&T). Mussels are shipped to NOAAs contract labs for analysis of trace constituents and mussel condition. Analytical protocols follow those approved by NOAAs NS&T Program Additional background information can be found at: http://ccma.nos.noaa.gov/stressors/pollution/nsandt/

QAPP Information Reference(s):

Line of Evidence (LOE) for Decision ID 65434, Chlorpyrifos
San Francisco Bay, South

Region 2

LOE ID:	92965
Pollutant:	Chlorpyrifos
LOE Subgroup:	Pollutant-Water
Matrix:	Water
Fraction:	Dissolved
Beneficial Use:	Estuarine Habitat
Number of Samples:	58
Number of Exceedances:	0
Data and Information Type:	PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality:	State Water Board staff assessed SFEI data for San Francisco Bay, South to determine beneficial use support and results are as follows: 0 of 58 samples exceed the criterion for Chlorpyrifos.
Data Reference:	Regional Monitoring Program data, Feb. 1993-Sep. 2008
SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	All waters shall be maintained free of toxic substances in concentrations which are toxic to, or which produce detrimental physiological responses in, human, plant, animal, or aquatic life. (Basin Plan).
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	The saltwater criterion continuous concentration to protect aquatic organisms is 0.009 ug/L (Siepmann and Finlayson 2000).
Guideline Reference:	10-Day toxicity test exposing freshwater amphipods (Hyaella azteca) to fenprothrin applied to formulated sediment under static-renewal conditions. Springborn Smithers Laboratories Study No. 13656.6137, Wareham, MA. Submitted to pyrethroid working group. DPR record number 254438
Spatial Representation:	Data for this line of evidence for San Francisco Bay, South was collected at 28 monitoring sites [Coyote Creek - BA10, Lower South Bay - LSB002W, Lower South Bay - LSB008W, Lower South Bay - LSB017W, Lower South Bay - LSB021W, Lower South Bay - LSB018W, Lower South Bay - LSB020W, Lower South Bay - LSB011W, Lower South Bay - LSB010W, Lower South Bay - LSB009W, Lower South Bay - LSB019W, Lower South Bay - LSB007W, South Bay - SB030W, South Bay - SB034W, South Bay - SB036W, Lower South Bay - LSB003W, South Bay - SB037W, South Bay - SB032W, South Bay - SB029W, Lower South Bay - LSB006W, South Bay - SB033W, South Bay - SB035W, South Bay - SB031W, South Bay - SB016W, Lower South Bay - LSB004W, South Bay - SB012W, Lower South Bay - LSB005W, Lower South Bay - LSB001W]
Temporal Representation:	Data was collected over the time period 2/1/1994-8/19/2005.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	The 1999 Quality Assurance Project Plan Regional Monitoring Program for Trace Substances was used.

**Line of Evidence (LOE) for Decision ID 65434, Chlorpyrifos
San Francisco Bay, South****Region 2**

LOE ID:	95154
Pollutant:	Chlorpyrifos
LOE Subgroup:	Pollutant-Tissue
Matrix:	Tissue
Fraction:	Fish fillet
Beneficial Use:	Commercial or recreational collection of fish, shellfish, or organisms
Number of Samples:	42
Number of Exceedances:	0
Data and Information Type:	Fish tissue analysis
Data Used to Assess Water Quality:	Water Board staff assessed Regional Monitoring Program data for South San Francisco Bay to determine beneficial use support and results are as follows: 0 of 42 samples exceed the criterion for chlorpyrifos. No samples were discarded for being non-detect, unquantifiable or the reporting limit exceeding the water quality objective.
Data Reference:	Regional Monitoring Program data, Feb. 1993-Sep. 2008
SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	Water Quality Control Plan for the San Francisco Bay Basin: Controllable water quality factors shall not cause a detrimental increase in concentrations of toxic substances found in bottom sediments or aquatic life. Effects on aquatic organisms, wildlife, and human health will be considered.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	The modified OEHHA Fish Contaminant Goal for chlorpyrifos in fish tissue is 660 ppb. This screening level assumes an average body weight of 70 kg and a consumption rate of 32 g/day. A cooking reduction factor of 1 is applied for skin-off fillets. (Klasing, S., and R. Brodberg, 2008; USEPA, 2000)
Guideline Reference:	Development of Fish Contaminant Goals and Advisory Tissue Levels for Common Contaminants in California Sport Fish: Chlordane, DDTs, Dieldrin, Methylmercury, PCBs, Selenium, and Toxaphene Guidance for Assessing Chemical Contaminant Data for Use In Fish Advisories Volume 1: Fish Sampling and Analysis
Spatial Representation:	The samples were collected at three sites throughout South San Francisco Bay.
Temporal Representation:	The samples were collected every three years from April 2000 through June 2006.
Environmental Conditions:	
QAPP Information:	The 1999 Quality Assurance Project Plan Regional Monitoring Program for Trace Substances was used.
QAPP Information Reference(s):	1999 Quality Assurance Project Plan Regional Monitoring Program for Trace Substances

DECISION ID 65436**Region 2****San Francisco Bay, South**

Pollutant:	Chromium
Final Listing Decision:	Do Not List on 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision:	New Decision
Revision Status	Revised
Impairment from Pollutant or Pollution:	Pollutant

**Regional Board Staff
Conclusion:**

This pollutant is being considered for placement on the CWA section 303(d) List under section 3.1 of the Listing Policy. Under section 3.1 a single line of evidence is necessary to assess listing status.

One line of evidence is available in the administrative record to assess this pollutant. Zero of thirty-nine samples exceed the guideline.

Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against placing this water segment-pollutant combination on the CWA section 303(d) List in the Water Quality Limited Segments category.

This conclusion is based on the staff findings that:

1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy.
2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy.
3. Zero of thirty-nine samples exceed the guideline and this does not exceed the allowable frequency listed in Table 3.1 of the Listing Policy.
4. Pursuant to section 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.

**Regional Board Staff Decision
Recommendation:**

After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be placed on the section 303(d) list because applicable water quality standards are not being exceeded.

**Line of Evidence (LOE) for Decision ID 65436, Chromium
San Francisco Bay, South**

Region 2

LOE ID:	92966
Pollutant:	Chromium
LOE Subgroup:	Pollutant-Water
Matrix:	Water
Fraction:	Dissolved
Beneficial Use:	Estuarine Habitat
Number of Samples:	39
Number of Exceedances:	0
Data and Information Type:	PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality:	State Water Board staff assessed SFEI data for San Francisco Bay, South to determine beneficial use support and results are as follows: 0 of 39 samples exceed the criterion for Chromium.
Data Reference:	Regional Monitoring Program data, Feb. 1993-Sep. 2008
SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	The dissolved chromium (III) criterion continuous concentration (expressed as a 4-day average) to protect aquatic life in freshwater is 0.180 mg/L (California Toxics Rule, 2000).
Objective/Criterion Reference:	Code of Federal Regulations 40 part 131.38 Establishment of numeric criteria for priority toxic pollutants for the State of California. 7/1/2011 Edition
Evaluation Guideline:	
Guideline Reference:	
Spatial Representation:	Data for this line of evidence for San Francisco Bay, South was collected at 2 monitoring sites [South Bay - BA20, Coyote Creek - BA10]
Temporal Representation:	Data was collected over the time period 3/2/1993-7/14/1999.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	The 1999 Quality Assurance Project Plan Regional Monitoring Program for Trace Substances was used.
QAPP Information Reference(s):	1999 Quality Assurance Project Plan Regional Monitoring Program for Trace Substances

DECISION ID	65435	Region 2
San Francisco Bay, South		

Pollutant:	Chrysene (C1-C4)
Final Listing Decision:	Do Not List on 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision:	New Decision
Revision Status	Revised
Impairment from Pollutant or Pollution:	Pollutant

Regional Board Staff Conclusion: This pollutant is being considered for placement on the CWA section 303(d) List under section 3.1 of the Listing Policy. Under section 3.1 a single line of evidence is necessary to assess listing status.

One line of evidence is available in the administrative record to assess this pollutant. Zero of eighty-six samples exceed the guideline.

Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against placing this water segment-pollutant combination on the CWA section 303(d) List in the Water Quality Limited Segments category.

This conclusion is based on the staff findings that:

1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy.
2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy.
3. Zero of eighty-six samples exceed the guideline and this does not exceed the allowable frequency listed in Table 3.1 of the Listing Policy.
4. Pursuant to section 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.

Regional Board Staff Decision Recommendation: After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be placed on the section 303(d) list because applicable water quality standards are not being exceeded.

Line of Evidence (LOE) for Decision ID 65435, Chrysene (C1-C4)	Region 2
San Francisco Bay, South	

LOE ID:	92973
Pollutant:	Chrysene (C1-C4)
LOE Subgroup:	Pollutant-Water
Matrix:	Water
Fraction:	Total
Beneficial Use:	Commercial or recreational collection of fish, shellfish, or organisms
Number of Samples:	86
Number of Exceedances:	0
Data and Information Type:	PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality:	State Water Board staff assessed SFEI data for San Francisco Bay, South to determine beneficial use support and results are as follows: 0 of 86 samples exceed the criterion for Chrysene.
Data Reference:	Regional Monitoring Program data, Feb. 1993-Sep. 2008
SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	The Chrysene criteria for the protection of human health from consumption of organisms only is 0.049 ug/L (California Toxics Rule, 2000).
Objective/Criterion Reference:	Code of Federal Regulations 40 part 131.38 Establishment of numeric criteria for priority

Evaluation Guideline:

Guideline Reference:

Spatial Representation:

Data for this line of evidence for San Francisco Bay, South was collected at 50 monitoring sites [Coyote Creek - BA10, Lower South Bay - LSB001W, Lower South Bay - LSB002W, Lower South Bay - LSB003W, Lower South Bay - LSB004W, Lower South Bay - LSB005W, Lower South Bay - LSB006W, Lower South Bay - LSB007W, Lower South Bay - LSB008W, Lower South Bay - LSB009W, Lower South Bay - LSB010W, Lower South Bay - LSB011W, Lower South Bay - LSB012W, Lower South Bay - LSB013W, Lower South Bay - LSB014W, Lower South Bay - LSB015W, Lower South Bay - LSB016W, Lower South Bay - LSB022W, Lower South Bay - LSB023W, Lower South Bay - LSB024W, Lower South Bay - LSB025W, Lower South Bay - LSB026W, Lower South Bay - LSB027W, Lower South Bay - LSB028W, Lower South Bay - LSB029W, Lower South Bay - LSB030W, Lower South Bay - LSB032W, Lower South Bay - LSB033W, Lower South Bay - LSB034W, Lower South Bay - LSB035W, Lower South Bay - LSB036W, Lower South Bay - LSB037W, South Bay - SB017W, South Bay - SB018W, South Bay - SB019W, South Bay - SB038W, South Bay - SB039W, South Bay - SB040W, South Bay - SB041W, South Bay - SB042W, South Bay - SB043W, South Bay - SB044W, South Bay - SB045W, South Bay - SB046W, South Bay - SB047W, South Bay - SB048W, South Bay - SB049W, South Bay - SB050W, South Bay - SB051W, South Bay - SB053W]

Temporal Representation:

Data was collected over the time period 2/1/1994-7/18/2008.

Environmental Conditions:

Staff is not aware of any special conditions that might affect interpretation of the data.

QAPP Information:

The 1999 Quality Assurance Project Plan Regional Monitoring Program for Trace Substances was used.

QAPP Information Reference(s):

[1999 Quality Assurance Project Plan Regional Monitoring Program for Trace Substances](#)

DECISION ID		65437	Region 2
San Francisco Bay, South			
Pollutant:	Copper		
Final Listing Decision:	Do Not List on 303(d) list (TMDL required list)		
Last Listing Cycle's Final Listing Decision:	New Decision		
Revision Status	Revised		
Impairment from Pollutant or Pollution:	Pollutant		
Regional Board Staff Conclusion:	<p>This pollutant is being considered for placement on the CWA section 303(d) List under section 3.1 of the Listing Policy. Under section 3.1 a single line of evidence is necessary to assess listing status.</p> <p>One line of evidence is available in the administrative record to assess this pollutant. Zero of one hundred twenty-eight samples exceed the guideline.</p> <p>Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against placing this water segment-pollutant combination on the CWA section 303(d) List in the Water Quality Limited Segments category.</p> <p>This conclusion is based on the staff findings that:</p> <ol style="list-style-type: none">1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy.2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy.3. Zero of one hundred twenty-eight samples exceed the guideline and this does not exceed the allowable frequency listed in Table 3.1 of the Listing Policy.4. Pursuant to section 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.		
Regional Board Staff Decision Recommendation:	After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be placed on the section 303(d) list because applicable water quality standards are not being exceeded.		

Line of Evidence (LOE) for Decision ID 65437, Copper
San Francisco Bay, South

Region 2

LOE ID:	92974
Pollutant:	Copper
LOE Subgroup:	Pollutant-Water
Matrix:	Water
Fraction:	Dissolved
Beneficial Use:	Estuarine Habitat
Number of Samples:	128
Number of Exceedances:	0
Data and Information Type:	PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality:	State Water Board staff assessed SFEI data for San Francisco Bay, South to determine beneficial use support and results are as follows: 0 of 128 samples exceed the criterion for Copper.
Data Reference:	Regional Monitoring Program data, Feb. 1993-Sep. 2008
SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	According to table 3-3A, the Copper site-specific objective for San Francisco Bay, South is 6.9 ug/L.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	
Guideline Reference:	
Spatial Representation:	Data for this line of evidence for San Francisco Bay, South was collected at 60 monitoring sites [South Bay - BA20, Coyote Creek - BA10, Lower South Bay - LSB002W, Lower South Bay - LSB026W, Lower South Bay - LSB024W, Lower South Bay - LSB025W, Lower South Bay - LSB022W, Lower South Bay - LSB008W, Lower South Bay - LSB017W, Lower South Bay - LSB021W, Lower South Bay - LSB023W, Lower South Bay - LSB018W, South Bay - SB046W, South Bay - SB038W, Lower South Bay - LSB020W, South Bay - SB040W, Lower South Bay - LSB011W, South Bay - SB044W, South Bay - SB039W, Lower South Bay - LSB010W, Lower South Bay - LSB033W, South Bay - SB042W, South Bay - SB041W, Lower South Bay - LSB009W, Lower South Bay - LSB019W, Lower South Bay - LSB007W, South Bay - SB030W, South Bay - SB034W, South Bay - SB036W, Lower South Bay - LSB015W, Lower South Bay - LSB003W, Lower South Bay - LSB014W, South Bay - SB045W, Lower South Bay - LSB034W, Lower South Bay - LSB013W, South Bay - SB037W, Lower South Bay - LSB028W, Lower South Bay - LSB016W, South Bay - SB032W, Lower South Bay - LSB029W, Lower South Bay - LSB006W, South Bay - SB050W, Lower South Bay - LSB030W, Lower South Bay - LSB036W, Lower South Bay - LSB012W, South Bay - SB053W, South Bay - SB043W, Lower South Bay - LSB027W, South Bay - SB035W, South Bay - SB048W, South Bay - SB047W, South Bay - SB051W, South Bay - SB031W, Lower South Bay - LSB037W, Lower South Bay - LSB004W, Lower South Bay - LSB035W, South Bay - SB049W, Lower South Bay - LSB032W, Lower South Bay - LSB005W, Lower South Bay - LSB001W]
Temporal Representation:	Data was collected over the time period 3/2/1993-7/18/2008.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	The 1999 Quality Assurance Project Plan Regional Monitoring Program for Trace Substances was used.
QAPP Information Reference(s):	1999 Quality Assurance Project Plan Regional Monitoring Program for Trace Substances

DECISION ID 65438
San Francisco Bay, South

Region 2

Pollutant:	Cyanide
Final Listing Decision:	Do Not List on 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision:	New Decision
Revision Status	Revised
Impairment from Pollutant or Pollution:	Pollutant

Regional Board Staff Conclusion: This pollutant is being considered for placement on the CWA section 303(d) List under section 3.1 of the Listing Policy. Under section 3.1 a single line of evidence is necessary to assess listing status.

Three lines of evidence are available in the administrative record to assess this pollutant. Zero of fifty-six samples exceed the guideline.

Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against placing this water segment-pollutant combination on the CWA section 303(d) List in the Water Quality Limited Segments category.

This conclusion is based on the staff findings that:

1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy.
2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy.
3. Zero of fifty-six samples exceed the guideline and this does not exceed the allowable frequency listed in Table 3.1 of the Listing Policy.
4. Pursuant to section 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.

Regional Board Staff Decision Recommendation: After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be placed on the section 303(d) list because applicable water quality standards are not being exceeded.

Line of Evidence (LOE) for Decision ID 65438, Cyanide San Francisco Bay, South

Region 2

LOE ID: 92975

Pollutant:	Cyanide
LOE Subgroup:	Pollutant-Water
Matrix:	Water
Fraction:	None

Beneficial Use: Estuarine Habitat

Number of Samples:	3
Number of Exceedances:	0

Data and Information Type:	PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality:	State Water Board staff assessed SFEI data for San Francisco Bay, South to determine beneficial use support and results are as follows: 0 of 3 samples exceed the criterion for Cyanide.

Data Reference: [Regional Monitoring Program data, Feb. 1993-Sep. 2008](#)

SWAMP Data: Non-SWAMP

Water Quality Objective/Criterion: According to table 3-3C, the Cyanide site-specific objective for San Francisco Bay, South is 2.9 ug/L.

Objective/Criterion Reference: [Water Quality Control Plan \(Basin Plan\) San Francisco Bay Basin \(Region 2\)](#)

Evaluation Guideline:
Guideline Reference:

Spatial Representation: Data for this line of evidence for San Francisco Bay, South was collected at 1 monitoring

Temporal Representation:	site [South Bay - BA20]
Environmental Conditions:	Data was collected over the time period 3/2/1993-9/13/1993.
QAPP Information:	Staff is not aware of any special conditions that might affect interpretation of the data.
	The 1999 Quality Assurance Project Plan Regional Monitoring Program for Trace Substances was used.
QAPP Information Reference(s):	1999 Quality Assurance Project Plan Regional Monitoring Program for Trace Substances

Line of Evidence (LOE) for Decision ID 65438, Cyanide
San Francisco Bay, South

Region 2

LOE ID:	92976
Pollutant:	Cyanide
LOE Subgroup:	Pollutant-Water
Matrix:	Water
Fraction:	Total
Beneficial Use:	Commercial or recreational collection of fish, shellfish, or organisms
Number of Samples:	3
Number of Exceedances:	0
Data and Information Type:	PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality:	State Water Board staff assessed SFEI data for San Francisco Bay, South to determine beneficial use support and results are as follows: 0 of 3 samples exceed the criterion for Cyanide.
Data Reference:	Regional Monitoring Program data, Feb. 1993-Sep. 2008
SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	The cyanide criteria for the protection of human health from consumption of organisms only is 220,000 ug/L (California Toxics Rule, 2000).
Objective/Criterion Reference:	Code of Federal Regulations 40 part 131.38 Establishment of numeric criteria for priority toxic pollutants for the State of California, 7/1/2011 Edition
Evaluation Guideline:	
Guideline Reference:	
Spatial Representation:	Data for this line of evidence for San Francisco Bay, South was collected at 1 monitoring site [South Bay - BA20]
Temporal Representation:	Data was collected over the time period 3/2/1993-9/13/1993.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	The 1999 Quality Assurance Project Plan Regional Monitoring Program for Trace Substances was used.
QAPP Information Reference(s):	1999 Quality Assurance Project Plan Regional Monitoring Program for Trace Substances

Line of Evidence (LOE) for Decision ID 65438, Cyanide
San Francisco Bay, South

Region 2

LOE ID:	92977
Pollutant:	Cyanide
LOE Subgroup:	Pollutant-Water
Matrix:	Water
Fraction:	Total
Beneficial Use:	Estuarine Habitat
Number of Samples:	56
Number of Exceedances:	0

Data and Information Type:	Non-fixed station physical/chemical (conventional + toxicants)
Data Used to Assess Water Quality:	None of the 56 samples exceeded the Site Specific Objective.
Data Reference:	NPDES receiving water data for bacteria and metals in San Francisco Bay, Jan. 2005-Sep. 2009
SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	The Site Specific Objective (SSO) for criterion continuous concentrations (4-day average) of cyanide, to protect aquatic life in saline waters of South San Francisco Bay is 2.9 ug/L.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	
Guideline Reference:	
Spatial Representation:	Samples were taken from two sample locations in the receiving water of an adjacent waste-water treatment plant. Samples collected within 1-week were averaged.
Temporal Representation:	Samples were collected monthly from January of 2005 through September of 2009.
Environmental Conditions:	
QAPP Information:	Samples were collected for NPDES ORDER No. R2-2010-0054.
QAPP Information Reference(s):	

DECISION ID	65440	Region 2
San Francisco Bay, South		

Pollutant:	Endosulfan
Final Listing Decision:	Do Not List on 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision:	New Decision
Revision Status	Revised
Impairment from Pollutant or Pollution:	Pollutant

Regional Board Staff Conclusion:

This pollutant is being considered for placement on the CWA section 303(d) List under section 3.1 of the Listing Policy. Under section 3.1 a single line of evidence is necessary to assess listing status.

Four lines of evidence are available in the administrative record to assess this pollutant. Zero of sixty samples exceed the guideline.

Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against placing this water segment-pollutant combination on the CWA section 303(d) List in the Water Quality Limited Segments category.

This conclusion is based on the staff findings that:

1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy.
2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy.
3. Zero of sixty samples exceed the guideline and this does not exceed the allowable frequency listed in Table 3.1 of the Listing Policy.
4. Pursuant to section 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.

Regional Board Staff Decision Recommendation:	After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be placed on the section 303(d) list because applicable water quality standards are not being exceeded.
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Line of Evidence (LOE) for Decision ID 65440, Endosulfan	Region 2
San Francisco Bay, South	

LOE ID:	95136
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Pollutant:	Endosulfan
LOE Subgroup:	Pollutant-Tissue
Matrix:	Tissue
Fraction:	Fish fillet
Beneficial Use:	Commercial or recreational collection of fish, shellfish, or organisms
Number of Samples:	37
Number of Exceedances:	0
Data and Information Type:	Fish tissue analysis
Data Used to Assess Water Quality:	Water Board staff assessed Regional Monitoring Program data for South San Francisco Bay to determine beneficial use support and results are as follows: 0 of 37 samples exceed the criterion for endosulfan. No samples were discarded for being non-detect, unquantifiable or the reporting limit exceeding the water quality objective.
Data Reference:	Regional Monitoring Program data, Feb. 1993-Sep. 2008
SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	Water Quality Control Plan for the San Francisco Bay Basin: Controllable water quality factors shall not cause a detrimental increase in concentrations of toxic substances found in bottom sediments or aquatic life. Effects on aquatic organisms, wildlife, and human health will be considered.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	The modified OEHHA Fish Contaminant Goal for endosulfan (I and II) in fish tissue is 13,000 ppb. This screening level assumes an average body weight of 70 kg and a consumption rate of 32 g/day. A cooking reduction factor of 1 is applied for skin-off fillets. (Klasing, S., and R. Brodberg, 2008; USEPA, 2000)
Guideline Reference:	Development of Fish Contaminant Goals and Advisory Tissue Levels for Common Contaminants in California Sport Fish: Chlordane, DDTs, Dieldrin, Methylmercury, PCBs, Selenium, and Toxaphene Guidance for Assessing Chemical Contaminant Data for Use In Fish Advisories Volume 1: Fish Sampling and Analysis
Spatial Representation:	The samples were collected at three sites throughout South San Francisco Bay.
Temporal Representation:	The samples were collected every three years from April 2000 through June 2006.
Environmental Conditions:	
QAPP Information:	The 1999 Quality Assurance Project Plan Regional Monitoring Program for Trace Substances was used.
QAPP Information Reference(s):	1999 Quality Assurance Project Plan Regional Monitoring Program for Trace Substances

Line of Evidence (LOE) for Decision ID 65440, Endosulfan
San Francisco Bay, South

Region 2

LOE ID:	92991
Pollutant:	Endosulfan
LOE Subgroup:	Pollutant-Tissue
Matrix:	Tissue
Fraction:	Shellfish
Beneficial Use:	Shellfish Harvesting
Number of Samples:	1
Number of Exceedances:	0
Data and Information Type:	Shellfish surveys
Data Used to Assess Water Quality:	The result did not exceed the guideline. Data were reported on a dry weight basis and were converted to a wet weight basis by multiplying the dry-weight concentration by a factor of 1 minus the percentage of moisture content expressed as a decimal. Total Endosulfan result was calculated by summing the results for Endosulfan I and Endosulfan

Data Reference:	II. State Mussel Watch Program Data 1977-2000; Winter 2007-Winter 2009. State Water Resources Control Board
SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	Many pollutants can accumulate on particles, in sediment, or bioaccumulate in fish and other aquatic organisms. Controllable water quality factors shall not cause a detrimental increase in concentrations of toxic substances found in bottom sediments or aquatic life. Effects on aquatic organisms, wildlife, and human health will be considered.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	The modified OEHHA Fish Contaminant Goal for endosulfan (I and II) in shellfish tissue is 20,000 ppb. This screening level assumes an average body weight of 70 kg and a consumption rate of 21 g/day. (Brodberg, R.K., and G.A. Pollock, 1999; Klasing, S., and R. Brodberg, 2008; USEPA, 2000)
Guideline Reference:	Prevalence of Selected Target Chemical Contaminants in Sport Fish From Two California Lakes: Public health designed screening study. Sacramento, CA: Office of Environmental Health Hazard Assessment Development of Fish Contaminant Goals and Advisory Tissue Levels for Common Contaminants in California Sport Fish: Chlordane, DDTs, Dieldrin, Methylmercury, PCBs, Selenium, and Toxaphene Guidance for Assessing Chemical Contaminant Data for Use In Fish Advisories Volume 1: Fish Sampling and Analysis
Spatial Representation:	Samples are collected by hand from three sub-locations for each site. The composite sample was collected from site San Francisco Bay Dumbarton Bridge (SFDB).
Temporal Representation:	Representative samples of locally abundant species were collected during the winter on 2/3/2009
Environmental Conditions:	
QAPP Information:	Samples were collected as part of the State Water Board's Mussel Watch Program which is a part of the National Oceanic Administration's (NOAAs) National Status and Trends (NS&T). Mussels are shipped to NOAAs contract labs for analysis of trace constituents and mussel condition. Analytical protocols follow those approved by NOAAs NS&T Program Additional background information can be found at: http://ccma.nos.noaa.gov/stressors/pollution/nsandt/
QAPP Information Reference(s):	

Line of Evidence (LOE) for Decision ID 65440, Endosulfan
San Francisco Bay, South

Region 2

LOE ID:	93651
Pollutant:	Endosulfan
LOE Subgroup:	Pollutant-Tissue
Matrix:	Tissue
Fraction:	Shellfish
Beneficial Use:	Shellfish Harvesting
Number of Samples:	2
Number of Exceedances:	0
Data and Information Type:	Shellfish surveys
Data Used to Assess Water Quality:	None of the 2 samples exceeded the guideline. One composite was comprised of <i>Crassostrea gigas</i> and a second composite was comprised of <i>Mytilus californianus</i> . Data were reported on a dry weight basis and were converted to a wet weight basis by multiplying the dry-weight concentration by a factor of 1 minus the percentage of moisture content expressed as a decimal.
Data Reference:	Regional Monitoring Program data, Feb. 1993-Sep. 2008
SWAMP Data:	Non-SWAMP

Water Quality Objective/Criterion:	Water Quality Control Plan for the San Francisco Bay Basin: Controllable water quality factors shall not cause a detrimental increase in concentrations of toxic substances found in bottom sediments or aquatic life. Effects on aquatic organisms, wildlife, and human health will be considered.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	The modified OEHHA Fish Contaminant Goal for endosulfan (I and II) in shellfish tissue is 20,000 ppb. This screening level assumes an average body weight of 70 kg and a consumption rate of 21 g/day. (Brodberg, R.K., and G.A. Pollock, 1999; Klasing, S., and R. Brodberg, 2008; USEPA, 2000)
Guideline Reference:	Prevalence of Selected Target Chemical Contaminants in Sport Fish From Two California Lakes: Public health designed screening study. Sacramento, CA: Office of Environmental Health Hazard Assessment Development of Fish Contaminant Goals and Advisory Tissue Levels for Common Contaminants in California Sport Fish: Chlordane, DDTs, Dieldrin, Methylmercury, PCBs, Selenium, and Toxaphene Guidance for Assessing Chemical Contaminant Data for Use In Fish Advisories Volume 1: Fish Sampling and Analysis
Spatial Representation:	Samples were collected at the following station: BA10 - Coyote Creek.
Temporal Representation:	Samples were collected at BA10 on 9/3/2002 and 9/25/2003.
Environmental Conditions:	
QAPP Information:	1999 Quality Assurance Project Plan Regional Monitoring Program for Trace Substances.
QAPP Information Reference(s):	1999 Quality Assurance Project Plan Regional Monitoring Program for Trace Substances

Line of Evidence (LOE) for Decision ID 65440, Endosulfan

Region 2

San Francisco Bay, South

LOE ID:	92992
Pollutant:	Endosulfan
LOE Subgroup:	Pollutant-Water
Matrix:	Water
Fraction:	Dissolved
Beneficial Use:	Estuarine Habitat
Number of Samples:	60
Number of Exceedances:	0
Data and Information Type:	PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality:	State Water Board staff assessed SFEI data for San Francisco Bay, South to determine beneficial use support and results are as follows: 0 of 60 samples exceed the criterion for Endosulfan, Total.
Data Reference:	Regional Monitoring Program data, Feb. 1993-Sep. 2008
SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	The total Endosulfan criterion continuous concentration (expressed as a 4-day average) to protect aquatic life in saltwater is 0.0087 ug/L (California Toxics Rule, 2000).
Objective/Criterion Reference:	Code of Federal Regulations 40 part 131.38 Establishment of numeric criteria for priority toxic pollutants for the State of California. 7/1/2011 Edition
Evaluation Guideline:	
Guideline Reference:	
Spatial Representation:	Data for this line of evidence for San Francisco Bay, South was collected at 36 monitoring sites [Coyote Creek - BA10, Lower South Bay - LSB002W, Lower South Bay - LSB017W, Lower South Bay - LSB021W, Lower South Bay - LSB018W, Lower South Bay - LSB020W, Lower South Bay - LSB019W, Lower South Bay - LSB007W, South Bay - SB030W, South Bay - SB034W, South Bay - SB036W, Lower South Bay - LSB003W,

Lower South Bay - LSB014W, South Bay - SB037W, Lower South Bay - LSB016W, South Bay - SB032W, South Bay - SB029W, Lower South Bay - LSB006W, South Bay - SB033W, South Bay - SB035W, South Bay - SB031W, Lower South Bay - LSB004W, Lower South Bay - LSB005W, South Bay - SB025W, South Bay - SB024W, Lower South Bay - LSB001W, South Bay - SB010W, Lower South Bay - LSB008W, Lower South Bay - LSB015W, Lower South Bay - LSB013W, Lower South Bay - LSB012W, South Bay - SB022W, South Bay - SB027W, South Bay - SB028W, South Bay - SB023W, South Bay - SB009W]

Temporal Representation:

Data was collected over the time period 2/1/1994-8/19/2005.

Environmental Conditions:

Staff is not aware of any special conditions that might affect interpretation of the data.

QAPP Information:

The 1999 Quality Assurance Project Plan Regional Monitoring Program for Trace Substances was used.

QAPP Information Reference(s):

[1999 Quality Assurance Project Plan Regional Monitoring Program for Trace Substances](#)

DECISION ID	65441	Region 2
San Francisco Bay, South		

Pollutant: Endosulfan sulfate
Final Listing Decision: Do Not List on 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision: New Decision
Revision Status: Revised
Impairment from Pollutant or Pollution: Pollutant

Regional Board Staff Conclusion: This pollutant is being considered for placement on the CWA section 303(d) List under section 3.1 of the Listing Policy. Under section 3.1 a single line of evidence is necessary to assess listing status.

One line of evidence is available in the administrative record to assess this pollutant. Zero of eighty-two samples exceed the guideline.

Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against placing this water segment-pollutant combination on the CWA section 303(d) List in the Water Quality Limited Segments category.

This conclusion is based on the staff findings that:

1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy.
2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy.
3. Zero of eighty-two samples exceed the guideline and this does not exceed the allowable frequency listed in Table 3.1 of the Listing Policy.
4. Pursuant to section 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.

Regional Board Staff Decision Recommendation: After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be placed on the section 303(d) list because applicable water quality standards are not being exceeded.

Line of Evidence (LOE) for Decision ID 65441, Endosulfan sulfate	Region 2
San Francisco Bay, South	

LOE ID: 92853

Pollutant: Endosulfan sulfate
LOE Subgroup: Pollutant-Water
Matrix: Water
Fraction: Total

Beneficial Use: Commercial or recreational collection of fish, shellfish, or organisms

Number of Samples: 82
Number of Exceedances: 0

Data and Information Type: PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality: State Water Board staff assessed SFEI data for San Francisco Bay, South to determine beneficial use support and results are as follows: 0 of 82 samples exceed the criterion for Endosulfan Sulfate.

Data Reference: [Regional Monitoring Program data, Feb. 1993-Sep. 2008](#)

SWAMP Data: Non-SWAMP

Water Quality Objective/Criterion: The Endosulfan Sulfate criteria for the protection of human health from consumption of organisms only is 240 ug/L (California Toxics Rule, 2000).

Objective/Criterion Reference: [Code of Federal Regulations 40 part 131.38 Establishment of numeric criteria for priority toxic pollutants for the State of California. 7/1/2011 Edition](#)

Evaluation Guideline:
Guideline Reference:

Spatial Representation: Data for this line of evidence for San Francisco Bay, South was collected at 48 monitoring sites [Coyote Creek - BA10, Lower South Bay - LSB001W, Lower South Bay - LSB002W, Lower South Bay - LSB003W, Lower South Bay - LSB004W, Lower South Bay - LSB005W, Lower South Bay - LSB006W, Lower South Bay - LSB007W, Lower South Bay - LSB009W, Lower South Bay - LSB010W, Lower South Bay - LSB011W, Lower South Bay - LSB013W, Lower South Bay - LSB017W, Lower South Bay - LSB018W, Lower South Bay - LSB019W, Lower South Bay - LSB020W, Lower South Bay - LSB021W, Lower South Bay - LSB022W, Lower South Bay - LSB023W, Lower South Bay - LSB024W, Lower South Bay - LSB025W, Lower South Bay - LSB026W, Lower South Bay - LSB027W, Lower South Bay - LSB028W, Lower South Bay - LSB029W, Lower South Bay - LSB030W, Lower South Bay - LSB032W, South Bay - SB008W, South Bay - SB012W, South Bay - SB016W, South Bay - SB031W, South Bay - SB033W, South Bay - SB034W, South Bay - SB035W, South Bay - SB036W, South Bay - SB037W, South Bay - SB038W, South Bay - SB039W, South Bay - SB040W, South Bay - SB041W, South Bay - SB042W, South Bay - SB043W, South Bay - SB044W, South Bay - SB045W, South Bay - SB046W, South Bay - SB047W, South Bay - SB048W, South Bay - SB049W]

Temporal Representation: Data was collected over the time period 2/1/1994-8/16/2007.

Environmental Conditions: Staff is not aware of any special conditions that might affect interpretation of the data.

QAPP Information: The 1999 Quality Assurance Project Plan Regional Monitoring Program for Trace Substances was used.

QAPP Information Reference(s): [1999 Quality Assurance Project Plan Regional Monitoring Program for Trace Substances](#)

DECISION ID	65442	Region 2
San Francisco Bay, South		

Pollutant:	Endrin
Final Listing Decision:	Do Not List on 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision:	New Decision
Revision Status	Revised
Impairment from Pollutant or Pollution:	Pollutant
Regional Board Staff Conclusion:	<p>This pollutant is being considered for placement on the CWA section 303(d) List under section 3.1 of the Listing Policy. Under section 3.1 a single line of evidence is necessary to assess listing status.</p> <p>Five lines of evidence are available in the administrative record to assess this pollutant. Zero of eighty samples exceed the guideline.</p> <p>Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against placing this water segment-pollutant combination on the CWA section 303(d) List in the Water Quality Limited Segments category.</p>

This conclusion is based on the staff findings that:

1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy.
2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy.
3. Zero of eighty samples exceed the guideline and this does not exceed the allowable frequency listed in Table 3.1 of the Listing Policy.
4. Pursuant to section 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.

Regional Board Staff Decision Recommendation: After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be placed on the section 303(d) list because applicable water quality standards are not being exceeded.

**Line of Evidence (LOE) for Decision ID 65442, Endrin
San Francisco Bay, South**

Region 2

LOE ID:	93644
Pollutant:	Endrin
LOE Subgroup:	Pollutant-Tissue
Matrix:	Tissue
Fraction:	Shellfish
Beneficial Use:	Shellfish Harvesting
Number of Samples:	18
Number of Exceedances:	0
Data and Information Type:	Shellfish surveys
Data Used to Assess Water Quality:	None of the 18 samples exceeded the guideline. All composite samples were comprised of <i>Crassostrea gigas</i> except for 3 composites that were comprised of <i>Mytilus californianus</i> . Data were reported on a dry weight basis and were converted to a wet weight basis by multiplying the dry-weight concentration by a factor of 1 minus the percentage of moisture content expressed as a decimal.
Data Reference:	Regional Monitoring Program data, Feb. 1993-Sep. 2008
SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	Water Quality Control Plan for the San Francisco Bay Basin: Controllable water quality factors shall not cause a detrimental increase in concentrations of toxic substances found in bottom sediments or aquatic life. Effects on aquatic organisms, wildlife, and human health will be considered.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	The modified OEHHA Fish Contaminant Goal for endrin in shellfish tissue is 1,000 ppb. This screening level assumes an average body weight of 70 kg and a consumption rate of 21 g/day. (Brodberg, R.K., and G.A. Pollock, 1999; Klasing, S., and R. Brodberg, 2008; USEPA, 2000)
Guideline Reference:	Prevalence of Selected Target Chemical Contaminants in Sport Fish From Two California Lakes: Public health designed screening study. Sacramento, CA: Office of Environmental Health Hazard Assessment Development of Fish Contaminant Goals and Advisory Tissue Levels for Common Contaminants in California Sport Fish: Chlordane, DDTs, Dieldrin, Methylmercury, PCBs, Selenium, and Toxaphene Guidance for Assessing Chemical Contaminant Data for Use In Fish Advisories Volume 1: Fish Sampling and Analysis
Spatial Representation:	Samples were collected at the following station: BA10 - Coyote Creek.
Temporal Representation:	Samples were generally collected in spring and fall seasons from years 1994 - 1999 and then during most fall seasons during years 2000 - 2008.
Environmental Conditions:	

QAPP Information: 1999 Quality Assurance Project Plan Regional Monitoring Program for Trace Substances.
QAPP Information Reference(s): [1999 Quality Assurance Project Plan Regional Monitoring Program for Trace Substances](#)

Line of Evidence (LOE) for Decision ID 65442, Endrin

Region 2

San Francisco Bay, South

LOE ID: 92854

Pollutant: Endrin
LOE Subgroup: Pollutant-Tissue
Matrix: Tissue
Fraction: Shellfish

Beneficial Use: Shellfish Harvesting

Number of Samples: 1
Number of Exceedances: 0

Data and Information Type: Shellfish surveys
Data Used to Assess Water Quality: The result did not exceed the guideline. Data were reported on a dry weight basis and were converted to a wet weight basis by multiplying the dry-weight concentration by a factor of 1 minus the percentage of moisture content expressed as a decimal.

Data Reference: [State Mussel Watch Program Data 1977-2000; Winter 2007-Winter 2009. State Water Resources Control Board](#)

SWAMP Data: Non-SWAMP

Water Quality Objective/Criterion: Many pollutants can accumulate on particles, in sediment, or bioaccumulate in fish and other aquatic organisms. Controllable water quality factors shall not cause a detrimental increase in concentrations of toxic substances found in bottom sediments or aquatic life. Effects on aquatic organisms, wildlife, and human health will be considered.

Objective/Criterion Reference: [Water Quality Control Plan \(Basin Plan\) San Francisco Bay Basin \(Region 2\)](#)

Evaluation Guideline: The modified OEHHA Fish Contaminant Goal for endrin in shellfish tissue is 1,000 ppb. This screening level assumes an average body weight of 70 kg and a consumption rate of 21 g/day. (Brodberg, R.K., and G.A. Pollock, 1999; Klasing, S., and R. Brodberg, 2008; USEPA, 2000)

Guideline Reference: [Prevalence of Selected Target Chemical Contaminants in Sport Fish From Two California Lakes: Public health designed screening study. Sacramento, CA: Office of Environmental Health Hazard Assessment](#)
[Development of Fish Contaminant Goals and Advisory Tissue Levels for Common Contaminants in California Sport Fish: Chlordane, DDTs, Dieldrin, Methylmercury, PCBs, Selenium, and Toxaphene](#)
[Guidance for Assessing Chemical Contaminant Data for Use In Fish Advisories Volume 1: Fish Sampling and Analysis](#)

Spatial Representation: Samples are collected by hand from three sub-locations for each site. The composite sample was collected from site San Francisco Bay Dumbarton Bridge (SFDB).

Temporal Representation: Representative samples of locally abundant species were collected during the winter on 2/3/2009

Environmental Conditions:
QAPP Information: Samples were collected as part of the State Water Board's Mussel Watch Program which is a part of the National Oceanic Administration's (NOAAs) National Status and Trends (NS&T). Mussels are shipped to NOAAs contract labs for analysis of trace constituents and mussel condition. Analytical protocols follow those approved by NOAAs NS&T Program Additional background information can be found at:
<http://ccma.nos.noaa.gov/stressors/pollution/nsandt/>

QAPP Information Reference(s):

Line of Evidence (LOE) for Decision ID 65442, Endrin

Region 2

San Francisco Bay, South

LOE ID:	92860
Pollutant:	Endrin
LOE Subgroup:	Pollutant-Water
Matrix:	Water
Fraction:	Total
Beneficial Use:	Commercial or recreational collection of fish, shellfish, or organisms
Number of Samples:	80
Number of Exceedances:	0
Data and Information Type:	PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality:	State Water Board staff assessed SFEI data for San Francisco Bay, South to determine beneficial use support and results are as follows: 0 of 80 samples exceed the criterion for Endrin.
Data Reference:	Regional Monitoring Program data, Feb. 1993-Sep. 2008
SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	The Endrin criteria for the protection of human health from consumption of organisms only is 0.81ug/L (California Toxics Rule, 2000).
Objective/Criterion Reference:	Code of Federal Regulations 40 part 131.38 Establishment of numeric criteria for priority toxic pollutants for the State of California. 7/1/2011 Edition
Evaluation Guideline:	
Guideline Reference:	
Spatial Representation:	Data for this line of evidence for San Francisco Bay, South was collected at 47 monitoring sites [Coyote Creek - BA10, Lower South Bay - LSB001W, Lower South Bay - LSB002W, Lower South Bay - LSB003W, Lower South Bay - LSB004W, Lower South Bay - LSB005W, Lower South Bay - LSB006W, Lower South Bay - LSB007W, Lower South Bay - LSB009W, Lower South Bay - LSB011W, Lower South Bay - LSB012W, Lower South Bay - LSB013W, Lower South Bay - LSB014W, Lower South Bay - LSB015W, Lower South Bay - LSB016W, Lower South Bay - LSB018W, Lower South Bay - LSB022W, Lower South Bay - LSB023W, Lower South Bay - LSB024W, Lower South Bay - LSB025W, Lower South Bay - LSB026W, Lower South Bay - LSB027W, Lower South Bay - LSB028W, Lower South Bay - LSB029W, Lower South Bay - LSB030W, Lower South Bay - LSB032W, South Bay - SB008W, South Bay - SB010W, South Bay - SB017W, South Bay - SB031W, South Bay - SB033W, South Bay - SB034W, South Bay - SB035W, South Bay - SB036W, South Bay - SB037W, South Bay - SB038W, South Bay - SB039W, South Bay - SB040W, South Bay - SB041W, South Bay - SB042W, South Bay - SB043W, South Bay - SB044W, South Bay - SB045W, South Bay - SB046W, South Bay - SB047W, South Bay - SB048W, South Bay - SB049W]
Temporal Representation:	Data was collected over the time period 8/16/1994-8/16/2007.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	The 1999 Quality Assurance Project Plan Regional Monitoring Program for Trace Substances was used.
QAPP Information Reference(s):	1999 Quality Assurance Project Plan Regional Monitoring Program for Trace Substances

Line of Evidence (LOE) for Decision ID 65442, Endrin
San Francisco Bay, South

Region 2

LOE ID:	92855
Pollutant:	Endrin
LOE Subgroup:	Pollutant-Water
Matrix:	Water
Fraction:	Dissolved
Beneficial Use:	Estuarine Habitat

Number of Samples:	60
Number of Exceedances:	0
Data and Information Type:	PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality:	State Water Board staff assessed SFEI data for San Francisco Bay, South to determine beneficial use support and results are as follows: 0 of 60 samples exceed the criterion for Endrin.
Data Reference:	Regional Monitoring Program data, Feb. 1993-Sep. 2008
SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	The Endrin criterion continuous concentration (expressed as a 4-day average) to protect aquatic life in saline water is 0.0023 ug/L (California Toxics Rule, 2000).
Objective/Criterion Reference:	Code of Federal Regulations 40 part 131.38 Establishment of numeric criteria for priority toxic pollutants for the State of California. 7/1/2011 Edition
Evaluation Guideline:	
Guideline Reference:	
Spatial Representation:	Data for this line of evidence for San Francisco Bay, South was collected at 34 monitoring sites [Coyote Creek - BA10, Lower South Bay - LSB002W, Lower South Bay - LSB008W, Lower South Bay - LSB018W, Lower South Bay - LSB011W, Lower South Bay - LSB010W, Lower South Bay - LSB009W, Lower South Bay - LSB007W, South Bay - SB030W, South Bay - SB034W, South Bay - SB036W, Lower South Bay - LSB015W, Lower South Bay - LSB003W, Lower South Bay - LSB014W, Lower South Bay - LSB013W, South Bay - SB037W, Lower South Bay - LSB016W, South Bay - SB032W, South Bay - SB029W, Lower South Bay - LSB006W, South Bay - SB033W, Lower South Bay - LSB012W, South Bay - SB035W, South Bay - SB017W, South Bay - SB022W, South Bay - SB031W, Lower South Bay - LSB004W, South Bay - SB027W, South Bay - SB028W, Lower South Bay - LSB005W, South Bay - SB025W, South Bay - SB024W, South Bay - SB023W, Lower South Bay - LSB001W]
Temporal Representation:	Data was collected over the time period 8/16/1994-8/19/2005.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	The 1999 Quality Assurance Project Plan Regional Monitoring Program for Trace Substances was used.
QAPP Information Reference(s):	1999 Quality Assurance Project Plan Regional Monitoring Program for Trace Substances

Line of Evidence (LOE) for Decision ID 65442, Endrin

Region 2

San Francisco Bay, South

LOE ID:	95113
Pollutant:	Endrin
LOE Subgroup:	Pollutant-Tissue
Matrix:	Tissue
Fraction:	Fish fillet
Beneficial Use:	Commercial or recreational collection of fish, shellfish, or organisms
Number of Samples:	41
Number of Exceedances:	0
Data and Information Type:	Fish tissue analysis
Data Used to Assess Water Quality:	Water Board staff assessed Regional Monitoring Program data for South San Francisco Bay to determine beneficial use support and results are as follows: 0 of 41 samples exceed the criterion for endrin. No samples were discarded for being non-detect, unquantifiable or the reporting limit exceeding the water quality objective.
Data Reference:	Regional Monitoring Program data, Feb. 1993-Sep. 2008
SWAMP Data:	Non-SWAMP

Water Quality Objective/Criterion:	Water Quality Control Plan for the San Francisco Bay Basin: Controllable water quality factors shall not cause a detrimental increase in concentrations of toxic substances found in bottom sediments or aquatic life. Effects on aquatic organisms, wildlife, and human health will be considered.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	The modified OEHHA Fish Contaminant Goal for endrin in fish tissue is 660 ppb. This screening level assumes an average body weight of 70 kg and a consumption rate of 32 g/day. A cooking reduction factor of 1 is applied for skin-off fillets. (Klasing, S., and R. Brodberg, 2008; USEPA, 2000)
Guideline Reference:	Development of Fish Contaminant Goals and Advisory Tissue Levels for Common Contaminants in California Sport Fish: Chlordane, DDTs, Dieldrin, Methylmercury, PCBs, Selenium, and Toxaphene Guidance for Assessing Chemical Contaminant Data for Use In Fish Advisories Volume 1: Fish Sampling and Analysis
Spatial Representation:	The samples were collected at three sites throughout South San Francisco Bay.
Temporal Representation:	The samples were collected every three years from April 2000 through June 2006.
Environmental Conditions:	
QAPP Information:	The 1999 Quality Assurance Project Plan Regional Monitoring Program for Trace Substances was used.
QAPP Information Reference(s):	1999 Quality Assurance Project Plan Regional Monitoring Program for Trace Substances

DECISION ID	65444	Region 2
San Francisco Bay, South		
Pollutant:	Ethion	
Final Listing Decision:	Do Not List on 303(d) list (TMDL required list)	
Last Listing Cycle's Final Listing Decision:	New Decision	
Revision Status	Revised	
Impairment from Pollutant or Pollution:	Pollutant	
Regional Board Staff Conclusion:	<p>This pollutant is being considered for placement on the CWA section 303(d) List under section 3.5 of the Listing Policy. Under section 3.5 a single line of evidence is necessary to assess listing status.</p> <p>One line of evidence is available in the administrative record to assess this pollutant. Zero of sixteen samples exceed the guideline.</p> <p>Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against placing this water segment-pollutant combination on the CWA section 303(d) List in the Water Quality Limited Segments category.</p> <p>This conclusion is based on the staff findings that:</p> <ol style="list-style-type: none"> 1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy. 2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy. 3. Zero of sixteen samples exceed the guideline and this does not exceed the allowable frequency listed in Table 3.1 of the Listing Policy. 4. Pursuant to section 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met. 	
Regional Board Staff Decision Recommendation:	After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be placed on the section 303(d) list because applicable water quality standards are not being exceeded.	

Line of Evidence (LOE) for Decision ID 65444, Ethion	Region 2
San Francisco Bay, South	

LOE ID:	95072
Pollutant:	Ethion
LOE Subgroup:	Pollutant-Tissue
Matrix:	Tissue
Fraction:	Fish fillet
Beneficial Use:	Commercial or recreational collection of fish, shellfish, or organisms
Number of Samples:	16
Number of Exceedances:	0
Data and Information Type:	Fish tissue analysis
Data Used to Assess Water Quality:	Water Board staff assessed Regional Monitoring Program data for South San Francisco Bay to determine beneficial use support and results are as follows: 0 of 16 samples exceed the criterion for ethion. No samples were discarded for being non-detect, unquantifiable or the reporting limit exceeding the water quality objective.
Data Reference:	Regional Monitoring Program data, Feb. 1993-Sep. 2008
SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	Water Quality Control Plan for the San Francisco Bay Basin: Controllable water quality factors shall not cause a detrimental increase in concentrations of toxic substances found in bottom sediments or aquatic life. Effects on aquatic organisms, wildlife, and human health will be considered.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	The modified OEHHA Fish Contaminant Goal for ethion in fish tissue is 1,100 ppb. This screening level assumes an average body weight of 70 kg and a consumption rate of 32 g/day. A cooking reduction factor of 1 is applied for skin-off fillets. (Klasing, S., and R. Brodberg, 2008; USEPA, 2000)
Guideline Reference:	Development of Fish Contaminant Goals and Advisory Tissue Levels for Common Contaminants in California Sport Fish: Chlordane, DDTs, Dieldrin, Methylmercury, PCBs, Selenium, and Toxaphene Guidance for Assessing Chemical Contaminant Data for Use In Fish Advisories Volume 1: Fish Sampling and Analysis
Spatial Representation:	The samples were collected at one site in South San Francisco Bay.
Temporal Representation:	The samples were collected in April and May 2000.
Environmental Conditions:	
QAPP Information:	The 1999 Quality Assurance Project Plan Regional Monitoring Program for Trace Substances was used.
QAPP Information Reference(s):	1999 Quality Assurance Project Plan Regional Monitoring Program for Trace Substances

DECISION ID	65445	Region 2
San Francisco Bay, South		
Pollutant:	Fluoranthene	
Final Listing Decision:	Do Not List on 303(d) list (TMDL required list)	
Last Listing Cycle's Final Listing Decision:	New Decision	
Revision Status	Revised	
Impairment from Pollutant or Pollution:	Pollutant	
Regional Board Staff Conclusion:	<p>This pollutant is being considered for placement on the CWA section 303(d) List under section 3.1 of the Listing Policy. Under section 3.1 a single line of evidence is necessary to assess listing status.</p> <p>Two lines of evidence are available in the administrative record to assess this pollutant. Zero of ninety-seven samples exceed the guideline.</p>	

Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against placing this water segment-pollutant combination on the CWA section 303(d) List in the Water Quality Limited Segments category.

This conclusion is based on the staff findings that:

1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy.
2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy.
3. Zero of ninety-seven samples exceed the guideline and this does not exceed the allowable frequency listed in Table 3.1 of the Listing Policy.
4. Pursuant to section 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.

Regional Board Staff Decision Recommendation: After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be placed on the section 303(d) list because applicable water quality standards are not being exceeded.

**Line of Evidence (LOE) for Decision ID 65445, Fluoranthene
San Francisco Bay, South**

Region 2

LOE ID:	92862
Pollutant:	Fluoranthene
LOE Subgroup:	Pollutant-Water
Matrix:	Water
Fraction:	Total
Beneficial Use:	Commercial or recreational collection of fish, shellfish, or organisms
Number of Samples:	97
Number of Exceedances:	0
Data and Information Type:	PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality:	State Water Board staff assessed SFEI data for San Francisco Bay, South to determine beneficial use support and results are as follows: 0 of 97 samples exceed the criterion for Fluoranthene.
Data Reference:	Regional Monitoring Program data, Feb. 1993-Sep. 2008
SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	The Fluoranthene criteria for the protection of human health from consumption of organisms only is 370 ug/L (California Toxics Rule, 2000).
Objective/Criterion Reference:	Code of Federal Regulations 40 part 131.38 Establishment of numeric criteria for priority toxic pollutants for the State of California. 7/1/2011 Edition
Evaluation Guideline:	
Guideline Reference:	
Spatial Representation:	Data for this line of evidence for San Francisco Bay, South was collected at 53 monitoring sites [Coyote Creek - BA10, Lower South Bay - LSB001W, Lower South Bay - LSB002W, Lower South Bay - LSB003W, Lower South Bay - LSB004W, Lower South Bay - LSB005W, Lower South Bay - LSB006W, Lower South Bay - LSB007W, Lower South Bay - LSB008W, Lower South Bay - LSB009W, Lower South Bay - LSB010W, Lower South Bay - LSB011W, Lower South Bay - LSB012W, Lower South Bay - LSB013W, Lower South Bay - LSB014W, Lower South Bay - LSB015W, Lower South Bay - LSB016W, Lower South Bay - LSB017W, Lower South Bay - LSB018W, Lower South Bay - LSB019W, Lower South Bay - LSB020W, Lower South Bay - LSB021W, Lower South Bay - LSB022W, Lower South Bay - LSB023W, Lower South Bay - LSB024W, Lower South Bay - LSB025W, Lower South Bay - LSB026W, Lower South Bay - LSB027W, Lower South Bay - LSB028W, Lower South Bay - LSB029W, Lower South Bay - LSB030W, Lower South Bay - LSB032W, Lower South Bay - LSB033W, Lower South Bay - LSB034W, Lower South Bay - LSB035W, Lower South Bay - LSB036W, Lower South Bay

- LSB037W, South Bay - SB031W, South Bay - SB038W, South Bay - SB039W, South Bay - SB040W, South Bay - SB041W, South Bay - SB042W, South Bay - SB043W, South Bay - SB044W, South Bay - SB045W, South Bay - SB046W, South Bay - SB047W, South Bay - SB048W, South Bay - SB049W, South Bay - SB050W, South Bay - SB051W, South Bay - SB053W]

Temporal Representation:

Data was collected over the time period 2/1/1994-7/18/2008.

Environmental Conditions:

Staff is not aware of any special conditions that might affect interpretation of the data.

QAPP Information:

The 1999 Quality Assurance Project Plan Regional Monitoring Program for Trace Substances was used.

QAPP Information Reference(s):

[1999 Quality Assurance Project Plan Regional Monitoring Program for Trace Substances](#)

Line of Evidence (LOE) for Decision ID 65445, Fluoranthene

Region 2

San Francisco Bay, South

LOE ID: 92861

Pollutant: Fluoranthene
LOE Subgroup: Pollutant-Water
Matrix: Water
Fraction: Dissolved

Beneficial Use: Estuarine Habitat

Number of Samples: 69
Number of Exceedances: 0

Data and Information Type: PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality: State Water Board staff assessed SFEI data for San Francisco Bay, South to determine beneficial use support and results are as follows: 0 of 69 samples exceed the criterion for Fluoranthene.

Data Reference: [Regional Monitoring Program data, Feb. 1993-Sep. 2008](#)

SWAMP Data: Non-SWAMP

Water Quality Objective/Criterion: No individual pesticide or combination of pesticides shall be present in concentrations that adversely affect beneficial uses.

Objective/Criterion Reference: [Water Quality Control Plan \(Basin Plan\) San Francisco Bay Basin \(Region 2\)](#)

Evaluation Guideline: The available data for Fluoranthene indicate that chronic toxicity to saltwater aquatic life occurs at concentrations as low as 16 ug/L and would occur at lower concentrations among species that are more sensitive than those tested. (USEPA Gold Book - EPA 440/5-86-001)

Guideline Reference: [Quality Criteria for Water 1986. United States Environmental Protection Agency. Office of Water. Regulations and Standards. Washington D.C. EPA 440/5-86-001.](#)

Spatial Representation: Data for this line of evidence for San Francisco Bay, South was collected at 36 monitoring sites [Coyote Creek - BA10, Lower South Bay - LSB002W, Lower South Bay - LSB008W, Lower South Bay - LSB017W, Lower South Bay - LSB021W, Lower South Bay - LSB018W, Lower South Bay - LSB020W, Lower South Bay - LSB011W, Lower South Bay - LSB010W, Lower South Bay - LSB033W, Lower South Bay - LSB009W, Lower South Bay - LSB019W, Lower South Bay - LSB007W, South Bay - SB030W, South Bay - SB034W, South Bay - SB036W, Lower South Bay - LSB015W, Lower South Bay - LSB003W, Lower South Bay - LSB014W, Lower South Bay - LSB013W, South Bay - SB037W, Lower South Bay - LSB016W, South Bay - SB032W, South Bay - SB029W, Lower South Bay - LSB006W, Lower South Bay - LSB012W, South Bay - SB035W, South Bay - SB022W, South Bay - SB031W, Lower South Bay - LSB004W, South Bay - SB027W, South Bay - SB028W, Lower South Bay - LSB005W, South Bay - SB025W, South Bay - SB023W, Lower South Bay - LSB001W]

Temporal Representation:

Data was collected over the time period 2/1/1994-7/18/2008.

Environmental Conditions:

Staff is not aware of any special conditions that might affect interpretation of the data.

QAPP Information:

The 1999 Quality Assurance Project Plan Regional Monitoring Program for Trace Substances was used.

DECISION ID 65446		Region 2
San Francisco Bay, South		
Pollutant:	Fluorene	
Final Listing Decision:	Do Not List on 303(d) list (TMDL required list)	
Last Listing Cycle's Final Listing Decision:	New Decision	
Revision Status	Revised	
Impairment from Pollutant or Pollution:	Pollutant	
Regional Board Staff Conclusion:	<p>This pollutant is being considered for placement on the CWA section 303(d) List under section 3.1 of the Listing Policy. Under section 3.1 a single line of evidence is necessary to assess listing status.</p> <p>One line of evidence is available in the administrative record to assess this pollutant. Zero of sixty-eight samples exceed the guideline.</p> <p>Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against placing this water segment-pollutant combination on the CWA section 303(d) List in the Water Quality Limited Segments category.</p> <p>This conclusion is based on the staff findings that:</p> <ol style="list-style-type: none">1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy.2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy.3. Zero of sixty-eight samples exceed the guideline and this does not exceed the allowable frequency listed in Table 3.1 of the Listing Policy.4. Pursuant to section 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.	
Regional Board Staff Decision Recommendation:	After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be placed on the section 303(d) list because applicable water quality standards are not being exceeded.	

Line of Evidence (LOE) for Decision ID 65446, Fluorene		Region 2
San Francisco Bay, South		
LOE ID:	92866	
Pollutant:	Fluorene	
LOE Subgroup:	Pollutant-Water	
Matrix:	Water	
Fraction:	Total	
Beneficial Use:	Commercial or recreational collection of fish, shellfish, or organisms	
Number of Samples:	68	
Number of Exceedances:	0	
Data and Information Type:	PHYSICAL/CHEMICAL MONITORING	
Data Used to Assess Water Quality:	State Water Board staff assessed SFEI data for San Francisco Bay, South to determine beneficial use support and results are as follows: 0 of 68 samples exceed the criterion for Fluorene.	
Data Reference:	Regional Monitoring Program data, Feb. 1993-Sep. 2008	
SWAMP Data:	Non-SWAMP	
Water Quality Objective/Criterion:	The Fluorene criteria for the protection of human health from consumption of organisms	

Objective/Criterion Reference:	only is 14,000 ug/L (California Toxics Rule, 2000). Code of Federal Regulations 40 part 131.38 Establishment of numeric criteria for priority toxic pollutants for the State of California. 7/1/2011 Edition
Evaluation Guideline:	
Guideline Reference:	
Spatial Representation:	Data for this line of evidence for San Francisco Bay, South was collected at 48 monitoring sites [Coyote Creek - BA10, Lower South Bay - LSB001W, Lower South Bay - LSB002W, Lower South Bay - LSB003W, Lower South Bay - LSB004W, Lower South Bay - LSB005W, Lower South Bay - LSB006W, Lower South Bay - LSB012W, Lower South Bay - LSB013W, Lower South Bay - LSB015W, Lower South Bay - LSB016W, Lower South Bay - LSB022W, Lower South Bay - LSB023W, Lower South Bay - LSB024W, Lower South Bay - LSB025W, Lower South Bay - LSB026W, Lower South Bay - LSB027W, Lower South Bay - LSB028W, Lower South Bay - LSB029W, Lower South Bay - LSB030W, Lower South Bay - LSB032W, Lower South Bay - LSB034W, Lower South Bay - LSB035W, Lower South Bay - LSB036W, Lower South Bay - LSB037W, South Bay - SB007W, South Bay - SB008W, South Bay - SB009W, South Bay - SB010W, South Bay - SB011W, South Bay - SB017W, South Bay - SB018W, South Bay - SB019W, South Bay - SB038W, South Bay - SB039W, South Bay - SB040W, South Bay - SB041W, South Bay - SB042W, South Bay - SB043W, South Bay - SB044W, South Bay - SB045W, South Bay - SB046W, South Bay - SB047W, South Bay - SB048W, South Bay - SB049W, South Bay - SB050W, South Bay - SB051W, South Bay - SB053W]
Temporal Representation:	Data was collected over the time period 2/6/1996-7/17/2008.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	The 1999 Quality Assurance Project Plan Regional Monitoring Program for Trace Substances was used.
QAPP Information Reference(s):	1999 Quality Assurance Project Plan Regional Monitoring Program for Trace Substances

DECISION ID	65447	Region 2
San Francisco Bay, South		
Pollutant:	Heptachlor	
Final Listing Decision:	Do Not List on 303(d) list (TMDL required list)	
Last Listing Cycle's Final Listing Decision:	New Decision	
Revision Status	Revised	
Impairment from Pollutant or Pollution:	Pollutant	
Regional Board Staff Conclusion:	<p>This pollutant is being considered for placement on the CWA section 303(d) List under section 3.1 of the Listing Policy. Under section 3.1 a single line of evidence is necessary to assess listing status.</p> <p>Two lines of evidence are available in the administrative record to assess this pollutant. Zero of fifty-seven samples exceed the guideline.</p> <p>Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against placing this water segment-pollutant combination on the CWA section 303(d) List in the Water Quality Limited Segments category.</p> <p>This conclusion is based on the staff findings that:</p> <ol style="list-style-type: none"> 1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy. 2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy. 3. Zero of fifty-seven samples exceed the guideline and this does not exceed the allowable frequency listed in Table 3.1 of the Listing Policy. 4. Pursuant to section 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met. 	
Regional Board Staff Decision Recommendation:	After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be placed on the section 303(d) list because applicable water quality standards are not being exceeded.	

**Line of Evidence (LOE) for Decision ID 65447, Heptachlor
San Francisco Bay, South**

Region 2

LOE ID:	92867
Pollutant:	Heptachlor
LOE Subgroup:	Pollutant-Water
Matrix:	Water
Fraction:	Dissolved
Beneficial Use:	Estuarine Habitat
Number of Samples:	57
Number of Exceedances:	0
Data and Information Type:	PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality:	State Water Board staff assessed SFEI data for San Francisco Bay, South to determine beneficial use support and results are as follows: 0 of 57 samples exceed the criterion for Heptachlor.
Data Reference:	Regional Monitoring Program data, Feb. 1993-Sep. 2008
SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	The Heptachlor criterion continuous concentration (expressed as a 4-day average) to protect aquatic life in saline water is 0.0036 ug/L (California Toxics Rule, 2000).
Objective/Criterion Reference:	Code of Federal Regulations 40 part 131.38 Establishment of numeric criteria for priority toxic pollutants for the State of California. 7/1/2011 Edition
Evaluation Guideline:	
Guideline Reference:	
Spatial Representation:	Data for this line of evidence for San Francisco Bay, South was collected at 31 monitoring sites [Coyote Creek - BA10, Lower South Bay - LSB002W, Lower South Bay - LSB008W, Lower South Bay - LSB021W, Lower South Bay - LSB011W, Lower South Bay - LSB010W, Lower South Bay - LSB009W, Lower South Bay - LSB007W, South Bay - SB036W, Lower South Bay - LSB015W, Lower South Bay - LSB003W, Lower South Bay - LSB014W, Lower South Bay - LSB013W, South Bay - SB037W, Lower South Bay - LSB016W, South Bay - SB032W, South Bay - SB029W, South Bay - SB033W, Lower South Bay - LSB012W, South Bay - SB035W, South Bay - SB022W, South Bay - SB031W, Lower South Bay - LSB004W, South Bay - SB018W, South Bay - SB027W, South Bay - SB028W, Lower South Bay - LSB005W, South Bay - SB025W, South Bay - SB024W, South Bay - SB023W, Lower South Bay - LSB001W]
Temporal Representation:	Data was collected over the time period 4/18/1994-8/19/2005.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	The 1999 Quality Assurance Project Plan Regional Monitoring Program for Trace Substances was used.
QAPP Information Reference(s):	1999 Quality Assurance Project Plan Regional Monitoring Program for Trace Substances

**Line of Evidence (LOE) for Decision ID 65447, Heptachlor
San Francisco Bay, South**

Region 2

LOE ID:	92868
Pollutant:	Heptachlor
LOE Subgroup:	Pollutant-Water
Matrix:	Water
Fraction:	Total
Beneficial Use:	Commercial or recreational collection of fish, shellfish, or organisms

Number of Samples: 49
Number of Exceedances: 0

Data and Information Type: PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality: State Water Board staff assessed SFEI data for San Francisco Bay, South to determine beneficial use support and results are as follows: 0 of 49 samples exceed the criterion for Heptachlor.

Data Reference: [Regional Monitoring Program data, Feb. 1993-Sep. 2008](#)

SWAMP Data: Non-SWAMP

Water Quality Objective/Criterion: The Heptachlor criteria for the protection of human health from consumption of organisms only is 0.00021 ug/L (California Toxics Rule, 2000).

Objective/Criterion Reference: [Code of Federal Regulations 40 part 131.38 Establishment of numeric criteria for priority toxic pollutants for the State of California. 7/1/2011 Edition](#)

Evaluation Guideline:
Guideline Reference:

Spatial Representation: Data for this line of evidence for San Francisco Bay, South was collected at 30 monitoring sites [Coyote Creek - BA10, Lower South Bay - LSB001W, Lower South Bay - LSB002W, Lower South Bay - LSB003W, Lower South Bay - LSB004W, Lower South Bay - LSB005W, Lower South Bay - LSB012W, Lower South Bay - LSB013W, Lower South Bay - LSB014W, Lower South Bay - LSB015W, Lower South Bay - LSB016W, Lower South Bay - LSB021W, Lower South Bay - LSB022W, Lower South Bay - LSB026W, South Bay - SB007W, South Bay - SB008W, South Bay - SB009W, South Bay - SB010W, South Bay - SB023W, South Bay - SB024W, South Bay - SB025W, South Bay - SB027W, South Bay - SB028W, South Bay - SB029W, South Bay - SB031W, South Bay - SB033W, South Bay - SB035W, South Bay - SB036W, South Bay - SB037W, South Bay - SB044W]

Temporal Representation: Data was collected over the time period 4/18/1994-8/16/2006.

Environmental Conditions: Staff is not aware of any special conditions that might affect interpretation of the data.

QAPP Information: The 1999 Quality Assurance Project Plan Regional Monitoring Program for Trace Substances was used.

QAPP Information Reference(s): [1999 Quality Assurance Project Plan Regional Monitoring Program for Trace Substances](#)

DECISION ID	65356	Region 2
San Francisco Bay, South		

Pollutant: Heptachlor epoxide
Final Listing Decision: Do Not List on 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision: New Decision
Revision Status: Revised
Impairment from Pollutant or Pollution: Pollutant

Regional Board Staff Conclusion:

This pollutant is being considered for placement on the CWA section 303(d) List under section 3.5 of the Listing Policy. Under section 3.5 a single line of evidence is necessary to assess listing status.

Six lines of evidence are available in the administrative record to assess this pollutant. Zero of seven samples exceed the OEHHHA fish tissue guideline.

Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification in favor of placing this water segment-pollutant combination on the CWA section 303(d) List.

This conclusion is based on the staff findings that:

1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy.
2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy.
3. Zero of seven samples exceed the OEHHHA guideline and this number exceeds the allowable

frequency listed in Table 3.1 of the Listing Policy.

4. There is not a fish consumption advisory in effect for this waterbody.

5. Pursuant to section 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.

Regional Board Staff Decision Recommendation: After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be placed on the section 303(d) list because applicable water quality standards are not being exceeded.

Line of Evidence (LOE) for Decision ID 65356, Heptachlor epoxide

Region 2

San Francisco Bay, South

LOE ID: 92875

Pollutant: Heptachlor epoxide
LOE Subgroup: Pollutant-Water
Matrix: Water
Fraction: Dissolved

Beneficial Use: Estuarine Habitat

Number of Samples: 69
Number of Exceedances: 0

Data and Information Type: PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality: State Water Board staff assessed SFEI data for San Francisco Bay, South to determine beneficial use support and results are as follows: 0 of 69 samples exceed the criterion for Heptachlor Epoxide.

Data Reference: [Regional Monitoring Program data, Feb. 1993-Sep. 2008](#)

SWAMP Data: Non-SWAMP

Water Quality Objective/Criterion: The Heptachlor Epoxide criterion continuous concentration (expressed as a 4-day average) to protect aquatic life in saline water is 0.0036 ug/L (California Toxics Rule, 2000).

Objective/Criterion Reference: [Code of Federal Regulations 40 part 131.38 Establishment of numeric criteria for priority toxic pollutants for the State of California. 7/1/2011 Edition](#)

Evaluation Guideline:
Guideline Reference:

Spatial Representation: Data for this line of evidence for San Francisco Bay, South was collected at 37 monitoring sites [Coyote Creek - BA10, Lower South Bay - LSB002W, Lower South Bay - LSB008W, Lower South Bay - LSB017W, Lower South Bay - LSB021W, Lower South Bay - LSB018W, Lower South Bay - LSB020W, Lower South Bay - LSB011W, Lower South Bay - LSB010W, Lower South Bay - LSB009W, Lower South Bay - LSB019W, Lower South Bay - LSB007W, South Bay - SB030W, South Bay - SB034W, South Bay - SB036W, Lower South Bay - LSB015W, Lower South Bay - LSB003W, Lower South Bay - LSB014W, Lower South Bay - LSB013W, South Bay - SB037W, Lower South Bay - LSB016W, South Bay - SB032W, South Bay - SB029W, Lower South Bay - LSB006W, South Bay - SB033W, Lower South Bay - LSB012W, South Bay - SB035W, South Bay - SB022W, South Bay - SB031W, Lower South Bay - LSB004W, South Bay - SB027W, South Bay - SB028W, Lower South Bay - LSB005W, South Bay - SB025W, South Bay - SB024W, South Bay - SB023W, Lower South Bay - LSB001W]

Temporal Representation: Data was collected over the time period 2/1/1994-8/19/2005.

Environmental Conditions: Staff is not aware of any special conditions that might affect interpretation of the data.

QAPP Information: The 1999 Quality Assurance Project Plan Regional Monitoring Program for Trace Substances was used.

QAPP Information Reference(s): [1999 Quality Assurance Project Plan Regional Monitoring Program for Trace Substances](#)

Line of Evidence (LOE) for Decision ID 65356, Heptachlor epoxide

Region 2

San Francisco Bay, South

LOE ID:	95091
Pollutant:	Heptachlor epoxide
LOE Subgroup:	Pollutant-Tissue
Matrix:	Tissue
Fraction:	Fish fillet
Beneficial Use:	Commercial or recreational collection of fish, shellfish, or organisms
Number of Samples:	7
Number of Exceedances:	0
Data and Information Type:	Fish tissue analysis
Data Used to Assess Water Quality:	Water Board staff assessed Regional Monitoring Program data for South San Francisco Bay to determine beneficial use support and results are as follows: 0 of 7 samples exceed the criterion for Heptachlor epoxide. Twenty-two samples were discarded for being non-detect, unquantifiable or the reporting limit exceeding the water quality objective.
Data Reference:	Regional Monitoring Program data, Feb. 1993-Sep. 2008
SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	Water Quality Control Plan for the San Francisco Bay Basin: Controllable water quality factors shall not cause a detrimental increase in concentrations of toxic substances found in bottom sediments or aquatic life. Effects on aquatic organisms, wildlife, and human health will be considered.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	The modified OEHHA Advisory Tissue Level for heptachlor epoxide in fish tissue is 93 ppb. This screening level assumes an average body weight of 70 kg and a consumption rate of 32 g/day for a 30 year exposure over a 70-year lifetime. This constituent is a carcinogen therefore the risk level is set to one in ten thousand. (Brodberg, R.K., and G.A. Pollock, 1999; Klasing, S., and R. Brodberg, 2008; USEPA, 2000) Advisory Tissue Levels (ATLs), while still conferring no significant health risk to individuals consuming sport fish in the quantities shown over a lifetime, were developed with the recognition that there are unique health benefits associated with fish consumption and that the advisory process should be expanded beyond a simple risk paradigm in order to best promote the overall health of the fish consumer. ATLs provide a number of recommended fish servings that correspond to the range of contaminant concentrations found in fish and are used to provide consumption advice to prevent consumers from being exposed to more than the average daily reference dose for noncarcinogens or to a risk level greater than 1x10 ⁻⁴ for carcinogens (not more than one additional cancer case in a population of 10,000 people consuming fish at the given consumption rate over a lifetime). ATLs are designed to encourage consumption of fish that can be eaten in quantities likely to provide significant health benefits, while discouraging consumption of fish that, because of contaminant concentrations, should not be eaten or cannot be eaten in amounts recommended for improving overall health (eight ounces total, prior to cooking, per week). ATLs are one of the criteria that will be used by OEHHA for issuing fish consumption guidelines.
Guideline Reference:	Development of Fish Contaminant Goals and Advisory Tissue Levels for Common Contaminants in California Sport Fish: Chlordane, DDTs, Dieldrin, Methylmercury, PCBs, Selenium, and Toxaphene Public Health Goal for Heptachlor and Heptachlor Epoxide in Drinking Water
Spatial Representation:	The samples were collected at three sites throughout South San Francisco Bay.
Temporal Representation:	The samples were collected in April 2000, May 2000, May 2003, August 2003, September 2003, May 2006, and June 2006.
Environmental Conditions:	
QAPP Information:	The 1999 Quality Assurance Project Plan Regional Monitoring Program for Trace Substances was used.
QAPP Information Reference(s):	1999 Quality Assurance Project Plan Regional Monitoring Program for Trace Substances

San Francisco Bay, South

LOE ID:	92874
Pollutant:	Heptachlor epoxide
LOE Subgroup:	Pollutant-Tissue
Matrix:	Tissue
Fraction:	Shellfish
Beneficial Use:	Shellfish Harvesting
Number of Samples:	1
Number of Exceedances:	0
Data and Information Type:	Shellfish surveys
Data Used to Assess Water Quality:	The results did not exceed the guideline. Data were reported on a dry weight basis and were converted to a wet weight basis by multiplying the dry-weight concentration by a factor of 1 minus the percentage of moisture content expressed as a decimal.
Data Reference:	State Mussel Watch Program Data 1977-2000; Winter 2007-Winter 2009. State Water Resources Control Board
SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	Many pollutants can accumulate on particles, in sediment, or bioaccumulate in fish and other aquatic organisms. Controllable water quality factors shall not cause a detrimental increase in concentrations of toxic substances found in bottom sediments or aquatic life. Effects on aquatic organisms, wildlife, and human health will be considered.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	The modified OEHHA Fish Contaminant Goal for heptachlor epoxide in shellfish tissue is 1.4 ppb. This screening level assumes an average body weight of 70 kg and a consumption rate of 21 g/day for a 30 year exposure over a 70-year lifetime. This constituent is a carcinogen therefore the risk level is set to one in a million. (Brodberg, R.K., and G.A. Pollock, 1999; Klasing, S., and R. Brodberg, 2008; OEHHA, 1999)
Guideline Reference:	Prevalence of Selected Target Chemical Contaminants in Sport Fish From Two California Lakes: Public health designed screening study. Sacramento, CA: Office of Environmental Health Hazard Assessment Development of Fish Contaminant Goals and Advisory Tissue Levels for Common Contaminants in California Sport Fish: Chlordane, DDTs, Dieldrin, Methylmercury, PCBs, Selenium, and Toxaphene Public Health Goal for Heptachlor and Heptachlor Epoxide in Drinking Water
Spatial Representation:	Samples are collected by hand from three sub-locations for each site. The composite sample was collected from site San Francisco Bay Dumbarton Bridge (SFDB).
Temporal Representation:	Representative samples of locally abundant species were collected during the winter on 2/3/2009
Environmental Conditions:	
QAPP Information:	Samples were collected as part of the State Water Board's Mussel Watch Program which is a part of the National Oceanic Administration's (NOAAs) National Status and Trends (NS&T). Mussels are shipped to NOAAs contract labs for analysis of trace constituents and mussel condition. Analytical protocols follow those approved by NOAAs NS&T Program Additional background information can be found at: http://ccma.nos.noaa.gov/stressors/pollution/nsandt/
QAPP Information Reference(s):	

San Francisco Bay, South

LOE ID:	92876
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Pollutant:	Heptachlor epoxide
LOE Subgroup:	Pollutant-Water
Matrix:	Water
Fraction:	Total
Beneficial Use:	Commercial or recreational collection of fish, shellfish, or organisms
Number of Samples:	80
Number of Exceedances:	4
Data and Information Type:	PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality:	State Water Board staff assessed SFEI data for San Francisco Bay, South to determine beneficial use support and results are as follows: 4 of 80 samples exceed the criterion for Heptachlor Epoxide.
Data Reference:	Regional Monitoring Program data, Feb. 1993-Sep. 2008
SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	The Heptachlor Epoxide criteria for the protection of human health from consumption of organisms only is 0.00011 ug/L (California Toxics Rule, 2000).
Objective/Criterion Reference:	Code of Federal Regulations 40 part 131.38 Establishment of numeric criteria for priority toxic pollutants for the State of California. 7/1/2011 Edition
Evaluation Guideline:	
Guideline Reference:	
Spatial Representation:	Data for this line of evidence for San Francisco Bay, South was collected at 49 monitoring sites [Coyote Creek - BA10, Lower South Bay - LSB001W, Lower South Bay - LSB002W, Lower South Bay - LSB003W, Lower South Bay - LSB004W, Lower South Bay - LSB005W, Lower South Bay - LSB006W, Lower South Bay - LSB013W, Lower South Bay - LSB014W, Lower South Bay - LSB015W, Lower South Bay - LSB017W, Lower South Bay - LSB018W, Lower South Bay - LSB019W, Lower South Bay - LSB020W, Lower South Bay - LSB021W, Lower South Bay - LSB022W, Lower South Bay - LSB023W, Lower South Bay - LSB024W, Lower South Bay - LSB025W, Lower South Bay - LSB026W, Lower South Bay - LSB027W, Lower South Bay - LSB028W, Lower South Bay - LSB029W, Lower South Bay - LSB030W, Lower South Bay - LSB032W, South Bay - SB007W, South Bay - SB008W, South Bay - SB009W, South Bay - SB010W, South Bay - SB011W, South Bay - SB012W, South Bay - SB031W, South Bay - SB033W, South Bay - SB034W, South Bay - SB035W, South Bay - SB036W, South Bay - SB037W, South Bay - SB038W, South Bay - SB039W, South Bay - SB040W, South Bay - SB041W, South Bay - SB042W, South Bay - SB043W, South Bay - SB044W, South Bay - SB045W, South Bay - SB046W, South Bay - SB047W, South Bay - SB048W, South Bay - SB049W]
Temporal Representation:	Data was collected over the time period 2/1/1994-8/16/2007.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	The 1999 Quality Assurance Project Plan Regional Monitoring Program for Trace Substances was used.
QAPP Information Reference(s):	1999 Quality Assurance Project Plan Regional Monitoring Program for Trace Substances

Line of Evidence (LOE) for Decision ID 65356, Heptachlor epoxide

Region 2

San Francisco Bay, South

LOE ID:	93646
Pollutant:	Heptachlor epoxide
LOE Subgroup:	Pollutant-Tissue
Matrix:	Tissue
Fraction:	Shellfish
Beneficial Use:	Shellfish Harvesting
Number of Samples:	14
Number of Exceedances:	0

Data and Information Type:	Shellfish surveys
Data Used to Assess Water Quality:	None of the 14 samples exceeded the guideline. All composite samples were comprised of <i>Crassostrea gigas</i> except for 3 composites that were comprised of <i>Mytilus californianus</i> . Data were reported on a dry weight basis and were converted to a wet weight basis by multiplying the dry-weight concentration by a factor of 1 minus the percentage of moisture content expressed as a decimal. Four samples were not used in the assessment because the laboratory data reporting limit(s) were above the objective and therefore the results could not be quantified with the level of certainty required by the Listing Policy.
Data Reference:	Regional Monitoring Program data, Feb. 1993-Sep. 2008
SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	Water Quality Control Plan for the San Francisco Bay Basin: Controllable water quality factors shall not cause a detrimental increase in concentrations of toxic substances found in bottom sediments or aquatic life. Effects on aquatic organisms, wildlife, and human health will be considered.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	The modified OEHHA Fish Contaminant Goal for heptachlor epoxide in shellfish tissue is 1.4 ppb. This screening level assumes an average body weight of 70 kg and a consumption rate of 21 g/day for a 30 year exposure over a 70-year lifetime. This constituent is a carcinogen therefore the risk level is set to one in a million. (Brodberg, R.K., and G.A. Pollock, 1999; Klasing, S., and R. Brodberg, 2008; OEHHA, 1999)
Guideline Reference:	Prevalence of Selected Target Chemical Contaminants in Sport Fish From Two California Lakes: Public health designed screening study. Sacramento, CA: Office of Environmental Health Hazard Assessment Development of Fish Contaminant Goals and Advisory Tissue Levels for Common Contaminants in California Sport Fish: Chlordane, DDTs, Dieldrin, Methylmercury, PCBs, Selenium, and Toxaphene Public Health Goal for Heptachlor and Heptachlor Epoxide in Drinking Water
Spatial Representation:	Samples were collected at the following station: BA10 - Coyote Creek.
Temporal Representation:	Samples were generally collected in spring and fall seasons from years 1994 - 1999 and then during most fall seasons during years 2000 - 2008.
Environmental Conditions:	
QAPP Information:	1999 Quality Assurance Project Plan Regional Monitoring Program for Trace Substances.
QAPP Information Reference(s):	1999 Quality Assurance Project Plan Regional Monitoring Program for Trace Substances

DECISION ID	65448	Region 2
San Francisco Bay, South		
Pollutant:	Hexachlorobenzene/ HCB	
Final Listing Decision:	Do Not List on 303(d) list (TMDL required list)	
Last Listing Cycle's Final Listing Decision:	New Decision	
Revision Status	Revised	
Impairment from Pollutant or Pollution:	Pollutant	
Regional Board Staff Conclusion:	<p>This pollutant is being considered for placement on the CWA section 303(d) List under section 3.1 of the Listing Policy. Under section 3.1 a single line of evidence is necessary to assess listing status.</p> <p>Four lines of evidence are available in the administrative record to assess this pollutant. Zero of forty-two samples exceed the guideline.</p> <p>Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against placing this water segment-pollutant combination on the CWA section 303(d) List in the Water Quality Limited Segments category.</p> <p>This conclusion is based on the staff findings that:</p>	

1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy.
2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy.
3. Zero of forty-two samples exceed the guideline and this does not exceed the allowable frequency listed in Table 3.1 of the Listing Policy.
4. Pursuant to section 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.

Regional Board Staff Decision Recommendation: After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be placed on the section 303(d) list because applicable water quality standards are not being exceeded.

**Line of Evidence (LOE) for Decision ID 65448, Hexachlorobenzene/ HCB
San Francisco Bay, South**

Region 2

LOE ID: 92882

Pollutant: Hexachlorobenzene/ HCB
LOE Subgroup: Pollutant-Water
Matrix: Water
Fraction: Total

Beneficial Use: Commercial or recreational collection of fish, shellfish, or organisms

Number of Samples: 37
Number of Exceedances: 0

Data and Information Type: PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality: State Water Board staff assessed SFEI data for San Francisco Bay, South to determine beneficial use support and results are as follows: 0 of 37 samples exceed the criterion for Hexachlorobenzene.

Data Reference: [Regional Monitoring Program data, Feb. 1993-Sep. 2008](#)

SWAMP Data: Non-SWAMP

Water Quality Objective/Criterion: The Hexachlorobenzene criteria for the protection of human health from consumption of organisms only is 0.00077 ug/L (California Toxics Rule, 2000).

Objective/Criterion Reference: [Code of Federal Regulations 40 part 131.38 Establishment of numeric criteria for priority toxic pollutants for the State of California. 7/1/2011 Edition](#)

Evaluation Guideline:
Guideline Reference:

Spatial Representation: Data for this line of evidence for San Francisco Bay, South was collected at 19 monitoring sites [Coyote Creek - BA10, Lower South Bay - LSB022W, Lower South Bay - LSB023W, Lower South Bay - LSB024W, Lower South Bay - LSB025W, Lower South Bay - LSB026W, South Bay - SB032W, South Bay - SB034W, South Bay - SB038W, South Bay - SB039W, South Bay - SB040W, South Bay - SB041W, South Bay - SB042W, South Bay - SB043W, South Bay - SB044W, South Bay - SB045W, South Bay - SB046W, South Bay - SB047W, South Bay - SB049W]

Temporal Representation: Data was collected over the time period 2/1/1994-8/14/2007.

Environmental Conditions: Staff is not aware of any special conditions that might affect interpretation of the data.

QAPP Information: The 1999 Quality Assurance Project Plan Regional Monitoring Program for Trace Substances was used.

QAPP Information Reference(s): [1999 Quality Assurance Project Plan Regional Monitoring Program for Trace Substances](#)

**Line of Evidence (LOE) for Decision ID 65448, Hexachlorobenzene/ HCB
San Francisco Bay, South**

Region 2

LOE ID: 93649

Pollutant:	Hexachlorobenzene/ HCB
LOE Subgroup:	Pollutant-Tissue
Matrix:	Tissue
Fraction:	Shellfish
Beneficial Use:	Shellfish Harvesting
Number of Samples:	17
Number of Exceedances:	0
Data and Information Type:	Shellfish surveys
Data Used to Assess Water Quality:	None of the 17 samples exceeded the guideline. All composite samples were comprised of Crassostrea gigas except for 2 composites that were comprised of Mytilus californianus. Data were reported on a dry weight basis and were converted to a wet weight basis by multiplying the dry-weight concentration by a factor of 1 minus the percentage of moisture content expressed as a decimal.
Data Reference:	Regional Monitoring Program data, Feb. 1993-Sep. 2008
SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	Water Quality Control Plan for the San Francisco Bay Basin: Controllable water quality factors shall not cause a detrimental increase in concentrations of toxic substances found in bottom sediments or aquatic life. Effects on aquatic organisms, wildlife, and human health will be considered.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	The modified OEHHA Fish Contaminant Goal for hexachlorobenzene in shellfish tissue is 4.3 ppb. This screening level assumes an average body weight of 70 kg and a consumption rate of 21 g/day for a 30 year exposure over a 70-year lifetime. This constituent is a carcinogen therefore the risk level is set to one in a million. (Brodberg, R.K., and G.A. Pollock, 1999; Klasing, S., and R. Brodberg, 2008; OEHHA, 2005)
Guideline Reference:	Prevalence of Selected Target Chemical Contaminants in Sport Fish From Two California Lakes: Public health designed screening study. Sacramento, CA: Office of Environmental Health Hazard Assessment Development of Fish Contaminant Goals and Advisory Tissue Levels for Common Contaminants in California Sport Fish: Chlordane, DDTs, Dieldrin, Methylmercury, PCBs, Selenium, and Toxaphene Air Toxics Hotspots Program Risk Assessment Guidelines. Part II Technical Support Document for Describing Available Cancer Potency Values.
Spatial Representation:	Samples were collected at the following station: BA10 - Coyote Creek.
Temporal Representation:	Samples were generally collected in spring and fall seasons from years 1994 - 1999 and then during most fall seasons during years 2000 - 2008.
Environmental Conditions:	
QAPP Information:	1999 Quality Assurance Project Plan Regional Monitoring Program for Trace Substances.
QAPP Information Reference(s):	1999 Quality Assurance Project Plan Regional Monitoring Program for Trace Substances

Line of Evidence (LOE) for Decision ID 65448, Hexachlorobenzene/ HCB

Region 2

San Francisco Bay, South

LOE ID:	95087
Pollutant:	Hexachlorobenzene/ HCB
LOE Subgroup:	Pollutant-Tissue
Matrix:	Tissue
Fraction:	Fish fillet
Beneficial Use:	Commercial or recreational collection of fish, shellfish, or organisms
Number of Samples:	42
Number of Exceedances:	0

Data and Information Type:	Fish tissue analysis
Data Used to Assess Water Quality:	Water Board staff assessed Regional Monitoring Program data for South San Francisco Bay to determine beneficial use support and results are as follows: 0 of 42 samples exceed the criterion for hexachlorobenzene. No samples were discarded for being non-detect, unquantifiable or the reporting limit exceeding the water quality objective.
Data Reference:	Regional Monitoring Program data, Feb. 1993-Sep. 2008
SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	Water Quality Control Plan for the San Francisco Bay Basin: Controllable water quality factors shall not cause a detrimental increase in concentrations of toxic substances found in bottom sediments or aquatic life. Effects on aquatic organisms, wildlife, and human health will be considered.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	The modified OEHHA Fish Contaminant Goal for hexachlorobenzene in fish tissue is 2.8 ppb. This screening level assumes an average body weight of 70 kg and a consumption rate of 32 g/day for a 30 year exposure over a 70-year lifetime. This constituent is a carcinogen therefore the risk level is set to one in a million. A cooking reduction factor of 1 is applied for skin-off fillets. (Klasing, S., and R. Brodberg, 2008; OEHHA, 2005)
Guideline Reference:	Development of Fish Contaminant Goals and Advisory Tissue Levels for Common Contaminants in California Sport Fish: Chlordane, DDTs, Dieldrin, Methylmercury, PCBs, Selenium, and Toxaphene Air Toxics Hotspots Program Risk Assessment Guidelines. Part II Technical Support Document for Describing Available Cancer Potency Values.
Spatial Representation:	The samples were collected at three sites throughout South San Francisco Bay.
Temporal Representation:	The samples were collected every three years from April 2000 through June 2006.
Environmental Conditions:	
QAPP Information:	The 1999 Quality Assurance Project Plan Regional Monitoring Program for Trace Substances was used.
QAPP Information Reference(s):	1999 Quality Assurance Project Plan Regional Monitoring Program for Trace Substances

Line of Evidence (LOE) for Decision ID 65448, Hexachlorobenzene/ HCB
San Francisco Bay, South

Region 2

LOE ID:	92881
Pollutant:	Hexachlorobenzene/ HCB
LOE Subgroup:	Pollutant-Tissue
Matrix:	Tissue
Fraction:	Shellfish
Beneficial Use:	Shellfish Harvesting
Number of Samples:	1
Number of Exceedances:	0
Data and Information Type:	Shellfish surveys
Data Used to Assess Water Quality:	The result did not exceed the guideline. Data were reported on a dry weight basis and were converted to a wet weight basis by multiplying the dry-weight concentration by a factor of 1 minus the percentage of moisture content expressed as a decimal.
Data Reference:	State Mussel Watch Program Data 1977-2000; Winter 2007-Winter 2009. State Water Resources Control Board
SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	Many pollutants can accumulate on particles, in sediment, or bioaccumulate in fish and other aquatic organisms. Controllable water quality factors shall not cause a detrimental increase in concentrations of toxic substances found in bottom sediments or aquatic life. Effects on aquatic organisms, wildlife, and human health will be considered.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)

Evaluation Guideline:	The modified OEHHA Fish Contaminant Goal for hexachlorobenzene in shellfish tissue is 4.3 ppb. This screening level assumes an average body weight of 70 kg and a consumption rate of 21 g/day for a 30 year exposure over a 70-year lifetime. This constituent is a carcinogen therefore the risk level is set to one in a million. (Brodberg, R.K., and G.A. Pollock, 1999; Klasing, S., and R. Brodberg, 2008; OEHHA, 2005)
Guideline Reference:	Prevalence of Selected Target Chemical Contaminants in Sport Fish From Two California Lakes: Public health designed screening study. Sacramento, CA: Office of Environmental Health Hazard Assessment Development of Fish Contaminant Goals and Advisory Tissue Levels for Common Contaminants in California Sport Fish: Chlordane, DDTs, Dieldrin, Methylmercury, PCBs, Selenium, and Toxaphene Air Toxics Hotspots Program Risk Assessment Guidelines. Part II Technical Support Document for Describing Available Cancer Potency Values.
Spatial Representation:	Samples are collected by hand from three sub-locations for each site. The composite sample was collected from site San Francisco Bay Dumbarton Bridge (SFDB).
Temporal Representation:	Representative samples of locally abundant species were collected during the winter on 2/3/2009
Environmental Conditions:	
QAPP Information:	Samples were collected as part of the State Water Board's Mussel Watch Program which is a part of the National Oceanic Administration's (NOAAs) National Status and Trends (NS&T). Mussels are shipped to NOAAs contract labs for analysis of trace constituents and mussel condition. Analytical protocols follow those approved by NOAAs NS&T Program Additional background information can be found at: http://ccma.nos.noaa.gov/stressors/pollution/nsandt/
QAPP Information Reference(s):	

DECISION ID 65449 Region 2	
San Francisco Bay, South	
Pollutant:	Lead
Final Listing Decision:	Do Not List on 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision:	New Decision
Revision Status	Revised
Impairment from Pollutant or Pollution:	Pollutant
Regional Board Staff Conclusion:	<p>This pollutant is being considered for placement on the CWA section 303(d) List under section 3.1 of the Listing Policy. Under section 3.1 a single line of evidence is necessary to assess listing status.</p> <p>One line of evidence is available in the administrative record to assess this pollutant. Zero of one-hundred twenty samples exceed the guideline.</p> <p>Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against placing this water segment-pollutant combination on the CWA section 303(d) List in the Water Quality Limited Segments category.</p> <p>This conclusion is based on the staff findings that:</p> <ol style="list-style-type: none"> 1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy. 2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy. 3. Zero of one-hundred twenty samples exceed the guideline and this does not exceed the allowable frequency listed in Table 3.1 of the Listing Policy. 4. Pursuant to section 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.
Regional Board Staff Decision Recommendation:	After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be placed on the section 303(d) list because applicable water quality standards are not being exceeded.

**Line of Evidence (LOE) for Decision ID 65449, Lead
San Francisco Bay, South**

Region 2

LOE ID:	92883
Pollutant:	Lead
LOE Subgroup:	Pollutant-Water
Matrix:	Water
Fraction:	Dissolved
Beneficial Use:	Estuarine Habitat
Number of Samples:	120
Number of Exceedances:	0
Data and Information Type:	PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality:	State Water Board staff assessed SFEI data for San Francisco Bay, South to determine beneficial use support and results are as follows: 0 of 120 samples exceed the criterion for Lead.
Data Reference:	Regional Monitoring Program data, Feb. 1993-Sep. 2008
SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	The dissolved lead criterion continuous concentration (expressed as a 4-day average) to protect aquatic life in saline water is 0.0081 mg/L (California Toxics Rule, 2000).
Objective/Criterion Reference:	Code of Federal Regulations 40 part 131.38 Establishment of numeric criteria for priority toxic pollutants for the State of California. 7/1/2011 Edition
Evaluation Guideline:	
Guideline Reference:	
Spatial Representation:	Data for this line of evidence for San Francisco Bay, South was collected at 51 monitoring sites [Coyote Creek - BA10, South Bay - BA20, Lower South Bay - LSB001W, Lower South Bay - LSB002W, Lower South Bay - LSB003W, Lower South Bay - LSB004W, Lower South Bay - LSB005W, Lower South Bay - LSB006W, Lower South Bay - LSB007W, Lower South Bay - LSB008W, Lower South Bay - LSB009W, Lower South Bay - LSB010W, Lower South Bay - LSB011W, Lower South Bay - LSB012W, Lower South Bay - LSB013W, Lower South Bay - LSB014W, Lower South Bay - LSB015W, Lower South Bay - LSB016W, Lower South Bay - LSB017W, Lower South Bay - LSB018W, Lower South Bay - LSB019W, Lower South Bay - LSB020W, Lower South Bay - LSB021W, Lower South Bay - LSB022W, Lower South Bay - LSB023W, Lower South Bay - LSB024W, Lower South Bay - LSB025W, Lower South Bay - LSB026W, Lower South Bay - LSB033W, Lower South Bay - LSB034W, Lower South Bay - LSB035W, Lower South Bay - LSB036W, Lower South Bay - LSB037W, South Bay - SB027W, South Bay - SB028W, South Bay - SB029W, South Bay - SB030W, South Bay - SB031W, South Bay - SB032W, South Bay - SB038W, South Bay - SB039W, South Bay - SB040W, South Bay - SB041W, South Bay - SB042W, South Bay - SB043W, South Bay - SB044W, South Bay - SB045W, South Bay - SB046W, South Bay - SB050W, South Bay - SB051W, South Bay - SB053W]
Temporal Representation:	Data was collected over the time period 3/2/1993-7/18/2008.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	The 1999 Quality Assurance Project Plan Regional Monitoring Program for Trace Substances was used.
QAPP Information Reference(s):	1999 Quality Assurance Project Plan Regional Monitoring Program for Trace Substances

DECISION ID 65450
San Francisco Bay, South

Region 2

Pollutant: Lindane/gamma Hexachlorocyclohexane (gamma-HCH)

Final Listing Decision: **Do Not List on 303(d) list (TMDL required list)**
Last Listing Cycle's Final Listing Decision: New Decision
Revision Status: Revised
Impairment from Pollutant or Pollution: Pollutant

Regional Board Staff Conclusion: This pollutant is being considered for placement on the CWA section 303(d) List under section 3.5 of the Listing Policy. Under section 3.5 a single line of evidence is necessary to assess listing status.

Two lines of evidence are available in the administrative record to assess this pollutant. Zero of nineteen samples exceed the guideline.

Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against placing this water segment-pollutant combination on the CWA section 303(d) List in the Water Quality Limited Segments category.

This conclusion is based on the staff findings that:

1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy.
2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy.
3. Zero of nineteen samples exceed the guideline and this does not exceed the allowable frequency listed in Table 3.1 of the Listing Policy.
4. Pursuant to section 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.

Regional Board Staff Decision Recommendation: After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be placed on the section 303(d) list because applicable water quality standards are not being exceeded.

Line of Evidence (LOE) for Decision ID 65450, Lindane/gamma Hexachlorocyclohexane (gamma-HCH)

Region 2

San Francisco Bay, South

LOE ID: 92890

Pollutant: Lindane/gamma Hexachlorocyclohexane (gamma-HCH)

LOE Subgroup: Pollutant-Tissue

Matrix: Tissue

Fraction: Shellfish

Beneficial Use: Shellfish Harvesting

Number of Samples: 1

Number of Exceedances: 0

Data and Information Type: Shellfish surveys

Data Used to Assess Water Quality: The results did not exceed the guideline. Data were reported on a dry weight basis and were converted to a wet weight basis by multiplying the dry-weight concentration by a factor of 1 minus the percentage of moisture content expressed as a decimal.

Data Reference: [State Mussel Watch Program Data 1977-2000; Winter 2007-Winter 2009. State Water Resources Control Board](#)

SWAMP Data: Non-SWAMP

Water Quality Objective/Criterion: Many pollutants can accumulate on particles, in sediment, or bioaccumulate in fish and other aquatic organisms. Controllable water quality factors shall not cause a detrimental increase in concentrations of toxic substances found in bottom sediments or aquatic life. Effects on aquatic organisms, wildlife, and human health will be considered.

Objective/Criterion Reference: [Water Quality Control Plan \(Basin Plan\) San Francisco Bay Basin \(Region 2\)](#)

Evaluation Guideline: The modified OEHHA Fish Contaminant Goal for lindane in shellfish tissue is 7.1 ppb.

Guideline Reference:	<p>This screening level assumes an average body weight of 70 kg and a consumption rate of 21 g/day for a 30 year exposure over a 70-year lifetime. This constituent is a carcinogen therefore the risk level is set to one in a million. (Brodberg, R.K., and G.A. Pollock, 1999; Klasing, S., and R. Brodberg, 2008; OEHHA, 2005)</p> <p>Prevalence of Selected Target Chemical Contaminants in Sport Fish From Two California Lakes: Public health designed screening study. Sacramento, CA: Office of Environmental Health Hazard Assessment</p> <p>Development of Fish Contaminant Goals and Advisory Tissue Levels for Common Contaminants in California Sport Fish: Chlordane, DDTs, Dieldrin, Methylmercury, PCBs, Selenium, and Toxaphene</p> <p>Air Toxics Hotspots Program Risk Assessment Guidelines. Part II Technical Support Document for Describing Available Cancer Potency Values.</p>
Spatial Representation:	Samples are collected by hand from three sub-locations for each site. The composite sample was collected from site San Francisco Bay Dumbarton Bridge (SFDB).
Temporal Representation:	Representative samples of locally abundant species were collected during the winter on 2/3/2009
Environmental Conditions:	
QAPP Information:	<p>Samples were collected as part of the State Water Board's Mussel Watch Program which is a part of the National Oceanic Administration's (NOAAs) National Status and Trends (NS&T). Mussels are shipped to NOAAs contract labs for analysis of trace constituents and mussel condition. Analytical protocols follow those approved by NOAAs NS&T Program Additional background information can be found at:</p> <p>http://ccma.nos.noaa.gov/stressors/pollution/nsandt/</p>
QAPP Information Reference(s):	

Line of Evidence (LOE) for Decision ID 65450, Lindane/gamma Hexachlorocyclohexane (gamma-HCH)

Region 2

San Francisco Bay, South

LOE ID:	93650
Pollutant:	Lindane/gamma Hexachlorocyclohexane (gamma-HCH)
LOE Subgroup:	Pollutant-Tissue
Matrix:	Tissue
Fraction:	Shellfish
Beneficial Use:	Shellfish Harvesting
Number of Samples:	18
Number of Exceedances:	0
Data and Information Type:	Shellfish surveys
Data Used to Assess Water Quality:	<p>None of the 18 samples exceeded the guideline. All composite samples were comprised of Crassostrea gigas except for 3 composites that were comprised of Mytilus californianus. Data were reported on a dry weight basis and were converted to a wet weight basis by multiplying the dry-weight concentration by a factor of 1 minus the percentage of moisture content expressed as a decimal.</p>
Data Reference:	Regional Monitoring Program data, Feb. 1993-Sep. 2008
SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	Water Quality Control Plan for the San Francisco Bay Basin: Controllable water quality factors shall not cause a detrimental increase in concentrations of toxic substances found in bottom sediments or aquatic life. Effects on aquatic organisms, wildlife, and human health will be considered.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	<p>The modified OEHHA Fish Contaminant Goal for lindane in shellfish tissue is 7.1 ppb. This screening level assumes an average body weight of 70 kg and a consumption rate of 21 g/day for a 30 year exposure over a 70-year lifetime. This constituent is a carcinogen therefore the risk level is set to one in a million. (Brodberg, R.K., and G.A. Pollock, 1999;</p>

Guideline Reference:	<p>Klasing, S., and R. Brodberg, 2008; OEHHA, 2005)</p> <p>Prevalence of Selected Target Chemical Contaminants in Sport Fish From Two California Lakes: Public health designed screening study. Sacramento, CA: Office of Environmental Health Hazard Assessment</p> <p>Development of Fish Contaminant Goals and Advisory Tissue Levels for Common Contaminants in California Sport Fish: Chlordane, DDTs, Dieldrin, Methylmercury, PCBs, Selenium, and Toxaphene</p> <p>Air Toxics Hotspots Program Risk Assessment Guidelines. Part II Technical Support Document for Describing Available Cancer Potency Values.</p>
Spatial Representation:	Samples were collected at the following station: BA10 - Coyote Creek.
Temporal Representation:	Samples were generally collected in spring and fall seasons from years 1994 - 1999 and then during most fall seasons during years 2000 - 2008.
Environmental Conditions:	
QAPP Information:	1999 Quality Assurance Project Plan Regional Monitoring Program for Trace Substances.
QAPP Information Reference(s):	1999 Quality Assurance Project Plan Regional Monitoring Program for Trace Substances

DECISION ID	65454	Region 2
San Francisco Bay, South		

Pollutant:	Manganese
Final Listing Decision:	Do Not List on 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision:	New Decision
Revision Status	Revised
Impairment from Pollutant or Pollution:	Pollutant

Regional Board Staff Conclusion:	<p>This pollutant is being considered for placement on the CWA section 303(d) List under section 3.1 of the Listing Policy. Under section 3.1 a single line of evidence is necessary to assess listing status.</p> <p>One line of evidence is available in the administrative record to assess this pollutant. Seven of eighty-nine samples exceed the objective.</p> <p>Based on the readily available data and information, the weight of evidence indicates that there is not sufficient justification in favor of placing this water segment-pollutant combination on the CWA section 303(d) List.</p> <p>This conclusion is based on the staff findings that:</p> <ol style="list-style-type: none"> 1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy. 2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy. 3. Seven of eighty-nine samples exceed the objective and this does not exceed the allowable frequency listed in Table 3.1 of the Listing Policy. 4. Pursuant to section 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.
Regional Board Staff Decision Recommendation:	After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be placed on the section 303(d) list because applicable water quality standards are not being exceeded.

Line of Evidence (LOE) for Decision ID 65454, Manganese	Region 2
San Francisco Bay, South	

LOE ID:	92891
Pollutant:	Manganese
LOE Subgroup:	Pollutant-Water
Matrix:	Water
Fraction:	Total

Beneficial Use:	Commercial or recreational collection of fish, shellfish, or organisms
Number of Samples:	89
Number of Exceedances:	7
Data and Information Type:	PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality:	State Water Board staff assessed SFEI data for San Francisco Bay, South to determine beneficial use support and results are as follows: 7 of 89 samples exceed the criterion for Manganese.
Data Reference:	Regional Monitoring Program data, Feb. 1993-Sep. 2008
SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	The Manganese criteria for the protection of human health from the consumption of organisms only is 100 ug/L (California Toxics Rule, 2000).
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	The Lead criteria for the protection of human health from fish consumption only is 100 ug/L (National Recommended Water Quality Criteria, 2009).
Guideline Reference:	National Recommended Water Quality Criteria. United States Environmental Protection Agency. Office of Water. Office of Science and Technology
Spatial Representation:	Data for this line of evidence for San Francisco Bay, South was collected at 52 monitoring sites [Coyote Creek - BA10, South Bay - BA20, Lower South Bay - LSB001W, Lower South Bay - LSB002W, Lower South Bay - LSB003W, Lower South Bay - LSB004W, Lower South Bay - LSB005W, Lower South Bay - LSB006W, Lower South Bay - LSB007W, Lower South Bay - LSB008W, Lower South Bay - LSB009W, Lower South Bay - LSB010W, Lower South Bay - LSB011W, Lower South Bay - LSB012W, Lower South Bay - LSB013W, Lower South Bay - LSB014W, Lower South Bay - LSB015W, Lower South Bay - LSB016W, Lower South Bay - LSB017W, Lower South Bay - LSB018W, Lower South Bay - LSB019W, Lower South Bay - LSB020W, Lower South Bay - LSB021W, Lower South Bay - LSB022W, Lower South Bay - LSB023W, Lower South Bay - LSB024W, Lower South Bay - LSB025W, Lower South Bay - LSB026W, Lower South Bay - LSB027W, Lower South Bay - LSB028W, Lower South Bay - LSB029W, Lower South Bay - LSB030W, Lower South Bay - LSB032W, Lower South Bay - LSB033W, Lower South Bay - LSB034W, Lower South Bay - LSB035W, Lower South Bay - LSB036W, Lower South Bay - LSB037W, South Bay - SB031W, South Bay - SB038W, South Bay - SB039W, South Bay - SB040W, South Bay - SB041W, South Bay - SB042W, South Bay - SB043W, South Bay - SB044W, South Bay - SB047W, South Bay - SB048W, South Bay - SB049W, South Bay - SB050W, South Bay - SB051W, South Bay - SB053W]
Temporal Representation:	Data was collected over the time period 2/2/2000-7/18/2008.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	The 1999 Quality Assurance Project Plan Regional Monitoring Program for Trace Substances was used.
QAPP Information Reference(s):	1999 Quality Assurance Project Plan Regional Monitoring Program for Trace Substances

DECISION ID	65455	Region 2
San Francisco Bay, South		
Pollutant:	Mirex	
Final Listing Decision:	Do Not List on 303(d) list (TMDL required list)	
Last Listing Cycle's Final Listing Decision:	New Decision	
Revision Status	Revised	
Impairment from Pollutant or Pollution:	Pollutant	
Regional Board Staff Conclusion:	This pollutant is being considered for placement on the CWA section 303(d) List under section 3.1 of the Listing Policy. Under section 3.1 a single line of evidence is necessary to assess listing status.	

Five lines of evidence are available in the administrative record to assess this pollutant. Zero of seventy-one samples exceed the guideline.

Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against placing this water segment-pollutant combination on the CWA section 303(d) List in the Water Quality Limited Segments category.

This conclusion is based on the staff findings that:

1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy.
2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy.
3. Zero of seventy-one samples exceed the guideline and this does not exceed the allowable frequency listed in Table 3.1 of the Listing Policy.
4. Pursuant to section 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.

Regional Board Staff Decision Recommendation: After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be placed on the section 303(d) list because applicable water quality standards are not being exceeded.

**Line of Evidence (LOE) for Decision ID 65455, Mirex
San Francisco Bay, South**

Region 2

LOE ID:	93647
Pollutant:	Mirex
LOE Subgroup:	Pollutant-Tissue
Matrix:	Tissue
Fraction:	Shellfish
Beneficial Use:	Shellfish Harvesting
Number of Samples:	4
Number of Exceedances:	0
Data and Information Type:	Shellfish surveys
Data Used to Assess Water Quality:	None of the 4 samples exceeded the guideline. Fourteen samples were not used in the assessment because the laboratory data reporting limit(s) were above the objective and therefore the results could not be quantified with the level of certainty required by the Listing Policy. All composite samples were comprised of <i>Crassostrea gigas</i> except for 3 composites that were comprised of <i>Mytilus californianus</i> . Data were reported on a dry weight basis and were converted to a wet weight basis by multiplying the dry-weight concentration by a factor of 1 minus the percentage of moisture content expressed as a decimal.
Data Reference:	Regional Monitoring Program data, Feb. 1993-Sep. 2008
SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	Water Quality Control Plan for the San Francisco Bay Basin: Controllable water quality factors shall not cause a detrimental increase in concentrations of toxic substances found in bottom sediments or aquatic life. Effects on aquatic organisms, wildlife, and human health will be considered.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	The modified OEHHA Fish Contaminant Goal for mirex in shellfish tissue is 0.43 ppb. This screening level assumes an average body weight of 70 kg and a consumption rate of 21 g/day. This constituent is a carcinogen therefore the risk level is set to one in a million. (Brodberg, R.K., and G.A. Pollock, 1999; Klasing, S., and R. Brodberg, 2008; OEHHA, 1992)
Guideline Reference:	Prevalence of Selected Target Chemical Contaminants in Sport Fish From Two California Lakes: Public health designed screening study. Sacramento, CA: Office of Environmental Health Hazard Assessment

[Development of Fish Contaminant Goals and Advisory Tissue Levels for Common Contaminants in California Sport Fish: Chlordane, DDTs, Dieldrin, Methylmercury, PCBs, Selenium, and Toxaphene](#)
[Expedited Cancer Potency Values and Proposed Regulatory Levels for Certain Proposition 65 Carcinogens.](#)

Spatial Representation: Samples were collected at the following station: BA10 - Coyote Creek.
 Temporal Representation: Samples were generally collected in spring and fall seasons from years 1994 - 1999 and then during most fall seasons during years 2000 - 2008.
 Environmental Conditions:
 QAPP Information: 1999 Quality Assurance Project Plan Regional Monitoring Program for Trace Substances.
 QAPP Information Reference(s): [1999 Quality Assurance Project Plan Regional Monitoring Program for Trace Substances](#)

Line of Evidence (LOE) for Decision ID 65455, Mirex
San Francisco Bay, South

Region 2

LOE ID: 92903

Pollutant: Mirex
 LOE Subgroup: Pollutant-Tissue
 Matrix: Tissue
 Fraction: Shellfish

Beneficial Use: Shellfish Harvesting

Number of Samples: 0
 Number of Exceedances: 0

Data and Information Type: Shellfish surveys
 Data Used to Assess Water Quality: The non detect result was not included in the assessment since the reporting limit was above the evaluation guideline. MDL were provided by NOAA Federal and RL were calculated by multiplying 3.18 by the MDL.

Data Reference: [State Mussel Watch Program Data 1977-2000; Winter 2007-Winter 2009. State Water Resources Control Board](#)

SWAMP Data: Non-SWAMP

Water Quality Objective/Criterion: Many pollutants can accumulate on particles, in sediment, or bioaccumulate in fish and other aquatic organisms. Controllable water quality factors shall not cause a detrimental increase in concentrations of toxic substances found in bottom sediments or aquatic life. Effects on aquatic organisms, wildlife, and human health will be considered.

Objective/Criterion Reference: [Water Quality Control Plan \(Basin Plan\) San Francisco Bay Basin \(Region 2\)](#)

Evaluation Guideline: The modified OEHHA Fish Contaminant Goal for mirex in shellfish tissue is 0.43 ppb. This screening level assumes an average body weight of 70 kg and a consumption rate of 21 g/day. (Brodberg, R.K., and G.A. Pollock, 1999; Klasing, S., and R. Brodberg, 2008; OEHHA, 1992)

Guideline Reference: [Prevalence of Selected Target Chemical Contaminants in Sport Fish From Two California Lakes: Public health designed screening study. Sacramento, CA: Office of Environmental Health Hazard Assessment](#)
[Development of Fish Contaminant Goals and Advisory Tissue Levels for Common Contaminants in California Sport Fish: Chlordane, DDTs, Dieldrin, Methylmercury, PCBs, Selenium, and Toxaphene](#)
[Expedited Cancer Potency Values and Proposed Regulatory Levels for Certain Proposition 65 Carcinogens.](#)

Spatial Representation: Samples are collected by hand from three sub-locations for each site. The composite sample was collected from site San Francisco Bay Dumbarton Bridge (SFDB).
 Temporal Representation: Representative samples of locally abundant species were collected during the winter on 2/3/2009
 Environmental Conditions:
 QAPP Information: Samples were collected as part of the State Water Board's Mussel Watch Program which

is a part of the National Oceanic Administration's (NOAAs) National Status and Trends (NS&T). Mussels are shipped to NOAAs contract labs for analysis of trace constituents and mussel condition. Analytical protocols follow those approved by NOAAs NS&T Program Additional background information can be found at:
<http://ccma.nos.noaa.gov/stressors/pollution/nsandt/>

QAPP Information Reference(s):

**Line of Evidence (LOE) for Decision ID 65455, Mirex
San Francisco Bay, South**

Region 2

LOE ID:	95234
Pollutant:	Mirex
LOE Subgroup:	Pollutant-Tissue
Matrix:	Tissue
Fraction:	Fish fillet
Beneficial Use:	Commercial or recreational collection of fish, shellfish, or organisms
Number of Samples:	0
Number of Exceedances:	0
Data and Information Type:	Fish tissue analysis
Data Used to Assess Water Quality:	Water Board staff assessed Regional Monitoring Program data for South San Francisco Bay to determine beneficial use support and results are as follows: 0 of 0 samples exceed the criterion for Mirex. Fifty-two samples were discarded for being non-detect, unquantifiable or the reporting limit exceeding the water quality objective.
Data Reference:	Regional Monitoring Program data, Feb. 1993-Sep. 2008
SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	Water Quality Control Plan for the San Francisco Bay Basin: Controllable water quality factors shall not cause a detrimental increase in concentrations of toxic substances found in bottom sediments or aquatic life. Effects on aquatic organisms, wildlife, and human health will be considered.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	The modified OEHHA Fish Contaminant Goal for mirex in fish tissue is 0.28 ppb. This screening level assumes an average body weight of 70 kg and a consumption rate of 32 g/day. A cooking reduction factor of 1 is applied for skin-off fillets. (Klasing, S., and R. Brodberg, 2008; OEHHA, 1992)
Guideline Reference:	Development of Fish Contaminant Goals and Advisory Tissue Levels for Common Contaminants in California Sport Fish: Chlordane, DDTs, Dieldrin, Methylmercury, PCBs, Selenium, and Toxaphene Expedited Cancer Potency Values and Proposed Regulatory Levels for Certain Proposition 65 Carcinogens.
Spatial Representation:	The samples were collected at three sites throughout South San Francisco Bay.
Temporal Representation:	The samples were collected every three years from April 2000 through June 2006.
Environmental Conditions:	
QAPP Information:	The 1999 Quality Assurance Project Plan Regional Monitoring Program for Trace Substances was used.
QAPP Information Reference(s):	1999 Quality Assurance Project Plan Regional Monitoring Program for Trace Substances

**Line of Evidence (LOE) for Decision ID 65455, Mirex
San Francisco Bay, South**

Region 2

LOE ID:	92913
Pollutant:	Mirex
LOE Subgroup:	Pollutant-Water

Matrix:	Water
Fraction:	Dissolved
Beneficial Use:	Estuarine Habitat
Number of Samples:	59
Number of Exceedances:	0
Data and Information Type:	PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality:	State Water Board staff assessed SFEI data for San Francisco Bay, South to determine beneficial use support and results are as follows: 0 of 59 samples exceed the criterion for Mirex.
Data Reference:	Regional Monitoring Program data, Feb. 1993-Sep. 2008
SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	No individual pesticide or combination of pesticides shall be present in concentrations that adversely affect beneficial uses.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	The USEPA Gold Book states 0.001 ug/L for the protection of freshwater and marine aquatic life. (USEPA Gold Book - EPA 440/5-86-001)
Guideline Reference:	Quality Criteria for Water 1986. United States Environmental Protection Agency. Office of Water. Regulations and Standards. Washington D.C. EPA 440/5-86-001.
Spatial Representation:	Data for this line of evidence for San Francisco Bay, South was collected at 32 monitoring sites [Coyote Creek - BA10, Lower South Bay - LSB002W, Lower South Bay - LSB008W, Lower South Bay - LSB018W, Lower South Bay - LSB010W, Lower South Bay - LSB009W, South Bay - SB034W, South Bay - SB036W, Lower South Bay - LSB015W, Lower South Bay - LSB003W, Lower South Bay - LSB014W, Lower South Bay - LSB013W, South Bay - SB037W, Lower South Bay - LSB016W, South Bay - SB032W, Lower South Bay - LSB006W, South Bay - SB033W, Lower South Bay - LSB012W, South Bay - SB035W, South Bay - SB017W, South Bay - SB022W, Lower South Bay - LSB004W, South Bay - SB019W, South Bay - SB027W, South Bay - SB028W, Lower South Bay - LSB005W, South Bay - SB025W, South Bay - SB011W, South Bay - SB024W, South Bay - SB023W, Lower South Bay - LSB001W, South Bay - SB007W]
Temporal Representation:	Data was collected over the time period 4/18/1994-8/19/2005.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	The 1999 Quality Assurance Project Plan Regional Monitoring Program for Trace Substances was used.
QAPP Information Reference(s):	1999 Quality Assurance Project Plan Regional Monitoring Program for Trace Substances

Line of Evidence (LOE) for Decision ID 65455, Mirex

Region 2

San Francisco Bay, South

LOE ID:	92904
Pollutant:	Mirex
LOE Subgroup:	Pollutant-Water
Matrix:	Water
Fraction:	Total
Beneficial Use:	Commercial or recreational collection of fish, shellfish, or organisms
Number of Samples:	71
Number of Exceedances:	0
Data and Information Type:	PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality:	State Water Board staff assessed SFEI data for San Francisco Bay, South to determine beneficial use support and results are as follows: 0 of 71 samples exceed the criterion for Mirex.
Data Reference:	Regional Monitoring Program data, Feb. 1993-Sep. 2008

SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	No individual pesticide or combination of pesticides shall be present in concentrations that adversely affect beneficial uses.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	The Mirex criteria for the protection of human health from consumption of organisms only is 0.000097 ug/L (National Recommended Water Quality Criteria, 2009).
Guideline Reference:	National Recommended Water Quality Criteria. United States Environmental Protection Agency. Office of Water. Office of Science and Technology
Spatial Representation:	Data for this line of evidence for San Francisco Bay, South was collected at 42 monitoring sites [Coyote Creek - BA10, Lower South Bay - LSB001W, Lower South Bay - LSB002W, Lower South Bay - LSB003W, Lower South Bay - LSB004W, Lower South Bay - LSB005W, Lower South Bay - LSB006W, Lower South Bay - LSB008W, Lower South Bay - LSB009W, Lower South Bay - LSB012W, Lower South Bay - LSB013W, Lower South Bay - LSB014W, Lower South Bay - LSB015W, Lower South Bay - LSB016W, Lower South Bay - LSB018W, Lower South Bay - LSB022W, Lower South Bay - LSB023W, Lower South Bay - LSB024W, Lower South Bay - LSB026W, Lower South Bay - LSB028W, Lower South Bay - LSB029W, Lower South Bay - LSB030W, Lower South Bay - LSB032W, South Bay - SB007W, South Bay - SB010W, South Bay - SB025W, South Bay - SB027W, South Bay - SB033W, South Bay - SB034W, South Bay - SB035W, South Bay - SB036W, South Bay - SB037W, South Bay - SB038W, South Bay - SB039W, South Bay - SB040W, South Bay - SB041W, South Bay - SB042W, South Bay - SB043W, South Bay - SB044W, South Bay - SB045W, South Bay - SB046W, South Bay - SB047W]
Temporal Representation:	Data was collected over the time period 4/18/1994-8/16/2007.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	The 1999 Quality Assurance Project Plan Regional Monitoring Program for Trace Substances was used.
QAPP Information Reference(s):	1999 Quality Assurance Project Plan Regional Monitoring Program for Trace Substances

DECISION ID	34415	Region 2
San Francisco Bay, South		
Pollutant:	Nickel	
Final Listing Decision:	Do Not List on 303(d) list (TMDL required list)	
Last Listing Cycle's Final Listing Decision:	Do Not List on 303(d) list (TMDL required list)(2012)	
Revision Status	Revised	
Impairment from Pollutant or Pollution:	Pollutant	
Regional Board Staff Conclusion:	<p>This pollutant is being considered for placement on the CWA section 303(d) List under section 3.1 of the Listing Policy. Under section 3.1 a single line of evidence is necessary to assess listing status. Three lines of evidence are available in the administrative record to assess this pollutant. Zero of the one hundred eighty-six samples exceed the objective.</p> <p>Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against placing this water segment-pollutant combination on the CWA section 303(d) List in the Water Quality Limited Segments category.</p> <p>This conclusion is based on the staff findings that:</p> <ol style="list-style-type: none"> 1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy. 2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy. 3. Zero of the one hundred eighty-six samples exceed the objective and this does not exceed the allowable frequency listed in Table 3.1 of the Listing Policy. 4. Pursuant to section 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met. 	
Regional Board Staff Decision	After review of the available data and information, RWQCB staff concludes that the water body-	

Recommendation: pollutant combination should not be placed on the section 303(d) list because applicable water quality standards are not being exceeded.

Line of Evidence (LOE) for Decision ID 34415, Nickel

Region 2

San Francisco Bay, South

LOE ID: 92914

Pollutant: Nickel

LOE Subgroup: Pollutant-Water

Matrix: Water

Fraction: Dissolved

Beneficial Use: Estuarine Habitat

Number of Samples: 128

Number of Exceedances: 0

Data and Information Type: PHYSICAL/CHEMICAL MONITORING

Data Used to Assess Water Quality: State Water Board staff assessed SFEI data for San Francisco Bay, South to determine beneficial use support and results are as follows: 0 of 128 samples exceed the criterion for Nickel.

Data Reference: [Regional Monitoring Program data, Feb. 1993-Sep. 2008](#)

SWAMP Data: Non-SWAMP

Water Quality Objective/Criterion: According to table 3-3A, the Nickel site-specific objective for San Francisco Bay, South is 11.9 ug/L.

Objective/Criterion Reference: [Water Quality Control Plan \(Basin Plan\) San Francisco Bay Basin \(Region 2\)](#)

Evaluation Guideline:

Guideline Reference:

Spatial Representation: Data for this line of evidence for San Francisco Bay, South was collected at 54 monitoring sites [Coyote Creek - BA10, South Bay - BA20, Lower South Bay - LSB001W, Lower South Bay - LSB002W, Lower South Bay - LSB003W, Lower South Bay - LSB004W, Lower South Bay - LSB005W, Lower South Bay - LSB006W, Lower South Bay - LSB007W, Lower South Bay - LSB008W, Lower South Bay - LSB009W, Lower South Bay - LSB010W, Lower South Bay - LSB011W, Lower South Bay - LSB012W, Lower South Bay - LSB013W, Lower South Bay - LSB014W, Lower South Bay - LSB015W, Lower South Bay - LSB016W, Lower South Bay - LSB017W, Lower South Bay - LSB018W, Lower South Bay - LSB019W, Lower South Bay - LSB020W, Lower South Bay - LSB021W, Lower South Bay - LSB022W, Lower South Bay - LSB023W, Lower South Bay - LSB024W, Lower South Bay - LSB025W, Lower South Bay - LSB026W, Lower South Bay - LSB027W, Lower South Bay - LSB028W, Lower South Bay - LSB029W, Lower South Bay - LSB030W, Lower South Bay - LSB032W, Lower South Bay - LSB033W, Lower South Bay - LSB034W, Lower South Bay - LSB035W, Lower South Bay - LSB036W, Lower South Bay - LSB037W, South Bay - SB031W, South Bay - SB038W, South Bay - SB039W, South Bay - SB040W, South Bay - SB041W, South Bay - SB042W, South Bay - SB043W, South Bay - SB044W, South Bay - SB045W, South Bay - SB046W, South Bay - SB047W, South Bay - SB048W, South Bay - SB049W, South Bay - SB050W, South Bay - SB051W, South Bay - SB053W]

Temporal Representation: Data was collected over the time period 3/2/1993-7/18/2008.

Environmental Conditions: Staff is not aware of any special conditions that might affect interpretation of the data.

QAPP Information: The 1999 Quality Assurance Project Plan Regional Monitoring Program for Trace Substances was used.

QAPP Information Reference(s): [1999 Quality Assurance Project Plan Regional Monitoring Program for Trace Substances](#)

Line of Evidence (LOE) for Decision ID 34415, Nickel

Region 2

San Francisco Bay, South

LOE ID: 92915

Pollutant: Nickel
 LOE Subgroup: Pollutant-Water
 Matrix: Water
 Fraction: Total

Beneficial Use: Commercial or recreational collection of fish, shellfish, or organisms

Number of Samples: 127
 Number of Exceedances: 0

Data and Information Type: PHYSICAL/CHEMICAL MONITORING
 Data Used to Assess Water Quality: State Water Board staff assessed SFEI data for San Francisco Bay, South to determine beneficial use support and results are as follows: 0 of 127 samples exceed the criterion for Nickel.

Data Reference: [Regional Monitoring Program data, Feb. 1993-Sep. 2008](#)

SWAMP Data: Non-SWAMP

Water Quality Objective/Criterion: The Nickel criteria for the protection of human health from consumption of organisms only is 4.6 mg/L (California Toxics Rule, 2000).

Objective/Criterion Reference: [Code of Federal Regulations 40 part 131.38 Establishment of numeric criteria for priority toxic pollutants for the State of California. 7/1/2011 Edition](#)

Evaluation Guideline:
 Guideline Reference:

Spatial Representation: Data for this line of evidence for San Francisco Bay, South was collected at 54 monitoring sites [Coyote Creek - BA10, South Bay - BA20, Lower South Bay - LSB001W, Lower South Bay - LSB002W, Lower South Bay - LSB003W, Lower South Bay - LSB004W, Lower South Bay - LSB005W, Lower South Bay - LSB006W, Lower South Bay - LSB007W, Lower South Bay - LSB008W, Lower South Bay - LSB009W, Lower South Bay - LSB010W, Lower South Bay - LSB011W, Lower South Bay - LSB012W, Lower South Bay - LSB013W, Lower South Bay - LSB014W, Lower South Bay - LSB015W, Lower South Bay - LSB016W, Lower South Bay - LSB017W, Lower South Bay - LSB018W, Lower South Bay - LSB019W, Lower South Bay - LSB020W, Lower South Bay - LSB021W, Lower South Bay - LSB022W, Lower South Bay - LSB023W, Lower South Bay - LSB024W, Lower South Bay - LSB025W, Lower South Bay - LSB026W, Lower South Bay - LSB027W, Lower South Bay - LSB028W, Lower South Bay - LSB029W, Lower South Bay - LSB032W, Lower South Bay - LSB033W, Lower South Bay - LSB034W, Lower South Bay - LSB035W, Lower South Bay - LSB036W, Lower South Bay - LSB037W, South Bay - SB030W, South Bay - SB031W, South Bay - SB038W, South Bay - SB039W, South Bay - SB040W, South Bay - SB041W, South Bay - SB042W, South Bay - SB043W, South Bay - SB044W, South Bay - SB045W, South Bay - SB046W, South Bay - SB047W, South Bay - SB048W, South Bay - SB049W, South Bay - SB050W, South Bay - SB051W, South Bay - SB053W]

Temporal Representation: Data was collected over the time period 3/2/1993-7/18/2008.

Environmental Conditions: Staff is not aware of any special conditions that might affect interpretation of the data.

QAPP Information: The 1999 Quality Assurance Project Plan Regional Monitoring Program for Trace Substances was used.

QAPP Information Reference(s): [1999 Quality Assurance Project Plan Regional Monitoring Program for Trace Substances](#)

Line of Evidence (LOE) for Decision ID 34415, Nickel
San Francisco Bay, South

Region 2

LOE ID: 63

Pollutant: Nickel
 LOE Subgroup: Pollutant-Water
 Matrix: Water

Fraction:	Dissolved
Beneficial Use:	Estuarine Habitat
Number of Samples:	58
Number of Exceedances:	0
Data and Information Type:	PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality:	Taken from the San Francisco Bay Estuary institute (SFEI) - Regional Monitoring Program. None of 58 samples exceeded the site-specific water quality objective.
Data Reference:	Placeholder reference 2006 303(d)
SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	Regional Water Board site-specific water quality objectives 4-day Average Criteria Continuous Concentration (CCC) - 11.9ug/l 1-hour Average Criteria Maximum Concentration (CMC) - 62.4ug/l
Objective/Criterion Reference:	Placeholder reference 2006 303(d)
Evaluation Guideline:	
Guideline Reference:	
Spatial Representation:	13 sampling locations within the segment
Temporal Representation:	Samples were taken from 1993 to 2003 with three samples taken each year, on average. A total of 58 samples were taken during the aforementioned time period.
Environmental Conditions:	
QAPP Information:	SFEI RMP QA/QC program
QAPP Information Reference(s):	

DECISION ID	65357	Region 2
San Francisco Bay, South		

Pollutant:	PAHs (Polycyclic Aromatic Hydrocarbons)
Final Listing Decision:	Do Not List on 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision:	New Decision
Revision Status	Revised
Impairment from Pollutant or Pollution:	Pollutant

Regional Board Staff Conclusion: This pollutant is being considered for placement on the CWA section 303(d) List under section 3.5 of the Listing Policy. Under section 3.5 a single line of evidence is necessary to assess listing status.

Three lines of evidence are available in the administrative record to assess this pollutant. Zero of nineteen samples exceed the guideline.

Based on the readily available data and information, the weight of evidence indicates that there is not sufficient justification in favor of placing this water segment-pollutant combination on the CWA section 303(d) List.

This conclusion is based on the staff findings that:

1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy.
2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy.
3. Zero of nineteen samples exceed the OEHHHA guideline and this number does not exceed the allowable frequency listed in Table 3.1 of the Listing Policy.
4. There is not a fish consumption advisory in effect for this waterbody.
5. Pursuant to section 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.

Regional Board Staff Decision Recommendation: After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be placed on the section 303(d) list because applicable water

quality standards are not being exceeded.

Line of Evidence (LOE) for Decision ID 65357, PAHs (Polycyclic Aromatic Hydrocarbons)

Region 2

San Francisco Bay, South

LOE ID:	95887
Pollutant:	PAHs (Polycyclic Aromatic Hydrocarbons)
LOE Subgroup:	Pollutant-Tissue
Matrix:	Tissue
Fraction:	Fish fillet
Beneficial Use:	Commercial or recreational collection of fish, shellfish, or organisms
Number of Samples:	4
Number of Exceedances:	0
Data and Information Type:	Fish tissue analysis
Data Used to Assess Water Quality:	Water Board staff assessed Regional Monitoring Program data for South San Francisco Bay to determine beneficial use support and results are as follows: 0 of 4 samples exceed the criterion for polycyclic aromatic hydrocarbons. No samples were discarded for being non-detect, unquantifiable or the reporting limit exceeding the water quality objective.
Data Reference:	Regional Monitoring Program data, Feb. 1993-Sep. 2008
SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	Water Quality Control Plan for the San Francisco Bay Basin: Controllable water quality factors shall not cause a detrimental increase in concentrations of toxic substances found in bottom sediments or aquatic life. Effects on aquatic organisms, wildlife, and human health will be considered.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	The modified OEHHA Fish Contaminant Goal for polycyclic aromatic hydrocarbons in fish tissue is 0.7 ppb. This screening level assumes an average body weight of 70 kg and a consumption rate of 32 g/day for a 30 year exposure over a 70-year lifetime. This constituent is a carcinogen therefore the risk level is set to one in a million. (Klasing, S., and R. Brodberg, 2008; USEPA, 2000)
Guideline Reference:	Development of Fish Contaminant Goals and Advisory Tissue Levels for Common Contaminants in California Sport Fish: Chlordane, DDTs, Dieldrin, Methylmercury, PCBs, Selenium, and Toxaphene Guidance for Assessing Chemical Contaminant Data for Use In Fish Advisories Volume 1: Fish Sampling and Analysis
Spatial Representation:	The samples were collected at one site in South SF Bay near the mouth of Coyote Creek
Temporal Representation:	The samples were collected in May 1994.
Environmental Conditions:	
QAPP Information:	The 1999 Quality Assurance Project Plan Regional Monitoring Program for Trace Substances was used.
QAPP Information Reference(s):	1999 Quality Assurance Project Plan Regional Monitoring Program for Trace Substances

Line of Evidence (LOE) for Decision ID 65357, PAHs (Polycyclic Aromatic Hydrocarbons)

Region 2

San Francisco Bay, South

LOE ID:	92924
Pollutant:	PAHs (Polycyclic Aromatic Hydrocarbons)
LOE Subgroup:	Pollutant-Tissue
Matrix:	Tissue
Fraction:	Shellfish

Beneficial Use:	Shellfish Harvesting
Number of Samples:	1
Number of Exceedances:	0
Data and Information Type:	Shellfish surveys
Data Used to Assess Water Quality:	The result did not exceed the guideline. Data were reported on a dry weight basis and were converted to a wet weight basis by multiplying the dry-weight concentration by a factor of 1 minus the percentage of moisture content expressed as a decimal. The total PAHs were calculated as the potency equivalency concentration or the sum of the toxic equivalency factors multiplied by the concentrations of: Acenaphthene, Acenaphthylene, Anthracene, Benz[a]anthracene, Benzo[a]pyrene, Benzo[b]fluoranthene, Benzo[g,h,i]perylene, Benzo[k]fluoranthene, Dibenzo[a,h]anthracene, Chrysene, Fluoranthene, Fluorene, Indeno[1,2,3-c,d]pyrene, Phenanthrene, and Pyrene.
Data Reference:	State Mussel Watch Program Data 1977-2000; Winter 2007-Winter 2009. State Water Resources Control Board
SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	Many pollutants can accumulate on particles, in sediment, or bioaccumulate in fish and other aquatic organisms. Controllable water quality factors shall not cause a detrimental increase in concentrations of toxic substances found in bottom sediments or aquatic life. Effects on aquatic organisms, wildlife, and human health will be considered.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	<p>The modified OEHHA Advisory Tissue Level for polycyclic aromatic hydrocarbons in shellfish tissue is 110 ppb. This screening level assumes an average body weight of 70 kg and a consumption rate of 21 g/day for a 30 year exposure over a 70-year lifetime. This constituent is a carcinogen therefore the risk level is set to one in ten thousand. (Brodberg, R.K., and G.A. Pollock, 1999; Klasing, S., and R. Brodberg, 2008; USEPA, 2000)</p> <p>Advisory Tissue Levels (ATLs), while still conferring no significant health risk to individuals consuming sport fish in the quantities shown over a lifetime, were developed with the recognition that there are unique health benefits associated with fish consumption and that the advisory process should be expanded beyond a simple risk paradigm in order to best promote the overall health of the fish consumer. ATLs provide a number of recommended fish servings that correspond to the range of contaminant concentrations found in fish and are used to provide consumption advice to prevent consumers from being exposed to more than the average daily reference dose for noncarcinogens or to a risk level greater than 1×10^{-4} for carcinogens (not more than one additional cancer case in a population of 10,000 people consuming fish at the given consumption rate over a lifetime). ATLs are designed to encourage consumption of fish that can be eaten in quantities likely to provide significant health benefits, while discouraging consumption of fish that, because of contaminant concentrations, should not be eaten or cannot be eaten in amounts recommended for improving overall health (eight ounces total, prior to cooking, per week). ATLs are one of the criteria that will be used by OEHHA for issuing fish consumption guidelines.</p>
Guideline Reference:	Prevalence of Selected Target Chemical Contaminants in Sport Fish From Two California Lakes: Public health designed screening study. Sacramento, CA: Office of Environmental Health Hazard Assessment Development of Fish Contaminant Goals and Advisory Tissue Levels for Common Contaminants in California Sport Fish: Chlordane, DDTs, Dieldrin, Methylmercury, PCBs, Selenium, and Toxaphene Guidance for Assessing Chemical Contaminant Data for Use In Fish Advisories Volume 1: Fish Sampling and Analysis
Spatial Representation:	Samples are collected by hand from three sub-locations for each site. The composite sample was collected from site San Francisco Bay Dumbarton Bridge (SFDB).
Temporal Representation:	Representative samples of locally abundant species were collected during the winter on 2/3/2009
Environmental Conditions:	

QAPP Information: Samples were collected as part of the State Water Board's Mussel Watch Program which is a part of the National Oceanic Administration's (NOAAs) National Status and Trends (NS&T). Mussels are shipped to NOAAs contract labs for analysis of trace constituents and mussel condition. Analytical protocols follow those approved by NOAAs NS&T Program Additional background information can be found at:
<http://ccma.nos.noaa.gov/stressors/pollution/nsandt/>

QAPP Information Reference(s):

Line of Evidence (LOE) for Decision ID 65357, PAHs (Polycyclic Aromatic Hydrocarbons)
San Francisco Bay, South

Region 2

LOE ID: 93674

Pollutant: PAHs (Polycyclic Aromatic Hydrocarbons)
LOE Subgroup: Pollutant-Tissue
Matrix: Tissue
Fraction: Shellfish

Beneficial Use: Shellfish Harvesting

Number of Samples: 18
Number of Exceedances: 0

Data and Information Type: Shellfish surveys
Data Used to Assess Water Quality: Zero of the 18 samples exceeded the guideline. Composite samples were comprised of *Crassostrea gigas*, except for 3 samples comprised of *Mytilus californianus*. Data were reported on a dry weight basis and were converted to a wet weight basis by multiplying the dry-weight concentration by a factor of 1 minus the percentage of moisture content expressed as a decimal. Laboratory replicates were averaged. PAH, Total is calculated as a potency weighted concentration with respect to benzo(a)pyrene and was calculated based on the following analytes: Dibenzo(a,h)anthracene, Benzo(a)pyrene, Benz(a)anthracene, Benzo(b)fluoranthene, Benzo(k)fluoranthene, Indeno(1,2,3-c,d)pyrene, Anthracene, Benzo(g,h,i)perylene, Chrysene, Acenaphthene, Acenaphthylene, Fluoranthene, Fluorene, Phenanthrene, and Pyrene.

Data Reference: [Regional Monitoring Program data, Feb. 1993-Sep. 2008](#)

SWAMP Data: Non-SWAMP

Water Quality Objective/Criterion: Water Quality Control Plan for the San Francisco Bay Basin (2013): Controllable water quality factors shall not cause a detrimental increase in concentrations of toxic substances found in bottom sediments or aquatic life. Effects on aquatic organisms, wildlife, and human health will be considered.

Objective/Criterion Reference: [Water Quality Control Plan \(Basin Plan\) San Francisco Bay Basin \(Region 2\)](#)

Evaluation Guideline: The modified OEHHA Advisory Tissue Level for polycyclic aromatic hydrocarbons in shellfish tissue is 110 ppb. This screening level assumes an average body weight of 70 kg and a consumption rate of 21 g/day for a 30 year exposure over a 70-year lifetime. This constituent is a carcinogen therefore the risk level is set to one in ten thousand. (Brodberg, R.K., and G.A. Pollock, 1999; Klasing, S., and R. Brodberg, 2008; USEPA, 2000)

Advisory Tissue Levels (ATLs), while still conferring no significant health risk to individuals consuming sport fish in the quantities shown over a lifetime, were developed with the recognition that there are unique health benefits associated with fish consumption and that the advisory process should be expanded beyond a simple risk paradigm in order to best promote the overall health of the fish consumer. ATLs provide a number of recommended fish servings that correspond to the range of contaminant concentrations found in fish and are used to provide consumption advice to prevent consumers from being exposed to more than the average daily reference dose for noncarcinogens or to a risk level greater than 1×10^{-4} for carcinogens (not more than one additional cancer case in a population of 10,000 people consuming fish at the given

consumption rate over a lifetime). ATLs are designed to encourage consumption of fish that can be eaten in quantities likely to provide significant health benefits, while discouraging consumption of fish that, because of contaminant concentrations, should not be eaten or cannot be eaten in amounts recommended for improving overall health (eight ounces total, prior to cooking, per week). ATLs are one of the criteria that will be used by OEHHA for issuing fish consumption guidelines.

Guideline Reference:

[Prevalence of Selected Target Chemical Contaminants in Sport Fish From Two California Lakes: Public health designed screening study. Sacramento, CA: Office of Environmental Health Hazard Assessment](#)
[Development of Fish Contaminant Goals and Advisory Tissue Levels for Common Contaminants in California Sport Fish: Chlordane, DDTs, Dieldrin, Methylmercury, PCBs, Selenium, and Toxaphene](#)
[Guidance for Assessing Chemical Contaminant Data for Use In Fish Advisories Volume 1: Fish Sampling and Analysis](#)

Spatial Representation:

Samples were collected at the following station: BA10 - Coyote Creek.

Temporal Representation:

Samples were generally collected in spring and fall seasons from years 1993 - 1999 and then during fall season from years 2000 - 2008.

Environmental Conditions:

QAPP Information:

1999 Quality Assurance Project Plan Regional Monitoring Program for Trace Substances.

QAPP Information Reference(s):

[1999 Quality Assurance Project Plan Regional Monitoring Program for Trace Substances](#)

DECISION ID	65456	Region 2
San Francisco Bay, South		

Pollutant:	Pyrene
Final Listing Decision:	Do Not List on 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision:	New Decision
Revision Status	Revised
Impairment from Pollutant or Pollution:	Pollutant

Regional Board Staff Conclusion:

This pollutant is being considered for placement on the CWA section 303(d) List under section 3.1 of the Listing Policy. Under section 3.1 a single line of evidence is necessary to assess listing status.

One line of evidence is available in the administrative record to assess this pollutant. Zero of ninety-five samples exceed the guideline.

Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against placing this water segment-pollutant combination on the CWA section 303(d) List in the Water Quality Limited Segments category.

This conclusion is based on the staff findings that:

1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy.
2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy.
3. Zero of ninety-five samples exceed the guideline and this does not exceed the allowable frequency listed in Table 3.1 of the Listing Policy.
4. Pursuant to section 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.

Regional Board Staff Decision Recommendation:

After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be placed on the section 303(d) list because applicable water quality standards are not being exceeded.

Line of Evidence (LOE) for Decision ID 65456, Pyrene	Region 2
San Francisco Bay, South	

LOE ID: 92936

Pollutant:	Pyrene
LOE Subgroup:	Pollutant-Water
Matrix:	Water
Fraction:	Total
Beneficial Use:	Commercial or recreational collection of fish, shellfish, or organisms
Number of Samples:	95
Number of Exceedances:	0
Data and Information Type:	PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality:	State Water Board staff assessed SFEI data for San Francisco Bay, South to determine beneficial use support and results are as follows: 0 of 95 samples exceed the criterion for Pyrene.
Data Reference:	Regional Monitoring Program data, Feb. 1993-Sep. 2008
SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	The Pyrene criteria for the protection of human health from consumption of organisms only is 11,000 ug/L (California Toxics Rule, 2000).
Objective/Criterion Reference:	Code of Federal Regulations 40 part 131.38 Establishment of numeric criteria for priority toxic pollutants for the State of California. 7/1/2011 Edition
Evaluation Guideline:	
Guideline Reference:	
Spatial Representation:	Data for this line of evidence for San Francisco Bay, South was collected at 53 monitoring sites [Coyote Creek - BA10, Lower South Bay - LSB001W, Lower South Bay - LSB002W, Lower South Bay - LSB003W, Lower South Bay - LSB004W, Lower South Bay - LSB005W, Lower South Bay - LSB006W, Lower South Bay - LSB007W, Lower South Bay - LSB008W, Lower South Bay - LSB009W, Lower South Bay - LSB010W, Lower South Bay - LSB011W, Lower South Bay - LSB012W, Lower South Bay - LSB013W, Lower South Bay - LSB014W, Lower South Bay - LSB015W, Lower South Bay - LSB016W, Lower South Bay - LSB017W, Lower South Bay - LSB018W, Lower South Bay - LSB019W, Lower South Bay - LSB020W, Lower South Bay - LSB021W, Lower South Bay - LSB022W, Lower South Bay - LSB023W, Lower South Bay - LSB024W, Lower South Bay - LSB025W, Lower South Bay - LSB026W, Lower South Bay - LSB027W, Lower South Bay - LSB028W, Lower South Bay - LSB029W, Lower South Bay - LSB030W, Lower South Bay - LSB032W, Lower South Bay - LSB033W, Lower South Bay - LSB034W, Lower South Bay - LSB035W, Lower South Bay - LSB036W, Lower South Bay - LSB037W, South Bay - SB031W, South Bay - SB038W, South Bay - SB039W, South Bay - SB040W, South Bay - SB041W, South Bay - SB042W, South Bay - SB043W, South Bay - SB044W, South Bay - SB045W, South Bay - SB046W, South Bay - SB047W, South Bay - SB048W, South Bay - SB049W, South Bay - SB050W, South Bay - SB051W, South Bay - SB053W]
Temporal Representation:	Data was collected over the time period 2/1/1994-7/18/2008.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	The 1999 Quality Assurance Project Plan Regional Monitoring Program for Trace Substances was used.
QAPP Information Reference(s):	1999 Quality Assurance Project Plan Regional Monitoring Program for Trace Substances

DECISION ID	65458	Region 2
San Francisco Bay, South		

Pollutant:	Silver
Final Listing Decision:	Do Not List on 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision:	New Decision
Revision Status	Revised
Impairment from Pollutant or	Pollutant

Pollution:**Regional Board Staff Conclusion:**

This pollutant is being considered for placement on the CWA section 303(d) List under section 3.1 of the Listing Policy. Under section 3.1 a single line of evidence is necessary to assess listing status.

One line of evidence is available in the administrative record to assess this pollutant. Zero of ninety-five samples exceed the guideline.

Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against placing this water segment-pollutant combination on the CWA section 303(d) List in the Water Quality Limited Segments category.

This conclusion is based on the staff findings that:

1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy.
2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy.
3. Zero of ninety-five samples exceed the guideline and this does not exceed the allowable frequency listed in Table 3.1 of the Listing Policy.
4. Pursuant to section 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.

Regional Board Staff Decision Recommendation: After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be placed on the section 303(d) list because applicable water quality standards are not being exceeded.

**Line of Evidence (LOE) for Decision ID 65458, Silver
San Francisco Bay, South****Region 2**

LOE ID:	92947
Pollutant:	Silver
LOE Subgroup:	Pollutant-Water
Matrix:	Water
Fraction:	Dissolved
Beneficial Use:	Estuarine Habitat
Number of Samples:	95
Number of Exceedances:	0
Data and Information Type:	PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality:	State Water Board staff assessed SFEI data for San Francisco Bay, South to determine beneficial use support and results are as follows: 0 of 95 samples exceed the criterion for Silver.
Data Reference:	Regional Monitoring Program data, Feb. 1993-Sep. 2008
SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	The dissolved silver criterion maximum concentration to protect aquatic life in saline water is 0.0019 mg/L (California Toxics Rule, 2000).
Objective/Criterion Reference:	Code of Federal Regulations 40 part 131.38 Establishment of numeric criteria for priority toxic pollutants for the State of California. 7/1/2011 Edition
Evaluation Guideline:	
Guideline Reference:	
Spatial Representation:	Data for this line of evidence for San Francisco Bay, South was collected at 37 monitoring sites [Coyote Creek - BA10, South Bay - BA20, Lower South Bay - LSB001W, Lower South Bay - LSB002W, Lower South Bay - LSB003W, Lower South Bay - LSB004W, Lower South Bay - LSB005W, Lower South Bay - LSB006W, Lower South Bay - LSB007W, Lower South Bay - LSB008W, Lower South Bay - LSB009W, Lower South Bay - LSB010W, Lower South Bay - LSB011W, Lower South Bay - LSB017W, Lower South

Bay - LSB018W, Lower South Bay - LSB019W, Lower South Bay - LSB020W, Lower South Bay - LSB021W, Lower South Bay - LSB027W, Lower South Bay - LSB028W, Lower South Bay - LSB029W, Lower South Bay - LSB030W, Lower South Bay - LSB032W, Lower South Bay - LSB033W, Lower South Bay - LSB034W, Lower South Bay - LSB035W, Lower South Bay - LSB036W, Lower South Bay - LSB037W, South Bay - SB012W, South Bay - SB016W, South Bay - SB031W, South Bay - SB047W, South Bay - SB048W, South Bay - SB049W, South Bay - SB050W, South Bay - SB051W, South Bay - SB053W]

Temporal Representation:

Data was collected over the time period 3/2/1993-7/18/2008.

Environmental Conditions:

Staff is not aware of any special conditions that might affect interpretation of the data.

QAPP Information:

The 1999 Quality Assurance Project Plan Regional Monitoring Program for Trace Substances was used.

QAPP Information Reference(s):

[1999 Quality Assurance Project Plan Regional Monitoring Program for Trace Substances](#)

DECISION ID	65461	Region 2
San Francisco Bay, South		

Pollutant: Toxaphene
Final Listing Decision: Do Not List on 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision: New Decision
Revision Status: Revised
Impairment from Pollutant or Pollution: Pollutant

Regional Board Staff Conclusion: This pollutant is being considered for placement on the CWA section 303(d) List under section 3.5 of the Listing Policy. Under section 3.5 a single line of evidence is necessary to assess listing status. Three lines of evidence are available in the administrative record to assess this pollutant. Zero of zero samples exceed the OEHHA guideline.

Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against placing this water segment-pollutant combination on the CWA section 303(d) List.

This conclusion is based on the staff findings that:

1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy.
2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy.
3. Zero of zero samples exceed the OEHHA guideline and this sample size is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating. A minimum of 16 samples is needed to determine if a beneficial use is fully supported using table 3.1.
4. Pursuant to SECTION 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.

Regional Board Staff Decision Recommendation: After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be placed on the section 303(d) list. The readily available data and information is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating.

Line of Evidence (LOE) for Decision ID 65461, Toxaphene	Region 2
San Francisco Bay, South	

LOE ID: 95125
Pollutant: Toxaphene
LOE Subgroup: Pollutant-Tissue
Matrix: Tissue
Fraction: Fish fillet

Beneficial Use:	Commercial or recreational collection of fish, shellfish, or organisms
Number of Samples:	0
Number of Exceedances:	0
Data and Information Type:	Fish tissue analysis
Data Used to Assess Water Quality:	Water Board staff assessed Regional Monitoring Program data for South San Francisco Bay to determine beneficial use support and results are as follows: 0 of 0 samples exceed the criterion for toxaphene. Thirty-seven samples were discarded for being non-detect, unquantifiable or the reporting limit exceeding the water quality objective.
Data Reference:	Regional Monitoring Program data, Feb. 1993-Sep. 2008
SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	Water Quality Control Plan for the San Francisco Bay Basin: Controllable water quality factors shall not cause a detrimental increase in concentrations of toxic substances found in bottom sediments or aquatic life. Effects on aquatic organisms, wildlife, and human health will be considered.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	The modified OEHHA Fish Contaminant Goal for toxaphene in fish tissue is 4.3 ppb. This screening level assumes an average body weight of 70 kg and a consumption rate of 32 g/day for a 30 year exposure over a 70-year lifetime. This constituent is a carcinogen therefore the risk level is set to one in a million. A cooking reduction factor of 1 is applied for skin-off fillets. (Klasing, S., and R. Brodberg, 2008)
Guideline Reference:	Development of Fish Contaminant Goals and Advisory Tissue Levels for Common Contaminants in California Sport Fish: Chlordane, DDTs, Dieldrin, Methylmercury, PCBs, Selenium, and Toxaphene
Spatial Representation:	The samples were collected at two sites throughout South San Francisco Bay.
Temporal Representation:	The samples were collected in April 2000, May 2000, May 2003, and August 2003.
Environmental Conditions:	
QAPP Information:	The 1999 Quality Assurance Project Plan Regional Monitoring Program for Trace Substances was used.
QAPP Information Reference(s):	1999 Quality Assurance Project Plan Regional Monitoring Program for Trace Substances

Line of Evidence (LOE) for Decision ID 65461, Toxaphene
San Francisco Bay, South

Region 2

LOE ID:	95713
Pollutant:	Toxaphene
LOE Subgroup:	Pollutant-Tissue
Matrix:	Tissue
Fraction:	Fish fillet
Beneficial Use:	Commercial or recreational collection of fish, shellfish, or organisms
Number of Samples:	0
Number of Exceedances:	0
Data and Information Type:	Fish tissue analysis
Data Used to Assess Water Quality:	Water Board staff assessed Regional Monitoring Program data for South SF Bay to determine beneficial use support and results are as follows: 0 of 0 samples exceed the criterion for toxaphene. Four samples were discarded for being non-detect, unquantifiable or the reporting limit exceeding the water quality objective.
Data Reference:	Regional Monitoring Program data, Feb. 1993-Sep. 2008
SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	Water Quality Control Plan for the San Francisco Bay Basin: Controllable water quality factors shall not cause a detrimental increase in concentrations of toxic substances found

Objective/Criterion Reference:	in bottom sediments or aquatic life. Effects on aquatic organisms, wildlife, and human health will be considered. Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	The modified OEHHA Fish Contaminant Goal for toxaphene in fish tissue is 4.3 ppb. This screening level assumes an average body weight of 70 kg and a consumption rate of 32 g/day for a 30 year exposure over a 70-year lifetime. This constituent is a carcinogen therefore the risk level is set to one in a million. A cooking reduction factor of 1 is applied for skin-off fillets. (Klasing, S., and R. Brodberg, 2008)
Guideline Reference:	Development of Fish Contaminant Goals and Advisory Tissue Levels for Common Contaminants in California Sport Fish: Chlordane, DDTs, Dieldrin, Methylmercury, PCBs, Selenium, and Toxaphene
Spatial Representation:	The samples were collected at one site in South SF Bay near the mouth of Coyote Creek
Temporal Representation:	The samples were collected in May 1994.
Environmental Conditions:	
QAPP Information:	The 1999 Quality Assurance Project Plan Regional Monitoring Program for Trace Substances was used.
QAPP Information Reference(s):	1999 Quality Assurance Project Plan Regional Monitoring Program for Trace Substances

Line of Evidence (LOE) for Decision ID 65461, Toxaphene

Region 2

San Francisco Bay, South

LOE ID:	93648
Pollutant:	Toxaphene
LOE Subgroup:	Pollutant-Tissue
Matrix:	Tissue
Fraction:	Shellfish
Beneficial Use:	Shellfish Harvesting
Number of Samples:	0
Number of Exceedances:	0
Data and Information Type:	Shellfish surveys
Data Used to Assess Water Quality:	The 2 samples were not used in the assessment because the laboratory data reporting limit(s) were above the objective and therefore the results could not be quantified with the level of certainty required by the Listing Policy. One composite was comprised of Crassostrea gigas and a second composite was comprised of Mytilus californianus.
Data Reference:	Regional Monitoring Program data, Feb. 1993-Sep. 2008
SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	Water Quality Control Plan for the San Francisco Bay Basin: Controllable water quality factors shall not cause a detrimental increase in concentrations of toxic substances found in bottom sediments or aquatic life. Effects on aquatic organisms, wildlife, and human health will be considered.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	The modified OEHHA Fish Contaminant Goal for toxaphene in shellfish tissue is 6.5 ppb. This screening level assumes an average body weight of 70 kg and a consumption rate of 21 g/day for a 30 year exposure over a 70-year lifetime. This constituent is a carcinogen therefore the risk level is set to one in a million. (Brodberg, R.K., and G.A. Pollock, 1999; Klasing, S., and R. Brodberg, 2008)
Guideline Reference:	Prevalence of Selected Target Chemical Contaminants in Sport Fish From Two California Lakes: Public health designed screening study. Sacramento, CA: Office of Environmental Health Hazard Assessment Development of Fish Contaminant Goals and Advisory Tissue Levels for Common Contaminants in California Sport Fish: Chlordane, DDTs, Dieldrin, Methylmercury, PCBs, Selenium, and Toxaphene

Spatial Representation:	Samples were collected at the following station: BA10 - Coyote Creek.
Temporal Representation:	Samples were collected at BA10 on 9/3/2002 and 9/25/2003.
Environmental Conditions:	
QAPP Information:	1999 Quality Assurance Project Plan Regional Monitoring Program for Trace Substances.
QAPP Information Reference(s):	1999 Quality Assurance Project Plan Regional Monitoring Program for Trace Substances

DECISION ID	65463	Region 2
San Francisco Bay, South		

Pollutant:	Tributyltin TBT (Tributylstanne)
Final Listing Decision:	Do Not List on 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision:	New Decision
Revision Status	Revised
Impairment from Pollutant or Pollution:	Pollutant

Regional Board Staff Conclusion: This pollutant is being considered for placement on the CWA section 303(d) List under section 3.5 of the Listing Policy. Under section 3.5 a single line of evidence is necessary to assess listing status. One line of evidence is available in the administrative record to assess this pollutant. Zero of seven samples exceed the OEHHA guideline.

Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against placing this water segment-pollutant combination on the CWA section 303(d) List.

This conclusion is based on the staff findings that:

1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy.
2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy.
3. Zero of seven samples exceed the OEHHA guideline and this sample size is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating. A minimum of 16 samples is needed to determine if a beneficial use is fully supported using table 3.1.
4. Pursuant to SECTION 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.

Regional Board Staff Decision Recommendation:	After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be placed on the section 303(d) list. The readily available data and information is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating.
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Line of Evidence (LOE) for Decision ID 65463, Tributyltin TBT (Tributylstanne)		Region 2
San Francisco Bay, South		

LOE ID:	93701
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Pollutant:	Tributyltin TBT (Tributylstanne)
LOE Subgroup:	Pollutant-Tissue
Matrix:	Tissue
Fraction:	Shellfish

Beneficial Use:	Shellfish Harvesting
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Number of Samples:	7
Number of Exceedances:	0

Data and Information Type:	Shellfish surveys
Data Used to Assess Water Quality:	None of the 7 samples exceeded the guideline. All composite samples were comprised of Crassostrea gigas. Data were reported on a dry weight basis and were converted to a

wet weight basis by multiplying the dry-weight concentration by a factor of 1 minus the percentage of moisture content expressed as a decimal. Seven samples were not used in the assessment because the laboratory data reporting limit was above the objective and therefore the results could not be quantified with the level of certainty required by the Listing Policy. Laboratory replicates were averaged.

Data Reference: [Regional Monitoring Program data, Feb. 1993-Sep. 2008](#)

SWAMP Data: Non-SWAMP

Water Quality Objective/Criterion: Water Quality Control Plan for the San Francisco Bay Basin: Controllable water quality factors shall not cause a detrimental increase in concentrations of toxic substances found in bottom sediments or aquatic life. Effects on aquatic organisms, wildlife, and human health will be considered.

Objective/Criterion Reference: [Water Quality Control Plan \(Basin Plan\) San Francisco Bay Basin \(Region 2\)](#)

Evaluation Guideline: The modified OEHHA Fish Contaminant Goal for tributyltin in shellfish tissue is 1 ppm. This screening level assumes an average body weight of 70 kg and a consumption rate of 21 g/day. (Brodberg, R.K., and G.A. Pollock, 1999; Klasing, S., and R. Brodberg, 2008; USEPA, 2000)

Guideline Reference: [Prevalence of Selected Target Chemical Contaminants in Sport Fish From Two California Lakes: Public health designed screening study. Sacramento, CA: Office of Environmental Health Hazard Assessment](#)
[Development of Fish Contaminant Goals and Advisory Tissue Levels for Common Contaminants in California Sport Fish: Chlordane, DDTs, Dieldrin, Methylmercury, PCBs, Selenium, and Toxaphene](#)
[Guidance for Assessing Chemical Contaminant Data for Use In Fish Advisories Volume 1: Fish Sampling and Analysis](#)

Spatial Representation: The samples were collected at the following station: BA10 - Coyote Creek.

Temporal Representation: Samples were generally collected in spring and fall seasons from years 1994 - 1999 and then fall 2000 and 2001.

Environmental Conditions:

QAPP Information: 1999 Quality Assurance Project Plan Regional Monitoring Program for Trace Substances.

QAPP Information Reference(s): [1999 Quality Assurance Project Plan Regional Monitoring Program for Trace Substances](#)

DECISION ID	65464	Region 2
San Francisco Bay, South		

Pollutant: Zinc
Final Listing Decision: Do Not List on 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision: New Decision
Revision Status: Revised
Impairment from Pollutant or Pollution: Pollutant

Regional Board Staff Conclusion: This pollutant is being considered for placement on the CWA section 303(d) List under section 3.1 of the Listing Policy. Under section 3.1 a single line of evidence is necessary to assess listing status.

Two lines of evidence are available in the administrative record to assess this pollutant. Zero of one hundred twenty-eight samples exceed the guideline.

Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against placing this water segment-pollutant combination on the CWA section 303(d) List in the Water Quality Limited Segments category.

This conclusion is based on the staff findings that:

1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy.
2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy.
3. Zero of one hundred twenty-eight samples exceed the guideline and this does not exceed the allowable frequency listed in Table 3.1 of the Listing Policy.

4. Pursuant to section 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.

Regional Board Staff Decision Recommendation: After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be placed on the section 303(d) list because applicable water quality standards are not being exceeded.

**Line of Evidence (LOE) for Decision ID 65464, Zinc
San Francisco Bay, South**

Region 2

LOE ID:	92958
Pollutant:	Zinc
LOE Subgroup:	Pollutant-Water
Matrix:	Water
Fraction:	Total
Beneficial Use:	Commercial or recreational collection of fish, shellfish, or organisms
Number of Samples:	128
Number of Exceedances:	0
Data and Information Type:	PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality:	State Water Board staff assessed SFEI data for San Francisco Bay, South to determine beneficial use support and results are as follows: 0 of 128 samples exceed the criterion for Zinc.
Data Reference:	Regional Monitoring Program data, Feb. 1993-Sep. 2008
SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	Surface waters shall not contain concentrations of chemical constituents in amounts that adversely affect any designated beneficial use.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	The Zinc criteria for the protection of human health from consumption of fish only is 26000 ug/L (National Recommended Water Quality Criteria, 2009).
Guideline Reference:	National Recommended Water Quality Criteria. United States Environmental Protection Agency. Office of Water. Office of Science and Technology
Spatial Representation:	Data for this line of evidence for San Francisco Bay, South was collected at 54 monitoring sites [Coyote Creek - BA10, South Bay - BA20, Lower South Bay - LSB001W, Lower South Bay - LSB002W, Lower South Bay - LSB003W, Lower South Bay - LSB004W, Lower South Bay - LSB005W, Lower South Bay - LSB006W, Lower South Bay - LSB007W, Lower South Bay - LSB008W, Lower South Bay - LSB009W, Lower South Bay - LSB010W, Lower South Bay - LSB011W, Lower South Bay - LSB012W, Lower South Bay - LSB013W, Lower South Bay - LSB014W, Lower South Bay - LSB015W, Lower South Bay - LSB016W, Lower South Bay - LSB017W, Lower South Bay - LSB018W, Lower South Bay - LSB019W, Lower South Bay - LSB020W, Lower South Bay - LSB021W, Lower South Bay - LSB022W, Lower South Bay - LSB023W, Lower South Bay - LSB024W, Lower South Bay - LSB025W, Lower South Bay - LSB026W, Lower South Bay - LSB027W, Lower South Bay - LSB028W, Lower South Bay - LSB029W, Lower South Bay - LSB030W, Lower South Bay - LSB032W, Lower South Bay - LSB033W, Lower South Bay - LSB034W, Lower South Bay - LSB035W, Lower South Bay - LSB036W, Lower South Bay - LSB037W, South Bay - SB031W, South Bay - SB038W, South Bay - SB039W, South Bay - SB040W, South Bay - SB041W, South Bay - SB042W, South Bay - SB043W, South Bay - SB044W, South Bay - SB045W, South Bay - SB046W, South Bay - SB047W, South Bay - SB048W, South Bay - SB049W, South Bay - SB050W, South Bay - SB051W, South Bay - SB053W]
Temporal Representation:	Data was collected over the time period 3/2/1993-7/18/2008.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	The 1999 Quality Assurance Project Plan Regional Monitoring Program for Trace

QAPP Information Reference(s): Substances was used.
[1999 Quality Assurance Project Plan Regional Monitoring Program for Trace Substances](#)

**Line of Evidence (LOE) for Decision ID 65464, Zinc
San Francisco Bay, South**

Region 2

LOE ID: 92967

Pollutant: Zinc
LOE Subgroup: Pollutant-Water
Matrix: Water
Fraction: Dissolved

Beneficial Use: Estuarine Habitat

Number of Samples: 128
Number of Exceedances: 0

Data and Information Type: PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality: State Water Board staff assessed SFEI data for San Francisco Bay, South to determine beneficial use support and results are as follows: 0 of 128 samples exceed the criterion for Zinc.

Data Reference: [Regional Monitoring Program data, Feb. 1993-Sep. 2008](#)

SWAMP Data: Non-SWAMP

Water Quality Objective/Criterion: The dissolved zinc criterion continuous concentration (expressed as a 4-day average) to protect aquatic life in saline water is 0.081 mg/L (California Toxics Rule, 2000).

Objective/Criterion Reference: [Code of Federal Regulations 40 part 131.38 Establishment of numeric criteria for priority toxic pollutants for the State of California. 7/1/2011 Edition](#)

Evaluation Guideline:
Guideline Reference:

Spatial Representation: Data for this line of evidence for San Francisco Bay, South was collected at 54 monitoring sites [Coyote Creek - BA10, South Bay - BA20, Lower South Bay - LSB001W, Lower South Bay - LSB002W, Lower South Bay - LSB003W, Lower South Bay - LSB004W, Lower South Bay - LSB005W, Lower South Bay - LSB006W, Lower South Bay - LSB007W, Lower South Bay - LSB008W, Lower South Bay - LSB009W, Lower South Bay - LSB010W, Lower South Bay - LSB011W, Lower South Bay - LSB012W, Lower South Bay - LSB013W, Lower South Bay - LSB014W, Lower South Bay - LSB015W, Lower South Bay - LSB016W, Lower South Bay - LSB017W, Lower South Bay - LSB018W, Lower South Bay - LSB019W, Lower South Bay - LSB020W, Lower South Bay - LSB021W, Lower South Bay - LSB022W, Lower South Bay - LSB023W, Lower South Bay - LSB024W, Lower South Bay - LSB025W, Lower South Bay - LSB026W, Lower South Bay - LSB027W, Lower South Bay - LSB028W, Lower South Bay - LSB029W, Lower South Bay - LSB030W, Lower South Bay - LSB032W, Lower South Bay - LSB033W, Lower South Bay - LSB034W, Lower South Bay - LSB035W, Lower South Bay - LSB036W, Lower South Bay - LSB037W, South Bay - SB031W, South Bay - SB038W, South Bay - SB039W, South Bay - SB040W, South Bay - SB041W, South Bay - SB042W, South Bay - SB043W, South Bay - SB044W, South Bay - SB045W, South Bay - SB046W, South Bay - SB047W, South Bay - SB048W, South Bay - SB049W, South Bay - SB050W, South Bay - SB051W, South Bay - SB053W]

Temporal Representation: Data was collected over the time period 3/2/1993-7/18/2008.

Environmental Conditions: Staff is not aware of any special conditions that might affect interpretation of the data.

QAPP Information: The 1999 Quality Assurance Project Plan Regional Monitoring Program for Trace Substances was used.

QAPP Information Reference(s): [1999 Quality Assurance Project Plan Regional Monitoring Program for Trace Substances](#)

DECISION ID 65353

Region 2

San Francisco Bay, South

Pollutant: alpha-Endosulfan (Endosulfan 1)
Final Listing Decision: Do Not List on 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision: New Decision
Revision Status: Revised
Impairment from Pollutant or Pollution: Pollutant

Regional Board Staff Conclusion: This pollutant is being considered for placement on the CWA section 303(d) List under section 3.1 of the Listing Policy. Under section 3.1 a single line of evidence is necessary to assess listing status.

One line of evidence is available in the administrative record to assess this pollutant. Zero of sixty-three samples exceed the guideline.

Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against placing this water segment-pollutant combination on the CWA section 303(d) List in the Water Quality Limited Segments category.

This conclusion is based on the staff findings that:

1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy.
2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy.
3. Zero of sixty-three samples exceed the guideline and this does not exceed the allowable frequency listed in Table 3.1 of the Listing Policy.
4. Pursuant to section 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.

Regional Board Staff Decision Recommendation: After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be placed on the section 303(d) list because applicable water quality standards are not being exceeded.

Line of Evidence (LOE) for Decision ID 65353, alpha-Endosulfan (Endosulfan 1)

Region 2

San Francisco Bay, South

LOE ID: 92921

Pollutant: alpha-Endosulfan (Endosulfan 1)
LOE Subgroup: Pollutant-Water
Matrix: Water
Fraction: Total

Beneficial Use: Commercial or recreational collection of fish, shellfish, or organisms

Number of Samples: 63
Number of Exceedances: 0

Data and Information Type: PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality: State Water Board staff assessed SFEI data for San Francisco Bay, South to determine beneficial use support and results are as follows: 0 of 63 samples exceed the criterion for Endosulfan I.

Data Reference: [Regional Monitoring Program data, Feb. 1993-Sep. 2008](#)

SWAMP Data: Non-SWAMP

Water Quality Objective/Criterion: The Endosulfan I criteria for the protection of human health from consumption of organisms only is 240 ug/L (California Toxics Rule, 2000).

Objective/Criterion Reference: [Code of Federal Regulations 40 part 131.38 Establishment of numeric criteria for priority toxic pollutants for the State of California. 7/1/2011 Edition](#)

Evaluation Guideline:

Guideline Reference:

Spatial Representation:

Data for this line of evidence for San Francisco Bay, South was collected at 39 monitoring sites [Coyote Creek - BA10, Lower South Bay - LSB001W, Lower South Bay - LSB002W, Lower South Bay - LSB003W, Lower South Bay - LSB004W, Lower South Bay - LSB005W, Lower South Bay - LSB006W, Lower South Bay - LSB014W, Lower South Bay - LSB017W, Lower South Bay - LSB018W, Lower South Bay - LSB019W, Lower South Bay - LSB020W, Lower South Bay - LSB021W, Lower South Bay - LSB022W, Lower South Bay - LSB023W, Lower South Bay - LSB024W, Lower South Bay - LSB025W, Lower South Bay - LSB026W, Lower South Bay - LSB027W, Lower South Bay - LSB028W, Lower South Bay - LSB032W, South Bay - SB029W, South Bay - SB030W, South Bay - SB031W, South Bay - SB033W, South Bay - SB034W, South Bay - SB035W, South Bay - SB036W, South Bay - SB037W, South Bay - SB038W, South Bay - SB039W, South Bay - SB040W, South Bay - SB041W, South Bay - SB042W, South Bay - SB043W, South Bay - SB044W, South Bay - SB045W, South Bay - SB046W, South Bay - SB049W]

Temporal Representation:

Data was collected over the time period 2/1/1994-8/16/2007.

Environmental Conditions:

Staff is not aware of any special conditions that might affect interpretation of the data.

QAPP Information:

The 1999 Quality Assurance Project Plan Regional Monitoring Program for Trace Substances was used.

QAPP Information Reference(s):

[1999 Quality Assurance Project Plan Regional Monitoring Program for Trace Substances](#)

DECISION ID	65432	Region 2
San Francisco Bay, South		

Pollutant:	beta-Endosulfan (Endosulfan 2)
Final Listing Decision:	Do Not List on 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision:	New Decision
Revision Status	Revised
Impairment from Pollutant or Pollution:	Pollutant

Regional Board Staff Conclusion: This pollutant is being considered for placement on the CWA section 303(d) List under section 3.1 of the Listing Policy. Under section 3.1 a single line of evidence is necessary to assess listing status.

One line of evidence is available in the administrative record to assess this pollutant. Zero of sixty-nine samples exceed the guideline.

Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against placing this water segment-pollutant combination on the CWA section 303(d) List in the Water Quality Limited Segments category.

This conclusion is based on the staff findings that:

1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy.
2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy.
3. Zero of sixty-nine samples exceed the guideline and this does not exceed the allowable frequency listed in Table 3.1 of the Listing Policy.
4. Pursuant to section 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.

Regional Board Staff Decision Recommendation: After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be placed on the section 303(d) list because applicable water quality standards are not being exceeded.

Line of Evidence (LOE) for Decision ID 65432, beta-Endosulfan (Endosulfan 2)	Region 2
San Francisco Bay, South	

LOE ID: 92944

Pollutant:	beta-Endosulfan (Endosulfan 2)
LOE Subgroup:	Pollutant-Water
Matrix:	Water
Fraction:	Total
Beneficial Use:	Commercial or recreational collection of fish, shellfish, or organisms
Number of Samples:	69
Number of Exceedances:	0
Data and Information Type:	PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality:	State Water Board staff assessed SFEI data for San Francisco Bay, South to determine beneficial use support and results are as follows: 0 of 69 samples exceed the criterion for Endosulfan II.
Data Reference:	Regional Monitoring Program data, Feb. 1993-Sep. 2008
SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	The Endosulfan II criteria for the protection of human health from consumption of organisms only is 240 ug/L (California Toxics Rule, 2000).
Objective/Criterion Reference:	Code of Federal Regulations 40 part 131.38 Establishment of numeric criteria for priority toxic pollutants for the State of California. 7/1/2011 Edition
Evaluation Guideline:	
Guideline Reference:	
Spatial Representation:	Data for this line of evidence for San Francisco Bay, South was collected at 41 monitoring sites [Coyote Creek - BA10, Lower South Bay - LSB002W, Lower South Bay - LSB003W, Lower South Bay - LSB004W, Lower South Bay - LSB006W, Lower South Bay - LSB012W, Lower South Bay - LSB013W, Lower South Bay - LSB014W, Lower South Bay - LSB015W, Lower South Bay - LSB016W, Lower South Bay - LSB022W, Lower South Bay - LSB023W, Lower South Bay - LSB024W, Lower South Bay - LSB025W, Lower South Bay - LSB027W, Lower South Bay - LSB028W, Lower South Bay - LSB029W, Lower South Bay - LSB030W, Lower South Bay - LSB032W, South Bay - SB001W, South Bay - SB005W, South Bay - SB007W, South Bay - SB009W, South Bay - SB010W, South Bay - SB031W, South Bay - SB033W, South Bay - SB034W, South Bay - SB035W, South Bay - SB036W, South Bay - SB037W, South Bay - SB038W, South Bay - SB039W, South Bay - SB040W, South Bay - SB041W, South Bay - SB042W, South Bay - SB043W, South Bay - SB044W, South Bay - SB046W, South Bay - SB047W, South Bay - SB048W, South Bay - SB049W]
Temporal Representation:	Data was collected over the time period 2/1/1994-8/16/2007.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	The 1999 Quality Assurance Project Plan Regional Monitoring Program for Trace Substances was used.
QAPP Information Reference(s):	1999 Quality Assurance Project Plan Regional Monitoring Program for Trace Substances

DECISION ID	65462	Region 2
San Francisco Bay, South		
Pollutant:	Toxicity	
Final Listing Decision:	List on 303(d) list (TMDL required list)	
Last Listing Cycle's Final Listing Decision:	New Decision	
Revision Status	Revised	
Sources:	Source Unknown	
Expected TMDL Completion Date:	2029	
Impairment from Pollutant or Pollution:	Pollutant	
Regional Board Staff	This pollutant is being considered for placement on the CWA section 303(d) List under section 3.6 of	

Conclusion:	<p>the Listing Policy. Under section 3.6 a single line of evidence is necessary to assess listing status.</p> <p>Two lines of evidence are available in the administrative record to assess this pollutant. Thirty-two of the sixty-one samples exceed the guideline for sediment toxicity.</p> <p>Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification in favor of placing this water segment-pollutant combination on the CWA section 303(d) List.</p> <p>This conclusion is based on the staff findings that:</p> <ol style="list-style-type: none"> 1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy. 2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy. 3. Thirty-two of the sixty-one samples exceed the guideline and this exceeds the allowable frequency listed in Table 3.1 of the Listing Policy. 4. Pursuant to section 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.
Regional Board Staff Decision Recommendation:	After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should be placed on the section 303(d) list because applicable water quality standards are exceeded and a pollutant contributes to or causes the problem.

Line of Evidence (LOE) for Decision ID 65462, Toxicity
San Francisco Bay, South

Region 2

LOE ID:	95809
Pollutant:	Toxicity
LOE Subgroup:	Toxicity
Matrix:	Sediment
Fraction:	None
Beneficial Use:	Estuarine Habitat
Number of Samples:	61
Number of Exceedances:	32
Data and Information Type:	TOXICITY TESTING
Data Used to Assess Water Quality:	<p>Thirty-two of the 61 samples exhibited toxicity. A sample may have multiple toxicity test results but will be counted only once. A sample is defined as being collected on the same day at the same location with the same lab sample id (if provided).</p> <p>The following test organisms and parameters were utilized for the toxicity tests: Eohaustorius estuarius (mean % survival), 1993-2008; Mytilus edulis (mean % normal alive), 1993-1995, 1997; Mytilus galloprovincialis (mean % normal alive), 1998-2001, 2005-08; and Strongylocentrotus purpuratus (mean % normal development), 1998. The following samples exhibited toxicity: Eohaustorius estuarius collected 1993-2000, 2002, 2003, 2007; Mytilus edulis collected 1997; Mytilus galloprovincialis collected 1998, 2000-01, 2005-07.</p> <p>Additional results were not included in the assessment due to control results of less than 90 percent for test parameter.</p>
Data Reference:	Regional Monitoring Program data, Feb. 1993-Sep. 2008
SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	All waters shall be maintained free of toxic substances in concentrations that are toxic to, or that produce detrimental physiological responses in, human, plant, animal, or aquatic life. Region 2 Basin Plan.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) - San Francisco Bay Region (Region 2)
Evaluation Guideline:	Toxicity is defined as a significant reduction of test organism relative to the control (alpha

Guideline Reference:	< 0.01) and test organism survival is 80% or less than the control survival (at least 20% effect). SWAMP Memo Toxicity Data Intrepretation Methods for Assessing the Toxicity of Sediment-associated Contaminants with Estuarine and Marine Amphipods. June 1994. EPA 600/R-94/025 Short-term Methods for Estimating the Chronic Toxicity of Effluents and Receiving Waters to West Coast Marine and Estuarine Organisms. EPA/600/R-95-136.
Spatial Representation:	Samples were collected at sites BA10, BA21, LSB001S, LSB003S, LSB005S, LSB007S, LSB009S, LSB011S, LSB013S, LSB015S, LSB017S, LSB019S, LSB023S, LSB025S, LSB027S, LSB029S, LSB031S, LSB033S, LSB035S, LSB037S, LSB038S, LSB039S, LSB040S, and LSB073S.
Temporal Representation:	The samples were collected twice each year (generally winter and summer) from 1993-99, and during the summer of 2000-2008.
Environmental Conditions:	
QAPP Information:	Data collected after 1999 follows the San Francisco Estuary Institute 1999 Quality Assurance Project Plan Regional Monitoring Program for Trace Substances.
QAPP Information Reference(s):	1999 Quality Assurance Project Plan Regional Monitoring Program for Trace Substances

Line of Evidence (LOE) for Decision ID 65462, Toxicity
San Francisco Bay, South

Region 2

LOE ID:	95795
Pollutant:	Toxicity
LOE Subgroup:	Toxicity
Matrix:	Water
Fraction:	None
Beneficial Use:	Estuarine Habitat
Number of Samples:	12
Number of Exceedances:	1
Data and Information Type:	TOXICITY TESTING
Data Used to Assess Water Quality:	<p>One of the 12 samples exhibited toxicity. A sample may have multiple toxicity test results but will be counted only once. A sample is defined as being collected on the same day at the same location with the same lab sample id (if provided).</p> <p>The following test organisms and parameters were utilized for the toxicity tests: Thalassiosira pseudonana (cell count), 1993; Crassostrea gigas (mean % normal development), 1993; Mytilus edulis (mean % normal development), 1993 and 1996-97; Americamysis bahia - formerly Mysidopsis bahia (mean % survival), 1994-97, 2002, and 2007. The sample which exhibited toxicity was for Americamysis bahia collected July 1997.</p> <p>Additional results were not included in the assessment due to control results of less than 90 percent for test parameter.</p>
Data Reference:	Regional Monitoring Program data, Feb. 1993-Sep. 2008
SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	All waters shall be maintained free of toxic substances in concentrations that are toxic to, or that produce detrimental physiological responses in, human, plant, animal, or aquatic life. Region 2 Basin Plan.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) - San Francisco Bay Region (Region 2)
Evaluation Guideline:	Toxicity is defined as a significant reduction of test organism relative to the control (alpha < 0.05) and test organism survival is 80% or less than the control survival (at least 20% effect).
Guideline Reference:	SWAMP Memo Toxicity Data Intrepretation Method 1007.0: Mysid, Mysidopsis bahia, Survival, Growth, and Fecundity Test; Chronic

[Toxicity. Excerpt from: Short-Term Methods for Estimating the Chronic Toxicity of Effluents and Receiving Waters to Marine and Estuarine Organisms. 3rd edition EPA-821-R-02-014](#)

[Short-Term Methods for Estimating the Chronic Toxicity of Effluents and Receiving Water to Marine and Estuarine Organisms. EPA/600/4-91-003.](#)

Spatial Representation:

Temporal Representation:

Environmental Conditions:

QAPP Information:

QAPP Information Reference(s):

Samples were collected at sites BA10, BA20, LSB001W, LSB004W, and LSB027W.

The samples were collected twice each year (generally winter and summer) from 1993-97, and during the summer of 2002 and 2007.

Data collected after 1999 follows the San Francisco Estuary Institute 1999 Quality Assurance Project Plan Regional Monitoring Program for Trace Substances.

[1999 Quality Assurance Project Plan Regional Monitoring Program for Trace Substances](#)

DECISION ID	32921	Region 2
San Francisco Bay, South		

Pollutant:	Polybrominated Diphenyl Ethers (PBDEs)
Final Listing Decision:	Do Not List on 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision:	Do Not List on 303(d) list (TMDL required list)(2012)
Revision Status	Original
Impairment from Pollutant or Pollution:	Pollutant

Regional Board Staff Conclusion:	This pollutant is being considered for listing under sections 2.1 and 3.5 of the Listing Policy. Under section 3.5 a single line of evidence is necessary to assess listing status. Two lines of evidence are available in the administrative record to assess this pollutant. Based on section 3.5, some data are available showing concentrations of this pollutant in animal tissues. It cannot be determined if the pollutant is likely to cause or contribute to the adverse effects because a numeric guideline or water quality objective is not available. Based on the readily available data and information, the weight of evidence indicates that there is not sufficient justification in favor of placing this water segment-pollutant combination on the section 303(d) list in the Water Quality Limited Segments category. This conclusion is based on the staff findings that: 1. An evaluation guideline is not available that complies with the requirements of section 6.1.3 of the Policy. 2. Pursuant to section 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.
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Regional Board Staff Decision Recommendation:	This is a decision previously approved by the State Water Resources Control Board and the USEPA. No new data were assessed by the Regional Board for the current. The decision has not changed.
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Line of Evidence (LOE) for Decision ID 32921, Polybrominated Diphenyl Ethers (PBDEs)	Region 2
San Francisco Bay, South	

LOE ID:	58
Pollutant:	Polybrominated Diphenyl Ethers (PBDEs)
LOE Subgroup:	Testimonial Evidence
Matrix:	-N/A
Fraction:	None

Beneficial Use:	Estuarine Habitat
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Number of Samples:	
Number of Exceedances:	

Data and Information Type:	Not Specified
Data Used to Assess Water Quality:	2002 List Fact Sheet Information:

PBDEs research literature will be reviewed by the RWQCB to ascertain any new

information on actual effects thresholds for these persistent bioaccumulative substances in the next listing cycle. These actions can be conducted regionally through the RMP, the Bay Area Pollution Prevention Group, or other association of dischargers. During the subsequent listing cycle, RWQCB staff evaluation of current research, applicable water quality criteria, and local actions to characterize sources and pollution prevention of PBDEs will determine whether a listing is needed.

Data Reference: [Placeholder reference 2006 303\(d\)](#)

SWAMP Data: Non-SWAMP

Water Quality Objective/Criterion:
Objective/Criterion Reference:

Evaluation Guideline:
Guideline Reference:

Spatial Representation:
Temporal Representation:
Environmental Conditions:

QAPP Information: QA Info Missing

QAPP Information Reference(s):

Line of Evidence (LOE) for Decision ID 32921, Polybrominated Diphenyl Ethers (PBDEs)

Region 2

San Francisco Bay, South

LOE ID: 57

Pollutant: Polybrominated Diphenyl Ethers (PBDEs)
LOE Subgroup: Pollutant-Tissue
Matrix: Not Specified
Fraction: None

Beneficial Use: Estuarine Habitat

Number of Samples: 0
Number of Exceedances: 0

Data and Information Type: Not Specified
Data Used to Assess Water Quality: 2004 List Comments:

Numeric information, along with circumstantial, anecdotal, and non-specific referenced evidence, was submitted in 2004 with the request that the San Francisco Bay (presumably San Pablo Bay; San Francisco Bay, Central; San Francisco Bay, South; San Francisco Bay, Lower; and/or Suisun Bay) be listed for the PBDE family of flame retardant chemicals.

Otherwise informative studies based on findings from other states and other countries (Sweden) cannot, by themselves, provide sufficient evidence to list a pollutant for a California water body. Instead, this data provides background information only.

Data on contamination by PBDEs of human (breast) tissue from residents in and around the Bay is not usable for listing those water bodies due to the fact that there is no way to meaningfully link such contamination directly to water quality and to a particular water body.

Similarly, the presence of PBDEs in eggs and seal tissues is unfortunately inadequate to list. Again, the problem is the relationship between PBDEs and any human health effects. SWRCB staff is unable to determine exactly where birds nests and seal carcasses were sampled in relation to the five Bay area water bodies. Even if specific sample sites could be established, the question remains: how direct is the relationship between the presence of a pollutant, in this case PBDEs in the tissues of a widely ranging species, and the water of a specific water body. This is not the case when filter-feeding organisms (e.g.,

mussels and clams) or organisms that forage locally exclusively are used.

While some data presented was from local fish species, the volume and reliability of the data is questionable. Leopard shark, halibut, striped bass, and other species may move considerable distances before being captured, blurring the relationship between pollutants in the body and the water body of capture. The 'tainted catch' report summarized the problem facing water quality investigators: 'PBDE levels varied widely among fish species and between individuals of the same species,' in part due to 'location in the Bay.'

Data Reference: [Placeholder reference 2006 303\(d\)](#)

SWAMP Data: Non-SWAMP

Water Quality Objective/Criterion: Basin Plan: Many pollutants can accumulate on particles, in sediment, or bioaccumulate in fish or other aquatic organisms. Controllable water quality factors shall not cause a detrimental increase in concentrations of toxic substances found in bottom sediments or aquatic life. Effects on aquatic organisms, wildlife, and human health will be considered.

Objective/Criterion Reference: [Placeholder reference 2006 303\(d\)](#)

Evaluation Guideline: None available. SWRCB remains unaware of any reliable criterion or guideline of use in evaluating the magnitude of the data provided.

Guideline Reference: [Placeholder reference 2006 303\(d\)](#)

Spatial Representation:

Temporal Representation: Multiple studies are cited (e.g., California studies: She et al., 2002). PBDEs in the San Francisco Bay Area: measurements in harbor seal blubber and human breast adipose tissue. Chemosphere 46(2002): 697-707; Petreas et al., 2003. High Body Burdens of 2,2',4,4'-Tetrabromodiphenyl Ether (BDE-47) in California Women. Environ. Health Perspect. 111(9): 1175-1179; She et al., 2003. High PBDE Levels in Shorebird Eggs from the San Francisco Bay and Washington State. Proceedings. 2003 Georgia Basin/Puget Sound Research Conference.)

Environmental Conditions:

QAPP Information:

QA Info Missing

QAPP Information Reference(s):

DECISION ID	33837	Region 2
San Francisco Bay, South		

Pollutant: Dioxin compounds (including 2,3,7,8-TCDD)

Final Listing Decision: List on 303(d) list (TMDL required list)

Last Listing Cycle's Final Listing Decision: List on 303(d) list (TMDL required list)(2012)

Revision Status Original

Sources: Source Unknown

Expected TMDL Completion Date: 2019

Impairment from Pollutant or Pollution: Pollutant

Regional Board Staff Conclusion: 303(d) listing decisions made prior to 2006 were not held in an assessment database. The Regional Boards will update this decision when new data and information become available and are assessed.

Regional Board Staff Decision Recommendation: This is a decision previously approved by the State Water Resources Control Board and the USEPA. No new data were assessed by the Regional Board for the current. The decision has not changed.

Line of Evidence (LOE) for Decision ID 33837, Dioxin compounds (including 2,3,7,8-TCDD)	Region 2
San Francisco Bay, South	

LOE ID: 3845

Pollutant:	Dioxin compounds (including 2,3,7,8-TCDD)
LOE Subgroup:	Pollutant-Tissue
Matrix:	Tissue
Fraction:	Not Recorded
Beneficial Use:	Commercial or recreational collection of fish, shellfish, or organisms
Number of Samples:	0
Number of Exceedances:	0
Data and Information Type:	Not Specified
Data Used to Assess Water Quality:	Unspecified--This LOE is a placeholder to support a 303(d) listing decision made prior to 2006.
Data Reference:	Placeholder reference pre-2006 303(d)
SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	
Objective/Criterion Reference:	
Evaluation Guideline:	
Guideline Reference:	
Spatial Representation:	Unspecified
Temporal Representation:	Unspecified
Environmental Conditions:	Unspecified
QAPP Information:	Unspecified
QAPP Information Reference(s):	

DECISION ID	44707	Region 2
San Francisco Bay, South		

Pollutant:	Furan Compounds
Final Listing Decision:	List on 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision:	List on 303(d) list (TMDL required list)(2012)
Revision Status	Original
Sources:	Source Unknown
Expected TMDL Completion Date:	2019
Impairment from Pollutant or Pollution:	Pollutant

Regional Board Staff Conclusion:	303(d) listing decisions made prior to 2006 were not held in an assessment database. The Regional Boards will update this decision when new data and information become available and are assessed.
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Regional Board Staff Decision Recommendation:	This is a decision previously approved by the State Water Resources Control Board and the USEPA. No new data were assessed by the Regional Board for the current. The decision has not changed.
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Line of Evidence (LOE) for Decision ID 44707, Furan Compounds	Region 2
San Francisco Bay, South	

LOE ID:	3847
Pollutant:	Furan Compounds
LOE Subgroup:	Pollutant-Tissue
Matrix:	Tissue
Fraction:	Not Recorded

Beneficial Use:	Commercial or recreational collection of fish, shellfish, or organisms
Number of Samples:	0
Number of Exceedances:	0
Data and Information Type:	Not Specified
Data Used to Assess Water Quality:	Unspecified--This LOE is a placeholder to support a 303(d) listing decision made prior to 2006.
Data Reference:	Placeholder reference pre-2006 303(d)
SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	
Objective/Criterion Reference:	
Evaluation Guideline:	
Guideline Reference:	
Spatial Representation:	Unspecified
Temporal Representation:	Unspecified
Environmental Conditions:	Unspecified
QAPP Information:	Unspecified
QAPP Information Reference(s):	

DECISION ID	44818	Region 2
San Francisco Bay, South		

Pollutant:	Invasive Species
Final Listing Decision:	List on 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision:	List on 303(d) list (TMDL required list)(2012)
Revision Status	Original
Sources:	Source Unknown
Expected TMDL Completion Date:	2019
Impairment from Pollutant or Pollution:	Pollutant

Regional Board Staff Conclusion:	303(d) listing decisions made prior to 2006 were not held in an assessment database. The Regional Boards will update this decision when new data and information become available and are assessed.
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Regional Board Staff Decision Recommendation:	This is a decision previously approved by the State Water Resources Control Board and the USEPA. No new data were assessed by the Regional Board for the current. The decision has not changed.
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Line of Evidence (LOE) for Decision ID 44818, Invasive Species	Region 2
San Francisco Bay, South	

LOE ID:	3846
Pollutant:	Invasive Species
LOE Subgroup:	Population/Community Degradation
Matrix:	Water
Fraction:	Not Recorded
Beneficial Use:	Estuarine Habitat
Number of Samples:	0
Number of Exceedances:	0

Data and Information Type:	Not Specified
Data Used to Assess Water Quality:	Unspecified--This LOE is a placeholder to support a 303(d) listing decision made prior to 2006.
Data Reference:	Placeholder reference pre-2006 303(d)
SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	
Objective/Criterion Reference:	
Evaluation Guideline:	
Guideline Reference:	
Spatial Representation:	Unspecified
Temporal Representation:	Unspecified
Environmental Conditions:	Unspecified
QAPP Information:	Unspecified
QAPP Information Reference(s):	

DECISION ID	34459	Region 2
San Francisco Bay, South		

Pollutant:	PCBs (Polychlorinated biphenyls) (dioxin-like)
Final Listing Decision:	List on 303(d) list (being addressed by USEPA approved TMDL)
Last Listing Cycle's Final Listing Decision:	List on 303(d) list (TMDL required list)(2012)
Revision Status	Original
Sources:	Source Unknown
TMDL Name:	San Francisco Bay PCBs
TMDL Project Code:	7
Date TMDL Approved by USEPA:	03/29/2010
Impairment from Pollutant or Pollution:	Pollutant

Regional Board Staff Conclusion:	303(d) listing decisions made prior to 2006 were not held in an assessment database. The Regional Boards will update this decision when new data and information become available and are assessed.
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Regional Board Staff Decision Recommendation:	This is a decision previously approved by the State Water Resources Control Board and the USEPA. No new data were assessed by the Regional Board for the current. The decision has not changed.
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Line of Evidence (LOE) for Decision ID 34459, PCBs (Polychlorinated biphenyls) (dioxin-like)	Region 2
San Francisco Bay, South	

LOE ID:	3850
Pollutant:	PCBs (Polychlorinated biphenyls) (dioxin-like)
LOE Subgroup:	Pollutant-Tissue
Matrix:	Tissue
Fraction:	Not Recorded
Beneficial Use:	Commercial or recreational collection of fish, shellfish, or organisms
Number of Samples:	0
Number of Exceedances:	0
Data and Information Type:	Not Specified
Data Used to Assess Water Quality:	Unspecified--This LOE is a placeholder to support a 303(d) listing decision made prior to 2006.

Data Reference:	Placeholder reference pre-2006 303(d)
SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	Unspecified
Objective/Criterion Reference:	Placeholder reference pre-2006 303(d)
Evaluation Guideline:	Unspecified
Guideline Reference:	Placeholder reference pre-2006 303(d)
Spatial Representation:	Unspecified
Temporal Representation:	Unspecified
Environmental Conditions:	Unspecified
QAPP Information:	Unspecified
QAPP Information Reference(s):	

Draft California 2016 Integrated Report (303(d) List/305(b) Report)

Supporting Information

Regional Board 2 - San Francisco Bay Region

Water Body Name: San Pablo Bay
Water Body ID: CAB2061001019980928100945
Water Body Type: Bay & Harbor

DECISION ID 32374 **Region 2**
San Pablo Bay

Pollutant: Diazinon
Final Listing Decision: Delist from 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision: Delist from 303(d) list (TMDL required list)(2012)
Revision Status Revised
Reason for Delisting: Applicable WQS attained; reason for recovery unspecified
Impairment from Pollutant or Pollution: Pollutant

Regional Board Staff Conclusion: This pollutant is being considered for removal from the CWA section 303(d) List under section 4.1 of the Listing Policy. Under this section a single line of evidence is necessary to assess listing status.

Five lines of evidence are available in the administrative record to assess this pollutant. Zero of sixty five samples exceeded the guideline.

Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification for removing this water segment-pollutant combination from the CWA section 303(d) List.

This conclusion is based on the staff findings that:

1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy.
2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy.
3. Zero of sixty five samples exceeded the guideline and this does not exceed the allowable frequency listed in Table 4.1 of the Listing Policy.
4. Pursuant to section 4.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.

Regional Board Staff Decision Recommendation: After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should be removed from the section 303(d) list because applicable water quality standards for the pollutant are not being exceeded.

Line of Evidence (LOE) for Decision ID 32374, Diazinon **Region 2**
San Pablo Bay

LOE ID: 69
Pollutant: Diazinon
LOE Subgroup: Pollutant-Water
Matrix: Water
Fraction: None
Beneficial Use: Estuarine Habitat
Number of Samples: 0
Number of Exceedances: 0

Data and Information Type:	Not Specified
Data Used to Assess Water Quality:	1st sample site: 19 samples, pollutant range: 450-44,320 pg/l, average: 6,339.4. 2nd sample site: 18 samples, pollutant range: 260-43,958 pg/l, average: 8,897.5. 3rd sample site: 15 samples, pollutant range: 370-31,190 pg/l, average: 6,028.4 (SFEI, 2001).
Data Reference:	Placeholder reference 2006 303(d)
SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	All waters shall be maintained free of toxic substances in concentrations that are lethal to or that produce other detrimental responses in aquatic organisms. Detrimental responses include, but are not limited to, decreased growth rate and decreased reproductive success of resident or indicator species. There shall be no acute toxicity in ambient waters. There shall be no chronic toxicity in ambient waters.
Objective/Criterion Reference:	Placeholder reference 2006 303(d)
Evaluation Guideline:	For salt water, USEPA has developed a draft water quality criteria of 820 ng/L (acute) and 400 ng/L (chronic). The use of these values may not comply with all the requirements of section 6.1.3 of the Listing Policy.
Guideline Reference:	Placeholder reference 2006 303(d)
Spatial Representation:	Three sample sites.
Temporal Representation:	1st sample site: Date Range: 03/04/93-08/06/01. 2nd sample site: Date Range: 03/04/93-08/06/01 3rd sample site: Date Range: 03/04/93-08/06/01
Environmental Conditions:	
QAPP Information:	SFEI RMP QA/QC program.
QAPP Information Reference(s):	

Line of Evidence (LOE) for Decision ID 32374, Diazinon

Region 2

San Pablo Bay

LOE ID:	67
Pollutant:	Diazinon
LOE Subgroup:	Toxicity
Matrix:	Not Specified
Fraction:	None
Beneficial Use:	Estuarine Habitat
Number of Samples:	0
Number of Exceedances:	0
Data and Information Type:	TOXICITY TESTING
Data Used to Assess Water Quality:	<p>Ambient water toxicity in San Francisco Bay appears to have disappeared. The results of ambient water toxicity monitoring at Mallard Island indicate a significant reduction in the frequency, duration, and magnitude of toxicity: 4-5% of the ambient water samples were toxic in 1998-99 (34 total samples) and 1999-2000 (23 samples), relative to 14% toxicity frequency observed in 1997-98 (27 samples); none of the 28 samples collected during the 2000-2001 season were significantly toxic.</p> <p>In addition, the 1998-2000 and 2000-2001 monitoring at Mallard Island did not document any sets of consecutively toxic samples indicative of an extended period of ambient water toxicity, such as were observed in February and May of 1998. Moreover, the magnitude of toxicity (as reflected by the degree [or percentage] of test organism mortality) is also markedly reduced in the later years, again suggesting a reduction in the degree of ambient water toxicity. Subsequent RMP monitoring of ambient water toxicity in water samples collected from October 2001 through April 2003, also indicated an absence of toxicity to the test organisms.</p>
Data Reference:	Placeholder reference 2006 303(d)

SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	Basin Plan: There shall be no acute toxicity in ambient waters. There shall be no chronic toxicity in ambient waters.
Objective/Criterion Reference:	Placeholder reference 2006 303(d)
Evaluation Guideline:	
Guideline Reference:	
Spatial Representation:	
Temporal Representation:	
Environmental Conditions:	
QAPP Information:	QA Info Missing
QAPP Information Reference(s):	

Line of Evidence (LOE) for Decision ID 32374, Diazinon

Region 2

San Pablo Bay

LOE ID:	66
Pollutant:	Diazinon
LOE Subgroup:	Narrative Description Data
Matrix:	-N/A
Fraction:	None
Beneficial Use:	Estuarine Habitat
Number of Samples:	0
Number of Exceedances:	0
Data and Information Type:	Not Specified
Data Used to Assess Water Quality:	In response to the RMP observations of ambient water toxicity, and given the linkage established between similar toxicity and pesticides in upstream ambient water, the SFBRWQCB identified all San Francisco Bay segments as being impaired due to 'Pesticides' in 1998: 'Pesticides have been added as a cause of impairment to all Bay segments. The pesticide diazinon has been measured at levels that cause water column toxicity. The pesticide chlorpyrifos may also be a problem. This listing is consistent with listing of the Delta for these pesticides by the Central Valley Regional Water Quality Control Board.' This listing was subsequently made specific for the OP pesticide diazinon by the USEPA.
Data Reference:	Placeholder reference 2006 303(d)

SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	
Objective/Criterion Reference:	
Evaluation Guideline:	
Guideline Reference:	
Spatial Representation:	
Temporal Representation:	
Environmental Conditions:	
QAPP Information:	QA Info Missing
QAPP Information Reference(s):	

Line of Evidence (LOE) for Decision ID 32374, Diazinon

Region 2

San Pablo Bay

LOE ID:	95163
Pollutant:	Diazinon
LOE Subgroup:	Pollutant-Tissue
Matrix:	Tissue
Fraction:	Fish fillet
Beneficial Use:	Commercial or recreational collection of fish, shellfish, or organisms
Number of Samples:	38
Number of Exceedances:	0
Data and Information Type:	Fish tissue analysis
Data Used to Assess Water Quality:	Water Board staff assessed Regional Monitoring Program data for San Pablo Bay to determine beneficial use support and results are as follows: 0 of 38 samples exceed the criterion for diazinon. No samples were discarded for being non-detect, unquantifiable or the reporting limit exceeding the water quality objective.
Data Reference:	Regional Monitoring Program data, Feb. 1993-Sep. 2008
SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	Water Quality Control Plan for the San Francisco Bay Basin: Controllable water quality factors shall not cause a detrimental increase in concentrations of toxic substances found in bottom sediments or aquatic life. Effects on aquatic organisms, wildlife, and human health will be considered.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	The modified OEHHA Fish Contaminant Goal for diazinon in fish tissue is 1,500 ppb. This screening level assumes an average body weight of 70 kg and a consumption rate of 32 g/day. A cooking reduction factor of 1 is applied for skin-off fillets. (Klasing, S., and R. Brodberg, 2008; USEPA, 2000)
Guideline Reference:	Development of Fish Contaminant Goals and Advisory Tissue Levels for Common Contaminants in California Sport Fish: Chlordane, DDTs, Dieldrin, Methylmercury, PCBs, Selenium, and Toxaphene Guidance for Assessing Chemical Contaminant Data for Use In Fish Advisories Volume 1: Fish Sampling and Analysis
Spatial Representation:	The samples were collected at three sites throughout San Pablo Bay.
Temporal Representation:	The samples were collected in March 2000, June 2000, November 2000, July 2003, August 2003, September 2003, May 2006, August 2006.
Environmental Conditions:	
QAPP Information:	The 1999 Quality Assurance Project Plan Regional Monitoring Program for Trace Substances was used.
QAPP Information Reference(s):	1999 Quality Assurance Project Plan Regional Monitoring Program for Trace Substances

Line of Evidence (LOE) for Decision ID 32374, Diazinon

Region 2

San Pablo Bay

LOE ID:	93146
Pollutant:	Diazinon
LOE Subgroup:	Pollutant-Water
Matrix:	Water
Fraction:	Dissolved
Beneficial Use:	Estuarine Habitat
Number of Samples:	65
Number of Exceedances:	0
Data and Information Type:	PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality:	State Water Board staff assessed SFEI data for San Pablo Bay to determine beneficial

Data Reference:	use support and results are as follows: 0 of 65 samples exceed the criterion for Diazinon. Regional Monitoring Program data, Feb. 1993-Sep. 2008
SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	All waters shall be maintained free of toxic substances in concentrations which are toxic to, or which produce detrimental physiological responses in, human, plant, animal, or aquatic life. (Water Quality Control Plan, Central Coast Basin, Chapter III, Section II.A.2 Objectives for all Inland Surface Waters, Enclosed Bays and Estuaries).
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	The freshwater chronic value for diazinon is 0.1 ug/L, expressed as a continuous concentration (Finlayson, 2004).
Guideline Reference:	Water quality for diazinon. Memorandum to J. Karkoski, Central Valley RWQCB, Rancho Cordova, CA: Pesticide Investigation Unit, CA Department of Fish and Game
Spatial Representation:	Data for this line of evidence for San Pablo Bay was collected at 15 monitoring sites [Davis Point - BD40, Petaluma River - BD15, Pinole Point - BD30, San Pablo Bay - SPB008W, San Pablo Bay - SPB014W, San Pablo Bay - SPB016W, San Pablo Bay - SPB005W, San Pablo Bay - SPB002W, San Pablo Bay - SPB015W, San Pablo Bay - SPB007W, San Pablo Bay - SPB013W, San Pablo Bay - SPB006W, San Pablo Bay - SPB001W, San Pablo Bay - SPB003W, San Pablo Bay - SPB004W]
Temporal Representation:	Data was collected over the time period 2/7/1994-8/11/2005.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	The 1999 Quality Assurance Project Plan Regional Monitoring Program for Trace Substances was used.
QAPP Information Reference(s):	1999 Quality Assurance Project Plan Regional Monitoring Program for Trace Substances

DECISION ID	33887	Region 2
San Pablo Bay		
Pollutant:	Nickel	
Final Listing Decision:	Delist from 303(d) list (TMDL required list)	
Last Listing Cycle's Final Listing Decision:	Delist from 303(d) list (TMDL required list)(2012)	
Revision Status	Revised	
Reason for Delisting:	Applicable WQS attained; reason for recovery unspecified	
Impairment from Pollutant or Pollution:	Pollutant	
Regional Board Staff Conclusion:	<p>This pollutant is being considered for removal from the CWA section 303(d) List under section 4.1 of the Listing Policy. Under this section a single line of evidence is necessary to assess listing status. Four lines of evidence are available in the administrative record to assess this pollutant. Four of two hundred one samples exceeded the objective.</p> <p>Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification for removing this water segment-pollutant combination from the CWA section 303(d) List.</p> <p>This conclusion is based on the staff findings that:</p> <ol style="list-style-type: none"> 1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy. 2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy. 3. Four of two hundred one samples exceeded the objective and this does not exceed the allowable frequency listed in Table 4.1 of the Listing Policy. 4. Pursuant to section 4.11 of the Listing Policy, no additional data and information are available indicating that standards are not met. 	
Regional Board Staff Decision Recommendation:	After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should be removed from the section 303(d) list because applicable water quality standards for the pollutant are not being exceeded.	

Line of Evidence (LOE) for Decision ID 33887, Nickel**Region 2****San Pablo Bay**

LOE ID:	5193
Pollutant:	Nickel
LOE Subgroup:	Pollutant-Water
Matrix:	Water
Fraction:	Dissolved
Beneficial Use:	Estuarine Habitat
Aquatic Life Use:	Estuarine Habitat
Number of Samples:	107
Number of Exceedances:	0
Data and Information Type:	Highest quality fixed-station P/C (conventional plus toxicants)
Data Used to Assess Water Quality:	Data are dissolved nickel measurements of grab samples collected through two monitoring programs. The first is the ongoing Regional Monitoring Program (RMP) in San Francisco Bay. The second set of data was from a special discharger-funded study to develop copper and nickel site-specific objectives (SSOs) that began in 2001. These data were taken throughout San Francisco Bay, but the bulk of the data are from the deepwater portion of the Bay. There were 107 individual dissolved nickel measurements from water samples taken in San Pablo Bay, and none of these measurements exceeded the objective.
Data Reference:	Spreadsheet of nickel data for San Francisco Bay from Regional Monitoring Program and Special copper/nickel study (1993-2005)
SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	The Regional Water Board Basin Plan contains water quality objectives of 8.2 microgram/Liter as a 4-day average and, 74 microgram/Liter as a 1-hour average. These objectives were approved by USEPA in January 2005 and are contained in the Regional Board Basin Plan in Table 3-3.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) - San Francisco Bay Region (Region 2)
Evaluation Guideline:	
Guideline Reference:	
Spatial Representation:	Twenty-two sampling locations in San Pablo Bay.
Temporal Representation:	Samples were taken from 1993 to 2005 in all seasons.
Environmental Conditions:	
QAPP Information:	Regional Monitoring Program QA/QC program is documented at http://sfei.org/rmp/rmp_data_index.html .
QAPP Information Reference(s):	

Line of Evidence (LOE) for Decision ID 33887, Nickel**Region 2****San Pablo Bay**

LOE ID:	3691
Pollutant:	Nickel
LOE Subgroup:	Pollutant-Water
Matrix:	Water
Fraction:	Not Recorded
Beneficial Use:	Estuarine Habitat
Number of Samples:	0
Number of Exceedances:	0

Data and Information Type:	Not Specified
Data Used to Assess Water Quality:	Unspecified--This LOE is a placeholder to support a 303(d) listing decision made prior to 2006.
Data Reference:	Placeholder reference pre-2006 303(d)
SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	Unspecified
Objective/Criterion Reference:	Placeholder reference pre-2006 303(d)
Evaluation Guideline:	Unspecified
Guideline Reference:	Placeholder reference pre-2006 303(d)
Spatial Representation:	Unspecified
Temporal Representation:	Unspecified
Environmental Conditions:	Unspecified
QAPP Information:	Unspecified
QAPP Information Reference(s):	

**Line of Evidence (LOE) for Decision ID 33887, Nickel
San Pablo Bay**

Region 2

LOE ID:	93179
Pollutant:	Nickel
LOE Subgroup:	Pollutant-Water
Matrix:	Water
Fraction:	Dissolved
Beneficial Use:	Estuarine Habitat
Number of Samples:	94
Number of Exceedances:	4
Data and Information Type:	PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality:	State Water Board staff assessed SFEI data for San Pablo Bay to determine beneficial use support and results are as follows: 4 of 94 samples exceed the criterion for Nickel.
Data Reference:	Regional Monitoring Program data, Feb. 1993-Sep. 2008
SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	The dissolved nickel criterion continuous concentration (expressed as a 4-day average) to protect aquatic life in saline water is 0.0082 mg/L (California Toxics Rule, 2000).
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	
Guideline Reference:	
Spatial Representation:	Data for this line of evidence for San Pablo Bay was collected at 29 monitoring sites [Davis Point - BD40, Petaluma River - BD15, Pinole Point - BD30, San Pablo Bay - SPB008W, San Pablo Bay - SPB014W, San Pablo Bay - SPB018W, San Pablo Bay - SPB016W, San Pablo Bay - SPB005W, San Pablo Bay - SPB020W, San Pablo Bay - SPB017W, San Pablo Bay - SPB010W, San Pablo Bay - SPB002W, San Pablo Bay - SPB015W, San Pablo Bay - SPB007W, San Pablo Bay - SPB013W, San Pablo Bay - SPB006W, San Pablo Bay - SPB019W, San Pablo Bay - SPB009W, San Pablo Bay - SPB011W, San Pablo Bay - SPB001W, San Pablo Bay - SPB023W, San Pablo Bay - SPB003W, San Pablo Bay - SPB012W, San Pablo Bay - SPB022W, San Pablo Bay - SPB004W, San Pablo Bay - SPB025W, San Pablo Bay - SPB021W, San Pablo Bay - SPB026W, San Pablo Bay - SPB024W]
Temporal Representation:	Data was collected over the time period 3/4/1993-7/14/2008.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.

QAPP Information: The 1999 Quality Assurance Project Plan Regional Monitoring Program for Trace Substances was used.

QAPP Information Reference(s): [1999 Quality Assurance Project Plan Regional Monitoring Program for Trace Substances](#)

Line of Evidence (LOE) for Decision ID 33887, Nickel

Region 2

San Pablo Bay

LOE ID: 93180

Pollutant: Nickel

LOE Subgroup: Pollutant-Water

Matrix: Water

Fraction: Total

Beneficial Use: Commercial or recreational collection of fish, shellfish, or organisms

Number of Samples: 97

Number of Exceedances: 0

Data and Information Type: PHYSICAL/CHEMICAL MONITORING

Data Used to Assess Water Quality: State Water Board staff assessed SFEI data for San Pablo Bay to determine beneficial use support and results are as follows: 0 of 97 samples exceed the criterion for Nickel.

Data Reference: [Regional Monitoring Program data, Feb. 1993-Sep. 2008](#)

SWAMP Data: Non-SWAMP

Water Quality Objective/Criterion: The Nickel criteria for the protection of human health from consumption of organisms only is 4.6 mg/L (California Toxics Rule, 2000).

Objective/Criterion Reference: [Code of Federal Regulations 40 part 131.38 Establishment of numeric criteria for priority toxic pollutants for the State of California. 7/1/2011 Edition](#)

Evaluation Guideline:

Guideline Reference:

Spatial Representation: Data for this line of evidence for San Pablo Bay was collected at 28 monitoring sites [Petaluma River - BD15, Pinole Point - BD30, Davis Point - BD40, San Pablo Bay - SPB001W, San Pablo Bay - SPB002W, San Pablo Bay - SPB003W, San Pablo Bay - SPB004W, San Pablo Bay - SPB005W, San Pablo Bay - SPB006W, San Pablo Bay - SPB007W, San Pablo Bay - SPB008W, San Pablo Bay - SPB009W, San Pablo Bay - SPB010W, San Pablo Bay - SPB011W, San Pablo Bay - SPB012W, San Pablo Bay - SPB013W, San Pablo Bay - SPB014W, San Pablo Bay - SPB015W, San Pablo Bay - SPB016W, San Pablo Bay - SPB017W, San Pablo Bay - SPB018W, San Pablo Bay - SPB019W, San Pablo Bay - SPB020W, San Pablo Bay - SPB021W, San Pablo Bay - SPB022W, San Pablo Bay - SPB024W, San Pablo Bay - SPB025W, San Pablo Bay - SPB026W]

Temporal Representation: Data was collected over the time period 3/4/1993-7/14/2008.

Environmental Conditions: Staff is not aware of any special conditions that might affect interpretation of the data.

QAPP Information: The 1999 Quality Assurance Project Plan Regional Monitoring Program for Trace Substances was used.

QAPP Information Reference(s): [1999 Quality Assurance Project Plan Regional Monitoring Program for Trace Substances](#)

DECISION ID 33545

Region 2

San Pablo Bay

Pollutant: Chlordane

Final Listing Decision: Do Not Delist from 303(d) list (TMDL required list)

Last Listing Cycle's Final Listing Decision: List on 303(d) list (TMDL required list)(2012)

Revision Status: Revised

Sources: Source Unknown

Expected TMDL Completion Date:	2013
Impairment from Pollutant or Pollution:	Pollutant
Regional Board Staff Conclusion:	<p>This pollutant is being considered for removal from the CWA section 303(d) List under section 4.1 of the Listing Policy. Under this section a single line of evidence is necessary to assess listing status.</p> <p>Five lines of evidence are available in the administrative record to assess pollutant. Twenty-four of the sixty-three samples exceed the guideline.</p> <p>Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against removing this water segment-pollutant combination from the CWA section 303(d) List.</p> <p>This conclusion is based on the staff findings that:</p> <ol style="list-style-type: none"> 1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy. 2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy. 3. Twenty-four of the sixty-three samples exceed the guideline and this exceeds the allowable frequency listed in Table 4.1 of the Listing Policy. 4. Pursuant to section 4.11 of the Listing Policy, no additional data and information are available indicating that standards are met.
Regional Board Staff Decision Recommendation:	After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be removed from the section 303(d) list because applicable water quality standards for the pollutant are being exceeded.

Line of Evidence (LOE) for Decision ID 33545, Chlordane		Region 2
San Pablo Bay		
LOE ID:	93137	
Pollutant:	Chlordane	
LOE Subgroup:	Pollutant-Water	
Matrix:	Water	
Fraction:	Dissolved	
Beneficial Use:	Estuarine Habitat	
Number of Samples:	75	
Number of Exceedances:	0	
Data and Information Type:	PHYSICAL/CHEMICAL MONITORING	
Data Used to Assess Water Quality:	State Water Board staff assessed SFEI data for San Pablo Bay to determine beneficial use support and results are as follows: 0 of 75 samples exceed the criterion for Chlordane, Total.	
Data Reference:	Regional Monitoring Program data, Feb. 1993-Sep. 2008	
SWAMP Data:	Non-SWAMP	
Water Quality Objective/Criterion:	The chlordane criterion continuous concentration (expressed as a 4-day average) to protect aquatic life in saline water is 0.004 ug/L (California Toxics Rule, 2000).	
Objective/Criterion Reference:	Code of Federal Regulations 40 part 131.38 Establishment of numeric criteria for priority toxic pollutants for the State of California. 7/1/2011 Edition	
Evaluation Guideline:		
Guideline Reference:		
Spatial Representation:	Data for this line of evidence for San Pablo Bay was collected at 19 monitoring sites [Davis Point - BD40, Petaluma River - BD15, Pinole Point - BD30, San Pablo Bay - SPB008W, San Pablo Bay - SPB014W, San Pablo Bay - SPB016W, San Pablo Bay -	

SPB005W, San Pablo Bay - SPB010W, San Pablo Bay - SPB002W, San Pablo Bay - SPB015W, San Pablo Bay - SPB007W, San Pablo Bay - SPB013W, San Pablo Bay - SPB006W, San Pablo Bay - SPB009W, San Pablo Bay - SPB011W, San Pablo Bay - SPB001W, San Pablo Bay - SPB003W, San Pablo Bay - SPB012W, San Pablo Bay - SPB004W]

Temporal Representation:

Data was collected over the time period 3/4/1993-8/11/2005.

Environmental Conditions:

Staff is not aware of any special conditions that might affect interpretation of the data.

QAPP Information:

The 1999 Quality Assurance Project Plan Regional Monitoring Program for Trace Substances was used.

QAPP Information Reference(s):

[1999 Quality Assurance Project Plan Regional Monitoring Program for Trace Substances](#)

Line of Evidence (LOE) for Decision ID 33545, Chlordane

Region 2

San Pablo Bay

LOE ID: 93138

Pollutant: Chlordane
LOE Subgroup: Pollutant-Water
Matrix: Water
Fraction: Total

Beneficial Use: Commercial or recreational collection of fish, shellfish, or organisms

Number of Samples: 85
Number of Exceedances: 1

Data and Information Type: PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality: State Water Board staff assessed SFEI data for San Pablo Bay to determine beneficial use support and results are as follows: 1 of 85 samples exceed the criterion for Chlordane, Total.

Data Reference: [Regional Monitoring Program data, Feb. 1993-Sep. 2008](#)

SWAMP Data: Non-SWAMP

Water Quality Objective/Criterion: The Chlordane, Total criteria for the protection of human health from consumption of organisms only is 0.00059 ug/L (California Toxics Rule, 2000).

Objective/Criterion Reference: [Code of Federal Regulations 40 part 131.38 Establishment of numeric criteria for priority toxic pollutants for the State of California. 7/1/2011 Edition](#)

Evaluation Guideline:

Guideline Reference:

Spatial Representation: Data for this line of evidence for San Pablo Bay was collected at 26 monitoring sites [Petaluma River - BD15, Pinole Point - BD30, Davis Point - BD40, San Pablo Bay - SPB001W, San Pablo Bay - SPB002W, San Pablo Bay - SPB003W, San Pablo Bay - SPB004W, San Pablo Bay - SPB005W, San Pablo Bay - SPB006W, San Pablo Bay - SPB007W, San Pablo Bay - SPB008W, San Pablo Bay - SPB009W, San Pablo Bay - SPB010W, San Pablo Bay - SPB011W, San Pablo Bay - SPB012W, San Pablo Bay - SPB013W, San Pablo Bay - SPB014W, San Pablo Bay - SPB015W, San Pablo Bay - SPB016W, San Pablo Bay - SPB017W, San Pablo Bay - SPB018W, San Pablo Bay - SPB019W, San Pablo Bay - SPB020W, San Pablo Bay - SPB021W, San Pablo Bay - SPB022W, San Pablo Bay - SPB023W]

Temporal Representation:

Data was collected over the time period 3/4/1993-8/9/2007.

Environmental Conditions:

Staff is not aware of any special conditions that might affect interpretation of the data.

QAPP Information:

The 1999 Quality Assurance Project Plan Regional Monitoring Program for Trace Substances was used.

QAPP Information Reference(s):

[1999 Quality Assurance Project Plan Regional Monitoring Program for Trace Substances](#)

Line of Evidence (LOE) for Decision ID 33545, Chlordane

Region 2

San Pablo Bay

LOE ID:	95209
Pollutant:	Chlordane
LOE Subgroup:	Pollutant-Tissue
Matrix:	Tissue
Fraction:	Fish fillet
Beneficial Use:	Commercial or recreational collection of fish, shellfish, or organisms
Number of Samples:	63
Number of Exceedances:	23
Data and Information Type:	Fish tissue analysis
Data Used to Assess Water Quality:	Water Board staff assessed Regional Monitoring Program data for San Pablo Bay to determine beneficial use support and results are as follows: 23 of 63 samples exceed the criterion for chlordane. No samples were discarded for being non-detect, unquantifiable or the reporting limit exceeding the water quality objective.
Data Reference:	Regional Monitoring Program data, Feb. 1993-Sep. 2008
SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	Water Quality Control Plan for the San Francisco Bay Basin: Controllable water quality factors shall not cause a detrimental increase in concentrations of toxic substances found in bottom sediments or aquatic life. Effects on aquatic organisms, wildlife, and human health will be considered.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	The modified OEHHA Fish Contaminant Goal for total chlordane in fish tissue is 3.9 ppb. This screening level assumes an average body weight of 70 kg and a consumption rate of 32 g/day for a 30 year exposure over a 70-year lifetime. This constituent is a carcinogen therefore the risk level is set to one in a million. A cooking reduction factor of 1 is applied for skin-off fillets. (Klasing, S., and R. Brodberg, 2008)
Guideline Reference:	Development of Fish Contaminant Goals and Advisory Tissue Levels for Common Contaminants in California Sport Fish: Chlordane, DDTs, Dieldrin, Methylmercury, PCBs, Selenium, and Toxaphene
Spatial Representation:	The samples were collected at six sites throughout San Pablo Bay.
Temporal Representation:	The samples were collected every three years from May 1994 through August 2006.
Environmental Conditions:	
QAPP Information:	The 1999 Quality Assurance Project Plan Regional Monitoring Program for Trace Substances was used.
QAPP Information Reference(s):	1999 Quality Assurance Project Plan Regional Monitoring Program for Trace Substances

Line of Evidence (LOE) for Decision ID 33545, Chlordane
San Pablo Bay

Region 2

LOE ID:	93652
Pollutant:	Chlordane
LOE Subgroup:	Pollutant-Tissue
Matrix:	Tissue
Fraction:	Shellfish
Beneficial Use:	Shellfish Harvesting
Number of Samples:	53
Number of Exceedances:	1
Data and Information Type:	Shellfish surveys
Data Used to Assess Water Quality:	One of the 53 samples exceeded the guideline. All composite samples were comprised of <i>Crassostrea gigas</i> or <i>Mytilus californianus</i> . Data were reported on a dry weight basis and were converted to a wet weight basis by multiplying the dry-weight concentration by a

Data Reference:	factor of 1 minus the percentage of moisture content expressed as a decimal. Laboratory replicates were averaged. Total chlordane was calculated as the sum of the following chlordane isomers: cis- and trans-chlordane, cis- and trans-nonachlor, and oxychlordane. Regional Monitoring Program data, Feb. 1993-Sep. 2008
SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	Water Quality Control Plan for the San Francisco Bay Basin: Controllable water quality factors shall not cause a detrimental increase in concentrations of toxic substances found in bottom sediments or aquatic life. Effects on aquatic organisms, wildlife, and human health will be considered.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	The modified OEHHA Fish Contaminant Goal for total chlordane in shellfish tissue is 6.0 ppb. This screening level assumes an average body weight of 70 kg and a consumption rate of 21 g/day for a 30 year exposure over a 70-year lifetime. This constituent is a carcinogen therefore the risk level is set to one in a million. (Brodberg, R.K., and G.A. Pollock, 1999; Klasing, S., and R. Brodberg, 2008)
Guideline Reference:	Prevalence of Selected Target Chemical Contaminants in Sport Fish From Two California Lakes: Public health designed screening study. Sacramento, CA: Office of Environmental Health Hazard Assessment Development of Fish Contaminant Goals and Advisory Tissue Levels for Common Contaminants in California Sport Fish: Chlordane, DDTs, Dieldrin, Methylmercury, PCBs, Selenium, and Toxaphene
Spatial Representation:	Samples were collected at the following station: BD20 - San Pablo Bay, BD30 - Pinole Point, and BD40 Davis Point.
Temporal Representation:	Samples were generally collected in spring and fall seasons from years 1994 - 1999 and then during most fall seasons during years 2000 - 2008.
Environmental Conditions:	
QAPP Information:	1999 Quality Assurance Project Plan Regional Monitoring Program for Trace Substances.
QAPP Information Reference(s):	1999 Quality Assurance Project Plan Regional Monitoring Program for Trace Substances

Line of Evidence (LOE) for Decision ID 33545, Chlordane
San Pablo Bay

Region 2

LOE ID:	3859
Pollutant:	Chlordane
LOE Subgroup:	Pollutant-Tissue
Matrix:	Tissue
Fraction:	Not Recorded
Beneficial Use:	Commercial or recreational collection of fish, shellfish, or organisms
Number of Samples:	0
Number of Exceedances:	0
Data and Information Type:	Not Specified
Data Used to Assess Water Quality:	Unspecified--This LOE is a placeholder to support a 303(d) listing decision made prior to 2006.
Data Reference:	Placeholder reference pre-2006 303(d)
SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	Unspecified
Objective/Criterion Reference:	Placeholder reference pre-2006 303(d)
Evaluation Guideline:	Unspecified
Guideline Reference:	Placeholder reference pre-2006 303(d)
Spatial Representation:	Unspecified

Temporal Representation:	Unspecified
Environmental Conditions:	Unspecified
QAPP Information:	Unspecified
QAPP Information Reference(s):	

DECISION ID	34688	Region 2
San Pablo Bay		

Pollutant:	DDT (Dichlorodiphenyltrichloroethane)
Final Listing Decision:	Do Not Delist from 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision:	List on 303(d) list (TMDL required list)(2012)
Revision Status	Revised
Sources:	Source Unknown
Expected TMDL Completion Date:	2013
Impairment from Pollutant or Pollution:	Pollutant

Regional Board Staff Conclusion:

This pollutant is being considered for removal from the CWA section 303(d) List under section 4.1 of the Listing Policy. Under this section a single line of evidence is necessary to assess listing status.

Five lines of evidence are available in the administrative record to assess pollutant. Forty six of sixty three samples exceed the guideline.

Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against removing this water segment-pollutant combination from the CWA section 303(d) List.

This conclusion is based on the staff findings that:

1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy.
2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy.
3. Forty six of sixty three samples exceed the guideline and this exceeds the allowable frequency listed in Table 4.1 of the Listing Policy.
4. Pursuant to section 4.11 of the Listing Policy, no additional data and information are available indicating that standards are met.

Regional Board Staff Decision Recommendation:	After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be removed from the section 303(d) list because applicable water quality standards for the pollutant are being exceeded.
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Line of Evidence (LOE) for Decision ID 34688, DDT (Dichlorodiphenyltrichloroethane)	Region 2
San Pablo Bay	

LOE ID:	93188
Pollutant:	Total DDT (sum of 4,4'- and 2,4'- isomers of DDT, DDE, and DDD)
LOE Subgroup:	Pollutant-Water
Matrix:	Water
Fraction:	Total
Beneficial Use:	Commercial or recreational collection of fish, shellfish, or organisms
Number of Samples:	85
Number of Exceedances:	34
Data and Information Type:	PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality:	State Water Board staff assessed SFEI data for San Pablo Bay to determine beneficial use support and results are as follows: 34 of 85 samples exceed the criterion for DDT,

Total.

Data Reference: [Regional Monitoring Program data, Feb. 1993-Sep. 2008](#)

SWAMP Data: Non-SWAMP

Water Quality Objective/Criterion: The DDT, Total criteria for the protection of human health from consumption of organisms only is 0.00059 ug/L (California Toxics Rule, 2000).

Objective/Criterion Reference: [Code of Federal Regulations 40 part 131.38 Establishment of numeric criteria for priority toxic pollutants for the State of California. 7/1/2011 Edition](#)

Evaluation Guideline:

Guideline Reference:

Spatial Representation: Data for this line of evidence for San Pablo Bay was collected at 26 monitoring sites [Petaluma River - BD15, Pinole Point - BD30, Davis Point - BD40, San Pablo Bay - SPB001W, San Pablo Bay - SPB002W, San Pablo Bay - SPB003W, San Pablo Bay - SPB004W, San Pablo Bay - SPB005W, San Pablo Bay - SPB006W, San Pablo Bay - SPB007W, San Pablo Bay - SPB008W, San Pablo Bay - SPB009W, San Pablo Bay - SPB010W, San Pablo Bay - SPB011W, San Pablo Bay - SPB012W, San Pablo Bay - SPB013W, San Pablo Bay - SPB014W, San Pablo Bay - SPB015W, San Pablo Bay - SPB016W, San Pablo Bay - SPB017W, San Pablo Bay - SPB018W, San Pablo Bay - SPB019W, San Pablo Bay - SPB020W, San Pablo Bay - SPB021W, San Pablo Bay - SPB022W, San Pablo Bay - SPB023W]

Temporal Representation: Data was collected over the time period 3/4/1993-8/9/2007.

Environmental Conditions: Staff is not aware of any special conditions that might affect interpretation of the data.

QAPP Information: The 1999 Quality Assurance Project Plan Regional Monitoring Program for Trace Substances was used.

QAPP Information Reference(s): [1999 Quality Assurance Project Plan Regional Monitoring Program for Trace Substances](#)

Line of Evidence (LOE) for Decision ID 34688, DDT (Dichlorodiphenyltrichloroethane)

Region 2

San Pablo Bay

LOE ID: 3860

Pollutant: DDT (Dichlorodiphenyltrichloroethane)

LOE Subgroup: Pollutant-Tissue

Matrix: Tissue

Fraction: Not Recorded

Beneficial Use: Commercial or recreational collection of fish, shellfish, or organisms

Number of Samples: 0

Number of Exceedances: 0

Data and Information Type: Not Specified

Data Used to Assess Water Quality: Unspecified--This LOE is a placeholder to support a 303(d) listing decision made prior to 2006.

Data Reference: [Placeholder reference pre-2006 303\(d\)](#)

SWAMP Data: Non-SWAMP

Water Quality Objective/Criterion:

Objective/Criterion Reference:

Evaluation Guideline:

Guideline Reference:

Spatial Representation:

Temporal Representation: Unspecified

Environmental Conditions: Unspecified

QAPP Information: Unspecified

QAPP Information Reference(s):

Line of Evidence (LOE) for Decision ID 34688, DDT (Dichlorodiphenyltrichloroethane)**Region 2****San Pablo Bay**

LOE ID:	93187
Pollutant:	Total DDT (sum of 4,4'- and 2,4'- isomers of DDT, DDE, and DDD)
LOE Subgroup:	Pollutant-Water
Matrix:	Water
Fraction:	Dissolved
Beneficial Use:	Estuarine Habitat
Number of Samples:	75
Number of Exceedances:	0
Data and Information Type:	PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality:	State Water Board staff assessed SFEI data for San Pablo Bay to determine beneficial use support and results are as follows: 0 of 75 samples exceed the criterion for DDT, Total.
Data Reference:	Regional Monitoring Program data, Feb. 1993-Sep. 2008
SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	The DDT criterion continuous concentration (expressed as a 4-day average) to protect aquatic life in saline water is 0.001 ug/L (California Toxics Rule, 2000).
Objective/Criterion Reference:	Code of Federal Regulations 40 part 131.38 Establishment of numeric criteria for priority toxic pollutants for the State of California. 7/1/2011 Edition
Evaluation Guideline:	
Guideline Reference:	
Spatial Representation:	Data for this line of evidence for San Pablo Bay was collected at 19 monitoring sites [Davis Point - BD40, Petaluma River - BD15, Pinole Point - BD30, San Pablo Bay - SPB008W, San Pablo Bay - SPB014W, San Pablo Bay - SPB016W, San Pablo Bay - SPB005W, San Pablo Bay - SPB010W, San Pablo Bay - SPB002W, San Pablo Bay - SPB015W, San Pablo Bay - SPB007W, San Pablo Bay - SPB013W, San Pablo Bay - SPB006W, San Pablo Bay - SPB009W, San Pablo Bay - SPB011W, San Pablo Bay - SPB001W, San Pablo Bay - SPB003W, San Pablo Bay - SPB012W, San Pablo Bay - SPB004W]
Temporal Representation:	Data was collected over the time period 3/4/1993-8/11/2005.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	The 1999 Quality Assurance Project Plan Regional Monitoring Program for Trace Substances was used.
QAPP Information Reference(s):	1999 Quality Assurance Project Plan Regional Monitoring Program for Trace Substances

Line of Evidence (LOE) for Decision ID 34688, DDT (Dichlorodiphenyltrichloroethane)**Region 2****San Pablo Bay**

LOE ID:	95198
Pollutant:	DDT (Dichlorodiphenyltrichloroethane)
LOE Subgroup:	Pollutant-Tissue
Matrix:	Tissue
Fraction:	Fish fillet
Beneficial Use:	Commercial or recreational collection of fish, shellfish, or organisms
Number of Samples:	63
Number of Exceedances:	45

Data and Information Type:	Fish tissue analysis
Data Used to Assess Water Quality:	Water Board staff assessed Regional Monitoring Program data for San Pablo Bay to determine beneficial use support and results are as follows: 45 of 63 samples exceed the criterion for DDT. No samples were discarded for being non-detect, unquantifiable or the reporting limit exceeding the water quality objective.
Data Reference:	Regional Monitoring Program data, Feb. 1993-Sep. 2008
SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	Water Quality Control Plan for the San Francisco Bay Basin: Controllable water quality factors shall not cause a detrimental increase in concentrations of toxic substances found in bottom sediments or aquatic life. Effects on aquatic organisms, wildlife, and human health will be considered.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	The modified OEHHA Fish Contaminant Goal for total DDT in fish tissue is 15 ppb. This screening level assumes an average body weight of 70 kg and a consumption rate of 32 g/day for a 30 year exposure over a 70-year lifetime. This constituent is a carcinogen therefore the risk level is set to one in a million. A cooking reduction factor of 1 is applied for skin-off fillets. (Klasing, S., and R. Brodberg, 2008)
Guideline Reference:	Development of Fish Contaminant Goals and Advisory Tissue Levels for Common Contaminants in California Sport Fish: Chlordane, DDTs, Dieldrin, Methylmercury, PCBs, Selenium, and Toxaphene
Spatial Representation:	The samples were collected at six sites throughout San Pablo Bay.
Temporal Representation:	The samples were collected every three years from May 1994 through August 2006.
Environmental Conditions:	
QAPP Information:	The 1999 Quality Assurance Project Plan Regional Monitoring Program for Trace Substances was used.
QAPP Information Reference(s):	1999 Quality Assurance Project Plan Regional Monitoring Program for Trace Substances

Line of Evidence (LOE) for Decision ID 34688, DDT (Dichlorodiphenyltrichloroethane)

Region 2

San Pablo Bay

LOE ID:	93653
Pollutant:	Total DDT (sum of 4,4'- and 2,4'- isomers of DDT, DDE, and DDD)
LOE Subgroup:	Pollutant-Tissue
Matrix:	Tissue
Fraction:	Shellfish
Beneficial Use:	Shellfish Harvesting
Number of Samples:	53
Number of Exceedances:	5
Data and Information Type:	Shellfish surveys
Data Used to Assess Water Quality:	Five of the 53 samples exceeded the guideline. All composite samples were comprised of Crassostrea gigas or Mytilus californianus. Data were reported on a dry weight basis and were converted to a wet weight basis by multiplying the dry-weight concentration by a factor of 1 minus the percentage of moisture content expressed as a decimal. Laboratory replicates were averaged. Total DDT was calculated as the sum of 4,4'- and 2,4'- isomers of DDT, DDE, and DDD.
Data Reference:	Regional Monitoring Program data, Feb. 1993-Sep. 2008
SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	Water Quality Control Plan for the San Francisco Bay Basin: Controllable water quality factors shall not cause a detrimental increase in concentrations of toxic substances found in bottom sediments or aquatic life. Effects on aquatic organisms, wildlife, and human health will be considered.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)

Evaluation Guideline:	The modified OEHHA Fish Contaminant Goal for total DDT in shellfish tissue is 23 ppb. This screening level assumes an average body weight of 70 kg and a consumption rate of 21 g/day for a 30 year exposure over a 70-year lifetime. This constituent is a carcinogen therefore the risk level is set to one in a million. (Brodberg, R.K., and G.A. Pollock, 1999; Klasing, S., and R. Brodberg, 2008)
Guideline Reference:	Prevalence of Selected Target Chemical Contaminants in Sport Fish From Two California Lakes: Public health designed screening study. Sacramento, CA: Office of Environmental Health Hazard Assessment Development of Fish Contaminant Goals and Advisory Tissue Levels for Common Contaminants in California Sport Fish: Chlordane, DDTs, Dieldrin, Methylmercury, PCBs, Selenium, and Toxaphene
Spatial Representation:	Samples were collected at the following station: BD20 - San Pablo Bay, BD30 - Pinole Point, and BD40 Davis Point.
Temporal Representation:	Samples were generally collected in spring and fall seasons from years 1994 - 1999 and then during most fall seasons during years 2000 - 2008.
Environmental Conditions:	
QAPP Information:	1999 Quality Assurance Project Plan Regional Monitoring Program for Trace Substances.
QAPP Information Reference(s):	1999 Quality Assurance Project Plan Regional Monitoring Program for Trace Substances

DECISION ID	33972	Region 2
San Pablo Bay		

Pollutant:	Dieldrin
Final Listing Decision:	Do Not Delist from 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision:	List on 303(d) list (TMDL required list)(2012)
Revision Status	Revised
Sources:	Source Unknown
Expected TMDL Completion Date:	2013
Impairment from Pollutant or Pollution:	Pollutant

Regional Board Staff Conclusion:	<p>This pollutant is being considered for removal from the CWA section 303(d) List under section 4.1 of the Listing Policy. Under this section a single line of evidence is necessary to assess listing status.</p> <p>Five lines of evidence are available in the administrative record to assess pollutant. Fifty-three of Fifty-three samples exceed the guideline.</p> <p>Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against removing this water segment-pollutant combination from the CWA section 303(d) List.</p> <p>This conclusion is based on the staff findings that:</p> <ol style="list-style-type: none"> 1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy. 2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy. 3. Fifty-three of Fifty-three samples exceed the guideline and this exceeds the allowable frequency listed in Table 4.1 of the Listing Policy. 4. Pursuant to section 4.11 of the Listing Policy, no additional data and information are available indicating that standards are met.
Regional Board Staff Decision Recommendation:	After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be removed from the section 303(d) list because applicable water quality standards for the pollutant are being exceeded.

Line of Evidence (LOE) for Decision ID 33972, Dieldrin	Region 2
San Pablo Bay	

LOE ID:	93654
Pollutant:	Dieldrin
LOE Subgroup:	Pollutant-Tissue
Matrix:	Tissue
Fraction:	Shellfish
Beneficial Use:	Shellfish Harvesting
Number of Samples:	50
Number of Exceedances:	36
Data and Information Type:	Shellfish surveys
Data Used to Assess Water Quality:	Thirty-six of the 50 samples exceeded the guideline. All composite samples were comprised of <i>Crassostrea gigas</i> or <i>Mytilus californianus</i> . Data were reported on a dry weight basis and were converted to a wet weight basis by multiplying the dry-weight concentration by a factor of 1 minus the percentage of moisture content expressed as a decimal. Three samples were not used in the assessment because the laboratory data reporting limit(s) were above the objective and therefore the results could not be quantified with the level of certainty required by the Listing Policy. Laboratory replicates were averaged.
Data Reference:	Regional Monitoring Program data, Feb. 1993-Sep. 2008
SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	Water Quality Control Plan for the San Francisco Bay Basin: Controllable water quality factors shall not cause a detrimental increase in concentrations of toxic substances found in bottom sediments or aquatic life. Effects on aquatic organisms, wildlife, and human health will be considered.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	The modified OEHHA Fish Contaminant Goal for dieldrin in shellfish tissue is 0.49 ppb. This screening level assumes an average body weight of 70 kg and a consumption rate of 21 g/day for a 30 year exposure over a 70-year lifetime. This constituent is a carcinogen therefore the risk level is set to one in a million. (Brodberg, R.K., and G.A. Pollock, 1999; Klasing, S., and R. Brodberg, 2008)
Guideline Reference:	Prevalence of Selected Target Chemical Contaminants in Sport Fish From Two California Lakes: Public health designed screening study. Sacramento, CA: Office of Environmental Health Hazard Assessment Development of Fish Contaminant Goals and Advisory Tissue Levels for Common Contaminants in California Sport Fish: Chlordane, DDTs, Dieldrin, Methylmercury, PCBs, Selenium, and Toxaphene
Spatial Representation:	Samples were collected at the following station: San Pablo Bay, BD30 - Pinole Point, and BD40 Davis Point.
Temporal Representation:	Samples were generally collected in spring and fall seasons from years 1994 - 1999 and then during most fall seasons during years 2000 - 2008.
Environmental Conditions:	
QAPP Information:	1999 Quality Assurance Project Plan Regional Monitoring Program for Trace Substances.
QAPP Information Reference(s):	1999 Quality Assurance Project Plan Regional Monitoring Program for Trace Substances

Line of Evidence (LOE) for Decision ID 33972, Dieldrin

Region 2

San Pablo Bay

LOE ID:	3861
Pollutant:	Dieldrin
LOE Subgroup:	Pollutant-Tissue
Matrix:	Tissue
Fraction:	Not Recorded

Beneficial Use:	Commercial or recreational collection of fish, shellfish, or organisms
Number of Samples:	0
Number of Exceedances:	0
Data and Information Type:	Not Specified
Data Used to Assess Water Quality:	Unspecified--This LOE is a placeholder to support a 303(d) listing decision made prior to 2006.
Data Reference:	Placeholder reference pre-2006 303(d)
SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	Unspecified
Objective/Criterion Reference:	Placeholder reference pre-2006 303(d)
Evaluation Guideline:	Unspecified
Guideline Reference:	Placeholder reference pre-2006 303(d)
Spatial Representation:	Unspecified
Temporal Representation:	Unspecified
Environmental Conditions:	Unspecified
QAPP Information:	Unspecified
QAPP Information Reference(s):	

Line of Evidence (LOE) for Decision ID 33972, Dieldrin San Pablo Bay

Region 2

LOE ID:	95170
Pollutant:	Dieldrin
LOE Subgroup:	Pollutant-Tissue
Matrix:	Tissue
Fraction:	Fish fillet
Beneficial Use:	Commercial or recreational collection of fish, shellfish, or organisms
Number of Samples:	36
Number of Exceedances:	36
Data and Information Type:	Fish tissue analysis
Data Used to Assess Water Quality:	Water Board staff assessed Regional Monitoring Program data for San Pablo Bay to determine beneficial use support and results are as follows: 36 of 36 samples exceed the criterion for dieldrin. Thirty samples were discarded for being non-detect, unquantifiable or the reporting limit exceeding the water quality objective.
Data Reference:	Regional Monitoring Program data, Feb. 1993-Sep. 2008
SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	Water Quality Control Plan for the San Francisco Bay Basin: Controllable water quality factors shall not cause a detrimental increase in concentrations of toxic substances found in bottom sediments or aquatic life. Effects on aquatic organisms, wildlife, and human health will be considered.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	The modified OEHHA Fish Contaminant Goal for dieldrin in fish tissue is 0.32 ppb. This screening level assumes an average body weight of 70 kg and a consumption rate of 32 g/day for a 30 year exposure over a 70-year lifetime. This constituent is a carcinogen therefore the risk level is set to one in a million. A cooking reduction factor of 1 is applied for skin-off fillets. (Klasing, S., and R. Brodberg, 2008)
Guideline Reference:	Development of Fish Contaminant Goals and Advisory Tissue Levels for Common Contaminants in California Sport Fish: Chlordane, DDTs, Dieldrin, Methylmercury, PCBs, Selenium, and Toxaphene

Spatial Representation:	The samples were collected at six sites throughout San Pablo Bay.
Temporal Representation:	The samples were collected every three years from May 1994 through August 2006.
Environmental Conditions:	
QAPP Information:	The 1999 Quality Assurance Project Plan Regional Monitoring Program for Trace Substances was used.
QAPP Information Reference(s):	1999 Quality Assurance Project Plan Regional Monitoring Program for Trace Substances

Line of Evidence (LOE) for Decision ID 33972, Dieldrin	Region 2
San Pablo Bay	

LOE ID:	93151
Pollutant:	Dieldrin
LOE Subgroup:	Pollutant-Water
Matrix:	Water
Fraction:	Total
Beneficial Use:	Commercial or recreational collection of fish, shellfish, or organisms
Number of Samples:	85
Number of Exceedances:	5
Data and Information Type:	PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality:	State Water Board staff assessed SFEI data for San Pablo Bay to determine beneficial use support and results are as follows: 5 of 85 samples exceed the criterion for Dieldrin.
Data Reference:	Regional Monitoring Program data, Feb. 1993-Sep. 2008
SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	The Dieldrin criteria for the protection of human health from consumption of organisms only is 0.00014 ug/L (California Toxics Rule, 2000).
Objective/Criterion Reference:	Code of Federal Regulations 40 part 131.38 Establishment of numeric criteria for priority toxic pollutants for the State of California, 7/1/2011 Edition
Evaluation Guideline:	
Guideline Reference:	
Spatial Representation:	Data for this line of evidence for San Pablo Bay was collected at 26 monitoring sites [Petaluma River - BD15, Pinole Point - BD30, Davis Point - BD40, San Pablo Bay - SPB001W, San Pablo Bay - SPB002W, San Pablo Bay - SPB003W, San Pablo Bay - SPB004W, San Pablo Bay - SPB005W, San Pablo Bay - SPB006W, San Pablo Bay - SPB007W, San Pablo Bay - SPB008W, San Pablo Bay - SPB009W, San Pablo Bay - SPB010W, San Pablo Bay - SPB011W, San Pablo Bay - SPB012W, San Pablo Bay - SPB013W, San Pablo Bay - SPB014W, San Pablo Bay - SPB015W, San Pablo Bay - SPB016W, San Pablo Bay - SPB017W, San Pablo Bay - SPB018W, San Pablo Bay - SPB019W, San Pablo Bay - SPB020W, San Pablo Bay - SPB021W, San Pablo Bay - SPB022W, San Pablo Bay - SPB023W]
Temporal Representation:	Data was collected over the time period 3/4/1993-8/9/2007.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	The 1999 Quality Assurance Project Plan Regional Monitoring Program for Trace Substances was used.
QAPP Information Reference(s):	1999 Quality Assurance Project Plan Regional Monitoring Program for Trace Substances

Line of Evidence (LOE) for Decision ID 33972, Dieldrin	Region 2
San Pablo Bay	

LOE ID:	93150
Pollutant:	Dieldrin
LOE Subgroup:	Pollutant-Water

Matrix:	Water
Fraction:	Dissolved
Beneficial Use:	Estuarine Habitat
Number of Samples:	75
Number of Exceedances:	0
Data and Information Type:	PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality:	State Water Board staff assessed SFEI data for San Pablo Bay to determine beneficial use support and results are as follows: 0 of 75 samples exceed the criterion for Dieldrin.
Data Reference:	Regional Monitoring Program data, Feb. 1993-Sep. 2008
SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	The Dieldrin criterion continuous concentration (expressed as a 4-day average) to protect aquatic life in saline water is 0.0019 ug/L (California Toxics Rule, 2000).
Objective/Criterion Reference:	Code of Federal Regulations 40 part 131.38 Establishment of numeric criteria for priority toxic pollutants for the State of California. 7/1/2011 Edition
Evaluation Guideline:	
Guideline Reference:	
Spatial Representation:	Data for this line of evidence for San Pablo Bay was collected at 19 monitoring sites [Davis Point - BD40, Petaluma River - BD15, Pinole Point - BD30, San Pablo Bay - SPB008W, San Pablo Bay - SPB014W, San Pablo Bay - SPB016W, San Pablo Bay - SPB005W, San Pablo Bay - SPB010W, San Pablo Bay - SPB002W, San Pablo Bay - SPB015W, San Pablo Bay - SPB007W, San Pablo Bay - SPB013W, San Pablo Bay - SPB006W, San Pablo Bay - SPB009W, San Pablo Bay - SPB011W, San Pablo Bay - SPB001W, San Pablo Bay - SPB003W, San Pablo Bay - SPB012W, San Pablo Bay - SPB004W]
Temporal Representation:	Data was collected over the time period 3/4/1993-8/11/2005.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	The 1999 Quality Assurance Project Plan Regional Monitoring Program for Trace Substances was used.
QAPP Information Reference(s):	1999 Quality Assurance Project Plan Regional Monitoring Program for Trace Substances

DECISION ID	35256	Region 2
San Pablo Bay		

Pollutant:	Mercury
Final Listing Decision:	Do Not Delist from 303(d) list (being addressed with USEPA approved TMDL)
Last Listing Cycle's Final Listing Decision:	List on 303(d) list (being addressed by USEPA approved TMDL)(2012)
Revision Status	Revised
Sources:	Source Unknown
TMDL Name:	San Francisco Bay Mercury
TMDL Project Code:	6
Date TMDL Approved by USEPA:	02/12/2008
Impairment from Pollutant or Pollution:	Pollutant
Regional Board Staff Conclusion:	<p>This pollutant is being considered for removal on the CWA section 303(d) List under sections 2.2 and 4.1 of the Listing Policy. Under section 4.1 of the Policy, a minimum of one line of evidence is needed to assess listing status.</p> <p>Three lines of evidence are available in the administrative record to assess this pollutant.</p> <p>Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against removing this water segment-pollutant combination from the CWA</p>

section 303(d) List. There is sufficient justification to place it in the Being Addressed portion of the CWA 303(d) List because a TMDL has been completed and approved by RWQCB and USEPA, and is expected to result in attainment of the standard.

This conclusion is based on the staff findings that:

1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy.
2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy.
3. Ninety-seven of one hundred forty-six samples exceeded the evaluation guideline and these exceed the allowable frequency listed in Table 4.1 of the Listing Policy.
4. The SF Bay Mercury TMDL was approved by USEPA on 2/12/2008.
5. Pursuant to section 4.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.

Regional Board Staff Decision Recommendation: After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be removed from the section 303(d) list because applicable water quality standards for the pollutant are being exceeded.

Line of Evidence (LOE) for Decision ID 35256, Mercury

Region 2

San Pablo Bay

LOE ID:	95181
Pollutant:	Mercury
LOE Subgroup:	Pollutant-Tissue
Matrix:	Tissue
Fraction:	Fish fillet
Beneficial Use:	Commercial or recreational collection of fish, shellfish, or organisms
Number of Samples:	123
Number of Exceedances:	93
Data and Information Type:	Fish tissue analysis
Data Used to Assess Water Quality:	Water Board staff assessed Regional Monitoring Program data for San Pablo Bay to determine beneficial use support and results are as follows: 93 of 123 samples exceed the criterion for mercury. No samples were discarded for being non-detect, unquantifiable or the reporting limit exceeding the water quality objective.
Data Reference:	Regional Monitoring Program data, Feb. 1993-Sep. 2008
SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	Water Quality Control Plan for the San Francisco Bay Basin: Controllable water quality factors shall not cause a detrimental increase in concentrations of toxic substances found in bottom sediments or aquatic life. Effects on aquatic organisms, wildlife, and human health will be considered.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	The Water Quality Control Plan for the San Francisco Bay Basin has a water quality objective in all parts of San Francisco Bay of 0.2 mg mercury per kg fish tissue for the protection of human health.
Guideline Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Spatial Representation:	The samples were collected at six sites throughout San Pablo Bay.
Temporal Representation:	The samples were collected every three years from May 1994 through October 2006.
Environmental Conditions:	
QAPP Information:	The 1999 Quality Assurance Project Plan Regional Monitoring Program for Trace Substances was used.
QAPP Information Reference(s):	1999 Quality Assurance Project Plan Regional Monitoring Program for Trace Substances

Line of Evidence (LOE) for Decision ID 35256, Mercury

Region 2

San Pablo Bay

LOE ID:	3690
Pollutant:	Mercury
LOE Subgroup:	Pollutant-Tissue
Matrix:	Tissue
Fraction:	Not Recorded
Beneficial Use:	Commercial or recreational collection of fish, shellfish, or organisms
Number of Samples:	0
Number of Exceedances:	0
Data and Information Type:	Not Specified
Data Used to Assess Water Quality:	Unspecified--This LOE is a placeholder to support a 303(d) listing decision made prior to 2006.
Data Reference:	Placeholder reference pre-2006 303(d)
SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	Unspecified
Objective/Criterion Reference:	Placeholder reference pre-2006 303(d)
Evaluation Guideline:	Unspecified
Guideline Reference:	Placeholder reference pre-2006 303(d)
Spatial Representation:	Unspecified
Temporal Representation:	Unspecified
Environmental Conditions:	Unspecified
QAPP Information:	Unspecified
QAPP Information Reference(s):	

Line of Evidence (LOE) for Decision ID 35256, Mercury

Region 2

San Pablo Bay

LOE ID:	93704
Pollutant:	Mercury
LOE Subgroup:	Pollutant-Tissue
Matrix:	Tissue
Fraction:	Shellfish
Beneficial Use:	Shellfish Harvesting
Number of Samples:	35
Number of Exceedances:	0
Data and Information Type:	Shellfish surveys
Data Used to Assess Water Quality:	None of the 35 samples exceeded the guideline. Composite samples were comprised of <i>Crassostrea gigas</i> or <i>Mytilus californianus</i> . Data were reported on a dry weight basis and were converted to a wet weight basis by multiplying the dry-weight concentration by a factor of 1 minus the percentage of moisture content expressed as a decimal. If a dry weight result did not have a corresponding moisture result for conversion to wet weight, the sample was not included in the assessment. Laboratory replicates were averaged.
Data Reference:	Regional Monitoring Program data, Feb. 1993-Sep. 2008
SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	Water Quality Control Plan for the San Francisco Bay Basin: Controllable water quality factors shall not cause a detrimental increase in concentrations of toxic substances found in bottom sediments or aquatic life. Effects on aquatic organisms, wildlife, and human

Objective/Criterion Reference:	health will be considered. Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	The USEPA 304(a) recommended water quality criterion for concentrations of methylmercury in shellfish tissue (wet weight) is 0.20 ppm. (Brodberg, R.K., and G.A. Pollock, 1999; USEPA, 2001)
Guideline Reference:	Prevalence of Selected Target Chemical Contaminants in Sport Fish From Two California Lakes: Public health designed screening study. Sacramento, CA: Office of Environmental Health Hazard Assessment Water Quality Criterion for the Protection of Human Health: Methylmercury. Final. United States Environmental Protection Agency Office of Science and Technology Office of Water. EPA-823-R-01-001. January 2001
Spatial Representation:	Samples were collected at the following stations: BD20 - San Pablo Bay, BD30 - Pinole Point, and BD40 - Davis Point.
Temporal Representation:	Samples were generally collected in spring and fall seasons from years 1993 - 1999.
Environmental Conditions:	
QAPP Information:	1999 Quality Assurance Project Plan Regional Monitoring Program for Trace Substances.
QAPP Information Reference(s):	1999 Quality Assurance Project Plan Regional Monitoring Program for Trace Substances

DECISION ID	33888	Region 2
San Pablo Bay		

Pollutant:	PCBs (Polychlorinated biphenyls)
Final Listing Decision:	Do Not Delist from 303(d) list (being addressed with USEPA approved TMDL)
Last Listing Cycle's Final Listing Decision:	List on 303(d) list (TMDL required list)(2012)
Revision Status	Revised
Sources:	Source Unknown
TMDL Name:	San Francisco Bay PCBs
TMDL Project Code:	7
Date TMDL Approved by USEPA:	03/29/2010
Impairment from Pollutant or Pollution:	Pollutant
Regional Board Staff Conclusion:	<p>This pollutant is being considered for removal on the CWA section 303(d) List under sections 2.2 and 4.1 of the Listing Policy. Under section 4.1 of the Policy, a minimum of one line of evidence is needed to assess listing status.</p> <p>Five lines of evidence are available in the administrative record to assess this pollutant.</p> <p>Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against removing this water segment-pollutant combination from the CWA section 303(d) List. There is sufficient justification to place it in the Being Addressed portion of the CWA 303(d) List because a TMDL has been completed and approved by RWQCB and USEPA, and is expected to result in attainment of the standard.</p> <p>This conclusion is based on the staff findings that:</p> <ol style="list-style-type: none"> 1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy. 2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy. 3. Seventy-three of eighty-five samples exceeded the evaluation guideline and these exceed the allowable frequency listed in Table 4.1 of the Listing Policy. 4. The SF Bay PCBs TMDL was approved by USEPA on 3/29/2010. 5. Pursuant to section 4.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.
Regional Board Staff Decision Recommendation:	After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be removed from the section 303(d) list because applicable water quality standards for the pollutant are being exceeded.

Line of Evidence (LOE) for Decision ID 33888, PCBs (Polychlorinated biphenyls)**Region 2****San Pablo Bay**

LOE ID:	93670
Pollutant:	PCBs (Polychlorinated biphenyls)
LOE Subgroup:	Pollutant-Tissue
Matrix:	Tissue
Fraction:	Shellfish
Beneficial Use:	Shellfish Harvesting
Number of Samples:	52
Number of Exceedances:	48
Data and Information Type:	Shellfish surveys
Data Used to Assess Water Quality:	Forty-eight of the 52 samples exceeded the guideline. Composite samples were comprised of <i>Corbicula fluminea</i> , <i>Crassostrea gigas</i> , or <i>Mytilus californianus</i> . Data were reported on a dry weight basis and were converted to a wet weight basis by multiplying the dry-weight concentration by a factor of 1 minus the percentage of moisture content expressed as a decimal. Laboratory replicates were averaged. Total PCB was assessed for as follows: PCB aroclors and congeners were summed separately and the sum that yielded the highest value was used for the assessment. The result for Station BD40 collected on 9/1/1998 was not a valid sample and so was not used in the assessment.
Data Reference:	Regional Monitoring Program data, Feb. 1993-Sep. 2008
SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	Water Quality Control Plan for the San Francisco Bay Basin (2013): Controllable water quality factors shall not cause a detrimental increase in concentrations of toxic substances found in bottom sediments or aquatic life. Effects on aquatic organisms, wildlife, and human health will be considered.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	The modified OEHHA Fish Contaminant Goal for polychlorinated biphenyls in shellfish tissue is 3.9 ppb. This screening level assumes an average body weight of 70 kg and a consumption rate of 21 g/day for a 30 year exposure over a 70-year lifetime. This constituent is a carcinogen therefore the risk level is set to one in a million. (Brodberg, R.K., and G.A. Pollock, 1999; Klasing, S., and R. Brodberg, 2008)
Guideline Reference:	Prevalence of Selected Target Chemical Contaminants in Sport Fish From Two California Lakes: Public health designed screening study. Sacramento, CA: Office of Environmental Health Hazard Assessment Development of Fish Contaminant Goals and Advisory Tissue Levels for Common Contaminants in California Sport Fish: Chlordane, DDTs, Dieldrin, Methylmercury, PCBs, Selenium, and Toxaphene
Spatial Representation:	Samples were collected at the following stations: BD20 - San Pablo Bay, BD30 - Pinole Point, and BD40 - Davis Point.
Temporal Representation:	Samples were generally collected in spring and fall seasons from years 1993 - 1999 and then during fall season from years 2000 - 2008.
Environmental Conditions:	
QAPP Information:	1999 Quality Assurance Project Plan Regional Monitoring Program for Trace Substances.
QAPP Information Reference(s):	1999 Quality Assurance Project Plan Regional Monitoring Program for Trace Substances

Line of Evidence (LOE) for Decision ID 33888, PCBs (Polychlorinated biphenyls)**Region 2****San Pablo Bay**

LOE ID:	93183
Pollutant:	PCBs (Polychlorinated biphenyls)

LOE Subgroup:	Pollutant-Water
Matrix:	Water
Fraction:	Total
Beneficial Use:	Commercial or recreational collection of fish, shellfish, or organisms
Number of Samples:	85
Number of Exceedances:	73
Data and Information Type:	PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality:	State Water Board staff assessed SFEI data for San Pablo Bay to determine beneficial use support and results are as follows: 73 of 85 samples exceed the criterion for PCB, Total.
Data Reference:	Regional Monitoring Program data, Feb. 1993-Sep. 2008
SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	The Polychlorinated Biphenyls criteria for the protection of human health from consumption of organisms only is 0.00017 ug/L (California Toxics Rule, 2000).
Objective/Criterion Reference:	Code of Federal Regulations 40 part 131.38 Establishment of numeric criteria for priority toxic pollutants for the State of California. 7/1/2011 Edition
Evaluation Guideline:	
Guideline Reference:	
Spatial Representation:	Data for this line of evidence for San Pablo Bay was collected at 26 monitoring sites [Petaluma River - BD15, Pinole Point - BD30, Davis Point - BD40, San Pablo Bay - SPB001W, San Pablo Bay - SPB002W, San Pablo Bay - SPB003W, San Pablo Bay - SPB004W, San Pablo Bay - SPB005W, San Pablo Bay - SPB006W, San Pablo Bay - SPB007W, San Pablo Bay - SPB008W, San Pablo Bay - SPB009W, San Pablo Bay - SPB010W, San Pablo Bay - SPB011W, San Pablo Bay - SPB012W, San Pablo Bay - SPB013W, San Pablo Bay - SPB014W, San Pablo Bay - SPB015W, San Pablo Bay - SPB016W, San Pablo Bay - SPB017W, San Pablo Bay - SPB018W, San Pablo Bay - SPB019W, San Pablo Bay - SPB020W, San Pablo Bay - SPB021W, San Pablo Bay - SPB022W, San Pablo Bay - SPB023W]
Temporal Representation:	Data was collected over the time period 3/4/1993-8/9/2007.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	The 1999 Quality Assurance Project Plan Regional Monitoring Program for Trace Substances was used.
QAPP Information Reference(s):	1999 Quality Assurance Project Plan Regional Monitoring Program for Trace Substances

Line of Evidence (LOE) for Decision ID 33888, PCBs (Polychlorinated biphenyls)
San Pablo Bay

Region 2

LOE ID:	93182
Pollutant:	PCBs (Polychlorinated biphenyls)
LOE Subgroup:	Pollutant-Water
Matrix:	Water
Fraction:	Dissolved
Beneficial Use:	Estuarine Habitat
Number of Samples:	75
Number of Exceedances:	0
Data and Information Type:	PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality:	State Water Board staff assessed SFEI data for San Pablo Bay to determine beneficial use support and results are as follows: 0 of 75 samples exceed the criterion for PCB, Total.
Data Reference:	Regional Monitoring Program data, Feb. 1993-Sep. 2008

SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	The PCB, Total criterion continuous concentration (expressed as a 4-day average) to protect aquatic life in saltwater is 0.03 ug/L (California Toxics Rule, 2000).
Objective/Criterion Reference:	Code of Federal Regulations 40 part 131.38 Establishment of numeric criteria for priority toxic pollutants for the State of California. 7/1/2011 Edition
Evaluation Guideline:	
Guideline Reference:	
Spatial Representation:	Data for this line of evidence for San Pablo Bay was collected at 19 monitoring sites [Davis Point - BD40, Petaluma River - BD15, Pinole Point - BD30, San Pablo Bay - SPB008W, San Pablo Bay - SPB014W, San Pablo Bay - SPB016W, San Pablo Bay - SPB005W, San Pablo Bay - SPB010W, San Pablo Bay - SPB002W, San Pablo Bay - SPB015W, San Pablo Bay - SPB007W, San Pablo Bay - SPB013W, San Pablo Bay - SPB006W, San Pablo Bay - SPB009W, San Pablo Bay - SPB011W, San Pablo Bay - SPB001W, San Pablo Bay - SPB003W, San Pablo Bay - SPB012W, San Pablo Bay - SPB004W]
Temporal Representation:	Data was collected over the time period 3/4/1993-8/11/2005.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	The 1999 Quality Assurance Project Plan Regional Monitoring Program for Trace Substances was used.
QAPP Information Reference(s):	1999 Quality Assurance Project Plan Regional Monitoring Program for Trace Substances

Line of Evidence (LOE) for Decision ID 33888, PCBs (Polychlorinated biphenyls)	Region 2
San Pablo Bay	

LOE ID:	3692
Pollutant:	PCBs (Polychlorinated biphenyls)
LOE Subgroup:	Pollutant-Tissue
Matrix:	Tissue
Fraction:	Not Recorded
Beneficial Use:	Commercial or recreational collection of fish, shellfish, or organisms
Number of Samples:	0
Number of Exceedances:	0
Data and Information Type:	Not Specified
Data Used to Assess Water Quality:	Unspecified--This LOE is a placeholder to support a 303(d) listing decision made prior to 2006.
Data Reference:	Placeholder reference pre-2006 303(d)
SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	Unspecified
Objective/Criterion Reference:	Placeholder reference pre-2006 303(d)
Evaluation Guideline:	Unspecified
Guideline Reference:	Placeholder reference pre-2006 303(d)
Spatial Representation:	Unspecified
Temporal Representation:	Unspecified
Environmental Conditions:	Unspecified
QAPP Information:	Unspecified
QAPP Information Reference(s):	

Line of Evidence (LOE) for Decision ID 33888, PCBs (Polychlorinated biphenyls)	Region 2
San Pablo Bay	

LOE ID:	95187
Pollutant:	PCBs (Polychlorinated biphenyls)
LOE Subgroup:	Pollutant-Tissue
Matrix:	Tissue
Fraction:	Fish fillet
Beneficial Use:	Commercial or recreational collection of fish, shellfish, or organisms
Number of Samples:	72
Number of Exceedances:	10
Data and Information Type:	Fish tissue analysis
Data Used to Assess Water Quality:	Water Board staff assessed Regional Monitoring Program data for San Pablo Bay to determine beneficial use support and results are as follows: 10 of 72 samples exceed the criterion for PCBs. No samples were discarded for being non-detect, unquantifiable or the reporting limit exceeding the water quality objective.
Data Reference:	Regional Monitoring Program data, Feb. 1993-Sep. 2008
SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	Water Quality Control Plan for the San Francisco Bay Basin: Controllable water quality factors shall not cause a detrimental increase in concentrations of toxic substances found in bottom sediments or aquatic life. Effects on aquatic organisms, wildlife, and human health will be considered.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	The modified OEHHA Fish Contaminant Goal for polychlorinated biphenyls in fish tissue is 2.6 ppb. This screening level assumes an average body weight of 70 kg and a consumption rate of 32 g/day for a 30 year exposure over a 70-year lifetime. This constituent is a carcinogen therefore the risk level is set to one in a million. A cooking reduction factor of 1 is applied for skin-off fillets. (Klasing, S., and R. Brodberg, 2008)
Guideline Reference:	Development of Fish Contaminant Goals and Advisory Tissue Levels for Common Contaminants in California Sport Fish: Chlordane, DDTs, Dieldrin, Methylmercury, PCBs, Selenium, and Toxaphene
Spatial Representation:	The samples were collected at six sites throughout San Pablo Bay.
Temporal Representation:	The samples were collected every three years from May 1994 through October 2006.
Environmental Conditions:	
QAPP Information:	The 1999 Quality Assurance Project Plan Regional Monitoring Program for Trace Substances was used.
QAPP Information Reference(s):	1999 Quality Assurance Project Plan Regional Monitoring Program for Trace Substances

DECISION ID	34138	Region 2
San Pablo Bay		

Pollutant:	Selenium
Final Listing Decision:	Do Not Delist from 303(d) list (being addressed with USEPA approved TMDL)
Last Listing Cycle's Final Listing Decision:	List on 303(d) list (TMDL required list)(2012)
Revision Status	Revised
Sources:	Source Unknown
TMDL Name:	San Francisco Bay Selenium - North Bay
TMDL Project Code:	540
Date TMDL Approved by USEPA:	01/01/2016
Impairment from Pollutant or Pollution:	Pollutant

Regional Board Staff Conclusion: This pollutant is being considered for removal on the CWA section 303(d) List under sections 2.2 and section 4.1 of the Listing Policy. Under section 4.1 of the Policy, a minimum of one line of

evidence is needed to assess listing status.

Four lines of evidence are available in the administrative record to assess this pollutant.

Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against removing this water segment-pollutant combination from the CWA section 303(d) List. There is sufficient justification to place it in the Being Addressed portion of the CWA 303(d) List because a TMDL has been completed and approved by RWQCB and USEPA, and is expected to result in attainment of the standard.

This conclusion is based on the staff findings that:

1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy.
2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy.
3. Impairment should be based on protection of aquatic life beneficial uses and the existing aquatic life value referenced in the CTR is not sufficiently protective of sensitive fish species. Numeric targets to protect aquatic life are included in the North SF Bay Selenium TMDL and this listing will be reevaluated in accordance with the TMDL
4. The North SF Bay Selenium TMDL was approved by USEPA on 8/23/2016.
5. Pursuant to section 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.

Regional Board Staff Decision Recommendation:

After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be removed from the section 303(d) list because applicable water quality standards for the pollutant are being exceeded. Impairment should be based on protection of aquatic life beneficial uses and the existing aquatic life value referenced in the CTR is not sufficiently protective of sensitive fish species. Numeric targets to protect aquatic life are included in the North SF Bay Selenium TMDL and this listing will be reevaluated in accordance with the TMDL

**Line of Evidence (LOE) for Decision ID 34138, Selenium
San Pablo Bay**

Region 2

LOE ID:	93185
Pollutant:	Selenium
LOE Subgroup:	Pollutant-Water
Matrix:	Water
Fraction:	Dissolved
Beneficial Use:	Estuarine Habitat
Number of Samples:	94
Number of Exceedances:	0
Data and Information Type:	PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality:	State Water Board staff assessed SFEI data for San Pablo Bay to determine beneficial use support and results are as follows: 0 of 94 samples exceed the criterion for Selenium.
Data Reference:	Regional Monitoring Program data, Feb. 1993-Sep. 2008
SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	The dissolved selenium criterion continuous concentration (expressed as a 4-day average) to protect aquatic life in saline water is 5 ug/L (California Toxics Rule, 2000).
Objective/Criterion Reference:	Code of Federal Regulations 40 part 131.38 Establishment of numeric criteria for priority toxic pollutants for the State of California. 7/1/2011 Edition
Evaluation Guideline:	
Guideline Reference:	
Spatial Representation:	Data for this line of evidence for San Pablo Bay was collected at 29 monitoring sites [Petaluma River - BD15, Pinole Point - BD30, Davis Point - BD40, San Pablo Bay -

SPB001W, San Pablo Bay - SPB002W, San Pablo Bay - SPB003W, San Pablo Bay - SPB004W, San Pablo Bay - SPB005W, San Pablo Bay - SPB006W, San Pablo Bay - SPB007W, San Pablo Bay - SPB008W, San Pablo Bay - SPB009W, San Pablo Bay - SPB010W, San Pablo Bay - SPB011W, San Pablo Bay - SPB012W, San Pablo Bay - SPB013W, San Pablo Bay - SPB014W, San Pablo Bay - SPB015W, San Pablo Bay - SPB016W, San Pablo Bay - SPB017W, San Pablo Bay - SPB018W, San Pablo Bay - SPB019W, San Pablo Bay - SPB020W, San Pablo Bay - SPB021W, San Pablo Bay - SPB022W, San Pablo Bay - SPB023W, San Pablo Bay - SPB024W, San Pablo Bay - SPB025W, San Pablo Bay - SPB026W]

Temporal Representation:

Data was collected over the time period 3/4/1993-7/14/2008.

Environmental Conditions:

Staff is not aware of any special conditions that might affect interpretation of the data.

QAPP Information:

The 1999 Quality Assurance Project Plan Regional Monitoring Program for Trace Substances was used.

QAPP Information Reference(s):

[1999 Quality Assurance Project Plan Regional Monitoring Program for Trace Substances](#)

Line of Evidence (LOE) for Decision ID 34138, Selenium

Region 2

San Pablo Bay

LOE ID: 93705

Pollutant: Selenium

LOE Subgroup: Pollutant-Tissue

Matrix: Tissue

Fraction: Shellfish

Beneficial Use: Shellfish Harvesting

Number of Samples: 44

Number of Exceedances: 0

Data and Information Type: Shellfish surveys

Data Used to Assess Water Quality: None of the 44 samples exceeded the guideline. Composite samples were comprised of *Crassostrea gigas* or *Mytilus californianus*. Data were reported on a dry weight basis and were converted to a wet weight basis by multiplying the dry-weight concentration by a factor of 1 minus the percentage of moisture content expressed as a decimal. If a dry weight result did not have a corresponding moisture result for conversion to wet weight, the sample was not included in the assessment. Laboratory replicates were averaged.

Data Reference: [Regional Monitoring Program data, Feb. 1993-Sep. 2008](#)

SWAMP Data: Non-SWAMP

Water Quality Objective/Criterion: Water Quality Control Plan for the San Francisco Bay Basin: Controllable water quality factors shall not cause a detrimental increase in concentrations of toxic substances found in bottom sediments or aquatic life. Effects on aquatic organisms, wildlife, and human health will be considered.

Objective/Criterion Reference: [Water Quality Control Plan \(Basin Plan\) San Francisco Bay Basin \(Region 2\)](#)

Evaluation Guideline: The modified OEHHA Fish Contaminant Goal for selenium in shellfish tissue is 11 ppm. This screening level assumes an average body weight of 70 kg and a consumption rate of 21 g/day. A background dietary consumption rate of 0.114 mg/day is applied for this micronutrient. (Brodberg, R.K., and G.A. Pollock, 1999; Klasing, S., and R. Brodberg, 2008)

Guideline Reference: [Prevalence of Selected Target Chemical Contaminants in Sport Fish From Two California Lakes: Public health designed screening study. Sacramento, CA: Office of Environmental Health Hazard Assessment](#)
[Development of Fish Contaminant Goals and Advisory Tissue Levels for Common Contaminants in California Sport Fish: Chlordane, DDTs, Dieldrin, Methylmercury, PCBs, Selenium, and Toxaphene](#)

Spatial Representation: Samples were collected at the following stations: BD20 - San Pablo Bay, BD30 - Pinole Point, and BD40 - Davis Point.

Temporal Representation: Samples were generally collected in spring and fall seasons from years 1993 - 1999 and

then fall 2000, 2001, and 2008.

Environmental Conditions:

QAPP Information:

QAPP Information Reference(s):

1999 Quality Assurance Project Plan Regional Monitoring Program for Trace Substances.

[1999 Quality Assurance Project Plan Regional Monitoring Program for Trace Substances](#)

Line of Evidence (LOE) for Decision ID 34138, Selenium

Region 2

San Pablo Bay

LOE ID: 3694

Pollutant: Selenium

LOE Subgroup: Pollutant-Water

Matrix: Water

Fraction: Not Recorded

Beneficial Use: Estuarine Habitat

Number of Samples: 0

Number of Exceedances: 0

Data and Information Type: Not Specified

Data Used to Assess Water Quality: Unspecified--This LOE is a placeholder to support a 303(d) listing decision made prior to 2006.

Data Reference: [Placeholder reference pre-2006 303\(d\)](#)

SWAMP Data: Non-SWAMP

Water Quality Objective/Criterion: Unspecified

Objective/Criterion Reference: [Placeholder reference pre-2006 303\(d\)](#)

Evaluation Guideline: Unspecified

Guideline Reference: [Placeholder reference pre-2006 303\(d\)](#)

Spatial Representation: Unspecified

Temporal Representation: Unspecified

Environmental Conditions: Unspecified

QAPP Information: Unspecified

QAPP Information Reference(s):

Line of Evidence (LOE) for Decision ID 34138, Selenium

Region 2

San Pablo Bay

LOE ID: 95117

Pollutant: Selenium

LOE Subgroup: Pollutant-Tissue

Matrix: Tissue

Fraction: Fish fillet

Beneficial Use: Commercial or recreational collection of fish, shellfish, or organisms

Number of Samples: 25

Number of Exceedances: 0

Data and Information Type: Fish tissue analysis

Data Used to Assess Water Quality: Water Board staff assessed Regional Monitoring Program data for San Pablo Bay to determine beneficial use support and results are as follows: 0 of 25 samples exceed the criterion for selenium. No samples were discarded for being non-detect, unquantifiable or the reporting limit exceeding the water quality objective.

Data Reference: [Regional Monitoring Program data, Feb. 1993-Sep. 2008](#)

SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	Water Quality Control Plan for the San Francisco Bay Basin: Controllable water quality factors shall not cause a detrimental increase in concentrations of toxic substances found in bottom sediments or aquatic life. Effects on aquatic organisms, wildlife, and human health will be considered.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	The OEHHA Fish Contaminant Goal for selenium in fish tissue is 7.4 ppm. This screening level assumes an average body weight of 70 kg and a consumption rate of 32 g/day. A background dietary consumption rate of 0.114 mg/day is applied for this micronutrient. (Klasing, S., and R. Brodberg, 2008)
Guideline Reference:	Development of Fish Contaminant Goals and Advisory Tissue Levels for Common Contaminants in California Sport Fish: Chlordane, DDTs, Dieldrin, Methylmercury, PCBs, Selenium, and Toxaphene
Spatial Representation:	The samples were collected at five sites throughout San Pablo Bay.
Temporal Representation:	The samples were collected every three years from May 1994 through August 2006.
Environmental Conditions:	
QAPP Information:	The 1999 Quality Assurance Project Plan Regional Monitoring Program for Trace Substances was used.
QAPP Information Reference(s):	1999 Quality Assurance Project Plan Regional Monitoring Program for Trace Substances

DECISION ID	66032	Region 2
San Pablo Bay		
Pollutant:	Acenaphthene	
Final Listing Decision:	Do Not List on 303(d) list (TMDL required list)	
Last Listing Cycle's Final Listing Decision:	New Decision	
Revision Status	Revised	
Impairment from Pollutant or Pollution:	Pollutant	
Regional Board Staff Conclusion:	<p>This pollutant is being considered for placement on the CWA section 303(d) List under section 3.1 of the Listing Policy. Under section 3.1 a single line of evidence is necessary to assess listing status. Two lines of evidence are available in the administrative record to assess this pollutant.</p> <p>Zero of the 52 samples exceed the criteria for the protection saltwater aquatic life Zero of the 53 samples exceed the objective for the protection of human health from consumption of organisms only.</p> <p>Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against placing this water segment-pollutant combination on the CWA section 303(d) List in the Water Quality Limited Segments category. This conclusion is based on the staff findings that:</p> <ol style="list-style-type: none"> 1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy. 2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy. 3. Zero of the 52 samples exceed the criteria for the protection saltwater aquatic life and zero of the 53 samples exceed the objective for the protection of human health from consumption of organisms only and this does not exceed the allowable frequency listed in Table 3.1 of the Listing Policy. 4. Pursuant to section 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met. 	
Regional Board Staff Decision Recommendation:	After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be placed on the section 303(d) list because applicable water quality standards are not being exceeded.	
Line of Evidence (LOE) for Decision ID 66032, Acenaphthene		Region 2

San Pablo Bay

LOE ID:	93126
Pollutant:	Acenaphthene
LOE Subgroup:	Pollutant-Water
Matrix:	Water
Fraction:	Dissolved
Beneficial Use:	Estuarine Habitat
Number of Samples:	52
Number of Exceedances:	0
Data and Information Type:	PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality:	State Water Board staff assessed SFEI data for San Pablo Bay to determine beneficial use support and results are as follows: 0 of 52 samples exceed the criterion for Acenaphthene.
Data Reference:	Regional Monitoring Program data, Feb. 1993-Sep. 2008
SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	No individual pesticide or combination of pesticides shall be present in concentrations that adversely affect beneficial uses.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	The available data for acenaphthene indicate that chronic toxicity to saltwater aquatic life occurs at concentrations as low as 710 ug/L and would occur at lower concentrations among species that are more sensitive than those tested. (USEPA Gold Book - EPA 440/5-86-001)
Guideline Reference:	Quality Criteria for Water 1986. United States Environmental Protection Agency. Office of Water. Regulations and Standards. Washington D.C. EPA 440/5-86-001.
Spatial Representation:	Data for this line of evidence for San Pablo Bay was collected at 19 monitoring sites [Davis Point - BD40, Petaluma River - BD15, Pinole Point - BD30, San Pablo Bay - SPB008W, San Pablo Bay - SPB014W, San Pablo Bay - SPB016W, San Pablo Bay - SPB005W, San Pablo Bay - SPB010W, San Pablo Bay - SPB002W, San Pablo Bay - SPB015W, San Pablo Bay - SPB007W, San Pablo Bay - SPB013W, San Pablo Bay - SPB006W, San Pablo Bay - SPB009W, San Pablo Bay - SPB011W, San Pablo Bay - SPB001W, San Pablo Bay - SPB003W, San Pablo Bay - SPB012W, San Pablo Bay - SPB004W]
Temporal Representation:	Data was collected over the time period 2/12/1996-8/11/2005.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	The 1999 Quality Assurance Project Plan Regional Monitoring Program for Trace Substances was used.
QAPP Information Reference(s):	1999 Quality Assurance Project Plan Regional Monitoring Program for Trace Substances

Line of Evidence (LOE) for Decision ID 66032, Acenaphthene

Region 2

San Pablo Bay

LOE ID:	93127
Pollutant:	Acenaphthene
LOE Subgroup:	Pollutant-Water
Matrix:	Water
Fraction:	Total
Beneficial Use:	Commercial or recreational collection of fish, shellfish, or organisms
Number of Samples:	53
Number of Exceedances:	0

Data and Information Type:	PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality:	State Water Board staff assessed SFEI data for San Pablo Bay to determine beneficial use support and results are as follows: 0 of 53 samples exceed the criterion for Acenaphthene.
Data Reference:	Regional Monitoring Program data, Feb. 1993-Sep. 2008
SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	The Acenaphthene criteria for the protection of human health from consumption of organisms only is 2,700 ug/L (California Toxics Rule, 2000).
Objective/Criterion Reference:	Code of Federal Regulations 40 part 131.38 Establishment of numeric criteria for priority toxic pollutants for the State of California. 7/1/2011 Edition
Evaluation Guideline:	
Guideline Reference:	
Spatial Representation:	Data for this line of evidence for San Pablo Bay was collected at 20 monitoring sites [Petaluma River - BD15, Pinole Point - BD30, Davis Point - BD40, San Pablo Bay - SPB001W, San Pablo Bay - SPB002W, San Pablo Bay - SPB003W, San Pablo Bay - SPB004W, San Pablo Bay - SPB005W, San Pablo Bay - SPB006W, San Pablo Bay - SPB007W, San Pablo Bay - SPB008W, San Pablo Bay - SPB012W, San Pablo Bay - SPB017W, San Pablo Bay - SPB020W, San Pablo Bay - SPB021W, San Pablo Bay - SPB022W, San Pablo Bay - SPB023W, San Pablo Bay - SPB024W, San Pablo Bay - SPB025W, San Pablo Bay - SPB026W]
Temporal Representation:	Data was collected over the time period 2/12/1996-7/14/2008.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	The 1999 Quality Assurance Project Plan Regional Monitoring Program for Trace Substances was used.
QAPP Information Reference(s):	1999 Quality Assurance Project Plan Regional Monitoring Program for Trace Substances

DECISION ID	66050	Region 2
San Pablo Bay		

Pollutant:	Aldrin
Final Listing Decision:	Do Not List on 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision:	New Decision
Revision Status	Revised
Impairment from Pollutant or Pollution:	Pollutant
Regional Board Staff Conclusion:	<p>This pollutant is being considered for placement on the CWA section 303(d) List under section 3.1 of the Listing Policy. Under section 3.1 a one line of evidence is necessary to assess listing status. Two lines of evidence are available in the administrative record to assess this pollutant.</p> <p>Zero of the five samples exceed the objective to protect aquatic life in saline water. Zero of the three samples exceed the objective for the protection of human health from consumption of organisms only</p> <p>Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against placing this water segment-pollutant combination on the CWA section 303(d) List. This conclusion is based on the staff findings that:</p> <ol style="list-style-type: none"> 1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy. 2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy. 3. Zero of the five samples exceed the objective to protect aquatic life in saline water and zero of the three samples exceed the objective for the protection of human health from consumption of organisms only and this sample size is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating. A minimum of 16 samples is needed to determine if a beneficial use is fully supported using table 3.1. 4. Pursuant to 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.

Regional Board Staff Decision Recommendation: After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be placed on the section 303(d) list. The readily available data and information is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating.

**Line of Evidence (LOE) for Decision ID 66050, Aldrin
San Pablo Bay**

Region 2

LOE ID: 93128

Pollutant: Aldrin
LOE Subgroup: Pollutant-Water
Matrix: Water
Fraction: Dissolved

Beneficial Use: Estuarine Habitat

Number of Samples: 5
Number of Exceedances: 0

Data and Information Type: PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality: State Water Board staff assessed SFEI data for San Pablo Bay to determine beneficial use support and results are as follows: 0 of 5 samples exceed the criterion for Aldrin.
Data Reference: [Regional Monitoring Program data, Feb. 1993-Sep. 2008](#)

SWAMP Data: Non-SWAMP

Water Quality Objective/Criterion: The aldrin criterion maximum concentration to protect aquatic life in saline water is 1.3 ug/L (California Toxics Rule, 2000).
Objective/Criterion Reference: [Code of Federal Regulations 40 part 131.38 Establishment of numeric criteria for priority toxic pollutants for the State of California, 7/1/2011 Edition](#)

Evaluation Guideline:
Guideline Reference:

Spatial Representation: Data for this line of evidence for San Pablo Bay was collected at 5 monitoring sites [San Pablo Bay - SPB005W, San Pablo Bay - SPB010W, San Pablo Bay - SPB009W, San Pablo Bay - SPB011W, San Pablo Bay - SPB012W]
Temporal Representation: Data was collected over the time period 8/13/2003-7/21/2004.
Environmental Conditions: Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information: The 1999 Quality Assurance Project Plan Regional Monitoring Program for Trace Substances was used.
QAPP Information Reference(s): [1999 Quality Assurance Project Plan Regional Monitoring Program for Trace Substances](#)

**Line of Evidence (LOE) for Decision ID 66050, Aldrin
San Pablo Bay**

Region 2

LOE ID: 93129

Pollutant: Aldrin
LOE Subgroup: Pollutant-Water
Matrix: Water
Fraction: Total

Beneficial Use: Commercial or recreational collection of fish, shellfish, or organisms

Number of Samples: 3
Number of Exceedances: 0

Data and Information Type:	PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality:	State Water Board staff assessed SFEI data for San Pablo Bay to determine beneficial use support and results are as follows: 0 of 3 samples exceed the criterion for Aldrin.
Data Reference:	Regional Monitoring Program data, Feb. 1993-Sep. 2008
SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	The Aldrin criteria for the protection of human health from consumption of organisms only is 0.00014 ug/L (California Toxics Rule, 2000).
Objective/Criterion Reference:	Code of Federal Regulations 40 part 131.38 Establishment of numeric criteria for priority toxic pollutants for the State of California. 7/1/2011 Edition
Evaluation Guideline:	
Guideline Reference:	
Spatial Representation:	Data for this line of evidence for San Pablo Bay was collected at 3 monitoring sites [San Pablo Bay - SPB009W, San Pablo Bay - SPB010W, San Pablo Bay - SPB011W]
Temporal Representation:	Data was collected on a single day 7/21/2004.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	The 1999 Quality Assurance Project Plan Regional Monitoring Program for Trace Substances was used.
QAPP Information Reference(s):	1999 Quality Assurance Project Plan Regional Monitoring Program for Trace Substances

DECISION ID	66034	Region 2
San Pablo Bay		

Pollutant:	Ammonia (Unionized)
Final Listing Decision:	Do Not List on 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision:	New Decision
Revision Status	Revised
Impairment from Pollutant or Pollution:	Pollutant

Regional Board Staff Conclusion: This pollutant is being considered for placement on the CWA section 303(d) List under section 3.1 of the Listing Policy. Under section 3.1 a one line of evidence is necessary to assess listing status. One line of evidence is available in the administrative record to assess this pollutant. Zero of the ten samples exceed the OBJECTIVE.

Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against placing this water segment-pollutant combination on the CWA section 303(d) List. This conclusion is based on the staff findings that:

1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy.
2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy.
3. Zero of the ten samples exceeded the OBJECTIVE and this sample size is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating. A minimum of 16 samples is needed to determine if a beneficial use is fully supported using table 3.1.
4. Pursuant to 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.

Regional Board Staff Decision Recommendation: After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be placed on the section 303(d) list. The readily available data and information is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating.

Line of Evidence (LOE) for Decision ID 66034, Ammonia (Unionized)	Region 2
San Pablo Bay	

LOE ID:	93181
Pollutant:	Ammonia (Unionized)
LOE Subgroup:	Pollutant-Water
Matrix:	Water
Fraction:	Total
Beneficial Use:	Estuarine Habitat
Number of Samples:	10
Number of Exceedances:	0
Data and Information Type:	Fixed station physical/chemical (conventional plus toxic pollutants)
Data Used to Assess Water Quality:	None of 10 annual medians exceeded the objective for un-ionized ammonia. The total ammonia nitrogen data were converted to un-ionized ammonia using pH and temperature data and an assumed salinity of 10 parts per thousand. Ammonia samples that did not have corresponding pH and temperature data were not used to calculate medians.
Data Reference:	Data for Nutrients in Region 5, Jan. 1975 - Jan. 2007.
SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	The San Francisco Bay Regional Water Quality Board Basin Plan states that the discharge of wastes shall not cause receiving water to contain concentrations of un-ionized ammonia in excess of an annual median of 0.025 mg/l as N.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) - San Francisco Bay Region (Region 2)
Evaluation Guideline:	
Guideline Reference:	
Spatial Representation:	Samples were collected at stations D41 San Pablo Bay near Pinole Point and D41A San Pablo Bay near Mouth of Petaluma River.
Temporal Representation:	Ammonia data were collected from 1980 to 2010. Corresponding pH and temperature data were available to convert total ammonia to un-ionized ammonia were available from 1980 to 1995 at D41 and from 2009 to 2010 for both D41 and D41A.
Environmental Conditions:	
QAPP Information:	Samples were collected as part of a long term monitoring of water quality. No other descriptions of the study were provided.
QAPP Information Reference(s):	

DECISION ID	66035	Region 2
San Pablo Bay		

Pollutant:	Anthracene
Final Listing Decision:	Do Not List on 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision:	New Decision
Revision Status	Revised
Impairment from Pollutant or Pollution:	Pollutant
Regional Board Staff Conclusion:	<p>This pollutant is being considered for placement on the CWA section 303(d) List under section 3.1 of the Listing Policy. Under section 3.1 a single line of evidence is necessary to assess listing status.</p> <p>One lines of evidence are available in the administrative record to assess this pollutant. Zero of the 68 samples exceed the OBJECTIVE.</p> <p>Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against placing this water segment-pollutant combination on the CWA section 303(d) List in the Water Quality Limited Segments category.</p> <p>This conclusion is based on the staff findings that:</p>

1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy.
2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy.
3. Zero of 68 samples exceeded the OBJECTIVE and this does not exceed the allowable frequency listed in Table 3.1 of the Listing Policy.
4. Pursuant to section 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.

Regional Board Staff Decision Recommendation: After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be placed on the section 303(d) list because applicable water quality standards are not being exceeded.

**Line of Evidence (LOE) for Decision ID 66035, Anthracene
San Pablo Bay**

Region 2

LOE ID: 93131

Pollutant: Anthracene
LOE Subgroup: Pollutant-Water
Matrix: Water
Fraction: Total

Beneficial Use: Commercial or recreational collection of fish, shellfish, or organisms

Number of Samples: 68
Number of Exceedances: 0

Data and Information Type: PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality: State Water Board staff assessed SFEI data for San Pablo Bay to determine beneficial use support and results are as follows: 0 of 68 samples exceed the criterion for Anthracene.

Data Reference: [Regional Monitoring Program data, Feb. 1993-Sep. 2008](#)

SWAMP Data: Non-SWAMP

Water Quality Objective/Criterion: The Anthracene criteria for the protection of human health from consumption of organisms only is 110,000 ug/L (California Toxics Rule, 2000).

Objective/Criterion Reference: [Water Quality Control Plan \(Basin Plan\) San Francisco Bay Basin \(Region 2\)](#)

Evaluation Guideline: [Code of Federal Regulations 40 part 131.38 Establishment of numeric criteria for priority toxic pollutants for the State of California. 7/1/2011 Edition](#)

Spatial Representation: Data for this line of evidence for San Pablo Bay was collected at 18 monitoring sites [Petaluma River - BD15, Pinole Point - BD30, Davis Point - BD40, San Pablo Bay - SPB001W, San Pablo Bay - SPB002W, San Pablo Bay - SPB003W, San Pablo Bay - SPB004W, San Pablo Bay - SPB009W, San Pablo Bay - SPB017W, San Pablo Bay - SPB018W, San Pablo Bay - SPB019W, San Pablo Bay - SPB020W, San Pablo Bay - SPB021W, San Pablo Bay - SPB022W, San Pablo Bay - SPB023W, San Pablo Bay - SPB024W, San Pablo Bay - SPB025W, San Pablo Bay - SPB026W]

Temporal Representation: Data was collected over the time period 3/4/1993-7/14/2008.

Environmental Conditions: Staff is not aware of any special conditions that might affect interpretation of the data.

QAPP Information: The 1999 Quality Assurance Project Plan Regional Monitoring Program for Trace Substances was used.

QAPP Information Reference(s): [1999 Quality Assurance Project Plan Regional Monitoring Program for Trace Substances](#)

DECISION ID 66832
San Pablo Bay

Region 2

Pollutant: Arsenic

Final Listing Decision:	Do Not List on 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision:	New Decision
Revision Status	Revised
Impairment from Pollutant or Pollution:	Pollutant

Regional Board Staff Conclusion: This pollutant is being considered for placement on the CWA section 303(d) List under section 3.1 of the Listing Policy. Under section 3.1 a single line of evidence is necessary to assess listing status.

Four lines of evidence are available in the administrative record to assess this pollutant. Zero of ninety-seven samples exceed the guideline.

Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against placing this water segment-pollutant combination on the CWA section 303(d) List in the Water Quality Limited Segments category.

This conclusion is based on the staff findings that:

1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy.
2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy.
3. Zero of ninety-seven samples exceed the guideline and this does not exceed the allowable frequency listed in Table 3.1 of the Listing Policy.
4. Pursuant to section 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.

Regional Board Staff Decision Recommendation: After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be placed on the section 303(d) list because applicable water quality standards are not being exceeded.

Line of Evidence (LOE) for Decision ID 66832, Arsenic San Pablo Bay

Region 2

LOE ID:	93702
Pollutant:	Arsenic
LOE Subgroup:	Pollutant-Tissue
Matrix:	Tissue
Fraction:	Shellfish
Beneficial Use:	Shellfish Harvesting
Number of Samples:	37
Number of Exceedances:	0
Data and Information Type:	Shellfish surveys
Data Used to Assess Water Quality:	0 of the 37 samples exceeded the guideline. Composite samples were comprised of <i>Crassostrea gigas</i> or <i>Mytilus californianus</i> . Data were reported on a dry weight basis and were converted to a wet weight basis by multiplying the dry-weight concentration by a factor of 1 minus the percentage of moisture content expressed as a decimal. Laboratory replicates were averaged. If a dry weight result did not have a corresponding moisture result for conversion to wet weight, the sample was not included in the assessment. The fraction of total arsenic in inorganic form was taken to be 0.115%, which was the maximum fraction of inorganic arsenic found in shellfish tissue from SF Bay. This number was screened against the guideline.
Data Reference:	Regional Monitoring Program data, Feb. 1993-Sep. 2008 Contaminant Concentrations in Fish from San Francisco Bay, 2000 Calculating Fraction of Inorganic Arsenic in SF Bay Fish and Shellfish
SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	Water Quality Control Plan for the San Francisco Bay Basin: Controllable water quality

factors shall not cause a detrimental increase in concentrations of toxic substances found in bottom sediments or aquatic life. Effects on aquatic organisms, wildlife, and human health will be considered.

Objective/Criterion Reference:

[Water Quality Control Plan \(Basin Plan\) San Francisco Bay Basin \(Region 2\)](#)

Evaluation Guideline:

The modified OEHHA Advisory Tissue Level for arsenic in shellfish tissue is 0.52 ppm. This screening level assumes an average body weight of 70 kg and a consumption rate of 21 g/day for a 30 year exposure over a 70-year lifetime. This constituent is a carcinogen therefore the risk level is set to one in ten thousand. (Brodberg, R.K., and G.A. Pollock, 1999; Klasing, S., and R. Brodberg, 2008; OEHHA, 2004)

Advisory Tissue Levels (ATLs), while still conferring no significant health risk to individuals consuming sport fish in the quantities shown over a lifetime, were developed with the recognition that there are unique health benefits associated with fish consumption and that the advisory process should be expanded beyond a simple risk paradigm in order to best promote the overall health of the fish consumer. ATLs provide a number of recommended fish servings that correspond to the range of contaminant concentrations found in fish and are used to provide consumption advice to prevent consumers from being exposed to more than the average daily reference dose for noncarcinogens or to a risk level greater than 1×10^{-4} for carcinogens (not more than one additional cancer case in a population of 10,000 people consuming fish at the given consumption rate over a lifetime). ATLs are designed to encourage consumption of fish that can be eaten in quantities likely to provide significant health benefits, while discouraging consumption of fish that, because of contaminant concentrations, should not be eaten or cannot be eaten in amounts recommended for improving overall health (eight ounces total, prior to cooking, per week). ATLs are one of the criteria that will be used by OEHHA for issuing fish consumption guidelines.

Guideline Reference:

[Prevalence of Selected Target Chemical Contaminants in Sport Fish From Two California Lakes: Public health designed screening study. Sacramento, CA: Office of Environmental Health Hazard Assessment](#)
[Development of Fish Contaminant Goals and Advisory Tissue Levels for Common Contaminants in California Sport Fish: Chlordane, DDTs, Dieldrin, Methylmercury, PCBs, Selenium, and Toxaphene](#)
[Air Toxics Hotspots Program Risk Assessment Guidelines. Part II Technical Support Document for Describing Available Cancer Potency Values.](#)

Spatial Representation:

Samples were collected at the following stations: BD20 - San Pablo Bay, BD30 - Pinole Point, and BD40 - Davis Point.

Temporal Representation:

Samples were generally collected in spring and fall seasons from years 1993 - 1999 and then during fall 2008.

Environmental Conditions:

QAPP Information:

1999 Quality Assurance Project Plan Regional Monitoring Program for Trace Substances.

QAPP Information Reference(s):

[1999 Quality Assurance Project Plan Regional Monitoring Program for Trace Substances](#)

Line of Evidence (LOE) for Decision ID 66832, Arsenic

Region 2

San Pablo Bay

LOE ID:	95218
Pollutant:	Arsenic
LOE Subgroup:	Pollutant-Tissue
Matrix:	Tissue
Fraction:	Fish fillet
Beneficial Use:	Commercial or recreational collection of fish, shellfish, or organisms
Number of Samples:	7
Number of Exceedances:	0
Data and Information Type:	Fish tissue analysis
Data Used to Assess Water Quality:	Water Board staff assessed Regional Monitoring Program data for San Pablo Bay to

determine beneficial use support and results are as follows: 0 of 7 samples exceed the criterion for Arsenic. The fraction of total arsenic in inorganic form was taken to be 3.2%, which was the maximum fraction of inorganic arsenic found in shark tissue from SF Bay. No samples were discarded for being non-detect, unquantifiable or the reporting limit exceeding the water quality objective.

Data Reference: [Regional Monitoring Program data, Feb. 1993-Sep. 2008](#)
[Contaminant Concentrations in Fish from San Francisco Bay, 2000](#)
[Calculating Fraction of Inorganic Arsenic in SF Bay Fish and Shellfish](#)

SWAMP Data: Non-SWAMP

Water Quality Objective/Criterion: Water Quality Control Plan for the San Francisco Bay Basin: Controllable water quality factors shall not cause a detrimental increase in concentrations of toxic substances found in bottom sediments or aquatic life. Effects on aquatic organisms, wildlife, and human health will be considered.

Objective/Criterion Reference: [Water Quality Control Plan \(Basin Plan\) San Francisco Bay Basin \(Region 2\)](#)

Evaluation Guideline: The modified OEHHA Advisory Tissue Level for arsenic in fish tissue is 0.34 ppm. This screening level assumes an average body weight of 70 kg and a consumption rate of 32 g/day for a 30 year exposure over a 70-year lifetime. This constituent is a carcinogen therefore the risk level is set to one in ten thousand. (Klasing, S., and R. Brodberg, 2008; OEHHA, 2004).

Advisory Tissue Levels (ATLs), while still conferring no significant health risk to individuals consuming sport fish in the quantities shown over a lifetime, were developed with the recognition that there are unique health benefits associated with fish consumption and that the advisory process should be expanded beyond a simple risk paradigm in order to best promote the overall health of the fish consumer. ATLs provide a number of recommended fish servings that correspond to the range of contaminant concentrations found in fish and are used to provide consumption advice to prevent consumers from being exposed to more than the average daily reference dose for noncarcinogens or to a risk level greater than 1×10^{-4} for carcinogens (not more than one additional cancer case in a population of 10,000 people consuming fish at the given consumption rate over a lifetime). ATLs are designed to encourage consumption of fish that can be eaten in quantities likely to provide significant health benefits, while discouraging consumption of fish that, because of contaminant concentrations, should not be eaten or cannot be eaten in amounts recommended for improving overall health (eight ounces total, prior to cooking, per week). ATLs are one of the criteria that will be used by OEHHA for issuing fish consumption guidelines.

Guideline Reference: [Development of Fish Contaminant Goals and Advisory Tissue Levels for Common Contaminants in California Sport Fish: Chlordane, DDTs, Dieldrin, Methylmercury, PCBs, Selenium, and Toxaphene](#)
[Air Toxics Hotspots Program Risk Assessment Guidelines. Part II Technical Support Document for Describing Available Cancer Potency Values.](#)

Spatial Representation: The samples were collected at two sites in San Pablo Bay.
Temporal Representation: The samples were collected in May 1994 and July and August 2003.

Environmental Conditions:
QAPP Information: The 1999 Quality Assurance Project Plan Regional Monitoring Program for Trace Substances was used.

QAPP Information Reference(s): [1999 Quality Assurance Project Plan Regional Monitoring Program for Trace Substances](#)

Line of Evidence (LOE) for Decision ID 66832, Arsenic
San Pablo Bay

Region 2

LOE ID: 93133
Pollutant: Arsenic
LOE Subgroup: Pollutant-Water
Matrix: Water
Fraction: Dissolved

Beneficial Use:	Estuarine Habitat
Number of Samples:	94
Number of Exceedances:	0
Data and Information Type:	PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality:	State Water Board staff assessed SFEI data for San Pablo Bay to determine beneficial use support and results are as follows: 0 of 94 samples exceed the criterion for Arsenic.
Data Reference:	Regional Monitoring Program data, Feb. 1993-Sep. 2008
SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	The dissolved arsenic criterion continuous concentration (expressed as a 4-day average) to protect aquatic life in saline water is 0.036 mg/L (California Toxics Rule, 2000).
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	
Guideline Reference:	National Recommended Water Quality Criteria. United States Environmental Protection Agency. Office of Water. Office of Science and Technology
Spatial Representation:	Data for this line of evidence for San Pablo Bay was collected at 29 monitoring sites [Davis Point - BD40, Petaluma River - BD15, Pinole Point - BD30, San Pablo Bay - SPB008W, San Pablo Bay - SPB014W, San Pablo Bay - SPB018W, San Pablo Bay - SPB016W, San Pablo Bay - SPB005W, San Pablo Bay - SPB020W, San Pablo Bay - SPB017W, San Pablo Bay - SPB010W, San Pablo Bay - SPB002W, San Pablo Bay - SPB015W, San Pablo Bay - SPB007W, San Pablo Bay - SPB013W, San Pablo Bay - SPB006W, San Pablo Bay - SPB019W, San Pablo Bay - SPB009W, San Pablo Bay - SPB011W, San Pablo Bay - SPB001W, San Pablo Bay - SPB023W, San Pablo Bay - SPB003W, San Pablo Bay - SPB012W, San Pablo Bay - SPB022W, San Pablo Bay - SPB004W, San Pablo Bay - SPB025W, San Pablo Bay - SPB021W, San Pablo Bay - SPB026W, San Pablo Bay - SPB024W]
Temporal Representation:	Data was collected over the time period 3/4/1993-7/14/2008.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	The 1999 Quality Assurance Project Plan Regional Monitoring Program for Trace Substances was used.
QAPP Information Reference(s):	1999 Quality Assurance Project Plan Regional Monitoring Program for Trace Substances

Line of Evidence (LOE) for Decision ID 66832, Arsenic
San Pablo Bay

Region 2

LOE ID:	93132
Pollutant:	Arsenic
LOE Subgroup:	Pollutant-Water
Matrix:	Water
Fraction:	Total
Beneficial Use:	Commercial or recreational collection of fish, shellfish, or organisms
Number of Samples:	97
Number of Exceedances:	0
Data and Information Type:	PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality:	State Water Board staff assessed SFEI data for San Pablo Bay to determine beneficial use support and results are as follows: 0 of 97 samples exceed the criterion for Arsenic.
Data Reference:	Regional Monitoring Program data, Feb. 1993-Sep. 2008
SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	Surface?waters?shall?not?contain?concentrations?of?chemical?constituents?in? amounts?that?adversely?affect?any?designated?beneficial?use.

Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	The Arsenic criteria for the protection of human health from consumption of organisms only is 0.14 ug/L (National Recommended Water Quality Criteria, 2009).
Guideline Reference:	National Recommended Water Quality Criteria. United States Environmental Protection Agency. Office of Water. Office of Science and Technology
Spatial Representation:	Data for this line of evidence for San Pablo Bay was collected at 28 monitoring sites [Petaluma River - BD15, Pinole Point - BD30, Davis Point - BD40, San Pablo Bay - SPB001W, San Pablo Bay - SPB002W, San Pablo Bay - SPB003W, San Pablo Bay - SPB004W, San Pablo Bay - SPB005W, San Pablo Bay - SPB007W, San Pablo Bay - SPB008W, San Pablo Bay - SPB009W, San Pablo Bay - SPB010W, San Pablo Bay - SPB011W, San Pablo Bay - SPB012W, San Pablo Bay - SPB013W, San Pablo Bay - SPB014W, San Pablo Bay - SPB015W, San Pablo Bay - SPB016W, San Pablo Bay - SPB017W, San Pablo Bay - SPB018W, San Pablo Bay - SPB019W, San Pablo Bay - SPB020W, San Pablo Bay - SPB021W, San Pablo Bay - SPB022W, San Pablo Bay - SPB023W, San Pablo Bay - SPB024W, San Pablo Bay - SPB025W, San Pablo Bay - SPB026W]
Temporal Representation:	Data was collected over the time period 3/4/1993-7/14/2008.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	The 1999 Quality Assurance Project Plan Regional Monitoring Program for Trace Substances was used.
QAPP Information Reference(s):	1999 Quality Assurance Project Plan Regional Monitoring Program for Trace Substances

DECISION ID	66051	Region 2
San Pablo Bay		
Pollutant:	Benzo(a)pyrene (3,4-Benzopyrene -7-d)	
Final Listing Decision:	Do Not List on 303(d) list (TMDL required list)	
Last Listing Cycle's Final Listing Decision:	New Decision	
Revision Status	Revised	
Impairment from Pollutant or Pollution:	Pollutant	
Regional Board Staff Conclusion:	<p>This pollutant is being considered for placement on the CWA section 303(d) List under section 3.1 of the Listing Policy. Under section 3.1 a single line of evidence is necessary to assess listing status.</p> <p>One line of evidence is available in the administrative record to assess this pollutant. One of the 80 samples exceed the OBJECTIVE.</p> <p>Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against placing this water segment-pollutant combination on the CWA section 303(d) List in the Water Quality Limited Segments category.</p> <p>This conclusion is based on the staff findings that:</p> <ol style="list-style-type: none"> 1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy. 2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy. 3. One of 80 samples exceeded the OBJECTIVE and this does not exceed the allowable frequency listed in Table 3.1 of the Listing Policy. 4. Pursuant to section 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met. 	
Regional Board Staff Decision Recommendation:	After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be placed on the section 303(d) list because applicable water quality standards are not being exceeded.	

Line of Evidence (LOE) for Decision ID 66051, Benzo(a)pyrene (3,4-Benzopyrene -7-d)	Region 2
San Pablo Bay	

LOE ID: 93134

Pollutant: Benzo(a)pyrene (3,4-Benzopyrene -7-d)
 LOE Subgroup: Pollutant-Water
 Matrix: Water
 Fraction: Total

Beneficial Use: Commercial or recreational collection of fish, shellfish, or organisms

Number of Samples: 80
 Number of Exceedances: 1

Data and Information Type: PHYSICAL/CHEMICAL MONITORING
 Data Used to Assess Water Quality: State Water Board staff assessed SFEI data for San Pablo Bay to determine beneficial use support and results are as follows: 1 of 80 samples exceed the criterion for Indeno(1, 2, 3-C, D)Pyrene.

Data Reference: [Regional Monitoring Program data, Feb. 1993-Sep. 2008](#)

SWAMP Data: Non-SWAMP

Water Quality Objective/Criterion: The Indeno(1, 2, 3-C, D)Pyrene criteria for the protection of human health from consumption of organisms only is 0.049 ug/L (California Toxics Rule, 2000).

Objective/Criterion Reference: [Code of Federal Regulations 40 part 131.38 Establishment of numeric criteria for priority toxic pollutants for the State of California. 7/1/2011 Edition](#)

Evaluation Guideline:
 Guideline Reference:

Spatial Representation: Data for this line of evidence for San Pablo Bay was collected at 22 monitoring sites [Petaluma River - BD15, Pinole Point - BD30, Davis Point - BD40, San Pablo Bay - SPB005W, San Pablo Bay - SPB006W, San Pablo Bay - SPB007W, San Pablo Bay - SPB008W, San Pablo Bay - SPB009W, San Pablo Bay - SPB011W, San Pablo Bay - SPB014W, San Pablo Bay - SPB015W, San Pablo Bay - SPB016W, San Pablo Bay - SPB017W, San Pablo Bay - SPB018W, San Pablo Bay - SPB019W, San Pablo Bay - SPB020W, San Pablo Bay - SPB021W, San Pablo Bay - SPB022W, San Pablo Bay - SPB023W, San Pablo Bay - SPB024W, San Pablo Bay - SPB025W, San Pablo Bay - SPB026W]

Temporal Representation: Data was collected over the time period 3/4/1993-7/14/2008.

Environmental Conditions: Staff is not aware of any special conditions that might affect interpretation of the data.

QAPP Information: The 1999 Quality Assurance Project Plan Regional Monitoring Program for Trace Substances was used.

QAPP Information Reference(s): [1999 Quality Assurance Project Plan Regional Monitoring Program for Trace Substances](#)

DECISION ID	66055	Region 2
San Pablo Bay		
Pollutant:	Cadmium	
Final Listing Decision:	Do Not List on 303(d) list (TMDL required list)	
Last Listing Cycle's Final Listing Decision:	New Decision	
Revision Status	Revised	
Impairment from Pollutant or Pollution:	Pollutant	
Regional Board Staff Conclusion:	<p>This pollutant is being considered for placement on the CWA section 303(d) List under section 3.1 and 3.5 of the Listing Policy. Under section 3.1 and 3.5 a single line of evidence is necessary to assess listing status.</p> <p>Three lines of evidence are available in the administrative record to assess this pollutant.</p>	

Zero of the 94 samples exceed the objective for continuous concentration to protect saltwater aquatic organisms.

Zero of the 43 samples exceed the guideline for the protection of human health from consumption of organisms.

Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against placing this water segment-pollutant combination on the CWA section 303(d) List in the Water Quality Limited Segments category.

This conclusion is based on the staff findings that:

1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy.
2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy.
3. Zero of the 94 samples exceed the objective for continuous concentration to protect saltwater aquatic organisms and zero of the 43 samples exceed the guideline for the protection of human health from consumption of organisms and this does not exceed the allowable frequency listed in Table 3.1 of the Listing Policy.
4. Pursuant to section 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met

Regional Board Staff Decision Recommendation: After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be placed on the section 303(d) list because applicable water quality standards are not being exceeded.

**Line of Evidence (LOE) for Decision ID 66055, Cadmium
San Pablo Bay**

Region 2

LOE ID:	95146
Pollutant:	Cadmium
LOE Subgroup:	Pollutant-Tissue
Matrix:	Tissue
Fraction:	Fish fillet
Beneficial Use:	Commercial or recreational collection of fish, shellfish, or organisms
Number of Samples:	4
Number of Exceedances:	0
Data and Information Type:	Fish tissue analysis
Data Used to Assess Water Quality:	Water Board staff assessed Regional Monitoring Program data for San Pablo Bay to determine beneficial use support and results are as follows: 0 of 4 samples exceed the criterion for cadmium. No samples were discarded for being non-detect, unquantifiable or the reporting limit exceeding the water quality objective.
Data Reference:	Regional Monitoring Program data, Feb. 1993-Sep. 2008
SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	Water Quality Control Plan for the San Francisco Bay Basin: Controllable water quality factors shall not cause a detrimental increase in concentrations of toxic substances found in bottom sediments or aquatic life. Effects on aquatic organisms, wildlife, and human health will be considered.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	The modified OEHHA Fish Contaminant Goal for cadmium in fish tissue is 2.2 ppm. This screening level assumes an average body weight of 70 kg and a consumption rate of 32 g/day. (Klasing, S., and R. Brodberg, 2008; USEPA, 2000)
Guideline Reference:	Development of Fish Contaminant Goals and Advisory Tissue Levels for Common Contaminants in California Sport Fish: Chlordane, DDTs, Dieldrin, Methylmercury, PCBs, Selenium, and Toxaphene Guidance for Assessing Chemical Contaminant Data for Use In Fish Advisories Volume 1: Fish Sampling and Analysis

Spatial Representation:	The samples were collected at one site San Pablo Bay.
Temporal Representation:	The samples were collected in May 1994.
Environmental Conditions:	
QAPP Information:	The 1999 Quality Assurance Project Plan Regional Monitoring Program for Trace Substances was used.
QAPP Information Reference(s):	1999 Quality Assurance Project Plan Regional Monitoring Program for Trace Substances

Line of Evidence (LOE) for Decision ID 66055, Cadmium	Region 2
San Pablo Bay	

LOE ID:	93136
Pollutant:	Cadmium
LOE Subgroup:	Pollutant-Water
Matrix:	Water
Fraction:	Dissolved
Beneficial Use:	Estuarine Habitat
Number of Samples:	94
Number of Exceedances:	0
Data and Information Type:	PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality:	State Water Board staff assessed SFEI data for San Pablo Bay to determine beneficial use support and results are as follows: 0 of 94 samples exceed the criterion for Cadmium.
Data Reference:	Regional Monitoring Program data, Feb. 1993-Sep. 2008
SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	The dissolved cadmium criterion continuous concentration (expressed as a 4-day average) to protect aquatic life in saline water is 0.093 mg/L (California Toxics Rule, 2000).
Objective/Criterion Reference:	Code of Federal Regulations 40 part 131.38 Establishment of numeric criteria for priority toxic pollutants for the State of California. 7/1/2011 Edition
Evaluation Guideline:	
Guideline Reference:	
Spatial Representation:	Data for this line of evidence for San Pablo Bay was collected at 29 monitoring sites [Davis Point - BD40, Petaluma River - BD15, Pinole Point - BD30, San Pablo Bay - SPB008W, San Pablo Bay - SPB014W, San Pablo Bay - SPB018W, San Pablo Bay - SPB016W, San Pablo Bay - SPB005W, San Pablo Bay - SPB020W, San Pablo Bay - SPB017W, San Pablo Bay - SPB010W, San Pablo Bay - SPB002W, San Pablo Bay - SPB015W, San Pablo Bay - SPB007W, San Pablo Bay - SPB013W, San Pablo Bay - SPB006W, San Pablo Bay - SPB019W, San Pablo Bay - SPB009W, San Pablo Bay - SPB011W, San Pablo Bay - SPB001W, San Pablo Bay - SPB023W, San Pablo Bay - SPB003W, San Pablo Bay - SPB012W, San Pablo Bay - SPB022W, San Pablo Bay - SPB004W, San Pablo Bay - SPB025W, San Pablo Bay - SPB021W, San Pablo Bay - SPB026W, San Pablo Bay - SPB024W]
Temporal Representation:	Data was collected over the time period 3/4/1993-7/14/2008.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	The 1999 Quality Assurance Project Plan Regional Monitoring Program for Trace Substances was used.
QAPP Information Reference(s):	1999 Quality Assurance Project Plan Regional Monitoring Program for Trace Substances

Line of Evidence (LOE) for Decision ID 66055, Cadmium	Region 2
San Pablo Bay	

LOE ID:	93703
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Pollutant:	Cadmium
LOE Subgroup:	Pollutant-Tissue
Matrix:	Tissue
Fraction:	Shellfish
Beneficial Use:	Shellfish Harvesting
Number of Samples:	43
Number of Exceedances:	0
Data and Information Type:	Shellfish surveys
Data Used to Assess Water Quality:	None of the 43 samples exceeded the guideline. Composite samples were comprised of <i>Crassostrea gigas</i> or <i>Mytilus californianus</i> . Data were reported on a dry weight basis and were converted to a wet weight basis by multiplying the dry-weight concentration by a factor of 1 minus the percentage of moisture content expressed as a decimal. If a dry weight result did not have a corresponding moisture result for conversion to wet weight, the sample was not included in the assessment. Laboratory replicates were averaged.
Data Reference:	Regional Monitoring Program data, Feb. 1993-Sep. 2008
SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	Water Quality Control Plan for the San Francisco Bay Basin: Controllable water quality factors shall not cause a detrimental increase in concentrations of toxic substances found in bottom sediments or aquatic life. Effects on aquatic organisms, wildlife, and human health will be considered.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	The modified OEHHA Fish Contaminant Goal for cadmium in shellfish tissue is 3.3 ppm. This screening level assumes an average body weight of 70 kg and a consumption rate of 21 g/day. (Brodberg, R.K., and G.A. Pollock, 1999; Klasing, S., and R. Brodberg, 2008; USEPA, 2000)
Guideline Reference:	Prevalence of Selected Target Chemical Contaminants in Sport Fish From Two California Lakes: Public health designed screening study. Sacramento, CA: Office of Environmental Health Hazard Assessment Development of Fish Contaminant Goals and Advisory Tissue Levels for Common Contaminants in California Sport Fish: Chlordane, DDTs, Dieldrin, Methylmercury, PCBs, Selenium, and Toxaphene Guidance for Assessing Chemical Contaminant Data for Use In Fish Advisories Volume 1: Fish Sampling and Analysis
Spatial Representation:	Samples were collected at the following stations: BD20 - San Pablo Bay, BD30 - Pinole Point, and BD40 - Davis Point.
Temporal Representation:	Samples were generally collected in spring and fall seasons from years 1993 - 1999 and then during fall 2000, 2001, and 2008.
Environmental Conditions:	
QAPP Information:	1999 Quality Assurance Project Plan Regional Monitoring Program for Trace Substances.
QAPP Information Reference(s):	1999 Quality Assurance Project Plan Regional Monitoring Program for Trace Substances

DECISION ID	66061	Region 2
San Pablo Bay		

Pollutant:	Chlorpyrifos
Final Listing Decision:	Do Not List on 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision:	New Decision
Revision Status	Revised
Impairment from Pollutant or Pollution:	Pollutant

Regional Board Staff Conclusion:	This pollutant is being considered for placement on the CWA section 303(d) List under section 3.1 and 3.5 of the Listing Policy. Under section 3.1 and 3.5 a single line of evidence is necessary to
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assess listing status.

Two lines of evidence are available in the administrative record to assess this pollutant.

Zero of the 70 samples exceed the guideline for continuous concentration to protect saltwater aquatic organisms.

Zero of the 63 samples exceed the guideline for the protection of human health from consumption of organisms.

Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against placing this water segment-pollutant combination on the CWA section 303(d) List in the Water Quality Limited Segments category.

This conclusion is based on the staff findings that:

1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy.
2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy.
3. Zero of the 70 samples exceed the guideline for continuous concentration to protect saltwater aquatic organisms and zero of the 63 samples exceed the guideline for the protection of human health from consumption of organisms, and this does not exceed the allowable frequency listed in Table 3.1 of the Listing Policy.
4. Pursuant to section 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.

Regional Board Staff Decision Recommendation: After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be placed on the section 303(d) list because applicable water quality standards are not being exceeded.

Line of Evidence (LOE) for Decision ID 66061, Chlorpyrifos

Region 2

San Pablo Bay

LOE ID:	95155
Pollutant:	Chlorpyrifos
LOE Subgroup:	Pollutant-Tissue
Matrix:	Tissue
Fraction:	Fish fillet
Beneficial Use:	Commercial or recreational collection of fish, shellfish, or organisms
Number of Samples:	63
Number of Exceedances:	0
Data and Information Type:	Fish tissue analysis
Data Used to Assess Water Quality:	Water Board staff assessed Regional Monitoring Program data for San Pablo Bay to determine beneficial use support and results are as follows: 0 of 63 samples exceed the criterion for chlorpyrifos. No samples were discarded for being non-detect, unquantifiable or the reporting limit exceeding the water quality objective.
Data Reference:	Regional Monitoring Program data, Feb. 1993-Sep. 2008
SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	Water Quality Control Plan for the San Francisco Bay Basin: Controllable water quality factors shall not cause a detrimental increase in concentrations of toxic substances found in bottom sediments or aquatic life. Effects on aquatic organisms, wildlife, and human health will be considered.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	The modified OEHHA Fish Contaminant Goal for chlorpyrifos in fish tissue is 660 ppb. This screening level assumes an average body weight of 70 kg and a consumption rate of 32 g/day. A cooking reduction factor of 1 is applied for skin-off fillets. (Klasing, S., and R. Brodberg, 2008; USEPA, 2000)

Guideline Reference:	Development of Fish Contaminant Goals and Advisory Tissue Levels for Common Contaminants in California Sport Fish: Chlordane, DDTs, Dieldrin, Methylmercury, PCBs, Selenium, and Toxaphene Guidance for Assessing Chemical Contaminant Data for Use In Fish Advisories Volume 1: Fish Sampling and Analysis
Spatial Representation:	The samples were collected at six sites throughout San Pablo Bay.
Temporal Representation:	The samples were collected every three years from May 1994 through August 2006.
Environmental Conditions:	
QAPP Information:	The 1999 Quality Assurance Project Plan Regional Monitoring Program for Trace Substances was used.
QAPP Information Reference(s):	1999 Quality Assurance Project Plan Regional Monitoring Program for Trace Substances

**Line of Evidence (LOE) for Decision ID 66061, Chlorpyrifos
San Pablo Bay**

Region 2

LOE ID:	93139
Pollutant:	Chlorpyrifos
LOE Subgroup:	Pollutant-Water
Matrix:	Water
Fraction:	Dissolved
Beneficial Use:	Estuarine Habitat
Number of Samples:	70
Number of Exceedances:	0
Data and Information Type:	PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality:	State Water Board staff assessed SFEI data for San Pablo Bay to determine beneficial use support and results are as follows: 0 of 70 samples exceed the criterion for Chlorpyrifos.
Data Reference:	Regional Monitoring Program data, Feb. 1993-Sep. 2008
SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	All waters shall be maintained free of toxic substances in concentrations which are toxic to, or which produce detrimental physiological responses in, human, plant, animal, or aquatic life. (Basin Plan).
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	The saltwater criterion continuous concentration to protect aquatic organisms is 0.009 ug/L (Siepmann and Finlayson 2000).
Guideline Reference:	10-Day toxicity test exposing freshwater amphipods (Hyaella azteca) to fenprothrin applied to formulated sediment under static-renewal conditions. Springborn Smithers Laboratories Study No. 13656.6137, Wareham, MA. Submitted to pyrethroid working group. DPR record number 254438
Spatial Representation:	Data for this line of evidence for San Pablo Bay was collected at 15 monitoring sites [Davis Point - BD40, Petaluma River - BD15, Pinole Point - BD30, San Pablo Bay - SPB008W, San Pablo Bay - SPB014W, San Pablo Bay - SPB016W, San Pablo Bay - SPB005W, San Pablo Bay - SPB002W, San Pablo Bay - SPB015W, San Pablo Bay - SPB007W, San Pablo Bay - SPB013W, San Pablo Bay - SPB006W, San Pablo Bay - SPB001W, San Pablo Bay - SPB003W, San Pablo Bay - SPB004W]
Temporal Representation:	Data was collected over the time period 3/4/1993-8/11/2005.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	The 1999 Quality Assurance Project Plan Regional Monitoring Program for Trace Substances was used.
QAPP Information Reference(s):	1999 Quality Assurance Project Plan Regional Monitoring Program for Trace Substances

DECISION ID

66064

Region 2

San Pablo Bay

Pollutant: Chromium
Final Listing Decision: Do Not List on 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision: New Decision
Revision Status: Revised
Impairment from Pollutant or Pollution: Pollutant

Regional Board Staff Conclusion: This pollutant is being considered for placement on the CWA section 303(d) List under section 3.1 of the Listing Policy. Under section 3.1 a single line of evidence is necessary to assess listing status.

One line of evidence is available in the administrative record to assess this pollutant. One of the 57 samples exceed the Objective.

Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against placing this water segment-pollutant combination on the CWA section 303(d) List in the Water Quality Limited Segments category.

This conclusion is based on the staff findings that:

1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy.
2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy.
3. One of 57 samples exceeded the Objective and this does not exceed the allowable frequency listed in Table 3.1 of the Listing Policy.
4. Pursuant to section 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.

Regional Board Staff Decision Recommendation: After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be placed on the section 303(d) list because applicable water quality standards are not being exceeded.

Line of Evidence (LOE) for Decision ID 66064, Chromium San Pablo Bay

Region 2

LOE ID: 93140

Pollutant: Chromium
LOE Subgroup: Pollutant-Water
Matrix: Water
Fraction: Dissolved

Beneficial Use: Estuarine Habitat

Number of Samples: 57
Number of Exceedances: 1

Data and Information Type: PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality: State Water Board staff assessed SFEI data for San Pablo Bay to determine beneficial use support and results are as follows: 1 of 57 samples exceed the criterion for Chromium.

Data Reference: [Regional Monitoring Program data, Feb. 1993-Sep. 2008](#)

SWAMP Data: Non-SWAMP

Water Quality Objective/Criterion: The dissolved chromium (III) criterion continuous concentration (expressed as a 4-day average) to protect aquatic life in freshwater is 0.180 mg/L (California Toxics Rule, 2000).

Objective/Criterion Reference: [Code of Federal Regulations 40 part 131.38 Establishment of numeric criteria for priority toxic pollutants for the State of California. 7/1/2011 Edition](#)

Evaluation Guideline:

Guideline Reference:

Spatial Representation: Data for this line of evidence for San Pablo Bay was collected at 3 monitoring sites [Davis Point - BD40, Petaluma River - BD15, Pinole Point - BD30]

Temporal Representation: Data was collected over the time period 3/4/1993-7/19/1999.

Environmental Conditions: Staff is not aware of any special conditions that might affect interpretation of the data.

QAPP Information: The 1999 Quality Assurance Project Plan Regional Monitoring Program for Trace Substances was used.

QAPP Information Reference(s): [1999 Quality Assurance Project Plan Regional Monitoring Program for Trace Substances](#)

DECISION ID	66066	Region 2
San Pablo Bay		

Pollutant: Chrysene (C1-C4)

Final Listing Decision: Do Not List on 303(d) list (TMDL required list)

Last Listing Cycle's Final Listing Decision: New Decision

Revision Status: Revised

Impairment from Pollutant or Pollution: Pollutant

Regional Board Staff Conclusion: This pollutant is being considered for placement on the CWA section 303(d) List under section 3.1 of the Listing Policy. Under section 3.1 a single line of evidence is necessary to assess listing status.

One line of evidence is available in the administrative record to assess this pollutant. Zero of the 82 samples exceed the OBJECTIVE.

Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against placing this water segment-pollutant combination on the CWA section 303(d) List in the Water Quality Limited Segments category.

This conclusion is based on the staff findings that:

1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy.
2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy.
3. Zero of the 82 samples exceeded the OBJECTIVE and this does not exceed the allowable frequency listed in Table 3.1 of the Listing Policy.
4. Pursuant to section 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.

Regional Board Staff Decision Recommendation: After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be placed on the section 303(d) list because applicable water quality standards are not being exceeded.

Line of Evidence (LOE) for Decision ID 66066, Chrysene (C1-C4)	Region 2
San Pablo Bay	

LOE ID: 93141

Pollutant: Chrysene (C1-C4)

LOE Subgroup: Pollutant-Water

Matrix: Water

Fraction: Total

Beneficial Use: Commercial or recreational collection of fish, shellfish, or organisms

Number of Samples: 82

Number of Exceedances: 0

Data and Information Type: PHYSICAL/CHEMICAL MONITORING

Data Used to Assess Water Quality: State Water Board staff assessed SFEI data for San Pablo Bay to determine beneficial use support and results are as follows: 0 of 82 samples exceed the criterion for Chrysene.

Data Reference: [Regional Monitoring Program data, Feb. 1993-Sep. 2008](#)

SWAMP Data: Non-SWAMP

Water Quality Objective/Criterion: The Chrysene criteria for the protection of human health from consumption of organisms only is 0.049 ug/L (California Toxics Rule, 2000).

Objective/Criterion Reference: [Code of Federal Regulations 40 part 131.38 Establishment of numeric criteria for priority toxic pollutants for the State of California. 7/1/2011 Edition](#)

Evaluation Guideline:

Guideline Reference:

Spatial Representation: Data for this line of evidence for San Pablo Bay was collected at 25 monitoring sites [Petaluma River - BD15, Pinole Point - BD30, Davis Point - BD40, San Pablo Bay - SPB001W, San Pablo Bay - SPB002W, San Pablo Bay - SPB003W, San Pablo Bay - SPB004W, San Pablo Bay - SPB005W, San Pablo Bay - SPB006W, San Pablo Bay - SPB007W, San Pablo Bay - SPB008W, San Pablo Bay - SPB009W, San Pablo Bay - SPB010W, San Pablo Bay - SPB011W, San Pablo Bay - SPB012W, San Pablo Bay - SPB017W, San Pablo Bay - SPB018W, San Pablo Bay - SPB019W, San Pablo Bay - SPB020W, San Pablo Bay - SPB021W, San Pablo Bay - SPB022W, San Pablo Bay - SPB023W, San Pablo Bay - SPB024W, San Pablo Bay - SPB025W, San Pablo Bay - SPB026W]

Temporal Representation: Data was collected over the time period 3/4/1993-7/14/2008.

Environmental Conditions: Staff is not aware of any special conditions that might affect interpretation of the data.

QAPP Information: The 1999 Quality Assurance Project Plan Regional Monitoring Program for Trace Substances was used.

QAPP Information Reference(s): [1999 Quality Assurance Project Plan Regional Monitoring Program for Trace Substances](#)

DECISION ID	66067	Region 2
San Pablo Bay		

Pollutant: Copper

Final Listing Decision: Do Not List on 303(d) list (TMDL required list)

Last Listing Cycle's Final Listing Decision: New Decision

Revision Status: Revised

Impairment from Pollutant or Pollution: Pollutant

Regional Board Staff Conclusion:

This pollutant is being considered for placement on the CWA section 303(d) List under section 3.1 of the Listing Policy. Under section 3.1 a single line of evidence is necessary to assess listing status.

Two lines of evidence are available in the administrative record to assess this pollutant.

Zero of the 98 samples exceed the OBJECTIVE for the protection saltwater aquatic life.
Zero of the 98 samples exceed the OBJECTIVE for the protection of agricultural supply.

Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against placing this water segment-pollutant combination on the CWA section 303(d) List in the Water Quality Limited Segments category.

This conclusion is based on the staff findings that:

1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy.
2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy.
3. Zero of the 98 samples exceed the OBJECTIVE for the protection saltwater aquatic life and zero of the 98 samples exceed the OBJECTIVE for the protection of agricultural supply and this does not exceed the allowable frequency listed in Table 3.1 of the Listing Policy.
4. Pursuant to section 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.

Regional Board Staff Decision Recommendation: After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be placed on the section 303(d) list because applicable water quality standards are not being exceeded.

Line of Evidence (LOE) for Decision ID 66067, Copper
San Pablo Bay

Region 2

LOE ID: 93143

Pollutant: Copper
LOE Subgroup: Pollutant-Water
Matrix: Water
Fraction: None

Beneficial Use: Agricultural Supply

Number of Samples: 98
Number of Exceedances: 0

Data and Information Type: PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality: State Water Board staff assessed SFEI data for San Pablo Bay to determine beneficial use support and results are as follows: 0 of 98 samples exceed the criterion for Copper.
Data Reference: [Regional Monitoring Program data, Feb. 1993-Sep. 2008](#)

SWAMP Data: Non-SWAMP

Water Quality Objective/Criterion: Water Quality Control Plan, San Francisco Bay Basin, Chapter III Water Quality Objectives, Section 3.3.22 Constituents of Concern for Municipal and Agricultural Water Supplies states: At a minimum, surface waters designated for use as agricultural supply (AGR) shall not contain concentrations of constituents in excess of the levels specified in Table 3-6. The copper limit for irrigation and livestock watering supply is 5.0 mg/L and 0.5 mg/l, respectively.

Objective/Criterion Reference: [Water Quality Control Plan \(Basin Plan\) San Francisco Bay Basin \(Region 2\)](#)

Evaluation Guideline:
Guideline Reference:

Spatial Representation: Data for this line of evidence for San Pablo Bay was collected at 29 monitoring sites [Petaluma River - BD15, Pinole Point - BD30, Davis Point - BD40, San Pablo Bay - SPB001W, San Pablo Bay - SPB002W, San Pablo Bay - SPB003W, San Pablo Bay - SPB004W, San Pablo Bay - SPB005W, San Pablo Bay - SPB006W, San Pablo Bay - SPB007W, San Pablo Bay - SPB008W, San Pablo Bay - SPB009W, San Pablo Bay - SPB010W, San Pablo Bay - SPB011W, San Pablo Bay - SPB012W, San Pablo Bay - SPB013W, San Pablo Bay - SPB014W, San Pablo Bay - SPB015W, San Pablo Bay - SPB016W, San Pablo Bay - SPB017W, San Pablo Bay - SPB018W, San Pablo Bay - SPB019W, San Pablo Bay - SPB020W, San Pablo Bay - SPB021W, San Pablo Bay - SPB022W, San Pablo Bay - SPB023W, San Pablo Bay - SPB024W, San Pablo Bay - SPB025W, San Pablo Bay - SPB026W]

Temporal Representation: Data was collected over the time period 3/4/1993-7/14/2008.
Environmental Conditions: Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information: The 1999 Quality Assurance Project Plan Regional Monitoring Program for Trace Substances was used.
QAPP Information Reference(s): [1999 Quality Assurance Project Plan Regional Monitoring Program for Trace Substances](#)

Line of Evidence (LOE) for Decision ID 66067, Copper
San Pablo Bay

Region 2

LOE ID: 93142

Pollutant:	Copper
LOE Subgroup:	Pollutant-Water
Matrix:	Water
Fraction:	Dissolved
Beneficial Use:	Estuarine Habitat
Number of Samples:	98
Number of Exceedances:	0
Data and Information Type:	PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality:	State Water Board staff assessed SFEI data for San Pablo Bay to determine beneficial use support and results are as follows: 0 of 98 samples exceed the criterion for Copper.
Data Reference:	Regional Monitoring Program data, Feb. 1993-Sep. 2008
SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	According to table 3-3A, the Copper site-specific objective for San Pablo Bay is 6 ug/L.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	
Guideline Reference:	
Spatial Representation:	Data for this line of evidence for San Pablo Bay was collected at 29 monitoring sites [Davis Point - BD40, Petaluma River - BD15, Pinole Point - BD30, San Pablo Bay - SPB008W, San Pablo Bay - SPB014W, San Pablo Bay - SPB018W, San Pablo Bay - SPB016W, San Pablo Bay - SPB005W, San Pablo Bay - SPB020W, San Pablo Bay - SPB017W, San Pablo Bay - SPB010W, San Pablo Bay - SPB002W, San Pablo Bay - SPB015W, San Pablo Bay - SPB007W, San Pablo Bay - SPB013W, San Pablo Bay - SPB006W, San Pablo Bay - SPB019W, San Pablo Bay - SPB009W, San Pablo Bay - SPB011W, San Pablo Bay - SPB001W, San Pablo Bay - SPB023W, San Pablo Bay - SPB003W, San Pablo Bay - SPB012W, San Pablo Bay - SPB022W, San Pablo Bay - SPB004W, San Pablo Bay - SPB025W, San Pablo Bay - SPB021W, San Pablo Bay - SPB026W, San Pablo Bay - SPB024W]
Temporal Representation:	Data was collected over the time period 3/4/1993-7/14/2008.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	The 1999 Quality Assurance Project Plan Regional Monitoring Program for Trace Substances was used.
QAPP Information Reference(s):	1999 Quality Assurance Project Plan Regional Monitoring Program for Trace Substances

DECISION ID	66068	Region 2
San Pablo Bay		

Pollutant:	Cyanide
Final Listing Decision:	Do Not List on 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision:	New Decision
Revision Status	Revised
Impairment from Pollutant or Pollution:	Pollutant
Regional Board Staff Conclusion:	<p>This pollutant is being considered for placement on the CWA section 303(d) List under section 3.1 of the Listing Policy. Under section 3.1 one line of evidence is necessary to assess listing status.</p> <p>Two lines of evidence are available in the administrative record to assess this pollutant.</p> <p>Zero of the six samples exceed the Objective for the protection saltwater aquatic life.</p> <p>Zero of the six samples exceed the Objective for the protection of human health from consumption of organisms only.</p> <p>Based on the readily available data and information, the weight of evidence indicates that there is</p>

sufficient justification against placing this water segment-pollutant combination on the CWA section 303(d) List. This conclusion is based on the staff findings that:

1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy.
2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy.
3. Zero of the six samples exceed the Objective for the protection saltwater aquatic life and zero of the six samples exceed the Objective for the protection of human health from consumption of organisms only. These sample sizes are insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating. A minimum of 16 samples is needed to determine if a beneficial use is fully supported using table 3.1.
4. Pursuant to 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.

Regional Board Staff Decision Recommendation: After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be placed on the section 303(d) list. The readily available data and information is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating.

Line of Evidence (LOE) for Decision ID 66068, Cyanide

Region 2

San Pablo Bay

LOE ID: 93144

Pollutant: Cyanide
LOE Subgroup: Pollutant-Water
Matrix: Water
Fraction: None

Beneficial Use: Estuarine Habitat

Number of Samples: 6
Number of Exceedances: 0

Data and Information Type: PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality: State Water Board staff assessed SFEI data for San Pablo Bay to determine beneficial use support and results are as follows: 0 of 6 samples exceed the criterion for Cyanide.
Data Reference: [Regional Monitoring Program data, Feb. 1993-Sep. 2008](#)

SWAMP Data: Non-SWAMP

Water Quality Objective/Criterion: According to table 3-3C, the Cyanide site-specific objective for San Pablo Bay is 2.9 ug/L.
Objective/Criterion Reference: [Water Quality Control Plan \(Basin Plan\) San Francisco Bay Basin \(Region 2\)](#)

Evaluation Guideline:
Guideline Reference:

Spatial Representation: Data for this line of evidence for San Pablo Bay was collected at 2 monitoring sites [Pinole Point - BD30, Davis Point - BD40]

Temporal Representation: Data was collected over the time period 3/4/1993-9/15/1993.

Environmental Conditions: Staff is not aware of any special conditions that might affect interpretation of the data.

QAPP Information: The 1999 Quality Assurance Project Plan Regional Monitoring Program for Trace Substances was used.

QAPP Information Reference(s): [1999 Quality Assurance Project Plan Regional Monitoring Program for Trace Substances](#)

Line of Evidence (LOE) for Decision ID 66068, Cyanide

Region 2

San Pablo Bay

LOE ID: 93145

Pollutant: Cyanide

LOE Subgroup:	Pollutant-Water
Matrix:	Water
Fraction:	Total
Beneficial Use:	Commercial or recreational collection of fish, shellfish, or organisms
Number of Samples:	6
Number of Exceedances:	0
Data and Information Type:	PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality:	State Water Board staff assessed SFEI data for San Pablo Bay to determine beneficial use support and results are as follows: 0 of 6 samples exceed the criterion for Cyanide.
Data Reference:	Regional Monitoring Program data, Feb. 1993-Sep. 2008
SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	The cyanide criteria for the protection of human health from consumption of organisms only is 220,000 ug/L (California Toxics Rule, 2000).
Objective/Criterion Reference:	Code of Federal Regulations 40 part 131.38 Establishment of numeric criteria for priority toxic pollutants for the State of California. 7/1/2011 Edition
Evaluation Guideline:	
Guideline Reference:	
Spatial Representation:	Data for this line of evidence for San Pablo Bay was collected at 2 monitoring sites [Pinole Point - BD30, Davis Point - BD40]
Temporal Representation:	Data was collected over the time period 3/4/1993-9/15/1993.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	The 1999 Quality Assurance Project Plan Regional Monitoring Program for Trace Substances was used.
QAPP Information Reference(s):	1999 Quality Assurance Project Plan Regional Monitoring Program for Trace Substances

DECISION ID	66069	Region 2
San Pablo Bay		

Pollutant:	Endosulfan
Final Listing Decision:	Do Not List on 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision:	New Decision
Revision Status	Revised
Impairment from Pollutant or Pollution:	Pollutant

Regional Board Staff Conclusion:

This pollutant is being considered for placement on the CWA section 303(d) List under section 3.1 and 3.5 of the Listing Policy. Under section 3.1 and 3.5 a single line of evidence is necessary to assess listing status.

Three lines of evidence are available in the administrative record to assess this pollutant.

Zero of the 62 samples exceed the objective for continuous concentration to protect saltwater aquatic organisms.
Zero of the 43 samples exceed the guideline for the protection of human health from consumption of organisms.

Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against placing this water segment-pollutant combination on the CWA section 303(d) List in the Water Quality Limited Segments category.

This conclusion is based on the staff findings that:

1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy.
2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy.

3. Zero of the 62 samples exceed the objective for continuous concentration to protect saltwater aquatic organisms and zero of the 43 samples exceed the guideline for the protection of human health from consumption of organisms and this does not exceed the allowable frequency listed in Table 3.1 of the Listing Policy.
4. Pursuant to section 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met

Regional Board Staff Decision Recommendation: After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be placed on the section 303(d) list because applicable water quality standards are not being exceeded.

**Line of Evidence (LOE) for Decision ID 66069, Endosulfan
San Pablo Bay**

Region 2

LOE ID:	93677
Pollutant:	Endosulfan
LOE Subgroup:	Pollutant-Tissue
Matrix:	Tissue
Fraction:	Shellfish
Beneficial Use:	Shellfish Harvesting
Number of Samples:	5
Number of Exceedances:	0
Data and Information Type:	Shellfish surveys
Data Used to Assess Water Quality:	None of the 5 samples exceeded the guideline. All composite samples were comprised of <i>Crassostrea gigas</i> or <i>Mytilus californianus</i> . Data were reported on a dry weight basis and were converted to a wet weight basis by multiplying the dry-weight concentration by a factor of 1 minus the percentage of moisture content expressed as a decimal.
Data Reference:	Regional Monitoring Program data, Feb. 1993-Sep. 2008
SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	Water Quality Control Plan for the San Francisco Bay Basin: Controllable water quality factors shall not cause a detrimental increase in concentrations of toxic substances found in bottom sediments or aquatic life. Effects on aquatic organisms, wildlife, and human health will be considered.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	The modified OEHHA Fish Contaminant Goal for endosulfan (I and II) in shellfish tissue is 20,000 ppb. This screening level assumes an average body weight of 70 kg and a consumption rate of 21 g/day. (Brodberg, R.K., and G.A. Pollock, 1999; Klasing, S., and R. Brodberg, 2008; USEPA, 2000)
Guideline Reference:	Prevalence of Selected Target Chemical Contaminants in Sport Fish From Two California Lakes: Public health designed screening study. Sacramento, CA: Office of Environmental Health Hazard Assessment Development of Fish Contaminant Goals and Advisory Tissue Levels for Common Contaminants in California Sport Fish: Chlordane, DDTs, Dieldrin, Methylmercury, PCBs, Selenium, and Toxaphene Guidance for Assessing Chemical Contaminant Data for Use In Fish Advisories Volume 1: Fish Sampling and Analysis
Spatial Representation:	Samples were collected at the following station: BD20 - San Pablo Bay, BD30 - Pinole Point, and BD40 Davis Point.
Temporal Representation:	Samples were generally collected during fall seasons from years 2002 - 2003.
Environmental Conditions:	
QAPP Information:	1999 Quality Assurance Project Plan Regional Monitoring Program for Trace Substances.
QAPP Information Reference(s):	1999 Quality Assurance Project Plan Regional Monitoring Program for Trace Substances

Line of Evidence (LOE) for Decision ID 66069, Endosulfan**Region 2****San Pablo Bay**

LOE ID:	95138
Pollutant:	Endosulfan
LOE Subgroup:	Pollutant-Tissue
Matrix:	Tissue
Fraction:	Fish fillet
Beneficial Use:	Commercial or recreational collection of fish, shellfish, or organisms
Number of Samples:	43
Number of Exceedances:	0
Data and Information Type:	Fish tissue analysis
Data Used to Assess Water Quality:	Water Board staff assessed Regional Monitoring Program data for San Pablo Bay to determine beneficial use support and results are as follows: 0 of 43 samples exceed the criterion for endosulfan. Twenty samples were discarded for being non-detect, unquantifiable or the reporting limit exceeding the water quality objective.
Data Reference:	Regional Monitoring Program data, Feb. 1993-Sep. 2008
SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	Water Quality Control Plan for the San Francisco Bay Basin: Controllable water quality factors shall not cause a detrimental increase in concentrations of toxic substances found in bottom sediments or aquatic life. Effects on aquatic organisms, wildlife, and human health will be considered.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	The modified OEHHA Fish Contaminant Goal for endosulfan (I and II) in fish tissue is 13,000 ppb. This screening level assumes an average body weight of 70 kg and a consumption rate of 32 g/day. A cooking reduction factor of 1 is applied for skin-off fillets. (Klasing, S., and R. Brodberg, 2008; USEPA, 2000)
Guideline Reference:	Development of Fish Contaminant Goals and Advisory Tissue Levels for Common Contaminants in California Sport Fish: Chlordane, DDTs, Dieldrin, Methylmercury, PCBs, Selenium, and Toxaphene Guidance for Assessing Chemical Contaminant Data for Use In Fish Advisories Volume 1: Fish Sampling and Analysis
Spatial Representation:	The samples were collected at six sites throughout San Pablo Bay.
Temporal Representation:	The samples were collected every three years from May 1994 through August 2006.
Environmental Conditions:	
QAPP Information:	The 1999 Quality Assurance Project Plan Regional Monitoring Program for Trace Substances was used.
QAPP Information Reference(s):	1999 Quality Assurance Project Plan Regional Monitoring Program for Trace Substances

Line of Evidence (LOE) for Decision ID 66069, Endosulfan**Region 2****San Pablo Bay**

LOE ID:	93152
Pollutant:	Endosulfan
LOE Subgroup:	Pollutant-Water
Matrix:	Water
Fraction:	Dissolved
Beneficial Use:	Estuarine Habitat
Number of Samples:	62
Number of Exceedances:	0

Data and Information Type:	PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality:	State Water Board staff assessed SFEI data for San Pablo Bay to determine beneficial use support and results are as follows: 0 of 62 samples exceed the criterion for Endosulfan, Total.
Data Reference:	Regional Monitoring Program data, Feb. 1993-Sep. 2008
SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	The total Endosulfan criterion continuous concentration (expressed as a 4-day average) to protect aquatic life in saltwater is 0.0087 ug/L (California Toxics Rule, 2000).
Objective/Criterion Reference:	Code of Federal Regulations 40 part 131.38 Establishment of numeric criteria for priority toxic pollutants for the State of California. 7/1/2011 Edition
Evaluation Guideline:	
Guideline Reference:	
Spatial Representation:	Data for this line of evidence for San Pablo Bay was collected at 6 monitoring sites [Davis Point - BD40, Petaluma River - BD15, Pinole Point - BD30, San Pablo Bay - SPB015W, San Pablo Bay - SPB013W, San Pablo Bay - SPB002W]
Temporal Representation:	Data was collected over the time period 3/4/1993-8/11/2005.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	The 1999 Quality Assurance Project Plan Regional Monitoring Program for Trace Substances was used.
QAPP Information Reference(s):	1999 Quality Assurance Project Plan Regional Monitoring Program for Trace Substances

DECISION ID	66070	Region 2
San Pablo Bay		

Pollutant:	Endosulfan sulfate
Final Listing Decision:	Do Not List on 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision:	New Decision
Revision Status	Revised
Impairment from Pollutant or Pollution:	Pollutant

Regional Board Staff Conclusion: This pollutant is being considered for placement on the CWA section 303(d) List under section 3.1 of the Listing Policy. Under section 3.1 a single line of evidence is necessary to assess listing status.

One line of evidence is available in the administrative record to assess this pollutant. Zero of the 75 samples exceed the OBJECTIVE.

Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against placing this water segment-pollutant combination on the CWA section 303(d) List in the Water Quality Limited Segments category.

This conclusion is based on the staff findings that:

1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy.
2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy.
3. Zero of the 75 samples exceeded the OBJECTIVE and this does not exceed the allowable frequency listed in Table 3.1 of the Listing Policy.
4. Pursuant to section 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.

Regional Board Staff Decision Recommendation: After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be placed on the section 303(d) list because applicable water quality standards are not being exceeded.

Line of Evidence (LOE) for Decision ID 66070, Endosulfan sulfate	Region 2
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San Pablo Bay

LOE ID:	93153
Pollutant:	Endosulfan sulfate
LOE Subgroup:	Pollutant-Water
Matrix:	Water
Fraction:	Total
Beneficial Use:	Commercial or recreational collection of fish, shellfish, or organisms
Number of Samples:	75
Number of Exceedances:	0
Data and Information Type:	PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality:	State Water Board staff assessed SFEI data for San Pablo Bay to determine beneficial use support and results are as follows: 0 of 75 samples exceed the criterion for Endosulfan Sulfate.
Data Reference:	Regional Monitoring Program data, Feb. 1993-Sep. 2008
SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	The Endosulfan Sulfate criteria for the protection of human health from consumption of organisms only is 240 ug/L (California Toxics Rule, 2000).
Objective/Criterion Reference:	Code of Federal Regulations 40 part 131.38 Establishment of numeric criteria for priority toxic pollutants for the State of California. 7/1/2011 Edition
Evaluation Guideline:	
Guideline Reference:	
Spatial Representation:	Data for this line of evidence for San Pablo Bay was collected at 22 monitoring sites [Petaluma River - BD15, Pinole Point - BD30, Davis Point - BD40, San Pablo Bay - SPB001W, San Pablo Bay - SPB002W, San Pablo Bay - SPB003W, San Pablo Bay - SPB004W, San Pablo Bay - SPB005W, San Pablo Bay - SPB006W, San Pablo Bay - SPB007W, San Pablo Bay - SPB008W, San Pablo Bay - SPB013W, San Pablo Bay - SPB014W, San Pablo Bay - SPB015W, San Pablo Bay - SPB016W, San Pablo Bay - SPB017W, San Pablo Bay - SPB018W, San Pablo Bay - SPB019W, San Pablo Bay - SPB020W, San Pablo Bay - SPB021W, San Pablo Bay - SPB022W, San Pablo Bay - SPB023W]
Temporal Representation:	Data was collected over the time period 4/26/1994-8/9/2007.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	The 1999 Quality Assurance Project Plan Regional Monitoring Program for Trace Substances was used.
QAPP Information Reference(s):	1999 Quality Assurance Project Plan Regional Monitoring Program for Trace Substances

DECISION ID	66071	Region 2
San Pablo Bay		

Pollutant:	Endrin
Final Listing Decision:	Do Not List on 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision:	New Decision
Revision Status	Revised
Impairment from Pollutant or Pollution:	Pollutant
Regional Board Staff Conclusion:	This pollutant is being considered for placement on the CWA section 303(d) List under section 3.1 and 3.5 of the Listing Policy. Under section 3.1 and 3.5 a single line of evidence is necessary to assess listing status. Four lines of evidence are available in the administrative record to assess this pollutant.

Zero of the 64 samples exceed the OBJECTIVE to protect aquatic life in saline water.
 Zero of the 63 samples exceed the GUIDELINE for the protection of human health from consumption of organisms.
 Zero of the 53 samples exceed the GUIDELINE for the protection of human health from consumption of organisms.
 Zero of the 73 samples exceed the OBJECTIVE for the protection of human health from consumption of organisms only.

Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against placing this water segment-pollutant combination on the CWA section 303(d) List in the Water Quality Limited Segments category.

This conclusion is based on the staff findings that:

1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy.
2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy.
3. Zero of the 64 samples exceed the OBJECTIVE to protect aquatic life in saline water, zero of the 63 samples exceed the GUIDELINE for the protection of human health from consumption of organisms, zero of the 53 samples exceed the GUIDELINE for the protection of human health from consumption of organisms, zero of the 73 samples exceed the OBJECTIVE for the protection of human health from consumption of organisms only, and this does not exceed the allowable frequency listed in Table 3.1 of the Listing Policy.
4. Pursuant to section 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.

Regional Board Staff Decision Recommendation: After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be placed on the section 303(d) list because applicable water quality standards are not being exceeded.

Line of Evidence (LOE) for Decision ID 66071, Endrin

Region 2

San Pablo Bay

LOE ID:	95114
Pollutant:	Endrin
LOE Subgroup:	Pollutant-Tissue
Matrix:	Tissue
Fraction:	Fish fillet
Beneficial Use:	Commercial or recreational collection of fish, shellfish, or organisms
Number of Samples:	63
Number of Exceedances:	0
Data and Information Type:	Fish tissue analysis
Data Used to Assess Water Quality:	Water Board staff assessed Regional Monitoring Program data for San Pablo Bay to determine beneficial use support and results are as follows: 0 of 63 samples exceed the criterion for endrin. No samples were discarded for being non-detect, unquantifiable or the reporting limit exceeding the water quality objective.
Data Reference:	Regional Monitoring Program data, Feb. 1993-Sep. 2008
SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	Water Quality Control Plan for the San Francisco Bay Basin: Controllable water quality factors shall not cause a detrimental increase in concentrations of toxic substances found in bottom sediments or aquatic life. Effects on aquatic organisms, wildlife, and human health will be considered.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	The modified OEHHA Fish Contaminant Goal for endrin in fish tissue is 660 ppb. This screening level assumes an average body weight of 70 kg and a consumption rate of 32 g/day. A cooking reduction factor of 1 is applied for skin-off fillets. (Klasing, S., and R.

Guideline Reference:	Brodberg, 2008; USEPA, 2000) Development of Fish Contaminant Goals and Advisory Tissue Levels for Common Contaminants in California Sport Fish: Chlordane, DDTs, Dieldrin, Methylmercury, PCBs, Selenium, and Toxaphene Guidance for Assessing Chemical Contaminant Data for Use In Fish Advisories Volume 1: Fish Sampling and Analysis
Spatial Representation:	The samples were collected at six sites throughout San Pablo Bay.
Temporal Representation:	The samples were collected every three years from May 1994 through August 2006.
Environmental Conditions:	
QAPP Information:	The 1999 Quality Assurance Project Plan Regional Monitoring Program for Trace Substances was used.
QAPP Information Reference(s):	1999 Quality Assurance Project Plan Regional Monitoring Program for Trace Substances

**Line of Evidence (LOE) for Decision ID 66071, Endrin
San Pablo Bay**

Region 2

LOE ID:	93655
Pollutant:	Endrin
LOE Subgroup:	Pollutant-Tissue
Matrix:	Tissue
Fraction:	Shellfish
Beneficial Use:	Shellfish Harvesting
Number of Samples:	53
Number of Exceedances:	0
Data and Information Type:	Shellfish surveys
Data Used to Assess Water Quality:	None of the 53 samples exceeded the guideline. All composite samples were comprised of <i>Crassostrea gigas</i> or <i>Mytilus californianus</i> . Data were reported on a dry weight basis and were converted to a wet weight basis by multiplying the dry-weight concentration by a factor of 1 minus the percentage of moisture content expressed as a decimal. Laboratory replicates were averaged.
Data Reference:	Regional Monitoring Program data, Feb. 1993-Sep. 2008
SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	Water Quality Control Plan for the San Francisco Bay Basin: Controllable water quality factors shall not cause a detrimental increase in concentrations of toxic substances found in bottom sediments or aquatic life. Effects on aquatic organisms, wildlife, and human health will be considered.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	The modified OEHHA Fish Contaminant Goal for endrin in shellfish tissue is 1,000 ppb. This screening level assumes an average body weight of 70 kg and a consumption rate of 21 g/day. (Brodberg, R.K., and G.A. Pollock, 1999; Klasing, S., and R. Brodberg, 2008; USEPA, 2000)
Guideline Reference:	Prevalence of Selected Target Chemical Contaminants in Sport Fish From Two California Lakes: Public health designed screening study. Sacramento, CA: Office of Environmental Health Hazard Assessment Development of Fish Contaminant Goals and Advisory Tissue Levels for Common Contaminants in California Sport Fish: Chlordane, DDTs, Dieldrin, Methylmercury, PCBs, Selenium, and Toxaphene Guidance for Assessing Chemical Contaminant Data for Use In Fish Advisories Volume 1: Fish Sampling and Analysis
Spatial Representation:	Samples were collected at the following station: BD20 - San Pablo Bay, BD30 - Pinole Point, and BD40 Davis Point.
Temporal Representation:	Samples were generally collected in spring and fall seasons from years 1994 - 1999 and then during most fall seasons during years 2000 - 2008.

Environmental Conditions:

QAPP Information:

QAPP Information Reference(s):

1999 Quality Assurance Project Plan Regional Monitoring Program for Trace Substances.
[1999 Quality Assurance Project Plan Regional Monitoring Program for Trace Substances](#)

Line of Evidence (LOE) for Decision ID 66071, Endrin

Region 2

San Pablo Bay

LOE ID: 93158

Pollutant: Endrin
LOE Subgroup: Pollutant-Water
Matrix: Water
Fraction: Total

Beneficial Use: Commercial or recreational collection of fish, shellfish, or organisms

Number of Samples: 73
Number of Exceedances: 0

Data and Information Type: PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality: State Water Board staff assessed SFEI data for San Pablo Bay to determine beneficial use support and results are as follows: 0 of 73 samples exceed the criterion for Endrin.
Data Reference: [Regional Monitoring Program data, Feb. 1993-Sep. 2008](#)

SWAMP Data: Non-SWAMP

Water Quality Objective/Criterion: The Endrin criteria for the protection of human health from consumption of organisms only is 0.81ug/L (California Toxics Rule, 2000).

Objective/Criterion Reference: [Code of Federal Regulations 40 part 131.38 Establishment of numeric criteria for priority toxic pollutants for the State of California. 7/1/2011 Edition](#)

Evaluation Guideline:
Guideline Reference:

Spatial Representation: Data for this line of evidence for San Pablo Bay was collected at 23 monitoring sites [Petaluma River - BD15, Pinole Point - BD30, Davis Point - BD40, San Pablo Bay - SPB001W, San Pablo Bay - SPB002W, San Pablo Bay - SPB003W, San Pablo Bay - SPB004W, San Pablo Bay - SPB008W, San Pablo Bay - SPB009W, San Pablo Bay - SPB010W, San Pablo Bay - SPB011W, San Pablo Bay - SPB012W, San Pablo Bay - SPB013W, San Pablo Bay - SPB014W, San Pablo Bay - SPB015W, San Pablo Bay - SPB016W, San Pablo Bay - SPB017W, San Pablo Bay - SPB018W, San Pablo Bay - SPB019W, San Pablo Bay - SPB020W, San Pablo Bay - SPB021W, San Pablo Bay - SPB022W, San Pablo Bay - SPB023W]

Temporal Representation: Data was collected over the time period 8/22/1994-8/9/2007.
Environmental Conditions: Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information: The 1999 Quality Assurance Project Plan Regional Monitoring Program for Trace Substances was used.

QAPP Information Reference(s): [1999 Quality Assurance Project Plan Regional Monitoring Program for Trace Substances](#)

Line of Evidence (LOE) for Decision ID 66071, Endrin

Region 2

San Pablo Bay

LOE ID: 93154

Pollutant: Endrin
LOE Subgroup: Pollutant-Water
Matrix: Water
Fraction: Dissolved

Beneficial Use: Estuarine Habitat

Number of Samples:	64
Number of Exceedances:	0
Data and Information Type:	PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality:	State Water Board staff assessed SFEI data for San Pablo Bay to determine beneficial use support and results are as follows: 0 of 64 samples exceed the criterion for Endrin.
Data Reference:	Regional Monitoring Program data, Feb. 1993-Sep. 2008
SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	The Endrin criterion continuous concentration (expressed as a 4-day average) to protect aquatic life in saline water is 0.0023 ug/L (California Toxics Rule, 2000).
Objective/Criterion Reference:	Code of Federal Regulations 40 part 131.38 Establishment of numeric criteria for priority toxic pollutants for the State of California. 7/1/2011 Edition
Evaluation Guideline:	
Guideline Reference:	
Spatial Representation:	Data for this line of evidence for San Pablo Bay was collected at 18 monitoring sites [Davis Point - BD40, Petaluma River - BD15, Pinole Point - BD30, San Pablo Bay - SPB008W, San Pablo Bay - SPB014W, San Pablo Bay - SPB016W, San Pablo Bay - SPB005W, San Pablo Bay - SPB010W, San Pablo Bay - SPB002W, San Pablo Bay - SPB015W, San Pablo Bay - SPB013W, San Pablo Bay - SPB006W, San Pablo Bay - SPB009W, San Pablo Bay - SPB011W, San Pablo Bay - SPB001W, San Pablo Bay - SPB003W, San Pablo Bay - SPB012W, San Pablo Bay - SPB004W]
Temporal Representation:	Data was collected over the time period 8/22/1994-8/11/2005.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	The 1999 Quality Assurance Project Plan Regional Monitoring Program for Trace Substances was used.
QAPP Information Reference(s):	1999 Quality Assurance Project Plan Regional Monitoring Program for Trace Substances

DECISION ID	66086	Region 2
San Pablo Bay		

Pollutant:	Fluoranthene
Final Listing Decision:	Do Not List on 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision:	New Decision
Revision Status	Revised
Impairment from Pollutant or Pollution:	Pollutant

Regional Board Staff Conclusion:

This pollutant is being considered for placement on the CWA section 303(d) List under section 3.1 of the Listing Policy. Under section 3.1 a single line of evidence is necessary to assess listing status.

Two lines of evidence are available in the administrative record to assess this pollutant.

Zero of the 75 samples exceed the criteria for the protection saltwater aquatic life.
Zero of the 83 samples exceed the objective for the protection of human health from consumption of organisms only.

Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against placing this water segment-pollutant combination on the CWA section 303(d) List in the Water Quality Limited Segments category.

This conclusion is based on the staff findings that:

1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy.
2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy.
3. Zero of the 75 samples exceed the criteria for the protection saltwater aquatic life and zero of the 83 samples exceed the objective for the protection of human health from consumption of organisms only and this does not exceed the allowable frequency listed in Table 3.1 of the Listing Policy.

4. Pursuant to section 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.

Regional Board Staff Decision Recommendation: After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be placed on the section 303(d) list because applicable water quality standards are not being exceeded.

Line of Evidence (LOE) for Decision ID 66086, Fluoranthene

Region 2

San Pablo Bay

LOE ID: 93160

Pollutant: Fluoranthene
LOE Subgroup: Pollutant-Water
Matrix: Water
Fraction: Total

Beneficial Use: Commercial or recreational collection of fish, shellfish, or organisms

Number of Samples: 83
Number of Exceedances: 0

Data and Information Type: PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality: State Water Board staff assessed SFEI data for San Pablo Bay to determine beneficial use support and results are as follows: 0 of 83 samples exceed the criterion for Fluoranthene.

Data Reference: [Regional Monitoring Program data, Feb. 1993-Sep. 2008](#)

SWAMP Data: Non-SWAMP

Water Quality Objective/Criterion: The Fluoranthene criteria for the protection of human health from consumption of organisms only is 370 ug/L (California Toxics Rule, 2000).

Objective/Criterion Reference: [Code of Federal Regulations 40 part 131.38 Establishment of numeric criteria for priority toxic pollutants for the State of California. 7/1/2011 Edition](#)

Evaluation Guideline:
Guideline Reference:

Spatial Representation: Data for this line of evidence for San Pablo Bay was collected at 29 monitoring sites [Petaluma River - BD15, Pinole Point - BD30, Davis Point - BD40, San Pablo Bay - SPB001W, San Pablo Bay - SPB002W, San Pablo Bay - SPB003W, San Pablo Bay - SPB004W, San Pablo Bay - SPB005W, San Pablo Bay - SPB006W, San Pablo Bay - SPB007W, San Pablo Bay - SPB008W, San Pablo Bay - SPB009W, San Pablo Bay - SPB010W, San Pablo Bay - SPB011W, San Pablo Bay - SPB012W, San Pablo Bay - SPB013W, San Pablo Bay - SPB014W, San Pablo Bay - SPB015W, San Pablo Bay - SPB016W, San Pablo Bay - SPB017W, San Pablo Bay - SPB018W, San Pablo Bay - SPB019W, San Pablo Bay - SPB020W, San Pablo Bay - SPB021W, San Pablo Bay - SPB022W, San Pablo Bay - SPB023W, San Pablo Bay - SPB024W, San Pablo Bay - SPB025W, San Pablo Bay - SPB026W]

Temporal Representation: Data was collected over the time period 3/4/1993-7/14/2008.

Environmental Conditions: Staff is not aware of any special conditions that might affect interpretation of the data.

QAPP Information: The 1999 Quality Assurance Project Plan Regional Monitoring Program for Trace Substances was used.

QAPP Information Reference(s): [1999 Quality Assurance Project Plan Regional Monitoring Program for Trace Substances](#)

Line of Evidence (LOE) for Decision ID 66086, Fluoranthene

Region 2

San Pablo Bay

LOE ID: 93159

Pollutant:	Fluoranthene
LOE Subgroup:	Pollutant-Water
Matrix:	Water
Fraction:	Dissolved
Beneficial Use:	Estuarine Habitat
Number of Samples:	75
Number of Exceedances:	0
Data and Information Type:	PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality:	State Water Board staff assessed SFEI data for San Pablo Bay to determine beneficial use support and results are as follows: 0 of 75 samples exceed the criterion for Fluoranthene.
Data Reference:	Regional Monitoring Program data, Feb. 1993-Sep. 2008
SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	No individual pesticide or combination of pesticides shall be present in concentrations that adversely affect beneficial uses.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	The available data for Fluoranthene indicate that chronic toxicity to saltwater aquatic life occurs at concentrations as low as 16 ug/Land would occur at lower concentrations among species that are more sensitive than those tested. (USEPA Gold Book - EPA 440/5-86-001)
Guideline Reference:	Quality Criteria for Water 1986. United States Environmental Protection Agency. Office of Water. Regulations and Standards. Washington D.C. EPA 440/5-86-001.
Spatial Representation:	Data for this line of evidence for San Pablo Bay was collected at 19 monitoring sites [Davis Point - BD40, Petaluma River - BD15, Pinole Point - BD30, San Pablo Bay - SPB008W, San Pablo Bay - SPB014W, San Pablo Bay - SPB016W, San Pablo Bay - SPB005W, San Pablo Bay - SPB010W, San Pablo Bay - SPB002W, San Pablo Bay - SPB015W, San Pablo Bay - SPB007W, San Pablo Bay - SPB013W, San Pablo Bay - SPB006W, San Pablo Bay - SPB009W, San Pablo Bay - SPB011W, San Pablo Bay - SPB001W, San Pablo Bay - SPB003W, San Pablo Bay - SPB012W, San Pablo Bay - SPB004W]
Temporal Representation:	Data was collected over the time period 3/4/1993-8/11/2005.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	The 1999 Quality Assurance Project Plan Regional Monitoring Program for Trace Substances was used.
QAPP Information Reference(s):	1999 Quality Assurance Project Plan Regional Monitoring Program for Trace Substances

DECISION ID	66088	Region 2
San Pablo Bay		
Pollutant:	Fluorene	
Final Listing Decision:	Do Not List on 303(d) list (TMDL required list)	
Last Listing Cycle's Final Listing Decision:	New Decision	
Revision Status	Revised	
Impairment from Pollutant or Pollution:	Pollutant	
Regional Board Staff Conclusion:	<p>This pollutant is being considered for placement on the CWA section 303(d) List under section 3.1 of the Listing Policy. Under section 3.1 a single line of evidence is necessary to assess listing status.</p> <p>One line of evidence is available in the administrative record to assess this pollutant. Zero of the 55 samples exceed the OBJECTIVE.</p> <p>Based on the readily available data and information, the weight of evidence indicates that there is</p>	

sufficient justification against placing this water segment-pollutant combination on the CWA section 303(d) List in the Water Quality Limited Segments category.

This conclusion is based on the staff findings that:

1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy.
2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy.
3. Zero of the 55 samples exceeded the OBJECTIVE and this does not exceed the allowable frequency listed in Table 3.1 of the Listing Policy.
4. Pursuant to section 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.

Regional Board Staff Decision Recommendation: After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be placed on the section 303(d) list because applicable water quality standards are not being exceeded.

**Line of Evidence (LOE) for Decision ID 66088, Fluorene
San Pablo Bay**

Region 2

LOE ID:	93161
Pollutant:	Fluorene
LOE Subgroup:	Pollutant-Water
Matrix:	Water
Fraction:	Total
Beneficial Use:	Commercial or recreational collection of fish, shellfish, or organisms
Number of Samples:	55
Number of Exceedances:	0
Data and Information Type:	PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality:	State Water Board staff assessed SFEI data for San Pablo Bay to determine beneficial use support and results are as follows: 0 of 55 samples exceed the criterion for Fluorene.
Data Reference:	Regional Monitoring Program data, Feb. 1993-Sep. 2008
SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	The Fluorene criteria for the protection of human health from consumption of organisms only is 14,000 ug/L (California Toxics Rule, 2000).
Objective/Criterion Reference:	Code of Federal Regulations 40 part 131.38 Establishment of numeric criteria for priority toxic pollutants for the State of California. 7/1/2011 Edition
Evaluation Guideline:	
Guideline Reference:	
Spatial Representation:	Data for this line of evidence for San Pablo Bay was collected at 24 monitoring sites [Petaluma River - BD15, Pinole Point - BD30, Davis Point - BD40, San Pablo Bay - SPB001W, San Pablo Bay - SPB002W, San Pablo Bay - SPB003W, San Pablo Bay - SPB004W, San Pablo Bay - SPB005W, San Pablo Bay - SPB007W, San Pablo Bay - SPB008W, San Pablo Bay - SPB009W, San Pablo Bay - SPB010W, San Pablo Bay - SPB011W, San Pablo Bay - SPB012W, San Pablo Bay - SPB017W, San Pablo Bay - SPB018W, San Pablo Bay - SPB019W, San Pablo Bay - SPB020W, San Pablo Bay - SPB021W, San Pablo Bay - SPB022W, San Pablo Bay - SPB023W, San Pablo Bay - SPB024W, San Pablo Bay - SPB025W, San Pablo Bay - SPB026W]
Temporal Representation:	Data was collected over the time period 2/12/1996-7/14/2008.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	The 1999 Quality Assurance Project Plan Regional Monitoring Program for Trace Substances was used.
QAPP Information Reference(s):	1999 Quality Assurance Project Plan Regional Monitoring Program for Trace Substances

Pollutant: Heptachlor
Final Listing Decision: Do Not List on 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision: New Decision
Revision Status: Revised
Impairment from Pollutant or Pollution: Pollutant

Regional Board Staff Conclusion:

This pollutant is being considered for placement on the CWA section 303(d) List under section 3.1 of the Listing Policy. Under section 3.1 a single line of evidence is necessary to assess listing status.

Two lines of evidence are available in the administrative record to assess this pollutant.

Zero of the 65 samples exceed the objective to protect aquatic life in saline water.
 Zero of the 61 samples exceed the objective for the protection of human health from consumption of organisms only.

Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against placing this water segment-pollutant combination on the CWA section 303(d) List in the Water Quality Limited Segments category.

This conclusion is based on the staff findings that:

1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy.
2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy.
3. Zero of the 65 samples exceed the objective to protect aquatic life in saline water and zero of the 61 samples exceed the objective for the protection of human health from consumption of organisms only and this does not exceed the allowable frequency listed in Table 3.1 of the Listing Policy.
4. Pursuant to section 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.

Regional Board Staff Decision Recommendation: After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be placed on the section 303(d) list because applicable water quality standards are not being exceeded.

Line of Evidence (LOE) for Decision ID 66089, Heptachlor	Region 2
San Pablo Bay	

LOE ID: 93165
Pollutant: Heptachlor
LOE Subgroup: Pollutant-Water
Matrix: Water
Fraction: Dissolved
Beneficial Use: Estuarine Habitat
Number of Samples: 65
Number of Exceedances: 0
Data and Information Type: PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality: State Water Board staff assessed SFEI data for San Pablo Bay to determine beneficial use support and results are as follows: 0 of 65 samples exceed the criterion for Heptachlor.
Data Reference: [Regional Monitoring Program data, Feb. 1993-Sep. 2008](#)
SWAMP Data: Non-SWAMP

Water Quality Objective/Criterion: The Heptachlor criterion continuous concentration (expressed as a 4-day average) to protect aquatic life in saline water is 0.0036 ug/L (California Toxics Rule, 2000).

Objective/Criterion Reference: [Code of Federal Regulations 40 part 131.38 Establishment of numeric criteria for priority toxic pollutants for the State of California. 7/1/2011 Edition](#)

Evaluation Guideline:

Guideline Reference:

Spatial Representation: Data for this line of evidence for San Pablo Bay was collected at 15 monitoring sites [Davis Point - BD40, Petaluma River - BD15, Pinole Point - BD30, San Pablo Bay - SPB008W, San Pablo Bay - SPB005W, San Pablo Bay - SPB010W, San Pablo Bay - SPB002W, San Pablo Bay - SPB007W, San Pablo Bay - SPB006W, San Pablo Bay - SPB009W, San Pablo Bay - SPB011W, San Pablo Bay - SPB001W, San Pablo Bay - SPB003W, San Pablo Bay - SPB012W, San Pablo Bay - SPB004W]

Temporal Representation: Data was collected over the time period 4/26/1994-7/21/2004.

Environmental Conditions: Staff is not aware of any special conditions that might affect interpretation of the data.

QAPP Information: The 1999 Quality Assurance Project Plan Regional Monitoring Program for Trace Substances was used.

QAPP Information Reference(s): [1999 Quality Assurance Project Plan Regional Monitoring Program for Trace Substances](#)

Line of Evidence (LOE) for Decision ID 66089, Heptachlor

Region 2

San Pablo Bay

LOE ID: 93166

Pollutant: Heptachlor

LOE Subgroup: Pollutant-Water

Matrix: Water

Fraction: Total

Beneficial Use: Commercial or recreational collection of fish, shellfish, or organisms

Number of Samples: 61

Number of Exceedances: 0

Data and Information Type: PHYSICAL/CHEMICAL MONITORING

Data Used to Assess Water Quality: State Water Board staff assessed SFEI data for San Pablo Bay to determine beneficial use support and results are as follows: 0 of 61 samples exceed the criterion for Heptachlor.

Data Reference: [Regional Monitoring Program data, Feb. 1993-Sep. 2008](#)

SWAMP Data: Non-SWAMP

Water Quality Objective/Criterion: The Heptachlor criteria for the protection of human health from consumption of organisms only is 0.00021 ug/L (California Toxics Rule, 2000).

Objective/Criterion Reference: [Code of Federal Regulations 40 part 131.38 Establishment of numeric criteria for priority toxic pollutants for the State of California. 7/1/2011 Edition](#)

Evaluation Guideline:

Guideline Reference:

Spatial Representation: Data for this line of evidence for San Pablo Bay was collected at 14 monitoring sites [Petaluma River - BD15, Pinole Point - BD30, Davis Point - BD40, San Pablo Bay - SPB001W, San Pablo Bay - SPB002W, San Pablo Bay - SPB003W, San Pablo Bay - SPB004W, San Pablo Bay - SPB009W, San Pablo Bay - SPB010W, San Pablo Bay - SPB011W, San Pablo Bay - SPB012W, San Pablo Bay - SPB018W, San Pablo Bay - SPB019W, San Pablo Bay - SPB020W]

Temporal Representation: Data was collected over the time period 4/26/1994-8/23/2006.

Environmental Conditions: Staff is not aware of any special conditions that might affect interpretation of the data.

QAPP Information: The 1999 Quality Assurance Project Plan Regional Monitoring Program for Trace Substances was used.

QAPP Information Reference(s): [1999 Quality Assurance Project Plan Regional Monitoring Program for Trace Substances](#)

DECISION ID	66090	Region 2
San Pablo Bay		

Pollutant: Heptachlor epoxide
Final Listing Decision: Do Not List on 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision: New Decision
Revision Status: Revised
Impairment from Pollutant or Pollution: Pollutant

Regional Board Staff Conclusion: This pollutant is being considered for placement on the CWA section 303(d) List under section 3.1 and 3.5 of the Listing Policy. Under section 3.1 and 3.5 a single line of evidence is necessary to assess listing status.

Four lines of evidence are available in the administrative record to assess this pollutant.

Zero of the 71 samples exceed the OBJECTIVE to protect aquatic life in saline water.
 Zero of the 26 samples exceed the GUIDELINE for the protection of human health from consumption of organisms.
 Zero of the 42 samples exceed the GUIDELINE for the protection of human health from consumption of organisms.
 Four of the 73 samples exceed the OBJECTIVE for the protection of human health from consumption of organisms only.

Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against placing this water segment-pollutant combination on the CWA section 303(d) List in the Water Quality Limited Segments category.

This conclusion is based on the staff findings that:

1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy.
2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy.
3. Zero of the 71 samples exceed the OBJECTIVE to protect aquatic life in saline water. Zero of the 26 samples exceed the GUIDELINE for the protection of human health from consumption of organisms. Zero of the 42 samples exceed the GUIDELINE for the protection of human health from consumption of organisms. Four of the 73 samples exceed the OBJECTIVE for the protection of human health from consumption of organisms only. These do not exceed the allowable frequency listed in Table 3.1 of the Listing Policy.
4. Pursuant to section 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.

Regional Board Staff Decision Recommendation: After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be placed on the section 303(d) list because applicable water quality standards are not being exceeded.

Line of Evidence (LOE) for Decision ID 66090, Heptachlor epoxide	Region 2
San Pablo Bay	

LOE ID: 93656
Pollutant: Heptachlor epoxide
LOE Subgroup: Pollutant-Tissue
Matrix: Tissue
Fraction: Shellfish
Beneficial Use: Shellfish Harvesting
Number of Samples: 42

Number of Exceedances:	0
Data and Information Type:	Shellfish surveys
Data Used to Assess Water Quality:	None of the 42 samples exceeded the guideline. All composite samples were comprised of <i>Crassostrea gigas</i> or <i>Mytilus californianus</i> . Data were reported on a dry weight basis and were converted to a wet weight basis by multiplying the dry-weight concentration by a factor of 1 minus the percentage of moisture content expressed as a decimal. Eleven samples were not used in the assessment because the laboratory data reporting limit(s) were above the objective and therefore the results could not be quantified with the level of certainty required by the Listing Policy. Laboratory replicates were averaged.
Data Reference:	Regional Monitoring Program data, Feb. 1993-Sep. 2008
SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	Water Quality Control Plan for the San Francisco Bay Basin: Controllable water quality factors shall not cause a detrimental increase in concentrations of toxic substances found in bottom sediments or aquatic life. Effects on aquatic organisms, wildlife, and human health will be considered.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	The modified OEHHA Fish Contaminant Goal for heptachlor epoxide in shellfish tissue is 1.4 ppb. This screening level assumes an average body weight of 70 kg and a consumption rate of 21 g/day for a 30 year exposure over a 70-year lifetime. This constituent is a carcinogen therefore the risk level is set to one in a million. (Brodberg, R.K., and G.A. Pollock, 1999; Klasing, S., and R. Brodberg, 2008; OEHHA, 1999)
Guideline Reference:	Prevalence of Selected Target Chemical Contaminants in Sport Fish From Two California Lakes: Public health designed screening study. Sacramento, CA: Office of Environmental Health Hazard Assessment Development of Fish Contaminant Goals and Advisory Tissue Levels for Common Contaminants in California Sport Fish: Chlordane, DDTs, Dieldrin, Methylmercury, PCBs, Selenium, and Toxaphene Public Health Goal for Heptachlor and Heptachlor Epoxide in Drinking Water
Spatial Representation:	Samples were collected at the following station: BD20 - San Pablo Bay, BD30 - Pinole Point, and BD40 Davis Point.
Temporal Representation:	Samples were generally collected in spring and fall seasons from years 1994 - 1999 and then during most fall seasons during years 2000 - 2008.
Environmental Conditions:	
QAPP Information:	1999 Quality Assurance Project Plan Regional Monitoring Program for Trace Substances.
QAPP Information Reference(s):	1999 Quality Assurance Project Plan Regional Monitoring Program for Trace Substances

**Line of Evidence (LOE) for Decision ID 66090, Heptachlor epoxide
San Pablo Bay**

Region 2

LOE ID:	93168
Pollutant:	Heptachlor epoxide
LOE Subgroup:	Pollutant-Water
Matrix:	Water
Fraction:	Total
Beneficial Use:	Commercial or recreational collection of fish, shellfish, or organisms
Number of Samples:	73
Number of Exceedances:	4
Data and Information Type:	PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality:	State Water Board staff assessed SFEI data for San Pablo Bay to determine beneficial use support and results are as follows: 4 of 73 samples exceed the criterion for Heptachlor Epoxide.
Data Reference:	Regional Monitoring Program data, Feb. 1993-Sep. 2008

SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	The Heptachlor Epoxide criteria for the protection of human health from consumption of organisms only is 0.00011 ug/L (California Toxics Rule, 2000).
Objective/Criterion Reference:	Code of Federal Regulations 40 part 131.38 Establishment of numeric criteria for priority toxic pollutants for the State of California. 7/1/2011 Edition
Evaluation Guideline:	
Guideline Reference:	
Spatial Representation:	Data for this line of evidence for San Pablo Bay was collected at 20 monitoring sites [Petaluma River - BD15, Pinole Point - BD30, Davis Point - BD40, San Pablo Bay - SPB001W, San Pablo Bay - SPB003W, San Pablo Bay - SPB009W, San Pablo Bay - SPB010W, San Pablo Bay - SPB011W, San Pablo Bay - SPB012W, San Pablo Bay - SPB013W, San Pablo Bay - SPB014W, San Pablo Bay - SPB015W, San Pablo Bay - SPB016W, San Pablo Bay - SPB017W, San Pablo Bay - SPB018W, San Pablo Bay - SPB019W, San Pablo Bay - SPB020W, San Pablo Bay - SPB021W, San Pablo Bay - SPB022W, San Pablo Bay - SPB023W]
Temporal Representation:	Data was collected over the time period 2/7/1994-8/9/2007.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	The 1999 Quality Assurance Project Plan Regional Monitoring Program for Trace Substances was used.
QAPP Information Reference(s):	1999 Quality Assurance Project Plan Regional Monitoring Program for Trace Substances

**Line of Evidence (LOE) for Decision ID 66090, Heptachlor epoxide
San Pablo Bay**

Region 2

LOE ID:	93167
Pollutant:	Heptachlor epoxide
LOE Subgroup:	Pollutant-Water
Matrix:	Water
Fraction:	Dissolved
Beneficial Use:	Estuarine Habitat
Number of Samples:	71
Number of Exceedances:	0
Data and Information Type:	PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality:	State Water Board staff assessed SFEI data for San Pablo Bay to determine beneficial use support and results are as follows: 0 of 71 samples exceed the criterion for Heptachlor Epoxide.
Data Reference:	Regional Monitoring Program data. Feb. 1993-Sep. 2008
SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	The Heptachlor Epoxide criterion continuous concentration (expressed as a 4-day average) to protect aquatic life in saline water is 0.0036 ug/L (California Toxics Rule, 2000).
Objective/Criterion Reference:	Code of Federal Regulations 40 part 131.38 Establishment of numeric criteria for priority toxic pollutants for the State of California. 7/1/2011 Edition
Evaluation Guideline:	
Guideline Reference:	
Spatial Representation:	Data for this line of evidence for San Pablo Bay was collected at 19 monitoring sites [Davis Point - BD40, Petaluma River - BD15, Pinole Point - BD30, San Pablo Bay - SPB008W, San Pablo Bay - SPB014W, San Pablo Bay - SPB016W, San Pablo Bay - SPB005W, San Pablo Bay - SPB010W, San Pablo Bay - SPB002W, San Pablo Bay - SPB015W, San Pablo Bay - SPB007W, San Pablo Bay - SPB013W, San Pablo Bay - SPB006W, San Pablo Bay - SPB009W, San Pablo Bay - SPB011W, San Pablo Bay -

	SPB001W, San Pablo Bay - SPB003W, San Pablo Bay - SPB012W, San Pablo Bay - SPB004W]
Temporal Representation:	Data was collected over the time period 2/7/1994-8/11/2005.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	The 1999 Quality Assurance Project Plan Regional Monitoring Program for Trace Substances was used.
QAPP Information Reference(s):	1999 Quality Assurance Project Plan Regional Monitoring Program for Trace Substances

Line of Evidence (LOE) for Decision ID 66090, Heptachlor epoxide	Region 2
San Pablo Bay	

LOE ID:	95092
Pollutant:	Heptachlor epoxide
LOE Subgroup:	Pollutant-Tissue
Matrix:	Tissue
Fraction:	Fish fillet
Beneficial Use:	Commercial or recreational collection of fish, shellfish, or organisms
Number of Samples:	26
Number of Exceedances:	0
Data and Information Type:	Fish tissue analysis
Data Used to Assess Water Quality:	Water Board staff assessed Regional Monitoring Program data for San Pablo Bay to determine beneficial use support and results are as follows: 0 of 26 samples exceed the criterion for Heptachlor epoxide. Fifty-seven samples were discarded for being non-detect, unquantifiable or the reporting limit exceeding the water quality objective.
Data Reference:	Regional Monitoring Program data, Feb. 1993-Sep. 2008
SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	Water Quality Control Plan for the San Francisco Bay Basin: Controllable water quality factors shall not cause a detrimental increase in concentrations of toxic substances found in bottom sediments or aquatic life. Effects on aquatic organisms, wildlife, and human health will be considered.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	The modified OEHHA Fish Contaminant Goal for heptachlor epoxide in fish tissue is 0.93 ppb. This screening level assumes an average body weight of 70 kg and a consumption rate of 32 g/day for a 30 year exposure over a 70-year lifetime. This constituent is a carcinogen therefore the risk level is set to one in a million. A cooking reduction factor of 1 is applied for skin-off fillets. (Klasing, S., and R. Brodberg, 2008; OEHHA, 1999)
Guideline Reference:	Development of Fish Contaminant Goals and Advisory Tissue Levels for Common Contaminants in California Sport Fish: Chlordane, DDTs, Dieldrin, Methylmercury, PCBs, Selenium, and Toxaphene Public Health Goal for Heptachlor and Heptachlor Epoxide in Drinking Water
Spatial Representation:	The samples were collected at six sites throughout San Pablo Bay.
Temporal Representation:	The samples were collected every three years from May 1994 through August 2006.
Environmental Conditions:	
QAPP Information:	The 1999 Quality Assurance Project Plan Regional Monitoring Program for Trace Substances was used.
QAPP Information Reference(s):	1999 Quality Assurance Project Plan Regional Monitoring Program for Trace Substances

DECISION ID	66100	Region 2
San Pablo Bay		

Pollutant:	Hexachlorobenzene/ HCB
Final Listing Decision:	Do Not List on 303(d) list (TMDL required list)

Last Listing Cycle's Final Listing Decision: Revision Status Impairment from Pollutant or Pollution:

New Decision

Revised
Pollutant

Regional Board Staff Conclusion:

This pollutant is being considered for placement on the CWA section 303(d) List under section 3.1 of the Listing Policy. Under section 3.1 a single line of evidence is necessary to assess listing status.

Three lines of evidence are available in the administrative record to assess this pollutant.

Zero of the 64 samples exceed the GUIDELINE for the protection of human health from consumption of organisms.

Zero of the 53 samples exceed the GUIDELINE for the protection of human health from consumption of organisms.

Zero of the 65 samples exceed the OBJECTIVE for the protection of human health from consumption of organisms only.

Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against placing this water segment-pollutant combination on the CWA section 303(d) List in the Water Quality Limited Segments category.

This conclusion is based on the staff findings that:

1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy.
2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy.
3. Zero of the 64 samples exceed the GUIDELINE for the protection of human health from consumption of organisms, zero of the 53 samples exceed the GUIDELINE for the protection of human health from consumption of organisms, zero of the 65 samples exceed the OBJECTIVE for the protection of human health from consumption of organisms only and this does not exceed the allowable frequency listed in Table 3.1 of the Listing Policy.
4. Pursuant to section 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.

Regional Board Staff Decision Recommendation:

After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be placed on the section 303(d) list because applicable water quality standards are not being exceeded.

Line of Evidence (LOE) for Decision ID 66100, Hexachlorobenzene/ HCB

Region 2

San Pablo Bay

LOE ID: 93678

Pollutant: Hexachlorobenzene/ HCB

LOE Subgroup: Pollutant-Tissue

Matrix: Tissue

Fraction: Shellfish

Beneficial Use: Shellfish Harvesting

Number of Samples: 53

Number of Exceedances: 0

Data and Information Type: Shellfish surveys

Data Used to Assess Water Quality: None of the 53 samples exceeded the guideline. All composite samples were comprised of *Crassostrea gigas* or *Mytilus californianus*. Data were reported on a dry weight basis and were converted to a wet weight basis by multiplying the dry-weight concentration by a factor of 1 minus the percentage of moisture content expressed as a decimal. Laboratory replicates were averaged.

Data Reference: [Regional Monitoring Program data, Feb. 1993-Sep. 2008](#)

SWAMP Data: Non-SWAMP

Water Quality Objective/Criterion:	Water Quality Control Plan for the San Francisco Bay Basin: Controllable water quality factors shall not cause a detrimental increase in concentrations of toxic substances found in bottom sediments or aquatic life. Effects on aquatic organisms, wildlife, and human health will be considered.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	The modified OEHHA Fish Contaminant Goal for hexachlorobenzene in shellfish tissue is 4.3 ppb. This screening level assumes an average body weight of 70 kg and a consumption rate of 21 g/day for a 30 year exposure over a 70-year lifetime. This constituent is a carcinogen therefore the risk level is set to one in a million. (Brodberg, R.K., and G.A. Pollock, 1999; Klasing, S., and R. Brodberg, 2008; OEHHA, 2005)
Guideline Reference:	Prevalence of Selected Target Chemical Contaminants in Sport Fish From Two California Lakes: Public health designed screening study. Sacramento, CA: Office of Environmental Health Hazard Assessment Development of Fish Contaminant Goals and Advisory Tissue Levels for Common Contaminants in California Sport Fish: Chlordane, DDTs, Dieldrin, Methylmercury, PCBs, Selenium, and Toxaphene Air Toxics Hotspots Program Risk Assessment Guidelines. Part II Technical Support Document for Describing Available Cancer Potency Values.
Spatial Representation:	Samples were collected at the following station: BD20 - San Pablo Bay, BD30 - Pinole Point, and BD40 Davis Point.
Temporal Representation:	Samples were generally collected in spring and fall seasons from years 1994 - 1999 and then during most fall seasons during years 2000 - 2008.
Environmental Conditions:	
QAPP Information:	1999 Quality Assurance Project Plan Regional Monitoring Program for Trace Substances.
QAPP Information Reference(s):	1999 Quality Assurance Project Plan Regional Monitoring Program for Trace Substances

Line of Evidence (LOE) for Decision ID 66100, Hexachlorobenzene/ HCB

Region 2

San Pablo Bay

LOE ID:	95088
Pollutant:	Hexachlorobenzene/ HCB
LOE Subgroup:	Pollutant-Tissue
Matrix:	Tissue
Fraction:	Fish fillet
Beneficial Use:	Commercial or recreational collection of fish, shellfish, or organisms
Number of Samples:	64
Number of Exceedances:	0
Data and Information Type:	Fish tissue analysis
Data Used to Assess Water Quality:	Water Board staff assessed Regional Monitoring Program data for San Pablo Bay to determine beneficial use support and results are as follows: 0 of 64 samples exceed the criterion for hexachlorobenzene. No samples were discarded for being non-detect, unquantifiable or the reporting limit exceeding the water quality objective.
Data Reference:	Regional Monitoring Program data, Feb. 1993-Sep. 2008
SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	Water Quality Control Plan for the San Francisco Bay Basin: Controllable water quality factors shall not cause a detrimental increase in concentrations of toxic substances found in bottom sediments or aquatic life. Effects on aquatic organisms, wildlife, and human health will be considered.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	The modified OEHHA Fish Contaminant Goal for hexachlorobenzene in fish tissue is 2.8 ppb. This screening level assumes an average body weight of 70 kg and a consumption rate of 32 g/day for a 30 year exposure over a 70-year lifetime. This constituent is a

Guideline Reference:	carcinogen therefore the risk level is set to one in a million. A cooking reduction factor of 1 is applied for skin-off fillets. (Klasing, S., and R. Brodberg, 2008; OEHHA, 2005) Development of Fish Contaminant Goals and Advisory Tissue Levels for Common Contaminants in California Sport Fish: Chlordane, DDTs, Dieldrin, Methylmercury, PCBs, Selenium, and Toxaphene Air Toxics Hotspots Program Risk Assessment Guidelines. Part II Technical Support Document for Describing Available Cancer Potency Values.
Spatial Representation:	The samples were collected at six sites throughout San Pablo Bay.
Temporal Representation:	The samples were collected every three years from May 1994 through August 2006.
Environmental Conditions:	
QAPP Information:	The 1999 Quality Assurance Project Plan Regional Monitoring Program for Trace Substances was used.
QAPP Information Reference(s):	1999 Quality Assurance Project Plan Regional Monitoring Program for Trace Substances

Line of Evidence (LOE) for Decision ID 66100, Hexachlorobenzene/ HCB

Region 2

San Pablo Bay

LOE ID:	93169
Pollutant:	Hexachlorobenzene/ HCB
LOE Subgroup:	Pollutant-Water
Matrix:	Water
Fraction:	Total
Beneficial Use:	Commercial or recreational collection of fish, shellfish, or organisms
Number of Samples:	65
Number of Exceedances:	0
Data and Information Type:	PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality:	State Water Board staff assessed SFEI data for San Pablo Bay to determine beneficial use support and results are as follows: 0 of 65 samples exceed the criterion for Hexachlorobenzene.
Data Reference:	Regional Monitoring Program data, Feb. 1993-Sep. 2008
SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	The Hexachlorobenzene criteria for the protection of human health from consumption of organisms only is 0.00077 ug/L (California Toxics Rule, 2000).
Objective/Criterion Reference:	Code of Federal Regulations 40 part 131.38 Establishment of numeric criteria for priority toxic pollutants for the State of California. 7/1/2011 Edition
Evaluation Guideline:	
Guideline Reference:	
Spatial Representation:	Data for this line of evidence for San Pablo Bay was collected at 8 monitoring sites [Petaluma River - BD15, Pinole Point - BD30, Davis Point - BD40, San Pablo Bay - SPB005W, San Pablo Bay - SPB017W, San Pablo Bay - SPB018W, San Pablo Bay - SPB019W, San Pablo Bay - SPB020W]
Temporal Representation:	Data was collected over the time period 3/4/1993-8/23/2006.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	The 1999 Quality Assurance Project Plan Regional Monitoring Program for Trace Substances was used.
QAPP Information Reference(s):	1999 Quality Assurance Project Plan Regional Monitoring Program for Trace Substances

DECISION ID

66108

Region 2

San Pablo Bay

Pollutant:

Lead

Final Listing Decision:
Last Listing Cycle's Final Listing Decision:
Revision Status
Impairment from Pollutant or Pollution:

Do Not List on 303(d) list (TMDL required list)
New Decision

Revised
Pollutant

Regional Board Staff Conclusion:

This pollutant is being considered for placement on the CWA section 303(d) List under section 3.1 of the Listing Policy. Under section 3.1 a single line of evidence is necessary to assess listing status.

One line of evidence is available in the administrative record to assess this pollutant. Zero of the 91 samples exceed the OBJECTIVE.

Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against placing this water segment-pollutant combination on the CWA section 303(d) List in the Water Quality Limited Segments category.

This conclusion is based on the staff findings that:

1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy.
2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy.
3. Zero of the 91 samples exceed the OBJECTIVE and this does not exceed the allowable frequency listed in Table 3.1 of the Listing Policy.
4. Pursuant to section 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.

Regional Board Staff Decision Recommendation:

After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be placed on the section 303(d) list because applicable water quality standards are not being exceeded.

**Line of Evidence (LOE) for Decision ID 66108, Lead
San Pablo Bay**

Region 2

LOE ID: 93173

Pollutant: Lead
LOE Subgroup: Pollutant-Water
Matrix: Water
Fraction: Dissolved

Beneficial Use: Estuarine Habitat

Number of Samples: 91
Number of Exceedances: 0

Data and Information Type: PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality: State Water Board staff assessed SFEI data for San Pablo Bay to determine beneficial use support and results are as follows: 0 of 91 samples exceed the criterion for Lead.
Data Reference: [Regional Monitoring Program data, Feb. 1993-Sep. 2008](#)

SWAMP Data: Non-SWAMP

Water Quality Objective/Criterion: The dissolved lead criterion continuous concentration (expressed as a 4-day average) to protect aquatic life in saline water is 0.0081 mg/L (California Toxics Rule, 2000).
Objective/Criterion Reference: [Code of Federal Regulations 40 part 131.38 Establishment of numeric criteria for priority toxic pollutants for the State of California. 7/1/2011 Edition](#)

Evaluation Guideline:
Guideline Reference:

Spatial Representation: Data for this line of evidence for San Pablo Bay was collected at 26 monitoring sites [Petaluma River - BD15, Pinole Point - BD30, Davis Point - BD40, San Pablo Bay -

SPB001W, San Pablo Bay - SPB002W, San Pablo Bay - SPB003W, San Pablo Bay - SPB004W, San Pablo Bay - SPB005W, San Pablo Bay - SPB006W, San Pablo Bay - SPB007W, San Pablo Bay - SPB008W, San Pablo Bay - SPB009W, San Pablo Bay - SPB010W, San Pablo Bay - SPB011W, San Pablo Bay - SPB012W, San Pablo Bay - SPB013W, San Pablo Bay - SPB014W, San Pablo Bay - SPB015W, San Pablo Bay - SPB016W, San Pablo Bay - SPB017W, San Pablo Bay - SPB018W, San Pablo Bay - SPB019W, San Pablo Bay - SPB020W, San Pablo Bay - SPB024W, San Pablo Bay - SPB025W, San Pablo Bay - SPB026W]

Temporal Representation:

Data was collected over the time period 3/4/1993-7/14/2008.

Environmental Conditions:

Staff is not aware of any special conditions that might affect interpretation of the data.

QAPP Information:

The 1999 Quality Assurance Project Plan Regional Monitoring Program for Trace Substances was used.

QAPP Information Reference(s):

[1999 Quality Assurance Project Plan Regional Monitoring Program for Trace Substances](#)

DECISION ID	66112	Region 2
San Pablo Bay		

Pollutant: Lindane/gamma Hexachlorocyclohexane (gamma-HCH)

Final Listing Decision: Do Not List on 303(d) list (TMDL required list)

Last Listing Cycle's Final Listing Decision: New Decision

Revision Status Revised

Impairment from Pollutant or Pollution: Pollutant

Regional Board Staff Conclusion:

This pollutant is being considered for placement on the CWA section 303(d) List under section 3.1 of the Listing Policy. Under section 3.1 a single line of evidence is necessary to assess listing status.

One line of evidence is available in the administrative record to assess this pollutant. Zero of the 53 samples exceed the GUIDELINE.

Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against placing this water segment-pollutant combination on the CWA section 303(d) List in the Water Quality Limited Segments category.

This conclusion is based on the staff findings that:

1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy.
2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy.
3. Zero of the 53 samples exceed the GUIDELINE and this does not exceed the allowable frequency listed in Table 3.1 of the Listing Policy.
4. Pursuant to section 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.

Regional Board Staff Decision Recommendation: After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be placed on the section 303(d) list because applicable water quality standards are not being exceeded.

Line of Evidence (LOE) for Decision ID 66112, Lindane/gamma Hexachlorocyclohexane (gamma-HCH)	Region 2
San Pablo Bay	

LOE ID: 93679

Pollutant: Lindane/gamma Hexachlorocyclohexane (gamma-HCH)

LOE Subgroup: Pollutant-Tissue

Matrix: Tissue

Fraction: Shellfish

Beneficial Use: Shellfish Harvesting

Number of Samples:	53
Number of Exceedances:	0
Data and Information Type:	Shellfish surveys
Data Used to Assess Water Quality:	None of the 53 samples exceeded the guideline. All composite samples were comprised of <i>Crassostrea gigas</i> or <i>Mytilus californianus</i> . Data were reported on a dry weight basis and were converted to a wet weight basis by multiplying the dry-weight concentration by a factor of 1 minus the percentage of moisture content expressed as a decimal. Laboratory replicates were averaged.
Data Reference:	Regional Monitoring Program data, Feb. 1993-Sep. 2008
SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	Water Quality Control Plan for the San Francisco Bay Basin: Controllable water quality factors shall not cause a detrimental increase in concentrations of toxic substances found in bottom sediments or aquatic life. Effects on aquatic organisms, wildlife, and human health will be considered.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	The modified OEHHA Fish Contaminant Goal for lindane in shellfish tissue is 7.1 ppb. This screening level assumes an average body weight of 70 kg and a consumption rate of 21 g/day for a 30 year exposure over a 70-year lifetime. This constituent is a carcinogen therefore the risk level is set to one in a million. (Brodberg, R.K., and G.A. Pollock, 1999; Klasing, S., and R. Brodberg, 2008; OEHHA, 2005)
Guideline Reference:	Prevalence of Selected Target Chemical Contaminants in Sport Fish From Two California Lakes: Public health designed screening study. Sacramento, CA: Office of Environmental Health Hazard Assessment Development of Fish Contaminant Goals and Advisory Tissue Levels for Common Contaminants in California Sport Fish: Chlordane, DDTs, Dieldrin, Methylmercury, PCBs, Selenium, and Toxaphene Air Toxics Hotspots Program Risk Assessment Guidelines. Part II Technical Support Document for Describing Available Cancer Potency Values.
Spatial Representation:	Samples were collected at the following station: BD20 - San Pablo Bay, BD30 - Pinole Point, and BD40 Davis Point.
Temporal Representation:	Samples were generally collected in spring and fall seasons from years 1994 - 1999 and then during most fall seasons during years 2000 - 2008.
Environmental Conditions:	
QAPP Information:	1999 Quality Assurance Project Plan Regional Monitoring Program for Trace Substances.
QAPP Information Reference(s):	1999 Quality Assurance Project Plan Regional Monitoring Program for Trace Substances

DECISION ID	66786	Region 2
San Pablo Bay		
Pollutant:	Manganese	
Final Listing Decision:	Do Not List on 303(d) list (TMDL required list)	
Last Listing Cycle's Final Listing Decision:	New Decision	
Revision Status	Revised	
Impairment from Pollutant or Pollution:	Pollutant	
Regional Board Staff Conclusion:	<p>This pollutant is being considered for placement on the CWA section 303(d) List under section 3.1 of the Listing Policy. Under section 3.1 a single line of evidence is necessary to assess listing status.</p> <p>One line of evidence is available in the administrative record to assess this pollutant. Zero of thirty-eight samples exceed the guideline.</p> <p>Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against placing this water segment-pollutant combination on the CWA section</p>	

303(d) List in the Water Quality Limited Segments category.

This conclusion is based on the staff findings that:

1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy.
2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy.
3. Zero of thirty-eight samples exceed the guideline and this does not exceed the allowable frequency listed in Table 3.1 of the Listing Policy.
4. Pursuant to section 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.

Regional Board Staff Decision Recommendation: After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be placed on the section 303(d) list because applicable water quality standards are not being exceeded.

Line of Evidence (LOE) for Decision ID 66786, Manganese

Region 2

San Pablo Bay

LOE ID:	93174
Pollutant:	Manganese
LOE Subgroup:	Pollutant-Water
Matrix:	Water
Fraction:	Total
Beneficial Use:	Commercial or recreational collection of fish, shellfish, or organisms
Number of Samples:	38
Number of Exceedances:	0
Data and Information Type:	PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality:	State Water Board staff assessed SFEI data for San Pablo Bay to determine beneficial use support and results are as follows: 0 of 38 samples exceed the criterion for Manganese.
Data Reference:	Regional Monitoring Program data, Feb. 1993-Sep. 2008
SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	The Manganese criteria for the protection of human health from the consumption of organisms only is 100 ug/L (California Toxics Rule, 2000).
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	The Lead criteria for the protection of human health from fish consumption only is 100 ug/L (National Recommended Water Quality Criteria, 2009).
Guideline Reference:	National Recommended Water Quality Criteria. United States Environmental Protection Agency. Office of Water. Office of Science and Technology
Spatial Representation:	Data for this line of evidence for San Pablo Bay was collected at 29 monitoring sites [Petaluma River - BD15, Pinole Point - BD30, Davis Point - BD40, San Pablo Bay - SPB001W, San Pablo Bay - SPB002W, San Pablo Bay - SPB003W, San Pablo Bay - SPB004W, San Pablo Bay - SPB005W, San Pablo Bay - SPB006W, San Pablo Bay - SPB007W, San Pablo Bay - SPB008W, San Pablo Bay - SPB009W, San Pablo Bay - SPB010W, San Pablo Bay - SPB011W, San Pablo Bay - SPB012W, San Pablo Bay - SPB013W, San Pablo Bay - SPB014W, San Pablo Bay - SPB015W, San Pablo Bay - SPB016W, San Pablo Bay - SPB017W, San Pablo Bay - SPB018W, San Pablo Bay - SPB019W, San Pablo Bay - SPB020W, San Pablo Bay - SPB021W, San Pablo Bay - SPB022W, San Pablo Bay - SPB023W, San Pablo Bay - SPB024W, San Pablo Bay - SPB025W, San Pablo Bay - SPB026W]
Temporal Representation:	Data was collected over the time period 2/7/2000-7/14/2008.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	The 1999 Quality Assurance Project Plan Regional Monitoring Program for Trace Substances was used.

DECISION ID	66115	Region 2
San Pablo Bay		

Pollutant: Mirex
Final Listing Decision: Do Not List on 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision: New Decision
Revision Status: Revised
Impairment from Pollutant or Pollution: Pollutant

Regional Board Staff Conclusion: This pollutant is being considered for placement on the CWA section 303(d) List under section 3.1 of the Listing Policy. Under section 3.1 a single line of evidence is necessary to assess listing status.

Four lines of evidence are available in the administrative record to assess this pollutant.

Zero of the 63 samples exceed the criteria for continuous concentration to protect saltwater aquatic organisms.

Zero of the 69 samples exceed the criteria for the protection of human health from consumption of organisms.

Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against placing this water segment-pollutant combination on the CWA section 303(d) List in the Water Quality Limited Segments category.

This conclusion is based on the staff findings that:

1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy.
2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy.
3. Zero of the 63 samples exceed the criteria for continuous concentration to protect saltwater aquatic organisms and zero of the 69 samples exceed the criteria for the protection of human health from consumption of organisms and this does not exceed the allowable frequency listed in Table 3.1 of the Listing Policy.
4. Pursuant to section 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met

Regional Board Staff Decision Recommendation: After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be placed on the section 303(d) list because applicable water quality standards are not being exceeded.

Line of Evidence (LOE) for Decision ID 66115, Mirex	Region 2
San Pablo Bay	

LOE ID: 93176

Pollutant: Mirex
LOE Subgroup: Pollutant-Water
Matrix: Water
Fraction: Dissolved

Beneficial Use: Estuarine Habitat

Number of Samples: 63
Number of Exceedances: 0

Data and Information Type: PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality: State Water Board staff assessed SFEI data for San Pablo Bay to determine beneficial use support and results are as follows: 0 of 63 samples exceed the criterion for Mirex.

Data Reference: [Regional Monitoring Program data, Feb. 1993-Sep. 2008](#)

SWAMP Data: Non-SWAMP

Water Quality Objective/Criterion: No individual pesticide or combination of pesticides shall be present in concentrations that adversely affect beneficial uses.

Objective/Criterion Reference: [Water Quality Control Plan \(Basin Plan\) San Francisco Bay Basin \(Region 2\)](#)

Evaluation Guideline: The USEPA Gold Book states 0.001 ug/L for the protection of freshwater and marine aquatic life. (USEPA Gold Book - EPA 440/5-86-001)

Guideline Reference: [Quality Criteria for Water 1986. United States Environmental Protection Agency. Office of Water. Regulations and Standards. Washington D.C. EPA 440/5-86-001.](#)

Spatial Representation: Data for this line of evidence for San Pablo Bay was collected at 12 monitoring sites [Davis Point - BD40, Petaluma River - BD15, Pinole Point - BD30, San Pablo Bay - SPB005W, San Pablo Bay - SPB010W, San Pablo Bay - SPB002W, San Pablo Bay - SPB009W, San Pablo Bay - SPB011W, San Pablo Bay - SPB001W, San Pablo Bay - SPB003W, San Pablo Bay - SPB012W, San Pablo Bay - SPB004W]

Temporal Representation: Data was collected over the time period 4/26/1994-7/21/2004.

Environmental Conditions: Staff is not aware of any special conditions that might affect interpretation of the data.

QAPP Information: The 1999 Quality Assurance Project Plan Regional Monitoring Program for Trace Substances was used.

QAPP Information Reference(s): [1999 Quality Assurance Project Plan Regional Monitoring Program for Trace Substances](#)

Line of Evidence (LOE) for Decision ID 66115, Mirex
San Pablo Bay

Region 2

LOE ID: 95235

Pollutant: Mirex

LOE Subgroup: Pollutant-Tissue

Matrix: Tissue

Fraction: Fish fillet

Beneficial Use: Commercial or recreational collection of fish, shellfish, or organisms

Number of Samples: 0

Number of Exceedances: 0

Data and Information Type: Fish tissue analysis

Data Used to Assess Water Quality: Water Board staff assessed Regional Monitoring Program data for San Pablo Bay to determine beneficial use support and results are as follows: 0 of 0 samples exceed the criterion for Mirex. Eighty-three samples were discarded for being non-detect, unquantifiable or the reporting limit exceeding the water quality objective.

Data Reference: [Regional Monitoring Program data, Feb. 1993-Sep. 2008](#)

SWAMP Data: Non-SWAMP

Water Quality Objective/Criterion: Water Quality Control Plan for the San Francisco Bay Basin: Controllable water quality factors shall not cause a detrimental increase in concentrations of toxic substances found in bottom sediments or aquatic life. Effects on aquatic organisms, wildlife, and human health will be considered.

Objective/Criterion Reference: [Water Quality Control Plan \(Basin Plan\) San Francisco Bay Basin \(Region 2\)](#)

Evaluation Guideline: The modified OEHHA Fish Contaminant Goal for mirex in fish tissue is 0.28 ppb. This screening level assumes an average body weight of 70 kg and a consumption rate of 32 g/day. A cooking reduction factor of 1 is applied for skin-off fillets. (Klasing, S., and R. Brodberg, 2008; OEHHA, 1992)

Guideline Reference: [Development of Fish Contaminant Goals and Advisory Tissue Levels for Common Contaminants in California Sport Fish: Chlordane, DDTs, Dieldrin, Methylmercury, PCBs, Selenium, and Toxaphene](#)
[Expedited Cancer Potency Values and Proposed Regulatory Levels for Certain Proposition](#)

[65 Carcinogens.](#)

Spatial Representation: The samples were collected at six sites throughout San Pablo Bay.
Temporal Representation: The samples were collected every three years from May 1994 through August 2006.
Environmental Conditions:
QAPP Information: The 1999 Quality Assurance Project Plan Regional Monitoring Program for Trace Substances was used.
QAPP Information Reference(s): [1999 Quality Assurance Project Plan Regional Monitoring Program for Trace Substances](#)

Line of Evidence (LOE) for Decision ID 66115, Mirex

Region 2

San Pablo Bay

LOE ID: 93680

Pollutant: Mirex
LOE Subgroup: Pollutant-Tissue
Matrix: Tissue
Fraction: Shellfish

Beneficial Use: Shellfish Harvesting

Number of Samples: 15
Number of Exceedances: 1

Data and Information Type: Shellfish surveys
Data Used to Assess Water Quality: One of the 15 samples exceeded the guideline. All composite samples were comprised of *Crassostrea gigas* or *Mytilus californianus*. Data were reported on a dry weight basis and were converted to a wet weight basis by multiplying the dry-weight concentration by a factor of 1 minus the percentage of moisture content expressed as a decimal. Thirty-eight samples were not used in the assessment because the laboratory data reporting limit(s) were above the objective and therefore the results could not be quantified with the level of certainty required by the Listing Policy. Laboratory replicates were averaged.

Data Reference: [Regional Monitoring Program data, Feb. 1993-Sep. 2008](#)

SWAMP Data: Non-SWAMP

Water Quality Objective/Criterion: Water Quality Control Plan for the San Francisco Bay Basin: Controllable water quality factors shall not cause a detrimental increase in concentrations of toxic substances found in bottom sediments or aquatic life. Effects on aquatic organisms, wildlife, and human health will be considered.

Objective/Criterion Reference: [Water Quality Control Plan \(Basin Plan\) San Francisco Bay Basin \(Region 2\)](#)

Evaluation Guideline: The modified OEHHA Fish Contaminant Goal for mirex in shellfish tissue is 0.43 ppb. This screening level assumes an average body weight of 70 kg and a consumption rate of 21 g/day. This constituent is a carcinogen therefore the risk level is set to one in a million. (Brodberg, R.K., and G.A. Pollock, 1999; Klasing, S., and R. Brodberg, 2008; OEHHA, 1992)

Guideline Reference: [Prevalence of Selected Target Chemical Contaminants in Sport Fish From Two California Lakes: Public health designed screening study. Sacramento, CA: Office of Environmental Health Hazard Assessment](#)
[Development of Fish Contaminant Goals and Advisory Tissue Levels for Common Contaminants in California Sport Fish: Chlordane, DDTs, Dieldrin, Methylmercury, PCBs, Selenium, and Toxaphene](#)
[Expedited Cancer Potency Values and Proposed Regulatory Levels for Certain Proposition 65 Carcinogens.](#)

Spatial Representation: Samples were collected at the following station: San Pablo Bay, BD30 - Pinole Point, and BD40 Davis Point.

Temporal Representation: Samples were generally collected in spring and fall seasons from years 1994 - 1999 and then during most fall seasons during years 2000 - 2008.

Environmental Conditions:
QAPP Information: 1999 Quality Assurance Project Plan Regional Monitoring Program for Trace Substances.

Line of Evidence (LOE) for Decision ID 66115, Mirex**Region 2****San Pablo Bay**

LOE ID:	93175
Pollutant:	Mirex
LOE Subgroup:	Pollutant-Water
Matrix:	Water
Fraction:	Total
Beneficial Use:	Commercial or recreational collection of fish, shellfish, or organisms
Number of Samples:	69
Number of Exceedances:	0
Data and Information Type:	PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality:	State Water Board staff assessed SFEI data for San Pablo Bay to determine beneficial use support and results are as follows: 0 of 69 samples exceed the criterion for Mirex.
Data Reference:	Regional Monitoring Program data, Feb. 1993-Sep. 2008
SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	No individual pesticide or combination of pesticides shall be present in concentrations that adversely affect beneficial uses.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	The Mirex criteria for the protection of human health from consumption of organisms only is 0.000097 ug/L (National Recommended Water Quality Criteria, 2009).
Guideline Reference:	National Recommended Water Quality Criteria. United States Environmental Protection Agency. Office of Water. Office of Science and Technology
Spatial Representation:	Data for this line of evidence for San Pablo Bay was collected at 15 monitoring sites [Petaluma River - BD15, Pinole Point - BD30, Davis Point - BD40, San Pablo Bay - SPB001W, San Pablo Bay - SPB002W, San Pablo Bay - SPB003W, San Pablo Bay - SPB004W, San Pablo Bay - SPB009W, San Pablo Bay - SPB010W, San Pablo Bay - SPB011W, San Pablo Bay - SPB012W, San Pablo Bay - SPB017W, San Pablo Bay - SPB018W, San Pablo Bay - SPB019W, San Pablo Bay - SPB020W]
Temporal Representation:	Data was collected over the time period 4/26/1994-8/23/2006.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	The 1999 Quality Assurance Project Plan Regional Monitoring Program for Trace Substances was used.
QAPP Information Reference(s):	1999 Quality Assurance Project Plan Regional Monitoring Program for Trace Substances

DECISION ID**66833****Region 2****San Pablo Bay**

Pollutant:	PAHs (Polycyclic Aromatic Hydrocarbons)
Final Listing Decision:	Do Not List on 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision:	New Decision
Revision Status	Revised
Impairment from Pollutant or Pollution:	Pollutant
Regional Board Staff Conclusion:	<p>This pollutant is being considered for placement on the CWA section 303(d) List under section 3.5 of the Listing Policy. Under section 3.5 a single line of evidence is necessary to assess listing status.</p> <p>Two lines of evidence are available in the administrative record to assess this pollutant. Zero of fifty-</p>

two samples exceed the guideline.

Based on the readily available data and information, the weight of evidence indicates that there is not sufficient justification in favor of placing this water segment-pollutant combination on the CWA section 303(d) List.

This conclusion is based on the staff findings that:

1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy.
2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy.
3. Zero of fifty-two samples exceed the OEHHHA guideline and this number does not exceed the allowable frequency listed in Table 3.1 of the Listing Policy.
4. There is not a fish consumption advisory in effect for this waterbody.
5. Pursuant to section 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.

Regional Board Staff Decision Recommendation: After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be placed on the section 303(d) list because applicable water quality standards are not being exceeded.

**Line of Evidence (LOE) for Decision ID 66833, PAHs (Polycyclic Aromatic Hydrocarbons)
San Pablo Bay**

Region 2

LOE ID:	93675
Pollutant:	PAHs (Polycyclic Aromatic Hydrocarbons)
LOE Subgroup:	Pollutant-Tissue
Matrix:	Tissue
Fraction:	Shellfish
Beneficial Use:	Shellfish Harvesting
Number of Samples:	52
Number of Exceedances:	0
Data and Information Type:	Shellfish surveys
Data Used to Assess Water Quality:	Zero of the fifty-two samples exceeded the guideline. Composite samples were comprised of <i>Corbicula fluminea</i> , <i>Crassostrea gigas</i> , or <i>Mytilus californianus</i> . Laboratory replicate 2 collected on 5/5/1994 at BD30 was not included in the assessment. Data were reported on a dry weight basis and were converted to a wet weight basis by multiplying the dry-weight concentration by a factor of 1 minus the percentage of moisture content expressed as a decimal. Laboratory replicates were averaged. PAH, Total is calculated as a potency weighted concentration with respect to benzo(a)pyrene and was calculated based on the following analytes: Dibenzo(a,h)anthracene, Benzo(a)pyrene, Benz(a)anthracene, Benzo(b)fluoranthene, Benzo(k)fluoranthene, Indeno(1,2,3-c,d)pyrene, Anthracene, Benzo(g,h,i)perylene, Chrysene, Acenaphthene, Acenaphthylene, Fluoranthene, Fluorene, Phenanthrene, and Pyrene.
Data Reference:	Regional Monitoring Program data, Feb. 1993-Sep. 2008
SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	Water Quality Control Plan for the San Francisco Bay Basin (2013): Controllable water quality factors shall not cause a detrimental increase in concentrations of toxic substances found in bottom sediments or aquatic life. Effects on aquatic organisms, wildlife, and human health will be considered.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	The modified OEHHHA Advisory Tissue Level for polycyclic aromatic hydrocarbons in shellfish tissue is 110 ppb. This screening level assumes an average body weight of 70 kg and a consumption rate of 21 g/day for a 30 year exposure over a 70-year lifetime. This constituent is a carcinogen therefore the risk level is set to one in ten thousand. (Brodberg, R.K., and G.A. Pollock, 1999; Klasing, S., and R. Brodberg, 2008; USEPA,

2000)

Advisory Tissue Levels (ATLs), while still conferring no significant health risk to individuals consuming sport fish in the quantities shown over a lifetime, were developed with the recognition that there are unique health benefits associated with fish consumption and that the advisory process should be expanded beyond a simple risk paradigm in order to best promote the overall health of the fish consumer. ATLs provide a number of recommended fish servings that correspond to the range of contaminant concentrations found in fish and are used to provide consumption advice to prevent consumers from being exposed to more than the average daily reference dose for noncarcinogens or to a risk level greater than 1×10^{-4} for carcinogens (not more than one additional cancer case in a population of 10,000 people consuming fish at the given consumption rate over a lifetime). ATLs are designed to encourage consumption of fish that can be eaten in quantities likely to provide significant health benefits, while discouraging consumption of fish that, because of contaminant concentrations, should not be eaten or cannot be eaten in amounts recommended for improving overall health (eight ounces total, prior to cooking, per week). ATLs are one of the criteria that will be used by OEHHA for issuing fish consumption guidelines.

Guideline Reference:

[Prevalence of Selected Target Chemical Contaminants in Sport Fish From Two California Lakes: Public health designed screening study. Sacramento, CA: Office of Environmental Health Hazard Assessment](#)
[Development of Fish Contaminant Goals and Advisory Tissue Levels for Common Contaminants in California Sport Fish: Chlordane, DDTs, Dieldrin, Methylmercury, PCBs, Selenium, and Toxaphene](#)
[Guidance for Assessing Chemical Contaminant Data for Use In Fish Advisories Volume 1: Fish Sampling and Analysis](#)

Spatial Representation:

Samples were collected at the following stations: BD20 - San Pablo Bay, BD30 - Pinole Point, and BD40 - Davis Point.

Temporal Representation:

Samples were generally collected in spring and fall seasons from years 1993 - 1999 and then during fall season from years 2000 - 2008.

Environmental Conditions:

QAPP Information:

1999 Quality Assurance Project Plan Regional Monitoring Program for Trace Substances.

QAPP Information Reference(s):

[1999 Quality Assurance Project Plan Regional Monitoring Program for Trace Substances](#)

Line of Evidence (LOE) for Decision ID 66833, PAHs (Polycyclic Aromatic Hydrocarbons)

Region 2

San Pablo Bay

LOE ID: 95075

Pollutant: PAHs (Polycyclic Aromatic Hydrocarbons)

LOE Subgroup: Pollutant-Tissue

Matrix: Tissue

Fraction: Fish fillet

Beneficial Use: Commercial or recreational collection of fish, shellfish, or organisms

Number of Samples: 4

Number of Exceedances: 0

Data and Information Type: Fish tissue analysis

Data Used to Assess Water Quality: Water Board staff assessed Regional Monitoring Program data for San Pablo Bay to determine beneficial use support and results are as follows: 0 of 4 samples exceed the criterion for polycyclic aromatic hydrocarbons. No samples were discarded for being non-detect, unquantifiable or the reporting limit exceeding the water quality objective.

Data Reference: [Regional Monitoring Program data, Feb. 1993-Sep. 2008](#)

SWAMP Data: Non-SWAMP

Water Quality Objective/Criterion: Water Quality Control Plan for the San Francisco Bay Basin: Controllable water quality factors shall not cause a detrimental increase in concentrations of toxic substances found

Objective/Criterion Reference:	in bottom sediments or aquatic life. Effects on aquatic organisms, wildlife, and human health will be considered. Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	The modified OEHHA Fish Contaminant Goal for polycyclic aromatic hydrocarbons in fish tissue is 0.7 ppb. This screening level assumes an average body weight of 70 kg and a consumption rate of 32 g/day for a 30 year exposure over a 70-year lifetime. This constituent is a carcinogen therefore the risk level is set to one in a million. (Klasing, S., and R. Brodberg, 2008; USEPA, 2000)
Guideline Reference:	Development of Fish Contaminant Goals and Advisory Tissue Levels for Common Contaminants in California Sport Fish: Chlordane, DDTs, Dieldrin, Methylmercury, PCBs, Selenium, and Toxaphene Guidance for Assessing Chemical Contaminant Data for Use In Fish Advisories Volume 1: Fish Sampling and Analysis
Spatial Representation:	The samples were collected at one site in San Pablo Bay.
Temporal Representation:	The samples were collected in May 1994.
Environmental Conditions:	
QAPP Information:	The 1999 Quality Assurance Project Plan Regional Monitoring Program for Trace Substances was used.
QAPP Information Reference(s):	1999 Quality Assurance Project Plan Regional Monitoring Program for Trace Substances

DECISION ID	66116	Region 2
San Pablo Bay		

Pollutant:	Pyrene
Final Listing Decision:	Do Not List on 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision:	New Decision
Revision Status	Revised
Impairment from Pollutant or Pollution:	Pollutant

Regional Board Staff Conclusion:	<p>This pollutant is being considered for placement on the CWA section 303(d) List under section 3.1 of the Listing Policy. Under section 3.1 a single line of evidence is necessary to assess listing status.</p> <p>One line of evidence is available in the administrative record to assess this pollutant. Zero of the 82 samples exceed the OBJECTIVE.</p> <p>Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against placing this water segment-pollutant combination on the CWA section 303(d) List in the Water Quality Limited Segments category.</p> <p>This conclusion is based on the staff findings that:</p> <ol style="list-style-type: none"> 1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy. 2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy. 3. Zero of the 82 samples exceed the OBJECTIVE and this does not exceed the allowable frequency listed in Table 3.1 of the Listing Policy. 4. Pursuant to section 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.
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Regional Board Staff Decision Recommendation:	After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be placed on the section 303(d) list because applicable water quality standards are not being exceeded.
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Line of Evidence (LOE) for Decision ID 66116, Pyrene	Region 2
San Pablo Bay	

LOE ID:	93184
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Pollutant:	Pyrene
LOE Subgroup:	Pollutant-Water
Matrix:	Water
Fraction:	Total
Beneficial Use:	Commercial or recreational collection of fish, shellfish, or organisms
Number of Samples:	82
Number of Exceedances:	0
Data and Information Type:	PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality:	State Water Board staff assessed SFEI data for San Pablo Bay to determine beneficial use support and results are as follows: 0 of 82 samples exceed the criterion for Pyrene.
Data Reference:	Regional Monitoring Program data, Feb. 1993-Sep. 2008
SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	The Pyrene criteria for the protection of human health from consumption of organisms only is 11,000 ug/L (California Toxics Rule, 2000).
Objective/Criterion Reference:	Code of Federal Regulations 40 part 131.38 Establishment of numeric criteria for priority toxic pollutants for the State of California. 7/1/2011 Edition
Evaluation Guideline:	
Guideline Reference:	
Spatial Representation:	Data for this line of evidence for San Pablo Bay was collected at 29 monitoring sites [Petaluma River - BD15, Pinole Point - BD30, Davis Point - BD40, San Pablo Bay - SPB001W, San Pablo Bay - SPB002W, San Pablo Bay - SPB003W, San Pablo Bay - SPB004W, San Pablo Bay - SPB005W, San Pablo Bay - SPB006W, San Pablo Bay - SPB007W, San Pablo Bay - SPB008W, San Pablo Bay - SPB009W, San Pablo Bay - SPB010W, San Pablo Bay - SPB011W, San Pablo Bay - SPB012W, San Pablo Bay - SPB013W, San Pablo Bay - SPB014W, San Pablo Bay - SPB015W, San Pablo Bay - SPB016W, San Pablo Bay - SPB017W, San Pablo Bay - SPB018W, San Pablo Bay - SPB019W, San Pablo Bay - SPB020W, San Pablo Bay - SPB021W, San Pablo Bay - SPB022W, San Pablo Bay - SPB023W, San Pablo Bay - SPB024W, San Pablo Bay - SPB025W, San Pablo Bay - SPB026W]
Temporal Representation:	Data was collected over the time period 3/4/1993-7/14/2008.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	The 1999 Quality Assurance Project Plan Regional Monitoring Program for Trace Substances was used.
QAPP Information Reference(s):	1999 Quality Assurance Project Plan Regional Monitoring Program for Trace Substances

DECISION ID	66117	Region 2
San Pablo Bay		

Pollutant:	Silver
Final Listing Decision:	Do Not List on 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision:	New Decision
Revision Status	Revised
Impairment from Pollutant or Pollution:	Pollutant
Regional Board Staff Conclusion:	<p>This pollutant is being considered for placement on the CWA section 303(d) List under section 3.1 of the Listing Policy. Under section 3.1 a single line of evidence is necessary to assess listing status.</p> <p>One line of evidence is available in the administrative record to assess this pollutant. Zero of the 75 samples exceed the OBJECTIVE.</p> <p>Based on the readily available data and information, the weight of evidence indicates that there is</p>

sufficient justification against placing this water segment-pollutant combination on the CWA section 303(d) List in the Water Quality Limited Segments category.

This conclusion is based on the staff findings that:

1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy.
2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy.
3. Zero of the 75 samples exceed the OBJECTIVE and this does not exceed the allowable frequency listed in Table 3.1 of the Listing Policy.
4. Pursuant to section 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.

Regional Board Staff Decision Recommendation: After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be placed on the section 303(d) list because applicable water quality standards are not being exceeded.

Line of Evidence (LOE) for Decision ID 66117, Silver

Region 2

San Pablo Bay

LOE ID:	93186
Pollutant:	Silver
LOE Subgroup:	Pollutant-Water
Matrix:	Water
Fraction:	Dissolved
Beneficial Use:	Estuarine Habitat
Number of Samples:	75
Number of Exceedances:	0
Data and Information Type:	PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality:	State Water Board staff assessed SFEI data for San Pablo Bay to determine beneficial use support and results are as follows: 0 of 75 samples exceed the criterion for Silver.
Data Reference:	Regional Monitoring Program data, Feb. 1993-Sep. 2008
SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	The dissolved silver criterion maximum concentration to protect aquatic life in saline water is 0.0019 mg/L (California Toxics Rule, 2000).
Objective/Criterion Reference:	Code of Federal Regulations 40 part 131.38 Establishment of numeric criteria for priority toxic pollutants for the State of California. 7/1/2011 Edition
Evaluation Guideline:	
Guideline Reference:	
Spatial Representation:	Data for this line of evidence for San Pablo Bay was collected at 21 monitoring sites [Petaluma River - BD15, Pinole Point - BD30, Davis Point - BD40, San Pablo Bay - SPB001W, San Pablo Bay - SPB002W, San Pablo Bay - SPB003W, San Pablo Bay - SPB004W, San Pablo Bay - SPB005W, San Pablo Bay - SPB006W, San Pablo Bay - SPB007W, San Pablo Bay - SPB008W, San Pablo Bay - SPB013W, San Pablo Bay - SPB014W, San Pablo Bay - SPB015W, San Pablo Bay - SPB016W, San Pablo Bay - SPB021W, San Pablo Bay - SPB022W, San Pablo Bay - SPB023W, San Pablo Bay - SPB024W, San Pablo Bay - SPB025W, San Pablo Bay - SPB026W]
Temporal Representation:	Data was collected over the time period 3/4/1993-7/14/2008.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	The 1999 Quality Assurance Project Plan Regional Monitoring Program for Trace Substances was used.
QAPP Information Reference(s):	1999 Quality Assurance Project Plan Regional Monitoring Program for Trace Substances

DECISION ID

66118

Region 2

Pollutant: Toxaphene
Final Listing Decision: Do Not List on 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision: New Decision
Revision Status: Revised
Impairment from Pollutant or Pollution: Pollutant

Regional Board Staff Conclusion:

This pollutant is being considered for placement on the CWA section 303(d) List under section 3.5 of the Listing Policy. Under section 3.5 one line of evidence is necessary to assess listing status. Two lines of evidence are available in the administrative record to assess this pollutant.

Zero of the zero samples exceed the GUIDELINE for the protection of human health from consumption of organisms.

Zero of the zero samples exceed the GUIDELINE for the protection of human health from consumption of organisms.

Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against placing this water segment-pollutant combination on the CWA section 303(d) List. This conclusion is based on the staff findings that:

1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy.
2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy.
3. Zero of the zero samples exceed the GUIDELINE for the protection of human health from consumption of organisms and zero of the zero samples exceed the GUIDELINE for the protection of human health from consumption of organisms and this sample size is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating. A minimum of 16 samples is needed to determine if a beneficial use is fully supported using table 3.1.
4. Pursuant to 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.

Regional Board Staff Decision Recommendation:

After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be placed on the section 303(d) list. The readily available data and information is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating.

**Line of Evidence (LOE) for Decision ID 66118, Toxaphene
San Pablo Bay**

Region 2

LOE ID: 93681

Pollutant: Toxaphene
 LOE Subgroup: Pollutant-Tissue
 Matrix: Tissue
 Fraction: Shellfish

Beneficial Use: Shellfish Harvesting

Number of Samples: 0
 Number of Exceedances: 0

Data and Information Type: Shellfish surveys

Data Used to Assess Water Quality: Five samples were not used in the assessment because the laboratory data reporting limit(s) were above the objective and therefore the results could not be quantified with the level of certainty required by the Listing Policy. All composite samples were comprised of *Crassostrea gigas* or *Mytilus californianus*. Data were reported on a dry weight basis and were converted to a wet weight basis by multiplying the dry-weight concentration by a factor of 1 minus the percentage of moisture content expressed as a decimal.

Data Reference: [Regional Monitoring Program data, Feb. 1993-Sep. 2008](#)

SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	Water Quality Control Plan for the San Francisco Bay Basin: Controllable water quality factors shall not cause a detrimental increase in concentrations of toxic substances found in bottom sediments or aquatic life. Effects on aquatic organisms, wildlife, and human health will be considered.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	The modified OEHHA Fish Contaminant Goal for toxaphene in shellfish tissue is 6.5 ppb. This screening level assumes an average body weight of 70 kg and a consumption rate of 21 g/day for a 30 year exposure over a 70-year lifetime. This constituent is a carcinogen therefore the risk level is set to one in a million. (Brodberg, R.K., and G.A. Pollock, 1999; Klasing, S., and R. Brodberg, 2008)
Guideline Reference:	Prevalence of Selected Target Chemical Contaminants in Sport Fish From Two California Lakes: Public health designed screening study. Sacramento, CA: Office of Environmental Health Hazard Assessment Development of Fish Contaminant Goals and Advisory Tissue Levels for Common Contaminants in California Sport Fish: Chlordane, DDTs, Dieldrin, Methylmercury, PCBs, Selenium, and Toxaphene
Spatial Representation:	Samples were collected at the following station: San Pablo Bay, BD30 - Pinole Point, and BD40 Davis Point.
Temporal Representation:	Samples were collected fall seasons from years 2002 - 2003.
Environmental Conditions:	
QAPP Information:	1999 Quality Assurance Project Plan Regional Monitoring Program for Trace Substances.
QAPP Information Reference(s):	1999 Quality Assurance Project Plan Regional Monitoring Program for Trace Substances

Line of Evidence (LOE) for Decision ID 66118, Toxaphene

Region 2

San Pablo Bay

LOE ID:	95126
Pollutant:	Toxaphene
LOE Subgroup:	Pollutant-Tissue
Matrix:	Tissue
Fraction:	Fish fillet
Beneficial Use:	Commercial or recreational collection of fish, shellfish, or organisms
Number of Samples:	0
Number of Exceedances:	0
Data and Information Type:	Fish tissue analysis
Data Used to Assess Water Quality:	Water Board staff assessed Regional Monitoring Program data for San Pablo Bay to determine beneficial use support and results are as follows: 0 of 0 samples exceed the criterion for toxaphene. Forty-eight samples were discarded for being non-detect, unquantifiable or the reporting limit exceeding the water quality objective.
Data Reference:	Regional Monitoring Program data, Feb. 1993-Sep. 2008
SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	Water Quality Control Plan for the San Francisco Bay Basin: Controllable water quality factors shall not cause a detrimental increase in concentrations of toxic substances found in bottom sediments or aquatic life. Effects on aquatic organisms, wildlife, and human health will be considered.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	The modified OEHHA Fish Contaminant Goal for toxaphene in fish tissue is 4.3 ppb. This screening level assumes an average body weight of 70 kg and a consumption rate of 32 g/day for a 30 year exposure over a 70-year lifetime. This constituent is a carcinogen therefore the risk level is set to one in a million. A cooking reduction factor of 1 is applied

Guideline Reference:	for skin-off fillets. (Klasing, S., and R. Brodberg, 2008) Development of Fish Contaminant Goals and Advisory Tissue Levels for Common Contaminants in California Sport Fish: Chlordane, DDTs, Dieldrin, Methylmercury, PCBs, Selenium, and Toxaphene
Spatial Representation:	The samples were collected at three sites throughout San Pablo Bay.
Temporal Representation:	The samples were collected every three years from May 1994 through September 2003.
Environmental Conditions:	
QAPP Information:	The 1999 Quality Assurance Project Plan Regional Monitoring Program for Trace Substances was used.
QAPP Information Reference(s):	1999 Quality Assurance Project Plan Regional Monitoring Program for Trace Substances

DECISION ID	66119	Region 2
San Pablo Bay		

Pollutant:	Tributyltin TBT (Tributylstanne)
Final Listing Decision:	Do Not List on 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision:	New Decision
Revision Status	Revised
Impairment from Pollutant or Pollution:	Pollutant
Regional Board Staff Conclusion:	<p>This pollutant is being considered for placement on the CWA section 303(d) List under section 3.1 of the Listing Policy. Under section 3.1 a single line of evidence is necessary to assess listing status.</p> <p>One line of evidence is available in the administrative record to assess this pollutant. Zero of the 41 samples exceed the GUIDELINE.</p> <p>Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against placing this water segment-pollutant combination on the CWA section 303(d) List in the Water Quality Limited Segments category.</p> <p>This conclusion is based on the staff findings that:</p> <ol style="list-style-type: none"> 1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy. 2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy. 3. Zero of the 41 samples exceed the GUIDELINE and this does not exceed the allowable frequency listed in Table 3.1 of the Listing Policy. 4. Pursuant to section 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.
Regional Board Staff Decision Recommendation:	After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be placed on the section 303(d) list because applicable water quality standards are not being exceeded.

Line of Evidence (LOE) for Decision ID 66119, Tributyltin TBT (Tributylstanne)	Region 2
San Pablo Bay	

LOE ID:	93706
Pollutant:	Tributyltin TBT (Tributylstanne)
LOE Subgroup:	Pollutant-Tissue
Matrix:	Tissue
Fraction:	Shellfish
Beneficial Use:	Shellfish Harvesting
Number of Samples:	41
Number of Exceedances:	0

Data and Information Type:	Shellfish surveys
Data Used to Assess Water Quality:	None of the 41 samples exceeded the guideline. Composite samples were comprised of <i>Crassostrea gigas</i> or <i>Mytilus californianus</i> . Data were reported on a dry weight basis and were converted to a wet weight basis by multiplying the dry-weight concentration by a factor of 1 minus the percentage of moisture content expressed as a decimal. If a dry weight result did not have a corresponding moisture result for conversion to wet weight, the sample was not included in the assessment. Laboratory replicates were averaged. Two samples were not used in the assessment because the laboratory data reporting limit was above the objective and therefore the results could not be quantified with the level of certainty required by the Listing Policy.
Data Reference:	Regional Monitoring Program data, Feb. 1993-Sep. 2008
SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	Water Quality Control Plan for the San Francisco Bay Basin: Controllable water quality factors shall not cause a detrimental increase in concentrations of toxic substances found in bottom sediments or aquatic life. Effects on aquatic organisms, wildlife, and human health will be considered.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	The modified OEHHA Fish Contaminant Goal for tributyltin in shellfish tissue is 1 ppm. This screening level assumes an average body weight of 70 kg and a consumption rate of 21 g/day. (Brodberg, R.K., and G.A. Pollock, 1999; Klasing, S., and R. Brodberg, 2008; USEPA, 2000)
Guideline Reference:	Prevalence of Selected Target Chemical Contaminants in Sport Fish From Two California Lakes: Public health designed screening study. Sacramento, CA: Office of Environmental Health Hazard Assessment Development of Fish Contaminant Goals and Advisory Tissue Levels for Common Contaminants in California Sport Fish: Chlordane, DDTs, Dieldrin, Methylmercury, PCBs, Selenium, and Toxaphene Guidance for Assessing Chemical Contaminant Data for Use In Fish Advisories Volume 1: Fish Sampling and Analysis
Spatial Representation:	Samples were collected at the following stations: BD20 - San Pablo Bay, BD30 - Pinole Point, and BD40 - Davis Point.
Temporal Representation:	Samples were generally collected in spring and fall seasons from years 1993 - 1999 and then fall 2000, 2001, and 2008.
Environmental Conditions:	
QAPP Information:	1999 Quality Assurance Project Plan Regional Monitoring Program for Trace Substances.
QAPP Information Reference(s):	1999 Quality Assurance Project Plan Regional Monitoring Program for Trace Substances

DECISION ID	66120	Region 2
San Pablo Bay		
Pollutant:	Zinc	
Final Listing Decision:	Do Not List on 303(d) list (TMDL required list)	
Last Listing Cycle's Final Listing Decision:	New Decision	
Revision Status	Revised	
Impairment from Pollutant or Pollution:	Pollutant	
Regional Board Staff Conclusion:	<p>This pollutant is being considered for placement on the CWA section 303(d) List under section 3.1 of the Listing Policy. Under section 3.1 a single line of evidence is necessary to assess listing status.</p> <p>Two lines of evidence are available in the administrative record to assess this pollutant.</p> <p>Zero of the 94 samples exceed the OBJECTIVE to protect aquatic life in saline water .</p> <p>Zero of the 97 samples exceed the CRITERIA for the protection of human health from consumption of fish only.</p>	

Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against placing this water segment-pollutant combination on the CWA section 303(d) List in the Water Quality Limited Segments category.

This conclusion is based on the staff findings that:

1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy.
2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy.
3. Zero of the 94 samples exceed the OBJECTIVE to protect aquatic life in saline water and zero of the 97 samples exceed the CRITERIA for the protection of human health from consumption of fish only and this does not exceed the allowable frequency listed in Table 3.1 of the Listing Policy.
4. Pursuant to section 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.

Regional Board Staff Decision Recommendation: After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be placed on the section 303(d) list because applicable water quality standards are not being exceeded.

**Line of Evidence (LOE) for Decision ID 66120, Zinc
San Pablo Bay**

Region 2

LOE ID:	93190
Pollutant:	Zinc
LOE Subgroup:	Pollutant-Water
Matrix:	Water
Fraction:	Dissolved
Beneficial Use:	Estuarine Habitat
Number of Samples:	94
Number of Exceedances:	0
Data and Information Type:	PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality:	State Water Board staff assessed SFEI data for San Pablo Bay to determine beneficial use support and results are as follows: 0 of 94 samples exceed the criterion for Zinc.
Data Reference:	Regional Monitoring Program data, Feb. 1993-Sep. 2008
SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	The dissolved zinc criterion continuous concentration (expressed as a 4-day average) to protect aquatic life in saline water is 0.081 mg/L (California Toxics Rule, 2000).
Objective/Criterion Reference:	Code of Federal Regulations 40 part 131.38 Establishment of numeric criteria for priority toxic pollutants for the State of California. 7/1/2011 Edition
Evaluation Guideline:	
Guideline Reference:	
Spatial Representation:	Data for this line of evidence for San Pablo Bay was collected at 29 monitoring sites [Petaluma River - BD15, Pinole Point - BD30, Davis Point - BD40, San Pablo Bay - SPB001W, San Pablo Bay - SPB002W, San Pablo Bay - SPB003W, San Pablo Bay - SPB004W, San Pablo Bay - SPB005W, San Pablo Bay - SPB006W, San Pablo Bay - SPB007W, San Pablo Bay - SPB008W, San Pablo Bay - SPB009W, San Pablo Bay - SPB010W, San Pablo Bay - SPB011W, San Pablo Bay - SPB012W, San Pablo Bay - SPB013W, San Pablo Bay - SPB014W, San Pablo Bay - SPB015W, San Pablo Bay - SPB016W, San Pablo Bay - SPB017W, San Pablo Bay - SPB018W, San Pablo Bay - SPB019W, San Pablo Bay - SPB020W, San Pablo Bay - SPB021W, San Pablo Bay - SPB022W, San Pablo Bay - SPB023W, San Pablo Bay - SPB024W, San Pablo Bay - SPB025W, San Pablo Bay - SPB026W]
Temporal Representation:	Data was collected over the time period 3/4/1993-7/14/2008.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.

QAPP Information: The 1999 Quality Assurance Project Plan Regional Monitoring Program for Trace Substances was used.

QAPP Information Reference(s): [1999 Quality Assurance Project Plan Regional Monitoring Program for Trace Substances](#)

Line of Evidence (LOE) for Decision ID 66120, Zinc

Region 2

San Pablo Bay

LOE ID: 93189

Pollutant: Zinc

LOE Subgroup: Pollutant-Water

Matrix: Water

Fraction: Total

Beneficial Use: Commercial or recreational collection of fish, shellfish, or organisms

Number of Samples: 97

Number of Exceedances: 0

Data and Information Type: PHYSICAL/CHEMICAL MONITORING

Data Used to Assess Water Quality: State Water Board staff assessed SFEI data for San Pablo Bay to determine beneficial use support and results are as follows: 0 of 97 samples exceed the criterion for Zinc.

Data Reference: [Regional Monitoring Program data, Feb. 1993-Sep. 2008](#)

SWAMP Data: Non-SWAMP

Water Quality Objective/Criterion: Surface waters shall not contain concentrations of chemical constituents in amounts that adversely affect any designated beneficial use.

Objective/Criterion Reference: [Water Quality Control Plan \(Basin Plan\) San Francisco Bay Basin \(Region 2\)](#)

Evaluation Guideline: The Zinc criteria for the protection of human health from consumption of fish only is 26000 ug/L (National Recommended Water Quality Criteria, 2009).

Guideline Reference: [National Recommended Water Quality Criteria, United States Environmental Protection Agency, Office of Water, Office of Science and Technology](#)

Spatial Representation: Data for this line of evidence for San Pablo Bay was collected at 29 monitoring sites [Petaluma River - BD15, Pinole Point - BD30, Davis Point - BD40, San Pablo Bay - SPB001W, San Pablo Bay - SPB002W, San Pablo Bay - SPB003W, San Pablo Bay - SPB004W, San Pablo Bay - SPB005W, San Pablo Bay - SPB006W, San Pablo Bay - SPB007W, San Pablo Bay - SPB008W, San Pablo Bay - SPB009W, San Pablo Bay - SPB010W, San Pablo Bay - SPB011W, San Pablo Bay - SPB012W, San Pablo Bay - SPB013W, San Pablo Bay - SPB014W, San Pablo Bay - SPB015W, San Pablo Bay - SPB016W, San Pablo Bay - SPB017W, San Pablo Bay - SPB018W, San Pablo Bay - SPB019W, San Pablo Bay - SPB020W, San Pablo Bay - SPB021W, San Pablo Bay - SPB022W, San Pablo Bay - SPB023W, San Pablo Bay - SPB024W, San Pablo Bay - SPB025W, San Pablo Bay - SPB026W]

Temporal Representation: Data was collected over the time period 3/4/1993-7/14/2008.

Environmental Conditions: Staff is not aware of any special conditions that might affect interpretation of the data.

QAPP Information: The 1999 Quality Assurance Project Plan Regional Monitoring Program for Trace Substances was used.

QAPP Information Reference(s): [1999 Quality Assurance Project Plan Regional Monitoring Program for Trace Substances](#)

DECISION ID

66033

Region 2

San Pablo Bay

Pollutant: alpha-Endosulfan (Endosulfan 1)

Final Listing Decision: Do Not List on 303(d) list (TMDL required list)

Last Listing Cycle's Final Listing Decision: New Decision

Revision Status Revised

Impairment from Pollutant or Pollution: Pollutant

Regional Board Staff Conclusion:

This pollutant is being considered for placement on the CWA section 303(d) List under section 3.1 of the Listing Policy. Under section 3.1 a single line of evidence is necessary to assess listing status.

One lines of evidence are available in the administrative record to assess this pollutant. Zero of the 70 samples exceed the OBJECTIVE.

Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against placing this water segment-pollutant combination on the CWA section 303(d) List in the Water Quality Limited Segments category.

This conclusion is based on the staff findings that:

1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy.
2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy.
3. Zero of the 70 samples exceeded the OBJECTIVE and this does not exceed the allowable frequency listed in Table 3.1 of the Listing Policy.
4. Pursuant to section 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.

Regional Board Staff Decision Recommendation:

After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be placed on the section 303(d) list because applicable water quality standards are not being exceeded.

**Line of Evidence (LOE) for Decision ID 66033, alpha-Endosulfan (Endosulfan 1)
San Pablo Bay**

Region 2

LOE ID:	93130
Pollutant:	alpha-Endosulfan (Endosulfan 1)
LOE Subgroup:	Pollutant-Water
Matrix:	Water
Fraction:	Total
Beneficial Use:	Commercial or recreational collection of fish, shellfish, or organisms
Number of Samples:	70
Number of Exceedances:	0
Data and Information Type:	PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality:	State Water Board staff assessed SFEI data for San Pablo Bay to determine beneficial use support and results are as follows: 0 of 70 samples exceed the criterion for Endosulfan I.
Data Reference:	Regional Monitoring Program data, Feb. 1993-Sep. 2008
SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	The Endosulfan I criteria for the protection of human health from consumption of organisms only is 240 ug/L (California Toxics Rule, 2000).
Objective/Criterion Reference:	Code of Federal Regulations 40 part 131.38 Establishment of numeric criteria for priority toxic pollutants for the State of California. 7/1/2011 Edition
Evaluation Guideline:	
Guideline Reference:	
Spatial Representation:	Data for this line of evidence for San Pablo Bay was collected at 11 monitoring sites [Petaluma River - BD15, Pinole Point - BD30, Davis Point - BD40, San Pablo Bay - SPB013W, San Pablo Bay - SPB015W, San Pablo Bay - SPB017W, San Pablo Bay - SPB018W, San Pablo Bay - SPB019W, San Pablo Bay - SPB020W, San Pablo Bay - SPB022W, San Pablo Bay - SPB023W]

Temporal Representation:	Data was collected over the time period 3/4/1993-8/9/2007.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	The 1999 Quality Assurance Project Plan Regional Monitoring Program for Trace Substances was used.
QAPP Information Reference(s):	1999 Quality Assurance Project Plan Regional Monitoring Program for Trace Substances

DECISION ID	66052	Region 2
San Pablo Bay		

Pollutant:	beta-Endosulfan (Endosulfan 2)
Final Listing Decision:	Do Not List on 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision:	New Decision
Revision Status	Revised
Impairment from Pollutant or Pollution:	Pollutant

Regional Board Staff Conclusion: This pollutant is being considered for placement on the CWA section 303(d) List under section 3.1 of the Listing Policy. Under section 3.1 a single line of evidence is necessary to assess listing status.

One line of evidence is available in the administrative record to assess this pollutant. Zero of the 66 samples exceed the OBJECTIVE.

Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against placing this water segment-pollutant combination on the CWA section 303(d) List in the Water Quality Limited Segments category.

This conclusion is based on the staff findings that:

1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy.
2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy.
3. Zero of 66 samples exceeded the OBJECTIVE and this does not exceed the allowable frequency listed in Table 3.1 of the Listing Policy.
4. Pursuant to section 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.

Regional Board Staff Decision Recommendation: After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be placed on the section 303(d) list because applicable water quality standards are not being exceeded.

Line of Evidence (LOE) for Decision ID 66052, beta-Endosulfan (Endosulfan 2)		Region 2
San Pablo Bay		

LOE ID: 93135

Pollutant:	beta-Endosulfan (Endosulfan 2)
LOE Subgroup:	Pollutant-Water
Matrix:	Water
Fraction:	Total

Beneficial Use: Commercial or recreational collection of fish, shellfish, or organisms

Number of Samples:	66
Number of Exceedances:	0

Data and Information Type:	PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality:	State Water Board staff assessed SFEI data for San Pablo Bay to determine beneficial use support and results are as follows: 0 of 66 samples exceed the criterion for Endosulfan II.

Data Reference: [Regional Monitoring Program data, Feb. 1993-Sep. 2008](#)

SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	The Endosulfan II criteria for the protection of human health from consumption of organisms only is 240 ug/L (California Toxics Rule, 2000).
Objective/Criterion Reference:	Code of Federal Regulations 40 part 131.38 Establishment of numeric criteria for priority toxic pollutants for the State of California. 7/1/2011 Edition
Evaluation Guideline:	
Guideline Reference:	
Spatial Representation:	Data for this line of evidence for San Pablo Bay was collected at 10 monitoring sites [Petaluma River - BD15, Pinole Point - BD30, Davis Point - BD40, San Pablo Bay - SPB015W, San Pablo Bay - SPB017W, San Pablo Bay - SPB018W, San Pablo Bay - SPB019W, San Pablo Bay - SPB020W, San Pablo Bay - SPB022W, San Pablo Bay - SPB023W]
Temporal Representation:	Data was collected over the time period 2/7/1994-8/9/2007.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	The 1999 Quality Assurance Project Plan Regional Monitoring Program for Trace Substances was used.
QAPP Information Reference(s):	1999 Quality Assurance Project Plan Regional Monitoring Program for Trace Substances

DECISION ID	66787	Region 2
San Pablo Bay		

Pollutant:	Toxicity
Final Listing Decision:	List on 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision:	New Decision
Revision Status	Revised
Sources:	Source Unknown
Expected TMDL Completion Date:	2029
Impairment from Pollutant or Pollution:	Pollutant

Regional Board Staff Conclusion:	<p>This pollutant is being considered for placement on the CWA section 303(d) List under section 3.6 of the Listing Policy. Under section 3.6 a single line of evidence is necessary to assess listing status.</p> <p>Two lines of evidence are available in the administrative record to assess this pollutant. Fifteen of fifty-one samples exceed the guideline.</p> <p>Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification in favor of placing this water segment-pollutant combination on the CWA section 303(d) List.</p> <p>This conclusion is based on the staff findings that:</p> <ol style="list-style-type: none"> 1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy. 2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy. 3. Fifteen of fifty-one samples exceed the guideline and this exceeds the allowable frequency listed in Table 3.1 of the Listing Policy. 4. Pursuant to section 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.
Regional Board Staff Decision Recommendation:	After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should be placed on the section 303(d) list because applicable water quality standards are exceeded and a pollutant contributes to or causes the problem.

Line of Evidence (LOE) for Decision ID 66787, Toxicity	Region 2
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San Pablo Bay

LOE ID:	95810
Pollutant:	Toxicity
LOE Subgroup:	Toxicity
Matrix:	Sediment
Fraction:	None
Beneficial Use:	Estuarine Habitat
Number of Samples:	51
Number of Exceedances:	15
Data and Information Type:	TOXICITY TESTING
Data Used to Assess Water Quality:	<p>Fifteen of the 51 samples exhibited toxicity. A sample may have multiple toxicity test results but will be counted only once. A sample is defined as being collected on the same day at the same location with the same lab sample id (if provided).</p> <p>The following test organisms and parameters were utilized for the toxicity tests: Eohaustorius estuarius (mean % survival), 1993-2008; Mytilus edulis (mean % normal alive), 1993-1995, 1997; Mytilus galloprovincialis (mean % normal alive), 1998-2001, 2005-08; and Strongylocentrotus purpuratus (mean % normal development), 1998. The following samples exhibited toxicity: Eohaustorius estuarius collected 1993-94, 2003, 2005-08; Mytilus edulis, collected 1997; Mytilus galloprovincialis collected 2005, 2007-08.</p> <p>Additional results were not included in the assessment due to control results of less than 90 percent for test parameter.</p>
Data Reference:	Regional Monitoring Program data, Feb. 1993-Sep. 2008
SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	All waters shall be maintained free of toxic substances in concentrations that are toxic to, or that produce detrimental physiological responses in, human, plant, animal, or aquatic life. Region 2 Basin Plan.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) - San Francisco Bay Region (Region 2)
Evaluation Guideline:	Toxicity is defined as a significant reduction of test organism relative to the control ($\alpha < 0.01$) and test organism survival is 80% or less than the control survival (at least 20% effect).
Guideline Reference:	SWAMP Memo Toxicity Data Interpretation Methods for Assessing the Toxicity of Sediment-associated Contaminants with Estuarine and Marine Amphipods. June 1994. EPA 600/R-94/025 Short-term Methods for Estimating the Chronic Toxicity of Effluents and Receiving Waters to West Coast Marine and Estuarine Organisms. EPA/600/R-95-136.
Spatial Representation:	Samples were collected at sites BD31, BD41, SPB001S, SPB002S, SPB003S, SPB004S, SPB005S, SPB007S, SPB009S, SPB011S, SPB013S, SPB015S, SPB017S, SPB019S, SPB021S, SPB023S, SPB025S, SPB027S, SPB029S, SPB031S, SPB037S, SPB038S, SPB039S, and SPB040S.
Temporal Representation:	The samples were collected twice each year (generally winter and summer) from 1993-99, and during the summers of 2000-08.
Environmental Conditions:	
QAPP Information:	Data collected after 1999 follows the San Francisco Estuary Institute 1999 Quality Assurance Project Plan Regional Monitoring Program for Trace Substances.
QAPP Information Reference(s):	1999 Quality Assurance Project Plan Regional Monitoring Program for Trace Substances

Line of Evidence (LOE) for Decision ID 66787, Toxicity

Region 2

San Pablo Bay

LOE ID: 95796

Pollutant:	Toxicity
LOE Subgroup:	Toxicity
Matrix:	Water
Fraction:	None
Beneficial Use:	Estuarine Habitat
Number of Samples:	25
Number of Exceedances:	0
Data and Information Type:	TOXICITY TESTING
Data Used to Assess Water Quality:	<p>Zero of the 25 samples exhibited toxicity. A sample may have multiple toxicity test results but will be counted only once. A sample is defined as being collected on the same day at the same location with the same lab sample id (if provided).</p> <p>The following test organisms and parameters were utilized for the toxicity tests: <i>Thalassiosira pseudonana</i> (cell count), 1993; <i>Crassostrea gigas</i> (mean % normal development), 1993; <i>Mytilus edulis</i> (mean % normal development), 1993 and 1995-97; <i>Americamysis bahia</i> - formerly <i>Mysidopsis bahia</i> (mean % survival), 1994-2000, 2002, and 2007.</p> <p>Additional results were not included in the assessment due to percent survival or percent normal development of less than 90 percent for the control.</p>
Data Reference:	Regional Monitoring Program data, Feb. 1993-Sep. 2008
SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	All waters shall be maintained free of toxic substances in concentrations that are toxic to, or that produce detrimental physiological responses in, human, plant, animal, or aquatic life. Region 2 Basin Plan.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) - San Francisco Bay Region (Region 2)
Evaluation Guideline:	Toxicity is defined as a significant reduction of test organism relative to the control ($\alpha < 0.05$) and test organism survival is 80% or less than the control survival (at least 20% effect).
Guideline Reference:	SWAMP Memo Toxicity Data Intrepretation Method 1007.0: Mysid, Mysidopsis bahia, Survival, Growth, and Fecundity Test; Chronic Toxicity. Excerpt from: Short-Term Methods for Estimating the Chronic Toxicity of Effluents and Receiving Waters to Marine and Estuarine Organisms. 3rd edition EPA-821-R-02-014 Short-Term Methods for Estimating the Chronic Toxicity of Effluents and Receiving Water to Marine and Estuarine Organisms. EPA/600/4-91-003.
Spatial Representation:	Samples were collected at sites BD15, BD30, SPB001W, SPB003W, and SPB021W.
Temporal Representation:	The samples were collected twice each year (generally winter and summer) from 1993-2001, and during the summers of 2002 and 2007.
Environmental Conditions:	
QAPP Information:	Data collected after 1999 follows the San Francisco Estuary Institute 1999 Quality Assurance Project Plan Regional Monitoring Program for Trace Substances.
QAPP Information Reference(s):	1999 Quality Assurance Project Plan Regional Monitoring Program for Trace Substances

DECISION ID	32789	Region 2
San Pablo Bay		

Pollutant:	Polybrominated Diphenyl Ethers (PBDEs)
Final Listing Decision:	Do Not List on 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision:	Do Not List on 303(d) list (TMDL required list)(2012)
Revision Status	Original
Impairment from Pollutant or Pollution:	Pollutant

**Regional Board Staff
Conclusion:**

This pollutant is being considered for listing under sections 2.1 and 3.1 of the Listing Policy. Under section 3.1 a single line of evidence is necessary to assess listing status. Two lines of evidence are available in the administrative record to assess this pollutant. It cannot be determined if the pollutant is likely to exceed the narrative water quality objective. Based on the readily available data and information, the weight of evidence indicates that there is not sufficient justification in favor of placing this water segment-pollutant combination on the section 303(d) list in the Water Quality Limited Segments category. This conclusion is based on the staff findings that: 1. An evaluation guideline is not available that complies with the requirements of section 6.1.3 of the Policy. 2. The data used satisfies the data quality requirements of section 6.1.4 of the Policy. 3. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy. 4. Pursuant to section 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.

**Regional Board Staff Decision
Recommendation:**

This is a decision previously approved by the State Water Resources Control Board and the USEPA. No new data were assessed by the Regional Board for the current. The decision has not changed.

**Line of Evidence (LOE) for Decision ID 32789, Polybrominated Diphenyl Ethers (PBDEs)
San Pablo Bay**

Region 2

LOE ID: 64

Pollutant: Polybrominated Diphenyl Ethers (PBDEs)
LOE Subgroup: Pollutant-Tissue
Matrix: Not Specified
Fraction: None

Beneficial Use: Estuarine Habitat

Number of Samples: 0
Number of Exceedances: 0

Data and Information Type: Not Specified
Data Used to Assess Water Quality: 2004 List Comments:

Numeric information, along with circumstantial, anecdotal, and non-specific referenced evidence, was submitted in 2004 with the request that the San Francisco Bay (presumably San Pablo Bay; San Francisco Bay, Central; San Francisco Bay, South; San Francisco Bay, Lower; and/or Suisun Bay) be listed for the PBDE family of flame retardant chemicals.

Otherwise informative studies based on findings from other states and other countries (Sweden) cannot, by themselves, provide sufficient evidence to list a pollutant for a California water body. Instead, this data provides background information only.

Data on contamination by PBDEs of human (breast) tissue from residents in and around the Bay is not usable for listing those water bodies due to the fact that there is no way to meaningfully link such contamination directly to water quality and to a particular water body.

Similarly, the presence of PBDEs in eggs and seal tissues is unfortunately inadequate to list. Again, the problem is the relationship between PBDEs and any human health effects. SWRCB staff is unable to determine exactly where birds nests and seal carcasses were sampled in relation to the five Bay area water bodies. Even if specific sample sites could be established, the question remains: how direct is the relationship between the presence of a pollutant, in this case PBDEs in the tissues of a widely ranging species, and the water of a specific water body. This is not the case when filter-feeding organisms (e.g., mussels and clams) or organisms that forage locally exclusively are used.

While some data presented was from local fish species, the volume and reliability of the data is questionable. Leopard shark, halibut, striped bass, and other species may move considerable distances before being captured, blurring the relationship between pollutants

	in the body and the water body of capture. The 'tainted catch' report summarized the problem facing water quality investigators: 'PBDE levels varied widely among fish species and between individuals of the same species,' in part due to 'location in the Bay.'
Data Reference:	Placeholder reference 2006 303(d)
SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	Basin Plan: Many pollutants can accumulate on particles, in sediment, or bioaccumulate in fish or other aquatic organisms. Controllable water quality factors shall not cause a detrimental increase in concentrations of toxic substances found in bottom sediments or aquatic life. Effects on aquatic organisms, wildlife, and human health will be considered.
Objective/Criterion Reference:	Placeholder reference 2006 303(d)
Evaluation Guideline:	None available. SWRCB remains unaware of any reliable criterion or guideline of use in evaluating the magnitude of the data provided.
Guideline Reference:	Placeholder reference 2006 303(d)
Spatial Representation:	Unknown.
Temporal Representation:	Multiple studies are cited (e.g., California studies: She et al., 2002). PBDEs in the San Francisco Bay Area: measurements in harbor seal blubber and human breast adipose tissue. Chemosphere 46(2002): 697-707; Petreas et al., 2003. High Body Burdens of 2,2',4,4'-Tetrabromodiphenyl Ether (BDE-47) in California Women. Environ. Health Perspect. 111(9): 1175-1179; She et al., 2003. High PBDE Levels in Shorebird Eggs from the San Francisco Bay and Washington State. Proceedings. 2003 Georgia Basin/Puget Sound Research Conference.)
Environmental Conditions:	
QAPP Information:	QA Info Missing
QAPP Information Reference(s):	

Line of Evidence (LOE) for Decision ID 32789, Polybrominated Diphenyl Ethers (PBDEs)

Region 2

San Pablo Bay

LOE ID:	65
Pollutant:	Polybrominated Diphenyl Ethers (PBDEs)
LOE Subgroup:	Testimonial Evidence
Matrix:	-N/A
Fraction:	None
Beneficial Use:	Estuarine Habitat
Number of Samples:	0
Number of Exceedances:	0
Data and Information Type:	Not Specified
Data Used to Assess Water Quality:	2002 List Fact Sheet Information:
	PBDEs research literature will be reviewed by the RWQCB to ascertain any new information on actual effects thresholds for these persistent bioaccumulative substances in the next listing cycle. These actions can be conducted regionally through the RMP, the Bay Area Pollution Prevention Group, or other association of dischargers. During the subsequent listing cycle, RWQCB staff evaluation of current research, applicable water quality criteria, and local actions to characterize sources and pollution prevention of PBDEs will determine whether a listing is needed.
Data Reference:	Placeholder reference 2006 303(d)
SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	Basin Plan Narrative Objectives:
	"Many pollutants can accumulate on particles, in sediment, or bioaccumulate in fish or other aquatic organisms. Controllable water quality factors shall not cause a detrimental

increase in concentrations of toxic substances found in bottom sediments or aquatic life. Effects on aquatic organisms, wildlife, and human health will be considered."

"Controllable water quality factors shall not cause a detrimental increase in the concentrations of toxic pollutants in sediments or aquatic life."

Objective/Criterion Reference:

[Placeholder reference 2006 303\(d\)](#)

Evaluation Guideline:

Guideline Reference:

Spatial Representation:

Temporal Representation:

Environmental Conditions:

QAPP Information:

QA Info Missing

QAPP Information Reference(s):

DECISION ID	33987	Region 2
San Pablo Bay		

Pollutant:	Dioxin compounds (including 2,3,7,8-TCDD)
Final Listing Decision:	List on 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision:	List on 303(d) list (TMDL required list)(2012)
Revision Status	Original
Sources:	Source Unknown
Expected TMDL Completion Date:	2019
Impairment from Pollutant or Pollution:	Pollutant

Regional Board Staff Conclusion:	303(d) listing decisions made prior to 2006 were not held in an assessment database. The Regional Boards will update this decision when new data and information become available and are assessed.
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Regional Board Staff Decision Recommendation:	This is a decision previously approved by the State Water Resources Control Board and the USEPA. No new data were assessed by the Regional Board for the current. The decision has not changed.
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Line of Evidence (LOE) for Decision ID 33987, Dioxin compounds (including 2,3,7,8-TCDD)	Region 2
San Pablo Bay	

LOE ID: 3687

Pollutant:	Dioxin compounds (including 2,3,7,8-TCDD)
LOE Subgroup:	Pollutant-Tissue
Matrix:	Tissue
Fraction:	Not Recorded

Beneficial Use:	Commercial or recreational collection of fish, shellfish, or organisms
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Number of Samples:	0
Number of Exceedances:	0

Data and Information Type:	Not Specified
Data Used to Assess Water Quality:	Unspecified--This LOE is a placeholder to support a 303(d) listing decision made prior to 2006.

Data Reference:	Placeholder reference pre-2006 303(d)
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SWAMP Data:	Non-SWAMP
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Water Quality Objective/Criterion:

Objective/Criterion Reference:

Evaluation Guideline:

Guideline Reference:

Spatial Representation: Unspecified

Temporal Representation: Unspecified

Environmental Conditions: Unspecified

QAPP Information: Unspecified

QAPP Information Reference(s):

DECISION ID	34598	Region 2
San Pablo Bay		

Pollutant:	Furan Compounds
Final Listing Decision:	List on 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision:	List on 303(d) list (TMDL required list)(2012)
Revision Status	Original
Sources:	Source Unknown
Expected TMDL Completion Date:	2019
Impairment from Pollutant or Pollution:	Pollutant

Regional Board Staff Conclusion:	303(d) listing decisions made prior to 2006 were not held in an assessment database. The Regional Boards will update this decision when new data and information become available and are assessed.
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Regional Board Staff Decision Recommendation:	This is a decision previously approved by the State Water Resources Control Board and the USEPA. No new data were assessed by the Regional Board for the current. The decision has not changed.
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Line of Evidence (LOE) for Decision ID 34598, Furan Compounds	Region 2
San Pablo Bay	

LOE ID:	3689
Pollutant:	Furan Compounds
LOE Subgroup:	Pollutant-Tissue
Matrix:	Tissue
Fraction:	Not Recorded
Beneficial Use:	Commercial or recreational collection of fish, shellfish, or organisms
Number of Samples:	0
Number of Exceedances:	0
Data and Information Type:	Not Specified
Data Used to Assess Water Quality:	Unspecified--This LOE is a placeholder to support a 303(d) listing decision made prior to 2006.
Data Reference:	Placeholder reference pre-2006 303(d)
SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	Unspecified
Objective/Criterion Reference:	Placeholder reference pre-2006 303(d)
Evaluation Guideline:	Unspecified
Guideline Reference:	Placeholder reference pre-2006 303(d)

Spatial Representation:	Unspecified
Temporal Representation:	Unspecified
Environmental Conditions:	Unspecified
QAPP Information:	Unspecified
QAPP Information Reference(s):	

DECISION ID	42776	Region 2
San Pablo Bay		

Pollutant:	Invasive Species
Final Listing Decision:	List on 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision:	List on 303(d) list (TMDL required list)(2012)
Revision Status	Original
Sources:	Source Unknown
Expected TMDL Completion Date:	2019
Impairment from Pollutant or Pollution:	Pollutant

Regional Board Staff Conclusion:	303(d) listing decisions made prior to 2006 were not held in an assessment database. The Regional Boards will update this decision when new data and information become available and are assessed.
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Regional Board Staff Decision Recommendation:	This is a decision previously approved by the State Water Resources Control Board and the USEPA. No new data were assessed by the Regional Board for the current. The decision has not changed.
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Line of Evidence (LOE) for Decision ID 42776, Invasive Species	Region 2
San Pablo Bay	

LOE ID:	3688
Pollutant:	Invasive Species
LOE Subgroup:	Population/Community Degradation
Matrix:	Water
Fraction:	Not Recorded
Beneficial Use:	Estuarine Habitat
Number of Samples:	0
Number of Exceedances:	0
Data and Information Type:	Not Specified
Data Used to Assess Water Quality:	Unspecified--This LOE is a placeholder to support a 303(d) listing decision made prior to 2006.
Data Reference:	Placeholder reference pre-2006 303(d)
SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	
Objective/Criterion Reference:	
Evaluation Guideline:	
Guideline Reference:	
Spatial Representation:	Unspecified
Temporal Representation:	Unspecified
Environmental Conditions:	Unspecified
QAPP Information:	Unspecified
QAPP Information Reference(s):	

DECISION ID	34398	Region 2
San Pablo Bay		

Pollutant:	PCBs (Polychlorinated biphenyls) (dioxin-like)
Final Listing Decision:	List on 303(d) list (being addressed by USEPA approved TMDL)
Last Listing Cycle's Final Listing Decision:	List on 303(d) list (TMDL required list)(2012)
Revision Status	Original
Sources:	Source Unknown
TMDL Name:	San Francisco Bay PCBs
TMDL Project Code:	7
Date TMDL Approved by USEPA:	03/29/2010
Impairment from Pollutant or Pollution:	Pollutant

Regional Board Staff Conclusion:	303(d) listing decisions made prior to 2006 were not held in an assessment database. The Regional Boards will update this decision when new data and information become available and are assessed.
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Regional Board Staff Decision Recommendation:	This is a decision previously approved by the State Water Resources Control Board and the USEPA. No new data were assessed by the Regional Board for the current. The decision has not changed.
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Line of Evidence (LOE) for Decision ID 34398, PCBs (Polychlorinated biphenyls) (dioxin-like)	Region 2
San Pablo Bay	

LOE ID:	3693
Pollutant:	PCBs (Polychlorinated biphenyls) (dioxin-like)
LOE Subgroup:	Pollutant-Tissue
Matrix:	Tissue
Fraction:	Not Recorded
Beneficial Use:	Commercial or recreational collection of fish, shellfish, or organisms
Number of Samples:	0
Number of Exceedances:	0
Data and Information Type:	Not Specified
Data Used to Assess Water Quality:	Unspecified--This LOE is a placeholder to support a 303(d) listing decision made prior to 2006.
Data Reference:	Placeholder reference pre-2006 303(d)
SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	Unspecified
Objective/Criterion Reference:	Placeholder reference pre-2006 303(d)
Evaluation Guideline:	Unspecified
Guideline Reference:	Placeholder reference pre-2006 303(d)
Spatial Representation:	Unspecified
Temporal Representation:	Unspecified
Environmental Conditions:	Unspecified
QAPP Information:	Unspecified
QAPP Information Reference(s):	

Draft California 2016 Integrated Report (303(d) List/305(b) Report)

Supporting Information

Regional Board 2 - San Francisco Bay Region

Water Body Name: Suisun Bay
Water Body ID: CAB2071002020011017135055
Water Body Type: Bay & Harbor

DECISION ID 32818 **Region 2**
Suisun Bay

Pollutant: Diazinon
Final Listing Decision: Delist from 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision: Delist from 303(d) list (TMDL required list)(2012)
Revision Status Revised
Reason for Delisting: Applicable WQS attained; reason for recovery unspecified
Impairment from Pollutant or Pollution: Pollutant

Regional Board Staff Conclusion: This pollutant is being considered for removal from the 303(d) list under section 4.1 of the Listing Policy. Under section 4.1 a single line of evidence is necessary to assess listing status. Five lines of evidence are available in the administrative record to assess this pollutant. The basis for listing in 1998 was ambient water toxicity and detections of diazinon in Bay waters. In the current assessment, the evaluation guideline available may not satisfy the requirements of the Listing Policy but even if the guideline were used all measurements are much lower than the recommended concentration. Recent measures of toxicity show that ambient water toxicity no longer exists in Bay waters. The RWQCB has developed a Water Quality Attainment Strategy that calls for preventive actions to keep diazinon from entering the Bay. Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification available in favor of removing this water segment-pollutant combination from the section 303(d) list in the Water Quality Limited Segments category. This conclusion is based on the staff findings that: 1. The evaluation guideline may not comply with the requirements of section 6.1.3 of the Policy. 2. The data used satisfies the data quality requirements of section 6.1.4 of the Policy. 3. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy. 4. None of fifteen samples exceeded the draft guideline and ambient water toxicity in the Bay appears to have disappeared. These frequencies do not exceed the allowable frequency listed in Table 4.1 of the Listing Policy. 5. Pursuant to section 4.11 of the Listing Policy, no additional data and information are available indicating that standards are met.

Regional Board Staff Decision Recommendation: After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should be removed from the section 303(d) list because applicable water quality standards for the pollutant are not being exceeded.

Line of Evidence (LOE) for Decision ID 32818, Diazinon **Region 2**
Suisun Bay

LOE ID: 75
Pollutant: Diazinon
LOE Subgroup: Pollutant-Water
Matrix: Water
Fraction: None
Beneficial Use: Estuarine Habitat

Number of Samples:	0
Number of Exceedances:	0
Data and Information Type:	PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality:	Seventeen samples, pollutant range: 540-58,350 pg/l, average: 7,332.4 (SFEI, 2001).
Data Reference:	Placeholder reference 2006 303(d)
SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	All waters shall be maintained free of toxic substances in concentrations that are lethal to or that produce other detrimental responses in aquatic organisms. Detrimental responses include, but are not limited to, decreased growth rate and decreased reproductive success of resident or indicator species. There shall be no acute toxicity in ambient waters. There shall be no chronic toxicity in ambient waters.
Objective/Criterion Reference:	Placeholder reference 2006 303(d)
Evaluation Guideline:	For salt water, USEPA has developed a draft water quality criteria of 820 ng/L (acute) and 400 ng/L (chronic). The use of these values may not comply with all the requirements of section 6.1.3 of the Listing Policy.
Guideline Reference:	Placeholder reference 2006 303(d)
Spatial Representation:	One sample site.
Temporal Representation:	Date Range: 03/05/93-08/08/01.
Environmental Conditions:	
QAPP Information:	SFEI RMP QA/QC program.
QAPP Information Reference(s):	

Line of Evidence (LOE) for Decision ID 32818, Diazinon

Region 2

Suisun Bay

LOE ID:	74
Pollutant:	Diazinon
LOE Subgroup:	Pollutant-Water
Matrix:	Water
Fraction:	None
Beneficial Use:	Estuarine Habitat
Number of Samples:	0
Number of Exceedances:	0
Data and Information Type:	PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality:	Seventeen samples, pollutant range: 540-58,000 pg/l, average: 7,288.6 (SFEI, 2001).
Data Reference:	Placeholder reference 2006 303(d)
SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	All waters shall be maintained free of toxic substances in concentrations that are lethal to or that produce other detrimental responses in aquatic organisms. Detrimental responses include, but are not limited to, decreased growth rate and decreased reproductive success of resident or indicator species. There shall be no acute toxicity in ambient waters. There shall be no chronic toxicity in ambient waters.
Objective/Criterion Reference:	Placeholder reference 2006 303(d)
Evaluation Guideline:	For salt water, USEPA has developed a draft water quality criteria of 820 ng/L (acute) and 400 ng/L (chronic). The use of these values may not comply with all the requirements of section 6.1.3 of the Listing Policy.
Guideline Reference:	Placeholder reference 2006 303(d)
Spatial Representation:	One sample site.
Temporal Representation:	Date Range: 03/05/93-08/08/01.

Environmental Conditions:
QAPP Information: SFEI RMP QA/QC program.
QAPP Information Reference(s):

Line of Evidence (LOE) for Decision ID 32818, Diazinon

Region 2

Suisun Bay

LOE ID: 73

Pollutant: Diazinon
LOE Subgroup: Narrative Description Data
Matrix: -N/A
Fraction: None

Beneficial Use: Estuarine Habitat

Number of Samples: 0
Number of Exceedances: 0

Data and Information Type: Not Specified
Data Used to Assess Water Quality: In response to the RMP observations of ambient water toxicity, and given the linkage established between similar toxicity and pesticides in upstream ambient water, the SFBRWQCB identified all San Francisco Bay segments as being impaired due to 'Pesticides' in 1998:

'Pesticides have been added as a cause of impairment to all Bay segments. The pesticide diazinon has been measured at levels that cause water column toxicity. The pesticide chlorpyrifos may also be a problem. This listing is consistent with listing of the Delta for these pesticides by the Central Valley Regional Water Quality Control Board.' This listing was subsequently made specific for the organophosphate pesticide diazinon by the USEPA.

Data Reference: [Placeholder reference 2006 303\(d\)](#)

SWAMP Data: Non-SWAMP

Water Quality Objective/Criterion:
Objective/Criterion Reference:

Evaluation Guideline:
Guideline Reference:

Spatial Representation:
Temporal Representation:
Environmental Conditions:
QAPP Information: QA Info Missing
QAPP Information Reference(s):

Line of Evidence (LOE) for Decision ID 32818, Diazinon

Region 2

Suisun Bay

LOE ID: 72

Pollutant: Diazinon
LOE Subgroup: Toxicity
Matrix: Water
Fraction: None

Beneficial Use: Estuarine Habitat

Number of Samples: 0
Number of Exceedances: 0

Data and Information Type: Data Used to Assess Water Quality:	<p>TOXICITY TESTING</p> <p>Ambient water toxicity in San Francisco Bay appears to have disappeared. The results of ambient water toxicity monitoring at Mallard Island indicate a significant reduction in the frequency, duration, and magnitude of toxicity: 4-5% of the ambient water samples were toxic in 1998-99 (34 total samples) and 1999-2000 (23 samples), relative to 14% toxicity frequency observed in 1997-98 (27 samples); none of the 28 samples collected during the 2000-2001 season were significantly toxic.</p> <p>In addition, the 1998-2000 and 2000-2001 monitoring at Mallard Island did not document any sets of consecutively toxic samples indicative of an extended period of ambient water toxicity, such as were observed in February and May of 1998. Moreover, the magnitude of toxicity (as reflected by the degree [or percentage] of test organism mortality) is also markedly reduced in the later years, again suggesting a reduction in the degree of ambient water toxicity. Subsequent RMP monitoring of ambient water toxicity in water samples collected from October 2001 through April 2003, also indicated an absence of toxicity to the test organisms (Ogle, 2004).</p>
Data Reference:	Placeholder reference 2006 303(d)
SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	Basin Plan: There shall be no acute toxicity in ambient waters. There shall be no chronic toxicity in ambient waters.
Objective/Criterion Reference:	Placeholder reference 2006 303(d)
Evaluation Guideline: Guideline Reference:	
Spatial Representation: Temporal Representation: Environmental Conditions:	
QAPP Information: QAPP Information Reference(s):	QA Info Missing

Line of Evidence (LOE) for Decision ID 32818, Diazinon
Suisun Bay

Region 2

LOE ID:	93355
Pollutant: LOE Subgroup: Matrix: Fraction:	<p>Diazinon</p> <p>Pollutant-Water</p> <p>Water</p> <p>Dissolved</p>
Beneficial Use:	Estuarine Habitat
Number of Samples: Number of Exceedances:	<p>15</p> <p>0</p>
Data and Information Type: Data Used to Assess Water Quality:	<p>PHYSICAL/CHEMICAL MONITORING</p> <p>State Water Board staff assessed SFEI data for Suisun Bay to determine beneficial use support and results are as follows: 0 of 15 samples exceed the criterion for Diazinon.</p>
Data Reference:	Regional Monitoring Program data, Feb. 1993-Sep. 2008
SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	All waters shall be maintained free of toxic substances in concentrations which are toxic to, or which produce detrimental physiological responses in, human, plant, animal, or aquatic life. (Water Quality Control Plan, Central Coast Basin, Chapter III, Section II.A.2 Objectives for all Inland Surface Waters, Enclosed Bays and Estuaries).
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)

Evaluation Guideline:	The freshwater chronic value for diazinon is 0.1 ug/L, expressed as a continuous concentration (Finlayson, 2004).
Guideline Reference:	Water quality for diazinon. Memorandum to J. Karkoski, Central Valley RWQCB, Rancho Cordova, CA: Pesticide Investigation Unit, CA Department of Fish and Game
Spatial Representation:	Data for this line of evidence for Suisun Bay was collected at 4 monitoring sites [Suisun Bay - SU015W, Suisun Bay - SU003W, Grizzly Bay - BF20, Suisun Bay - SU018W]
Temporal Representation:	Data was collected over the time period 2/8/1994-8/9/2005.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	The 1999 Quality Assurance Project Plan Regional Monitoring Program for Trace Substances was used.
QAPP Information Reference(s):	1999 Quality Assurance Project Plan Regional Monitoring Program for Trace Substances

DECISION ID	34583	Region 2
Suisun Bay		

Pollutant:	Chlordane
Final Listing Decision:	Do Not Delist from 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision:	List on 303(d) list (TMDL required list)(2012)
Revision Status	Revised
Sources:	Agriculture
Expected TMDL Completion Date:	2029
Impairment from Pollutant or Pollution:	Pollutant
Regional Board Staff Conclusion:	<p>This pollutant is being considered for removal from the CWA section 303(d) List under section 4.1 of the Listing Policy. Under this section a single line of evidence is necessary to assess listing status.</p> <p>Five lines of evidence are available in the administrative record to assess pollutant. Two of ten samples exceed the guideline related to shellfish consumption.</p> <p>Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against removing this water segment-pollutant combination from the CWA section 303(d) List.</p> <p>This conclusion is based on the staff findings that:</p> <ol style="list-style-type: none"> 1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy. 2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy. 3. Two of ten samples exceed the guideline related to shellfish consumption and this exceeds the allowable frequency listed in Table 4.1 of the Listing Policy. 4. Pursuant to section 4.11 of the Listing Policy, no additional data and information are available indicating that standards are met.
Regional Board Staff Decision Recommendation:	After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be removed from the section 303(d) list because applicable water quality standards for the pollutant are being exceeded.

Line of Evidence (LOE) for Decision ID 34583, Chlordane	Region 2
Suisun Bay	

LOE ID:	3697
Pollutant:	Chlordane
LOE Subgroup:	Pollutant-Tissue
Matrix:	Tissue
Fraction:	Not Recorded

Beneficial Use:	Commercial or recreational collection of fish, shellfish, or organisms
Number of Samples:	0
Number of Exceedances:	0
Data and Information Type:	Not Specified
Data Used to Assess Water Quality:	Unspecified--This LOE is a placeholder to support a 303(d) listing decision made prior to 2006.
Data Reference:	Placeholder reference pre-2006 303(d)
SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	
Objective/Criterion Reference:	
Evaluation Guideline:	
Guideline Reference:	
Spatial Representation:	Unspecified
Temporal Representation:	Unspecified
Environmental Conditions:	Unspecified
QAPP Information:	Unspecified
QAPP Information Reference(s):	

Line of Evidence (LOE) for Decision ID 34583, Chlordane Suisun Bay

Region 2

LOE ID:	95210
Pollutant:	Chlordane
LOE Subgroup:	Pollutant-Tissue
Matrix:	Tissue
Fraction:	Fish fillet
Beneficial Use:	Commercial or recreational collection of fish, shellfish, or organisms
Number of Samples:	2
Number of Exceedances:	1
Data and Information Type:	Fish tissue analysis
Data Used to Assess Water Quality:	Water Board staff assessed Regional Monitoring Program data for Suisun Bay to determine beneficial use support and results are as follows: 1 of 2 samples exceed the criterion for chlordane. No samples were discarded for being non-detect, unquantifiable or the reporting limit exceeding the water quality objective.
Data Reference:	Regional Monitoring Program data, Feb. 1993-Sep. 2008
SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	Water Quality Control Plan for the San Francisco Bay Basin: Controllable water quality factors shall not cause a detrimental increase in concentrations of toxic substances found in bottom sediments or aquatic life. Effects on aquatic organisms, wildlife, and human health will be considered.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	The modified OEHHA Fish Contaminant Goal for total chlordane in fish tissue is 3.9 ppb. This screening level assumes an average body weight of 70 kg and a consumption rate of 32 g/day for a 30 year exposure over a 70-year lifetime. This constituent is a carcinogen therefore the risk level is set to one in a million. A cooking reduction factor of 1 is applied for skin-off fillets. (Klasing, S., and R. Brodberg, 2008)
Guideline Reference:	Development of Fish Contaminant Goals and Advisory Tissue Levels for Common Contaminants in California Sport Fish: Chlordane, DDTs, Dieldrin, Methylmercury, PCBs, Selenium, and Toxaphene

Spatial Representation:	The samples were collected at two sites in Suisun Bay.
Temporal Representation:	The samples were collected in June 1994 and June 1997.
Environmental Conditions:	
QAPP Information:	The 1999 Quality Assurance Project Plan Regional Monitoring Program for Trace Substances was used.
QAPP Information Reference(s):	1999 Quality Assurance Project Plan Regional Monitoring Program for Trace Substances

Line of Evidence (LOE) for Decision ID 34583, Chlordane
Suisun Bay

Region 2

LOE ID:	93347
Pollutant:	Chlordane
LOE Subgroup:	Pollutant-Water
Matrix:	Water
Fraction:	Dissolved
Beneficial Use:	Estuarine Habitat
Number of Samples:	19
Number of Exceedances:	0
Data and Information Type:	PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality:	State Water Board staff assessed SFEI data for Suisun Bay to determine beneficial use support and results are as follows: 0 of 19 samples exceed the criterion for Chlordane, Total.
Data Reference:	Regional Monitoring Program data, Feb. 1993-Sep. 2008
SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	The chlordane criterion continuous concentration (expressed as a 4-day average) to protect aquatic life in saline water is 0.004 ug/L (California Toxics Rule, 2000).
Objective/Criterion Reference:	Code of Federal Regulations 40 part 131.38 Establishment of numeric criteria for priority toxic pollutants for the State of California. 7/1/2011 Edition
Evaluation Guideline:	
Guideline Reference:	
Spatial Representation:	Data for this line of evidence for Suisun Bay was collected at 4 monitoring sites [Suisun Bay - SU015W, Suisun Bay - SU003W, Grizzly Bay - BF20, Suisun Bay - SU018W]
Temporal Representation:	Data was collected over the time period 3/5/1993-8/9/2005.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	The 1999 Quality Assurance Project Plan Regional Monitoring Program for Trace Substances was used.
QAPP Information Reference(s):	1999 Quality Assurance Project Plan Regional Monitoring Program for Trace Substances

Line of Evidence (LOE) for Decision ID 34583, Chlordane
Suisun Bay

Region 2

LOE ID:	93657
Pollutant:	Chlordane
LOE Subgroup:	Pollutant-Tissue
Matrix:	Tissue
Fraction:	Shellfish
Beneficial Use:	Commercial or recreational collection of fish, shellfish, or organisms
Number of Samples:	10
Number of Exceedances:	2

Data and Information Type:	Shellfish surveys
Data Used to Assess Water Quality:	Two of the 10 samples exceeded the guideline. All composite samples were comprised of <i>Corbicula fluminea</i> except for one composite comprised of <i>Crassostrea gigas</i> . Data were reported on a dry weight basis and were converted to a wet weight basis by multiplying the dry-weight concentration by a factor of 1 minus the percentage of moisture content expressed as a decimal. Total chlordane was calculated as the sum of the following chlordane isomers: cis- and trans-chlordane, cis- and trans-nonachlor, and oxychlordane.
Data Reference:	Regional Monitoring Program data, Feb. 1993-Sep. 2008
SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	Water Quality Control Plan for the San Francisco Bay Basin: Controllable water quality factors shall not cause a detrimental increase in concentrations of toxic substances found in bottom sediments or aquatic life. Effects on aquatic organisms, wildlife, and human health will be considered.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	The modified OEHHA Fish Contaminant Goal for total chlordane in shellfish tissue is 6.0 ppb. This screening level assumes an average body weight of 70 kg and a consumption rate of 21 g/day for a 30 year exposure over a 70-year lifetime. This constituent is a carcinogen therefore the risk level is set to one in a million. (Brodberg, R.K., and G.A. Pollock, 1999; Klasing, S., and R. Brodberg, 2008)
Guideline Reference:	Prevalence of Selected Target Chemical Contaminants in Sport Fish From Two California Lakes: Public health designed screening study. Sacramento, CA: Office of Environmental Health Hazard Assessment Development of Fish Contaminant Goals and Advisory Tissue Levels for Common Contaminants in California Sport Fish: Chlordane, DDTs, Dieldrin, Methylmercury, PCBs, Selenium, and Toxaphene
Spatial Representation:	Samples were collected at the following station: BF20 - Grizzly Bay.
Temporal Representation:	Samples were generally collected in spring and fall seasons from years 1993 - 1998.
Environmental Conditions:	
QAPP Information:	1999 Quality Assurance Project Plan Regional Monitoring Program for Trace Substances.
QAPP Information Reference(s):	1999 Quality Assurance Project Plan Regional Monitoring Program for Trace Substances

Line of Evidence (LOE) for Decision ID 34583, Chlordane
Suisun Bay

Region 2

LOE ID:	93348
Pollutant:	Chlordane
LOE Subgroup:	Pollutant-Water
Matrix:	Water
Fraction:	Total
Beneficial Use:	Commercial or recreational collection of fish, shellfish, or organisms
Number of Samples:	40
Number of Exceedances:	0
Data and Information Type:	PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality:	State Water Board staff assessed SFEI data for Suisun Bay to determine beneficial use support and results are as follows: 0 of 40 samples exceed the criterion for Chlordane, Total.
Data Reference:	Regional Monitoring Program data, Feb. 1993-Sep. 2008
SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	The Chlordane, Total criteria for the protection of human health from consumption of organisms only is 0.00059 ug/L (California Toxics Rule, 2000).
Objective/Criterion Reference:	Code of Federal Regulations 40 part 131.38 Establishment of numeric criteria for priority

Evaluation Guideline:

Guideline Reference:

Spatial Representation:

Data for this line of evidence for Suisun Bay was collected at 20 monitoring sites [Grizzly Bay - BF20, Suisun Bay - SU001W, Suisun Bay - SU002W, Suisun Bay - SU003W, Suisun Bay - SU005W, Suisun Bay - SU009W, Suisun Bay - SU010W, Suisun Bay - SU012W, Suisun Bay - SU014W, Suisun Bay - SU015W, Suisun Bay - SU016W, Suisun Bay - SU017W, Suisun Bay - SU018W, Suisun Bay - SU019W, Suisun Bay - SU020W, Suisun Bay - SU021W, Suisun Bay - SU022W, Suisun Bay - SU023W, Suisun Bay - SU024W, Suisun Bay - SU025W]

Temporal Representation:

Data was collected over the time period 3/5/1993-8/8/2007.

Environmental Conditions:

Staff is not aware of any special conditions that might affect interpretation of the data.

QAPP Information:

The 1999 Quality Assurance Project Plan Regional Monitoring Program for Trace Substances was used.

QAPP Information Reference(s):

[1999 Quality Assurance Project Plan Regional Monitoring Program for Trace Substances](#)

DECISION ID	34584	Region 2
Suisun Bay		

Pollutant:	DDT (Dichlorodiphenyltrichloroethane)
Final Listing Decision:	Do Not Delist from 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision:	List on 303(d) list (TMDL required list)(2012)
Revision Status	Revised
Sources:	Source Unknown
Expected TMDL Completion Date:	2013
Impairment from Pollutant or Pollution:	Pollutant

Regional Board Staff Conclusion:

This pollutant is being considered for removal from the CWA section 303(d) List under section 4.5 of the Listing Policy. Under this section a single line of evidence is necessary to assess listing status. Five lines of evidence are available in the administrative record to assess pollutant. Seven of ten samples exceed the evaluation guideline.

Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against removing this water segment-pollutant combination from the CWA section 303(d) List.

This conclusion is based on the staff findings that:

1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy.
2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy.
3. Seven of ten samples exceeded the guideline.
4. This waterbody was placed on the 303(d) list based on data collected prior to year 1994.
5. There are not enough recent samples to justify removing this waterbody from the impaired waters list according to Table 4.1 of the Listing Policy.
6. Pursuant to section 4.11 of the Listing Policy, no additional data and information are available indicating that standards are met.

Regional Board Staff Decision Recommendation:

After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be removed from the section 303(d) list because applicable water quality standards for the pollutant are being exceeded.

Line of Evidence (LOE) for Decision ID 34584, DDT (Dichlorodiphenyltrichloroethane)	Region 2
Suisun Bay	

LOE ID: 93658

Pollutant:	Total DDT (sum of 4,4'- and 2,4'- isomers of DDT, DDE, and DDD)
LOE Subgroup:	Pollutant-Tissue
Matrix:	Tissue
Fraction:	Shellfish
Beneficial Use:	Commercial or recreational collection of fish, shellfish, or organisms
Number of Samples:	10
Number of Exceedances:	7
Data and Information Type:	Shellfish surveys
Data Used to Assess Water Quality:	Two of the 10 samples exceeded the guideline. All composite samples were comprised of <i>Corbicula fluminea</i> except for one composite comprised of <i>Crassostrea gigas</i> . Data were reported on a dry weight basis and were converted to a wet weight basis by multiplying the dry-weight concentration by a factor of 1 minus the percentage of moisture content expressed as a decimal. Total DDT was calculated as the sum of 4,4'- and 2,4'- isomers of DDT, DDE, and DDD.
Data Reference:	Regional Monitoring Program data, Feb. 1993-Sep. 2008
SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	Water Quality Control Plan for the San Francisco Bay Basin: Controllable water quality factors shall not cause a detrimental increase in concentrations of toxic substances found in bottom sediments or aquatic life. Effects on aquatic organisms, wildlife, and human health will be considered.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	The modified OEHHA Fish Contaminant Goal for total DDT in shellfish tissue is 23 ppb. This screening level assumes an average body weight of 70 kg and a consumption rate of 21 g/day for a 30 year exposure over a 70-year lifetime. This constituent is a carcinogen therefore the risk level is set to one in a million. (Brodberg, R.K., and G.A. Pollock, 1999; Klasing, S., and R. Brodberg, 2008)
Guideline Reference:	Prevalence of Selected Target Chemical Contaminants in Sport Fish From Two California Lakes: Public health designed screening study. Sacramento, CA: Office of Environmental Health Hazard Assessment Development of Fish Contaminant Goals and Advisory Tissue Levels for Common Contaminants in California Sport Fish: Chlordane, DDTs, Dieldrin, Methylmercury, PCBs, Selenium, and Toxaphene
Spatial Representation:	Samples were collected at the following station: BF20 - Grizzly Bay.
Temporal Representation:	Samples were generally collected in spring and fall seasons from years 1993 - 1998.
Environmental Conditions:	
QAPP Information:	1999 Quality Assurance Project Plan Regional Monitoring Program for Trace Substances.
QAPP Information Reference(s):	1999 Quality Assurance Project Plan Regional Monitoring Program for Trace Substances

Line of Evidence (LOE) for Decision ID 34584, DDT (Dichlorodiphenyltrichloroethane)

Region 2

Suisun Bay

LOE ID:	3698
Pollutant:	DDT (Dichlorodiphenyltrichloroethane)
LOE Subgroup:	Pollutant-Tissue
Matrix:	Tissue
Fraction:	Not Recorded
Beneficial Use:	Commercial or recreational collection of fish, shellfish, or organisms
Number of Samples:	0
Number of Exceedances:	0
Data and Information Type:	Not Specified

Data Used to Assess Water Quality:	Unspecified--This LOE is a placeholder to support a 303(d) listing decision made prior to 2006.
Data Reference:	Placeholder reference pre-2006 303(d)
SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	Unspecified
Objective/Criterion Reference:	Placeholder reference pre-2006 303(d)
Evaluation Guideline:	Unspecified
Guideline Reference:	Placeholder reference pre-2006 303(d)
Spatial Representation:	Unspecified
Temporal Representation:	Unspecified
Environmental Conditions:	Unspecified
QAPP Information:	Unspecified
QAPP Information Reference(s):	

Line of Evidence (LOE) for Decision ID 34584, DDT (Dichlorodiphenyltrichloroethane)

Region 2

Suisun Bay

LOE ID:	93313
Pollutant:	Total DDT (sum of 4,4'- and 2,4'- isomers of DDT, DDE, and DDD)
LOE Subgroup:	Pollutant-Water
Matrix:	Water
Fraction:	Total
Beneficial Use:	Commercial or recreational collection of fish, shellfish, or organisms
Number of Samples:	40
Number of Exceedances:	14
Data and Information Type:	PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality:	State Water Board staff assessed SFEI data for Suisun Bay to determine beneficial use support and results are as follows: 14 of 40 samples exceed the criterion for DDT, Total.
Data Reference:	Regional Monitoring Program data, Feb. 1993-Sep. 2008
SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	The DDT, Total criteria for the protection of human health from consumption of organisms only is 0.00059 ug/L (California Toxics Rule, 2000).
Objective/Criterion Reference:	Code of Federal Regulations 40 part 131.38 Establishment of numeric criteria for priority toxic pollutants for the State of California. 7/1/2011 Edition
Evaluation Guideline:	
Guideline Reference:	
Spatial Representation:	Data for this line of evidence for Suisun Bay was collected at 20 monitoring sites [Grizzly Bay - BF20, Suisun Bay - SU001W, Suisun Bay - SU002W, Suisun Bay - SU003W, Suisun Bay - SU005W, Suisun Bay - SU009W, Suisun Bay - SU010W, Suisun Bay - SU012W, Suisun Bay - SU014W, Suisun Bay - SU015W, Suisun Bay - SU016W, Suisun Bay - SU017W, Suisun Bay - SU018W, Suisun Bay - SU019W, Suisun Bay - SU020W, Suisun Bay - SU021W, Suisun Bay - SU022W, Suisun Bay - SU023W, Suisun Bay - SU024W, Suisun Bay - SU025W]
Temporal Representation:	Data was collected over the time period 3/5/1993-8/8/2007.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	The 1999 Quality Assurance Project Plan Regional Monitoring Program for Trace Substances was used.
QAPP Information Reference(s):	1999 Quality Assurance Project Plan Regional Monitoring Program for Trace Substances

Line of Evidence (LOE) for Decision ID 34584, DDT (Dichlorodiphenyltrichloroethane)

Region 2

Suisun Bay

LOE ID:	93312
Pollutant:	Total DDT (sum of 4,4'- and 2,4'- isomers of DDT, DDE, and DDD)
LOE Subgroup:	Pollutant-Water
Matrix:	Water
Fraction:	Dissolved
Beneficial Use:	Estuarine Habitat
Number of Samples:	19
Number of Exceedances:	0
Data and Information Type:	PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality:	State Water Board staff assessed SFEI data for Suisun Bay to determine beneficial use support and results are as follows: 0 of 19 samples exceed the criterion for DDT, Total.
Data Reference:	Regional Monitoring Program data, Feb. 1993-Sep. 2008
SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	The DDT criterion continuous concentration (expressed as a 4-day average) to protect aquatic life in saline water is 0.001 ug/L (California Toxics Rule, 2000).
Objective/Criterion Reference:	Code of Federal Regulations 40 part 131.38 Establishment of numeric criteria for priority toxic pollutants for the State of California. 7/1/2011 Edition
Evaluation Guideline:	
Guideline Reference:	
Spatial Representation:	Data for this line of evidence for Suisun Bay was collected at 4 monitoring sites [Suisun Bay - SU015W, Suisun Bay - SU003W, Grizzly Bay - BF20, Suisun Bay - SU018W]
Temporal Representation:	Data was collected over the time period 3/5/1993-8/9/2005.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	The 1999 Quality Assurance Project Plan Regional Monitoring Program for Trace Substances was used.
QAPP Information Reference(s):	1999 Quality Assurance Project Plan Regional Monitoring Program for Trace Substances

Line of Evidence (LOE) for Decision ID 34584, DDT (Dichlorodiphenyltrichloroethane)

Region 2

Suisun Bay

LOE ID:	95199
Pollutant:	DDT (Dichlorodiphenyltrichloroethane)
LOE Subgroup:	Pollutant-Tissue
Matrix:	Tissue
Fraction:	Fish fillet
Beneficial Use:	Commercial or recreational collection of fish, shellfish, or organisms
Number of Samples:	2
Number of Exceedances:	1
Data and Information Type:	Fish tissue analysis
Data Used to Assess Water Quality:	Water Board staff assessed Regional Monitoring Program data for Suisun Bay to determine beneficial use support and results are as follows: 1 of 2 samples exceed the criterion for DDT. No samples were discarded for being non-detect, unquantifiable or the reporting limit exceeding the water quality objective.
Data Reference:	Regional Monitoring Program data, Feb. 1993-Sep. 2008
SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	Water Quality Control Plan for the San Francisco Bay Basin: Controllable water quality

factors shall not cause a detrimental increase in concentrations of toxic substances found in bottom sediments or aquatic life. Effects on aquatic organisms, wildlife, and human health will be considered.

Objective/Criterion Reference:

[Water Quality Control Plan \(Basin Plan\) San Francisco Bay Basin \(Region 2\)](#)

Evaluation Guideline:

The modified OEHHA Fish Contaminant Goal for total DDT in fish tissue is 15 ppb. This screening level assumes an average body weight of 70 kg and a consumption rate of 32 g/day for a 30 year exposure over a 70-year lifetime. This constituent is a carcinogen therefore the risk level is set to one in a million. A cooking reduction factor of 1 is applied for skin-off fillets. (Klasing, S., and R. Brodberg, 2008)

Guideline Reference:

[Development of Fish Contaminant Goals and Advisory Tissue Levels for Common Contaminants in California Sport Fish: Chlordane, DDTs, Dieldrin, Methylmercury, PCBs, Selenium, and Toxaphene](#)

Spatial Representation:

The samples were collected at two sites in Suisun Bay.

Temporal Representation:

The samples were collected in June 1994 and June 1997.

Environmental Conditions:

QAPP Information:

The 1999 Quality Assurance Project Plan Regional Monitoring Program for Trace Substances was used.

QAPP Information Reference(s):

[1999 Quality Assurance Project Plan Regional Monitoring Program for Trace Substances](#)

DECISION ID	34585	Region 2
Suisun Bay		

Pollutant:	Dieldrin
Final Listing Decision:	Do Not Delist from 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision:	List on 303(d) list (TMDL required list)(2012)
Revision Status	Revised
Sources:	Source Unknown
Expected TMDL Completion Date:	2013
Impairment from Pollutant or Pollution:	Pollutant

Regional Board Staff Conclusion:

This pollutant is being considered for removal from the CWA section 303(d) List under section 4.1 of the Listing Policy. Under this section a single line of evidence is necessary to assess listing status.

five lines of evidence are available in the administrative record to assess pollutant. Nine of ten samples exceed the guideline.

Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against removing this water segment-pollutant combination from the CWA section 303(d) List.

This conclusion is based on the staff findings that:

1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy.
2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy.
3. Nine of ten samples exceed the guideline and this exceeds the allowable frequency listed in Table 4.1 of the Listing Policy.
4. Pursuant to section 4.11 of the Listing Policy, no additional data and information are available indicating that standards are met.

Regional Board Staff Decision Recommendation:

After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be removed from the section 303(d) list because applicable water quality standards for the pollutant are being exceeded.

Line of Evidence (LOE) for Decision ID 34585, Dieldrin	Region 2
Suisun Bay	

LOE ID: 93356

Pollutant: Dieldrin
 LOE Subgroup: Pollutant-Water
 Matrix: Water
 Fraction: Dissolved

Beneficial Use: Estuarine Habitat

Number of Samples: 19
 Number of Exceedances: 0

Data and Information Type: PHYSICAL/CHEMICAL MONITORING
 Data Used to Assess Water Quality: State Water Board staff assessed SFEI data for Suisun Bay to determine beneficial use support and results are as follows: 0 of 19 samples exceed the criterion for Dieldrin.
 Data Reference: [Regional Monitoring Program data, Feb. 1993-Sep. 2008](#)

SWAMP Data: Non-SWAMP

Water Quality Objective/Criterion: The Dieldrin criterion continuous concentration (expressed as a 4-day average) to protect aquatic life in saline water is 0.0019 ug/L (California Toxics Rule, 2000).
 Objective/Criterion Reference: [Code of Federal Regulations 40 part 131.38 Establishment of numeric criteria for priority toxic pollutants for the State of California. 7/1/2011 Edition](#)

Evaluation Guideline:
 Guideline Reference:

Spatial Representation: Data for this line of evidence for Suisun Bay was collected at 4 monitoring sites [Suisun Bay - SU015W, Suisun Bay - SU003W, Grizzly Bay - BF20, Suisun Bay - SU018W]
 Temporal Representation: Data was collected over the time period 3/5/1993-8/9/2005.
 Environmental Conditions: Staff is not aware of any special conditions that might affect interpretation of the data.
 QAPP Information: The 1999 Quality Assurance Project Plan Regional Monitoring Program for Trace Substances was used.
 QAPP Information Reference(s): [1999 Quality Assurance Project Plan Regional Monitoring Program for Trace Substances](#)

Line of Evidence (LOE) for Decision ID 34585, Dieldrin
Suisun Bay

Region 2

LOE ID: 95171

Pollutant: Dieldrin
 LOE Subgroup: Pollutant-Tissue
 Matrix: Tissue
 Fraction: Fish fillet

Beneficial Use: Commercial or recreational collection of fish, shellfish, or organisms

Number of Samples: 2
 Number of Exceedances: 2

Data and Information Type: Fish tissue analysis
 Data Used to Assess Water Quality: Water Board staff assessed Regional Monitoring Program data for Suisun Bay to determine beneficial use support and results are as follows: 2 of 2 samples exceed the criterion for dieldrin. No samples were discarded for being non-detect, unquantifiable or the reporting limit exceeding the water quality objective.
 Data Reference: [Regional Monitoring Program data, Feb. 1993-Sep. 2008](#)

SWAMP Data: Non-SWAMP

Water Quality Objective/Criterion: Water Quality Control Plan for the San Francisco Bay Basin: Controllable water quality factors shall not cause a detrimental increase in concentrations of toxic substances found

Objective/Criterion Reference:	in bottom sediments or aquatic life. Effects on aquatic organisms, wildlife, and human health will be considered. Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	The modified OEHHA Fish Contaminant Goal for dieldrin in fish tissue is 0.32 ppb. This screening level assumes an average body weight of 70 kg and a consumption rate of 32 g/day for a 30 year exposure over a 70-year lifetime. This constituent is a carcinogen therefore the risk level is set to one in a million. A cooking reduction factor of 1 is applied for skin-off fillets. (Klasing, S., and R. Brodberg, 2008)
Guideline Reference:	Development of Fish Contaminant Goals and Advisory Tissue Levels for Common Contaminants in California Sport Fish: Chlordane, DDTs, Dieldrin, Methylmercury, PCBs, Selenium, and Toxaphene
Spatial Representation:	The samples were collected at two sites in Suisun Bay.
Temporal Representation:	The samples were collected in June 1994 and June 1997.
Environmental Conditions:	
QAPP Information:	The 1999 Quality Assurance Project Plan Regional Monitoring Program for Trace Substances was used.
QAPP Information Reference(s):	1999 Quality Assurance Project Plan Regional Monitoring Program for Trace Substances

**Line of Evidence (LOE) for Decision ID 34585, Dieldrin
Suisun Bay**

Region 2

LOE ID:	3699
Pollutant:	Dieldrin
LOE Subgroup:	Pollutant-Tissue
Matrix:	Tissue
Fraction:	Not Recorded
Beneficial Use:	Commercial or recreational collection of fish, shellfish, or organisms
Number of Samples:	0
Number of Exceedances:	0
Data and Information Type:	Not Specified
Data Used to Assess Water Quality:	Unspecified--This LOE is a placeholder to support a 303(d) listing decision made prior to 2006.
Data Reference:	Placeholder reference pre-2006 303(d)
SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	
Objective/Criterion Reference:	
Evaluation Guideline:	
Guideline Reference:	
Spatial Representation:	Unspecified
Temporal Representation:	Unspecified
Environmental Conditions:	Unspecified
QAPP Information:	Unspecified
QAPP Information Reference(s):	

**Line of Evidence (LOE) for Decision ID 34585, Dieldrin
Suisun Bay**

Region 2

LOE ID:	93357
Pollutant:	Dieldrin
LOE Subgroup:	Pollutant-Water

Matrix:	Water
Fraction:	Total
Beneficial Use:	Commercial or recreational collection of fish, shellfish, or organisms
Number of Samples:	40
Number of Exceedances:	4
Data and Information Type:	PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality:	State Water Board staff assessed SFEI data for Suisun Bay to determine beneficial use support and results are as follows: 4 of 40 samples exceed the criterion for Dieldrin.
Data Reference:	Regional Monitoring Program data, Feb. 1993-Sep. 2008
SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	The Dieldrin criteria for the protection of human health from consumption of organisms only is 0.00014 ug/L (California Toxics Rule, 2000).
Objective/Criterion Reference:	Code of Federal Regulations 40 part 131.38 Establishment of numeric criteria for priority toxic pollutants for the State of California. 7/1/2011 Edition
Evaluation Guideline:	
Guideline Reference:	
Spatial Representation:	Data for this line of evidence for Suisun Bay was collected at 20 monitoring sites [Grizzly Bay - BF20, Suisun Bay - SU001W, Suisun Bay - SU002W, Suisun Bay - SU003W, Suisun Bay - SU005W, Suisun Bay - SU009W, Suisun Bay - SU010W, Suisun Bay - SU012W, Suisun Bay - SU014W, Suisun Bay - SU015W, Suisun Bay - SU016W, Suisun Bay - SU017W, Suisun Bay - SU018W, Suisun Bay - SU019W, Suisun Bay - SU020W, Suisun Bay - SU021W, Suisun Bay - SU022W, Suisun Bay - SU023W, Suisun Bay - SU024W, Suisun Bay - SU025W]
Temporal Representation:	Data was collected over the time period 3/5/1993-8/8/2007.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	The 1999 Quality Assurance Project Plan Regional Monitoring Program for Trace Substances was used.
QAPP Information Reference(s):	1999 Quality Assurance Project Plan Regional Monitoring Program for Trace Substances

Line of Evidence (LOE) for Decision ID 34585, Dieldrin

Region 2

Suisun Bay

LOE ID:	93659
Pollutant:	Dieldrin
LOE Subgroup:	Pollutant-Tissue
Matrix:	Tissue
Fraction:	Shellfish
Beneficial Use:	Commercial or recreational collection of fish, shellfish, or organisms
Number of Samples:	10
Number of Exceedances:	9
Data and Information Type:	Shellfish surveys
Data Used to Assess Water Quality:	Nine of the 10 samples exceeded the guideline. All composite samples were comprised of <i>Corbicula fluminea</i> except for one composite comprised of <i>Crassostrea gigas</i> . Data were reported on a dry weight basis and were converted to a wet weight basis by multiplying the dry-weight concentration by a factor of 1 minus the percentage of moisture content expressed as a decimal.
Data Reference:	Regional Monitoring Program data, Feb. 1993-Sep. 2008
SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	Water Quality Control Plan for the San Francisco Bay Basin: Controllable water quality

Objective/Criterion Reference:	factors shall not cause a detrimental increase in concentrations of toxic substances found in bottom sediments or aquatic life. Effects on aquatic organisms, wildlife, and human health will be considered. Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	The modified OEHHA Fish Contaminant Goal for dieldrin in shellfish tissue is 0.49 ppb. This screening level assumes an average body weight of 70 kg and a consumption rate of 21 g/day for a 30 year exposure over a 70-year lifetime. This constituent is a carcinogen therefore the risk level is set to one in a million. (Brodberg, R.K., and G.A. Pollock, 1999; Klasing, S., and R. Brodberg, 2008)
Guideline Reference:	Prevalence of Selected Target Chemical Contaminants in Sport Fish From Two California Lakes: Public health designed screening study. Sacramento, CA: Office of Environmental Health Hazard Assessment Development of Fish Contaminant Goals and Advisory Tissue Levels for Common Contaminants in California Sport Fish: Chlordane, DDTs, Dieldrin, Methylmercury, PCBs, Selenium, and Toxaphene
Spatial Representation:	Samples were collected at the following station: BF20 - Grizzly Bay.
Temporal Representation:	Samples were generally collected in spring and fall seasons from years 1993 - 1998.
Environmental Conditions:	
QAPP Information:	1999 Quality Assurance Project Plan Regional Monitoring Program for Trace Substances.
QAPP Information Reference(s):	1999 Quality Assurance Project Plan Regional Monitoring Program for Trace Substances

DECISION ID	33556	Region 2
Suisun Bay		

Pollutant:	Mercury
Final Listing Decision:	Do Not Delist from 303(d) list (being addressed with USEPA approved TMDL)
Last Listing Cycle's Final Listing Decision:	List on 303(d) list (being addressed by USEPA approved TMDL)(2012)
Revision Status	Revised
Sources:	Source Unknown
TMDL Name:	San Francisco Bay Mercury
TMDL Project Code:	6
Date TMDL Approved by USEPA:	02/12/2008
Impairment from Pollutant or Pollution:	Pollutant
Regional Board Staff Conclusion:	<p>This pollutant is being considered for removal on the CWA section 303(d) List under sections 2.2 and 4.1 of the Listing Policy. Under section 4.1 of the Policy, a minimum of one line of evidence is needed to assess listing status.</p> <p>Three lines of evidence are available in the administrative record to assess this pollutant.</p> <p>Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against removing this water segment-pollutant combination from the CWA section 303(d) List. There is sufficient justification to place it in the Being Addressed portion of the CWA 303(d) List because a TMDL has been completed and approved by RWQCB and USEPA, and is expected to result in attainment of the standard.</p> <p>This conclusion is based on the staff findings that:</p> <ol style="list-style-type: none"> 1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy. 2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy. 3. Two of two samples exceeded the evaluation guideline and these exceed the allowable frequency listed in Table 4.1 of the Listing Policy. 4. The SF Bay Mercury TMDL was approved by USEPA on 2/12/2008. 5. Pursuant to section 4.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.
Regional Board Staff Decision	After review of the available data and information, RWQCB staff concludes that the water body-

Recommendation: pollutant combination should not be removed from the section 303(d) list because applicable water quality standards for the pollutant are being exceeded.

**Line of Evidence (LOE) for Decision ID 33556, Mercury
Suisun Bay**

Region 2

LOE ID: 95182

Pollutant: Mercury
LOE Subgroup: Pollutant-Tissue
Matrix: Tissue
Fraction: Fish fillet

Beneficial Use: Commercial or recreational collection of fish, shellfish, or organisms

Number of Samples: 2
Number of Exceedances: 2

Data and Information Type: Fish tissue analysis
Data Used to Assess Water Quality: Water Board staff assessed Regional Monitoring Program data for Suisun Bay to determine beneficial use support and results are as follows: 2 of 2 samples exceed the criterion for mercury. No samples were discarded for being non-detect, unquantifiable or the reporting limit exceeding the water quality objective.

Data Reference: [Regional Monitoring Program data, Feb. 1993-Sep. 2008](#)

SWAMP Data: Non-SWAMP

Water Quality Objective/Criterion: Water Quality Control Plan for the San Francisco Bay Basin: Controllable water quality factors shall not cause a detrimental increase in concentrations of toxic substances found in bottom sediments or aquatic life. Effects on aquatic organisms, wildlife, and human health will be considered.

Objective/Criterion Reference: [Water Quality Control Plan \(Basin Plan\) San Francisco Bay Basin \(Region 2\)](#)

Evaluation Guideline: The Water Quality Control Plan for the San Francisco Bay Basin has a water quality objective in all parts of San Francisco Bay of 0.2 mg mercury per kg fish tissue for the protection of human health.

Guideline Reference: [Water Quality Control Plan \(Basin Plan\) San Francisco Bay Basin \(Region 2\)](#)

Spatial Representation: The samples were collected at two sites in Suisun Bay.
Temporal Representation: The samples were collected in June 1994 and June 1997.
Environmental Conditions:
QAPP Information: The 1999 Quality Assurance Project Plan Regional Monitoring Program for Trace Substances was used.

QAPP Information Reference(s): [1999 Quality Assurance Project Plan Regional Monitoring Program for Trace Substances](#)

**Line of Evidence (LOE) for Decision ID 33556, Mercury
Suisun Bay**

Region 2

LOE ID: 3703

Pollutant: Mercury
LOE Subgroup: Pollutant-Tissue
Matrix: Tissue
Fraction: Not Recorded

Beneficial Use: Commercial or recreational collection of fish, shellfish, or organisms

Number of Samples: 0
Number of Exceedances: 0

Data and Information Type:	Not Specified
Data Used to Assess Water Quality:	Unspecified--This LOE is a placeholder to support a 303(d) listing decision made prior to 2006.
Data Reference:	Placeholder reference pre-2006 303(d)
SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	Unspecified
Objective/Criterion Reference:	Placeholder reference pre-2006 303(d)
Evaluation Guideline:	Unspecified
Guideline Reference:	Placeholder reference pre-2006 303(d)
Spatial Representation:	Unspecified
Temporal Representation:	Unspecified
Environmental Conditions:	Unspecified
QAPP Information:	Unspecified
QAPP Information Reference(s):	

Line of Evidence (LOE) for Decision ID 33556, Mercury Suisun Bay

Region 2

LOE ID:	93709
Pollutant:	Mercury
LOE Subgroup:	Pollutant-Tissue
Matrix:	Tissue
Fraction:	Shellfish
Beneficial Use:	Commercial or recreational collection of fish, shellfish, or organisms
Number of Samples:	10
Number of Exceedances:	0
Data and Information Type:	Shellfish surveys
Data Used to Assess Water Quality:	None of the 10 samples exceeded the guideline. Composite samples were comprised of <i>Corbicula fluminea</i> or <i>Crassostrea gigas</i> . Data were reported on a dry weight basis and were converted to a wet weight basis by multiplying the dry-weight concentration by a factor of 1 minus the percentage of moisture content expressed as a decimal. If a dry weight result did not have a corresponding moisture result for conversion to wet weight, the sample was not included in the assessment.
Data Reference:	Regional Monitoring Program data, Feb. 1993-Sep. 2008
SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	Water Quality Control Plan for the San Francisco Bay Basin: Controllable water quality factors shall not cause a detrimental increase in concentrations of toxic substances found in bottom sediments or aquatic life. Effects on aquatic organisms, wildlife, and human health will be considered.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	The USEPA 304(a) recommended water quality criterion for concentrations of methylmercury in shellfish tissue (wet weight) is 0.20 ppm. (Brodberg, R.K., and G.A. Pollock, 1999; USEPA, 2001)
Guideline Reference:	Prevalence of Selected Target Chemical Contaminants in Sport Fish From Two California Lakes: Public health designed screening study. Sacramento, CA: Office of Environmental Health Hazard Assessment Water Quality Criterion for the Protection of Human Health: Methylmercury. Final. United States Environmental Protection Agency Office of Science and Technology Office of Water. EPA-823-R-01-001. January 2001
Spatial Representation:	Samples were collected at the following station: BF20 - Grizzly Bay.

Temporal Representation:	Samples were generally collected in spring and fall seasons from years 1993 - 1998.
Environmental Conditions:	
QAPP Information:	1999 Quality Assurance Project Plan Regional Monitoring Program for Trace Substances.
QAPP Information Reference(s):	1999 Quality Assurance Project Plan Regional Monitoring Program for Trace Substances

DECISION ID	33558	Region 2
Suisun Bay		

Pollutant:	PCBs (Polychlorinated biphenyls)
Final Listing Decision:	Do Not Delist from 303(d) list (being addressed with USEPA approved TMDL)
Last Listing Cycle's Final Listing Decision:	List on 303(d) list (TMDL required list)(2012)
Revision Status	Revised
Sources:	Source Unknown
TMDL Name:	San Francisco Bay PCBs
TMDL Project Code:	7
Date TMDL Approved by USEPA:	03/29/2010
Impairment from Pollutant or Pollution:	Pollutant
Regional Board Staff Conclusion:	<p>This pollutant is being considered for removal on the CWA section 303(d) List under sections 2.2 and 4.1 of the Listing Policy. Under section 4.1 of the Policy, a minimum of one line of evidence is needed to assess listing status.</p> <p>Six lines of evidence are available in the administrative record to assess this pollutant.</p> <p>Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against removing this water segment-pollutant combination from the CWA section 303(d) List. There is sufficient justification to place it in the Being Addressed portion of the CWA 303(d) List because a TMDL has been completed and approved by RWQCB and USEPA, and is expected to result in attainment of the standard.</p> <p>This conclusion is based on the staff findings that:</p> <ol style="list-style-type: none"> 1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy. 2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy. 3. Nine of nine samples exceeded the evaluation guideline and these exceed the allowable frequency listed in Table 4.1 of the Listing Policy. 4. The SF Bay PCBs TMDL was approved by USEPA on 3/29/2010. 5. Pursuant to section 4.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.
Regional Board Staff Decision Recommendation:	After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be removed from the section 303(d) list because applicable water quality standards for the pollutant are being exceeded.

Line of Evidence (LOE) for Decision ID 33558, PCBs (Polychlorinated biphenyls)	Region 2
Suisun Bay	

LOE ID:	95879
Pollutant:	PCBs (Polychlorinated biphenyls)
LOE Subgroup:	Pollutant-Water
Matrix:	Water
Fraction:	Total
Beneficial Use:	Commercial or recreational collection of fish, shellfish, or organisms
Number of Samples:	3
Number of Exceedances:	2

Data and Information Type:	PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality:	State Water Board staff assessed SFEI data for Suisun Bay to determine beneficial use support and results are as follows: 2 of 3 samples exceed the criterion for PCB, Total.
Data Reference:	Regional Monitoring Program data, Feb. 1993-Sep. 2008
SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	The Polychlorinated Biphenyls criteria for the protection of human health from consumption of organisms only is 0.00017 ug/L (California Toxics Rule, 2000).
Objective/Criterion Reference:	Code of Federal Regulations 40 part 131.38 Establishment of numeric criteria for priority toxic pollutants for the State of California. 7/1/2011 Edition
Evaluation Guideline:	
Guideline Reference:	
Spatial Representation:	Data for this line of evidence for Suisun Bay was collected at 3 monitoring sites [Suisun Bay - SU006W, Suisun Bay - SU007W, Suisun Bay - SU013W]
Temporal Representation:	Data was collected over the time period 8/14/2003-7/22/2004.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	The 1999 Quality Assurance Project Plan Regional Monitoring Program for Trace Substances was used.
QAPP Information Reference(s):	1999 Quality Assurance Project Plan Regional Monitoring Program for Trace Substances

Line of Evidence (LOE) for Decision ID 33558, PCBs (Polychlorinated biphenyls)

Region 2

Suisun Bay

LOE ID:	93669
Pollutant:	PCBs (Polychlorinated biphenyls)
LOE Subgroup:	Pollutant-Tissue
Matrix:	Tissue
Fraction:	Shellfish
Beneficial Use:	Commercial or recreational collection of fish, shellfish, or organisms
Number of Samples:	9
Number of Exceedances:	9
Data and Information Type:	Shellfish surveys
Data Used to Assess Water Quality:	Nine of the 9 samples exceeded the guideline. Composite samples were comprised of Corbicula fluminea, except for 1 sample comprised of Crassostrea gigas. Data were reported on a dry weight basis and were converted to a wet weight basis by multiplying the dry-weight concentration by a factor of 1 minus the percentage of moisture content expressed as a decimal. Total PCB was assessed for as follows: PCB aroclors and congeners were summed separately and the sum that yielded the highest value was used for the assessment. The result for Station BF20 collected on 4/24/1998 was not a valid result and so was not used in the assessment.
Data Reference:	Regional Monitoring Program data, Feb. 1993-Sep. 2008
SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	Water Quality Control Plan for the San Francisco Bay Basin (2013): Controllable water quality factors shall not cause a detrimental increase in concentrations of toxic substances found in bottom sediments or aquatic life. Effects on aquatic organisms, wildlife, and human health will be considered.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	The modified OEHHA Fish Contaminant Goal for polychlorinated biphenyls in shellfish tissue is 3.9 ppb. This screening level assumes an average body weight of 70 kg and a consumption rate of 21 g/day for a 30 year exposure over a 70-year lifetime. This constituent is a carcinogen therefore the risk level is set to one in a million. (Brodberg,

Guideline Reference:	R.K., and G.A. Pollock, 1999; Klasing, S., and R. Brodberg, 2008) Prevalence of Selected Target Chemical Contaminants in Sport Fish From Two California Lakes: Public health designed screening study. Sacramento, CA: Office of Environmental Health Hazard Assessment Development of Fish Contaminant Goals and Advisory Tissue Levels for Common Contaminants in California Sport Fish: Chlordane, DDTs, Dieldrin, Methylmercury, PCBs, Selenium, and Toxaphene
Spatial Representation:	Samples were collected at the following station: BF20 - Grizzly Bay.
Temporal Representation:	Samples were generally collected in spring and fall seasons from years 1993 - 1998.
Environmental Conditions:	
QAPP Information:	1999 Quality Assurance Project Plan Regional Monitoring Program for Trace Substances.
QAPP Information Reference(s):	1999 Quality Assurance Project Plan Regional Monitoring Program for Trace Substances

Line of Evidence (LOE) for Decision ID 33558, PCBs (Polychlorinated biphenyls)

Region 2

Suisun Bay

LOE ID:	95188
Pollutant:	PCBs (Polychlorinated biphenyls)
LOE Subgroup:	Pollutant-Tissue
Matrix:	Tissue
Fraction:	Fish fillet
Beneficial Use:	Commercial or recreational collection of fish, shellfish, or organisms
Number of Samples:	2
Number of Exceedances:	0
Data and Information Type:	Fish tissue analysis
Data Used to Assess Water Quality:	Water Board staff assessed Regional Monitoring Program data for Suisun Bay to determine beneficial use support and results are as follows: 0 of 2 samples exceed the criterion for PCBs. No samples were discarded for being non-detect, unquantifiable or the reporting limit exceeding the water quality objective.
Data Reference:	Regional Monitoring Program data, Feb. 1993-Sep. 2008
SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	Water Quality Control Plan for the San Francisco Bay Basin: Controllable water quality factors shall not cause a detrimental increase in concentrations of toxic substances found in bottom sediments or aquatic life. Effects on aquatic organisms, wildlife, and human health will be considered.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	The modified OEHHA Fish Contaminant Goal for polychlorinated biphenyls in fish tissue is 2.6 ppb. This screening level assumes an average body weight of 70 kg and a consumption rate of 32 g/day for a 30 year exposure over a 70-year lifetime. This constituent is a carcinogen therefore the risk level is set to one in a million. A cooking reduction factor of 1 is applied for skin-off fillets. (Klasing, S., and R. Brodberg, 2008)
Guideline Reference:	Development of Fish Contaminant Goals and Advisory Tissue Levels for Common Contaminants in California Sport Fish: Chlordane, DDTs, Dieldrin, Methylmercury, PCBs, Selenium, and Toxaphene
Spatial Representation:	The samples were collected at two sites in Suisun Bay.
Temporal Representation:	The samples were collected in June 1994 and June 1997.
Environmental Conditions:	
QAPP Information:	The 1999 Quality Assurance Project Plan Regional Monitoring Program for Trace Substances was used.
QAPP Information Reference(s):	1999 Quality Assurance Project Plan Regional Monitoring Program for Trace Substances

Line of Evidence (LOE) for Decision ID 33558, PCBs (Polychlorinated biphenyls)

Region 2

Suisun Bay

LOE ID:	3705
Pollutant:	PCBs (Polychlorinated biphenyls)
LOE Subgroup:	Pollutant-Tissue
Matrix:	Tissue
Fraction:	Not Recorded
Beneficial Use:	Commercial or recreational collection of fish, shellfish, or organisms
Number of Samples:	0
Number of Exceedances:	0
Data and Information Type:	Not Specified
Data Used to Assess Water Quality:	Unspecified--This LOE is a placeholder to support a 303(d) listing decision made prior to 2006.
Data Reference:	Placeholder reference pre-2006 303(d)
SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	Unspecified
Objective/Criterion Reference:	Placeholder reference pre-2006 303(d)
Evaluation Guideline:	Unspecified
Guideline Reference:	Placeholder reference pre-2006 303(d)
Spatial Representation:	Unspecified
Temporal Representation:	Unspecified
Environmental Conditions:	Unspecified
QAPP Information:	Unspecified
QAPP Information Reference(s):	

Line of Evidence (LOE) for Decision ID 33558, PCBs (Polychlorinated biphenyls)

Region 2

Suisun Bay

LOE ID:	93377
Pollutant:	PCBs (Polychlorinated biphenyls)
LOE Subgroup:	Pollutant-Water
Matrix:	Water
Fraction:	Dissolved
Beneficial Use:	Estuarine Habitat
Number of Samples:	19
Number of Exceedances:	0
Data and Information Type:	PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality:	State Water Board staff assessed SFEI data for Suisun Bay to determine beneficial use support and results are as follows: 0 of 19 samples exceed the criterion for PCB, Total.
Data Reference:	Regional Monitoring Program data, Feb. 1993-Sep. 2008
SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	The PCB, Total criterion continuous concentration (expressed as a 4-day average) to protect aquatic life in saltwater is 0.03 ug/L (California Toxics Rule, 2000).
Objective/Criterion Reference:	Code of Federal Regulations 40 part 131.38 Establishment of numeric criteria for priority toxic pollutants for the State of California. 7/1/2011 Edition
Evaluation Guideline:	
Guideline Reference:	

Spatial Representation: Data for this line of evidence for Suisun Bay was collected at 4 monitoring sites [Suisun Bay - SU015W, Suisun Bay - SU003W, Grizzly Bay - BF20, Suisun Bay - SU018W]

Temporal Representation: Data was collected over the time period 3/5/1993-8/9/2005.

Environmental Conditions: Staff is not aware of any special conditions that might affect interpretation of the data.

QAPP Information: The 1999 Quality Assurance Project Plan Regional Monitoring Program for Trace Substances was used.

QAPP Information Reference(s): [1999 Quality Assurance Project Plan Regional Monitoring Program for Trace Substances](#)

Line of Evidence (LOE) for Decision ID 33558, PCBs (Polychlorinated biphenyls)	Region 2
Suisun Bay	

LOE ID: 93378

Pollutant: PCBs (Polychlorinated biphenyls)

LOE Subgroup: Pollutant-Water

Matrix: Water

Fraction: Total

Beneficial Use: Commercial or recreational collection of fish, shellfish, or organisms

Number of Samples: 40

Number of Exceedances: 27

Data and Information Type: PHYSICAL/CHEMICAL MONITORING

Data Used to Assess Water Quality: State Water Board staff assessed SFEI data for Suisun Bay to determine beneficial use support and results are as follows: 27 of 40 samples exceed the criterion for PCB, Total.

Data Reference: [Regional Monitoring Program data, Feb. 1993-Sep. 2008](#)

SWAMP Data: Non-SWAMP

Water Quality Objective/Criterion: The Polychlorinated Biphenyls criteria for the protection of human health from consumption of organisms only is 0.00017 ug/L (California Toxics Rule, 2000).

Objective/Criterion Reference: [Code of Federal Regulations 40 part 131.38 Establishment of numeric criteria for priority toxic pollutants for the State of California. 7/1/2011 Edition](#)

Evaluation Guideline:

Guideline Reference:

Spatial Representation: Data for this line of evidence for Suisun Bay was collected at 20 monitoring sites [Grizzly Bay - BF20, Suisun Bay - SU001W, Suisun Bay - SU002W, Suisun Bay - SU003W, Suisun Bay - SU005W, Suisun Bay - SU009W, Suisun Bay - SU010W, Suisun Bay - SU012W, Suisun Bay - SU014W, Suisun Bay - SU015W, Suisun Bay - SU016W, Suisun Bay - SU017W, Suisun Bay - SU018W, Suisun Bay - SU019W, Suisun Bay - SU020W, Suisun Bay - SU021W, Suisun Bay - SU022W, Suisun Bay - SU023W, Suisun Bay - SU024W, Suisun Bay - SU025W]

Temporal Representation: Data was collected over the time period 3/5/1993-8/8/2007.

Environmental Conditions: Staff is not aware of any special conditions that might affect interpretation of the data.

QAPP Information: The 1999 Quality Assurance Project Plan Regional Monitoring Program for Trace Substances was used.

QAPP Information Reference(s): [1999 Quality Assurance Project Plan Regional Monitoring Program for Trace Substances](#)

DECISION ID	33560	Region 2
Suisun Bay		

Pollutant: Selenium

Final Listing Decision: Do Not Delist from 303(d) list (being addressed with USEPA approved TMDL)

Last Listing Cycle's Final Listing Decision: List on 303(d) list (TMDL required list)(2012)

Revision Status Revised

Sources: Source Unknown
TMDL Name: San Francisco Bay Selenium - North Bay
TMDL Project Code: 540
Date TMDL Approved by USEPA: 08/23/2016
Impairment from Pollutant or Pollution: Pollutant

Regional Board Staff Conclusion: This pollutant is being considered for removal on the CWA section 303(d) List under sections 2.2 and 4.1 of the Listing Policy. Under 4.1 of the Policy, a minimum of one line of evidence is needed to assess listing status.

Four lines of evidence are available in the administrative record to assess this pollutant.

Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against removing this water segment-pollutant combination from the CWA section 303(d) List. There is sufficient justification to place it in the Being Addressed portion of the CWA 303(d) List because a TMDL has been completed and approved by RWQCB and USEPA, and is expected to result in attainment of the standard.

This conclusion is based on the staff findings that:

1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy.
2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy.
3. Impairment should be based on protection of aquatic life beneficial uses and the existing aquatic life value referenced in the CTR is not sufficiently protective of sensitive fish species. Numeric targets to protect aquatic life are included in the North SF Bay Selenium TMDL and this listing will be reevaluated in accordance with the TMDL
4. The North SF Bay Selenium TMDL was approved by USEPA on 8/23/2016.
5. Pursuant to section 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.

Regional Board Staff Decision Recommendation: After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be removed from the section 303(d) list because applicable water quality standards for the pollutant are being exceeded. Impairment should be based on protection of aquatic life beneficial uses and the existing aquatic life value referenced in the CTR is not sufficiently protective of sensitive fish species. Numeric targets to protect aquatic life are included in the North SF Bay Selenium TMDL and this listing will be reevaluated in accordance with the TMDL

Line of Evidence (LOE) for Decision ID 33560, Selenium Suisun Bay

Region 2

LOE ID: 93710

Pollutant: Selenium
 LOE Subgroup: Pollutant-Tissue
 Matrix: Tissue
 Fraction: Shellfish

Beneficial Use: Commercial or recreational collection of fish, shellfish, or organisms

Number of Samples: 10
 Number of Exceedances: 0

Data and Information Type: Shellfish surveys
 Data Used to Assess Water Quality: None of the 10 samples exceeded the guideline. Composite samples were comprised of *Corbicula fluminea*, except for one which was comprised of *Crassostrea gigas*. Data were reported on a dry weight basis and were converted to a wet weight basis by multiplying the dry-weight concentration by a factor of 1 minus the percentage of moisture content expressed as a decimal. If a dry weight result did not have a corresponding moisture result for conversion to wet weight, the sample was not included in the assessment.

Data Reference: [Regional Monitoring Program data, Feb. 1993-Sep. 2008](#)

SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	Water Quality Control Plan for the San Francisco Bay Basin: Controllable water quality factors shall not cause a detrimental increase in concentrations of toxic substances found in bottom sediments or aquatic life. Effects on aquatic organisms, wildlife, and human health will be considered.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	The modified OEHHA Fish Contaminant Goal for selenium in shellfish tissue is 11 ppm. This screening level assumes an average body weight of 70 kg and a consumption rate of 21 g/day. A background dietary consumption rate of 0.114 mg/day is applied for this micronutrient. (Brodberg, R.K., and G.A. Pollock, 1999; Klasing, S., and R. Brodberg, 2008)
Guideline Reference:	Prevalence of Selected Target Chemical Contaminants in Sport Fish From Two California Lakes: Public health designed screening study. Sacramento, CA: Office of Environmental Health Hazard Assessment Development of Fish Contaminant Goals and Advisory Tissue Levels for Common Contaminants in California Sport Fish: Chlordane, DDTs, Dieldrin, Methylmercury, PCBs, Selenium, and Toxaphene
Spatial Representation:	Samples were collected at the following station: BF20 - Grizzly Bay.
Temporal Representation:	Samples were generally collected in spring and fall seasons from years 1993 - 1998.
Environmental Conditions:	
QAPP Information:	1999 Quality Assurance Project Plan Regional Monitoring Program for Trace Substances.
QAPP Information Reference(s):	1999 Quality Assurance Project Plan Regional Monitoring Program for Trace Substances

Line of Evidence (LOE) for Decision ID 33560, Selenium

Region 2

Suisun Bay

LOE ID:	93310
Pollutant:	Selenium
LOE Subgroup:	Pollutant-Water
Matrix:	Water
Fraction:	Dissolved
Beneficial Use:	Estuarine Habitat
Number of Samples:	57
Number of Exceedances:	0
Data and Information Type:	PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality:	State Water Board staff assessed SFEI data for Suisun Bay to determine beneficial use support and results are as follows: 0 of 57 samples exceed the criterion for Selenium.
Data Reference:	Regional Monitoring Program data, Feb. 1993-Sep. 2008
SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	The dissolved selenium criterion continuous concentration (expressed as a 4-day average) to protect aquatic life in saline water is 5 ug/L (California Toxics Rule, 2000).
Objective/Criterion Reference:	Code of Federal Regulations 40 part 131.38 Establishment of numeric criteria for priority toxic pollutants for the State of California. 7/1/2011 Edition
Evaluation Guideline:	
Guideline Reference:	
Spatial Representation:	Data for this line of evidence for Suisun Bay was collected at 8 monitoring sites [Pacheco Creek - BF10, Grizzly Bay - BF20, Honker Bay - BF40, Suisun Bay - SU003W, Suisun Bay - SU015W, Suisun Bay - SU023W, Suisun Bay - SU025W, Suisun Bay - SU028W]
Temporal Representation:	Data was collected over the time period 3/4/1993-7/10/2008.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.

QAPP Information: The 1999 Quality Assurance Project Plan Regional Monitoring Program for Trace Substances was used.

QAPP Information Reference(s): [1999 Quality Assurance Project Plan Regional Monitoring Program for Trace Substances](#)

Line of Evidence (LOE) for Decision ID 33560, Selenium
Suisun Bay

Region 2

LOE ID: 3707

Pollutant: Selenium
LOE Subgroup: Pollutant-Water
Matrix: Water
Fraction: Not Recorded

Beneficial Use: Estuarine Habitat

Number of Samples: 0
Number of Exceedances: 0

Data and Information Type: Not Specified
Data Used to Assess Water Quality: Unspecified--This LOE is a placeholder to support a 303(d) listing decision made prior to 2006.

Data Reference: [Placeholder reference pre-2006 303\(d\)](#)

SWAMP Data: Non-SWAMP

Water Quality Objective/Criterion: Unspecified
Objective/Criterion Reference: [Placeholder reference pre-2006 303\(d\)](#)

Evaluation Guideline: Unspecified
Guideline Reference: [Placeholder reference pre-2006 303\(d\)](#)

Spatial Representation: Unspecified
Temporal Representation: Unspecified
Environmental Conditions: Unspecified
QAPP Information: Unspecified
QAPP Information Reference(s):

Line of Evidence (LOE) for Decision ID 33560, Selenium
Suisun Bay

Region 2

LOE ID: 95118

Pollutant: Selenium
LOE Subgroup: Pollutant-Tissue
Matrix: Tissue
Fraction: Fish fillet

Beneficial Use: Commercial or recreational collection of fish, shellfish, or organisms

Number of Samples: 1
Number of Exceedances: 0

Data and Information Type: Fish tissue analysis
Data Used to Assess Water Quality: Water Board staff assessed Regional Monitoring Program data for Suisun Bay to determine beneficial use support and results are as follows: 0 of 1 samples exceed the criterion for selenium. No samples were discarded for being non-detect, unquantifiable or the reporting limit exceeding the water quality objective.

Data Reference: [Regional Monitoring Program data, Feb. 1993-Sep. 2008](#)

SWAMP Data: Non-SWAMP

Water Quality Objective/Criterion:	Water Quality Control Plan for the San Francisco Bay Basin: Controllable water quality factors shall not cause a detrimental increase in concentrations of toxic substances found in bottom sediments or aquatic life. Effects on aquatic organisms, wildlife, and human health will be considered.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	The OEHHA Fish Contaminant Goal for selenium in fish tissue is 7.4 ppm. This screening level assumes an average body weight of 70 kg and a consumption rate of 32 g/day. A background dietary consumption rate of 0.114 mg/day is applied for this micronutrient. (Klasing, S., and R. Brodberg, 2008)
Guideline Reference:	Development of Fish Contaminant Goals and Advisory Tissue Levels for Common Contaminants in California Sport Fish: Chlordane, DDTs, Dieldrin, Methylmercury, PCBs, Selenium, and Toxaphene
Spatial Representation:	The samples were collected at one site in Suisun Bay.
Temporal Representation:	The samples were collected in June 1994.
Environmental Conditions:	
QAPP Information:	The 1999 Quality Assurance Project Plan Regional Monitoring Program for Trace Substances was used.
QAPP Information Reference(s):	1999 Quality Assurance Project Plan Regional Monitoring Program for Trace Substances

DECISION ID	66634	Region 2
Suisun Bay		

Pollutant:	Acenaphthene
Final Listing Decision:	Do Not List on 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision:	New Decision
Revision Status	Revised
Impairment from Pollutant or Pollution:	Pollutant

Regional Board Staff Conclusion:	<p>This pollutant is being considered for placement on the CWA section 303(d) List under section 3.1 of the Listing Policy. Under section 3.1 a single line of evidence is necessary to assess listing status.</p> <p>Two lines of evidence are available in the administrative record to assess this pollutant. Zero of twenty-six samples exceed the guideline.</p> <p>Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against placing this water segment-pollutant combination on the CWA section 303(d) List in the Water Quality Limited Segments category.</p> <p>This conclusion is based on the staff findings that:</p> <ol style="list-style-type: none"> 1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy. 2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy. 3. Zero of twenty-six samples exceed the guideline and this does not exceed the allowable frequency listed in Table 3.1 of the Listing Policy. 4. Pursuant to section 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.
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Regional Board Staff Decision Recommendation:	After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be placed on the section 303(d) list because applicable water quality standards are not being exceeded.
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Line of Evidence (LOE) for Decision ID 66634, Acenaphthene	Region 2
Suisun Bay	

LOE ID:	93338
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Pollutant:	Acenaphthene
LOE Subgroup:	Pollutant-Water
Matrix:	Water
Fraction:	Total
Beneficial Use:	Commercial or recreational collection of fish, shellfish, or organisms
Number of Samples:	26
Number of Exceedances:	0
Data and Information Type:	PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality:	State Water Board staff assessed SFEI data for Suisun Bay to determine beneficial use support and results are as follows: 0 of 26 samples exceed the criterion for Acenaphthene.
Data Reference:	Regional Monitoring Program data, Feb. 1993-Sep. 2008
SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	The Acenaphthene criteria for the protection of human health from consumption of organisms only is 2,700 ug/L (California Toxics Rule, 2000).
Objective/Criterion Reference:	Code of Federal Regulations 40 part 131.38 Establishment of numeric criteria for priority toxic pollutants for the State of California. 7/1/2011 Edition
Evaluation Guideline:	
Guideline Reference:	
Spatial Representation:	Data for this line of evidence for Suisun Bay was collected at 17 monitoring sites [Grizzly Bay - BF20, Suisun Bay - SU001W, Suisun Bay - SU002W, Suisun Bay - SU003W, Suisun Bay - SU005W, Suisun Bay - SU009W, Suisun Bay - SU010W, Suisun Bay - SU014W, Suisun Bay - SU020W, Suisun Bay - SU021W, Suisun Bay - SU022W, Suisun Bay - SU023W, Suisun Bay - SU024W, Suisun Bay - SU025W, Suisun Bay - SU026W, Suisun Bay - SU028W, Suisun Bay - SU029W]
Temporal Representation:	Data was collected over the time period 7/23/1996-7/10/2008.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	The 1999 Quality Assurance Project Plan Regional Monitoring Program for Trace Substances was used.
QAPP Information Reference(s):	1999 Quality Assurance Project Plan Regional Monitoring Program for Trace Substances

Line of Evidence (LOE) for Decision ID 66634, Acenaphthene
Suisun Bay

Region 2

LOE ID:	93337
Pollutant:	Acenaphthene
LOE Subgroup:	Pollutant-Water
Matrix:	Water
Fraction:	Dissolved
Beneficial Use:	Estuarine Habitat
Number of Samples:	9
Number of Exceedances:	0
Data and Information Type:	PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality:	State Water Board staff assessed SFEI data for Suisun Bay to determine beneficial use support and results are as follows: 0 of 9 samples exceed the criterion for Acenaphthene.
Data Reference:	Regional Monitoring Program data, Feb. 1993-Sep. 2008
SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	No individual pesticide or combination of pesticides shall be present in concentrations that

Objective/Criterion Reference:	adversely affect beneficial uses. Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	The available data for acenaphthene indicate that chronic toxicity to saltwater aquatic life occurs at concentrations as low as 710 ug/L and would occur at lower concentrations among species that are more sensitive than those tested. (USEPA Gold Book - EPA 440/5-86-001)
Guideline Reference:	Quality Criteria for Water 1986. United States Environmental Protection Agency. Office of Water. Regulations and Standards. Washington D.C. EPA 440/5-86-001.
Spatial Representation:	Data for this line of evidence for Suisun Bay was collected at 4 monitoring sites [Suisun Bay - SU015W, Suisun Bay - SU003W, Grizzly Bay - BF20, Suisun Bay - SU018W]
Temporal Representation:	Data was collected over the time period 7/23/1996-8/9/2005.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	The 1999 Quality Assurance Project Plan Regional Monitoring Program for Trace Substances was used.
QAPP Information Reference(s):	1999 Quality Assurance Project Plan Regional Monitoring Program for Trace Substances

DECISION ID	66635	Region 2
Suisun Bay		
Pollutant:	Aldrin	
Final Listing Decision:	Do Not List on 303(d) list (TMDL required list)	
Last Listing Cycle's Final Listing Decision:	New Decision	
Revision Status	Revised	
Impairment from Pollutant or Pollution:	Pollutant	
Regional Board Staff Conclusion:	<p>This pollutant is being considered for placement on the CWA section 303(d) List under section 3.1 of the Listing Policy. Under section 3.1 a single line of evidence is necessary to assess listing status. One line of evidence is available in the administrative record to assess this pollutant. Zero of one samples exceed the guideline.</p> <p>Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against placing this water segment-pollutant combination on the CWA section 303(d) List.</p> <p>This conclusion is based on the staff findings that:</p> <ol style="list-style-type: none"> 1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy. 2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy. 3. Zero of one samples exceed the guideline and this sample size is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating. A minimum of 16 samples is needed to determine if a beneficial use is fully supported using table 3.1. 4. Pursuant to SECTION 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met. 	
Regional Board Staff Decision Recommendation:	After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be placed on the section 303(d) list. The readily available data and information is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating.	

Line of Evidence (LOE) for Decision ID 66635, Aldrin	Region 2
Suisun Bay	
LOE ID:	93339
Pollutant:	Aldrin
LOE Subgroup:	Pollutant-Water

Matrix:	Water
Fraction:	Total
Beneficial Use:	Commercial or recreational collection of fish, shellfish, or organisms
Number of Samples:	1
Number of Exceedances:	0
Data and Information Type:	PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality:	State Water Board staff assessed SFEI data for Suisun Bay to determine beneficial use support and results are as follows: 0 of 1 samples exceed the criterion for Aldrin.
Data Reference:	Regional Monitoring Program data, Feb. 1993-Sep. 2008
SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	The Aldrin criteria for the protection of human health from consumption of organisms only is 0.00014 ug/L (California Toxics Rule, 2000).
Objective/Criterion Reference:	Code of Federal Regulations 40 part 131.38 Establishment of numeric criteria for priority toxic pollutants for the State of California. 7/1/2011 Edition
Evaluation Guideline:	
Guideline Reference:	
Spatial Representation:	Data for this line of evidence for Suisun Bay was collected at 1 monitoring site [Suisun Bay - SU012W]
Temporal Representation:	Data was collected on a single day 7/22/2004.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	The 1999 Quality Assurance Project Plan Regional Monitoring Program for Trace Substances was used.
QAPP Information Reference(s):	1999 Quality Assurance Project Plan Regional Monitoring Program for Trace Substances

DECISION ID	66637	Region 2
Suisun Bay		

Pollutant:	Ammonia (Unionized)
Final Listing Decision:	Do Not List on 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision:	New Decision
Revision Status	Revised
Impairment from Pollutant or Pollution:	Pollutant

Regional Board Staff Conclusion:	<p>This pollutant is being considered for placement on the CWA section 303(d) List under section 3.1 of the Listing Policy. Under section 3.1 a single line of evidence is necessary to assess listing status.</p> <p>One line of evidence is available in the administrative record to assess this pollutant. Zero of sixty-three samples exceed the guideline.</p> <p>Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against placing this water segment-pollutant combination on the CWA section 303(d) List in the Water Quality Limited Segments category.</p> <p>This conclusion is based on the staff findings that:</p> <ol style="list-style-type: none"> 1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy. 2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy. 3. Zero of sixty-three samples exceed the guideline and this does not exceed the allowable frequency listed in Table 3.1 of the Listing Policy. 4. Pursuant to section 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.
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Regional Board Staff Decision After review of the available data and information, RWQCB staff concludes that the water body-

Recommendation: pollutant combination should not be placed on the section 303(d) list because applicable water quality standards are not being exceeded.

Line of Evidence (LOE) for Decision ID 66637, Ammonia (Unionized)

Region 2

Suisun Bay

LOE ID: 93376

Pollutant: Ammonia (Unionized)
LOE Subgroup: Pollutant-Water
Matrix: Water
Fraction: Total

Beneficial Use: Estuarine Habitat

Number of Samples: 63
Number of Exceedances: 0

Data and Information Type: Fixed station physical/chemical (conventional plus toxic pollutants)
Data Used to Assess Water Quality: None of 63 annual medians exceeded the objective for un-ionized ammonia. The total ammonia nitrogen data were converted to un-ionized ammonia using pH and temperature data and an assumed salinity of 10 parts per thousand. Ammonia samples that did not have corresponding pH and temperature data were not used to calculate medians.

Data Reference: [Data for Nutrients in Region 5, Jan. 1975 - Jan. 2007.](#)

SWAMP Data: Non-SWAMP

Water Quality Objective/Criterion: The San Francisco Bay Regional Water Quality Board Basin Plan states that the discharge of wastes shall not cause receiving water to contain concentrations of un-ionized ammonia in excess of an annual median of 0.025 mg/l as N.

Objective/Criterion Reference: [Water Quality Control Plan \(Basin Plan\) - San Francisco Bay Region \(Region 2\)](#)

Evaluation Guideline:
Guideline Reference:

Spatial Representation: Samples were collected at stations D6 Suisun Bay @ Bulls Head nr. Martinez, D7 Grizzly Bay @ Dolphin nr. Suisun Slough, D8 Suisun Bay off Middle Point nr. Nichols, D9 Honker Bay near Wheeler Point, and D10 Sacramento River @ Chipps Island.

Temporal Representation: Ammonia data were collected from 1975 to 2010. Corresponding pH and temperature data were available to convert total ammonia to un-ionized ammonia were available from 1975 to 1995 for all stations and from 2009 to 2010 for all stations except D10.

Environmental Conditions:
QAPP Information: Samples were collected as part of a long term monitoring of water quality. No other descriptions of the study were provided.

QAPP Information Reference(s):

DECISION ID

66640

Region 2

Suisun Bay

Pollutant: Anthracene
Final Listing Decision: Do Not List on 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision: New Decision
Revision Status: Revised
Impairment from Pollutant or Pollution: Pollutant

Regional Board Staff Conclusion: This pollutant is being considered for placement on the CWA section 303(d) List under section 3.1 of the Listing Policy. Under section 3.1 a single line of evidence is necessary to assess listing status.

One line of evidence is available in the administrative record to assess this pollutant. Zero of thirty-two samples exceed the guideline.

Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against placing this water segment-pollutant combination on the CWA section 303(d) List in the Water Quality Limited Segments category.

This conclusion is based on the staff findings that:

1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy.
2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy.
3. Zero of thirty-two samples exceed the guideline and this does not exceed the allowable frequency listed in Table 3.1 of the Listing Policy.
4. Pursuant to section 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.

Regional Board Staff Decision Recommendation: After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be placed on the section 303(d) list because applicable water quality standards are not being exceeded.

**Line of Evidence (LOE) for Decision ID 66640, Anthracene
Suisun Bay**

Region 2

LOE ID:	93341
Pollutant:	Anthracene
LOE Subgroup:	Pollutant-Water
Matrix:	Water
Fraction:	Total
Beneficial Use:	Commercial or recreational collection of fish, shellfish, or organisms
Number of Samples:	32
Number of Exceedances:	0
Data and Information Type:	PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality:	State Water Board staff assessed SFEI data for Suisun Bay to determine beneficial use support and results are as follows: 0 of 32 samples exceed the criterion for Anthracene.
Data Reference:	Regional Monitoring Program data, Feb. 1993-Sep. 2008
SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	The Anthracene criteria for the protection of human health from consumption of organisms only is 110,000 ug/L (California Toxics Rule, 2000).
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	
Guideline Reference:	Code of Federal Regulations 40 part 131.38 Establishment of numeric criteria for priority toxic pollutants for the State of California. 7/1/2011 Edition
Spatial Representation:	Data for this line of evidence for Suisun Bay was collected at 15 monitoring sites [Grizzly Bay - BF20, Suisun Bay - SU001W, Suisun Bay - SU002W, Suisun Bay - SU003W, Suisun Bay - SU005W, Suisun Bay - SU019W, Suisun Bay - SU020W, Suisun Bay - SU021W, Suisun Bay - SU022W, Suisun Bay - SU023W, Suisun Bay - SU024W, Suisun Bay - SU025W, Suisun Bay - SU026W, Suisun Bay - SU028W, Suisun Bay - SU029W]
Temporal Representation:	Data was collected over the time period 3/5/1993-7/10/2008.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	The 1999 Quality Assurance Project Plan Regional Monitoring Program for Trace Substances was used.
QAPP Information Reference(s):	1999 Quality Assurance Project Plan Regional Monitoring Program for Trace Substances

DECISION ID	66834	Region 2
Suisun Bay		

Pollutant: Arsenic
Final Listing Decision: Do Not List on 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision: New Decision
Revision Status: Revised
Impairment from Pollutant or Pollution: Pollutant

Regional Board Staff Conclusion: This pollutant is being considered for placement on the CWA section 303(d) List under section 3.1 of the Listing Policy. Under section 3.1 a single line of evidence is necessary to assess listing status.

Four lines of evidence are available in the administrative record to assess this pollutant. Zero of ninety-four samples exceed the guideline.

Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against placing this water segment-pollutant combination on the CWA section 303(d) List in the Water Quality Limited Segments category.

This conclusion is based on the staff findings that:

1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy.
2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy.
3. Zero of ninety-four samples exceed the guideline and this does not exceed the allowable frequency listed in Table 3.1 of the Listing Policy.
4. Pursuant to section 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.

Regional Board Staff Decision Recommendation: After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be placed on the section 303(d) list because applicable water quality standards are not being exceeded.

Line of Evidence (LOE) for Decision ID 66834, Arsenic	Region 2
Suisun Bay	

LOE ID: 93342
Pollutant: Arsenic
LOE Subgroup: Pollutant-Water
Matrix: Water
Fraction: Total
Beneficial Use: Commercial or recreational collection of fish, shellfish, or organisms
Number of Samples: 94
Number of Exceedances: 0
Data and Information Type: PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality: State Water Board staff assessed SFEI data for Suisun Bay to determine beneficial use support and results are as follows: 0 of 94 samples exceed the criterion for Arsenic.
Data Reference: [Regional Monitoring Program data, Feb. 1993-Sep. 2008](#)
SWAMP Data: Non-SWAMP
Water Quality Objective/Criterion: Surface?waters?shall?not?contain?concentrations?of?chemical?constituents?in?amounts?that?adversely?affect?any?designated?beneficial?use.
Objective/Criterion Reference: [Water Quality Control Plan \(Basin Plan\) San Francisco Bay Basin \(Region 2\)](#)

Evaluation Guideline:	The Arsenic criteria for the protection of human health from consumption of organisms only is 0.14 ug/L (National Recommended Water Quality Criteria, 2009).
Guideline Reference:	National Recommended Water Quality Criteria. United States Environmental Protection Agency. Office of Water. Office of Science and Technology
Spatial Representation:	Data for this line of evidence for Suisun Bay was collected at 25 monitoring sites [Pacheco Creek - BF10, Grizzly Bay - BF20, Honker Bay - BF40, Suisun Bay - SU001W, Suisun Bay - SU002W, Suisun Bay - SU003W, Suisun Bay - SU005W, Suisun Bay - SU009W, Suisun Bay - SU010W, Suisun Bay - SU012W, Suisun Bay - SU014W, Suisun Bay - SU015W, Suisun Bay - SU016W, Suisun Bay - SU017W, Suisun Bay - SU018W, Suisun Bay - SU019W, Suisun Bay - SU020W, Suisun Bay - SU021W, Suisun Bay - SU022W, Suisun Bay - SU023W, Suisun Bay - SU024W, Suisun Bay - SU025W, Suisun Bay - SU026W, Suisun Bay - SU028W, Suisun Bay - SU029W]
Temporal Representation:	Data was collected over the time period 3/4/1993-7/10/2008.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	The 1999 Quality Assurance Project Plan Regional Monitoring Program for Trace Substances was used.
QAPP Information Reference(s):	1999 Quality Assurance Project Plan Regional Monitoring Program for Trace Substances

Line of Evidence (LOE) for Decision ID 66834, Arsenic

Region 2

Suisun Bay

LOE ID:	93707
Pollutant:	Arsenic
LOE Subgroup:	Pollutant-Tissue
Matrix:	Tissue
Fraction:	Shellfish
Beneficial Use:	Commercial or recreational collection of fish, shellfish, or organisms
Number of Samples:	9
Number of Exceedances:	0
Data and Information Type:	Shellfish surveys
Data Used to Assess Water Quality:	Zero of the nine samples exceeded the guideline. Composite samples were comprised of Corbicula fluminea or Crassostrea gigas. Data were reported on a dry weight basis and were converted to a wet weight basis by multiplying the dry-weight concentration by a factor of 1 minus the percentage of moisture content expressed as a decimal. If a dry weight result did not have a corresponding moisture result for conversion to wet weight, the sample was not included in the assessment. The fraction of total arsenic in inorganic form was taken to be 0.115%, which was the maximum fraction of inorganic arsenic found in shellfish tissue from SF Bay.
Data Reference:	Regional Monitoring Program data, Feb. 1993-Sep. 2008 Contaminant Concentrations in Fish from San Francisco Bay, 2000 Calculating Fraction of Inorganic Arsenic in SF Bay Fish and Shellfish
SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	Water Quality Control Plan for the San Francisco Bay Basin: Controllable water quality factors shall not cause a detrimental increase in concentrations of toxic substances found in bottom sediments or aquatic life. Effects on aquatic organisms, wildlife, and human health will be considered.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	The modified OEHHA Advisory Tissue Level for arsenic in shellfish tissue is 0.52 ppm. This screening level assumes an average body weight of 70 kg and a consumption rate of 21 g/day for a 30 year exposure over a 70-year lifetime. This constituent is a carcinogen therefore the risk level is set to one in ten thousand. (Brodberg, R.K., and G.A. Pollock, 1999; Klasing, S., and R. Brodberg, 2008; OEHHA, 2004)
	Advisory Tissue Levels (ATLs), while still conferring no significant health risk to

individuals consuming sport fish in the quantities shown over a lifetime, were developed with the recognition that there are unique health benefits associated with fish consumption and that the advisory process should be expanded beyond a simple risk paradigm in order to best promote the overall health of the fish consumer. ATLs provide a number of recommended fish servings that correspond to the range of contaminant concentrations found in fish and are used to provide consumption advice to prevent consumers from being exposed to more than the average daily reference dose for noncarcinogens or to a risk level greater than 1×10^{-4} for carcinogens (not more than one additional cancer case in a population of 10,000 people consuming fish at the given consumption rate over a lifetime). ATLs are designed to encourage consumption of fish that can be eaten in quantities likely to provide significant health benefits, while discouraging consumption of fish that, because of contaminant concentrations, should not be eaten or cannot be eaten in amounts recommended for improving overall health (eight ounces total, prior to cooking, per week). ATLs are one of the criteria that will be used by OEHHA for issuing fish consumption guidelines.

Guideline Reference:

[Prevalence of Selected Target Chemical Contaminants in Sport Fish From Two California Lakes: Public health designed screening study. Sacramento, CA: Office of Environmental Health Hazard Assessment](#)
[Development of Fish Contaminant Goals and Advisory Tissue Levels for Common Contaminants in California Sport Fish: Chlordane, DDTs, Dieldrin, Methylmercury, PCBs, Selenium, and Toxaphene](#)
[Air Toxics Hotspots Program Risk Assessment Guidelines. Part II Technical Support Document for Describing Available Cancer Potency Values.](#)

Spatial Representation:

Samples were collected at the following station: BF20 - Grizzly Bay.

Temporal Representation:

Samples were generally collected in spring and fall seasons from years 1993 - 1997.

Environmental Conditions:

QAPP Information:

1999 Quality Assurance Project Plan Regional Monitoring Program for Trace Substances.

QAPP Information Reference(s):

[1999 Quality Assurance Project Plan Regional Monitoring Program for Trace Substances](#)

Line of Evidence (LOE) for Decision ID 66834, Arsenic

Region 2

Suisun Bay

LOE ID:

95219

Pollutant:

Arsenic

LOE Subgroup:

Pollutant-Tissue

Matrix:

Tissue

Fraction:

Fish fillet

Beneficial Use:

Commercial or recreational collection of fish, shellfish, or organisms

Number of Samples:

1

Number of Exceedances:

0

Data and Information Type:

Fish tissue analysis

Data Used to Assess Water Quality:

Water Board staff assessed Regional Monitoring Program data for Suisun Bay to determine beneficial use support and results are as follows: 0 of 1 samples exceed the criterion for Arsenic. The fraction of total arsenic in inorganic form was taken to be 3.2%, which was the maximum fraction of inorganic arsenic found in shark tissue from SF Bay. No samples were discarded for being non-detect, unquantifiable or the reporting limit exceeding the water quality objective.

Data Reference:

[Regional Monitoring Program data, Feb. 1993-Sep. 2008](#)
[Contaminant Concentrations in Fish from San Francisco Bay, 2000](#)
[Calculating Fraction of Inorganic Arsenic in SF Bay Fish and Shellfish](#)

SWAMP Data:

Non-SWAMP

Water Quality Objective/Criterion:

Water Quality Control Plan for the San Francisco Bay Basin: Controllable water quality factors shall not cause a detrimental increase in concentrations of toxic substances found in bottom sediments or aquatic life. Effects on aquatic organisms, wildlife, and human

Objective/Criterion Reference:	health will be considered. Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	The modified OEHHA Advisory Tissue Level for arsenic in fish tissue is 0.34 ppm. This screening level assumes an average body weight of 70 kg and a consumption rate of 32 g/day for a 30 year exposure over a 70-year lifetime. This constituent is a carcinogen therefore the risk level is set to one in ten thousand. (Klasing, S., and R. Brodberg, 2008; OEHHA, 2004). Advisory Tissue Levels (ATLs), while still conferring no significant health risk to individuals consuming sport fish in the quantities shown over a lifetime, were developed with the recognition that there are unique health benefits associated with fish consumption and that the advisory process should be expanded beyond a simple risk paradigm in order to best promote the overall health of the fish consumer. ATLs provide a number of recommended fish servings that correspond to the range of contaminant concentrations found in fish and are used to provide consumption advice to prevent consumers from being exposed to more than the average daily reference dose for noncarcinogens or to a risk level greater than 1×10^{-4} for carcinogens (not more than one additional cancer case in a population of 10,000 people consuming fish at the given consumption rate over a lifetime). ATLs are designed to encourage consumption of fish that can be eaten in quantities likely to provide significant health benefits, while discouraging consumption of fish that, because of contaminant concentrations, should not be eaten or cannot be eaten in amounts recommended for improving overall health (eight ounces total, prior to cooking, per week). ATLs are one of the criteria that will be used by OEHHA for issuing fish consumption guidelines.
Guideline Reference:	Development of Fish Contaminant Goals and Advisory Tissue Levels for Common Contaminants in California Sport Fish: Chlordane, DDTs, Dieldrin, Methylmercury, PCBs, Selenium, and Toxaphene Air Toxics Hotspots Program Risk Assessment Guidelines. Part II Technical Support Document for Describing Available Cancer Potency Values.
Spatial Representation:	The samples were collected at one site in Suisun Bay.
Temporal Representation:	The samples were collected in June 1994.
Environmental Conditions:	
QAPP Information:	The 1999 Quality Assurance Project Plan Regional Monitoring Program for Trace Substances was used.
QAPP Information Reference(s):	1999 Quality Assurance Project Plan Regional Monitoring Program for Trace Substances

Line of Evidence (LOE) for Decision ID 66834, Arsenic
Suisun Bay

Region 2

LOE ID:	93343
Pollutant:	Arsenic
LOE Subgroup:	Pollutant-Water
Matrix:	Water
Fraction:	Dissolved
Beneficial Use:	Estuarine Habitat
Number of Samples:	57
Number of Exceedances:	0
Data and Information Type:	PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality:	State Water Board staff assessed SFEI data for Suisun Bay to determine beneficial use support and results are as follows: 0 of 57 samples exceed the criterion for Arsenic.
Data Reference:	Regional Monitoring Program data, Feb. 1993-Sep. 2008
SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	The dissolved arsenic criterion continuous concentration (expressed as a 4-day average)

Objective/Criterion Reference:	to protect aquatic life in saline water is 0.036 mg/L (California Toxics Rule, 2000). Code of Federal Regulations 40 part 131.38 Establishment of numeric criteria for priority toxic pollutants for the State of California. 7/1/2011 Edition
Evaluation Guideline:	
Guideline Reference:	
Spatial Representation:	Data for this line of evidence for Suisun Bay was collected at 8 monitoring sites [Pacheco Creek - BF10, Suisun Bay - SU028W, Suisun Bay - SU025W, Suisun Bay - SU015W, Suisun Bay - SU023W, Suisun Bay - SU003W, Grizzly Bay - BF20, Honker Bay - BF40]
Temporal Representation:	Data was collected over the time period 3/4/1993-7/10/2008.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	The 1999 Quality Assurance Project Plan Regional Monitoring Program for Trace Substances was used.
QAPP Information Reference(s):	1999 Quality Assurance Project Plan Regional Monitoring Program for Trace Substances

DECISION ID 66642 Region 2	
Suisun Bay	
Pollutant:	Benzo(a)pyrene (3,4-Benzopyrene -7-d)
Final Listing Decision:	Do Not List on 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision:	New Decision
Revision Status	Revised
Impairment from Pollutant or Pollution:	Pollutant
Regional Board Staff Conclusion:	<p>This pollutant is being considered for placement on the CWA section 303(d) List under section 3.1 of the Listing Policy. Under section 3.1 a single line of evidence is necessary to assess listing status.</p> <p>One line of evidence is available in the administrative record to assess this pollutant. Zero of thirty-five samples exceed the guideline.</p> <p>Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against placing this water segment-pollutant combination on the CWA section 303(d) List in the Water Quality Limited Segments category.</p> <p>This conclusion is based on the staff findings that:</p> <ol style="list-style-type: none"> 1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy. 2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy. 3. Zero of thirty-five samples exceed the guideline and this does not exceed the allowable frequency listed in Table 3.1 of the Listing Policy. 4. Pursuant to section 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.
Regional Board Staff Decision Recommendation:	After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be placed on the section 303(d) list because applicable water quality standards are not being exceeded.

Line of Evidence (LOE) for Decision ID 66642, Benzo(a)pyrene (3,4-Benzopyrene -7-d) Region 2	
Suisun Bay	
LOE ID:	93344
Pollutant:	Benzo(a)pyrene (3,4-Benzopyrene -7-d)
LOE Subgroup:	Pollutant-Water
Matrix:	Water
Fraction:	Total

Beneficial Use:	Commercial or recreational collection of fish, shellfish, or organisms
Number of Samples:	35
Number of Exceedances:	0
Data and Information Type:	PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality:	State Water Board staff assessed SFEI data for Suisun Bay to determine beneficial use support and results are as follows: 0 of 35 samples exceed the criterion for Indeno(1, 2, 3-C, D)Pyrene.
Data Reference:	Regional Monitoring Program data, Feb. 1993-Sep. 2008
SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	The Indeno(1, 2, 3-C, D)Pyrene criteria for the protection of human health from consumption of organisms only is 0.049 ug/L (California Toxics Rule, 2000).
Objective/Criterion Reference:	Code of Federal Regulations 40 part 131.38 Establishment of numeric criteria for priority toxic pollutants for the State of California. 7/1/2011 Edition
Evaluation Guideline:	
Guideline Reference:	
Spatial Representation:	Data for this line of evidence for Suisun Bay was collected at 15 monitoring sites [Grizzly Bay - BF20, Suisun Bay - SU010W, Suisun Bay - SU015W, Suisun Bay - SU016W, Suisun Bay - SU017W, Suisun Bay - SU018W, Suisun Bay - SU019W, Suisun Bay - SU020W, Suisun Bay - SU021W, Suisun Bay - SU022W, Suisun Bay - SU023W, Suisun Bay - SU024W, Suisun Bay - SU025W, Suisun Bay - SU026W, Suisun Bay - SU028W]
Temporal Representation:	Data was collected over the time period 3/5/1993-7/10/2008.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	The 1999 Quality Assurance Project Plan Regional Monitoring Program for Trace Substances was used.
QAPP Information Reference(s):	1999 Quality Assurance Project Plan Regional Monitoring Program for Trace Substances

DECISION ID	66643	Region 2
Suisun Bay		

Pollutant:	Cadmium
Final Listing Decision:	Do Not List on 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision:	New Decision
Revision Status	Revised
Impairment from Pollutant or Pollution:	Pollutant
Regional Board Staff Conclusion:	<p>This pollutant is being considered for placement on the CWA section 303(d) List under section 3.1 of the Listing Policy. Under section 3.1 a single line of evidence is necessary to assess listing status.</p> <p>Three lines of evidence are available in the administrative record to assess this pollutant. Zero of fifty-seven samples exceed the guideline.</p> <p>Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against placing this water segment-pollutant combination on the CWA section 303(d) List in the Water Quality Limited Segments category.</p> <p>This conclusion is based on the staff findings that:</p> <ol style="list-style-type: none"> 1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy. 2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy. 3. Zero of fifty-seven samples exceed the guideline and this does not exceed the allowable frequency listed in Table 3.1 of the Listing Policy. 4. Pursuant to section 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.

Regional Board Staff Decision Recommendation: After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be placed on the section 303(d) list because applicable water quality standards are not being exceeded.

**Line of Evidence (LOE) for Decision ID 66643, Cadmium
Suisun Bay**

Region 2

LOE ID: 93708

Pollutant: Cadmium
LOE Subgroup: Pollutant-Tissue
Matrix: Tissue
Fraction: Shellfish

Beneficial Use: Commercial or recreational collection of fish, shellfish, or organisms

Number of Samples: 10
Number of Exceedances: 0

Data and Information Type: Shellfish surveys
Data Used to Assess Water Quality: None of the 10 samples exceeded the guideline. Composite samples were comprised of *Corbicula fluminea* or *Crassostrea gigas*. Data were reported on a dry weight basis and were converted to a wet weight basis by multiplying the dry-weight concentration by a factor of 1 minus the percentage of moisture content expressed as a decimal. If a dry weight result did not have a corresponding moisture result for conversion to wet weight, the sample was not included in the assessment.

Data Reference: [Regional Monitoring Program data, Feb. 1993-Sep. 2008](#)

SWAMP Data: Non-SWAMP

Water Quality Objective/Criterion: Water Quality Control Plan for the San Francisco Bay Basin: Controllable water quality factors shall not cause a detrimental increase in concentrations of toxic substances found in bottom sediments or aquatic life. Effects on aquatic organisms, wildlife, and human health will be considered.

Objective/Criterion Reference: [Water Quality Control Plan \(Basin Plan\) San Francisco Bay Basin \(Region 2\)](#)

Evaluation Guideline: The modified OEHHA Fish Contaminant Goal for cadmium in shellfish tissue is 3.3 ppm. This screening level assumes an average body weight of 70 kg and a consumption rate of 21 g/day. (Brodberg, R.K., and G.A. Pollock, 1999; Klasing, S., and R. Brodberg, 2008; USEPA, 2000)

Guideline Reference: [Prevalence of Selected Target Chemical Contaminants in Sport Fish From Two California Lakes: Public health designed screening study. Sacramento, CA: Office of Environmental Health Hazard Assessment](#)
[Development of Fish Contaminant Goals and Advisory Tissue Levels for Common Contaminants in California Sport Fish: Chlordane, DDTs, Dieldrin, Methylmercury, PCBs, Selenium, and Toxaphene](#)
[Guidance for Assessing Chemical Contaminant Data for Use In Fish Advisories Volume 1: Fish Sampling and Analysis](#)

Spatial Representation: Samples were collected at the following station: BF20 - Grizzly Bay.
Temporal Representation: Samples were generally collected in spring and fall seasons from years 1993 - 1998.
Environmental Conditions:
QAPP Information: 1999 Quality Assurance Project Plan Regional Monitoring Program for Trace Substances.
QAPP Information Reference(s): [1999 Quality Assurance Project Plan Regional Monitoring Program for Trace Substances](#)

**Line of Evidence (LOE) for Decision ID 66643, Cadmium
Suisun Bay**

Region 2

LOE ID: 95147

Pollutant:	Cadmium
LOE Subgroup:	Pollutant-Tissue
Matrix:	Tissue
Fraction:	Fish fillet
Beneficial Use:	Commercial or recreational collection of fish, shellfish, or organisms
Number of Samples:	1
Number of Exceedances:	0
Data and Information Type:	Fish tissue analysis
Data Used to Assess Water Quality:	Water Board staff assessed Regional Monitoring Program data for Suisun Bay to determine beneficial use support and results are as follows: 0 of 1 samples exceed the criterion for cadmium. No samples were discarded for being non-detect, unquantifiable or the reporting limit exceeding the water quality objective.
Data Reference:	Regional Monitoring Program data, Feb. 1993-Sep. 2008
SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	Water Quality Control Plan for the San Francisco Bay Basin: Controllable water quality factors shall not cause a detrimental increase in concentrations of toxic substances found in bottom sediments or aquatic life. Effects on aquatic organisms, wildlife, and human health will be considered.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	The modified OEHHA Fish Contaminant Goal for cadmium in fish tissue is 2.2 ppm. This screening level assumes an average body weight of 70 kg and a consumption rate of 32 g/day. (Klasing, S., and R. Brodberg, 2008; USEPA, 2000)
Guideline Reference:	Development of Fish Contaminant Goals and Advisory Tissue Levels for Common Contaminants in California Sport Fish: Chlordane, DDTs, Dieldrin, Methylmercury, PCBs, Selenium, and Toxaphene Guidance for Assessing Chemical Contaminant Data for Use In Fish Advisories Volume 1: Fish Sampling and Analysis
Spatial Representation:	The samples were collected at one site in Suisun Bay.
Temporal Representation:	The samples were collected in June 1994.
Environmental Conditions:	
QAPP Information:	The 1999 Quality Assurance Project Plan Regional Monitoring Program for Trace Substances was used.
QAPP Information Reference(s):	1999 Quality Assurance Project Plan Regional Monitoring Program for Trace Substances

**Line of Evidence (LOE) for Decision ID 66643, Cadmium
Suisun Bay**

Region 2

LOE ID:	93346
Pollutant:	Cadmium
LOE Subgroup:	Pollutant-Water
Matrix:	Water
Fraction:	Dissolved
Beneficial Use:	Estuarine Habitat
Number of Samples:	57
Number of Exceedances:	0
Data and Information Type:	PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality:	State Water Board staff assessed SFEI data for Suisun Bay to determine beneficial use support and results are as follows: 0 of 57 samples exceed the criterion for Cadmium.
Data Reference:	Regional Monitoring Program data, Feb. 1993-Sep. 2008
SWAMP Data:	Non-SWAMP

Water Quality Objective/Criterion:	The dissolved cadmium criterion continuous concentration (expressed as a 4-day average) to protect aquatic life in saline water is 0.093 mg/L (California Toxics Rule, 2000).
Objective/Criterion Reference:	Code of Federal Regulations 40 part 131.38 Establishment of numeric criteria for priority toxic pollutants for the State of California. 7/1/2011 Edition
Evaluation Guideline:	
Guideline Reference:	
Spatial Representation:	Data for this line of evidence for Suisun Bay was collected at 8 monitoring sites [Pacheco Creek - BF10, Suisun Bay - SU028W, Suisun Bay - SU025W, Suisun Bay - SU015W, Suisun Bay - SU023W, Suisun Bay - SU003W, Grizzly Bay - BF20, Honker Bay - BF40]
Temporal Representation:	Data was collected over the time period 3/4/1993-7/10/2008.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	The 1999 Quality Assurance Project Plan Regional Monitoring Program for Trace Substances was used.
QAPP Information Reference(s):	1999 Quality Assurance Project Plan Regional Monitoring Program for Trace Substances

DECISION ID	66646	Region 2
Suisun Bay		

Pollutant:	Chlorpyrifos
Final Listing Decision:	Do Not List on 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision:	New Decision
Revision Status	Revised
Impairment from Pollutant or Pollution:	Pollutant
Regional Board Staff Conclusion:	<p>This pollutant is being considered for placement on the CWA section 303(d) List under section 3.1 of the Listing Policy. Under section 3.1 a single line of evidence is necessary to assess listing status.</p> <p>Two lines of evidence are available in the administrative record to assess this pollutant. Zero of nineteen samples exceed the guideline.</p> <p>Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against placing this water segment-pollutant combination on the CWA section 303(d) List in the Water Quality Limited Segments category.</p> <p>This conclusion is based on the staff findings that:</p> <ol style="list-style-type: none"> 1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy. 2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy. 3. Zero of nineteen samples exceed the guideline and this does not exceed the allowable frequency listed in Table 3.1 of the Listing Policy. 4. Pursuant to section 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.
Regional Board Staff Decision Recommendation:	After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be placed on the section 303(d) list because applicable water quality standards are not being exceeded.

Line of Evidence (LOE) for Decision ID 66646, Chlorpyrifos	Region 2
Suisun Bay	

LOE ID:	93349
Pollutant:	Chlorpyrifos
LOE Subgroup:	Pollutant-Water

Matrix:	Water
Fraction:	Dissolved
Beneficial Use:	Estuarine Habitat
Number of Samples:	19
Number of Exceedances:	0
Data and Information Type:	PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality:	State Water Board staff assessed SFEI data for Suisun Bay to determine beneficial use support and results are as follows: 0 of 19 samples exceed the criterion for Chlorpyrifos.
Data Reference:	Regional Monitoring Program data, Feb. 1993-Sep. 2008
SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	All waters shall be maintained free of toxic substances in concentrations which are toxic to, or which produce detrimental physiological responses in, human, plant, animal, or aquatic life. (Basin Plan).
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	The saltwater criterion continuous concentration to protect aquatic organisms is 0.009 ug/L (Siepmann and Finlayson 2000).
Guideline Reference:	10-Day toxicity test exposing freshwater amphipods (Hyaella azteca) to fenprothrin applied to formulated sediment under static-renewal conditions. Springborn Smithers Laboratories Study No. 13656.6137. Wareham, MA. Submitted to pyrethroid working group. DPR record number 254438
Spatial Representation:	Data for this line of evidence for Suisun Bay was collected at 4 monitoring sites [Suisun Bay - SU015W, Suisun Bay - SU003W, Grizzly Bay - BF20, Suisun Bay - SU018W]
Temporal Representation:	Data was collected over the time period 3/5/1993-8/9/2005.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	The 1999 Quality Assurance Project Plan Regional Monitoring Program for Trace Substances was used.
QAPP Information Reference(s):	1999 Quality Assurance Project Plan Regional Monitoring Program for Trace Substances

Line of Evidence (LOE) for Decision ID 66646, Chlorpyrifos
Suisun Bay

Region 2

LOE ID:	95156
Pollutant:	Chlorpyrifos
LOE Subgroup:	Pollutant-Tissue
Matrix:	Tissue
Fraction:	Fish fillet
Beneficial Use:	Commercial or recreational collection of fish, shellfish, or organisms
Number of Samples:	2
Number of Exceedances:	0
Data and Information Type:	Fish tissue analysis
Data Used to Assess Water Quality:	Water Board staff assessed Regional Monitoring Program data for Suisun Bay to determine beneficial use support and results are as follows: 0 of 2 samples exceed the criterion for chlorpyrifos. No samples were discarded for being non-detect, unquantifiable or the reporting limit exceeding the water quality objective.
Data Reference:	Regional Monitoring Program data, Feb. 1993-Sep. 2008
SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	Water Quality Control Plan for the San Francisco Bay Basin: Controllable water quality factors shall not cause a detrimental increase in concentrations of toxic substances found in bottom sediments or aquatic life. Effects on aquatic organisms, wildlife, and human

Objective/Criterion Reference:	health will be considered. Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	The modified OEHHA Fish Contaminant Goal for chlorpyrifos in fish tissue is 660 ppb. This screening level assumes an average body weight of 70 kg and a consumption rate of 32 g/day. A cooking reduction factor of 1 is applied for skin-off fillets. (Klasing, S., and R. Brodberg, 2008; USEPA, 2000)
Guideline Reference:	Development of Fish Contaminant Goals and Advisory Tissue Levels for Common Contaminants in California Sport Fish: Chlordane, DDTs, Dieldrin, Methylmercury, PCBs, Selenium, and Toxaphene Guidance for Assessing Chemical Contaminant Data for Use In Fish Advisories Volume 1: Fish Sampling and Analysis
Spatial Representation:	The samples were collected at two sites in Suisun Bay.
Temporal Representation:	The samples were collected in June 1994 and June 1997.
Environmental Conditions:	
QAPP Information:	The 1999 Quality Assurance Project Plan Regional Monitoring Program for Trace Substances was used.
QAPP Information Reference(s):	1999 Quality Assurance Project Plan Regional Monitoring Program for Trace Substances

DECISION ID 66647 Region 2	
Suisun Bay	
Pollutant:	Chromium
Final Listing Decision:	Do Not List on 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision:	New Decision
Revision Status	Revised
Impairment from Pollutant or Pollution:	Pollutant
Regional Board Staff Conclusion:	<p>This pollutant is being considered for placement on the CWA section 303(d) List under section 3.1 of the Listing Policy. Under section 3.1 a single line of evidence is necessary to assess listing status.</p> <p>One line of evidence is available in the administrative record to assess this pollutant. Zero of fifty-one samples exceed the guideline.</p> <p>Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against placing this water segment-pollutant combination on the CWA section 303(d) List in the Water Quality Limited Segments category.</p> <p>This conclusion is based on the staff findings that:</p> <ol style="list-style-type: none"> 1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy. 2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy. 3. Zero of fifty-one samples exceed the guideline and this does not exceed the allowable frequency listed in Table 3.1 of the Listing Policy. 4. Pursuant to section 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.
Regional Board Staff Decision Recommendation:	After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be placed on the section 303(d) list because applicable water quality standards are not being exceeded.

Line of Evidence (LOE) for Decision ID 66647, Chromium Region 2	
Suisun Bay	
LOE ID:	93350
Pollutant:	Chromium

LOE Subgroup:	Pollutant-Water
Matrix:	Water
Fraction:	Dissolved
Beneficial Use:	Estuarine Habitat
Number of Samples:	51
Number of Exceedances:	0
Data and Information Type:	PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality:	State Water Board staff assessed SFEI data for Suisun Bay to determine beneficial use support and results are as follows: 0 of 51 samples exceed the criterion for Chromium.
Data Reference:	Regional Monitoring Program data, Feb. 1993-Sep. 2008
SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	The dissolved chromium (III) criterion continuous concentration (expressed as a 4-day average) to protect aquatic life in freshwater is 0.180 mg/L (California Toxics Rule, 2000).
Objective/Criterion Reference:	Code of Federal Regulations 40 part 131.38 Establishment of numeric criteria for priority toxic pollutants for the State of California. 7/1/2011 Edition
Evaluation Guideline:	
Guideline Reference:	
Spatial Representation:	Data for this line of evidence for Suisun Bay was collected at 3 monitoring sites [Pacheco Creek - BF10, Grizzly Bay - BF20, Honker Bay - BF40]
Temporal Representation:	Data was collected over the time period 3/4/1993-7/28/1998.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	The 1999 Quality Assurance Project Plan Regional Monitoring Program for Trace Substances was used.
QAPP Information Reference(s):	1999 Quality Assurance Project Plan Regional Monitoring Program for Trace Substances

DECISION ID	66650	Region 2
Suisun Bay		

Pollutant:	Chrysene (C1-C4)
Final Listing Decision:	Do Not List on 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision:	New Decision
Revision Status	Revised
Impairment from Pollutant or Pollution:	Pollutant

Regional Board Staff Conclusion:

This pollutant is being considered for placement on the CWA section 303(d) List under section 3.1 of the Listing Policy. Under section 3.1 a single line of evidence is necessary to assess listing status.

One line of evidence is available in the administrative record to assess this pollutant. Zero of thirty-seven samples exceed the guideline.

Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against placing this water segment-pollutant combination on the CWA section 303(d) List in the Water Quality Limited Segments category.

This conclusion is based on the staff findings that:

1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy.
2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy.
3. Zero of thirty-seven samples exceed the guideline and this does not exceed the allowable frequency listed in Table 3.1 of the Listing Policy.
4. Pursuant to section 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.

Regional Board Staff Decision Recommendation: After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be placed on the section 303(d) list because applicable water quality standards are not being exceeded.

Line of Evidence (LOE) for Decision ID 66650, Chrysene (C1-C4)
Suisun Bay

Region 2

LOE ID: 93351

Pollutant: Chrysene (C1-C4)
LOE Subgroup: Pollutant-Water
Matrix: Water
Fraction: Total

Beneficial Use: Commercial or recreational collection of fish, shellfish, or organisms

Number of Samples: 37
Number of Exceedances: 0

Data and Information Type: PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality: State Water Board staff assessed SFEI data for Suisun Bay to determine beneficial use support and results are as follows: 0 of 37 samples exceed the criterion for Chrysene.
Data Reference: [Regional Monitoring Program data, Feb. 1993-Sep. 2008](#)

SWAMP Data: Non-SWAMP

Water Quality Objective/Criterion: The Chrysene criteria for the protection of human health from consumption of organisms only is 0.049 ug/L (California Toxics Rule, 2000).
Objective/Criterion Reference: [Code of Federal Regulations 40 part 131.38 Establishment of numeric criteria for priority toxic pollutants for the State of California. 7/1/2011 Edition](#)

Evaluation Guideline:
Guideline Reference:

Spatial Representation: Data for this line of evidence for Suisun Bay was collected at 17 monitoring sites [Grizzly Bay - BF20, Suisun Bay - SU001W, Suisun Bay - SU002W, Suisun Bay - SU005W, Suisun Bay - SU009W, Suisun Bay - SU010W, Suisun Bay - SU012W, Suisun Bay - SU014W, Suisun Bay - SU019W, Suisun Bay - SU020W, Suisun Bay - SU021W, Suisun Bay - SU022W, Suisun Bay - SU023W, Suisun Bay - SU024W, Suisun Bay - SU025W, Suisun Bay - SU026W, Suisun Bay - SU028W]

Temporal Representation: Data was collected over the time period 3/5/1993-7/10/2008.
Environmental Conditions: Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information: The 1999 Quality Assurance Project Plan Regional Monitoring Program for Trace Substances was used.
QAPP Information Reference(s): [1999 Quality Assurance Project Plan Regional Monitoring Program for Trace Substances](#)

DECISION ID 66651
Suisun Bay

Region 2

Pollutant: Copper
Final Listing Decision: Do Not List on 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision: New Decision
Revision Status: Revised
Impairment from Pollutant or Pollution: Pollutant

Regional Board Staff Conclusion: This pollutant is being considered for placement on the CWA section 303(d) List under section 3.1 of the Listing Policy. Under section 3.1 a single line of evidence is necessary to assess listing status.

One line of evidence is available in the administrative record to assess this pollutant. Zero of ninety-four samples exceed the guideline.

Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against placing this water segment-pollutant combination on the CWA section 303(d) List in the Water Quality Limited Segments category.

This conclusion is based on the staff findings that:

1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy.
2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy.
3. Zero of ninety-four samples exceed the guideline and this does not exceed the allowable frequency listed in Table 3.1 of the Listing Policy.
4. Pursuant to section 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.

Regional Board Staff Decision Recommendation: After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be placed on the section 303(d) list because applicable water quality standards are not being exceeded.

**Line of Evidence (LOE) for Decision ID 66651, Copper
Suisun Bay**

Region 2

LOE ID:	93352
Pollutant:	Copper
LOE Subgroup:	Pollutant-Water
Matrix:	Water
Fraction:	Dissolved
Beneficial Use:	Estuarine Habitat
Number of Samples:	94
Number of Exceedances:	0
Data and Information Type:	PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality:	State Water Board staff assessed SFEI data for Suisun Bay to determine beneficial use support and results are as follows: 0 of 94 samples exceed the criterion for Copper.
Data Reference:	Regional Monitoring Program data, Feb. 1993-Sep. 2008
SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	According to table 3-3A, the Copper site-specific objective for Suisun Bay is 6 ug/L.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	
Guideline Reference:	
Spatial Representation:	Data for this line of evidence for Suisun Bay was collected at 25 monitoring sites [Pacheco Creek - BF10, Grizzly Bay - BF20, Honker Bay - BF40, Suisun Bay - SU001W, Suisun Bay - SU002W, Suisun Bay - SU003W, Suisun Bay - SU005W, Suisun Bay - SU009W, Suisun Bay - SU010W, Suisun Bay - SU012W, Suisun Bay - SU014W, Suisun Bay - SU015W, Suisun Bay - SU016W, Suisun Bay - SU017W, Suisun Bay - SU018W, Suisun Bay - SU019W, Suisun Bay - SU020W, Suisun Bay - SU021W, Suisun Bay - SU022W, Suisun Bay - SU023W, Suisun Bay - SU024W, Suisun Bay - SU025W, Suisun Bay - SU026W, Suisun Bay - SU028W, Suisun Bay - SU029W]
Temporal Representation:	Data was collected over the time period 3/4/1993-7/10/2008.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	The 1999 Quality Assurance Project Plan Regional Monitoring Program for Trace Substances was used.
QAPP Information Reference(s):	1999 Quality Assurance Project Plan Regional Monitoring Program for Trace Substances

DECISION ID	66653	Region 2
Suisun Bay		

Pollutant: Cyanide
Final Listing Decision: Do Not List on 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision: New Decision
Revision Status: Revised
Impairment from Pollutant or Pollution: Pollutant

Regional Board Staff Conclusion: This pollutant is being considered for placement on the CWA section 303(d) List under section 3.1 of the Listing Policy. Under section 3.1 a single line of evidence is necessary to assess listing status. Two lines of evidence are available in the administrative record to assess this pollutant. Zero of six samples exceed the guideline.

Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against placing this water segment-pollutant combination on the CWA section 303(d) List.

This conclusion is based on the staff findings that:

1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy.
2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy.
3. Zero of six samples exceed the guideline and this sample size is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating. A minimum of 16 samples is needed to determine if a beneficial use is fully supported using table 3.1.
4. Pursuant to SECTION 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.

Regional Board Staff Decision Recommendation: After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be placed on the section 303(d) list. The readily available data and information is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating.

Line of Evidence (LOE) for Decision ID 66653, Cyanide	Region 2
Suisun Bay	

LOE ID: 93353
Pollutant: Cyanide
LOE Subgroup: Pollutant-Water
Matrix: Water
Fraction: None
Beneficial Use: Estuarine Habitat
Number of Samples: 6
Number of Exceedances: 0
Data and Information Type: PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality: State Water Board staff assessed SFEI data for Suisun Bay to determine beneficial use support and results are as follows: 0 of 6 samples exceed the criterion for Cyanide.
Data Reference: [Regional Monitoring Program data, Feb. 1993-Sep. 2008](#)
SWAMP Data: Non-SWAMP
Water Quality Objective/Criterion: According to table 3-3C, the Cyanide site-specific objective for Suisun Bay is 2.9 ug/L.
Objective/Criterion Reference: [Water Quality Control Plan \(Basin Plan\) San Francisco Bay Basin \(Region 2\)](#)

Evaluation Guideline:
Guideline Reference:

Spatial Representation: Data for this line of evidence for Suisun Bay was collected at 2 monitoring sites [Pacheco Creek - BF10, Grizzly Bay - BF20]
Temporal Representation: Data was collected over the time period 3/4/1993-9/16/1993.
Environmental Conditions: Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information: The 1999 Quality Assurance Project Plan Regional Monitoring Program for Trace Substances was used.
QAPP Information Reference(s): [1999 Quality Assurance Project Plan Regional Monitoring Program for Trace Substances](#)

Line of Evidence (LOE) for Decision ID 66653, Cyanide
Suisun Bay

Region 2

LOE ID: 93354
Pollutant: Cyanide
LOE Subgroup: Pollutant-Water
Matrix: Water
Fraction: Total
Beneficial Use: Commercial or recreational collection of fish, shellfish, or organisms
Number of Samples: 6
Number of Exceedances: 0
Data and Information Type: PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality: State Water Board staff assessed SFEI data for Suisun Bay to determine beneficial use support and results are as follows: 0 of 6 samples exceed the criterion for Cyanide.
Data Reference: [Regional Monitoring Program data, Feb. 1993-Sep. 2008](#)
SWAMP Data: Non-SWAMP
Water Quality Objective/Criterion: The cyanide criteria for the protection of human health from consumption of organisms only is 220,000 ug/L (California Toxics Rule, 2000).
Objective/Criterion Reference: [Code of Federal Regulations 40 part 131.38 Establishment of numeric criteria for priority toxic pollutants for the State of California. 7/1/2011 Edition](#)
Evaluation Guideline:
Guideline Reference:
Spatial Representation: Data for this line of evidence for Suisun Bay was collected at 2 monitoring sites [Pacheco Creek - BF10, Grizzly Bay - BF20]
Temporal Representation: Data was collected over the time period 3/4/1993-9/16/1993.
Environmental Conditions: Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information: The 1999 Quality Assurance Project Plan Regional Monitoring Program for Trace Substances was used.
QAPP Information Reference(s): [1999 Quality Assurance Project Plan Regional Monitoring Program for Trace Substances](#)

DECISION ID 66655
Suisun Bay

Region 2

Pollutant: Endosulfan
Final Listing Decision: Do Not List on 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision: New Decision
Revision Status: Revised
Impairment from Pollutant or Pollution: Pollutant

Regional Board Staff Conclusion:

This pollutant is being considered for placement on the CWA section 303(d) List under section 3.1 of the Listing Policy. Under section 3.1 a single line of evidence is necessary to assess listing status.

Two lines of evidence are available in the administrative record to assess this pollutant. Zero of seventeen samples exceed the guideline.

Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against placing this water segment-pollutant combination on the CWA section 303(d) List in the Water Quality Limited Segments category.

This conclusion is based on the staff findings that:

1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy.
2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy.
3. Zero of seventeen samples exceed the guideline and this does not exceed the allowable frequency listed in Table 3.1 of the Listing Policy.
4. Pursuant to section 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.

Regional Board Staff Decision Recommendation:

After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be placed on the section 303(d) list because applicable water quality standards are not being exceeded.

**Line of Evidence (LOE) for Decision ID 66655, Endosulfan
Suisun Bay**

Region 2

LOE ID:	93358
Pollutant:	Endosulfan
LOE Subgroup:	Pollutant-Water
Matrix:	Water
Fraction:	Dissolved
Beneficial Use:	Estuarine Habitat
Number of Samples:	17
Number of Exceedances:	0
Data and Information Type:	PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality:	State Water Board staff assessed SFEI data for Suisun Bay to determine beneficial use support and results are as follows: 0 of 17 samples exceed the criterion for Endosulfan, Total.
Data Reference:	Regional Monitoring Program data, Feb. 1993-Sep. 2008
SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	The total Endosulfan criterion continuous concentration (expressed as a 4-day average) to protect aquatic life in saltwater is 0.0087 ug/L (California Toxics Rule, 2000).
Objective/Criterion Reference:	Code of Federal Regulations 40 part 131.38 Establishment of numeric criteria for priority toxic pollutants for the State of California. 7/1/2011 Edition
Evaluation Guideline:	
Guideline Reference:	
Spatial Representation:	Data for this line of evidence for Suisun Bay was collected at 2 monitoring sites [Grizzly Bay - BF20, Suisun Bay - SU018W]
Temporal Representation:	Data was collected over the time period 3/5/1993-8/9/2005.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	The 1999 Quality Assurance Project Plan Regional Monitoring Program for Trace Substances was used.
QAPP Information Reference(s):	1999 Quality Assurance Project Plan Regional Monitoring Program for Trace Substances

Line of Evidence (LOE) for Decision ID 66655, Endosulfan**Region 2****Suisun Bay**

LOE ID:	95139
Pollutant:	Endosulfan
LOE Subgroup:	Pollutant-Tissue
Matrix:	Tissue
Fraction:	Fish fillet
Beneficial Use:	Commercial or recreational collection of fish, shellfish, or organisms
Number of Samples:	1
Number of Exceedances:	0
Data and Information Type:	Fish tissue analysis
Data Used to Assess Water Quality:	Water Board staff assessed Regional Monitoring Program data for Suisun Bay to determine beneficial use support and results are as follows: 0 of 1 samples exceed the criterion for endosulfan. One sample was discarded for being non-detect, unquantifiable or the reporting limit exceeding the water quality objective.
Data Reference:	Regional Monitoring Program data, Feb. 1993-Sep. 2008
SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	Water Quality Control Plan for the San Francisco Bay Basin: Controllable water quality factors shall not cause a detrimental increase in concentrations of toxic substances found in bottom sediments or aquatic life. Effects on aquatic organisms, wildlife, and human health will be considered.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	The modified OEHHA Fish Contaminant Goal for endosulfan (I and II) in fish tissue is 13,000 ppb. This screening level assumes an average body weight of 70 kg and a consumption rate of 32 g/day. A cooking reduction factor of 1 is applied for skin-off fillets. (Klasing, S., and R. Brodberg, 2008; USEPA, 2000)
Guideline Reference:	Development of Fish Contaminant Goals and Advisory Tissue Levels for Common Contaminants in California Sport Fish: Chlordane, DDTs, Dieldrin, Methylmercury, PCBs, Selenium, and Toxaphene Guidance for Assessing Chemical Contaminant Data for Use In Fish Advisories Volume 1: Fish Sampling and Analysis
Spatial Representation:	The samples were collected at two sites in Suisun Bay.
Temporal Representation:	The samples were collected in June 1994 and June 1997.
Environmental Conditions:	
QAPP Information:	The 1999 Quality Assurance Project Plan Regional Monitoring Program for Trace Substances was used.
QAPP Information Reference(s):	1999 Quality Assurance Project Plan Regional Monitoring Program for Trace Substances

DECISION ID**66657****Region 2****Suisun Bay**

Pollutant:	Endosulfan sulfate
Final Listing Decision:	Do Not List on 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision:	New Decision
Revision Status	Revised
Impairment from Pollutant or Pollution:	Pollutant

Regional Board Staff

This pollutant is being considered for placement on the CWA section 303(d) List under section 3.1 of

Conclusion:	<p>the Listing Policy. Under section 3.1 a single line of evidence is necessary to assess listing status.</p> <p>One line of evidence is available in the administrative record to assess this pollutant. Zero of thirty-five samples exceed the guideline.</p> <p>Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against placing this water segment-pollutant combination on the CWA section 303(d) List in the Water Quality Limited Segments category.</p> <p>This conclusion is based on the staff findings that:</p> <ol style="list-style-type: none"> 1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy. 2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy. 3. Zero of thirty-five samples exceed the guideline and this does not exceed the allowable frequency listed in Table 3.1 of the Listing Policy. 4. Pursuant to section 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.
Regional Board Staff Decision Recommendation:	After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be placed on the section 303(d) list because applicable water quality standards are not being exceeded.

Line of Evidence (LOE) for Decision ID 66657, Endosulfan sulfate

Region 2

Suisun Bay

LOE ID:	93359
Pollutant:	Endosulfan sulfate
LOE Subgroup:	Pollutant-Water
Matrix:	Water
Fraction:	Total
Beneficial Use:	Commercial or recreational collection of fish, shellfish, or organisms
Number of Samples:	35
Number of Exceedances:	0
Data and Information Type:	PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality:	State Water Board staff assessed SFEI data for Suisun Bay to determine beneficial use support and results are as follows: 0 of 35 samples exceed the criterion for Endosulfan Sulfate.
Data Reference:	Regional Monitoring Program data, Feb. 1993-Sep. 2008
SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	The Endosulfan Sulfate criteria for the protection of human health from consumption of organisms only is 240 ug/L (California Toxics Rule, 2000).
Objective/Criterion Reference:	Code of Federal Regulations 40 part 131.38 Establishment of numeric criteria for priority toxic pollutants for the State of California. 7/1/2011 Edition
Evaluation Guideline:	
Guideline Reference:	
Spatial Representation:	Data for this line of evidence for Suisun Bay was collected at 17 monitoring sites [Grizzly Bay - BF20, Suisun Bay - SU001W, Suisun Bay - SU002W, Suisun Bay - SU003W, Suisun Bay - SU005W, Suisun Bay - SU009W, Suisun Bay - SU015W, Suisun Bay - SU016W, Suisun Bay - SU017W, Suisun Bay - SU018W, Suisun Bay - SU019W, Suisun Bay - SU020W, Suisun Bay - SU021W, Suisun Bay - SU022W, Suisun Bay - SU023W, Suisun Bay - SU024W, Suisun Bay - SU025W]
Temporal Representation:	Data was collected over the time period 4/27/1994-8/8/2007.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	The 1999 Quality Assurance Project Plan Regional Monitoring Program for Trace

DECISION ID	66658	Region 2
Suisun Bay		

Pollutant:	Endrin
Final Listing Decision:	Do Not List on 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision:	New Decision
Revision Status	Revised
Impairment from Pollutant or Pollution:	Pollutant

Regional Board Staff Conclusion: This pollutant is being considered for placement on the CWA section 303(d) List under section 3.1 of the Listing Policy. Under section 3.1 a single line of evidence is necessary to assess listing status.

Four lines of evidence are available in the administrative record to assess this pollutant. Zero of thirty-six samples exceed the guideline.

Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against placing this water segment-pollutant combination on the CWA section 303(d) List in the Water Quality Limited Segments category.

This conclusion is based on the staff findings that:

1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy.
2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy.
3. Zero of thirty-six samples exceed the guideline and this does not exceed the allowable frequency listed in Table 3.1 of the Listing Policy.
4. Pursuant to section 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.

Regional Board Staff Decision Recommendation: After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be placed on the section 303(d) list because applicable water quality standards are not being exceeded.

Line of Evidence (LOE) for Decision ID 66658, Endrin	Region 2
Suisun Bay	

LOE ID:	93361
Pollutant:	Endrin
LOE Subgroup:	Pollutant-Water
Matrix:	Water
Fraction:	Total
Beneficial Use:	Commercial or recreational collection of fish, shellfish, or organisms
Number of Samples:	36
Number of Exceedances:	0
Data and Information Type:	PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality:	State Water Board staff assessed SFEI data for Suisun Bay to determine beneficial use support and results are as follows: 0 of 36 samples exceed the criterion for Endrin.
Data Reference:	Regional Monitoring Program data, Feb. 1993-Sep. 2008
SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	The Endrin criteria for the protection of human health from consumption of organisms only

Objective/Criterion Reference:	is 0.81ug/L (California Toxics Rule, 2000). Code of Federal Regulations 40 part 131.38 Establishment of numeric criteria for priority toxic pollutants for the State of California. 7/1/2011 Edition
Evaluation Guideline:	
Guideline Reference:	
Spatial Representation:	Data for this line of evidence for Suisun Bay was collected at 19 monitoring sites [Grizzly Bay - BF20, Suisun Bay - SU001W, Suisun Bay - SU002W, Suisun Bay - SU003W, Suisun Bay - SU009W, Suisun Bay - SU010W, Suisun Bay - SU012W, Suisun Bay - SU014W, Suisun Bay - SU015W, Suisun Bay - SU016W, Suisun Bay - SU017W, Suisun Bay - SU018W, Suisun Bay - SU019W, Suisun Bay - SU020W, Suisun Bay - SU021W, Suisun Bay - SU022W, Suisun Bay - SU023W, Suisun Bay - SU024W, Suisun Bay - SU025W]
Temporal Representation:	Data was collected over the time period 8/23/1994-8/8/2007.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	The 1999 Quality Assurance Project Plan Regional Monitoring Program for Trace Substances was used.
QAPP Information Reference(s):	1999 Quality Assurance Project Plan Regional Monitoring Program for Trace Substances

Line of Evidence (LOE) for Decision ID 66658, Endrin

Region 2

Suisun Bay

LOE ID:	93360
Pollutant:	Endrin
LOE Subgroup:	Pollutant-Water
Matrix:	Water
Fraction:	Dissolved
Beneficial Use:	Estuarine Habitat
Number of Samples:	15
Number of Exceedances:	0
Data and Information Type:	PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality:	State Water Board staff assessed SFEI data for Suisun Bay to determine beneficial use support and results are as follows: 0 of 15 samples exceed the criterion for Endrin.
Data Reference:	Regional Monitoring Program data, Feb. 1993-Sep. 2008
SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	The Endrin criterion continuous concentration (expressed as a 4-day average) to protect aquatic life in saline water is 0.0023 ug/L (California Toxics Rule, 2000).
Objective/Criterion Reference:	Code of Federal Regulations 40 part 131.38 Establishment of numeric criteria for priority toxic pollutants for the State of California. 7/1/2011 Edition
Evaluation Guideline:	
Guideline Reference:	
Spatial Representation:	Data for this line of evidence for Suisun Bay was collected at 4 monitoring sites [Suisun Bay - SU015W, Suisun Bay - SU003W, Grizzly Bay - BF20, Suisun Bay - SU018W]
Temporal Representation:	Data was collected over the time period 8/23/1994-8/9/2005.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	The 1999 Quality Assurance Project Plan Regional Monitoring Program for Trace Substances was used.
QAPP Information Reference(s):	1999 Quality Assurance Project Plan Regional Monitoring Program for Trace Substances

Line of Evidence (LOE) for Decision ID 66658, Endrin

Region 2

Suisun Bay

LOE ID:	95115
Pollutant:	Endrin
LOE Subgroup:	Pollutant-Tissue
Matrix:	Tissue
Fraction:	Fish fillet
Beneficial Use:	Commercial or recreational collection of fish, shellfish, or organisms
Number of Samples:	2
Number of Exceedances:	0
Data and Information Type:	Fish tissue analysis
Data Used to Assess Water Quality:	Water Board staff assessed Regional Monitoring Program data for Suisun Bay to determine beneficial use support and results are as follows: 0 of 2 samples exceed the criterion for endrin. No samples were discarded for being non-detect, unquantifiable or the reporting limit exceeding the water quality objective.
Data Reference:	Regional Monitoring Program data, Feb. 1993-Sep. 2008
SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	Water Quality Control Plan for the San Francisco Bay Basin: Controllable water quality factors shall not cause a detrimental increase in concentrations of toxic substances found in bottom sediments or aquatic life. Effects on aquatic organisms, wildlife, and human health will be considered.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	The modified OEHHA Fish Contaminant Goal for endrin in fish tissue is 660 ppb. This screening level assumes an average body weight of 70 kg and a consumption rate of 32 g/day. A cooking reduction factor of 1 is applied for skin-off fillets. (Klasing, S., and R. Brodberg, 2008; USEPA, 2000)
Guideline Reference:	Development of Fish Contaminant Goals and Advisory Tissue Levels for Common Contaminants in California Sport Fish: Chlordane, DDTs, Dieldrin, Methylmercury, PCBs, Selenium, and Toxaphene Guidance for Assessing Chemical Contaminant Data for Use In Fish Advisories Volume 1: Fish Sampling and Analysis
Spatial Representation:	The samples were collected at two sites in Suisun Bay.
Temporal Representation:	The samples were collected in June 1994 and June 1997.
Environmental Conditions:	
QAPP Information:	The 1999 Quality Assurance Project Plan Regional Monitoring Program for Trace Substances was used.
QAPP Information Reference(s):	1999 Quality Assurance Project Plan Regional Monitoring Program for Trace Substances

Line of Evidence (LOE) for Decision ID 66658, Endrin

Region 2

Suisun Bay

LOE ID:	93660
Pollutant:	Endrin
LOE Subgroup:	Pollutant-Tissue
Matrix:	Tissue
Fraction:	Shellfish
Beneficial Use:	Commercial or recreational collection of fish, shellfish, or organisms
Number of Samples:	9
Number of Exceedances:	0
Data and Information Type:	Shellfish surveys
Data Used to Assess Water Quality:	None of the 9 samples exceeded the guideline. All composite samples were comprised of Corbicula fluminea except for one composite comprised of Crassostrea gigas. Data were

reported on a dry weight basis and were converted to a wet weight basis by multiplying the dry-weight concentration by a factor of 1 minus the percentage of moisture content expressed as a decimal.

Data Reference:

[Regional Monitoring Program data, Feb. 1993-Sep. 2008](#)

SWAMP Data:

Non-SWAMP

Water Quality Objective/Criterion:

Water Quality Control Plan for the San Francisco Bay Basin: Controllable water quality factors shall not cause a detrimental increase in concentrations of toxic substances found in bottom sediments or aquatic life. Effects on aquatic organisms, wildlife, and human health will be considered.

Objective/Criterion Reference:

[Water Quality Control Plan \(Basin Plan\) San Francisco Bay Basin \(Region 2\)](#)

Evaluation Guideline:

The modified OEHHA Fish Contaminant Goal for endrin in shellfish tissue is 1,000 ppb. This screening level assumes an average body weight of 70 kg and a consumption rate of 21 g/day. (Brodberg, R.K., and G.A. Pollock, 1999; Klasing, S., and R. Brodberg, 2008; USEPA, 2000)

Guideline Reference:

[Prevalence of Selected Target Chemical Contaminants in Sport Fish From Two California Lakes: Public health designed screening study. Sacramento, CA: Office of Environmental Health Hazard Assessment](#)
[Development of Fish Contaminant Goals and Advisory Tissue Levels for Common Contaminants in California Sport Fish: Chlordane, DDTs, Dieldrin, Methylmercury, PCBs, Selenium, and Toxaphene](#)
[Guidance for Assessing Chemical Contaminant Data for Use In Fish Advisories Volume 1: Fish Sampling and Analysis](#)

Spatial Representation:

Samples were collected at the following station: BF20 - Grizzly Bay.

Temporal Representation:

Samples were generally collected in spring and fall seasons from years 1993 - 1997.

Environmental Conditions:

QAPP Information:

1999 Quality Assurance Project Plan Regional Monitoring Program for Trace Substances.

QAPP Information Reference(s):

[1999 Quality Assurance Project Plan Regional Monitoring Program for Trace Substances](#)

DECISION ID

66659

Region 2

Suisun Bay

Pollutant:

Fluoranthene

Final Listing Decision:

Do Not List on 303(d) list (TMDL required list)

Last Listing Cycle's Final

New Decision

Listing Decision:

Revision Status

Revised

Impairment from Pollutant or

Pollutant

Pollution:

Regional Board Staff

Conclusion:

This pollutant is being considered for placement on the CWA section 303(d) List under section 3.1 of the Listing Policy. Under section 3.1 a single line of evidence is necessary to assess listing status.

Two lines of evidence are available in the administrative record to assess this pollutant. Zero of forty-two samples exceed the guideline.

Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against placing this water segment-pollutant combination on the CWA section 303(d) List in the Water Quality Limited Segments category.

This conclusion is based on the staff findings that:

1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy.
2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy.
3. Zero of forty-two samples exceed the guideline and this does not exceed the allowable frequency listed in Table 3.1 of the Listing Policy.
4. Pursuant to section 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.

Regional Board Staff Decision Recommendation: After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be placed on the section 303(d) list because applicable water quality standards are not being exceeded.

**Line of Evidence (LOE) for Decision ID 66659, Fluoranthene
Suisun Bay**

Region 2

LOE ID: 93362

Pollutant: Fluoranthene
LOE Subgroup: Pollutant-Water
Matrix: Water
Fraction: Dissolved

Beneficial Use: Estuarine Habitat

Number of Samples: 19
Number of Exceedances: 0

Data and Information Type: PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality: State Water Board staff assessed SFEI data for Suisun Bay to determine beneficial use support and results are as follows: 0 of 19 samples exceed the criterion for Fluoranthene.
Data Reference: [Regional Monitoring Program data, Feb. 1993-Sep. 2008](#)

SWAMP Data: Non-SWAMP

Water Quality Objective/Criterion: No individual pesticide or combination of pesticides shall be present in concentrations that adversely affect beneficial uses.
Objective/Criterion Reference: [Water Quality Control Plan \(Basin Plan\) San Francisco Bay Basin \(Region 2\)](#)

Evaluation Guideline: The available data for Fluoranthene indicate that chronic toxicity to saltwater aquatic life occurs at concentrations as low as 16 ug/L and would occur at lower concentrations among species that are more sensitive than those tested. (USEPA Gold Book - EPA 440/5-86-001)
Guideline Reference: [Quality Criteria for Water 1986. United States Environmental Protection Agency. Office of Water. Regulations and Standards. Washington D.C. EPA 440/5-86-001.](#)

Spatial Representation: Data for this line of evidence for Suisun Bay was collected at 4 monitoring sites [Suisun Bay - SU015W, Suisun Bay - SU003W, Grizzly Bay - BF20, Suisun Bay - SU018W]
Temporal Representation: Data was collected over the time period 3/5/1993-8/9/2005.
Environmental Conditions: Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information: The 1999 Quality Assurance Project Plan Regional Monitoring Program for Trace Substances was used.
QAPP Information Reference(s): [1999 Quality Assurance Project Plan Regional Monitoring Program for Trace Substances](#)

**Line of Evidence (LOE) for Decision ID 66659, Fluoranthene
Suisun Bay**

Region 2

LOE ID: 93363

Pollutant: Fluoranthene
LOE Subgroup: Pollutant-Water
Matrix: Water
Fraction: Total

Beneficial Use: Commercial or recreational collection of fish, shellfish, or organisms

Number of Samples: 42
Number of Exceedances: 0

Data and Information Type:	PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality:	State Water Board staff assessed SFEI data for Suisun Bay to determine beneficial use support and results are as follows: 0 of 42 samples exceed the criterion for Fluoranthene.
Data Reference:	Regional Monitoring Program data, Feb. 1993-Sep. 2008
SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	The Fluoranthene criteria for the protection of human health from consumption of organisms only is 370 ug/L (California Toxics Rule, 2000).
Objective/Criterion Reference:	Code of Federal Regulations 40 part 131.38 Establishment of numeric criteria for priority toxic pollutants for the State of California. 7/1/2011 Edition
Evaluation Guideline:	
Guideline Reference:	
Spatial Representation:	Data for this line of evidence for Suisun Bay was collected at 23 monitoring sites [Grizzly Bay - BF20, Suisun Bay - SU001W, Suisun Bay - SU002W, Suisun Bay - SU003W, Suisun Bay - SU005W, Suisun Bay - SU009W, Suisun Bay - SU010W, Suisun Bay - SU012W, Suisun Bay - SU014W, Suisun Bay - SU015W, Suisun Bay - SU016W, Suisun Bay - SU017W, Suisun Bay - SU018W, Suisun Bay - SU019W, Suisun Bay - SU020W, Suisun Bay - SU021W, Suisun Bay - SU022W, Suisun Bay - SU023W, Suisun Bay - SU024W, Suisun Bay - SU025W, Suisun Bay - SU026W, Suisun Bay - SU028W, Suisun Bay - SU029W]
Temporal Representation:	Data was collected over the time period 3/5/1993-7/10/2008.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	The 1999 Quality Assurance Project Plan Regional Monitoring Program for Trace Substances was used.
QAPP Information Reference(s):	1999 Quality Assurance Project Plan Regional Monitoring Program for Trace Substances

DECISION ID	66660	Region 2
Suisun Bay		

Pollutant:	Fluorene
Final Listing Decision:	Do Not List on 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision:	New Decision
Revision Status	Revised
Impairment from Pollutant or Pollution:	Pollutant

Regional Board Staff Conclusion: This pollutant is being considered for placement on the CWA section 303(d) List under section 3.1 of the Listing Policy. Under section 3.1 a single line of evidence is necessary to assess listing status.

One line of evidence is available in the administrative record to assess this pollutant. Zero of twenty-eight samples exceed the guideline.

Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against placing this water segment-pollutant combination on the CWA section 303(d) List in the Water Quality Limited Segments category.

This conclusion is based on the staff findings that:

1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy.
2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy.
3. Zero of twenty-eight samples exceed the guideline and this does not exceed the allowable frequency listed in Table 3.1 of the Listing Policy.
4. Pursuant to section 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.

Regional Board Staff Decision Recommendation: After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be placed on the section 303(d) list because applicable water quality standards are not being exceeded.

Line of Evidence (LOE) for Decision ID 66660, Fluorene**Region 2****Suisun Bay**

LOE ID:	93364
Pollutant:	Fluorene
LOE Subgroup:	Pollutant-Water
Matrix:	Water
Fraction:	Total
Beneficial Use:	Commercial or recreational collection of fish, shellfish, or organisms
Number of Samples:	28
Number of Exceedances:	0
Data and Information Type:	PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality:	State Water Board staff assessed SFEI data for Suisun Bay to determine beneficial use support and results are as follows: 0 of 28 samples exceed the criterion for Fluorene.
Data Reference:	Regional Monitoring Program data, Feb. 1993-Sep. 2008
SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	The Fluorene criteria for the protection of human health from consumption of organisms only is 14,000 ug/L (California Toxics Rule, 2000).
Objective/Criterion Reference:	Code of Federal Regulations 40 part 131.38 Establishment of numeric criteria for priority toxic pollutants for the State of California. 7/1/2011 Edition
Evaluation Guideline:	
Guideline Reference:	
Spatial Representation:	Data for this line of evidence for Suisun Bay was collected at 17 monitoring sites [Grizzly Bay - BF20, Suisun Bay - SU001W, Suisun Bay - SU002W, Suisun Bay - SU003W, Suisun Bay - SU005W, Suisun Bay - SU009W, Suisun Bay - SU012W, Suisun Bay - SU014W, Suisun Bay - SU019W, Suisun Bay - SU020W, Suisun Bay - SU021W, Suisun Bay - SU022W, Suisun Bay - SU023W, Suisun Bay - SU024W, Suisun Bay - SU025W, Suisun Bay - SU026W, Suisun Bay - SU028W]
Temporal Representation:	Data was collected over the time period 2/13/1996-7/10/2008.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	The 1999 Quality Assurance Project Plan Regional Monitoring Program for Trace Substances was used.
QAPP Information Reference(s):	1999 Quality Assurance Project Plan Regional Monitoring Program for Trace Substances

DECISION ID**66661****Region 2****Suisun Bay**

Pollutant:	Heptachlor
Final Listing Decision:	Do Not List on 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision:	New Decision
Revision Status	Revised
Impairment from Pollutant or Pollution:	Pollutant
Regional Board Staff Conclusion:	<p>This pollutant is being considered for placement on the CWA section 303(d) List under section 3.1 of the Listing Policy. Under section 3.1 a single line of evidence is necessary to assess listing status.</p> <p>Two lines of evidence are available in the administrative record to assess this pollutant. Zero of twenty-six samples exceed the guideline.</p>

Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against placing this water segment-pollutant combination on the CWA section 303(d) List in the Water Quality Limited Segments category.

This conclusion is based on the staff findings that:

1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy.
2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy.
3. Zero of twenty-six samples exceed the guideline and this does not exceed the allowable frequency listed in Table 3.1 of the Listing Policy.
4. Pursuant to section 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.

Regional Board Staff Decision Recommendation: After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be placed on the section 303(d) list because applicable water quality standards are not being exceeded.

**Line of Evidence (LOE) for Decision ID 66661, Heptachlor
Suisun Bay**

Region 2

LOE ID:	93366
Pollutant:	Heptachlor
LOE Subgroup:	Pollutant-Water
Matrix:	Water
Fraction:	Total
Beneficial Use:	Commercial or recreational collection of fish, shellfish, or organisms
Number of Samples:	26
Number of Exceedances:	0
Data and Information Type:	PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality:	State Water Board staff assessed SFEI data for Suisun Bay to determine beneficial use support and results are as follows: 0 of 26 samples exceed the criterion for Heptachlor.
Data Reference:	Regional Monitoring Program data, Feb. 1993-Sep. 2008
SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	The Heptachlor criteria for the protection of human health from consumption of organisms only is 0.00021 ug/L (California Toxics Rule, 2000).
Objective/Criterion Reference:	Code of Federal Regulations 40 part 131.38 Establishment of numeric criteria for priority toxic pollutants for the State of California. 7/1/2011 Edition
Evaluation Guideline:	
Guideline Reference:	
Spatial Representation:	Data for this line of evidence for Suisun Bay was collected at 9 monitoring sites [Grizzly Bay - BF20, Suisun Bay - SU001W, Suisun Bay - SU002W, Suisun Bay - SU003W, Suisun Bay - SU005W, Suisun Bay - SU012W, Suisun Bay - SU014W, Suisun Bay - SU019W, Suisun Bay - SU021W]
Temporal Representation:	Data was collected over the time period 4/27/1994-8/25/2006.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	The 1999 Quality Assurance Project Plan Regional Monitoring Program for Trace Substances was used.
QAPP Information Reference(s):	1999 Quality Assurance Project Plan Regional Monitoring Program for Trace Substances

**Line of Evidence (LOE) for Decision ID 66661, Heptachlor
Suisun Bay**

Region 2

LOE ID: 93365

Pollutant: Heptachlor
 LOE Subgroup: Pollutant-Water
 Matrix: Water
 Fraction: Dissolved

Beneficial Use: Estuarine Habitat

Number of Samples: 14
 Number of Exceedances: 0

Data and Information Type: PHYSICAL/CHEMICAL MONITORING
 Data Used to Assess Water Quality: State Water Board staff assessed SFEI data for Suisun Bay to determine beneficial use support and results are as follows: 0 of 14 samples exceed the criterion for Heptachlor.
 Data Reference: [Regional Monitoring Program data, Feb. 1993-Sep. 2008](#)

SWAMP Data: Non-SWAMP

Water Quality Objective/Criterion: The Heptachlor criterion continuous concentration (expressed as a 4-day average) to protect aquatic life in saline water is 0.0036 ug/L (California Toxics Rule, 2000).
 Objective/Criterion Reference: [Code of Federal Regulations 40 part 131.38 Establishment of numeric criteria for priority toxic pollutants for the State of California. 7/1/2011 Edition](#)

Evaluation Guideline:
 Guideline Reference:

Spatial Representation: Data for this line of evidence for Suisun Bay was collected at 2 monitoring sites [Suisun Bay - SU003W, Grizzly Bay - BF20]

Temporal Representation: Data was collected over the time period 4/27/1994-7/29/2002.

Environmental Conditions: Staff is not aware of any special conditions that might affect interpretation of the data.

QAPP Information: The 1999 Quality Assurance Project Plan Regional Monitoring Program for Trace Substances was used.

QAPP Information Reference(s): [1999 Quality Assurance Project Plan Regional Monitoring Program for Trace Substances](#)

DECISION ID 66662 Region 2	
Suisun Bay	
Pollutant: Final Listing Decision: Last Listing Cycle's Final Listing Decision: Revision Status Impairment from Pollutant or Pollution:	Heptachlor epoxide Do Not List on 303(d) list (TMDL required list) New Decision Revised Pollutant
Regional Board Staff Conclusion:	<p>This pollutant is being considered for placement on the CWA section 303(d) List under section 3.1 of the Listing Policy. Under section 3.1 a single line of evidence is necessary to assess listing status.</p> <p>Four lines of evidence are available in the administrative record to assess this pollutant. One of thirty-three samples exceed the guideline.</p> <p>Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against placing this water segment-pollutant combination on the CWA section 303(d) List in the Water Quality Limited Segments category.</p> <p>This conclusion is based on the staff findings that:</p> <ol style="list-style-type: none"> 1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy. 2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy. 3. One of thirty-three samples exceed the guideline and this does not exceed the allowable frequency listed in Table 3.1 of the Listing Policy.

4. Pursuant to section 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.

Regional Board Staff Decision Recommendation: After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be placed on the section 303(d) list because applicable water quality standards are not being exceeded.

**Line of Evidence (LOE) for Decision ID 66662, Heptachlor epoxide
Suisun Bay**

Region 2

LOE ID:	95093
Pollutant:	Heptachlor epoxide
LOE Subgroup:	Pollutant-Tissue
Matrix:	Tissue
Fraction:	Fish fillet
Beneficial Use:	Commercial or recreational collection of fish, shellfish, or organisms
Number of Samples:	2
Number of Exceedances:	0
Data and Information Type:	Fish tissue analysis
Data Used to Assess Water Quality:	Water Board staff assessed Regional Monitoring Program data for Suisun Bay to determine beneficial use support and results are as follows: 0 of 2 samples exceed the criterion for Heptachlor epoxide. No samples were discarded for being non-detect, unquantifiable or the reporting limit exceeding the water quality objective.
Data Reference:	Regional Monitoring Program data, Feb. 1993-Sep. 2008
SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	Water Quality Control Plan for the San Francisco Bay Basin: Controllable water quality factors shall not cause a detrimental increase in concentrations of toxic substances found in bottom sediments or aquatic life. Effects on aquatic organisms, wildlife, and human health will be considered.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	The modified OEHHA Fish Contaminant Goal for heptachlor epoxide in fish tissue is 0.93 ppb. This screening level assumes an average body weight of 70 kg and a consumption rate of 32 g/day for a 30 year exposure over a 70-year lifetime. This constituent is a carcinogen therefore the risk level is set to one in a million. A cooking reduction factor of 1 is applied for skin-off fillets. (Klasing, S., and R. Brodberg, 2008; OEHHA, 1999)
Guideline Reference:	Development of Fish Contaminant Goals and Advisory Tissue Levels for Common Contaminants in California Sport Fish: Chlordane, DDTs, Dieldrin, Methylmercury, PCBs, Selenium, and Toxaphene Public Health Goal for Heptachlor and Heptachlor Epoxide in Drinking Water
Spatial Representation:	The samples were collected at two sites in Suisun Bay.
Temporal Representation:	The samples were collected in June 1994 and June 1997.
Environmental Conditions:	
QAPP Information:	The 1999 Quality Assurance Project Plan Regional Monitoring Program for Trace Substances was used.
QAPP Information Reference(s):	1999 Quality Assurance Project Plan Regional Monitoring Program for Trace Substances

**Line of Evidence (LOE) for Decision ID 66662, Heptachlor epoxide
Suisun Bay**

Region 2

LOE ID:	93661
Pollutant:	Heptachlor epoxide

LOE Subgroup:	Pollutant-Tissue
Matrix:	Tissue
Fraction:	Shellfish
Beneficial Use:	Commercial or recreational collection of fish, shellfish, or organisms
Number of Samples:	9
Number of Exceedances:	0
Data and Information Type:	Shellfish surveys
Data Used to Assess Water Quality:	None of the 9 samples exceeded the guideline. All composite samples were comprised of Corbicula fluminea except for one composite comprised of Crassostrea gigas. Data were reported on a dry weight basis and were converted to a wet weight basis by multiplying the dry-weight concentration by a factor of 1 minus the percentage of moisture content expressed as a decimal.
Data Reference:	Regional Monitoring Program data, Feb. 1993-Sep. 2008
SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	Water Quality Control Plan for the San Francisco Bay Basin: Controllable water quality factors shall not cause a detrimental increase in concentrations of toxic substances found in bottom sediments or aquatic life. Effects on aquatic organisms, wildlife, and human health will be considered.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	The modified OEHHA Fish Contaminant Goal for heptachlor epoxide in shellfish tissue is 1.4 ppb. This screening level assumes an average body weight of 70 kg and a consumption rate of 21 g/day for a 30 year exposure over a 70-year lifetime. This constituent is a carcinogen therefore the risk level is set to one in a million. (Brodberg, R.K., and G.A. Pollock, 1999; Klasing, S., and R. Brodberg, 2008; OEHHA, 1999)
Guideline Reference:	Prevalence of Selected Target Chemical Contaminants in Sport Fish From Two California Lakes: Public health designed screening study. Sacramento, CA: Office of Environmental Health Hazard Assessment Development of Fish Contaminant Goals and Advisory Tissue Levels for Common Contaminants in California Sport Fish: Chlordane, DDTs, Dieldrin, Methylmercury, PCBs, Selenium, and Toxaphene Public Health Goal for Heptachlor and Heptachlor Epoxide in Drinking Water
Spatial Representation:	Samples were collected at the following station: BF20 - Grizzly Bay.
Temporal Representation:	Samples were generally collected in spring and fall seasons from years 1993 - 1997.
Environmental Conditions:	
QAPP Information:	1999 Quality Assurance Project Plan Regional Monitoring Program for Trace Substances.
QAPP Information Reference(s):	1999 Quality Assurance Project Plan Regional Monitoring Program for Trace Substances

Line of Evidence (LOE) for Decision ID 66662, Heptachlor epoxide

Region 2

Suisun Bay

LOE ID:	93367
Pollutant:	Heptachlor epoxide
LOE Subgroup:	Pollutant-Water
Matrix:	Water
Fraction:	Dissolved
Beneficial Use:	Estuarine Habitat
Number of Samples:	17
Number of Exceedances:	0
Data and Information Type:	PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality:	State Water Board staff assessed SFEI data for Suisun Bay to determine beneficial use support and results are as follows: 0 of 17 samples exceed the criterion for Heptachlor

Data Reference:	Epoxide. Regional Monitoring Program data, Feb. 1993-Sep. 2008
SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	The Heptachlor Epoxide criterion continuous concentration (expressed as a 4-day average) to protect aquatic life in saline water is 0.0036 ug/L (California Toxics Rule, 2000).
Objective/Criterion Reference:	Code of Federal Regulations 40 part 131.38 Establishment of numeric criteria for priority toxic pollutants for the State of California. 7/1/2011 Edition
Evaluation Guideline:	
Guideline Reference:	
Spatial Representation:	Data for this line of evidence for Suisun Bay was collected at 4 monitoring sites [Suisun Bay - SU015W, Suisun Bay - SU003W, Grizzly Bay - BF20, Suisun Bay - SU018W]
Temporal Representation:	Data was collected over the time period 2/8/1994-8/9/2005.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	The 1999 Quality Assurance Project Plan Regional Monitoring Program for Trace Substances was used.
QAPP Information Reference(s):	1999 Quality Assurance Project Plan Regional Monitoring Program for Trace Substances

Line of Evidence (LOE) for Decision ID 66662, Heptachlor epoxide

Region 2

Suisun Bay

LOE ID:	93368
Pollutant:	Heptachlor epoxide
LOE Subgroup:	Pollutant-Water
Matrix:	Water
Fraction:	Total
Beneficial Use:	Commercial or recreational collection of fish, shellfish, or organisms
Number of Samples:	33
Number of Exceedances:	1
Data and Information Type:	PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality:	State Water Board staff assessed SFEI data for Suisun Bay to determine beneficial use support and results are as follows: 1 of 33 samples exceed the criterion for Heptachlor Epoxide.
Data Reference:	Regional Monitoring Program data, Feb. 1993-Sep. 2008
SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	The Heptachlor Epoxide criteria for the protection of human health from consumption of organisms only is 0.00011 ug/L (California Toxics Rule, 2000).
Objective/Criterion Reference:	Code of Federal Regulations 40 part 131.38 Establishment of numeric criteria for priority toxic pollutants for the State of California. 7/1/2011 Edition
Evaluation Guideline:	
Guideline Reference:	
Spatial Representation:	Data for this line of evidence for Suisun Bay was collected at 15 monitoring sites [Grizzly Bay - BF20, Suisun Bay - SU009W, Suisun Bay - SU012W, Suisun Bay - SU014W, Suisun Bay - SU015W, Suisun Bay - SU016W, Suisun Bay - SU017W, Suisun Bay - SU018W, Suisun Bay - SU019W, Suisun Bay - SU020W, Suisun Bay - SU021W, Suisun Bay - SU022W, Suisun Bay - SU023W, Suisun Bay - SU024W, Suisun Bay - SU025W]
Temporal Representation:	Data was collected over the time period 2/8/1994-8/8/2007.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	The 1999 Quality Assurance Project Plan Regional Monitoring Program for Trace Substances was used.

DECISION ID	66663	Region 2
Suisun Bay		

Pollutant: Hexachlorobenzene/ HCB
Final Listing Decision: Do Not List on 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision: New Decision
Revision Status: Revised
Impairment from Pollutant or Pollution: Pollutant

Regional Board Staff Conclusion: This pollutant is being considered for placement on the CWA section 303(d) List under section 3.1 of the Listing Policy. Under section 3.1 a single line of evidence is necessary to assess listing status.

Three lines of evidence are available in the administrative record to assess this pollutant. Zero of thirty-five samples exceed the guideline.

Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against placing this water segment-pollutant combination on the CWA section 303(d) List in the Water Quality Limited Segments category.

This conclusion is based on the staff findings that:

1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy.
2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy.
3. Zero of thirty-five samples exceed the guideline and this does not exceed the allowable frequency listed in Table 3.1 of the Listing Policy.
4. Pursuant to section 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.

Regional Board Staff Decision Recommendation: After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be placed on the section 303(d) list because applicable water quality standards are not being exceeded.

Line of Evidence (LOE) for Decision ID 66663, Hexachlorobenzene/ HCB	Region 2
Suisun Bay	

LOE ID: 93369

Pollutant: Hexachlorobenzene/ HCB
LOE Subgroup: Pollutant-Water
Matrix: Water
Fraction: Total

Beneficial Use: Commercial or recreational collection of fish, shellfish, or organisms

Number of Samples: 35
Number of Exceedances: 0

Data and Information Type: PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality: State Water Board staff assessed SFEI data for Suisun Bay to determine beneficial use support and results are as follows: 0 of 35 samples exceed the criterion for Hexachlorobenzene.

Data Reference: [Regional Monitoring Program data, Feb. 1993-Sep. 2008](#)

SWAMP Data: Non-SWAMP

Water Quality Objective/Criterion: The Hexachlorobenzene criteria for the protection of human health from consumption of

Objective/Criterion Reference: organisms only is 0.00077 ug/L (California Toxics Rule, 2000).
[Code of Federal Regulations 40 part 131.38 Establishment of numeric criteria for priority toxic pollutants for the State of California. 7/1/2011 Edition](#)

Evaluation Guideline:

Guideline Reference:

Spatial Representation: Data for this line of evidence for Suisun Bay was collected at 16 monitoring sites [Grizzly Bay - BF20, Suisun Bay - SU009W, Suisun Bay - SU010W, Suisun Bay - SU012W, Suisun Bay - SU014W, Suisun Bay - SU015W, Suisun Bay - SU016W, Suisun Bay - SU017W, Suisun Bay - SU018W, Suisun Bay - SU019W, Suisun Bay - SU020W, Suisun Bay - SU021W, Suisun Bay - SU022W, Suisun Bay - SU023W, Suisun Bay - SU024W, Suisun Bay - SU025W]

Temporal Representation: Data was collected over the time period 3/5/1993-8/8/2007.

Environmental Conditions: Staff is not aware of any special conditions that might affect interpretation of the data.

QAPP Information: The 1999 Quality Assurance Project Plan Regional Monitoring Program for Trace Substances was used.

QAPP Information Reference(s): [1999 Quality Assurance Project Plan Regional Monitoring Program for Trace Substances](#)

Line of Evidence (LOE) for Decision ID 66663, Hexachlorobenzene/ HCB

Region 2

Suisun Bay

LOE ID: 93662

Pollutant: Hexachlorobenzene/ HCB

LOE Subgroup: Pollutant-Tissue

Matrix: Tissue

Fraction: Shellfish

Beneficial Use: Commercial or recreational collection of fish, shellfish, or organisms

Number of Samples: 10

Number of Exceedances: 0

Data and Information Type: Shellfish surveys

Data Used to Assess Water Quality: None of the 10 samples exceeded the guideline. All composite samples were comprised of *Corbicula fluminea* except for one composite comprised of *Crassostrea gigas*. Data were reported on a dry weight basis and were converted to a wet weight basis by multiplying the dry-weight concentration by a factor of 1 minus the percentage of moisture content expressed as a decimal.

Data Reference: [Regional Monitoring Program data, Feb. 1993-Sep. 2008](#)

SWAMP Data: Non-SWAMP

Water Quality Objective/Criterion: Water Quality Control Plan for the San Francisco Bay Basin: Controllable water quality factors shall not cause a detrimental increase in concentrations of toxic substances found in bottom sediments or aquatic life. Effects on aquatic organisms, wildlife, and human health will be considered.

Objective/Criterion Reference: [Water Quality Control Plan \(Basin Plan\) San Francisco Bay Basin \(Region 2\)](#)

Evaluation Guideline: The modified OEHHA Fish Contaminant Goal for hexachlorobenzene in shellfish tissue is 4.3 ppb. This screening level assumes an average body weight of 70 kg and a consumption rate of 21 g/day for a 30 year exposure over a 70-year lifetime. This constituent is a carcinogen therefore the risk level is set to one in a million. (Brodberg, R.K., and G.A. Pollock, 1999; Klasing, S., and R. Brodberg, 2008; OEHHA, 2005)

Guideline Reference: [Prevalence of Selected Target Chemical Contaminants in Sport Fish From Two California Lakes: Public health designed screening study. Sacramento, CA: Office of Environmental Health Hazard Assessment](#)
[Development of Fish Contaminant Goals and Advisory Tissue Levels for Common Contaminants in California Sport Fish: Chlordane, DDTs, Dieldrin, Methylmercury, PCBs, Selenium, and Toxaphene](#)
[Air Toxics Hotspots Program Risk Assessment Guidelines. Part II Technical Support](#)

Spatial Representation: Samples were collected at the following station: BF20 - Grizzly Bay.
Temporal Representation: Samples were generally collected in spring and fall seasons from years 1993 - 1998.
Environmental Conditions:
QAPP Information: 1999 Quality Assurance Project Plan Regional Monitoring Program for Trace Substances.
QAPP Information Reference(s): [1999 Quality Assurance Project Plan Regional Monitoring Program for Trace Substances](#)

Line of Evidence (LOE) for Decision ID 66663, Hexachlorobenzene/ HCB

Region 2

Suisun Bay

LOE ID: 95089

Pollutant: Hexachlorobenzene/ HCB
LOE Subgroup: Pollutant-Tissue
Matrix: Tissue
Fraction: Fish fillet

Beneficial Use: Commercial or recreational collection of fish, shellfish, or organisms

Number of Samples: 2
Number of Exceedances: 0

Data and Information Type: Fish tissue analysis
Data Used to Assess Water Quality: Water Board staff assessed Regional Monitoring Program data for Suisun Bay to determine beneficial use support and results are as follows: 0 of 2 samples exceed the criterion for hexachlorobenzene. No samples were discarded for being non-detect, unquantifiable or the reporting limit exceeding the water quality objective.

Data Reference: [Regional Monitoring Program data, Feb. 1993-Sep. 2008](#)

SWAMP Data: Non-SWAMP

Water Quality Objective/Criterion: Water Quality Control Plan for the San Francisco Bay Basin: Controllable water quality factors shall not cause a detrimental increase in concentrations of toxic substances found in bottom sediments or aquatic life. Effects on aquatic organisms, wildlife, and human health will be considered.

Objective/Criterion Reference: [Water Quality Control Plan \(Basin Plan\) San Francisco Bay Basin \(Region 2\)](#)

Evaluation Guideline: The modified OEHHA Fish Contaminant Goal for hexachlorobenzene in fish tissue is 2.8 ppb. This screening level assumes an average body weight of 70 kg and a consumption rate of 32 g/day for a 30 year exposure over a 70-year lifetime. This constituent is a carcinogen therefore the risk level is set to one in a million. A cooking reduction factor of 1 is applied for skin-off fillets. (Klasing, S., and R. Brodberg, 2008; OEHHA, 2005)

Guideline Reference: [Development of Fish Contaminant Goals and Advisory Tissue Levels for Common Contaminants in California Sport Fish: Chlordane, DDTs, Dieldrin, Methylmercury, PCBs, Selenium, and Toxaphene](#)
[Air Toxics Hotspots Program Risk Assessment Guidelines. Part II Technical Support Document for Describing Available Cancer Potency Values.](#)

Spatial Representation: The samples were collected at two sites in Suisun Bay.
Temporal Representation: The samples were collected in June 1994 and June 1997.
Environmental Conditions:
QAPP Information: The 1999 Quality Assurance Project Plan Regional Monitoring Program for Trace Substances was used.
QAPP Information Reference(s): [1999 Quality Assurance Project Plan Regional Monitoring Program for Trace Substances](#)

DECISION ID

66664

Region 2

Suisun Bay

Pollutant:

Lead

Final Listing Decision:
Last Listing Cycle's Final Listing Decision:
Revision Status
Impairment from Pollutant or Pollution:

Do Not List on 303(d) list (TMDL required list)
New Decision

Revised
Pollutant

Regional Board Staff Conclusion:

This pollutant is being considered for placement on the CWA section 303(d) List under section 3.1 of the Listing Policy. Under section 3.1 a single line of evidence is necessary to assess listing status.

One line of evidence is available in the administrative record to assess this pollutant. Zero of fifty-five samples exceed the guideline.

Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against placing this water segment-pollutant combination on the CWA section 303(d) List in the Water Quality Limited Segments category.

This conclusion is based on the staff findings that:

1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy.
2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy.
3. Zero of fifty-five samples exceed the guideline and this does not exceed the allowable frequency listed in Table 3.1 of the Listing Policy.
4. Pursuant to section 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.

Regional Board Staff Decision Recommendation:

After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be placed on the section 303(d) list because applicable water quality standards are not being exceeded.

**Line of Evidence (LOE) for Decision ID 66664, Lead
Suisun Bay**

Region 2

LOE ID: 93370

Pollutant: Lead
LOE Subgroup: Pollutant-Water
Matrix: Water
Fraction: Dissolved

Beneficial Use: Estuarine Habitat

Number of Samples: 55
Number of Exceedances: 0

Data and Information Type: PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality: State Water Board staff assessed SFEI data for Suisun Bay to determine beneficial use support and results are as follows: 0 of 55 samples exceed the criterion for Lead.

Data Reference: [Regional Monitoring Program data, Feb. 1993-Sep. 2008](#)

SWAMP Data: Non-SWAMP

Water Quality Objective/Criterion: The dissolved lead criterion continuous concentration (expressed as a 4-day average) to protect aquatic life in saline water is 0.0081 mg/L (California Toxics Rule, 2000).

Objective/Criterion Reference: [Code of Federal Regulations 40 part 131.38 Establishment of numeric criteria for priority toxic pollutants for the State of California. 7/1/2011 Edition](#)

Evaluation Guideline:
Guideline Reference:

Spatial Representation: Data for this line of evidence for Suisun Bay was collected at 6 monitoring sites [Pacheco Creek - BF10, Grizzly Bay - BF20, Honker Bay - BF40, Suisun Bay - SU003W, Suisun

Temporal Representation:	Bay - SU015W, Suisun Bay - SU028W]
Environmental Conditions:	Data was collected over the time period 3/4/1993-7/10/2008.
QAPP Information:	Staff is not aware of any special conditions that might affect interpretation of the data. The 1999 Quality Assurance Project Plan Regional Monitoring Program for Trace Substances was used.
QAPP Information Reference(s):	1999 Quality Assurance Project Plan Regional Monitoring Program for Trace Substances

DECISION ID	66665	Region 2
Suisun Bay		

Pollutant:	Lindane/gamma Hexachlorocyclohexane (gamma-HCH)
Final Listing Decision:	Do Not List on 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision:	New Decision
Revision Status	Revised
Impairment from Pollutant or Pollution:	Pollutant

Regional Board Staff Conclusion: This pollutant is being considered for placement on the CWA section 303(d) List under section 3.5 of the Listing Policy. Under section 3.5 a single line of evidence is necessary to assess listing status. One line of evidence is available in the administrative record to assess this pollutant. Zero of ten samples exceed the OEHHHA guideline.

Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against placing this water segment-pollutant combination on the CWA section 303(d) List.

This conclusion is based on the staff findings that:

1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy.
2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy.
3. Zero of ten samples exceed the OEHHHA guideline and this sample size is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating. A minimum of 16 samples is needed to determine if a beneficial use is fully supported using table 3.1.
4. Pursuant to SECTION 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.

Regional Board Staff Decision Recommendation: After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be placed on the section 303(d) list. The readily available data and information is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating.

Line of Evidence (LOE) for Decision ID 66665, Lindane/gamma Hexachlorocyclohexane (gamma-HCH)	Region 2
Suisun Bay	

LOE ID:	93663
Pollutant:	Lindane/gamma Hexachlorocyclohexane (gamma-HCH)
LOE Subgroup:	Pollutant-Tissue
Matrix:	Tissue
Fraction:	Shellfish
Beneficial Use:	Commercial or recreational collection of fish, shellfish, or organisms
Number of Samples:	10
Number of Exceedances:	0
Data and Information Type:	Shellfish surveys

Data Used to Assess Water Quality:	None of the 10 samples exceeded the guideline. All composite samples were comprised of Corbicula fluminea except for one composite comprised of Crassostrea gigas. Data were reported on a dry weight basis and were converted to a wet weight basis by multiplying the dry-weight concentration by a factor of 1 minus the percentage of moisture content expressed as a decimal.
Data Reference:	Regional Monitoring Program data, Feb. 1993-Sep. 2008
SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	Water Quality Control Plan for the San Francisco Bay Basin: Controllable water quality factors shall not cause a detrimental increase in concentrations of toxic substances found in bottom sediments or aquatic life. Effects on aquatic organisms, wildlife, and human health will be considered.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	The modified OEHHA Fish Contaminant Goal for lindane in shellfish tissue is 7.1 ppb. This screening level assumes an average body weight of 70 kg and a consumption rate of 21 g/day for a 30 year exposure over a 70-year lifetime. This constituent is a carcinogen therefore the risk level is set to one in a million. (Brodberg, R.K., and G.A. Pollock, 1999; Klasing, S., and R. Brodberg, 2008; OEHHA, 2005)
Guideline Reference:	Prevalence of Selected Target Chemical Contaminants in Sport Fish From Two California Lakes: Public health designed screening study. Sacramento, CA: Office of Environmental Health Hazard Assessment Development of Fish Contaminant Goals and Advisory Tissue Levels for Common Contaminants in California Sport Fish: Chlordane, DDTs, Dieldrin, Methylmercury, PCBs, Selenium, and Toxaphene Air Toxics Hotspots Program Risk Assessment Guidelines. Part II Technical Support Document for Describing Available Cancer Potency Values.
Spatial Representation:	Samples were collected at the following station: BF20 - Grizzly Bay.
Temporal Representation:	Samples were generally collected in spring and fall seasons from years 1993 - 1998.
Environmental Conditions:	
QAPP Information:	1999 Quality Assurance Project Plan Regional Monitoring Program for Trace Substances.
QAPP Information Reference(s):	1999 Quality Assurance Project Plan Regional Monitoring Program for Trace Substances

DECISION ID	66666	Region 2
Suisun Bay		
Pollutant:	Manganese	
Final Listing Decision:	Do Not List on 303(d) list (TMDL required list)	
Last Listing Cycle's Final Listing Decision:	New Decision	
Revision Status	Revised	
Impairment from Pollutant or Pollution:	Pollutant	
Regional Board Staff Conclusion:	<p>This pollutant is being considered for placement on the CWA section 303(d) List under section 3.1 of the Listing Policy. Under section 3.1 a single line of evidence is necessary to assess listing status.</p> <p>One line of evidence is available in the administrative record to assess this pollutant. Zero of thirty-four samples exceed the guideline.</p> <p>Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against placing this water segment-pollutant combination on the CWA section 303(d) List in the Water Quality Limited Segments category.</p> <p>This conclusion is based on the staff findings that:</p> <ol style="list-style-type: none"> 1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy. 2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy. 3. Zero of thirty-four samples exceed the guideline and this does not exceed the allowable frequency listed in Table 3.1 of the Listing Policy. 	

4. Pursuant to section 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.

Regional Board Staff Decision Recommendation: After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be placed on the section 303(d) list because applicable water quality standards are not being exceeded.

**Line of Evidence (LOE) for Decision ID 66666, Manganese
Suisun Bay**

Region 2

LOE ID: 93371

Pollutant: Manganese
LOE Subgroup: Pollutant-Water
Matrix: Water
Fraction: Total

Beneficial Use: Commercial or recreational collection of fish, shellfish, or organisms

Number of Samples: 34
Number of Exceedances: 0

Data and Information Type: PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality: State Water Board staff assessed SFEI data for Suisun Bay to determine beneficial use support and results are as follows: 0 of 34 samples exceed the criterion for Manganese.
Data Reference: [Regional Monitoring Program data, Feb. 1993-Sep. 2008](#)

SWAMP Data: Non-SWAMP

Water Quality Objective/Criterion: The Manganese criteria for the protection of human health from the consumption of organisms only is 100 ug/L (California Toxics Rule, 2000).
Objective/Criterion Reference: [Water Quality Control Plan \(Basin Plan\) San Francisco Bay Basin \(Region 2\)](#)

Evaluation Guideline: The Lead criteria for the protection of human health from fish consumption only is 100 ug/L (National Recommended Water Quality Criteria, 2009).
Guideline Reference: [National Recommended Water Quality Criteria. United States Environmental Protection Agency. Office of Water. Office of Science and Technology](#)

Spatial Representation: Data for this line of evidence for Suisun Bay was collected at 25 monitoring sites [Pacheco Creek - BF10, Grizzly Bay - BF20, Honker Bay - BF40, Suisun Bay - SU001W, Suisun Bay - SU002W, Suisun Bay - SU003W, Suisun Bay - SU005W, Suisun Bay - SU009W, Suisun Bay - SU010W, Suisun Bay - SU012W, Suisun Bay - SU014W, Suisun Bay - SU015W, Suisun Bay - SU016W, Suisun Bay - SU017W, Suisun Bay - SU018W, Suisun Bay - SU019W, Suisun Bay - SU020W, Suisun Bay - SU021W, Suisun Bay - SU022W, Suisun Bay - SU023W, Suisun Bay - SU024W, Suisun Bay - SU025W, Suisun Bay - SU026W, Suisun Bay - SU028W, Suisun Bay - SU029W]

Temporal Representation: Data was collected over the time period 2/8/2000-7/10/2008.
Environmental Conditions: Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information: The 1999 Quality Assurance Project Plan Regional Monitoring Program for Trace Substances was used.
QAPP Information Reference(s): [1999 Quality Assurance Project Plan Regional Monitoring Program for Trace Substances](#)

DECISION ID

66667

Region 2

Suisun Bay

Pollutant: Mirex
Final Listing Decision: Do Not List on 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision: New Decision

Revision Status
Impairment from Pollutant or
Pollution:

Revised
Pollutant

Regional Board Staff
Conclusion:

This pollutant is being considered for placement on the CWA section 303(d) List under section 3.1 of the Listing Policy. Under section 3.1 a single line of evidence is necessary to assess listing status.

Four lines of evidence are available in the administrative record to assess this pollutant. Zero of twenty-nine samples exceed the guideline.

Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against placing this water segment-pollutant combination on the CWA section 303(d) List in the Water Quality Limited Segments category.

This conclusion is based on the staff findings that:

1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy.
2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy.
3. Zero of twenty-nine samples exceed the guideline and this does not exceed the allowable frequency listed in Table 3.1 of the Listing Policy.
4. Pursuant to section 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.

Regional Board Staff Decision
Recommendation:

After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be placed on the section 303(d) list because applicable water quality standards are not being exceeded.

Line of Evidence (LOE) for Decision ID 66667, Mirex
Suisun Bay

Region 2

LOE ID:	93664
Pollutant:	Mirex
LOE Subgroup:	Pollutant-Tissue
Matrix:	Tissue
Fraction:	Shellfish
Beneficial Use:	Commercial or recreational collection of fish, shellfish, or organisms
Number of Samples:	4
Number of Exceedances:	0
Data and Information Type:	Shellfish surveys
Data Used to Assess Water Quality:	None of the 4 samples exceeded the guideline. All composite samples were comprised of Corbicula fluminea except for one composite comprised of Crassostrea gigas. Data were reported on a dry weight basis and were converted to a wet weight basis by multiplying the dry-weight concentration by a factor of 1 minus the percentage of moisture content expressed as a decimal. Four samples were not used in the assessment because the laboratory data reporting limits were above the objective and therefore the results could not be quantified with the level of certainty required by the Listing Policy.
Data Reference:	Regional Monitoring Program data, Feb. 1993-Sep. 2008
SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	Water Quality Control Plan for the San Francisco Bay Basin: Controllable water quality factors shall not cause a detrimental increase in concentrations of toxic substances found in bottom sediments or aquatic life. Effects on aquatic organisms, wildlife, and human health will be considered.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	The modified OEHHA Fish Contaminant Goal for mirex in shellfish tissue is 0.43 ppb. This screening level assumes an average body weight of 70 kg and a consumption rate of 21

g/day. This constituent is a carcinogen therefore the risk level is set to one in a million. (Brodberg, R.K., and G.A. Pollock, 1999; Klasing, S., and R. Brodberg, 2008; OEHHA, 1992)

Guideline Reference:

[Prevalence of Selected Target Chemical Contaminants in Sport Fish From Two California Lakes: Public health designed screening study. Sacramento, CA: Office of Environmental Health Hazard Assessment](#)
[Development of Fish Contaminant Goals and Advisory Tissue Levels for Common Contaminants in California Sport Fish: Chlordane, DDTs, Dieldrin, Methylmercury, PCBs, Selenium, and Toxaphene](#)
[Expedited Cancer Potency Values and Proposed Regulatory Levels for Certain Proposition 65 Carcinogens.](#)

Spatial Representation:

Samples were collected at the following station: BF20 - Grizzly Bay.

Temporal Representation:

Samples were generally collected in spring and fall seasons from years 1993 - 1997.

Environmental Conditions:

QAPP Information:

1999 Quality Assurance Project Plan Regional Monitoring Program for Trace Substances.

QAPP Information Reference(s):

[1999 Quality Assurance Project Plan Regional Monitoring Program for Trace Substances](#)

Line of Evidence (LOE) for Decision ID 66667, Mirex

Region 2

Suisun Bay

LOE ID:

93372

Pollutant:

Mirex

LOE Subgroup:

Pollutant-Water

Matrix:

Water

Fraction:

Total

Beneficial Use:

Commercial or recreational collection of fish, shellfish, or organisms

Number of Samples:

29

Number of Exceedances:

0

Data and Information Type:

PHYSICAL/CHEMICAL MONITORING

Data Used to Assess Water Quality:

State Water Board staff assessed SFEI data for Suisun Bay to determine beneficial use support and results are as follows: 0 of 29 samples exceed the criterion for Mirex.

Data Reference:

[Regional Monitoring Program data, Feb. 1993-Sep. 2008](#)

SWAMP Data:

Non-SWAMP

Water Quality Objective/Criterion:

No individual pesticide or combination of pesticides shall be present in concentrations that adversely affect beneficial uses.

Objective/Criterion Reference:

[Water Quality Control Plan \(Basin Plan\) San Francisco Bay Basin \(Region 2\)](#)

Evaluation Guideline:

The Mirex criteria for the protection of human health from consumption of organisms only is 0.000097 ug/L (National Recommended Water Quality Criteria, 2009).

Guideline Reference:

[National Recommended Water Quality Criteria. United States Environmental Protection Agency. Office of Water. Office of Science and Technology](#)

Spatial Representation:

Data for this line of evidence for Suisun Bay was collected at 11 monitoring sites [Grizzly Bay - BF20, Suisun Bay - SU001W, Suisun Bay - SU002W, Suisun Bay - SU003W, Suisun Bay - SU005W, Suisun Bay - SU012W, Suisun Bay - SU014W, Suisun Bay - SU019W, Suisun Bay - SU020W, Suisun Bay - SU021W, Suisun Bay - SU022W]

Temporal Representation:

Data was collected over the time period 4/27/1994-8/25/2006.

Environmental Conditions:

Staff is not aware of any special conditions that might affect interpretation of the data.

QAPP Information:

The 1999 Quality Assurance Project Plan Regional Monitoring Program for Trace Substances was used.

QAPP Information Reference(s):

[1999 Quality Assurance Project Plan Regional Monitoring Program for Trace Substances](#)

Line of Evidence (LOE) for Decision ID 66667, Mirex

Region 2

Suisun Bay

LOE ID: 93373

Pollutant: Mirex
 LOE Subgroup: Pollutant-Water
 Matrix: Water
 Fraction: Dissolved

Beneficial Use: Estuarine Habitat

Number of Samples: 15
 Number of Exceedances: 0

Data and Information Type: PHYSICAL/CHEMICAL MONITORING
 Data Used to Assess Water Quality: State Water Board staff assessed SFEI data for Suisun Bay to determine beneficial use support and results are as follows: 0 of 15 samples exceed the criterion for Mirex.
 Data Reference: [Regional Monitoring Program data, Feb. 1993-Sep. 2008](#)

SWAMP Data: Non-SWAMP

Water Quality Objective/Criterion: No individual pesticide or combination of pesticides shall be present in concentrations that adversely affect beneficial uses.
 Objective/Criterion Reference: [Water Quality Control Plan \(Basin Plan\) San Francisco Bay Basin \(Region 2\)](#)

Evaluation Guideline: The USEPA Gold Book states 0.001 ug/L for the protection of freshwater and marine aquatic life. (USEPA Gold Book - EPA 440/5-86-001)
 Guideline Reference: [Quality Criteria for Water 1986. United States Environmental Protection Agency. Office of Water. Regulations and Standards. Washington D.C. EPA 440/5-86-001.](#)

Spatial Representation: Data for this line of evidence for Suisun Bay was collected at 2 monitoring sites [Suisun Bay - SU003W, Grizzly Bay - BF20]
 Temporal Representation: Data was collected over the time period 4/27/1994-7/29/2002.
 Environmental Conditions: Staff is not aware of any special conditions that might affect interpretation of the data.
 QAPP Information: The 1999 Quality Assurance Project Plan Regional Monitoring Program for Trace Substances was used.
 QAPP Information Reference(s): [1999 Quality Assurance Project Plan Regional Monitoring Program for Trace Substances](#)

**Line of Evidence (LOE) for Decision ID 66667, Mirex
 Suisun Bay**

Region 2

LOE ID: 95236

Pollutant: Mirex
 LOE Subgroup: Pollutant-Tissue
 Matrix: Tissue
 Fraction: Fish fillet

Beneficial Use: Commercial or recreational collection of fish, shellfish, or organisms

Number of Samples: 0
 Number of Exceedances: 0

Data and Information Type: Fish tissue analysis
 Data Used to Assess Water Quality: Water Board staff assessed Regional Monitoring Program data for Suisun Bay to determine beneficial use support and results are as follows: 0 of 0 samples exceed the criterion for Mirex. Two samples were discarded for being non-detect, unquantifiable or the reporting limit exceeding the water quality objective.
 Data Reference: [Regional Monitoring Program data, Feb. 1993-Sep. 2008](#)

SWAMP Data: Non-SWAMP

Water Quality Objective/Criterion: Water Quality Control Plan for the San Francisco Bay Basin: Controllable water quality

factors shall not cause a detrimental increase in concentrations of toxic substances found in bottom sediments or aquatic life. Effects on aquatic organisms, wildlife, and human health will be considered.

Objective/Criterion Reference:

[Water Quality Control Plan \(Basin Plan\) San Francisco Bay Basin \(Region 2\)](#)

Evaluation Guideline:

The modified OEHHA Fish Contaminant Goal for mirex in fish tissue is 0.28 ppb. This screening level assumes an average body weight of 70 kg and a consumption rate of 32 g/day. A cooking reduction factor of 1 is applied for skin-off fillets. (Klasing, S., and R. Brodberg, 2008; OEHHA, 1992)

Guideline Reference:

[Development of Fish Contaminant Goals and Advisory Tissue Levels for Common Contaminants in California Sport Fish: Chlordane, DDTs, Dieldrin, Methylmercury, PCBs, Selenium, and Toxaphene](#)
[Expedited Cancer Potency Values and Proposed Regulatory Levels for Certain Proposition 65 Carcinogens.](#)

Spatial Representation:

The samples were collected at two sites in Suisun Bay.

Temporal Representation:

The samples were collected in June 1994 and June 1997.

Environmental Conditions:

QAPP Information:

The 1999 Quality Assurance Project Plan Regional Monitoring Program for Trace Substances was used.

QAPP Information Reference(s):

[1999 Quality Assurance Project Plan Regional Monitoring Program for Trace Substances](#)

DECISION ID	66835	Region 2
Suisun Bay		

Pollutant:	PAHs (Polycyclic Aromatic Hydrocarbons)
Final Listing Decision:	Do Not List on 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision:	New Decision
Revision Status	Revised
Impairment from Pollutant or Pollution:	Pollutant

Regional Board Staff Conclusion:

This pollutant is being considered for placement on the CWA section 303(d) List under section 3.5 of the Listing Policy. Under section 3.5 a single line of evidence is necessary to assess listing status. Two lines of evidence are available in the administrative record to assess this pollutant. Zero of ten samples exceed the OEHHA guideline.

Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against placing this water segment-pollutant combination on the CWA section 303(d) List.

This conclusion is based on the staff findings that:

1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy.
2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy.
3. Zero of ten samples exceed the OEHHA guideline and this sample size is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating. A minimum of 16 samples is needed to determine if a beneficial use is fully supported using table 3.1.
4. Pursuant to SECTION 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.

Regional Board Staff Decision Recommendation:

After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be placed on the section 303(d) list. The readily available data and information is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating.

Line of Evidence (LOE) for Decision ID 66835, PAHs (Polycyclic Aromatic Hydrocarbons)	Region 2
Suisun Bay	

LOE ID:	95076
Pollutant:	PAHs (Polycyclic Aromatic Hydrocarbons)
LOE Subgroup:	Pollutant-Tissue
Matrix:	Tissue
Fraction:	Fish fillet
Beneficial Use:	Commercial or recreational collection of fish, shellfish, or organisms
Number of Samples:	1
Number of Exceedances:	0
Data and Information Type:	Fish tissue analysis
Data Used to Assess Water Quality:	Water Board staff assessed Regional Monitoring Program data for Suisun Bay to determine beneficial use support and results are as follows: 0 of 1 samples exceed the criterion for polyaromatic hydrocarbons. No samples were discarded for being non-detect, unquantifiable or the reporting limit exceeding the water quality objective.
Data Reference:	Regional Monitoring Program data, Feb. 1993-Sep. 2008
SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	Water Quality Control Plan for the San Francisco Bay Basin: Controllable water quality factors shall not cause a detrimental increase in concentrations of toxic substances found in bottom sediments or aquatic life. Effects on aquatic organisms, wildlife, and human health will be considered.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	The modified OEHHA Fish Contaminant Goal for polycyclic aromatic hydrocarbons in fish tissue is 0.7 ppb. This screening level assumes an average body weight of 70 kg and a consumption rate of 32 g/day for a 30 year exposure over a 70-year lifetime. This constituent is a carcinogen therefore the risk level is set to one in a million. (Klasing, S., and R. Brodberg, 2008; USEPA, 2000)
Guideline Reference:	Development of Fish Contaminant Goals and Advisory Tissue Levels for Common Contaminants in California Sport Fish: Chlordane, DDTs, Dieldrin, Methylmercury, PCBs, Selenium, and Toxaphene Guidance for Assessing Chemical Contaminant Data for Use In Fish Advisories Volume 1: Fish Sampling and Analysis
Spatial Representation:	The samples were collected at one site in Suisun Bay.
Temporal Representation:	The samples were collected in June 1994.
Environmental Conditions:	
QAPP Information:	The 1999 Quality Assurance Project Plan Regional Monitoring Program for Trace Substances was used.
QAPP Information Reference(s):	1999 Quality Assurance Project Plan Regional Monitoring Program for Trace Substances

Line of Evidence (LOE) for Decision ID 66835, PAHs (Polycyclic Aromatic Hydrocarbons)
Suisun Bay

Region 2

LOE ID:	93676
Pollutant:	PAHs (Polycyclic Aromatic Hydrocarbons)
LOE Subgroup:	Pollutant-Tissue
Matrix:	Tissue
Fraction:	Shellfish
Beneficial Use:	Commercial or recreational collection of fish, shellfish, or organisms
Number of Samples:	10
Number of Exceedances:	0
Data and Information Type:	Shellfish surveys

Data Used to Assess Water Quality:	Zero of the 10 samples exceeded the guideline. Composite samples were comprised of Corbicula fluminea, except for 1 sample comprised of Crassostrea gigas. Data were reported on a dry weight basis and were converted to a wet weight basis by multiplying the dry-weight concentration by a factor of 1 minus the percentage of moisture content expressed as a decimal. PAH, Total is calculated as a potency weighted concentration with respect to benzo(a)pyrene and was calculated based on the following analytes: Dibenz(a,h)anthracene, Benzo(a)pyrene, Benz(a)anthracene, Benzo(b)fluoranthene, Benzo(k)fluoranthene, Indeno(1,2,3-c,d)pyrene, Anthracene, Benzo(g,h,i)perylene, Chrysene, Acenaphthene, Acenaphthylene, Fluoranthene, Fluorene, Phenanthrene, and Pyrene.
Data Reference:	Regional Monitoring Program data, Feb. 1993-Sep. 2008
SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	Water Quality Control Plan for the San Francisco Bay Basin (2013): Controllable water quality factors shall not cause a detrimental increase in concentrations of toxic substances found in bottom sediments or aquatic life. Effects on aquatic organisms, wildlife, and human health will be considered.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	<p>The modified OEHHA Advisory Tissue Level for polycyclic aromatic hydrocarbons in shellfish tissue is 110 ppb. This screening level assumes an average body weight of 70 kg and a consumption rate of 21 g/day for a 30 year exposure over a 70-year lifetime. This constituent is a carcinogen therefore the risk level is set to one in ten thousand. (Brodberg, R.K., and G.A. Pollock, 1999; Klasing, S., and R. Brodberg, 2008; USEPA, 2000)</p> <p>Advisory Tissue Levels (ATLs), while still conferring no significant health risk to individuals consuming sport fish in the quantities shown over a lifetime, were developed with the recognition that there are unique health benefits associated with fish consumption and that the advisory process should be expanded beyond a simple risk paradigm in order to best promote the overall health of the fish consumer. ATLs provide a number of recommended fish servings that correspond to the range of contaminant concentrations found in fish and are used to provide consumption advice to prevent consumers from being exposed to more than the average daily reference dose for noncarcinogens or to a risk level greater than 1×10^{-4} for carcinogens (not more than one additional cancer case in a population of 10,000 people consuming fish at the given consumption rate over a lifetime). ATLs are designed to encourage consumption of fish that can be eaten in quantities likely to provide significant health benefits, while discouraging consumption of fish that, because of contaminant concentrations, should not be eaten or cannot be eaten in amounts recommended for improving overall health (eight ounces total, prior to cooking, per week). ATLs are one of the criteria that will be used by OEHHA for issuing fish consumption guidelines.</p>
Guideline Reference:	Prevalence of Selected Target Chemical Contaminants in Sport Fish From Two California Lakes: Public health designed screening study. Sacramento, CA: Office of Environmental Health Hazard Assessment Development of Fish Contaminant Goals and Advisory Tissue Levels for Common Contaminants in California Sport Fish: Chlordane, DDTs, Dieldrin, Methylmercury, PCBs, Selenium, and Toxaphene Guidance for Assessing Chemical Contaminant Data for Use In Fish Advisories Volume 1: Fish Sampling and Analysis
Spatial Representation:	Samples were collected at the following station: BF20 - Grizzly Bay.
Temporal Representation:	Samples were generally collected in spring and fall seasons from years 1993 - 1998.
Environmental Conditions:	
QAPP Information:	1999 Quality Assurance Project Plan Regional Monitoring Program for Trace Substances.
QAPP Information Reference(s):	1999 Quality Assurance Project Plan Regional Monitoring Program for Trace Substances

Pollutant:	Pyrene
Final Listing Decision:	Do Not List on 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision:	New Decision
Revision Status	Revised
Impairment from Pollutant or Pollution:	Pollutant

Regional Board Staff Conclusion: This pollutant is being considered for placement on the CWA section 303(d) List under section 3.1 of the Listing Policy. Under section 3.1 a single line of evidence is necessary to assess listing status.

One line of evidence is available in the administrative record to assess this pollutant. Zero of thirty-nine samples exceed the guideline.

Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against placing this water segment-pollutant combination on the CWA section 303(d) List in the Water Quality Limited Segments category.

This conclusion is based on the staff findings that:

1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy.
2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy.
3. Zero of thirty-nine samples exceed the guideline and this does not exceed the allowable frequency listed in Table 3.1 of the Listing Policy.
4. Pursuant to section 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.

Regional Board Staff Decision Recommendation: After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be placed on the section 303(d) list because applicable water quality standards are not being exceeded.

Line of Evidence (LOE) for Decision ID 66668, Pyrene Suisun Bay

Region 2

LOE ID:	93379
Pollutant:	Pyrene
LOE Subgroup:	Pollutant-Water
Matrix:	Water
Fraction:	Total
Beneficial Use:	Commercial or recreational collection of fish, shellfish, or organisms
Number of Samples:	39
Number of Exceedances:	0
Data and Information Type:	PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality:	State Water Board staff assessed SFEI data for Suisun Bay to determine beneficial use support and results are as follows: 0 of 39 samples exceed the criterion for Pyrene.
Data Reference:	Regional Monitoring Program data, Feb. 1993-Sep. 2008
SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	The Pyrene criteria for the protection of human health from consumption of organisms only is 11,000 ug/L (California Toxics Rule, 2000).
Objective/Criterion Reference:	Code of Federal Regulations 40 part 131.38 Establishment of numeric criteria for priority toxic pollutants for the State of California. 7/1/2011 Edition
Evaluation Guideline:	
Guideline Reference:	

Spatial Representation:	Data for this line of evidence for Suisun Bay was collected at 22 monitoring sites [Grizzly Bay - BF20, Suisun Bay - SU001W, Suisun Bay - SU002W, Suisun Bay - SU003W, Suisun Bay - SU005W, Suisun Bay - SU009W, Suisun Bay - SU010W, Suisun Bay - SU012W, Suisun Bay - SU014W, Suisun Bay - SU015W, Suisun Bay - SU016W, Suisun Bay - SU017W, Suisun Bay - SU018W, Suisun Bay - SU019W, Suisun Bay - SU020W, Suisun Bay - SU021W, Suisun Bay - SU022W, Suisun Bay - SU023W, Suisun Bay - SU024W, Suisun Bay - SU025W, Suisun Bay - SU026W, Suisun Bay - SU028W]
Temporal Representation:	Data was collected over the time period 3/5/1993-7/10/2008.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	The 1999 Quality Assurance Project Plan Regional Monitoring Program for Trace Substances was used.
QAPP Information Reference(s):	1999 Quality Assurance Project Plan Regional Monitoring Program for Trace Substances

DECISION ID	66669	Region 2
Suisun Bay		
Pollutant:	Silver	
Final Listing Decision:	Do Not List on 303(d) list (TMDL required list)	
Last Listing Cycle's Final Listing Decision:	New Decision	
Revision Status	Revised	
Impairment from Pollutant or Pollution:	Pollutant	
Regional Board Staff Conclusion:	<p>This pollutant is being considered for placement on the CWA section 303(d) List under section 3.1 of the Listing Policy. Under section 3.1 a single line of evidence is necessary to assess listing status.</p> <p>One line of evidence is available in the administrative record to assess this pollutant. Zero of fifty-one samples exceed the guideline.</p> <p>Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against placing this water segment-pollutant combination on the CWA section 303(d) List in the Water Quality Limited Segments category.</p> <p>This conclusion is based on the staff findings that:</p> <ol style="list-style-type: none"> 1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy. 2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy. 3. Zero of fifty-one samples exceed the guideline and this does not exceed the allowable frequency listed in Table 3.1 of the Listing Policy. 4. Pursuant to section 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met. 	
Regional Board Staff Decision Recommendation:	After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be placed on the section 303(d) list because applicable water quality standards are not being exceeded.	

Line of Evidence (LOE) for Decision ID 66669, Silver		Region 2
Suisun Bay		
LOE ID:	93311	
Pollutant:	Silver	
LOE Subgroup:	Pollutant-Water	
Matrix:	Water	
Fraction:	Dissolved	
Beneficial Use:	Estuarine Habitat	
Number of Samples:	51	

Number of Exceedances: 0

Data and Information Type: PHYSICAL/CHEMICAL MONITORING

Data Used to Assess Water Quality: State Water Board staff assessed SFEI data for Suisun Bay to determine beneficial use support and results are as follows: 0 of 51 samples exceed the criterion for Silver.

Data Reference: [Regional Monitoring Program data, Feb. 1993-Sep. 2008](#)

SWAMP Data: Non-SWAMP

Water Quality Objective/Criterion: The dissolved silver criterion maximum concentration to protect aquatic life in saline water is 0.0019 mg/L (California Toxics Rule, 2000).

Objective/Criterion Reference: [Code of Federal Regulations 40 part 131.38 Establishment of numeric criteria for priority toxic pollutants for the State of California, 7/1/2011 Edition](#)

Evaluation Guideline:

Guideline Reference:

Spatial Representation: Data for this line of evidence for Suisun Bay was collected at 8 monitoring sites [Pacheco Creek - BF10, Grizzly Bay - BF20, Honker Bay - BF40, Suisun Bay - SU003W, Suisun Bay - SU015W, Suisun Bay - SU023W, Suisun Bay - SU025W, Suisun Bay - SU028W]

Temporal Representation: Data was collected over the time period 3/4/1993-7/10/2008.

Environmental Conditions: Staff is not aware of any special conditions that might affect interpretation of the data.

QAPP Information: The 1999 Quality Assurance Project Plan Regional Monitoring Program for Trace Substances was used.

QAPP Information Reference(s): [1999 Quality Assurance Project Plan Regional Monitoring Program for Trace Substances](#)

DECISION ID		66671	Region 2
Suisun Bay			
Pollutant:	Toxaphene		
Final Listing Decision:	Do Not List on 303(d) list (TMDL required list)		
Last Listing Cycle's Final Listing Decision:	New Decision		
Revision Status	Revised		
Impairment from Pollutant or Pollution:	Pollutant		
Regional Board Staff Conclusion:	<p>This pollutant is being considered for placement on the CWA section 303(d) List under section 3.5 of the Listing Policy. Under section 3.5 a single line of evidence is necessary to assess listing status. One line of evidence is available in the administrative record to assess this pollutant. Zero of zero samples exceed the OEHHHA guideline.</p> <p>Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against placing this water segment-pollutant combination on the CWA section 303(d) List.</p> <p>This conclusion is based on the staff findings that:</p> <ol style="list-style-type: none"> 1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy. 2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy. 3. Zero of zero samples exceed the OEHHHA guideline and this sample size is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating. A minimum of 16 samples is needed to determine if a beneficial use is fully supported using table 3.1. 4. Pursuant to SECTION 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met. 		
Regional Board Staff Decision Recommendation:	After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be placed on the section 303(d) list. The readily available data and information is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating.		

**Line of Evidence (LOE) for Decision ID 66671, Toxaphene
Suisun Bay**

Region 2

LOE ID:	95127
Pollutant:	Toxaphene
LOE Subgroup:	Pollutant-Tissue
Matrix:	Tissue
Fraction:	Fish fillet
Beneficial Use:	Commercial or recreational collection of fish, shellfish, or organisms
Number of Samples:	0
Number of Exceedances:	0
Data and Information Type:	Fish tissue analysis
Data Used to Assess Water Quality:	Water Board staff assessed Regional Monitoring Program data for Suisun Bay to determine beneficial use support and results are as follows: 0 of 0 samples exceed the criterion for toxaphene. One sample was discarded for being non-detect, unquantifiable or the reporting limit exceeding the water quality objective.
Data Reference:	Regional Monitoring Program data, Feb. 1993-Sep. 2008
SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	Water Quality Control Plan for the San Francisco Bay Basin: Controllable water quality factors shall not cause a detrimental increase in concentrations of toxic substances found in bottom sediments or aquatic life. Effects on aquatic organisms, wildlife, and human health will be considered.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	The modified OEHHA Fish Contaminant Goal for toxaphene in fish tissue is 4.3 ppb. This screening level assumes an average body weight of 70 kg and a consumption rate of 32 g/day for a 30 year exposure over a 70-year lifetime. This constituent is a carcinogen therefore the risk level is set to one in a million. A cooking reduction factor of 1 is applied for skin-off fillets. (Klasing, S., and R. Brodberg, 2008)
Guideline Reference:	Development of Fish Contaminant Goals and Advisory Tissue Levels for Common Contaminants in California Sport Fish: Chlordane, DDTs, Dieldrin, Methylmercury, PCBs, Selenium, and Toxaphene
Spatial Representation:	The samples were collected at one site in Suisun Bay.
Temporal Representation:	The samples were collected in June 1994.
Environmental Conditions:	
QAPP Information:	The 1999 Quality Assurance Project Plan Regional Monitoring Program for Trace Substances was used.
QAPP Information Reference(s):	1999 Quality Assurance Project Plan Regional Monitoring Program for Trace Substances

DECISION ID

66673

Region 2

Suisun Bay

Pollutant:	Tributyltin TBT (Tributylstanne)
Final Listing Decision:	Do Not List on 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision:	New Decision
Revision Status	Revised
Impairment from Pollutant or Pollution:	Pollutant

**Regional Board Staff
Conclusion:**

This pollutant is being considered for placement on the CWA section 303(d) List under section 3.5 of the Listing Policy. Under section 3.5 a single line of evidence is necessary to assess listing status.

One line of evidence is available in the administrative record to assess this pollutant. Zero of ten samples exceed the OEHHA guideline.

Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against placing this water segment-pollutant combination on the CWA section 303(d) List.

This conclusion is based on the staff findings that:

1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy.
2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy.
3. Zero of ten samples exceed the OEHHA guideline and this sample size is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating. A minimum of 16 samples is needed to determine if a beneficial use is fully supported using table 3.1.
4. Pursuant to SECTION 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.

Regional Board Staff Decision Recommendation: After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be placed on the section 303(d) list. The readily available data and information is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating.

Line of Evidence (LOE) for Decision ID 66673, Tributyltin TBT (Tributylstanne)

Region 2

Suisun Bay

LOE ID:	93711
Pollutant:	Tributyltin TBT (Tributylstanne)
LOE Subgroup:	Pollutant-Tissue
Matrix:	Tissue
Fraction:	Shellfish
Beneficial Use:	Commercial or recreational collection of fish, shellfish, or organisms
Number of Samples:	10
Number of Exceedances:	0
Data and Information Type:	Shellfish surveys
Data Used to Assess Water Quality:	None of the 10 samples exceeded the guideline. Composite samples were comprised of <i>Corbicula fluminea</i> , except for one which was comprised of <i>Crassostrea gigas</i> . Data were reported on a dry weight basis and were converted to a wet weight basis by multiplying the dry-weight concentration by a factor of 1 minus the percentage of moisture content expressed as a decimal. If a dry weight result did not have a corresponding moisture result for conversion to wet weight, the sample was not included in the assessment.
Data Reference:	Regional Monitoring Program data, Feb. 1993-Sep. 2008
SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	Water Quality Control Plan for the San Francisco Bay Basin: Controllable water quality factors shall not cause a detrimental increase in concentrations of toxic substances found in bottom sediments or aquatic life. Effects on aquatic organisms, wildlife, and human health will be considered.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	The modified OEHHA Fish Contaminant Goal for tributyltin in shellfish tissue is 1 ppm. This screening level assumes an average body weight of 70 kg and a consumption rate of 21 g/day. (Brodberg, R.K., and G.A. Pollock, 1999; Klasing, S., and R. Brodberg, 2008; USEPA, 2000)
Guideline Reference:	Prevalence of Selected Target Chemical Contaminants in Sport Fish From Two California Lakes: Public health designed screening study. Sacramento, CA: Office of Environmental Health Hazard Assessment

[Development of Fish Contaminant Goals and Advisory Tissue Levels for Common Contaminants in California Sport Fish: Chlordane, DDTs, Dieldrin, Methylmercury, PCBs, Selenium, and Toxaphene](#)
[Guidance for Assessing Chemical Contaminant Data for Use In Fish Advisories Volume 1: Fish Sampling and Analysis](#)

Spatial Representation: Samples were collected at the following station: BF20 - Grizzly Bay.
 Temporal Representation: Samples were generally collected in spring and fall seasons from years 1993 - 1998.
 Environmental Conditions:
 QAPP Information: 1999 Quality Assurance Project Plan Regional Monitoring Program for Trace Substances.
 QAPP Information Reference(s): [1999 Quality Assurance Project Plan Regional Monitoring Program for Trace Substances](#)

DECISION ID	66674	Region 2
Suisun Bay		

Pollutant: Zinc
Final Listing Decision: Do Not List on 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision: New Decision
Revision Status: Revised
Impairment from Pollutant or Pollution: Pollutant

Regional Board Staff Conclusion:

This pollutant is being considered for placement on the CWA section 303(d) List under section 3.1 of the Listing Policy. Under section 3.1 a single line of evidence is necessary to assess listing status.

Two lines of evidence are available in the administrative record to assess this pollutant. Zero of ninety-four samples exceed the guideline.

Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against placing this water segment-pollutant combination on the CWA section 303(d) List in the Water Quality Limited Segments category.

This conclusion is based on the staff findings that:

1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy.
2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy.
3. Zero of ninety-four samples exceed the guideline and this does not exceed the allowable frequency listed in Table 3.1 of the Listing Policy.
4. Pursuant to section 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.

Regional Board Staff Decision Recommendation: After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be placed on the section 303(d) list because applicable water quality standards are not being exceeded.

Line of Evidence (LOE) for Decision ID 66674, Zinc	Region 2
Suisun Bay	

LOE ID: 93314

Pollutant: Zinc
LOE Subgroup: Pollutant-Water
Matrix: Water
Fraction: Total

Beneficial Use: Commercial or recreational collection of fish, shellfish, or organisms

Number of Samples: 94
Number of Exceedances: 0

Data and Information Type:	PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality:	State Water Board staff assessed SFEI data for Suisun Bay to determine beneficial use support and results are as follows: 0 of 94 samples exceed the criterion for Zinc.
Data Reference:	Regional Monitoring Program data, Feb. 1993-Sep. 2008
SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	Surface waters shall not contain concentrations of chemical constituents in amounts that adversely affect any designated beneficial use.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	The Zinc criteria for the protection of human health from consumption of fish only is 26000 ug/L (National Recommended Water Quality Criteria, 2009).
Guideline Reference:	National Recommended Water Quality Criteria. United States Environmental Protection Agency. Office of Water. Office of Science and Technology
Spatial Representation:	Data for this line of evidence for Suisun Bay was collected at 25 monitoring sites [Pacheco Creek - BF10, Grizzly Bay - BF20, Honker Bay - BF40, Suisun Bay - SU001W, Suisun Bay - SU002W, Suisun Bay - SU003W, Suisun Bay - SU005W, Suisun Bay - SU009W, Suisun Bay - SU010W, Suisun Bay - SU012W, Suisun Bay - SU014W, Suisun Bay - SU015W, Suisun Bay - SU016W, Suisun Bay - SU017W, Suisun Bay - SU018W, Suisun Bay - SU019W, Suisun Bay - SU020W, Suisun Bay - SU021W, Suisun Bay - SU022W, Suisun Bay - SU023W, Suisun Bay - SU024W, Suisun Bay - SU025W, Suisun Bay - SU026W, Suisun Bay - SU028W, Suisun Bay - SU029W]
Temporal Representation:	Data was collected over the time period 3/4/1993-7/10/2008.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	The 1999 Quality Assurance Project Plan Regional Monitoring Program for Trace Substances was used.
QAPP Information Reference(s):	1999 Quality Assurance Project Plan Regional Monitoring Program for Trace Substances

**Line of Evidence (LOE) for Decision ID 66674, Zinc
Suisun Bay**

Region 2

LOE ID:	93315
Pollutant:	Zinc
LOE Subgroup:	Pollutant-Water
Matrix:	Water
Fraction:	Dissolved
Beneficial Use:	Estuarine Habitat
Number of Samples:	57
Number of Exceedances:	0

Data and Information Type:	PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality:	State Water Board staff assessed SFEI data for Suisun Bay to determine beneficial use support and results are as follows: 0 of 57 samples exceed the criterion for Zinc.
Data Reference:	Regional Monitoring Program data, Feb. 1993-Sep. 2008
SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	The dissolved zinc criterion continuous concentration (expressed as a 4-day average) to protect aquatic life in saline water is 0.081 mg/L (California Toxics Rule, 2000).
Objective/Criterion Reference:	Code of Federal Regulations 40 part 131.38 Establishment of numeric criteria for priority toxic pollutants for the State of California. 7/1/2011 Edition
Evaluation Guideline:	
Guideline Reference:	
Spatial Representation:	Data for this line of evidence for Suisun Bay was collected at 8 monitoring sites [Pacheco

Temporal Representation:
Environmental Conditions:
QAPP Information:

QAPP Information Reference(s):

Creek - BF10, Grizzly Bay - BF20, Honker Bay - BF40, Suisun Bay - SU003W, Suisun Bay - SU015W, Suisun Bay - SU023W, Suisun Bay - SU025W, Suisun Bay - SU028W]
Data was collected over the time period 3/4/1993-7/10/2008.
Staff is not aware of any special conditions that might affect interpretation of the data.
The 1999 Quality Assurance Project Plan Regional Monitoring Program for Trace Substances was used.
[1999 Quality Assurance Project Plan Regional Monitoring Program for Trace Substances](#)

DECISION ID	66638	Region 2
Suisun Bay		

Pollutant: alpha-Endosulfan (Endosulfan 1)
Final Listing Decision: Do Not List on 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision: New Decision
Revision Status: Revised
Impairment from Pollutant or Pollution: Pollutant

Regional Board Staff Conclusion: This pollutant is being considered for placement on the CWA section 303(d) List under section 3.1 of the Listing Policy. Under section 3.1 a single line of evidence is necessary to assess listing status.

One line of evidence is available in the administrative record to assess this pollutant. Zero of thirty samples exceed the guideline.

Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against placing this water segment-pollutant combination on the CWA section 303(d) List in the Water Quality Limited Segments category.

This conclusion is based on the staff findings that:

1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy.
2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy.
3. Zero of thirty samples exceed the guideline and this does not exceed the allowable frequency listed in Table 3.1 of the Listing Policy.
4. Pursuant to section 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.

Regional Board Staff Decision Recommendation: After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be placed on the section 303(d) list because applicable water quality standards are not being exceeded.

Line of Evidence (LOE) for Decision ID 66638, alpha-Endosulfan (Endosulfan 1)	Region 2
Suisun Bay	

LOE ID: 93340

Pollutant: alpha-Endosulfan (Endosulfan 1)
LOE Subgroup: Pollutant-Water
Matrix: Water
Fraction: Total

Beneficial Use: Commercial or recreational collection of fish, shellfish, or organisms

Number of Samples: 30
Number of Exceedances: 0

Data and Information Type: PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality: State Water Board staff assessed SFEI data for Suisun Bay to determine beneficial use support and results are as follows: 0 of 30 samples exceed the criterion for Endosulfan I.

Data Reference: [Regional Monitoring Program data, Feb. 1993-Sep. 2008](#)

SWAMP Data: Non-SWAMP

Water Quality Objective/Criterion: The Endosulfan I criteria for the protection of human health from consumption of organisms only is 240 ug/L (California Toxics Rule, 2000).

Objective/Criterion Reference: [Code of Federal Regulations 40 part 131.38 Establishment of numeric criteria for priority toxic pollutants for the State of California. 7/1/2011 Edition](#)

Evaluation Guideline:
Guideline Reference:

Spatial Representation: Data for this line of evidence for Suisun Bay was collected at 11 monitoring sites [Grizzly Bay - BF20, Suisun Bay - SU015W, Suisun Bay - SU016W, Suisun Bay - SU017W, Suisun Bay - SU018W, Suisun Bay - SU019W, Suisun Bay - SU020W, Suisun Bay - SU021W, Suisun Bay - SU022W, Suisun Bay - SU023W, Suisun Bay - SU024W]

Temporal Representation: Data was collected over the time period 3/5/1993-8/8/2007.

Environmental Conditions: Staff is not aware of any special conditions that might affect interpretation of the data.

QAPP Information: The 1999 Quality Assurance Project Plan Regional Monitoring Program for Trace Substances was used.

QAPP Information Reference(s): [1999 Quality Assurance Project Plan Regional Monitoring Program for Trace Substances](#)

DECISION ID	66644	Region 2
Suisun Bay		

Pollutant: beta-Endosulfan (Endosulfan 2)
Final Listing Decision: Do Not List on 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision: New Decision
Revision Status Revised
Impairment from Pollutant or Pollution: Pollutant

Regional Board Staff Conclusion:

This pollutant is being considered for placement on the CWA section 303(d) List under section 3.1 of the Listing Policy. Under section 3.1 a single line of evidence is necessary to assess listing status.

One line of evidence is available in the administrative record to assess this pollutant. Zero of twenty-six samples exceed the guideline.

Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against placing this water segment-pollutant combination on the CWA section 303(d) List in the Water Quality Limited Segments category.

This conclusion is based on the staff findings that:

1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy.
2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy.
3. Zero of twenty-six samples exceed the guideline and this does not exceed the allowable frequency listed in Table 3.1 of the Listing Policy.
4. Pursuant to section 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.

Regional Board Staff Decision Recommendation: After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be placed on the section 303(d) list because applicable water quality standards are not being exceeded.

Line of Evidence (LOE) for Decision ID 66644, beta-Endosulfan (Endosulfan 2)	Region 2
Suisun Bay	

LOE ID: 93345

Pollutant:	beta-Endosulfan (Endosulfan 2)
LOE Subgroup:	Pollutant-Water
Matrix:	Water
Fraction:	Total
Beneficial Use:	Commercial or recreational collection of fish, shellfish, or organisms
Number of Samples:	26
Number of Exceedances:	0
Data and Information Type:	PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality:	State Water Board staff assessed SFEI data for Suisun Bay to determine beneficial use support and results are as follows: 0 of 26 samples exceed the criterion for Endosulfan II.
Data Reference:	Regional Monitoring Program data, Feb. 1993-Sep. 2008
SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	The Endosulfan II criteria for the protection of human health from consumption of organisms only is 240 ug/L (California Toxics Rule, 2000).
Objective/Criterion Reference:	Code of Federal Regulations 40 part 131.38 Establishment of numeric criteria for priority toxic pollutants for the State of California. 7/1/2011 Edition
Evaluation Guideline:	
Guideline Reference:	
Spatial Representation:	Data for this line of evidence for Suisun Bay was collected at 7 monitoring sites [Grizzly Bay - BF20, Suisun Bay - SU019W, Suisun Bay - SU020W, Suisun Bay - SU021W, Suisun Bay - SU022W, Suisun Bay - SU024W, Suisun Bay - SU025W]
Temporal Representation:	Data was collected over the time period 2/8/1994-8/8/2007.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	The 1999 Quality Assurance Project Plan Regional Monitoring Program for Trace Substances was used.
QAPP Information Reference(s):	1999 Quality Assurance Project Plan Regional Monitoring Program for Trace Substances

DECISION ID	66672	Region 2
Suisun Bay		

Pollutant: Final Listing Decision: Last Listing Cycle's Final Listing Decision: Revision Status Sources: Expected TMDL Completion Date: Impairment from Pollutant or Pollution:	Toxicity List on 303(d) list (TMDL required list) New Decision Revised Source Unknown 2029 Pollutant
Regional Board Staff Conclusion:	<p>This pollutant is being considered for placement on the CWA section 303(d) List under section 3.6 of the Listing Policy. Under section 3.6 a single line of evidence is necessary to assess listing status.</p> <p>Two lines of evidence are available in the administrative record to assess this pollutant. Thirty-four of the fifty-one samples exceed the guideline.</p> <p>Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification in favor of placing this water segment-pollutant combination on the CWA section 303(d) List.</p> <p>This conclusion is based on the staff findings that:</p> <ol style="list-style-type: none"> 1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy.

2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy.
3. Thirty-four of the fifty-one samples exceed the guideline and this exceeds the allowable frequency listed in Table 3.1 of the Listing Policy.
4. Pursuant to section 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.

Regional Board Staff Decision Recommendation: After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should be placed on the section 303(d) list because applicable water quality standards are exceeded and a pollutant contributes to or causes the problem.

Line of Evidence (LOE) for Decision ID 66672, Toxicity
Suisun Bay

Region 2

LOE ID:	95811
Pollutant:	Toxicity
LOE Subgroup:	Toxicity
Matrix:	Sediment
Fraction:	None
Beneficial Use:	Estuarine Habitat
Number of Samples:	51
Number of Exceedances:	34
Data and Information Type:	TOXICITY TESTING
Data Used to Assess Water Quality:	<p>Thirty-four of the 51 samples exhibited toxicity. A sample may have multiple toxicity test results but will be counted only once. A sample is defined as being collected on the same day at the same location with the same lab sample id (if provided).</p> <p>The following test organisms and parameters were utilized for the toxicity tests: Eohaustorius estuarius (mean % survival), 1993-2000, 2002-08; Hyalella azteca (growth), 2002; Ceriodaphnia dubia (mean % survival), 2001; Mytilus edulis (mean % normal alive), 1993-1995, 1997; Mytilus galloprovincialis (mean % normal alive), 1998-2001, 2005-08; and Strongylocentrotus purpuratus (mean % normal development), 1998. The following samples exhibited toxicity: Eohaustorius estuarius collected 1993-94, 1996-2000, 2003, 2005, 2007-08; Mytilus edulis collected 1993, 1995, 1997; Mytilus galloprovincialis collected 1998, 2000-01, 2005-08.</p> <p>Additional results were not included in the assessment due to control results of less than 90 percent for test parameter.</p>
Data Reference:	Regional Monitoring Program data, Feb. 1993-Sep. 2008
SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	All waters shall be maintained free of toxic substances in concentrations that are toxic to, or that produce detrimental physiological responses in, human, plant, animal, or aquatic life. Region 2 Basin Plan.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) - San Francisco Bay Region (Region 2)
Evaluation Guideline:	Toxicity is defined as a significant reduction of test organism relative to the control (alpha < 0.01) and test organism survival is 80% or less than the control survival (at least 20% effect).
Guideline Reference:	SWAMP Memo Toxicity Data Interpretation Short-term Methods for Estimating the Chronic Toxicity of Effluents and Receiving Waters to West Coast Marine and Estuarine Organisms. EPA/600/R-95-136.
Spatial Representation:	Samples were collected at sites BF21, SU001S, SU002S, SU003S, SU004S, SU005S, SU007S, SU009S, SU011S, SU013S, SU015S, SU017S, SU019S, SU023S, SU025S, SU027S, SU029S, SU031S, SU037S, SU039S, SU040S, SU075S, and SU080S.
Temporal Representation:	The samples were collected twice each year (generally winter and summer) from 1993-

99, and during the summers of 2000-08.

Environmental Conditions:

QAPP Information:

Data collected after 1999 follows the San Francisco Estuary Institute 1999 Quality Assurance Project Plan Regional Monitoring Program for Trace Substances.

QAPP Information Reference(s):

[1999 Quality Assurance Project Plan Regional Monitoring Program for Trace Substances](#)

Line of Evidence (LOE) for Decision ID 66672, Toxicity

Region 2

Suisun Bay

LOE ID: 95797

Pollutant: Toxicity

LOE Subgroup: Toxicity

Matrix: Water

Fraction: None

Beneficial Use: Estuarine Habitat

Number of Samples: 17

Number of Exceedances: 1

Data and Information Type: TOXICITY TESTING

Data Used to Assess Water Quality: One of the 17 samples exhibited toxicity. A sample may have multiple toxicity test results but will be counted only once. A sample is defined as being collected on the same day at the same location with the same lab sample id (if provided).

The following test organisms and parameters were utilized for the toxicity tests: *Thalassiosira pseudonana* (cell count), 1993; *Crassostrea gigas* (mean % normal development), 1993; *Mytilus edulis* (mean % normal development), 1993, 1996-97; and *Americamysis bahia* - formerly *Mysidopsis bahia* (mean % survival), 1994-1999, 2001, 2007. The sample which exhibited toxicity was for *Americamysis bahia* collected July 1996.

Additional results were not included in the assessment due to percent survival or percent normal development of less than 90 percent for the control.

Data Reference: [Regional Monitoring Program data, Feb. 1993-Sep. 2008](#)

SWAMP Data: Non-SWAMP

Water Quality Objective/Criterion: All waters shall be maintained free of toxic substances in concentrations that are toxic to, or that produce detrimental physiological responses in, human, plant, animal, or aquatic life. Region 2 Basin Plan.

Objective/Criterion Reference: [Water Quality Control Plan \(Basin Plan\) - San Francisco Bay Region \(Region 2\)](#)

Evaluation Guideline: Toxicity is defined as a significant reduction of test organism relative to the control ($\alpha < 0.05$) and test organism survival is 80% or less than the control survival (at least 20% effect).

Guideline Reference: [SWAMP Memo Toxicity Data Interpretation Method 1007.0: Mysid, Mysidopsis bahia, Survival, Growth, and Fecundity Test: Chronic Toxicity. Excerpt from: Short-Term Methods for Estimating the Chronic Toxicity of Effluents and Receiving Waters to Marine and Estuarine Organisms. 3rd edition EPA-821-R-02-014](#)

Spatial Representation: Samples were collected at sites BF20 and SU023W.

Temporal Representation: The samples were collected twice each year (generally winter and summer) from 1993-1999 and 2001, and during the summer of 2007.

Environmental Conditions:

QAPP Information:

Data collected after 1999 follows the San Francisco Estuary Institute 1999 Quality Assurance Project Plan Regional Monitoring Program for Trace Substances.

QAPP Information Reference(s):

[1999 Quality Assurance Project Plan Regional Monitoring Program for Trace Substances](#)

Pollutant:	Nickel
Final Listing Decision:	Delist from 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision:	Delist from 303(d) list (TMDL required list)(2012)
Revision Status	Original
Reason for Delisting:	Applicable WQS attained; reason for recovery unspecified
Impairment from Pollutant or Pollution:	Pollutant

Regional Board Staff Conclusion:

This pollutant is being considered for removal from the CWA section 303(d) List under section 4.1 of the Listing Policy. Under this section a single line of evidence is necessary to assess listing status.

Four lines of evidence are available in the administrative record to assess this pollutant. Zero of one hundred fifty-three samples exceeded the objective.

Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification for removing this water segment-pollutant combination from the CWA section 303(d) List.

This conclusion is based on the staff findings that:

1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy.
2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy.
3. Zero of one hundred fifty-three samples exceeded the objective and this does not exceed the allowable frequency listed in Table 4.1 of the Listing Policy.
4. Pursuant to section 4.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.

Regional Board Staff Decision Recommendation: After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should be removed from the section 303(d) list because applicable water quality standards for the pollutant are not being exceeded.

Line of Evidence (LOE) for Decision ID 33557, Nickel	Region 2
Suisun Bay	

LOE ID:	5195
Pollutant:	Nickel
LOE Subgroup:	Pollutant-Water
Matrix:	Water
Fraction:	Dissolved
Beneficial Use:	Estuarine Habitat
Aquatic Life Use:	Estuarine Habitat
Number of Samples:	96
Number of Exceedances:	0
Data and Information Type:	Highest quality fixed-station P/C (conventional plus toxicants)
Data Used to Assess Water Quality:	Data are dissolved nickel measurements of grab samples collected through two monitoring programs. The first is the ongoing Regional Monitoring Program (RMP) in San Francisco Bay. The second set of data was from a special discharger-funded study to develop copper and nickel site-specific objectives (SSOs) that began in 2001. These data were taken throughout San Francisco Bay, but the bulk of the data are from the deepwater ?spine? of the Bay.
Data Reference:	Spreadsheet of nickel data for San Francisco Bay from Regional Monitoring Program and Special copper/nickel study (1993-2005)

SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	The Basin Plan contains water quality objectives of 8.2 microgram/Liter as a 4-day average and, 74 microgram/Liter as a 1-hour average. These objectives were approved by USEPA in January 2005 and are contained in the Regional Board Basin Plan in Table 3-3.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) - San Francisco Bay Region (Region 2)
Evaluation Guideline:	
Guideline Reference:	
Spatial Representation:	21 sampling locations for Suisun Bay.
Temporal Representation:	Samples were taken from 1993 to 2005 in all seasons.
Environmental Conditions:	
QAPP Information:	Regional Monitoring Program QA/QC program is documented at http://sfei.org/rmp/rmp_data_index.html .
QAPP Information Reference(s):	

**Line of Evidence (LOE) for Decision ID 33557, Nickel
Suisun Bay**

Region 2

LOE ID:	3704
Pollutant:	Nickel
LOE Subgroup:	Pollutant-Water
Matrix:	Water
Fraction:	Not Recorded
Beneficial Use:	Estuarine Habitat
Number of Samples:	0
Number of Exceedances:	0
Data and Information Type:	Not Specified
Data Used to Assess Water Quality:	Unspecified--This LOE is a placeholder to support a 303(d) listing decision made prior to 2006.
Data Reference:	Placeholder reference pre-2006 303(d)
SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	Unspecified
Objective/Criterion Reference:	Placeholder reference pre-2006 303(d)
Evaluation Guideline:	Unspecified
Guideline Reference:	Placeholder reference pre-2006 303(d)
Spatial Representation:	Unspecified
Temporal Representation:	Unspecified
Environmental Conditions:	Unspecified
QAPP Information:	Unspecified
QAPP Information Reference(s):	

**Line of Evidence (LOE) for Decision ID 33557, Nickel
Suisun Bay**

Region 2

LOE ID:	93374
Pollutant:	Nickel
LOE Subgroup:	Pollutant-Water
Matrix:	Water
Fraction:	Dissolved

Beneficial Use:	Estuarine Habitat
Number of Samples:	57
Number of Exceedances:	0
Data and Information Type:	PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality:	State Water Board staff assessed SFEI data for Suisun Bay to determine beneficial use support and results are as follows: 0 of 57 samples exceed the criterion for Nickel.
Data Reference:	Regional Monitoring Program data, Feb. 1993-Sep. 2008
SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	The dissolved nickel criterion continuous concentration (expressed as a 4-day average) to protect aquatic life in saline water is 0.0082 mg/L (California Toxics Rule, 2000).
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	
Guideline Reference:	
Spatial Representation:	Data for this line of evidence for Suisun Bay was collected at 8 monitoring sites [Pacheco Creek - BF10, Suisun Bay - SU028W, Suisun Bay - SU025W, Suisun Bay - SU015W, Suisun Bay - SU023W, Suisun Bay - SU003W, Grizzly Bay - BF20, Honker Bay - BF40]
Temporal Representation:	Data was collected over the time period 3/4/1993-7/10/2008.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	The 1999 Quality Assurance Project Plan Regional Monitoring Program for Trace Substances was used.
QAPP Information Reference(s):	1999 Quality Assurance Project Plan Regional Monitoring Program for Trace Substances

Line of Evidence (LOE) for Decision ID 33557, Nickel

Region 2

Suisun Bay

LOE ID:	93375
Pollutant:	Nickel
LOE Subgroup:	Pollutant-Water
Matrix:	Water
Fraction:	Total
Beneficial Use:	Commercial or recreational collection of fish, shellfish, or organisms
Number of Samples:	94
Number of Exceedances:	0
Data and Information Type:	PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality:	State Water Board staff assessed SFEI data for Suisun Bay to determine beneficial use support and results are as follows: 0 of 94 samples exceed the criterion for Nickel.
Data Reference:	Regional Monitoring Program data, Feb. 1993-Sep. 2008
SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	The Nickel criteria for the protection of human health from consumption of organisms only is 4.6 mg/L (California Toxics Rule, 2000).
Objective/Criterion Reference:	Code of Federal Regulations 40 part 131.38 Establishment of numeric criteria for priority toxic pollutants for the State of California. 7/1/2011 Edition
Evaluation Guideline:	
Guideline Reference:	
Spatial Representation:	Data for this line of evidence for Suisun Bay was collected at 25 monitoring sites [Pacheco Creek - BF10, Grizzly Bay - BF20, Honker Bay - BF40, Suisun Bay - SU001W, Suisun Bay - SU002W, Suisun Bay - SU003W, Suisun Bay - SU005W, Suisun Bay -

SU009W, Suisun Bay - SU010W, Suisun Bay - SU012W, Suisun Bay - SU014W, Suisun Bay - SU015W, Suisun Bay - SU016W, Suisun Bay - SU017W, Suisun Bay - SU018W, Suisun Bay - SU019W, Suisun Bay - SU020W, Suisun Bay - SU021W, Suisun Bay - SU022W, Suisun Bay - SU023W, Suisun Bay - SU024W, Suisun Bay - SU025W, Suisun Bay - SU026W, Suisun Bay - SU028W, Suisun Bay - SU029W]

Temporal Representation:

Data was collected over the time period 3/4/1993-7/10/2008.

Environmental Conditions:

Staff is not aware of any special conditions that might affect interpretation of the data.

QAPP Information:

The 1999 Quality Assurance Project Plan Regional Monitoring Program for Trace Substances was used.

QAPP Information Reference(s):

[1999 Quality Assurance Project Plan Regional Monitoring Program for Trace Substances](#)

DECISION ID	33007	Region 2
Suisun Bay		

Pollutant: Polybrominated Diphenyl Ethers (PBDEs)
Final Listing Decision: Do Not List on 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision: Do Not List on 303(d) list (TMDL required list)(2012)
Revision Status Original
Impairment from Pollutant or Pollution: Pollutant

Regional Board Staff Conclusion: This pollutant is being considered for listing under sections 2.1 and 3.1 of the Listing Policy. Under section 3.1 a single line of evidence is necessary to assess listing status. Two lines of evidence are available in the administrative record to assess this pollutant. It cannot be determined if the pollutant is likely to exceed the narrative water quality objective. Based on the readily available data and information, the weight of evidence indicates that there is not sufficient justification in favor of placing this water segment-pollutant combination on the section 303(d) list in the Water Quality Limited Segments category. This conclusion is based on the staff findings that: 1. An evaluation guideline is not available that complies with the requirements of section 6.1.3 of the Policy. 2. The data used satisfies the data quality requirements of section 6.1.4 of the Policy. 3. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy. 4. Pursuant to section 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.

Regional Board Staff Decision Recommendation: This is a decision previously approved by the State Water Resources Control Board and the USEPA. No new data were assessed by the Regional Board for the current. The decision has not changed.

Line of Evidence (LOE) for Decision ID 33007, Polybrominated Diphenyl Ethers (PBDEs)	Region 2
Suisun Bay	

LOE ID: 71
Pollutant: Polybrominated Diphenyl Ethers (PBDEs)
LOE Subgroup: Testimonial Evidence
Matrix: Not Specified
Fraction: None
Beneficial Use: Commercial or recreational collection of fish, shellfish, or organisms
Number of Samples: 0
Number of Exceedances: 0
Data and Information Type: Not Specified
Data Used to Assess Water Quality: 2002 List Fact Sheet Information:

PBDEs research literature will be reviewed by the RWQCB to ascertain any new information on actual effects thresholds for these persistent bioaccumulative substances in the next listing cycle. These actions can be conducted regionally through the RMP, the Bay Area Pollution Prevention Group, or other association of dischargers. During the

subsequent listing cycle, RWQCB staff evaluation of current research, applicable water quality criteria, and local actions to characterize sources and pollution prevention of PBDEs will determine whether a listing is needed.

Data Reference: [Placeholder reference 2006 303\(d\)](#)

SWAMP Data: Non-SWAMP

Water Quality Objective/Criterion: Basin Plan Narrative Objectives:

"Many pollutants can accumulate on particles, in sediment, or bioaccumulate in fish or other aquatic organisms. Controllable water quality factors shall not cause a detrimental increase in concentrations of toxic substances found in bottom sediments or aquatic life. Effects on aquatic organisms, wildlife, and human health will be considered."

"Controllable water quality factors shall not cause a detrimental increase in the concentrations of toxic pollutants in sediments or aquatic life."

Objective/Criterion Reference: [Placeholder reference 2006 303\(d\)](#)

Evaluation Guideline:

Guideline Reference:

Spatial Representation:

Temporal Representation:

Environmental Conditions:

QAPP Information:

QA Info Missing

QAPP Information Reference(s):

Line of Evidence (LOE) for Decision ID 33007, Polybrominated Diphenyl Ethers (PBDEs)

Region 2

Suisun Bay

LOE ID: 70

Pollutant: Polybrominated Diphenyl Ethers (PBDEs)

LOE Subgroup: Pollutant-Tissue

Matrix: Not Specified

Fraction: None

Beneficial Use: Commercial or recreational collection of fish, shellfish, or organisms

Number of Samples: 0

Number of Exceedances: 0

Data and Information Type: Not Specified

Data Used to Assess Water Quality: 2004 Comments on List:

Numeric information, along with circumstantial, anecdotal, and non-specific referenced evidence, was submitted in 2004 with the request that the San Francisco Bay (presumably San Pablo Bay; San Francisco Bay, Central; San Francisco Bay, South; San Francisco Bay, Lower; and/or Suisun Bay) be listed for the PBDE family of flame retardant chemicals.

Otherwise informative studies based on findings from other states and other countries (Sweden) cannot, by themselves, provide sufficient evidence to list a pollutant for a California water body. Instead, this data provides background information only.

Data on contamination by PBDEs of human (breast) tissue from residents in and around the Bay is not usable for listing those water bodies due to the fact that there is no way to meaningfully link such contamination directly to water quality and to a particular water body.

Similarly, the presence of PBDEs in eggs and seal tissues is unfortunately inadequate to list. Again, the problem is the relationship between PBDEs and any human health effects.

SWRCB staff is unable to determine exactly where birds nests and seal carcasses were sampled in relation to the five Bay area water bodies. Even if specific sample sites could be established, the question remains: how direct is the relationship between the presence of a pollutant, in this case PBDEs in the tissues of a widely ranging species, and the water of a specific water body. This is not the case when filter-feeding organisms (e.g., mussels and clams) or organisms that forage locally exclusively are used.

While some data presented was from local fish species, the volume and reliability of the data is questionable. Leopard shark, halibut, striped bass, and other species may move considerable distances before captured, blurring the relationship between pollutants in the body and the water body of capture. The 'tainted catch' report summarized the problem facing water quality investigators: 'PBDE levels varied widely among fish species and between individuals of the same species,' in part due to 'location in the Bay.'

Data Reference:

[Placeholder reference 2006 303\(d\)](#)

SWAMP Data:

Non-SWAMP

Water Quality Objective/Criterion:

Basin Plan: Many pollutants can accumulate on particles, in sediment, or bioaccumulate in fish or other aquatic organisms. Controllable water quality factors shall not cause a detrimental increase in concentrations of toxic substances found in bottom sediments or aquatic life. Effects on aquatic organisms, wildlife, and human health will be considered.

Objective/Criterion Reference:

[Placeholder reference 2006 303\(d\)](#)

Evaluation Guideline:

None available. SWRCB remains unaware of any reliable criterion or guideline of use in evaluating the magnitude of the data provided.

Guideline Reference:

[Placeholder reference 2006 303\(d\)](#)

Spatial Representation:

Temporal Representation:

Multiple studies are cited (e.g., California studies: She et al., 2002). PBDEs in the San Francisco Bay Area: measurements in harbor seal blubber and human breast adipose tissue. Chemosphere 46(2002): 697-707; Petreas et al., 2003. High Body Burdens of 2,2',4,4'-Tetrabromodiphenyl Ether (BDE-47) in California Women. Environ. Health Perspect. 111(9): 1175-1179; She et al., 2003. High PBDE Levels in Shorebird Eggs from the San Francisco Bay and Washington State. Proceedings. 2003 Georgia Basin/Puget Sound Research Conference.)

Environmental Conditions:

QAPP Information:

QA Info Missing

QAPP Information Reference(s):

DECISION ID	43220	Region 2
Suisun Bay		

Pollutant: Dioxin compounds (including 2,3,7,8-TCDD)

Final Listing Decision: List on 303(d) list (TMDL required list)

Last Listing Cycle's Final Listing Decision: List on 303(d) list (TMDL required list)(2012)

Revision Status Original

Sources: Source Unknown

Expected TMDL Completion Date: 2019

Impairment from Pollutant or Pollution: Pollutant

Regional Board Staff Conclusion: 303(d) listing decisions made prior to 2006 were not held in an assessment database. The Regional Boards will update this decision when new data and information become available and are assessed.

Regional Board Staff Decision Recommendation: This is a decision previously approved by the State Water Resources Control Board and the USEPA. No new data were assessed by the Regional Board for the current. The decision has not changed.

Line of Evidence (LOE) for Decision ID 43220, Dioxin compounds (including 2,3,7,8-TCDD)	Region 2
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Suisun Bay

LOE ID: 3700

Pollutant: Dioxin compounds (including 2,3,7,8-TCDD)
LOE Subgroup: Pollutant-Tissue
Matrix: Tissue
Fraction: Not Recorded

Beneficial Use: Commercial or recreational collection of fish, shellfish, or organisms

Number of Samples: 0
Number of Exceedances: 0

Data and Information Type: Not Specified
Data Used to Assess Water Quality: Unspecified--This LOE is a placeholder to support a 303(d) listing decision made prior to 2006.
Data Reference: [Placeholder reference pre-2006 303\(d\)](#)

SWAMP Data: Non-SWAMP

Water Quality Objective/Criterion: Unspecified
Objective/Criterion Reference: [Placeholder reference pre-2006 303\(d\)](#)

Evaluation Guideline: Unspecified
Guideline Reference: [Placeholder reference pre-2006 303\(d\)](#)

Spatial Representation: Unspecified
Temporal Representation: Unspecified
Environmental Conditions: Unspecified
QAPP Information: Unspecified
QAPP Information Reference(s):

DECISION ID**33555****Region 2****Suisun Bay**

Pollutant: Furan Compounds
Final Listing Decision: List on 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision: List on 303(d) list (TMDL required list)(2012)
Revision Status Original
Sources: Source Unknown
Expected TMDL Completion Date: 2019
Impairment from Pollutant or Pollution: Pollutant

Regional Board Staff Conclusion: 303(d) listing decisions made prior to 2006 were not held in an assessment database. The Regional Boards will update this decision when new data and information become available and are assessed.

Regional Board Staff Decision Recommendation: This is a decision previously approved by the State Water Resources Control Board and the USEPA. No new data were assessed by the Regional Board for the current. The decision has not changed.

Line of Evidence (LOE) for Decision ID 33555, Furan Compounds**Region 2****Suisun Bay**

LOE ID: 3702

Pollutant: Furan Compounds

LOE Subgroup:	Pollutant-Tissue
Matrix:	Tissue
Fraction:	Not Recorded
Beneficial Use:	Commercial or recreational collection of fish, shellfish, or organisms
Number of Samples:	0
Number of Exceedances:	0
Data and Information Type:	Not Specified
Data Used to Assess Water Quality:	Unspecified--This LOE is a placeholder to support a 303(d) listing decision made prior to 2006.
Data Reference:	Placeholder reference pre-2006 303(d)
SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	Unspecified
Objective/Criterion Reference:	Placeholder reference pre-2006 303(d)
Evaluation Guideline:	Unspecified
Guideline Reference:	Placeholder reference pre-2006 303(d)
Spatial Representation:	Unspecified
Temporal Representation:	Unspecified
Environmental Conditions:	Unspecified
QAPP Information:	Unspecified
QAPP Information Reference(s):	

DECISION ID	34586	Region 2
Suisun Bay		

Pollutant:	Invasive Species
Final Listing Decision:	List on 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision:	List on 303(d) list (TMDL required list)(2012)
Revision Status	Original
Sources:	Source Unknown
Expected TMDL Completion Date:	2019
Impairment from Pollutant or Pollution:	Pollutant

Regional Board Staff Conclusion: 303(d) listing decisions made prior to 2006 were not held in an assessment database. The Regional Boards will update this decision when new data and information become available and are assessed.

Regional Board Staff Decision Recommendation: This is a decision previously approved by the State Water Resources Control Board and the USEPA. No new data were assessed by the Regional Board for the current. The decision has not changed.

Line of Evidence (LOE) for Decision ID 34586, Invasive Species	Region 2
Suisun Bay	

LOE ID:	3701
Pollutant:	Invasive Species
LOE Subgroup:	Population/Community Degradation
Matrix:	Water
Fraction:	Not Recorded
Beneficial Use:	Estuarine Habitat

Number of Samples:	0
Number of Exceedances:	0
Data and Information Type:	Not Specified
Data Used to Assess Water Quality:	Unspecified--This LOE is a placeholder to support a 303(d) listing decision made prior to 2006.
Data Reference:	Placeholder reference pre-2006 303(d)
SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	
Objective/Criterion Reference:	
Evaluation Guideline:	
Guideline Reference:	
Spatial Representation:	Unspecified
Temporal Representation:	Unspecified
Environmental Conditions:	Unspecified
QAPP Information:	Unspecified
QAPP Information Reference(s):	

DECISION ID	33559	Region 2
Suisun Bay		

Pollutant:	PCBs (Polychlorinated biphenyls) (dioxin-like)
Final Listing Decision:	List on 303(d) list (being addressed by USEPA approved TMDL)
Last Listing Cycle's Final Listing Decision:	List on 303(d) list (TMDL required list)(2012)
Revision Status	Original
Sources:	Source Unknown
TMDL Name:	San Francisco Bay PCBs
TMDL Project Code:	7
Date TMDL Approved by USEPA:	03/29/2010
Impairment from Pollutant or Pollution:	Pollutant

Regional Board Staff Conclusion:	303(d) listing decisions made prior to 2006 were not held in an assessment database. The Regional Boards will update this decision when new data and information become available and are assessed.
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Regional Board Staff Decision Recommendation:	This is a decision previously approved by the State Water Resources Control Board and the USEPA. No new data were assessed by the Regional Board for the current. The decision has not changed.
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Line of Evidence (LOE) for Decision ID 33559, PCBs (Polychlorinated biphenyls) (dioxin-like)	Region 2
Suisun Bay	

LOE ID:	3706
Pollutant:	PCBs (Polychlorinated biphenyls) (dioxin-like)
LOE Subgroup:	Pollutant-Tissue
Matrix:	Tissue
Fraction:	Not Recorded
Beneficial Use:	Commercial or recreational collection of fish, shellfish, or organisms
Number of Samples:	0
Number of Exceedances:	0

Data and Information Type:	Not Specified
Data Used to Assess Water Quality:	Unspecified--This LOE is a placeholder to support a 303(d) listing decision made prior to 2006.
Data Reference:	Placeholder reference pre-2006 303(d)
SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	Unspecified
Objective/Criterion Reference:	Placeholder reference pre-2006 303(d)
Evaluation Guideline:	Unspecified
Guideline Reference:	Placeholder reference pre-2006 303(d)
Spatial Representation:	Unspecified
Temporal Representation:	Unspecified
Environmental Conditions:	Unspecified
QAPP Information:	Unspecified
QAPP Information Reference(s):	

Draft California 2016 Integrated Report (303(d) List/305(b) Report)

Supporting Information

Regional Board 2 - San Francisco Bay Region

Water Body Name: Lawsons Landing
Water Body ID: CAC2011203020070321183048
Water Body Type: Coastal & Bay Shoreline

DECISION ID 33976 **Region 2**
Lawsons Landing

Pollutant: Indicator Bacteria
Final Listing Decision: Delist from 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision: List on 303(d) list (TMDL required list)(2012)
Revision Status: Revised
Reason for Delisting: Applicable WQS attained; reason for recovery unspecified
Impairment from Pollutant or Pollution: Pollutant

Regional Board Staff Conclusion: This pollutant is being considered for removal from the CWA section 303(d) List under section 4.3 of the Listing Policy. Under section 4.3 a single line of evidence is necessary to assess listing status.

Seven lines of evidence are available in the administrative record to assess this pollutant. Twenty-one of the two hundred fourteen samples exceed the enterococcus geometric mean objective.

Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification to remove this water segment-pollutant combination from the CWA section 303(d) List.

This conclusion is based on the staff findings that:

1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy.
2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy.
3. Twenty-one of the two hundred fourteen samples exceed the enterococcus geometric mean objective and this does not exceed the allowable frequency listed in Table 4.2 of the Listing Policy.
4. Pursuant to section 3.11/4.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.

Regional Board Staff Decision Recommendation: After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should be removed from the section 303(d) list because applicable water quality standards for the pollutant are not being exceeded.

Line of Evidence (LOE) for Decision ID 33976, Indicator Bacteria **Region 2**
Lawsons Landing

LOE ID: 90896
Pollutant: Enterococcus
LOE Subgroup: Pollutant-Water
Matrix: Water
Fraction: None
Beneficial Use: Water Contact Recreation
Number of Samples: 159
Number of Exceedances: 7

Data and Information Type:	PATHOGEN MONITORING
Data Used to Assess Water Quality:	Water Board staff assessed BeachWatch data for Lawsons Landing to determine beneficial use support and results are as follows: 7 of 137 samples exceed the criterion for Enterococci.
Data Reference:	Data for Region 2 Beach Watch.
SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	The San Francisco Bay Basin Plan states that the single sample maximum for Enterococcus shall not exceed 104 MPN/100 mL.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	
Guideline Reference:	
Spatial Representation:	Data for this line of evidence for Lawsons Landing was collected at 1 monitoring site [Lawson's Landing]
Temporal Representation:	Data was collected over the time period 4/5/2005-8/24/2010.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	The samples were collected for the Beach Watch program.
QAPP Information Reference(s):	

Line of Evidence (LOE) for Decision ID 33976, Indicator Bacteria

Region 2

Lawsons Landing

LOE ID:	90618
Pollutant:	Fecal Coliform
LOE Subgroup:	Pollutant-Water
Matrix:	Water
Fraction:	None
Beneficial Use:	Water Contact Recreation
Number of Samples:	136
Number of Exceedances:	0
Data and Information Type:	Not Specified
Data Used to Assess Water Quality:	Zero of the 136 geomeans exceeded the objective.
Data Reference:	Data for Region 2 Beach Watch.
SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	The geometric mean standard for fecal coliform states that the fecal coliform density shall not exceed 200 per 100 mL. San Francisco Bay Basin Water Quality Control Plan.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	
Guideline Reference:	
Spatial Representation:	Samples were collected at the Lawson's Landing site.
Temporal Representation:	Samples were collected from April 2005 to August 2010.
Environmental Conditions:	
QAPP Information:	The samples were collected for the beach watch program.
QAPP Information Reference(s):	

Line of Evidence (LOE) for Decision ID 33976, Indicator Bacteria

Region 2

Lawsons Landing

LOE ID:	90619
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Pollutant:	Total Coliform
LOE Subgroup:	Pollutant-Water
Matrix:	Water
Fraction:	None
Beneficial Use:	Water Contact Recreation
Number of Samples:	38
Number of Exceedances:	3
Data and Information Type:	Not Specified
Data Used to Assess Water Quality:	Three of the thirty-eight monthly medians exceeded the objective.
Data Reference:	Data for Region 2 Beach Watch.
SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	The standard for total coliform states that the coliform density shall not exceed a monthly median of 240 per 100 mL. San Francisco Bay Basin Water Quality Control Plan.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	
Guideline Reference:	
Spatial Representation:	Samples were collected at the Lawson's Landing site.
Temporal Representation:	Samples were collected from April 2005 to August 2010.
Environmental Conditions:	
QAPP Information:	The samples were collected for the Beach Watch program.
QAPP Information Reference(s):	

Line of Evidence (LOE) for Decision ID 33976, Indicator Bacteria

Region 2

Lawsons Landing

LOE ID:	346
Pollutant:	Indicator Bacteria
LOE Subgroup:	Pollutant-Water
Matrix:	Water
Fraction:	Total
Beneficial Use:	Water Contact Recreation
Number of Samples:	78
Number of Exceedances:	11
Data and Information Type:	PATHOGEN MONITORING
Data Used to Assess Water Quality:	Available data indicate sufficient exceedances of bacterial indicator objectives. There were 9 out of 91 exceedances of the single sample maximum for enterococci, and 11 out of 78 exceedances of the geomean for enterococci (USEPA, 2007).
Data Reference:	Placeholder reference 2006 303(d)
SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	Title 17 C.C.R. Section 7958 states: Based on a single sample, the density of bacteria in water from each sampling station at a public beach or public water contact sports area shall not exceed: (A) 1,000 total coliform bacteria per 100 milliliters, if the ratio of fecal/total coliform bacteria exceeds 0.1; or (B) 10,000 total coliform bacteria per 100 milliliters; or (C) 400 fecal coliform bacteria per 100 milliliters; or (D) 104 enterococcus bacteria per 100 milliliters.

Based on the mean of the logarithms of the results of at least five weekly samples during any 30-day sampling period, the density of bacteria in water from any sampling station at a public beach or public water contact sports area, shall not exceed:

- (A) 1,000 total coliform bacteria per 100 milliliters; or
- (B) 200 fecal coliform bacteria per 100 milliliters; or
- (C) 35 enterococcus bacteria per 100 milliliters. (DHS, 1999)

Objective/Criterion Reference:

[Placeholder reference 2006 303\(d\)](#)

Evaluation Guideline:

Guideline Reference:

Spatial Representation:

Station ID# MC20

Temporal Representation:

04/01/2003-10/25/2005

Environmental Conditions:

QAPP Information:

Data record: summers 2003-2005, Marin County Health Dept.

QAPP Information Reference(s):

Line of Evidence (LOE) for Decision ID 33976, Indicator Bacteria

Region 2

Lawsons Landing

LOE ID: 90855

Pollutant: Fecal Coliform
LOE Subgroup: Pollutant-Water
Matrix: Water
Fraction: None

Beneficial Use: Water Contact Recreation

Number of Samples: 159
Number of Exceedances: 0

Data and Information Type: PATHOGEN MONITORING
Data Used to Assess Water Quality: Water Board staff assessed BeachWatch data for Lawsons Landing to determine beneficial use support and results are as follows: 7 of 137 samples exceed the criterion for Enterococci.

Data Reference: [Data for Region 2 Beach Watch.](#)

SWAMP Data: Non-SWAMP

Water Quality Objective/Criterion: The San Francisco Bay Basin Plan states that the single sample maximum for fecal coliform shall not exceed 400 MPN/100 mL

Objective/Criterion Reference: [Water Quality Control Plan \(Basin Plan\) San Francisco Bay Basin \(Region 2\)](#)

Evaluation Guideline:

Guideline Reference:

Spatial Representation: Data for this line of evidence for Lawsons Landing was collected at 1 monitoring site [Lawson's Landing]

Temporal Representation: Data was collected over the time period 4/5/2005-8/24/2010.

Environmental Conditions: Staff is not aware of any special conditions that might affect interpretation of the data.

QAPP Information:

The samples were collected for the Beach Watch program.

QAPP Information Reference(s):

Line of Evidence (LOE) for Decision ID 33976, Indicator Bacteria

Region 2

Lawsons Landing

LOE ID: 90879

Pollutant: Total Coliform
LOE Subgroup: Pollutant-Water

Matrix:	Water
Fraction:	None
Beneficial Use:	Water Contact Recreation
Number of Samples:	159
Number of Exceedances:	0
Data and Information Type:	PATHOGEN MONITORING
Data Used to Assess Water Quality:	Water Board staff assessed BeachWatch data for Lawsons Landing to determine beneficial use support and results are as follows: 7 of 137 samples exceed the criterion for Enterococci.
Data Reference:	Data for Region 2 Beach Watch.
SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	The San Francisco Bay Basin Plan states that the single sample maximum for total coliform shall not exceed 10,000 MPN/100 mL
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	
Guideline Reference:	
Spatial Representation:	Data for this line of evidence for Lawsons Landing was collected at 1 monitoring site [Lawson's Landing]
Temporal Representation:	Data was collected over the time period 4/5/2005-8/24/2010.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	The samples were collected for the Beach Watch program.
QAPP Information Reference(s):	

Line of Evidence (LOE) for Decision ID 33976, Indicator Bacteria

Region 2

Lawsons Landing

LOE ID:	90620
Pollutant:	Enterococcus
LOE Subgroup:	Pollutant-Water
Matrix:	Water
Fraction:	None
Beneficial Use:	Water Contact Recreation
Number of Samples:	136
Number of Exceedances:	10
Data and Information Type:	Not Specified
Data Used to Assess Water Quality:	Ten of the 136 geomeans exceeded the objective.
Data Reference:	Data for Region 2 Beach Watch.
SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	The geometric mean standard for enterococcus states that the enterococcus density shall not exceed 35 per 100 mL. San Francisco Bay Basin Water Quality Control Plan.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	
Guideline Reference:	
Spatial Representation:	Samples were collected at the Lawson's Landing site.
Temporal Representation:	Samples were collected from April 2005 to August 2010.
Environmental Conditions:	
QAPP Information:	The samples were collected for the Beach Watch program.

QAPP Information Reference(s):

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Supporting Information

Regional Board 2 - San Francisco Bay Region

Water Body Name: Millerton Point
Water Body ID: CAC2011203220070321184816
Water Body Type: Coastal & Bay Shoreline

DECISION ID 34475 **Region 2**
Millerton Point

Pollutant: Indicator Bacteria
Final Listing Decision: Do Not Delist from 303(d) list (being addressed with USEPA approved TMDL)
Last Listing Cycle's Final Listing Decision: List on 303(d) list (TMDL required list)(2012)
Revision Status Revised
Sources: Source Unknown
TMDL Name: Tomales Bay Pathogens
TMDL Project Code: 10
Date TMDL Approved by USEPA: 02/08/2007
Impairment from Pollutant or Pollution: Pollutant

Regional Board Staff Conclusion: This pollutant is being considered for removal from the CWA section 303(d) List under section 4.3 of the Listing Policy. Under section 4.3 a single line of evidence is necessary to assess listing status.

Seven lines of evidence are available in the administrative record to assess this pollutant. Twenty-two of thirty-nine samples exceed the total coliform monthly median objective.

Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against removing this water segment-pollutant combination from the CWA section 303(d) List. There is sufficient justification to place it in the Being Addressed portion of the CWA 303(d) List because a TMDL has been completed and approved by RWQCB and USEPA, and is expected to result in attainment of the standard.

This conclusion is based on the staff findings that:

1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy.
2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy.
3. Twenty-two of thirty-nine samples exceed the total coliform monthly median objective and this exceeds the allowable frequency listed in Table 4.2 of the Listing Policy.
4. Pursuant to section 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.
5. The Tomales Bay Pathogens TMDL was approved by USEPA on 2/8/2007.

Regional Board Staff Decision Recommendation: After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be removed from the section 303(d) list because applicable water quality standards for the pollutant are being exceeded.

Line of Evidence (LOE) for Decision ID 34475, Indicator Bacteria **Region 2**
Millerton Point

LOE ID: 90882
Pollutant: Total Coliform
LOE Subgroup: Pollutant-Water

Matrix:	Water
Fraction:	None
Beneficial Use:	Water Contact Recreation
Number of Samples:	130
Number of Exceedances:	12
Data and Information Type:	PATHOGEN MONITORING
Data Used to Assess Water Quality:	Water Board staff assessed BeachWatch data for Millerton Point to determine beneficial use support and results are as follows: 12 of 130 samples exceed the criterion for Enterococci.
Data Reference:	Data for Region 2 Beach Watch.
SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	The San Francisco Bay Basin Plan states that the single sample maximum for total coliform shall not exceed 10,000 MPN/100 mL
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	
Guideline Reference:	
Spatial Representation:	Data for this line of evidence for Millerton Point was collected at 1 monitoring site [Millerton Point]
Temporal Representation:	Data was collected over the time period 4/5/2005-8/24/2010.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	The samples were collected for the Beach Watch program.
QAPP Information Reference(s):	

Line of Evidence (LOE) for Decision ID 34475, Indicator Bacteria

Region 2

Millerton Point

LOE ID:	90865
Pollutant:	Fecal Coliform
LOE Subgroup:	Pollutant-Water
Matrix:	Water
Fraction:	None
Beneficial Use:	Water Contact Recreation
Number of Samples:	130
Number of Exceedances:	3
Data and Information Type:	PATHOGEN MONITORING
Data Used to Assess Water Quality:	Water Board staff assessed BeachWatch data for Millerton Point to determine beneficial use support and results are as follows: 3 of 130 samples exceed the criterion for fecal coliform.
Data Reference:	Data for Region 2 Beach Watch.
SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	The San Francisco Bay Basin Plan states that the single sample maximum for fecal coliform shall not exceed 400 MPN/100 mL
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	
Guideline Reference:	
Spatial Representation:	Data for this line of evidence for Millerton Point was collected at 1 monitoring site [Millerton Point]

Temporal Representation:	Data was collected over the time period 4/5/2005-8/24/2010.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	The samples were collected for the Beach Watch program.
QAPP Information Reference(s):	

Line of Evidence (LOE) for Decision ID 34475, Indicator Bacteria

Region 2

Millerton Point

LOE ID:	90694
Pollutant:	Fecal Coliform
LOE Subgroup:	Pollutant-Water
Matrix:	Water
Fraction:	None
Beneficial Use:	Water Contact Recreation
Number of Samples:	87
Number of Exceedances:	1
Data and Information Type:	Not Specified
Data Used to Assess Water Quality:	One of the 87 geomeans exceeded the objective.
Data Reference:	Data for Region 2 Beach Watch.
SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	The geometric mean standard for fecal coliform states that the fecal coliform density shall not exceed 200 per 100 mL. San Francisco Bay Basin Water Quality Control Plan.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	
Guideline Reference:	
Spatial Representation:	Samples were collected at the Millerton Point site.
Temporal Representation:	Samples were collected from April 2005 to August 2010.
Environmental Conditions:	
QAPP Information:	The samples were collected for the beach watch program.
QAPP Information Reference(s):	

Line of Evidence (LOE) for Decision ID 34475, Indicator Bacteria

Region 2

Millerton Point

LOE ID:	90770
Pollutant:	Enterococcus
LOE Subgroup:	Pollutant-Water
Matrix:	Water
Fraction:	None
Beneficial Use:	Water Contact Recreation
Number of Samples:	130
Number of Exceedances:	7
Data and Information Type:	PATHOGEN MONITORING
Data Used to Assess Water Quality:	Water Board staff assessed BeachWatch data for Millerton Point to determine beneficial use support and results are as follows: 7 of 130 samples exceed the criterion for Enterococci.
Data Reference:	Data for Region 2 Beach Watch.
SWAMP Data:	Non-SWAMP

Water Quality Objective/Criterion:	The San Francisco Bay Basin Plan states that the single sample maximum for Enterococcus shall not exceed 104 MPN/100 mL.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	
Guideline Reference:	
Spatial Representation:	Data for this line of evidence for Millerton Point was collected at 1 monitoring site [Millerton Point]
Temporal Representation:	Data was collected over the time period 4/5/2005-8/24/2010.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	The samples were collected for the Beach Watch program.
QAPP Information Reference(s):	

Line of Evidence (LOE) for Decision ID 34475, Indicator Bacteria	Region 2
Millerton Point	

LOE ID:	90692
Pollutant:	Enterococcus
LOE Subgroup:	Pollutant-Water
Matrix:	Water
Fraction:	None
Beneficial Use:	Water Contact Recreation
Number of Samples:	87
Number of Exceedances:	3
Data and Information Type:	Not Specified
Data Used to Assess Water Quality:	Three of the 87 geomeans exceeded the objective.
Data Reference:	Data for Region 2 Beach Watch.
SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	The geometric mean standard for enterococcus states that the enterococcus density shall not exceed 35 per 100 mL. San Francisco Bay Basin Water Quality Control Plan.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	
Guideline Reference:	
Spatial Representation:	Samples were collected at the Millerton Point site.
Temporal Representation:	Samples were collected from April 2005 to August 2010.
Environmental Conditions:	
QAPP Information:	The samples were collected for the Beach Watch program.
QAPP Information Reference(s):	

Line of Evidence (LOE) for Decision ID 34475, Indicator Bacteria	Region 2
Millerton Point	

LOE ID:	90693
Pollutant:	Total Coliform
LOE Subgroup:	Pollutant-Water
Matrix:	Water
Fraction:	None
Beneficial Use:	Water Contact Recreation

Number of Samples:	39
Number of Exceedances:	22
Data and Information Type:	Not Specified
Data Used to Assess Water Quality:	Twenty-two of the thirty-nine monthly medians exceeded the objective.
Data Reference:	Data for Region 2 Beach Watch.
SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	The standard for total coliform states that the coliform density shall not exceed a monthly median of 240 per 100 mL. San Francisco Bay Basin Water Quality Control Plan.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	
Guideline Reference:	
Spatial Representation:	Samples were collected at the Millerton Point site.
Temporal Representation:	Samples were collected from April 2005 to August 2010.
Environmental Conditions:	
QAPP Information:	The samples were collected for the Beach Watch program.
QAPP Information Reference(s):	

Line of Evidence (LOE) for Decision ID 34475, Indicator Bacteria

Region 2

Millerton Point

LOE ID:	347
Pollutant:	Indicator Bacteria
LOE Subgroup:	Pollutant-Water
Matrix:	Water
Fraction:	Total
Beneficial Use:	Water Contact Recreation
Number of Samples:	64
Number of Exceedances:	8
Data and Information Type:	PATHOGEN MONITORING
Data Used to Assess Water Quality:	Available data indicate sufficient exceedances of bacterial indicator objectives. There were 6 out of 84 samples exceeding the single sample maximum for enterococci, 3 out of 64 samples exceeding the geomean for enterococci, and 8 out of 64 exceeding the geomean for total coliform (USEPA, 2007).
Data Reference:	Placeholder reference 2006 303(d)
SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	<p>Title 17 C.C.R. Section 7958 states: Based on a single sample, the density of bacteria in water from each sampling station at a public beach or public water contact sports area shall not exceed:</p> <p>(A) 1,000 total coliform bacteria per 100 milliliters, if the ratio of fecal/total coliform bacteria exceeds 0.1; or</p> <p>(B) 10,000 total coliform bacteria per 100 milliliters; or</p> <p>(C) 400 fecal coliform bacteria per 100 milliliters; or</p> <p>(D) 104 enterococcus bacteria per 100 milliliters.</p> <p>Based on the mean of the logarithms of the results of at least five weekly samples during any 30-day sampling period, the density of bacteria in water from any sampling station at a public beach or public water contact sports area, shall not exceed:</p> <p>(A) 1,000 total coliform bacteria per 100 milliliters; or</p> <p>(B) 200 fecal coliform bacteria per 100 milliliters; or</p> <p>(C) 35 enterococcus bacteria per 100 milliliters. (DHS, 1999)</p>
Objective/Criterion Reference:	Placeholder reference 2006 303(d)

Evaluation Guideline:
Guideline Reference:

Spatial Representation:
Temporal Representation:
Environmental Conditions:
QAPP Information:
QAPP Information Reference(s):

Station ID# MC100
04/01/2003-10/25/2005

Data record: summers 2003-2005, Marin County Health Dept.

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Supporting Information

Regional Board 2 - San Francisco Bay Region

Water Body Name: Chicken Ranch Beach
Water Body ID: CAC2011403320070320160601
Water Body Type: Coastal & Bay Shoreline

DECISION ID 34388 **Region 2**
Chicken Ranch Beach

Pollutant: Indicator Bacteria
Final Listing Decision: Do Not Delist from 303(d) list (being addressed with USEPA approved TMDL)
Last Listing Cycle's Final Listing Decision: List on 303(d) list (TMDL required list)(2012)
Revision Status Revised
Sources: Source Unknown
TMDL Name: Tomales Bay Pathogens
TMDL Project Code: 10
Date TMDL Approved by USEPA: 03/31/2017
Impairment from Pollutant or Pollution: Pollutant

Regional Board Staff Conclusion: This pollutant is being considered for removal on the CWA section 303(d) List under sections 2.2 and 4.3 of the Listing Policy. Under section 4.1 of the Policy, a minimum of one line of evidence is needed to assess listing status.

Ten lines of evidence are available in the administrative record to assess this pollutant.

Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against removing this water segment-pollutant combination from the CWA section 303(d) List. There is sufficient justification to place it in the Being Addressed portion of the CWA 303(d) List because a TMDL has been completed and approved by RWQCB and USEPA, and is expected to result in attainment of the standard.

This conclusion is based on the staff findings that:

1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy.
2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy.
3. Eight of twenty-six samples exceeded the total coliform monthly median objective and these exceed the allowable frequency listed in Table 4.2 of the Listing Policy.
4. The Tomales Bay Pathogens TMDL was approved by USEPA on 3/31/2017.
5. Pursuant to section 4.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.

Regional Board Staff Decision Recommendation: After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be removed from the section 303(d) list because applicable water quality standards for the pollutant are being exceeded.

Line of Evidence (LOE) for Decision ID 34388, Indicator Bacteria **Region 2**
Chicken Ranch Beach

LOE ID: 90811
Pollutant: Total Coliform
LOE Subgroup: Pollutant-Water

Matrix:	Water
Fraction:	Total
Beneficial Use:	Water Contact Recreation
Number of Samples:	107
Number of Exceedances:	1
Data and Information Type:	PATHOGEN MONITORING
Data Used to Assess Water Quality:	Water Board staff assessed BeachWatch data for Chicken Ranch Beach to determine beneficial use support and results are as follows: 1 of 107 samples exceed the criterion for Coliform, Total.
Data Reference:	Data for Region 2 Beach Watch.
SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	The San Francisco Bay Basin Plan states that the single sample maximum for total coliform shall not exceed 10,000 MPN/100 mL
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	
Guideline Reference:	
Spatial Representation:	Data for this line of evidence for Chicken Ranch Beach was collected at 1 monitoring site [Chicken Ranch Beach at Creek]
Temporal Representation:	Data was collected over the time period 4/5/2005-10/28/2008.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	The samples were collected for the Beach Watch program.
QAPP Information Reference(s):	

Line of Evidence (LOE) for Decision ID 34388, Indicator Bacteria

Region 2

Chicken Ranch Beach

LOE ID:	90641
Pollutant:	Fecal Coliform
LOE Subgroup:	Pollutant-Water
Matrix:	Water
Fraction:	Total
Beneficial Use:	Water Contact Recreation
Number of Samples:	89
Number of Exceedances:	0
Data and Information Type:	Not Specified
Data Used to Assess Water Quality:	Zero of the 89 geomeans exceeded the objective.
Data Reference:	Data for Region 2 Beach Watch.
SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	The geometric mean standard for fecal coliform states that the fecal coliform density shall not exceed 200 per 100 mL. San Francisco Bay Basin Water Quality Control Plan.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	
Guideline Reference:	
Spatial Representation:	Samples were collected at the Chicken Ranch Beach site.
Temporal Representation:	Samples were collected from April 2005 to October 2008.
Environmental Conditions:	
QAPP Information:	The samples were collected for the beach watch program.

Line of Evidence (LOE) for Decision ID 34388, Indicator Bacteria**Region 2****Chicken Ranch Beach**

LOE ID:	90640
Pollutant:	Total Coliform
LOE Subgroup:	Pollutant-Water
Matrix:	Water
Fraction:	Total
Beneficial Use:	Water Contact Recreation
Number of Samples:	26
Number of Exceedances:	8
Data and Information Type:	Not Specified
Data Used to Assess Water Quality:	Eight of the twenty-six monthly medians exceeded the objective. These samples were collected from April to October only and should be assessed with a 4 percent exceedance frequency.
Data Reference:	Data for Region 2 Beach Watch.
SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	The standard for total coliform states that the coliform density shall not exceed a monthly median of 240 per 100 mL. San Francisco Bay Basin Water Quality Control Plan.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	
Guideline Reference:	
Spatial Representation:	Samples were collected at the Chicken Ranch Beach site.
Temporal Representation:	Samples were collected from April 2005 to October 2008.
Environmental Conditions:	
QAPP Information:	The samples were collected for the Beach Watch program.
QAPP Information Reference(s):	

Line of Evidence (LOE) for Decision ID 34388, Indicator Bacteria**Region 2****Chicken Ranch Beach**

LOE ID:	90639
Pollutant:	Enterococcus
LOE Subgroup:	Pollutant-Water
Matrix:	Water
Fraction:	Total
Beneficial Use:	Water Contact Recreation
Number of Samples:	89
Number of Exceedances:	5
Data and Information Type:	Not Specified
Data Used to Assess Water Quality:	Five of the 89 geomeans exceeded the objective.
Data Reference:	Data for Region 2 Beach Watch.
SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	The geometric mean standard for enterococcus states that the enterococcus density shall not exceed 35 per 100 mL. San Francisco Bay Basin Water Quality Control Plan.

Objective/Criterion Reference: [Water Quality Control Plan \(Basin Plan\) San Francisco Bay Basin \(Region 2\)](#)

Evaluation Guideline:

Guideline Reference:

Spatial Representation:

Samples were collected at the Chicken Ranch Beach site.

Temporal Representation:

Samples were collected from April 2005 to October 2008.

Environmental Conditions:

QAPP Information:

The samples were collected for the Beach Watch program.

QAPP Information Reference(s):

Line of Evidence (LOE) for Decision ID 34388, Indicator Bacteria

Region 2

Chicken Ranch Beach

LOE ID: 90786

Pollutant: Fecal Coliform
LOE Subgroup: Pollutant-Water
Matrix: Water
Fraction: Total

Beneficial Use: Water Contact Recreation

Number of Samples: 107
Number of Exceedances: 1

Data and Information Type: PATHOGEN MONITORING
Data Used to Assess Water Quality: Water Board staff assessed BeachWatch data for Chicken Ranch Beach to determine beneficial use support and results are as follows: 1 of 107 samples exceed the criterion for Coliform, Fecal.

Data Reference: [Data for Region 2 Beach Watch.](#)

SWAMP Data: Non-SWAMP

Water Quality Objective/Criterion: The San Francisco Bay Basin Plan states that the single sample maximum for fecal coliform shall not exceed 400 MPN/100 mL

Objective/Criterion Reference: [Water Quality Control Plan \(Basin Plan\) San Francisco Bay Basin \(Region 2\)](#)

Evaluation Guideline:

Guideline Reference:

Spatial Representation:

Data for this line of evidence for Chicken Ranch Beach was collected at 1 monitoring site [Chicken Ranch Beach at Creek]

Temporal Representation: Data was collected over the time period 4/5/2005-10/28/2008.

Environmental Conditions: Staff is not aware of any special conditions that might affect interpretation of the data.

QAPP Information:

The samples were collected for the Beach Watch program.

QAPP Information Reference(s):

Line of Evidence (LOE) for Decision ID 34388, Indicator Bacteria

Region 2

Chicken Ranch Beach

LOE ID: 95564

Pollutant: Enterococcus
LOE Subgroup: Pollutant-Water
Matrix: Water
Fraction: Total

Beneficial Use: Water Contact Recreation

Number of Samples: 118

Number of Exceedances:	20
Data and Information Type:	PATHOGEN MONITORING
Data Used to Assess Water Quality:	Available data indicate sufficient exceedances of bacterial indicator objectives. There were 13 out of 139 samples that exceeded the single sample maximum for total coliform, 9 out of 140 that exceeded the single sample maximum for fecal coliform, 25 out of 140 that exceeded the single sample maximum for enterococci, and 20 out of 118 that exceeded the geomean for enterococci (USEPA, 2007).
Data Reference:	Placeholder reference 2006 303(d)
SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	Title 17 C.C.R. Section 7958 states: Based on a single sample, the density of bacteria in water from each sampling station at a public beach or public water contact sports area shall not exceed: (A) 1,000 total coliform bacteria per 100 milliliters, if the ratio of fecal/total coliform bacteria exceeds 0.1; or (B) 10,000 total coliform bacteria per 100 milliliters; or (C) 400 fecal coliform bacteria per 100 milliliters; or (D) 104 enterococcus bacteria per 100 milliliters. Based on the mean of the logarithms of the results of at least five weekly samples during any 30-day sampling period, the density of bacteria in water from any sampling station at a public beach or public water contact sports area, shall not exceed: (A) 1,000 total coliform bacteria per 100 milliliters; or (B) 200 fecal coliform bacteria per 100 milliliters; or (C) 35 enterococcus bacteria per 100 milliliters. (DHS, 1999)
Objective/Criterion Reference:	Water Quality Control Plan Ocean Waters of California. California Ocean Plan 2001. Sacramento, CA: State Water Resources Control Board. California Environmental Protection Agency
Evaluation Guideline:	
Guideline Reference:	
Spatial Representation:	
Temporal Representation:	04/01/2003-10/25/2005
Environmental Conditions:	Staff are not aware of any special environmental conditions associated with sampling.
QAPP Information:	Data record: summers 2003-2005, Marin County Health Dept.
QAPP Information Reference(s):	

Line of Evidence (LOE) for Decision ID 34388, Indicator Bacteria
Chicken Ranch Beach

Region 2

LOE ID:	95563
Pollutant:	Enterococcus
LOE Subgroup:	Pollutant-Water
Matrix:	Water
Fraction:	Total
Beneficial Use:	Water Contact Recreation
Number of Samples:	140
Number of Exceedances:	25
Data and Information Type:	PATHOGEN MONITORING
Data Used to Assess Water Quality:	Available data indicate sufficient exceedances of bacterial indicator objectives. There were 13 out of 139 samples that exceeded the single sample maximum for total coliform, 9 out of 140 that exceeded the single sample maximum for fecal coliform, 25 out of 140 that exceeded the single sample maximum for enterococci, and 20 out of 118 that exceeded the geomean for enterococci (USEPA, 2007).
Data Reference:	Placeholder reference 2006 303(d)
SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	Title 17 C.C.R. Section 7958 states: Based on a single sample, the density of bacteria in water from each sampling station at a public beach or public water contact sports area

shall not exceed: (A) 1,000 total coliform bacteria per 100 milliliters, if the ratio of fecal/total coliform bacteria exceeds 0.1; or (B) 10,000 total coliform bacteria per 100 milliliters; or (C) 400 fecal coliform bacteria per 100 milliliters; or (D) 104 enterococcus bacteria per 100 milliliters. Based on the mean of the logarithms of the results of at least five weekly samples during any 30-day sampling period, the density of bacteria in water from any sampling station at a public beach or public water contact sports area, shall not exceed: (A) 1,000 total coliform bacteria per 100 milliliters; or (B) 200 fecal coliform bacteria per 100 milliliters; or (C) 35 enterococcus bacteria per 100 milliliters. (DHS, 1999) [Water Quality Control Plan Ocean Waters of California. California Ocean Plan 2001. Sacramento, CA: State Water Resources Control Board, California Environmental Protection Agency](#)

Objective/Criterion Reference:

Evaluation Guideline:
Guideline Reference:

Spatial Representation:
Temporal Representation: 04/01/2003-10/25/2005
Environmental Conditions: Staff are not aware of any special environmental conditions associated with sampling.
QAPP Information: Data record: summers 2003-2005, Marin County Health Dept.
QAPP Information Reference(s):

Line of Evidence (LOE) for Decision ID 34388, Indicator Bacteria
Chicken Ranch Beach

Region 2

LOE ID: 95561

Pollutant: Total Coliform
LOE Subgroup: Pollutant-Water
Matrix: Water
Fraction: Total

Beneficial Use: Water Contact Recreation

Number of Samples: 139
Number of Exceedances: 13

Data and Information Type: PATHOGEN MONITORING
Data Used to Assess Water Quality: Available data indicate sufficient exceedances of bacterial indicator objectives. There were 13 out of 139 samples that exceeded the single sample maximum for total coliform, 9 out of 140 that exceeded the single sample maximum for fecal coliform, 25 out of 140 that exceeded the single sample maximum for enterococci, and 20 out of 118 that exceeded the geomean for enterococci (USEPA, 2007).

Data Reference: [Placeholder reference 2006 303\(d\)](#)

SWAMP Data: Non-SWAMP

Water Quality Objective/Criterion: Title 17 C.C.R. Section 7958 states: Based on a single sample, the density of bacteria in water from each sampling station at a public beach or public water contact sports area shall not exceed: (A) 1,000 total coliform bacteria per 100 milliliters, if the ratio of fecal/total coliform bacteria exceeds 0.1; or (B) 10,000 total coliform bacteria per 100 milliliters; or (C) 400 fecal coliform bacteria per 100 milliliters; or (D) 104 enterococcus bacteria per 100 milliliters. Based on the mean of the logarithms of the results of at least five weekly samples during any 30-day sampling period, the density of bacteria in water from any sampling station at a public beach or public water contact sports area, shall not exceed: (A) 1,000 total coliform bacteria per 100 milliliters; or (B) 200 fecal coliform bacteria per 100 milliliters; or (C) 35 enterococcus bacteria per 100 milliliters. (DHS, 1999)

Objective/Criterion Reference: [Water Quality Control Plan Ocean Waters of California. California Ocean Plan 2001. Sacramento, CA: State Water Resources Control Board, California Environmental Protection Agency](#)

Evaluation Guideline:
Guideline Reference:

Spatial Representation:
Temporal Representation: 04/01/2003-10/25/2005
Environmental Conditions: Staff are not aware of any special environmental conditions associated with sampling.
QAPP Information: Data record: summers 2003-2005, Marin County Health Dept.
QAPP Information Reference(s):

Line of Evidence (LOE) for Decision ID 34388, Indicator Bacteria

Region 2

Chicken Ranch Beach

LOE ID: 95562

Pollutant: Fecal Coliform
LOE Subgroup: Pollutant-Water
Matrix: Water
Fraction: Total

Beneficial Use: Water Contact Recreation

Number of Samples: 140
Number of Exceedances: 9

Data and Information Type: PATHOGEN MONITORING
Data Used to Assess Water Quality: Available data indicate sufficient exceedances of bacterial indicator objectives. There were 13 out of 139 samples that exceeded the single sample maximum for total coliform, 9 out of 140 that exceeded the single sample maximum for fecal coliform, 25 out of 140 that exceeded the single sample maximum for enterococci, and 20 out of 118 that exceeded the geometric mean for enterococci (USEPA, 2007).

Data Reference: [Placeholder reference 2006 303\(d\)](#)

SWAMP Data: Non-SWAMP

Water Quality Objective/Criterion: Title 17 C.C.R. Section 7958 states: Based on a single sample, the density of bacteria in water from each sampling station at a public beach or public water contact sports area shall not exceed: (A) 1,000 total coliform bacteria per 100 milliliters, if the ratio of fecal/total coliform bacteria exceeds 0.1; or (B) 10,000 total coliform bacteria per 100 milliliters; or (C) 400 fecal coliform bacteria per 100 milliliters; or (D) 104 enterococcus bacteria per 100 milliliters. Based on the mean of the logarithms of the results of at least five weekly samples during any 30-day sampling period, the density of bacteria in water from any sampling station at a public beach or public water contact sports area, shall not exceed: (A) 1,000 total coliform bacteria per 100 milliliters; or (B) 200 fecal coliform bacteria per 100 milliliters; or (C) 35 enterococcus bacteria per 100 milliliters. (DHS, 1999)

Objective/Criterion Reference: [Water Quality Control Plan Ocean Waters of California. California Ocean Plan 2001. Sacramento, CA: State Water Resources Control Board. California Environmental Protection Agency](#)

Evaluation Guideline:
Guideline Reference:

Spatial Representation:
Temporal Representation: 04/01/2003-10/25/2005
Environmental Conditions: Staff are not aware of any special environmental conditions associated with sampling.
QAPP Information: Data record: summers 2003-2005, Marin County Health Dept.
QAPP Information Reference(s):

Line of Evidence (LOE) for Decision ID 34388, Indicator Bacteria

Region 2

Chicken Ranch Beach

LOE ID: 90839

Pollutant: Enterococcus

LOE Subgroup:	Pollutant-Water
Matrix:	Water
Fraction:	Total
Beneficial Use:	Water Contact Recreation
Number of Samples:	107
Number of Exceedances:	7
Data and Information Type:	PATHOGEN MONITORING
Data Used to Assess Water Quality:	Water Board staff assessed BeachWatch data for Chicken Ranch Beach to determine beneficial use support and results are as follows: 7 of 107 samples exceed the criterion for Enterococci.
Data Reference:	Data for Region 2 Beach Watch.
SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	The San Francisco Bay Basin Plan states that the single sample maximum for Enterococcus shall not exceed 104 MPN/100 mL.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	
Guideline Reference:	
Spatial Representation:	Data for this line of evidence for Chicken Ranch Beach was collected at 1 monitoring site [Chicken Ranch Beach at Creek]
Temporal Representation:	Data was collected over the time period 4/5/2005-10/28/2008.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	The samples were collected for the Beach Watch program.
QAPP Information Reference(s):	

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Supporting Information

Regional Board 2 - San Francisco Bay Region

Water Body Name: Hearts Desire Beach
Water Body ID: CAC2011403320070320164103
Water Body Type: Coastal & Bay Shoreline

DECISION ID 34115 **Region 2**
Hearts Desire Beach

Pollutant: Indicator Bacteria
Final Listing Decision: Delist from 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision: List on 303(d) list (TMDL required list)(2012)
Revision Status Revised
Reason for Delisting: Applicable WQS attained; reason for recovery unspecified
Impairment from Pollutant or Pollution: Pollutant

Regional Board Staff Conclusion: This pollutant is being considered for removal on the CWA section 303(d) List under sections 2.2 and 4.3 of the Listing Policy. Under 4.3 of the Policy, a minimum of one line of evidence is needed to assess listing status.

Seven lines of evidence are available in the administrative record to assess this pollutant.

Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification for removing this water segment-pollutant combination from the CWA section 303(d) List.

This conclusion is based on the staff findings that:

1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy.
2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy.
3. Zero of one hundred forty-three recent samples exceeded the geometric mean enterococcus objective and this is below the number of exceedances required to de-list this waterbody according to Table 4.2 of the Listing Policy.
4. There are no exceedances of the geometric mean enterococcus objective.

5. Pursuant to section 4.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.

Regional Board Staff Decision Recommendation: After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should be removed from the section 303(d) list because applicable water quality standards for the pollutant are not being exceeded.

Line of Evidence (LOE) for Decision ID 34115, Indicator Bacteria **Region 2**
Hearts Desire Beach

LOE ID: 90895
Pollutant: Enterococcus
LOE Subgroup: Pollutant-Water
Matrix: Water
Fraction: None
Beneficial Use: Water Contact Recreation

Number of Samples:	164
Number of Exceedances:	3
Data and Information Type:	PATHOGEN MONITORING
Data Used to Assess Water Quality:	Water Board staff assessed BeachWatch data for hearts desire beach to determine beneficial use support and results are as follows: 7 of 137 samples exceed the criterion for Enterococci.
Data Reference:	Data for Region 2 Beach Watch.
SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	The San Francisco Bay Basin Plan states that the single sample maximum for Enterococcus shall not exceed 104 MPN/100 mL.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	
Guideline Reference:	
Spatial Representation:	Data for this line of evidence for Hearts Desire Beach was collected at 1 monitoring site [Heart's Desire]
Temporal Representation:	Data was collected over the time period 4/5/2005-8/24/2010.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	The samples were collected for the Beach Watch program.
QAPP Information Reference(s):	

Line of Evidence (LOE) for Decision ID 34115, Indicator Bacteria

Region 2

Hearts Desire Beach

LOE ID:	90612
Pollutant:	Fecal Coliform
LOE Subgroup:	Pollutant-Water
Matrix:	Water
Fraction:	None
Beneficial Use:	Water Contact Recreation
Number of Samples:	143
Number of Exceedances:	0
Data and Information Type:	Not Specified
Data Used to Assess Water Quality:	Zero of the 143 geomeans exceeded the objective.
Data Reference:	Data for Region 2 Beach Watch.
SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	The geometric mean standard for fecal coliform states that the fecal coliform density shall not exceed 200 per 100 mL. San Francisco Bay Basin Water Quality Control Plan.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	
Guideline Reference:	
Spatial Representation:	Samples were collected at the Heart's Desire site.
Temporal Representation:	Samples were collected from April 2005 to August 2010.
Environmental Conditions:	
QAPP Information:	The samples were collected for the beach watch program.
QAPP Information Reference(s):	

Line of Evidence (LOE) for Decision ID 34115, Indicator Bacteria

Region 2

Hearts Desire Beach

LOE ID:	90613
Pollutant:	Total Coliform
LOE Subgroup:	Pollutant-Water
Matrix:	Water
Fraction:	None
Beneficial Use:	Water Contact Recreation
Number of Samples:	39
Number of Exceedances:	4
Data and Information Type:	Not Specified
Data Used to Assess Water Quality:	Four of the thirty-nine monthly medians exceeded the objective.
Data Reference:	Data for Region 2 Beach Watch.
SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	The standard for total coliform states that the coliform density shall not exceed a monthly median of 240 per 100 mL. San Francisco Bay Basin Water Quality Control Plan.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	
Guideline Reference:	
Spatial Representation:	Samples were collected at the Heart's Desire site.
Temporal Representation:	Samples were collected from April 2005 to August 2010.
Environmental Conditions:	
QAPP Information:	The samples were collected for the Beach Watch program.
QAPP Information Reference(s):	

Line of Evidence (LOE) for Decision ID 34115, Indicator Bacteria

Region 2

Hearts Desire Beach

LOE ID:	349
Pollutant:	Indicator Bacteria
LOE Subgroup:	Pollutant-Water
Matrix:	Water
Fraction:	Total
Beneficial Use:	Water Contact Recreation
Number of Samples:	91
Number of Exceedances:	5
Data and Information Type:	PATHOGEN MONITORING
Data Used to Assess Water Quality:	Available data indicate sufficient exceedances of bacterial indicator objectives. There were 5 out of 91 samples exceeding the single sample maximum for enterococci, and 4 out of 91 exceeding the single sample maximum for fecal coliform (USEPA, 2007).
Data Reference:	Placeholder reference 2006 303(d)
SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	Title 17 C.C.R. Section 7958 states: Based on a single sample, the density of bacteria in water from each sampling station at a public beach or public water contact sports area shall not exceed: (A) 1,000 total coliform bacteria per 100 milliliters, if the ratio of fecal/total coliform bacteria exceeds 0.1; or (B) 10,000 total coliform bacteria per 100 milliliters; or

- (C) 400 fecal coliform bacteria per 100 milliliters; or
(D) 104 enterococcus bacteria per 100 milliliters.

Based on the mean of the logarithms of the results of at least five weekly samples during any 30-day sampling period, the density of bacteria in water from any sampling station at a public beach or public water contact sports area, shall not exceed:

- (A) 1,000 total coliform bacteria per 100 milliliters; or
(B) 200 fecal coliform bacteria per 100 milliliters; or
(C) 35 enterococcus bacteria per 100 milliliters. (DHS, 1999)

Objective/Criterion Reference: [Placeholder reference 2006 303\(d\)](#)

Evaluation Guideline:

Guideline Reference:

Spatial Representation:

Station ID# MC50

Temporal Representation:

04/01/2003-10/25/2005

Environmental Conditions:

QAPP Information:

Data record: summers 2003-2005, Marin County Health Dept.

QAPP Information Reference(s):

Line of Evidence (LOE) for Decision ID 34115, Indicator Bacteria

Region 2

Hearts Desire Beach

LOE ID: 90854

Pollutant: Fecal Coliform
LOE Subgroup: Pollutant-Water
Matrix: Water
Fraction: None

Beneficial Use: Water Contact Recreation

Number of Samples: 164
Number of Exceedances: 1

Data and Information Type: PATHOGEN MONITORING
Data Used to Assess Water Quality: Water Board staff assessed BeachWatch data for Hearts Desire Beach to determine beneficial use support and results are as follows: 7 of 137 samples exceed the criterion for Enterococci.

Data Reference: [Data for Region 2 Beach Watch.](#)

SWAMP Data: Non-SWAMP

Water Quality Objective/Criterion: The San Francisco Bay Basin Plan states that the single sample maximum for fecal coliform shall not exceed 400 MPN/100 mL

Objective/Criterion Reference: [Water Quality Control Plan \(Basin Plan\) San Francisco Bay Basin \(Region 2\)](#)

Evaluation Guideline:

Guideline Reference:

Spatial Representation: Data for this line of evidence for Hearts Desire Beach was collected at 1 monitoring site [Heart's Desire]

Temporal Representation: Data was collected over the time period 4/5/2005-8/24/2010.

Environmental Conditions: Staff is not aware of any special conditions that might affect interpretation of the data.

QAPP Information:

The samples were collected for the Beach Watch program.

QAPP Information Reference(s):

Line of Evidence (LOE) for Decision ID 34115, Indicator Bacteria

Region 2

Hearts Desire Beach

LOE ID: 90878

Pollutant:	Total Coliform
LOE Subgroup:	Pollutant-Water
Matrix:	Water
Fraction:	None
Beneficial Use:	Water Contact Recreation
Number of Samples:	164
Number of Exceedances:	0
Data and Information Type:	PATHOGEN MONITORING
Data Used to Assess Water Quality:	Water Board staff assessed BeachWatch data for Hearts Desire Beach to determine beneficial use support and results are as follows: 7 of 137 samples exceed the criterion for Enterococci.
Data Reference:	Data for Region 2 Beach Watch.
SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	The San Francisco Bay Basin Plan states that the single sample maximum for total coliform shall not exceed 10,000 MPN/100 mL
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	
Guideline Reference:	
Spatial Representation:	Data for this line of evidence for Hearts Desire Beach was collected at 1 monitoring site [Heart's Desire]
Temporal Representation:	Data was collected over the time period 4/5/2005-8/24/2010.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	The samples were collected for the Beach Watch program.
QAPP Information Reference(s):	

Line of Evidence (LOE) for Decision ID 34115, Indicator Bacteria

Region 2

Hearts Desire Beach

LOE ID:	90614
Pollutant:	Enterococcus
LOE Subgroup:	Pollutant-Water
Matrix:	Water
Fraction:	None
Beneficial Use:	Water Contact Recreation
Number of Samples:	143
Number of Exceedances:	0
Data and Information Type:	Not Specified
Data Used to Assess Water Quality:	Zero of the 143 geomeans exceeded the objective.
Data Reference:	Data for Region 2 Beach Watch.
SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	The geometric mean standard for enterococcus states that the enterococcus density shall not exceed 35 per 100 mL. San Francisco Bay Basin Water Quality Control Plan.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	
Guideline Reference:	
Spatial Representation:	Samples were collected at the Heart's Desire site.

Temporal Representation:
Environmental Conditions:
QAPP Information:
QAPP Information Reference(s):

Samples were collected from April 2005 to August 2010.
The samples were collected for the Beach Watch program.

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Supporting Information

Regional Board 2 - San Francisco Bay Region

Water Body Name: Golden Hinde Beach
Water Body ID: CAC2011403320070321181528
Water Body Type: Coastal & Bay Shoreline

DECISION ID 34373 **Region 2**
Golden Hinde Beach

Pollutant: Indicator Bacteria
Final Listing Decision: Do Not Delist from 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision: List on 303(d) list (TMDL required list)(2012)
Revision Status Revised
Sources: Source Unknown
Expected TMDL Completion Date: 2029
Impairment from Pollutant or Pollution: Pollutant

Regional Board Staff Conclusion: This pollutant is being considered for removal on the CWA section 303(d) List under sections 2.2 and 4.3 of the Listing Policy. Under 4.3 of the Policy, a minimum of one line of evidence is needed to assess listing status.

Seven lines of evidence are available in the administrative record to assess this pollutant.

Based on the readily available data and information, the weight of evidence indicates that there is not sufficient justification for removing this water segment-pollutant combination from the CWA section 303(d) List.

This conclusion is based on the staff findings that:

1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy.
2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy.
3. Nine of Seventy Nine recent samples exceeded the total coliform objective and this exceeds the number of exceedances required to de-list this waterbody according to Table 4.2 of the Listing Policy.
4. There are no exceedances of the geometric mean enterococcus objective.

5. Pursuant to section 4.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.

Regional Board Staff Decision Recommendation: After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be removed from the section 303(d) list because applicable water quality standards for the pollutant are being exceeded.

Line of Evidence (LOE) for Decision ID 34373, Indicator Bacteria **Region 2**
Golden Hinde Beach

LOE ID: 90869
Pollutant: Fecal Coliform
LOE Subgroup: Pollutant-Water
Matrix: Water
Fraction: None

Beneficial Use:	Water Contact Recreation
Number of Samples:	24
Number of Exceedances:	0
Data and Information Type:	PATHOGEN MONITORING
Data Used to Assess Water Quality:	Water Board staff assessed BeachWatch data for Golden Hinde to determine beneficial use support and results are as follows: 7 of 137 samples exceed the criterion for Enterococci.
Data Reference:	Data for Region 2 Beach Watch.
SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	The San Francisco Bay Basin Plan states that the single sample maximum for fecal coliform shall not exceed 400 MPN/100 mL
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	
Guideline Reference:	
Spatial Representation:	Data for this line of evidence for Golden Hinde Beach was collected at 1 monitoring site [Golden Hinde]
Temporal Representation:	Data was collected over the time period 4/5/2005-10/25/2005.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	The samples were collected for the Beach Watch program.
QAPP Information Reference(s):	

Line of Evidence (LOE) for Decision ID 34373, Indicator Bacteria

Region 2

Golden Hinde Beach

LOE ID:	90893
Pollutant:	Total Coliform
LOE Subgroup:	Pollutant-Water
Matrix:	Water
Fraction:	None
Beneficial Use:	Water Contact Recreation
Number of Samples:	24
Number of Exceedances:	0
Data and Information Type:	PATHOGEN MONITORING
Data Used to Assess Water Quality:	Water Board staff assessed BeachWatch data for Golden Hinde to determine beneficial use support and results are as follows: 7 of 137 samples exceed the criterion for Enterococci.
Data Reference:	Data for Region 2 Beach Watch.
SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	The San Francisco Bay Basin Plan states that the single sample maximum for total coliform shall not exceed 10,000 MPN/100 mL
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	
Guideline Reference:	
Spatial Representation:	Data for this line of evidence for Golden Hinde Beach was collected at 1 monitoring site [Golden Hinde]
Temporal Representation:	Data was collected over the time period 4/5/2005-10/25/2005.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.

QAPP Information: The samples were collected for the Beach Watch program.
QAPP Information Reference(s):

Line of Evidence (LOE) for Decision ID 34373, Indicator Bacteria

Region 2

Golden Hinde Beach

LOE ID: 90774

Pollutant: Enterococcus
LOE Subgroup: Pollutant-Water
Matrix: Water
Fraction: None

Beneficial Use: Water Contact Recreation

Number of Samples: 24
Number of Exceedances: 0

Data and Information Type: PATHOGEN MONITORING
Data Used to Assess Water Quality: Water Board staff assessed BeachWatch data for Golden Hinde to determine beneficial use support and results are as follows: 7 of 137 samples exceed the criterion for Enterococci.

Data Reference: [Data for Region 2 Beach Watch.](#)

SWAMP Data: Non-SWAMP

Water Quality Objective/Criterion: The San Francisco Bay Basin Plan states that the single sample maximum for Enterococcus shall not exceed 104 MPN/100 mL.

Objective/Criterion Reference: [Water Quality Control Plan \(Basin Plan\) San Francisco Bay Basin \(Region 2\)](#)

Evaluation Guideline:
Guideline Reference:

Spatial Representation: Data for this line of evidence for Golden Hinde Beach was collected at 1 monitoring site [Golden Hinde]

Temporal Representation: Data was collected over the time period 4/5/2005-10/25/2005.

Environmental Conditions: Staff is not aware of any special conditions that might affect interpretation of the data.

QAPP Information: The samples were collected for the Beach Watch program.

QAPP Information Reference(s):

Line of Evidence (LOE) for Decision ID 34373, Indicator Bacteria

Region 2

Golden Hinde Beach

LOE ID: 350

Pollutant: Indicator Bacteria
LOE Subgroup: Pollutant-Water
Matrix: Water
Fraction: Total

Beneficial Use: Water Contact Recreation

Number of Samples: 79
Number of Exceedances: 9

Data and Information Type: PATHOGEN MONITORING
Data Used to Assess Water Quality: Available data indicate sufficient exceedances of bacterial indicator objectives. There were 5 out of 91 samples that exceeded the single sample maximum for enterococci, 6 out of 79 exceedances of the geomean for enterococci, and 9 out of 79 exceedances of the geomean total for coliform (USEPA, 2007).

Data Reference: [Placeholder reference 2006 303\(d\)](#)

SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	<p>Title 17 C.C.R. Section 7958 states: Based on a single sample, the density of bacteria in water from each sampling station at a public beach or public water contact sports area shall not exceed:</p> <p>(A) 1,000 total coliform bacteria per 100 milliliters, if the ratio of fecal/total coliform bacteria exceeds 0.1; or</p> <p>(B) 10,000 total coliform bacteria per 100 milliliters; or</p> <p>(C) 400 fecal coliform bacteria per 100 milliliters; or</p> <p>(D) 104 enterococcus bacteria per 100 milliliters.</p> <p>Based on the mean of the logarithms of the results of at least five weekly samples during any 30-day sampling period, the density of bacteria in water from any sampling station at a public beach or public water contact sports area, shall not exceed:</p> <p>(A) 1,000 total coliform bacteria per 100 milliliters; or</p> <p>(B) 200 fecal coliform bacteria per 100 milliliters; or</p> <p>(C) 35 enterococcus bacteria per 100 milliliters. (DHS, 1999)</p>
Objective/Criterion Reference:	Placeholder reference 2006 303(d)
Evaluation Guideline:	
Guideline Reference:	
Spatial Representation:	Station ID# MC90
Temporal Representation:	04/01/2003-10/25/2005
Environmental Conditions:	
QAPP Information:	Data record: summers 2003-2005, Marin County Health Dept.
QAPP Information Reference(s):	

Line of Evidence (LOE) for Decision ID 34373, Indicator Bacteria

Region 2

Golden Hinde Beach

LOE ID:	90610
Pollutant:	Total Coliform
LOE Subgroup:	Pollutant-Water
Matrix:	Water
Fraction:	None
Beneficial Use:	Water Contact Recreation
Number of Samples:	6
Number of Exceedances:	4
Data and Information Type:	Not Specified
Data Used to Assess Water Quality:	Four of the six monthly medians exceeded the objective.
Data Reference:	Data for Region 2 Beach Watch.
SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	The standard for total coliform states that the coliform density shall not exceed a monthly median of 240 per 100 mL. San Francisco Bay Basin Water Quality Control Plan.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	
Guideline Reference:	
Spatial Representation:	Samples were collected at the Golden Hinde site.
Temporal Representation:	Samples were collected from April 2005 to October 2005.
Environmental Conditions:	
QAPP Information:	The samples were collected for the Beach Watch program.
QAPP Information Reference(s):	

Line of Evidence (LOE) for Decision ID 34373, Indicator Bacteria**Region 2****Golden Hinde Beach**

LOE ID:	90611
Pollutant:	Fecal Coliform
LOE Subgroup:	Pollutant-Water
Matrix:	Water
Fraction:	None
Beneficial Use:	Water Contact Recreation
Number of Samples:	18
Number of Exceedances:	0
Data and Information Type:	Not Specified
Data Used to Assess Water Quality:	Zero of the 18 geomeans exceeded the objective.
Data Reference:	Data for Region 2 Beach Watch.
SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	The geometric mean standard for fecal coliform states that the fecal coliform density shall not exceed 200 per 100 mL. San Francisco Bay Basin Water Quality Control Plan.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	
Guideline Reference:	
Spatial Representation:	Samples were collected at the Golden Hinde site.
Temporal Representation:	Samples were collected from April 2005 to October 2005.
Environmental Conditions:	
QAPP Information:	The samples were collected for the beach watch program.
QAPP Information Reference(s):	

Line of Evidence (LOE) for Decision ID 34373, Indicator Bacteria**Region 2****Golden Hinde Beach**

LOE ID:	90609
Pollutant:	Enterococcus
LOE Subgroup:	Pollutant-Water
Matrix:	Water
Fraction:	None
Beneficial Use:	Water Contact Recreation
Number of Samples:	18
Number of Exceedances:	0
Data and Information Type:	Not Specified
Data Used to Assess Water Quality:	Zero of the 18 geomeans exceeded the objective.
Data Reference:	Data for Region 2 Beach Watch.
SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	The geometric mean standard for enterococcus states that the enterococcus density shall not exceed 35 per 100 mL. San Francisco Bay Basin Water Quality Control Plan.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	

Guideline Reference:

Spatial Representation:

Samples were collected at the Golden Hinde site.

Temporal Representation:

Samples were collected from April 2005 to October 2005.

Environmental Conditions:

QAPP Information:

The samples were collected for the Beach Watch program.

QAPP Information Reference(s):

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Supporting Information

Regional Board 2 - San Francisco Bay Region

Water Body Name: Pacific Ocean at Bolinas Beach
Water Body ID: CAC2013001120070320140924
Water Body Type: Coastal & Bay Shoreline

DECISION ID 34386 **Region 2**
Pacific Ocean at Bolinas Beach

Pollutant: Indicator Bacteria
Final Listing Decision: Delist from 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision: List on 303(d) list (TMDL required list)(2012)
Revision Status Revised
Reason for Delisting: Flaws in original listing
Impairment from Pollutant or Pollution: Pollutant

Regional Board Staff Conclusion: This pollutant is being considered for removal from the CWA section 303(d) List under section 4.2 of the Listing Policy. Under this section a single line of evidence is necessary to assess listing status.

Seven lines of evidence are available in the administrative record to assess this pollutant. Ten of one hundred eighty samples exceeded the enterococcus SSM objective.

Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification for removing this water segment-pollutant combination from the CWA section 303(d) List.

This conclusion is based on the staff findings that:

1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy.
2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy.
3. Ten of one hundred eighty samples exceeded the enterococcus SSM objective and this does not exceed the allowable frequency listed in Table 4.2 of the Listing Policy.
4. Pursuant to section 4.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.

Regional Board Staff Decision Recommendation: After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should be removed from the section 303(d) list because applicable water quality standards for the pollutant are not being exceeded.

Line of Evidence (LOE) for Decision ID 34386, Indicator Bacteria **Region 2**
Pacific Ocean at Bolinas Beach

LOE ID: 90846
Pollutant: Total Coliform
LOE Subgroup: Pollutant-Water
Matrix: Water
Fraction: None
Beneficial Use: Water Contact Recreation
Number of Samples: 180
Number of Exceedances: 2

Data and Information Type:	PATHOGEN MONITORING
Data Used to Assess Water Quality:	Water Board staff assessed BeachWatch data for Pacific Ocean at Bolinas Beach to determine beneficial use support and results are as follows: 2 of 180 samples exceed the criterion for Coliform, Total.
Data Reference:	Data for Region 2 Beach Watch.
SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	California Ocean Plan (2009) single sample maximum states that total coliform density shall not exceed 10,000 MPN/100 mL
Objective/Criterion Reference:	California Ocean Plan Water Quality Control Plan Ocean Waters of California 2009
Evaluation Guideline:	
Guideline Reference:	
Spatial Representation:	Data for this line of evidence for Pacific Ocean at Bolinas Beach was collected at 1 monitoring site [Bolinas Beach]
Temporal Representation:	Data was collected over the time period 4/5/2005-8/25/2010.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	The samples were collected for the Beach Watch program.
QAPP Information Reference(s):	

Line of Evidence (LOE) for Decision ID 34386, Indicator Bacteria
Pacific Ocean at Bolinas Beach

Region 2

LOE ID:	90521
Pollutant:	Enterococcus
LOE Subgroup:	Pollutant-Water
Matrix:	Water
Fraction:	None
Beneficial Use:	Water Contact Recreation
Number of Samples:	142
Number of Exceedances:	3
Data and Information Type:	Not Specified
Data Used to Assess Water Quality:	Three of the 142 geomeans exceeded the enterococcus objective.
Data Reference:	Data for Region 2 Beach Watch.
SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	The geometric mean standard for enterococcus states that the enterococcus density shall not exceed 35 per 100 mL. Water Quality Control Plan for Ocean Waters 2009.
Objective/Criterion Reference:	California Ocean Plan Water Quality Control Plan Ocean Waters of California 2009
Evaluation Guideline:	
Guideline Reference:	
Spatial Representation:	Samples were collected at station Bolinas Beach.
Temporal Representation:	Samples were collected approximately once a week from April 2005 to September 2010.
Environmental Conditions:	
QAPP Information:	The samples were collected for the Beach Watch program.
QAPP Information Reference(s):	

Line of Evidence (LOE) for Decision ID 34386, Indicator Bacteria
Pacific Ocean at Bolinas Beach

Region 2

LOE ID:	90520
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Pollutant:	Total Coliform
LOE Subgroup:	Pollutant-Water
Matrix:	Water
Fraction:	None
Beneficial Use:	Water Contact Recreation
Number of Samples:	142
Number of Exceedances:	0
Data and Information Type:	Not Specified
Data Used to Assess Water Quality:	Zero of the 142 geomeans exceeded the total coliform objective.
Data Reference:	Data for Region 2 Beach Watch.
SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	The geometric mean standard for total coliform states that the total coliform density shall not exceed 1,000 per 100 mL. Water Quality Control Plan for Ocean Waters 2009.
Objective/Criterion Reference:	California Ocean Plan Water Quality Control Plan Ocean Waters of California 2009
Evaluation Guideline:	
Guideline Reference:	
Spatial Representation:	Samples were collected at station Bolinas Beach.
Temporal Representation:	Samples were collected approximately once a week from April 2005 to September 2010.
Environmental Conditions:	
QAPP Information:	The samples were collected for the Beach Watch program.
QAPP Information Reference(s):	

**Line of Evidence (LOE) for Decision ID 34386, Indicator Bacteria
Pacific Ocean at Bolinas Beach**

Region 2

LOE ID:	351
Pollutant:	Indicator Bacteria
LOE Subgroup:	Pollutant-Water
Matrix:	Water
Fraction:	None
Beneficial Use:	Water Contact Recreation
Number of Samples:	80
Number of Exceedances:	6
Data and Information Type:	PATHOGEN MONITORING
Data Used to Assess Water Quality:	Available data indicate sufficient exceedances of bacterial indicator objectives. There were 6 out of 80 samples that exceeded the single sample maximum for enterococci (USEPA, 2007).
Data Reference:	Placeholder reference 2006 303(d)
SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	Title 17 C.C.R. Section 7958 states: Based on a single sample, the density of bacteria in water from each sampling station at a public beach or public water contact sports area shall not exceed: (A) 1,000 total coliform bacteria per 100 milliliters, if the ratio of fecal/total coliform bacteria exceeds 0.1; or (B) 10,000 total coliform bacteria per 100 milliliters; or (C) 400 fecal coliform bacteria per 100 milliliters; or (D) 104 enterococcus bacteria per 100 milliliters.

Based on the mean of the logarithms of the results of at least five weekly samples during any 30-day sampling period, the density of bacteria in water from any sampling station at a public beach or public water contact sports area, shall not exceed:

- (A) 1,000 total coliform bacteria per 100 milliliters; or
- (B) 200 fecal coliform bacteria per 100 milliliters; or
- (C) 35 enterococcus bacteria per 100 milliliters. (DHS, 1999)

Objective/Criterion Reference:

[Placeholder reference 2006 303\(d\)](#)

Evaluation Guideline:

Guideline Reference:

Spatial Representation:

Station ID# MC150, Bolinas Beach (Wharf Rd.)

Temporal Representation:

04/03/2003-10/25/2005

Environmental Conditions:

QAPP Information:

Data record: summers 2003-2005, Marin County Health Dept.

QAPP Information Reference(s):

Line of Evidence (LOE) for Decision ID 34386, Indicator Bacteria

Region 2

Pacific Ocean at Bolinas Beach

LOE ID: 90519

Pollutant: Fecal Coliform
LOE Subgroup: Pollutant-Water
Matrix: Water
Fraction: None

Beneficial Use: Water Contact Recreation

Number of Samples: 142
Number of Exceedances: 0

Data and Information Type: Not Specified
Data Used to Assess Water Quality: Zero of the 142 geomeans exceeded the fecal coliform objective.
Data Reference: [Data for Region 2 Beach Watch.](#)

SWAMP Data: Non-SWAMP

Water Quality Objective/Criterion: The geometric mean standard for fecal coliform states that the fecal coliform density shall not exceed 200 per 100 mL. Water Quality Control Plan for Ocean Waters 2009.

Objective/Criterion Reference: [California Ocean Plan Water Quality Control Plan Ocean Waters of California 2009](#)

Evaluation Guideline:
Guideline Reference:

Spatial Representation: Samples were collected at station Bolinas Beach.
Temporal Representation: Samples were collected approximately once a week from April 2005 to September 2010.
Environmental Conditions:
QAPP Information: The samples were collected for the Beach Watch program.
QAPP Information Reference(s):

Line of Evidence (LOE) for Decision ID 34386, Indicator Bacteria

Region 2

Pacific Ocean at Bolinas Beach

LOE ID: 90890

Pollutant: Enterococcus
LOE Subgroup: Pollutant-Water
Matrix: Water
Fraction: None

Beneficial Use:	Water Contact Recreation
Number of Samples:	180
Number of Exceedances:	10
Data and Information Type:	PATHOGEN MONITORING
Data Used to Assess Water Quality:	Water Board staff assessed BeachWatch data for Pacific Ocean at Bolinas Beach to determine beneficial use support and results are as follows: 10 of 180 samples exceed the criterion for Enterococci.
Data Reference:	Data for Region 2 Beach Watch.
SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	California Ocean Plan (SWRCB 2009) states that the single sample maximum for Enterococcus shall not exceed 104 MPN/100 mL.
Objective/Criterion Reference:	California Ocean Plan Water Quality Control Plan Ocean Waters of California 2009
Evaluation Guideline:	
Guideline Reference:	
Spatial Representation:	Data for this line of evidence for Pacific Ocean at Bolinas Beach was collected at 1 monitoring site [Bolinas Beach]
Temporal Representation:	Data was collected over the time period 4/5/2005-8/25/2010.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	The samples were collected for the Beach Watch program.
QAPP Information Reference(s):	

Line of Evidence (LOE) for Decision ID 34386, Indicator Bacteria

Region 2

Pacific Ocean at Bolinas Beach

LOE ID:	90792
Pollutant:	Fecal Coliform
LOE Subgroup:	Pollutant-Water
Matrix:	Water
Fraction:	None
Beneficial Use:	Water Contact Recreation
Number of Samples:	180
Number of Exceedances:	5
Data and Information Type:	PATHOGEN MONITORING
Data Used to Assess Water Quality:	Water Board staff assessed BeachWatch data for Pacific Ocean at Bolinas Beach to determine beneficial use support and results are as follows: 5 of 180 samples exceed the criterion for Coliform, Fecal.
Data Reference:	Data for Region 2 Beach Watch.
SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	California Ocean Plan (SWRCB 2009) states that the single sample maximum for fecal coliform shall not exceed 400 MPN/100 mL
Objective/Criterion Reference:	California Ocean Plan Water Quality Control Plan Ocean Waters of California 2009
Evaluation Guideline:	
Guideline Reference:	
Spatial Representation:	Data for this line of evidence for Pacific Ocean at Bolinas Beach was collected at 1 monitoring site [Bolinas Beach]
Temporal Representation:	Data was collected over the time period 4/5/2005-8/25/2010.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	The samples were collected for the Beach Watch program.

QAPP Information Reference(s):

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Supporting Information

Regional Board 2 - San Francisco Bay Region

Water Body Name: Pacific Ocean at Muir Beach
Water Body ID: CAC2013001320070321192155
Water Body Type: Coastal & Bay Shoreline

DECISION ID	33945	Region 2
Pacific Ocean at Muir Beach		

Pollutant: Indicator Bacteria
Final Listing Decision: Delist from 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision: List on 303(d) list (TMDL required list)(2012)
Revision Status: Revised
Reason for Delisting: Applicable WQS attained; reason for recovery unspecified
Impairment from Pollutant or Pollution: Pollutant

Regional Board Staff Conclusion: This pollutant is being considered for removal from the CWA section 303(d) List under section 4.3 of the Listing Policy. Under section 4.3 a single line of evidence is necessary to assess listing status.

Seven lines of evidence are available in the administrative record to assess this pollutant. Note that LOE 352 reports 18 exceedances of 67 samples of the geometric mean entero objective. These data combined with newer data result in nineteen of one hundred ninety-seven samples exceeding the enterococcus geometric mean objective.

In 2009, a coastal restoration project was undertaken by the National Park Service (NPS) to restore the ecological functions of the Creek, freshwater wetlands, intermittent tidal lagoon, and dunes over a 46-acre site at the mouth of this iconic Bay Area watershed (National Park Service 2013). Additionally, NPS has relocated the Creek away from the hills with residential development and its associated septic systems. The effect of this relocation has been to increase the upland buffer between the hillside septic systems and the Creek by an average of several hundred feet. The increased buffer is likely to have reduced, and will continue to reduce, any potential discharges from the septic systems to the Creek.

A new 225-linear foot pedestrian bridge, with a visitor gathering area, also now spans the creek and its floodplain, providing access to the Muir Beach while protecting these habitats and the plants and animals that live there. The bridge significantly reduces human and horse access to the Creek and Lagoon, and decreases the potential for bacteria discharges from these sources to reach the Creek and, ultimately, Muir Beach. About 500 linear feet of the Coastal Trail was also realigned in 2010 to allow a weedy, eroded ravine and hillside that drain into the Creek to be fully restored. This restoration effort is likely to have resulted in better filtration of bacteria discharges in stormwater runoff and, therefore, improved water quality at Muir Beach. Lastly, the project permanently reconfigured and relocated the visitor parking lot away from the main creek channel and its floodplain and replaced the previous parking lot porta-potties with new vault toilets that are more secure and further away from the creek bank. These changes will result in a decrease in any bacteria contribution from the parking lot and restroom facilities to the Creek and Beach.

Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification for removing this water segment-pollutant combination on the CWA section 303(d) List.

This conclusion is based on the staff findings that:

1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy.
2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy.

3. Nineteen of one hundred ninety-seven samples exceeding the enterococcus geometric mean objective and this does not exceed the allowable frequency listed in Table 4.2 of the Listing Policy.
4. Pursuant to section 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.

Regional Board Staff Decision Recommendation: After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should be removed from the section 303(d) list because applicable water quality standards for the pollutant are not being exceeded.

Line of Evidence (LOE) for Decision ID 33945, Indicator Bacteria

Region 2

Pacific Ocean at Muir Beach

LOE ID:	352
Pollutant:	Indicator Bacteria
LOE Subgroup:	Pollutant-Water
Matrix:	Water
Fraction:	Total
Beneficial Use:	Water Contact Recreation
Number of Samples:	67
Number of Exceedances:	18
Data and Information Type:	PATHOGEN MONITORING
Data Used to Assess Water Quality:	Available data indicate sufficient exceedances of bacterial indicator objectives. There were 12 out of 67 samples exceeding the geomean for total coliform, and 18 out of 67 exceedances of the geomean for enterococci (USEPA, 2007).
Data Reference:	Placeholder reference 2006 303(d)
SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	<p>Title 17 C.C.R. Section 7958 states: Based on a single sample, the density of bacteria in water from each sampling station at a public beach or public water contact sports area shall not exceed:</p> <p>(A) 1,000 total coliform bacteria per 100 milliliters, if the ratio of fecal/total coliform bacteria exceeds 0.1; or</p> <p>(B) 10,000 total coliform bacteria per 100 milliliters; or</p> <p>(C) 400 fecal coliform bacteria per 100 milliliters; or</p> <p>(D) 104 enterococcus bacteria per 100 milliliters.</p> <p>Based on the mean of the logarithms of the results of at least five weekly samples during any 30-day sampling period, the density of bacteria in water from any sampling station at a public beach or public water contact sports area, shall not exceed:</p> <p>(A) 1,000 total coliform bacteria per 100 milliliters; or</p> <p>(B) 200 fecal coliform bacteria per 100 milliliters; or</p> <p>(C) 35 enterococcus bacteria per 100 milliliters. (DHS, 1999)</p>
Objective/Criterion Reference:	Placeholder reference 2006 303(d)
Evaluation Guideline:	
Guideline Reference:	
Spatial Representation:	Station ID# MC200
Temporal Representation:	04/03/2003-10/25/2005
Environmental Conditions:	
QAPP Information:	Data record: summers 2003-2005, Marin County Health Dept.
QAPP Information Reference(s):	

Line of Evidence (LOE) for Decision ID 33945, Indicator Bacteria

Region 2

Pacific Ocean at Muir Beach

LOE ID:	90524
Pollutant:	Fecal Coliform
LOE Subgroup:	Pollutant-Water
Matrix:	Water
Fraction:	None
Beneficial Use:	Water Contact Recreation
Number of Samples:	130
Number of Exceedances:	0
Data and Information Type:	Not Specified
Data Used to Assess Water Quality:	Zero of the 130 geomeans exceeded the fecal coliform objective.
Data Reference:	Data for Region 2 Beach Watch.
SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	The geometric mean standard for fecal coliform states that the density shall not exceed 200 per 100 mL. Water Quality Control Plan for Ocean Waters 2009.
Objective/Criterion Reference:	California Ocean Plan Water Quality Control Plan Ocean Waters of California 2009
Evaluation Guideline:	
Guideline Reference:	
Spatial Representation:	Samples were collected at stations Muir Beach - Central, Muir Beach - North, and Muir Beach - South. The results from these stations were averaged because they were located within 200 meters.
Temporal Representation:	Samples were collected approximately once a week from April 2005 to September 2010.
Environmental Conditions:	
QAPP Information:	The samples were collected for the Beach Watch program.
QAPP Information Reference(s):	

Line of Evidence (LOE) for Decision ID 33945, Indicator Bacteria
Pacific Ocean at Muir Beach

Region 2

LOE ID:	90523
Pollutant:	Total Coliform
LOE Subgroup:	Pollutant-Water
Matrix:	Water
Fraction:	None
Beneficial Use:	Water Contact Recreation
Number of Samples:	130
Number of Exceedances:	0
Data and Information Type:	Not Specified
Data Used to Assess Water Quality:	Zero of the 130 geomeans exceeded the total coliform objective.
Data Reference:	Data for Region 2 Beach Watch.
SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	The geometric mean standard for total coliform states that density shall not exceed 1000 per 100 mL. Water Quality Control Plan for Ocean Waters 2009.
Objective/Criterion Reference:	California Ocean Plan Water Quality Control Plan Ocean Waters of California 2009
Evaluation Guideline:	
Guideline Reference:	

Spatial Representation:	Samples were collected at stations Muir Beach - Central, Muir Beach - North, and Muir Beach - South. The results from these stations were averaged because they were located within 200 meters.
Temporal Representation:	Samples were collected approximately once a week from April 2005 to September 2010.
Environmental Conditions:	
QAPP Information:	The samples were collected for the Beach Watch program.
QAPP Information Reference(s):	

Line of Evidence (LOE) for Decision ID 33945, Indicator Bacteria
Pacific Ocean at Muir Beach

Region 2

LOE ID:	90522
Pollutant:	Enterococcus
LOE Subgroup:	Pollutant-Water
Matrix:	Water
Fraction:	None
Beneficial Use:	Water Contact Recreation
Number of Samples:	130
Number of Exceedances:	1
Data and Information Type:	Not Specified
Data Used to Assess Water Quality:	One of the 130 geomeans exceeded the enterococcus objective.
Data Reference:	Data for Region 2 Beach Watch.
SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	The geometric mean standard for enterococcus states that the enterococcus density shall not exceed 35 per 100 mL. Water Quality Control Plan for Ocean Waters 2009.
Objective/Criterion Reference:	California Ocean Plan Water Quality Control Plan Ocean Waters of California 2009
Evaluation Guideline:	
Guideline Reference:	
Spatial Representation:	Samples were collected at stations Muir Beach - Central, Muir Beach - North, and Muir Beach - South. The results from these stations were averaged because they were located within 200 meters.
Temporal Representation:	Samples were collected approximately once a week from April 2005 to September 2010.
Environmental Conditions:	
QAPP Information:	The samples were collected for the Beach Watch program.
QAPP Information Reference(s):	

Line of Evidence (LOE) for Decision ID 33945, Indicator Bacteria
Pacific Ocean at Muir Beach

Region 2

LOE ID:	90821
Pollutant:	Enterococcus
LOE Subgroup:	Pollutant-Water
Matrix:	Water
Fraction:	None
Beneficial Use:	Water Contact Recreation
Number of Samples:	161
Number of Exceedances:	3
Data and Information Type:	PATHOGEN MONITORING
Data Used to Assess Water Quality:	Water Board staff assessed BeachWatch data for Pacific Ocean at Muir Beach to

	determine beneficial use support and results are as follows: 3 of 161 samples exceed the criterion for Enterococci.
Data Reference:	Data for Region 1 Beach Watch. Data for Region 2 Beach Watch.
SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	California Ocean Plan (SWRCB 2009) single sample maximum states that enterococcus density shall not exceed 104 per 100 mL.
Objective/Criterion Reference:	California Ocean Plan Water Quality Control Plan Ocean Waters of California 2009
Evaluation Guideline:	
Guideline Reference:	
Spatial Representation:	Data for this line of evidence for Pacific Ocean at Muir Beach was collected at 3 monitoring sites [Muir Beach - Central, Muir Beach - North and Muir Beach - South]
Temporal Representation:	Data was collected over the time period 4/7/2005-8/25/2010.
Environmental Conditions:	These sites are within 200 meters and the results were averaged.
QAPP Information:	The samples were collected for the Beach Watch program.
QAPP Information Reference(s):	Beach Act Monitoring and Notification Program. Application Workplan Environmental Health Policy and Procedure No. 00-1. Subject: Ocean Water Sampling Program Procedures. County of Sonoma Department of Health Services

Line of Evidence (LOE) for Decision ID 33945, Indicator Bacteria

Region 2

Pacific Ocean at Muir Beach

LOE ID:	90819
Pollutant:	Fecal Coliform
LOE Subgroup:	Pollutant-Water
Matrix:	Water
Fraction:	None
Beneficial Use:	Water Contact Recreation
Number of Samples:	161
Number of Exceedances:	1
Data and Information Type:	PATHOGEN MONITORING
Data Used to Assess Water Quality:	Water Board staff assessed BeachWatch data for Pacific Ocean at Muir Beach to determine beneficial use support and results are as follows: 1 of 161 samples exceed the criterion for Coliform, Fecal.
Data Reference:	Data for Region 2 Beach Watch.
SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	California Ocean Plan (SWRCB 2009) single sample maximum states that fecal coliform density shall not exceed 400 per 100ml
Objective/Criterion Reference:	California Ocean Plan Water Quality Control Plan Ocean Waters of California 2009
Evaluation Guideline:	
Guideline Reference:	
Spatial Representation:	Data for this line of evidence for Pacific Ocean at Muir Beach was collected at 3 monitoring sites [Muir Beach - Central, Muir Beach - North and Muir Beach - South]
Temporal Representation:	Data was collected over the time period 4/7/2005-8/25/2010.
Environmental Conditions:	These sites are within 200 meters and the results were averaged.
QAPP Information:	The samples were collected for the Beach Watch program.
QAPP Information Reference(s):	

Line of Evidence (LOE) for Decision ID 33945, Indicator Bacteria

Region 2

Pacific Ocean at Muir Beach

LOE ID:	90820
Pollutant:	Total Coliform
LOE Subgroup:	Pollutant-Water
Matrix:	Water
Fraction:	None
Beneficial Use:	Water Contact Recreation
Number of Samples:	161
Number of Exceedances:	1
Data and Information Type:	PATHOGEN MONITORING
Data Used to Assess Water Quality:	Water Board staff assessed BeachWatch data for Pacific Ocean at Muir Beach to determine beneficial use support and results are as follows: 1 of 161 samples exceed the criterion for Coliform, Total.
Data Reference:	Data for Region 2 Beach Watch.
SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	California Ocean Plan (2009) single sample maximum states that total coliform density shall not exceed 10,000 per 100 mL
Objective/Criterion Reference:	California Ocean Plan Water Quality Control Plan Ocean Waters of California 2009
Evaluation Guideline:	
Guideline Reference:	
Spatial Representation:	Data for this line of evidence for Pacific Ocean at Muir Beach was collected at 3 monitoring sites [Muir Beach - Central, Muir Beach - North and Muir Beach - South]
Temporal Representation:	Data was collected over the time period 4/7/2005-8/25/2010.
Environmental Conditions:	These sites are within 200 meters and the results were averaged.
QAPP Information:	The samples were collected for the Beach Watch program.
QAPP Information Reference(s):	

Draft California 2016 Integrated Report (303(d) List/305(b) Report)

Supporting Information

Regional Board 2 - San Francisco Bay Region

Water Body Name: Pacific Ocean at Pillar Point
Water Body ID: CAC2022101220050916171253
Water Body Type: Coastal & Bay Shoreline

DECISION ID 33020 **Region 2**
Pacific Ocean at Pillar Point

Pollutant: Mercury
Final Listing Decision: List on 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision: List on 303(d) list (TMDL required list)(2012)
Revision Status Original
Sources: Source Unknown
Expected TMDL Completion Date: 2019
Impairment from Pollutant or Pollution: Pollutant

Regional Board Staff Conclusion: This pollutant is being considered for placement on the section 303(d) list under section 3.5 of the Listing Policy. One line of evidence is available in the administrative record to assess this pollutant. Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification in favor of placing this water segment-pollutant combination on the section 303(d) list in the Water Quality Limited Segments category. This conclusion is based on the staff findings that: 1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy. 2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy. 3. Three of the 5 samples exceeded the OEHHA Screening Value and this exceeds the allowable frequency listed in Table 3.1 of the Listing Policy. 4. Pursuant to section 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.

Regional Board Staff Decision Recommendation: This is a decision previously approved by the State Water Resources Control Board and the USEPA. No new data were assessed by the Regional Board for the current. The decision has not changed.

Line of Evidence (LOE) for Decision ID 33020, Mercury **Region 2** **Pacific Ocean at Pillar Point**

LOE ID: 353
Pollutant: Mercury
LOE Subgroup: Pollutant-Tissue
Matrix: Tissue
Fraction: Total
Beneficial Use: Commercial or recreational collection of fish, shellfish, or organisms
Number of Samples: 5
Number of Exceedances: 3
Data and Information Type: Fish tissue analysis
Data Used to Assess Water Quality: Three out of 5 samples exceeded. Five filet composite samples were collected from the following species: brown rockfish, lingcod, rosethorn rockfish, black rockfish, and spotfin surfperch. Brown rockfish, rosethorn rockfish, and lingcod exceeded guideline (TSMP, 2002).

Data Reference:	Placeholder reference 2006 303(d)
SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	From the California Ocean Plan: The concentration of organic materials in fish, shellfish or other marine resources used for human consumption shall not bioaccumulate to levels that are harmful to human health (SWRCB, 2001).
Objective/Criterion Reference:	Placeholder reference 2006 303(d)
Evaluation Guideline:	Mercury 0.3 ug/g (OEHHA Screening Value) (Brodberg & Pollock, 1999).
Guideline Reference:	Placeholder reference 2006 303(d)
Spatial Representation:	One station was sampled: San Mateo Coast.
Temporal Representation:	Samples were collected on May 9, 22 and 23, 2000.
Environmental Conditions:	
QAPP Information:	Data and Quality Assurance/Quality Control Report For Trace Metals - Coastal Fish Contaminant Project Year 2, 1999-2000. Department of Fish and Game.
QAPP Information Reference(s):	

Draft California 2016 Integrated Report (303(d) List/305(b) Report)

Supporting Information

Regional Board 2 - San Francisco Bay Region

Water Body Name: Crissy Field Beach
Water Body ID: CAC2031201020070321145701
Water Body Type: Coastal & Bay Shoreline

DECISION ID 34372 **Region 2**
Crissy Field Beach

Pollutant: Indicator Bacteria
Final Listing Decision: Do Not Delist from 303(d) list (being addressed with USEPA approved TMDL)
Last Listing Cycle's Final Listing Decision: List on 303(d) list (TMDL required list)(2012)
Revision Status Revised
Sources: Source Unknown
TMDL Name: San Francisco Bay Beaches, Pathogens
TMDL Project Code: 995
Date TMDL Approved by USEPA: 02/24/2017
Impairment from Pollutant or Pollution: Pollutant

Regional Board Staff Conclusion: This pollutant is being considered for removal on the CWA section 303(d) List under sections 2.2 and 4.3 of the Listing Policy. Under section 4.3 of the Policy, a minimum of one line of evidence is needed to assess listing status.

Thirteen lines of evidence are available in the administrative record to assess this pollutant.

Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against removing this water segment-pollutant combination from the CWA section 303(d) List. There is sufficient justification to place it in the Being Addressed portion of the CWA 303(d) List because a TMDL has been completed and approved by RWQCB and USEPA, and is expected to result in attainment of the standard.

This conclusion is based on the staff findings that:

1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy.
2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy.
3. Six hundred thirty-seven of Seventeen hundred fifty five samples exceeded the enterococcus geomean objective and these exceed the allowable frequency listed in Table 4.2 of the Listing Policy.
4. The SF Bay Beach Pathogens TMDL was approved by USEPA on 2/24/2017.
5. Pursuant to section 4.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.

Regional Board Staff Decision Recommendation: This is a decision previously approved by the State Water Resources Control Board and the USEPA. No new data were assessed by the Regional Board for the current. The decision has not changed.

Line of Evidence (LOE) for Decision ID 34372, Indicator Bacteria **Region 2**
Crissy Field Beach

LOE ID: 90784
Pollutant: Fecal Coliform

LOE Subgroup:	Pollutant-Water
Matrix:	Water
Fraction:	None
Beneficial Use:	Water Contact Recreation
Number of Samples:	538
Number of Exceedances:	24
Data and Information Type:	PATHOGEN MONITORING
Data Used to Assess Water Quality:	Water Board staff assessed BeachWatch data for Crissy Field Beach to determine beneficial use support and results are as follows: 24 of 538 samples exceed the criterion for Coliform, Fecal.
Data Reference:	Data for Region 2 Beach Watch.
SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	The San Francisco Bay Basin Plan states that the single sample maximum for fecal coliform shall not exceed 400 MPN/100 mL
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	
Guideline Reference:	
Spatial Representation:	Data for this line of evidence for Crissy Field Beach was collected at 2 monitoring sites [Crissy Field, Trees, Crissy Field, New Beach]
Temporal Representation:	Data was collected over the time period 1/5/2005-8/24/2010.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	The samples were collected for the Beach Watch program.
QAPP Information Reference(s):	

Line of Evidence (LOE) for Decision ID 34372, Indicator Bacteria
Crissy Field Beach

Region 2

LOE ID:	90809
Pollutant:	Total Coliform
LOE Subgroup:	Pollutant-Water
Matrix:	Water
Fraction:	None
Beneficial Use:	Water Contact Recreation
Number of Samples:	538
Number of Exceedances:	6
Data and Information Type:	PATHOGEN MONITORING
Data Used to Assess Water Quality:	Water Board staff assessed BeachWatch data for Crissy Field Beach to determine beneficial use support and results are as follows: 6 of 538 samples exceed the criterion for Coliform, Total.
Data Reference:	Data for Region 2 Beach Watch.
SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	The San Francisco Bay Basin Plan states that the single sample maximum for total coliform shall not exceed 10,000 MPN/100 mL
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	
Guideline Reference:	
Spatial Representation:	Data for this line of evidence for Crissy Field Beach was collected at 2 monitoring sites [

Temporal Representation:	Crissy Field, Trees, Crissy Field, New Beach]
Environmental Conditions:	Data was collected over the time period 1/5/2005-8/24/2010.
QAPP Information:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information Reference(s):	The samples were collected for the Beach Watch program.

Line of Evidence (LOE) for Decision ID 34372, Indicator Bacteria
Crissy Field Beach

Region 2

LOE ID:	90837
Pollutant:	Enterococcus
LOE Subgroup:	Pollutant-Water
Matrix:	Water
Fraction:	None
Beneficial Use:	Water Contact Recreation
Number of Samples:	538
Number of Exceedances:	65
Data and Information Type:	PATHOGEN MONITORING
Data Used to Assess Water Quality:	Water Board staff assessed BeachWatch data for Crissy Field Beach to determine beneficial use support and results are as follows: 65 of 538 samples exceed the criterion for Enterococci.
Data Reference:	Data for Region 2 Beach Watch.
SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	The San Francisco Bay Basin Plan states that the single sample maximum for Enterococcus shall not exceed 104 MPN/100 mL.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	
Guideline Reference:	
Spatial Representation:	Data for this line of evidence for Crissy Field Beach was collected at 2 monitoring sites [Crissy Field, Trees, Crissy Field, New Beach]
Temporal Representation:	Data was collected over the time period 1/5/2005-8/24/2010.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	The samples were collected for the Beach Watch program.
QAPP Information Reference(s):	

Line of Evidence (LOE) for Decision ID 34372, Indicator Bacteria
Crissy Field Beach

Region 2

LOE ID:	90570
Pollutant:	Enterococcus
LOE Subgroup:	Pollutant-Water
Matrix:	Water
Fraction:	None
Beneficial Use:	Water Contact Recreation
Number of Samples:	350
Number of Exceedances:	73
Data and Information Type:	Not Specified
Data Used to Assess Water Quality:	Seventy three of the 350 geomeans exceeded the objective.
Data Reference:	Data for Region 2 Beach Watch.

SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	The geometric mean standard for enterococcus states that the enterococcus density shall not exceed 35 per 100 mL. San Francisco Bay Basin Water Quality Control Plan.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	
Guideline Reference:	
Spatial Representation:	Samples were collected at the Crissy Field, New Beach site.
Temporal Representation:	Samples were collected from December 2005 to August 2010.
Environmental Conditions:	
QAPP Information:	The samples were collected for the Beach Watch program.
QAPP Information Reference(s):	

Line of Evidence (LOE) for Decision ID 34372, Indicator Bacteria

Region 2

Crissy Field Beach

LOE ID:	90571
Pollutant:	Total Coliform
LOE Subgroup:	Pollutant-Water
Matrix:	Water
Fraction:	None
Beneficial Use:	Water Contact Recreation
Number of Samples:	67
Number of Exceedances:	8
Data and Information Type:	Not Specified
Data Used to Assess Water Quality:	Eight of the sixty-seven monthly medians exceeded the objective.
Data Reference:	Data for Region 2 Beach Watch.
SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	The standard for total coliform states that the coliform density shall not exceed a monthly median of 240 per 100 mL. San Francisco Bay Basin Water Quality Control Plan.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	
Guideline Reference:	
Spatial Representation:	Samples were collected at the Crissy Field, New Beach site.
Temporal Representation:	Samples were collected from January 2005 to August 2010.
Environmental Conditions:	
QAPP Information:	The samples were collected for the Beach Watch program.
QAPP Information Reference(s):	

Line of Evidence (LOE) for Decision ID 34372, Indicator Bacteria

Region 2

Crissy Field Beach

LOE ID:	90572
Pollutant:	Fecal Coliform
LOE Subgroup:	Pollutant-Water
Matrix:	Water
Fraction:	None
Beneficial Use:	Water Contact Recreation

Number of Samples:	350
Number of Exceedances:	0
Data and Information Type:	Not Specified
Data Used to Assess Water Quality:	Zero of the 350 geomeans exceeded the objective.
Data Reference:	Data for Region 2 Beach Watch.
SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	The geometric mean standard for fecal coliform states that the fecal coliform density shall not exceed 200 per 100 mL. San Francisco Bay Basin Water Quality Control Plan.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	
Guideline Reference:	
Spatial Representation:	Samples were collected at the Crissy Field, New Beach site.
Temporal Representation:	Samples were collected from January 2005 to August 2010.
Environmental Conditions:	
QAPP Information:	The samples were collected for the beach watch program.
QAPP Information Reference(s):	

Line of Evidence (LOE) for Decision ID 34372, Indicator Bacteria

Region 2

Crissy Field Beach

LOE ID:	90573
Pollutant:	Fecal Coliform
LOE Subgroup:	Pollutant-Water
Matrix:	Water
Fraction:	None
Beneficial Use:	Water Contact Recreation
Number of Samples:	176
Number of Exceedances:	0
Data and Information Type:	Not Specified
Data Used to Assess Water Quality:	Zero of the 176 geomeans exceeded the objective.
Data Reference:	Data for Region 2 Beach Watch.
SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	The geometric mean standard for fecal coliform states that the fecal coliform density shall not exceed 200 per 100 mL. San Francisco Bay Basin Water Quality Control Plan.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	
Guideline Reference:	
Spatial Representation:	Samples were collected at the Crissy Field, Trees site.
Temporal Representation:	Samples were collected from January 2005 to March 2008.
Environmental Conditions:	
QAPP Information:	The samples were collected for the beach watch program.
QAPP Information Reference(s):	

Line of Evidence (LOE) for Decision ID 34372, Indicator Bacteria

Region 2

Crissy Field Beach

LOE ID:	90574
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Pollutant:	Total Coliform
LOE Subgroup:	Pollutant-Water
Matrix:	Water
Fraction:	None
Beneficial Use:	Water Contact Recreation
Number of Samples:	38
Number of Exceedances:	1
Data and Information Type:	Not Specified
Data Used to Assess Water Quality:	One of the thirty-eight monthly medians exceeded the objective.
Data Reference:	Data for Region 2 Beach Watch.
SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	The standard for total coliform states that the coliform density shall not exceed a monthly median of 240 per 100 mL. San Francisco Bay Basin Water Quality Control Plan.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	
Guideline Reference:	
Spatial Representation:	Samples were collected at the Crissy Field, Trees site.
Temporal Representation:	Samples were collected from January 2005 to March 2008.
Environmental Conditions:	
QAPP Information:	The samples were collected for the Beach Watch program.
QAPP Information Reference(s):	

Line of Evidence (LOE) for Decision ID 34372, Indicator Bacteria
Crissy Field Beach

Region 2

LOE ID:	90575
Pollutant:	Enterococcus
LOE Subgroup:	Pollutant-Water
Matrix:	Water
Fraction:	None
Beneficial Use:	Water Contact Recreation
Number of Samples:	176
Number of Exceedances:	11
Data and Information Type:	Not Specified
Data Used to Assess Water Quality:	Eleven of the 176 geomeans exceeded the objective.
Data Reference:	Data for Region 2 Beach Watch.
SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	The geometric mean standard for enterococcus states that the enterococcus density shall not exceed 35 per 100 mL. San Francisco Bay Basin Water Quality Control Plan.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	
Guideline Reference:	
Spatial Representation:	Samples were collected at the Crissy Field, Trees site.
Temporal Representation:	Samples were collected from December 2005 to March 2008.
Environmental Conditions:	
QAPP Information:	The samples were collected for the Beach Watch program.

Line of Evidence (LOE) for Decision ID 34372, Indicator Bacteria**Region 2****Crissy Field Beach**

LOE ID:	354
Pollutant:	Indicator Bacteria
LOE Subgroup:	Pollutant-Water
Matrix:	Water
Fraction:	Total
Beneficial Use:	Water Contact Recreation
Number of Samples:	406
Number of Exceedances:	131
Data and Information Type:	PATHOGEN MONITORING
Data Used to Assess Water Quality:	Available data indicate sufficient exceedances of bacterial indicator objectives. There were 64 out of 425 samples that exceeded the single sample maximum for enterococci, and 131 out of 406 exceedances of the geomean for enterococci (USEPA, 2007).
Data Reference:	Placeholder reference 2006 303(d)
SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	<p>Title 17 C.C.R. Section 7958 states: Based on a single sample, the density of bacteria in water from each sampling station at a public beach or public water contact sports area shall not exceed:</p> <p>(A) 1,000 total coliform bacteria per 100 milliliters, if the ratio of fecal/total coliform bacteria exceeds 0.1; or</p> <p>(B) 10,000 total coliform bacteria per 100 milliliters; or</p> <p>(C) 400 fecal coliform bacteria per 100 milliliters; or</p> <p>(D) 104 enterococcus bacteria per 100 milliliters.</p> <p>Based on the mean of the logarithms of the results of at least five weekly samples during any 30-day sampling period, the density of bacteria in water from any sampling station at a public beach or public water contact sports area, shall not exceed:</p> <p>(A) 1,000 total coliform bacteria per 100 milliliters; or</p> <p>(B) 200 fecal coliform bacteria per 100 milliliters; or</p> <p>(C) 35 enterococcus bacteria per 100 milliliters. (DHS, 1999)</p>
Objective/Criterion Reference:	Placeholder reference 2006 303(d)
Evaluation Guideline:	
Guideline Reference:	
Spatial Representation:	East and west areas of Crissy Field Beach.
Temporal Representation:	08/01/2002-10/26/2005
Environmental Conditions:	
QAPP Information:	Data record: 2002-2005, San Francisco County Health Dept.
QAPP Information Reference(s):	

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Supporting Information

Regional Board 2 - San Francisco Bay Region

Water Body Name: China Camp Beach
Water Body ID: CAC2032001220070320145548
Water Body Type: Coastal & Bay Shoreline

DECISION ID 44915 **Region 2**
China Camp Beach

Pollutant: Indicator Bacteria
Final Listing Decision: Do Not Delist from 303(d) list (being addressed with USEPA approved TMDL)
Last Listing Cycle's Final Listing Decision: List on 303(d) list (TMDL required list)(2012)
Revision Status Original
Sources: Source Unknown
TMDL Name: San Francisco Bay Beaches, Pathogens
TMDL Project Code: 995
Date TMDL Approved by USEPA: 02/24/2017
Impairment from Pollutant or Pollution: Pollutant

Regional Board Staff Conclusion: This pollutant is being considered for removal on the CWA section 303(d) List under sections 2.2 and 4.3 of the Listing Policy. Under section 4.3 of the Policy, a minimum of one line of evidence is needed to assess listing status.

Seven lines of evidence are available in the administrative record to assess this pollutant.

Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against removing this water segment-pollutant combination from the CWA section 303(d) List. There is sufficient justification to place it in the Being Addressed portion of the CWA 303(d) List because a TMDL has been completed and approved by RWQCB and USEPA, and is expected to result in attainment of the standard.

This conclusion is based on the staff findings that:

1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy.
2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy.
3. Seventeen of forty samples exceeded the total coliform monthly median objective and these exceed the allowable frequency listed in Table 4.2 of the Listing Policy.
4. The SF Bay Pathogens TMDL was approved by USEPA on 2/24/2017.
5. Pursuant to section 4.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.

Regional Board Staff Decision Recommendation: After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be removed from the section 303(d) list because applicable water quality standards for the pollutant are being exceeded.

Line of Evidence (LOE) for Decision ID 44915, Indicator Bacteria **Region 2**
China Camp Beach

LOE ID: 90785
Pollutant: Fecal Coliform
LOE Subgroup: Pollutant-Water

Matrix:	Water
Fraction:	None
Beneficial Use:	Water Contact Recreation
Number of Samples:	161
Number of Exceedances:	2
Data and Information Type:	PATHOGEN MONITORING
Data Used to Assess Water Quality:	Water Board staff assessed BeachWatch data for China Camp Beach to determine beneficial use support and results are as follows: 2 of 161 samples exceed the criterion for Coliform, Fecal.
Data Reference:	Data for Region 2 Beach Watch.
SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	The San Francisco Bay Basin Plan states that the single sample maximum for fecal coliform shall not exceed 400 MPN/100 mL
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	
Guideline Reference:	
Spatial Representation:	Data for this line of evidence for China Camp Beach was collected at 1 monitoring site [China Camp]
Temporal Representation:	Data was collected over the time period 4/6/2005-8/25/2010.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	The samples were collected for the Beach Watch program.
QAPP Information Reference(s):	

Line of Evidence (LOE) for Decision ID 44915, Indicator Bacteria
China Camp Beach

Region 2

LOE ID:	90838
Pollutant:	Enterococcus
LOE Subgroup:	Pollutant-Water
Matrix:	Water
Fraction:	None
Beneficial Use:	Water Contact Recreation
Number of Samples:	161
Number of Exceedances:	3
Data and Information Type:	PATHOGEN MONITORING
Data Used to Assess Water Quality:	Water Board staff assessed BeachWatch data for China Camp Beach to determine beneficial use support and results are as follows: 3 of 161 samples exceed the criterion for Enterococci.
Data Reference:	Data for Region 2 Beach Watch.
SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	The San Francisco Bay Basin Plan states that the single sample maximum for Enterococcus shall not exceed 104 MPN/100 mL.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	
Guideline Reference:	
Spatial Representation:	Data for this line of evidence for China Camp Beach was collected at 1 monitoring site [China Camp]

Temporal Representation:	Data was collected over the time period 4/6/2005-8/25/2010.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	The samples were collected for the Beach Watch program.
QAPP Information Reference(s):	

Line of Evidence (LOE) for Decision ID 44915, Indicator Bacteria**Region 2****China Camp Beach**

LOE ID:	90810
Pollutant:	Total Coliform
LOE Subgroup:	Pollutant-Water
Matrix:	Water
Fraction:	None
Beneficial Use:	Water Contact Recreation
Number of Samples:	161
Number of Exceedances:	9
Data and Information Type:	PATHOGEN MONITORING
Data Used to Assess Water Quality:	Water Board staff assessed BeachWatch data for China Camp Beach to determine beneficial use support and results are as follows: 9 of 161 samples exceed the criterion for Coliform, Total.
Data Reference:	Data for Region 2 Beach Watch.
SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	The San Francisco Bay Basin Plan states that the single sample maximum for total coliform shall not exceed 10,000 MPN/100 mL
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	
Guideline Reference:	
Spatial Representation:	Data for this line of evidence for China Camp Beach was collected at 1 monitoring site [China Camp]
Temporal Representation:	Data was collected over the time period 4/6/2005-8/25/2010.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	The samples were collected for the Beach Watch program.
QAPP Information Reference(s):	

Line of Evidence (LOE) for Decision ID 44915, Indicator Bacteria**Region 2****China Camp Beach**

LOE ID:	90567
Pollutant:	Fecal Coliform
LOE Subgroup:	Pollutant-Water
Matrix:	Water
Fraction:	None
Beneficial Use:	Water Contact Recreation
Number of Samples:	138
Number of Exceedances:	0
Data and Information Type:	Not Specified
Data Used to Assess Water Quality:	Zero of the 138 geomeans exceeded the objective.
Data Reference:	Data for Region 2 Beach Watch.

SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	The geometric mean standard for fecal coliform states that the fecal coliform density shall not exceed 200 per 100 mL. San Francisco Bay Basin Water Quality Control Plan.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	
Guideline Reference:	
Spatial Representation:	Samples were collected at the China Camp site.
Temporal Representation:	Samples were collected from April 2005 to August 2010.
Environmental Conditions:	
QAPP Information:	The samples were collected for the beach watch program.
QAPP Information Reference(s):	

Line of Evidence (LOE) for Decision ID 44915, Indicator Bacteria

Region 2

China Camp Beach

LOE ID:	90568
Pollutant:	Total Coliform
LOE Subgroup:	Pollutant-Water
Matrix:	Water
Fraction:	None
Beneficial Use:	Water Contact Recreation
Number of Samples:	40
Number of Exceedances:	17
Data and Information Type:	Not Specified
Data Used to Assess Water Quality:	Seventeen of the forty monthly medians exceeded the objective. The samples were collected from April to October only and should be assessed with a 4 percent exceedance frequency.
Data Reference:	Data for Region 2 Beach Watch.
SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	The standard for total coliform states that the coliform density shall not exceed a monthly median of 240 per 100 mL. San Francisco Bay Basin Water Quality Control Plan.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	
Guideline Reference:	
Spatial Representation:	Samples were collected at the China Camp site.
Temporal Representation:	Samples were collected from April 2005 to August 2010.
Environmental Conditions:	
QAPP Information:	The samples were collected for the Beach Watch program.
QAPP Information Reference(s):	

Line of Evidence (LOE) for Decision ID 44915, Indicator Bacteria

Region 2

China Camp Beach

LOE ID:	90569
Pollutant:	Enterococcus
LOE Subgroup:	Pollutant-Water
Matrix:	Water
Fraction:	None

Beneficial Use:	Water Contact Recreation
Number of Samples:	138
Number of Exceedances:	0
Data and Information Type:	Not Specified
Data Used to Assess Water Quality:	Zero of the 138 geomeans exceeded the objective.
Data Reference:	Data for Region 2 Beach Watch.
SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	The geometric mean standard for enterococcus states that the enterococcus density shall not exceed 35 per 100 mL. San Francisco Bay Basin Water Quality Control Plan.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	
Guideline Reference:	
Spatial Representation:	Samples were collected at the China Camp site.
Temporal Representation:	Samples were collected from April 2005 to August 2010.
Environmental Conditions:	
QAPP Information:	The samples were collected for the Beach Watch program.
QAPP Information Reference(s):	

Line of Evidence (LOE) for Decision ID 44915, Indicator Bacteria China Camp Beach

Region 2

LOE ID:	355
Pollutant:	Indicator Bacteria
LOE Subgroup:	Pollutant-Water
Matrix:	Water
Fraction:	Total
Beneficial Use:	Water Contact Recreation
Number of Samples:	78
Number of Exceedances:	20
Data and Information Type:	PATHOGEN MONITORING
Data Used to Assess Water Quality:	Available data indicate sufficient exceedances of bacterial indicator objectives. There were 5 out of 90 samples that exceeded the single sample maximum for enterococci, 5 out of 91 that exceeded the single sample maximum for total coliform, and 20 out of 78 exceedances of the geomean for total coliform (USEPA, 2007).
Data Reference:	Placeholder reference 2006 303(d)
SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	<p>Title 17 C.C.R. Section 7958 states: Based on a single sample, the density of bacteria in water from each sampling station at a public beach or public water contact sports area shall not exceed:</p> <p>(A) 1,000 total coliform bacteria per 100 milliliters, if the ratio of fecal/total coliform bacteria exceeds 0.1; or</p> <p>(B) 10,000 total coliform bacteria per 100 milliliters; or</p> <p>(C) 400 fecal coliform bacteria per 100 milliliters; or</p> <p>(D) 104 enterococcus bacteria per 100 milliliters.</p> <p>Based on the mean of the logarithms of the results of at least five weekly samples during any 30-day sampling period, the density of bacteria in water from any sampling station at a public beach or public water contact sports area, shall not exceed:</p> <p>(A) 1,000 total coliform bacteria per 100 milliliters; or</p> <p>(B) 200 fecal coliform bacteria per 100 milliliters; or</p>

Objective/Criterion Reference:	(C) 35 enterococcus bacteria per 100 milliliters. (DHS, 1999) Placeholder reference 2006 303(d)
Evaluation Guideline:	
Guideline Reference:	
Spatial Representation:	Station ID# MC310
Temporal Representation:	04/01/2003-10/25/2005
Environmental Conditions:	
QAPP Information:	Data record: summers 2003-2005, Marin County Health Dept.
QAPP Information Reference(s):	

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Supporting Information

Regional Board 2 - San Francisco Bay Region

Water Body Name: Aquatic Park Beach
Water Body ID: CAC2034001020070321140604
Water Body Type: Coastal & Bay Shoreline

DECISION ID 34366 **Region 2**
Aquatic Park Beach

Pollutant: Indicator Bacteria
Final Listing Decision: Do Not Delist from 303(d) list (being addressed with USEPA approved TMDL)
Last Listing Cycle's Final Listing Decision: List on 303(d) list (TMDL required list)(2012)
Revision Status Revised
Sources: Source Unknown
TMDL Name: San Francisco Bay Beaches, Pathogens
TMDL Project Code: 995
Date TMDL Approved by USEPA: 02/24/2017
Impairment from Pollutant or Pollution: Pollutant

Regional Board Staff Conclusion: This pollutant is being considered for removal on the CWA section 303(d) List under sections 2.2 and 4.3 of the Listing Policy. Under section 4.3 of the Policy, a minimum of one line of evidence is needed to assess listing status.

Ten lines of evidence are available in the administrative record to assess this pollutant.

Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against removing this water segment-pollutant combination from the CWA section 303(d) List. There is sufficient justification to place it in the Being Addressed portion of the CWA 303(d) List because a TMDL has been completed and approved by RWQCB and USEPA, and is expected to result in attainment of the standard.

This conclusion is based on the staff findings that:

1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy.
2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy.
3. Twenty-five of one hundred thirty two samples exceeded the total coliform monthly median objective and these exceed the allowable frequency listed in Table 4.2 of the Listing Policy.
4. The SF Bay Beaches Pathogen TMDL was approved by USEPA on February 24, 2017.
5. Pursuant to section 4.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.

Regional Board Staff Decision Recommendation: After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be removed from the section 303(d) list because applicable water quality standards for the pollutant are being exceeded.

Line of Evidence (LOE) for Decision ID 34366, Indicator Bacteria **Region 2**
Aquatic Park Beach

LOE ID: 90624
Pollutant: Fecal Coliform
LOE Subgroup: Pollutant-Water

Matrix:	Water
Fraction:	None
Beneficial Use:	Water Contact Recreation
Number of Samples:	332
Number of Exceedances:	12
Data and Information Type:	Not Specified
Data Used to Assess Water Quality:	Twelve of the 332 geomeans exceeded the objective.
Data Reference:	Data for Region 2 Beach Watch.
SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	The geometric mean standard for fecal coliform states that the fecal coliform density shall not exceed 200 per 100 mL. San Francisco Bay Basin Water Quality Control Plan.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	
Guideline Reference:	
Spatial Representation:	Samples were collected at the Aquatic Park, Mid-Beach site.
Temporal Representation:	Samples were collected from January 2005 to August 2010.
Environmental Conditions:	
QAPP Information:	The samples were collected for the beach watch program.
QAPP Information Reference(s):	

Line of Evidence (LOE) for Decision ID 34366, Indicator Bacteria

Region 2

Aquatic Park Beach

LOE ID:	90768
Pollutant:	Fecal Coliform
LOE Subgroup:	Pollutant-Water
Matrix:	Water
Fraction:	None
Beneficial Use:	Water Contact Recreation
Number of Samples:	643
Number of Exceedances:	29
Data and Information Type:	PATHOGEN MONITORING
Data Used to Assess Water Quality:	Water Board staff assessed BeachWatch data for Aquatic Park Beach to determine beneficial use support and results are as follows: 29 of 643 samples exceed the criterion for Coliform, Fecal.
Data Reference:	Data for Region 2 Beach Watch.
SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	The San Francisco Bay Basin Plan states that the single sample maximum for fecal coliform shall not exceed 400 MPN/100 mL
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	
Guideline Reference:	
Spatial Representation:	Data for this line of evidence for Aquatic Park Beach was collected at 2 monitoring sites [Aquatic Park, Mid-beach, Hyde Street Pier]
Temporal Representation:	Data was collected over the time period 1/5/2005-8/24/2010.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	The samples were collected for the Beach Watch program.

Line of Evidence (LOE) for Decision ID 34366, Indicator Bacteria**Region 2****Aquatic Park Beach**

LOE ID:	356
Pollutant:	Indicator Bacteria
LOE Subgroup:	Pollutant-Water
Matrix:	Water
Fraction:	Total
Beneficial Use:	Water Contact Recreation
Number of Samples:	240
Number of Exceedances:	93
Data and Information Type:	PATHOGEN MONITORING
Data Used to Assess Water Quality:	Available data indicate sufficient exceedances of bacterial indicator objectives: There were 38 out of 254 exceedances of the single sample maximum for fecal coliform, 45 out of 254 exceedances of the single sample maximum for enterococci, and 93 out of 240 exceedances of the geomean for enterococci. (USEPA, 2007).
Data Reference:	Placeholder reference 2006 303(d)
SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	Title 17 C.C.R. Section 7958 states: Based on a single sample, the density of bacteria in water from each sampling station at a public beach or public water contact sports area shall not exceed: (A) 1,000 total coliform bacteria per 100 milliliters, if the ratio of fecal/total coliform bacteria exceeds 0.1; or (B) 10,000 total coliform bacteria per 100 milliliters; or (C) 400 fecal coliform bacteria per 100 milliliters; or (D) 104 enterococcus bacteria per 100 milliliters. (A) 1,000 total coliform bacteria per 100 milliliters; or (B) 200 fecal coliform bacteria per 100 milliliters; or (C) 35 enterococcus bacteria per 100 milliliters. (DHS, 1999)
Objective/Criterion Reference:	Placeholder reference 2006 303(d)
Evaluation Guideline:	
Guideline Reference:	
Spatial Representation:	Station ID# SFC10, Aquatic Park Beach, 211 Station
Temporal Representation:	08/01/02-10/26/05
Environmental Conditions:	
QAPP Information:	Data record: 2002-2005, San Francisco County Health Dept.
QAPP Information Reference(s):	

Line of Evidence (LOE) for Decision ID 34366, Indicator Bacteria**Region 2****Aquatic Park Beach**

LOE ID:	90828
Pollutant:	Enterococcus
LOE Subgroup:	Pollutant-Water
Matrix:	Water
Fraction:	None
Beneficial Use:	Water Contact Recreation

Number of Samples:	643
Number of Exceedances:	41
Data and Information Type:	PATHOGEN MONITORING
Data Used to Assess Water Quality:	Water Board staff assessed BeachWatch data for Aquatic Park Beach to determine beneficial use support and results are as follows: 41 of 643 samples exceed the criterion for Enterococci.
Data Reference:	Data for Region 2 Beach Watch.
SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	The San Francisco Bay Basin Plan states that the single sample maximum for Enterococcus shall not exceed 104 MPN/100 mL.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	
Guideline Reference:	
Spatial Representation:	Data for this line of evidence for Aquatic Park Beach was collected at 2 monitoring sites [Aquatic Park, Mid-beach, Hyde Street Pier]
Temporal Representation:	Data was collected over the time period 1/5/2005-8/24/2010.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	The samples were collected for the Beach Watch program.
QAPP Information Reference(s):	

Line of Evidence (LOE) for Decision ID 34366, Indicator Bacteria

Region 2

Aquatic Park Beach

LOE ID:	90625
Pollutant:	Total Coliform
LOE Subgroup:	Pollutant-Water
Matrix:	Water
Fraction:	None
Beneficial Use:	Water Contact Recreation
Number of Samples:	67
Number of Exceedances:	20
Data and Information Type:	Not Specified
Data Used to Assess Water Quality:	Twenty of the sixty-seven monthly medians exceeded the objective.
Data Reference:	Data for Region 2 Beach Watch.
SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	The standard for total coliform states that the coliform density shall not exceed a monthly median of 240 MPN/100ml. San Francisco Bay Basin Water Quality Control Plan.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	
Guideline Reference:	
Spatial Representation:	Samples were collected at the Aquatic Park, Mid-beach site.
Temporal Representation:	Samples were collected from January 2005 to August 2010.
Environmental Conditions:	
QAPP Information:	The samples were collected for the Beach Watch program.
QAPP Information Reference(s):	

Line of Evidence (LOE) for Decision ID 34366, Indicator Bacteria

Region 2

Aquatic Park Beach

LOE ID:	90629
Pollutant:	Fecal Coliform
LOE Subgroup:	Pollutant-Water
Matrix:	Water
Fraction:	None
Beneficial Use:	Water Contact Recreation
Number of Samples:	299
Number of Exceedances:	0
Data and Information Type:	Not Specified
Data Used to Assess Water Quality:	Zero of the 299 geomeans exceeded the objective.
Data Reference:	Data for Region 2 Beach Watch.
SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	The geometric mean standard for fecal coliform states that the fecal coliform density shall not exceed 200 per 100 mL. San Francisco Bay Basin Water Quality Control Plan.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	
Guideline Reference:	
Spatial Representation:	Samples were collected at the Hyde Street Pier site.
Temporal Representation:	Samples were collected from January 2005 to August 2010.
Environmental Conditions:	
QAPP Information:	The samples were collected for the beach watch program.
QAPP Information Reference(s):	

Line of Evidence (LOE) for Decision ID 34366, Indicator Bacteria

Region 2

Aquatic Park Beach

LOE ID:	90628
Pollutant:	Total Coliform
LOE Subgroup:	Pollutant-Water
Matrix:	Water
Fraction:	None
Beneficial Use:	Water Contact Recreation
Number of Samples:	65
Number of Exceedances:	5
Data and Information Type:	Not Specified
Data Used to Assess Water Quality:	Five of the sixty-five monthly medians exceeded the total coliform objective.
Data Reference:	Data for Region 2 Beach Watch.
SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	The standard for total coliform states that the coliform density shall not exceed a monthly median of 240 MPN/100ml. San Francisco Bay Basin Water Quality Control Plan.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	
Guideline Reference:	
Spatial Representation:	Samples were collected at the Hyde Street Pier site.
Temporal Representation:	Samples were collected from January 2005 to August 2010.

Environmental Conditions:

QAPP Information:

The samples were collected for the Beach Watch program.

QAPP Information Reference(s):

Line of Evidence (LOE) for Decision ID 34366, Indicator Bacteria

Region 2

Aquatic Park Beach

LOE ID: 90627

Pollutant: Enterococcus

LOE Subgroup: Pollutant-Water

Matrix: Water

Fraction: None

Beneficial Use: Water Contact Recreation

Number of Samples: 299

Number of Exceedances: 4

Data and Information Type: Not Specified

Data Used to Assess Water Quality: Four of the 299 geomeans exceeded the objective.

Data Reference: [Data for Region 2 Beach Watch.](#)

SWAMP Data: Non-SWAMP

Water Quality Objective/Criterion: The geometric mean standard for enterococcus states that the enterococcus density shall not exceed 35 per 100 mL. San Francisco Bay Basin Water Quality Control Plan.

Objective/Criterion Reference: [Water Quality Control Plan \(Basin Plan\) San Francisco Bay Basin \(Region 2\)](#)

Evaluation Guideline:

Guideline Reference:

Spatial Representation: Samples were collected at the Hyde Street Pier site.

Temporal Representation: Samples were collected from January 2005 to August 2010.

Environmental Conditions:

QAPP Information: The samples were collected for the Beach Watch program.

QAPP Information Reference(s):

Line of Evidence (LOE) for Decision ID 34366, Indicator Bacteria

Region 2

Aquatic Park Beach

LOE ID: 90626

Pollutant: Enterococcus

LOE Subgroup: Pollutant-Water

Matrix: Water

Fraction: None

Beneficial Use: Water Contact Recreation

Number of Samples: 332

Number of Exceedances: 43

Data and Information Type: Not Specified

Data Used to Assess Water Quality: Forty three of the 332 geomeans exceeded the objective.

Data Reference: [Data for Region 2 Beach Watch.](#)

SWAMP Data: Non-SWAMP

Water Quality Objective/Criterion: The geometric mean standard for enterococcus states that the enterococcus density shall not exceed 35 per 100 mL. San Francisco Bay Basin Water Quality Control Plan.

Objective/Criterion Reference: [Water Quality Control Plan \(Basin Plan\) San Francisco Bay Basin \(Region 2\)](#)

Evaluation Guideline:

Guideline Reference:

Spatial Representation:

Samples were collected at the Aquatic Park, Mid-beach site.

Temporal Representation:

Samples were collected from January 2005 to August 2010.

Environmental Conditions:

QAPP Information:

The samples were collected for the Beach Watch program.

QAPP Information Reference(s):

Line of Evidence (LOE) for Decision ID 34366, Indicator Bacteria

Region 2

Aquatic Park Beach

LOE ID: 90807

Pollutant: Total Coliform

LOE Subgroup: Pollutant-Water

Matrix: Water

Fraction: None

Beneficial Use: Water Contact Recreation

Number of Samples: 643

Number of Exceedances: 1

Data and Information Type: PATHOGEN MONITORING

Data Used to Assess Water Quality: Water Board staff assessed BeachWatch data for Aquatic Park Beach to determine beneficial use support and results are as follows: 1 of 643 samples exceed the criterion for Coliform, Total.

Data Reference: [Data for Region 2 Beach Watch.](#)

SWAMP Data: Non-SWAMP

Water Quality Objective/Criterion: The San Francisco Bay Basin Plan states that the single sample maximum for total coliform shall not exceed 10,000 MPN/100 mL

Objective/Criterion Reference: [Water Quality Control Plan \(Basin Plan\) San Francisco Bay Basin \(Region 2\)](#)

Evaluation Guideline:

Guideline Reference:

Spatial Representation:

Data for this line of evidence for Aquatic Park Beach was collected at 2 monitoring sites [Aquatic Park, Mid-beach, Hyde Street Pier]

Temporal Representation:

Data was collected over the time period 1/5/2005-8/24/2010.

Environmental Conditions:

Staff is not aware of any special conditions that might affect interpretation of the data.

QAPP Information:

The samples were collected for the Beach Watch program.

QAPP Information Reference(s):

Draft California 2016 Integrated Report (303(d) List/305(b) Report)

Supporting Information

Regional Board 2 - San Francisco Bay Region

Water Body Name: Candlestick Point
Water Body ID: CAC2044001120070321142147
Water Body Type: Coastal & Bay Shoreline

DECISION ID 34387 **Region 2**
Candlestick Point

Pollutant: Indicator Bacteria
Final Listing Decision: Do Not Delist from 303(d) list (being addressed with USEPA approved TMDL)
Last Listing Cycle's Final Listing Decision: List on 303(d) list (TMDL required list)(2012)
Revision Status Revised
Sources: Source Unknown
TMDL Name: San Francisco Bay Beaches, Pathogens
TMDL Project Code: 995
Date TMDL Approved by USEPA: 02/24/2017
Impairment from Pollutant or Pollution: Pollutant

Regional Board Staff Conclusion: This pollutant is being considered for removal on the CWA section 303(d) List under sections 2.2 and 4.3 of the Listing Policy. Under section 4.3 of the Policy, a minimum of one line of evidence is needed to assess listing status.

Thirteen lines of evidence are available in the administrative record to assess this pollutant.

Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against removing this water segment-pollutant combination from the CWA section 303(d) List. There is sufficient justification to place it in the Being Addressed portion of the CWA 303(d) List because a TMDL has been completed and approved by RWQCB and USEPA, and is expected to result in attainment of the standard.

This conclusion is based on the staff findings that:

1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy.
2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy.
3. Six hundred thirty-seven of Seventeen hundred fifty five samples exceeded the enterococcus geomean objective and these exceed the allowable frequency listed in Table 4.2 of the Listing Policy.
4. The SF Bay Beach Pathogens TMDL was approved by USEPA on 2/24/2017.
5. Pursuant to section 4.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.

Regional Board Staff Decision Recommendation: After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be removed from the section 303(d) list because applicable water quality standards for the pollutant are being exceeded.

Line of Evidence (LOE) for Decision ID 34387, Indicator Bacteria **Region 2**
Candlestick Point

LOE ID: 90808

Pollutant:	Total Coliform
LOE Subgroup:	Pollutant-Water
Matrix:	Water
Fraction:	None
Beneficial Use:	Water Contact Recreation
Number of Samples:	1133
Number of Exceedances:	82
Data and Information Type:	PATHOGEN MONITORING
Data Used to Assess Water Quality:	Water Board staff assessed BeachWatch data for Candlestick Point to determine beneficial use support and results are as follows: 82 of 1133 samples exceed the criterion for Coliform, Total.
Data Reference:	Data for Region 2 Beach Watch.
SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	The San Francisco Bay Basin Plan states that the single sample maximum for total coliform shall not exceed 10,000 MPN/100 mL
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	
Guideline Reference:	
Spatial Representation:	Data for this line of evidence for Candlestick Point was collected at 3 monitoring sites [Jack Rabbit Beach, Windsurfer Circle, Sunnydale Cove]
Temporal Representation:	Data was collected over the time period 1/1/2005-8/25/2010.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	The samples were collected for the Beach Watch program.
QAPP Information Reference(s):	

Line of Evidence (LOE) for Decision ID 34387, Indicator Bacteria

Region 2

Candlestick Point

LOE ID:	90836
Pollutant:	Enterococcus
LOE Subgroup:	Pollutant-Water
Matrix:	Water
Fraction:	None
Beneficial Use:	Water Contact Recreation
Number of Samples:	1133
Number of Exceedances:	248
Data and Information Type:	PATHOGEN MONITORING
Data Used to Assess Water Quality:	Water Board staff assessed BeachWatch data for Candlestick Point to determine beneficial use support and results are as follows: 248 of 1133 samples exceed the criterion for Enterococci.
Data Reference:	Data for Region 2 Beach Watch.
SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	The San Francisco Bay Basin Plan states that the single sample maximum for Enterococcus shall not exceed 104 MPN/100 mL.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	
Guideline Reference:	

Spatial Representation:	Data for this line of evidence for Candlestick Point was collected at 3 monitoring sites [Jack Rabbit Beach, Windsurfer Circle, Sunnydale Cove]
Temporal Representation:	Data was collected over the time period 1/1/2005-8/25/2010.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	The samples were collected for the Beach Watch program.
QAPP Information Reference(s):	

Line of Evidence (LOE) for Decision ID 34387, Indicator Bacteria

Region 2

Candlestick Point

LOE ID:	90636
Pollutant:	Fecal Coliform
LOE Subgroup:	Pollutant-Water
Matrix:	Water
Fraction:	None
Beneficial Use:	Water Contact Recreation
Number of Samples:	403
Number of Exceedances:	62
Data and Information Type:	Not Specified
Data Used to Assess Water Quality:	Sixty two of the 403 geomeans exceeded the objective.
Data Reference:	Data for Region 2 Beach Watch.
SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	The geometric mean standard for fecal coliform states that the fecal coliform density shall not exceed 200 per 100 mL. San Francisco Bay Basin Water Quality Control Plan.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	
Guideline Reference:	
Spatial Representation:	Samples were collected at the Windsurfer Circle site.
Temporal Representation:	Samples were collected from January 2005 to August 2010.
Environmental Conditions:	
QAPP Information:	The samples were collected for the beach watch program.
QAPP Information Reference(s):	

Line of Evidence (LOE) for Decision ID 34387, Indicator Bacteria

Region 2

Candlestick Point

LOE ID:	90637
Pollutant:	Total Coliform
LOE Subgroup:	Pollutant-Water
Matrix:	Water
Fraction:	None
Beneficial Use:	Water Contact Recreation
Number of Samples:	65
Number of Exceedances:	31
Data and Information Type:	Not Specified
Data Used to Assess Water Quality:	Thirty-one of the sixty-five monthly medians exceeded the objective.
Data Reference:	Data for Region 2 Beach Watch.
SWAMP Data:	Non-SWAMP

Water Quality Objective/Criterion:	The standard for total coliform states that the coliform density shall not exceed a monthly median of 240 per 100 mL. San Francisco Bay Basin Water Quality Control Plan.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	
Guideline Reference:	
Spatial Representation:	Samples were collected at the Windsurfer Circle site.
Temporal Representation:	Samples were collected from January 2005 to August 2010.
Environmental Conditions:	
QAPP Information:	The samples were collected for the Beach Watch program.
QAPP Information Reference(s):	

Line of Evidence (LOE) for Decision ID 34387, Indicator Bacteria

Region 2

Candlestick Point

LOE ID:	90635
Pollutant:	Fecal Coliform
LOE Subgroup:	Pollutant-Water
Matrix:	Water
Fraction:	None
Beneficial Use:	Water Contact Recreation
Number of Samples:	370
Number of Exceedances:	23
Data and Information Type:	Not Specified
Data Used to Assess Water Quality:	Twenty three of the 370 geomeans exceeded the objective.
Data Reference:	Data for Region 2 Beach Watch.
SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	The geometric mean standard for fecal coliform states that the fecal coliform density shall not exceed 200 per 100 mL. San Francisco Bay Basin Water Quality Control Plan.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	
Guideline Reference:	
Spatial Representation:	Samples were collected at the Sunnydale Cove site.
Temporal Representation:	Samples were collected from January 2005 to August 2010.
Environmental Conditions:	
QAPP Information:	The samples were collected for the beach watch program.
QAPP Information Reference(s):	

Line of Evidence (LOE) for Decision ID 34387, Indicator Bacteria

Region 2

Candlestick Point

LOE ID:	90634
Pollutant:	Total Coliform
LOE Subgroup:	Pollutant-Water
Matrix:	Water
Fraction:	None
Beneficial Use:	Water Contact Recreation
Number of Samples:	68

Number of Exceedances:	28
Data and Information Type:	Not Specified
Data Used to Assess Water Quality:	Twenty-eight of the sixty-eight monthly medians exceeded the objective.
Data Reference:	Data for Region 2 Beach Watch.
SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	The standard for total coliform states that the coliform density shall not exceed a monthly median of 240 per 100 mL. San Francisco Bay Basin Water Quality Control Plan.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	
Guideline Reference:	
Spatial Representation:	Samples were collected at the Sunnydale Cove site.
Temporal Representation:	Samples were collected from January 2005 to August 2010.
Environmental Conditions:	
QAPP Information:	The samples were collected for the Beach Watch program.
QAPP Information Reference(s):	

Line of Evidence (LOE) for Decision ID 34387, Indicator Bacteria

Region 2

Candlestick Point

LOE ID:	90633
Pollutant:	Enterococcus
LOE Subgroup:	Pollutant-Water
Matrix:	Water
Fraction:	None
Beneficial Use:	Water Contact Recreation
Number of Samples:	370
Number of Exceedances:	159
Data and Information Type:	Not Specified
Data Used to Assess Water Quality:	One hundred and fifty nine of the 370 geomeans exceeded the objective.
Data Reference:	Data for Region 2 Beach Watch.
SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	The geometric mean standard for enterococcus states that the enterococcus density shall not exceed 35 per 100 mL. San Francisco Bay Basin Water Quality Control Plan.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	
Guideline Reference:	
Spatial Representation:	Samples were collected at the Sunnydale Cove site.
Temporal Representation:	Samples were collected from January 2005 to August 2010.
Environmental Conditions:	
QAPP Information:	The samples were collected for the Beach Watch program.
QAPP Information Reference(s):	

Line of Evidence (LOE) for Decision ID 34387, Indicator Bacteria

Region 2

Candlestick Point

LOE ID:	90769
Pollutant:	Fecal Coliform

LOE Subgroup:	Pollutant-Water
Matrix:	Water
Fraction:	None
Beneficial Use:	Water Contact Recreation
Number of Samples:	1133
Number of Exceedances:	132
Data and Information Type:	PATHOGEN MONITORING
Data Used to Assess Water Quality:	Water Board staff assessed BeachWatch data for Candlestick Point to determine beneficial use support and results are as follows: 132 of 1133 samples exceed the criterion for Coliform, Fecal.
Data Reference:	Data for Region 2 Beach Watch.
SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	The San Francisco Bay Basin Plan states that the single sample maximum for fecal coliform shall not exceed 400 MPN/100 mL
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	
Guideline Reference:	
Spatial Representation:	Data for this line of evidence for Candlestick Point was collected at 3 monitoring sites [Jack Rabbit Beach, Windsurfer Circle, Sunnydale Cove]
Temporal Representation:	Data was collected over the time period 1/1/2005-8/25/2010.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	The samples were collected for the Beach Watch program.
QAPP Information Reference(s):	

Line of Evidence (LOE) for Decision ID 34387, Indicator Bacteria
Candlestick Point

Region 2

LOE ID:	90638
Pollutant:	Enterococcus
LOE Subgroup:	Pollutant-Water
Matrix:	Water
Fraction:	None
Beneficial Use:	Water Contact Recreation
Number of Samples:	403
Number of Exceedances:	187
Data and Information Type:	Not Specified
Data Used to Assess Water Quality:	One hundred and eighty seven of the 403 geomeans exceeded the objective.
Data Reference:	Data for Region 2 Beach Watch.
SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	The geometric mean standard for enterococcus states that the enterococcus density shall not exceed 35 per 100 mL. San Francisco Bay Basin Water Quality Control Plan.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	
Guideline Reference:	
Spatial Representation:	Samples were collected at the Windsurfer Circle site.
Temporal Representation:	Samples were collected from January 2005 to August 2010.
Environmental Conditions:	

QAPP Information: The samples were collected for the Beach Watch program.
QAPP Information Reference(s):

Line of Evidence (LOE) for Decision ID 34387, Indicator Bacteria

Region 2

Candlestick Point

LOE ID: 357

Pollutant: Indicator Bacteria
LOE Subgroup: Pollutant-Water
Matrix: Water
Fraction: Total

Beneficial Use: Water Contact Recreation

Number of Samples: 646
Number of Exceedances: 233

Data and Information Type: PATHOGEN MONITORING
Data Used to Assess Water Quality: Available data indicate sufficient exceedances of bacterial indicator objectives. There were 74 out of 698 samples that exceeded the single sample maximum for total coliform, 120 out of 698 that exceeded the single sample maximum for enterococci, and 233 out of 646 exceedances of the geomean for enterococci (USEPA, 2007).

Data Reference: [Placeholder reference 2006 303\(d\)](#)

SWAMP Data: Non-SWAMP

Water Quality Objective/Criterion: Title 17 C.C.R. Section 7958 states: Based on a single sample, the density of bacteria in water from each sampling station at a public beach or public water contact sports area shall not exceed:
(A) 1,000 total coliform bacteria per 100 milliliters, if the ratio of fecal/total coliform bacteria exceeds 0.1; or
(B) 10,000 total coliform bacteria per 100 milliliters; or
(C) 400 fecal coliform bacteria per 100 milliliters; or
(D) 104 enterococcus bacteria per 100 milliliters.

Based on the mean of the logarithms of the results of at least five weekly samples during any 30-day sampling period, the density of bacteria in water from any sampling station at a public beach or public water contact sports area, shall not exceed:
(A) 1,000 total coliform bacteria per 100 milliliters; or
(B) 200 fecal coliform bacteria per 100 milliliters; or
(C) 35 enterococcus bacteria per 100 milliliters. (DHS, 1999)

Objective/Criterion Reference: [Placeholder reference 2006 303\(d\)](#)

Evaluation Guideline:
Guideline Reference:

Spatial Representation: Jackrabbit, Windsurfer, and Sunnydale Cove.
Temporal Representation: 08/01/2002-10/31/2005
Environmental Conditions:
QAPP Information: Data record: 2002-2005, San Francisco County Health Dept.
QAPP Information Reference(s):

Line of Evidence (LOE) for Decision ID 34387, Indicator Bacteria

Region 2

Candlestick Point

LOE ID: 90630

Pollutant: Fecal Coliform
LOE Subgroup: Pollutant-Water
Matrix: Water

Fraction:	None
Beneficial Use:	Water Contact Recreation
Number of Samples:	336
Number of Exceedances:	11
Data and Information Type:	Not Specified
Data Used to Assess Water Quality:	Eleven of the 336 geomeans exceeded the objective.
Data Reference:	Data for Region 2 Beach Watch.
SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	The geometric mean standard for fecal coliform states that the fecal coliform density shall not exceed 200 per 100 mL. San Francisco Bay Basin Water Quality Control Plan.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	
Guideline Reference:	
Spatial Representation:	Samples were collected at the Jack Rabbit Beach site.
Temporal Representation:	Samples were collected from January 2005 to August 2010.
Environmental Conditions:	
QAPP Information:	The samples were collected for the beach watch program.
QAPP Information Reference(s):	

Line of Evidence (LOE) for Decision ID 34387, Indicator Bacteria

Region 2

Candlestick Point

LOE ID:	90631
Pollutant:	Total Coliform
LOE Subgroup:	Pollutant-Water
Matrix:	Water
Fraction:	None
Beneficial Use:	Water Contact Recreation
Number of Samples:	67
Number of Exceedances:	13
Data and Information Type:	Not Specified
Data Used to Assess Water Quality:	Thirteen of the sixty-seven monthly medians exceeded the objective.
Data Reference:	Data for Region 2 Beach Watch.
SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	The standard for total coliform states that the coliform density shall not exceed a monthly median of 240 per 100 mL. San Francisco Bay Basin Water Quality Control Plan.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	
Guideline Reference:	
Spatial Representation:	Samples were collected at the Jack Rabbit Beach site.
Temporal Representation:	Samples were collected from January 2005 to August 2010.
Environmental Conditions:	
QAPP Information:	The samples were collected for the Beach Watch program.
QAPP Information Reference(s):	

Line of Evidence (LOE) for Decision ID 34387, Indicator Bacteria

Region 2

Candlestick Point

LOE ID:	90632
Pollutant:	Enterococcus
LOE Subgroup:	Pollutant-Water
Matrix:	Water
Fraction:	None
Beneficial Use:	Water Contact Recreation
Number of Samples:	336
Number of Exceedances:	58
Data and Information Type:	Not Specified
Data Used to Assess Water Quality:	Fifty eight of the 336 geomeans exceeded the objective.
Data Reference:	Data for Region 2 Beach Watch.
SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	The geometric mean standard for enterococcus states that the enterococcus density shall not exceed 35 per 100 mL. San Francisco Bay Basin Water Quality Control Plan.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	
Guideline Reference:	
Spatial Representation:	Samples were collected at the Jack Rabbit Beach site.
Temporal Representation:	Samples were collected from January 2005 to August 2010.
Environmental Conditions:	
QAPP Information:	The samples were collected for the Beach Watch program.
QAPP Information Reference(s):	

Draft California 2016 Integrated Report (303(d) List/305(b) Report)

Supporting Information

Regional Board 2 - San Francisco Bay Region

Water Body Name: McNears Beach
Water Body ID: CAC2061001020070321190945
Water Body Type: Coastal & Bay Shoreline

DECISION ID 34277 **Region 2**
McNears Beach

Pollutant: Indicator Bacteria
Final Listing Decision: Do Not Delist from 303(d) list (being addressed with USEPA approved TMDL)
Last Listing Cycle's Final Listing Decision: List on 303(d) list (TMDL required list)(2012)
Revision Status Revised
Sources: Source Unknown
TMDL Name: San Francisco Bay Beaches, Pathogens
TMDL Project Code: 995
Date TMDL Approved by USEPA: 02/24/2017
Impairment from Pollutant or Pollution: Pollutant

Regional Board Staff Conclusion: This pollutant is being considered for removal from the CWA section 303(d) List under section 4.3 of the Listing Policy. Under this section a single line of evidence is necessary to assess listing status.

Four lines of evidence are available in the administrative record to assess this pollutant. Thirteen of seventy-three samples exceed the geometric mean total coliform objective.

Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against removing this water segment-pollutant combination from the CWA section 303(d) List. There is sufficient justification to place it in the Being Addressed portion of the CWA 303(d) List because a TMDL has been completed and approved by RWQCB and USEPA, and is expected to result in attainment of the standard.

This conclusion is based on the staff findings that:

1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy.
2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy.
3. Thirteen of seventy-three samples exceed the geometric mean total coliform objective and this exceeds the allowable frequency listed in Table 4.2 of the Listing Policy.
4. The SF Bay Beach Pathogens TMDL was approved by USEPA on 2/24/2017.
5. Pursuant to section 4.11 of the Listing Policy, no additional data and information are available indicating that standards are met.

Regional Board Staff Decision Recommendation: After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be removed from the section 303(d) list because applicable water quality standards for the pollutant are being exceeded.

Line of Evidence (LOE) for Decision ID 34277, Indicator Bacteria **Region 2**
McNears Beach

LOE ID: 358
Pollutant: Indicator Bacteria
LOE Subgroup: Pollutant-Water

Matrix:	Water
Fraction:	Total
Beneficial Use:	Water Contact Recreation
Number of Samples:	73
Number of Exceedances:	13
Data and Information Type:	PATHOGEN MONITORING
Data Used to Assess Water Quality:	Available data indicate sufficient exceedances of bacterial indicator objectives. There were 6 out of 84 samples exceeding the single sample maximum for enterococci, and 13 out of 73 exceedances of the geomean for total coliform (USEPA, 2007).
Data Reference:	Placeholder reference 2006 303(d)
SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	<p>Title 17 C.C.R. Section 7958 states: Based on a single sample, the density of bacteria in water from each sampling station at a public beach or public water contact sports area shall not exceed:</p> <p>(A) 1,000 total coliform bacteria per 100 milliliters, if the ratio of fecal/total coliform bacteria exceeds 0.1; or</p> <p>(B) 10,000 total coliform bacteria per 100 milliliters; or</p> <p>(C) 400 fecal coliform bacteria per 100 milliliters; or</p> <p>(D) 104 enterococcus bacteria per 100 milliliters.</p> <p>Based on the mean of the logarithms of the results of at least five weekly samples during any 30-day sampling period, the density of bacteria in water from any sampling station at a public beach or public water contact sports area, shall not exceed:</p> <p>(A) 1,000 total coliform bacteria per 100 milliliters; or</p> <p>(B) 200 fecal coliform bacteria per 100 milliliters; or</p> <p>(C) 35 enterococcus bacteria per 100 milliliters. (DHS, 1999)</p>
Objective/Criterion Reference:	Placeholder reference 2006 303(d)
Evaluation Guideline:	
Guideline Reference:	
Spatial Representation:	Station ID# MC320
Temporal Representation:	05/13/2003-10/26/2005
Environmental Conditions:	
QAPP Information:	Data record: summers 2003-2005, Marin County Health Dept.
QAPP Information Reference(s):	

Line of Evidence (LOE) for Decision ID 34277, Indicator Bacteria

Region 2

McNears Beach

LOE ID:	90897
Pollutant:	Enterococcus
LOE Subgroup:	Pollutant-Water
Matrix:	Water
Fraction:	None
Beneficial Use:	Water Contact Recreation
Number of Samples:	113
Number of Exceedances:	4
Data and Information Type:	PATHOGEN MONITORING
Data Used to Assess Water Quality:	Water Board staff assessed BeachWatch data for McNears Beach to determine beneficial use support and results are as follows: 4 of 113 samples exceed the criterion for Enterococci.
Data Reference:	Data for Region 2 Beach Watch.

SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	The San Francisco Bay Basin Plan states that the single sample maximum for Enterococcus shall not exceed 104 MPN/100 mL.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	
Guideline Reference:	
Spatial Representation:	Data for this line of evidence for McNears Beach was collected at 1 monitoring site [McNears Beach]
Temporal Representation:	Data was collected over the time period 4/6/2005-4/13/2009.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	The samples were collected for the Beach Watch program.
QAPP Information Reference(s):	

Line of Evidence (LOE) for Decision ID 34277, Indicator Bacteria

Region 2

McNears Beach

LOE ID:	90856
Pollutant:	Fecal Coliform
LOE Subgroup:	Pollutant-Water
Matrix:	Water
Fraction:	None
Beneficial Use:	Water Contact Recreation
Number of Samples:	113
Number of Exceedances:	1
Data and Information Type:	PATHOGEN MONITORING
Data Used to Assess Water Quality:	Water Board staff assessed BeachWatch data for McNears Beach to determine beneficial use support and results are as follows: 1 of 113 samples exceed the criterion for fecal coliform.
Data Reference:	Data for Region 2 Beach Watch.
SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	The San Francisco Bay Basin Plan states that the single sample maximum for fecal coliform shall not exceed 400 MPN/100 mL
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	
Guideline Reference:	
Spatial Representation:	Data for this line of evidence for McNears Beach was collected at 1 monitoring site [McNears Beach]
Temporal Representation:	Data was collected over the time period 4/6/2005-4/13/2009.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	The samples were collected for the Beach Watch program.
QAPP Information Reference(s):	

Line of Evidence (LOE) for Decision ID 34277, Indicator Bacteria

Region 2

McNears Beach

LOE ID:	90880
Pollutant:	Total Coliform
LOE Subgroup:	Pollutant-Water

Matrix:	Water
Fraction:	None
Beneficial Use:	Water Contact Recreation
Number of Samples:	113
Number of Exceedances:	3
Data and Information Type:	PATHOGEN MONITORING
Data Used to Assess Water Quality:	Water Board staff assessed BeachWatch data for McNears Beach to determine beneficial use support and results are as follows: 3 of 113 samples exceed the criterion for total coliform.
Data Reference:	Data for Region 2 Beach Watch.
SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	The San Francisco Bay Basin Plan states that the single sample maximum for total coliform shall not exceed 10,000 MPN/100 mL
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	
Guideline Reference:	
Spatial Representation:	Data for this line of evidence for McNears Beach was collected at 1 monitoring site [McNears Beach]
Temporal Representation:	Data was collected over the time period 4/6/2005-4/13/2009.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	The samples were collected for the Beach Watch program.
QAPP Information Reference(s):	

Draft California 2016 Integrated Report (303(d) List/305(b) Report)

Supporting Information

Regional Board 2 - San Francisco Bay Region

Water Body Name: Stege Marsh
Water Body ID: CAE2033001120020129144149
Water Body Type: Estuary

DECISION ID	32360	Region 2
Stege Marsh		

Pollutant: Dieldrin
Final Listing Decision: **Do Not Delist from 303(d) list (being addressed with action other than TMDL)**
Last Listing Cycle's Final Listing Decision: Do Not Delist from 303(d) list (being addressed with action other than TMDL)(2012)
Revision Status: Original
Sources: Source Unknown
Expected Attainment Date: 2019
Implementation Action Other than TMDL: Stege Marsh is identified as a toxic hot spot in the SWRCB Consolidated Toxic Hot Spot Cleanup Plan (SWRCB Resolution No. 99-065). This plan is being implemented by the San Francisco Bay RWQCB through Cleanup and Abatement Orders.
Impairment from Pollutant or Pollution: Pollutant

Regional Board Staff Conclusion: This pollutant is being considered for listing under sections 2.2, 3.6, and 3.10 of the Listing Policy. Under section 3.6 a single line of evidence is necessary to assess listing status while under section 3.10, a minimum of two lines of evidence are needed to assess listing status. Three lines of evidence are available in the administrative record to assess this pollutant. Based on section 3.6 the site has significant sediment toxicity and the pollutant is likely to cause or contribute to the toxic effect. The benthic community is impacted and may be impacted by this pollutant. Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification in favor of placing this water segment-pollutant combination on the section 303(d) list in the Water Quality Limited Segments category. This conclusion is based on the staff findings that: 1. The sediment quality guideline used complies with the requirements of section 6.1.3 of the Policy. 2. The data used satisfies the data quality requirements of section 6.1.4 of the Policy. 3. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy. 4. Two of 3 samples exceeded the sediment guideline, 5 of 5 samples exhibit toxicity, and these exceed the allowable frequency listed in Table 3.1 of the Listing Policy. The benthic community in this water body is impacted and this pollutant is associated with this impact. 5. Pursuant to section 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.

Regional Board Staff Decision Recommendation: This is a decision previously approved by the State Water Resources Control Board and the USEPA. No new data were assessed by the Regional Board for the current. The decision has not changed.

Line of Evidence (LOE) for Decision ID 32360, Dieldrin	Region 2
Stege Marsh	

LOE ID: 410
Pollutant: Sediment Toxicity
LOE Subgroup: Toxicity
Matrix: Sediment
Fraction: None
Beneficial Use: Wetland Habitat

Number of Samples:	3
Number of Exceedances:	3
Data and Information Type:	Toxicity testing of sediments
Data Used to Assess Water Quality:	There was 0-1% amphipod survival in 5 of 5 tests. Three of 3 samples with significant urchin toxicity (Hunt et al., 1988b).
Data Reference:	Placeholder reference 2006 303(d)
SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	All waters shall be maintained free of toxic substances in concentrations that are lethal to or that produce other detrimental responses in aquatic organisms.
Objective/Criterion Reference:	Chronic toxicity is a detrimental biological effect on growth rate, reproduction, fertilization success, larval development, population abundance, community composition, or any other relevant measure of the health of an organism, population, or community. Placeholder reference 2006 303(d)
Evaluation Guideline:	BPTCP reference envelope approach.
Guideline Reference:	Placeholder reference 2006 303(d)
Spatial Representation:	Data was spatially collected.
Temporal Representation:	Data was collected from 10/97-12/97.
Environmental Conditions:	
QAPP Information:	Used BPTCP QA/QC. Data evaluation was based on USEPA guidelines for 305(b) reports, that uses a hierarchy of water quality data levels. Only data of higher overall level of information (Levels 3 and 4) were used to list a water body.
QAPP Information Reference(s):	

Line of Evidence (LOE) for Decision ID 32360, Dieldrin

Region 2

Stege Marsh

LOE ID:	409
Pollutant:	Sediment Toxicity
LOE Subgroup:	Narrative Description Data
Matrix:	-N/A
Fraction:	Not Recorded
Beneficial Use:	Wetland Habitat
Number of Samples:	
Number of Exceedances:	
Data and Information Type:	Not Specified
Data Used to Assess Water Quality:	Stege Marsh is identified as a toxic hot spot in the SWRCB Consolidated Toxic Hot Spot Cleanup Plan (SWRCB Resolution No. 99-065). This plan is being implemented by the San Francisco Bay RWQCB through Cleanup and Abatement Orders.
Data Reference:	Placeholder reference 2006 303(d)
SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	
Objective/Criterion Reference:	
Evaluation Guideline:	
Guideline Reference:	
Spatial Representation:	
Temporal Representation:	
Environmental Conditions:	
QAPP Information:	QA Info Missing

Line of Evidence (LOE) for Decision ID 32360, Dieldrin**Region 2****Stege Marsh**

LOE ID:	403
Pollutant:	Dieldrin
LOE Subgroup:	Pollutant-Sediment
Matrix:	Sediment
Fraction:	None
Beneficial Use:	Wetland Habitat
Number of Samples:	3
Number of Exceedances:	2
Data and Information Type:	Chemical monitoring of sediments
Data Used to Assess Water Quality:	Two of 3 samples exceeded the ERM sediment quality guideline (Hunt et al., 1988b).
Data Reference:	Placeholder reference 2006 303(d)
SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	All waters shall be maintained free of toxic substances in concentrations that are lethal to or that produce other detrimental responses in aquatic organisms. There shall be no chronic toxicity in ambient waters. Chronic toxicity is a detrimental biological effect on growth rate, reproduction, fertilization success, larval development, population abundance, community composition, or any other relevant measure of the health of an organism, population, or community.
Objective/Criterion Reference:	Placeholder reference 2006 303(d)
Evaluation Guideline:	ERM of 8 ng/g was used (Long et al., 1995).
Guideline Reference:	Placeholder reference 2006 303(d)
Spatial Representation:	Data was synoptically collected with benthic community and toxicity measurements.
Temporal Representation:	Data was collected from 10/97-12/97.
Environmental Conditions:	
QAPP Information:	Used BPTCP QA/QC. Data evaluation was based on USEPA guidelines for 305(b) reports, that uses a hierarchy of water quality data levels. Only data of higher overall level of information (Levels 3 and 4) were used to list a water body.
QAPP Information Reference(s):	

Line of Evidence (LOE) for Decision ID 32360, Dieldrin**Region 2****Stege Marsh**

LOE ID:	411
Pollutant:	Estuarine Bioassessments
LOE Subgroup:	Population/Community Degradation
Matrix:	Sediment
Fraction:	None
Beneficial Use:	Wetland Habitat
Number of Samples:	2
Number of Exceedances:	2
Data and Information Type:	Not Specified
Data Used to Assess Water Quality:	Relative benthic index = 0.00 (2 benthic samples); (Hunt et al., 1998).
Data Reference:	Placeholder reference 2006 303(d)

SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	All waters shall be maintained free of toxic substances in concentrations that are lethal to or that produce other detrimental responses in aquatic organisms. Chronic toxicity is a detrimental biological effect on growth rate, reproduction, fertilization success, larval development, population abundance, community composition, or any other relevant measure of the health of an organism, population, or community.
Objective/Criterion Reference:	Placeholder reference 2006 303(d)
Evaluation Guideline:	Evaluation of the benthic data was completed using the approaches developed by scientists associated with the BPTCP. The relative benthic index used is a calculated value considering the total fauna, total mollusk species, crustacean species and indicator species at a site. The index ranges from 0 to 1.0. An index value of less than or equal to 0.3 is an indication that pollutants or other factors are negatively impacting the benthic community.
Guideline Reference:	Placeholder reference 2006 303(d)
Spatial Representation:	Data was spatially collected.
Temporal Representation:	Data was collected from 10/97-12/97.
Environmental Conditions:	
QAPP Information:	Used BPTCP QA/QC. Data evaluation was based on USEPA guidelines for 305(b) reports, that uses a hierarchy of water quality data levels. Only data of higher overall level of information (Levels 3 and 4) were used to list a water body.
QAPP Information Reference(s):	

DECISION ID	32364	Region 2
Stege Marsh		
Pollutant:	PCBs (Polychlorinated biphenyls)	
Final Listing Decision:	Do Not Delist from 303(d) list (being addressed with action other than TMDL)	
Last Listing Cycle's Final Listing Decision:	Do Not Delist from 303(d) list (being addressed with action other than TMDL)(2012)	
Revision Status	Original	
Sources:	Source Unknown	
Expected Attainment Date:	2019	
Implementation Action Other than TMDL:	Stege Marsh is identified as a toxic hot spot in the SWRCB Consolidated Toxic Hot Spot Cleanup Plan (SWRCB Resolution No. 99-065). This plan is being implemented by the San Francisco Bay RWQCB through Cleanup and Abatement Orders.	
Impairment from Pollutant or Pollution:	Pollutant	
Regional Board Staff Conclusion:	<p>This pollutant is being considered for listing under sections 2.2, 3.6, and 3.10 of the Listing Policy. Under section 3.6 a single line of evidence is necessary to assess listing status while under section 3.10, a minimum of two lines of evidence are needed to assess listing status. Three lines of evidence are available in the administrative record to assess this pollutant. Based on section 3.6 the site has significant sediment toxicity and the pollutant is likely to cause or contribute to the toxic effect. The benthic community is impacted and may be impacted by this pollutant. The RWQCB has adopted a cleanup order that will result in attainment of the water quality standard. Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification in favor of placing this water segment-pollutant combination on the section 303(d) list in the Water Quality Limited Segments Being Addressed category. This conclusion is based on the staff findings that: 1. The sediment quality guideline used complies with the requirements of section 6.1.3 of the Policy. 2. The data used satisfies the data quality requirements of section 6.1.4 of the Policy. 3. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy. 4. Two of 3 samples exceeded the sediment guideline, 5 of 5 samples exhibit toxicity, and these exceed the allowable frequency listed in Table 3.1 of the Listing Policy. The benthic community in this water body is impacted and this pollutant is associated with this impact. 5. Pursuant to section 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.</p>	

Regional Board Staff Decision Recommendation: This is a decision previously approved by the State Water Resources Control Board and the USEPA. No new data were assessed by the Regional Board for the current. The decision has not changed.

Line of Evidence (LOE) for Decision ID 32364, PCBs (Polychlorinated biphenyls)

Region 2

Stege Marsh

LOE ID: 410

Pollutant: Sediment Toxicity
LOE Subgroup: Toxicity
Matrix: Sediment
Fraction: None

Beneficial Use: Wetland Habitat

Number of Samples: 3
Number of Exceedances: 3

Data and Information Type: Toxicity testing of sediments
Data Used to Assess Water Quality: There was 0-1% amphipod survival in 5 of 5 tests. Three of 3 samples with significant urchin toxicity (Hunt et al., 1988b).
Data Reference: [Placeholder reference 2006 303\(d\)](#)

SWAMP Data: Non-SWAMP

Water Quality Objective/Criterion: All waters shall be maintained free of toxic substances in concentrations that are lethal to or that produce other detrimental responses in aquatic organisms.

Objective/Criterion Reference: Chronic toxicity is a detrimental biological effect on growth rate, reproduction, fertilization success, larval development, population abundance, community composition, or any other relevant measure of the health of an organism, population, or community.
[Placeholder reference 2006 303\(d\)](#)

Evaluation Guideline: BPTCP reference envelope approach.
Guideline Reference: [Placeholder reference 2006 303\(d\)](#)

Spatial Representation: Data was spatially collected.
Temporal Representation: Data was collected from 10/97-12/97.
Environmental Conditions:
QAPP Information: Used BPTCP QA/QC. Data evaluation was based on USEPA guidelines for 305(b) reports, that uses a hierarchy of water quality data levels. Only data of higher overall level of information (Levels 3 and 4) were used to list a water body.

QAPP Information Reference(s):

Line of Evidence (LOE) for Decision ID 32364, PCBs (Polychlorinated biphenyls)

Region 2

Stege Marsh

LOE ID: 392

Pollutant: PCBs (Polychlorinated biphenyls)
LOE Subgroup: Pollutant-Sediment
Matrix: Sediment
Fraction: None

Beneficial Use: Wetland Habitat

Number of Samples: 3
Number of Exceedances: 2

Data and Information Type: Chemical monitoring of sediments

Data Used to Assess Water Quality:	Two of 3 samples exceeded sediment guideline (Hunt et al., 1998b).
Data Reference:	Placeholder reference 2006 303(d)
SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	All waters shall be maintained free of toxic substances in concentrations that are lethal to or that produce other detrimental responses in aquatic organisms.
	Chronic toxicity is a detrimental biological effect on growth rate, reproduction, fertilization success, larval development, population abundance, community composition, or any other relevant measure of the health of an organism, population, or community.
Objective/Criterion Reference:	Placeholder reference 2006 303(d)
Evaluation Guideline:	Sediment guideline of 400 ng/g for PCBs was used (MacDonald et al., 2000).
Guideline Reference:	Placeholder reference 2006 303(d)
Spatial Representation:	Data were synoptically collected with benthic community and toxicity measurements.
Temporal Representation:	Data were collected from 10/97-12/97.
Environmental Conditions:	
QAPP Information:	Used BPTCP QA/QC. Data evaluation was based on USEPA guidelines for 305(b) reports, that uses a hierarchy of water quality data levels. Only data of higher overall level of information (Levels 3 and 4) were used to list a water body.
QAPP Information Reference(s):	

Line of Evidence (LOE) for Decision ID 32364, PCBs (Polychlorinated biphenyls)
Stege Marsh

Region 2

LOE ID:	409
Pollutant:	Sediment Toxicity
LOE Subgroup:	Narrative Description Data
Matrix:	-N/A
Fraction:	Not Recorded
Beneficial Use:	Wetland Habitat
Number of Samples:	
Number of Exceedances:	
Data and Information Type:	Not Specified
Data Used to Assess Water Quality:	Stege Marsh is identified as a toxic hot spot in the SWRCB Consolidated Toxic Hot Spot Cleanup Plan (SWRCB Resolution No. 99-065). This plan is being implemented by the San Francisco Bay RWQCB through Cleanup and Abatement Orders.
Data Reference:	Placeholder reference 2006 303(d)
SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	
Objective/Criterion Reference:	
Evaluation Guideline:	
Guideline Reference:	
Spatial Representation:	
Temporal Representation:	
Environmental Conditions:	
QAPP Information:	QA Info Missing
QAPP Information Reference(s):	

Line of Evidence (LOE) for Decision ID 32364, PCBs (Polychlorinated biphenyls)
Stege Marsh

Region 2

LOE ID:	411
Pollutant:	Estuarine Bioassessments
LOE Subgroup:	Population/Community Degradation
Matrix:	Sediment
Fraction:	None
Beneficial Use:	Wetland Habitat
Number of Samples:	2
Number of Exceedances:	2
Data and Information Type:	Not Specified
Data Used to Assess Water Quality:	Relative benthic index = 0.00 (2 benthic samples); (Hunt et al., 1998).
Data Reference:	Placeholder reference 2006 303(d)
SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	All waters shall be maintained free of toxic substances in concentrations that are lethal to or that produce other detrimental responses in aquatic organisms. Chronic toxicity is a detrimental biological effect on growth rate, reproduction, fertilization success, larval development, population abundance, community composition, or any other relevant measure of the health of an organism, population, or community.
Objective/Criterion Reference:	Placeholder reference 2006 303(d)
Evaluation Guideline:	Evaluation of the benthic data was completed using the approaches developed by scientists associated with the BPTCP. The relative benthic index used is a calculated value considering the total fauna, total mollusk species, crustacean species and indicator species at a site. The index ranges from 0 to 1.0. An index value of less than or equal to 0.3 is an indication that pollutants or other factors are negatively impacting the benthic community.
Guideline Reference:	Placeholder reference 2006 303(d)
Spatial Representation:	Data was spatially collected.
Temporal Representation:	Data was collected from 10/97-12/97.
Environmental Conditions:	
QAPP Information:	Used BPTCP QA/QC. Data evaluation was based on USEPA guidelines for 305(b) reports, that uses a hierarchy of water quality data levels. Only data of higher overall level of information (Levels 3 and 4) were used to list a water body.
QAPP Information Reference(s):	

DECISION ID	32419	Region 2
Steger Marsh		
Pollutant:	Dichlorobenzophenone	
Final Listing Decision:	Do Not List on 303(d) list (TMDL required list)	
Last Listing Cycle's Final Listing Decision:	Do Not List on 303(d) list (TMDL required list)(2012)	
Revision Status	Original	
Impairment from Pollutant or Pollution:	Pollutant	
Regional Board Staff Conclusion:	This pollutant is being considered for listing under sections 2.2, 3.6, and 3.10 of the Listing Policy. Under section 3.6 a single line of evidence is necessary to assess listing status while under section 3.10, a minimum of two lines of evidence are needed to assess listing status. Four lines of evidence are available in the administrative record to assess this pollutant. Based on section 3.6 the site has significant sediment toxicity and it cannot be determined if the pollutant is likely to cause or contribute to the toxic effect. The benthic community is impacted but it is unknown if it is impacted by this pollutant. Based on the readily available data and information, the weight of evidence indicates	

that there is insufficient justification in favor of placing this water segment-pollutant combination on the section 303(d) list in the Water Quality Limited Segments category. This conclusion is based on the staff findings that: 1. A sediment quality guideline is not available that complies with the requirements of section 6.1.3 of the Policy. 2. The data used satisfies the data quality requirements of section 6.1.4 of the Policy. 3. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy. 4. Pursuant to section 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.

Regional Board Staff Decision Recommendation: This is a decision previously approved by the State Water Resources Control Board and the USEPA. No new data were assessed by the Regional Board for the current. The decision has not changed.

Line of Evidence (LOE) for Decision ID 32419, Dichlorobenzophenone

Region 2

Stege Marsh

LOE ID: 409

Pollutant: Sediment Toxicity
 LOE Subgroup: Narrative Description Data
 Matrix: -N/A
 Fraction: Not Recorded

Beneficial Use: Wetland Habitat

Number of Samples:
 Number of Exceedances:

Data and Information Type: Not Specified
 Data Used to Assess Water Quality: Stege Marsh is identified as a toxic hot spot in the SWRCB Consolidated Toxic Hot Spot Cleanup Plan (SWRCB Resolution No. 99-065). This plan is being implemented by the San Francisco Bay RWQCB through Cleanup and Abatement Orders.

Data Reference: [Placeholder reference 2006 303\(d\)](#)

SWAMP Data: Non-SWAMP

Water Quality Objective/Criterion:
 Objective/Criterion Reference:

Evaluation Guideline:
 Guideline Reference:

Spatial Representation:
 Temporal Representation:
 Environmental Conditions:

QAPP Information: QA Info Missing
 QAPP Information Reference(s):

Line of Evidence (LOE) for Decision ID 32419, Dichlorobenzophenone

Region 2

Stege Marsh

LOE ID: 398

Pollutant: Dichlorobenzophenone
 LOE Subgroup: Pollutant-Sediment
 Matrix: Sediment
 Fraction: None

Beneficial Use: Wetland Habitat

Number of Samples: 0
 Number of Exceedances: 0

Data and Information Type:	Chemical monitoring of sediments
Data Used to Assess Water Quality:	Three measurements (Hunt et al., 1988b).
Data Reference:	Placeholder reference 2006 303(d)
SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	All waters shall be maintained free of toxic substances in concentrations that are lethal to or that produce other detrimental responses in aquatic organisms. There shall be no chronic toxicity in ambient waters. Chronic toxicity is a detrimental biological effect on growth rate, reproduction, fertilization success, larval development, population abundance, community composition, or any other relevant measure of the health of an organism, population, or community.
Objective/Criterion Reference:	Placeholder reference 2006 303(d)
Evaluation Guideline:	No applicable sediment guideline available.
Guideline Reference:	Placeholder reference 2006 303(d)
Spatial Representation:	Data was synoptically collected with benthic community and toxicity measurements.
Temporal Representation:	Data was collected from 10/97-12/97.
Environmental Conditions:	
QAPP Information:	Used BPTCP QA/QC. Data evaluation was based on USEPA guidelines for 305(b) reports, that uses a hierarchy of water quality data levels. Only data of higher overall level of information (Levels 3 and 4) were used to list a water body.
QAPP Information Reference(s):	

Line of Evidence (LOE) for Decision ID 32419, Dichlorobenzophenone

Region 2

Steger Marsh

LOE ID:	411
Pollutant:	Estuarine Bioassessments
LOE Subgroup:	Population/Community Degradation
Matrix:	Sediment
Fraction:	None
Beneficial Use:	Wetland Habitat
Number of Samples:	2
Number of Exceedances:	2
Data and Information Type:	Not Specified
Data Used to Assess Water Quality:	Relative benthic index = 0.00 (2 benthic samples); (Hunt et al., 1998).
Data Reference:	Placeholder reference 2006 303(d)
SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	All waters shall be maintained free of toxic substances in concentrations that are lethal to or that produce other detrimental responses in aquatic organisms. Chronic toxicity is a detrimental biological effect on growth rate, reproduction, fertilization success, larval development, population abundance, community composition, or any other relevant measure of the health of an organism, population, or community.
Objective/Criterion Reference:	Placeholder reference 2006 303(d)
Evaluation Guideline:	Evaluation of the benthic data was completed using the approaches developed by scientists associated with the BPTCP. The relative benthic index used is a calculated value considering the total fauna, total mollusk species, crustacean species and indicator species at a site. The index ranges from 0 to 1.0. An index value of less than or equal to 0.3 is an indication that pollutants or other factors are negatively impacting the benthic community.

Guideline Reference: [Placeholder reference 2006 303\(d\)](#)

Spatial Representation: Data was spatially collected.

Temporal Representation: Data was collected from 10/97-12/97.

Environmental Conditions:

QAPP Information: Used BPTCP QA/QC. Data evaluation was based on USEPA guidelines for 305(b) reports, that uses a hierarchy of water quality data levels. Only data of higher overall level of information (Levels 3 and 4) were used to list a water body.

QAPP Information Reference(s):

Line of Evidence (LOE) for Decision ID 32419, Dichlorobenzophenone

Region 2

Stege Marsh

LOE ID: 410

Pollutant: Sediment Toxicity

LOE Subgroup: Toxicity

Matrix: Sediment

Fraction: None

Beneficial Use: Wetland Habitat

Number of Samples: 3

Number of Exceedances: 3

Data and Information Type: Toxicity testing of sediments

Data Used to Assess Water Quality: There was 0-1% amphipod survival in 5 of 5 tests. Three of 3 samples with significant urchin toxicity (Hunt et al., 1988b).

Data Reference: [Placeholder reference 2006 303\(d\)](#)

SWAMP Data: Non-SWAMP

Water Quality Objective/Criterion: All waters shall be maintained free of toxic substances in concentrations that are lethal to or that produce other detrimental responses in aquatic organisms.

Objective/Criterion Reference: [Placeholder reference 2006 303\(d\)](#)

Evaluation Guideline: BPTCP reference envelope approach.

Guideline Reference: [Placeholder reference 2006 303\(d\)](#)

Spatial Representation: Data was spatially collected.

Temporal Representation: Data was collected from 10/97-12/97.

Environmental Conditions:

QAPP Information: Used BPTCP QA/QC. Data evaluation was based on USEPA guidelines for 305(b) reports, that uses a hierarchy of water quality data levels. Only data of higher overall level of information (Levels 3 and 4) were used to list a water body.

QAPP Information Reference(s):

DECISION ID

32434

Region 2

Stege Marsh

Pollutant: Endosulfan

Final Listing Decision: Do Not List on 303(d) list (TMDL required list)

Last Listing Cycle's Final Listing Decision: Do Not List on 303(d) list (TMDL required list)(2012)

Revision Status Original

Impairment from Pollutant or Pollutant

Pollution:**Regional Board Staff Conclusion:**

This pollutant is being considered for listing under sections 2.2, 3.6, and 3.10 of the Listing Policy. Under section 3.6 a single line of evidence is necessary to assess listing status while under section 3.10, a minimum of two lines of evidence are needed to assess listing status. Four lines of evidence are available in the administrative record to assess this pollutant. Based on section 3.6 the site has significant sediment toxicity and it cannot be determined if the pollutant is likely to cause or contribute to the toxic effect. The benthic community is impacted but it is unknown if it is impacted by this pollutant. The RWQCB has adopted a cleanup order that will result in attainment of the water quality standard. Based on the readily available data and information, the weight of evidence indicates that there is not sufficient justification in favor of placing this water segment-pollutant combination on the section 303(d) list in the Water Quality Limited Segments Being Attained category. This conclusion is based on the staff findings that: 1. A sediment quality guideline is not available that complies with the requirements of section 6.1.3 of the Policy. 2. The data used satisfies the data quality requirements of section 6.1.4 of the Policy. 3. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy. 4. Pursuant to section 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.

Regional Board Staff Decision Recommendation: This is a decision previously approved by the State Water Resources Control Board and the USEPA. No new data were assessed by the Regional Board for the current. The decision has not changed.

Line of Evidence (LOE) for Decision ID 32434, Endosulfan**Region 2****Stege Marsh**

LOE ID: 409

Pollutant: Sediment Toxicity
LOE Subgroup: Narrative Description Data
Matrix: -N/A
Fraction: Not Recorded

Beneficial Use: Wetland Habitat

Number of Samples:
Number of Exceedances:

Data and Information Type: Not Specified
Data Used to Assess Water Quality: Stege Marsh is identified as a toxic hot spot in the SWRCB Consolidated Toxic Hot Spot Cleanup Plan (SWRCB Resolution No. 99-065). This plan is being implemented by the San Francisco Bay RWQCB through Cleanup and Abatement Orders.

Data Reference: [Placeholder reference 2006 303\(d\)](#)

SWAMP Data: Non-SWAMP

Water Quality Objective/Criterion:
Objective/Criterion Reference:

Evaluation Guideline:
Guideline Reference:

Spatial Representation:
Temporal Representation:
Environmental Conditions:
QAPP Information: QA Info Missing
QAPP Information Reference(s):

Line of Evidence (LOE) for Decision ID 32434, Endosulfan**Region 2****Stege Marsh**

LOE ID: 411

Pollutant:	Estuarine Bioassessments
LOE Subgroup:	Population/Community Degradation
Matrix:	Sediment
Fraction:	None
Beneficial Use:	Wetland Habitat
Number of Samples:	2
Number of Exceedances:	2
Data and Information Type:	Not Specified
Data Used to Assess Water Quality:	Relative benthic index = 0.00 (2 benthic samples); (Hunt et al., 1998).
Data Reference:	Placeholder reference 2006 303(d)
SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	All waters shall be maintained free of toxic substances in concentrations that are lethal to or that produce other detrimental responses in aquatic organisms. Chronic toxicity is a detrimental biological effect on growth rate, reproduction, fertilization success, larval development, population abundance, community composition, or any other relevant measure of the health of an organism, population, or community.
Objective/Criterion Reference:	Placeholder reference 2006 303(d)
Evaluation Guideline:	Evaluation of the benthic data was completed using the approaches developed by scientists associated with the BPTCP. The relative benthic index used is a calculated value considering the total fauna, total mollusk species, crustacean species and indicator species at a site. The index ranges from 0 to 1.0. An index value of less than or equal to 0.3 is an indication that pollutants or other factors are negatively impacting the benthic community.
Guideline Reference:	Placeholder reference 2006 303(d)
Spatial Representation:	Data was spatially collected.
Temporal Representation:	Data was collected from 10/97-12/97.
Environmental Conditions:	
QAPP Information:	Used BPTCP QA/QC. Data evaluation was based on USEPA guidelines for 305(b) reports, that uses a hierarchy of water quality data levels. Only data of higher overall level of information (Levels 3 and 4) were used to list a water body.
QAPP Information Reference(s):	

**Line of Evidence (LOE) for Decision ID 32434, Endosulfan
Stege Marsh**

Region 2

LOE ID:	400
Pollutant:	Endosulfan
LOE Subgroup:	Pollutant-Sediment
Matrix:	Sediment
Fraction:	None
Beneficial Use:	Wetland Habitat
Number of Samples:	0
Number of Exceedances:	0
Data and Information Type:	Chemical monitoring of sediments
Data Used to Assess Water Quality:	Three measurements (Hunt et al., 1988b).
Data Reference:	Placeholder reference 2006 303(d)
SWAMP Data:	Non-SWAMP

Water Quality Objective/Criterion:	All waters shall be maintained free of toxic substances in concentrations that are lethal to or that produce other detrimental responses in aquatic organisms.
	There shall be no chronic toxicity in ambient waters. Chronic toxicity is a detrimental biological effect on growth rate, reproduction, fertilization success, larval development, population abundance, community composition, or any other relevant measure of the health of an organism, population, or community.
Objective/Criterion Reference:	Placeholder reference 2006 303(d)
Evaluation Guideline:	No applicable sediment guideline available.
Guideline Reference:	Placeholder reference 2006 303(d)
Spatial Representation:	Data was synoptically collected with benthic community and toxicity measurements.
Temporal Representation:	Data was collected from 10/97-12/97.
Environmental Conditions:	
QAPP Information:	Used BPTCP QA/QC. Data evaluation was based on USEPA guidelines for 305(b) reports, that uses a hierarchy of water quality data levels. Only data of higher overall level of information (Levels 3 and 4) were used to list a water body.
QAPP Information Reference(s):	

Line of Evidence (LOE) for Decision ID 32434, Endosulfan
Stege Marsh

Region 2

LOE ID:	410
Pollutant:	Sediment Toxicity
LOE Subgroup:	Toxicity
Matrix:	Sediment
Fraction:	None
Beneficial Use:	Wetland Habitat
Number of Samples:	3
Number of Exceedances:	3
Data and Information Type:	Toxicity testing of sediments
Data Used to Assess Water Quality:	There was 0-1% amphipod survival in 5 of 5 tests. Three of 3 samples with significant urchin toxicity (Hunt et al., 1988b).
Data Reference:	Placeholder reference 2006 303(d)
SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	All waters shall be maintained free of toxic substances in concentrations that are lethal to or that produce other detrimental responses in aquatic organisms.
	Chronic toxicity is a detrimental biological effect on growth rate, reproduction, fertilization success, larval development, population abundance, community composition, or any other relevant measure of the health of an organism, population, or community.
Objective/Criterion Reference:	Placeholder reference 2006 303(d)
Evaluation Guideline:	BPTCP reference envelope approach.
Guideline Reference:	Placeholder reference 2006 303(d)
Spatial Representation:	Data was spatially collected.
Temporal Representation:	Data was collected from 10/97-12/97.
Environmental Conditions:	
QAPP Information:	Used BPTCP QA/QC. Data evaluation was based on USEPA guidelines for 305(b) reports, that uses a hierarchy of water quality data levels. Only data of higher overall level of information (Levels 3 and 4) were used to list a water body.
QAPP Information Reference(s):	

Pollutant:	Endosulfan sulfate
Final Listing Decision:	Do Not List on 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision:	Do Not List on 303(d) list (TMDL required list)(2012)
Revision Status	Original
Impairment from Pollutant or Pollution:	Pollutant

Regional Board Staff Conclusion:	<p>This pollutant is being considered for listing under sections 2.2, 3.6, and 3.10 of the Listing Policy. Under section 3.6 a single line of evidence is necessary to assess listing status while under section 3.10, a minimum of two lines of evidence are needed to assess listing status. Four lines of evidence are available in the administrative record to assess this pollutant. Based on section 3.6 the site has significant sediment toxicity and it cannot be determined if the pollutant is likely to cause or contribute to the toxic effect. The benthic community is impacted but it is unknown if it is impacted by this pollutant. Based on the readily available data and information, the weight of evidence indicates that there is insufficient justification in favor of placing this water segment-pollutant combination on the section 303(d) list in the Water Quality Limited Segments category. This conclusion is based on the staff findings that: 1. A sediment quality guideline is not available that complies with the requirements of section 6.1.3 of the Policy. 2. The data used satisfies the data quality requirements of section 6.1.4 of the Policy. 3. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy. 4. Pursuant to section 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.</p>
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Regional Board Staff Decision Recommendation:	<p>This is a decision previously approved by the State Water Resources Control Board and the USEPA. No new data were assessed by the Regional Board for the current. The decision has not changed.</p>
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Line of Evidence (LOE) for Decision ID 32433, Endosulfan sulfate	Region 2
Stege Marsh	

LOE ID:	411
Pollutant:	Estuarine Bioassessments
LOE Subgroup:	Population/Community Degradation
Matrix:	Sediment
Fraction:	None
Beneficial Use:	Wetland Habitat
Number of Samples:	2
Number of Exceedances:	2
Data and Information Type:	Not Specified
Data Used to Assess Water Quality:	Relative benthic index = 0.00 (2 benthic samples); (Hunt et al., 1998).
Data Reference:	Placeholder reference 2006 303(d)
SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	<p>All waters shall be maintained free of toxic substances in concentrations that are lethal to or that produce other detrimental responses in aquatic organisms.</p> <p>Chronic toxicity is a detrimental biological effect on growth rate, reproduction, fertilization success, larval development, population abundance, community composition, or any other relevant measure of the health of an organism, population, or community.</p>
Objective/Criterion Reference:	Placeholder reference 2006 303(d)
Evaluation Guideline:	Evaluation of the benthic data was completed using the approaches developed by scientists associated with the BPTCP. The relative benthic index used is a calculated

value considering the total fauna, total mollusk species, crustacean species and indicator species at a site. The index ranges from 0 to 1.0. An index value of less than or equal to 0.3 is an indication that pollutants or other factors are negatively impacting the benthic community.

Guideline Reference:

[Placeholder reference 2006 303\(d\)](#)

Spatial Representation:

Data was spatially collected.

Temporal Representation:

Data was collected from 10/97-12/97.

Environmental Conditions:

QAPP Information:

Used BPTCP QA/QC. Data evaluation was based on USEPA guidelines for 305(b) reports, that uses a hierarchy of water quality data levels. Only data of higher overall level of information (Levels 3 and 4) were used to list a water body.

QAPP Information Reference(s):

Line of Evidence (LOE) for Decision ID 32433, Endosulfan sulfate

Region 2

Stege Marsh

LOE ID: 410

Pollutant: Sediment Toxicity

LOE Subgroup: Toxicity

Matrix: Sediment

Fraction: None

Beneficial Use: Wetland Habitat

Number of Samples: 3

Number of Exceedances: 3

Data and Information Type: Toxicity testing of sediments

Data Used to Assess Water Quality: There was 0-1% amphipod survival in 5 of 5 tests. Three of 3 samples with significant urchin toxicity (Hunt et al., 1988b).

Data Reference: [Placeholder reference 2006 303\(d\)](#)

SWAMP Data: Non-SWAMP

Water Quality Objective/Criterion: All waters shall be maintained free of toxic substances in concentrations that are lethal to or that produce other detrimental responses in aquatic organisms.

Chronic toxicity is a detrimental biological effect on growth rate, reproduction, fertilization success, larval development, population abundance, community composition, or any other relevant measure of the health of an organism, population, or community.

Objective/Criterion Reference: [Placeholder reference 2006 303\(d\)](#)

Evaluation Guideline: BPTCP reference envelope approach.

Guideline Reference: [Placeholder reference 2006 303\(d\)](#)

Spatial Representation: Data was spatially collected.

Temporal Representation: Data was collected from 10/97-12/97.

Environmental Conditions:

QAPP Information: Used BPTCP QA/QC. Data evaluation was based on USEPA guidelines for 305(b) reports, that uses a hierarchy of water quality data levels. Only data of higher overall level of information (Levels 3 and 4) were used to list a water body.

QAPP Information Reference(s):

Line of Evidence (LOE) for Decision ID 32433, Endosulfan sulfate

Region 2

Stege Marsh

LOE ID: 409

Pollutant: Sediment Toxicity

LOE Subgroup:	Narrative Description Data
Matrix:	-N/A
Fraction:	Not Recorded
Beneficial Use:	Wetland Habitat
Number of Samples:	
Number of Exceedances:	
Data and Information Type:	Not Specified
Data Used to Assess Water Quality:	Stege Marsh is identified as a toxic hot spot in the SWRCB Consolidated Toxic Hot Spot Cleanup Plan (SWRCB Resolution No. 99-065). This plan is being implemented by the San Francisco Bay RWQCB through Cleanup and Abatement Orders.
Data Reference:	Placeholder reference 2006 303(d)
SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	
Objective/Criterion Reference:	
Evaluation Guideline:	
Guideline Reference:	
Spatial Representation:	
Temporal Representation:	
Environmental Conditions:	
QAPP Information:	QA Info Missing
QAPP Information Reference(s):	

Line of Evidence (LOE) for Decision ID 32433, Endosulfan sulfate

Region 2

Stege Marsh

LOE ID:	399
Pollutant:	Endosulfan sulfate
LOE Subgroup:	Pollutant-Sediment
Matrix:	Sediment
Fraction:	None
Beneficial Use:	Wetland Habitat
Number of Samples:	0
Number of Exceedances:	0
Data and Information Type:	Chemical monitoring of sediments
Data Used to Assess Water Quality:	Three measurements. Concentration ranges from 0.9 ng/g to 163 ng/g (Hunt et al., 1988b).
Data Reference:	Placeholder reference 2006 303(d)
SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	All waters shall be maintained free of toxic substances in concentrations that are lethal to or that produce other detrimental responses in aquatic organisms. There shall be no chronic toxicity in ambient waters. Chronic toxicity is a detrimental biological effect on growth rate, reproduction, fertilization success, larval development, population abundance, community composition, or any other relevant measure of the health of an organism, population, or community.
Objective/Criterion Reference:	Placeholder reference 2006 303(d)
Evaluation Guideline:	No applicable sediment guideline available.
Guideline Reference:	Placeholder reference 2006 303(d)

Spatial Representation:	Data was synoptically collected with benthic community and toxicity measurements.
Temporal Representation:	Data was collected from 10/97-12/97.
Environmental Conditions:	
QAPP Information:	Used BPTCP QA/QC. Data evaluation was based on USEPA guidelines for 305(b) reports, that uses a hierarchy of water quality data levels. Only data of higher overall level of information (Levels 3 and 4) were used to list a water body.
QAPP Information Reference(s):	

DECISION ID	32418	Region 2
Stege Marsh		

Pollutant:	Heptachlor epoxide
Final Listing Decision:	Do Not List on 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision:	Do Not List on 303(d) list (TMDL required list)(2012)
Revision Status	Original
Impairment from Pollutant or Pollution:	Pollutant

Regional Board Staff Conclusion:	This pollutant is being considered for listing under sections 2.2, 3.6, and 3.10 of the Listing Policy. Under section 3.6 a single line of evidence is necessary to assess listing status while under section 3.10, a minimum of two lines of evidence are needed to assess listing status. Four lines of evidence are available in the administrative record to assess this pollutant. Based on section 3.6 the site has significant sediment toxicity and it cannot be determined if the pollutant is likely to cause or contribute to the toxic effect. The benthic community is impacted but it is unknown if it is impacted by this pollutant. The RWQCB has adopted a cleanup order that will result in attainment of the water quality standard. Based on the readily available data and information, the weight of evidence indicates that there is not sufficient justification in favor of placing this water segment-pollutant combination on the section 303(d) list in the Water Quality Limited Segments Being Attained category. This conclusion is based on the staff findings that: 1. A sediment quality guideline is not available that complies with the requirements of section 6.1.3 of the Policy. 2. The data used satisfies the data quality requirements of section 6.1.4 of the Policy. 3. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy. 4. Pursuant to section 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.
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Regional Board Staff Decision Recommendation:	This is a decision previously approved by the State Water Resources Control Board and the USEPA. No new data were assessed by the Regional Board for the current. The decision has not changed.
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Line of Evidence (LOE) for Decision ID 32418, Heptachlor epoxide	Region 2
Stege Marsh	

LOE ID:	411
Pollutant:	Estuarine Bioassessments
LOE Subgroup:	Population/Community Degradation
Matrix:	Sediment
Fraction:	None
Beneficial Use:	Wetland Habitat
Number of Samples:	2
Number of Exceedances:	2
Data and Information Type:	Not Specified
Data Used to Assess Water Quality:	Relative benthic index = 0.00 (2 benthic samples); (Hunt et al., 1998).
Data Reference:	Placeholder reference 2006 303(d)
SWAMP Data:	Non-SWAMP

Water Quality Objective/Criterion:	All waters shall be maintained free of toxic substances in concentrations that are lethal to or that produce other detrimental responses in aquatic organisms.
	Chronic toxicity is a detrimental biological effect on growth rate, reproduction, fertilization success, larval development, population abundance, community composition, or any other relevant measure of the health of an organism, population, or community.
Objective/Criterion Reference:	Placeholder reference 2006 303(d)
Evaluation Guideline:	Evaluation of the benthic data was completed using the approaches developed by scientists associated with the BPTCP. The relative benthic index used is a calculated value considering the total fauna, total mollusk species, crustacean species and indicator species at a site. The index ranges from 0 to 1.0. An index value of less than or equal to 0.3 is an indication that pollutants or other factors are negatively impacting the benthic community.
Guideline Reference:	Placeholder reference 2006 303(d)
Spatial Representation:	Data was spatially collected.
Temporal Representation:	Data was collected from 10/97-12/97.
Environmental Conditions:	
QAPP Information:	Used BPTCP QA/QC. Data evaluation was based on USEPA guidelines for 305(b) reports, that uses a hierarchy of water quality data levels. Only data of higher overall level of information (Levels 3 and 4) were used to list a water body.
QAPP Information Reference(s):	

Line of Evidence (LOE) for Decision ID 32418, Heptachlor epoxide
Stege Marsh

Region 2

LOE ID:	409
Pollutant:	Sediment Toxicity
LOE Subgroup:	Narrative Description Data
Matrix:	-N/A
Fraction:	Not Recorded
Beneficial Use:	Wetland Habitat
Number of Samples:	
Number of Exceedances:	
Data and Information Type:	Not Specified
Data Used to Assess Water Quality:	Stege Marsh is identified as a toxic hot spot in the SWRCB Consolidated Toxic Hot Spot Cleanup Plan (SWRCB Resolution No. 99-065). This plan is being implemented by the San Francisco Bay RWQCB through Cleanup and Abatement Orders.
Data Reference:	Placeholder reference 2006 303(d)
SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	
Objective/Criterion Reference:	
Evaluation Guideline:	
Guideline Reference:	
Spatial Representation:	
Temporal Representation:	
Environmental Conditions:	
QAPP Information:	QA Info Missing
QAPP Information Reference(s):	

Line of Evidence (LOE) for Decision ID 32418, Heptachlor epoxide

Region 2

Stege Marsh

LOE ID:	410
Pollutant:	Sediment Toxicity
LOE Subgroup:	Toxicity
Matrix:	Sediment
Fraction:	None
Beneficial Use:	Wetland Habitat
Number of Samples:	3
Number of Exceedances:	3
Data and Information Type:	Toxicity testing of sediments
Data Used to Assess Water Quality:	There was 0-1% amphipod survival in 5 of 5 tests. Three of 3 samples with significant urchin toxicity (Hunt et al., 1988b).
Data Reference:	Placeholder reference 2006 303(d)
SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	All waters shall be maintained free of toxic substances in concentrations that are lethal to or that produce other detrimental responses in aquatic organisms. Chronic toxicity is a detrimental biological effect on growth rate, reproduction, fertilization success, larval development, population abundance, community composition, or any other relevant measure of the health of an organism, population, or community.
Objective/Criterion Reference:	Placeholder reference 2006 303(d)
Evaluation Guideline:	BPTCP reference envelope approach.
Guideline Reference:	Placeholder reference 2006 303(d)
Spatial Representation:	Data was spatially collected.
Temporal Representation:	Data was collected from 10/97-12/97.
Environmental Conditions:	
QAPP Information:	Used BPTCP QA/QC. Data evaluation was based on USEPA guidelines for 305(b) reports, that uses a hierarchy of water quality data levels. Only data of higher overall level of information (Levels 3 and 4) were used to list a water body.
QAPP Information Reference(s):	

Line of Evidence (LOE) for Decision ID 32418, Heptachlor epoxide

Region 2

Stege Marsh

LOE ID:	397
Pollutant:	Heptachlor epoxide
LOE Subgroup:	Pollutant-Sediment
Matrix:	Sediment
Fraction:	None
Beneficial Use:	Wetland Habitat
Number of Samples:	0
Number of Exceedances:	0
Data and Information Type:	Chemical monitoring of sediments
Data Used to Assess Water Quality:	Three measurements (Hunt et al., 1988b).
Data Reference:	Placeholder reference 2006 303(d)
SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	All waters shall be maintained free of toxic substances in concentrations that are lethal to

or that produce other detrimental responses in aquatic organisms.

There shall be no chronic toxicity in ambient waters. Chronic toxicity is a detrimental biological effect on growth rate, reproduction, fertilization success, larval development, population abundance, community composition, or any other relevant measure of the health of an organism, population, or community.

Objective/Criterion Reference:

[Placeholder reference 2006 303\(d\)](#)

Evaluation Guideline:

No applicable sediment guideline available.

Guideline Reference:

[Placeholder reference 2006 303\(d\)](#)

Spatial Representation:

Data was synoptically collected with benthic community and toxicity measurements.

Temporal Representation:

Data was collected from 10/97-12/97.

Environmental Conditions:

QAPP Information:

Used BPTCP QA/QC. Data evaluation was based on USEPA guidelines for 305(b) reports, that uses a hierarchy of water quality data levels. Only data of higher overall level of information (Levels 3 and 4) were used to list a water body.

QAPP Information Reference(s):

DECISION ID	32503	Region 2
Stage Marsh		

Pollutant:	Hexachlorocyclohexane (HCH) (mixture)
Final Listing Decision:	Do Not List on 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision:	Do Not List on 303(d) list (TMDL required list)(2012)
Revision Status	Original
Impairment from Pollutant or Pollution:	Pollutant

Regional Board Staff Conclusion:

This pollutant is being considered for listing under sections 2.2, 3.6, and 3.10 of the Listing Policy. Under section 3.6 a single line of evidence is necessary to assess listing status while under section 3.10, a minimum of two lines of evidence are needed to assess listing status. Four lines of evidence are available in the administrative record to assess this pollutant. Based on section 3.6 the site has significant sediment toxicity but HCH is not likely to cause or contribute to the toxic effect. It cannot be determined if other HCHs have an impact because there is no applicable guideline. The benthic community is impacted but it is unknown if it is impacted by this pollutant. Based on the readily available data and information, the weight of evidence indicates that there is not sufficient justification in favor of placing this water segment-pollutant combination on the section 303(d) list in the Water Quality Limited Segments Being Addressed category. This conclusion is based on the staff findings that: 1. A sediment quality guideline that complies, with the requirements of section 6.1.3 of the Policy is not available. 2. The data used satisfies the data quality requirements of section 6.1.4 of the Policy. 3. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy. 4. None of the samples exceeded the sediment guideline for HCH, 5 of 5 samples exhibit toxicity, and these exceed the allowable frequency listed in Table 3.1 of the Listing Policy. The benthic community in this water body is impacted and this pollutant is not associated with this impact. 5. Pursuant to section 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.

Regional Board Staff Decision Recommendation:

This is a decision previously approved by the State Water Resources Control Board and the USEPA. No new data were assessed by the Regional Board for the current. The decision has not changed.

Line of Evidence (LOE) for Decision ID 32503, Hexachlorocyclohexane (HCH) (mixture)	Region 2
Stage Marsh	

LOE ID:	410
Pollutant:	Sediment Toxicity
LOE Subgroup:	Toxicity

Matrix:	Sediment
Fraction:	None
Beneficial Use:	Wetland Habitat
Number of Samples:	3
Number of Exceedances:	3
Data and Information Type:	Toxicity testing of sediments
Data Used to Assess Water Quality:	There was 0-1% amphipod survival in 5 of 5 tests. Three of 3 samples with significant urchin toxicity (Hunt et al., 1988b).
Data Reference:	Placeholder reference 2006 303(d)
SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	All waters shall be maintained free of toxic substances in concentrations that are lethal to or that produce other detrimental responses in aquatic organisms. Chronic toxicity is a detrimental biological effect on growth rate, reproduction, fertilization success, larval development, population abundance, community composition, or any other relevant measure of the health of an organism, population, or community.
Objective/Criterion Reference:	Placeholder reference 2006 303(d)
Evaluation Guideline:	BPTCP reference envelope approach.
Guideline Reference:	Placeholder reference 2006 303(d)
Spatial Representation:	Data was spatially collected.
Temporal Representation:	Data was collected from 10/97-12/97.
Environmental Conditions:	
QAPP Information:	Used BPTCP QA/QC. Data evaluation was based on USEPA guidelines for 305(b) reports, that uses a hierarchy of water quality data levels. Only data of higher overall level of information (Levels 3 and 4) were used to list a water body.
QAPP Information Reference(s):	

Line of Evidence (LOE) for Decision ID 32503, Hexachlorocyclohexane (HCH) (mixture)

Region 2

Stege Marsh

LOE ID:	396
Pollutant:	Hexachlorocyclohexane (HCH) (mixture)
LOE Subgroup:	Pollutant-Sediment
Matrix:	Sediment
Fraction:	None
Beneficial Use:	Wetland Habitat
Number of Samples:	3
Number of Exceedances:	0
Data and Information Type:	Chemical monitoring of sediments
Data Used to Assess Water Quality:	HCH -- three measurements ranging in concentration from 7.5 ng/g to 19.9 ng/g. alpha HCH -- three measurements ranging in concentration from ND to 292 ng/g. beta HCH -- three measurements ranging in concentration from ND to 56.8 ng/g. gamma HCH (Lindane) -- 0 of 3 measurements exceeded sediment guideline. delta HCH -- three measurements ranging in concentration from 0.25 ng/g to 99.4 ng/g (Hunt et al., 1988b).
Data Reference:	Placeholder reference 2006 303(d)
SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	All waters shall be maintained free of toxic substances in concentrations that are lethal to or that produce other detrimental responses in aquatic organisms.

Objective/Criterion Reference:	Chronic toxicity is a detrimental biological effect on growth rate, reproduction, fertilization success, larval development, population abundance, community composition, or any other relevant measure of the health of an organism, population, or community. Placeholder reference 2006 303(d)
Evaluation Guideline:	Sediment guideline for gamma HCH (Lindane) is 0.37 ug/g oc. No applicable sediment guidelines are available for other HCHs.
Guideline Reference:	Placeholder reference 2006 303(d)
Spatial Representation:	Data was synoptically collected with benthic community and toxicity measurements.
Temporal Representation:	Data was collected from 10/97-12/97.
Environmental Conditions:	
QAPP Information:	Used BPTCP QA/QC. Data evaluation was based on USEPA guidelines for 305(b) reports, that uses a hierarchy of water quality data levels. Only data of higher overall level of information (Levels 3 and 4) were used to list a water body.
QAPP Information Reference(s):	

Line of Evidence (LOE) for Decision ID 32503, Hexachlorocyclohexane (HCH) (mixture)

Region 2

Stege Marsh

LOE ID:	411
Pollutant:	Estuarine Bioassessments
LOE Subgroup:	Population/Community Degradation
Matrix:	Sediment
Fraction:	None
Beneficial Use:	Wetland Habitat
Number of Samples:	2
Number of Exceedances:	2
Data and Information Type:	Not Specified
Data Used to Assess Water Quality:	Relative benthic index = 0.00 (2 benthic samples); (Hunt et al., 1998).
Data Reference:	Placeholder reference 2006 303(d)
SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	All waters shall be maintained free of toxic substances in concentrations that are lethal to or that produce other detrimental responses in aquatic organisms. Chronic toxicity is a detrimental biological effect on growth rate, reproduction, fertilization success, larval development, population abundance, community composition, or any other relevant measure of the health of an organism, population, or community.
Objective/Criterion Reference:	Placeholder reference 2006 303(d)
Evaluation Guideline:	Evaluation of the benthic data was completed using the approaches developed by scientists associated with the BPTCP. The relative benthic index used is a calculated value considering the total fauna, total mollusk species, crustacean species and indicator species at a site. The index ranges from 0 to 1.0. An index value of less than or equal to 0.3 is an indication that pollutants or other factors are negatively impacting the benthic community.
Guideline Reference:	Placeholder reference 2006 303(d)
Spatial Representation:	Data was spatially collected.
Temporal Representation:	Data was collected from 10/97-12/97.
Environmental Conditions:	
QAPP Information:	Used BPTCP QA/QC. Data evaluation was based on USEPA guidelines for 305(b) reports, that uses a hierarchy of water quality data levels. Only data of higher overall level of information (Levels 3 and 4) were used to list a water body.
QAPP Information Reference(s):	

Stege Marsh

LOE ID:	409
Pollutant:	Sediment Toxicity
LOE Subgroup:	Narrative Description Data
Matrix:	-N/A
Fraction:	Not Recorded
Beneficial Use:	Wetland Habitat
Number of Samples:	
Number of Exceedances:	
Data and Information Type:	Not Specified
Data Used to Assess Water Quality:	Stege Marsh is identified as a toxic hot spot in the SWRCB Consolidated Toxic Hot Spot Cleanup Plan (SWRCB Resolution No. 99-065). This plan is being implemented by the San Francisco Bay RWQCB through Cleanup and Abatement Orders.
Data Reference:	Placeholder reference 2006 303(d)
SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	
Objective/Criterion Reference:	
Evaluation Guideline:	
Guideline Reference:	
Spatial Representation:	
Temporal Representation:	
Environmental Conditions:	
QAPP Information:	QA Info Missing
QAPP Information Reference(s):	

DECISION ID

32485

Region 2

Stege Marsh

Pollutant:	Mirex
Final Listing Decision:	Do Not List on 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision:	Do Not List on 303(d) list (TMDL required list)(2012)
Revision Status	Original
Impairment from Pollutant or Pollution:	Pollutant

Regional Board Staff Conclusion:

This pollutant is being considered for listing under sections 2.2, 3.6, and 3.10 of the Listing Policy. Under section 3.6 a single line of evidence is necessary to assess listing status while under section 3.10, a minimum of two lines of evidence are needed to assess listing status. Four lines of evidence are available in the administrative record to assess this pollutant. Based on section 3.6 the site has significant sediment toxicity and it cannot be determined if the pollutant is likely to cause or contribute to the toxic effect. It is unknown if the impact is due to the pollutant. Based on the readily available data and information, the weight of evidence indicates that there is not sufficient justification in favor of placing this water segment-pollutant combination on the section 303(d) list of Water Quality Limited Segments. This conclusion is based on the staff findings that: 1. A sediment quality guideline is not available that complies with the requirements of section 6.1.3 of the Policy. 2. The data used satisfies the data quality requirements of section 6.1.4 of the Policy. 3. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy. 4. Pursuant to section 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not

met.

Regional Board Staff Decision Recommendation: This is a decision previously approved by the State Water Resources Control Board and the USEPA. No new data were assessed by the Regional Board for the current. The decision has not changed.

**Line of Evidence (LOE) for Decision ID 32485, Mirex
Stege Marsh**

Region 2

LOE ID: 395

Pollutant: Mirex
LOE Subgroup: Pollutant-Sediment
Matrix: Sediment
Fraction: None

Beneficial Use: Wetland Habitat

Number of Samples: 0
Number of Exceedances: 0

Data and Information Type: Chemical monitoring of sediments
Data Used to Assess Water Quality: Three measurements range in concentration from ND to 103 ng/g (Hunt et al., 1998b).
Data Reference: [Placeholder reference 2006 303\(d\)](#)

SWAMP Data: Non-SWAMP

Water Quality Objective/Criterion: All waters shall be maintained free of toxic substances in concentrations that are lethal to or that produce other detrimental responses in aquatic organisms.

Objective/Criterion Reference: Chronic toxicity is a detrimental biological effect on growth rate, reproduction, fertilization success, larval development, population abundance, community composition, or any other relevant measure of the health of an organism, population, or community.
[Placeholder reference 2006 303\(d\)](#)

Evaluation Guideline: No applicable sediment guideline available.
Guideline Reference: [Placeholder reference 2006 303\(d\)](#)

Spatial Representation: Data was synoptically collected with benthic community and toxicity measurements.
Temporal Representation: Data was collected from 10/97-12/97.
Environmental Conditions:
QAPP Information: Used BPTCP QA/QC. Data evaluation was based on USEPA guidelines for 305(b) reports, that uses a hierarchy of water quality data levels. Only data of higher overall level of information (Levels 3 and 4) were used to list a water body.

QAPP Information Reference(s):

**Line of Evidence (LOE) for Decision ID 32485, Mirex
Stege Marsh**

Region 2

LOE ID: 411

Pollutant: Estuarine Bioassessments
LOE Subgroup: Population/Community Degradation
Matrix: Sediment
Fraction: None

Beneficial Use: Wetland Habitat

Number of Samples: 2
Number of Exceedances: 2

Data and Information Type:	Not Specified
Data Used to Assess Water Quality:	Relative benthic index = 0.00 (2 benthic samples); (Hunt et al., 1998).
Data Reference:	Placeholder reference 2006 303(d)
SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	All waters shall be maintained free of toxic substances in concentrations that are lethal to or that produce other detrimental responses in aquatic organisms. Chronic toxicity is a detrimental biological effect on growth rate, reproduction, fertilization success, larval development, population abundance, community composition, or any other relevant measure of the health of an organism, population, or community.
Objective/Criterion Reference:	Placeholder reference 2006 303(d)
Evaluation Guideline:	Evaluation of the benthic data was completed using the approaches developed by scientists associated with the BPTCP. The relative benthic index used is a calculated value considering the total fauna, total mollusk species, crustacean species and indicator species at a site. The index ranges from 0 to 1.0. An index value of less than or equal to 0.3 is an indication that pollutants or other factors are negatively impacting the benthic community.
Guideline Reference:	Placeholder reference 2006 303(d)
Spatial Representation:	Data was spatially collected.
Temporal Representation:	Data was collected from 10/97-12/97.
Environmental Conditions:	
QAPP Information:	Used BPTCP QA/QC. Data evaluation was based on USEPA guidelines for 305(b) reports, that uses a hierarchy of water quality data levels. Only data of higher overall level of information (Levels 3 and 4) were used to list a water body.
QAPP Information Reference(s):	

Line of Evidence (LOE) for Decision ID 32485, Mirex Stege Marsh

Region 2

LOE ID:	409
Pollutant:	Sediment Toxicity
LOE Subgroup:	Narrative Description Data
Matrix:	-N/A
Fraction:	Not Recorded
Beneficial Use:	Wetland Habitat
Number of Samples:	
Number of Exceedances:	
Data and Information Type:	Not Specified
Data Used to Assess Water Quality:	Stege Marsh is identified as a toxic hot spot in the SWRCB Consolidated Toxic Hot Spot Cleanup Plan (SWRCB Resolution No. 99-065). This plan is being implemented by the San Francisco Bay RWQCB through Cleanup and Abatement Orders.
Data Reference:	Placeholder reference 2006 303(d)
SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	
Objective/Criterion Reference:	
Evaluation Guideline:	
Guideline Reference:	
Spatial Representation:	
Temporal Representation:	
Environmental Conditions:	

QAPP Information: QA Info Missing
QAPP Information Reference(s):

Line of Evidence (LOE) for Decision ID 32485, Mirex

Region 2

Stege Marsh

LOE ID: 410

Pollutant: Sediment Toxicity
LOE Subgroup: Toxicity
Matrix: Sediment
Fraction: None

Beneficial Use: Wetland Habitat

Number of Samples: 3
Number of Exceedances: 3

Data and Information Type: Toxicity testing of sediments
Data Used to Assess Water Quality: There was 0-1% amphipod survival in 5 of 5 tests. Three of 3 samples with significant urchin toxicity (Hunt et al., 1988b).
Data Reference: [Placeholder reference 2006 303\(d\)](#)

SWAMP Data: Non-SWAMP

Water Quality Objective/Criterion: All waters shall be maintained free of toxic substances in concentrations that are lethal to or that produce other detrimental responses in aquatic organisms.

Objective/Criterion Reference: Chronic toxicity is a detrimental biological effect on growth rate, reproduction, fertilization success, larval development, population abundance, community composition, or any other relevant measure of the health of an organism, population, or community.
[Placeholder reference 2006 303\(d\)](#)

Evaluation Guideline: BPTCP reference envelope approach.
Guideline Reference: [Placeholder reference 2006 303\(d\)](#)

Spatial Representation: Data was spatially collected.
Temporal Representation: Data was collected from 10/97-12/97.
Environmental Conditions:
QAPP Information: Used BPTCP QA/QC. Data evaluation was based on USEPA guidelines for 305(b) reports, that uses a hierarchy of water quality data levels. Only data of higher overall level of information (Levels 3 and 4) were used to list a water body.

QAPP Information Reference(s):

DECISION ID

32477

Region 2

Stege Marsh

Pollutant: Oxadiazon
Final Listing Decision: Do Not List on 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision: Do Not List on 303(d) list (TMDL required list)(2012)
Revision Status Original
Impairment from Pollutant or Pollution: Pollutant

Regional Board Staff Conclusion: This pollutant is being considered for listing under sections 2.2, 3.6, and 3.10 of the Listing Policy. Under section 3.6 a single line of evidence is necessary to assess listing status while under section 3.10, a minimum of two lines of evidence are needed to assess listing status. Four lines of evidence are available in the administrative record to assess this pollutant. Based on section 3.6 the site has significant sediment toxicity and it cannot be determined if the pollutant is likely to cause or

contribute to the toxic effect. The benthic community is impacted but it is unknown if it is impacted by this pollutant. Based on the readily available data and information, the weight of evidence indicates that there is not sufficient justification in favor of placing this water segment-pollutant combination on the section 303(d) list in the Water Quality Limited Segments category. This conclusion is based on the staff findings that: 1. A sediment quality guideline is not available that complies with the requirements of section 6.1.3 of the Policy. 2. The data used satisfies the data quality requirements of section 6.1.4 of the Policy. 3. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy. 4. Pursuant to section 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.

Regional Board Staff Decision Recommendation: This is a decision previously approved by the State Water Resources Control Board and the USEPA. No new data were assessed by the Regional Board for the current. The decision has not changed.

Line of Evidence (LOE) for Decision ID 32477, Oxadiazon

Region 2

Stege Marsh

LOE ID:	411
Pollutant:	Estuarine Bioassessments
LOE Subgroup:	Population/Community Degradation
Matrix:	Sediment
Fraction:	None
Beneficial Use:	Wetland Habitat
Number of Samples:	2
Number of Exceedances:	2
Data and Information Type:	Not Specified
Data Used to Assess Water Quality:	Relative benthic index = 0.00 (2 benthic samples); (Hunt et al., 1998).
Data Reference:	Placeholder reference 2006 303(d)
SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	All waters shall be maintained free of toxic substances in concentrations that are lethal to or that produce other detrimental responses in aquatic organisms.
Objective/Criterion Reference:	Chronic toxicity is a detrimental biological effect on growth rate, reproduction, fertilization success, larval development, population abundance, community composition, or any other relevant measure of the health of an organism, population, or community. Placeholder reference 2006 303(d)
Evaluation Guideline:	Evaluation of the benthic data was completed using the approaches developed by scientists associated with the BPTCP. The relative benthic index used is a calculated value considering the total fauna, total mollusk species, crustacean species and indicator species at a site. The index ranges from 0 to 1.0. An index value of less than or equal to 0.3 is an indication that pollutants or other factors are negatively impacting the benthic community.
Guideline Reference:	Placeholder reference 2006 303(d)
Spatial Representation:	Data was spatially collected.
Temporal Representation:	Data was collected from 10/97-12/97.
Environmental Conditions:	
QAPP Information:	Used BPTCP QA/QC. Data evaluation was based on USEPA guidelines for 305(b) reports, that uses a hierarchy of water quality data levels. Only data of higher overall level of information (Levels 3 and 4) were used to list a water body.
QAPP Information Reference(s):	

Line of Evidence (LOE) for Decision ID 32477, Oxadiazon

Region 2

Stege Marsh

LOE ID:	394
Pollutant:	Oxadiazon
LOE Subgroup:	Pollutant-Sediment
Matrix:	Sediment
Fraction:	None
Beneficial Use:	Wetland Habitat
Number of Samples:	0
Number of Exceedances:	0
Data and Information Type:	Chemical monitoring of sediments
Data Used to Assess Water Quality:	Three measurements range in concentration from ND to 114 ng/g (Hunt et al., 1998b).
Data Reference:	Placeholder reference 2006 303(d)
SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	All waters shall be maintained free of toxic substances in concentrations that are lethal to or that produce other detrimental responses in aquatic organisms. Chronic toxicity is a detrimental biological effect on growth rate, reproduction, fertilization success, larval development, population abundance, community composition, or any other relevant measure of the health of an organism, population, or community.
Objective/Criterion Reference:	Placeholder reference 2006 303(d)
Evaluation Guideline:	No applicable sediment guideline available.
Guideline Reference:	Placeholder reference 2006 303(d)
Spatial Representation:	Data was synoptically collected with benthic community and toxicity measurements.
Temporal Representation:	Data was collected from 10/97-12/97.
Environmental Conditions:	
QAPP Information:	Used BPTCP QA/QC. Data evaluation was based on USEPA guidelines for 305(b) reports, that uses a hierarchy of water quality data levels. Only data of higher overall level of information (Levels 3 and 4) were used to list a water body.
QAPP Information Reference(s):	

Line of Evidence (LOE) for Decision ID 32477, Oxadiazon
Stege Marsh

Region 2

LOE ID:	409
Pollutant:	Sediment Toxicity
LOE Subgroup:	Narrative Description Data
Matrix:	-N/A
Fraction:	Not Recorded
Beneficial Use:	Wetland Habitat
Number of Samples:	
Number of Exceedances:	
Data and Information Type:	Not Specified
Data Used to Assess Water Quality:	Stege Marsh is identified as a toxic hot spot in the SWRCB Consolidated Toxic Hot Spot Cleanup Plan (SWRCB Resolution No. 99-065). This plan is being implemented by the San Francisco Bay RWQCB through Cleanup and Abatement Orders.
Data Reference:	Placeholder reference 2006 303(d)
SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	

Objective/Criterion Reference:

Evaluation Guideline:

Guideline Reference:

Spatial Representation:

Temporal Representation:

Environmental Conditions:

QAPP Information:

QA Info Missing

QAPP Information Reference(s):

Line of Evidence (LOE) for Decision ID 32477, Oxadiazon

Region 2

Stege Marsh

LOE ID: 410

Pollutant: Sediment Toxicity

LOE Subgroup: Toxicity

Matrix: Sediment

Fraction: None

Beneficial Use: Wetland Habitat

Number of Samples: 3

Number of Exceedances: 3

Data and Information Type: Toxicity testing of sediments

Data Used to Assess Water Quality: There was 0-1% amphipod survival in 5 of 5 tests. Three of 3 samples with significant urchin toxicity (Hunt et al., 1988b).

Data Reference: [Placeholder reference 2006 303\(d\)](#)

SWAMP Data: Non-SWAMP

Water Quality Objective/Criterion: All waters shall be maintained free of toxic substances in concentrations that are lethal to or that produce other detrimental responses in aquatic organisms.

Chronic toxicity is a detrimental biological effect on growth rate, reproduction, fertilization success, larval development, population abundance, community composition, or any other relevant measure of the health of an organism, population, or community.

Objective/Criterion Reference: [Placeholder reference 2006 303\(d\)](#)

Evaluation Guideline: BPTCP reference envelope approach.

Guideline Reference: [Placeholder reference 2006 303\(d\)](#)

Spatial Representation: Data was spatially collected.

Temporal Representation: Data was collected from 10/97-12/97.

Environmental Conditions:

QAPP Information: Used BPTCP QA/QC. Data evaluation was based on USEPA guidelines for 305(b) reports, that uses a hierarchy of water quality data levels. Only data of higher overall level of information (Levels 3 and 4) were used to list a water body.

QAPP Information Reference(s):

DECISION ID 32430

Region 2

Stege Marsh

Pollutant: Selenium

Final Listing Decision: Do Not List on 303(d) list (TMDL required list)

Last Listing Cycle's Final Listing Decision: Do Not List on 303(d) list (TMDL required list)(2012)

Revision Status

Original

Impairment from Pollutant or Pollution: Pollutant

Regional Board Staff Conclusion:

This pollutant is being considered for listing under sections 2.2, 3.6, and 3.10 of the Listing Policy. Under section 3.6 a single line of evidence is necessary to assess listing status while under section 3.10, a minimum of two lines of evidence are needed to assess listing status. Four lines of evidence are available in the administrative record to assess this pollutant. Based on section 3.6 the site has significant sediment toxicity and it cannot be determined if the pollutant is likely to cause or contribute to the toxic effect. The benthic community is impacted but it is unknown if it is impacted by this pollutant. Based on the readily available data and information, the weight of evidence indicates that there is not sufficient justification in favor of placing this water segment-pollutant combination on the section 303(d) list in the Water Quality Limited Segments category. This conclusion is based on the staff findings that: 1. A sediment quality guideline is not available that complies with the requirements of section 6.1.3 of the Policy. 2. The data used satisfies the data quality requirements of section 6.1.4 of the Policy. 3. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy. 4. Pursuant to section 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.

Regional Board Staff Decision Recommendation: This is a decision previously approved by the State Water Resources Control Board and the USEPA. No new data were assessed by the Regional Board for the current. The decision has not changed.

Line of Evidence (LOE) for Decision ID 32430, Selenium

Region 2

Stege Marsh

LOE ID:	406
Pollutant:	Selenium
LOE Subgroup:	Pollutant-Sediment
Matrix:	Sediment
Fraction:	None
Beneficial Use:	Wetland Habitat
Number of Samples:	0
Number of Exceedances:	0
Data and Information Type:	Chemical monitoring of sediments
Data Used to Assess Water Quality:	Three measurements. Concentration ranged from 3.8 ug/g to 35.7 ug/g (Hunt et al., 1988b).
Data Reference:	Placeholder reference 2006 303(d)
SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	All waters shall be maintained free of toxic substances in concentrations that are lethal to or that produce other detrimental responses in aquatic organisms. There shall be no chronic toxicity in ambient waters. Chronic toxicity is a detrimental biological effect on growth rate, reproduction, fertilization success, larval development, population abundance, community composition, or any other relevant measure of the health of an organism, population, or community.
Objective/Criterion Reference:	Placeholder reference 2006 303(d)
Evaluation Guideline:	No sediment guideline available.
Guideline Reference:	Placeholder reference 2006 303(d)
Spatial Representation:	Data was synoptically collected with benthic community and toxicity measurements.
Temporal Representation:	Data was collected from 10/97-12/97.
Environmental Conditions:	
QAPP Information:	Used BPTCP QA/QC. Data evaluation was based on USEPA guidelines for 305(b) reports, that uses a hierarchy of water quality data levels. Only data of higher overall level of information (Levels 3 and 4) were used to list a water body.

Line of Evidence (LOE) for Decision ID 32430, Selenium**Region 2****Stege Marsh**

LOE ID:	410
Pollutant:	Sediment Toxicity
LOE Subgroup:	Toxicity
Matrix:	Sediment
Fraction:	None
Beneficial Use:	Wetland Habitat
Number of Samples:	3
Number of Exceedances:	3
Data and Information Type:	Toxicity testing of sediments
Data Used to Assess Water Quality:	There was 0-1% amphipod survival in 5 of 5 tests. Three of 3 samples with significant urchin toxicity (Hunt et al., 1988b).
Data Reference:	Placeholder reference 2006 303(d)
SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	All waters shall be maintained free of toxic substances in concentrations that are lethal to or that produce other detrimental responses in aquatic organisms. Chronic toxicity is a detrimental biological effect on growth rate, reproduction, fertilization success, larval development, population abundance, community composition, or any other relevant measure of the health of an organism, population, or community.
Objective/Criterion Reference:	Placeholder reference 2006 303(d)
Evaluation Guideline:	BPTCP reference envelope approach.
Guideline Reference:	Placeholder reference 2006 303(d)
Spatial Representation:	Data was spatially collected.
Temporal Representation:	Data was collected from 10/97-12/97.
Environmental Conditions:	
QAPP Information:	Used BPTCP QA/QC. Data evaluation was based on USEPA guidelines for 305(b) reports, that uses a hierarchy of water quality data levels. Only data of higher overall level of information (Levels 3 and 4) were used to list a water body.
QAPP Information Reference(s):	

Line of Evidence (LOE) for Decision ID 32430, Selenium**Region 2****Stege Marsh**

LOE ID:	409
Pollutant:	Sediment Toxicity
LOE Subgroup:	Narrative Description Data
Matrix:	-N/A
Fraction:	Not Recorded
Beneficial Use:	Wetland Habitat
Number of Samples:	
Number of Exceedances:	
Data and Information Type:	Not Specified
Data Used to Assess Water Quality:	Stege Marsh is identified as a toxic hot spot in the SWRCB Consolidated Toxic Hot Spot Cleanup Plan (SWRCB Resolution No. 99-065). This plan is being implemented by the

Data Reference: San Francisco Bay RWQCB through Cleanup and Abatement Orders.
[Placeholder reference 2006 303\(d\)](#)

SWAMP Data: Non-SWAMP

Water Quality Objective/Criterion:
Objective/Criterion Reference:

Evaluation Guideline:
Guideline Reference:

Spatial Representation:
Temporal Representation:
Environmental Conditions:

QAPP Information: QA Info Missing
QAPP Information Reference(s):

**Line of Evidence (LOE) for Decision ID 32430, Selenium
Stege Marsh**

Region 2

LOE ID: 411

Pollutant: Estuarine Bioassessments
LOE Subgroup: Population/Community Degradation
Matrix: Sediment
Fraction: None

Beneficial Use: Wetland Habitat

Number of Samples: 2
Number of Exceedances: 2

Data and Information Type: Not Specified
Data Used to Assess Water Quality: Relative benthic index = 0.00 (2 benthic samples); (Hunt et al., 1998).
Data Reference: [Placeholder reference 2006 303\(d\)](#)

SWAMP Data: Non-SWAMP

Water Quality Objective/Criterion: All waters shall be maintained free of toxic substances in concentrations that are lethal to or that produce other detrimental responses in aquatic organisms.

Objective/Criterion Reference: Chronic toxicity is a detrimental biological effect on growth rate, reproduction, fertilization success, larval development, population abundance, community composition, or any other relevant measure of the health of an organism, population, or community.
[Placeholder reference 2006 303\(d\)](#)

Evaluation Guideline: Evaluation of the benthic data was completed using the approaches developed by scientists associated with the BPTCP. The relative benthic index used is a calculated value considering the total fauna, total mollusk species, crustacean species and indicator species at a site. The index ranges from 0 to 1.0. An index value of less than or equal to 0.3 is an indication that pollutants or other factors are negatively impacting the benthic community.
Guideline Reference: [Placeholder reference 2006 303\(d\)](#)

Spatial Representation: Data was spatially collected.
Temporal Representation: Data was collected from 10/97-12/97.

Environmental Conditions:
QAPP Information: Used BPTCP QA/QC. Data evaluation was based on USEPA guidelines for 305(b) reports, that uses a hierarchy of water quality data levels. Only data of higher overall level of information (Levels 3 and 4) were used to list a water body.

QAPP Information Reference(s):

DECISION ID	32460	Region 2
Stege Marsh		

Pollutant: Toxaphene
Final Listing Decision: Do Not List on 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision: Do Not List on 303(d) list (TMDL required list)(2012)
Revision Status: Original
Impairment from Pollutant or Pollution: Pollutant

Regional Board Staff Conclusion: This pollutant is being considered for listing under sections 2.2, 3.6, and 3.10 of the Listing Policy. Under section 3.6 a single line of evidence is necessary to assess listing status while under section 3.10, a minimum of two lines of evidence are needed to assess listing status. Four lines of evidence are available in the administrative record to assess this pollutant. Based on section 3.6 the site has significant sediment toxicity and it cannot be determined if the pollutant is likely to cause or contribute to the toxic effect. The benthic community is impacted but it is unknown if it is impacted by this pollutant. Based on the readily available data and information, the weight of evidence indicates that there is not sufficient justification in favor of placing this water segment-pollutant combination on the section 303(d) list in the Water Quality Limited Segments category. This conclusion is based on the staff findings that: 1. A sediment quality guideline is not available that complies with the requirements of section 6.1.3 of the Policy. 2. The data used satisfies the data quality requirements of section 6.1.4 of the Policy. 3. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy. 4. Pursuant to section 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.

Regional Board Staff Decision Recommendation: This is a decision previously approved by the State Water Resources Control Board and the USEPA. No new data were assessed by the Regional Board for the current. The decision has not changed.

Line of Evidence (LOE) for Decision ID 32460, Toxaphene	Region 2
Stege Marsh	

LOE ID: 411
Pollutant: Estuarine Bioassessments
LOE Subgroup: Population/Community Degradation
Matrix: Sediment
Fraction: None
Beneficial Use: Wetland Habitat
Number of Samples: 2
Number of Exceedances: 2
Data and Information Type: Not Specified
Data Used to Assess Water Quality: Relative benthic index = 0.00 (2 benthic samples); (Hunt et al., 1998).
Data Reference: [Placeholder reference 2006 303\(d\)](#)
SWAMP Data: Non-SWAMP
Water Quality Objective/Criterion: All waters shall be maintained free of toxic substances in concentrations that are lethal to or that produce other detrimental responses in aquatic organisms.
Objective/Criterion Reference: Chronic toxicity is a detrimental biological effect on growth rate, reproduction, fertilization success, larval development, population abundance, community composition, or any other relevant measure of the health of an organism, population, or community. [Placeholder reference 2006 303\(d\)](#)
Evaluation Guideline: Evaluation of the benthic data was completed using the approaches developed by

scientists associated with the BPTCP. The relative benthic index used is a calculated value considering the total fauna, total mollusk species, crustacean species and indicator species at a site. The index ranges from 0 to 1.0. An index value of less than or equal to 0.3 is an indication that pollutants or other factors are negatively impacting the benthic community.

Guideline Reference:

[Placeholder reference 2006 303\(d\)](#)

Spatial Representation:

Data was spatially collected.

Temporal Representation:

Data was collected from 10/97-12/97.

Environmental Conditions:

QAPP Information:

Used BPTCP QA/QC. Data evaluation was based on USEPA guidelines for 305(b) reports, that uses a hierarchy of water quality data levels. Only data of higher overall level of information (Levels 3 and 4) were used to list a water body.

QAPP Information Reference(s):

Line of Evidence (LOE) for Decision ID 32460, Toxaphene

Region 2

Stege Marsh

LOE ID: 393

Pollutant: Toxaphene
LOE Subgroup: Pollutant-Sediment
Matrix: Sediment
Fraction: None

Beneficial Use: Wetland Habitat

Number of Samples: 0
Number of Exceedances: 0

Data and Information Type: Chemical monitoring of sediments
Data Used to Assess Water Quality: Three measurements ranging in concentration from ND ng/g to 15,700 ng/g (Hunt et al., 1998b).

Data Reference: [Placeholder reference 2006 303\(d\)](#)

SWAMP Data: Non-SWAMP

Water Quality Objective/Criterion: All waters shall be maintained free of toxic substances in concentrations that are lethal to or that produce other detrimental responses in aquatic organisms.

Chronic toxicity is a detrimental biological effect on growth rate, reproduction, fertilization success, larval development, population abundance, community composition, or any other relevant measure of the health of an organism, population, or community.

Objective/Criterion Reference: [Placeholder reference 2006 303\(d\)](#)

Evaluation Guideline: No applicable sediment guideline available.

Guideline Reference: [Placeholder reference 2006 303\(d\)](#)

Spatial Representation: Data was synoptically collected with benthic community and toxicity measurements.

Temporal Representation: Data was collected from 10/97-12/97.

Environmental Conditions:

QAPP Information: Used BPTCP QA/QC. Data evaluation was based on USEPA guidelines for 305(b) reports, that uses a hierarchy of water quality data levels. Only data of higher overall level of information (Levels 3 and 4) were used to list a water body.

QAPP Information Reference(s):

Line of Evidence (LOE) for Decision ID 32460, Toxaphene

Region 2

Stege Marsh

LOE ID: 409

Pollutant:	Sediment Toxicity
LOE Subgroup:	Narrative Description Data
Matrix:	-N/A
Fraction:	Not Recorded
Beneficial Use:	Wetland Habitat
Number of Samples:	
Number of Exceedances:	
Data and Information Type:	Not Specified
Data Used to Assess Water Quality:	Stege Marsh is identified as a toxic hot spot in the SWRCB Consolidated Toxic Hot Spot Cleanup Plan (SWRCB Resolution No. 99-065). This plan is being implemented by the San Francisco Bay RWQCB through Cleanup and Abatement Orders.
Data Reference:	Placeholder reference 2006 303(d)
SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	
Objective/Criterion Reference:	
Evaluation Guideline:	
Guideline Reference:	
Spatial Representation:	
Temporal Representation:	
Environmental Conditions:	
QAPP Information:	QA Info Missing
QAPP Information Reference(s):	

Line of Evidence (LOE) for Decision ID 32460, Toxaphene Stege Marsh

Region 2

LOE ID:	410
Pollutant:	Sediment Toxicity
LOE Subgroup:	Toxicity
Matrix:	Sediment
Fraction:	None
Beneficial Use:	Wetland Habitat
Number of Samples:	3
Number of Exceedances:	3
Data and Information Type:	Toxicity testing of sediments
Data Used to Assess Water Quality:	There was 0-1% amphipod survival in 5 of 5 tests. Three of 3 samples with significant urchin toxicity (Hunt et al., 1988b).
Data Reference:	Placeholder reference 2006 303(d)
SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	All waters shall be maintained free of toxic substances in concentrations that are lethal to or that produce other detrimental responses in aquatic organisms.
	Chronic toxicity is a detrimental biological effect on growth rate, reproduction, fertilization success, larval development, population abundance, community composition, or any other relevant measure of the health of an organism, population, or community.
Objective/Criterion Reference:	Placeholder reference 2006 303(d)
Evaluation Guideline:	BPTCP reference envelope approach.
Guideline Reference:	Placeholder reference 2006 303(d)

Spatial Representation:	Data was spatially collected.
Temporal Representation:	Data was collected from 10/97-12/97.
Environmental Conditions:	
QAPP Information:	Used BPTCP QA/QC. Data evaluation was based on USEPA guidelines for 305(b) reports, that uses a hierarchy of water quality data levels. Only data of higher overall level of information (Levels 3 and 4) were used to list a water body.
QAPP Information Reference(s):	

DECISION ID	32920	Region 2
Stege Marsh		

Pollutant:	p,p'-DDE
Final Listing Decision:	Do Not List on 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision:	Do Not List on 303(d) list (TMDL required list)(2012)
Revision Status	Original
Impairment from Pollutant or Pollution:	Pollutant

Regional Board Staff Conclusion:	This pollutant is being considered for listing under sections 2.2, 3.6, and 3.10 of the Listing Policy. Under section 3.6 a single line of evidence is necessary to assess listing status while under section 3.10, a minimum of two lines of evidence are needed to assess listing status. Four lines of evidence are available in the administrative record to assess this pollutant. Based on section 3.6 the site has significant sediment toxicity and it cannot be determined if the pollutant is likely to cause or contribute to the toxic effect. The benthic community is impacted but it is unknown if it is impacted by this pollutant. Based on the readily available data and information, the weight of evidence indicates that there is not sufficient justification in favor of placing this water segment-pollutant combination on the section 303(d) list in the Water Quality Limited Segments category. This conclusion is based on the staff findings that: 1. A sediment quality guideline is not available that complies with the requirements of section 6.1.3 of the Policy. 2. The data used satisfies the data quality requirements of section 6.1.4 of the Policy. 3. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy. 4. Pursuant to section 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.
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Regional Board Staff Decision Recommendation:	This is a decision previously approved by the State Water Resources Control Board and the USEPA. No new data were assessed by the Regional Board for the current. The decision has not changed.
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Line of Evidence (LOE) for Decision ID 32920, p,p'-DDE	Region 2
Stege Marsh	

LOE ID:	411
Pollutant:	Estuarine Bioassessments
LOE Subgroup:	Population/Community Degradation
Matrix:	Sediment
Fraction:	None
Beneficial Use:	Wetland Habitat
Number of Samples:	2
Number of Exceedances:	2
Data and Information Type:	Not Specified
Data Used to Assess Water Quality:	Relative benthic index = 0.00 (2 benthic samples); (Hunt et al., 1998).
Data Reference:	Placeholder reference 2006 303(d)
SWAMP Data:	Non-SWAMP

Water Quality Objective/Criterion:	All waters shall be maintained free of toxic substances in concentrations that are lethal to or that produce other detrimental responses in aquatic organisms.
Objective/Criterion Reference:	Chronic toxicity is a detrimental biological effect on growth rate, reproduction, fertilization success, larval development, population abundance, community composition, or any other relevant measure of the health of an organism, population, or community. Placeholder reference 2006 303(d)
Evaluation Guideline:	Evaluation of the benthic data was completed using the approaches developed by scientists associated with the BPTCP. The relative benthic index used is a calculated value considering the total fauna, total mollusk species, crustacean species and indicator species at a site. The index ranges from 0 to 1.0. An index value of less than or equal to 0.3 is an indication that pollutants or other factors are negatively impacting the benthic community.
Guideline Reference:	Placeholder reference 2006 303(d)
Spatial Representation:	Data was spatially collected.
Temporal Representation:	Data was collected from 10/97-12/97.
Environmental Conditions:	
QAPP Information:	Used BPTCP QA/QC. Data evaluation was based on USEPA guidelines for 305(b) reports, that uses a hierarchy of water quality data levels. Only data of higher overall level of information (Levels 3 and 4) were used to list a water body.
QAPP Information Reference(s):	

Line of Evidence (LOE) for Decision ID 32920, p,p'-DDE
Stege Marsh

Region 2

LOE ID:	409
Pollutant:	Sediment Toxicity
LOE Subgroup:	Narrative Description Data
Matrix:	-N/A
Fraction:	Not Recorded
Beneficial Use:	Wetland Habitat
Number of Samples:	
Number of Exceedances:	
Data and Information Type:	Not Specified
Data Used to Assess Water Quality:	Stege Marsh is identified as a toxic hot spot in the SWRCB Consolidated Toxic Hot Spot Cleanup Plan (SWRCB Resolution No. 99-065). This plan is being implemented by the San Francisco Bay RWQCB through Cleanup and Abatement Orders.
Data Reference:	Placeholder reference 2006 303(d)
SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	
Objective/Criterion Reference:	
Evaluation Guideline:	
Guideline Reference:	
Spatial Representation:	
Temporal Representation:	
Environmental Conditions:	
QAPP Information:	QA Info Missing
QAPP Information Reference(s):	

Line of Evidence (LOE) for Decision ID 32920, p,p'-DDE
Stege Marsh

Region 2

LOE ID:	410
Pollutant:	Sediment Toxicity
LOE Subgroup:	Toxicity
Matrix:	Sediment
Fraction:	None
Beneficial Use:	Wetland Habitat
Number of Samples:	3
Number of Exceedances:	3
Data and Information Type:	Toxicity testing of sediments
Data Used to Assess Water Quality:	There was 0-1% amphipod survival in 5 of 5 tests. Three of 3 samples with significant urchin toxicity (Hunt et al., 1988b).
Data Reference:	Placeholder reference 2006 303(d)
SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	All waters shall be maintained free of toxic substances in concentrations that are lethal to or that produce other detrimental responses in aquatic organisms. Chronic toxicity is a detrimental biological effect on growth rate, reproduction, fertilization success, larval development, population abundance, community composition, or any other relevant measure of the health of an organism, population, or community.
Objective/Criterion Reference:	Placeholder reference 2006 303(d)
Evaluation Guideline:	BPTCP reference envelope approach.
Guideline Reference:	Placeholder reference 2006 303(d)
Spatial Representation:	Data was spatially collected.
Temporal Representation:	Data was collected from 10/97-12/97.
Environmental Conditions:	
QAPP Information:	Used BPTCP QA/QC. Data evaluation was based on USEPA guidelines for 305(b) reports, that uses a hierarchy of water quality data levels. Only data of higher overall level of information (Levels 3 and 4) were used to list a water body.
QAPP Information Reference(s):	

Line of Evidence (LOE) for Decision ID 32920, p,p'-DDE

Region 2

Stege Marsh

LOE ID:	402
Pollutant:	p,p'-DDE
LOE Subgroup:	Pollutant-Sediment
Matrix:	Sediment
Fraction:	None
Beneficial Use:	Wetland Habitat
Number of Samples:	0
Number of Exceedances:	0
Data and Information Type:	Chemical monitoring of sediments
Data Used to Assess Water Quality:	Three total DDT samples available. Concentration range from 304 ng/g to 542 ng/g (Hunt et al., 1988b).
Data Reference:	Placeholder reference 2006 303(d)
SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	All waters shall be maintained free of toxic substances in concentrations that are lethal to

or that produce other detrimental responses in aquatic organisms.

Chronic toxicity is a detrimental biological effect on growth rate, reproduction, fertilization success, larval development, population abundance, community composition, or any other relevant measure of the health of an organism, population, or community.

Objective/Criterion Reference:

[Placeholder reference 2006 303\(d\)](#)

Evaluation Guideline:

No applicable sediment guideline available.

Guideline Reference:

[Placeholder reference 2006 303\(d\)](#)

Spatial Representation:

Data was synoptically collected with benthic community and toxicity measurements.

Temporal Representation:

Data was collected from 10/97-12/97.

Environmental Conditions:

QAPP Information:

Used BPTCP QA/QC. Data evaluation was based on USEPA guidelines for 305(b) reports, that uses a hierarchy of water quality data levels. Only data of higher overall level of information (Levels 3 and 4) were used to list a water body.

QAPP Information Reference(s):

DECISION ID

32465

Region 2

Stege Marsh

Pollutant:

Chlordane

Final Listing Decision:

List on 303(d) list (being addressed by action other than TMDL)

Last Listing Cycle's Final

List on 303(d) list (being addressed by action other than TMDL)(2012)

Listing Decision:

Revision Status

Original

Sources:

Source Unknown

Expected Attainment Date:

2019

Implementation Action Other than TMDL:

Stege Marsh is identified as a toxic hot spot in the SWRCB Consolidated Toxic Hot Spot Cleanup Plan (SWRCB Resolution No. 99-065). San Francisco Bay RWQCB Cleanup and Abatement Orders have been rescinded and the Department of Toxic Substances Control is now the lead agency for cleanup and is responsible for oversight of Cleanup Orders.

Impairment from Pollutant or Pollution:

Pollutant

Regional Board Staff

Conclusion:

This pollutant is being considered for listing under sections 2.2, 3.6, and 3.10 of the Listing Policy. Under section 3.6 a single line of evidence is necessary to assess listing status while under section 3.10, a minimum of two lines of evidence are needed to assess listing status. Three lines of evidence are available in the administrative record to assess this pollutant. Based on section 3.6 the site has significant sediment toxicity and the pollutant is likely to cause or contribute to the toxic effect. The benthic community is impacted and may be impacted by this pollutant. The RWQCB has adopted a cleanup order that will result in attainment of the water quality standard. Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification in favor of placing this water segment-pollutant combination on the section 303(d) list in the Water Quality Limited Segments Being Addressed category. This conclusion is based on the staff findings that: 1. The sediment quality guideline used complies with the requirements of section 6.1.3 of the Policy. 2. The data used satisfies the data quality requirements of section 6.1.4 of the Policy. 3. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy. 4. Three of 3 samples exceeded the 6 ng/g ERM sediment quality guideline, 5 of 5 samples exhibit toxicity, and these exceed the allowable frequency listed in Table 3.1 of the Listing Policy. The benthic community in this water body is impacted and this pollutant is associated with this impact. 5. Pursuant to section 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.

Regional Board Staff Decision

Recommendation:

This is a decision previously approved by the State Water Resources Control Board and the USEPA. No new data were assessed by the Regional Board for the current. The decision has not changed.

Line of Evidence (LOE) for Decision ID 32465, Chlordane

Region 2

Stege Marsh

LOE ID:	410
Pollutant:	Sediment Toxicity
LOE Subgroup:	Toxicity
Matrix:	Sediment
Fraction:	None
Beneficial Use:	Wetland Habitat
Number of Samples:	3
Number of Exceedances:	3
Data and Information Type:	Toxicity testing of sediments
Data Used to Assess Water Quality:	There was 0-1% amphipod survival in 5 of 5 tests. Three of 3 samples with significant urchin toxicity (Hunt et al., 1988b).
Data Reference:	Placeholder reference 2006 303(d)
SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	All waters shall be maintained free of toxic substances in concentrations that are lethal to or that produce other detrimental responses in aquatic organisms.
	Chronic toxicity is a detrimental biological effect on growth rate, reproduction, fertilization success, larval development, population abundance, community composition, or any other relevant measure of the health of an organism, population, or community.
Objective/Criterion Reference:	Placeholder reference 2006 303(d)
Evaluation Guideline:	BPTCP reference envelope approach.
Guideline Reference:	Placeholder reference 2006 303(d)
Spatial Representation:	Data was spatially collected.
Temporal Representation:	Data was collected from 10/97-12/97.
Environmental Conditions:	
QAPP Information:	Used BPTCP QA/QC. Data evaluation was based on USEPA guidelines for 305(b) reports, that uses a hierarchy of water quality data levels. Only data of higher overall level of information (Levels 3 and 4) were used to list a water body.
QAPP Information Reference(s):	

Line of Evidence (LOE) for Decision ID 32465, Chlordane
Stege Marsh

Region 2

LOE ID:	409
Pollutant:	Sediment Toxicity
LOE Subgroup:	Narrative Description Data
Matrix:	-N/A
Fraction:	Not Recorded
Beneficial Use:	Wetland Habitat
Number of Samples:	
Number of Exceedances:	
Data and Information Type:	Not Specified
Data Used to Assess Water Quality:	Stege Marsh is identified as a toxic hot spot in the SWRCB Consolidated Toxic Hot Spot Cleanup Plan (SWRCB Resolution No. 99-065). This plan is being implemented by the San Francisco Bay RWQCB through Cleanup and Abatement Orders.
Data Reference:	Placeholder reference 2006 303(d)
SWAMP Data:	Non-SWAMP

Water Quality Objective/Criterion:
Objective/Criterion Reference:

Evaluation Guideline:
Guideline Reference:

Spatial Representation:
Temporal Representation:
Environmental Conditions:

QAPP Information: QA Info Missing
QAPP Information Reference(s):

Line of Evidence (LOE) for Decision ID 32465, Chlordane
Stege Marsh

Region 2

LOE ID: 404

Pollutant: Chlordane
LOE Subgroup: Pollutant-Sediment
Matrix: Sediment
Fraction: None

Beneficial Use: Wetland Habitat

Number of Samples: 3
Number of Exceedances: 3

Data and Information Type: Chemical monitoring of sediments
Data Used to Assess Water Quality: Three of 3 samples exceeded the 6 ng/g ERM sediment quality guideline (Hunt et al., 1988b).
Data Reference: [Placeholder reference 2006 303\(d\)](#)

SWAMP Data: Non-SWAMP

Water Quality Objective/Criterion: All waters shall be maintained free of toxic substances in concentrations that are lethal to or that produce other detrimental responses in aquatic organisms.

Objective/Criterion Reference: There shall be no chronic toxicity in ambient waters. Chronic toxicity is a detrimental biological effect on growth rate, reproduction, fertilization success, larval development, population abundance, community composition, or any other relevant measure of the health of an organism, population, or community.
[Placeholder reference 2006 303\(d\)](#)

Evaluation Guideline: ERM of 6 ng/g used (Long and Morgan, 1990).
Guideline Reference: [Placeholder reference 2006 303\(d\)](#)

Spatial Representation: Data was synoptically collected with benthic community and toxicity measurements.
Temporal Representation: Data was collected from 10/97-12/97.
Environmental Conditions:
QAPP Information: Used BPTCP QA/QC. Data evaluation was based on USEPA guidelines for 305(b) reports, that uses a hierarchy of water quality data levels. Only data of higher overall level of information (Levels 3 and 4) were used to list a water body.

QAPP Information Reference(s):

Line of Evidence (LOE) for Decision ID 32465, Chlordane
Stege Marsh

Region 2

LOE ID: 411

Pollutant: Estuarine Bioassessments
LOE Subgroup: Population/Community Degradation

Matrix:	Sediment
Fraction:	None
Beneficial Use:	Wetland Habitat
Number of Samples:	2
Number of Exceedances:	2
Data and Information Type:	Not Specified
Data Used to Assess Water Quality:	Relative benthic index = 0.00 (2 benthic samples); (Hunt et al., 1998).
Data Reference:	Placeholder reference 2006 303(d)
SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	All waters shall be maintained free of toxic substances in concentrations that are lethal to or that produce other detrimental responses in aquatic organisms. Chronic toxicity is a detrimental biological effect on growth rate, reproduction, fertilization success, larval development, population abundance, community composition, or any other relevant measure of the health of an organism, population, or community.
Objective/Criterion Reference:	Placeholder reference 2006 303(d)
Evaluation Guideline:	Evaluation of the benthic data was completed using the approaches developed by scientists associated with the BPTCP. The relative benthic index used is a calculated value considering the total fauna, total mollusk species, crustacean species and indicator species at a site. The index ranges from 0 to 1.0. An index value of less than or equal to 0.3 is an indication that pollutants or other factors are negatively impacting the benthic community.
Guideline Reference:	Placeholder reference 2006 303(d)
Spatial Representation:	Data was spatially collected.
Temporal Representation:	Data was collected from 10/97-12/97.
Environmental Conditions:	
QAPP Information:	Used BPTCP QA/QC. Data evaluation was based on USEPA guidelines for 305(b) reports, that uses a hierarchy of water quality data levels. Only data of higher overall level of information (Levels 3 and 4) were used to list a water body.
QAPP Information Reference(s):	

DECISION ID	32500	Region 2
Stege Marsh		
Pollutant:	Copper	
Final Listing Decision:	List on 303(d) list (being addressed by action other than TMDL)	
Last Listing Cycle's Final Listing Decision:	List on 303(d) list (being addressed by action other than TMDL)(2012)	
Revision Status	Original	
Sources:	Source Unknown	
Expected Attainment Date:	2019	
Implementation Action Other than TMDL:	Stege Marsh is identified as a toxic hot spot in the SWRCB Consolidated Toxic Hot Spot Cleanup Plan (SWRCB Resolution No. 99-065). This plan is being implemented by the San Francisco Bay RWQCB through Cleanup and Abatement Orders.	
Impairment from Pollutant or Pollution:	Pollutant	
Regional Board Staff Conclusion:	This pollutant is being considered for listing under sections 2.2, 3.6, and 3.10 of the Listing Policy. Under section 3.6 a single line of evidence is necessary to assess listing status while under section 3.10, a minimum of two lines of evidence are needed to assess listing status. Three lines of evidence are available in the administrative record to assess this pollutant. Based on section 3.6 the site has significant sediment toxicity and the pollutant is likely to cause or contribute to the toxic effect. The benthic community is impacted and may be impacted by this pollutant. The RWQCB has adopted a cleanup order that will result in attainment of the water quality standard. Based on the readily	

available data and information, the weight of evidence indicates that there is sufficient justification in favor of placing this water segment-pollutant combination on the section 303(d) list in the Water Quality Limited Segments Being Addressed category. This conclusion is based on the staff findings that: 1. The sediment quality guideline used complies with the requirements of section 6.1.3 of the Policy. 2. The data used satisfies the data quality requirements of section 6.1.4 of the Policy. 3. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy. 4. Three of 3 samples exceeded the 270 µg/g ERM sediment quality guideline, 5 of 5 samples exhibit toxicity, and these exceed the allowable frequency listed in Table 3.1 of the Listing Policy. The benthic community in this water body is impacted and this pollutant is associated with this impact. 5. Pursuant to section 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.

Regional Board Staff Decision Recommendation: This is a decision previously approved by the State Water Resources Control Board and the USEPA. No new data were assessed by the Regional Board for the current. The decision has not changed.

Line of Evidence (LOE) for Decision ID 32500, Copper	Region 2
Stege Marsh	

LOE ID:	410
Pollutant:	Sediment Toxicity
LOE Subgroup:	Toxicity
Matrix:	Sediment
Fraction:	None
Beneficial Use:	Wetland Habitat
Number of Samples:	3
Number of Exceedances:	3
Data and Information Type:	Toxicity testing of sediments
Data Used to Assess Water Quality:	There was 0-1% amphipod survival in 5 of 5 tests. Three of 3 samples with significant urchin toxicity (Hunt et al., 1988b).
Data Reference:	Placeholder reference 2006 303(d)
SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	All waters shall be maintained free of toxic substances in concentrations that are lethal to or that produce other detrimental responses in aquatic organisms.
Objective/Criterion Reference:	Chronic toxicity is a detrimental biological effect on growth rate, reproduction, fertilization success, larval development, population abundance, community composition, or any other relevant measure of the health of an organism, population, or community. Placeholder reference 2006 303(d)
Evaluation Guideline:	BPTCP reference envelope approach.
Guideline Reference:	Placeholder reference 2006 303(d)
Spatial Representation:	Data was spatially collected.
Temporal Representation:	Data was collected from 10/97-12/97.
Environmental Conditions:	
QAPP Information:	Used BPTCP QA/QC. Data evaluation was based on USEPA guidelines for 305(b) reports, that uses a hierarchy of water quality data levels. Only data of higher overall level of information (Levels 3 and 4) were used to list a water body.
QAPP Information Reference(s):	

Line of Evidence (LOE) for Decision ID 32500, Copper	Region 2
Stege Marsh	

LOE ID:	409
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Pollutant:	Sediment Toxicity
LOE Subgroup:	Narrative Description Data
Matrix:	-N/A
Fraction:	Not Recorded
Beneficial Use:	Wetland Habitat
Number of Samples:	
Number of Exceedances:	
Data and Information Type:	Not Specified
Data Used to Assess Water Quality:	Stege Marsh is identified as a toxic hot spot in the SWRCB Consolidated Toxic Hot Spot Cleanup Plan (SWRCB Resolution No. 99-065). This plan is being implemented by the San Francisco Bay RWQCB through Cleanup and Abatement Orders.
Data Reference:	Placeholder reference 2006 303(d)
SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	
Objective/Criterion Reference:	
Evaluation Guideline:	
Guideline Reference:	
Spatial Representation:	
Temporal Representation:	
Environmental Conditions:	
QAPP Information:	QA Info Missing
QAPP Information Reference(s):	

Line of Evidence (LOE) for Decision ID 32500, Copper
Stege Marsh

Region 2

LOE ID:	408
Pollutant:	Copper
LOE Subgroup:	Pollutant-Sediment
Matrix:	Sediment
Fraction:	None
Beneficial Use:	Wetland Habitat
Number of Samples:	3
Number of Exceedances:	3
Data and Information Type:	Chemical monitoring of sediments
Data Used to Assess Water Quality:	Three of 3 samples exceeded 270 µg/g ERM sediment quality guideline (Hunt et al., 1988b).
Data Reference:	Placeholder reference 2006 303(d)
SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	All waters shall be maintained free of toxic substances in concentrations that are lethal to or that produce other detrimental responses in aquatic organisms.
	There shall be no chronic toxicity in ambient waters. Chronic toxicity is a detrimental biological effect on growth rate, reproduction, fertilization success, larval development, population abundance, community composition, or any other relevant measure of the health of an organism, population, or community.
Objective/Criterion Reference:	Placeholder reference 2006 303(d)

Evaluation Guideline:	ERM of 270 µg/g was used (Long et al., 1995).
Guideline Reference:	Placeholder reference 2006 303(d)
Spatial Representation:	Data was synoptically collected with benthic community and toxicity measurements.
Temporal Representation:	Data was collected from 10/97-12/97.
Environmental Conditions:	
QAPP Information:	Used BPTCP QA/QC. Data evaluation was based on USEPA guidelines for 305(b) reports, that uses a hierarchy of water quality data levels. Only data of higher overall level of information (Levels 3 and 4) were used to list a water body.
QAPP Information Reference(s):	

Line of Evidence (LOE) for Decision ID 32500, Copper

Region 2

Stege Marsh

LOE ID:	411
Pollutant:	Estuarine Bioassessments
LOE Subgroup:	Population/Community Degradation
Matrix:	Sediment
Fraction:	None
Beneficial Use:	Wetland Habitat
Number of Samples:	2
Number of Exceedances:	2
Data and Information Type:	Not Specified
Data Used to Assess Water Quality:	Relative benthic index = 0.00 (2 benthic samples); (Hunt et al., 1998).
Data Reference:	Placeholder reference 2006 303(d)
SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	All waters shall be maintained free of toxic substances in concentrations that are lethal to or that produce other detrimental responses in aquatic organisms.
	Chronic toxicity is a detrimental biological effect on growth rate, reproduction, fertilization success, larval development, population abundance, community composition, or any other relevant measure of the health of an organism, population, or community.
Objective/Criterion Reference:	Placeholder reference 2006 303(d)
Evaluation Guideline:	Evaluation of the benthic data was completed using the approaches developed by scientists associated with the BPTCP. The relative benthic index used is a calculated value considering the total fauna, total mollusk species, crustacean species and indicator species at a site. The index ranges from 0 to 1.0. An index value of less than or equal to 0.3 is an indication that pollutants or other factors are negatively impacting the benthic community.
Guideline Reference:	Placeholder reference 2006 303(d)
Spatial Representation:	Data was spatially collected.
Temporal Representation:	Data was collected from 10/97-12/97.
Environmental Conditions:	
QAPP Information:	Used BPTCP QA/QC. Data evaluation was based on USEPA guidelines for 305(b) reports, that uses a hierarchy of water quality data levels. Only data of higher overall level of information (Levels 3 and 4) were used to list a water body.
QAPP Information Reference(s):	

DECISION ID

32935

Region 2

Stege Marsh

Pollutant: Dacthal

Final Listing Decision:	List on 303(d) list (being addressed by action other than TMDL)
Last Listing Cycle's Final Listing Decision:	List on 303(d) list (being addressed by action other than TMDL)(2012)
Revision Status	Original
Sources:	Source Unknown
Expected Attainment Date:	2019
Implementation Action Other than TMDL:	Stege Marsh is identified as a toxic hot spot in the SWRCB Consolidated Toxic Hot Spot Cleanup Plan (SWRCB Resolution No. 99-065). This plan is being implemented by the San Francisco Bay RWQCB through Cleanup and Abatement Orders.
Impairment from Pollutant or Pollution:	Pollutant
Regional Board Staff Conclusion:	<p>This pollutant is being considered for listing under sections 2.2, 3.6, and 3.10 of the Listing Policy. Under section 3.6 a single line of evidence is necessary to assess listing status while under section 3.10, a minimum of two lines of evidence are needed to assess listing status. Three lines of evidence are available in the administrative record to assess this pollutant. Based on section 3.6 the site has significant sediment toxicity and it cannot be determined if the pollutant is likely to cause or contribute to the toxic effect. The benthic community is impacted but it is unknown if it is impacted by this pollutant. The RWQCB has adopted a cleanup order that will result in attainment of the water quality standard. Based on the readily available information, the weight of evidence indicates that there is sufficient justification in favor of placing this water segment-pollutant combination in the Water Quality Limited Segments Being Addressed portion of the section 303(d) list. This conclusion is based on the staff findings that: 1. A sediment quality guideline is not available that complies with the requirements of section 6.1.3 of the Policy. 2. The data used satisfies the data quality requirements of section 6.1.4 of the Policy. 3. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy. 4. Three of 3 samples exhibited significant urchin toxicity. The water body appears to have toxicity and the pollutant may be contributing to or causing this toxicity. 5. Pursuant to section 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.</p>
Regional Board Staff Decision Recommendation:	This is a decision previously approved by the State Water Resources Control Board and the USEPA. No new data were assessed by the Regional Board for the current. The decision has not changed.

Line of Evidence (LOE) for Decision ID 32935, Dacthal

Region 2

Stege Marsh

LOE ID:	401
Pollutant:	Dacthal
LOE Subgroup:	Pollutant-Sediment
Matrix:	Sediment
Fraction:	None
Beneficial Use:	Wetland Habitat
Number of Samples:	0
Number of Exceedances:	0
Data and Information Type:	Chemical monitoring of sediments
Data Used to Assess Water Quality:	Five samples ranging in concentration from ND to 11.1 ng/g (Hunt et al., 1988b).
Data Reference:	Placeholder reference 2006 303(d)
SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	<p>All waters shall be maintained free of toxic substances in concentrations that are lethal to or that produce other detrimental responses in aquatic organisms.</p> <p>There shall be no chronic toxicity in ambient waters. Chronic toxicity is a detrimental biological effect on growth rate, reproduction, fertilization success, larval development, population abundance, community composition, or any other relevant measure of the health of an organism, population, or community.</p>

Objective/Criterion Reference:	Placeholder reference 2006 303(d)
Evaluation Guideline:	No applicable sediment guideline is available.
Guideline Reference:	Placeholder reference 2006 303(d)
Spatial Representation:	Data was synoptically collected with benthic community and toxicity measurements.
Temporal Representation:	Data was collected from 10/97-12/97.
Environmental Conditions:	
QAPP Information:	Used BPTCP QA/QC. Data evaluation was based on USEPA guidelines for 305(b) reports, that uses a hierarchy of water quality data levels. Only data of higher overall level of information (Levels 3 and 4) were used to list a water body.
QAPP Information Reference(s):	

Line of Evidence (LOE) for Decision ID 32935, Dacthal
Stege Marsh

Region 2

LOE ID:	409
Pollutant:	Sediment Toxicity
LOE Subgroup:	Narrative Description Data
Matrix:	-N/A
Fraction:	Not Recorded
Beneficial Use:	Wetland Habitat
Number of Samples:	
Number of Exceedances:	
Data and Information Type:	Not Specified
Data Used to Assess Water Quality:	Stege Marsh is identified as a toxic hot spot in the SWRCB Consolidated Toxic Hot Spot Cleanup Plan (SWRCB Resolution No. 99-065). This plan is being implemented by the San Francisco Bay RWQCB through Cleanup and Abatement Orders.
Data Reference:	Placeholder reference 2006 303(d)
SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	
Objective/Criterion Reference:	
Evaluation Guideline:	
Guideline Reference:	
Spatial Representation:	
Temporal Representation:	
Environmental Conditions:	
QAPP Information:	QA Info Missing
QAPP Information Reference(s):	

Line of Evidence (LOE) for Decision ID 32935, Dacthal
Stege Marsh

Region 2

LOE ID:	410
Pollutant:	Sediment Toxicity
LOE Subgroup:	Toxicity
Matrix:	Sediment
Fraction:	None
Beneficial Use:	Wetland Habitat
Number of Samples:	3

Number of Exceedances:	3
Data and Information Type:	Toxicity testing of sediments
Data Used to Assess Water Quality:	There was 0-1% amphipod survival in 5 of 5 tests. Three of 3 samples with significant urchin toxicity (Hunt et al., 1988b).
Data Reference:	Placeholder reference 2006 303(d)
SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	All waters shall be maintained free of toxic substances in concentrations that are lethal to or that produce other detrimental responses in aquatic organisms. Chronic toxicity is a detrimental biological effect on growth rate, reproduction, fertilization success, larval development, population abundance, community composition, or any other relevant measure of the health of an organism, population, or community.
Objective/Criterion Reference:	Placeholder reference 2006 303(d)
Evaluation Guideline:	BPTCP reference envelope approach.
Guideline Reference:	Placeholder reference 2006 303(d)
Spatial Representation:	Data was spatially collected.
Temporal Representation:	Data was collected from 10/97-12/97.
Environmental Conditions:	
QAPP Information:	Used BPTCP QA/QC. Data evaluation was based on USEPA guidelines for 305(b) reports, that uses a hierarchy of water quality data levels. Only data of higher overall level of information (Levels 3 and 4) were used to list a water body.
QAPP Information Reference(s):	

**Line of Evidence (LOE) for Decision ID 32935, Dacthal
Stege Marsh**

Region 2

LOE ID:	411
Pollutant:	Estuarine Bioassessments
LOE Subgroup:	Population/Community Degradation
Matrix:	Sediment
Fraction:	None
Beneficial Use:	Wetland Habitat
Number of Samples:	2
Number of Exceedances:	2
Data and Information Type:	Not Specified
Data Used to Assess Water Quality:	Relative benthic index = 0.00 (2 benthic samples); (Hunt et al., 1998).
Data Reference:	Placeholder reference 2006 303(d)
SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	All waters shall be maintained free of toxic substances in concentrations that are lethal to or that produce other detrimental responses in aquatic organisms. Chronic toxicity is a detrimental biological effect on growth rate, reproduction, fertilization success, larval development, population abundance, community composition, or any other relevant measure of the health of an organism, population, or community.
Objective/Criterion Reference:	Placeholder reference 2006 303(d)
Evaluation Guideline:	Evaluation of the benthic data was completed using the approaches developed by scientists associated with the BPTCP. The relative benthic index used is a calculated value considering the total fauna, total mollusk species, crustacean species and indicator species at a site. The index ranges from 0 to 1.0. An index value of less than or equal to 0.3 is an indication that pollutants or other factors are negatively impacting the benthic

community.
[Placeholder reference 2006 303\(d\)](#)

Guideline Reference:

Spatial Representation: Data was spatially collected.

Temporal Representation: Data was collected from 10/97-12/97.

Environmental Conditions:

QAPP Information: Used BPTCP QA/QC. Data evaluation was based on USEPA guidelines for 305(b) reports, that uses a hierarchy of water quality data levels. Only data of higher overall level of information (Levels 3 and 4) were used to list a water body.

QAPP Information Reference(s):

DECISION ID	32453	Region 2
Stege Marsh		

Pollutant: Mercury

Final Listing Decision: List on 303(d) list (being addressed by action other than TMDL)

Last Listing Cycle's Final Listing Decision: List on 303(d) list (being addressed by action other than TMDL)(2012)

Revision Status Original

Sources: Source Unknown

Expected Attainment Date: 2019

Implementation Action Other than TMDL: Stege Marsh is identified as a toxic hot spot in the SWRCB Consolidated Toxic Hot Spot Cleanup Plan (SWRCB Resolution No. 99-065). This plan is being implemented by the San Francisco Bay RWQCB through Cleanup and Abatement Orders.

Impairment from Pollutant or Pollution: Pollutant

Regional Board Staff Conclusion: This pollutant is being considered for listing under sections 2.2, 3.6, and 3.10 of the Listing Policy. Under section 3.6 a single line of evidence is necessary to assess listing status while under section 3.10, a minimum of two lines of evidence are needed to assess listing status. Three lines of evidence are available in the administrative record to assess this pollutant. Based on section 3.6 the site has significant sediment toxicity and the pollutant is likely to cause or contribute to the toxic effect. The benthic community is impacted and may be impacted by this pollutant. The RWQCB has adopted a cleanup order that will result in attainment of the water quality standard. Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification in favor of placing this water segment-pollutant combination on the section 303(d) list in the Water Quality Limited Segments Being Addressed category. This conclusion is based on the staff findings that: 1. The sediment quality guideline used complies, with the requirements of section 6.1.3 of the Policy. 2. The data used satisfies the data quality requirements of section 6.1.4 of the Policy. 3. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy. 4. Two of 3 samples exceeded the sediment guideline, 5 of 5 samples exhibit toxicity, and these exceed the allowable frequency listed in Table 3.1 of the Listing Policy. The benthic community in this water body is impacted and this pollutant is associated with this impact. 5. Pursuant to section 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.

Regional Board Staff Decision Recommendation: This is a decision previously approved by the State Water Resources Control Board and the USEPA. No new data were assessed by the Regional Board for the current. The decision has not changed.

Line of Evidence (LOE) for Decision ID 32453, Mercury	Region 2
Stege Marsh	

LOE ID: 409

Pollutant: Sediment Toxicity

LOE Subgroup: Narrative Description Data

Matrix: -N/A

Fraction: Not Recorded

Beneficial Use: Wetland Habitat

Number of Samples:	
Number of Exceedances:	
Data and Information Type:	Not Specified
Data Used to Assess Water Quality:	Stege Marsh is identified as a toxic hot spot in the SWRCB Consolidated Toxic Hot Spot Cleanup Plan (SWRCB Resolution No. 99-065). This plan is being implemented by the San Francisco Bay RWQCB through Cleanup and Abatement Orders.
Data Reference:	Placeholder reference 2006 303(d)
SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	
Objective/Criterion Reference:	
Evaluation Guideline:	
Guideline Reference:	
Spatial Representation:	
Temporal Representation:	
Environmental Conditions:	
QAPP Information:	QA Info Missing
QAPP Information Reference(s):	

Line of Evidence (LOE) for Decision ID 32453, Mercury
Stege Marsh

Region 2

LOE ID:	410
Pollutant:	Sediment Toxicity
LOE Subgroup:	Toxicity
Matrix:	Sediment
Fraction:	None
Beneficial Use:	Wetland Habitat
Number of Samples:	3
Number of Exceedances:	3
Data and Information Type:	Toxicity testing of sediments
Data Used to Assess Water Quality:	There was 0-1% amphipod survival in 5 of 5 tests. Three of 3 samples with significant urchin toxicity (Hunt et al., 1988b).
Data Reference:	Placeholder reference 2006 303(d)
SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	All waters shall be maintained free of toxic substances in concentrations that are lethal to or that produce other detrimental responses in aquatic organisms.
Objective/Criterion Reference:	Chronic toxicity is a detrimental biological effect on growth rate, reproduction, fertilization success, larval development, population abundance, community composition, or any other relevant measure of the health of an organism, population, or community. Placeholder reference 2006 303(d)
Evaluation Guideline:	BPTCP reference envelope approach.
Guideline Reference:	Placeholder reference 2006 303(d)
Spatial Representation:	Data was spatially collected.
Temporal Representation:	Data was collected from 10/97-12/97.
Environmental Conditions:	
QAPP Information:	Used BPTCP QA/QC. Data evaluation was based on USEPA guidelines for 305(b) reports, that uses a hierarchy of water quality data levels. Only data of higher overall level

of information (Levels 3 and 4) were used to list a water body.

QAPP Information Reference(s):

Line of Evidence (LOE) for Decision ID 32453, Mercury

Region 2

Stege Marsh

LOE ID:	407
Pollutant:	Mercury
LOE Subgroup:	Pollutant-Sediment
Matrix:	Sediment
Fraction:	None
Beneficial Use:	Wetland Habitat
Number of Samples:	3
Number of Exceedances:	2
Data and Information Type:	Chemical monitoring of sediments
Data Used to Assess Water Quality:	Two of 3 samples exceeded guideline (Hunt et al., 1988b).
Data Reference:	Placeholder reference 2006 303(d)
SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	All waters shall be maintained free of toxic substances in concentrations that are lethal to or that produce other detrimental responses in aquatic organisms. There shall be no chronic toxicity in ambient waters. Chronic toxicity is a detrimental biological effect on growth rate, reproduction, fertilization success, larval development, population abundance, community composition, or any other relevant measure of the health of an organism, population, or community.
Objective/Criterion Reference:	Placeholder reference 2006 303(d)
Evaluation Guideline:	Sediment guideline of 2.1 ug/g was used (PTI Environmental Services, 1991).
Guideline Reference:	Placeholder reference 2006 303(d)
Spatial Representation:	Data was synoptically collected with benthic community and toxicity measurements.
Temporal Representation:	Data was collected from 10/97-12/97.
Environmental Conditions:	
QAPP Information:	Used BPTCP QA/QC. Data evaluation was based on USEPA guidelines for 305(b) reports, that uses a hierarchy of water quality data levels. Only data of higher overall level of information (Levels 3 and 4) were used to list a water body.
QAPP Information Reference(s):	

Line of Evidence (LOE) for Decision ID 32453, Mercury

Region 2

Stege Marsh

LOE ID:	411
Pollutant:	Estuarine Bioassessments
LOE Subgroup:	Population/Community Degradation
Matrix:	Sediment
Fraction:	None
Beneficial Use:	Wetland Habitat
Number of Samples:	2
Number of Exceedances:	2
Data and Information Type:	Not Specified
Data Used to Assess Water Quality:	Relative benthic index = 0.00 (2 benthic samples); (Hunt et al., 1998).

Data Reference:	Placeholder reference 2006 303(d)
SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	All waters shall be maintained free of toxic substances in concentrations that are lethal to or that produce other detrimental responses in aquatic organisms. Chronic toxicity is a detrimental biological effect on growth rate, reproduction, fertilization success, larval development, population abundance, community composition, or any other relevant measure of the health of an organism, population, or community.
Objective/Criterion Reference:	Placeholder reference 2006 303(d)
Evaluation Guideline:	Evaluation of the benthic data was completed using the approaches developed by scientists associated with the BPTCP. The relative benthic index used is a calculated value considering the total fauna, total mollusk species, crustacean species and indicator species at a site. The index ranges from 0 to 1.0. An index value of less than or equal to 0.3 is an indication that pollutants or other factors are negatively impacting the benthic community.
Guideline Reference:	Placeholder reference 2006 303(d)
Spatial Representation:	Data was spatially collected.
Temporal Representation:	Data was collected from 10/97-12/97.
Environmental Conditions:	
QAPP Information:	Used BPTCP QA/QC. Data evaluation was based on USEPA guidelines for 305(b) reports, that uses a hierarchy of water quality data levels. Only data of higher overall level of information (Levels 3 and 4) were used to list a water body.
QAPP Information Reference(s):	

DECISION ID	32352	Region 2
Stege Marsh		
Pollutant:	Zinc	
Final Listing Decision:	List on 303(d) list (being addressed by action other than TMDL)	
Last Listing Cycle's Final Listing Decision:	List on 303(d) list (being addressed by action other than TMDL)(2012)	
Revision Status	Original	
Sources:	Source Unknown	
Expected Attainment Date:	2019	
Implementation Action Other than TMDL:	Stege Marsh is identified as a toxic hot spot in the SWRCB Consolidated Toxic Hot Spot Cleanup Plan (SWRCB Resolution No. 99-065). This plan is being implemented by the San Francisco Bay RWQCB through Cleanup and Abatement Orders.	
Impairment from Pollutant or Pollution:	Pollutant	
Regional Board Staff Conclusion:	<p>This pollutant is being considered for listing under sections 2.2, 3.6, and 3.10 of the Listing Policy. Under section 3.6 a single line of evidence is necessary to assess listing status while under section 3.10, a minimum of two lines of evidence are needed to assess listing status. Three lines of evidence are available in the administrative record to assess this pollutant. Based on section 3.6 the site has significant sediment toxicity and the pollutant is likely to cause or contribute to the toxic effect. The benthic community is impacted and may be impacted by this pollutant. The RWQCB has adopted a cleanup order that will result in attainment of the water quality standard. Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification in favor of placing this water segment-pollutant combination on the section 303(d) list in the Water Quality Limited Segments Being Addressed category. This conclusion is based on the staff findings that: 1. The sediment quality guideline used complies with the requirements of section 6.1.3 of the Policy. 2. The data used satisfies the data quality requirements of section 6.1.4 of the Policy. 3. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy. 4. Two of 3 samples exceeded the sediment guideline, 5 of 5 samples exhibit toxicity, and these exceed the allowable frequency listed in Table 3.1 of the Listing Policy. The benthic community in this water body is impacted and this pollutant is associated with this impact. 5. Pursuant to section 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.</p>	

Regional Board Staff Decision Recommendation: This is a decision previously approved by the State Water Resources Control Board and the USEPA. No new data were assessed by the Regional Board for the current. The decision has not changed.

Line of Evidence (LOE) for Decision ID 32352, Zinc
Stege Marsh

Region 2

LOE ID: 411

Pollutant: Estuarine Bioassessments
LOE Subgroup: Population/Community Degradation
Matrix: Sediment
Fraction: None

Beneficial Use: Wetland Habitat

Number of Samples: 2
Number of Exceedances: 2

Data and Information Type: Not Specified
Data Used to Assess Water Quality: Relative benthic index = 0.00 (2 benthic samples); (Hunt et al., 1998).
Data Reference: [Placeholder reference 2006 303\(d\)](#)

SWAMP Data: Non-SWAMP

Water Quality Objective/Criterion: All waters shall be maintained free of toxic substances in concentrations that are lethal to or that produce other detrimental responses in aquatic organisms.

Objective/Criterion Reference: Chronic toxicity is a detrimental biological effect on growth rate, reproduction, fertilization success, larval development, population abundance, community composition, or any other relevant measure of the health of an organism, population, or community.
[Placeholder reference 2006 303\(d\)](#)

Evaluation Guideline: Evaluation of the benthic data was completed using the approaches developed by scientists associated with the BPTCP. The relative benthic index used is a calculated value considering the total fauna, total mollusk species, crustacean species and indicator species at a site. The index ranges from 0 to 1.0. An index value of less than or equal to 0.3 is an indication that pollutants or other factors are negatively impacting the benthic community.

Guideline Reference: [Placeholder reference 2006 303\(d\)](#)

Spatial Representation: Data was spatially collected.
Temporal Representation: Data was collected from 10/97-12/97.
Environmental Conditions:
QAPP Information: Used BPTCP QA/QC. Data evaluation was based on USEPA guidelines for 305(b) reports, that uses a hierarchy of water quality data levels. Only data of higher overall level of information (Levels 3 and 4) were used to list a water body.

QAPP Information Reference(s):

Line of Evidence (LOE) for Decision ID 32352, Zinc
Stege Marsh

Region 2

LOE ID: 405

Pollutant: Zinc
LOE Subgroup: Pollutant-Sediment
Matrix: Sediment
Fraction: None

Beneficial Use: Wetland Habitat

Number of Samples:	3
Number of Exceedances:	2
Data and Information Type:	Chemical monitoring of sediments
Data Used to Assess Water Quality:	Two of 3 samples exceed ERM (Hunt et al., 1988b).
Data Reference:	Placeholder reference 2006 303(d)
SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	All waters shall be maintained free of toxic substances in concentrations that are lethal to or that produce other detrimental responses in aquatic organisms.
Objective/Criterion Reference:	Chronic toxicity is a detrimental biological effect on growth rate, reproduction, fertilization success, larval development, population abundance, community composition, or any other relevant measure of the health of an organism, population, or community. Placeholder reference 2006 303(d)
Evaluation Guideline:	ERM of 410 ug/g dw used (Long et al., 1995).
Guideline Reference:	Placeholder reference 2006 303(d)
Spatial Representation:	Data was synoptically collected with benthic community and toxicity measurements.
Temporal Representation:	Data was collected from 10/97-12/97.
Environmental Conditions:	
QAPP Information:	Used BPTCP QA/QC. Data evaluation was based on USEPA guidelines for 305(b) reports, that uses a hierarchy of water quality data levels. Only data of higher overall level of information (Levels 3 and 4) were used to list a water body.
QAPP Information Reference(s):	

Line of Evidence (LOE) for Decision ID 32352, Zinc

Region 2

Stege Marsh

LOE ID:	409
Pollutant:	Sediment Toxicity
LOE Subgroup:	Narrative Description Data
Matrix:	-N/A
Fraction:	Not Recorded
Beneficial Use:	Wetland Habitat
Number of Samples:	
Number of Exceedances:	
Data and Information Type:	Not Specified
Data Used to Assess Water Quality:	Stege Marsh is identified as a toxic hot spot in the SWRCB Consolidated Toxic Hot Spot Cleanup Plan (SWRCB Resolution No. 99-065). This plan is being implemented by the San Francisco Bay RWQCB through Cleanup and Abatement Orders.
Data Reference:	Placeholder reference 2006 303(d)
SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	
Objective/Criterion Reference:	
Evaluation Guideline:	
Guideline Reference:	
Spatial Representation:	
Temporal Representation:	
Environmental Conditions:	
QAPP Information:	QA Info Missing

Line of Evidence (LOE) for Decision ID 32352, Zinc**Region 2****Stege Marsh**

LOE ID:	410
Pollutant:	Sediment Toxicity
LOE Subgroup:	Toxicity
Matrix:	Sediment
Fraction:	None
Beneficial Use:	Wetland Habitat
Number of Samples:	3
Number of Exceedances:	3
Data and Information Type:	Toxicity testing of sediments
Data Used to Assess Water Quality:	There was 0-1% amphipod survival in 5 of 5 tests. Three of 3 samples with significant urchin toxicity (Hunt et al., 1988b).
Data Reference:	Placeholder reference 2006 303(d)
SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	All waters shall be maintained free of toxic substances in concentrations that are lethal to or that produce other detrimental responses in aquatic organisms. Chronic toxicity is a detrimental biological effect on growth rate, reproduction, fertilization success, larval development, population abundance, community composition, or any other relevant measure of the health of an organism, population, or community.
Objective/Criterion Reference:	Placeholder reference 2006 303(d)
Evaluation Guideline:	BPTCP reference envelope approach.
Guideline Reference:	Placeholder reference 2006 303(d)
Spatial Representation:	Data was spatially collected.
Temporal Representation:	Data was collected from 10/97-12/97.
Environmental Conditions:	
QAPP Information:	Used BPTCP QA/QC. Data evaluation was based on USEPA guidelines for 305(b) reports, that uses a hierarchy of water quality data levels. Only data of higher overall level of information (Levels 3 and 4) were used to list a water body.
QAPP Information Reference(s):	

Draft California 2016 Integrated Report (303(d) List/305(b) Report)

Supporting Information

Regional Board 2 - San Francisco Bay Region

Water Body Name: Mission Creek
Water Body ID: CAE2044001020020129151327
Water Body Type: Estuary

DECISION ID 32782 **Region 2**
Mission Creek

Pollutant: PCBs (Polychlorinated biphenyls)
Final Listing Decision: Do Not Delist from 303(d) list (being addressed with USEPA approved TMDL)
Last Listing Cycle's Final Listing Decision: Do Not Delist from 303(d) list (TMDL required list)(2012)
Revision Status Revised
Sources: Source Unknown
TMDL Name: San Francisco Bay PCBs
TMDL Project Code: 7
Date TMDL Approved by USEPA: 03/29/2010
Impairment from Pollutant or Pollution: Pollutant

Regional Board Staff Conclusion: This pollutant is being considered for removal from the section 303(d) list under sections 4.6 and 4.9 of the Listing Policy. Under section 4.6 a single line of evidence is necessary to assess delisting status while under section 4.9, a minimum of two lines of evidence are needed to assess listing status. Six lines of evidence are available in the administrative record to assess this pollutant. Based on section 4.6, the site has significant sediment toxicity and the pollutant concentration exceeds the sediment guideline. The benthic community is impacted and the pollutant is associated with the impact. Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against removing this water segment-pollutant combination from the section 303(d) list in the Water Quality Limited Segments category. This conclusion is based on the staff findings that: 1. The sediment quality guideline used complies with the requirements of section 6.1.3 of the Policy. 2. The data used satisfies the data quality requirements of section 6.1.4 of the Policy. 3. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy. 4. Ten of 47 samples exceeded the 400 ng/g sediment guideline, 7 of 26 samples exhibit toxicity, and these exceed the allowable frequency listed in Table 4.1 of the Listing Policy. The benthic community in this water body is impacted and this pollutant is associated with this impact. 5. Pursuant to section 4.11 of the Listing Policy, no additional data and information are available indicating that standards are met.

Regional Board Staff Decision Recommendation: This is a decision previously approved by the State Water Resources Control Board and the USEPA. No new data were assessed by the Regional Board for the current. The decision has not changed.

Line of Evidence (LOE) for Decision ID 32782, PCBs (Polychlorinated biphenyls) **Region 2**
Mission Creek

LOE ID: 445
Pollutant: Sediment Toxicity
LOE Subgroup: Toxicity
Matrix: Sediment
Fraction: None
Beneficial Use: Estuarine Habitat

Number of Samples:	21
Number of Exceedances:	4
Data and Information Type:	Toxicity testing of sediments
Data Used to Assess Water Quality:	Significant amphipod toxicity was observed in 4 of 21 samples. Observed toxicity was recorded in the year 2000 only (Battelle Memorial Institute, 2002).
Data Reference:	Placeholder reference 2006 303(d)
SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	All waters shall be maintained free of toxic substances in concentrations that are lethal to or that produce other detrimental responses in aquatic organisms. There shall be no chronic toxicity in ambient waters. Chronic toxicity is a detrimental biological effect on growth rate, reproduction, fertilization success, larval development, population abundance, community composition, or any other relevant measure of the health of an organism, population, or community (BPTCP, 1998).
Objective/Criterion Reference:	Placeholder reference 2006 303(d)
Evaluation Guideline:	BPTCP reference envelope approach used.
Guideline Reference:	Placeholder reference 2006 303(d)
Spatial Representation:	Data was synoptically collected with benthic community and toxicity measurements over the length of the creek.
Temporal Representation:	Data were collected between 1998 and 2000.
Environmental Conditions:	
QAPP Information:	QA Info Missing
QAPP Information Reference(s):	

Line of Evidence (LOE) for Decision ID 32782, PCBs (Polychlorinated biphenyls)

Region 2

Mission Creek

LOE ID:	438
Pollutant:	PCBs (Polychlorinated biphenyls)
LOE Subgroup:	Narrative Description Data
Matrix:	-N/A
Fraction:	None
Beneficial Use:	Estuarine Habitat
Number of Samples:	0
Number of Exceedances:	0
Data and Information Type:	Not Specified
Data Used to Assess Water Quality:	The BPTCP Consolidated Toxic Hot Spots Cleanup Plan presents a variety of corrective actions that need to be completed in order for the cove to be remediated. Responsible parties have been identified.
Data Reference:	Placeholder reference 2006 303(d)
SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	
Objective/Criterion Reference:	
Evaluation Guideline:	
Guideline Reference:	
Spatial Representation:	
Temporal Representation:	
Environmental Conditions:	

QAPP Information:
QAPP Information Reference(s):

QA Info Missing

Line of Evidence (LOE) for Decision ID 32782, PCBs (Polychlorinated biphenyls)

Region 2

Mission Creek

LOE ID:	446
Pollutant:	Estuarine Bioassessments
LOE Subgroup:	Population/Community Degradation
Matrix:	Sediment
Fraction:	None
Beneficial Use:	Estuarine Habitat
Number of Samples:	3
Number of Exceedances:	2
Data and Information Type:	Benthic macroinvertebrate surveys
Data Used to Assess Water Quality:	Relative benthic index = 0.00, 0.34, and 0.65 (3 benthic gradient samples) (Hunt et al, 1998b).
Data Reference:	Placeholder reference 2006 303(d)
SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	All waters shall be maintained free of toxic substances in concentrations that are lethal to or that produce other detrimental responses in aquatic organisms. There shall be no chronic toxicity in ambient waters. Chronic toxicity is a detrimental biological effect on growth rate, reproduction, fertilization success, larval development, population abundance, community composition, or any other relevant measure of the health of an organism, population, or community.
Objective/Criterion Reference:	Placeholder reference 2006 303(d)
Evaluation Guideline:	Evaluation of the benthic data were completed using the approaches developed by scientists associated with the BPTCP. The relative benthic index used is a calculated value considering the total fauna, total mollusk species, crustacean species and indicator species at a site. The index ranges from 0 to 1.0. An index value of less than or equal to 0.3 is an indication that pollutants or other factors are negatively impacting the benthic community (BPTCP, 1998).
Guideline Reference:	Placeholder reference 2006 303(d)
Spatial Representation:	Data were collected concurrently with toxicity and chemical samples.
Temporal Representation:	Data was collected, from 5/95-4/97.
Environmental Conditions:	
QAPP Information:	BPTCP Quality Assurance Project Plan.
QAPP Information Reference(s):	

Line of Evidence (LOE) for Decision ID 32782, PCBs (Polychlorinated biphenyls)

Region 2

Mission Creek

LOE ID:	440
Pollutant:	PCBs (Polychlorinated biphenyls)
LOE Subgroup:	Pollutant-Sediment
Matrix:	Sediment
Fraction:	None
Beneficial Use:	Estuarine Habitat
Number of Samples:	44

Number of Exceedances:	8
Data and Information Type:	Chemical monitoring of sediments
Data Used to Assess Water Quality:	Eight of 44 samples exceeded the sediment quality guideline (Battelle Memorial institute, 2002).
Data Reference:	Placeholder reference 2006 303(d)
SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	All waters shall be maintained free of toxic substances in concentrations that are lethal to or that produce other detrimental responses in aquatic organisms. There shall be no chronic toxicity in ambient waters. Chronic toxicity is a detrimental biological effect on growth rate, reproduction, fertilization success, larval development, population abundance, community composition, or any other relevant measure of the health of an organism, population, or community.
Objective/Criterion Reference:	Placeholder reference 2006 303(d)
Evaluation Guideline:	Sediment guideline of 400 ng/g used (MacDonald et al., 2000).
Guideline Reference:	Placeholder reference 2006 303(d)
Spatial Representation:	Data was synoptically collected with benthic community and toxicity measurements over the length of the creek.
Temporal Representation:	Data were collected between 1998 and 2000.
Environmental Conditions:	
QAPP Information:	Methods used were equivalent to those used in the BPTCP QAPP. All reported data met QA requirements.
QAPP Information Reference(s):	

Line of Evidence (LOE) for Decision ID 32782, PCBs (Polychlorinated biphenyls)

Region 2

Mission Creek

LOE ID:	444
Pollutant:	Sediment Toxicity
LOE Subgroup:	Toxicity
Matrix:	Sediment
Fraction:	None
Beneficial Use:	Estuarine Habitat
Number of Samples:	20
Number of Exceedances:	4
Data and Information Type:	Toxicity testing of sediments
Data Used to Assess Water Quality:	BPTCP Data: Significant amphipod toxicity, 3 of 5 tests (60%) significant urchin toxicity (Hunt et al., 1998b). SWRCB received "Sediment Investigations at Islais Creek and Mission Creek-1998-1999-2000" provided by SFPUC. Six transects were monitored over three years and at corresponding North and South sampling stations for each transect (i.e. 1N, 1S). Excluding stations 5 and 6 (No data for 1999 and 2000), the data shows 4 of 20 sampling stations (1N/S-4N/S) indicate sediment toxicity and amphipod survival below the BPTCP reference tolerance limit (Battelle Memorial Institute, 2002).
Data Reference:	Placeholder reference 2006 303(d)
SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	All waters shall be maintained free of toxic substances in concentrations that are lethal to or that produce other detrimental responses in aquatic organisms. There shall be no chronic toxicity in ambient waters. Chronic toxicity is a detrimental biological effect on growth rate, reproduction, fertilization success, larval development, population abundance, community composition, or any other relevant measure of the

Objective/Criterion Reference:	health of an organism, population, or community. Placeholder reference 2006 303(d)
Evaluation Guideline: Guideline Reference:	BPTCP reference envelope approach used. Placeholder reference 2006 303(d)
Spatial Representation:	Data were collected concurrently with benthic and chemical measurements.
Temporal Representation:	Data was collected from 5/95-4/97.
Environmental Conditions:	
QAPP Information:	BPTCP Quality Assurance Project Plan. SWRCB received "Sediment Investigations at Islais Creek and Mission Creek-1998-1999-2000" provided by SFPUC. Appropriate QA procedures were followed.
QAPP Information Reference(s):	

Line of Evidence (LOE) for Decision ID 32782, PCBs (Polychlorinated biphenyls)
Mission Creek

Region 2

LOE ID:	439
Pollutant:	PCBs (Polychlorinated biphenyls)
LOE Subgroup:	Pollutant-Sediment
Matrix:	Sediment
Fraction:	None
Beneficial Use:	Estuarine Habitat
Number of Samples:	3
Number of Exceedances:	2
Data and Information Type:	Chemical monitoring of sediments
Data Used to Assess Water Quality:	BPTCP Data: Two of 3 samples exceeded the sediment quality guideline. SWRCB received "Sediment Investigations at Islais Creek and Mission Creek-1998-1999-2000" provided by SFPUC. Six transects were monitored over three years and at corresponding North and South sampling stations for each transect (i.e. 1N, 1S). Levels of PCBs at the highest detected levels at transect sampling stations 1N/S-4N/S with some pollutants in exceedance of the ERMs in 1998 only (Battelle Memorial Institute, 2002).
Data Reference:	Placeholder reference 2006 303(d)
SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	All waters shall be maintained free of toxic substances in concentrations that are lethal to or that produce other detrimental responses in aquatic organisms. There shall be no chronic toxicity in ambient waters. Chronic toxicity is a detrimental biological effect on growth rate, reproduction, fertilization success, larval development, population abundance, community composition, or any other relevant measure of the health of an organism, population, or community.
Objective/Criterion Reference:	Placeholder reference 2006 303(d)
Evaluation Guideline: Guideline Reference:	Sediment guideline of 400 ng/g used (MacDonald et al., 2000). Placeholder reference 2006 303(d)
Spatial Representation:	BPTCP data collected concurrently with benthic and toxicity data.
Temporal Representation:	Data was collected, from 5/95-4/97.
Environmental Conditions:	
QAPP Information:	BPTCP Quality Assurance Project Plan.
QAPP Information Reference(s):	

DECISION ID

32966

Region 2

Mission Creek

Pollutant: Chlorpyrifos
Final Listing Decision: Delist from 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision: Delist from 303(d) list (TMDL required list)(2012)
Revision Status: Original
Reason for Delisting: Applicable WQS attained; reason for recovery unspecified
Impairment from Pollutant or Pollution: Pollutant

Regional Board Staff Conclusion: This pollutant is being considered for removal from the section 303(d) list under section 4.6 of the Listing Policy. Under section 4.6 two lines of evidence are necessary to assess listing status. Four lines of evidence are available in the administrative record to assess this pollutant. A sediment guideline is not available and it cannot be determined if the pollutant is likely to cause or contribute to the toxic effect. Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification in favor of removing this water segment-pollutant combination from the section 303(d) list. This conclusion is based on the staff findings that: 1. A sediment quality guideline that complies with the requirements of section 6.1.3 of the Policy is not available. 2. The data used satisfies the data quality requirements of section 6.1.4 of the Policy. 3. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy. 4. Pursuant to section 4.11 of the Listing Policy, no additional data and information are available indicating that standards are met.

Regional Board Staff Decision Recommendation: This is a decision previously approved by the State Water Resources Control Board and the USEPA. No new data were assessed by the Regional Board for the current. The decision has not changed.

Line of Evidence (LOE) for Decision ID 32966, Chlorpyrifos

Region 2

Mission Creek

LOE ID: 446

Pollutant: Estuarine Bioassessments
LOE Subgroup: Population/Community Degradation
Matrix: Sediment
Fraction: None

Beneficial Use: Estuarine Habitat

Number of Samples: 3
Number of Exceedances: 2

Data and Information Type: Benthic macroinvertebrate surveys
Data Used to Assess Water Quality: Relative benthic index = 0.00, 0.34, and 0.65 (3 benthic gradient samples) (Hunt et al, 1998b).
Data Reference: [Placeholder reference 2006 303\(d\)](#)

SWAMP Data: Non-SWAMP

Water Quality Objective/Criterion: All waters shall be maintained free of toxic substances in concentrations that are lethal to or that produce other detrimental responses in aquatic organisms.

There shall be no chronic toxicity in ambient waters. Chronic toxicity is a detrimental biological effect on growth rate, reproduction, fertilization success, larval development, population abundance, community composition, or any other relevant measure of the health of an organism, population, or community.

Objective/Criterion Reference: [Placeholder reference 2006 303\(d\)](#)

Evaluation Guideline: Evaluation of the benthic data were completed using the approaches developed by scientists associated with the BPTCP. The relative benthic index used is a calculated value considering the total fauna, total mollusk species, crustacean species and indicator

species at a site. The index ranges from 0 to 1.0. An index value of less than or equal to 0.3 is an indication that pollutants or other factors are negatively impacting the benthic community (BPTCP, 1998).

Guideline Reference: [Placeholder reference 2006 303\(d\)](#)

Spatial Representation: Data were collected concurrently with toxicity and chemical samples.

Temporal Representation: Data was collected, from 5/95-4/97.

Environmental Conditions:

QAPP Information: BPTCP Quality Assurance Project Plan.

QAPP Information Reference(s):

Line of Evidence (LOE) for Decision ID 32966, Chlorpyrifos

Region 2

Mission Creek

LOE ID: 445

Pollutant: Sediment Toxicity

LOE Subgroup: Toxicity

Matrix: Sediment

Fraction: None

Beneficial Use: Estuarine Habitat

Number of Samples: 21

Number of Exceedances: 4

Data and Information Type: Toxicity testing of sediments

Data Used to Assess Water Quality: Significant amphipod toxicity was observed in 4 of 21 samples. Observed toxicity was recorded in the year 2000 only (Battelle Memorial Institute, 2002).

Data Reference: [Placeholder reference 2006 303\(d\)](#)

SWAMP Data: Non-SWAMP

Water Quality Objective/Criterion: All waters shall be maintained free of toxic substances in concentrations that are lethal to or that produce other detrimental responses in aquatic organisms.

There shall be no chronic toxicity in ambient waters. Chronic toxicity is a detrimental biological effect on growth rate, reproduction, fertilization success, larval development, population abundance, community composition, or any other relevant measure of the health of an organism, population, or community (BPTCP, 1998).

Objective/Criterion Reference: [Placeholder reference 2006 303\(d\)](#)

Evaluation Guideline: BPTCP reference envelope approach used.

Guideline Reference: [Placeholder reference 2006 303\(d\)](#)

Spatial Representation: Data was synoptically collected with benthic community and toxicity measurements over the length of the creek.

Temporal Representation: Data were collected between 1998 and 2000.

Environmental Conditions:

QAPP Information: QA Info Missing

QAPP Information Reference(s):

Line of Evidence (LOE) for Decision ID 32966, Chlorpyrifos

Region 2

Mission Creek

LOE ID: 433

Pollutant: Chlorpyrifos

LOE Subgroup: Pollutant-Sediment

Matrix: Sediment

Fraction: None

Beneficial Use:	Estuarine Habitat
Number of Samples:	0
Number of Exceedances:	0
Data and Information Type:	Chemical monitoring of sediments
Data Used to Assess Water Quality:	Three measurements (Hunt et al., 1998b).
Data Reference:	Placeholder reference 2006 303(d)
SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	All waters shall be maintained free of toxic substances in concentrations that are lethal to or that produce other detrimental responses in aquatic organisms. There shall be no chronic toxicity in ambient waters. Chronic toxicity is a detrimental biological effect on growth rate, reproduction, fertilization success, larval development, population abundance, community composition, or any other relevant measure of the health of an organism, population, or community.
Objective/Criterion Reference:	Placeholder reference 2006 303(d)
Evaluation Guideline:	No applicable sediment guideline is available.
Guideline Reference:	Placeholder reference 2006 303(d)
Spatial Representation:	Data were collected concurrently with benthic community and toxicity measurements.
Temporal Representation:	Data was collected, from 5/95-4/97.
Environmental Conditions:	
QAPP Information:	BPTCP Quality Assurance Project Plan.
QAPP Information Reference(s):	

Line of Evidence (LOE) for Decision ID 32966, Chlorpyrifos

Region 2

Mission Creek

LOE ID:	444
Pollutant:	Sediment Toxicity
LOE Subgroup:	Toxicity
Matrix:	Sediment
Fraction:	None
Beneficial Use:	Estuarine Habitat
Number of Samples:	20
Number of Exceedances:	4
Data and Information Type:	Toxicity testing of sediments
Data Used to Assess Water Quality:	BPTCP Data: Significant amphipod toxicity, 3 of 5 tests (60%) significant urchin toxicity (Hunt et al., 1998b). SWRCB received "Sediment Investigations at Islais Creek and Mission Creek-1998-1999-2000" provided by SFPUC. Six transects were monitored over three years and at corresponding North and South sampling stations for each transect (i.e. 1N, 1S). Excluding stations 5 and 6 (No data for 1999 and 2000), the data shows 4 of 20 sampling stations (1N/S-4N/S) indicate sediment toxicity and amphipod survival below the BPTCP reference tolerance limit (Battelle Memorial Institute, 2002).
Data Reference:	Placeholder reference 2006 303(d)
SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	All waters shall be maintained free of toxic substances in concentrations that are lethal to or that produce other detrimental responses in aquatic organisms. There shall be no chronic toxicity in ambient waters. Chronic toxicity is a detrimental biological effect on growth rate, reproduction, fertilization success, larval development,

Objective/Criterion Reference: population abundance, community composition, or any other relevant measure of the health of an organism, population, or community.
[Placeholder reference 2006 303\(d\)](#)

Evaluation Guideline: BPTCP reference envelope approach used.
 Guideline Reference: [Placeholder reference 2006 303\(d\)](#)

Spatial Representation: Data were collected concurrently with benthic and chemical measurements.
 Temporal Representation: Data was collected from 5/95-4/97.

Environmental Conditions:
 QAPP Information: BPTCP Quality Assurance Project Plan. SWRCB received "Sediment Investigations at Islais Creek and Mission Creek-1998-1999-2000" provided by SFPUC. Appropriate QA procedures were followed.

QAPP Information Reference(s):

DECISION ID	32830	Region 2
Mission Creek		

Pollutant: Chromium
Final Listing Decision: Delist from 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision: Delist from 303(d) list (TMDL required list)(2012)
Revision Status Original
Reason for Delisting: Applicable WQS attained; reason for recovery unspecified
Impairment from Pollutant or Pollution: Pollutant

Regional Board Staff Conclusion: This pollutant is being considered for delisting under sections 4.6 and 4.9 of the Listing Policy. Under section 4.6 a single line of evidence is necessary to assess listing status while under section 4.9, a minimum of two lines of evidence are needed to assess listing status. Six lines of evidence are available in the administrative record to assess this pollutant. Based on section 4.6, the site has significant sediment toxicity but the pollutant is not likely to cause or contribute to any toxic effect. The benthic community is impacted but is not associated with this pollutant. Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification in favor of removing this water segment-pollutant combination from the section 303(d) list in the Water Quality Limited Segments category. This conclusion is based on the staff findings that: 1. The sediment quality guideline used complies with the requirements of section 6.1.3 of the Policy. 2. The data used satisfies the data quality requirements of section 6.1.4 of the Policy. 3. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy. 4. One of 47 samples exceeded the 370 µg/g ERM sediment quality guideline and this does not exceed the allowable frequency listed in Table 4.1 of the Listing Policy. 5. Pursuant to section 4.11 of the Listing Policy, no additional data and information are available indicating that standards are met.

Regional Board Staff Decision Recommendation: This is a decision previously approved by the State Water Resources Control Board and the USEPA. No new data were assessed by the Regional Board for the current. The decision has not changed.

Line of Evidence (LOE) for Decision ID 32830, Chromium	Region 2
Mission Creek	

LOE ID: 417

Pollutant: Chromium (total)
 LOE Subgroup: Pollutant-Sediment
 Matrix: Sediment
 Fraction: None

Beneficial Use: Estuarine Habitat

Number of Samples: 44

Number of Exceedances:	0
Data and Information Type:	Chemical monitoring of sediments
Data Used to Assess Water Quality:	None of 44 samples exceeded the ERM (Battelle Memorial Institute, 2002).
Data Reference:	Placeholder reference 2006 303(d)
SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	All waters shall be maintained free of toxic substances in concentrations that are lethal to or that produce other detrimental responses in aquatic organisms. There shall be no chronic toxicity in ambient waters. Chronic toxicity is a detrimental biological effect on growth rate, reproduction, fertilization success, larval development, population abundance, community composition, or any other relevant measure of the health of an organism, population, or community.
Objective/Criterion Reference:	Placeholder reference 2006 303(d)
Evaluation Guideline:	ERM of 370 ug/g dw was used (Long et al., 1995).
Guideline Reference:	Placeholder reference 2006 303(d)
Spatial Representation:	Data was synoptically collected with benthic community and toxicity measurements over the length of the creek.
Temporal Representation:	Data were collected between 1998 and 2000.
Environmental Conditions:	
QAPP Information:	Methods used were equivalent to those used in the BPTCP QAPP. All reported data met QA requirements.
QAPP Information Reference(s):	

**Line of Evidence (LOE) for Decision ID 32830, Chromium
Mission Creek**

Region 2

LOE ID:	416
Pollutant:	Chromium (total)
LOE Subgroup:	Pollutant-Sediment
Matrix:	Sediment
Fraction:	None
Beneficial Use:	Estuarine Habitat
Number of Samples:	3
Number of Exceedances:	1
Data and Information Type:	Chemical monitoring of sediments
Data Used to Assess Water Quality:	One of 3 samples exceeded the sediment guideline (Hunt et al., 1998b).
Data Reference:	Placeholder reference 2006 303(d)
SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	All waters shall be maintained free of toxic substances in concentrations that are lethal to or that produce other detrimental responses in aquatic organisms. There shall be no chronic toxicity in ambient waters. Chronic toxicity is a detrimental biological effect on growth rate, reproduction, fertilization success, larval development, population abundance, community composition, or any other relevant measure of the health of an organism, population, or community.
Objective/Criterion Reference:	Placeholder reference 2006 303(d)
Evaluation Guideline:	ERM of 370 ug/g dw was used (Long et al., 1995).
Guideline Reference:	Placeholder reference 2006 303(d)
Spatial Representation:	Data were collected concurrently with benthic community and toxicity measurements.

Temporal Representation: Data was collected in 1997.
Environmental Conditions:
QAPP Information: BPTCP Quality Assurance Project Plan.
QAPP Information Reference(s):

**Line of Evidence (LOE) for Decision ID 32830, Chromium
Mission Creek**

Region 2

LOE ID: 446

Pollutant: Estuarine Bioassessments
LOE Subgroup: Population/Community Degradation
Matrix: Sediment
Fraction: None

Beneficial Use: Estuarine Habitat

Number of Samples: 3
Number of Exceedances: 2

Data and Information Type: Benthic macroinvertebrate surveys
Data Used to Assess Water Quality: Relative benthic index = 0.00, 0.34, and 0.65 (3 benthic gradient samples) (Hunt et al, 1998b).
Data Reference: [Placeholder reference 2006 303\(d\)](#)

SWAMP Data: Non-SWAMP

Water Quality Objective/Criterion: All waters shall be maintained free of toxic substances in concentrations that are lethal to or that produce other detrimental responses in aquatic organisms.

Objective/Criterion Reference: [Placeholder reference 2006 303\(d\)](#)

Evaluation Guideline: Evaluation of the benthic data were completed using the approaches developed by scientists associated with the BPTCP. The relative benthic index used is a calculated value considering the total fauna, total mollusk species, crustacean species and indicator species at a site. The index ranges from 0 to 1.0. An index value of less than or equal to 0.3 is an indication that pollutants or other factors are negatively impacting the benthic community (BPTCP, 1998).
Guideline Reference: [Placeholder reference 2006 303\(d\)](#)

Spatial Representation: Data were collected concurrently with toxicity and chemical samples.
Temporal Representation: Data was collected, from 5/95-4/97.
Environmental Conditions:
QAPP Information: BPTCP Quality Assurance Project Plan.
QAPP Information Reference(s):

**Line of Evidence (LOE) for Decision ID 32830, Chromium
Mission Creek**

Region 2

LOE ID: 415

Pollutant: Chromium (total)
LOE Subgroup: Narrative Description Data
Matrix: -N/A
Fraction: None

Beneficial Use: Estuarine Habitat

Number of Samples:	0
Number of Exceedances:	0
Data and Information Type:	Not Specified
Data Used to Assess Water Quality:	The BPTCP Consolidated Toxic Hot Spots Cleanup Plan presents a variety of corrective actions that need to be completed in order for the cove to be remediated. Responsible parties have been identified.
Data Reference:	Placeholder reference 2006 303(d)
SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	
Objective/Criterion Reference:	
Evaluation Guideline:	
Guideline Reference:	
Spatial Representation:	
Temporal Representation:	
Environmental Conditions:	
QAPP Information:	QA Info Missing
QAPP Information Reference(s):	

Line of Evidence (LOE) for Decision ID 32830, Chromium Mission Creek

Region 2

LOE ID:	445
Pollutant:	Sediment Toxicity
LOE Subgroup:	Toxicity
Matrix:	Sediment
Fraction:	None
Beneficial Use:	Estuarine Habitat
Number of Samples:	21
Number of Exceedances:	4
Data and Information Type:	Toxicity testing of sediments
Data Used to Assess Water Quality:	Significant amphipod toxicity was observed in 4 of 21 samples. Observed toxicity was recorded in the year 2000 only (Battelle Memorial Institute, 2002).
Data Reference:	Placeholder reference 2006 303(d)
SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	All waters shall be maintained free of toxic substances in concentrations that are lethal to or that produce other detrimental responses in aquatic organisms.
	There shall be no chronic toxicity in ambient waters. Chronic toxicity is a detrimental biological effect on growth rate, reproduction, fertilization success, larval development, population abundance, community composition, or any other relevant measure of the health of an organism, population, or community (BPTCP, 1998).
Objective/Criterion Reference:	Placeholder reference 2006 303(d)
Evaluation Guideline:	BPTCP reference envelope approach used.
Guideline Reference:	Placeholder reference 2006 303(d)
Spatial Representation:	Data was synoptically collected with benthic community and toxicity measurements over the length of the creek.
Temporal Representation:	Data were collected between 1998 and 2000.
Environmental Conditions:	

QAPP Information: QA Info Missing
QAPP Information Reference(s):

**Line of Evidence (LOE) for Decision ID 32830, Chromium
Mission Creek**

Region 2

LOE ID: 444

Pollutant: Sediment Toxicity
LOE Subgroup: Toxicity
Matrix: Sediment
Fraction: None

Beneficial Use: Estuarine Habitat

Number of Samples: 20
Number of Exceedances: 4

Data and Information Type: Toxicity testing of sediments
Data Used to Assess Water Quality: BPTCP Data: Significant amphipod toxicity, 3 of 5 tests (60%) significant urchin toxicity (Hunt et al., 1998b). SWRCB received "Sediment Investigations at Islais Creek and Mission Creek-1998-1999-2000" provided by SFPUC. Six transects were monitored over three years and at corresponding North and South sampling stations for each transect (i.e. 1N, 1S). Excluding stations 5 and 6 (No data for 1999 and 2000), the data shows 4 of 20 sampling stations (1N/S-4N/S) indicate sediment toxicity and amphipod survival below the BPTCP reference tolerance limit (Battelle Memorial Institute, 2002).

Data Reference: [Placeholder reference 2006 303\(d\)](#)

SWAMP Data: Non-SWAMP

Water Quality Objective/Criterion: All waters shall be maintained free of toxic substances in concentrations that are lethal to or that produce other detrimental responses in aquatic organisms.

Objective/Criterion Reference: [Placeholder reference 2006 303\(d\)](#)

Evaluation Guideline: BPTCP reference envelope approach used.
Guideline Reference: [Placeholder reference 2006 303\(d\)](#)

Spatial Representation: Data were collected concurrently with benthic and chemical measurements.
Temporal Representation: Data was collected from 5/95-4/97.

Environmental Conditions:

QAPP Information: BPTCP Quality Assurance Project Plan. SWRCB received "Sediment Investigations at Islais Creek and Mission Creek-1998-1999-2000" provided by SFPUC. Appropriate QA procedures were followed.

QAPP Information Reference(s):

**DECISION ID 32467
Mission Creek**

Region 2

Pollutant: Copper
Final Listing Decision: Delist from 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision: Delist from 303(d) list (TMDL required list)(2012)
Revision Status: Original
Reason for Delisting: Applicable WQS attained; reason for recovery unspecified
Impairment from Pollutant or Pollutant

Pollution:**Regional Board Staff Conclusion:**

This pollutant is being considered for delisting under sections 4.6 and 4.9 of the Listing Policy. Under section 4.6 a single line of evidence is necessary to assess listing status while under section 4.9, a minimum of two lines of evidence are needed to assess listing status. Six lines of evidence are available in the administrative record to assess this pollutant. Based on section 4.6, the site has significant sediment toxicity but the pollutant is not likely to cause or contribute to any toxic effect. The benthic community is impacted but is not associated with this pollutant. Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification in favor of removing this water segment-pollutant combination from the section 303(d) list in the Water Quality Limited Segments category. This conclusion is based on the staff findings that: 1. The sediment quality guideline used complies with the requirements of section 6.1.3 of the Policy. 2. The data used satisfies the data quality requirements of section 6.1.4 of the Policy. 3. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy. 4. One of 47 samples exceeded the 270 µg/g ERM sediment quality guideline and this does not exceed the allowable frequency listed in Table 4.1 of the Listing Policy. 5. Pursuant to section 4.11 of the Listing Policy, no additional data and information are available indicating that standards are met.

Regional Board Staff Decision Recommendation: This is a decision previously approved by the State Water Resources Control Board and the USEPA. No new data were assessed by the Regional Board for the current. The decision has not changed.

Line of Evidence (LOE) for Decision ID 32467, Copper**Region 2****Mission Creek**

LOE ID: 418

Pollutant: Copper

LOE Subgroup: Narrative Description Data

Matrix: -N/A

Fraction: Not Recorded

Beneficial Use: Estuarine Habitat

Number of Samples: 0

Number of Exceedances: 0

Data and Information Type: Not Specified

Data Used to Assess Water Quality: The BPTCP Consolidated Toxic Hot Spots Cleanup Plan presents a variety of corrective actions that need to be completed in order for the cove to be remediated. Responsible parties have been identified.

Data Reference: [Placeholder reference 2006 303\(d\)](#)

SWAMP Data: Non-SWAMP

Water Quality Objective/Criterion:

Objective/Criterion Reference:

Evaluation Guideline:

Guideline Reference:

Spatial Representation:

Temporal Representation:

Environmental Conditions:

QAPP Information: QA Info Missing

QAPP Information Reference(s):

Line of Evidence (LOE) for Decision ID 32467, Copper**Region 2****Mission Creek**

LOE ID: 445

Pollutant:	Sediment Toxicity
LOE Subgroup:	Toxicity
Matrix:	Sediment
Fraction:	None
Beneficial Use:	Estuarine Habitat
Number of Samples:	21
Number of Exceedances:	4
Data and Information Type:	Toxicity testing of sediments
Data Used to Assess Water Quality:	Significant amphipod toxicity was observed in 4 of 21 samples. Observed toxicity was recorded in the year 2000 only (Battelle Memorial Institute, 2002).
Data Reference:	Placeholder reference 2006 303(d)
SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	All waters shall be maintained free of toxic substances in concentrations that are lethal to or that produce other detrimental responses in aquatic organisms. There shall be no chronic toxicity in ambient waters. Chronic toxicity is a detrimental biological effect on growth rate, reproduction, fertilization success, larval development, population abundance, community composition, or any other relevant measure of the health of an organism, population, or community (BPTCP, 1998).
Objective/Criterion Reference:	Placeholder reference 2006 303(d)
Evaluation Guideline:	BPTCP reference envelope approach used.
Guideline Reference:	Placeholder reference 2006 303(d)
Spatial Representation:	Data was synoptically collected with benthic community and toxicity measurements over the length of the creek.
Temporal Representation:	Data were collected between 1998 and 2000.
Environmental Conditions:	
QAPP Information:	QA Info Missing
QAPP Information Reference(s):	

Line of Evidence (LOE) for Decision ID 32467, Copper Mission Creek

Region 2

LOE ID:	419
Pollutant:	Copper
LOE Subgroup:	Pollutant-Sediment
Matrix:	Sediment
Fraction:	None
Beneficial Use:	Estuarine Habitat
Number of Samples:	3
Number of Exceedances:	1
Data and Information Type:	Chemical monitoring of sediments
Data Used to Assess Water Quality:	One of 3 samples exceeded the sediment guideline (Hunt et al., 1998b).
Data Reference:	Placeholder reference 2006 303(d)
SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	All waters shall be maintained free of toxic substances in concentrations that are lethal to or that produce other detrimental responses in aquatic organisms. There shall be no chronic toxicity in ambient waters. Chronic toxicity is a detrimental

Objective/Criterion Reference:	biological effect on growth rate, reproduction, fertilization success, larval development, population abundance, community composition, or any other relevant measure of the health of an organism, population, or community. Placeholder reference 2006 303(d)
Evaluation Guideline:	ERM of 270 ug/g dw was used (Long et al., 1995).
Guideline Reference:	Placeholder reference 2006 303(d)
Spatial Representation:	Data were collected concurrently with benthic community and toxicity measurements.
Temporal Representation:	Data was collected in 1997.
Environmental Conditions:	
QAPP Information:	BPTCP Quality Assurance Project Plan.
QAPP Information Reference(s):	

**Line of Evidence (LOE) for Decision ID 32467, Copper
Mission Creek**

Region 2

LOE ID:	446
Pollutant:	Estuarine Bioassessments
LOE Subgroup:	Population/Community Degradation
Matrix:	Sediment
Fraction:	None
Beneficial Use:	Estuarine Habitat
Number of Samples:	3
Number of Exceedances:	2
Data and Information Type:	Benthic macroinvertebrate surveys
Data Used to Assess Water Quality:	Relative benthic index = 0.00, 0.34, and 0.65 (3 benthic gradient samples) (Hunt et al, 1998b).
Data Reference:	Placeholder reference 2006 303(d)
SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	All waters shall be maintained free of toxic substances in concentrations that are lethal to or that produce other detrimental responses in aquatic organisms. There shall be no chronic toxicity in ambient waters. Chronic toxicity is a detrimental biological effect on growth rate, reproduction, fertilization success, larval development, population abundance, community composition, or any other relevant measure of the health of an organism, population, or community.
Objective/Criterion Reference:	Placeholder reference 2006 303(d)
Evaluation Guideline:	Evaluation of the benthic data were completed using the approaches developed by scientists associated with the BPTCP. The relative benthic index used is a calculated value considering the total fauna, total mollusk species, crustacean species and indicator species at a site. The index ranges from 0 to 1.0. An index value of less than or equal to 0.3 is an indication that pollutants or other factors are negatively impacting the benthic community (BPTCP, 1998).
Guideline Reference:	Placeholder reference 2006 303(d)
Spatial Representation:	Data were collected concurrently with toxicity and chemical samples.
Temporal Representation:	Data was collected, from 5/95-4/97.
Environmental Conditions:	
QAPP Information:	BPTCP Quality Assurance Project Plan.
QAPP Information Reference(s):	

**Line of Evidence (LOE) for Decision ID 32467, Copper
Mission Creek**

Region 2

LOE ID:	444
Pollutant:	Sediment Toxicity
LOE Subgroup:	Toxicity
Matrix:	Sediment
Fraction:	None
Beneficial Use:	Estuarine Habitat
Number of Samples:	20
Number of Exceedances:	4
Data and Information Type:	Toxicity testing of sediments
Data Used to Assess Water Quality:	BPTCP Data: Significant amphipod toxicity, 3 of 5 tests (60%) significant urchin toxicity (Hunt et al., 1998b). SWRCB received "Sediment Investigations at Islais Creek and Mission Creek-1998-1999-2000" provided by SFPUC. Six transects were monitored over three years and at corresponding North and South sampling stations for each transect (i.e. 1N, 1S). Excluding stations 5 and 6 (No data for 1999 and 2000), the data shows 4 of 20 sampling stations (1N/S-4N/S) indicate sediment toxicity and amphipod survival below the BPTCP reference tolerance limit (Battelle Memorial Institute, 2002).
Data Reference:	Placeholder reference 2006 303(d)
SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	All waters shall be maintained free of toxic substances in concentrations that are lethal to or that produce other detrimental responses in aquatic organisms. There shall be no chronic toxicity in ambient waters. Chronic toxicity is a detrimental biological effect on growth rate, reproduction, fertilization success, larval development, population abundance, community composition, or any other relevant measure of the health of an organism, population, or community.
Objective/Criterion Reference:	Placeholder reference 2006 303(d)
Evaluation Guideline:	BPTCP reference envelope approach used.
Guideline Reference:	Placeholder reference 2006 303(d)
Spatial Representation:	Data were collected concurrently with benthic and chemical measurements.
Temporal Representation:	Data was collected from 5/95-4/97.
Environmental Conditions:	
QAPP Information:	BPTCP Quality Assurance Project Plan. SWRCB received "Sediment Investigations at Islais Creek and Mission Creek-1998-1999-2000" provided by SFPUC. Appropriate QA procedures were followed.
QAPP Information Reference(s):	

**Line of Evidence (LOE) for Decision ID 32467, Copper
Mission Creek**

Region 2

LOE ID:	420
Pollutant:	Copper
LOE Subgroup:	Pollutant-Sediment
Matrix:	Sediment
Fraction:	Total
Beneficial Use:	Estuarine Habitat
Number of Samples:	44
Number of Exceedances:	0
Data and Information Type:	Chemical monitoring of sediments
Data Used to Assess Water Quality:	None of 44 samples exceeded the ERM (Hunt et al., 1998b).

Data Reference:	Placeholder reference 2006 303(d)
SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	<p>All waters shall be maintained free of toxic substances in concentrations that are lethal to or that produce other detrimental responses in aquatic organisms.</p> <p>There shall be no chronic toxicity in ambient waters. Chronic toxicity is a detrimental biological effect on growth rate, reproduction, fertilization success, larval development, population abundance, community composition, or any other relevant measure of the health of an organism, population, or community.</p>
Objective/Criterion Reference:	Placeholder reference 2006 303(d)
Evaluation Guideline:	ERM of 270 ug/g dw was used (Long et al., 1995).
Guideline Reference:	Placeholder reference 2006 303(d)
Spatial Representation:	Data was synoptically collected with benthic community and toxicity measurements over the length of the creek.
Temporal Representation:	Data were collected between 1998 and 2000.
Environmental Conditions:	
QAPP Information:	Methods used were equivalent to those used in the BPTCP QAPP. All reported data met QA requirements.
QAPP Information Reference(s):	

DECISION ID	32781	Region 2
Mission Creek		
Pollutant: Final Listing Decision: Last Listing Cycle's Final Listing Decision: Revision Status Reason for Delisting: Impairment from Pollutant or Pollution:	Mirex Delist from 303(d) list (TMDL required list) Delist from 303(d) list (TMDL required list)(2012) Original Applicable WQS attained; reason for recovery unspecified Pollutant	
Regional Board Staff Conclusion:	This pollutant is being considered for removal from the section 303(d) list under section 4.6 of the Listing Policy. Under section 4.6 two lines of evidence are necessary to assess listing status. Four lines of evidence are available in the administrative record to assess this pollutant. A sediment guideline is not available and it cannot be determined if the pollutant is likely to cause or contribute to the toxic effect. Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification in favor of removing this water segment-pollutant combination from the section 303(d) list. This conclusion is based on the staff findings that: 1. A sediment quality guideline that complies with the requirements of section 6.1.3 of the Policy is not available. 2. The data used satisfies the data quality requirements of section 6.1.4 of the Policy. 3. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy. 4. Even though the sediments are toxic and benthos is impacted, this pollutant cannot be associated with the effects. 5. Pursuant to section 4.11 of the Listing Policy, no additional data and information are available indicating that standards are met.	
Regional Board Staff Decision Recommendation:	This is a decision previously approved by the State Water Resources Control Board and the USEPA. No new data were assessed by the Regional Board for the current. The decision has not changed.	

Line of Evidence (LOE) for Decision ID 32781, Mirex	Region 2
Mission Creek	
LOE ID:	446
Pollutant:	Estuarine Bioassessments

LOE Subgroup:	Population/Community Degradation
Matrix:	Sediment
Fraction:	None
Beneficial Use:	Estuarine Habitat
Number of Samples:	3
Number of Exceedances:	2
Data and Information Type:	Benthic macroinvertebrate surveys
Data Used to Assess Water Quality:	Relative benthic index = 0.00, 0.34, and 0.65 (3 benthic gradient samples) (Hunt et al, 1998b).
Data Reference:	Placeholder reference 2006 303(d)
SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	All waters shall be maintained free of toxic substances in concentrations that are lethal to or that produce other detrimental responses in aquatic organisms. There shall be no chronic toxicity in ambient waters. Chronic toxicity is a detrimental biological effect on growth rate, reproduction, fertilization success, larval development, population abundance, community composition, or any other relevant measure of the health of an organism, population, or community.
Objective/Criterion Reference:	Placeholder reference 2006 303(d)
Evaluation Guideline:	Evaluation of the benthic data were completed using the approaches developed by scientists associated with the BPTCP. The relative benthic index used is a calculated value considering the total fauna, total mollusk species, crustacean species and indicator species at a site. The index ranges from 0 to 1.0. An index value of less than or equal to 0.3 is an indication that pollutants or other factors are negatively impacting the benthic community (BPTCP, 1998).
Guideline Reference:	Placeholder reference 2006 303(d)
Spatial Representation:	Data were collected concurrently with toxicity and chemical samples.
Temporal Representation:	Data was collected, from 5/95-4/97.
Environmental Conditions:	
QAPP Information:	BPTCP Quality Assurance Project Plan.
QAPP Information Reference(s):	

Line of Evidence (LOE) for Decision ID 32781, Mirex
Mission Creek

Region 2

LOE ID:	445
Pollutant:	Sediment Toxicity
LOE Subgroup:	Toxicity
Matrix:	Sediment
Fraction:	None
Beneficial Use:	Estuarine Habitat
Number of Samples:	21
Number of Exceedances:	4
Data and Information Type:	Toxicity testing of sediments
Data Used to Assess Water Quality:	Significant amphipod toxicity was observed in 4 of 21 samples. Observed toxicity was recorded in the year 2000 only (Battelle Memorial Institute, 2002).
Data Reference:	Placeholder reference 2006 303(d)
SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	All waters shall be maintained free of toxic substances in concentrations that are lethal to

or that produce other detrimental responses in aquatic organisms.

There shall be no chronic toxicity in ambient waters. Chronic toxicity is a detrimental biological effect on growth rate, reproduction, fertilization success, larval development, population abundance, community composition, or any other relevant measure of the health of an organism, population, or community (BPTCP, 1998).

Objective/Criterion Reference:

[Placeholder reference 2006 303\(d\)](#)

Evaluation Guideline:

BPTCP reference envelope approach used.

Guideline Reference:

[Placeholder reference 2006 303\(d\)](#)

Spatial Representation:

Data was synoptically collected with benthic community and toxicity measurements over the length of the creek.

Temporal Representation:

Data were collected between 1998 and 2000.

Environmental Conditions:

QAPP Information:

QA Info Missing

QAPP Information Reference(s):

Line of Evidence (LOE) for Decision ID 32781, Mirex

Region 2

Mission Creek

LOE ID: 437

Pollutant: Mirex

LOE Subgroup: Pollutant-Sediment

Matrix: Sediment

Fraction: None

Beneficial Use: Estuarine Habitat

Number of Samples: 0

Number of Exceedances: 0

Data and Information Type: Chemical monitoring of sediments

Data Used to Assess Water Quality: Three measurements (Hunt et al., 1998b).

Data Reference: [Placeholder reference 2006 303\(d\)](#)

SWAMP Data: Non-SWAMP

Water Quality Objective/Criterion: All waters shall be maintained free of toxic substances in concentrations that are lethal to or that produce other detrimental responses in aquatic organisms.

There shall be no chronic toxicity in ambient waters. Chronic toxicity is a detrimental biological effect on growth rate, reproduction, fertilization success, larval development, population abundance, community composition, or any other relevant measure of the health of an organism, population, or community (BPTCP, 1998).

Objective/Criterion Reference:

[Placeholder reference 2006 303\(d\)](#)

Evaluation Guideline:

No applicable guideline is available.

Guideline Reference:

[Placeholder reference 2006 303\(d\)](#)

Spatial Representation:

Data were collected concurrently with benthic and toxicity measurements.

Temporal Representation:

Data was collected, from 5/95-4/97.

Environmental Conditions:

QAPP Information:

BPTCP Quality Assurance Project Plan.

QAPP Information Reference(s):

Line of Evidence (LOE) for Decision ID 32781, Mirex

Region 2

Mission Creek

LOE ID: 444

Pollutant:	Sediment Toxicity
LOE Subgroup:	Toxicity
Matrix:	Sediment
Fraction:	None
Beneficial Use:	Estuarine Habitat
Number of Samples:	20
Number of Exceedances:	4
Data and Information Type:	Toxicity testing of sediments
Data Used to Assess Water Quality:	BPTCP Data: Significant amphipod toxicity, 3 of 5 tests (60%) significant urchin toxicity (Hunt et al., 1998b). SWRCB received "Sediment Investigations at Islais Creek and Mission Creek-1998-1999-2000" provided by SFPUC. Six transects were monitored over three years and at corresponding North and South sampling stations for each transect (i.e. 1N, 1S). Excluding stations 5 and 6 (No data for 1999 and 2000), the data shows 4 of 20 sampling stations (1N/S-4N/S) indicate sediment toxicity and amphipod survival below the BPTCP reference tolerance limit (Battelle Memorial Institute, 2002).
Data Reference:	Placeholder reference 2006 303(d)
SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	All waters shall be maintained free of toxic substances in concentrations that are lethal to or that produce other detrimental responses in aquatic organisms.
Objective/Criterion Reference:	There shall be no chronic toxicity in ambient waters. Chronic toxicity is a detrimental biological effect on growth rate, reproduction, fertilization success, larval development, population abundance, community composition, or any other relevant measure of the health of an organism, population, or community. Placeholder reference 2006 303(d)
Evaluation Guideline:	BPTCP reference envelope approach used.
Guideline Reference:	Placeholder reference 2006 303(d)
Spatial Representation:	Data were collected concurrently with benthic and chemical measurements.
Temporal Representation:	Data was collected from 5/95-4/97.
Environmental Conditions:	
QAPP Information:	BPTCP Quality Assurance Project Plan. SWRCB received "Sediment Investigations at Islais Creek and Mission Creek-1998-1999-2000" provided by SFPUC. Appropriate QA procedures were followed.
QAPP Information Reference(s):	

DECISION ID	32415	Region 2
Mission Creek		
Pollutant:	Chlordane	
Final Listing Decision:	Do Not Delist from 303(d) list (TMDL required list)	
Last Listing Cycle's Final Listing Decision:	Do Not Delist from 303(d) list (TMDL required list)(2012)	
Revision Status	Original	
Sources:	Source Unknown	
Expected TMDL Completion Date:	2013	
Impairment from Pollutant or Pollution:	Pollutant	
Regional Board Staff Conclusion:	This pollutant is being considered for removal from the section 303(d) list under sections 4.6 and 4.9 of the Listing Policy. Under section 4.6 a single line of evidence is necessary to assess delisting status while under section 4.9, a minimum of two lines of evidence are needed to assess listing status. Six lines of evidence are available in the administrative record to assess this pollutant. Based	

on section 4.6, the site has significant sediment toxicity and the pollutant concentration exceeds the sediment guideline. The benthic community is impacted and the pollutant is associated with the impact. Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against removing this water segment-pollutant combination from the section 303(d) list in the Water Quality Limited Segments category. This conclusion is based on the staff findings that: 1. The sediment quality guideline used complies with the requirements of section 6.1.3 of the Policy. 2. The data used satisfies the data quality requirements of section 6.1.4 of the Policy. 3. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy. 4. Twenty-nine of 47 samples exceeded the sediment guideline, 7 of 26 samples exhibit toxicity, and these exceed the allowable frequency listed in Table 4.1 of the Listing Policy. The benthic community in this water body is impacted and this pollutant is associated with this impact. 5. Pursuant to section 4.11 of the Listing Policy, no additional data and information are available indicating that standards are met.

Regional Board Staff Decision Recommendation: This is a decision previously approved by the State Water Resources Control Board and the USEPA. No new data were assessed by the Regional Board for the current. The decision has not changed.

Line of Evidence (LOE) for Decision ID 32415, Chlordane

Region 2

Mission Creek

LOE ID:	432
Pollutant:	Chlordane
LOE Subgroup:	Pollutant-Sediment
Matrix:	Sediment
Fraction:	None
Beneficial Use:	Estuarine Habitat
Number of Samples:	44
Number of Exceedances:	28
Data and Information Type:	Chemical monitoring of sediments
Data Used to Assess Water Quality:	Twenty-eight of 44 samples exceeded the ERM (Battelle Memorial Institute, 2002).
Data Reference:	Placeholder reference 2006 303(d)
SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	All waters shall be maintained free of toxic substances in concentrations that are lethal to or that produce other detrimental responses in aquatic organisms.
Objective/Criterion Reference:	There shall be no chronic toxicity in ambient waters. Chronic toxicity is a detrimental biological effect on growth rate, reproduction, fertilization success, larval development, population abundance, community composition, or any other relevant measure of the health of an organism, population, or community. Placeholder reference 2006 303(d)
Evaluation Guideline:	ERM of 6 ng/g used (Long and Morgan, 1990).
Guideline Reference:	Placeholder reference 2006 303(d)
Spatial Representation:	Data was synoptically collected with benthic community and toxicity measurements over the length of the creek.
Temporal Representation:	Data were collected between 1998 and 2000.
Environmental Conditions:	
QAPP Information:	Methods used were equivalent to those used in the BPTCP QAPP. All reported data met QA requirements.
QAPP Information Reference(s):	

Line of Evidence (LOE) for Decision ID 32415, Chlordane

Region 2

Mission Creek

LOE ID:	430
Pollutant:	Chlordane
LOE Subgroup:	Narrative Description Data
Matrix:	-N/A
Fraction:	None
Beneficial Use:	Estuarine Habitat
Number of Samples:	0
Number of Exceedances:	0
Data and Information Type:	Not Specified
Data Used to Assess Water Quality:	The BPTCP Consolidated Toxic Hot Spots Cleanup Plan presents a variety of corrective actions that need to be completed in order for the cove to be remediated. Responsible parties have been identified.
Data Reference:	Placeholder reference 2006 303(d)
SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	
Objective/Criterion Reference:	
Evaluation Guideline:	
Guideline Reference:	
Spatial Representation:	
Temporal Representation:	
Environmental Conditions:	
QAPP Information:	QA Info Missing
QAPP Information Reference(s):	

Line of Evidence (LOE) for Decision ID 32415, Chlordane
Mission Creek

Region 2

LOE ID:	444
Pollutant:	Sediment Toxicity
LOE Subgroup:	Toxicity
Matrix:	Sediment
Fraction:	None
Beneficial Use:	Estuarine Habitat
Number of Samples:	20
Number of Exceedances:	4
Data and Information Type:	Toxicity testing of sediments
Data Used to Assess Water Quality:	BPTCP Data: Significant amphipod toxicity, 3 of 5 tests (60%) significant urchin toxicity (Hunt et al., 1998b). SWRCB received "Sediment Investigations at Islais Creek and Mission Creek-1998-1999-2000" provided by SFPUC. Six transects were monitored over three years and at corresponding North and South sampling stations for each transect (i.e. 1N, 1S). Excluding stations 5 and 6 (No data for 1999 and 2000), the data shows 4 of 20 sampling stations (1N/S-4N/S) indicate sediment toxicity and amphipod survival below the BPTCP reference tolerance limit (Battelle Memorial Institute, 2002).
Data Reference:	Placeholder reference 2006 303(d)
SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	All waters shall be maintained free of toxic substances in concentrations that are lethal to or that produce other detrimental responses in aquatic organisms.

Objective/Criterion Reference:	There shall be no chronic toxicity in ambient waters. Chronic toxicity is a detrimental biological effect on growth rate, reproduction, fertilization success, larval development, population abundance, community composition, or any other relevant measure of the health of an organism, population, or community. Placeholder reference 2006 303(d)
Evaluation Guideline: Guideline Reference:	BPTCP reference envelope approach used. Placeholder reference 2006 303(d)
Spatial Representation:	Data were collected concurrently with benthic and chemical measurements.
Temporal Representation:	Data was collected from 5/95-4/97.
Environmental Conditions:	
QAPP Information:	BPTCP Quality Assurance Project Plan. SWRCB received "Sediment Investigations at Islais Creek and Mission Creek-1998-1999-2000" provided by SFPUC. Appropriate QA procedures were followed.
QAPP Information Reference(s):	

Line of Evidence (LOE) for Decision ID 32415, Chlordane

Region 2

Mission Creek

LOE ID:	445
Pollutant:	Sediment Toxicity
LOE Subgroup:	Toxicity
Matrix:	Sediment
Fraction:	None
Beneficial Use:	Estuarine Habitat
Number of Samples:	21
Number of Exceedances:	4
Data and Information Type:	Toxicity testing of sediments
Data Used to Assess Water Quality:	Significant amphipod toxicity was observed in 4 of 21 samples. Observed toxicity was recorded in the year 2000 only (Battelle Memorial Institute, 2002).
Data Reference:	Placeholder reference 2006 303(d)
SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	All waters shall be maintained free of toxic substances in concentrations that are lethal to or that produce other detrimental responses in aquatic organisms.
Objective/Criterion Reference:	There shall be no chronic toxicity in ambient waters. Chronic toxicity is a detrimental biological effect on growth rate, reproduction, fertilization success, larval development, population abundance, community composition, or any other relevant measure of the health of an organism, population, or community (BPTCP, 1998). Placeholder reference 2006 303(d)
Evaluation Guideline: Guideline Reference:	BPTCP reference envelope approach used. Placeholder reference 2006 303(d)
Spatial Representation:	Data was synoptically collected with benthic community and toxicity measurements over the length of the creek.
Temporal Representation:	Data were collected between 1998 and 2000.
Environmental Conditions:	
QAPP Information:	QA Info Missing
QAPP Information Reference(s):	

Line of Evidence (LOE) for Decision ID 32415, Chlordane

Region 2

Mission Creek

LOE ID:	446
Pollutant:	Estuarine Bioassessments
LOE Subgroup:	Population/Community Degradation
Matrix:	Sediment
Fraction:	None
Beneficial Use:	Estuarine Habitat
Number of Samples:	3
Number of Exceedances:	2
Data and Information Type:	Benthic macroinvertebrate surveys
Data Used to Assess Water Quality:	Relative benthic index = 0.00, 0.34, and 0.65 (3 benthic gradient samples) (Hunt et al, 1998b).
Data Reference:	Placeholder reference 2006 303(d)
SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	All waters shall be maintained free of toxic substances in concentrations that are lethal to or that produce other detrimental responses in aquatic organisms. There shall be no chronic toxicity in ambient waters. Chronic toxicity is a detrimental biological effect on growth rate, reproduction, fertilization success, larval development, population abundance, community composition, or any other relevant measure of the health of an organism, population, or community.
Objective/Criterion Reference:	Placeholder reference 2006 303(d)
Evaluation Guideline:	Evaluation of the benthic data were completed using the approaches developed by scientists associated with the BPTCP. The relative benthic index used is a calculated value considering the total fauna, total mollusk species, crustacean species and indicator species at a site. The index ranges from 0 to 1.0. An index value of less than or equal to 0.3 is an indication that pollutants or other factors are negatively impacting the benthic community (BPTCP, 1998).
Guideline Reference:	Placeholder reference 2006 303(d)
Spatial Representation:	Data were collected concurrently with toxicity and chemical samples.
Temporal Representation:	Data was collected, from 5/95-4/97.
Environmental Conditions:	
QAPP Information:	BPTCP Quality Assurance Project Plan.
QAPP Information Reference(s):	

Line of Evidence (LOE) for Decision ID 32415, Chlordane
Mission Creek

Region 2

LOE ID:	431
Pollutant:	Chlordane
LOE Subgroup:	Pollutant-Sediment
Matrix:	Sediment
Fraction:	None
Beneficial Use:	Estuarine Habitat
Number of Samples:	3
Number of Exceedances:	2
Data and Information Type:	Chemical monitoring of sediments
Data Used to Assess Water Quality:	Two of 3 sample measurements exceed the sediment guideline (Hunt et al., 1998b).
Data Reference:	Placeholder reference 2006 303(d)

SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	All waters shall be maintained free of toxic substances in concentrations that are lethal to or that produce other detrimental responses in aquatic organisms. There shall be no chronic toxicity in ambient waters. Chronic toxicity is a detrimental biological effect on growth rate, reproduction, fertilization success, larval development, population abundance, community composition, or any other relevant measure of the health of an organism, population, or community.
Objective/Criterion Reference:	Placeholder reference 2006 303(d)
Evaluation Guideline:	ERM of 6 ng/g used (Long and Morgan, 1990).
Guideline Reference:	Placeholder reference 2006 303(d)
Spatial Representation:	Data were collected concurrently with benthic community and toxicity measurements.
Temporal Representation:	Data was collected, from 5/95-4/97.
Environmental Conditions:	
QAPP Information:	BPTCP Quality Assurance Project Plan.
QAPP Information Reference(s):	

DECISION ID	32908	Region 2
Mission Creek		

Pollutant:	Dieldrin
Final Listing Decision:	Do Not Delist from 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision:	Do Not Delist from 303(d) list (TMDL required list)(2012)
Revision Status	Original
Sources:	Source Unknown
Expected TMDL Completion Date:	2013
Impairment from Pollutant or Pollution:	Pollutant

Regional Board Staff Conclusion:	This pollutant is being considered for removal from the section 303(d) list under sections 4.6 and 4.9 of the Listing Policy. Under section 4.6 a single line of evidence is necessary to assess delisting status while under section 4.9, a minimum of two lines of evidence are needed to assess listing status. Six lines of evidence are available in the administrative record to assess this pollutant. Based on section 4.6, the site has significant sediment toxicity and the pollutant concentration exceeds the sediment guideline. The benthic community is impacted and the pollutant is associated with the impact. Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against removing this water segment-pollutant combination from the section 303(d) list in the Water Quality Limited Segments category. This conclusion is based on the staff findings that: 1. The sediment quality guideline used complies with the requirements of section 6.1.3 of the Policy. 2. The data used satisfies the data quality requirements of section 6.1.4 of the Policy. 3. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy. 4. Seventeen of 49 samples exceeded the 8 ng/g ERM sediment quality guideline, 7 of 26 samples exhibit toxicity, and these exceed the allowable frequency listed in Table 4.1 of the Listing Policy. The benthic community in this water body is impacted and this pollutant is associated with this impact. 5. Pursuant to section 4.11 of the Listing Policy, no additional data and information are available indicating that standards are met.
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Regional Board Staff Decision Recommendation:	This is a decision previously approved by the State Water Resources Control Board and the USEPA. No new data were assessed by the Regional Board for the current. The decision has not changed.
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Line of Evidence (LOE) for Decision ID 32908, Dieldrin	Region 2
Mission Creek	

LOE ID:	435
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Pollutant:	Dieldrin
LOE Subgroup:	Pollutant-Sediment
Matrix:	Sediment
Fraction:	None
Beneficial Use:	Estuarine Habitat
Number of Samples:	5
Number of Exceedances:	1
Data and Information Type:	Chemical monitoring of sediments
Data Used to Assess Water Quality:	One of 5 samples exceeded the guideline (Hunt et al., 1998b).
Data Reference:	Placeholder reference 2006 303(d)
SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	All waters shall be maintained free of toxic substances in concentrations that are lethal to or that produce other detrimental responses in aquatic organisms. There shall be no chronic toxicity in ambient waters. Chronic toxicity is a detrimental biological effect on growth rate, reproduction, fertilization success, larval development, population abundance, community composition, or any other relevant measure of the health of an organism, population, or community.
Objective/Criterion Reference:	Placeholder reference 2006 303(d)
Evaluation Guideline:	ERM of 8 ng/g used (Long et al., 1995).
Guideline Reference:	Placeholder reference 2006 303(d)
Spatial Representation:	Data were collected concurrently with benthic community and toxicity measurements.
Temporal Representation:	Data was collected from 5/95-4/97.
Environmental Conditions:	
QAPP Information:	BPTCP Quality Assurance Project Plan.
QAPP Information Reference(s):	

Line of Evidence (LOE) for Decision ID 32908, Dieldrin
Mission Creek

Region 2

LOE ID:	436
Pollutant:	Dieldrin
LOE Subgroup:	Pollutant-Sediment
Matrix:	Sediment
Fraction:	None
Beneficial Use:	Estuarine Habitat
Number of Samples:	44
Number of Exceedances:	16
Data and Information Type:	Chemical monitoring of sediments
Data Used to Assess Water Quality:	Sixteen of 44 samples exceeded the ERM (Battelle Memorial Institute, 2002).
Data Reference:	Placeholder reference 2006 303(d)
SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	All waters shall be maintained free of toxic substances in concentrations that are lethal to or that produce other detrimental responses in aquatic organisms. There shall be no chronic toxicity in ambient waters. Chronic toxicity is a detrimental biological effect on growth rate, reproduction, fertilization success, larval development, population abundance, community composition, or any other relevant measure of the

Objective/Criterion Reference:	health of an organism, population, or community. Placeholder reference 2006 303(d)
Evaluation Guideline: Guideline Reference:	ERM of 8 ng/g used (Long et al., 1995). Placeholder reference 2006 303(d)
Spatial Representation:	Data was synoptically collected with benthic community and toxicity measurements over the length of the creek.
Temporal Representation:	Data were collected between 1998 and 2000.
Environmental Conditions:	
QAPP Information:	Methods used were equivalent to those used in the BPTCP QAPP. All reported data met QA requirements.
QAPP Information Reference(s):	

**Line of Evidence (LOE) for Decision ID 32908, Dieldrin
Mission Creek**

Region 2

LOE ID:	444
Pollutant:	Sediment Toxicity
LOE Subgroup:	Toxicity
Matrix:	Sediment
Fraction:	None
Beneficial Use:	Estuarine Habitat
Number of Samples:	20
Number of Exceedances:	4
Data and Information Type:	Toxicity testing of sediments
Data Used to Assess Water Quality:	BPTCP Data: Significant amphipod toxicity, 3 of 5 tests (60%) significant urchin toxicity (Hunt et al., 1998b). SWRCB received "Sediment Investigations at Islais Creek and Mission Creek-1998-1999-2000" provided by SFPUC. Six transects were monitored over three years and at corresponding North and South sampling stations for each transect (i.e. 1N, 1S). Excluding stations 5 and 6 (No data for 1999 and 2000), the data shows 4 of 20 sampling stations (1N/S-4N/S) indicate sediment toxicity and amphipod survival below the BPTCP reference tolerance limit (Battelle Memorial Institute, 2002).
Data Reference:	Placeholder reference 2006 303(d)
SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	All waters shall be maintained free of toxic substances in concentrations that are lethal to or that produce other detrimental responses in aquatic organisms. There shall be no chronic toxicity in ambient waters. Chronic toxicity is a detrimental biological effect on growth rate, reproduction, fertilization success, larval development, population abundance, community composition, or any other relevant measure of the health of an organism, population, or community.
Objective/Criterion Reference:	Placeholder reference 2006 303(d)
Evaluation Guideline: Guideline Reference:	BPTCP reference envelope approach used. Placeholder reference 2006 303(d)
Spatial Representation:	Data were collected concurrently with benthic and chemical measurements.
Temporal Representation:	Data was collected from 5/95-4/97.
Environmental Conditions:	
QAPP Information:	BPTCP Quality Assurance Project Plan. SWRCB received "Sediment Investigations at Islais Creek and Mission Creek-1998-1999-2000" provided by SFPUC. Appropriate QA procedures were followed.
QAPP Information Reference(s):	

Line of Evidence (LOE) for Decision ID 32908, Dieldrin

Region 2

Mission Creek

LOE ID:	446
Pollutant:	Estuarine Bioassessments
LOE Subgroup:	Population/Community Degradation
Matrix:	Sediment
Fraction:	None
Beneficial Use:	Estuarine Habitat
Number of Samples:	3
Number of Exceedances:	2
Data and Information Type:	Benthic macroinvertebrate surveys
Data Used to Assess Water Quality:	Relative benthic index = 0.00, 0.34, and 0.65 (3 benthic gradient samples) (Hunt et al, 1998b).
Data Reference:	Placeholder reference 2006 303(d)
SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	All waters shall be maintained free of toxic substances in concentrations that are lethal to or that produce other detrimental responses in aquatic organisms. There shall be no chronic toxicity in ambient waters. Chronic toxicity is a detrimental biological effect on growth rate, reproduction, fertilization success, larval development, population abundance, community composition, or any other relevant measure of the health of an organism, population, or community.
Objective/Criterion Reference:	Placeholder reference 2006 303(d)
Evaluation Guideline:	Evaluation of the benthic data were completed using the approaches developed by scientists associated with the BPTCP. The relative benthic index used is a calculated value considering the total fauna, total mollusk species, crustacean species and indicator species at a site. The index ranges from 0 to 1.0. An index value of less than or equal to 0.3 is an indication that pollutants or other factors are negatively impacting the benthic community (BPTCP, 1998).
Guideline Reference:	Placeholder reference 2006 303(d)
Spatial Representation:	Data were collected concurrently with toxicity and chemical samples.
Temporal Representation:	Data was collected, from 5/95-4/97.
Environmental Conditions:	
QAPP Information:	BPTCP Quality Assurance Project Plan.
QAPP Information Reference(s):	

Line of Evidence (LOE) for Decision ID 32908, Dieldrin**Region 2****Mission Creek**

LOE ID:	434
Pollutant:	Dieldrin
LOE Subgroup:	Narrative Description Data
Matrix:	-N/A
Fraction:	None
Beneficial Use:	Estuarine Habitat
Number of Samples:	0
Number of Exceedances:	0
Data and Information Type:	Not Specified
Data Used to Assess Water Quality:	The BPTCP Consolidated Toxic Hot Spots Cleanup Plan presents a variety of corrective actions that need to be completed in order for the cove to be remediated. Responsible

parties have been identified.
Data Reference: [Placeholder reference 2006 303\(d\)](#)

SWAMP Data: Non-SWAMP

Water Quality Objective/Criterion:
Objective/Criterion Reference:

Evaluation Guideline:
Guideline Reference:

Spatial Representation:
Temporal Representation:
Environmental Conditions:

QAPP Information: QA Info Missing
QAPP Information Reference(s):

**Line of Evidence (LOE) for Decision ID 32908, Dieldrin
Mission Creek**

Region 2

LOE ID: 445

Pollutant: Sediment Toxicity
LOE Subgroup: Toxicity
Matrix: Sediment
Fraction: None

Beneficial Use: Estuarine Habitat

Number of Samples: 21
Number of Exceedances: 4

Data and Information Type: Toxicity testing of sediments
Data Used to Assess Water Quality: Significant amphipod toxicity was observed in 4 of 21 samples. Observed toxicity was recorded in the year 2000 only (Battelle Memorial Institute, 2002).
Data Reference: [Placeholder reference 2006 303\(d\)](#)

SWAMP Data: Non-SWAMP

Water Quality Objective/Criterion: All waters shall be maintained free of toxic substances in concentrations that are lethal to or that produce other detrimental responses in aquatic organisms.

Objective/Criterion Reference: There shall be no chronic toxicity in ambient waters. Chronic toxicity is a detrimental biological effect on growth rate, reproduction, fertilization success, larval development, population abundance, community composition, or any other relevant measure of the health of an organism, population, or community (BPTCP, 1998).
[Placeholder reference 2006 303\(d\)](#)

Evaluation Guideline: BPTCP reference envelope approach used.
Guideline Reference: [Placeholder reference 2006 303\(d\)](#)

Spatial Representation: Data was synoptically collected with benthic community and toxicity measurements over the length of the creek.

Temporal Representation: Data were collected between 1998 and 2000.

Environmental Conditions:

QAPP Information: QA Info Missing
QAPP Information Reference(s):

**DECISION ID 32449
Mission Creek**

Region 2

Pollutant:	Lead
Final Listing Decision:	Do Not Delist from 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision:	Do Not Delist from 303(d) list (TMDL required list)(2012)
Revision Status	Original
Sources:	Source Unknown
Expected TMDL Completion Date:	2019
Impairment from Pollutant or Pollution:	Pollutant

Regional Board Staff Conclusion: This pollutant is being considered for removal from the section 303(d) list under sections 4.6 and 4.9 of the Listing Policy. Under section 4.6 a single line of evidence is necessary to assess delisting status while under section 4.9, a minimum of two lines of evidence are needed to assess listing status. Six lines of evidence are available in the administrative record to assess this pollutant. Based on section 4.6, the site has significant sediment toxicity and the pollutant concentration exceeds the sediment guideline. The benthic community is impacted and the pollutant is associated with the impact. Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against removing this water segment-pollutant combination from the section 303(d) list in the Water Quality Limited Segments category. This conclusion is based on the staff findings that: 1. The sediment quality guideline used complies with the requirements of section 6.1.3 of the Policy. 2. The data used satisfies the data quality requirements of section 6.1.4 of the Policy. 3. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy. 4. Twenty-seven of 47 samples exceeded the 112.18 ug/g PEL sediment quality guideline, 7 of 26 samples exhibit toxicity, and these exceed the allowable frequency listed in Table 4.1 of the Listing Policy. The benthic community in this water body is impacted and this pollutant is associated with this impact. 5. Pursuant to section 4.11 of the Listing Policy, no additional data and information are available indicating that standards are met.

Regional Board Staff Decision Recommendation: This is a decision previously approved by the State Water Resources Control Board and the USEPA. No new data were assessed by the Regional Board for the current. The decision has not changed.

**Line of Evidence (LOE) for Decision ID 32449, Lead
Mission Creek**

Region 2

LOE ID:	444
Pollutant:	Sediment Toxicity
LOE Subgroup:	Toxicity
Matrix:	Sediment
Fraction:	None
Beneficial Use:	Estuarine Habitat
Number of Samples:	20
Number of Exceedances:	4
Data and Information Type:	Toxicity testing of sediments
Data Used to Assess Water Quality:	BPTCP Data: Significant amphipod toxicity, 3 of 5 tests (60%) significant urchin toxicity (Hunt et al., 1998b). SWRCB received "Sediment Investigations at Islais Creek and Mission Creek-1998-1999-2000" provided by SFPUC. Six transects were monitored over three years and at corresponding North and South sampling stations for each transect (i.e. 1N, 1S). Excluding stations 5 and 6 (No data for 1999 and 2000), the data shows 4 of 20 sampling stations (1N/S-4N/S) indicate sediment toxicity and amphipod survival below the BPTCP reference tolerance limit (Battelle Memorial Institute, 2002).
Data Reference:	Placeholder reference 2006 303(d)
SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	All waters shall be maintained free of toxic substances in concentrations that are lethal to

or that produce other detrimental responses in aquatic organisms.

There shall be no chronic toxicity in ambient waters. Chronic toxicity is a detrimental biological effect on growth rate, reproduction, fertilization success, larval development, population abundance, community composition, or any other relevant measure of the health of an organism, population, or community.

Objective/Criterion Reference:

[Placeholder reference 2006 303\(d\)](#)

Evaluation Guideline:

BPTCP reference envelope approach used.

Guideline Reference:

[Placeholder reference 2006 303\(d\)](#)

Spatial Representation:

Data were collected concurrently with benthic and chemical measurements.

Temporal Representation:

Data was collected from 5/95-4/97.

Environmental Conditions:

QAPP Information:

BPTCP Quality Assurance Project Plan. SWRCB received "Sediment Investigations at Islais Creek and Mission Creek-1998-1999-2000" provided by SFPUC. Appropriate QA procedures were followed.

QAPP Information Reference(s):

Line of Evidence (LOE) for Decision ID 32449, Lead

Region 2

Mission Creek

LOE ID: 446

Pollutant: Estuarine Bioassessments
LOE Subgroup: Population/Community Degradation
Matrix: Sediment
Fraction: None

Beneficial Use: Estuarine Habitat

Number of Samples: 3
Number of Exceedances: 2

Data and Information Type: Benthic macroinvertebrate surveys
Data Used to Assess Water Quality: Relative benthic index = 0.00, 0.34, and 0.65 (3 benthic gradient samples) (Hunt et al, 1998b).

Data Reference: [Placeholder reference 2006 303\(d\)](#)

SWAMP Data: Non-SWAMP

Water Quality Objective/Criterion: All waters shall be maintained free of toxic substances in concentrations that are lethal to or that produce other detrimental responses in aquatic organisms.

There shall be no chronic toxicity in ambient waters. Chronic toxicity is a detrimental biological effect on growth rate, reproduction, fertilization success, larval development, population abundance, community composition, or any other relevant measure of the health of an organism, population, or community.

Objective/Criterion Reference: [Placeholder reference 2006 303\(d\)](#)

Evaluation Guideline:

Evaluation of the benthic data were completed using the approaches developed by scientists associated with the BPTCP. The relative benthic index used is a calculated value considering the total fauna, total mollusk species, crustacean species and indicator species at a site. The index ranges from 0 to 1.0. An index value of less than or equal to 0.3 is an indication that pollutants or other factors are negatively impacting the benthic community (BPTCP, 1998).

Guideline Reference: [Placeholder reference 2006 303\(d\)](#)

Spatial Representation:

Data were collected concurrently with toxicity and chemical samples.

Temporal Representation:

Data was collected, from 5/95-4/97.

Environmental Conditions:

QAPP Information:

BPTCP Quality Assurance Project Plan.

**Line of Evidence (LOE) for Decision ID 32449, Lead
Mission Creek**

Region 2

LOE ID:	445
Pollutant:	Sediment Toxicity
LOE Subgroup:	Toxicity
Matrix:	Sediment
Fraction:	None
Beneficial Use:	Estuarine Habitat
Number of Samples:	21
Number of Exceedances:	4
Data and Information Type:	Toxicity testing of sediments
Data Used to Assess Water Quality:	Significant amphipod toxicity was observed in 4 of 21 samples. Observed toxicity was recorded in the year 2000 only (Battelle Memorial Institute, 2002).
Data Reference:	Placeholder reference 2006 303(d)
SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	All waters shall be maintained free of toxic substances in concentrations that are lethal to or that produce other detrimental responses in aquatic organisms. There shall be no chronic toxicity in ambient waters. Chronic toxicity is a detrimental biological effect on growth rate, reproduction, fertilization success, larval development, population abundance, community composition, or any other relevant measure of the health of an organism, population, or community (BPTCP, 1998).
Objective/Criterion Reference:	Placeholder reference 2006 303(d)
Evaluation Guideline:	BPTCP reference envelope approach used.
Guideline Reference:	Placeholder reference 2006 303(d)
Spatial Representation:	Data was synoptically collected with benthic community and toxicity measurements over the length of the creek.
Temporal Representation:	Data were collected between 1998 and 2000.
Environmental Conditions:	
QAPP Information:	QA Info Missing
QAPP Information Reference(s):	

**Line of Evidence (LOE) for Decision ID 32449, Lead
Mission Creek**

Region 2

LOE ID:	426
Pollutant:	Lead
LOE Subgroup:	Pollutant-Sediment
Matrix:	Sediment
Fraction:	None
Beneficial Use:	Estuarine Habitat
Number of Samples:	44
Number of Exceedances:	25
Data and Information Type:	Chemical monitoring of sediments
Data Used to Assess Water Quality:	Twenty-five of 44 samples exceeded the Probable Effects Level (Battelle Memorial Institute, 2002).

Data Reference:	Placeholder reference 2006 303(d)
SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	<p>All waters shall be maintained free of toxic substances in concentrations that are lethal to or that produce other detrimental responses in aquatic organisms.</p> <p>There shall be no chronic toxicity in ambient waters. Chronic toxicity is a detrimental biological effect on growth rate, reproduction, fertilization success, larval development, population abundance, community composition, or any other relevant measure of the health of an organism, population, or community.</p>
Objective/Criterion Reference:	Placeholder reference 2006 303(d)
Evaluation Guideline:	Probable Effects Level of 112.18 ug/g was used (MacDonald et al., 1996).
Guideline Reference:	Placeholder reference 2006 303(d)
Spatial Representation:	Data was synoptically collected with benthic community and toxicity measurements over the length of the creek.
Temporal Representation:	Data were collected between 1998 and 2000.
Environmental Conditions:	
QAPP Information:	Methods used were equivalent to those used in the BPTCP QAPP. All reported data met QA requirements.
QAPP Information Reference(s):	

**Line of Evidence (LOE) for Decision ID 32449, Lead
Mission Creek**

Region 2

LOE ID:	425
Pollutant:	Lead
LOE Subgroup:	Pollutant-Sediment
Matrix:	Sediment
Fraction:	None
Beneficial Use:	Estuarine Habitat
Number of Samples:	3
Number of Exceedances:	2
Data and Information Type:	Chemical monitoring of sediments
Data Used to Assess Water Quality:	Two of 3 samples exceeded the sediment guideline (Hunt et al., 1998b).
Data Reference:	Placeholder reference 2006 303(d)
SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	<p>All waters shall be maintained free of toxic substances in concentrations that are lethal to or that produce other detrimental responses in aquatic organisms.</p> <p>There shall be no chronic toxicity in ambient waters. Chronic toxicity is a detrimental biological effect on growth rate, reproduction, fertilization success, larval development, population abundance, community composition, or any other relevant measure of the health of an organism, population, or community.</p>
Objective/Criterion Reference:	Placeholder reference 2006 303(d)
Evaluation Guideline:	Probable Effects Level of 112.18 ug/g was used (MacDonald et al., 1996).
Guideline Reference:	Placeholder reference 2006 303(d)
Spatial Representation:	Data were collected concurrently with benthic community and toxicity measurements.
Temporal Representation:	Data was collected in 1997.
Environmental Conditions:	
QAPP Information:	BPTCP Quality Assurance Project Plan.
QAPP Information Reference(s):	

Line of Evidence (LOE) for Decision ID 32449, Lead**Region 2****Mission Creek**

LOE ID: 424

Pollutant: Lead

LOE Subgroup: Narrative Description Data

Matrix: -N/A

Fraction: None

Beneficial Use: Estuarine Habitat

Number of Samples: 0

Number of Exceedances: 0

Data and Information Type: Not Specified

Data Used to Assess Water Quality: The BPTCP Consolidated Toxic Hot Spots Cleanup Plan presents a variety of corrective actions that need to be completed in order for the cove to be remediated. Responsible parties have been identified.

Data Reference: [Placeholder reference 2006 303\(d\)](#)

SWAMP Data: Non-SWAMP

Water Quality Objective/Criterion:

Objective/Criterion Reference:

Evaluation Guideline:

Guideline Reference:

Spatial Representation:

Temporal Representation:

Environmental Conditions:

QAPP Information: QA Info Missing

QAPP Information Reference(s):

DECISION ID**32448****Region 2****Mission Creek**

Pollutant: Mercury

Final Listing Decision: Do Not Delist from 303(d) list (TMDL required list)

Last Listing Cycle's Final Listing Decision: Do Not Delist from 303(d) list (TMDL required list)(2012)

Revision Status Original

Sources: Source Unknown

Expected TMDL Completion Date: 2019

Impairment from Pollutant or Pollution: Pollutant

Regional Board Staff Conclusion:

This pollutant is being considered for removal from the section 303(d) list under sections 4.6 and 4.9 of the Listing Policy. Under section 4.6 a single line of evidence is necessary to assess delisting status while under section 4.9, a minimum of two lines of evidence are needed to assess listing status. Six lines of evidence are available in the administrative record to assess this pollutant. Based on section 4.6, the site has significant sediment toxicity and the pollutant concentration exceeds the sediment guideline. The benthic community is impacted and the pollutant is associated with the impact. Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against removing this water segment-pollutant combination from the section 303(d) list in the Water Quality Limited Segments category. This conclusion is based on the staff findings that: 1. The sediment quality guideline used complies with the requirements of section

6.1.3 of the Policy. 2. The data used satisfies the data quality requirements of section 6.1.4 of the Policy. 3. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy. 4. Five of 47 samples exceeded the 2.1 ug/g sediment quality guideline, 7 of 26 samples exhibit toxicity, and these exceed the allowable frequency listed in Table 4.1 of the Listing Policy. The benthic community in this water body is impacted and this pollutant is associated with this impact. 5. Pursuant to section 4.11 of the Listing Policy, no additional data and information are available indicating that standards are met.

Regional Board Staff Decision Recommendation: This is a decision previously approved by the State Water Resources Control Board and the USEPA. No new data were assessed by the Regional Board for the current. The decision has not changed.

**Line of Evidence (LOE) for Decision ID 32448, Mercury
Mission Creek**

Region 2

LOE ID:	422
Pollutant:	Mercury
LOE Subgroup:	Pollutant-Sediment
Matrix:	Sediment
Fraction:	None
Beneficial Use:	Estuarine Habitat
Number of Samples:	3
Number of Exceedances:	1
Data and Information Type:	Chemical monitoring of sediments
Data Used to Assess Water Quality:	One of 3 samples exceeded guideline (Hunt et al., 1998b).
Data Reference:	Placeholder reference 2006 303(d)
SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	All waters shall be maintained free of toxic substances in concentrations that are lethal to or that produce other detrimental responses in aquatic organisms.
	There shall be no chronic toxicity in ambient waters. Chronic toxicity is a detrimental biological effect on growth rate, reproduction, fertilization success, larval development, population abundance, community composition, or any other relevant measure of the health of an organism, population, or community.
Objective/Criterion Reference:	Placeholder reference 2006 303(d)
Evaluation Guideline:	Sediment guideline of 2.1 ug/g was used (PTI Environmental Services, 1991).
Guideline Reference:	Placeholder reference 2006 303(d)
Spatial Representation:	Data were collected concurrently with benthic community and toxicity samples.
Temporal Representation:	Data was collected, from 5/95-4/97.
Environmental Conditions:	
QAPP Information:	QA Info Missing
QAPP Information Reference(s):	

**Line of Evidence (LOE) for Decision ID 32448, Mercury
Mission Creek**

Region 2

LOE ID:	446
Pollutant:	Estuarine Bioassessments
LOE Subgroup:	Population/Community Degradation
Matrix:	Sediment
Fraction:	None

Beneficial Use:	Estuarine Habitat
Number of Samples:	3
Number of Exceedances:	2
Data and Information Type:	Benthic macroinvertebrate surveys
Data Used to Assess Water Quality:	Relative benthic index = 0.00, 0.34, and 0.65 (3 benthic gradient samples) (Hunt et al, 1998b).
Data Reference:	Placeholder reference 2006 303(d)
SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	All waters shall be maintained free of toxic substances in concentrations that are lethal to or that produce other detrimental responses in aquatic organisms. There shall be no chronic toxicity in ambient waters. Chronic toxicity is a detrimental biological effect on growth rate, reproduction, fertilization success, larval development, population abundance, community composition, or any other relevant measure of the health of an organism, population, or community.
Objective/Criterion Reference:	Placeholder reference 2006 303(d)
Evaluation Guideline:	Evaluation of the benthic data were completed using the approaches developed by scientists associated with the BPTCP. The relative benthic index used is a calculated value considering the total fauna, total mollusk species, crustacean species and indicator species at a site. The index ranges from 0 to 1.0. An index value of less than or equal to 0.3 is an indication that pollutants or other factors are negatively impacting the benthic community (BPTCP, 1998).
Guideline Reference:	Placeholder reference 2006 303(d)
Spatial Representation:	Data were collected concurrently with toxicity and chemical samples.
Temporal Representation:	Data was collected, from 5/95-4/97.
Environmental Conditions:	
QAPP Information:	BPTCP Quality Assurance Project Plan.
QAPP Information Reference(s):	

Line of Evidence (LOE) for Decision ID 32448, Mercury
Mission Creek

Region 2

LOE ID:	444
Pollutant:	Sediment Toxicity
LOE Subgroup:	Toxicity
Matrix:	Sediment
Fraction:	None
Beneficial Use:	Estuarine Habitat
Number of Samples:	20
Number of Exceedances:	4
Data and Information Type:	Toxicity testing of sediments
Data Used to Assess Water Quality:	BPTCP Data: Significant amphipod toxicity, 3 of 5 tests (60%) significant urchin toxicity (Hunt et al., 1998b). SWRCB received "Sediment Investigations at Islais Creek and Mission Creek-1998-1999-2000" provided by SFPUC. Six transects were monitored over three years and at corresponding North and South sampling stations for each transect (i.e. 1N, 1S). Excluding stations 5 and 6 (No data for 1999 and 2000), the data shows 4 of 20 sampling stations (1N/S-4N/S) indicate sediment toxicity and amphipod survival below the BPTCP reference tolerance limit (Battelle Memorial Institute, 2002).
Data Reference:	Placeholder reference 2006 303(d)
SWAMP Data:	Non-SWAMP

Water Quality Objective/Criterion:	All waters shall be maintained free of toxic substances in concentrations that are lethal to or that produce other detrimental responses in aquatic organisms.
	There shall be no chronic toxicity in ambient waters. Chronic toxicity is a detrimental biological effect on growth rate, reproduction, fertilization success, larval development, population abundance, community composition, or any other relevant measure of the health of an organism, population, or community.
Objective/Criterion Reference:	Placeholder reference 2006 303(d)
Evaluation Guideline:	BPTCP reference envelope approach used.
Guideline Reference:	Placeholder reference 2006 303(d)
Spatial Representation:	Data were collected concurrently with benthic and chemical measurements.
Temporal Representation:	Data was collected from 5/95-4/97.
Environmental Conditions:	
QAPP Information:	BPTCP Quality Assurance Project Plan. SWRCB received "Sediment Investigations at Islais Creek and Mission Creek-1998-1999-2000" provided by SFPUC. Appropriate QA procedures were followed.
QAPP Information Reference(s):	

Line of Evidence (LOE) for Decision ID 32448, Mercury

Region 2

Mission Creek

LOE ID:	445
Pollutant:	Sediment Toxicity
LOE Subgroup:	Toxicity
Matrix:	Sediment
Fraction:	None
Beneficial Use:	Estuarine Habitat
Number of Samples:	21
Number of Exceedances:	4
Data and Information Type:	Toxicity testing of sediments
Data Used to Assess Water Quality:	Significant amphipod toxicity was observed in 4 of 21 samples. Observed toxicity was recorded in the year 2000 only (Battelle Memorial Institute, 2002).
Data Reference:	Placeholder reference 2006 303(d)
SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	All waters shall be maintained free of toxic substances in concentrations that are lethal to or that produce other detrimental responses in aquatic organisms.
	There shall be no chronic toxicity in ambient waters. Chronic toxicity is a detrimental biological effect on growth rate, reproduction, fertilization success, larval development, population abundance, community composition, or any other relevant measure of the health of an organism, population, or community (BPTCP, 1998).
Objective/Criterion Reference:	Placeholder reference 2006 303(d)
Evaluation Guideline:	BPTCP reference envelope approach used.
Guideline Reference:	Placeholder reference 2006 303(d)
Spatial Representation:	Data was synoptically collected with benthic community and toxicity measurements over the length of the creek.
Temporal Representation:	Data were collected between 1998 and 2000.
Environmental Conditions:	
QAPP Information:	QA Info Missing
QAPP Information Reference(s):	

Line of Evidence (LOE) for Decision ID 32448, Mercury

Region 2

Mission Creek

LOE ID:	421
Pollutant:	Mercury
LOE Subgroup:	Narrative Description Data
Matrix:	-N/A
Fraction:	None
Beneficial Use:	Estuarine Habitat
Number of Samples:	0
Number of Exceedances:	0
Data and Information Type:	Not Specified
Data Used to Assess Water Quality:	The BPTCP Consolidated Toxic Hot Spots Cleanup Plan presents a variety of corrective actions that need to be completed in order for the cove to be remediated. Responsible parties have been identified.
Data Reference:	Placeholder reference 2006 303(d)
SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	
Objective/Criterion Reference:	
Evaluation Guideline:	
Guideline Reference:	
Spatial Representation:	
Temporal Representation:	
Environmental Conditions:	
QAPP Information:	QA Info Missing
QAPP Information Reference(s):	

Line of Evidence (LOE) for Decision ID 32448, Mercury

Region 2

Mission Creek

LOE ID:	423
Pollutant:	Mercury
LOE Subgroup:	Pollutant-Sediment
Matrix:	Sediment
Fraction:	None
Beneficial Use:	Estuarine Habitat
Number of Samples:	44
Number of Exceedances:	4
Data and Information Type:	Chemical monitoring of sediments
Data Used to Assess Water Quality:	Four of 44 samples exceeded the sediment quality guideline (Battelle Memorial Institute, 2002).
Data Reference:	Placeholder reference 2006 303(d)
SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	All waters shall be maintained free of toxic substances in concentrations that are lethal to or that produce other detrimental responses in aquatic organisms. There shall be no chronic toxicity in ambient waters. Chronic toxicity is a detrimental biological effect on growth rate, reproduction, fertilization success, larval development, population abundance, community composition, or any other relevant measure of the

Objective/Criterion Reference:	health of an organism, population, or community. Placeholder reference 2006 303(d)
Evaluation Guideline: Guideline Reference:	Sediment guideline of 2.1 ug/g was used (PTI Environmental Services, 1991). Placeholder reference 2006 303(d)
Spatial Representation:	Data was synoptically collected with benthic community and toxicity measurements over the length of the creek.
Temporal Representation:	Data were collected between 1998 and 2000.
Environmental Conditions:	
QAPP Information:	Methods used were equivalent to those used in the BPTCP QAPP. All reported data met QA requirements.
QAPP Information Reference(s):	

DECISION ID	32765	Region 2
Mission Creek		

Pollutant:	PAHs (Polycyclic Aromatic Hydrocarbons)
Final Listing Decision:	Do Not Delist from 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision:	Do Not Delist from 303(d) list (TMDL required list)(2012)
Revision Status	Original
Sources:	Source Unknown
Expected TMDL Completion Date:	2019
Impairment from Pollutant or Pollution:	Pollutant

Regional Board Staff Conclusion:	This pollutant is being considered for removal from the section 303(d) list under sections 4.6 and 4.9 of the Listing Policy. Under section 4.6 a single line of evidence is necessary to assess delisting status while under section 4.9, a minimum of two lines of evidence are needed to assess listing status. Six lines of evidence are available in the administrative record to assess this pollutant. Based on section 4.6, the site has significant sediment toxicity and the pollutant concentration exceeds the sediment guideline. The benthic community is impacted and the pollutant is associated with the impact. Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against removing this water segment-pollutant combination from the section 303(d) list in the Water Quality Limited Segments category. This conclusion is based on the staff findings that: 1. The sediment quality guideline used complies with the requirements of section 6.1.3 of the Policy. 2. The data used satisfies the data quality requirements of section 6.1.4 of the Policy. 3. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy. 4. Thirteen of 47 samples exceeded the 9,600 ng/g ERM sediment quality guideline, 7 of 26 samples exhibit toxicity, and these exceed the allowable frequency listed in Table 4.1 of the Listing Policy. The benthic community in this water body is impacted and this pollutant is associated with this impact. 5. Pursuant to section 4.11 of the Listing Policy, no additional data and information are available indicating that standards are met.
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Regional Board Staff Decision Recommendation:	This is a decision previously approved by the State Water Resources Control Board and the USEPA. No new data were assessed by the Regional Board for the current. The decision has not changed.
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Line of Evidence (LOE) for Decision ID 32765, PAHs (Polycyclic Aromatic Hydrocarbons)	Region 2
Mission Creek	

LOE ID:	443
Pollutant:	PAHs (Polycyclic Aromatic Hydrocarbons)
LOE Subgroup:	Pollutant-Sediment
Matrix:	Sediment
Fraction:	Total

Beneficial Use:	Estuarine Habitat
Number of Samples:	44
Number of Exceedances:	11
Data and Information Type:	Chemical monitoring of sediments
Data Used to Assess Water Quality:	Eleven of 44 samples exceeded the ERM (Battelle Memorial institute, 2002).
Data Reference:	Placeholder reference 2006 303(d)
SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	All waters shall be maintained free of toxic substances in concentrations that are lethal to or that produce other detrimental responses in aquatic organisms. There shall be no chronic toxicity in ambient waters. Chronic toxicity is a detrimental biological effect on growth rate, reproduction, fertilization success, larval development, population abundance, community composition, or any other relevant measure of the health of an organism, population, or community.
Objective/Criterion Reference:	Placeholder reference 2006 303(d)
Evaluation Guideline:	ERM of 9,600 ng/g used (Long et al., 1995).
Guideline Reference:	Placeholder reference 2006 303(d)
Spatial Representation:	Data was synoptically collected with benthic community and toxicity measurements over the length of the creek.
Temporal Representation:	Data were collected between 1998 and 2000.
Environmental Conditions:	
QAPP Information:	Methods used were equivalent to those used in the BPTCP QAPP. All reported data met QA requirements.
QAPP Information Reference(s):	

Line of Evidence (LOE) for Decision ID 32765, PAHs (Polycyclic Aromatic Hydrocarbons)
Mission Creek

Region 2

LOE ID:	442
Pollutant:	PAHs (Polycyclic Aromatic Hydrocarbons)
LOE Subgroup:	Pollutant-Sediment
Matrix:	Sediment
Fraction:	Total
Beneficial Use:	Estuarine Habitat
Number of Samples:	3
Number of Exceedances:	2
Data and Information Type:	Chemical monitoring of sediments
Data Used to Assess Water Quality:	Two of 3 samples exceeded sediment guideline (Hunt et al., 1998b).
Data Reference:	Placeholder reference 2006 303(d)
SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	All waters shall be maintained free of toxic substances in concentrations that are lethal to or that produce other detrimental responses in aquatic organisms. There shall be no chronic toxicity in ambient waters. Chronic toxicity is a detrimental biological effect on growth rate, reproduction, fertilization success, larval development, population abundance, community composition, or any other relevant measure of the health of an organism, population, or community.
Objective/Criterion Reference:	Placeholder reference 2006 303(d)
Evaluation Guideline:	ERM of 9,600 ng/g used (Long et al., 1995).

Guideline Reference: [Placeholder reference 2006 303\(d\)](#)

Spatial Representation: Data were collected concurrently with benthic and toxicity measurements.

Temporal Representation: Data was collected, from 5/95-4/97.

Environmental Conditions:

QAPP Information: BPTCP Quality Assurance Project Plan.

QAPP Information Reference(s):

Line of Evidence (LOE) for Decision ID 32765, PAHs (Polycyclic Aromatic Hydrocarbons)
Mission Creek

Region 2

LOE ID: 446

Pollutant: Estuarine Bioassessments

LOE Subgroup: Population/Community Degradation

Matrix: Sediment

Fraction: None

Beneficial Use: Estuarine Habitat

Number of Samples: 3

Number of Exceedances: 2

Data and Information Type: Benthic macroinvertebrate surveys

Data Used to Assess Water Quality: Relative benthic index = 0.00, 0.34, and 0.65 (3 benthic gradient samples) (Hunt et al, 1998b).

Data Reference: [Placeholder reference 2006 303\(d\)](#)

SWAMP Data: Non-SWAMP

Water Quality Objective/Criterion: All waters shall be maintained free of toxic substances in concentrations that are lethal to or that produce other detrimental responses in aquatic organisms.

Objective/Criterion Reference: [Placeholder reference 2006 303\(d\)](#)

Evaluation Guideline: Evaluation of the benthic data were completed using the approaches developed by scientists associated with the BPTCP. The relative benthic index used is a calculated value considering the total fauna, total mollusk species, crustacean species and indicator species at a site. The index ranges from 0 to 1.0. An index value of less than or equal to 0.3 is an indication that pollutants or other factors are negatively impacting the benthic community (BPTCP, 1998).

Guideline Reference: [Placeholder reference 2006 303\(d\)](#)

Spatial Representation: Data were collected concurrently with toxicity and chemical samples.

Temporal Representation: Data was collected, from 5/95-4/97.

Environmental Conditions:

QAPP Information: BPTCP Quality Assurance Project Plan.

QAPP Information Reference(s):

Line of Evidence (LOE) for Decision ID 32765, PAHs (Polycyclic Aromatic Hydrocarbons)
Mission Creek

Region 2

LOE ID: 441

Pollutant: PAHs (Polycyclic Aromatic Hydrocarbons)

LOE Subgroup: Narrative Description Data

Matrix: -N/A

Fraction:	None
Beneficial Use:	Estuarine Habitat
Number of Samples:	
Number of Exceedances:	
Data and Information Type:	Not Specified
Data Used to Assess Water Quality:	The BPTCP Consolidated Toxic Hot Spots Cleanup Plan presents a variety of corrective actions that need to be completed in order for the cove to be remediated. Responsible parties have been identified.
Data Reference:	Placeholder reference 2006 303(d)
SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	
Objective/Criterion Reference:	
Evaluation Guideline:	
Guideline Reference:	
Spatial Representation:	
Temporal Representation:	
Environmental Conditions:	
QAPP Information:	QA Info Missing
QAPP Information Reference(s):	

Line of Evidence (LOE) for Decision ID 32765, PAHs (Polycyclic Aromatic Hydrocarbons)

Region 2

Mission Creek

LOE ID:	445
Pollutant:	Sediment Toxicity
LOE Subgroup:	Toxicity
Matrix:	Sediment
Fraction:	None
Beneficial Use:	Estuarine Habitat
Number of Samples:	21
Number of Exceedances:	4
Data and Information Type:	Toxicity testing of sediments
Data Used to Assess Water Quality:	Significant amphipod toxicity was observed in 4 of 21 samples. Observed toxicity was recorded in the year 2000 only (Battelle Memorial Institute, 2002).
Data Reference:	Placeholder reference 2006 303(d)
SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	All waters shall be maintained free of toxic substances in concentrations that are lethal to or that produce other detrimental responses in aquatic organisms. There shall be no chronic toxicity in ambient waters. Chronic toxicity is a detrimental biological effect on growth rate, reproduction, fertilization success, larval development, population abundance, community composition, or any other relevant measure of the health of an organism, population, or community (BPTCP, 1998).
Objective/Criterion Reference:	Placeholder reference 2006 303(d)
Evaluation Guideline:	BPTCP reference envelope approach used.
Guideline Reference:	Placeholder reference 2006 303(d)
Spatial Representation:	Data was synoptically collected with benthic community and toxicity measurements over

Temporal Representation: the length of the creek.
 Environmental Conditions: Data were collected between 1998 and 2000.
 QAPP Information: QA Info Missing
 QAPP Information Reference(s):

Line of Evidence (LOE) for Decision ID 32765, PAHs (Polycyclic Aromatic Hydrocarbons)	Region 2
Mission Creek	

LOE ID: 444

Pollutant: Sediment Toxicity
 LOE Subgroup: Toxicity
 Matrix: Sediment
 Fraction: None

Beneficial Use: Estuarine Habitat

Number of Samples: 20
 Number of Exceedances: 4

Data and Information Type: Toxicity testing of sediments
 Data Used to Assess Water Quality: BPTCP Data: Significant amphipod toxicity, 3 of 5 tests (60%) significant urchin toxicity (Hunt et al., 1998b). SWRCB received "Sediment Investigations at Islais Creek and Mission Creek-1998-1999-2000" provided by SFPUC. Six transects were monitored over three years and at corresponding North and South sampling stations for each transect (i.e. 1N, 1S). Excluding stations 5 and 6 (No data for 1999 and 2000), the data shows 4 of 20 sampling stations (1N/S-4N/S) indicate sediment toxicity and amphipod survival below the BPTCP reference tolerance limit (Battelle Memorial Institute, 2002).

Data Reference: [Placeholder reference 2006 303\(d\)](#)

SWAMP Data: Non-SWAMP

Water Quality Objective/Criterion: All waters shall be maintained free of toxic substances in concentrations that are lethal to or that produce other detrimental responses in aquatic organisms.

Objective/Criterion Reference: There shall be no chronic toxicity in ambient waters. Chronic toxicity is a detrimental biological effect on growth rate, reproduction, fertilization success, larval development, population abundance, community composition, or any other relevant measure of the health of an organism, population, or community.
[Placeholder reference 2006 303\(d\)](#)

Evaluation Guideline: BPTCP reference envelope approach used.
 Guideline Reference: [Placeholder reference 2006 303\(d\)](#)

Spatial Representation: Data were collected concurrently with benthic and chemical measurements.
 Temporal Representation: Data was collected from 5/95-4/97.

Environmental Conditions:
 QAPP Information: BPTCP Quality Assurance Project Plan. SWRCB received "Sediment Investigations at Islais Creek and Mission Creek-1998-1999-2000" provided by SFPUC. Appropriate QA procedures were followed.

QAPP Information Reference(s):

DECISION ID	32829	Region 2
Mission Creek		

Pollutant: Silver
Final Listing Decision: Do Not Delist from 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision: Do Not Delist from 303(d) list (TMDL required list)(2012)

Revision Status	Original
Sources:	Source Unknown
Expected TMDL Completion Date:	2019
Impairment from Pollutant or Pollution:	Pollutant

Regional Board Staff Conclusion:	This pollutant is being considered for removal from the section 303(d) list under sections 4.6 and 4.9 of the Listing Policy. Under section 4.6 a single line of evidence is necessary to assess delisting status while under section 4.9, a minimum of two lines of evidence are needed to assess listing status. Six lines of evidence are available in the administrative record to assess this pollutant. Based on section 4.6, the site has significant sediment toxicity and the pollutant concentration not exceeds the sediment guideline. The benthic community is impacted. Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against removing this water segment-pollutant combination from the section 303(d) list in the Water Quality Limited Segments category. This conclusion is based on the staff findings that: 1. The sediment quality guideline used complies with the requirements of section 6.1.3 of the Policy. 2. The data used satisfies the data quality requirements of section 6.1.4 of the Policy. 3. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy. 4. Sixteen of 49 samples exceeded the 1.77 ug/g PEL sediment quality guideline, 7 of 26 samples exhibit toxicity, and these exceed the allowable frequency listed in Table 4.1 of the Listing Policy. The benthic community in this water body is impacted and this pollutant is associated with this impact. 5. Pursuant to section 4.11 of the Listing Policy, no additional data and information are available indicating that standards are met.
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Regional Board Staff Decision Recommendation:	This is a decision previously approved by the State Water Resources Control Board and the USEPA. No new data were assessed by the Regional Board for the current. The decision has not changed.
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Line of Evidence (LOE) for Decision ID 32829, Silver Mission Creek

Region 2

LOE ID:	414
Pollutant:	Silver
LOE Subgroup:	Pollutant-Sediment
Matrix:	Sediment
Fraction:	None
Beneficial Use:	Estuarine Habitat
Number of Samples:	44
Number of Exceedances:	15
Data and Information Type:	Chemical monitoring of sediments
Data Used to Assess Water Quality:	Fifteen of 44 samples exceeded the PEL (Battelle Memorial Institute, 2002).
Data Reference:	Placeholder reference 2006 303(d)
SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	All waters shall be maintained free of toxic substances in concentrations that are lethal to or that produce other detrimental responses in aquatic organisms. There shall be no chronic toxicity in ambient waters. Chronic toxicity is a detrimental biological effect on growth rate, reproduction, fertilization success, larval development, population abundance, community composition, or any other relevant measure of the health of an organism, population, or community. Data were collected between 1998 and 2000.
Objective/Criterion Reference:	Placeholder reference 2006 303(d)
Evaluation Guideline:	PEL of 1.77 ug/g used (MacDonald et al., 1996).

Guideline Reference: [Placeholder reference 2006 303\(d\)](#)

Spatial Representation: Data was synoptically collected with benthic community and toxicity measurements over the length of the creek.

Temporal Representation: Data were collected between 1998 and 2000.

Environmental Conditions:

QAPP Information: Methods used were equivalent to those used in the BPTCP QAPP. All reported data met QA requirements.

QAPP Information Reference(s):

Line of Evidence (LOE) for Decision ID 32829, Silver

Region 2

Mission Creek

LOE ID: 413

Pollutant: Silver

LOE Subgroup: Pollutant-Sediment

Matrix: Sediment

Fraction: None

Beneficial Use: Estuarine Habitat

Number of Samples: 3

Number of Exceedances: 1

Data and Information Type: Chemical monitoring of sediments

Data Used to Assess Water Quality: One of 3 samples exceed sediment guideline (Hunt et al., 1998b).

Data Reference: [Placeholder reference 2006 303\(d\)](#)

SWAMP Data: Non-SWAMP

Water Quality Objective/Criterion: All waters shall be maintained free of toxic substances in concentrations that are lethal to or that produce other detrimental responses in aquatic organisms.

Objective/Criterion Reference: [Placeholder reference 2006 303\(d\)](#)

Evaluation Guideline: PEL of 1.77 ug/g used (MacDonald et al., 1996).

Guideline Reference: [Placeholder reference 2006 303\(d\)](#)

Spatial Representation: Data were collected concurrently with benthic community and toxicity measurements.

Temporal Representation: Data was collected in 1997.

Environmental Conditions:

QAPP Information: BPTCP Quality Assurance Project Plan.

QAPP Information Reference(s):

Line of Evidence (LOE) for Decision ID 32829, Silver

Region 2

Mission Creek

LOE ID: 446

Pollutant: Estuarine Bioassessments

LOE Subgroup: Population/Community Degradation

Matrix: Sediment

Fraction: None

Beneficial Use: Estuarine Habitat

Number of Samples:	3
Number of Exceedances:	2
Data and Information Type:	Benthic macroinvertebrate surveys
Data Used to Assess Water Quality:	Relative benthic index = 0.00, 0.34, and 0.65 (3 benthic gradient samples) (Hunt et al, 1998b).
Data Reference:	Placeholder reference 2006 303(d)
SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	All waters shall be maintained free of toxic substances in concentrations that are lethal to or that produce other detrimental responses in aquatic organisms. There shall be no chronic toxicity in ambient waters. Chronic toxicity is a detrimental biological effect on growth rate, reproduction, fertilization success, larval development, population abundance, community composition, or any other relevant measure of the health of an organism, population, or community.
Objective/Criterion Reference:	Placeholder reference 2006 303(d)
Evaluation Guideline:	Evaluation of the benthic data were completed using the approaches developed by scientists associated with the BPTCP. The relative benthic index used is a calculated value considering the total fauna, total mollusk species, crustacean species and indicator species at a site. The index ranges from 0 to 1.0. An index value of less than or equal to 0.3 is an indication that pollutants or other factors are negatively impacting the benthic community (BPTCP, 1998).
Guideline Reference:	Placeholder reference 2006 303(d)
Spatial Representation:	Data were collected concurrently with toxicity and chemical samples.
Temporal Representation:	Data was collected, from 5/95-4/97.
Environmental Conditions:	
QAPP Information:	BPTCP Quality Assurance Project Plan.
QAPP Information Reference(s):	

**Line of Evidence (LOE) for Decision ID 32829, Silver
Mission Creek**

Region 2

LOE ID:	412
Pollutant:	Silver
LOE Subgroup:	Narrative Description Data
Matrix:	-N/A
Fraction:	None
Beneficial Use:	Estuarine Habitat
Number of Samples:	0
Number of Exceedances:	0
Data and Information Type:	Not Specified
Data Used to Assess Water Quality:	The BPTCP Consolidated Toxic Hot Spots Cleanup Plan presents a variety of corrective actions that need to be completed in order for the cove to be remediated. Responsible parties have been identified.
Data Reference:	Placeholder reference 2006 303(d)
SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	
Objective/Criterion Reference:	
Evaluation Guideline:	
Guideline Reference:	

Spatial Representation:
Temporal Representation:
Environmental Conditions:
QAPP Information: QA Info Missing
QAPP Information Reference(s):

**Line of Evidence (LOE) for Decision ID 32829, Silver
Mission Creek**

Region 2

LOE ID: 444

Pollutant: Sediment Toxicity
LOE Subgroup: Toxicity
Matrix: Sediment
Fraction: None

Beneficial Use: Estuarine Habitat

Number of Samples: 20
Number of Exceedances: 4

Data and Information Type: Toxicity testing of sediments
Data Used to Assess Water Quality: BPTCP Data: Significant amphipod toxicity, 3 of 5 tests (60%) significant urchin toxicity (Hunt et al., 1998b). SWRCB received "Sediment Investigations at Islais Creek and Mission Creek-1998-1999-2000" provided by SFPUC. Six transects were monitored over three years and at corresponding North and South sampling stations for each transect (i.e. 1N, 1S). Excluding stations 5 and 6 (No data for 1999 and 2000), the data shows 4 of 20 sampling stations (1N/S-4N/S) indicate sediment toxicity and amphipod survival below the BPTCP reference tolerance limit (Battelle Memorial Institute, 2002).

Data Reference: [Placeholder reference 2006 303\(d\)](#)

SWAMP Data: Non-SWAMP

Water Quality Objective/Criterion: All waters shall be maintained free of toxic substances in concentrations that are lethal to or that produce other detrimental responses in aquatic organisms.

Objective/Criterion Reference: [Placeholder reference 2006 303\(d\)](#)

Evaluation Guideline: BPTCP reference envelope approach used.
Guideline Reference: [Placeholder reference 2006 303\(d\)](#)

Spatial Representation: Data were collected concurrently with benthic and chemical measurements.
Temporal Representation: Data was collected from 5/95-4/97.

Environmental Conditions:

QAPP Information: BPTCP Quality Assurance Project Plan. SWRCB received "Sediment Investigations at Islais Creek and Mission Creek-1998-1999-2000" provided by SFPUC. Appropriate QA procedures were followed.

QAPP Information Reference(s):

**Line of Evidence (LOE) for Decision ID 32829, Silver
Mission Creek**

Region 2

LOE ID: 445

Pollutant: Sediment Toxicity
LOE Subgroup: Toxicity
Matrix: Sediment

Fraction:	None
Beneficial Use:	Estuarine Habitat
Number of Samples:	21
Number of Exceedances:	4
Data and Information Type:	Toxicity testing of sediments
Data Used to Assess Water Quality:	Significant amphipod toxicity was observed in 4 of 21 samples. Observed toxicity was recorded in the year 2000 only (Battelle Memorial Institute, 2002).
Data Reference:	Placeholder reference 2006 303(d)
SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	All waters shall be maintained free of toxic substances in concentrations that are lethal to or that produce other detrimental responses in aquatic organisms. There shall be no chronic toxicity in ambient waters. Chronic toxicity is a detrimental biological effect on growth rate, reproduction, fertilization success, larval development, population abundance, community composition, or any other relevant measure of the health of an organism, population, or community (BPTCP, 1998).
Objective/Criterion Reference:	Placeholder reference 2006 303(d)
Evaluation Guideline:	BPTCP reference envelope approach used.
Guideline Reference:	Placeholder reference 2006 303(d)
Spatial Representation:	Data was synoptically collected with benthic community and toxicity measurements over the length of the creek.
Temporal Representation:	Data were collected between 1998 and 2000.
Environmental Conditions:	
QAPP Information:	QA Info Missing
QAPP Information Reference(s):	

DECISION ID	32440	Region 2
Mission Creek		

Pollutant:	Zinc
Final Listing Decision:	Do Not Delist from 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision:	Do Not Delist from 303(d) list (TMDL required list)(2012)
Revision Status	Original
Sources:	Source Unknown
Expected TMDL Completion Date:	2019
Impairment from Pollutant or Pollution:	Pollutant

Regional Board Staff Conclusion:	<p>This pollutant is being considered for removal from the section 303(d) list under sections 4.6 and 4.9 of the Listing Policy. Under section 4.6 a single line of evidence is necessary to assess delisting status while under section 4.9, a minimum of two lines of evidence are needed to assess listing status. Six lines of evidence are available in the administrative record to assess this pollutant. Based on section 4.6, the site has significant sediment toxicity and the pollutant concentration exceeds the sediment guideline. The benthic community is impacted and the pollutant is associated with the impact. Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against removing this water segment-pollutant combination from the section 303(d) list in the Water Quality Limited Segments category. This conclusion is based on the staff findings that: 1. The sediment quality guideline used complies with the requirements of section 6.1.3 of the Policy. 2. The data used satisfies the data quality requirements of section 6.1.4 of the Policy. 3. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy. 4. Nine of 47 samples exceeded the sediment guideline, 7 of 26 samples exhibit toxicity, and these exceed the allowable frequency listed in Table 4.1 of the Listing Policy. The benthic community in</p>
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this water body is impacted and this pollutant is associated with this impact. 5. Pursuant to section 4.11 of the Listing Policy, no additional data and information are available indicating that standards are met.

Regional Board Staff Decision Recommendation: This is a decision previously approved by the State Water Resources Control Board and the USEPA. No new data were assessed by the Regional Board for the current. The decision has not changed.

**Line of Evidence (LOE) for Decision ID 32440, Zinc
Mission Creek**

Region 2

LOE ID: 446

Pollutant: Estuarine Bioassessments
LOE Subgroup: Population/Community Degradation
Matrix: Sediment
Fraction: None

Beneficial Use: Estuarine Habitat

Number of Samples: 3
Number of Exceedances: 2

Data and Information Type: Benthic macroinvertebrate surveys
Data Used to Assess Water Quality: Relative benthic index = 0.00, 0.34, and 0.65 (3 benthic gradient samples) (Hunt et al, 1998b).
Data Reference: [Placeholder reference 2006 303\(d\)](#)

SWAMP Data: Non-SWAMP

Water Quality Objective/Criterion: All waters shall be maintained free of toxic substances in concentrations that are lethal to or that produce other detrimental responses in aquatic organisms.

Objective/Criterion Reference: There shall be no chronic toxicity in ambient waters. Chronic toxicity is a detrimental biological effect on growth rate, reproduction, fertilization success, larval development, population abundance, community composition, or any other relevant measure of the health of an organism, population, or community.
[Placeholder reference 2006 303\(d\)](#)

Evaluation Guideline: Evaluation of the benthic data were completed using the approaches developed by scientists associated with the BPTCP. The relative benthic index used is a calculated value considering the total fauna, total mollusk species, crustacean species and indicator species at a site. The index ranges from 0 to 1.0. An index value of less than or equal to 0.3 is an indication that pollutants or other factors are negatively impacting the benthic community (BPTCP, 1998).
Guideline Reference: [Placeholder reference 2006 303\(d\)](#)

Spatial Representation: Data were collected concurrently with toxicity and chemical samples.
Temporal Representation: Data was collected, from 5/95-4/97.
Environmental Conditions:
QAPP Information: BPTCP Quality Assurance Project Plan.
QAPP Information Reference(s):

**Line of Evidence (LOE) for Decision ID 32440, Zinc
Mission Creek**

Region 2

LOE ID: 427

Pollutant: Zinc
LOE Subgroup: Narrative Description Data
Matrix: -N/A

Fraction:	None
Beneficial Use:	Estuarine Habitat
Number of Samples:	
Number of Exceedances:	
Data and Information Type:	Not Specified
Data Used to Assess Water Quality:	The BPTCP Consolidated Toxic Hot Spots Cleanup Plan presents a variety of corrective actions that need to be completed in order for the cove to be remediated. Responsible parties have been identified.
Data Reference:	Placeholder reference 2006 303(d)
SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	
Objective/Criterion Reference:	
Evaluation Guideline:	
Guideline Reference:	
Spatial Representation:	
Temporal Representation:	
Environmental Conditions:	
QAPP Information:	QA Info Missing
QAPP Information Reference(s):	

Line of Evidence (LOE) for Decision ID 32440, Zinc

Region 2

Mission Creek

LOE ID:	445
Pollutant:	Sediment Toxicity
LOE Subgroup:	Toxicity
Matrix:	Sediment
Fraction:	None
Beneficial Use:	Estuarine Habitat
Number of Samples:	21
Number of Exceedances:	4
Data and Information Type:	Toxicity testing of sediments
Data Used to Assess Water Quality:	Significant amphipod toxicity was observed in 4 of 21 samples. Observed toxicity was recorded in the year 2000 only (Battelle Memorial Institute, 2002).
Data Reference:	Placeholder reference 2006 303(d)
SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	All waters shall be maintained free of toxic substances in concentrations that are lethal to or that produce other detrimental responses in aquatic organisms. There shall be no chronic toxicity in ambient waters. Chronic toxicity is a detrimental biological effect on growth rate, reproduction, fertilization success, larval development, population abundance, community composition, or any other relevant measure of the health of an organism, population, or community (BPTCP, 1998).
Objective/Criterion Reference:	Placeholder reference 2006 303(d)
Evaluation Guideline:	BPTCP reference envelope approach used.
Guideline Reference:	Placeholder reference 2006 303(d)
Spatial Representation:	Data was synoptically collected with benthic community and toxicity measurements over

Temporal Representation: the length of the creek.
 Environmental Conditions: Data were collected between 1998 and 2000.
 QAPP Information: QA Info Missing
 QAPP Information Reference(s):

**Line of Evidence (LOE) for Decision ID 32440, Zinc
 Mission Creek**

Region 2

LOE ID: 444

Pollutant: Sediment Toxicity
 LOE Subgroup: Toxicity
 Matrix: Sediment
 Fraction: None

Beneficial Use: Estuarine Habitat

Number of Samples: 20
 Number of Exceedances: 4

Data and Information Type: Toxicity testing of sediments
 Data Used to Assess Water Quality: BPTCP Data: Significant amphipod toxicity, 3 of 5 tests (60%) significant urchin toxicity (Hunt et al., 1998b). SWRCB received "Sediment Investigations at Islais Creek and Mission Creek-1998-1999-2000" provided by SFPUC. Six transects were monitored over three years and at corresponding North and South sampling stations for each transect (i.e. 1N, 1S). Excluding stations 5 and 6 (No data for 1999 and 2000), the data shows 4 of 20 sampling stations (1N/S-4N/S) indicate sediment toxicity and amphipod survival below the BPTCP reference tolerance limit (Battelle Memorial Institute, 2002).

Data Reference: [Placeholder reference 2006 303\(d\)](#)

SWAMP Data: Non-SWAMP

Water Quality Objective/Criterion: All waters shall be maintained free of toxic substances in concentrations that are lethal to or that produce other detrimental responses in aquatic organisms.

Objective/Criterion Reference: There shall be no chronic toxicity in ambient waters. Chronic toxicity is a detrimental biological effect on growth rate, reproduction, fertilization success, larval development, population abundance, community composition, or any other relevant measure of the health of an organism, population, or community.
[Placeholder reference 2006 303\(d\)](#)

Evaluation Guideline: BPTCP reference envelope approach used.
 Guideline Reference: [Placeholder reference 2006 303\(d\)](#)

Spatial Representation: Data were collected concurrently with benthic and chemical measurements.
 Temporal Representation: Data was collected from 5/95-4/97.
 Environmental Conditions:
 QAPP Information: BPTCP Quality Assurance Project Plan. SWRCB received "Sediment Investigations at Islais Creek and Mission Creek-1998-1999-2000" provided by SFPUC. Appropriate QA procedures were followed.

QAPP Information Reference(s):

**Line of Evidence (LOE) for Decision ID 32440, Zinc
 Mission Creek**

Region 2

LOE ID: 429

Pollutant: Zinc
 LOE Subgroup: Pollutant-Sediment
 Matrix: Sediment

Fraction:	None
Beneficial Use:	Estuarine Habitat
Number of Samples:	44
Number of Exceedances:	8
Data and Information Type:	Chemical monitoring of sediments
Data Used to Assess Water Quality:	Eight of 44 samples exceeded the ERM (Battelle Memorial Institute, 2002).
Data Reference:	Placeholder reference 2006 303(d)
SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	All waters shall be maintained free of toxic substances in concentrations that are lethal to or that produce other detrimental responses in aquatic organisms. There shall be no chronic toxicity in ambient waters. Chronic toxicity is a detrimental biological effect on growth rate, reproduction, fertilization success, larval development, population abundance, community composition, or any other relevant measure of the health of an organism, population, or community.
Objective/Criterion Reference:	Placeholder reference 2006 303(d)
Evaluation Guideline:	ERM of 410 ug/g used (Long et al., 1995).
Guideline Reference:	Placeholder reference 2006 303(d)
Spatial Representation:	Data was synoptically collected with benthic community and toxicity measurements over the length of the creek.
Temporal Representation:	Data were collected between 1998 and 2000.
Environmental Conditions:	
QAPP Information:	Methods used were equivalent to those used in the BPTCP QAPP. All reported data met QA requirements.
QAPP Information Reference(s):	

**Line of Evidence (LOE) for Decision ID 32440, Zinc
Mission Creek**

Region 2

LOE ID:	428
Pollutant:	Zinc
LOE Subgroup:	Pollutant-Sediment
Matrix:	Sediment
Fraction:	None
Beneficial Use:	Estuarine Habitat
Number of Samples:	3
Number of Exceedances:	1
Data and Information Type:	Chemical monitoring of sediments
Data Used to Assess Water Quality:	One of 3 samples exceeded the ERM (Hunt et al., 1998b).
Data Reference:	Placeholder reference 2006 303(d)
SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	All waters shall be maintained free of toxic substances in concentrations that are lethal to or that produce other detrimental responses in aquatic organisms. There shall be no chronic toxicity in ambient waters. Chronic toxicity is a detrimental biological effect on growth rate, reproduction, fertilization success, larval development, population abundance, community composition, or any other relevant measure of the health of an organism, population, or community.
Objective/Criterion Reference:	Placeholder reference 2006 303(d)

Evaluation Guideline:	ERM of 410 ug/g used (Long et al., 1995).
Guideline Reference:	Placeholder reference 2006 303(d)
Spatial Representation:	Data were collected concurrently with benthic community and toxicity measurements.
Temporal Representation:	Data was collected in 1997.
Environmental Conditions:	
QAPP Information:	BPTCP Quality Assurance Project Plan.
QAPP Information Reference(s):	

DECISION ID	34216	Region 2
Mission Creek		

Pollutant:	Ammonia
Final Listing Decision:	List on 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision:	List on 303(d) list (TMDL required list)(2012)
Revision Status	Original
Sources:	Source Unknown
Expected TMDL Completion Date:	2019
Impairment from Pollutant or Pollution:	Pollutant

Regional Board Staff Conclusion:	303(d) listing decisions made prior to 2006 were not held in an assessment database. The Regional Boards will update this decision when new data and information become available and are assessed.
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Regional Board Staff Decision Recommendation:	This is a decision previously approved by the State Water Resources Control Board and the USEPA. No new data were assessed by the Regional Board for the current. The decision has not changed.
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Line of Evidence (LOE) for Decision ID 34216, Ammonia	Region 2
Mission Creek	

LOE ID:	3763
Pollutant:	Ammonia
LOE Subgroup:	Pollutant-Water
Matrix:	Water
Fraction:	Not Recorded
Beneficial Use:	Estuarine Habitat
Number of Samples:	0
Number of Exceedances:	0
Data and Information Type:	Not Specified
Data Used to Assess Water Quality:	Unspecified--This LOE is a placeholder to support a 303(d) listing decision made prior to 2006.
Data Reference:	Placeholder reference pre-2006 303(d)
SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	Unspecified
Objective/Criterion Reference:	Placeholder reference pre-2006 303(d)
Evaluation Guideline:	Unspecified
Guideline Reference:	Placeholder reference pre-2006 303(d)
Spatial Representation:	Unspecified

Temporal Representation:	Unspecified
Environmental Conditions:	Unspecified
QAPP Information:	Unspecified
QAPP Information Reference(s):	

DECISION ID	34016	Region 2
Mission Creek		

Pollutant:	Hydrogen Sulfide
Final Listing Decision:	List on 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision:	List on 303(d) list (TMDL required list)(2012)
Revision Status	Original
Sources:	Source Unknown
Expected TMDL Completion Date:	2019
Impairment from Pollutant or Pollution:	Pollutant

Regional Board Staff Conclusion:	303(d) listing decisions made prior to 2006 were not held in an assessment database. The Regional Boards will update this decision when new data and information become available and are assessed.
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Regional Board Staff Decision Recommendation:	This is a decision previously approved by the State Water Resources Control Board and the USEPA. No new data were assessed by the Regional Board for the current. The decision has not changed.
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Line of Evidence (LOE) for Decision ID 34016, Hydrogen Sulfide	Region 2
Mission Creek	

LOE ID:	3765
Pollutant:	Hydrogen Sulfide
LOE Subgroup:	Pollutant-Water
Matrix:	Water
Fraction:	Not Recorded
Beneficial Use:	Estuarine Habitat
Number of Samples:	0
Number of Exceedances:	0
Data and Information Type:	Not Specified
Data Used to Assess Water Quality:	Unspecified---This LOE is a placeholder to support a 303(d) listing decision made prior to 2006.
Data Reference:	Placeholder reference pre-2006 303(d)
SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	
Objective/Criterion Reference:	
Evaluation Guideline:	
Guideline Reference:	
Spatial Representation:	Unspecified
Temporal Representation:	Unspecified
Environmental Conditions:	Unspecified
QAPP Information:	Unspecified
QAPP Information Reference(s):	

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Supporting Information

Regional Board 2 - San Francisco Bay Region

Water Body Name: Islais Creek
Water Body ID: CAE2044001020020129151927
Water Body Type: Estuary

DECISION ID	32366	Region 2
Islais Creek		

Pollutant: Endosulfan sulfate
Final Listing Decision: Delist from 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision: Delist from 303(d) list (TMDL required list)(2012)
Revision Status: Original
Reason for Delisting: Applicable WQS attained; reason for recovery unspecified
Impairment from Pollutant or Pollution: Pollutant

Regional Board Staff Conclusion: This pollutant is being considered for removal from the section 303(d) list under section 4.6 of the Listing Policy. Under section 4.6 two lines of evidence are necessary to assess listing status. Five lines of evidence are available in the administrative record to assess this pollutant. A sediment guideline is not available and it cannot be determined if the pollutant is likely to cause or contribute to the toxic effect or to the benthic effects. Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification in favor of removing this water segment-pollutant combination from the section 303(d) list. This conclusion is based on the staff findings that: 1. A sediment quality guideline that complies with the requirements of section 6.1.3 of the Policy is not available. 2. The data used satisfies the data quality requirements of section 6.1.4 of the Policy. 3. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy. 4. Pursuant to section 4.11 of the Listing Policy, no additional data and information are available indicating that standards are met.

Regional Board Staff Decision Recommendation: This is a decision previously approved by the State Water Resources Control Board and the USEPA. No new data were assessed by the Regional Board for the current. The decision has not changed.

Line of Evidence (LOE) for Decision ID 32366, Endosulfan sulfate

Islais Creek

LOE ID: 462

Pollutant: Sediment Toxicity
LOE Subgroup: Toxicity
Matrix: Sediment
Fraction: None

Beneficial Use: Estuarine Habitat

Number of Samples: 18
Number of Exceedances: 7

Data and Information Type: Toxicity testing of sediments
Data Used to Assess Water Quality: Significant amphipod toxicity in 7 of 18 samples (Battelle Memorial Institute, 2002).
Data Reference: [Placeholder reference 2006 303\(d\)](#)

SWAMP Data: Non-SWAMP

Water Quality Objective/Criterion:	All waters shall be maintained free of toxic substances in concentrations that are lethal to or that produce other detrimental responses in aquatic organisms (SFBRWQCB, 1995).
	There shall be no chronic toxicity in ambient waters. Chronic toxicity is a detrimental biological effect on growth rate, reproduction, fertilization success, larval development, population abundance, community composition, or any other relevant measure of the health of an organism, population, or community.
Objective/Criterion Reference:	Placeholder reference 2006 303(d)
Evaluation Guideline:	BPTCP Reference envelope approach used.
Guideline Reference:	Placeholder reference 2006 303(d)
Spatial Representation:	Data was synoptically collected with benthic community and toxicity measurements over the length of the creek.
Temporal Representation:	Data were collected between 1998 and 2000.
Environmental Conditions:	Samples were collected in both wet and dry seasons.
QAPP Information:	Methods used were equivalent to those used in the BPTCP QAPP (Stephenson, et al., 1994). All reported data met QA requirements.
QAPP Information Reference(s):	

Line of Evidence (LOE) for Decision ID 32366, Endosulfan sulfate

Region 2

Islais Creek

LOE ID:	463
Pollutant:	Estuarine Bioassessments
LOE Subgroup:	Population/Community Degradation
Matrix:	Sediment
Fraction:	None
Beneficial Use:	Estuarine Habitat
Number of Samples:	3
Number of Exceedances:	2
Data and Information Type:	Benthic macroinvertebrate surveys
Data Used to Assess Water Quality:	Relative benthic index = 0.22, 0.25, 0.43 (3 benthic gradient samples) (Hunt et al., 1998b).
Data Reference:	Placeholder reference 2006 303(d)
SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	All waters shall be maintained free of toxic substances in concentrations that are lethal to or that produce other detrimental responses in aquatic organisms.
	There shall be no chronic toxicity in ambient waters. Chronic toxicity is a detrimental biological effect on growth rate, reproduction, fertilization success, larval development, population abundance, community composition, or any other relevant measure of the health of an organism, population, or community.
Objective/Criterion Reference:	Placeholder reference 2006 303(d)
Evaluation Guideline:	Evaluation of the benthic data were completed using the approaches developed by scientists associated with the BPTCP. The relative benthic index used is a calculated value considering the total fauna, total mollusk species, crustacean species and indicator species at a site. The index ranges from 0 to 1.0. An index value of less than or equal to 0.3 is an indication that pollutants or other factors are negatively impacting the benthic community.
Guideline Reference:	Placeholder reference 2006 303(d)
Spatial Representation:	Data was synoptically collected with benthic community and toxicity measurements over the length of the creek.
Temporal Representation:	Data was collected from 9/94 - 9/97.

Environmental Conditions:
QAPP Information:
QAPP Information Reference(s):

BPTCP Quality Assurance Project Plan.

Line of Evidence (LOE) for Decision ID 32366, Endosulfan sulfate

Region 2

Islais Creek

LOE ID: 461

Pollutant: Sediment Toxicity
LOE Subgroup: Toxicity
Matrix: Sediment
Fraction: None

Beneficial Use: Estuarine Habitat

Number of Samples: 9
Number of Exceedances: 7

Data and Information Type: Toxicity testing of sediments
Data Used to Assess Water Quality: Significant amphipod toxicity in 3 of 4 samples (75%). Significant urchin toxicity in 4 of 5 samples (80%) (Hunt et al., 1998b).
Data Reference: [Placeholder reference 2006 303\(d\)](#)

SWAMP Data: Non-SWAMP

Water Quality Objective/Criterion: All waters shall be maintained free of toxic substances in concentrations that are lethal to or that produce other detrimental responses in aquatic organisms (SFBRWQCB, 1995).
Objective/Criterion Reference: [Placeholder reference 2006 303\(d\)](#)

Evaluation Guideline: BPTCP Reference envelope approach used.
Guideline Reference: [Placeholder reference 2006 303\(d\)](#)

Spatial Representation: Data was synoptically collected with benthic community and toxicity measurements over the length of the creek.

Temporal Representation: Data was collected from 9/94 - 9/97.

Environmental Conditions:
QAPP Information: BPTCP Quality Assurance Project Plan (Stephenson et al., 1994).
QAPP Information Reference(s):

Line of Evidence (LOE) for Decision ID 32366, Endosulfan sulfate

Region 2

Islais Creek

LOE ID: 457

Pollutant: Endosulfan sulfate
LOE Subgroup: Pollutant-Sediment
Matrix: Sediment
Fraction: None

Beneficial Use: Estuarine Habitat

Number of Samples: 0
Number of Exceedances: 0

Data and Information Type: Chemical monitoring of sediments
Data Used to Assess Water Quality: Three measurements. Concentration ranges from 3.96 ng/g to 21 ng/g (Hunt et al., 1998b).
Data Reference: [Placeholder reference 2006 303\(d\)](#)

SWAMP Data: Non-SWAMP

Water Quality Objective/Criterion:	All waters shall be maintained free of toxic substances in concentrations that are lethal to or that produce other detrimental responses in aquatic organisms.
	There shall be no chronic toxicity in ambient waters. Chronic toxicity is a detrimental biological effect on growth rate, reproduction, fertilization success, larval development, population abundance, community composition, or any other relevant measure of the health of an organism, population, or community.
Objective/Criterion Reference:	Placeholder reference 2006 303(d)
Evaluation Guideline:	No applicable sediment guideline is available.
Guideline Reference:	Placeholder reference 2006 303(d)
Spatial Representation:	Data was collected over the length of the Creek concurrently with benthic community and toxicity samples.
Temporal Representation:	Data was collected in 1997.
Environmental Conditions:	
QAPP Information:	BPTCP Quality Assurance Project Plan.
QAPP Information Reference(s):	

Line of Evidence (LOE) for Decision ID 32366, Endosulfan sulfate

Region 2

Islais Creek

LOE ID:	456
Pollutant:	Endosulfan sulfate
LOE Subgroup:	Narrative Description Data
Matrix:	-N/A
Fraction:	None
Beneficial Use:	Estuarine Habitat
Number of Samples:	0
Number of Exceedances:	0
Data and Information Type:	Not Specified
Data Used to Assess Water Quality:	The BPTCP Consolidated Toxic Hot Spots Cleanup Plan presents a variety of corrective actions that need to be completed in order for the cove to be remediated. Responsible parties have been identified.
Data Reference:	Placeholder reference 2006 303(d)
SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	
Objective/Criterion Reference:	
Evaluation Guideline:	
Guideline Reference:	
Spatial Representation:	
Temporal Representation:	
Environmental Conditions:	
QAPP Information:	QA Info Missing
QAPP Information Reference(s):	

DECISION ID

32399

Region 2

Islais Creek

Pollutant:	Ammonia
Final Listing Decision:	Do Not Delist from 303(d) list (TMDL required list)

Last Listing Cycle's Final Listing Decision:	Do Not Delist from 303(d) list (TMDL required list)(2012)
Revision Status	Original
Sources:	Source Unknown
Expected TMDL Completion Date:	2019
Impairment from Pollutant or Pollution:	Pollutant

Regional Board Staff Conclusion: This pollutant is being considered for removal from the section 303(d) list under sections 4.6 of the Listing Policy. Under section 4.6 a single line of evidence is necessary to assess delisting status. Five lines of evidence are available in the administrative record to assess this pollutant. Based on section 4.6, the site has significant sediment toxicity and the pollutant concentration not exceeds the sediment guideline. The Consolidated Plan is not sufficiently developed to address this problem. Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against removing this water segment-pollutant combination from the section 303(d) list in the Water Quality Limited Segments category. This conclusion is based on the staff findings that: 1. The sediment quality guideline used complies with the requirements of section 6.1.3 of the Policy. 2. The data used satisfies the data quality requirements of section 6.1.4 of the Policy. 3. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy. 4. All samples exceeded the sediment guideline and all samples exhibit toxicity. This exceeds the allowable frequency listed in Table 4.1 of the Listing Policy. 5. Pursuant to section 4.11 of the Listing Policy, no additional data and information are available indicating that standards are met.

Regional Board Staff Decision Recommendation: This is a decision previously approved by the State Water Resources Control Board and the USEPA. No new data were assessed by the Regional Board for the current. The decision has not changed.

Line of Evidence (LOE) for Decision ID 32399, Ammonia

Region 2

Islais Creek

LOE ID:	465
Pollutant:	Ammonia
LOE Subgroup:	Pollutant-Sediment
Matrix:	Sediment
Fraction:	Total
Beneficial Use:	Estuarine Habitat
Number of Samples:	2
Number of Exceedances:	2
Data and Information Type:	Toxicity testing of sediments
Data Used to Assess Water Quality:	Two samples exceeding the thresholds in two total measurements using purple sea urchin tests (Hunt et al., 1998a).
Data Reference:	Placeholder reference 2006 303(d)
SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	All waters shall be maintained free of toxic substances in concentrations that are lethal to or that produce other detrimental responses in aquatic organisms.
Objective/Criterion Reference:	There shall be no chronic toxicity in ambient waters. Chronic toxicity is a detrimental biological effect on growth rate, reproduction, fertilization success, larval development, population abundance, community composition, or any other relevant measure of the health of an organism, population, or community. Placeholder reference 2006 303(d)
Evaluation Guideline:	Effect thresholds for BPTCP toxicity test protocols (unionized ammonia) Purple Urchin Development NOEC 0.07 mg/L (Bay et al., 1993) Purple Urchin Fertilization NOEC >1.4 mg/L (Bay et al., 1993)

Guideline Reference: [Placeholder reference 2006 303\(d\)](#)

Spatial Representation: Data was concurrently collected from samples tested for toxicity.

Temporal Representation: Data was collected in September 1994.

Environmental Conditions:

QAPP Information: BPTCP Quality Assurance Project Plan.

QAPP Information Reference(s):

Line of Evidence (LOE) for Decision ID 32399, Ammonia

Region 2

Islais Creek

LOE ID: 463

Pollutant: Estuarine Bioassessments

LOE Subgroup: Population/Community Degradation

Matrix: Sediment

Fraction: None

Beneficial Use: Estuarine Habitat

Number of Samples: 3

Number of Exceedances: 2

Data and Information Type: Benthic macroinvertebrate surveys

Data Used to Assess Water Quality: Relative benthic index = 0.22, 0.25, 0.43 (3 benthic gradient samples) (Hunt et al., 1998b).

Data Reference: [Placeholder reference 2006 303\(d\)](#)

SWAMP Data: Non-SWAMP

Water Quality Objective/Criterion: All waters shall be maintained free of toxic substances in concentrations that are lethal to or that produce other detrimental responses in aquatic organisms.

Objective/Criterion Reference: [Placeholder reference 2006 303\(d\)](#)

Evaluation Guideline: Evaluation of the benthic data were completed using the approaches developed by scientists associated with the BPTCP. The relative benthic index used is a calculated value considering the total fauna, total mollusk species, crustacean species and indicator species at a site. The index ranges from 0 to 1.0. An index value of less than or equal to 0.3 is an indication that pollutants or other factors are negatively impacting the benthic community.

Guideline Reference: [Placeholder reference 2006 303\(d\)](#)

Spatial Representation: Data was synoptically collected with benthic community and toxicity measurements over the length of the creek.

Temporal Representation: Data was collected from 9/94 - 9/97.

Environmental Conditions:

QAPP Information: BPTCP Quality Assurance Project Plan.

QAPP Information Reference(s):

Line of Evidence (LOE) for Decision ID 32399, Ammonia

Region 2

Islais Creek

LOE ID: 462

Pollutant: Sediment Toxicity

LOE Subgroup: Toxicity

Matrix: Sediment

Fraction:	None
Beneficial Use:	Estuarine Habitat
Number of Samples:	18
Number of Exceedances:	7
Data and Information Type:	Toxicity testing of sediments
Data Used to Assess Water Quality:	Significant amphipod toxicity in 7 of 18 samples (Battelle Memorial Institute, 2002).
Data Reference:	Placeholder reference 2006 303(d)
SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	All waters shall be maintained free of toxic substances in concentrations that are lethal to or that produce other detrimental responses in aquatic organisms (SFBRWQCB, 1995). There shall be no chronic toxicity in ambient waters. Chronic toxicity is a detrimental biological effect on growth rate, reproduction, fertilization success, larval development, population abundance, community composition, or any other relevant measure of the health of an organism, population, or community.
Objective/Criterion Reference:	Placeholder reference 2006 303(d)
Evaluation Guideline:	BPTCP Reference envelope approach used.
Guideline Reference:	Placeholder reference 2006 303(d)
Spatial Representation:	Data was synoptically collected with benthic community and toxicity measurements over the length of the creek.
Temporal Representation:	Data were collected between 1998 and 2000.
Environmental Conditions:	Samples were collected in both wet and dry seasons.
QAPP Information:	Methods used were equivalent to those used in the BPTCP QAPP (Stephenson, et al., 1994). All reported data met QA requirements.
QAPP Information Reference(s):	

Line of Evidence (LOE) for Decision ID 32399, Ammonia

Region 2

Islais Creek

LOE ID:	466
Pollutant:	Ammonia
LOE Subgroup:	Toxicity
Matrix:	Sediment
Fraction:	Total
Beneficial Use:	Estuarine Habitat
Number of Samples:	2
Number of Exceedances:	2
Data and Information Type:	Not Specified
Data Used to Assess Water Quality:	Two samples, both showed significant toxicity in purple urchin tests (Hunt et al., 1998a).
Data Reference:	Placeholder reference 2006 303(d)
SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	All waters shall be maintained free of toxic substances in concentrations that are lethal to or that produce other detrimental responses in aquatic organisms. There shall be no chronic toxicity in ambient waters. Chronic toxicity is a detrimental biological effect on growth rate, reproduction, fertilization success, larval development, population abundance, community composition, or any other relevant measure of the health of an organism, population, or community.
Objective/Criterion Reference:	Placeholder reference 2006 303(d)

Evaluation Guideline:	Reference envelope approach was used.
Guideline Reference:	Placeholder reference 2006 303(d)
Spatial Representation:	Samples taken from one location.
Temporal Representation:	Samples collected in September 1994.
Environmental Conditions:	
QAPP Information:	BPTCP Quality Assurance Project Plan.
QAPP Information Reference(s):	

Line of Evidence (LOE) for Decision ID 32399, Ammonia**Region 2****Islais Creek**

LOE ID:	464
Pollutant:	Ammonia
LOE Subgroup:	Narrative Description Data
Matrix:	-N/A
Fraction:	None
Beneficial Use:	Estuarine Habitat
Number of Samples:	0
Number of Exceedances:	0
Data and Information Type:	Not Specified
Data Used to Assess Water Quality:	The BPTCP Consolidated Toxic Hot Spots Cleanup Plan presents a variety of corrective actions that need to be completed in order for the cove to be remediated. Responsible parties have been identified.
Data Reference:	Placeholder reference 2006 303(d)
SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	
Objective/Criterion Reference:	
Evaluation Guideline:	
Guideline Reference:	
Spatial Representation:	
Temporal Representation:	
Environmental Conditions:	
QAPP Information:	QA Info Missing
QAPP Information Reference(s):	

Line of Evidence (LOE) for Decision ID 32399, Ammonia**Region 2****Islais Creek**

LOE ID:	461
Pollutant:	Sediment Toxicity
LOE Subgroup:	Toxicity
Matrix:	Sediment
Fraction:	None
Beneficial Use:	Estuarine Habitat
Number of Samples:	9
Number of Exceedances:	7
Data and Information Type:	Toxicity testing of sediments

Data Used to Assess Water Quality:	Significant amphipod toxicity in 3 of 4 samples (75%). Significant urchin toxicity in 4 of 5 samples (80%) (Hunt et al., 1998b).
Data Reference:	Placeholder reference 2006 303(d)
SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	All waters shall be maintained free of toxic substances in concentrations that are lethal to or that produce other detrimental responses in aquatic organisms (SFBRWQCB, 1995).
Objective/Criterion Reference:	Placeholder reference 2006 303(d)
Evaluation Guideline:	BPTCP Reference envelope approach used.
Guideline Reference:	Placeholder reference 2006 303(d)
Spatial Representation:	Data was synoptically collected with benthic community and toxicity measurements over the length of the creek.
Temporal Representation:	Data was collected from 9/94 - 9/97.
Environmental Conditions:	
QAPP Information:	BPTCP Quality Assurance Project Plan (Stephenson et al., 1994).
QAPP Information Reference(s):	

DECISION ID	32924	Region 2
Islais Creek		

Pollutant:	Chlordane
Final Listing Decision:	Do Not Delist from 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision:	Do Not Delist from 303(d) list (TMDL required list)(2012)
Revision Status	Original
Sources:	Source Unknown
Expected TMDL Completion Date:	2019
Impairment from Pollutant or Pollution:	Pollutant

Regional Board Staff Conclusion:	This pollutant is being considered for removal from the section 303(d) list under sections 4.6 and 4.10 of the Listing Policy. Under section 4.6 a single line of evidence is necessary to assess delisting status while under section 4.10, a minimum of two lines of evidence are needed to assess listing status. Six lines of evidence are available in the administrative record to assess this pollutant. Based on section 4.6, the site has significant sediment toxicity and the pollutant concentration not exceeds the sediment guideline. The benthic community is impacted. Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against removing this water segment-pollutant combination from the section 303(d) list in the Water Quality Limited Segments category. This conclusion is based on the staff findings that: 1. The sediment quality guideline used complies with the requirements of section 6.1.3 of the Policy. 2. The data used satisfies the data quality requirements of section 6.1.4 of the Policy. 3. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy. 4. Nineteen of 49 samples exceeded the 6 ng/g ERM sediment quality guideline, 14 of 27 samples exhibit toxicity, and these exceed the allowable frequency listed in Table 4.1 of the Listing Policy. The benthic community in this water body is impacted and this pollutant is associated with this impact. 5. Pursuant to section 4.11 of the Listing Policy, no additional data and information are available indicating that standards are met.
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Regional Board Staff Decision Recommendation:	This is a decision previously approved by the State Water Resources Control Board and the USEPA. No new data were assessed by the Regional Board for the current. The decision has not changed.
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Line of Evidence (LOE) for Decision ID 32924, Chlordane	Region 2
Islais Creek	

LOE ID:	463
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Pollutant:	Estuarine Bioassessments
LOE Subgroup:	Population/Community Degradation
Matrix:	Sediment
Fraction:	None
Beneficial Use:	Estuarine Habitat
Number of Samples:	3
Number of Exceedances:	2
Data and Information Type:	Benthic macroinvertebrate surveys
Data Used to Assess Water Quality:	Relative benthic index = 0.22, 0.25, 0.43 (3 benthic gradient samples) (Hunt et al., 1998b).
Data Reference:	Placeholder reference 2006 303(d)
SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	All waters shall be maintained free of toxic substances in concentrations that are lethal to or that produce other detrimental responses in aquatic organisms. There shall be no chronic toxicity in ambient waters. Chronic toxicity is a detrimental biological effect on growth rate, reproduction, fertilization success, larval development, population abundance, community composition, or any other relevant measure of the health of an organism, population, or community.
Objective/Criterion Reference:	Placeholder reference 2006 303(d)
Evaluation Guideline:	Evaluation of the benthic data were completed using the approaches developed by scientists associated with the BPTCP. The relative benthic index used is a calculated value considering the total fauna, total mollusk species, crustacean species and indicator species at a site. The index ranges from 0 to 1.0. An index value of less than or equal to 0.3 is an indication that pollutants or other factors are negatively impacting the benthic community.
Guideline Reference:	Placeholder reference 2006 303(d)
Spatial Representation:	Data was synoptically collected with benthic community and toxicity measurements over the length of the creek.
Temporal Representation:	Data was collected from 9/94 - 9/97.
Environmental Conditions:	
QAPP Information:	BPTCP Quality Assurance Project Plan.
QAPP Information Reference(s):	

Line of Evidence (LOE) for Decision ID 32924, Chlordane
Islais Creek

Region 2

LOE ID:	462
Pollutant:	Sediment Toxicity
LOE Subgroup:	Toxicity
Matrix:	Sediment
Fraction:	None
Beneficial Use:	Estuarine Habitat
Number of Samples:	18
Number of Exceedances:	7
Data and Information Type:	Toxicity testing of sediments
Data Used to Assess Water Quality:	Significant amphipod toxicity in 7 of 18 samples (Battelle Memorial Institute, 2002).
Data Reference:	Placeholder reference 2006 303(d)
SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	All waters shall be maintained free of toxic substances in concentrations that are lethal to

or that produce other detrimental responses in aquatic organisms (SFBRWQCB, 1995).

There shall be no chronic toxicity in ambient waters. Chronic toxicity is a detrimental biological effect on growth rate, reproduction, fertilization success, larval development, population abundance, community composition, or any other relevant measure of the health of an organism, population, or community.

Objective/Criterion Reference:

[Placeholder reference 2006 303\(d\)](#)

Evaluation Guideline:

BPTCP Reference envelope approach used.

Guideline Reference:

[Placeholder reference 2006 303\(d\)](#)

Spatial Representation:

Data was synoptically collected with benthic community and toxicity measurements over the length of the creek.

Temporal Representation:

Data were collected between 1998 and 2000.

Environmental Conditions:

Samples were collected in both wet and dry seasons.

QAPP Information:

Methods used were equivalent to those used in the BPTCP QAPP (Stephenson, et al., 1994). All reported data met QA requirements.

QAPP Information Reference(s):

Line of Evidence (LOE) for Decision ID 32924, Chlordane

Region 2

Islais Creek

LOE ID: 450

Pollutant: Chlordane

LOE Subgroup: Narrative Description Data

Matrix: -N/A

Fraction: None

Beneficial Use: Estuarine Habitat

Number of Samples: 0

Number of Exceedances: 0

Data and Information Type: Not Specified

Data Used to Assess Water Quality: The BPTCP Consolidated Toxic Hot Spots Cleanup Plan presents a variety of corrective actions that need to be completed in order for the cove to be remediated. Responsible parties have been identified.

Data Reference: [Placeholder reference 2006 303\(d\)](#)

SWAMP Data: Non-SWAMP

Water Quality Objective/Criterion:

Objective/Criterion Reference:

Evaluation Guideline:

Guideline Reference:

Spatial Representation:

Temporal Representation:

Environmental Conditions:

QAPP Information: QA Info Missing

QAPP Information Reference(s):

Line of Evidence (LOE) for Decision ID 32924, Chlordane

Region 2

Islais Creek

LOE ID: 451

Pollutant: Chlordane

LOE Subgroup: Pollutant-Sediment

Matrix:	Sediment
Fraction:	None
Beneficial Use:	Estuarine Habitat
Number of Samples:	3
Number of Exceedances:	1
Data and Information Type:	Chemical monitoring of sediments
Data Used to Assess Water Quality:	One of 3 samples exceeded ERM (Hunt et al, 1998b).
Data Reference:	Placeholder reference 2006 303(d)
SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	All waters shall be maintained free of toxic substances in concentrations that are lethal to or that produce other detrimental responses in aquatic organisms. There shall be no chronic toxicity in ambient waters. Chronic toxicity is a detrimental biological effect on growth rate, reproduction, fertilization success, larval development, population abundance, community composition, or any other relevant measure of the health of an organism, population, or community.
Objective/Criterion Reference:	Placeholder reference 2006 303(d)
Evaluation Guideline:	ERM of 6 ng/g used (Long and Morgan, 1990).
Guideline Reference:	Placeholder reference 2006 303(d)
Spatial Representation:	Data was collected at same locations as benthic community and toxicity samples.
Temporal Representation:	Data was collected in 1997.
Environmental Conditions:	
QAPP Information:	BPTCP Quality Assurance Project Plan.
QAPP Information Reference(s):	

Line of Evidence (LOE) for Decision ID 32924, Chlordane

Region 2

Islais Creek

LOE ID:	461
Pollutant:	Sediment Toxicity
LOE Subgroup:	Toxicity
Matrix:	Sediment
Fraction:	None
Beneficial Use:	Estuarine Habitat
Number of Samples:	9
Number of Exceedances:	7
Data and Information Type:	Toxicity testing of sediments
Data Used to Assess Water Quality:	Significant amphipod toxicity in 3 of 4 samples (75%). Significant urchin toxicity in 4 of 5 samples (80%) (Hunt et al., 1998b).
Data Reference:	Placeholder reference 2006 303(d)
SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	All waters shall be maintained free of toxic substances in concentrations that are lethal to or that produce other detrimental responses in aquatic organisms (SFBRWQCB, 1995).
Objective/Criterion Reference:	Placeholder reference 2006 303(d)
Evaluation Guideline:	BPTCP Reference envelope approach used.
Guideline Reference:	Placeholder reference 2006 303(d)
Spatial Representation:	Data was synoptically collected with benthic community and toxicity measurements over

Temporal Representation: the length of the creek.
 Environmental Conditions: Data was collected from 9/94 - 9/97.
 QAPP Information: BPTCP Quality Assurance Project Plan (Stephenson et al., 1994).
 QAPP Information Reference(s):

Line of Evidence (LOE) for Decision ID 32924, Chlordane
Islais Creek

Region 2

LOE ID: 452

Pollutant: Chlordane
 LOE Subgroup: Pollutant-Sediment
 Matrix: Sediment
 Fraction: None

Beneficial Use: Estuarine Habitat

Number of Samples: 46
 Number of Exceedances: 18

Data and Information Type: Chemical monitoring of sediments
 Data Used to Assess Water Quality: Eighteen of 46 samples exceed the ERM (Battelle Memorial Institute, 2002).
 Data Reference: [Placeholder reference 2006 303\(d\)](#)

SWAMP Data: Non-SWAMP

Water Quality Objective/Criterion: All waters shall be maintained free of toxic substances in concentrations that are lethal to or that produce other detrimental responses in aquatic organisms.

Objective/Criterion Reference: There shall be no chronic toxicity in ambient waters. Chronic toxicity is a detrimental biological effect on growth rate, reproduction, fertilization success, larval development, population abundance, community composition, or any other relevant measure of the health of an organism, population, or community.
[Placeholder reference 2006 303\(d\)](#)

Evaluation Guideline: ERM of 6 ng/g used (Long and Morgan, 1990).
 Guideline Reference: [Placeholder reference 2006 303\(d\)](#)

Spatial Representation: Data was synoptically collected with benthic community and toxicity measurements over the length of the creek.

Temporal Representation: Data were collected between 1998 and 2000.

Environmental Conditions:

QAPP Information: Methods used were equivalent to those used in the BPTCP QAPP. All reported data met QA requirements.

QAPP Information Reference(s):

DECISION ID 32365
Islais Creek

Region 2

Pollutant: Dieldrin
 Final Listing Decision: Do Not Delist from 303(d) list (TMDL required list)
 Last Listing Cycle's Final Listing Decision: Do Not Delist from 303(d) list (TMDL required list)(2012)
 Revision Status: Original
 Sources: Source Unknown
 Expected TMDL Completion Date: 2019
 Impairment from Pollutant or Pollution: Pollutant

**Regional Board Staff
Conclusion:**

This pollutant is being considered for removal from the section 303(d) list under sections 4.6 and 4.9 of the Listing Policy. Under section 4.6 a single line of evidence is necessary to assess delisting status while under section 4.9, a minimum of two lines of evidence are needed to assess listing status. Six lines of evidence are available in the administrative record to assess this pollutant. Based on section 4.6, the site has significant sediment toxicity and the pollutant concentration exceeds the sediment guideline. The benthic community is impacted. Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against removing this water segment-pollutant combination from the section 303(d) list in the Water Quality Limited Segments category. This conclusion is based on the staff findings that: 1. The sediment quality guideline used complies with the requirements of section 6.1.3 of the Policy. 2. The data used satisfies the data quality requirements of section 6.1.4 of the Policy. 3. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy. 4. Seven of 49 samples exceeded the 8 ng/g ERM sediment quality guideline, 14 of 27 samples exhibit toxicity, and these exceed the allowable frequency listed in Table 4.1 of the Listing Policy. The benthic community in this water body is impacted and this pollutant is associated with this impact. 5. Pursuant to section 4.11 of the Listing Policy, no additional data and information are available indicating that standards are met.

**Regional Board Staff Decision
Recommendation:**

This is a decision previously approved by the State Water Resources Control Board and the USEPA. No new data were assessed by the Regional Board for the current. The decision has not changed.

Line of Evidence (LOE) for Decision ID 32365, Dieldrin

Region 2

Islais Creek

LOE ID:	461
Pollutant:	Sediment Toxicity
LOE Subgroup:	Toxicity
Matrix:	Sediment
Fraction:	None
Beneficial Use:	Estuarine Habitat
Number of Samples:	9
Number of Exceedances:	7
Data and Information Type:	Toxicity testing of sediments
Data Used to Assess Water Quality:	Significant amphipod toxicity in 3 of 4 samples (75%). Significant urchin toxicity in 4 of 5 samples (80%) (Hunt et al., 1998b).
Data Reference:	Placeholder reference 2006 303(d)
SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	All waters shall be maintained free of toxic substances in concentrations that are lethal to or that produce other detrimental responses in aquatic organisms (SFBRWQCB, 1995).
Objective/Criterion Reference:	Placeholder reference 2006 303(d)
Evaluation Guideline:	BPTCP Reference envelope approach used.
Guideline Reference:	Placeholder reference 2006 303(d)
Spatial Representation:	Data was synoptically collected with benthic community and toxicity measurements over the length of the creek.
Temporal Representation:	Data was collected from 9/94 - 9/97.
Environmental Conditions:	
QAPP Information:	BPTCP Quality Assurance Project Plan (Stephenson et al., 1994).
QAPP Information Reference(s):	

Line of Evidence (LOE) for Decision ID 32365, Dieldrin

Region 2

Islais Creek

LOE ID:	454
Pollutant:	Dieldrin
LOE Subgroup:	Pollutant-Sediment
Matrix:	Sediment
Fraction:	None
Beneficial Use:	Estuarine Habitat
Number of Samples:	3
Number of Exceedances:	1
Data and Information Type:	Chemical monitoring of sediments
Data Used to Assess Water Quality:	One of 3 samples exceeded ERM (Hunt et al., 1998b).
Data Reference:	Placeholder reference 2006 303(d)
SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	All waters shall be maintained free of toxic substances in concentrations that are lethal to or that produce other detrimental responses in aquatic organisms. There shall be no chronic toxicity in ambient waters. Chronic toxicity is a detrimental biological effect on growth rate, reproduction, fertilization success, larval development, population abundance, community composition, or any other relevant measure of the health of an organism, population, or community.
Objective/Criterion Reference:	Placeholder reference 2006 303(d)
Evaluation Guideline:	ERM of 8 ng/g used (Long et al., 1995).
Guideline Reference:	Placeholder reference 2006 303(d)
Spatial Representation:	Data was collected at same locations as benthic community and toxicity samples.
Temporal Representation:	Data was collected in 1997.
Environmental Conditions:	
QAPP Information:	BPTCP Quality Assurance Project Plan.
QAPP Information Reference(s):	

Line of Evidence (LOE) for Decision ID 32365, Dieldrin

Region 2

Islais Creek

LOE ID:	455
Pollutant:	Dieldrin
LOE Subgroup:	Pollutant-Sediment
Matrix:	Sediment
Fraction:	None
Beneficial Use:	Estuarine Habitat
Number of Samples:	46
Number of Exceedances:	6
Data and Information Type:	Chemical monitoring of sediments
Data Used to Assess Water Quality:	Six of 46 samples exceeded the ERM (Battelle Memorial Institute, 2002).
Data Reference:	Placeholder reference 2006 303(d)
SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	All waters shall be maintained free of toxic substances in concentrations that are lethal to or that produce other detrimental responses in aquatic organisms. There shall be no chronic toxicity in ambient waters. Chronic toxicity is a detrimental biological effect on growth rate, reproduction, fertilization success, larval development,

Objective/Criterion Reference:	population abundance, community composition, or any other relevant measure of the health of an organism, population, or community. Placeholder reference 2006 303(d)
Evaluation Guideline: Guideline Reference:	ERM of 8 ng/g used (Long et al., 1995). Placeholder reference 2006 303(d)
Spatial Representation:	Data was synoptically collected with benthic community and toxicity measurements over the length of the creek.
Temporal Representation:	Samples were collected between 1998 and 2000.
Environmental Conditions:	
QAPP Information:	Methods used were equivalent to those used in the BPTCP QAPP. All reported data met QA requirements.
QAPP Information Reference(s):	

Line of Evidence (LOE) for Decision ID 32365, Dieldrin

Region 2

Islais Creek

LOE ID:	453
Pollutant:	Dieldrin
LOE Subgroup:	Narrative Description Data
Matrix:	-N/A
Fraction:	None
Beneficial Use:	Estuarine Habitat
Number of Samples:	0
Number of Exceedances:	0
Data and Information Type:	Not Specified
Data Used to Assess Water Quality:	The BPTCP Consolidated Toxic Hot Spots Cleanup Plan presents a variety of corrective actions that need to be completed in order for the cove to be remediated. Responsible parties have been identified.
Data Reference:	Placeholder reference 2006 303(d)
SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	
Objective/Criterion Reference:	
Evaluation Guideline:	
Guideline Reference:	
Spatial Representation:	
Temporal Representation:	
Environmental Conditions:	
QAPP Information:	QA Info Missing
QAPP Information Reference(s):	

Line of Evidence (LOE) for Decision ID 32365, Dieldrin

Region 2

Islais Creek

LOE ID:	462
Pollutant:	Sediment Toxicity
LOE Subgroup:	Toxicity
Matrix:	Sediment
Fraction:	None
Beneficial Use:	Estuarine Habitat

Number of Samples:	18
Number of Exceedances:	7
Data and Information Type:	Toxicity testing of sediments
Data Used to Assess Water Quality:	Significant amphipod toxicity in 7 of 18 samples (Battelle Memorial Institute, 2002).
Data Reference:	Placeholder reference 2006 303(d)
SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	All waters shall be maintained free of toxic substances in concentrations that are lethal to or that produce other detrimental responses in aquatic organisms (SFBRWQCB, 1995). There shall be no chronic toxicity in ambient waters. Chronic toxicity is a detrimental biological effect on growth rate, reproduction, fertilization success, larval development, population abundance, community composition, or any other relevant measure of the health of an organism, population, or community.
Objective/Criterion Reference:	Placeholder reference 2006 303(d)
Evaluation Guideline:	BPTCP Reference envelope approach used.
Guideline Reference:	Placeholder reference 2006 303(d)
Spatial Representation:	Data was synoptically collected with benthic community and toxicity measurements over the length of the creek.
Temporal Representation:	Data were collected between 1998 and 2000.
Environmental Conditions:	Samples were collected in both wet and dry seasons.
QAPP Information:	Methods used were equivalent to those used in the BPTCP QAPP (Stephenson, et al., 1994). All reported data met QA requirements.
QAPP Information Reference(s):	

Line of Evidence (LOE) for Decision ID 32365, Dieldrin

Region 2

Islais Creek

LOE ID:	463
Pollutant:	Estuarine Bioassessments
LOE Subgroup:	Population/Community Degradation
Matrix:	Sediment
Fraction:	None
Beneficial Use:	Estuarine Habitat
Number of Samples:	3
Number of Exceedances:	2
Data and Information Type:	Benthic macroinvertebrate surveys
Data Used to Assess Water Quality:	Relative benthic index = 0.22, 0.25, 0.43 (3 benthic gradient samples) (Hunt et al., 1998b).
Data Reference:	Placeholder reference 2006 303(d)
SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	All waters shall be maintained free of toxic substances in concentrations that are lethal to or that produce other detrimental responses in aquatic organisms. There shall be no chronic toxicity in ambient waters. Chronic toxicity is a detrimental biological effect on growth rate, reproduction, fertilization success, larval development, population abundance, community composition, or any other relevant measure of the health of an organism, population, or community.
Objective/Criterion Reference:	Placeholder reference 2006 303(d)
Evaluation Guideline:	Evaluation of the benthic data were completed using the approaches developed by scientists associated with the BPTCP. The relative benthic index used is a calculated

value considering the total fauna, total mollusk species, crustacean species and indicator species at a site. The index ranges from 0 to 1.0. An index value of less than or equal to 0.3 is an indication that pollutants or other factors are negatively impacting the benthic community.

Guideline Reference:

[Placeholder reference 2006 303\(d\)](#)

Spatial Representation:

Data was synoptically collected with benthic community and toxicity measurements over the length of the creek.

Temporal Representation:

Data was collected from 9/94 - 9/97.

Environmental Conditions:

QAPP Information:

BPTCP Quality Assurance Project Plan.

QAPP Information Reference(s):

DECISION ID	32414	Region 2
Islais Creek		

Pollutant:	Hydrogen Sulfide
Final Listing Decision:	Do Not Delist from 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision:	Do Not Delist from 303(d) list (TMDL required list)(2012)
Revision Status	Original
Sources:	Source Unknown
Expected TMDL Completion Date:	2019
Impairment from Pollutant or Pollution:	Pollutant

Regional Board Staff Conclusion:	This pollutant is being considered for removal from the section 303(d) list under sections 4.6 of the Listing Policy. Under section 4.6 a single line of evidence is necessary to assess delisting status. Two lines of evidence are available in the administrative record to assess this pollutant. Based on section 4.6, the site has significant sediment toxicity and the pollutant concentration does not exceed the sediment guideline. Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against removing this water segment-pollutant combination from the section 303(d) list in the Water Quality Limited Segments category. This conclusion is based on the staff findings that: 1. The sediment quality guideline used complies with the requirements of section 6.1.3 of the Policy. 2. The data used satisfies the data quality requirements of section 6.1.4 of the Policy. 3. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy. 4. All samples in the two lines of evidence exhibited significant toxicity and this exceeds the allowable frequency listed in Table 4.1 of the Listing Policy. 5. Pursuant to section 4.11 of the Listing Policy, no additional data and information are available indicating that standards are met.
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Regional Board Staff Decision Recommendation:	This is a decision previously approved by the State Water Resources Control Board and the USEPA. No new data were assessed by the Regional Board for the current. The decision has not changed.
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Line of Evidence (LOE) for Decision ID 32414, Hydrogen Sulfide	Region 2
Islais Creek	

LOE ID:	458
Pollutant:	Hydrogen Sulfide
LOE Subgroup:	Narrative Description Data
Matrix:	-N/A
Fraction:	None
Beneficial Use:	Estuarine Habitat
Number of Samples:	0
Number of Exceedances:	0

Data and Information Type:	Not Specified
Data Used to Assess Water Quality:	The BPTCP Consolidated Toxic Hot Spots Cleanup Plan presents a variety of corrective actions that need to be completed in order for the cove to be remediated. Responsible parties have been identified.
Data Reference:	Placeholder reference 2006 303(d)
SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	
Objective/Criterion Reference:	
Evaluation Guideline:	
Guideline Reference:	
Spatial Representation:	
Temporal Representation:	
Environmental Conditions:	
QAPP Information:	QA Info Missing
QAPP Information Reference(s):	

Line of Evidence (LOE) for Decision ID 32414, Hydrogen Sulfide

Region 2

Islais Creek

LOE ID:	459
Pollutant:	Hydrogen Sulfide
LOE Subgroup:	Toxicity
Matrix:	Sediment
Fraction:	Total
Beneficial Use:	Estuarine Habitat
Number of Samples:	6
Number of Exceedances:	6
Data and Information Type:	Toxicity testing of sediments
Data Used to Assess Water Quality:	Six samples exceeding the threshold in six total measurements. Eohaustorius and purple urchin tests (Hunt et al., 1998a).
Data Reference:	Placeholder reference 2006 303(d)
SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	All waters shall be maintained free of toxic substances in concentrations that are lethal to or that produce other detrimental responses in aquatic organisms (SFBWQCB, 1995).
Objective/Criterion Reference:	Placeholder reference 2006 303(d)
Evaluation Guideline:	Effect thresholds for BPTCP toxicity test protocols Eohaustorius LOEC 0.114 mg/L (Knezovich et al., 1996) Mytilus LOEC 0.0053 mg/L (Hunt et al., 1998) Rhepoxynius LOEC 0.087 mg/L (Hunt et al., 1998) Purple Urchin Development LOEC 0.0076 mg/L (Knezovich et al., 1996) Purple Urchin Fertilization LOEC 0.007-0.014 NOEC (Bay et al., 1993)
Guideline Reference:	Placeholder reference 2006 303(d)
Spatial Representation:	Data was concurrently collected from samples tested for toxicity.
Temporal Representation:	Data was collected in September 1994.
Environmental Conditions:	
QAPP Information:	BPTCP Quality Assurance Project Plan (SWRCB, 1994).
QAPP Information Reference(s):	

DECISION ID	32999	Region 2
Islais Creek		

Pollutant:	PCBs (Polychlorinated biphenyls)
Final Listing Decision:	Do Not List on 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision:	Do Not List on 303(d) list (TMDL required list)(2012)
Revision Status	Original
Impairment from Pollutant or Pollution:	Pollutant

Regional Board Staff Conclusion:	<p>This pollutant is being considered for removal from the 303(d) list under sections 4.6, and 4.10 of the Listing Policy. Under section 4.6 a single line of evidence is necessary to assess delisting status while under section 4.10, a minimum of two lines of evidence are needed to assess delisting status. Six lines of evidence are available in the administrative record to assess this pollutant. Based on section 4.6 the site has significant sediment toxicity but there is insufficient information to determine whether the pollutant contributes to the toxic effects. The benthic community may be impacted by this pollutant. A remedial program has scheduled actions to address this pollutant water body combination. Based on the readily available data and information for sediments, the weight of evidence indicates that there is sufficient justification in favor of removing this water segment-pollutant combination from the section 303(d) list in the Water Quality Limited Segments category. This pollutant should not be removed from this segment because PCBs have been found to bioaccumulate in fish tissue. This conclusion is based on the staff findings that: 1. The sediment quality guideline used complies with the requirements of section 6.1.3 of the Policy. 2. The data used satisfies the data quality requirements of section 6.1.4 of the Policy. 3. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy. 4. Two of 49 samples exceeded the sediment guideline and this does not exceed the allowable frequency listed in Table 4.1 of the Listing Policy. Ten of 22 samples exhibited significant amphipod toxicity, 4 of five samples exhibited significant sea urchin toxicity and the benthic community is considered to be degraded. 5. Pursuant to section 3.11 of the Listing Policy, PCBs have been listed throughout the Bay because of concerns with bioaccumulation in fish tissue.</p>
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Regional Board Staff Decision Recommendation:	This is a decision previously approved by the State Water Resources Control Board and the USEPA. No new data were assessed by the Regional Board for the current. The decision has not changed.
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Line of Evidence (LOE) for Decision ID 32999, PCBs (Polychlorinated biphenyls)	Region 2
Islais Creek	

LOE ID:	462
Pollutant:	Sediment Toxicity
LOE Subgroup:	Toxicity
Matrix:	Sediment
Fraction:	None
Beneficial Use:	Estuarine Habitat
Number of Samples:	18
Number of Exceedances:	7
Data and Information Type:	Toxicity testing of sediments
Data Used to Assess Water Quality:	Significant amphipod toxicity in 7 of 18 samples (Battelle Memorial Institute, 2002).
Data Reference:	Placeholder reference 2006 303(d)
SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	<p>All waters shall be maintained free of toxic substances in concentrations that are lethal to or that produce other detrimental responses in aquatic organisms (SFBRWQCB, 1995).</p> <p>There shall be no chronic toxicity in ambient waters. Chronic toxicity is a detrimental</p>

Objective/Criterion Reference:	biological effect on growth rate, reproduction, fertilization success, larval development, population abundance, community composition, or any other relevant measure of the health of an organism, population, or community. Placeholder reference 2006 303(d)
Evaluation Guideline:	BPTCP Reference envelope approach used.
Guideline Reference:	Placeholder reference 2006 303(d)
Spatial Representation:	Data was synoptically collected with benthic community and toxicity measurements over the length of the creek.
Temporal Representation:	Data were collected between 1998 and 2000.
Environmental Conditions:	Samples were collected in both wet and dry seasons.
QAPP Information:	Methods used were equivalent to those used in the BPTCP QAPP (Stephenson, et al., 1994). All reported data met QA requirements.
QAPP Information Reference(s):	

Line of Evidence (LOE) for Decision ID 32999, PCBs (Polychlorinated biphenyls)

Region 2

Islais Creek

LOE ID:	463
Pollutant:	Estuarine Bioassessments
LOE Subgroup:	Population/Community Degradation
Matrix:	Sediment
Fraction:	None
Beneficial Use:	Estuarine Habitat
Number of Samples:	3
Number of Exceedances:	2
Data and Information Type:	Benthic macroinvertebrate surveys
Data Used to Assess Water Quality:	Relative benthic index = 0.22, 0.25, 0.43 (3 benthic gradient samples) (Hunt et al., 1998b).
Data Reference:	Placeholder reference 2006 303(d)
SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	All waters shall be maintained free of toxic substances in concentrations that are lethal to or that produce other detrimental responses in aquatic organisms. There shall be no chronic toxicity in ambient waters. Chronic toxicity is a detrimental biological effect on growth rate, reproduction, fertilization success, larval development, population abundance, community composition, or any other relevant measure of the health of an organism, population, or community.
Objective/Criterion Reference:	Placeholder reference 2006 303(d)
Evaluation Guideline:	Evaluation of the benthic data were completed using the approaches developed by scientists associated with the BPTCP. The relative benthic index used is a calculated value considering the total fauna, total mollusk species, crustacean species and indicator species at a site. The index ranges from 0 to 1.0. An index value of less than or equal to 0.3 is an indication that pollutants or other factors are negatively impacting the benthic community.
Guideline Reference:	Placeholder reference 2006 303(d)
Spatial Representation:	Data was synoptically collected with benthic community and toxicity measurements over the length of the creek.
Temporal Representation:	Data was collected from 9/94 - 9/97.
Environmental Conditions:	
QAPP Information:	BPTCP Quality Assurance Project Plan.
QAPP Information Reference(s):	

Line of Evidence (LOE) for Decision ID 32999, PCBs (Polychlorinated biphenyls)

Region 2

Islais Creek

LOE ID:	449
Pollutant:	PCBs (Polychlorinated biphenyls)
LOE Subgroup:	Pollutant-Sediment
Matrix:	Sediment
Fraction:	None
Beneficial Use:	Estuarine Habitat
Number of Samples:	46
Number of Exceedances:	1
Data and Information Type:	Not Specified
Data Used to Assess Water Quality:	One of 46 samples exceeded the sediment quality guideline (Battelle Memorial Institute, 2002).
Data Reference:	Placeholder reference 2006 303(d)
SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	All waters shall be maintained free of toxic substances in concentrations that are lethal to or that produce other detrimental responses in aquatic organisms (SRBRWQCB, 1995).
Objective/Criterion Reference:	Placeholder reference 2006 303(d)
Evaluation Guideline:	Sediment guideline of 400 ng/g used (MacDonald et al., 2000).
Guideline Reference:	Placeholder reference 2006 303(d)
Spatial Representation:	Data was synoptically collected with benthic community and toxicity measurements over the length of the creek.
Temporal Representation:	Data were collected between 1998 and 2000.
Environmental Conditions:	
QAPP Information:	Methods used were equivalent to those used in the BPTCP QAPP (Stephenson et al., 1994). All reported data met QA requirements.
QAPP Information Reference(s):	

Line of Evidence (LOE) for Decision ID 32999, PCBs (Polychlorinated biphenyls)

Region 2

Islais Creek

LOE ID:	448
Pollutant:	PCBs (Polychlorinated biphenyls)
LOE Subgroup:	Pollutant-Sediment
Matrix:	Sediment
Fraction:	None
Beneficial Use:	Estuarine Habitat
Number of Samples:	3
Number of Exceedances:	1
Data and Information Type:	Chemical monitoring of sediments
Data Used to Assess Water Quality:	One of 3 samples exceeded sediment guideline (Hunt et al., 1998b).
Data Reference:	Placeholder reference 2006 303(d)
SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	All waters shall be maintained free of toxic substances in concentrations that are lethal to or that produce other detrimental responses in aquatic organisms (SFBRWQCB, 1995).
Objective/Criterion Reference:	Placeholder reference 2006 303(d)
Evaluation Guideline:	Sediment guideline of 400 ng/g used (MacDonald et al., 2000).

Guideline Reference:	Placeholder reference 2006 303(d)
Spatial Representation:	Data was synoptically collected with benthic community and toxicity measurements over the length of the creek.
Temporal Representation:	Data was collected from 9/94 - 9/97.
Environmental Conditions:	
QAPP Information:	BPTCP Quality Assurance Project Plan (Stephenson et al., 1994).
QAPP Information Reference(s):	

Line of Evidence (LOE) for Decision ID 32999, PCBs (Polychlorinated biphenyls)	Region 2
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Islais Creek

LOE ID:	447
Pollutant:	PCBs (Polychlorinated biphenyls)
LOE Subgroup:	Narrative Description Data
Matrix:	-N/A
Fraction:	None
Beneficial Use:	Estuarine Habitat
Number of Samples:	0
Number of Exceedances:	0
Data and Information Type:	Not Specified
Data Used to Assess Water Quality:	The BPTCP Consolidated Toxic Hot Spots Cleanup Plan presents a variety of corrective actions that need to be completed in order for the cove to be remediated. Responsible parties have been identified.
Data Reference:	Placeholder reference 2006 303(d)
SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	
Objective/Criterion Reference:	
Evaluation Guideline:	
Guideline Reference:	
Spatial Representation:	
Temporal Representation:	
Environmental Conditions:	
QAPP Information:	QA Info Missing
QAPP Information Reference(s):	

Line of Evidence (LOE) for Decision ID 32999, PCBs (Polychlorinated biphenyls)	Region 2
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Islais Creek

LOE ID:	461
Pollutant:	Sediment Toxicity
LOE Subgroup:	Toxicity
Matrix:	Sediment
Fraction:	None
Beneficial Use:	Estuarine Habitat
Number of Samples:	9
Number of Exceedances:	7
Data and Information Type:	Toxicity testing of sediments
Data Used to Assess Water Quality:	Significant amphipod toxicity in 3 of 4 samples (75%). Significant urchin toxicity in 4 of 5

Data Reference:	samples (80%) (Hunt et al., 1998b). Placeholder reference 2006 303(d)
SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	All waters shall be maintained free of toxic substances in concentrations that are lethal to or that produce other detrimental responses in aquatic organisms (SFBRWQCB, 1995).
Objective/Criterion Reference:	Placeholder reference 2006 303(d)
Evaluation Guideline:	BPTCP Reference envelope approach used.
Guideline Reference:	Placeholder reference 2006 303(d)
Spatial Representation:	Data was synoptically collected with benthic community and toxicity measurements over the length of the creek.
Temporal Representation:	Data was collected from 9/94 - 9/97.
Environmental Conditions:	
QAPP Information:	BPTCP Quality Assurance Project Plan (Stephenson et al., 1994).
QAPP Information Reference(s):	

DECISION ID	34719	Region 2
Islais Creek		

Pollutant:	PAHs (Polycyclic Aromatic Hydrocarbons)
Final Listing Decision:	List on 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision:	List on 303(d) list (TMDL required list)(2012)
Revision Status	Original
Sources:	Source Unknown
Expected TMDL Completion Date:	2019
Impairment from Pollutant or Pollution:	Pollutant

Regional Board Staff Conclusion: 303(d) listing decisions made prior to 2006 were not held in an assessment database. The Regional Boards will update this decision when new data and information become available and are assessed.

Regional Board Staff Decision Recommendation: This is a decision previously approved by the State Water Resources Control Board and the USEPA. No new data were assessed by the Regional Board for the current. The decision has not changed.

Line of Evidence (LOE) for Decision ID 34719, PAHs (Polycyclic Aromatic Hydrocarbons)	Region 2
Islais Creek	

LOE ID:	3754
Pollutant:	PAHs (Polycyclic Aromatic Hydrocarbons) (sediment)
LOE Subgroup:	Pollutant-Sediment
Matrix:	Sediment
Fraction:	Not Recorded
Beneficial Use:	Estuarine Habitat
Number of Samples:	0
Number of Exceedances:	0
Data and Information Type:	Not Specified
Data Used to Assess Water Quality:	Unspecified--This LOE is a placeholder to support a 303(d) listing decision made prior to 2006.
Data Reference:	Placeholder reference pre-2006 303(d)

SWAMP Data:

Non-SWAMP

Water Quality Objective/Criterion:
Objective/Criterion Reference:

Evaluation Guideline:
Guideline Reference:

Spatial Representation: Unspecified
Temporal Representation: Unspecified
Environmental Conditions: Unspecified
QAPP Information: Unspecified
QAPP Information Reference(s):

DECISION ID	33333	Region 2
Islais Creek		

Pollutant:	Toxicity
Final Listing Decision:	List on 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision:	List on 303(d) list (TMDL required list)(2012)
Revision Status	Original
Sources:	Source Unknown
Expected TMDL Completion Date:	2019
Impairment from Pollutant or Pollution:	Pollutant

Regional Board Staff Conclusion: This pollutant is being considered for removal from the 303(d) list under sections 4.6, and 4.10 of the Listing Policy. Under section 4.6 a single line of evidence is necessary to assess delisting status while under section 4.10, a minimum of two lines of evidence are needed to assess delisting status. Six lines of evidence are available in the administrative record to assess this pollutant. Based on section 4.6 the site has significant sediment toxicity but there is insufficient information to determine whether the pollutant contributes to the toxic effects. The benthic community may be impacted by this pollutant. A remedial program has scheduled actions to address this pollutant water body combination. Based on the readily available data and information for sediments, the weight of evidence indicates that there is sufficient justification in favor of removing this water segment-pollutant combination from the section 303(d) list in the Water Quality Limited Segments category. This pollutant should not be removed from this segment because PCBs have been found to bioaccumulate in fish tissue. This conclusion is based on the staff findings that: 1. The sediment quality guideline used complies with the requirements of section 6.1.3 of the Policy. 2. The data used satisfies the data quality requirements of section 6.1.4 of the Policy. 3. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy. 4. Two of 49 samples exceeded the sediment guideline and this does not exceed the allowable frequency listed in Table 4.1 of the Listing Policy. Ten of 22 samples exhibited significant amphipod toxicity, 4 of five samples exhibited significant sea urchin toxicity and the benthic community is considered to be degraded. 5. Pursuant to section 3.11 of the Listing Policy, PCBs have been listed throughout the Bay because of concerns with bioaccumulation in fish tissue.

Regional Board Staff Decision Recommendation: This is a decision previously approved by the State Water Resources Control Board and the USEPA. No new data were assessed by the Regional Board for the current. The decision has not changed.

Line of Evidence (LOE) for Decision ID 33333, Toxicity	Region 2
Islais Creek	

LOE ID:	462
Pollutant:	Sediment Toxicity
LOE Subgroup:	Toxicity

Matrix:	Sediment
Fraction:	None
Beneficial Use:	Estuarine Habitat
Number of Samples:	18
Number of Exceedances:	7
Data and Information Type:	Toxicity testing of sediments
Data Used to Assess Water Quality:	Significant amphipod toxicity in 7 of 18 samples (Battelle Memorial Institute, 2002).
Data Reference:	Placeholder reference 2006 303(d)
SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	All waters shall be maintained free of toxic substances in concentrations that are lethal to or that produce other detrimental responses in aquatic organisms (SFBRWQCB, 1995). There shall be no chronic toxicity in ambient waters. Chronic toxicity is a detrimental biological effect on growth rate, reproduction, fertilization success, larval development, population abundance, community composition, or any other relevant measure of the health of an organism, population, or community.
Objective/Criterion Reference:	Placeholder reference 2006 303(d)
Evaluation Guideline:	BPTCP Reference envelope approach used.
Guideline Reference:	Placeholder reference 2006 303(d)
Spatial Representation:	Data was synoptically collected with benthic community and toxicity measurements over the length of the creek.
Temporal Representation:	Data were collected between 1998 and 2000.
Environmental Conditions:	Samples were collected in both wet and dry seasons.
QAPP Information:	Methods used were equivalent to those used in the BPTCP QAPP (Stephenson, et al., 1994). All reported data met QA requirements.
QAPP Information Reference(s):	

Line of Evidence (LOE) for Decision ID 33333, Toxicity

Region 2

Islais Creek

LOE ID:	463
Pollutant:	Estuarine Bioassessments
LOE Subgroup:	Population/Community Degradation
Matrix:	Sediment
Fraction:	None
Beneficial Use:	Estuarine Habitat
Number of Samples:	3
Number of Exceedances:	2
Data and Information Type:	Benthic macroinvertebrate surveys
Data Used to Assess Water Quality:	Relative benthic index = 0.22, 0.25, 0.43 (3 benthic gradient samples) (Hunt et al., 1998b).
Data Reference:	Placeholder reference 2006 303(d)
SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	All waters shall be maintained free of toxic substances in concentrations that are lethal to or that produce other detrimental responses in aquatic organisms. There shall be no chronic toxicity in ambient waters. Chronic toxicity is a detrimental biological effect on growth rate, reproduction, fertilization success, larval development, population abundance, community composition, or any other relevant measure of the health of an organism, population, or community.

Objective/Criterion Reference:	Placeholder reference 2006 303(d)
Evaluation Guideline:	Evaluation of the benthic data were completed using the approaches developed by scientists associated with the BPTCP. The relative benthic index used is a calculated value considering the total fauna, total mollusk species, crustacean species and indicator species at a site. The index ranges from 0 to 1.0. An index value of less than or equal to 0.3 is an indication that pollutants or other factors are negatively impacting the benthic community.
Guideline Reference:	Placeholder reference 2006 303(d)
Spatial Representation:	Data was synoptically collected with benthic community and toxicity measurements over the length of the creek.
Temporal Representation:	Data was collected from 9/94 - 9/97.
Environmental Conditions:	
QAPP Information:	BPTCP Quality Assurance Project Plan.
QAPP Information Reference(s):	

Line of Evidence (LOE) for Decision ID 33333, Toxicity

Region 2

Islais Creek

LOE ID:	461
Pollutant:	Sediment Toxicity
LOE Subgroup:	Toxicity
Matrix:	Sediment
Fraction:	None
Beneficial Use:	Estuarine Habitat
Number of Samples:	9
Number of Exceedances:	7
Data and Information Type:	Toxicity testing of sediments
Data Used to Assess Water Quality:	Significant amphipod toxicity in 3 of 4 samples (75%). Significant urchin toxicity in 4 of 5 samples (80%) (Hunt et al., 1998b).
Data Reference:	Placeholder reference 2006 303(d)
SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	All waters shall be maintained free of toxic substances in concentrations that are lethal to or that produce other detrimental responses in aquatic organisms (SFBRWQCB, 1995).
Objective/Criterion Reference:	Placeholder reference 2006 303(d)
Evaluation Guideline:	BPTCP Reference envelope approach used.
Guideline Reference:	Placeholder reference 2006 303(d)
Spatial Representation:	Data was synoptically collected with benthic community and toxicity measurements over the length of the creek.
Temporal Representation:	Data was collected from 9/94 - 9/97.
Environmental Conditions:	
QAPP Information:	BPTCP Quality Assurance Project Plan (Stephenson et al., 1994).
QAPP Information Reference(s):	

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Supporting Information

Regional Board 2 - San Francisco Bay Region

Water Body Name: Marina Lagoon (San Mateo County)
Water Body ID: CAE2044004020011017115908
Water Body Type: Estuary

DECISION ID 34787 **Region 2**
Marina Lagoon (San Mateo County)

Pollutant: Indicator Bacteria
Final Listing Decision: Delist from 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision: List on 303(d) list (TMDL required list)(2012)
Revision Status Revised
Reason for Delisting: Delisting due to spatial change or other CalWQA administrative reason
Impairment from Pollutant or Pollution: Pollutant

Regional Board Staff Conclusion: This waterbody is being de-listed due to a mapping change. The listing is being moved to a different waterbody (Aquatic Park Beach) where the data were actually collected. This decision will be retired during the next listing cycle.

Regional Board Staff Decision Recommendation: After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should be removed from the section 303(d) list because applicable water quality standards for the pollutant are not being exceeded.

This waterbody is being de-listed due to a mapping change. The listing is being moved to a different waterbody (Aquatic Park Beach) where the data were actually collected. This decision will be retired during the next listing cycle.

Line of Evidence (LOE) for Decision ID 34787, Indicator Bacteria **Region 2**
Marina Lagoon (San Mateo County)

LOE ID: 3762
Pollutant: Coliform Bacteria
LOE Subgroup: Pollutant-Water
Matrix: Water
Fraction: Not Recorded
Beneficial Use: Water Contact Recreation
Number of Samples: 0
Number of Exceedances: 0
Data and Information Type: Not Specified
Data Used to Assess Water Quality: Unspecified--This LOE is a placeholder to support a 303(d) listing decision made prior to 2006.
Data Reference: [Placeholder reference pre-2006 303\(d\)](#)
SWAMP Data: Non-SWAMP
Water Quality Objective/Criterion:
Objective/Criterion Reference:

Evaluation Guideline:
Guideline Reference:

Spatial Representation:	Unspecified
Temporal Representation:	Unspecified
Environmental Conditions:	Unspecified
QAPP Information:	Unspecified
QAPP Information Reference(s):	

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Supporting Information

Regional Board 2 - San Francisco Bay Region

Water Body Name: Castro Cove, Richmond (San Pablo Basin)
Water Body ID: CAE2066001420020530174802
Water Body Type: Estuary

DECISION ID	34968	Region 2
Castro Cove, Richmond (San Pablo Basin)		

Pollutant: Dieldrin
Final Listing Decision: List on 303(d) list (being addressed by action other than TMDL)
Last Listing Cycle's Final Listing Decision: List on 303(d) list (being addressed by action other than TMDL)(2012)
Revision Status: Original
Sources: Source Unknown
Expected Attainment Date: 2010
Implementation Action Other than TMDL: Regional Board has issued a cleanup and abatement order (Order No. R2-2006-0078) requiring remediation of sediment contamination in the listed portion of Castro Cove. Cleanup is underway and upon its completion it is expected that this water body will meet applicable water quality standards. In November 2007, Regional Board received a Monitoring and Risk Management Plan which includes post-dredging confirmation monitoring to demonstrate that chemical contamination in the sediment has been reduced to levels that no longer pose unacceptable ecological risk.
Impairment from Pollutant or Pollution: Pollutant
Regional Board Staff Conclusion: 303(d) listing decisions made prior to 2006 were not held in an assessment database. The Regional Boards will update this decision when new data and information become available and are assessed.
Regional Board Staff Decision Recommendation: This is a decision previously approved by the State Water Resources Control Board and the USEPA. No new data were assessed by the Regional Board for the current. The decision has not changed.

Line of Evidence (LOE) for Decision ID 34968, Dieldrin	Region 2
Castro Cove, Richmond (San Pablo Basin)	

LOE ID: 3734
Pollutant: Dieldrin (sediment)
LOE Subgroup: Pollutant-Sediment
Matrix: Sediment
Fraction: Not Recorded
Beneficial Use: Estuarine Habitat
Number of Samples: 0
Number of Exceedances: 0
Data and Information Type: Not Specified
Data Used to Assess Water Quality: Unspecified--This LOE is a placeholder to support a 303(d) listing decision made prior to 2006.
Data Reference: [Placeholder reference pre-2006 303\(d\)](#)
SWAMP Data: Non-SWAMP
Water Quality Objective/Criterion:

Objective/Criterion Reference:

Evaluation Guideline:

Guideline Reference:

Spatial Representation: Unspecified

Temporal Representation: Unspecified

Environmental Conditions: Unspecified

QAPP Information: Unspecified

QAPP Information Reference(s):

DECISION ID	34069	Region 2
Castro Cove, Richmond (San Pablo Basin)		

Pollutant:	Mercury (sediment)
Final Listing Decision:	List on 303(d) list (being addressed by action other than TMDL)
Last Listing Cycle's Final Listing Decision:	List on 303(d) list (being addressed by action other than TMDL)(2012)
Revision Status	Original
Sources:	Source Unknown
Expected Attainment Date:	2010
Implementation Action Other than TMDL:	Regional Board has issued a cleanup and abatement order (Order No. R2-2006-0078) requiring remediation of sediment contamination in the listed portion of Castro Cove. Cleanup is underway and upon its completion it is expected that this water body will meet applicable water quality standards. In November 2007, Regional Board received a Monitoring and Risk Management Plan which includes post-dredging confirmation monitoring to demonstrate that chemical contamination in the sediment has been reduced to levels that no longer pose unacceptable ecological risk.
Impairment from Pollutant or Pollution:	Pollutant name needs to be changed once pollutant name change tool is fixed Pollutant
Regional Board Staff Conclusion:	303(d) listing decisions made prior to 2006 were not held in an assessment database. The Regional Boards will update this decision when new data and information become available and are assessed. Water Board staff conclude that the water body should be placed in the category of the section 303(d) list being addressed by action other than a TMDL. The cleanup that is already taking place will result in reductions of pollutant concentrations to a level that achieves the numeric water quality standards and the proposed Monitoring and Risk Management Plan will demonstrate attainment of the standards.
Regional Board Staff Decision Recommendation:	This is a decision previously approved by the State Water Resources Control Board and the USEPA. No new data were assessed by the Regional Board for the current. The decision has not changed.

Line of Evidence (LOE) for Decision ID 34069, Mercury (sediment)	Region 2
Castro Cove, Richmond (San Pablo Basin)	

LOE ID:	3735
Pollutant:	Mercury (sediment)
LOE Subgroup:	Pollutant-Sediment
Matrix:	Sediment
Fraction:	Not Recorded
Beneficial Use:	Estuarine Habitat
Number of Samples:	0
Number of Exceedances:	0

Data and Information Type:	Not Specified
Data Used to Assess Water Quality:	Unspecified--This LOE is a placeholder to support a 303(d) listing decision made prior to 2006.
Data Reference:	Placeholder reference pre-2006 303(d)
SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	
Objective/Criterion Reference:	
Evaluation Guideline:	
Guideline Reference:	
Spatial Representation:	Unspecified
Temporal Representation:	Unspecified
Environmental Conditions:	Unspecified
QAPP Information:	Unspecified
QAPP Information Reference(s):	

DECISION ID	34793	Region 2
Castro Cove, Richmond (San Pablo Basin)		

Pollutant:	PAHs (Polycyclic Aromatic Hydrocarbons)
Final Listing Decision:	List on 303(d) list (being addressed by action other than TMDL)
Last Listing Cycle's Final Listing Decision:	List on 303(d) list (being addressed by action other than TMDL)(2012)
Revision Status	Original
Sources:	Source Unknown
Expected Attainment Date:	2010
Implementation Action Other than TMDL:	Regional Board has issued a cleanup and abatement order (Order No. R2-2006-0078) requiring remediation of sediment contamination in the listed portion of Castro Cove. Cleanup is underway and upon its completion it is expected that this water body will meet applicable water quality standards. In November 2007, Regional Board received a Monitoring and Risk Management Plan which includes post-dredging confirmation monitoring to demonstrate that chemical contamination in the sediment has been reduced to levels that no longer pose unacceptable ecological risk.
Impairment from Pollutant or Pollution:	Pollutant
Regional Board Staff Conclusion:	303(d) listing decisions made prior to 2006 were not held in an assessment database. The Regional Boards will update this decision when new data and information become available and are assessed.
Regional Board Staff Decision Recommendation:	Water Board staff conclude that the water body should be placed in the category of the section 303(d) list being addressed by action other than a TMDL. The cleanup that is already taking place will result in reductions of pollutant concentrations to a level that achieves the numeric water quality standards and the proposed Monitoring and Risk Management Plan will demonstrate attainment of the standards.

Line of Evidence (LOE) for Decision ID 34793, PAHs (Polycyclic Aromatic Hydrocarbons)		Region 2
Castro Cove, Richmond (San Pablo Basin)		

LOE ID:	3736
Pollutant:	PAHs (Polycyclic Aromatic Hydrocarbons) (sediment)
LOE Subgroup:	Pollutant-Sediment
Matrix:	Sediment
Fraction:	Not Recorded
Beneficial Use:	Estuarine Habitat

Number of Samples:	0
Number of Exceedances:	0
Data and Information Type:	Not Specified
Data Used to Assess Water Quality:	Unspecified--This LOE is a placeholder to support a 303(d) listing decision made prior to 2006.
Data Reference:	Placeholder reference pre-2006 303(d)
SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	
Objective/Criterion Reference:	
Evaluation Guideline:	
Guideline Reference:	
Spatial Representation:	Unspecified
Temporal Representation:	Unspecified
Environmental Conditions:	Unspecified
QAPP Information:	Unspecified
QAPP Information Reference(s):	

DECISION ID	34794	Region 2
Castro Cove, Richmond (San Pablo Basin)		

Pollutant:	Selenium
Final Listing Decision:	List on 303(d) list (being addressed by action other than TMDL)
Last Listing Cycle's Final Listing Decision:	List on 303(d) list (being addressed by action other than TMDL)(2012)
Revision Status	Original
Sources:	Point Source Urban Runoff/Storm Sewers
Expected Attainment Date:	2010
Implementation Action Other than TMDL:	Regional Board has issued a cleanup and abatement order (Order No. R2-2006-0078) requiring remediation of sediment contamination in the listed portion of Castro Cove. Cleanup is underway and upon its completion it is expected that this water body will meet applicable water quality standards. In November 2007, Regional Board received a Monitoring and Risk Management Plan which includes post-dredging confirmation monitoring to demonstrate that chemical contamination in the sediment has been reduced to levels that no longer pose unacceptable ecological risk.
Impairment from Pollutant or Pollution:	Pollutant
Regional Board Staff Conclusion:	303(d) listing decisions made prior to 2006 were not held in an assessment database. The Regional Boards will update this decision when new data and information become available and are assessed.
Regional Board Staff Decision Recommendation:	This is a decision previously approved by the State Water Resources Control Board and the USEPA. No new data were assessed by the Regional Board for the current. The decision has not changed.

Line of Evidence (LOE) for Decision ID 34794, Selenium	Region 2
Castro Cove, Richmond (San Pablo Basin)	

LOE ID:	3737
Pollutant:	Selenium (sediment)
LOE Subgroup:	Pollutant-Sediment
Matrix:	Sediment
Fraction:	Not Recorded
Beneficial Use:	Estuarine Habitat

Number of Samples:	0
Number of Exceedances:	0
Data and Information Type:	Not Specified
Data Used to Assess Water Quality:	Unspecified--This LOE is a placeholder to support a 303(d) listing decision made prior to 2006.
Data Reference:	Placeholder reference pre-2006 303(d)
SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	
Objective/Criterion Reference:	
Evaluation Guideline:	
Guideline Reference:	
Spatial Representation:	Unspecified
Temporal Representation:	Unspecified
Environmental Conditions:	Unspecified
QAPP Information:	Unspecified
QAPP Information Reference(s):	

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Supporting Information

Regional Board 2 - San Francisco Bay Region

Water Body Name: Sacramento San Joaquin Delta
Water Body ID: CAE2071001019980929134510
Water Body Type: Estuary

DECISION ID 34615 **Region 2**
Sacramento San Joaquin Delta

Pollutant: Nickel
Final Listing Decision: Delist from 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision: Delist from 303(d) list (TMDL required list)(2012)
Revision Status Revised
Reason for Delisting: Applicable WQS attained; reason for recovery unspecified
Impairment from Pollutant or Pollution: Pollutant

Regional Board Staff Conclusion: This pollutant is being considered for placement on the CWA section 303(d) List under section 3.1 of the Listing Policy. Under section 3.1 a single line of evidence is necessary to assess listing status.

Three lines of evidence are available in the administrative record to assess this pollutant. Two of one hundred twenty-four samples exceed the objective.

Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against placing this water segment-pollutant combination on the CWA section 303(d) List in the Water Quality Limited Segments category.

This conclusion is based on the staff findings that:

1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy.
2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy.
3. Two of one hundred twenty-four samples exceed the objective and this does not exceed the allowable frequency listed in Table 3.1 of the Listing Policy.
4. Pursuant to section 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.

Regional Board Staff Decision Recommendation: After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be placed on the section 303(d) list because applicable water quality standards are not being exceeded.

Line of Evidence (LOE) for Decision ID 34615, Nickel **Region 2**
Sacramento San Joaquin Delta

LOE ID: 92758
Pollutant: Nickel
LOE Subgroup: Pollutant-Water
Matrix: Water
Fraction: Dissolved
Beneficial Use: Estuarine Habitat
Number of Samples: 65
Number of Exceedances: 2

Data and Information Type:	PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality:	State Water Board staff assessed SFEI data for Delta Waterways (western portion) to determine beneficial use support and results are as follows: 2 of 65 samples exceed the dissolved criterion for Nickel.
Data Reference:	Regional Monitoring Program data, Feb. 1993-Sep. 2008
SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	The Regional Water Board Basin Plan contains water quality objectives of 8.2 microgram/Liter as a 4-day average and, 74 microgram/Liter as a 1-hour average. These objectives were approved by USEPA in January 2005 and are contained in the Regional Board Basin Plan in Table 3-3.
Objective/Criterion Reference:	Code of Federal Regulations 40 part 131.38 Establishment of numeric criteria for priority toxic pollutants for the State of California. 7/1/2011 Edition
Evaluation Guideline:	
Guideline Reference:	
Spatial Representation:	Data for this line of evidence for Delta Waterways (western portion) was collected at 2 monitoring sites [Sacramento River - BG20, San Joaquin River - BG30]
Temporal Representation:	Data was collected over the time period 3/5/1993-7/9/2008.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	The 1999 Quality Assurance Project Plan Regional Monitoring Program for Trace Substances was used.
QAPP Information Reference(s):	1999 Quality Assurance Project Plan Regional Monitoring Program for Trace Substances

Line of Evidence (LOE) for Decision ID 34615, Nickel

Region 2

Sacramento San Joaquin Delta

LOE ID:	5188
Pollutant:	Nickel
LOE Subgroup:	Pollutant-Water
Matrix:	Water
Fraction:	Dissolved
Beneficial Use:	Estuarine Habitat
Aquatic Life Use:	Estuarine Habitat
Number of Samples:	59
Number of Exceedances:	0
Data and Information Type:	Highest quality fixed-station P/C (conventional plus toxicants)
Data Used to Assess Water Quality:	Data are dissolved nickel measurements of grab samples collected through two monitoring programs. The first is the ongoing Regional Monitoring Program (RMP) in San Francisco Bay. The second set of data was from a special discharger-funded study to develop copper and nickel site-specific objectives (SSOs) that began in 2001. These data were taken throughout San Francisco Bay, but the bulk of the data are from the deepwater portion of the Bay. None of the 59 measurements exceeded the criterion.
Data Reference:	Spreadsheet of nickel data for San Francisco Bay from Regional Monitoring Program and Special copper/nickel study (1993-2005)
SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	The Regional Water Board Basin Plan contains water quality objectives of 8.2 microgram/Liter as a 4-day average and, 74 microgram/Liter as a 1-hour average. These objectives were approved by USEPA in January 2005 and are contained in the Regional Board Basin Plan in Table 3-3.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) - San Francisco Bay Region (Region 2)
Evaluation Guideline:	

Guideline Reference:

Spatial Representation: 2 sampling locations for Sacramento San Joaquin Delta.
Temporal Representation: Samples were taken from 1993 to 2005 in all seasons.
Environmental Conditions:
QAPP Information: Regional Monitoring Program QA/QC program is documented at http://sfei.org/rmp/rmp_data_index.html.

QAPP Information Reference(s):

Line of Evidence (LOE) for Decision ID 34615, Nickel

Region 2

Sacramento San Joaquin Delta

LOE ID: 3819

Pollutant: Nickel
LOE Subgroup: Pollutant-Water
Matrix: Water
Fraction: Not Recorded

Beneficial Use: Estuarine Habitat

Number of Samples: 0
Number of Exceedances: 0

Data and Information Type: Not Specified
Data Used to Assess Water Quality: Unspecified--This LOE is a placeholder to support a 303(d) listing decision made prior to 2006.
Data Reference: [Placeholder reference pre-2006 303\(d\)](#)

SWAMP Data: Non-SWAMP

Water Quality Objective/Criterion: Unspecified
Objective/Criterion Reference: [Placeholder reference pre-2006 303\(d\)](#)

Evaluation Guideline: Unspecified
Guideline Reference: [Placeholder reference pre-2006 303\(d\)](#)

Spatial Representation: Unspecified
Temporal Representation: Unspecified
Environmental Conditions: Unspecified
QAPP Information: Unspecified
QAPP Information Reference(s):

DECISION ID 33734

Region 2

Sacramento San Joaquin Delta

Pollutant: Chlordane
Final Listing Decision: **Do Not Delist from 303(d) list (TMDL required list)**
Last Listing Cycle's Final Listing Decision: List on 303(d) list (TMDL required list)(2012)
Revision Status: Revised
Sources: Source Unknown
Expected TMDL Completion Date: 2029
Impairment from Pollutant or Pollution: Pollutant

Regional Board Staff Conclusion: This pollutant is being considered for removal from the CWA section 303(d) List under section 4.1 of the Listing Policy. Under this section a single line of evidence is necessary to assess listing status.

Three lines of evidence are available in the administrative record to assess pollutant. Zero of fifty three samples exceed the guideline for water. One of one samples exceed the guideline for fish tissue.

Based on the readily available data and information, the weight of evidence indicates that there is not sufficient justification in favor of removing this water segment-pollutant combination from the CWA section 303(d) List.

This conclusion is based on the staff findings that:

1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy.
2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy.
3. Zero of fifty three samples exceed the guideline for water and One of one samples exceeds the guideline for fish tissue. There are not enough samples for fish tissue to de-list because the listing was based on fish tissue.
4. Pursuant to section 4.11 of the Listing Policy, no additional data and information are available indicating that standards are met.

Regional Board Staff Decision Recommendation: After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be removed from the section 303(d) list because applicable water quality standards for the pollutant are being exceeded.

**Line of Evidence (LOE) for Decision ID 33734, Chlordane
Sacramento San Joaquin Delta**

Region 2

LOE ID:	95204
Pollutant:	Chlordane
LOE Subgroup:	Pollutant-Tissue
Matrix:	Tissue
Fraction:	Fish fillet
Beneficial Use:	Commercial or recreational collection of fish, shellfish, or organisms
Number of Samples:	1
Number of Exceedances:	1
Data and Information Type:	Fish tissue analysis
Data Used to Assess Water Quality:	Water Board staff assessed Regional Monitoring Program data for the Sacramento San Joaquin Delta to determine beneficial use support and results are as follows: 1 of 1 samples exceed the criterion for chlordane. No samples were discarded for being non-detect, unquantifiable or the reporting limit exceeding the water quality objective.
Data Reference:	Regional Monitoring Program data, Feb. 1993-Sep. 2008
SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	Water Quality Control Plan for the San Francisco Bay Basin: Controllable water quality factors shall not cause a detrimental increase in concentrations of toxic substances found in bottom sediments or aquatic life. Effects on aquatic organisms, wildlife, and human health will be considered.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	The modified OEHHA Fish Contaminant Goal for total chlordane in fish tissue is 3.9 ppb. This screening level assumes an average body weight of 70 kg and a consumption rate of 32 g/day for a 30 year exposure over a 70-year lifetime. This constituent is a carcinogen therefore the risk level is set to one in a million. A cooking reduction factor of 1 is applied for skin-off fillets. (Klasing, S., and R. Brodberg, 2008)
Guideline Reference:	Development of Fish Contaminant Goals and Advisory Tissue Levels for Common Contaminants in California Sport Fish: Chlordane, DDTs, Dieldrin, Methylmercury, PCBs, Selenium, and Toxaphene
Spatial Representation:	The samples were collected at one site in the Sacramento San Joaquin Delta

Temporal Representation:	The samples were collected in June 1994.
Environmental Conditions:	
QAPP Information:	The 1999 Quality Assurance Project Plan Regional Monitoring Program for Trace Substances was used.
QAPP Information Reference(s):	1999 Quality Assurance Project Plan Regional Monitoring Program for Trace Substances

Line of Evidence (LOE) for Decision ID 33734, Chlordane
Sacramento San Joaquin Delta

Region 2

LOE ID:	3812
Pollutant:	Chlordane
LOE Subgroup:	Pollutant-Tissue
Matrix:	Tissue
Fraction:	Not Recorded
Beneficial Use:	Commercial or recreational collection of fish, shellfish, or organisms
Number of Samples:	0
Number of Exceedances:	0
Data and Information Type:	Not Specified
Data Used to Assess Water Quality:	Unspecified--This LOE is a placeholder to support a 303(d) listing decision made prior to 2006.
Data Reference:	Placeholder reference pre-2006 303(d)
SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	
Objective/Criterion Reference:	
Evaluation Guideline:	
Guideline Reference:	
Spatial Representation:	Unspecified
Temporal Representation:	Unspecified
Environmental Conditions:	Unspecified
QAPP Information:	Unspecified
QAPP Information Reference(s):	

Line of Evidence (LOE) for Decision ID 33734, Chlordane
Sacramento San Joaquin Delta

Region 2

LOE ID:	92740
Pollutant:	Chlordane
LOE Subgroup:	Pollutant-Water
Matrix:	Water
Fraction:	Total
Beneficial Use:	Commercial or recreational collection of fish, shellfish, or organisms
Number of Samples:	53
Number of Exceedances:	0
Data and Information Type:	PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality:	State Water Board staff assessed SFEI data for Delta Waterways (western portion) to determine beneficial use support and results are as follows: 0 of 53 samples exceed the criterion for Chlordane, Total.
Data Reference:	Regional Monitoring Program data, Feb. 1993-Sep. 2008

SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	The Chlordane, Total criteria for the protection of human health from consumption of organisms only is 0.00059 ug/L (California Toxics Rule, 2000).
Objective/Criterion Reference:	Code of Federal Regulations 40 part 131.38 Establishment of numeric criteria for priority toxic pollutants for the State of California. 7/1/2011 Edition
Evaluation Guideline:	
Guideline Reference:	
Spatial Representation:	Data for this line of evidence for Delta Waterways (western portion) was collected at 2 monitoring sites [Sacramento River - BG20, San Joaquin River - BG30]
Temporal Representation:	Data was collected over the time period 3/5/1993-8/7/2007.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	The 1999 Quality Assurance Project Plan Regional Monitoring Program for Trace Substances was used.
QAPP Information Reference(s):	1999 Quality Assurance Project Plan Regional Monitoring Program for Trace Substances

DECISION ID	33735	Region 2
Sacramento San Joaquin Delta		

Pollutant:	DDT (Dichlorodiphenyltrichloroethane)
Final Listing Decision:	Do Not Delist from 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision:	List on 303(d) list (TMDL required list)(2012)
Revision Status	Revised
Sources:	Source Unknown
Expected TMDL Completion Date:	2013
Impairment from Pollutant or Pollution:	Pollutant

Regional Board Staff Conclusion:	<p>This pollutant is being considered for removal from the CWA section 303(d) List under section 4.5 of the Listing Policy. Under section 4.5 a single line of evidence is necessary to assess listing status.</p> <p>Three lines of evidence are available in the administrative record to assess this pollutant. Thirteen of fifty-three samples exceed the OEHHA guideline.</p> <p>Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification in favor of placing this water segment-pollutant combination on the CWA section 303(d) List.</p> <p>This conclusion is based on the staff findings that:</p> <ol style="list-style-type: none"> 1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy. 2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy. 3. Thirteen of fifty-three samples exceed the OEHHA guideline and this number exceeds the allowable frequency listed in Table 4.1 of the Listing Policy. 4. There is not a fish consumption advisory in effect for this waterbody. 5. Pursuant to section 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.
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Regional Board Staff Decision Recommendation:	After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be removed from the section 303(d) list because applicable water quality standards for the pollutant are being exceeded.
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Line of Evidence (LOE) for Decision ID 33735, DDT (Dichlorodiphenyltrichloroethane)	Region 2
Sacramento San Joaquin Delta	

LOE ID:	95193
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Pollutant:	DDT (Dichlorodiphenyltrichloroethane)
LOE Subgroup:	Pollutant-Tissue
Matrix:	Tissue
Fraction:	Fish fillet
Beneficial Use:	Commercial or recreational collection of fish, shellfish, or organisms
Number of Samples:	1
Number of Exceedances:	1
Data and Information Type:	Fish tissue analysis
Data Used to Assess Water Quality:	Water Board staff assessed Regional Monitoring Program data for the Sacramento San Joaquin Delta to determine beneficial use support and results are as follows: 1 of 1 samples exceed the criterion for DDT. No samples were discarded for being non-detect, unquantifiable or the reporting limit exceeding the water quality objective.
Data Reference:	Regional Monitoring Program data, Feb. 1993-Sep. 2008
SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	Water Quality Control Plan for the San Francisco Bay Basin: Controllable water quality factors shall not cause a detrimental increase in concentrations of toxic substances found in bottom sediments or aquatic life. Effects on aquatic organisms, wildlife, and human health will be considered.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	The modified OEHHA Fish Contaminant Goal for total DDT in fish tissue is 15 ppb. This screening level assumes an average body weight of 70 kg and a consumption rate of 32 g/day for a 30 year exposure over a 70-year lifetime. This constituent is a carcinogen therefore the risk level is set to one in a million. A cooking reduction factor of 1 is applied for skin-off fillets. (Klasing, S., and R. Brodberg, 2008)
Guideline Reference:	Development of Fish Contaminant Goals and Advisory Tissue Levels for Common Contaminants in California Sport Fish: Chlordane, DDTs, Dieldrin, Methylmercury, PCBs, Selenium, and Toxaphene
Spatial Representation:	The samples were collected at one site in the Sacramento San Joaquin Delta
Temporal Representation:	The samples were collected in June 1994.
Environmental Conditions:	
QAPP Information:	The 1999 Quality Assurance Project Plan Regional Monitoring Program for Trace Substances was used.
QAPP Information Reference(s):	1999 Quality Assurance Project Plan Regional Monitoring Program for Trace Substances

Line of Evidence (LOE) for Decision ID 33735, DDT (Dichlorodiphenyltrichloroethane)

Region 2

Sacramento San Joaquin Delta

LOE ID:	3813
Pollutant:	DDT (Dichlorodiphenyltrichloroethane)
LOE Subgroup:	Pollutant-Tissue
Matrix:	Tissue
Fraction:	Not Recorded
Beneficial Use:	Commercial or recreational collection of fish, shellfish, or organisms
Number of Samples:	0
Number of Exceedances:	0
Data and Information Type:	Not Specified
Data Used to Assess Water Quality:	Unspecified--This LOE is a placeholder to support a 303(d) listing decision made prior to 2006.
Data Reference:	Placeholder reference pre-2006 303(d)

SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	Unspecified
Objective/Criterion Reference:	Placeholder reference pre-2006 303(d)
Evaluation Guideline:	Unspecified
Guideline Reference:	Placeholder reference pre-2006 303(d)
Spatial Representation:	Unspecified
Temporal Representation:	Unspecified
Environmental Conditions:	Unspecified
QAPP Information:	Unspecified
QAPP Information Reference(s):	

Line of Evidence (LOE) for Decision ID 33735, DDT (Dichlorodiphenyltrichloroethane)
Sacramento San Joaquin Delta

Region 2

LOE ID:	92764
Pollutant:	Total DDT (sum of 4,4'- and 2,4'- isomers of DDT, DDE, and DDD)
LOE Subgroup:	Pollutant-Water
Matrix:	Water
Fraction:	Total
Beneficial Use:	Commercial or recreational collection of fish, shellfish, or organisms
Number of Samples:	53
Number of Exceedances:	13
Data and Information Type:	PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality:	State Water Board staff assessed SFEI data for Delta Waterways (western portion) to determine beneficial use support and results are as follows: 13 of 53 samples exceed the criterion for DDT, Total.
Data Reference:	Regional Monitoring Program data, Feb. 1993-Sep. 2008
SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	The DDT, Total criteria for the protection of human health from consumption of organisms only is 0.00059 ug/L (California Toxics Rule, 2000).
Objective/Criterion Reference:	Code of Federal Regulations 40 part 131.38 Establishment of numeric criteria for priority toxic pollutants for the State of California. 7/1/2011 Edition
Evaluation Guideline:	
Guideline Reference:	
Spatial Representation:	Data for this line of evidence for Delta Waterways (western portion) was collected at 2 monitoring sites [Sacramento River - BG20, San Joaquin River - BG30]
Temporal Representation:	Data was collected over the time period 3/5/1993-8/7/2007.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	The 1999 Quality Assurance Project Plan Regional Monitoring Program for Trace Substances was used.
QAPP Information Reference(s):	1999 Quality Assurance Project Plan Regional Monitoring Program for Trace Substances

DECISION ID 33736
Sacramento San Joaquin Delta

Region 2

Pollutant:	Dieldrin
Final Listing Decision:	Do Not Delist from 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision:	List on 303(d) list (TMDL required list)(2012)

Revision Status Revised
Sources: Source Unknown
Expected TMDL Completion Date: 2013
Impairment from Pollutant or Pollution: Pollutant

Regional Board Staff Conclusion: This pollutant is being considered for removal from the CWA section 303(d) List under section 4.1 of the Listing Policy. Under this section a single line of evidence is necessary to assess listing status.

Three lines of evidence are available in the administrative record to assess pollutant. Thirteen of fifty-one samples exceed the guideline.

Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against removing this water segment-pollutant combination from the CWA section 303(d) List.

This conclusion is based on the staff findings that:

1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy.
2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy.
3. Thirteen of fifty-one samples exceed the guideline. and this exceeds the allowable frequency listed in Table 4.1 of the Listing Policy.
4. Pursuant to section 4.11 of the Listing Policy, no additional data and information are available indicating that standards are met.

Regional Board Staff Decision Recommendation: After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be removed from the section 303(d) list because applicable water quality standards for the pollutant are being exceeded.

**Line of Evidence (LOE) for Decision ID 33736, Dieldrin
Sacramento San Joaquin Delta**

Region 2

LOE ID: 95223

Pollutant: Dieldrin
LOE Subgroup: Pollutant-Tissue
Matrix: Tissue
Fraction: Fish fillet

Beneficial Use: Commercial or recreational collection of fish, shellfish, or organisms

Number of Samples: 1
Number of Exceedances: 1

Data and Information Type: Fish tissue analysis
Data Used to Assess Water Quality: Water Board staff assessed Regional Monitoring Program data for the Sacramento San Joaquin Delta to determine beneficial use support and results are as follows: 1 of 1 samples exceed the criterion for dieldrin. No samples were discarded for being non-detect, unquantifiable or the reporting limit exceeding the water quality objective.

Data Reference: [Regional Monitoring Program data, Feb. 1993-Sep. 2008](#)

SWAMP Data: Non-SWAMP

Water Quality Objective/Criterion: Water Quality Control Plan for the San Francisco Bay Basin: Controllable water quality factors shall not cause a detrimental increase in concentrations of toxic substances found in bottom sediments or aquatic life. Effects on aquatic organisms, wildlife, and human health will be considered.

Objective/Criterion Reference: [Water Quality Control Plan \(Basin Plan\) San Francisco Bay Basin \(Region 2\)](#)

Evaluation Guideline: The modified OEHHA Fish Contaminant Goal for dieldrin in fish tissue is 0.32 ppb. This screening level assumes an average body weight of 70 kg and a consumption rate of 32

g/day for a 30 year exposure over a 70-year lifetime. This constituent is a carcinogen therefore the risk level is set to one in a million. A cooking reduction factor of 1 is applied for skin-off fillets. (Klasing, S., and R. Brodberg, 2008)

Guideline Reference:

[Development of Fish Contaminant Goals and Advisory Tissue Levels for Common Contaminants in California Sport Fish: Chlordane, DDTs, Dieldrin, Methylmercury, PCBs, Selenium, and Toxaphene](#)

Spatial Representation:

The samples were collected at one site in the Sacramento San Joaquin Delta

Temporal Representation:

The samples were collected in June 1994.

Environmental Conditions:

QAPP Information:

The 1999 Quality Assurance Project Plan Regional Monitoring Program for Trace Substances was used.

QAPP Information Reference(s):

[1999 Quality Assurance Project Plan Regional Monitoring Program for Trace Substances](#)

Line of Evidence (LOE) for Decision ID 33736, Dieldrin

Region 2

Sacramento San Joaquin Delta

LOE ID: 3814

Pollutant: Dieldrin
LOE Subgroup: Pollutant-Tissue
Matrix: Tissue
Fraction: Not Recorded

Beneficial Use: Commercial or recreational collection of fish, shellfish, or organisms

Number of Samples: 0
Number of Exceedances: 0

Data and Information Type: Not Specified
Data Used to Assess Water Quality: Unspecified--This LOE is a placeholder to support a 303(d) listing decision made prior to 2006.

Data Reference: [Placeholder reference pre-2006 303\(d\)](#)

SWAMP Data: Non-SWAMP

Water Quality Objective/Criterion: Unspecified
Objective/Criterion Reference: [Placeholder reference pre-2006 303\(d\)](#)

Evaluation Guideline: Unspecified
Guideline Reference: [Placeholder reference pre-2006 303\(d\)](#)

Spatial Representation: Unspecified
Temporal Representation: Unspecified
Environmental Conditions: Unspecified
QAPP Information: Unspecified
QAPP Information Reference(s):

Line of Evidence (LOE) for Decision ID 33736, Dieldrin

Region 2

Sacramento San Joaquin Delta

LOE ID: 92746

Pollutant: Dieldrin
LOE Subgroup: Pollutant-Water
Matrix: Water
Fraction: Total

Beneficial Use: Commercial or recreational collection of fish, shellfish, or organisms

Number of Samples: 51

Number of Exceedances:	13
Data and Information Type:	PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality:	State Water Board staff assessed SFEI data for Delta Waterways (western portion) to determine beneficial use support and results are as follows: 13 of 51 samples exceed the criterion for Dieldrin.
Data Reference:	Regional Monitoring Program data, Feb. 1993-Sep. 2008
SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	The Dieldrin criteria for the protection of human health from consumption of organisms only is 0.00014 ug/L (California Toxics Rule, 2000).
Objective/Criterion Reference:	Code of Federal Regulations 40 part 131.38 Establishment of numeric criteria for priority toxic pollutants for the State of California. 7/1/2011 Edition
Evaluation Guideline:	
Guideline Reference:	
Spatial Representation:	Data for this line of evidence for Delta Waterways (western portion) was collected at 2 monitoring sites [Sacramento River - BG20, San Joaquin River - BG30]
Temporal Representation:	Data was collected over the time period 3/5/1993-8/7/2007.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	The 1999 Quality Assurance Project Plan Regional Monitoring Program for Trace Substances was used.
QAPP Information Reference(s):	1999 Quality Assurance Project Plan Regional Monitoring Program for Trace Substances

DECISION ID	34769	Region 2
Sacramento San Joaquin Delta		

Pollutant:	Mercury
Final Listing Decision:	Do Not Delist from 303(d) list (being addressed with USEPA approved TMDL)
Last Listing Cycle's Final Listing Decision:	List on 303(d) list (being addressed by USEPA approved TMDL)(2012)
Revision Status	Revised
Sources:	Source Unknown
TMDL Name:	San Francisco Bay Mercury
TMDL Project Code:	6
Date TMDL Approved by USEPA:	02/12/2008
Impairment from Pollutant or Pollution:	Pollutant
Regional Board Staff Conclusion:	<p>This pollutant is being considered for removal on the CWA section 303(d) List under sections 2.2 and 4.1 of the Listing Policy. Under section 4.1 of the Policy, a minimum of one line of evidence is needed to assess listing status.</p> <p>Three lines of evidence are available in the administrative record to assess this pollutant.</p> <p>Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against removing this water segment-pollutant combination from the CWA section 303(d) List. There is sufficient justification to place it in the Being Addressed portion of the CWA 303(d) List because a TMDL has been completed and approved by RWQCB and USEPA, and is expected to result in attainment of the standard.</p> <p>This conclusion is based on the staff findings that:</p> <ol style="list-style-type: none"> 1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy. 2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy. 3. One of one samples exceeded the objective and these exceed the allowable frequency listed in Table 4.1 of the Listing Policy. 4. The SF Bay Mercury TMDL was approved by USEPA on 2/12/2008. 5. Pursuant to section 4.11 of the Listing Policy, no additional data and information are available

indicating that standards are not met.

Regional Board Staff Decision Recommendation: After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be removed from the section 303(d) list because applicable water quality standards for the pollutant are being exceeded.

**Line of Evidence (LOE) for Decision ID 34769, Mercury
Sacramento San Joaquin Delta**

Region 2

LOE ID: 3818

Pollutant: Mercury
LOE Subgroup: Pollutant-Tissue
Matrix: Tissue
Fraction: Not Recorded

Beneficial Use: Commercial or recreational collection of fish, shellfish, or organisms

Number of Samples: 0
Number of Exceedances: 0

Data and Information Type: Not Specified
Data Used to Assess Water Quality: Unspecified--This LOE is a placeholder to support a 303(d) listing decision made prior to 2006.
Data Reference: [Placeholder reference pre-2006 303\(d\)](#)

SWAMP Data: Non-SWAMP

Water Quality Objective/Criterion: Unspecified
Objective/Criterion Reference: [Placeholder reference pre-2006 303\(d\)](#)

Evaluation Guideline: Unspecified
Guideline Reference: [Placeholder reference pre-2006 303\(d\)](#)

Spatial Representation: Unspecified
Temporal Representation: Unspecified
Environmental Conditions: Unspecified
QAPP Information: Unspecified
QAPP Information Reference(s):

**Line of Evidence (LOE) for Decision ID 34769, Mercury
Sacramento San Joaquin Delta**

Region 2

LOE ID: 95177

Pollutant: Mercury
LOE Subgroup: Pollutant-Tissue
Matrix: Tissue
Fraction: Fish fillet

Beneficial Use: Commercial or recreational collection of fish, shellfish, or organisms

Number of Samples: 1
Number of Exceedances: 1

Data and Information Type: Fish tissue analysis
Data Used to Assess Water Quality: Water Board staff assessed Regional Monitoring Program data for the Sacramento San Joaquin Delta to determine beneficial use support and results are as follows: 1 of 1 samples exceed the criterion for mercury. No samples were discarded for being non-detect, unquantifiable or the reporting limit exceeding the water quality objective.

Data Reference:	Regional Monitoring Program data, Feb. 1993-Sep. 2008
SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	Water Quality Control Plan for the San Francisco Bay Basin: Controllable water quality factors shall not cause a detrimental increase in concentrations of toxic substances found in bottom sediments or aquatic life. Effects on aquatic organisms, wildlife, and human health will be considered.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	The Water Quality Control Plan for the San Francisco Bay Basin has a water quality objective in all parts of San Francisco Bay of 0.2 mg mercury per kg fish tissue for the protection of human health.
Guideline Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Spatial Representation:	The samples were collected at one site in the Sacramento San Joaquin Delta
Temporal Representation:	The samples were collected in June 1994.
Environmental Conditions:	
QAPP Information:	The 1999 Quality Assurance Project Plan Regional Monitoring Program for Trace Substances was used.
QAPP Information Reference(s):	1999 Quality Assurance Project Plan Regional Monitoring Program for Trace Substances

Line of Evidence (LOE) for Decision ID 34769, Mercury

Region 2

Sacramento San Joaquin Delta

LOE ID:	92756
Pollutant:	Mercury
LOE Subgroup:	Pollutant-Water
Matrix:	Water
Fraction:	Total
Beneficial Use:	Commercial or recreational collection of fish, shellfish, or organisms
Number of Samples:	17
Number of Exceedances:	0
Data and Information Type:	PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality:	State Water Board staff assessed SFEI data for Delta Waterways (western portion) to determine beneficial use support and results are as follows: 0 of 17 samples exceed the criterion for Mercury, methyl.
Data Reference:	Regional Monitoring Program data, Feb. 1993-Sep. 2008
SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	The Mercury, methyl criteria for the protection of human health from consumption of organisms only is 0.051 ug/L (California Toxics Rule, 2000).
Objective/Criterion Reference:	Code of Federal Regulations 40 part 131.38 Establishment of numeric criteria for priority toxic pollutants for the State of California. 7/1/2011 Edition
Evaluation Guideline:	
Guideline Reference:	
Spatial Representation:	Data for this line of evidence for Delta Waterways (western portion) was collected at 2 monitoring sites [Sacramento River - BG20, San Joaquin River - BG30]
Temporal Representation:	Data was collected over the time period 8/7/2001-7/9/2008.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	The 1999 Quality Assurance Project Plan Regional Monitoring Program for Trace Substances was used.
QAPP Information Reference(s):	1999 Quality Assurance Project Plan Regional Monitoring Program for Trace Substances

Pollutant: PCBs (Polychlorinated biphenyls)
Final Listing Decision: Do Not Delist from 303(d) list (being addressed with USEPA approved TMDL)
Last Listing Cycle's Final Listing Decision: List on 303(d) list (TMDL required list)(2012)
Revision Status: Revised
Sources: Source Unknown
TMDL Name: San Francisco Bay PCBs
TMDL Project Code: 7
Date TMDL Approved by USEPA: 03/29/2010
Impairment from Pollutant or Pollution: Pollutant

Regional Board Staff Conclusion: This pollutant is being considered for removal from the CWA section 303(d) List under section 4.1 of the Listing Policy. Under this section a single line of evidence is necessary to assess listing status.

 Four lines of evidence are available in the administrative record to assess pollutant. Twenty of fifty-five samples exceed the guideline.

 Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against removing this water segment-pollutant combination from the CWA section 303(d) List.

 This conclusion is based on the staff findings that:

1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy.
2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy.
3. Twenty of fifty-five samples exceed the guideline and this exceeds the allowable frequency listed in Table 4.1 of the Listing Policy.
4. Pursuant to section 4.11 of the Listing Policy, no additional data and information are available indicating that standards are met.
5. The SF Bay PCBs TMDL was approved by USEPA on 3/29/2010.

Regional Board Staff Decision Recommendation: After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be removed from the section 303(d) list because applicable water quality standards for the pollutant are being exceeded.

LOE ID: 92760

Pollutant: PCBs (Polychlorinated biphenyls)
LOE Subgroup: Pollutant-Water
Matrix: Water
Fraction: Total

Beneficial Use: Commercial or recreational collection of fish, shellfish, or organisms

Number of Samples: 55
Number of Exceedances: 20

Data and Information Type: PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality: State Water Board staff assessed SFEI data for Delta Waterways (western portion) to determine beneficial use support and results are as follows: 20 of 55 samples exceed the criterion for PCB, Total.

Data Reference: [Regional Monitoring Program data, Feb. 1993-Sep. 2008](#)

SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	The Polychlorinated Biphenyls criteria for the protection of human health from consumption of organisms only is 0.00017 ug/L (California Toxics Rule, 2000).
Objective/Criterion Reference:	Code of Federal Regulations 40 part 131.38 Establishment of numeric criteria for priority toxic pollutants for the State of California. 7/1/2011 Edition
Evaluation Guideline:	
Guideline Reference:	
Spatial Representation:	Data for this line of evidence for Delta Waterways (western portion) was collected at 2 monitoring sites [Sacramento River - BG20, San Joaquin River - BG30]
Temporal Representation:	Data was collected over the time period 3/5/1993-8/7/2007.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	The 1999 Quality Assurance Project Plan Regional Monitoring Program for Trace Substances was used.
QAPP Information Reference(s):	1999 Quality Assurance Project Plan Regional Monitoring Program for Trace Substances

Line of Evidence (LOE) for Decision ID 34616, PCBs (Polychlorinated biphenyls)

Region 2

Sacramento San Joaquin Delta

LOE ID:	3820
Pollutant:	PCBs (Polychlorinated biphenyls)
LOE Subgroup:	Pollutant-Tissue
Matrix:	Tissue
Fraction:	Not Recorded
Beneficial Use:	Commercial or recreational collection of fish, shellfish, or organisms
Number of Samples:	0
Number of Exceedances:	0
Data and Information Type:	Not Specified
Data Used to Assess Water Quality:	Unspecified--This LOE is a placeholder to support a 303(d) listing decision made prior to 2006.
Data Reference:	Placeholder reference pre-2006 303(d)
SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	Unspecified
Objective/Criterion Reference:	Placeholder reference pre-2006 303(d)
Evaluation Guideline:	Unspecified
Guideline Reference:	Placeholder reference pre-2006 303(d)
Spatial Representation:	Unspecified
Temporal Representation:	Unspecified
Environmental Conditions:	Unspecified
QAPP Information:	Unspecified
QAPP Information Reference(s):	

Line of Evidence (LOE) for Decision ID 34616, PCBs (Polychlorinated biphenyls)

Region 2

Sacramento San Joaquin Delta

LOE ID:	3821
Pollutant:	PCBs (Polychlorinated biphenyls) (dioxin-like)
LOE Subgroup:	Pollutant-Tissue
Matrix:	Tissue
Fraction:	Not Recorded

Beneficial Use:	Commercial or recreational collection of fish, shellfish, or organisms
Number of Samples:	0
Number of Exceedances:	0
Data and Information Type:	Not Specified
Data Used to Assess Water Quality:	Unspecified--This LOE is a placeholder to support a 303(d) listing decision made prior to 2006.
Data Reference:	Placeholder reference pre-2006 303(d)
SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	Unspecified
Objective/Criterion Reference:	Placeholder reference pre-2006 303(d)
Evaluation Guideline:	Unspecified
Guideline Reference:	Placeholder reference pre-2006 303(d)
Spatial Representation:	Unspecified
Temporal Representation:	Unspecified
Environmental Conditions:	Unspecified
QAPP Information:	Unspecified
QAPP Information Reference(s):	

Line of Evidence (LOE) for Decision ID 34616, PCBs (Polychlorinated biphenyls)

Region 2

Sacramento San Joaquin Delta

LOE ID:	95100
Pollutant:	PCBs (Polychlorinated biphenyls)
LOE Subgroup:	Pollutant-Tissue
Matrix:	Tissue
Fraction:	Fish fillet
Beneficial Use:	Commercial or recreational collection of fish, shellfish, or organisms
Number of Samples:	1
Number of Exceedances:	0
Data and Information Type:	Fish tissue analysis
Data Used to Assess Water Quality:	Water Board staff assessed Regional Monitoring Program data for the Sacramento San Joaquin Delta to determine beneficial use support and results are as follows: 0 of 1 samples exceed the criterion for PCBs. No samples were discarded for being non-detect, unquantifiable or the reporting limit exceeding the water quality objective.
Data Reference:	Regional Monitoring Program data, Feb. 1993-Sep. 2008
SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	Water Quality Control Plan for the San Francisco Bay Basin: Controllable water quality factors shall not cause a detrimental increase in concentrations of toxic substances found in bottom sediments or aquatic life. Effects on aquatic organisms, wildlife, and human health will be considered.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	The modified OEHHA Fish Contaminant Goal for polychlorinated biphenyls in fish tissue is 2.6 ppb. This screening level assumes an average body weight of 70 kg and a consumption rate of 32 g/day for a 30 year exposure over a 70-year lifetime. This constituent is a carcinogen therefore the risk level is set to one in a million. A cooking reduction factor of 1 is applied for skin-off fillets. (Klasing, S., and R. Brodberg, 2008)
Guideline Reference:	Development of Fish Contaminant Goals and Advisory Tissue Levels for Common Contaminants in California Sport Fish: Chlordane, DDTs, Dieldrin, Methylmercury, PCBs,

Selenium, and Toxaphene

Spatial Representation: The samples were collected at one site in the Sacramento San Joaquin Delta
Temporal Representation: The samples were collected in June 1994.
Environmental Conditions:
QAPP Information: The 1999 Quality Assurance Project Plan Regional Monitoring Program for Trace Substances was used.
QAPP Information Reference(s): [1999 Quality Assurance Project Plan Regional Monitoring Program for Trace Substances](#)

DECISION ID	44584	Region 2
Sacramento San Joaquin Delta		

Pollutant: Selenium
Final Listing Decision: Do Not Delist from 303(d) list (being addressed with USEPA approved TMDL)
Last Listing Cycle's Final Listing Decision: List on 303(d) list (TMDL required list)(2012)
Revision Status Revised
Sources: Source Unknown
TMDL Name: San Francisco Bay Selenium - North Bay
TMDL Project Code: 540
Date TMDL Approved by USEPA: 08/23/2016
Impairment from Pollutant or Pollution: Pollutant

Regional Board Staff Conclusion: This pollutant is being considered for removal on the CWA section 303(d) List under sections 2.2 and 4.1 of the Listing Policy. Under 4.1 of the Policy, a minimum of one line of evidence is needed to assess listing status.

Three lines of evidence are available in the administrative record to assess this pollutant.

Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against removing this water segment-pollutant combination from the CWA section 303(d) List. There is sufficient justification to place it in the Being Addressed portion of the CWA 303(d) List because a TMDL has been completed and approved by RWQCB and USEPA, and is expected to result in attainment of the standard.

This conclusion is based on the staff findings that:

1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy.
2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy.
3. Impairment should be based on protection of aquatic life beneficial uses and the existing aquatic life value referenced in the CTR is not sufficiently protective of sensitive fish species. Numeric targets to protect aquatic life are included in the North SF Bay Selenium TMDL and this listing will be reevaluated in accordance with the TMDL
4. The North SF Bay Selenium TMDL was approved by USEPA on 8/23/2016.
5. Pursuant to section 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.

Regional Board Staff Decision Recommendation: After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be removed from the section 303(d) list because applicable water quality standards for the pollutant are being exceeded. Impairment should be based on protection of aquatic life beneficial uses and the existing aquatic life value referenced in the CTR is not sufficiently protective of sensitive fish species. Numeric targets to protect aquatic life are included in the North SF Bay Selenium TMDL and this listing will be reevaluated in accordance with the TMDL

Line of Evidence (LOE) for Decision ID 44584, Selenium	Region 2
Sacramento San Joaquin Delta	

LOE ID: 92762

Pollutant:	Selenium
LOE Subgroup:	Pollutant-Water
Matrix:	Water
Fraction:	Dissolved
Beneficial Use:	Estuarine Habitat
Number of Samples:	36
Number of Exceedances:	0
Data and Information Type:	PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality:	State Water Board staff assessed SFEI data for Delta Waterways (western portion) to determine beneficial use support and results are as follows: 0 of 36 samples exceed the criterion for Selenium.
Data Reference:	Regional Monitoring Program data, Feb. 1993-Sep. 2008
SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	The dissolved selenium criterion continuous concentration (expressed as a 4-day average) to protect aquatic life in saline water is 5 ug/L (California Toxics Rule, 2000).
Objective/Criterion Reference:	Code of Federal Regulations 40 part 131.38 Establishment of numeric criteria for priority toxic pollutants for the State of California. 7/1/2011 Edition
Evaluation Guideline:	
Guideline Reference:	
Spatial Representation:	Data for this line of evidence for Delta Waterways (western portion) was collected at 2 monitoring sites [Sacramento River - BG20, San Joaquin River - BG30]
Temporal Representation:	Data was collected over the time period 3/5/1993-7/29/1998.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	The 1999 Quality Assurance Project Plan Regional Monitoring Program for Trace Substances was used.
QAPP Information Reference(s):	1999 Quality Assurance Project Plan Regional Monitoring Program for Trace Substances

Line of Evidence (LOE) for Decision ID 44584, Selenium

Region 2

Sacramento San Joaquin Delta

LOE ID:	95104
Pollutant:	Selenium
LOE Subgroup:	Pollutant-Tissue
Matrix:	Tissue
Fraction:	Fish fillet
Beneficial Use:	Commercial or recreational collection of fish, shellfish, or organisms
Number of Samples:	1
Number of Exceedances:	0
Data and Information Type:	Fish tissue analysis
Data Used to Assess Water Quality:	Water Board staff assessed Regional Monitoring Program data for the Sacramento San Joaquin Delta to determine beneficial use support and results are as follows: 0 of 1 samples exceed the criterion for selenium. No samples were discarded for being non-detect, unquantifiable or the reporting limit exceeding the water quality objective.
Data Reference:	Regional Monitoring Program data, Feb. 1993-Sep. 2008
SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	Water Quality Control Plan for the San Francisco Bay Basin: Controllable water quality factors shall not cause a detrimental increase in concentrations of toxic substances found in bottom sediments or aquatic life. Effects on aquatic organisms, wildlife, and human

Objective/Criterion Reference:	health will be considered. Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	The OEHHA Fish Contaminant Goal for selenium in fish tissue is 7.4 ppm. This screening level assumes an average body weight of 70 kg and a consumption rate of 32 g/day. A background dietary consumption rate of 0.114 mg/day is applied for this micronutrient. (Klasing, S., and R. Brodberg, 2008)
Guideline Reference:	Development of Fish Contaminant Goals and Advisory Tissue Levels for Common Contaminants in California Sport Fish: Chlordane, DDTs, Dieldrin, Methylmercury, PCBs, Selenium, and Toxaphene
Spatial Representation:	The samples were collected at one site in the Sacramento San Joaquin Delta
Temporal Representation:	The samples were collected in June 1994.
Environmental Conditions:	
QAPP Information:	The 1999 Quality Assurance Project Plan Regional Monitoring Program for Trace Substances was used.
QAPP Information Reference(s):	1999 Quality Assurance Project Plan Regional Monitoring Program for Trace Substances

Line of Evidence (LOE) for Decision ID 44584, Selenium
Sacramento San Joaquin Delta

Region 2

LOE ID:	3822
Pollutant:	Selenium
LOE Subgroup:	Pollutant-Water
Matrix:	Water
Fraction:	Not Recorded
Beneficial Use:	Estuarine Habitat
Number of Samples:	0
Number of Exceedances:	0
Data and Information Type:	Not Specified
Data Used to Assess Water Quality:	Unspecified--This LOE is a placeholder to support a 303(d) listing decision made prior to 2006.
Data Reference:	Placeholder reference pre-2006 303(d)
SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	Unspecified
Objective/Criterion Reference:	Placeholder reference pre-2006 303(d)
Evaluation Guideline:	Unspecified
Guideline Reference:	Placeholder reference pre-2006 303(d)
Spatial Representation:	Unspecified
Temporal Representation:	Unspecified
Environmental Conditions:	Unspecified
QAPP Information:	Unspecified
QAPP Information Reference(s):	

DECISION ID 66387
Sacramento San Joaquin Delta

Region 2

Pollutant:	Acenaphthene
Final Listing Decision:	Do Not List on 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision:	New Decision
Revision Status	Revised

Impairment from Pollutant or Pollution: Pollutant

Regional Board Staff Conclusion:

This pollutant is being considered for placement on the CWA section 303(d) List under section 3.1 of the Listing Policy. Under section 3.1 a single line of evidence is necessary to assess listing status.

One line of evidence is available in the administrative record to assess this pollutant. Zero of thirty-four samples exceed the guideline.

Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against placing this water segment-pollutant combination on the CWA section 303(d) List in the Water Quality Limited Segments category.

This conclusion is based on the staff findings that:

1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy.
2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy.
3. Zero of thirty-four samples exceed the guideline and this does not exceed the allowable frequency listed in Table 3.1 of the Listing Policy.
4. Pursuant to section 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.

Regional Board Staff Decision Recommendation:

After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be placed on the section 303(d) list because applicable water quality standards are not being exceeded.

**Line of Evidence (LOE) for Decision ID 66387, Acenaphthene
Sacramento San Joaquin Delta**

Region 2

LOE ID:	92733
Pollutant:	Acenaphthene
LOE Subgroup:	Pollutant-Water
Matrix:	Water
Fraction:	Total
Beneficial Use:	Commercial or recreational collection of fish, shellfish, or organisms
Number of Samples:	34
Number of Exceedances:	0
Data and Information Type:	PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality:	State Water Board staff assessed SFEI data for Delta Waterways (western portion) to determine beneficial use support and results are as follows: 0 of 34 samples exceed the criterion for Acenaphthene.
Data Reference:	Regional Monitoring Program data, Feb. 1993-Sep. 2008
SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	The Acenaphthene criteria for the protection of human health from consumption of organisms only is 2,700 ug/L (California Toxics Rule, 2000).
Objective/Criterion Reference:	Code of Federal Regulations 40 part 131.38 Establishment of numeric criteria for priority toxic pollutants for the State of California. 7/1/2011 Edition
Evaluation Guideline:	
Guideline Reference:	
Spatial Representation:	Data for this line of evidence for Delta Waterways (western portion) was collected at 2 monitoring sites [Sacramento River - BG20, San Joaquin River - BG30]
Temporal Representation:	Data was collected over the time period 2/14/1996-7/9/2008.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	The 1999 Quality Assurance Project Plan Regional Monitoring Program for Trace

DECISION ID	66388	Region 2
Sacramento San Joaquin Delta		

Pollutant: Aldrin
Final Listing Decision: Do Not List on 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision: New Decision
Revision Status: Revised
Impairment from Pollutant or Pollution: Pollutant

Regional Board Staff Conclusion: This pollutant is being considered for placement on the CWA section 303(d) List under section 3.1 of the Listing Policy. Under section 3.1 a single line of evidence is necessary to assess listing status. One line of evidence is available in the administrative record to assess this pollutant. Zero of four samples exceed the guideline.

Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against placing this water segment-pollutant combination on the CWA section 303(d) List.

This conclusion is based on the staff findings that:

1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy.
2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy.
3. Zero of four samples exceed the guideline and this sample size is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating. A minimum of 16 samples is needed to determine if a beneficial use is fully supported using table 3.1.
4. Pursuant to SECTION 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.

Regional Board Staff Decision Recommendation: After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be placed on the section 303(d) list. The readily available data and information is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating.

Line of Evidence (LOE) for Decision ID 66388, Aldrin	Region 2
Sacramento San Joaquin Delta	

LOE ID: 92734

Pollutant: Aldrin
LOE Subgroup: Pollutant-Water
Matrix: Water
Fraction: Total

Beneficial Use: Commercial or recreational collection of fish, shellfish, or organisms

Number of Samples: 4
Number of Exceedances: 0

Data and Information Type: PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality: State Water Board staff assessed SFEI data for Delta Waterways (western portion) to determine beneficial use support and results are as follows: 0 of 4 samples exceed the criterion for Aldrin.

Data Reference: [Regional Monitoring Program data, Feb. 1993-Sep. 2008](#)

SWAMP Data: Non-SWAMP

Water Quality Objective/Criterion: The Aldrin criteria for the protection of human health from consumption of organisms only is 0.00014 ug/L (California Toxics Rule, 2000).

Objective/Criterion Reference: [Code of Federal Regulations 40 part 131.38 Establishment of numeric criteria for priority toxic pollutants for the State of California. 7/1/2011 Edition](#)

Evaluation Guideline:

Guideline Reference:

Spatial Representation: Data for this line of evidence for Delta Waterways (western portion) was collected at 2 monitoring sites [Sacramento River - BG20, San Joaquin River - BG30]

Temporal Representation: Data was collected over the time period 7/23/2004-8/7/2007.

Environmental Conditions: Staff is not aware of any special conditions that might affect interpretation of the data.

QAPP Information: The 1999 Quality Assurance Project Plan Regional Monitoring Program for Trace Substances was used.

QAPP Information Reference(s): [1999 Quality Assurance Project Plan Regional Monitoring Program for Trace Substances](#)

DECISION ID	66429	Region 2
Sacramento San Joaquin Delta		

Pollutant: Anthracene

Final Listing Decision: Do Not List on 303(d) list (TMDL required list)

Last Listing Cycle's Final Listing Decision: New Decision

Revision Status: Revised

Impairment from Pollutant or Pollution: Pollutant

Regional Board Staff Conclusion:

This pollutant is being considered for placement on the CWA section 303(d) List under section 3.1 of the Listing Policy. Under section 3.1 a single line of evidence is necessary to assess listing status.

Two lines of evidence are available in the administrative record to assess this pollutant. Zero of forty-three samples exceed the guideline.

Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against placing this water segment-pollutant combination on the CWA section 303(d) List in the Water Quality Limited Segments category.

This conclusion is based on the staff findings that:

1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy.
2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy.
3. Zero of forty-three samples exceed the guideline and this does not exceed the allowable frequency listed in Table 3.1 of the Listing Policy.
4. Pursuant to section 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.

Regional Board Staff Decision Recommendation: After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be placed on the section 303(d) list because applicable water quality standards are not being exceeded.

Line of Evidence (LOE) for Decision ID 66429, Anthracene	Region 2
Sacramento San Joaquin Delta	

LOE ID: 92736

Pollutant: Anthracene

LOE Subgroup: Pollutant-Water

Matrix: Water

Fraction: Total

Beneficial Use:	Commercial or recreational collection of fish, shellfish, or organisms
Number of Samples:	43
Number of Exceedances:	0
Data and Information Type:	PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality:	State Water Board staff assessed SFEI data for Delta Waterways (western portion) to determine beneficial use support and results are as follows: 0 of 43 samples exceed the criterion for Anthracene.
Data Reference:	Regional Monitoring Program data, Feb. 1993-Sep. 2008
SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	The Anthracene criteria for the protection of human health from consumption of organisms only is 110,000 ug/L (California Toxics Rule, 2000).
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	
Guideline Reference:	Code of Federal Regulations 40 part 131.38 Establishment of numeric criteria for priority toxic pollutants for the State of California. 7/1/2011 Edition
Spatial Representation:	Data for this line of evidence for Delta Waterways (western portion) was collected at 2 monitoring sites [Sacramento River - BG20, San Joaquin River - BG30]
Temporal Representation:	Data was collected over the time period 3/5/1993-7/9/2008.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	The 1999 Quality Assurance Project Plan Regional Monitoring Program for Trace Substances was used.
QAPP Information Reference(s):	1999 Quality Assurance Project Plan Regional Monitoring Program for Trace Substances

DECISION ID	66826	Region 2
Sacramento San Joaquin Delta		

Pollutant:	Arsenic
Final Listing Decision:	Do Not List on 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision:	New Decision
Revision Status	Revised
Impairment from Pollutant or Pollution:	Pollutant

Regional Board Staff Conclusion:	<p>This pollutant is being considered for placement on the CWA section 303(d) List under section 3.1 of the Listing Policy. Under section 3.1 a single line of evidence is necessary to assess listing status.</p> <p>Two lines of evidence are available in the administrative record to assess this pollutant. Zero of sixty-four samples exceed the guideline.</p> <p>Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against placing this water segment-pollutant combination on the CWA section 303(d) List in the Water Quality Limited Segments category.</p> <p>This conclusion is based on the staff findings that:</p> <ol style="list-style-type: none"> 1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy. 2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy. 3. Zero of sixty-four samples exceed the guideline and this does not exceed the allowable frequency listed in Table 3.1 of the Listing Policy. 4. Pursuant to section 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.
Regional Board Staff Decision Recommendation:	After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be placed on the section 303(d) list because applicable water

quality standards are not being exceeded.

Line of Evidence (LOE) for Decision ID 66826, Arsenic
Sacramento San Joaquin Delta

Region 2

LOE ID:	95214
Pollutant:	Arsenic
LOE Subgroup:	Pollutant-Tissue
Matrix:	Tissue
Fraction:	Fish fillet
Beneficial Use:	Commercial or recreational collection of fish, shellfish, or organisms
Number of Samples:	1
Number of Exceedances:	0
Data and Information Type:	Fish tissue analysis
Data Used to Assess Water Quality:	Water Board staff assessed Regional Monitoring Program data for the Sacramento San Joaquin Delta to determine beneficial use support and results are as follows: 0 of 1 samples exceed the criterion for Arsenic. The fraction of total arsenic in inorganic form was taken to be 3.2%, which was the maximum fraction of inorganic arsenic found in shark tissue from SF Bay. No samples were discarded for being non-detect, unquantifiable or the reporting limit exceeding the water quality objective.
Data Reference:	Regional Monitoring Program data, Feb. 1993-Sep. 2008 Contaminant Concentrations in Fish from San Francisco Bay, 2000 Calculating Fraction of Inorganic Arsenic in SF Bay Fish and Shellfish
SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	Water Quality Control Plan for the San Francisco Bay Basin: Controllable water quality factors shall not cause a detrimental increase in concentrations of toxic substances found in bottom sediments or aquatic life. Effects on aquatic organisms, wildlife, and human health will be considered.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	<p>The modified OEHHA Advisory Tissue Level for arsenic in fish tissue is 0.34 ppm. This screening level assumes an average body weight of 70 kg and a consumption rate of 32 g/day for a 30 year exposure over a 70-year lifetime. This constituent is a carcinogen therefore the risk level is set to one in ten thousand. (Klasing, S., and R. Brodberg, 2008; OEHHA, 2004).</p> <p>Advisory Tissue Levels (ATLs), while still conferring no significant health risk to individuals consuming sport fish in the quantities shown over a lifetime, were developed with the recognition that there are unique health benefits associated with fish consumption and that the advisory process should be expanded beyond a simple risk paradigm in order to best promote the overall health of the fish consumer. ATLs provide a number of recommended fish servings that correspond to the range of contaminant concentrations found in fish and are used to provide consumption advice to prevent consumers from being exposed to more than the average daily reference dose for noncarcinogens or to a risk level greater than 1×10^{-4} for carcinogens (not more than one additional cancer case in a population of 10,000 people consuming fish at the given consumption rate over a lifetime). ATLs are designed to encourage consumption of fish that can be eaten in quantities likely to provide significant health benefits, while discouraging consumption of fish that, because of contaminant concentrations, should not be eaten or cannot be eaten in amounts recommended for improving overall health (eight ounces total, prior to cooking, per week). ATLs are one of the criteria that will be used by OEHHA for issuing fish consumption guidelines.</p>
Guideline Reference:	Development of Fish Contaminant Goals and Advisory Tissue Levels for Common Contaminants in California Sport Fish: Chlordane, DDTs, Dieldrin, Methylmercury, PCBs,

[Selenium, and Toxaphene](#)

[Air Toxics Hotspots Program Risk Assessment Guidelines. Part II Technical Support Document for Describing Available Cancer Potency Values.](#)

Spatial Representation: The samples were collected at one site in the Sacramento San Joaquin Delta
Temporal Representation: The samples were collected in June 1994.
Environmental Conditions:
QAPP Information: The 1999 Quality Assurance Project Plan Regional Monitoring Program for Trace Substances was used.
QAPP Information Reference(s): [1999 Quality Assurance Project Plan Regional Monitoring Program for Trace Substances](#)

Line of Evidence (LOE) for Decision ID 66826, Arsenic

Region 2

Sacramento San Joaquin Delta

LOE ID: 92737

Pollutant: Arsenic
LOE Subgroup: Pollutant-Water
Matrix: Water
Fraction: Total

Beneficial Use: Commercial or recreational collection of fish, shellfish, or organisms

Number of Samples: 64
Number of Exceedances: 0

Data and Information Type: PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality: State Water Board staff assessed SFEI data for Delta Waterways (western portion) to determine beneficial use support and results are as follows: 0 of 64 samples exceed the criterion for Arsenic.

Data Reference: [Regional Monitoring Program data, Feb. 1993-Sep. 2008](#)

SWAMP Data: Non-SWAMP

Water Quality Objective/Criterion: Surface?waters?shall?not?contain?concentrations?of?chemical?constituents?in? amounts?that?adversely?affect?any?designated?beneficial?use.

Objective/Criterion Reference: [Water Quality Control Plan \(Basin Plan\) San Francisco Bay Basin \(Region 2\)](#)

Evaluation Guideline: The Arsenic criteria for the protection of human health from consumption of organisms only is 0.14 ug/L (National Recommended Water Quality Criteria, 2009).

Guideline Reference: [National Recommended Water Quality Criteria. United States Environmental Protection Agency. Office of Water. Office of Science and Technology](#)

Spatial Representation: Data for this line of evidence for Delta Waterways (western portion) was collected at 2 monitoring sites [Sacramento River - BG20, San Joaquin River - BG30]

Temporal Representation: Data was collected over the time period 3/5/1993-7/9/2008.

Environmental Conditions: Staff is not aware of any special conditions that might affect interpretation of the data.

QAPP Information: The 1999 Quality Assurance Project Plan Regional Monitoring Program for Trace Substances was used.

QAPP Information Reference(s): [1999 Quality Assurance Project Plan Regional Monitoring Program for Trace Substances](#)

DECISION ID 66389

Region 2

Sacramento San Joaquin Delta

Pollutant: Benzo(a)pyrene (3,4-Benzopyrene -7-d)
Final Listing Decision: Do Not List on 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision: New Decision
Revision Status: Revised
Impairment from Pollutant or Pollutant

Pollution:**Regional Board Staff Conclusion:**

This pollutant is being considered for placement on the CWA section 303(d) List under section 3.1 of the Listing Policy. Under section 3.1 a single line of evidence is necessary to assess listing status.

One line of evidence is available in the administrative record to assess this pollutant. Zero of fifty-two samples exceed the guideline.

Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against placing this water segment-pollutant combination on the CWA section 303(d) List in the Water Quality Limited Segments category.

This conclusion is based on the staff findings that:

1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy.
2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy.
3. Zero of fifty-two samples exceed the guideline and this does not exceed the allowable frequency listed in Table 3.1 of the Listing Policy.
4. Pursuant to section 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.

Regional Board Staff Decision Recommendation:

After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be placed on the section 303(d) list because applicable water quality standards are not being exceeded.

**Line of Evidence (LOE) for Decision ID 66389, Benzo(a)pyrene (3,4-Benzopyrene -7-d)
Sacramento San Joaquin Delta****Region 2**

LOE ID:	92738
Pollutant:	Benzo(a)pyrene (3,4-Benzopyrene -7-d)
LOE Subgroup:	Pollutant-Water
Matrix:	Water
Fraction:	Total
Beneficial Use:	Commercial or recreational collection of fish, shellfish, or organisms
Number of Samples:	52
Number of Exceedances:	0
Data and Information Type:	PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality:	State Water Board staff assessed SFEI data for Delta Waterways (western portion) to determine beneficial use support and results are as follows: 0 of 52 samples exceed the criterion for Indeno(1, 2, 3-C, D)Pyrene.
Data Reference:	Regional Monitoring Program data, Feb. 1993-Sep. 2008
SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	The Indeno(1, 2, 3-C, D)Pyrene criteria for the protection of human health from consumption of organisms only is 0.049 ug/L (California Toxics Rule, 2000).
Objective/Criterion Reference:	Code of Federal Regulations 40 part 131.38 Establishment of numeric criteria for priority toxic pollutants for the State of California. 7/1/2011 Edition
Evaluation Guideline:	
Guideline Reference:	
Spatial Representation:	Data for this line of evidence for Delta Waterways (western portion) was collected at 2 monitoring sites [Sacramento River - BG20, San Joaquin River - BG30]
Temporal Representation:	Data was collected over the time period 3/5/1993-7/9/2008.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	The 1999 Quality Assurance Project Plan Regional Monitoring Program for Trace Substances was used.

DECISION ID	66445	Region 2
Sacramento San Joaquin Delta		

Pollutant: Cadmium
Final Listing Decision: Do Not List on 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision: New Decision
Revision Status: Revised
Impairment from Pollutant or Pollution: Pollutant

Regional Board Staff Conclusion: This pollutant is being considered for placement on the CWA section 303(d) List under section 3.5 of the Listing Policy. Under section 3.5 a single line of evidence is necessary to assess listing status. One line of evidence is available in the administrative record to assess this pollutant. Zero of one samples exceed the OEHHHA guideline.

Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against placing this water segment-pollutant combination on the CWA section 303(d) List.

This conclusion is based on the staff findings that:

1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy.
2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy.
3. Zero of one samples exceed the OEHHHA guideline and this sample size is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating. A minimum of 16 samples is needed to determine if a beneficial use is fully supported using table 3.1.
4. Pursuant to SECTION 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.

Regional Board Staff Decision Recommendation: After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be placed on the section 303(d) list. The readily available data and information is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating.

Line of Evidence (LOE) for Decision ID 66445, Cadmium	Region 2
Sacramento San Joaquin Delta	

LOE ID: 95143
Pollutant: Cadmium
LOE Subgroup: Pollutant-Tissue
Matrix: Tissue
Fraction: Fish fillet
Beneficial Use: Commercial or recreational collection of fish, shellfish, or organisms
Number of Samples: 1
Number of Exceedances: 0
Data and Information Type: Fish tissue analysis
Data Used to Assess Water Quality: Water Board staff assessed Regional Monitoring Program data for the Sacramento San Joaquin Delta to determine beneficial use support and results are as follows: 0 of 1 samples exceed the criterion for cadmium. No samples were discarded for being non-detect, unquantifiable or the reporting limit exceeding the water quality objective.
Data Reference: [Regional Monitoring Program data, Feb. 1993-Sep. 2008](#)

SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	Water Quality Control Plan for the San Francisco Bay Basin: Controllable water quality factors shall not cause a detrimental increase in concentrations of toxic substances found in bottom sediments or aquatic life. Effects on aquatic organisms, wildlife, and human health will be considered.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	The modified OEHHA Fish Contaminant Goal for cadmium in fish tissue is 2.2 ppm. This screening level assumes an average body weight of 70 kg and a consumption rate of 32 g/day. (Klasing, S., and R. Brodberg, 2008; USEPA, 2000)
Guideline Reference:	Development of Fish Contaminant Goals and Advisory Tissue Levels for Common Contaminants in California Sport Fish: Chlordane, DDTs, Dieldrin, Methylmercury, PCBs, Selenium, and Toxaphene Guidance for Assessing Chemical Contaminant Data for Use In Fish Advisories Volume 1: Fish Sampling and Analysis
Spatial Representation:	The samples were collected at one site in the Sacramento San Joaquin Delta
Temporal Representation:	The samples were collected in June 1994.
Environmental Conditions:	
QAPP Information:	The 1999 Quality Assurance Project Plan Regional Monitoring Program for Trace Substances was used.
QAPP Information Reference(s):	1999 Quality Assurance Project Plan Regional Monitoring Program for Trace Substances

DECISION ID	66446	Region 2
Sacramento San Joaquin Delta		

Pollutant:	Chlorpyrifos
Final Listing Decision:	Do Not List on 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision:	New Decision
Revision Status	Revised
Impairment from Pollutant or Pollution:	Pollutant
Regional Board Staff Conclusion:	<p>This pollutant is being considered for placement on the CWA section 303(d) List under section 3.5 of the Listing Policy. Under section 3.5 a single line of evidence is necessary to assess listing status. One line of evidence is available in the administrative record to assess this pollutant. Zero of one samples exceed the OEHHA guideline.</p> <p>Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against placing this water segment-pollutant combination on the CWA section 303(d) List.</p> <p>This conclusion is based on the staff findings that:</p> <ol style="list-style-type: none"> 1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy. 2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy. 3. Zero of one samples exceed the OEHHA guideline and this sample size is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating. A minimum of 16 samples is needed to determine if a beneficial use is fully supported using table 3.1. 4. Pursuant to SECTION 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.
Regional Board Staff Decision Recommendation:	After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be placed on the section 303(d) list. The readily available data and information is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating.

Line of Evidence (LOE) for Decision ID 66446, Chlorpyrifos	Region 2
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Sacramento San Joaquin Delta

LOE ID:	95150
Pollutant:	Chlorpyrifos
LOE Subgroup:	Pollutant-Tissue
Matrix:	Tissue
Fraction:	Fish fillet
Beneficial Use:	Commercial or recreational collection of fish, shellfish, or organisms
Number of Samples:	1
Number of Exceedances:	0
Data and Information Type:	Fish tissue analysis
Data Used to Assess Water Quality:	Water Board staff assessed Regional Monitoring Program data for the Sacramento San Joaquin Delta to determine beneficial use support and results are as follows: 0 of 1 samples exceed the criterion for chlorpyrifos. No samples were discarded for being non-detect, unquantifiable or the reporting limit exceeding the water quality objective.
Data Reference:	Regional Monitoring Program data, Feb. 1993-Sep. 2008
SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	Water Quality Control Plan for the San Francisco Bay Basin: Controllable water quality factors shall not cause a detrimental increase in concentrations of toxic substances found in bottom sediments or aquatic life. Effects on aquatic organisms, wildlife, and human health will be considered.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	The modified OEHHA Fish Contaminant Goal for chlorpyrifos in fish tissue is 660 ppb. This screening level assumes an average body weight of 70 kg and a consumption rate of 32 g/day. A cooking reduction factor of 1 is applied for skin-off fillets. (Klasing, S., and R. Brodberg, 2008; USEPA, 2000)
Guideline Reference:	Development of Fish Contaminant Goals and Advisory Tissue Levels for Common Contaminants in California Sport Fish: Chlordane, DDTs, Dieldrin, Methylmercury, PCBs, Selenium, and Toxaphene Guidance for Assessing Chemical Contaminant Data for Use In Fish Advisories Volume 1: Fish Sampling and Analysis
Spatial Representation:	The samples were collected at one site in the Sacramento San Joaquin Delta
Temporal Representation:	The samples were collected in June 1994.
Environmental Conditions:	
QAPP Information:	The 1999 Quality Assurance Project Plan Regional Monitoring Program for Trace Substances was used.
QAPP Information Reference(s):	1999 Quality Assurance Project Plan Regional Monitoring Program for Trace Substances

DECISION ID	66447	Region 2
Sacramento San Joaquin Delta		

Pollutant:	Chrysene (C1-C4)
Final Listing Decision:	Do Not List on 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision:	New Decision
Revision Status	Revised
Impairment from Pollutant or Pollution:	Pollutant
Regional Board Staff Conclusion:	<p>This pollutant is being considered for placement on the CWA section 303(d) List under section 3.1 of the Listing Policy. Under section 3.1 a single line of evidence is necessary to assess listing status.</p> <p>One line of evidence is available in the administrative record to assess this pollutant. Zero of fifty-</p>

four samples exceed the guideline.

Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against placing this water segment-pollutant combination on the CWA section 303(d) List in the Water Quality Limited Segments category.

This conclusion is based on the staff findings that:

1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy.
2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy.
3. Zero of fifty-four samples exceed the guideline and this does not exceed the allowable frequency listed in Table 3.1 of the Listing Policy.
4. Pursuant to section 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.

Regional Board Staff Decision Recommendation: After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be placed on the section 303(d) list because applicable water quality standards are not being exceeded.

Line of Evidence (LOE) for Decision ID 66447, Chrysene (C1-C4)

Region 2

Sacramento San Joaquin Delta

LOE ID:	92741
Pollutant:	Chrysene (C1-C4)
LOE Subgroup:	Pollutant-Water
Matrix:	Water
Fraction:	Total
Beneficial Use:	Commercial or recreational collection of fish, shellfish, or organisms
Number of Samples:	54
Number of Exceedances:	0
Data and Information Type:	PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality:	State Water Board staff assessed SFEI data for Delta Waterways (western portion) to determine beneficial use support and results are as follows: 0 of 54 samples exceed the criterion for Chrysene.
Data Reference:	Regional Monitoring Program data, Feb. 1993-Sep. 2008
SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	The Chrysene criteria for the protection of human health from consumption of organisms only is 0.049 ug/L (California Toxics Rule, 2000).
Objective/Criterion Reference:	Code of Federal Regulations 40 part 131.38 Establishment of numeric criteria for priority toxic pollutants for the State of California. 7/1/2011 Edition
Evaluation Guideline:	
Guideline Reference:	
Spatial Representation:	Data for this line of evidence for Delta Waterways (western portion) was collected at 2 monitoring sites [Sacramento River - BG20, San Joaquin River - BG30]
Temporal Representation:	Data was collected over the time period 3/5/1993-7/9/2008.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	The 1999 Quality Assurance Project Plan Regional Monitoring Program for Trace Substances was used.
QAPP Information Reference(s):	1999 Quality Assurance Project Plan Regional Monitoring Program for Trace Substances

DECISION ID 66390

Region 2

Sacramento San Joaquin Delta

Pollutant:	Copper
Final Listing Decision:	Do Not List on 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision:	New Decision
Revision Status	Revised
Impairment from Pollutant or Pollution:	Pollutant

Regional Board Staff Conclusion: This pollutant is being considered for placement on the CWA section 303(d) List under section 3.1 of the Listing Policy. Under section 3.1 a single line of evidence is necessary to assess listing status.

Two lines of evidence are available in the administrative record to assess this pollutant. Zero of sixty-eight samples exceed the objective.

Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against placing this water segment-pollutant combination on the CWA section 303(d) List in the Water Quality Limited Segments category.

This conclusion is based on the staff findings that:

1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy.
2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy.
3. Zero of sixty-eight samples exceed the objective and this does not exceed the allowable frequency listed in Table 3.1 of the Listing Policy.
4. Pursuant to section 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.

Regional Board Staff Decision Recommendation: After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be placed on the section 303(d) list because applicable water quality standards are not being exceeded.

Line of Evidence (LOE) for Decision ID 66390, Copper Sacramento San Joaquin Delta

Region 2

LOE ID:	92742
Pollutant:	Copper
LOE Subgroup:	Pollutant-Water
Matrix:	Water
Fraction:	Dissolved
Beneficial Use:	Estuarine Habitat
Number of Samples:	65
Number of Exceedances:	0
Data and Information Type:	PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality:	State Water Board staff assessed SFEI data for Delta Waterways (western portion) to determine beneficial use support and results are as follows: 0 of 65 samples exceed the criterion for Copper.
Data Reference:	Regional Monitoring Program data, Feb. 1993-Sep. 2008
SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	According to table 3-3A, the Copper site-specific objective for Delta Waterways (western portion) is 6 ug/L.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	
Guideline Reference:	

Spatial Representation:	Data for this line of evidence for Delta Waterways (western portion) was collected at 2 monitoring sites [Sacramento River - BG20, San Joaquin River - BG30]
Temporal Representation:	Data was collected over the time period 3/5/1993-7/9/2008.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	The 1999 Quality Assurance Project Plan Regional Monitoring Program for Trace Substances was used.
QAPP Information Reference(s):	1999 Quality Assurance Project Plan Regional Monitoring Program for Trace Substances

Line of Evidence (LOE) for Decision ID 66390, Copper
Sacramento San Joaquin Delta

Region 2

LOE ID:	92743
Pollutant:	Copper
LOE Subgroup:	Pollutant-Water
Matrix:	Water
Fraction:	Dissolved
Beneficial Use:	Estuarine Habitat
Number of Samples:	3
Number of Exceedances:	0
Data and Information Type:	Fixed station physical/chemical (conventional plus toxic pollutants)
Data Used to Assess Water Quality:	None of the three samples exceeded the SSO value of 6 ug/L for dissolved copper.
Data Reference:	Data for Various Pollutants in California Marinas, 2006.
SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	Waters shall not contain chemical constituents in concentrations that adversely affect beneficial uses. Table 3.3A lists a site specific objective (SSO) for criteria continuous concentration of dissolved copper. The SSO for dissolved copper in this portion of the San Francisco Bay Delta is 6.0 ug/L.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	
Guideline Reference:	
Spatial Representation:	Four separate grab samples were collected from outside the Pittsburgh Marina basin (Sites 5, 6, 7, & 8), these sites were averaged per sample event.
Temporal Representation:	Samples were collected on three separate sampling events during the dry season (July - October) in 2006.
Environmental Conditions:	Samples were collected during the dry season only.
QAPP Information:	Samples were collected and analyzed in accordance with a Quality Assurance Project Plan that was prepared per State Water Resources Control Board Agreement No. 05-218-250 California Department of Pesticide Regulation, Sacramento, CA. (Available online at http://www.cdpr.ca.gov/docs/emon/surfwttr/protocols/qapp_study236.pdf)
QAPP Information Reference(s):	

DECISION ID 66448
Sacramento San Joaquin Delta

Region 2

Pollutant:	Cyanide
Final Listing Decision:	Do Not List on 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision:	New Decision
Revision Status	Revised
Impairment from Pollutant or Pollution:	Pollutant

**Regional Board Staff
Conclusion:**

This pollutant is being considered for placement on the CWA section 303(d) List under section 3.1 of the Listing Policy. Under section 3.1 a single line of evidence is necessary to assess listing status. Two lines of evidence are available in the administrative record to assess this pollutant. Zero of six samples exceed the guideline.

Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against placing this water segment-pollutant combination on the CWA section 303(d) List.

This conclusion is based on the staff findings that:

1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy.
2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy.
3. Zero of six samples exceed the guideline and this sample size is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating. A minimum of 16 samples is needed to determine if a beneficial use is fully supported using table 3.1.
4. Pursuant to SECTION 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.

**Regional Board Staff Decision
Recommendation:**

After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be placed on the section 303(d) list. The readily available data and information is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating.

**Line of Evidence (LOE) for Decision ID 66448, Cyanide
Sacramento San Joaquin Delta**

Region 2

LOE ID:	92744
Pollutant:	Cyanide
LOE Subgroup:	Pollutant-Water
Matrix:	Water
Fraction:	None
Beneficial Use:	Estuarine Habitat
Number of Samples:	6
Number of Exceedances:	0
Data and Information Type:	PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality:	State Water Board staff assessed SFEI data for Delta Waterways (western portion) to determine beneficial use support and results are as follows: 0 of 6 samples exceed the criterion for Cyanide.
Data Reference:	Regional Monitoring Program data, Feb. 1993-Sep. 2008
SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	According to table 3-3C, the Cyanide site-specific objective for Delta Waterways (western portion) is 2.9 ug/L.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	
Guideline Reference:	
Spatial Representation:	Data for this line of evidence for Delta Waterways (western portion) was collected at 2 monitoring sites [Sacramento River - BG20, San Joaquin River - BG30]
Temporal Representation:	Data was collected over the time period 3/5/1993-9/16/1993.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	The 1999 Quality Assurance Project Plan Regional Monitoring Program for Trace Substances was used.
QAPP Information Reference(s):	1999 Quality Assurance Project Plan Regional Monitoring Program for Trace Substances

Sacramento San Joaquin Delta

LOE ID:	92745
Pollutant:	Cyanide
LOE Subgroup:	Pollutant-Water
Matrix:	Water
Fraction:	Total
Beneficial Use:	Commercial or recreational collection of fish, shellfish, or organisms
Number of Samples:	6
Number of Exceedances:	0
Data and Information Type:	PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality:	State Water Board staff assessed SFEI data for Delta Waterways (western portion) to determine beneficial use support and results are as follows: 0 of 6 samples exceed the criterion for Cyanide.
Data Reference:	Regional Monitoring Program data, Feb. 1993-Sep. 2008
SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	The cyanide criteria for the protection of human health from consumption of organisms only is 220,000 ug/L (California Toxics Rule, 2000).
Objective/Criterion Reference:	Code of Federal Regulations 40 part 131.38 Establishment of numeric criteria for priority toxic pollutants for the State of California. 7/1/2011 Edition
Evaluation Guideline:	
Guideline Reference:	
Spatial Representation:	Data for this line of evidence for Delta Waterways (western portion) was collected at 2 monitoring sites [Sacramento River - BG20, San Joaquin River - BG30]
Temporal Representation:	Data was collected over the time period 3/5/1993-9/16/1993.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	The 1999 Quality Assurance Project Plan Regional Monitoring Program for Trace Substances was used.
QAPP Information Reference(s):	1999 Quality Assurance Project Plan Regional Monitoring Program for Trace Substances

DECISION ID

66449

Region 2

Sacramento San Joaquin Delta

Pollutant:	Endosulfan
Final Listing Decision:	Do Not List on 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision:	New Decision
Revision Status	Revised
Impairment from Pollutant or Pollution:	Pollutant
Regional Board Staff Conclusion:	<p>This pollutant is being considered for placement on the CWA section 303(d) List under section 3.5 of the Listing Policy. Under section 3.5 a single line of evidence is necessary to assess listing status. One line of evidence is available in the administrative record to assess this pollutant. Zero of one samples exceed the OEHHHA guideline.</p> <p>Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against placing this water segment-pollutant combination on the CWA section 303(d) List.</p> <p>This conclusion is based on the staff findings that:</p>

1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy.
2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy.
3. Zero of one samples exceed the OEHHA guideline and this sample size is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating. A minimum of 16 samples is needed to determine if a beneficial use is fully supported using table 3.1.
4. Pursuant to SECTION 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.

Regional Board Staff Decision Recommendation: After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be placed on the section 303(d) list. The readily available data and information is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating.

Line of Evidence (LOE) for Decision ID 66449, Endosulfan

Region 2

Sacramento San Joaquin Delta

LOE ID:	95133
Pollutant:	Endosulfan
LOE Subgroup:	Pollutant-Tissue
Matrix:	Tissue
Fraction:	Fish fillet
Beneficial Use:	Commercial or recreational collection of fish, shellfish, or organisms
Number of Samples:	1
Number of Exceedances:	0
Data and Information Type:	Fish tissue analysis
Data Used to Assess Water Quality:	Water Board staff assessed Regional Monitoring Program data for the Sacramento San Joaquin Delta to determine beneficial use support and results are as follows: 0 of 1 samples exceed the criterion for endosulfan. No samples were discarded for being non-detect, unquantifiable or the reporting limit exceeding the water quality objective.
Data Reference:	Regional Monitoring Program data, Feb. 1993-Sep. 2008
SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	Water Quality Control Plan for the San Francisco Bay Basin: Controllable water quality factors shall not cause a detrimental increase in concentrations of toxic substances found in bottom sediments or aquatic life. Effects on aquatic organisms, wildlife, and human health will be considered.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	The modified OEHHA Fish Contaminant Goal for endosulfan (I and II) in fish tissue is 13,000 ppb. This screening level assumes an average body weight of 70 kg and a consumption rate of 32 g/day. A cooking reduction factor of 1 is applied for skin-off fillets. (Klasing, S., and R. Brodberg, 2008; USEPA, 2000)
Guideline Reference:	Development of Fish Contaminant Goals and Advisory Tissue Levels for Common Contaminants in California Sport Fish: Chlordane, DDTs, Dieldrin, Methylmercury, PCBs, Selenium, and Toxaphene Guidance for Assessing Chemical Contaminant Data for Use In Fish Advisories Volume 1: Fish Sampling and Analysis
Spatial Representation:	The samples were collected at one site in the Sacramento San Joaquin Delta
Temporal Representation:	The samples were collected in June 1994.
Environmental Conditions:	
QAPP Information:	The 1999 Quality Assurance Project Plan Regional Monitoring Program for Trace Substances was used.
QAPP Information Reference(s):	1999 Quality Assurance Project Plan Regional Monitoring Program for Trace Substances

DECISION ID	66450	Region 2
Sacramento San Joaquin Delta		

Pollutant:	Endosulfan sulfate
Final Listing Decision:	Do Not List on 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision:	New Decision
Revision Status	Revised
Impairment from Pollutant or Pollution:	Pollutant

Regional Board Staff Conclusion: This pollutant is being considered for placement on the CWA section 303(d) List under section 3.1 of the Listing Policy. Under section 3.1 a single line of evidence is necessary to assess listing status.

One line of evidence is available in the administrative record to assess this pollutant. Zero of forty-nine samples exceed the guideline.

Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against placing this water segment-pollutant combination on the CWA section 303(d) List in the Water Quality Limited Segments category.

This conclusion is based on the staff findings that:

1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy.
2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy.
3. Zero of forty-nine samples exceed the guideline and this does not exceed the allowable frequency listed in Table 3.1 of the Listing Policy.
4. Pursuant to section 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.

Regional Board Staff Decision Recommendation: After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be placed on the section 303(d) list because applicable water quality standards are not being exceeded.

Line of Evidence (LOE) for Decision ID 66450, Endosulfan sulfate	Region 2
Sacramento San Joaquin Delta	

LOE ID:	92747
Pollutant:	Endosulfan sulfate
LOE Subgroup:	Pollutant-Water
Matrix:	Water
Fraction:	Total
Beneficial Use:	Commercial or recreational collection of fish, shellfish, or organisms
Number of Samples:	49
Number of Exceedances:	0
Data and Information Type:	PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality:	State Water Board staff assessed SFEI data for Delta Waterways (western portion) to determine beneficial use support and results are as follows: 0 of 49 samples exceed the criterion for Endosulfan Sulfate.
Data Reference:	Regional Monitoring Program data, Feb. 1993-Sep. 2008
SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	The Endosulfan Sulfate criteria for the protection of human health from consumption of organisms only is 240 ug/L (California Toxics Rule, 2000).
Objective/Criterion Reference:	Code of Federal Regulations 40 part 131.38 Establishment of numeric criteria for priority

Evaluation Guideline:

Guideline Reference:

Spatial Representation:

Data for this line of evidence for Delta Waterways (western portion) was collected at 2 monitoring sites [Sacramento River - BG20, San Joaquin River - BG30]

Temporal Representation:

Data was collected over the time period 2/9/1994-8/7/2007.

Environmental Conditions:

Staff is not aware of any special conditions that might affect interpretation of the data.

QAPP Information:

The 1999 Quality Assurance Project Plan Regional Monitoring Program for Trace Substances was used.

QAPP Information Reference(s):

[1999 Quality Assurance Project Plan Regional Monitoring Program for Trace Substances](#)

DECISION ID	66451	Region 2
Sacramento San Joaquin Delta		

Pollutant:	Endrin
Final Listing Decision:	Do Not List on 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision:	New Decision
Revision Status	Revised
Impairment from Pollutant or Pollution:	Pollutant

Regional Board Staff Conclusion:

This pollutant is being considered for placement on the CWA section 303(d) List under section 3.1 of the Listing Policy. Under section 3.1 a single line of evidence is necessary to assess listing status.

Two lines of evidence are available in the administrative record to assess this pollutant. Zero of forty-four samples exceed the guideline.

Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against placing this water segment-pollutant combination on the CWA section 303(d) List in the Water Quality Limited Segments category.

This conclusion is based on the staff findings that:

1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy.
2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy.
3. Zero of forty-four samples exceed the guideline and this does not exceed the allowable frequency listed in Table 3.1 of the Listing Policy.
4. Pursuant to section 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.

Regional Board Staff Decision Recommendation:

After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be placed on the section 303(d) list because applicable water quality standards are not being exceeded.

Line of Evidence (LOE) for Decision ID 66451, Endrin	Region 2
Sacramento San Joaquin Delta	

LOE ID:	95233
Pollutant:	Endrin
LOE Subgroup:	Pollutant-Tissue
Matrix:	Tissue
Fraction:	Fish fillet
Beneficial Use:	Commercial or recreational collection of fish, shellfish, or organisms
Number of Samples:	1

Number of Exceedances:	0
Data and Information Type:	Fish tissue analysis
Data Used to Assess Water Quality:	Water Board staff assessed Regional Monitoring Program data for the Sacramento San Joaquin Delta to determine beneficial use support and results are as follows: 0 of 1 samples exceed the criterion for endrin. No samples were discarded for being non-detect, unquantifiable or the reporting limit exceeding the water quality objective.
Data Reference:	Regional Monitoring Program data, Feb. 1993-Sep. 2008
SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	Water Quality Control Plan for the San Francisco Bay Basin: Controllable water quality factors shall not cause a detrimental increase in concentrations of toxic substances found in bottom sediments or aquatic life. Effects on aquatic organisms, wildlife, and human health will be considered.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	The modified OEHHA Fish Contaminant Goal for endrin in fish tissue is 660 ppb. This screening level assumes an average body weight of 70 kg and a consumption rate of 32 g/day. A cooking reduction factor of 1 is applied for skin-off fillets. (Klasing, S., and R. Brodberg, 2008; USEPA, 2000)
Guideline Reference:	Development of Fish Contaminant Goals and Advisory Tissue Levels for Common Contaminants in California Sport Fish: Chlordane, DDTs, Dieldrin, Methylmercury, PCBs, Selenium, and Toxaphene Guidance for Assessing Chemical Contaminant Data for Use In Fish Advisories Volume 1: Fish Sampling and Analysis
Spatial Representation:	The samples were collected at one site in the Sacramento San Joaquin Delta
Temporal Representation:	The samples were collected in June 1994.
Environmental Conditions:	
QAPP Information:	The 1999 Quality Assurance Project Plan Regional Monitoring Program for Trace Substances was used.
QAPP Information Reference(s):	1999 Quality Assurance Project Plan Regional Monitoring Program for Trace Substances

Line of Evidence (LOE) for Decision ID 66451, Endrin

Region 2

Sacramento San Joaquin Delta

LOE ID:	92748
Pollutant:	Endrin
LOE Subgroup:	Pollutant-Water
Matrix:	Water
Fraction:	Total
Beneficial Use:	Commercial or recreational collection of fish, shellfish, or organisms
Number of Samples:	44
Number of Exceedances:	0
Data and Information Type:	PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality:	State Water Board staff assessed SFEI data for Delta Waterways (western portion) to determine beneficial use support and results are as follows: 0 of 44 samples exceed the criterion for Endrin.
Data Reference:	Regional Monitoring Program data, Feb. 1993-Sep. 2008
SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	The Endrin criteria for the protection of human health from consumption of organisms only is 0.81ug/L (California Toxics Rule, 2000).
Objective/Criterion Reference:	Code of Federal Regulations 40 part 131.38 Establishment of numeric criteria for priority toxic pollutants for the State of California. 7/1/2011 Edition

Evaluation Guideline:

Guideline Reference:

Spatial Representation:

Data for this line of evidence for Delta Waterways (western portion) was collected at 2 monitoring sites [Sacramento River - BG20, San Joaquin River - BG30]

Temporal Representation:

Data was collected over the time period 8/24/1994-8/7/2007.

Environmental Conditions:

Staff is not aware of any special conditions that might affect interpretation of the data.

QAPP Information:

The 1999 Quality Assurance Project Plan Regional Monitoring Program for Trace Substances was used.

QAPP Information Reference(s):

[1999 Quality Assurance Project Plan Regional Monitoring Program for Trace Substances](#)

DECISION ID	66452	Region 2
Sacramento San Joaquin Delta		

Pollutant: Fluoranthene

Final Listing Decision: Do Not List on 303(d) list (TMDL required list)

Last Listing Cycle's Final Listing Decision: New Decision

Revision Status

Revised

Impairment from Pollutant or Pollution:

Pollutant

Regional Board Staff Conclusion:

This pollutant is being considered for placement on the CWA section 303(d) List under section 3.1 of the Listing Policy. Under section 3.1 a single line of evidence is necessary to assess listing status.

One line of evidence is available in the administrative record to assess this pollutant. Zero of fifty-two samples exceed the guideline.

Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against placing this water segment-pollutant combination on the CWA section 303(d) List in the Water Quality Limited Segments category.

This conclusion is based on the staff findings that:

1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy.
2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy.
3. Zero of fifty-two samples exceed the guideline and this does not exceed the allowable frequency listed in Table 3.1 of the Listing Policy.
4. Pursuant to section 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.

Regional Board Staff Decision Recommendation:

After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be placed on the section 303(d) list because applicable water quality standards are not being exceeded.

Line of Evidence (LOE) for Decision ID 66452, Fluoranthene	Region 2
Sacramento San Joaquin Delta	

LOE ID: 92749

Pollutant: Fluoranthene
LOE Subgroup: Pollutant-Water
Matrix: Water
Fraction: Total

Beneficial Use: Commercial or recreational collection of fish, shellfish, or organisms

Number of Samples: 52

Number of Exceedances: 0

Data and Information Type:	PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality:	State Water Board staff assessed SFEI data for Delta Waterways (western portion) to determine beneficial use support and results are as follows: 0 of 52 samples exceed the criterion for Fluoranthene.
Data Reference:	Regional Monitoring Program data, Feb. 1993-Sep. 2008
SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	The Fluoranthene criteria for the protection of human health from consumption of organisms only is 370 ug/L (California Toxics Rule, 2000).
Objective/Criterion Reference:	Code of Federal Regulations 40 part 131.38 Establishment of numeric criteria for priority toxic pollutants for the State of California. 7/1/2011 Edition
Evaluation Guideline:	
Guideline Reference:	
Spatial Representation:	Data for this line of evidence for Delta Waterways (western portion) was collected at 2 monitoring sites [Sacramento River - BG20, San Joaquin River - BG30]
Temporal Representation:	Data was collected over the time period 3/5/1993-7/9/2008.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	The 1999 Quality Assurance Project Plan Regional Monitoring Program for Trace Substances was used.
QAPP Information Reference(s):	1999 Quality Assurance Project Plan Regional Monitoring Program for Trace Substances

DECISION ID	66453	Region 2
Sacramento San Joaquin Delta		

Pollutant:	Fluorene
Final Listing Decision:	Do Not List on 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision:	New Decision
Revision Status	Revised
Impairment from Pollutant or Pollution:	Pollutant

Regional Board Staff Conclusion:

This pollutant is being considered for placement on the CWA section 303(d) List under section 3.1 of the Listing Policy. Under section 3.1 a single line of evidence is necessary to assess listing status.

One line of evidence is available in the administrative record to assess this pollutant. Zero of thirty-five samples exceed the guideline.

Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against placing this water segment-pollutant combination on the CWA section 303(d) List in the Water Quality Limited Segments category.

This conclusion is based on the staff findings that:

1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy.
2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy.
3. Zero of thirty-five samples exceed the guideline and this does not exceed the allowable frequency listed in Table 3.1 of the Listing Policy.
4. Pursuant to section 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.

Regional Board Staff Decision Recommendation:	After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be placed on the section 303(d) list because applicable water quality standards are not being exceeded.
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Line of Evidence (LOE) for Decision ID 66453, Fluorene		Region 2
Sacramento San Joaquin Delta		

LOE ID:	92750
Pollutant:	Fluorene
LOE Subgroup:	Pollutant-Water
Matrix:	Water
Fraction:	Total
Beneficial Use:	Commercial or recreational collection of fish, shellfish, or organisms
Number of Samples:	35
Number of Exceedances:	0
Data and Information Type:	PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality:	State Water Board staff assessed SFEI data for Delta Waterways (western portion) to determine beneficial use support and results are as follows: 0 of 35 samples exceed the criterion for Fluorene.
Data Reference:	Regional Monitoring Program data, Feb. 1993-Sep. 2008
SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	The Fluorene criteria for the protection of human health from consumption of organisms only is 14,000 ug/L (California Toxics Rule, 2000).
Objective/Criterion Reference:	Code of Federal Regulations 40 part 131.38 Establishment of numeric criteria for priority toxic pollutants for the State of California. 7/1/2011 Edition
Evaluation Guideline:	
Guideline Reference:	
Spatial Representation:	Data for this line of evidence for Delta Waterways (western portion) was collected at 2 monitoring sites [Sacramento River - BG20, San Joaquin River - BG30]
Temporal Representation:	Data was collected over the time period 2/14/1996-7/9/2008.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	The 1999 Quality Assurance Project Plan Regional Monitoring Program for Trace Substances was used.
QAPP Information Reference(s):	1999 Quality Assurance Project Plan Regional Monitoring Program for Trace Substances

DECISION ID	66454	Region 2
Sacramento San Joaquin Delta		

Pollutant:	Heptachlor
Final Listing Decision:	Do Not List on 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision:	New Decision
Revision Status	Revised
Impairment from Pollutant or Pollution:	Pollutant
Regional Board Staff Conclusion:	<p>This pollutant is being considered for placement on the CWA section 303(d) List under section 3.1 of the Listing Policy. Under section 3.1 a single line of evidence is necessary to assess listing status.</p> <p>One line of evidence is available in the administrative record to assess this pollutant. Zero of thirty-six samples exceed the guideline.</p> <p>Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against placing this water segment-pollutant combination on the CWA section 303(d) List in the Water Quality Limited Segments category.</p> <p>This conclusion is based on the staff findings that:</p> <ol style="list-style-type: none"> 1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy. 2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy.

3. Zero of thirty-six samples exceed the guideline and this does not exceed the allowable frequency listed in Table 3.1 of the Listing Policy.

4. Pursuant to section 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.

Regional Board Staff Decision Recommendation: After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be placed on the section 303(d) list because applicable water quality standards are not being exceeded.

Line of Evidence (LOE) for Decision ID 66454, Heptachlor

Region 2

Sacramento San Joaquin Delta

LOE ID: 92751

Pollutant: Heptachlor
LOE Subgroup: Pollutant-Water
Matrix: Water
Fraction: Total

Beneficial Use: Commercial or recreational collection of fish, shellfish, or organisms

Number of Samples: 36
Number of Exceedances: 0

Data and Information Type: PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality: State Water Board staff assessed SFEI data for Delta Waterways (western portion) to determine beneficial use support and results are as follows: 0 of 36 samples exceed the criterion for Heptachlor.

Data Reference: [Regional Monitoring Program data, Feb. 1993-Sep. 2008](#)

SWAMP Data: Non-SWAMP

Water Quality Objective/Criterion: The Heptachlor criteria for the protection of human health from consumption of organisms only is 0.00021 ug/L (California Toxics Rule, 2000).

Objective/Criterion Reference: [Code of Federal Regulations 40 part 131.38 Establishment of numeric criteria for priority toxic pollutants for the State of California. 7/1/2011 Edition](#)

Evaluation Guideline:
Guideline Reference:

Spatial Representation: Data for this line of evidence for Delta Waterways (western portion) was collected at 2 monitoring sites [Sacramento River - BG20, San Joaquin River - BG30]

Temporal Representation: Data was collected over the time period 4/28/1994-2/28/2005.

Environmental Conditions: Staff is not aware of any special conditions that might affect interpretation of the data.

QAPP Information: The 1999 Quality Assurance Project Plan Regional Monitoring Program for Trace Substances was used.

QAPP Information Reference(s): [1999 Quality Assurance Project Plan Regional Monitoring Program for Trace Substances](#)

DECISION ID

66455

Region 2

Sacramento San Joaquin Delta

Pollutant: Heptachlor epoxide
Final Listing Decision: Do Not List on 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision: New Decision
Revision Status: Revised
Impairment from Pollutant or Pollution: Pollutant

Regional Board Staff Conclusion:

This pollutant is being considered for placement on the CWA section 303(d) List under section 3.1 of the Listing Policy. Under section 3.1 a single line of evidence is necessary to assess listing status.

Two lines of evidence are available in the administrative record to assess this pollutant. One of forty-nine samples exceed the guideline.

Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against placing this water segment-pollutant combination on the CWA section 303(d) List in the Water Quality Limited Segments category.

This conclusion is based on the staff findings that:

1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy.
2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy.
3. One of forty-nine samples exceed the guideline and this does not exceed the allowable frequency listed in Table 3.1 of the Listing Policy.
4. Pursuant to section 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.

Regional Board Staff Decision Recommendation:

After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be placed on the section 303(d) list because applicable water quality standards are not being exceeded.

**Line of Evidence (LOE) for Decision ID 66455, Heptachlor epoxide
Sacramento San Joaquin Delta**

Region 2

LOE ID:	92752
Pollutant:	Heptachlor epoxide
LOE Subgroup:	Pollutant-Water
Matrix:	Water
Fraction:	Total
Beneficial Use:	Commercial or recreational collection of fish, shellfish, or organisms
Number of Samples:	49
Number of Exceedances:	1
Data and Information Type:	PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality:	State Water Board staff assessed SFEI data for Delta Waterways (western portion) to determine beneficial use support and results are as follows: 1 of 49 samples exceed the criterion for Heptachlor Epoxide.
Data Reference:	Regional Monitoring Program data, Feb. 1993-Sep. 2008
SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	The Heptachlor Epoxide criteria for the protection of human health from consumption of organisms only is 0.00011 ug/L (California Toxics Rule, 2000).
Objective/Criterion Reference:	Code of Federal Regulations 40 part 131.38 Establishment of numeric criteria for priority toxic pollutants for the State of California. 7/1/2011 Edition
Evaluation Guideline:	
Guideline Reference:	
Spatial Representation:	Data for this line of evidence for Delta Waterways (western portion) was collected at 2 monitoring sites [Sacramento River - BG20, San Joaquin River - BG30]
Temporal Representation:	Data was collected over the time period 2/9/1994-8/7/2007.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	The 1999 Quality Assurance Project Plan Regional Monitoring Program for Trace Substances was used.
QAPP Information Reference(s):	1999 Quality Assurance Project Plan Regional Monitoring Program for Trace Substances

Sacramento San Joaquin Delta

LOE ID:	95084
Pollutant:	Heptachlor epoxide
LOE Subgroup:	Pollutant-Tissue
Matrix:	Tissue
Fraction:	Fish fillet
Beneficial Use:	Commercial or recreational collection of fish, shellfish, or organisms
Number of Samples:	1
Number of Exceedances:	0
Data and Information Type:	Fish tissue analysis
Data Used to Assess Water Quality:	Water Board staff assessed Regional Monitoring Program data for the Sacramento San Joaquin Delta to determine beneficial use support and results are as follows: 0 of 1 samples exceed the criterion for Heptachlor epoxide. No samples were discarded for being non-detect, unquantifiable or the reporting limit exceeding the water quality objective.
Data Reference:	Regional Monitoring Program data, Feb. 1993-Sep. 2008
SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	Water Quality Control Plan for the San Francisco Bay Basin: Controllable water quality factors shall not cause a detrimental increase in concentrations of toxic substances found in bottom sediments or aquatic life. Effects on aquatic organisms, wildlife, and human health will be considered.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	The modified OEHHA Fish Contaminant Goal for heptachlor epoxide in fish tissue is 0.93 ppb. This screening level assumes an average body weight of 70 kg and a consumption rate of 32 g/day for a 30 year exposure over a 70-year lifetime. This constituent is a carcinogen therefore the risk level is set to one in a million. A cooking reduction factor of 1 is applied for skin-off fillets. (Klasing, S., and R. Brodberg, 2008; OEHHA, 1999)
Guideline Reference:	Development of Fish Contaminant Goals and Advisory Tissue Levels for Common Contaminants in California Sport Fish: Chlordane, DDTs, Dieldrin, Methylmercury, PCBs, Selenium, and Toxaphene Public Health Goal for Heptachlor and Heptachlor Epoxide in Drinking Water
Spatial Representation:	The samples were collected at one site in the Sacramento San Joaquin Delta
Temporal Representation:	The samples were collected in June 1994.
Environmental Conditions:	
QAPP Information:	The 1999 Quality Assurance Project Plan Regional Monitoring Program for Trace Substances was used.
QAPP Information Reference(s):	1999 Quality Assurance Project Plan Regional Monitoring Program for Trace Substances

DECISION ID

66456

Region 2

Sacramento San Joaquin Delta

Pollutant:	Hexachlorobenzene/ HCB
Final Listing Decision:	Do Not List on 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision:	New Decision
Revision Status	Revised
Impairment from Pollutant or Pollution:	Pollutant

Regional Board Staff

This pollutant is being considered for placement on the CWA section 303(d) List under section 3.1 of

Conclusion:	<p>the Listing Policy. Under section 3.1 a single line of evidence is necessary to assess listing status.</p> <p>Two lines of evidence are available in the administrative record to assess this pollutant. Zero of forty-six samples exceed the guideline.</p> <p>Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against placing this water segment-pollutant combination on the CWA section 303(d) List in the Water Quality Limited Segments category.</p> <p>This conclusion is based on the staff findings that:</p> <ol style="list-style-type: none"> 1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy. 2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy. 3. Zero of forty-six samples exceed the guideline and this does not exceed the allowable frequency listed in Table 3.1 of the Listing Policy. 4. Pursuant to section 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.
Regional Board Staff Decision Recommendation:	After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be placed on the section 303(d) list because applicable water quality standards are not being exceeded.

Line of Evidence (LOE) for Decision ID 66456, Hexachlorobenzene/ HCB
Sacramento San Joaquin Delta

Region 2

LOE ID:	92753
Pollutant:	Hexachlorobenzene/ HCB
LOE Subgroup:	Pollutant-Water
Matrix:	Water
Fraction:	Total
Beneficial Use:	Commercial or recreational collection of fish, shellfish, or organisms
Number of Samples:	46
Number of Exceedances:	0
Data and Information Type:	PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality:	State Water Board staff assessed SFEI data for Delta Waterways (western portion) to determine beneficial use support and results are as follows: 0 of 46 samples exceed the criterion for Hexachlorobenzene.
Data Reference:	Regional Monitoring Program data, Feb. 1993-Sep. 2008
SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	The Hexachlorobenzene criteria for the protection of human health from consumption of organisms only is 0.00077 ug/L (California Toxics Rule, 2000).
Objective/Criterion Reference:	Code of Federal Regulations 40 part 131.38 Establishment of numeric criteria for priority toxic pollutants for the State of California. 7/1/2011 Edition
Evaluation Guideline:	
Guideline Reference:	
Spatial Representation:	Data for this line of evidence for Delta Waterways (western portion) was collected at 2 monitoring sites [Sacramento River - BG20, San Joaquin River - BG30]
Temporal Representation:	Data was collected over the time period 3/5/1993-8/7/2007.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	The 1999 Quality Assurance Project Plan Regional Monitoring Program for Trace Substances was used.
QAPP Information Reference(s):	1999 Quality Assurance Project Plan Regional Monitoring Program for Trace Substances

Line of Evidence (LOE) for Decision ID 66456, Hexachlorobenzene/ HCB

Region 2

Sacramento San Joaquin Delta

LOE ID:	95080
Pollutant:	Hexachlorobenzene/ HCB
LOE Subgroup:	Pollutant-Tissue
Matrix:	Tissue
Fraction:	Fish fillet
Beneficial Use:	Commercial or recreational collection of fish, shellfish, or organisms
Number of Samples:	1
Number of Exceedances:	0
Data and Information Type:	Fish tissue analysis
Data Used to Assess Water Quality:	Water Board staff assessed Regional Monitoring Program data for the Sacramento San Joaquin Delta to determine beneficial use support and results are as follows: 0 of 1 samples exceed the criterion for hexachlorobenzene. No samples were discarded for being non-detect, unquantifiable or the reporting limit exceeding the water quality objective.
Data Reference:	Regional Monitoring Program data, Feb. 1993-Sep. 2008
SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	Water Quality Control Plan for the San Francisco Bay Basin: Controllable water quality factors shall not cause a detrimental increase in concentrations of toxic substances found in bottom sediments or aquatic life. Effects on aquatic organisms, wildlife, and human health will be considered.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	The modified OEHHA Fish Contaminant Goal for hexachlorobenzene in fish tissue is 2.8 ppb. This screening level assumes an average body weight of 70 kg and a consumption rate of 32 g/day for a 30 year exposure over a 70-year lifetime. This constituent is a carcinogen therefore the risk level is set to one in a million. A cooking reduction factor of 1 is applied for skin-off fillets. (Klasing, S., and R. Brodberg, 2008; OEHHA, 2005)
Guideline Reference:	Development of Fish Contaminant Goals and Advisory Tissue Levels for Common Contaminants in California Sport Fish: Chlordane, DDTs, Dieldrin, Methylmercury, PCBs, Selenium, and Toxaphene Air Toxics Hotspots Program Risk Assessment Guidelines. Part II Technical Support Document for Describing Available Cancer Potency Values.
Spatial Representation:	The samples were collected at one site in the Sacramento San Joaquin Delta
Temporal Representation:	The samples were collected in June 1994.
Environmental Conditions:	
QAPP Information:	The 1999 Quality Assurance Project Plan Regional Monitoring Program for Trace Substances was used.
QAPP Information Reference(s):	1999 Quality Assurance Project Plan Regional Monitoring Program for Trace Substances

DECISION ID	66457	Region 2
Sacramento San Joaquin Delta		
Pollutant:	Lead	
Final Listing Decision:	Do Not List on 303(d) list (TMDL required list)	
Last Listing Cycle's Final Listing Decision:	New Decision	
Revision Status	Revised	
Impairment from Pollutant or Pollution:	Pollutant	
Regional Board Staff Conclusion:	This pollutant is being considered for placement on the CWA section 303(d) List under section 3.1 of the Listing Policy. Under section 3.1 a single line of evidence is necessary to assess listing status.	

One line of evidence is available in the administrative record to assess this pollutant. Zero of thirty-six samples exceed the guideline.

Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against placing this water segment-pollutant combination on the CWA section 303(d) List in the Water Quality Limited Segments category.

This conclusion is based on the staff findings that:

1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy.
2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy.
3. Zero of thirty-six samples exceed the guideline and this does not exceed the allowable frequency listed in Table 3.1 of the Listing Policy.
4. Pursuant to section 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.

Regional Board Staff Decision Recommendation: After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be placed on the section 303(d) list because applicable water quality standards are not being exceeded.

**Line of Evidence (LOE) for Decision ID 66457, Lead
Sacramento San Joaquin Delta**

Region 2

LOE ID:	92754
Pollutant:	Lead
LOE Subgroup:	Pollutant-Water
Matrix:	Water
Fraction:	Dissolved
Beneficial Use:	Estuarine Habitat
Number of Samples:	36
Number of Exceedances:	0
Data and Information Type:	PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality:	State Water Board staff assessed SFEI data for Delta Waterways (western portion) to determine beneficial use support and results are as follows: 0 of 36 samples exceed the criterion for Lead.
Data Reference:	Regional Monitoring Program data, Feb. 1993-Sep. 2008
SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	The dissolved lead criterion continuous concentration (expressed as a 4-day average) to protect aquatic life in saline water is 0.0081 mg/L (California Toxics Rule, 2000).
Objective/Criterion Reference:	Code of Federal Regulations 40 part 131.38 Establishment of numeric criteria for priority toxic pollutants for the State of California. 7/1/2011 Edition
Evaluation Guideline:	
Guideline Reference:	
Spatial Representation:	Data for this line of evidence for Delta Waterways (western portion) was collected at 2 monitoring sites [Sacramento River - BG20, San Joaquin River - BG30]
Temporal Representation:	Data was collected over the time period 3/5/1993-7/29/1998.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	The 1999 Quality Assurance Project Plan Regional Monitoring Program for Trace Substances was used.
QAPP Information Reference(s):	1999 Quality Assurance Project Plan Regional Monitoring Program for Trace Substances

DECISION ID

66458

Region 2

Pollutant: Manganese
Final Listing Decision: Do Not List on 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision: New Decision
Revision Status: Revised
Impairment from Pollutant or Pollution: Pollutant

Regional Board Staff Conclusion: This pollutant is being considered for placement on the CWA section 303(d) List under section 3.1 of the Listing Policy. Under section 3.1 a single line of evidence is necessary to assess listing status.

One line of evidence is available in the administrative record to assess this pollutant. Zero of twenty-three samples exceed the guideline.

Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against placing this water segment-pollutant combination on the CWA section 303(d) List in the Water Quality Limited Segments category.

This conclusion is based on the staff findings that:

1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy.
2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy.
3. Zero of twenty-three samples exceed the guideline and this does not exceed the allowable frequency listed in Table 3.1 of the Listing Policy.
4. Pursuant to section 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.

Regional Board Staff Decision Recommendation: After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be placed on the section 303(d) list because applicable water quality standards are not being exceeded.

Line of Evidence (LOE) for Decision ID 66458, Manganese

Region 2

Sacramento San Joaquin Delta

LOE ID: 92755

Pollutant: Manganese
LOE Subgroup: Pollutant-Water
Matrix: Water
Fraction: Total

Beneficial Use: Commercial or recreational collection of fish, shellfish, or organisms

Number of Samples: 23
Number of Exceedances: 0

Data and Information Type: PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality: State Water Board staff assessed SFEI data for Delta Waterways (western portion) to determine beneficial use support and results are as follows: 0 of 23 samples exceed the criterion for Manganese.

Data Reference: [Regional Monitoring Program data, Feb. 1993-Sep. 2008](#)

SWAMP Data: Non-SWAMP

Water Quality Objective/Criterion: The Manganese criteria for the protection of human health from the consumption of organisms only is 100 ug/L (California Toxics Rule, 2000).

Objective/Criterion Reference: [Water Quality Control Plan \(Basin Plan\) San Francisco Bay Basin \(Region 2\)](#)

Evaluation Guideline: The Lead criteria for the protection of human health from fish consumption only is 100 ug/L (National Recommended Water Quality Criteria, 2009).

Guideline Reference: [National Recommended Water Quality Criteria. United States Environmental Protection Agency. Office of Water. Office of Science and Technology](#)

Spatial Representation: Data for this line of evidence for Delta Waterways (western portion) was collected at 2 monitoring sites [Sacramento River - BG20, San Joaquin River - BG30]

Temporal Representation: Data was collected over the time period 2/9/2000-7/9/2008.

Environmental Conditions: Staff is not aware of any special conditions that might affect interpretation of the data.

QAPP Information: The 1999 Quality Assurance Project Plan Regional Monitoring Program for Trace Substances was used.

QAPP Information Reference(s): [1999 Quality Assurance Project Plan Regional Monitoring Program for Trace Substances](#)

DECISION ID	66459	Region 2
Sacramento San Joaquin Delta		

Pollutant: Mirex

Final Listing Decision: Do Not List on 303(d) list (TMDL required list)

Last Listing Cycle's Final Listing Decision: New Decision

Revision Status: Revised

Impairment from Pollutant or Pollution: Pollutant

Regional Board Staff Conclusion:

This pollutant is being considered for placement on the CWA section 303(d) List under section 3.1 of the Listing Policy. Under section 3.1 a single line of evidence is necessary to assess listing status.

Two lines of evidence are available in the administrative record to assess this pollutant. Zero of forty-three samples exceed the guideline.

Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against placing this water segment-pollutant combination on the CWA section 303(d) List in the Water Quality Limited Segments category.

This conclusion is based on the staff findings that:

1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy.
2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy.
3. Zero of forty-three samples exceed the guideline and this does not exceed the allowable frequency listed in Table 3.1 of the Listing Policy.
4. Pursuant to section 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.

Regional Board Staff Decision Recommendation: After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be placed on the section 303(d) list because applicable water quality standards are not being exceeded.

Line of Evidence (LOE) for Decision ID 66459, Mirex	Region 2
Sacramento San Joaquin Delta	

LOE ID: 92757

Pollutant: Mirex

LOE Subgroup: Pollutant-Water

Matrix: Water

Fraction: Total

Beneficial Use: Commercial or recreational collection of fish, shellfish, or organisms

Number of Samples: 43

Number of Exceedances: 0

Data and Information Type:	PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality:	State Water Board staff assessed SFEI data for Delta Waterways (western portion) to determine beneficial use support and results are as follows: 0 of 43 samples exceed the criterion for Mirex.
Data Reference:	Regional Monitoring Program data, Feb. 1993-Sep. 2008
SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	No individual pesticide or combination of pesticides shall be present in concentrations that adversely affect beneficial uses.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	The Mirex criteria for the protection of human health from consumption of organisms only is 0.000097 ug/L (National Recommended Water Quality Criteria, 2009).
Guideline Reference:	National Recommended Water Quality Criteria. United States Environmental Protection Agency. Office of Water. Office of Science and Technology
Spatial Representation:	Data for this line of evidence for Delta Waterways (western portion) was collected at 2 monitoring sites [Sacramento River - BG20, San Joaquin River - BG30]
Temporal Representation:	Data was collected over the time period 4/28/1994-8/7/2007.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	The 1999 Quality Assurance Project Plan Regional Monitoring Program for Trace Substances was used.
QAPP Information Reference(s):	1999 Quality Assurance Project Plan Regional Monitoring Program for Trace Substances

Line of Evidence (LOE) for Decision ID 66459, Mirex

Region 2

Sacramento San Joaquin Delta

LOE ID:	95227
Pollutant:	Mirex
LOE Subgroup:	Pollutant-Tissue
Matrix:	Tissue
Fraction:	Fish fillet
Beneficial Use:	Commercial or recreational collection of fish, shellfish, or organisms
Number of Samples:	0
Number of Exceedances:	0
Data and Information Type:	Fish tissue analysis
Data Used to Assess Water Quality:	Water Board staff assessed Regional Monitoring Program data for the Sacramento San Joaquin Delta to determine beneficial use support and results are as follows: 0 of 0 samples exceed the criterion for Mirex. One sample was discarded for being non-detect, unquantifiable or the reporting limit exceeding the water quality objective.
Data Reference:	Regional Monitoring Program data, Feb. 1993-Sep. 2008
SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	Water Quality Control Plan for the San Francisco Bay Basin: Controllable water quality factors shall not cause a detrimental increase in concentrations of toxic substances found in bottom sediments or aquatic life. Effects on aquatic organisms, wildlife, and human health will be considered.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	The modified OEHHA Fish Contaminant Goal for mirex in fish tissue is 0.28 ppb. This screening level assumes an average body weight of 70 kg and a consumption rate of 32 g/day. A cooking reduction factor of 1 is applied for skin-off fillets. (Klasing, S., and R. Brodberg, 2008; OEHHA, 1992)
Guideline Reference:	Development of Fish Contaminant Goals and Advisory Tissue Levels for Common Contaminants in California Sport Fish: Chlordane, DDTs, Dieldrin, Methylmercury, PCBs, Selenium, and Toxaphene

Spatial Representation: The samples were collected at one site in the Sacramento San Joaquin Delta
 Temporal Representation: The samples were collected in June 1994.
 Environmental Conditions:
 QAPP Information: The 1999 Quality Assurance Project Plan Regional Monitoring Program for Trace Substances was used.
 QAPP Information Reference(s): [1999 Quality Assurance Project Plan Regional Monitoring Program for Trace Substances](#)

DECISION ID	66460	Region 2
Sacramento San Joaquin Delta		

Pollutant: Oxygen, Dissolved
Final Listing Decision: Do Not List on 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision: New Decision
Revision Status: Revised
Impairment from Pollutant or Pollution: Pollutant

Regional Board Staff Conclusion: This pollutant is being considered for placement on the CWA section 303(d) List under section 3.2 of the Listing Policy. Under section 3.2 a single line of evidence is necessary to assess listing status. One line of evidence is available in the administrative record to assess this pollutant. Zero of fifteen samples exceed the objective.

Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against placing this water segment-pollutant combination on the CWA section 303(d) List.

This conclusion is based on the staff findings that:
 1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy.
 2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy.
 3. Zero of fifteen samples exceed the objective and this sample size is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating. A minimum of 26 samples is needed to determine if a beneficial use is fully supported using table 3.2.
 4. Pursuant to SECTION 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.

Regional Board Staff Decision Recommendation: After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be placed on the section 303(d) list. The readily available data and information is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating.

Line of Evidence (LOE) for Decision ID 66460, Oxygen, Dissolved	Region 2
Sacramento San Joaquin Delta	

LOE ID: 92759
Pollutant: Oxygen, Dissolved
LOE Subgroup: Pollutant-Water
Matrix: Water
Fraction: Dissolved
Beneficial Use: Estuarine Habitat
Number of Samples: 15
Number of Exceedances: 0

Data and Information Type:	PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality:	Numeric data generated from 15 minimum samples of Dissolved Oxygen concentrations had no exceedences.
Data Reference:	Data for Various Pollutants in California Marinas, 2006.
SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	The dissolved oxygen content of bays/estuaries downstream of the Carquinez Bridge must be above 5 mg/L.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	
Guideline Reference:	
Spatial Representation:	Samples were collected from the following stations: Pittsburg Marina 4.1 Pittsburg Marina 4.2 Pittsburg Marina 4.3 Pittsburg Marina 5.1 Pittsburg Marina 5.2 Pittsburg Marina 5.3 Pittsburg Marina 6.1 Pittsburg Marina 6.2 Pittsburg Marina 6.3 Pittsburg Marina 7.1 Pittsburg Marina 7.2 Pittsburg Marina 7.3 Pittsburg Marina 8.1 Pittsburg Marina 8.2 Pittsburg Marina 8.3
Temporal Representation:	Samples were collected on the following dates: 8/8/2006 9/5/2006 10/3/2006
Environmental Conditions:	
QAPP Information:	Samples were collected and analyzed in accordance with a Quality Assurance Project Plan that was prepared per State Water Resources Control Board Agreement No. 05-218-250 California Department of Pesticide Regulation, Sacramento, CA. (Available online at http://www.cdpr.ca.gov/docs/emon/surfwttr/protocols/qapp_study236.pdf)
QAPP Information Reference(s):	

DECISION ID	66461	Region 2
Sacramento San Joaquin Delta		

Pollutant:	PAHs (Polycyclic Aromatic Hydrocarbons)
Final Listing Decision:	Do Not List on 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision:	New Decision
Revision Status	Revised
Impairment from Pollutant or Pollution:	Pollutant
Regional Board Staff Conclusion:	<p>This pollutant is being considered for placement on the CWA section 303(d) List under section 3.5 of the Listing Policy. Under section 3.5 a single line of evidence is necessary to assess listing status. One line of evidence is available in the administrative record to assess this pollutant. Zero of one samples exceed the OEHHA guideline.</p> <p>Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against placing this water segment-pollutant combination on the CWA section 303(d) List.</p> <p>This conclusion is based on the staff findings that:</p> <ol style="list-style-type: none"> 1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy. 2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy. 3. Zero of one samples exceed the OEHHA guideline and this sample size is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating. A minimum of 16 samples is needed to determine if a beneficial use is fully supported using table 3.1. 4. Pursuant to SECTION 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.
Regional Board Staff Decision Recommendation:	After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be placed on the section 303(d) list. The readily available data and information is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating.

Line of Evidence (LOE) for Decision ID 66461, PAHs (Polycyclic Aromatic Hydrocarbons)**Region 2****Sacramento San Joaquin Delta**

LOE ID:	95068
Pollutant:	PAHs (Polycyclic Aromatic Hydrocarbons)
LOE Subgroup:	Pollutant-Tissue
Matrix:	Tissue
Fraction:	Fish fillet
Beneficial Use:	Commercial or recreational collection of fish, shellfish, or organisms
Number of Samples:	1
Number of Exceedances:	0
Data and Information Type:	Fish tissue analysis
Data Used to Assess Water Quality:	Water Board staff assessed Regional Monitoring Program data for the Sacramento San Joaquin Delta to determine beneficial use support and results are as follows: 0 of 1 samples exceed the criterion for polycyclic aromatic hydrocarbons. No samples were discarded for being non-detect, unquantifiable or the reporting limit exceeding the water quality objective.
Data Reference:	Regional Monitoring Program data, Feb. 1993-Sep. 2008
SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	Water Quality Control Plan for the San Francisco Bay Basin: Controllable water quality factors shall not cause a detrimental increase in concentrations of toxic substances found in bottom sediments or aquatic life. Effects on aquatic organisms, wildlife, and human health will be considered.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	The modified OEHHA Fish Contaminant Goal for polycyclic aromatic hydrocarbons in fish tissue is 0.7 ppb. This screening level assumes an average body weight of 70 kg and a consumption rate of 32 g/day for a 30 year exposure over a 70-year lifetime. This constituent is a carcinogen therefore the risk level is set to one in a million. (Klasing, S., and R. Brodberg, 2008; USEPA, 2000)
Guideline Reference:	Development of Fish Contaminant Goals and Advisory Tissue Levels for Common Contaminants in California Sport Fish: Chlordane, DDTs, Dieldrin, Methylmercury, PCBs, Selenium, and Toxaphene Guidance for Assessing Chemical Contaminant Data for Use In Fish Advisories Volume 1: Fish Sampling and Analysis
Spatial Representation:	The samples were collected at one site in the Sacramento San Joaquin Delta
Temporal Representation:	The samples were collected in June 1994.
Environmental Conditions:	
QAPP Information:	The 1999 Quality Assurance Project Plan Regional Monitoring Program for Trace Substances was used.
QAPP Information Reference(s):	1999 Quality Assurance Project Plan Regional Monitoring Program for Trace Substances

DECISION ID 66462**Region 2****Sacramento San Joaquin Delta**

Pollutant:	Pyrene
Final Listing Decision:	Do Not List on 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision:	New Decision
Revision Status	Revised
Impairment from Pollutant or	Pollutant

Pollution:**Regional Board Staff Conclusion:**

This pollutant is being considered for placement on the CWA section 303(d) List under section 3.1 of the Listing Policy. Under section 3.1 a single line of evidence is necessary to assess listing status.

One line of evidence is available in the administrative record to assess this pollutant. Zero of fifty-one samples exceed the guideline.

Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against placing this water segment-pollutant combination on the CWA section 303(d) List in the Water Quality Limited Segments category.

This conclusion is based on the staff findings that:

1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy.
2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy.
3. Zero of fifty-one samples exceed the guideline and this does not exceed the allowable frequency listed in Table 3.1 of the Listing Policy.
4. Pursuant to section 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.

Regional Board Staff Decision Recommendation:

After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be placed on the section 303(d) list because applicable water quality standards are not being exceeded.

**Line of Evidence (LOE) for Decision ID 66462, Pyrene
Sacramento San Joaquin Delta****Region 2**

LOE ID:	92761
Pollutant:	Pyrene
LOE Subgroup:	Pollutant-Water
Matrix:	Water
Fraction:	Total
Beneficial Use:	Commercial or recreational collection of fish, shellfish, or organisms
Number of Samples:	51
Number of Exceedances:	0
Data and Information Type:	PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality:	State Water Board staff assessed SFEI data for Delta Waterways (western portion) to determine beneficial use support and results are as follows: 0 of 51 samples exceed the criterion for Pyrene.
Data Reference:	Regional Monitoring Program data, Feb. 1993-Sep. 2008
SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	The Pyrene criteria for the protection of human health from consumption of organisms only is 11,000 ug/L (California Toxics Rule, 2000).
Objective/Criterion Reference:	Code of Federal Regulations 40 part 131.38 Establishment of numeric criteria for priority toxic pollutants for the State of California. 7/1/2011 Edition
Evaluation Guideline:	
Guideline Reference:	
Spatial Representation:	Data for this line of evidence for Delta Waterways (western portion) was collected at 2 monitoring sites [Sacramento River - BG20, San Joaquin River - BG30]
Temporal Representation:	Data was collected over the time period 3/5/1993-7/9/2008.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	The 1999 Quality Assurance Project Plan Regional Monitoring Program for Trace Substances was used.

DECISION ID 66463		Region 2
Sacramento San Joaquin Delta		
Pollutant:	Silver	
Final Listing Decision:	Do Not List on 303(d) list (TMDL required list)	
Last Listing Cycle's Final Listing Decision:	New Decision	
Revision Status	Revised	
Impairment from Pollutant or Pollution:	Pollutant	
Regional Board Staff Conclusion:	<p>This pollutant is being considered for placement on the CWA section 303(d) List under section 3.1 of the Listing Policy. Under section 3.1 a single line of evidence is necessary to assess listing status.</p> <p>One line of evidence is available in the administrative record to assess this pollutant. Zero of thirty-two samples exceed the guideline.</p> <p>Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against placing this water segment-pollutant combination on the CWA section 303(d) List in the Water Quality Limited Segments category.</p> <p>This conclusion is based on the staff findings that:</p> <ol style="list-style-type: none">1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy.2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy.3. Zero of thirty-two samples exceed the guideline and this does not exceed the allowable frequency listed in Table 3.1 of the Listing Policy.4. Pursuant to section 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.	
Regional Board Staff Decision Recommendation:	After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be placed on the section 303(d) list because applicable water quality standards are not being exceeded.	

Line of Evidence (LOE) for Decision ID 66463, Silver		Region 2
Sacramento San Joaquin Delta		
LOE ID:	92763	
Pollutant:	Silver	
LOE Subgroup:	Pollutant-Water	
Matrix:	Water	
Fraction:	Dissolved	
Beneficial Use:	Estuarine Habitat	
Number of Samples:	32	
Number of Exceedances:	0	
Data and Information Type:	PHYSICAL/CHEMICAL MONITORING	
Data Used to Assess Water Quality:	State Water Board staff assessed SFEI data for Delta Waterways (western portion) to determine beneficial use support and results are as follows: 0 of 32 samples exceed the criterion for Silver.	
Data Reference:	Regional Monitoring Program data, Feb. 1993-Sep. 2008	
SWAMP Data:	Non-SWAMP	
Water Quality Objective/Criterion:	The dissolved silver criterion maximum concentration to protect aquatic life in saline water	

Objective/Criterion Reference: is 0.0019 mg/L (California Toxics Rule, 2000).
[Code of Federal Regulations 40 part 131.38 Establishment of numeric criteria for priority toxic pollutants for the State of California. 7/1/2011 Edition](#)

Evaluation Guideline:
Guideline Reference:

Spatial Representation: Data for this line of evidence for Delta Waterways (western portion) was collected at 2 monitoring sites [Sacramento River - BG20, San Joaquin River - BG30]

Temporal Representation: Data was collected over the time period 3/5/1993-7/29/1998.

Environmental Conditions: Staff is not aware of any special conditions that might affect interpretation of the data.

QAPP Information: The 1999 Quality Assurance Project Plan Regional Monitoring Program for Trace Substances was used.

QAPP Information Reference(s): [1999 Quality Assurance Project Plan Regional Monitoring Program for Trace Substances](#)

DECISION ID	66464	Region 2
Sacramento San Joaquin Delta		

Pollutant: Toxaphene
Final Listing Decision: Do Not List on 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision: New Decision
Revision Status Revised
Impairment from Pollutant or Pollution: Pollutant

Regional Board Staff Conclusion: This pollutant is being considered for placement on the CWA section 303(d) List under section 3.5 of the Listing Policy. Under section 3.5 a single line of evidence is necessary to assess listing status. One line of evidence is available in the administrative record to assess this pollutant. Zero of zero samples exceed the OEHHHA guideline.

Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against placing this water segment-pollutant combination on the CWA section 303(d) List.

This conclusion is based on the staff findings that:

1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy.
2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy.
3. Zero of zero samples exceed the OEHHHA guideline and this sample size is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating. A minimum of 16 samples is needed to determine if a beneficial use is fully supported using table 3.1.
4. Pursuant to SECTION 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.

Regional Board Staff Decision Recommendation: After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be placed on the section 303(d) list. The readily available data and information is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating.

Line of Evidence (LOE) for Decision ID 66464, Toxaphene	Region 2
Sacramento San Joaquin Delta	

LOE ID: 95122

Pollutant: Toxaphene
LOE Subgroup: Pollutant-Tissue
Matrix: Tissue
Fraction: Fish fillet

Beneficial Use:	Commercial or recreational collection of fish, shellfish, or organisms
Number of Samples:	0
Number of Exceedances:	0
Data and Information Type:	Fish tissue analysis
Data Used to Assess Water Quality:	Water Board staff assessed Regional Monitoring Program data for the Sacramento San Joaquin Delta to determine beneficial use support and results are as follows: 0 of 0 samples exceed the criterion for toxaphene. One sample was discarded for being non-detect, unquantifiable or the reporting limit exceeding the water quality objective.
Data Reference:	Regional Monitoring Program data, Feb. 1993-Sep. 2008
SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	Water Quality Control Plan for the San Francisco Bay Basin: Controllable water quality factors shall not cause a detrimental increase in concentrations of toxic substances found in bottom sediments or aquatic life. Effects on aquatic organisms, wildlife, and human health will be considered.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	The modified OEHHA Fish Contaminant Goal for toxaphene in fish tissue is 4.3 ppb. This screening level assumes an average body weight of 70 kg and a consumption rate of 32 g/day for a 30 year exposure over a 70-year lifetime. This constituent is a carcinogen therefore the risk level is set to one in a million. A cooking reduction factor of 1 is applied for skin-off fillets. (Klasing, S., and R. Brodberg, 2008)
Guideline Reference:	Development of Fish Contaminant Goals and Advisory Tissue Levels for Common Contaminants in California Sport Fish: Chlordane, DDTs, Dieldrin, Methylmercury, PCBs, Selenium, and Toxaphene
Spatial Representation:	The samples were collected at one site in the Sacramento San Joaquin Delta
Temporal Representation:	The samples were collected in June 1994.
Environmental Conditions:	
QAPP Information:	The 1999 Quality Assurance Project Plan Regional Monitoring Program for Trace Substances was used.
QAPP Information Reference(s):	1999 Quality Assurance Project Plan Regional Monitoring Program for Trace Substances

DECISION ID	66465	Region 2
Sacramento San Joaquin Delta		
Pollutant:	Zinc	
Final Listing Decision:	Do Not List on 303(d) list (TMDL required list)	
Last Listing Cycle's Final Listing Decision:	New Decision	
Revision Status	Revised	
Impairment from Pollutant or Pollution:	Pollutant	
Regional Board Staff Conclusion:	<p>This pollutant is being considered for placement on the CWA section 303(d) List under section 3.1 of the Listing Policy. Under section 3.1 a single line of evidence is necessary to assess listing status.</p> <p>Three lines of evidence are available in the administrative record to assess this pollutant. Zero of sixty-five samples exceed the guideline.</p> <p>Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against placing this water segment-pollutant combination on the CWA section 303(d) List in the Water Quality Limited Segments category.</p> <p>This conclusion is based on the staff findings that:</p> <ol style="list-style-type: none"> 1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy. 2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy. 	

3. Zero of sixty-five samples exceed the guideline and this does not exceed the allowable frequency listed in Table 3.1 of the Listing Policy.

4. Pursuant to section 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.

Regional Board Staff Decision Recommendation: After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be placed on the section 303(d) list because applicable water quality standards are not being exceeded.

Line of Evidence (LOE) for Decision ID 66465, Zinc

Region 2

Sacramento San Joaquin Delta

LOE ID: 92766

Pollutant: Zinc
LOE Subgroup: Pollutant-Water
Matrix: Water
Fraction: Dissolved

Beneficial Use: Estuarine Habitat

Number of Samples: 36
Number of Exceedances: 0

Data and Information Type: PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality: State Water Board staff assessed SFEI data for Delta Waterways (western portion) to determine beneficial use support and results are as follows: 0 of 36 samples exceed the criterion for Zinc.

Data Reference: [Regional Monitoring Program data, Feb. 1993-Sep. 2008](#)

SWAMP Data: Non-SWAMP

Water Quality Objective/Criterion: The dissolved zinc criterion continuous concentration (expressed as a 4-day average) to protect aquatic life in saline water is 0.081 mg/L (California Toxics Rule, 2000).

Objective/Criterion Reference: [Code of Federal Regulations 40 part 131.38 Establishment of numeric criteria for priority toxic pollutants for the State of California. 7/1/2011 Edition](#)

Evaluation Guideline:
Guideline Reference:

Spatial Representation: Data for this line of evidence for Delta Waterways (western portion) was collected at 2 monitoring sites [Sacramento River - BG20, San Joaquin River - BG30]

Temporal Representation: Data was collected over the time period 3/5/1993-7/29/1998.

Environmental Conditions: Staff is not aware of any special conditions that might affect interpretation of the data.

QAPP Information: The 1999 Quality Assurance Project Plan Regional Monitoring Program for Trace Substances was used.

QAPP Information Reference(s): [1999 Quality Assurance Project Plan Regional Monitoring Program for Trace Substances](#)

Line of Evidence (LOE) for Decision ID 66465, Zinc

Region 2

Sacramento San Joaquin Delta

LOE ID: 92767

Pollutant: Zinc
LOE Subgroup: Pollutant-Water
Matrix: Water
Fraction: Dissolved

Beneficial Use: Estuarine Habitat

Number of Samples:	3
Number of Exceedances:	0
Data and Information Type:	Fixed station physical/chemical (conventional plus toxic pollutants)
Data Used to Assess Water Quality:	None of the three samples analyzed for zinc exceeded the criteria of 81 ug/L.
Data Reference:	Data for Various Pollutants in California Marinas, 2006.
SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	Waters shall not contain chemical constituents in concentrations that adversely affect beneficial uses. California Toxics Rule (CTR) lists criterion continuous concentrations to protect aquatic life in saline water. The CTR value is 81 ug/L.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	
Guideline Reference:	
Spatial Representation:	Four separate grab samples were collected from outside the Pittsburgh Marina basin (Sites 5, 6, 7, & 8), these sites were averaged per sample event.
Temporal Representation:	Samples were collected on three separate sampling events during the dry season (July - October) in 2006.
Environmental Conditions:	Samples were collected during the dry season only.
QAPP Information:	Samples were collected and analyzed in accordance with a Quality Assurance Project Plan that was prepared per State Water Resources Control Board Agreement No. 05-218-250 California Department of Pesticide Regulation, Sacramento, CA. (Available online at http://www.cdpr.ca.gov/docs/emon/surfwttr/protocols/qapp_study236.pdf)
QAPP Information Reference(s):	

Line of Evidence (LOE) for Decision ID 66465, Zinc

Region 2

Sacramento San Joaquin Delta

LOE ID:	92765
Pollutant:	Zinc
LOE Subgroup:	Pollutant-Water
Matrix:	Water
Fraction:	Total
Beneficial Use:	Commercial or recreational collection of fish, shellfish, or organisms
Number of Samples:	65
Number of Exceedances:	0
Data and Information Type:	PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality:	State Water Board staff assessed SFEI data for Delta Waterways (western portion) to determine beneficial use support and results are as follows: 0 of 65 samples exceed the criterion for Zinc.
Data Reference:	Regional Monitoring Program data, Feb. 1993-Sep. 2008
SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	Surface?waters?shall?not?contain?concentrations?of?chemical?constituents?in?amounts?that?adversely?affect?any?designated?beneficial?use.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	The Zinc criteria for the protection of human health from consumption of fish only is 26000 ug/L (National Recommended Water Quality Criteria, 2009).
Guideline Reference:	National Recommended Water Quality Criteria. United States Environmental Protection Agency. Office of Water. Office of Science and Technology
Spatial Representation:	Data for this line of evidence for Delta Waterways (western portion) was collected at 2 monitoring sites [Sacramento River - BG20, San Joaquin River - BG30]

Temporal Representation:	Data was collected over the time period 3/5/1993-7/9/2008.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	The 1999 Quality Assurance Project Plan Regional Monitoring Program for Trace Substances was used.
QAPP Information Reference(s):	1999 Quality Assurance Project Plan Regional Monitoring Program for Trace Substances

DECISION ID	66428	Region 2
Sacramento San Joaquin Delta		

Pollutant:	alpha-Endosulfan (Endosulfan 1)
Final Listing Decision:	Do Not List on 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision:	New Decision
Revision Status	Revised
Impairment from Pollutant or Pollution:	Pollutant

Regional Board Staff Conclusion:

This pollutant is being considered for placement on the CWA section 303(d) List under section 3.1 of the Listing Policy. Under section 3.1 a single line of evidence is necessary to assess listing status.

One line of evidence is available in the administrative record to assess this pollutant. Zero of forty-six samples exceed the guideline.

Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against placing this water segment-pollutant combination on the CWA section 303(d) List in the Water Quality Limited Segments category.

This conclusion is based on the staff findings that:

1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy.
2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy.
3. Zero of forty-six samples exceed the guideline and this does not exceed the allowable frequency listed in Table 3.1 of the Listing Policy.
4. Pursuant to section 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.

Regional Board Staff Decision Recommendation:	After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be placed on the section 303(d) list because applicable water quality standards are not being exceeded.
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Line of Evidence (LOE) for Decision ID 66428, alpha-Endosulfan (Endosulfan 1)		Region 2
Sacramento San Joaquin Delta		

LOE ID:	92735
Pollutant:	alpha-Endosulfan (Endosulfan 1)
LOE Subgroup:	Pollutant-Water
Matrix:	Water
Fraction:	Total
Beneficial Use:	Commercial or recreational collection of fish, shellfish, or organisms
Number of Samples:	46
Number of Exceedances:	0
Data and Information Type:	PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality:	State Water Board staff assessed SFEI data for Delta Waterways (western portion) to determine beneficial use support and results are as follows: 0 of 46 samples exceed the criterion for Endosulfan I.
Data Reference:	Regional Monitoring Program data, Feb. 1993-Sep. 2008

SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	The Endosulfan I criteria for the protection of human health from consumption of organisms only is 240 ug/L (California Toxics Rule, 2000).
Objective/Criterion Reference:	Code of Federal Regulations 40 part 131.38 Establishment of numeric criteria for priority toxic pollutants for the State of California. 7/1/2011 Edition
Evaluation Guideline:	
Guideline Reference:	
Spatial Representation:	Data for this line of evidence for Delta Waterways (western portion) was collected at 2 monitoring sites [Sacramento River - BG20, San Joaquin River - BG30]
Temporal Representation:	Data was collected over the time period 3/5/1993-8/24/2006.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	The 1999 Quality Assurance Project Plan Regional Monitoring Program for Trace Substances was used.
QAPP Information Reference(s):	1999 Quality Assurance Project Plan Regional Monitoring Program for Trace Substances

DECISION ID	66444	Region 2
Sacramento San Joaquin Delta		

Pollutant:	beta-Endosulfan (Endosulfan 2)
Final Listing Decision:	Do Not List on 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision:	New Decision
Revision Status	Revised
Impairment from Pollutant or Pollution:	Pollutant

Regional Board Staff Conclusion:

This pollutant is being considered for placement on the CWA section 303(d) List under section 3.1 of the Listing Policy. Under section 3.1 a single line of evidence is necessary to assess listing status.

One line of evidence is available in the administrative record to assess this pollutant. Zero of forty-six samples exceed the guideline.

Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against placing this water segment-pollutant combination on the CWA section 303(d) List in the Water Quality Limited Segments category.

This conclusion is based on the staff findings that:

1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy.
2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy.
3. Zero of forty-six samples exceed the guideline and this does not exceed the allowable frequency listed in Table 3.1 of the Listing Policy.
4. Pursuant to section 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.

Regional Board Staff Decision Recommendation: After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be placed on the section 303(d) list because applicable water quality standards are not being exceeded.

Line of Evidence (LOE) for Decision ID 66444, beta-Endosulfan (Endosulfan 2)	Region 2
Sacramento San Joaquin Delta	

LOE ID:	92739
Pollutant:	beta-Endosulfan (Endosulfan 2)
LOE Subgroup:	Pollutant-Water

Matrix:	Water
Fraction:	Total
Beneficial Use:	Commercial or recreational collection of fish, shellfish, or organisms
Number of Samples:	46
Number of Exceedances:	0
Data and Information Type:	PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality:	State Water Board staff assessed SFEI data for Delta Waterways (western portion) to determine beneficial use support and results are as follows: 0 of 46 samples exceed the criterion for Endosulfan II.
Data Reference:	Regional Monitoring Program data, Feb. 1993-Sep. 2008
SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	The Endosulfan II criteria for the protection of human health from consumption of organisms only is 240 ug/L (California Toxics Rule, 2000).
Objective/Criterion Reference:	Code of Federal Regulations 40 part 131.38 Establishment of numeric criteria for priority toxic pollutants for the State of California. 7/1/2011 Edition
Evaluation Guideline:	
Guideline Reference:	
Spatial Representation:	Data for this line of evidence for Delta Waterways (western portion) was collected at 2 monitoring sites [Sacramento River - BG20, San Joaquin River - BG30]
Temporal Representation:	Data was collected over the time period 2/9/1994-8/7/2007.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	The 1999 Quality Assurance Project Plan Regional Monitoring Program for Trace Substances was used.
QAPP Information Reference(s):	1999 Quality Assurance Project Plan Regional Monitoring Program for Trace Substances

DECISION ID	66840	Region 2
Sacramento San Joaquin Delta		

Pollutant:	pH
Final Listing Decision:	Do Not List on 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision:	New Decision
Revision Status	Revised
Impairment from Pollutant or Pollution:	Pollutant

Regional Board Staff Conclusion:

This pollutant is being considered for placement on the CWA section 303(d) List under section 3.2 of the Listing Policy. Under section 3.2 a single line of evidence is necessary to assess listing status. One line of evidence is available in the administrative record to assess this pollutant. Two of six samples exceed the objective.

Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against placing this water segment-pollutant combination on the CWA section 303(d) List.

This conclusion is based on the staff findings that:

1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy.
2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy.
3. Two of six samples exceed the objective and this sample size is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating. A minimum of 26 samples is needed to determine if a beneficial use is fully supported using table 3.2.
4. Pursuant to SECTION 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.

Regional Board Staff Decision Recommendation: After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be placed on the section 303(d) list. The readily available data and information is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating.

**Line of Evidence (LOE) for Decision ID 66840, pH
Sacramento San Joaquin Delta**

Region 2

LOE ID: 90736

Pollutant: pH
LOE Subgroup: Pollutant-Water
Matrix: Water
Fraction: Dissolved

Beneficial Use: Warm Freshwater Habitat

Number of Samples: 6
Number of Exceedances: 2

Data and Information Type: PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality: Numeric data generated from 6 minimums and maximums had 2 exceedences.
Data Reference: [Data for Various Pollutants in California Marinas, 2006.](#)

SWAMP Data: Non-SWAMP

Water Quality Objective/Criterion: The pH shall not be depressed below 6.5 nor raised above 8.5.
Objective/Criterion Reference: [Water Quality Control Plan \(Basin Plan\) San Francisco Bay Basin \(Region 2\)](#)

Evaluation Guideline:
Guideline Reference:

Spatial Representation: Samples were collected from the following stations: Pittsburg Marina stations 2,5,6,7, and 8. Stations 2 and 5 are close enough together to be averaged, and stations 6-8 are close enough to be averaged as well.

Temporal Representation: These data were taken near the mouth of the Pittsburg Marina and do not represent conditions in the San Joaquin Delta as a whole.
Samples were collected once a month from August 2006 to October 2006. All of the exceedances were low pH readings taken on the same day 9/5/2006. The pH readings on the other two days of data collection were all within the acceptable range indicated by the Basin Plan water quality objective.

Environmental Conditions:
QAPP Information: NPDES quality assurance.
QAPP Information Reference(s): [Study report on paint data collected in California Marinas.](#)

**DECISION ID 33324
Sacramento San Joaquin Delta**

Region 2

Pollutant: Diazinon
Final Listing Decision: Delist from 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision: Delist from 303(d) list (TMDL required list)(2012)
Revision Status Original
Reason for Delisting: Applicable WQS attained; reason for recovery unspecified
Impairment from Pollutant or Pollution: Pollutant

Regional Board Staff This pollutant is being considered for removal from the 303(d) list under section 4.6 of the Listing

Conclusion:

Policy. Under section 4.6 a single line of evidence is necessary to assess listing status. Three lines of evidence are available in the administrative record to assess this pollutant. The basis for listing in 1998 was ambient water toxicity and detections of diazinon in Bay waters. In the current assessment, the evaluation guideline available may not satisfy the requirements of the Listing Policy but even if the guideline were used all measurements are much lower than the recommended concentration. Recent measures of toxicity show that ambient water toxicity no longer exists in Bay waters. The RWQCB is also developing a Water Quality Attainment Strategy that calls for preventive actions to keep diazinon from entering the Bay. Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification available in favor of removing this water segment-pollutant combination from the section 303(d) list in the Water Quality Limited Segments category. This conclusion is based on the staff findings that: 1. The evaluation guideline may not comply with the requirements of section 6.1.3 of the Policy. 2. The data used satisfies the data quality requirements of section 6.1.4 of the Policy. 3. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy. 4. None of 83 samples exceeded the criteria and ambient water toxicity in the Bay appears to have disappeared. These frequencies do not exceed the allowable frequency listed in Table 4.1 of the Listing Policy. 5. Pursuant to section 4.11 of the Listing Policy, no additional data and information are available indicating that standards are met.

Regional Board Staff Decision Recommendation:

This is a decision previously approved by the State Water Resources Control Board and the USEPA. No new data were assessed by the Regional Board for the current. The decision has not changed.

Line of Evidence (LOE) for Decision ID 33324, Diazinon
Region 2
Sacramento San Joaquin Delta

LOE ID: 468

Pollutant: Diazinon
 LOE Subgroup: Toxicity
 Matrix: Not Specified
 Fraction: None

Beneficial Use: Estuarine Habitat

Number of Samples: 0
 Number of Exceedances: 0

Data and Information Type: TOXICITY TESTING

Data Used to Assess Water Quality: Ambient water toxicity in San Francisco Bay appears to have disappeared. The results of ambient water toxicity monitoring at Mallard Island indicate a significant reduction in the frequency, duration, and magnitude of toxicity: 4-5% of the ambient water samples were toxic in 1998-99 (34 total samples) and 1999-2000 (23 samples), relative to 14% toxicity frequency observed in 1997-98 (27 samples); none of the 28 samples collected during the 2000-2001 season were significantly toxic.

In addition, the 1998-2000 and 2000-2001 monitoring at Mallard Island did not document any sets of consecutively toxic samples indicative of an extended period of ambient water toxicity, such as were observed in February and May of 1998. Moreover, the magnitude of toxicity (as reflected by the degree [or percentage] of test organism mortality) is also markedly reduced in the later years, again suggesting a reduction in the degree of ambient water toxicity. Subsequent RMP monitoring of ambient water toxicity in water samples collected from October, 2001 through April 2003, also indicated an absence of toxicity to the test organisms (Ogle, 2004).

Data Reference: [Placeholder reference 2006 303\(d\)](#)

SWAMP Data: Non-SWAMP

Water Quality Objective/Criterion: Basin Plan: There shall be no acute toxicity in ambient waters. There shall be no chronic toxicity in ambient waters (SFBRWQCB, 1995).

Objective/Criterion Reference: [Placeholder reference 2006 303\(d\)](#)

Evaluation Guideline:

Guideline Reference:

Spatial Representation:

Temporal Representation:

Environmental Conditions:

QAPP Information:

SFEI Regional Monitoring Program QAPP (Lowe S.R. et. al., 1998)

QAPP Information Reference(s):

Line of Evidence (LOE) for Decision ID 33324, Diazinon

Region 2

Sacramento San Joaquin Delta

LOE ID: 467

Pollutant: Diazinon

LOE Subgroup: Narrative Description Data

Matrix: -N/A

Fraction: None

Beneficial Use: Estuarine Habitat

Number of Samples: 0

Number of Exceedances: 0

Data and Information Type: Not Specified

Data Used to Assess Water Quality: In response to the RMP observations of ambient water toxicity, and given the linkage established between similar toxicity and pesticides in upstream ambient water, the SFBRWQCB identified all San Francisco Bay segments as being impaired due to Pesticides in 1998:

Pesticides have been added as a cause of impairment to all Bay segments. The pesticide diazinon has been measured at levels that cause water column toxicity. The pesticide chlorpyrifos may also be a problem. This listing is consistent with listing of the Delta for these pesticides by the Central Valley Regional Water Quality Control Board. This listing was subsequently made specific for the OP pesticide diazinon by the USEPA.

Data Reference: [Placeholder reference 2006 303\(d\)](#)

SWAMP Data: Non-SWAMP

Water Quality Objective/Criterion:

Objective/Criterion Reference:

Evaluation Guideline:

Guideline Reference:

Spatial Representation:

Temporal Representation:

Environmental Conditions:

QAPP Information:

QA Info Missing

QAPP Information Reference(s):

Line of Evidence (LOE) for Decision ID 33324, Diazinon

Region 2

Sacramento San Joaquin Delta

LOE ID: 469

Pollutant: Diazinon

LOE Subgroup: Pollutant-Water

Matrix: Water

Fraction: Total

Beneficial Use: Estuarine Habitat

Number of Samples:	0
Number of Exceedances:	0
Data and Information Type:	Not Specified
Data Used to Assess Water Quality:	The maximum concentration observed in Regional Monitoring Program samples at the Sacramento River station was 46.6 ng/L (mean 8.5 ng/L). The maximum concentration observed in Regional Monitoring Program samples at the San Joaquin River station was 35.2 ng/L (mean 8.4 ng/L) (SFEI, 2001).
Data Reference:	Placeholder reference 2006 303(d)
SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	All waters shall be maintained free of toxic substances in concentrations that are lethal to or that produce other detrimental responses in aquatic organisms. Detrimental responses include, but are not limited to, decreased growth rate and decreased reproductive success of resident or indicator species. There shall be no acute toxicity in ambient waters. There shall be no chronic toxicity in ambient waters (SFBRWQCB, 1995).
Objective/Criterion Reference:	For salt water, USEPA has developed a draft water quality criteria of 400 ng/L (chronic) (USEPA, 2000). The use of these values may not comply with all the requirements of section 6.1.3 of the Listing Policy. Placeholder reference 2006 303(d)
Evaluation Guideline:	CDFG Hazard Assessment Criteria 0.16 ug/L 1-hour average (acute), 0.10 ug/L 4-day (chronic) average (Siepman & Finlayson, 2000; Finlayson, 2004).
Guideline Reference:	Placeholder reference 2006 303(d)
Spatial Representation:	Two stations.
Temporal Representation:	Samples were collected between 1993 and 2001.
Environmental Conditions:	
QAPP Information:	SFEI Regional Monitoring Program QAPP (Lowe et al., 1998).
QAPP Information Reference(s):	

DECISION ID	33720	Region 2
Sacramento San Joaquin Delta		

Pollutant:	Dioxin compounds (including 2,3,7,8-TCDD)
Final Listing Decision:	List on 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision:	List on 303(d) list (TMDL required list)(2012)
Revision Status	Original
Sources:	Source Unknown
Expected TMDL Completion Date:	2019
Impairment from Pollutant or Pollution:	Pollutant
Regional Board Staff Conclusion:	303(d) listing decisions made prior to 2006 were not held in an assessment database. The Regional Boards will update this decision when new data and information become available and are assessed.
Regional Board Staff Decision Recommendation:	This is a decision previously approved by the State Water Resources Control Board and the USEPA. No new data were assessed by the Regional Board for the current. The decision has not changed.

Line of Evidence (LOE) for Decision ID 33720, Dioxin compounds (including 2,3,7,8-TCDD)	Region 2
Sacramento San Joaquin Delta	

LOE ID: 3815

Pollutant:	Dioxin compounds (including 2,3,7,8-TCDD)
LOE Subgroup:	Pollutant-Tissue
Matrix:	Tissue
Fraction:	Not Recorded
Beneficial Use:	Commercial or recreational collection of fish, shellfish, or organisms
Number of Samples:	0
Number of Exceedances:	0
Data and Information Type:	Not Specified
Data Used to Assess Water Quality:	Unspecified--This LOE is a placeholder to support a 303(d) listing decision made prior to 2006.
Data Reference:	Placeholder reference pre-2006 303(d)
SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	Unspecified
Objective/Criterion Reference:	Placeholder reference pre-2006 303(d)
Evaluation Guideline:	Unspecified
Guideline Reference:	Placeholder reference pre-2006 303(d)
Spatial Representation:	Unspecified
Temporal Representation:	Unspecified
Environmental Conditions:	Unspecified
QAPP Information:	Unspecified
QAPP Information Reference(s):	

DECISION ID	34579	Region 2
Sacramento San Joaquin Delta		

Pollutant:	Furan Compounds
Final Listing Decision:	List on 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision:	List on 303(d) list (TMDL required list)(2012)
Revision Status	Original
Sources:	Source Unknown
Expected TMDL Completion Date:	2019
Impairment from Pollutant or Pollution:	Pollutant

Regional Board Staff Conclusion: 303(d) listing decisions made prior to 2006 were not held in an assessment database. The Regional Boards will update this decision when new data and information become available and are assessed.

Regional Board Staff Decision Recommendation: This is a decision previously approved by the State Water Resources Control Board and the USEPA. No new data were assessed by the Regional Board for the current. The decision has not changed.

Line of Evidence (LOE) for Decision ID 34579, Furan Compounds	Region 2
Sacramento San Joaquin Delta	

LOE ID:	3817
Pollutant:	Furan Compounds
LOE Subgroup:	Pollutant-Tissue
Matrix:	Tissue
Fraction:	Not Recorded

Beneficial Use:	Commercial or recreational collection of fish, shellfish, or organisms
Number of Samples:	0
Number of Exceedances:	0
Data and Information Type:	Not Specified
Data Used to Assess Water Quality:	Unspecified--This LOE is a placeholder to support a 303(d) listing decision made prior to 2006.
Data Reference:	Placeholder reference pre-2006 303(d)
SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	Unspecified
Objective/Criterion Reference:	Placeholder reference pre-2006 303(d)
Evaluation Guideline:	Unspecified
Guideline Reference:	Placeholder reference pre-2006 303(d)
Spatial Representation:	Unspecified
Temporal Representation:	Unspecified
Environmental Conditions:	Unspecified
QAPP Information:	Unspecified
QAPP Information Reference(s):	

DECISION ID	33737	Region 2
Sacramento San Joaquin Delta		

Pollutant:	Invasive Species
Final Listing Decision:	List on 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision:	List on 303(d) list (TMDL required list)(2012)
Revision Status	Original
Sources:	Source Unknown
Expected TMDL Completion Date:	2019
Impairment from Pollutant or Pollution:	Pollutant

Regional Board Staff Conclusion:	303(d) listing decisions made prior to 2006 were not held in an assessment database. The Regional Boards will update this decision when new data and information become available and are assessed.
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Regional Board Staff Decision Recommendation:	This is a decision previously approved by the State Water Resources Control Board and the USEPA. No new data were assessed by the Regional Board for the current. The decision has not changed.
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Line of Evidence (LOE) for Decision ID 33737, Invasive Species	Region 2
Sacramento San Joaquin Delta	

LOE ID:	3816
Pollutant:	Invasive Species
LOE Subgroup:	Population/Community Degradation
Matrix:	Water
Fraction:	Not Recorded
Beneficial Use:	Estuarine Habitat
Number of Samples:	0
Number of Exceedances:	0

Data and Information Type:	Not Specified
Data Used to Assess Water Quality:	Unspecified--This LOE is a placeholder to support a 303(d) listing decision made prior to 2006.
Data Reference:	Placeholder reference pre-2006 303(d)
SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	
Objective/Criterion Reference:	
Evaluation Guideline:	
Guideline Reference:	
Spatial Representation:	Unspecified
Temporal Representation:	Unspecified
Environmental Conditions:	Unspecified
QAPP Information:	Unspecified
QAPP Information Reference(s):	

DECISION ID	34687	Region 2
Sacramento San Joaquin Delta		

Pollutant:	PCBs (Polychlorinated biphenyls) (dioxin-like)
Final Listing Decision:	List on 303(d) list (being addressed by USEPA approved TMDL)
Last Listing Cycle's Final Listing Decision:	List on 303(d) list (TMDL required list)(2012)
Revision Status	Original
Sources:	Source Unknown
TMDL Name:	San Francisco Bay PCBs
TMDL Project Code:	7
Date TMDL Approved by USEPA:	03/29/2010
Impairment from Pollutant or Pollution:	Pollutant

Regional Board Staff Conclusion:	303(d) listing decisions made prior to 2006 were not held in an assessment database. The Regional Boards will update this decision when new data and information become available and are assessed.
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Regional Board Staff Decision Recommendation:	This is a decision previously approved by the State Water Resources Control Board and the USEPA. No new data were assessed by the Regional Board for the current. The decision has not changed.
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Line of Evidence (LOE) for Decision ID 34687, PCBs (Polychlorinated biphenyls) (dioxin-like)	Region 2
Sacramento San Joaquin Delta	

LOE ID:	3821
Pollutant:	PCBs (Polychlorinated biphenyls) (dioxin-like)
LOE Subgroup:	Pollutant-Tissue
Matrix:	Tissue
Fraction:	Not Recorded
Beneficial Use:	Commercial or recreational collection of fish, shellfish, or organisms
Number of Samples:	0
Number of Exceedances:	0
Data and Information Type:	Not Specified
Data Used to Assess Water Quality:	Unspecified--This LOE is a placeholder to support a 303(d) listing decision made prior to 2006.

Data Reference:	Placeholder reference pre-2006 303(d)
SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	Unspecified
Objective/Criterion Reference:	Placeholder reference pre-2006 303(d)
Evaluation Guideline:	Unspecified
Guideline Reference:	Placeholder reference pre-2006 303(d)
Spatial Representation:	Unspecified
Temporal Representation:	Unspecified
Environmental Conditions:	Unspecified
QAPP Information:	Unspecified
QAPP Information Reference(s):	

Draft California 2016 Integrated Report (303(d) List/305(b) Report)

Supporting Information

Regional Board 2 - San Francisco Bay Region

Water Body Name: Carquinez Strait
Water Body ID: CAE2071002019980928134605
Water Body Type: Estuary

DECISION ID 32831 **Region 2**
Carquinez Strait

Pollutant: Chlordane
Final Listing Decision: Do Not Delist from 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision: List on 303(d) list (TMDL required list)(2012)
Revision Status Revised
Sources: Source Unknown
Expected TMDL Completion Date: 2013
Impairment from Pollutant or Pollution: Pollutant

Regional Board Staff Conclusion: This pollutant is being considered for removal from the CWA section 303(d) List under section 4.1 of the Listing Policy. Under this section a single line of evidence is necessary to assess listing status.

Three lines of evidence are available in the administrative record to assess pollutant. Zero of the one samples exceed the criterion.

Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against removing this water segment-pollutant combination from the CWA section 303(d) List.

This conclusion is based on the staff findings that:

1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy.
2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy.
3. Zero of one samples collected in 2004 exceeded the criterion.
4. This waterbody was placed on the 303(d) list based on data collected prior to year 2000.
5. There are not enough recent samples to justify removing this waterbody from the impaired waters list according to Table 4.1 of the Listing Policy.
6. Pursuant to section 4.11 of the Listing Policy, no additional data and information are available indicating that standards are met.

Regional Board Staff Decision Recommendation: After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be removed from the section 303(d) list because applicable water quality standards for the pollutant are being exceeded.

Line of Evidence (LOE) for Decision ID 32831, Chlordane **Region 2**
Carquinez Strait

LOE ID: 3724
Pollutant: Chlordane
LOE Subgroup: Pollutant-Tissue
Matrix: Tissue
Fraction: Not Recorded

Beneficial Use:	Commercial or recreational collection of fish, shellfish, or organisms
Number of Samples:	0
Number of Exceedances:	0
Data and Information Type:	Not Specified
Data Used to Assess Water Quality:	Unspecified--This LOE is a placeholder to support a 303(d) listing decision made prior to 2006.
Data Reference:	Placeholder reference pre-2006 303(d)
SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	
Objective/Criterion Reference:	
Evaluation Guideline:	
Guideline Reference:	
Spatial Representation:	Unspecified
Temporal Representation:	Unspecified
Environmental Conditions:	Unspecified
QAPP Information:	Unspecified
QAPP Information Reference(s):	

Line of Evidence (LOE) for Decision ID 32831, Chlordane Carquinez Strait

Region 2

LOE ID:	91239
Pollutant:	Chlordane
LOE Subgroup:	Pollutant-Water
Matrix:	Water
Fraction:	Dissolved
Beneficial Use:	Estuarine Habitat
Number of Samples:	1
Number of Exceedances:	0
Data and Information Type:	PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality:	State Water Board staff assessed SFEI data for Carquinez Strait to determine beneficial use support and results are as follows: 0 of 1 samples exceed the criterion for Chlordane, Total.
Data Reference:	Regional Monitoring Program data, Feb. 1993-Sep. 2008
SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	The chlordane criterion continuous concentration (expressed as a 4-day average) to protect aquatic life in saline water is 0.004 ug/L (California Toxics Rule, 2000).
Objective/Criterion Reference:	Code of Federal Regulations 40 part 131.38 Establishment of numeric criteria for priority toxic pollutants for the State of California. 7/1/2011 Edition
Evaluation Guideline:	
Guideline Reference:	
Spatial Representation:	Data for this line of evidence for Carquinez Strait was collected at 1 monitoring site [Suisun Bay - SU011W]
Temporal Representation:	Data was collected on a single day 7/22/2004.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	The 1999 Quality Assurance Project Plan Regional Monitoring Program for Trace Substances was used.
QAPP Information Reference(s):	1999 Quality Assurance Project Plan Regional Monitoring Program for Trace Substances

Carquinez Strait

LOE ID:	91240
Pollutant:	Chlordane
LOE Subgroup:	Pollutant-Water
Matrix:	Water
Fraction:	Total
Beneficial Use:	Commercial or recreational collection of fish, shellfish, or organisms
Number of Samples:	1
Number of Exceedances:	0
Data and Information Type:	PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality:	State Water Board staff assessed SFEI data for Carquinez Strait to determine beneficial use support and results are as follows: 0 of 1 samples exceed the criterion for Chlordane, Total.
Data Reference:	Regional Monitoring Program data, Feb. 1993-Sep. 2008
SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	The Chlordane, Total criteria for the protection of human health from consumption of organisms only is 0.00059 ug/L (California Toxics Rule, 2000).
Objective/Criterion Reference:	Code of Federal Regulations 40 part 131.38 Establishment of numeric criteria for priority toxic pollutants for the State of California. 7/1/2011 Edition
Evaluation Guideline:	
Guideline Reference:	
Spatial Representation:	Data for this line of evidence for Carquinez Strait was collected at 1 monitoring site [Suisun Bay - SU011W]
Temporal Representation:	Data was collected on a single day 7/22/2004.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	The 1999 Quality Assurance Project Plan Regional Monitoring Program for Trace Substances was used.
QAPP Information Reference(s):	1999 Quality Assurance Project Plan Regional Monitoring Program for Trace Substances

DECISION ID

32832

Region 2

Carquinez Strait

Pollutant:	DDT (Dichlorodiphenyltrichloroethane)
Final Listing Decision:	Do Not Delist from 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision:	List on 303(d) list (TMDL required list)(2012)
Revision Status	Revised
Sources:	Source Unknown
Expected TMDL Completion Date:	2013
Impairment from Pollutant or Pollution:	Pollutant
Regional Board Staff Conclusion:	<p>This pollutant is being considered for removal from the CWA section 303(d) List under section 4.1 of the Listing Policy. Under this section a single line of evidence is necessary to assess listing status.</p> <p>Three lines of evidence are available in the administrative record to assess pollutant. Zero of one samples exceed the guideline.</p>

Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against removing this water segment-pollutant combination from the CWA section 303(d) List.

This conclusion is based on the staff findings that:

1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy.
2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy.
3. Zero of one samples exceeded the guideline and this is not sufficient evidence to de-list according to Table 4.1 of the Listing Policy.
4. Pursuant to section 4.11 of the Listing Policy, no additional data and information are available indicating that standards are met.

Regional Board Staff Decision Recommendation: After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be removed from the section 303(d) list because applicable water quality standards for the pollutant are being exceeded.

**Line of Evidence (LOE) for Decision ID 32832, DDT (Dichlorodiphenyltrichloroethane)
Carquinez Strait**

Region 2

LOE ID:	3725
Pollutant:	DDT (Dichlorodiphenyltrichloroethane)
LOE Subgroup:	Pollutant-Tissue
Matrix:	Tissue
Fraction:	Not Recorded
Beneficial Use:	Commercial or recreational collection of fish, shellfish, or organisms
Number of Samples:	0
Number of Exceedances:	0
Data and Information Type:	Not Specified
Data Used to Assess Water Quality:	Unspecified--This LOE is a placeholder to support a 303(d) listing decision made prior to 2006.
Data Reference:	Placeholder reference pre-2006 303(d)
SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	Unspecified
Objective/Criterion Reference:	Placeholder reference pre-2006 303(d)
Evaluation Guideline:	Unspecified
Guideline Reference:	Placeholder reference pre-2006 303(d)
Spatial Representation:	Unspecified
Temporal Representation:	Unspecified
Environmental Conditions:	Unspecified
QAPP Information:	Unspecified
QAPP Information Reference(s):	

**Line of Evidence (LOE) for Decision ID 32832, DDT (Dichlorodiphenyltrichloroethane)
Carquinez Strait**

Region 2

LOE ID:	91229
Pollutant:	Total DDT (sum of 4,4'- and 2,4'- isomers of DDT, DDE, and DDD)
LOE Subgroup:	Pollutant-Water
Matrix:	Water
Fraction:	Total

Beneficial Use:	Commercial or recreational collection of fish, shellfish, or organisms
Number of Samples:	1
Number of Exceedances:	0
Data and Information Type:	PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality:	State Water Board staff assessed SFEI data for Carquinez Strait to determine beneficial use support and results are as follows: 0 of 1 samples exceed the criterion for DDT, Total.
Data Reference:	Regional Monitoring Program data, Feb. 1993-Sep. 2008
SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	The DDT, Total criteria for the protection of human health from consumption of organisms only is 0.00059 ug/L (California Toxics Rule, 2000).
Objective/Criterion Reference:	Code of Federal Regulations 40 part 131.38 Establishment of numeric criteria for priority toxic pollutants for the State of California. 7/1/2011 Edition
Evaluation Guideline:	
Guideline Reference:	
Spatial Representation:	Data for this line of evidence for Carquinez Strait was collected at 1 monitoring site [Suisun Bay - SU011W]
Temporal Representation:	Data was collected on a single day 7/22/2004.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	The 1999 Quality Assurance Project Plan Regional Monitoring Program for Trace Substances was used.
QAPP Information Reference(s):	1999 Quality Assurance Project Plan Regional Monitoring Program for Trace Substances

Line of Evidence (LOE) for Decision ID 32832, DDT (Dichlorodiphenyltrichloroethane)

Region 2

Carquinez Strait

LOE ID:	91228
Pollutant:	Total DDT (sum of 4,4'- and 2,4'- isomers of DDT, DDE, and DDD)
LOE Subgroup:	Pollutant-Water
Matrix:	Water
Fraction:	Dissolved
Beneficial Use:	Estuarine Habitat
Number of Samples:	1
Number of Exceedances:	0
Data and Information Type:	PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality:	State Water Board staff assessed SFEI data for Carquinez Strait to determine beneficial use support and results are as follows: 0 of 1 samples exceed the criterion for DDT, Total.
Data Reference:	Regional Monitoring Program data, Feb. 1993-Sep. 2008
SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	The DDT criterion continuous concentration (expressed as a 4-day average) to protect aquatic life in saline water is 0.001 ug/L (California Toxics Rule, 2000).
Objective/Criterion Reference:	Code of Federal Regulations 40 part 131.38 Establishment of numeric criteria for priority toxic pollutants for the State of California. 7/1/2011 Edition
Evaluation Guideline:	
Guideline Reference:	
Spatial Representation:	Data for this line of evidence for Carquinez Strait was collected at 1 monitoring site [Suisun Bay - SU011W]
Temporal Representation:	Data was collected on a single day 7/22/2004.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.

QAPP Information: The 1999 Quality Assurance Project Plan Regional Monitoring Program for Trace Substances was used.

QAPP Information Reference(s): [1999 Quality Assurance Project Plan Regional Monitoring Program for Trace Substances](#)

DECISION ID	34095	Region 2
Carquinez Strait		

Pollutant:	Dieldrin
Final Listing Decision:	Do Not Delist from 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision:	List on 303(d) list (TMDL required list)(2012)
Revision Status	Revised
Sources:	Source Unknown
Expected TMDL Completion Date:	2013
Impairment from Pollutant or Pollution:	Pollutant

Regional Board Staff Conclusion: This pollutant is being considered for removal from the CWA section 303(d) List under section 4.1 of the Listing Policy. Under this section a single line of evidence is necessary to assess listing status.

Three lines of evidence are available in the administrative record to assess pollutant. Zero of the one samples exceed the criterion.

Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against removing this water segment-pollutant combination from the CWA section 303(d) List.

This conclusion is based on the staff findings that:

1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy.
2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy.
3. Zero of one samples collected in 2004 exceeded the criterion.
4. This waterbody was placed on the 303(d) list based on data collected prior to year 2000.
5. There are not enough recent samples to justify removing this waterbody from the impaired waters list according to Table 4.1 of the Listing Policy.
6. Pursuant to section 4.11 of the Listing Policy, no additional data and information are available indicating that standards are met.

Regional Board Staff Decision Recommendation: After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be removed from the section 303(d) list because applicable water quality standards for the pollutant are being exceeded.

Line of Evidence (LOE) for Decision ID 34095, Dieldrin	Region 2
Carquinez Strait	

LOE ID:	3726
Pollutant:	Dieldrin
LOE Subgroup:	Pollutant-Tissue
Matrix:	Tissue
Fraction:	Not Recorded
Beneficial Use:	Commercial or recreational collection of fish, shellfish, or organisms
Number of Samples:	0
Number of Exceedances:	0
Data and Information Type:	Not Specified
Data Used to Assess Water Quality:	Unspecified--This LOE is a placeholder to support a 303(d) listing decision made prior to

2006.

Data Reference: [Placeholder reference pre-2006 303\(d\)](#)

SWAMP Data: Non-SWAMP

Water Quality Objective/Criterion:
Objective/Criterion Reference:

Evaluation Guideline:
Guideline Reference:

Spatial Representation: Unspecified
Temporal Representation: Unspecified
Environmental Conditions: Unspecified
QAPP Information: Unspecified
QAPP Information Reference(s):

**Line of Evidence (LOE) for Decision ID 34095, Dieldrin
Carquinez Strait**

Region 2

LOE ID: 91244

Pollutant: Dieldrin
LOE Subgroup: Pollutant-Water
Matrix: Water
Fraction: Dissolved

Beneficial Use: Estuarine Habitat

Number of Samples: 1
Number of Exceedances: 0

Data and Information Type: PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality: State Water Board staff assessed SFEI data for Carquinez Strait to determine beneficial use support and results are as follows: 0 of 1 samples exceed the criterion for Dieldrin.
Data Reference: [Regional Monitoring Program data, Feb. 1993-Sep. 2008](#)

SWAMP Data: Non-SWAMP

Water Quality Objective/Criterion: The Dieldrin criterion continuous concentration (expressed as a 4-day average) to protect aquatic life in saline water is 0.0019 ug/L (California Toxics Rule, 2000).
Objective/Criterion Reference: [Code of Federal Regulations 40 part 131.38 Establishment of numeric criteria for priority toxic pollutants for the State of California. 7/1/2011 Edition](#)

Evaluation Guideline:
Guideline Reference:

Spatial Representation: Data for this line of evidence for Carquinez Strait was collected at 1 monitoring site [Suisun Bay - SU011W]
Temporal Representation: Data was collected on a single day 7/22/2004.
Environmental Conditions: Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information: The 1999 Quality Assurance Project Plan Regional Monitoring Program for Trace Substances was used.
QAPP Information Reference(s): [1999 Quality Assurance Project Plan Regional Monitoring Program for Trace Substances](#)

**Line of Evidence (LOE) for Decision ID 34095, Dieldrin
Carquinez Strait**

Region 2

LOE ID: 91245

Pollutant: Dieldrin

LOE Subgroup:	Pollutant-Water
Matrix:	Water
Fraction:	Total
Beneficial Use:	Commercial or recreational collection of fish, shellfish, or organisms
Number of Samples:	1
Number of Exceedances:	0
Data and Information Type:	PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality:	State Water Board staff assessed SFEI data for Carquinez Strait to determine beneficial use support and results are as follows: 0 of 1 samples exceed the criterion for Dieldrin.
Data Reference:	Regional Monitoring Program data, Feb. 1993-Sep. 2008
SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	The Dieldrin criteria for the protection of human health from consumption of organisms only is 0.00014 ug/L (California Toxics Rule, 2000).
Objective/Criterion Reference:	Code of Federal Regulations 40 part 131.38 Establishment of numeric criteria for priority toxic pollutants for the State of California. 7/1/2011 Edition
Evaluation Guideline:	
Guideline Reference:	
Spatial Representation:	Data for this line of evidence for Carquinez Strait was collected at 1 monitoring site [Suisun Bay - SU011W]
Temporal Representation:	Data was collected on a single day 7/22/2004.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	The 1999 Quality Assurance Project Plan Regional Monitoring Program for Trace Substances was used.
QAPP Information Reference(s):	1999 Quality Assurance Project Plan Regional Monitoring Program for Trace Substances

DECISION ID	34705	Region 2
Carquinez Strait		

Pollutant:	PCBs (Polychlorinated biphenyls)
Final Listing Decision:	Do Not Delist from 303(d) list (being addressed with USEPA approved TMDL)
Last Listing Cycle's Final Listing Decision:	List on 303(d) list (TMDL required list)(2012)
Revision Status	Revised
Sources:	Source Unknown
TMDL Name:	San Francisco Bay PCBs
TMDL Project Code:	7
Date TMDL Approved by USEPA:	03/29/2010
Impairment from Pollutant or Pollution:	Pollutant
Regional Board Staff Conclusion:	<p>This pollutant is being considered for removal on the CWA section 303(d) List under sections 2.2 and 4.1 of the Listing Policy. Under 4.1 of the Policy, a minimum of one line of evidence is needed to assess listing status.</p> <p>Three lines of evidence are available in the administrative record to assess this pollutant.</p> <p>Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against removing this water segment-pollutant combination from the CWA section 303(d) List. There is sufficient justification to place it in the Being Addressed portion of the CWA 303(d) List because a TMDL has been completed and approved by RWQCB and USEPA, and is expected to result in attainment of the standard.</p> <p>This conclusion is based on the staff findings that:</p>

1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy.
2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy.
3. One of one samples exceeded the criterion.
4. There are not enough recent samples to justify removing this waterbody from the impaired waters list according to Table 4.1 of the Listing Policy.
5. The PCBs TMDL was approved by USEPA on 3/29/2010.
6. Pursuant to section 4.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.

Regional Board Staff Decision Recommendation: After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be removed from the section 303(d) list because applicable water quality standards for the pollutant are being exceeded.

Line of Evidence (LOE) for Decision ID 34705, PCBs (Polychlorinated biphenyls)

Region 2

Carquinez Strait

LOE ID: 91224

Pollutant: PCBs (Polychlorinated biphenyls)
 LOE Subgroup: Pollutant-Water
 Matrix: Water
 Fraction: Dissolved

Beneficial Use: Estuarine Habitat

Number of Samples: 1
 Number of Exceedances: 0

Data and Information Type: PHYSICAL/CHEMICAL MONITORING
 Data Used to Assess Water Quality: State Water Board staff assessed SFEI data for Carquinez Strait to determine beneficial use support and results are as follows: 0 of 1 samples exceed the criterion for PCB, Total.

Data Reference: [Regional Monitoring Program data, Feb. 1993-Sep. 2008](#)

SWAMP Data: Non-SWAMP

Water Quality Objective/Criterion: The PCB, Total criterion continuous concentration (expressed as a 4-day average) to protect aquatic life in saltwater is 0.03 ug/L (California Toxics Rule, 2000).

Objective/Criterion Reference: [Code of Federal Regulations 40 part 131.38 Establishment of numeric criteria for priority toxic pollutants for the State of California. 7/1/2011 Edition](#)

Evaluation Guideline:
 Guideline Reference:

Spatial Representation: Data for this line of evidence for Carquinez Strait was collected at 1 monitoring site [Suisun Bay - SU011W]

Temporal Representation: Data was collected on a single day 7/22/2004.

Environmental Conditions: Staff is not aware of any special conditions that might affect interpretation of the data.

QAPP Information: The 1999 Quality Assurance Project Plan Regional Monitoring Program for Trace Substances was used.

QAPP Information Reference(s): [1999 Quality Assurance Project Plan Regional Monitoring Program for Trace Substances](#)

Line of Evidence (LOE) for Decision ID 34705, PCBs (Polychlorinated biphenyls)

Region 2

Carquinez Strait

LOE ID: 91225

Pollutant: PCBs (Polychlorinated biphenyls)
 LOE Subgroup: Pollutant-Water
 Matrix: Water
 Fraction: Total

Beneficial Use:	Commercial or recreational collection of fish, shellfish, or organisms
Number of Samples:	1
Number of Exceedances:	1
Data and Information Type:	PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality:	State Water Board staff assessed SFEI data for Carquinez Strait to determine beneficial use support and results are as follows: 1 of 1 samples exceed the criterion for PCB, Total.
Data Reference:	Regional Monitoring Program data, Feb. 1993-Sep. 2008
SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	The Polychlorinated Biphenyls criteria for the protection of human health from consumption of organisms only is 0.00017 ug/L (California Toxics Rule, 2000).
Objective/Criterion Reference:	Code of Federal Regulations 40 part 131.38 Establishment of numeric criteria for priority toxic pollutants for the State of California. 7/1/2011 Edition
Evaluation Guideline:	
Guideline Reference:	
Spatial Representation:	Data for this line of evidence for Carquinez Strait was collected at 1 monitoring site [Suisun Bay - SU011W]
Temporal Representation:	Data was collected on a single day 7/22/2004.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	The 1999 Quality Assurance Project Plan Regional Monitoring Program for Trace Substances was used.
QAPP Information Reference(s):	1999 Quality Assurance Project Plan Regional Monitoring Program for Trace Substances

Line of Evidence (LOE) for Decision ID 34705, PCBs (Polychlorinated biphenyls)

Region 2

Carquinez Strait

LOE ID:	3731
Pollutant:	PCBs (Polychlorinated biphenyls)
LOE Subgroup:	Pollutant-Tissue
Matrix:	Tissue
Fraction:	Not Recorded
Beneficial Use:	Commercial or recreational collection of fish, shellfish, or organisms
Number of Samples:	0
Number of Exceedances:	0
Data and Information Type:	Not Specified
Data Used to Assess Water Quality:	Unspecified--This LOE is a placeholder to support a 303(d) listing decision made prior to 2006.
Data Reference:	Placeholder reference pre-2006 303(d)
SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	Unspecified
Objective/Criterion Reference:	Placeholder reference pre-2006 303(d)
Evaluation Guideline:	Unspecified
Guideline Reference:	Placeholder reference pre-2006 303(d)
Spatial Representation:	Unspecified
Temporal Representation:	Unspecified
Environmental Conditions:	Unspecified
QAPP Information:	Unspecified
QAPP Information Reference(s):	

DECISION ID	34704	Region 2
Carquinez Strait		

Pollutant:	Selenium
Final Listing Decision:	Do Not Delist from 303(d) list (being addressed with USEPA approved TMDL)
Last Listing Cycle's Final Listing Decision:	List on 303(d) list (TMDL required list)(2012)
Revision Status	Revised
Sources:	Source Unknown
TMDL Name:	San Francisco Bay Selenium - North Bay
TMDL Project Code:	540
Date TMDL Approved by USEPA:	08/23/2016
Impairment from Pollutant or Pollution:	Pollutant
Regional Board Staff Conclusion:	<p>This pollutant is being considered for removal from the CWA section 303(d) List under section 4.1 of the Listing Policy. Under this section a single line of evidence is necessary to assess listing status.</p> <p>Two lines of evidence are available in the administrative record to assess pollutant. Zero of the one samples exceed the criterion.</p> <p>Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against removing this water segment-pollutant combination from the CWA section 303(d) List.</p> <p>This conclusion is based on the staff findings that:</p> <ol style="list-style-type: none"> 1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy. 2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy. 3. Zero of one samples collected in 2004 exceeded the criterion. 4. This waterbody was placed on the 303(d) list based on data collected prior to year 2000. 5. There are not enough recent samples to justify removing this waterbody from the impaired waters list according to Table 4.1 of the Listing Policy. 6. Pursuant to section 4.11 of the Listing Policy, no additional data and information are available indicating that standards are met. 7. The North SF Bay Selenium TMDL was approved by USEPA on August 23, 2016.
Regional Board Staff Recommendation:	After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be removed from the section 303(d) list because applicable water quality standards for the pollutant are being exceeded.

Line of Evidence (LOE) for Decision ID 34704, Selenium	Region 2
Carquinez Strait	

LOE ID:	91227
Pollutant:	Selenium
LOE Subgroup:	Pollutant-Water
Matrix:	Water
Fraction:	Dissolved
Beneficial Use:	Estuarine Habitat
Number of Samples:	1
Number of Exceedances:	0
Data and Information Type:	PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality:	State Water Board staff assessed SFEI data for Carquinez Strait to determine beneficial

use support and results are as follows: 0 of 1 samples exceed the criterion for Selenium.
[Regional Monitoring Program data, Feb. 1993-Sep. 2008](#)

Data Reference:

SWAMP Data: Non-SWAMP

Water Quality Objective/Criterion: The dissolved selenium criterion continuous concentration (expressed as a 4-day average) to protect aquatic life in saline water is 5 ug/L (California Toxics Rule, 2000).

Objective/Criterion Reference: [Code of Federal Regulations 40 part 131.38 Establishment of numeric criteria for priority toxic pollutants for the State of California. 7/1/2011 Edition](#)

Evaluation Guideline:

Guideline Reference:

Spatial Representation: Data for this line of evidence for Carquinez Strait was collected at 1 monitoring site [Suisun Bay - SU011W]

Temporal Representation: Data was collected on a single day 7/22/2004.

Environmental Conditions: Staff is not aware of any special conditions that might affect interpretation of the data.

QAPP Information: The 1999 Quality Assurance Project Plan Regional Monitoring Program for Trace Substances was used.

QAPP Information Reference(s): [1999 Quality Assurance Project Plan Regional Monitoring Program for Trace Substances](#)

Line of Evidence (LOE) for Decision ID 34704, Selenium

Region 2

Carquinez Strait

LOE ID: 3733

Pollutant: Selenium

LOE Subgroup: Pollutant-Water

Matrix: Water

Fraction: Not Recorded

Beneficial Use: Estuarine Habitat

Number of Samples: 0

Number of Exceedances: 0

Data and Information Type: Not Specified

Data Used to Assess Water Quality: Unspecified--This LOE is a placeholder to support a 303(d) listing decision made prior to 2006.

Data Reference: [Placeholder reference pre-2006 303\(d\)](#)

SWAMP Data: Non-SWAMP

Water Quality Objective/Criterion: Unspecified

Objective/Criterion Reference: [Placeholder reference pre-2006 303\(d\)](#)

Evaluation Guideline: Unspecified

Guideline Reference: [Placeholder reference pre-2006 303\(d\)](#)

Spatial Representation: Unspecified

Temporal Representation: Unspecified

Environmental Conditions: Unspecified

QAPP Information: Unspecified

QAPP Information Reference(s):

DECISION ID

61477

Region 2

Carquinez Strait

Pollutant: Acenaphthene

Final Listing Decision: Do Not List on 303(d) list (TMDL required list)

Last Listing Cycle's Final Listing Decision:
Revision Status
Impairment from Pollutant or Pollution:

New Decision

Revised
Pollutant

Regional Board Staff Conclusion:

This pollutant is being considered for placement on the CWA section 303(d) List under section 3.1 of the Listing Policy. Under section 3.1 a single line of evidence is necessary to assess listing status. Two lines of evidence are available in the administrative record to assess this pollutant. Zero of one samples exceed the guideline.

Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against placing this water segment-pollutant combination on the CWA section 303(d) List.

This conclusion is based on the staff findings that:

1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy.
2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy.
3. Zero of one samples exceed the guideline and this sample size is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating. A minimum of 16 samples is needed to determine if a beneficial use is fully supported using table 3.1.
4. Pursuant to SECTION 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.

Regional Board Staff Decision Recommendation:

After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be placed on the section 303(d) list. The readily available data and information is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating.

**Line of Evidence (LOE) for Decision ID 61477, Acenaphthene
Carquinez Strait**

Region 2

LOE ID: 91233

Pollutant: Acenaphthene
LOE Subgroup: Pollutant-Water
Matrix: Water
Fraction: Dissolved

Beneficial Use: Estuarine Habitat

Number of Samples: 1
Number of Exceedances: 0

Data and Information Type: PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality: State Water Board staff assessed SFEI data for Carquinez Strait to determine beneficial use support and results are as follows: 0 of 1 samples exceed the criterion for Acenaphthene.

Data Reference: [Regional Monitoring Program data, Feb. 1993-Sep. 2008](#)

SWAMP Data: Non-SWAMP

Water Quality Objective/Criterion: No individual pesticide or combination of pesticides shall be present in concentrations that adversely affect beneficial uses.

Objective/Criterion Reference: [Water Quality Control Plan \(Basin Plan\) San Francisco Bay Basin \(Region 2\)](#)

Evaluation Guideline: The available data for acenaphthene indicate that chronic toxicity to saltwater aquatic life occurs at concentrations as low as 710 ug/L and would occur at lower concentrations among species that are more sensitive than those tested. (USEPA Gold Book - EPA 440/5-86-001)

Guideline Reference: [Quality Criteria for Water 1986. United States Environmental Protection Agency. Office of](#)

Spatial Representation: Data for this line of evidence for Carquinez Strait was collected at 1 monitoring site [Suisun Bay - SU011W]

Temporal Representation: Data was collected on a single day 7/22/2004.

Environmental Conditions: Staff is not aware of any special conditions that might affect interpretation of the data.

QAPP Information: The 1999 Quality Assurance Project Plan Regional Monitoring Program for Trace Substances was used.

QAPP Information Reference(s): [1999 Quality Assurance Project Plan Regional Monitoring Program for Trace Substances](#)

Line of Evidence (LOE) for Decision ID 61477, Acenaphthene

Region 2

Carquinez Strait

LOE ID: 91234

Pollutant: Acenaphthene

LOE Subgroup: Pollutant-Water

Matrix: Water

Fraction: Total

Beneficial Use: Commercial or recreational collection of fish, shellfish, or organisms

Number of Samples: 1

Number of Exceedances: 0

Data and Information Type: PHYSICAL/CHEMICAL MONITORING

Data Used to Assess Water Quality: State Water Board staff assessed SFEI data for Carquinez Strait to determine beneficial use support and results are as follows: 0 of 1 samples exceed the criterion for Acenaphthene.

Data Reference: [Regional Monitoring Program data, Feb. 1993-Sep. 2008](#)

SWAMP Data: Non-SWAMP

Water Quality Objective/Criterion: The Acenaphthene criteria for the protection of human health from consumption of organisms only is 2,700 ug/L (California Toxics Rule, 2000).

Objective/Criterion Reference: [Code of Federal Regulations 40 part 131.38 Establishment of numeric criteria for priority toxic pollutants for the State of California. 7/1/2011 Edition](#)

Evaluation Guideline:

Guideline Reference:

Spatial Representation: Data for this line of evidence for Carquinez Strait was collected at 1 monitoring site [Suisun Bay - SU011W]

Temporal Representation: Data was collected on a single day 7/22/2004.

Environmental Conditions: Staff is not aware of any special conditions that might affect interpretation of the data.

QAPP Information: The 1999 Quality Assurance Project Plan Regional Monitoring Program for Trace Substances was used.

QAPP Information Reference(s): [1999 Quality Assurance Project Plan Regional Monitoring Program for Trace Substances](#)

DECISION ID

61478

Region 2

Carquinez Strait

Pollutant: Aldrin

Final Listing Decision: Do Not List on 303(d) list (TMDL required list)

Last Listing Cycle's Final Listing Decision: New Decision

Revision Status: Revised

Impairment from Pollutant or Pollution: Pollutant

**Regional Board Staff
Conclusion:**

This pollutant is being considered for placement on the CWA section 303(d) List under section 3.1 of the Listing Policy. Under section 3.1 a single line of evidence is necessary to assess listing status. One line of evidence is available in the administrative record to assess this pollutant. Zero of one samples exceed the guideline.

Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against placing this water segment-pollutant combination on the CWA section 303(d) List.

This conclusion is based on the staff findings that:

1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy.
2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy.
3. Zero of one samples exceed the guideline and this sample size is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating. A minimum of 16 samples is needed to determine if a beneficial use is fully supported using table 3.1.
4. Pursuant to SECTION 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.

**Regional Board Staff Decision
Recommendation:**

After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be placed on the section 303(d) list. The readily available data and information is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating.

**Line of Evidence (LOE) for Decision ID 61478, Aldrin
Carquinez Strait**

Region 2

LOE ID:	91235
Pollutant:	Aldrin
LOE Subgroup:	Pollutant-Water
Matrix:	Water
Fraction:	Dissolved
Beneficial Use:	Estuarine Habitat
Number of Samples:	1
Number of Exceedances:	0
Data and Information Type:	PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality:	State Water Board staff assessed SFEI data for Carquinez Strait to determine beneficial use support and results are as follows: 0 of 1 samples exceed the criterion for Aldrin.
Data Reference:	Regional Monitoring Program data, Feb. 1993-Sep. 2008
SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	The aldrin criterion maximum concentration to protect aquatic life in saline water is 1.3 ug/L (California Toxics Rule, 2000).
Objective/Criterion Reference:	Code of Federal Regulations 40 part 131.38 Establishment of numeric criteria for priority toxic pollutants for the State of California. 7/1/2011 Edition
Evaluation Guideline:	
Guideline Reference:	
Spatial Representation:	Data for this line of evidence for Carquinez Strait was collected at 1 monitoring site [Suisun Bay - SU011W]
Temporal Representation:	Data was collected on a single day 7/22/2004.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	The 1999 Quality Assurance Project Plan Regional Monitoring Program for Trace Substances was used.
QAPP Information Reference(s):	1999 Quality Assurance Project Plan Regional Monitoring Program for Trace Substances

DECISION ID	61479	Region 2
Carquinez Strait		

Pollutant: Arsenic
Final Listing Decision: Do Not List on 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision: New Decision
Revision Status: Revised
Impairment from Pollutant or Pollution: Pollutant

Regional Board Staff Conclusion: This pollutant is being considered for placement on the CWA section 303(d) List under section 3.1 of the Listing Policy. Under section 3.1 a single line of evidence is necessary to assess listing status. Two lines of evidence are available in the administrative record to assess this pollutant. Zero of one samples exceed the guideline.

Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against placing this water segment-pollutant combination on the CWA section 303(d) List.

This conclusion is based on the staff findings that:
 1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy.
 2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy.
 3. Zero of one samples exceed the guideline and this sample size is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating. A minimum of 16 samples is needed to determine if a beneficial use is fully supported using table 3.1.
 4. Pursuant to SECTION 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.

Regional Board Staff Decision Recommendation: After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be placed on the section 303(d) list. The readily available data and information is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating.

Line of Evidence (LOE) for Decision ID 61479, Arsenic	Region 2
Carquinez Strait	

LOE ID: 91236
Pollutant: Arsenic
LOE Subgroup: Pollutant-Water
Matrix: Water
Fraction: Total
Beneficial Use: Commercial or recreational collection of fish, shellfish, or organisms
Number of Samples: 1
Number of Exceedances: 0
Data and Information Type: PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality: State Water Board staff assessed SFEI data for Carquinez Strait to determine beneficial use support and results are as follows: 0 of 1 samples exceed the criterion for Arsenic.
Data Reference: [Regional Monitoring Program data, Feb. 1993-Sep. 2008](#)
SWAMP Data: Non-SWAMP
Water Quality Objective/Criterion: Surface?waters?shall?not?contain?concentrations?of?chemical?constituents?in?amounts?that?adversely?affect?any?designated?beneficial?use.
Objective/Criterion Reference: [Water Quality Control Plan \(Basin Plan\) San Francisco Bay Basin \(Region 2\)](#)

Evaluation Guideline:	The Arsenic criteria for the protection of human health from consumption of organisms only is 0.14 ug/L (National Recommended Water Quality Criteria, 2009).
Guideline Reference:	National Recommended Water Quality Criteria. United States Environmental Protection Agency. Office of Water. Office of Science and Technology
Spatial Representation:	Data for this line of evidence for Carquinez Strait was collected at 1 monitoring site [Suisun Bay - SU011W]
Temporal Representation:	Data was collected on a single day 7/22/2004.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	The 1999 Quality Assurance Project Plan Regional Monitoring Program for Trace Substances was used.
QAPP Information Reference(s):	1999 Quality Assurance Project Plan Regional Monitoring Program for Trace Substances

**Line of Evidence (LOE) for Decision ID 61479, Arsenic
Carquinez Strait**

Region 2

LOE ID:	91237
Pollutant:	Arsenic
LOE Subgroup:	Pollutant-Water
Matrix:	Water
Fraction:	Dissolved
Beneficial Use:	Estuarine Habitat
Number of Samples:	1
Number of Exceedances:	0
Data and Information Type:	PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality:	State Water Board staff assessed SFEI data for Carquinez Strait to determine beneficial use support and results are as follows: 0 of 1 samples exceed the criterion for Arsenic.
Data Reference:	Regional Monitoring Program data, Feb. 1993-Sep. 2008
SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	The dissolved arsenic criterion continuous concentration (expressed as a 4-day average) to protect aquatic life in saline water is 0.036 mg/L (California Toxics Rule, 2000).
Objective/Criterion Reference:	Code of Federal Regulations 40 part 131.38 Establishment of numeric criteria for priority toxic pollutants for the State of California. 7/1/2011 Edition
Evaluation Guideline:	
Guideline Reference:	
Spatial Representation:	Data for this line of evidence for Carquinez Strait was collected at 1 monitoring site [Suisun Bay - SU011W]
Temporal Representation:	Data was collected on a single day 7/22/2004.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	The 1999 Quality Assurance Project Plan Regional Monitoring Program for Trace Substances was used.
QAPP Information Reference(s):	1999 Quality Assurance Project Plan Regional Monitoring Program for Trace Substances

**DECISION ID 61480
Carquinez Strait**

Region 2

Pollutant:	Cadmium
Final Listing Decision:	Do Not List on 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision:	New Decision
Revision Status	Revised

Impairment from Pollutant or Pollution: Pollutant

Regional Board Staff Conclusion:

This pollutant is being considered for placement on the CWA section 303(d) List under section 3.1 of the Listing Policy. Under section 3.1 a single line of evidence is necessary to assess listing status. One line of evidence is available in the administrative record to assess this pollutant. Zero of one samples exceed the guideline.

Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against placing this water segment-pollutant combination on the CWA section 303(d) List.

This conclusion is based on the staff findings that:

1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy.
2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy.
3. Zero of one samples exceed the guideline and this sample size is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating. A minimum of 16 samples is needed to determine if a beneficial use is fully supported using table 3.1.
4. Pursuant to SECTION 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.

Regional Board Staff Decision Recommendation:

After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be placed on the section 303(d) list. The readily available data and information is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating.

Line of Evidence (LOE) for Decision ID 61480, Cadmium

Region 2

Carquinez Strait

LOE ID:	91238
Pollutant:	Cadmium
LOE Subgroup:	Pollutant-Water
Matrix:	Water
Fraction:	Dissolved
Beneficial Use:	Estuarine Habitat
Number of Samples:	1
Number of Exceedances:	0
Data and Information Type:	PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality:	State Water Board staff assessed SFEI data for Carquinez Strait to determine beneficial use support and results are as follows: 0 of 1 samples exceed the criterion for Cadmium.
Data Reference:	Regional Monitoring Program data, Feb. 1993-Sep. 2008
SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	The dissolved cadmium criterion continuous concentration (expressed as a 4-day average) to protect aquatic life in saline water is 0.093 mg/L (California Toxics Rule, 2000).
Objective/Criterion Reference:	Code of Federal Regulations 40 part 131.38 Establishment of numeric criteria for priority toxic pollutants for the State of California. 7/1/2011 Edition
Evaluation Guideline:	
Guideline Reference:	
Spatial Representation:	Data for this line of evidence for Carquinez Strait was collected at 1 monitoring site [Suisun Bay - SU011W]
Temporal Representation:	Data was collected on a single day 7/22/2004.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.

QAPP Information: The 1999 Quality Assurance Project Plan Regional Monitoring Program for Trace Substances was used.

QAPP Information Reference(s): [1999 Quality Assurance Project Plan Regional Monitoring Program for Trace Substances](#)

DECISION ID	61481	Region 2
Carquinez Strait		

Pollutant: Chrysene (C1-C4)
Final Listing Decision: Do Not List on 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision: New Decision
Revision Status: Revised
Impairment from Pollutant or Pollution: Pollutant

Regional Board Staff Conclusion: This pollutant is being considered for placement on the CWA section 303(d) List under section 3.1 of the Listing Policy. Under section 3.1 a single line of evidence is necessary to assess listing status. One line of evidence is available in the administrative record to assess this pollutant. Zero of one samples exceed the guideline.

Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against placing this water segment-pollutant combination on the CWA section 303(d) List.

This conclusion is based on the staff findings that:

1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy.
2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy.
3. Zero of one samples exceed the guideline and this sample size is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating. A minimum of 16 samples is needed to determine if a beneficial use is fully supported using table 3.1.
4. Pursuant to SECTION 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.

Regional Board Staff Decision Recommendation: After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be placed on the section 303(d) list. The readily available data and information is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating.

Line of Evidence (LOE) for Decision ID 61481, Chrysene (C1-C4)	Region 2
Carquinez Strait	

LOE ID: 91241

Pollutant: Chrysene (C1-C4)
LOE Subgroup: Pollutant-Water
Matrix: Water
Fraction: Total

Beneficial Use: Commercial or recreational collection of fish, shellfish, or organisms

Number of Samples: 1
Number of Exceedances: 0

Data and Information Type: PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality: State Water Board staff assessed SFEI data for Carquinez Strait to determine beneficial use support and results are as follows: 0 of 1 samples exceed the criterion for Chrysene.

Data Reference: [Regional Monitoring Program data, Feb. 1993-Sep. 2008](#)

SWAMP Data: Non-SWAMP

Water Quality Objective/Criterion: The Chrysene criteria for the protection of human health from consumption of organisms only is 0.049 ug/L (California Toxics Rule, 2000).

Objective/Criterion Reference: [Code of Federal Regulations 40 part 131.38 Establishment of numeric criteria for priority toxic pollutants for the State of California. 7/1/2011 Edition](#)

Evaluation Guideline:

Guideline Reference:

Spatial Representation: Data for this line of evidence for Carquinez Strait was collected at 1 monitoring site [Suisun Bay - SU011W]

Temporal Representation: Data was collected on a single day 7/22/2004.

Environmental Conditions: Staff is not aware of any special conditions that might affect interpretation of the data.

QAPP Information: The 1999 Quality Assurance Project Plan Regional Monitoring Program for Trace Substances was used.

QAPP Information Reference(s): [1999 Quality Assurance Project Plan Regional Monitoring Program for Trace Substances](#)

DECISION ID	61482	Region 2
Carquinez Strait		

Pollutant: Copper

Final Listing Decision: Do Not List on 303(d) list (TMDL required list)

Last Listing Cycle's Final Listing Decision: New Decision

Revision Status Revised

Impairment from Pollutant or Pollution: Pollutant

Regional Board Staff Conclusion: This pollutant is being considered for placement on the CWA section 303(d) List under section 3.1 of the Listing Policy. Under section 3.1 a single line of evidence is necessary to assess listing status. Two lines of evidence are available in the administrative record to assess this pollutant. Zero of four samples exceed the guideline.

Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against placing this water segment-pollutant combination on the CWA section 303(d) List.

This conclusion is based on the staff findings that:

1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy.
2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy.
3. Zero of four samples exceed the guideline and this sample size is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating. A minimum of 16 samples is needed to determine if a beneficial use is fully supported using table 3.1.
4. Pursuant to SECTION 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.

Regional Board Staff Decision Recommendation: After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be placed on the section 303(d) list. The readily available data and information is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating.

Line of Evidence (LOE) for Decision ID 61482, Copper	Region 2
Carquinez Strait	

LOE ID: 91242

Pollutant: Copper

LOE Subgroup: Pollutant-Water

Matrix: Water

Fraction:	Dissolved
Beneficial Use:	Estuarine Habitat
Number of Samples:	1
Number of Exceedances:	0
Data and Information Type:	PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality:	State Water Board staff assessed SFEI data for Carquinez Strait to determine beneficial use support and results are as follows: 0 of 1 samples exceed the criterion for Copper.
Data Reference:	Regional Monitoring Program data, Feb. 1993-Sep. 2008
SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	According to table 3-3A, the Copper site-specific objective for Carquinez Strait is 6 ug/L.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	
Guideline Reference:	
Spatial Representation:	Data for this line of evidence for Carquinez Strait was collected at 1 monitoring site [Suisun Bay - SU011W]
Temporal Representation:	Data was collected on a single day 7/22/2004.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	The 1999 Quality Assurance Project Plan Regional Monitoring Program for Trace Substances was used.
QAPP Information Reference(s):	1999 Quality Assurance Project Plan Regional Monitoring Program for Trace Substances

Line of Evidence (LOE) for Decision ID 61482, Copper Carquinez Strait

Region 2

LOE ID:	91243
Pollutant:	Copper
LOE Subgroup:	Pollutant-Water
Matrix:	Water
Fraction:	Dissolved
Beneficial Use:	Estuarine Habitat
Number of Samples:	3
Number of Exceedances:	0
Data and Information Type:	Fixed station physical/chemical (conventional plus toxic pollutants)
Data Used to Assess Water Quality:	None of the three samples exceeded the SSO value of 6 ug/L for dissolved copper in brackish water.
Data Reference:	Data for Various Pollutants in California Marinas, 2006.
SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	Waters shall not contain chemical constituents in concentrations that adversely affect beneficial uses. Table 3.3A lists a site specific objective (SSO) for criteria continuous concentration of dissolved copper. The SSO for dissolved copper in this portion of the San Francisco Bay Delta is 6.0 ug/L.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	
Guideline Reference:	
Spatial Representation:	A total of four separate grab samples were collected from outside the marina basin (Sites 5, 6, 7, & 8), these sites were averaged per sample event.
Temporal Representation:	Samples were collected on three separate sampling events during the dry season (July -

Environmental Conditions:
QAPP Information:

October) in 2006.

Samples were collected during the dry season only.

Samples were collected and analyzed in accordance with a Quality Assurance Project Plan that was prepared per State Water Resources Control Board Agreement No. 05-218-250 California Department of Pesticide Regulation, Sacramento, CA. (Available online at http://www.cdpr.ca.gov/docs/emon/surfwtr/protocols/qapp_study236.pdf)

QAPP Information Reference(s):

DECISION ID	61483	Region 2
Carquinez Strait		

Pollutant:	Endrin
Final Listing Decision:	Do Not List on 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision:	New Decision
Revision Status	Revised
Impairment from Pollutant or Pollution:	Pollutant

Regional Board Staff Conclusion: This pollutant is being considered for placement on the CWA section 303(d) List under section 3.1 of the Listing Policy. Under section 3.1 a single line of evidence is necessary to assess listing status. Two lines of evidence are available in the administrative record to assess this pollutant. Zero of one samples exceed the guideline.

Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against placing this water segment-pollutant combination on the CWA section 303(d) List.

This conclusion is based on the staff findings that:

1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy.
2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy.
3. Zero of one samples exceed the guideline and this sample size is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating. A minimum of 16 samples is needed to determine if a beneficial use is fully supported using table 3.1.
4. Pursuant to SECTION 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.

Regional Board Staff Decision Recommendation: After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be placed on the section 303(d) list. The readily available data and information is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating.

Line of Evidence (LOE) for Decision ID 61483, Endrin	Region 2
Carquinez Strait	

LOE ID:	91246
Pollutant:	Endrin
LOE Subgroup:	Pollutant-Water
Matrix:	Water
Fraction:	Dissolved
Beneficial Use:	Estuarine Habitat
Number of Samples:	1
Number of Exceedances:	0
Data and Information Type:	PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality:	State Water Board staff assessed SFEI data for Carquinez Strait to determine beneficial

use support and results are as follows: 0 of 1 samples exceed the criterion for Endrin.
[Regional Monitoring Program data, Feb. 1993-Sep. 2008](#)

Data Reference:

SWAMP Data: Non-SWAMP

Water Quality Objective/Criterion: The Endrin criterion continuous concentration (expressed as a 4-day average) to protect aquatic life in saline water is 0.0023 ug/L (California Toxics Rule, 2000).

Objective/Criterion Reference: [Code of Federal Regulations 40 part 131.38 Establishment of numeric criteria for priority toxic pollutants for the State of California. 7/1/2011 Edition](#)

Evaluation Guideline:

Guideline Reference:

Spatial Representation: Data for this line of evidence for Carquinez Strait was collected at 1 monitoring site [Suisun Bay - SU011W]

Temporal Representation: Data was collected on a single day 7/22/2004.

Environmental Conditions: Staff is not aware of any special conditions that might affect interpretation of the data.

QAPP Information: The 1999 Quality Assurance Project Plan Regional Monitoring Program for Trace Substances was used.

QAPP Information Reference(s): [1999 Quality Assurance Project Plan Regional Monitoring Program for Trace Substances](#)

Line of Evidence (LOE) for Decision ID 61483, Endrin

Region 2

Carquinez Strait

LOE ID: 91247

Pollutant: Endrin

LOE Subgroup: Pollutant-Water

Matrix: Water

Fraction: Total

Beneficial Use: Commercial or recreational collection of fish, shellfish, or organisms

Number of Samples: 1

Number of Exceedances: 0

Data and Information Type: PHYSICAL/CHEMICAL MONITORING

Data Used to Assess Water Quality: State Water Board staff assessed SFEI data for Carquinez Strait to determine beneficial use support and results are as follows: 0 of 1 samples exceed the criterion for Endrin.

Data Reference: [Regional Monitoring Program data, Feb. 1993-Sep. 2008](#)

SWAMP Data: Non-SWAMP

Water Quality Objective/Criterion: The Endrin criteria for the protection of human health from consumption of organisms only is 0.81ug/L (California Toxics Rule, 2000).

Objective/Criterion Reference: [Code of Federal Regulations 40 part 131.38 Establishment of numeric criteria for priority toxic pollutants for the State of California. 7/1/2011 Edition](#)

Evaluation Guideline:

Guideline Reference:

Spatial Representation: Data for this line of evidence for Carquinez Strait was collected at 1 monitoring site [Suisun Bay - SU011W]

Temporal Representation: Data was collected on a single day 7/22/2004.

Environmental Conditions: Staff is not aware of any special conditions that might affect interpretation of the data.

QAPP Information: The 1999 Quality Assurance Project Plan Regional Monitoring Program for Trace Substances was used.

QAPP Information Reference(s): [1999 Quality Assurance Project Plan Regional Monitoring Program for Trace Substances](#)

DECISION ID

61581

Region 2

Carquinez Strait

Pollutant: Fluoranthene
Final Listing Decision: Do Not List on 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision: New Decision
Revision Status: Revised
Impairment from Pollutant or Pollution: Pollutant

Regional Board Staff Conclusion: This pollutant is being considered for placement on the CWA section 303(d) List under section 3.1 of the Listing Policy. Under section 3.1 a single line of evidence is necessary to assess listing status. Two lines of evidence are available in the administrative record to assess this pollutant. Zero of one samples exceed the guideline.

Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against placing this water segment-pollutant combination on the CWA section 303(d) List.

This conclusion is based on the staff findings that:

1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy.
2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy.
3. Zero of one samples exceed the guideline and this sample size is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating. A minimum of 16 samples is needed to determine if a beneficial use is fully supported using table 3.1.
4. Pursuant to SECTION 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.

Regional Board Staff Decision Recommendation: After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be placed on the section 303(d) list. The readily available data and information is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating.

Line of Evidence (LOE) for Decision ID 61581, Fluoranthene Carquinez Strait

Region 2

LOE ID: 91248

Pollutant: Fluoranthene
LOE Subgroup: Pollutant-Water
Matrix: Water
Fraction: Dissolved

Beneficial Use: Estuarine Habitat

Number of Samples: 1
Number of Exceedances: 0

Data and Information Type: PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality: State Water Board staff assessed SFEI data for Carquinez Strait to determine beneficial use support and results are as follows: 0 of 1 samples exceed the criterion for Fluoranthene.

Data Reference: [Regional Monitoring Program data, Feb. 1993-Sep. 2008](#)

SWAMP Data: Non-SWAMP

Water Quality Objective/Criterion: No individual pesticide or combination of pesticides shall be present in concentrations that adversely affect beneficial uses.

Objective/Criterion Reference: [Water Quality Control Plan \(Basin Plan\) San Francisco Bay Basin \(Region 2\)](#)

Evaluation Guideline: The available data for Fluoranthene indicate that chronic toxicity to saltwater aquatic life

	occurs at concentrations as low as 16 ug/L and would occur at lower concentrations among species that are more sensitive than those tested. (USEPA Gold Book - EPA 440/5-86-001)
Guideline Reference:	Quality Criteria for Water 1986. United States Environmental Protection Agency. Office of Water. Regulations and Standards. Washington D.C. EPA 440/5-86-001.
Spatial Representation:	Data for this line of evidence for Carquinez Strait was collected at 1 monitoring site [Suisun Bay - SU011W]
Temporal Representation:	Data was collected on a single day 7/22/2004.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	The 1999 Quality Assurance Project Plan Regional Monitoring Program for Trace Substances was used.
QAPP Information Reference(s):	1999 Quality Assurance Project Plan Regional Monitoring Program for Trace Substances

Line of Evidence (LOE) for Decision ID 61581, Fluoranthene
Carquinez Strait

Region 2

LOE ID:	91249
Pollutant:	Fluoranthene
LOE Subgroup:	Pollutant-Water
Matrix:	Water
Fraction:	Total
Beneficial Use:	Commercial or recreational collection of fish, shellfish, or organisms
Number of Samples:	1
Number of Exceedances:	0
Data and Information Type:	PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality:	State Water Board staff assessed SFEI data for Carquinez Strait to determine beneficial use support and results are as follows: 0 of 1 samples exceed the criterion for Fluoranthene.
Data Reference:	Regional Monitoring Program data, Feb. 1993-Sep. 2008
SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	The Fluoranthene criteria for the protection of human health from consumption of organisms only is 370 ug/L (California Toxics Rule, 2000).
Objective/Criterion Reference:	Code of Federal Regulations 40 part 131.38 Establishment of numeric criteria for priority toxic pollutants for the State of California. 7/1/2011 Edition
Evaluation Guideline:	
Guideline Reference:	
Spatial Representation:	Data for this line of evidence for Carquinez Strait was collected at 1 monitoring site [Suisun Bay - SU011W]
Temporal Representation:	Data was collected on a single day 7/22/2004.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	The 1999 Quality Assurance Project Plan Regional Monitoring Program for Trace Substances was used.
QAPP Information Reference(s):	1999 Quality Assurance Project Plan Regional Monitoring Program for Trace Substances

DECISION ID 61582
Carquinez Strait

Region 2

Pollutant:	Fluorene
Final Listing Decision:	Do Not List on 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision:	New Decision

Revision Status
Impairment from Pollutant or
Pollution:

Revised
Pollutant

Regional Board Staff
Conclusion:

This pollutant is being considered for placement on the CWA section 303(d) List under section 3.1 of the Listing Policy. Under section 3.1 a single line of evidence is necessary to assess listing status. One line of evidence is available in the administrative record to assess this pollutant. Zero of one samples exceed the guideline.

Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against placing this water segment-pollutant combination on the CWA section 303(d) List.

This conclusion is based on the staff findings that:

1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy.
2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy.
3. Zero of one samples exceed the guideline and this sample size is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating. A minimum of 16 samples is needed to determine if a beneficial use is fully supported using table 3.1.
4. Pursuant to SECTION 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.

Regional Board Staff Decision
Recommendation:

After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be placed on the section 303(d) list. The readily available data and information is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating.

Line of Evidence (LOE) for Decision ID 61582, Fluorene
Carquinez Strait

Region 2

LOE ID:	91250
Pollutant:	Fluorene
LOE Subgroup:	Pollutant-Water
Matrix:	Water
Fraction:	Total
Beneficial Use:	Commercial or recreational collection of fish, shellfish, or organisms
Number of Samples:	1
Number of Exceedances:	0
Data and Information Type:	PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality:	State Water Board staff assessed SFEI data for Carquinez Strait to determine beneficial use support and results are as follows: 0 of 1 samples exceed the criterion for Fluorene.
Data Reference:	Regional Monitoring Program data, Feb. 1993-Sep. 2008
SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	The Fluorene criteria for the protection of human health from consumption of organisms only is 14,000 ug/L (California Toxics Rule, 2000).
Objective/Criterion Reference:	Code of Federal Regulations 40 part 131.38 Establishment of numeric criteria for priority toxic pollutants for the State of California. 7/1/2011 Edition
Evaluation Guideline:	
Guideline Reference:	
Spatial Representation:	Data for this line of evidence for Carquinez Strait was collected at 1 monitoring site [Suisun Bay - SU011W]
Temporal Representation:	Data was collected on a single day 7/22/2004.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.

QAPP Information: The 1999 Quality Assurance Project Plan Regional Monitoring Program for Trace Substances was used.

QAPP Information Reference(s): [1999 Quality Assurance Project Plan Regional Monitoring Program for Trace Substances](#)

DECISION ID	61583	Region 2
Carquinez Strait		

Pollutant: Heptachlor
Final Listing Decision: Do Not List on 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision: New Decision
Revision Status: Revised
Impairment from Pollutant or Pollution: Pollutant

Regional Board Staff Conclusion: This pollutant is being considered for placement on the CWA section 303(d) List under section 3.1 of the Listing Policy. Under section 3.1 a single line of evidence is necessary to assess listing status. Two lines of evidence are available in the administrative record to assess this pollutant. Zero of one samples exceed the guideline.

Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against placing this water segment-pollutant combination on the CWA section 303(d) List.

This conclusion is based on the staff findings that:

1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy.
2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy.
3. Zero of one samples exceed the guideline and this sample size is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating. A minimum of 16 samples is needed to determine if a beneficial use is fully supported using table 3.1.
4. Pursuant to SECTION 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.

Regional Board Staff Decision Recommendation: After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be placed on the section 303(d) list. The readily available data and information is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating.

Line of Evidence (LOE) for Decision ID 61583, Heptachlor	Region 2
Carquinez Strait	

LOE ID: 91251

Pollutant: Heptachlor
LOE Subgroup: Pollutant-Water
Matrix: Water
Fraction: Dissolved

Beneficial Use: Estuarine Habitat

Number of Samples: 1
Number of Exceedances: 0

Data and Information Type: PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality: State Water Board staff assessed SFEI data for Carquinez Strait to determine beneficial use support and results are as follows: 0 of 1 samples exceed the criterion for Heptachlor.
Data Reference: [Regional Monitoring Program data, Feb. 1993-Sep. 2008](#)

SWAMP Data: Non-SWAMP

Water Quality Objective/Criterion: The Heptachlor criterion continuous concentration (expressed as a 4-day average) to protect aquatic life in saline water is 0.0036 ug/L (California Toxics Rule, 2000).

Objective/Criterion Reference: [Code of Federal Regulations 40 part 131.38 Establishment of numeric criteria for priority toxic pollutants for the State of California. 7/1/2011 Edition](#)

Evaluation Guideline:

Guideline Reference:

Spatial Representation: Data for this line of evidence for Carquinez Strait was collected at 1 monitoring site [Suisun Bay - SU011W]

Temporal Representation: Data was collected on a single day 7/22/2004.

Environmental Conditions: Staff is not aware of any special conditions that might affect interpretation of the data.

QAPP Information: The 1999 Quality Assurance Project Plan Regional Monitoring Program for Trace Substances was used.

QAPP Information Reference(s): [1999 Quality Assurance Project Plan Regional Monitoring Program for Trace Substances](#)

**Line of Evidence (LOE) for Decision ID 61583, Heptachlor
Carquinez Strait**

Region 2

LOE ID: 91252

Pollutant: Heptachlor

LOE Subgroup: Pollutant-Water

Matrix: Water

Fraction: Total

Beneficial Use: Commercial or recreational collection of fish, shellfish, or organisms

Number of Samples: 1

Number of Exceedances: 0

Data and Information Type: PHYSICAL/CHEMICAL MONITORING

Data Used to Assess Water Quality: State Water Board staff assessed SFEI data for Carquinez Strait to determine beneficial use support and results are as follows: 0 of 1 samples exceed the criterion for Heptachlor.

Data Reference: [Regional Monitoring Program data, Feb. 1993-Sep. 2008](#)

SWAMP Data: Non-SWAMP

Water Quality Objective/Criterion: The Heptachlor criteria for the protection of human health from consumption of organisms only is 0.00021 ug/L (California Toxics Rule, 2000).

Objective/Criterion Reference: [Code of Federal Regulations 40 part 131.38 Establishment of numeric criteria for priority toxic pollutants for the State of California. 7/1/2011 Edition](#)

Evaluation Guideline:

Guideline Reference:

Spatial Representation: Data for this line of evidence for Carquinez Strait was collected at 1 monitoring site [Suisun Bay - SU011W]

Temporal Representation: Data was collected on a single day 7/22/2004.

Environmental Conditions: Staff is not aware of any special conditions that might affect interpretation of the data.

QAPP Information: The 1999 Quality Assurance Project Plan Regional Monitoring Program for Trace Substances was used.

QAPP Information Reference(s): [1999 Quality Assurance Project Plan Regional Monitoring Program for Trace Substances](#)

DECISION ID 61584

Carquinez Strait

Region 2

Pollutant: Heptachlor epoxide

Final Listing Decision: Do Not List on 303(d) list (TMDL required list)

Last Listing Cycle's Final Listing Decision:
Revision Status
Impairment from Pollutant or Pollution:

New Decision

Revised
Pollutant

Regional Board Staff Conclusion:

This pollutant is being considered for placement on the CWA section 303(d) List under section 3.1 of the Listing Policy. Under section 3.1 a single line of evidence is necessary to assess listing status. Two lines of evidence are available in the administrative record to assess this pollutant. Zero of one samples exceed the guideline.

Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against placing this water segment-pollutant combination on the CWA section 303(d) List.

This conclusion is based on the staff findings that:

1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy.
2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy.
3. Zero of one samples exceed the guideline and this sample size is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating. A minimum of 16 samples is needed to determine if a beneficial use is fully supported using table 3.1.
4. Pursuant to SECTION 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.

Regional Board Staff Decision Recommendation:

After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be placed on the section 303(d) list. The readily available data and information is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating.

**Line of Evidence (LOE) for Decision ID 61584, Heptachlor epoxide
Carquinez Strait**

Region 2

LOE ID: 91253

Pollutant: Heptachlor epoxide
LOE Subgroup: Pollutant-Water
Matrix: Water
Fraction: Dissolved

Beneficial Use: Estuarine Habitat

Number of Samples: 1
Number of Exceedances: 0

Data and Information Type: PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality: State Water Board staff assessed SFEI data for Carquinez Strait to determine beneficial use support and results are as follows: 0 of 1 samples exceed the criterion for Heptachlor Epoxide.

Data Reference: [Regional Monitoring Program data, Feb. 1993-Sep. 2008](#)

SWAMP Data: Non-SWAMP

Water Quality Objective/Criterion: The Heptachlor Epoxide criterion continuous concentration (expressed as a 4-day average) to protect aquatic life in saline water is 0.0036 ug/L (California Toxics Rule, 2000).

Objective/Criterion Reference: [Code of Federal Regulations 40 part 131.38 Establishment of numeric criteria for priority toxic pollutants for the State of California. 7/1/2011 Edition](#)

Evaluation Guideline:
Guideline Reference:

Spatial Representation:	Data for this line of evidence for Carquinez Strait was collected at 1 monitoring site [Suisun Bay - SU011W]
Temporal Representation:	Data was collected on a single day 7/22/2004.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	The 1999 Quality Assurance Project Plan Regional Monitoring Program for Trace Substances was used.
QAPP Information Reference(s):	1999 Quality Assurance Project Plan Regional Monitoring Program for Trace Substances

**Line of Evidence (LOE) for Decision ID 61584, Heptachlor epoxide
Carquinez Strait**

Region 2

LOE ID:	91254
Pollutant:	Heptachlor epoxide
LOE Subgroup:	Pollutant-Water
Matrix:	Water
Fraction:	Total
Beneficial Use:	Commercial or recreational collection of fish, shellfish, or organisms
Number of Samples:	1
Number of Exceedances:	0
Data and Information Type:	PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality:	State Water Board staff assessed SFEI data for Carquinez Strait to determine beneficial use support and results are as follows: 0 of 1 samples exceed the criterion for Heptachlor Epoxide.
Data Reference:	Regional Monitoring Program data, Feb. 1993-Sep. 2008
SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	The Heptachlor Epoxide criteria for the protection of human health from consumption of organisms only is 0.00011 ug/L (California Toxics Rule, 2000).
Objective/Criterion Reference:	Code of Federal Regulations 40 part 131.38 Establishment of numeric criteria for priority toxic pollutants for the State of California. 7/1/2011 Edition
Evaluation Guideline:	
Guideline Reference:	
Spatial Representation:	Data for this line of evidence for Carquinez Strait was collected at 1 monitoring site [Suisun Bay - SU011W]
Temporal Representation:	Data was collected on a single day 7/22/2004.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	The 1999 Quality Assurance Project Plan Regional Monitoring Program for Trace Substances was used.
QAPP Information Reference(s):	1999 Quality Assurance Project Plan Regional Monitoring Program for Trace Substances

DECISION ID 61585

Region 2

Carquinez Strait

Pollutant:	Lead
Final Listing Decision:	Do Not List on 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision:	New Decision
Revision Status	Revised
Impairment from Pollutant or Pollution:	Pollutant

Regional Board Staff Conclusion: This pollutant is being considered for placement on the CWA section 303(d) List under section 3.1 of the Listing Policy. Under section 3.1 a single line of evidence is necessary to assess listing status.

one line of evidence is available in the administrative record to assess this pollutant. Zero of one samples exceed the guideline.

Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against placing this water segment-pollutant combination on the CWA section 303(d) List.

This conclusion is based on the staff findings that:

1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy.
2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy.
3. Zero of one samples exceed the guideline and this sample size is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating. A minimum of 16 samples is needed to determine if a beneficial use is fully supported using table 3.1.
4. Pursuant to SECTION 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.

Regional Board Staff Decision Recommendation: After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be placed on the section 303(d) list. The readily available data and information is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating.

Line of Evidence (LOE) for Decision ID 61585, Lead

Region 2

Carquinez Strait

LOE ID:	91255
Pollutant:	Lead
LOE Subgroup:	Pollutant-Water
Matrix:	Water
Fraction:	Dissolved
Beneficial Use:	Estuarine Habitat
Number of Samples:	1
Number of Exceedances:	0
Data and Information Type:	PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality:	State Water Board staff assessed SFEI data for Carquinez Strait to determine beneficial use support and results are as follows: 0 of 1 samples exceed the criterion for Lead.
Data Reference:	Regional Monitoring Program data, Feb. 1993-Sep. 2008
SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	The dissolved lead criterion continuous concentration (expressed as a 4-day average) to protect aquatic life in saline water is 0.0081 mg/L (California Toxics Rule, 2000).
Objective/Criterion Reference:	Code of Federal Regulations 40 part 131.38 Establishment of numeric criteria for priority toxic pollutants for the State of California. 7/1/2011 Edition
Evaluation Guideline:	
Guideline Reference:	
Spatial Representation:	Data for this line of evidence for Carquinez Strait was collected at 1 monitoring site [Suisun Bay - SU011W]
Temporal Representation:	Data was collected on a single day 7/22/2004.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	The 1999 Quality Assurance Project Plan Regional Monitoring Program for Trace Substances was used.
QAPP Information Reference(s):	1999 Quality Assurance Project Plan Regional Monitoring Program for Trace Substances

DECISION ID

61586

Region 2

Carquinez Strait

Pollutant: Manganese
Final Listing Decision: Do Not List on 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision: New Decision
Revision Status: Revised
Impairment from Pollutant or Pollution: Pollutant

Regional Board Staff Conclusion: This pollutant is being considered for placement on the CWA section 303(d) List under section 3.1 of the Listing Policy. Under section 3.1 a single line of evidence is necessary to assess listing status. One line of evidence is available in the administrative record to assess this pollutant. Zero of one samples exceed the guideline.

Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against placing this water segment-pollutant combination on the CWA section 303(d) List.

This conclusion is based on the staff findings that:

1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy.
2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy.
3. Zero of one samples exceed the guideline and this sample size is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating. A minimum of 16 samples is needed to determine if a beneficial use is fully supported using table 3.1.
4. Pursuant to SECTION 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.

Regional Board Staff Decision Recommendation: After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be placed on the section 303(d) list. The readily available data and information is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating.

Line of Evidence (LOE) for Decision ID 61586, Manganese

Region 2

Carquinez Strait

LOE ID: 91256

Pollutant: Manganese
LOE Subgroup: Pollutant-Water
Matrix: Water
Fraction: Total

Beneficial Use: Commercial or recreational collection of fish, shellfish, or organisms

Number of Samples: 1
Number of Exceedances: 0

Data and Information Type: PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality: State Water Board staff assessed SFEI data for Carquinez Strait to determine beneficial use support and results are as follows: 0 of 1 samples exceed the criterion for Manganese.

Data Reference: [Regional Monitoring Program data, Feb. 1993-Sep. 2008](#)

SWAMP Data: Non-SWAMP

Water Quality Objective/Criterion: The Manganese criteria for the protection of human health from the consumption of organisms only is 100 ug/L (California Toxics Rule, 2000).

Objective/Criterion Reference: [Water Quality Control Plan \(Basin Plan\) San Francisco Bay Basin \(Region 2\)](#)

Evaluation Guideline: The Lead criteria for the protection of human health from fish consumption only is 100

Guideline Reference: ug/L (National Recommended Water Quality Criteria, 2009).
[National Recommended Water Quality Criteria. United States Environmental Protection Agency. Office of Water. Office of Science and Technology](#)

Spatial Representation: Data for this line of evidence for Carquinez Strait was collected at 1 monitoring site [Suisun Bay - SU011W]

Temporal Representation: Data was collected on a single day 7/22/2004.

Environmental Conditions: Staff is not aware of any special conditions that might affect interpretation of the data.

QAPP Information: The 1999 Quality Assurance Project Plan Regional Monitoring Program for Trace Substances was used.

QAPP Information Reference(s): [1999 Quality Assurance Project Plan Regional Monitoring Program for Trace Substances](#)

DECISION ID	61587	Region 2
Carquinez Strait		

Pollutant: Final Listing Decision: Last Listing Cycle's Final Listing Decision: Revision Status Impairment from Pollutant or Pollution:	Mirex Do Not List on 303(d) list (TMDL required list) New Decision Revised Pollutant
Regional Board Staff Conclusion:	<p>This pollutant is being considered for placement on the CWA section 303(d) List under section 3.1 of the Listing Policy. Under section 3.1 a single line of evidence is necessary to assess listing status. Two lines of evidence are available in the administrative record to assess this pollutant. Zero of one samples exceed the guideline.</p> <p>Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against placing this water segment-pollutant combination on the CWA section 303(d) List.</p> <p>This conclusion is based on the staff findings that:</p> <ol style="list-style-type: none"> 1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy. 2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy. 3. Zero of one samples exceed the guideline and this sample size is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating. A minimum of 16 samples is needed to determine if a beneficial use is fully supported using table 3.1. 4. Pursuant to SECTION 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.
Regional Board Staff Decision Recommendation:	After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be placed on the section 303(d) list. The readily available data and information is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating.

Line of Evidence (LOE) for Decision ID 61587, Mirex	Region 2
Carquinez Strait	

LOE ID:	91257
Pollutant:	Mirex
LOE Subgroup:	Pollutant-Water
Matrix:	Water
Fraction:	Total
Beneficial Use:	Commercial or recreational collection of fish, shellfish, or organisms
Number of Samples:	1

Number of Exceedances:	0
Data and Information Type:	PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality:	State Water Board staff assessed SFEI data for Carquinez Strait to determine beneficial use support and results are as follows: 0 of 1 samples exceed the criterion for Mirex.
Data Reference:	Regional Monitoring Program data, Feb. 1993-Sep. 2008
SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	No individual pesticide or combination of pesticides shall be present in concentrations that adversely affect beneficial uses.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	The Mirex criteria for the protection of human health from consumption of organisms only is 0.000097 ug/L (National Recommended Water Quality Criteria, 2009).
Guideline Reference:	National Recommended Water Quality Criteria. United States Environmental Protection Agency. Office of Water. Office of Science and Technology
Spatial Representation:	Data for this line of evidence for Carquinez Strait was collected at 1 monitoring site [Suisun Bay - SU011W]
Temporal Representation:	Data was collected on a single day 7/22/2004.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	The 1999 Quality Assurance Project Plan Regional Monitoring Program for Trace Substances was used.
QAPP Information Reference(s):	1999 Quality Assurance Project Plan Regional Monitoring Program for Trace Substances

Line of Evidence (LOE) for Decision ID 61587, Mirex

Region 2

Carquinez Strait

LOE ID:	91258
Pollutant:	Mirex
LOE Subgroup:	Pollutant-Water
Matrix:	Water
Fraction:	Dissolved
Beneficial Use:	Estuarine Habitat
Number of Samples:	1
Number of Exceedances:	0
Data and Information Type:	PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality:	State Water Board staff assessed SFEI data for Carquinez Strait to determine beneficial use support and results are as follows: 0 of 1 samples exceed the criterion for Mirex.
Data Reference:	Regional Monitoring Program data, Feb. 1993-Sep. 2008
SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	No individual pesticide or combination of pesticides shall be present in concentrations that adversely affect beneficial uses.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	The USEPA Gold Book states 0.001 ug/L for the protection of freshwater and marine aquatic life. (USEPA Gold Book - EPA 440/5-86-001)
Guideline Reference:	Quality Criteria for Water 1986. United States Environmental Protection Agency. Office of Water. Regulations and Standards. Washington D.C. EPA 440/5-86-001.
Spatial Representation:	Data for this line of evidence for Carquinez Strait was collected at 1 monitoring site [Suisun Bay - SU011W]
Temporal Representation:	Data was collected on a single day 7/22/2004.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	The 1999 Quality Assurance Project Plan Regional Monitoring Program for Trace

DECISION ID	61588	Region 2
Carquinez Strait		

Pollutant:	Nickel
Final Listing Decision:	Do Not List on 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision:	New Decision
Revision Status	Revised
Impairment from Pollutant or Pollution:	Pollutant

Regional Board Staff Conclusion: This pollutant is being considered for placement on the CWA section 303(d) List under section 3.1 of the Listing Policy. Under section 3.1 a single line of evidence is necessary to assess listing status. Two lines of evidence are available in the administrative record to assess this pollutant. Zero of one samples exceed the guideline.

Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against placing this water segment-pollutant combination on the CWA section 303(d) List.

This conclusion is based on the staff findings that:

1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy.
2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy.
3. Zero of one samples exceed the guideline and this sample size is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating. A minimum of 16 samples is needed to determine if a beneficial use is fully supported using table 3.1.
4. Pursuant to SECTION 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.

Regional Board Staff Decision Recommendation: After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be placed on the section 303(d) list. The readily available data and information is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating.

Line of Evidence (LOE) for Decision ID 61588, Nickel	Region 2
Carquinez Strait	

LOE ID:	91259
Pollutant:	Nickel
LOE Subgroup:	Pollutant-Water
Matrix:	Water
Fraction:	Dissolved
Beneficial Use:	Estuarine Habitat
Number of Samples:	1
Number of Exceedances:	0
Data and Information Type:	PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality:	State Water Board staff assessed SFEI data for Carquinez Strait to determine beneficial use support and results are as follows: 0 of 1 samples exceed the criterion for Nickel.
Data Reference:	Regional Monitoring Program data, Feb. 1993-Sep. 2008
SWAMP Data:	Non-SWAMP

Water Quality Objective/Criterion: The dissolved nickel criterion continuous concentration (expressed as a 4-day average) to protect aquatic life in saline water is 0.0082 mg/L (California Toxics Rule, 2000).

Objective/Criterion Reference: [Water Quality Control Plan \(Basin Plan\) San Francisco Bay Basin \(Region 2\)](#)

Evaluation Guideline:

Guideline Reference:

Spatial Representation: Data for this line of evidence for Carquinez Strait was collected at 1 monitoring site [Suisun Bay - SU011W]

Temporal Representation: Data was collected on a single day 7/22/2004.

Environmental Conditions: Staff is not aware of any special conditions that might affect interpretation of the data.

QAPP Information: The 1999 Quality Assurance Project Plan Regional Monitoring Program for Trace Substances was used.

QAPP Information Reference(s): [1999 Quality Assurance Project Plan Regional Monitoring Program for Trace Substances](#)

**Line of Evidence (LOE) for Decision ID 61588, Nickel
Carquinez Strait**

Region 2

LOE ID: 91260

Pollutant: Nickel

LOE Subgroup: Pollutant-Water

Matrix: Water

Fraction: Total

Beneficial Use: Commercial or recreational collection of fish, shellfish, or organisms

Number of Samples: 1

Number of Exceedances: 0

Data and Information Type: PHYSICAL/CHEMICAL MONITORING

Data Used to Assess Water Quality: State Water Board staff assessed SFEI data for Carquinez Strait to determine beneficial use support and results are as follows: 0 of 1 samples exceed the criterion for Nickel.

Data Reference: [Regional Monitoring Program data, Feb. 1993-Sep. 2008](#)

SWAMP Data: Non-SWAMP

Water Quality Objective/Criterion: The Nickel criteria for the protection of human health from consumption of organisms only is 4.6 mg/L (California Toxics Rule, 2000).

Objective/Criterion Reference: [Code of Federal Regulations 40 part 131.38 Establishment of numeric criteria for priority toxic pollutants for the State of California. 7/1/2011 Edition](#)

Evaluation Guideline:

Guideline Reference:

Spatial Representation: Data for this line of evidence for Carquinez Strait was collected at 1 monitoring site [Suisun Bay - SU011W]

Temporal Representation: Data was collected on a single day 7/22/2004.

Environmental Conditions: Staff is not aware of any special conditions that might affect interpretation of the data.

QAPP Information: The 1999 Quality Assurance Project Plan Regional Monitoring Program for Trace Substances was used.

QAPP Information Reference(s): [1999 Quality Assurance Project Plan Regional Monitoring Program for Trace Substances](#)

**DECISION ID 61593
Carquinez Strait**

Region 2

Pollutant: Oxygen, Dissolved

Final Listing Decision: Do Not List on 303(d) list (TMDL required list)

Last Listing Cycle's Final Listing Decision: New Decision

Revision Status
Impairment from Pollutant or
Pollution:

Revised
Pollutant

Regional Board Staff
Conclusion:

This pollutant is being considered for placement on the CWA section 303(d) List under section 3.2 of the Listing Policy. Under section 3.2 a single line of evidence is necessary to assess listing status. One line of evidence is available in the administrative record to assess this pollutant. Zero of twelve samples exceed the guideline.

Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against placing this water segment-pollutant combination on the CWA section 303(d) List.

This conclusion is based on the staff findings that:

1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy.
2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy.
3. Zero of twelve samples exceed the guideline and this sample size is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating. A minimum of 26 samples is needed to determine if a beneficial use is fully supported using table 3.2.
4. Pursuant to SECTION 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.

Regional Board Staff Decision
Recommendation:

After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be placed on the section 303(d) list. The readily available data and information is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating.

Line of Evidence (LOE) for Decision ID 61593, Oxygen, Dissolved
Carquinez Strait

Region 2

LOE ID:	90758
Pollutant:	Oxygen, Dissolved
LOE Subgroup:	Pollutant-Water
Matrix:	Water
Fraction:	Dissolved
Beneficial Use:	Estuarine Habitat
Number of Samples:	12
Number of Exceedances:	0
Data and Information Type:	PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality:	Numeric data generated from 12 minimum samples of Dissolved Oxygen concentrations had no exceedences.
Data Reference:	Data for Various Pollutants in California Marinas, 2006.
SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	The dissolved oxygen content of bays/estuaries upstream of the Carquinez Bridge must be above 7 mg/L.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	
Guideline Reference:	
Spatial Representation:	Samples were collected from the following stations: Benicia Marina 5.1 Benicia Marina 5.2 Benicia Marina 5.3 Benicia Marina 6.1 Benicia Marina 6.2 Benicia Marina 6.3 Benicia Marina 7.1 Benicia Marina 7.2 Benicia Marina 7.3 Benicia Marina 8.1 Benicia Marina 8.2 Benicia Marina 8.3
Temporal Representation:	Samples were collected on the following dates: 8/7/2006 9/6/2006 10/2/2006

Environmental Conditions:

QAPP Information:

Samples were collected and analyzed in accordance with a Quality Assurance Project Plan that was prepared per State Water Resources Control Board Agreement No. 05-218-250 California Department of Pesticide Regulation, Sacramento, CA. (Available online at [Study report on paint data collected in California Marinas.](#))

QAPP Information Reference(s):

DECISION ID	61595	Region 2
Carquinez Strait		

Pollutant: Pyrene
Final Listing Decision: Do Not List on 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision: New Decision
Revision Status: Revised
Impairment from Pollutant or Pollution: Pollutant

Regional Board Staff Conclusion: This pollutant is being considered for placement on the CWA section 303(d) List under section 3.1 of the Listing Policy. Under section 3.1 a single line of evidence is necessary to assess listing status. One line of evidence is available in the administrative record to assess this pollutant. Zero of one samples exceed the guideline.

Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against placing this water segment-pollutant combination on the CWA section 303(d) List.

This conclusion is based on the staff findings that:

1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy.
2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy.
3. Zero of one samples exceed the guideline and this sample size is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating. A minimum of 16 samples is needed to determine if a beneficial use is fully supported using table 3.1.
4. Pursuant to SECTION 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.

Regional Board Staff Decision Recommendation: After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be placed on the section 303(d) list. The readily available data and information is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating.

Line of Evidence (LOE) for Decision ID 61595, Pyrene	Region 2
Carquinez Strait	

LOE ID: 91226

Pollutant: Pyrene
LOE Subgroup: Pollutant-Water
Matrix: Water
Fraction: Total

Beneficial Use: Commercial or recreational collection of fish, shellfish, or organisms

Number of Samples: 1
Number of Exceedances: 0

Data and Information Type: PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality: State Water Board staff assessed SFEI data for Carquinez Strait to determine beneficial use support and results are as follows: 0 of 1 samples exceed the criterion for Pyrene.
Data Reference: [Regional Monitoring Program data, Feb. 1993-Sep. 2008](#)

SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	The Pyrene criteria for the protection of human health from consumption of organisms only is 11,000 ug/L (California Toxics Rule, 2000).
Objective/Criterion Reference:	Code of Federal Regulations 40 part 131.38 Establishment of numeric criteria for priority toxic pollutants for the State of California. 7/1/2011 Edition
Evaluation Guideline:	
Guideline Reference:	
Spatial Representation:	Data for this line of evidence for Carquinez Strait was collected at 1 monitoring site [Suisun Bay - SU011W]
Temporal Representation:	Data was collected on a single day 7/22/2004.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	The 1999 Quality Assurance Project Plan Regional Monitoring Program for Trace Substances was used.
QAPP Information Reference(s):	1999 Quality Assurance Project Plan Regional Monitoring Program for Trace Substances

DECISION ID	61597	Region 2
Carquinez Strait		

Pollutant:	Zinc
Final Listing Decision:	Do Not List on 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision:	New Decision
Revision Status	Revised
Impairment from Pollutant or Pollution:	Pollutant

Regional Board Staff Conclusion: This pollutant is being considered for placement on the CWA section 303(d) List under section 3.1 of the Listing Policy. Under section 3.1 a single line of evidence is necessary to assess listing status. Three lines of evidence are available in the administrative record to assess this pollutant. Zero of four samples exceed the guideline.

Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against placing this water segment-pollutant combination on the CWA section 303(d) List.

This conclusion is based on the staff findings that:

1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy.
2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy.
3. Zero of four samples exceed the guideline and this sample size is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating. A minimum of 16 samples is needed to determine if a beneficial use is fully supported using table 3.1.
4. Pursuant to SECTION 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.

Regional Board Staff Decision Recommendation: After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be placed on the section 303(d) list. The readily available data and information is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating.

Line of Evidence (LOE) for Decision ID 61597, Zinc	Region 2
Carquinez Strait	

LOE ID:	91232
Pollutant:	Zinc

LOE Subgroup:	Pollutant-Water
Matrix:	Water
Fraction:	Dissolved
Beneficial Use:	Estuarine Habitat
Number of Samples:	3
Number of Exceedances:	0
Data and Information Type:	Fixed station physical/chemical (conventional plus toxic pollutants)
Data Used to Assess Water Quality:	None of the three samples exceeded the CTR value of 81 ug/L for dissolved zinc in brackish water.
Data Reference:	Data for Various Pollutants in California Marinas, 2006.
SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	Waters shall not contain chemical constituents in concentrations that adversely affect beneficial uses. California Toxics Rule (CTR) lists criterion continuous concentrations to protect aquatic life in saline water. The CTR value is 81 ug/L.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	
Guideline Reference:	
Spatial Representation:	Four separate grab samples were collected from outside the marina basin (Sites 5, 6, 7, & 8), these sites were averaged per sample event.
Temporal Representation:	Samples were collected on three separate sampling events during the dry season (July - October) in 2006.
Environmental Conditions:	Samples were collected during the dry season only.
QAPP Information:	Samples were collected and analyzed in accordance with a Quality Assurance Project Plan that was prepared per State Water Resources Control Board Agreement No. 05-218-250 California Department of Pesticide Regulation, Sacramento, CA. (Available online at http://www.cdpr.ca.gov/docs/emon/surfwtr/protocols/qapp_study236.pdf)
QAPP Information Reference(s):	

Line of Evidence (LOE) for Decision ID 61597, Zinc
Carquinez Strait

Region 2

LOE ID:	91230
Pollutant:	Zinc
LOE Subgroup:	Pollutant-Water
Matrix:	Water
Fraction:	Total
Beneficial Use:	Commercial or recreational collection of fish, shellfish, or organisms
Number of Samples:	1
Number of Exceedances:	0
Data and Information Type:	PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality:	State Water Board staff assessed SFEI data for Carquinez Strait to determine beneficial use support and results are as follows: 0 of 1 samples exceed the criterion for Zinc.
Data Reference:	Regional Monitoring Program data, Feb. 1993-Sep. 2008
SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	Surface?waters?shall?not?contain?concentrations?of?chemical?constituents?in?amounts?that?adversely?affect?any?designated?beneficial?use.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	The Zinc criteria for the protection of human health from consumption of fish only is 26000

Guideline Reference: ug/L (National Recommended Water Quality Criteria, 2009).
[National Recommended Water Quality Criteria. United States Environmental Protection Agency. Office of Water. Office of Science and Technology](#)

Spatial Representation: Data for this line of evidence for Carquinez Strait was collected at 1 monitoring site [Suisun Bay - SU011W]

Temporal Representation: Data was collected on a single day 7/22/2004.

Environmental Conditions: Staff is not aware of any special conditions that might affect interpretation of the data.

QAPP Information: The 1999 Quality Assurance Project Plan Regional Monitoring Program for Trace Substances was used.

QAPP Information Reference(s): [1999 Quality Assurance Project Plan Regional Monitoring Program for Trace Substances](#)

Line of Evidence (LOE) for Decision ID 61597, Zinc
Carquinez Strait

Region 2

LOE ID: 91231

Pollutant: Zinc

LOE Subgroup: Pollutant-Water

Matrix: Water

Fraction: Dissolved

Beneficial Use: Estuarine Habitat

Number of Samples: 1

Number of Exceedances: 0

Data and Information Type: PHYSICAL/CHEMICAL MONITORING

Data Used to Assess Water Quality: State Water Board staff assessed SFEI data for Carquinez Strait to determine beneficial use support and results are as follows: 0 of 1 samples exceed the criterion for Zinc.

Data Reference: [Regional Monitoring Program data, Feb. 1993-Sep. 2008](#)

SWAMP Data: Non-SWAMP

Water Quality Objective/Criterion: The dissolved zinc criterion continuous concentration (expressed as a 4-day average) to protect aquatic life in saline water is 0.081 mg/L (California Toxics Rule, 2000).

Objective/Criterion Reference: [Code of Federal Regulations 40 part 131.38 Establishment of numeric criteria for priority toxic pollutants for the State of California. 7/1/2011 Edition](#)

Evaluation Guideline:

Guideline Reference:

Spatial Representation: Data for this line of evidence for Carquinez Strait was collected at 1 monitoring site [Suisun Bay - SU011W]

Temporal Representation: Data was collected on a single day 7/22/2004.

Environmental Conditions: Staff is not aware of any special conditions that might affect interpretation of the data.

QAPP Information: The 1999 Quality Assurance Project Plan Regional Monitoring Program for Trace Substances was used.

QAPP Information Reference(s): [1999 Quality Assurance Project Plan Regional Monitoring Program for Trace Substances](#)

DECISION ID 61594
Carquinez Strait

Region 2

Pollutant: pH

Final Listing Decision: Do Not List on 303(d) list (TMDL required list)

Last Listing Cycle's Final Listing Decision: New Decision

Revision Status: Revised

Impairment from Pollutant or Pollution: Pollutant

**Regional Board Staff
Conclusion:**

This pollutant is being considered for placement on the CWA section 303(d) List under section 3.2 of the Listing Policy. Under section 3.2 a single line of evidence is necessary to assess listing status. One line of evidence is available in the administrative record to assess this pollutant. Four of twelve samples exceed the objective.

Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against placing this water segment-pollutant combination on the CWA section 303(d) List.

This conclusion is based on the staff findings that:

1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy.
2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy.
3. Four of twelve samples exceed the objective and this sample size is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating. A minimum of 26 samples is needed to determine if a beneficial use is fully supported using table 3.2.
4. Pursuant to SECTION 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.

**Regional Board Staff Decision
Recommendation:**

After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be placed on the section 303(d) list. The readily available data and information is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating.

**Line of Evidence (LOE) for Decision ID 61594, pH
Carquinez Strait**

Region 2

LOE ID:	90731
Pollutant:	pH
LOE Subgroup:	Pollutant-Water
Matrix:	Water
Fraction:	Dissolved
Beneficial Use:	Marine Habitat
Number of Samples:	12
Number of Exceedances:	4
Data and Information Type:	PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality:	Numeric data generated from 12 minimums and maximums had 4 exceedences.
Data Reference:	Data for Various Pollutants in California Marinas, 2006.
SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	The pH shall not be depressed below 6.5 nor raised above 8.5.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	
Guideline Reference:	
Spatial Representation:	Samples were collected from the following stations: Benicia Marina 5.1 Benicia Marina 5.2 Benicia Marina 5.3 Benicia Marina 6.1 Benicia Marina 6.2 Benicia Marina 6.3 Benicia Marina 7.1 Benicia Marina 7.2 Benicia Marina 7.3 Benicia Marina 8.1 Benicia Marina 8.2 Benicia Marina 8.3
Temporal Representation:	Samples were collected once a month from August 2006 to October 2006.
Environmental Conditions:	
QAPP Information:	NPDES quality assurance.
QAPP Information Reference(s):	Study report on paint data collected in California Marinas.

Pollutant:	Diazinon
Final Listing Decision:	Delist from 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision:	Delist from 303(d) list (TMDL required list)(2012)
Revision Status	Original
Reason for Delisting:	Applicable WQS attained; reason for recovery unspecified
Impairment from Pollutant or Pollution:	Pollutant

Regional Board Staff Conclusion: This pollutant is being considered for removal from the 303(d) list under section 4.6 of the Listing Policy. Under section 4.6 a single line of evidence is necessary to assess listing status. Three lines of evidence are available in the administrative record to assess this pollutant. The basis for listing in 1998 was ambient water toxicity and detections of diazinon in Bay waters. In the current assessment, the evaluation guideline available may not satisfy the requirements of the Listing Policy but even if the guideline were used all measurements are much lower than the recommended concentration. Recent measures of toxicity show that ambient water toxicity no longer exists in Bay waters. The RWQCB is also developing a Water Quality Attainment Strategy that calls for preventive actions to keep diazinon from entering the Bay. Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification available in favor of removing this water segment-pollutant combination from the section 303(d) list in the Water Quality Limited Segments category. This conclusion is based on the staff findings that: 1. An evaluation guideline may not comply with the requirements of section 6.1.3 of the Policy. 2. The data used satisfies the data quality requirements of section 6.1.4 of the Policy. 3. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy. 4. None of samples exceeded the draft guideline and ambient water toxicity in the Bay appears to have disappeared. These frequencies do not exceed the allowable frequency listed in Table 4.1 of the Listing Policy. 5. Pursuant to section 4.11 of the Listing Policy, no additional data and information are available indicating that standards are met.

Regional Board Staff Decision Recommendation: This is a decision previously approved by the State Water Resources Control Board and the USEPA. No new data were assessed by the Regional Board for the current. The decision has not changed.

Line of Evidence (LOE) for Decision ID 33265, Diazinon	Region 2
Carquinez Strait	

LOE ID:	470
Pollutant:	Diazinon
LOE Subgroup:	Narrative Description Data
Matrix:	-N/A
Fraction:	None
Beneficial Use:	Estuarine Habitat
Number of Samples:	0
Number of Exceedances:	0
Data and Information Type:	Not Specified
Data Used to Assess Water Quality:	In response to the RMP observations of ambient water toxicity, and given the linkage established between similar toxicity and pesticides in upstream ambient water, the SFBRWQCB identified all San Francisco Bay segments as being impaired due to Pesticides in 1998: Pesticides have been added as a cause of impairment to all Bay segments. The pesticide diazinon has been measured at levels that cause water column toxicity. The pesticide chlorpyrifos may also be a problem. This listing is consistent with listing of the Delta for these pesticides by the Central Valley Regional Water Quality Control Board. This listing was subsequently made specific for the OP pesticide diazinon by the USEPA.
Data Reference:	Placeholder reference 2006 303(d)

SWAMP Data: Non-SWAMP

Water Quality Objective/Criterion:
Objective/Criterion Reference:

Evaluation Guideline:
Guideline Reference:

Spatial Representation:
Temporal Representation:
Environmental Conditions:
QAPP Information:
QAPP Information Reference(s):

QA Info Missing

**Line of Evidence (LOE) for Decision ID 33265, Diazinon
Carquinez Strait**

Region 2

LOE ID: 472

Pollutant: Diazinon
LOE Subgroup: Pollutant-Water
Matrix: Water
Fraction: Total

Beneficial Use: Estuarine Habitat

Number of Samples:
Number of Exceedances:

Data and Information Type: PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality: The maximum concentration observed in Regional Monitoring Program samples was 44 ng/L (mean 6.6 ng/L) (Ogle, 2004).
Data Reference: [Placeholder reference 2006 303\(d\)](#)

SWAMP Data: Non-SWAMP

Water Quality Objective/Criterion: All waters shall be maintained free of toxic substances in concentrations that are lethal to or that produce other detrimental responses in aquatic organisms. Detrimental responses include, but are not limited to, decreased growth rate and decreased reproductive success of resident or indicator species. There shall be no acute toxicity in ambient waters. There shall be no chronic toxicity in ambient waters (SFBRWQCB, 1995).
Objective/Criterion Reference: [Placeholder reference 2006 303\(d\)](#)

Evaluation Guideline: For salt water, USEPA has developed a draft water quality criteria of 400 ng/L (chronic) (USEPA, 2000). The use of these values may not comply with all the requirements of section 6.1.3 of the Listing Policy.
Guideline Reference: [Placeholder reference 2006 303\(d\)](#)

Spatial Representation: One station.
Temporal Representation: Samples were collected between 1993 and 2001.
Environmental Conditions:
QAPP Information: SFEI Regional Monitoring Program QAPP (Lowe, S.R., et al., 1998) (Ogle, 2004).
QAPP Information Reference(s):

**Line of Evidence (LOE) for Decision ID 33265, Diazinon
Carquinez Strait**

Region 2

LOE ID: 471

Pollutant: Diazinon

LOE Subgroup: Toxicity
 Matrix: Not Specified
 Fraction: None

Beneficial Use: Estuarine Habitat

Number of Samples:
 Number of Exceedances:

Data and Information Type: TOXICITY TESTING
 Data Used to Assess Water Quality: Ambient water toxicity in San Francisco Bay appears to have disappeared. The results of ambient water toxicity monitoring at Mallard Island indicate a significant reduction in the frequency, duration, and magnitude of toxicity: 4-5% of the ambient water samples were toxic in 1998-99 (34 total samples) and 1999-2000 (23 samples), relative to 14% toxicity frequency observed in 1997-98 (27 samples); none of the 28 samples collected during the 2000-2001 season were significantly toxic.

In addition, the 1998-2000 and 2000-2001 monitoring at Mallard Island did not document any sets of consecutively toxic samples indicative of an extended period of ambient water toxicity, such as were observed in February and May of 1998. Moreover, the magnitude of toxicity (as reflected by the degree [or percentage] of test organism mortality) is also markedly reduced in the later years, again suggesting a reduction in the degree of ambient water toxicity. Subsequent RMP monitoring of ambient water toxicity in water samples collected from October 2001 through April 2003, also indicated an absence of toxicity to the test organisms.

Data Reference: [Placeholder reference 2006 303\(d\)](#)

SWAMP Data: Non-SWAMP

Water Quality Objective/Criterion: Basin Plan: There shall be no acute toxicity in ambient waters 'There shall be no chronic toxicity in ambient waters'.

Objective/Criterion Reference: [Placeholder reference 2006 303\(d\)](#)

Evaluation Guideline:
 Guideline Reference:

Spatial Representation:
 Temporal Representation:
 Environmental Conditions:

QAPP Information: SFEI Regional Monitoring Program QAPP.

QAPP Information Reference(s):

DECISION ID	44583	Region 2
Carquinez Strait		

Pollutant: Dioxin compounds (including 2,3,7,8-TCDD)
Final Listing Decision: List on 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision: List on 303(d) list (TMDL required list)(2012)
Revision Status Original
Sources: Source Unknown
Expected TMDL Completion Date: 2019
Impairment from Pollutant or Pollution: Pollutant

Regional Board Staff Conclusion: 303(d) listing decisions made prior to 2006 were not held in an assessment database. The Regional Boards will update this decision when new data and information become available and are assessed.

Regional Board Staff Decision Recommendation: This is a decision previously approved by the State Water Resources Control Board and the USEPA. No new data were assessed by the Regional Board for the current. The decision has not changed.

Line of Evidence (LOE) for Decision ID 44583, Dioxin compounds (including 2,3,7,8-TCDD)**Region 2****Carquinez Strait**

LOE ID:	3727
Pollutant:	Dioxin compounds (including 2,3,7,8-TCDD)
LOE Subgroup:	Pollutant-Tissue
Matrix:	Tissue
Fraction:	Not Recorded
Beneficial Use:	Commercial or recreational collection of fish, shellfish, or organisms
Number of Samples:	0
Number of Exceedances:	0
Data and Information Type:	Not Specified
Data Used to Assess Water Quality:	Unspecified--This LOE is a placeholder to support a 303(d) listing decision made prior to 2006.
Data Reference:	Placeholder reference pre-2006 303(d)
SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	Unspecified
Objective/Criterion Reference:	Placeholder reference pre-2006 303(d)
Evaluation Guideline:	Unspecified
Guideline Reference:	Placeholder reference pre-2006 303(d)
Spatial Representation:	Unspecified
Temporal Representation:	Unspecified
Environmental Conditions:	Unspecified
QAPP Information:	Unspecified
QAPP Information Reference(s):	

DECISION ID**34097****Region 2****Carquinez Strait**

Pollutant:	Furan Compounds
Final Listing Decision:	List on 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision:	List on 303(d) list (TMDL required list)(2012)
Revision Status	Original
Sources:	Source Unknown
Expected TMDL Completion Date:	2019
Impairment from Pollutant or Pollution:	Pollutant

Regional Board Staff Conclusion: 303(d) listing decisions made prior to 2006 were not held in an assessment database. The Regional Boards will update this decision when new data and information become available and are assessed.

Regional Board Staff Decision Recommendation: This is a decision previously approved by the State Water Resources Control Board and the USEPA. No new data were assessed by the Regional Board for the current. The decision has not changed.

Line of Evidence (LOE) for Decision ID 34097, Furan Compounds**Region 2****Carquinez Strait**

LOE ID:	3729
Pollutant:	Furan Compounds
LOE Subgroup:	Pollutant-Tissue
Matrix:	Tissue
Fraction:	Not Recorded
Beneficial Use:	Commercial or recreational collection of fish, shellfish, or organisms
Number of Samples:	0
Number of Exceedances:	0
Data and Information Type:	Not Specified
Data Used to Assess Water Quality:	Unspecified--This LOE is a placeholder to support a 303(d) listing decision made prior to 2006.
Data Reference:	Placeholder reference pre-2006 303(d)
SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	Unspecified
Objective/Criterion Reference:	Placeholder reference pre-2006 303(d)
Evaluation Guideline:	Unspecified
Guideline Reference:	Placeholder reference pre-2006 303(d)
Spatial Representation:	Unspecified
Temporal Representation:	Unspecified
Environmental Conditions:	Unspecified
QAPP Information:	Unspecified
QAPP Information Reference(s):	

DECISION ID	34096	Region 2
Carquinez Strait		

Pollutant:	Invasive Species
Final Listing Decision:	List on 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision:	List on 303(d) list (TMDL required list)(2012)
Revision Status	Original
Sources:	Source Unknown
Expected TMDL Completion Date:	2019
Impairment from Pollutant or Pollution:	Pollutant

Regional Board Staff Conclusion: 303(d) listing decisions made prior to 2006 were not held in an assessment database. The Regional Boards will update this decision when new data and information become available and are assessed.

Regional Board Staff Decision Recommendation: This is a decision previously approved by the State Water Resources Control Board and the USEPA. No new data were assessed by the Regional Board for the current. The decision has not changed.

Line of Evidence (LOE) for Decision ID 34096, Invasive Species	Region 2
Carquinez Strait	

LOE ID:	3728
Pollutant:	Invasive Species
LOE Subgroup:	Population/Community Degradation

Matrix:	Water
Fraction:	Not Recorded
Beneficial Use:	Estuarine Habitat
Number of Samples:	0
Number of Exceedances:	0
Data and Information Type:	Not Specified
Data Used to Assess Water Quality:	Unspecified--This LOE is a placeholder to support a 303(d) listing decision made prior to 2006.
Data Reference:	Placeholder reference pre-2006 303(d)
SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	
Objective/Criterion Reference:	
Evaluation Guideline:	
Guideline Reference:	
Spatial Representation:	Unspecified
Temporal Representation:	Unspecified
Environmental Conditions:	Unspecified
QAPP Information:	Unspecified
QAPP Information Reference(s):	

DECISION ID	34876	Region 2
Carquinez Strait		

Pollutant:	Mercury
Final Listing Decision:	List on 303(d) list (being addressed by USEPA approved TMDL)
Last Listing Cycle's Final Listing Decision:	List on 303(d) list (being addressed by USEPA approved TMDL)(2012)
Revision Status	Original
Sources:	Source Unknown
TMDL Name:	San Francisco Bay Mercury
TMDL Project Code:	6
Date TMDL Approved by USEPA:	02/12/2008
Impairment from Pollutant or Pollution:	Pollutant

Regional Board Staff Conclusion:	303(d) listing decisions made prior to 2006 were not held in an assessment database. The Regional Boards will update this decision when new data and information become available and are assessed. A TMDL has been developed and approved by the USEPA (02/12/2008) and an approved implementation plan is expected to result in attainment of the standard. This provides a sufficient justification in favor of placing this water segment-pollutant combination in the Water Quality Segments Being Addressed portion of the section 303(d) list.
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Regional Board Staff Decision Recommendation:	This is a decision previously approved by the State Water Resources Control Board and the USEPA. No new data were assessed by the Regional Board for the current. The decision has not changed.
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Line of Evidence (LOE) for Decision ID 34876, Mercury	Region 2
Carquinez Strait	

LOE ID:	3730
Pollutant:	Mercury

LOE Subgroup:	Pollutant-Tissue
Matrix:	Tissue
Fraction:	Not Recorded
Beneficial Use:	Commercial or recreational collection of fish, shellfish, or organisms
Number of Samples:	0
Number of Exceedances:	0
Data and Information Type:	Not Specified
Data Used to Assess Water Quality:	Unspecified--This LOE is a placeholder to support a 303(d) listing decision made prior to 2006.
Data Reference:	Placeholder reference pre-2006 303(d)
SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	Unspecified
Objective/Criterion Reference:	Placeholder reference pre-2006 303(d)
Evaluation Guideline:	Unspecified
Guideline Reference:	Placeholder reference pre-2006 303(d)
Spatial Representation:	Unspecified
Temporal Representation:	Unspecified
Environmental Conditions:	Unspecified
QAPP Information:	Unspecified
QAPP Information Reference(s):	

DECISION ID	34703	Region 2
Carquinez Strait		

Pollutant:	PCBs (Polychlorinated biphenyls) (dioxin-like)
Final Listing Decision:	List on 303(d) list (being addressed by USEPA approved TMDL)
Last Listing Cycle's Final Listing Decision:	List on 303(d) list (TMDL required list)(2012)
Revision Status	Original
Sources:	Source Unknown
TMDL Name:	San Francisco Bay PCBs
TMDL Project Code:	7
Date TMDL Approved by USEPA:	03/29/2010
Impairment from Pollutant or Pollution:	Pollutant

Regional Board Staff Conclusion: 303(d) listing decisions made prior to 2006 were not held in an assessment database. The Regional Boards will update this decision when new data and information become available and are assessed.

Regional Board Staff Decision Recommendation: This is a decision previously approved by the State Water Resources Control Board and the USEPA. No new data were assessed by the Regional Board for the current. The decision has not changed.

Line of Evidence (LOE) for Decision ID 34703, PCBs (Polychlorinated biphenyls) (dioxin-like)	Region 2
Carquinez Strait	

LOE ID:	3732
Pollutant:	PCBs (Polychlorinated biphenyls) (dioxin-like)
LOE Subgroup:	Pollutant-Tissue
Matrix:	Tissue
Fraction:	Not Recorded

Beneficial Use:	Commercial or recreational collection of fish, shellfish, or organisms
Number of Samples:	0
Number of Exceedances:	0
Data and Information Type:	Not Specified
Data Used to Assess Water Quality:	Unspecified--This LOE is a placeholder to support a 303(d) listing decision made prior to 2006.
Data Reference:	Placeholder reference pre-2006 303(d)
SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	Unspecified
Objective/Criterion Reference:	Placeholder reference pre-2006 303(d)
Evaluation Guideline:	Unspecified
Guideline Reference:	Placeholder reference pre-2006 303(d)
Spatial Representation:	Unspecified
Temporal Representation:	Unspecified
Environmental Conditions:	Unspecified
QAPP Information:	Unspecified
QAPP Information Reference(s):	

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Supporting Information

Regional Board 2 - San Francisco Bay Region

Water Body Name: Suisun Slough
Water Body ID: CAE2072300020020315202246
Water Body Type: Estuary

DECISION ID 33997 **Region 2**
Suisun Slough

Pollutant: Diazinon
Final Listing Decision: List on 303(d) list (being addressed by USEPA approved TMDL)
Last Listing Cycle's Final Listing Decision: List on 303(d) list (being addressed by USEPA approved TMDL)(2012)
Revision Status Original
Sources: Source Unknown
TMDL Name: San Francisco Bay Urban Creeks Diazinon
TMDL Project Code: 9
Date TMDL Approved by USEPA: 05/16/2007
Impairment from Pollutant or Pollution: Pollutant

Regional Board Staff Conclusion: 303(d) listing decisions made prior to 2006 were not held in an assessment database. The Regional Boards will update this decision when new data and information become available and are assessed. The USEPA final decision on the 2006 303(d) list was to move this listing to the being addressed by a USEPA approved TMDL portion of the 303(d) list, because the San Francisco Bay Urban Creeks Diazinon TMDL was approved by USEPA on 5/16/07 (USEPA, 2007).

Regional Board Staff Decision Recommendation: This is a decision previously approved by the State Water Resources Control Board and the USEPA. No new data were assessed by the Regional Board for the current. The decision has not changed.

Line of Evidence (LOE) for Decision ID 33997, Diazinon **Region 2**

Suisun Slough

LOE ID: 473
Pollutant: Diazinon
LOE Subgroup: Pollutant-Water
Matrix: Water
Fraction: None
Beneficial Use: Warm Freshwater Habitat
Number of Samples: 0
Number of Exceedances: 0
Data and Information Type: Not Specified
Data Used to Assess Water Quality: Unspecified--This LOE is a placeholder to support a 303(d) listing decision made prior to 2006.
Data Reference: [Placeholder reference 2006 303\(d\)](#)
SWAMP Data: Non-SWAMP
Water Quality Objective/Criterion:

Objective/Criterion Reference:

Evaluation Guideline:
Guideline Reference:

Spatial Representation:
Temporal Representation:
Environmental Conditions:

QAPP Information: QA Info Missing
QAPP Information Reference(s):

Draft California 2016 Integrated Report (303(d) List/305(b) Report)

Supporting Information

Regional Board 2 - San Francisco Bay Region

Water Body Name: Peyton Slough
Water Body ID: CAE2073301220020129144758
Water Body Type: Estuary

DECISION ID 32463 **Region 2**
Peyton Slough

Pollutant: Cadmium
Final Listing Decision: Do Not List on 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision: Do Not List on 303(d) list (TMDL required list)(2012)
Revision Status Original
Impairment from Pollutant or Pollution: Pollutant

Regional Board Staff Conclusion: This pollutant is being considered for listing under section 3.1. Under section 3.1 a single line of evidence is necessary to assess listing status. One line of evidence is available in the administrative record to assess this pollutant. The RWQCB has adopted a cleanup order that will result in attainment of the water quality standard. The cleanup has progressed and the polluted sediments have been capped. The pre-cleanup conditions do not exist in 2005 since the water body has been diverted around the sediments. Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification in favor of not placing this water segment-pollutant combination in the Water Quality Limited Segments portion of the section 303(d) list. This conclusion is based on the staff findings that: 1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy. 2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy. 3. The RWQCB has adopted a cleanup order that will result in attainment of the water quality standard. The cleanup has progressed and the polluted sediments have been capped. The pre-cleanup conditions

Regional Board Staff Decision Recommendation: This is a decision previously approved by the State Water Resources Control Board and the USEPA. No new data were assessed by the Regional Board for the current. The decision has not changed.

Line of Evidence (LOE) for Decision ID 32463, Cadmium **Region 2**
Peyton Slough

LOE ID: 485
Pollutant: Cadmium
LOE Subgroup: Testimonial Evidence
Matrix: Not Specified
Fraction: None

Beneficial Use: Estuarine Habitat

Number of Samples: 0
Number of Exceedances: 0

Data and Information Type: Not Specified
Data Used to Assess Water Quality: Peyton Slough is identified as a toxic hot spot in the SWRCB Consolidated Toxic Hot Spots Cleanup Plan SWRCB Resolution No. 99-065). This plan is being implemented through a Cleanup and Abatement Order. San Francisco Bay RWQCB Order No. 01-094 provides direction for the remediation of the identified problems in Peyton Slough. The

Order establishes requirements for a remedial design report and implementation schedule, documentation of the remediation of Peyton Slough, and five-year status report on the effectiveness of the implementation of the approved cleanup plan.

The order is being implemented. The first phase of the remediation has been completed. The slough channel has been realigned to a new channel east of the old alignment. The new channel is located in relatively uncontaminated wetland habitat. In 2005, an engineered cap was placed over the old channel so that the sediments were contained and are no longer part of this water body.

Data Reference:

[Placeholder reference 2006 303\(d\)](#)

SWAMP Data:

Non-SWAMP

Water Quality Objective/Criterion:

Objective/Criterion Reference:

Evaluation Guideline:

Guideline Reference:

Spatial Representation:

Temporal Representation:

Environmental Conditions:

QAPP Information:

QA Info Missing

QAPP Information Reference(s):

DECISION ID	32980	Region 2
Peyton Slough		

Pollutant: Chlordane

Final Listing Decision: Do Not List on 303(d) list (TMDL required list)

Last Listing Cycle's Final Listing Decision: Do Not List on 303(d) list (TMDL required list)(2012)

Revision Status

Original

Impairment from Pollutant or Pollution:

Pollutant

Regional Board Staff Conclusion:

This pollutant is being considered for listing under section 3.1. Under section 3.1 a single line of evidence is necessary to assess listing status. One line of evidence is available in the administrative record to assess this pollutant. The RWQCB has adopted a cleanup order that will result in attainment of the water quality standard. The cleanup has progressed and the polluted sediments have been capped. The pre-cleanup conditions do not exist in 2005 since the water body has been diverted around the sediments. Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification in favor of not placing this water segment-pollutant combination in the Water Quality Limited Segments portion of the section 303(d) list. This conclusion is based on the staff findings that: 1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy. 2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy. 3. The RWQCB has adopted a cleanup order that will result in attainment of the water quality standard. The cleanup has progressed and the polluted sediments have been capped. The pre-cleanup conditions do not exist in 2005. 4. Pursuant to section 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.

Regional Board Staff Decision Recommendation:

This is a decision previously approved by the State Water Resources Control Board and the USEPA. No new data were assessed by the Regional Board for the current. The decision has not changed.

Line of Evidence (LOE) for Decision ID 32980, Chlordane	Region 2
Peyton Slough	

LOE ID:

478

Pollutant:	Chlordane
LOE Subgroup:	Narrative Description Data
Matrix:	-N/A
Fraction:	None
Beneficial Use:	Estuarine Habitat
Number of Samples:	0
Number of Exceedances:	0
Data and Information Type:	Not Specified
Data Used to Assess Water Quality:	Peyton Slough is identified as a toxic hot spot in the SWRCB Consolidated Toxic Hot Spots Cleanup Plan SWRCB Resolution No. 99-065). This plan is being implemented through a Cleanup and Abatement Order. San Francisco Bay RWQCB Order No. 01-094 provides direction for the remediation of the identified problems in Peyton Slough. The Order establishes requirements for a remedial design report and implementation schedule, documentation of the remediation of Peyton Slough, and five-year status report on the effectiveness of the implementation of the approved cleanup plan.
	The order is being implemented. The first phase of the remediation has been completed. The slough channel has been realigned to a new channel east of the old alignment. The new channel is located in relatively uncontaminated wetland habitat. In 2005, an engineered cap was placed over the old channel so that the sediments were contained and are no longer part of this water body.
Data Reference:	Placeholder reference 2006 303(d)
SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	
Objective/Criterion Reference:	
Evaluation Guideline:	
Guideline Reference:	
Spatial Representation:	
Temporal Representation:	
Environmental Conditions:	
QAPP Information:	QA Info Missing
QAPP Information Reference(s):	

DECISION ID	32476	Region 2
Peyton Slough		

Pollutant:	Copper
Final Listing Decision:	Do Not List on 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision:	Do Not List on 303(d) list (TMDL required list)(2012)
Revision Status	Original
Impairment from Pollutant or Pollution:	Pollutant

Regional Board Staff Conclusion:	This pollutant is being considered for listing under section 3.1. Under section 3.1 a single line of evidence is necessary to assess listing status. One line of evidence is available in the administrative record to assess this pollutant. The RWQCB has adopted a cleanup order that will result in attainment of the water quality standard. The cleanup has progressed and the polluted sediments have been capped. The pre-cleanup conditions do not exist in 2005 since the water body has been diverted around the sediments. Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification in favor of not placing this water segment-pollutant combination in the Water Quality Limited Segments portion of the section 303(d) list. This conclusion is based on the staff findings that: 1. The data used satisfies the data quality
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requirements of section 6.1.4 of the Policy. 2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy. 3. The RWQCB has adopted a cleanup order that will result in attainment of the water quality standard. The cleanup has progressed and the polluted sediments have been capped. The pre-cleanup conditions do not exist in 2005. 4. Pursuant to section 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.

Regional Board Staff Decision Recommendation: This is a decision previously approved by the State Water Resources Control Board and the USEPA. No new data were assessed by the Regional Board for the current. The decision has not changed.

**Line of Evidence (LOE) for Decision ID 32476, Copper
Peyton Slough**

Region 2

LOE ID: 484

Pollutant: Copper
LOE Subgroup: Narrative Description Data
Matrix: -N/A
Fraction: None

Beneficial Use: Estuarine Habitat

Number of Samples: 0
Number of Exceedances: 0

Data and Information Type: Not Specified
Data Used to Assess Water Quality: Peyton Slough is identified as a toxic hot spot in the SWRCB Consolidated Toxic Hot Spots Cleanup Plan SWRCB Resolution No. 99-065). This plan is being implemented through a Cleanup and Abatement Order. San Francisco Bay RWQCB Order No. 01-094 provides direction for the remediation of the identified problems in Peyton Slough. The Order establishes requirements for a remedial design report and implementation schedule, documentation of the remediation of Peyton Slough, and five-year status report on the effectiveness of the implementation of the approved cleanup plan.

The order is being implemented. The first phase of the remediation has been completed. The slough channel has been realigned to a new channel east of the old alignment. The new channel is located in relatively uncontaminated wetland habitat. In 2005, an engineered cap is being placed over the old channel. This will contain the sediments in place so they are no longer exposed to the environment.

Data Reference: [Placeholder reference 2006 303\(d\)](#)

SWAMP Data: Non-SWAMP

Water Quality Objective/Criterion:
Objective/Criterion Reference:

Evaluation Guideline:
Guideline Reference:

Spatial Representation:
Temporal Representation:
Environmental Conditions:
QAPP Information: QA Info Missing
QAPP Information Reference(s):

**DECISION ID 32984
Peyton Slough**

Region 2

Pollutant: PCBs (Polychlorinated biphenyls)

Final Listing Decision:	Do Not List on 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision:	Do Not List on 303(d) list (TMDL required list)(2012)
Revision Status	Original
Impairment from Pollutant or Pollution:	Pollutant

Regional Board Staff Conclusion: This pollutant is being considered for listing under sections 2.2, 3.6, and 3.10 of the Listing Policy. Under section 3.6 a single line of evidence is necessary to assess listing status while under section 3.10, a minimum of two lines of evidence are needed to assess listing status. Four lines of evidence are available in the administrative record to assess this pollutant. Based on section 3.6 the site has significant sediment toxicity and the pollutant is likely to cause or contribute to the toxic effect. The benthic community is transitional and is probably not impacted by this pollutant. The RWQCB has adopted a cleanup order that will result in attainment of the water quality standard. Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against placing this water segment-pollutant combination on the section 303(d) list in the Water Quality Limited Segments Being Attained category. This conclusion is based on the staff findings that: 1. The sediment quality guideline used complies with the requirements of section 6.1.3 of the Policy. 2. The data used satisfies the data quality requirements of section 6.1.4 of the Policy. 3. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy. 4. None of 6 samples exceeded the sediment guideline and these do not exceed the allowable frequency listed in Table 3.1 of the Listing Policy. 5. Pursuant to section 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.

Regional Board Staff Decision Recommendation: This is a decision previously approved by the State Water Resources Control Board and the USEPA. No new data were assessed by the Regional Board for the current. The decision has not changed.

Line of Evidence (LOE) for Decision ID 32984, PCBs (Polychlorinated biphenyls)		Region 2
Peyton Slough		
LOE ID:	480	
Pollutant:	PCBs (Polychlorinated biphenyls)	
LOE Subgroup:	Narrative Description Data	
Matrix:	-N/A	
Fraction:	None	
Beneficial Use:	Estuarine Habitat	
Number of Samples:	0	
Number of Exceedances:	0	
Data and Information Type:	Not Specified	
Data Used to Assess Water Quality:	<p>Peyton Slough is identified as a toxic hot spot in the SWRCB Consolidated Toxic Hot Spots Cleanup Plan (SWRCB Resolution No. 99-065). This plan is being implemented through a Cleanup and Abatement Order. San Francisco Bay RWQCB Order No. 01-094 provides direction for the remediation of the identified problems in Peyton Slough. The Order establishes requirements for a remedial design report and implementation schedule, documentation of the remediation of Peyton Slough, and five-year status report on the effectiveness of the implementation of the approved cleanup plan.</p> <p>The order is being implemented. The first phase of the remediation has been completed. The slough channel has been realigned to a new channel east of the old alignment. The new channel is located in relatively uncontaminated wetland habitat. In 2005, an engineered cap is being placed over the old channel. This will contain the sediments in place so they are no longer exposed to the environment.</p>	
Data Reference:	Placeholder reference 2006 303(d)	
SWAMP Data:	Non-SWAMP	
Water Quality Objective/Criterion:		

Objective/Criterion Reference:

Evaluation Guideline:

Guideline Reference:

Spatial Representation:

Temporal Representation:

Environmental Conditions:

QAPP Information:

QA Info Missing

QAPP Information Reference(s):

Line of Evidence (LOE) for Decision ID 32984, PCBs (Polychlorinated biphenyls)

Region 2

Peyton Slough

LOE ID: 481

Pollutant: PCBs (Polychlorinated biphenyls)

LOE Subgroup: Pollutant-Sediment

Matrix: Sediment

Fraction: None

Beneficial Use: Estuarine Habitat

Number of Samples: 6

Number of Exceedances: 0

Data and Information Type: Not Specified

Data Used to Assess Water Quality: None of the 6 samples exceeded the guideline. (Hunt et al, 1998-b).

Data Reference: [Placeholder reference 2006 303\(d\)](#)

SWAMP Data: Non-SWAMP

Water Quality Objective/Criterion: All waters shall be maintained free of toxic substances in concentrations that are lethal to or that produce other detrimental responses in aquatic organisms (SFBRWQCB, 1995).

Objective/Criterion Reference: [Placeholder reference 2006 303\(d\)](#)

Evaluation Guideline: Sediment guideline of 400 ng/g used (MacDonald et al., 2000).

Guideline Reference: [Placeholder reference 2006 303\(d\)](#)

Spatial Representation: Data was synoptically collected with benthic community and toxicity measurements.

Temporal Representation: Data was collected from 5/95-4/97.

Environmental Conditions:

QAPP Information: Used BPTCP QA/QC (Stephenson et al., 1995). Data evaluation was based on USEPA guidelines for 305(b) reports, that uses a hierarchy of water quality data levels. Only data of higher overall level of information (Levels 3 and 4) were used to list a water body.

QAPP Information Reference(s):

Line of Evidence (LOE) for Decision ID 32984, PCBs (Polychlorinated biphenyls)

Region 2

Peyton Slough

LOE ID: 487

Pollutant: Sediment Toxicity

LOE Subgroup: Toxicity

Matrix: Sediment

Fraction: Total

Beneficial Use: Estuarine Habitat

Number of Samples: 10

Number of Exceedances: 8

Data and Information Type:	Not Specified
Data Used to Assess Water Quality:	Significant amphipod toxicity in 4 of 5 samples (80%), significant urchin toxicity, 4 of 5 samples (80%); (Hunt et al., 1998-b).
Data Reference:	Placeholder reference 2006 303(d)
SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	All waters shall be maintained free of toxic substances in concentrations that are lethal to or that produce other detrimental responses in aquatic organisms (SFBQWQCB, 1995).
Objective/Criterion Reference:	Placeholder reference 2006 303(d)
Evaluation Guideline:	BPTCP Reference envelope approach used.
Guideline Reference:	Placeholder reference 2006 303(d)
Spatial Representation:	Data was spatially collected.
Temporal Representation:	Data was collected, from May 1995 - April 1997.
Environmental Conditions:	
QAPP Information:	Used BPTCP QA/QC (Stephenson et al., 1994). Data evaluation was based on USEPA guidelines for 305(b) reports, that uses a hierarchy of water quality data levels. Only data of higher overall level of information (Levels 3 and 4) were used to list a water body.
QAPP Information Reference(s):	

Line of Evidence (LOE) for Decision ID 32984, PCBs (Polychlorinated biphenyls)

Region 2

Peyton Slough

LOE ID:	488
Pollutant:	Estuarine Bioassessments
LOE Subgroup:	Population/Community Degradation
Matrix:	Sediment
Fraction:	None
Beneficial Use:	Estuarine Habitat
Number of Samples:	3
Number of Exceedances:	0
Data and Information Type:	Benthic macroinvertebrate surveys
Data Used to Assess Water Quality:	Relative benthic index = 0.36, 0.51, 0.34 (3 benthic gradient samples). Samples were compared to reference. These sites were considered to be transitional aquatic communities. (Hunt et al., 1998-b).
Data Reference:	Placeholder reference 2006 303(d)
SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	All waters shall be maintained free of toxic substances in concentrations that are lethal to or that produce other detrimental responses in aquatic organisms (SFBRWQCB, 1995).
Objective/Criterion Reference:	Placeholder reference 2006 303(d)
Evaluation Guideline:	Evaluations of the benthic data were completed using the approaches developed by scientists associated with the BPTCP. The relative benthic index used is a calculated value considering the total fauna, total mollusk species, crustacean species and indicator species at a site. The index ranges from 0 to 1.0. An index value of less than or equal to 0.3 is an indication that pollutants or other factors are negatively impacting the benthic community.
Guideline Reference:	Placeholder reference 2006 303(d)
Spatial Representation:	Data was spatially collected.
Temporal Representation:	Data was collected, from May 1995 - April 1997.
Environmental Conditions:	
QAPP Information:	Used BPTCP QA/QC (Stephenson et al., 1994). Data evaluation was based on USEPA

guidelines for 305(b) reports, that uses a hierarchy of water quality data levels. Only data of higher overall level of information (Levels 3 and 4) were used to list a water body.

QAPP Information Reference(s):

DECISION ID	32885	Region 2
Peyton Slough		

Pollutant:	Pyrene
Final Listing Decision:	Do Not List on 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision:	Do Not List on 303(d) list (TMDL required list)(2012)
Revision Status	Original
Impairment from Pollutant or Pollution:	Pollutant

Regional Board Staff Conclusion: This pollutant is being considered for listing under sections 2.2, 3.6, and 3.10 of the Listing Policy. Under section 3.6 a single line of evidence is necessary to assess listing status while under section 3.10, a minimum of two lines of evidence are needed to assess listing status. Four lines of evidence are available in the administrative record to assess this pollutant. Based on section 3.6 the site has significant sediment toxicity and the pollutant is not likely to cause or contribute to the toxic effect. The benthic community is transitional and is probably not be impacted by this pollutant. The RWQCB has adopted a cleanup order that will result in attainment of the water quality standard. Based on the readily available data and information, the weight of evidence indicates that there is insufficient justification in favor of placing this water segment-pollutant combination on the section 303(d) list in the Water Quality Limited Segments Being Attained category. This conclusion is based on the staff findings that: 1. No sediment quality guideline is available that complies with the requirements of section 6.1.3 of the Policy. 2. The data used satisfies the data quality requirements of section 6.1.4 of the Policy. 3. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy. 4. Pursuant to section 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.

Regional Board Staff Decision Recommendation: This is a decision previously approved by the State Water Resources Control Board and the USEPA. No new data were assessed by the Regional Board for the current. The decision has not changed.

Line of Evidence (LOE) for Decision ID 32885, Pyrene	Region 2
Peyton Slough	

LOE ID:	474
Pollutant:	Pyrene
LOE Subgroup:	Narrative Description Data
Matrix:	-N/A
Fraction:	Not Recorded
Beneficial Use:	Estuarine Habitat
Number of Samples:	0
Number of Exceedances:	0
Data and Information Type:	Not Specified
Data Used to Assess Water Quality:	Peyton Slough is identified as a toxic hot spot in the SWRCB Consolidated Toxic Hot Spots Cleanup Plan SWRCB Resolution No. 99-065). This plan is being implemented through a Cleanup and Abatement Order. San Francisco Bay RWQCB Order No. 01-094 provides direction for the remediation of the identified problems in Peyton Slough. The Order establishes requirements for a remedial design report and implementation schedule, documentation of the remediation of Peyton Slough, and five-year status report on the effectiveness of the implementation of the approved cleanup plan.

The order is being implemented. The first phase of the remediation has been completed.

The slough channel has been realigned to a new channel east of the old alignment. The new channel is located in relatively uncontaminated wetland habitat. In 2005, an engineered cap is being placed over the old channel. This will contain the sediments in place so they are no longer exposed to the environment.

Data Reference: [Placeholder reference 2006 303\(d\)](#)

SWAMP Data: Non-SWAMP

Water Quality Objective/Criterion:
Objective/Criterion Reference:

Evaluation Guideline:
Guideline Reference:

Spatial Representation:
Temporal Representation:
Environmental Conditions:

QAPP Information: QA Info Missing
QAPP Information Reference(s):

**Line of Evidence (LOE) for Decision ID 32885, Pyrene
Peyton Slough**

Region 2

LOE ID: 475

Pollutant: Pyrene
LOE Subgroup: Pollutant-Sediment
Matrix: Sediment
Fraction: None

Beneficial Use: Estuarine Habitat

Number of Samples: 0
Number of Exceedances: 0

Data and Information Type: Chemical monitoring of sediments
Data Used to Assess Water Quality: Six measurements. Total PAH concentrations ranged from 469 ng/g to 9,251 ng/g. (Hunt et al., 1998b).

Data Reference: [Placeholder reference 2006 303\(d\)](#)

SWAMP Data: Non-SWAMP

Water Quality Objective/Criterion: All waters shall be maintained free of toxic substances in concentrations that are lethal to or that produce other detrimental responses in aquatic organisms (SFBRWQCB, 1995).

Objective/Criterion Reference: [Placeholder reference 2006 303\(d\)](#)

Evaluation Guideline: No applicable sediment guideline available.
Guideline Reference: [Placeholder reference 2006 303\(d\)](#)

Spatial Representation: Data was synoptically collected with benthic community and toxicity measurements.
Temporal Representation: Data was collected, from 5/95-4/97.

Environmental Conditions:
QAPP Information: Used BPTCP QA/QC (Stephenson et al., 1994). Data evaluation was based on USEPA guidelines for 305(b) reports, that uses a hierarchy of water quality data levels. Only data of higher overall level of information (Levels 3 and 4) were used to list a water body.

QAPP Information Reference(s):

**Line of Evidence (LOE) for Decision ID 32885, Pyrene
Peyton Slough**

Region 2

LOE ID: 488

Pollutant:	Estuarine Bioassessments
LOE Subgroup:	Population/Community Degradation
Matrix:	Sediment
Fraction:	None
Beneficial Use:	Estuarine Habitat
Number of Samples:	3
Number of Exceedances:	0
Data and Information Type:	Benthic macroinvertebrate surveys
Data Used to Assess Water Quality:	Relative benthic index = 0.36, 0.51, 0.34 (3 benthic gradient samples). Samples were compared to reference. These sites were considered to be transitional aquatic communities. (Hunt et al., 1998-b).
Data Reference:	Placeholder reference 2006 303(d)
SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	All waters shall be maintained free of toxic substances in concentrations that are lethal to or that produce other detrimental responses in aquatic organisms (SFBRWQCB, 1995).
Objective/Criterion Reference:	Placeholder reference 2006 303(d)
Evaluation Guideline:	Evaluations of the benthic data were completed using the approaches developed by scientists associated with the BPTCP. The relative benthic index used is a calculated value considering the total fauna, total mollusk species, crustacean species and indicator species at a site. The index ranges from 0 to 1.0. An index value of less than or equal to 0.3 is an indication that pollutants or other factors are negatively impacting the benthic community.
Guideline Reference:	Placeholder reference 2006 303(d)
Spatial Representation:	Data was spatially collected.
Temporal Representation:	Data was collected, from May 1995 - April 1997.
Environmental Conditions:	
QAPP Information:	Used BPTCP QA/QC (Stephenson et al., 1994). Data evaluation was based on USEPA guidelines for 305(b) reports, that uses a hierarchy of water quality data levels. Only data of higher overall level of information (Levels 3 and 4) were used to list a water body.
QAPP Information Reference(s):	

Line of Evidence (LOE) for Decision ID 32885, Pyrene
Peyton Slough

Region 2

LOE ID:	487
Pollutant:	Sediment Toxicity
LOE Subgroup:	Toxicity
Matrix:	Sediment
Fraction:	Total
Beneficial Use:	Estuarine Habitat
Number of Samples:	10
Number of Exceedances:	8
Data and Information Type:	Not Specified
Data Used to Assess Water Quality:	Significant amphipod toxicity in 4 of 5 samples (80%), significant urchin toxicity, 4 of 5 samples (80%); (Hunt et al., 1998-b).
Data Reference:	Placeholder reference 2006 303(d)
SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	All waters shall be maintained free of toxic substances in concentrations that are lethal to

Objective/Criterion Reference: or that produce other detrimental responses in aquatic organisms (SFBQWQCB, 1995).
[Placeholder reference 2006 303\(d\)](#)

Evaluation Guideline: BPTCP Reference envelope approach used.
 Guideline Reference: [Placeholder reference 2006 303\(d\)](#)

Spatial Representation: Data was spatially collected.
 Temporal Representation: Data was collected, from May 1995 - April 1997.
 Environmental Conditions:
 QAPP Information: Used BPTCP QA/QC (Stephenson et al., 1994). Data evaluation was based on USEPA guidelines for 305(b) reports, that uses a hierarchy of water quality data levels. Only data of higher overall level of information (Levels 3 and 4) were used to list a water body.

QAPP Information Reference(s):

DECISION ID	32475	Region 2
Peyton Slough		

Pollutant: Selenium
Final Listing Decision: Do Not List on 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision: Do Not List on 303(d) list (TMDL required list)(2012)
Revision Status Original
Impairment from Pollutant or Pollution: Pollutant

Regional Board Staff Conclusion: This pollutant is being considered for listing under sections 2.2, 3.6, and 3.10 of the Listing Policy. Under section 3.6 a single line of evidence is necessary to assess listing status while under section 3.10, a minimum of two lines of evidence are needed to assess listing status. Four lines of evidence are available in the administrative record to assess this pollutant. Based on section 3.6 the site has significant sediment toxicity and the pollutant is not likely to cause or contribute to the toxic effect. The benthic community is transitional and is probably not be impacted by this pollutant. The RWQCB has adopted a cleanup order that will result in attainment of the water quality standard. Based on the readily available data and information, the weight of evidence indicates that there is insufficient justification in favor of placing this water segment-pollutant combination on the section 303(d) list in the Water Quality Limited Segments Being Attained category. This conclusion is based on the staff findings that: 1. No sediment quality guideline is available that complies with the requirements of section 6.1.3 of the Policy. 2. The data used satisfies the data quality requirements of section 6.1.4 of the Policy. 3. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy. 4. Pursuant to section 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.

Regional Board Staff Decision Recommendation: This is a decision previously approved by the State Water Resources Control Board and the USEPA. No new data were assessed by the Regional Board for the current. The decision has not changed.

Line of Evidence (LOE) for Decision ID 32475, Selenium	Region 2
Peyton Slough	

LOE ID: 482

Pollutant: Selenium
 LOE Subgroup: Narrative Description Data
 Matrix: -N/A
 Fraction: Not Recorded

Beneficial Use: Estuarine Habitat

Number of Samples: 0
 Number of Exceedances: 0

Data and Information Type:	Not Specified
Data Used to Assess Water Quality:	Peyton Slough is identified as a toxic hot spot in the SWRCB Consolidated Toxic Hot Spots Cleanup Plan SWRCB Resolution No. 99-065). This plan is being implemented through a Cleanup and Abatement Order. San Francisco Bay RWQCB Order No. 01-094 provides direction for the remediation of the identified problems in Peyton Slough. The Order establishes requirements for a remedial design report and implementation schedule, documentation of the remediation of Peyton Slough, and five-year status report on the effectiveness of the implementation of the approved cleanup plan.
	The order is being implemented. The first phase of the remediation has been completed. The slough channel has been realigned to a new channel east of the old alignment. The new channel is located in relatively uncontaminated wetland habitat. In 2005, an engineered cap is being placed over the old channel. This will contain the sediments in place so they are no longer exposed to the environment.
Data Reference:	Placeholder reference 2006 303(d)
SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	
Objective/Criterion Reference:	
Evaluation Guideline:	
Guideline Reference:	
Spatial Representation:	
Temporal Representation:	
Environmental Conditions:	
QAPP Information:	QA Info Missing
QAPP Information Reference(s):	

Line of Evidence (LOE) for Decision ID 32475, Selenium

Region 2

Peyton Slough

LOE ID:	483
Pollutant:	Selenium
LOE Subgroup:	Pollutant-Sediment
Matrix:	Sediment
Fraction:	Total
Beneficial Use:	Estuarine Habitat
Number of Samples:	
Number of Exceedances:	
Data and Information Type:	Not Specified
Data Used to Assess Water Quality:	Four measurements ranging from 0.536 to 2.27 ug/g. (Hunt et al., 1998b).
Data Reference:	Placeholder reference 2006 303(d)
SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	All waters shall be maintained free of toxic substances in concentrations that are lethal to or that produce other detrimental responses in aquatic organisms (SFBRWQCB, 1995).
Objective/Criterion Reference:	Placeholder reference 2006 303(d)
Evaluation Guideline:	No ERM for sediment chemistry available.
Guideline Reference:	Placeholder reference 2006 303(d)
Spatial Representation:	Data was synoptically collected with benthic community and toxicity measurements.
Temporal Representation:	Data was collected from May 1995 - April 1997.
Environmental Conditions:	
QAPP Information:	Used BPTCP QA/QC (Stephenson et al., 1994). Data evaluation was based on USEPA

guidelines for 305(b) reports, that uses a hierarchy of water quality data levels. Only data of higher overall level of information (Levels 3 and 4) were used to list a water body.

QAPP Information Reference(s):

Line of Evidence (LOE) for Decision ID 32475, Selenium
Peyton Slough

Region 2

LOE ID: 487

Pollutant: Sediment Toxicity
LOE Subgroup: Toxicity
Matrix: Sediment
Fraction: Total

Beneficial Use: Estuarine Habitat

Number of Samples: 10
Number of Exceedances: 8

Data and Information Type: Not Specified
Data Used to Assess Water Quality: Significant amphipod toxicity in 4 of 5 samples (80%), significant urchin toxicity, 4 of 5 samples (80%); (Hunt et al., 1998-b).
Data Reference: [Placeholder reference 2006 303\(d\)](#)

SWAMP Data: Non-SWAMP

Water Quality Objective/Criterion: All waters shall be maintained free of toxic substances in concentrations that are lethal to or that produce other detrimental responses in aquatic organisms (SFBQWQCB, 1995).
Objective/Criterion Reference: [Placeholder reference 2006 303\(d\)](#)

Evaluation Guideline: BPTCP Reference envelope approach used.
Guideline Reference: [Placeholder reference 2006 303\(d\)](#)

Spatial Representation: Data was spatially collected.
Temporal Representation: Data was collected, from May 1995 - April 1997.
Environmental Conditions:
QAPP Information: Used BPTCP QA/QC (Stephenson et al., 1994). Data evaluation was based on USEPA guidelines for 305(b) reports, that uses a hierarchy of water quality data levels. Only data of higher overall level of information (Levels 3 and 4) were used to list a water body.

QAPP Information Reference(s):

Line of Evidence (LOE) for Decision ID 32475, Selenium
Peyton Slough

Region 2

LOE ID: 488

Pollutant: Estuarine Bioassessments
LOE Subgroup: Population/Community Degradation
Matrix: Sediment
Fraction: None

Beneficial Use: Estuarine Habitat

Number of Samples: 3
Number of Exceedances: 0

Data and Information Type: Benthic macroinvertebrate surveys
Data Used to Assess Water Quality: Relative benthic index = 0.36, 0.51, 0.34 (3 benthic gradient samples). Samples were compared to reference. These sites were considered to be transitional aquatic communities. (Hunt et al., 1998-b).
Data Reference: [Placeholder reference 2006 303\(d\)](#)

SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	All waters shall be maintained free of toxic substances in concentrations that are lethal to or that produce other detrimental responses in aquatic organisms (SFBRWQCB, 1995).
Objective/Criterion Reference:	Placeholder reference 2006 303(d)
Evaluation Guideline:	Evaluations of the benthic data were completed using the approaches developed by scientists associated with the BPTCP. The relative benthic index used is a calculated value considering the total fauna, total mollusk species, crustacean species and indicator species at a site. The index ranges from 0 to 1.0. An index value of less than or equal to 0.3 is an indication that pollutants or other factors are negatively impacting the benthic community.
Guideline Reference:	Placeholder reference 2006 303(d)
Spatial Representation:	Data was spatially collected.
Temporal Representation:	Data was collected, from May 1995 - April 1997.
Environmental Conditions:	
QAPP Information:	Used BPTCP QA/QC (Stephenson et al., 1994). Data evaluation was based on USEPA guidelines for 305(b) reports, that uses a hierarchy of water quality data levels. Only data of higher overall level of information (Levels 3 and 4) were used to list a water body.
QAPP Information Reference(s):	

DECISION ID	32509	Region 2
Peyton Slough		
Pollutant:	Silver	
Final Listing Decision:	Do Not List on 303(d) list (TMDL required list)	
Last Listing Cycle's Final Listing Decision:	Do Not List on 303(d) list (TMDL required list)(2012)	
Revision Status	Original	
Impairment from Pollutant or Pollution:	Pollutant	
Regional Board Staff Conclusion:	<p>This pollutant is being considered for listing under section 3.1. Under section 3.1 a single line of evidence is necessary to assess listing status. One line of evidence is available in the administrative record to assess this pollutant. The RWQCB has adopted a cleanup order that will result in attainment of the water quality standard. The cleanup has progressed and the polluted sediments have been capped. The pre-cleanup conditions do not exist in 2005 since the water body has been diverted around the sediments. Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification in favor of not placing this water segment-pollutant combination in the Water Quality Limited Segments portion of the section 303(d) list. This conclusion is based on the staff findings that: 1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy. 2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy. 3. The RWQCB has adopted a cleanup order that will result in attainment of the water quality standard. The cleanup has progressed and the polluted sediments have been capped. The pre-cleanup conditions do not exist in 2005. 4. Pursuant to section 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.</p>	
Regional Board Staff Decision Recommendation:	<p>This is a decision previously approved by the State Water Resources Control Board and the USEPA. No new data were assessed by the Regional Board for the current. The decision has not changed.</p>	
Line of Evidence (LOE) for Decision ID 32509, Silver		Region 2
Peyton Slough		

LOE ID:	486
Pollutant:	Silver

LOE Subgroup:	Narrative Description Data
Matrix:	-N/A
Fraction:	Not Recorded
Beneficial Use:	Estuarine Habitat
Number of Samples:	0
Number of Exceedances:	0
Data and Information Type:	Not Specified
Data Used to Assess Water Quality:	<p>Peyton Slough is identified as a toxic hot spot in the SWRCB Consolidated Toxic Hot Spots Cleanup Plan SWRCB Resolution No. 99-065). This plan is being implemented through a Cleanup and Abatement Order. San Francisco Bay RWQCB Order No. 01-094 provides direction for the remediation of the identified problems in Peyton Slough. The Order establishes requirements for a remedial design report and implementation schedule, documentation of the remediation of Peyton Slough, and five-year status report on the effectiveness of the implementation of the approved cleanup plan.</p> <p>The order is being implemented. The first phase of the remediation has been completed. The slough channel has been realigned to a new channel east of the old alignment. The new channel is located in relatively uncontaminated wetland habitat. In 2005, an engineered cap is being placed over the old channel. This will contain the sediments in place so they are no longer exposed to the environment.</p>
Data Reference:	Placeholder reference 2006 303(d)
SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	
Objective/Criterion Reference:	
Evaluation Guideline:	
Guideline Reference:	
Spatial Representation:	
Temporal Representation:	
Environmental Conditions:	
QAPP Information:	QA Info Missing
QAPP Information Reference(s):	

DECISION ID	32983	Region 2
Peyton Slough		

Pollutant:	Zinc
Final Listing Decision:	Do Not List on 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision:	Do Not List on 303(d) list (TMDL required list)(2012)
Revision Status	Original
Impairment from Pollutant or Pollution:	Pollutant
Regional Board Staff Conclusion:	<p>This pollutant is being considered for listing under section 3.1. Under section 3.1 a single line of evidence is necessary to assess listing status. One line of evidence is available in the administrative record to assess this pollutant. The RWQCB has adopted a cleanup order that will result in attainment of the water quality standard. The cleanup has progressed and the polluted sediments have been capped. The pre-cleanup conditions do not exist in 2005 since the water body has been diverted around the sediments. Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification in favor of not placing this water segment-pollutant combination in the Water Quality Limited Segments portion of the section 303(d) list. This conclusion is based on the staff findings that: 1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy. 2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy. 3. The RWQCB has adopted a cleanup order that will result in</p>

attainment of the water quality standard. The cleanup has progressed and the polluted sediments have been capped. The pre-cleanup conditions do not exist in 2005. 4. Pursuant to section 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.

Regional Board Staff Decision Recommendation: This is a decision previously approved by the State Water Resources Control Board and the USEPA. No new data were assessed by the Regional Board for the current. The decision has not changed.

Line of Evidence (LOE) for Decision ID 32983, Zinc

Region 2

Peyton Slough

LOE ID: 479

Pollutant: Zinc

LOE Subgroup: Narrative Description Data

Matrix: -N/A

Fraction: Not Recorded

Beneficial Use: Estuarine Habitat

Number of Samples: 0

Number of Exceedances: 0

Data and Information Type: Not Specified

Data Used to Assess Water Quality: Peyton Slough is identified as a toxic hot spot in the SWRCB Consolidated Toxic Hot Spots Cleanup Plan SWRCB Resolution No. 99-065). This plan is being implemented through a Cleanup and Abatement Order. San Francisco Bay RWQCB Order No. 01-094 provides direction for the remediation of the identified problems in Peyton Slough. The Order establishes requirements for a remedial design report and implementation schedule, documentation of the remediation of Peyton Slough, and five-year status report on the effectiveness of the implementation of the approved cleanup plan.

The order is being implemented. The first phase of the remediation has been completed. The slough channel has been realigned to a new channel east of the old alignment. The new channel is located in relatively uncontaminated wetland habitat. In 2005, an engineered cap is being placed over the old channel. This will contain the sediments in place so they are no longer exposed to the environment.

Data Reference: [Placeholder reference 2006 303\(d\)](#)

SWAMP Data: Non-SWAMP

Water Quality Objective/Criterion: Objective/Criterion Reference:

Evaluation Guideline: Guideline Reference:

Spatial Representation:

Temporal Representation:

Environmental Conditions:

QAPP Information: QA Info Missing

QAPP Information Reference(s):

DECISION ID

32828

Region 2

Peyton Slough

Pollutant: p,p'-DDE

Final Listing Decision: Do Not List on 303(d) list (TMDL required list)

Last Listing Cycle's Final Do Not List on 303(d) list (TMDL required list)(2012)

Listing Decision:
Revision Status Original
Impairment from Pollutant or Pollution: Pollutant

Regional Board Staff Conclusion: This pollutant is being considered for listing under sections 2.2, 3.6, and 3.10 of the Listing Policy. Under section 3.6 a single line of evidence is necessary to assess listing status while under section 3.10, a minimum of two lines of evidence are needed to assess listing status. Four lines of evidence are available in the administrative record to assess this pollutant. Based on section 3.6 the site has significant sediment toxicity and the pollutant is not likely to cause or contribute to the toxic effect. The benthic community is transitional and is probably not impacted by this pollutant. The RWQCB has adopted a cleanup order that will result in attainment of the water quality standard. Based on the readily available data and information, the weight of evidence indicates that there is insufficient justification in favor of placing this water segment-pollutant combination on the section 303(d) list in the Water Quality Limited Segments Being Attained category. This conclusion is based on the staff findings that: 1. No sediment quality guideline is available that complies with the requirements of section 6.1.3 of the Policy. 2. The data used satisfies the data quality requirements of section 6.1.4 of the Policy. 3. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy. 4. Pursuant to section 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.

Regional Board Staff Decision Recommendation: This is a decision previously approved by the State Water Resources Control Board and the USEPA. No new data were assessed by the Regional Board for the current. The decision has not changed.

Line of Evidence (LOE) for Decision ID 32828, p,p'-DDE

Region 2

Peyton Slough

LOE ID: 488

Pollutant: Estuarine Bioassessments
LOE Subgroup: Population/Community Degradation
Matrix: Sediment
Fraction: None

Beneficial Use: Estuarine Habitat

Number of Samples: 3
Number of Exceedances: 0

Data and Information Type: Benthic macroinvertebrate surveys
Data Used to Assess Water Quality: Relative benthic index = 0.36, 0.51, 0.34 (3 benthic gradient samples). Samples were compared to reference. These sites were considered to be transitional aquatic communities. (Hunt et al., 1998-b).

Data Reference: [Placeholder reference 2006 303\(d\)](#)

SWAMP Data: Non-SWAMP

Water Quality Objective/Criterion: All waters shall be maintained free of toxic substances in concentrations that are lethal to or that produce other detrimental responses in aquatic organisms (SFBRWQCB, 1995).

Objective/Criterion Reference: [Placeholder reference 2006 303\(d\)](#)

Evaluation Guideline: Evaluations of the benthic data were completed using the approaches developed by scientists associated with the BPTCP. The relative benthic index used is a calculated value considering the total fauna, total mollusk species, crustacean species and indicator species at a site. The index ranges from 0 to 1.0. An index value of less than or equal to 0.3 is an indication that pollutants or other factors are negatively impacting the benthic community.

Guideline Reference: [Placeholder reference 2006 303\(d\)](#)

Spatial Representation: Data was spatially collected.
Temporal Representation: Data was collected, from May 1995 - April 1997.

Environmental Conditions:

QAPP Information:

Used BPTCP QA/QC (Stephenson et al., 1994). Data evaluation was based on USEPA guidelines for 305(b) reports, that uses a hierarchy of water quality data levels. Only data of higher overall level of information (Levels 3 and 4) were used to list a water body.

QAPP Information Reference(s):

Line of Evidence (LOE) for Decision ID 32828, p,p'-DDE

Region 2

Peyton Slough

LOE ID: 476

Pollutant: p,p'-DDE
LOE Subgroup: Narrative Description Data
Matrix: -N/A
Fraction: None

Beneficial Use: Estuarine Habitat

Number of Samples: 0
Number of Exceedances: 0

Data and Information Type: Not Specified
Data Used to Assess Water Quality: Peyton Slough is identified as a toxic hot spot in the SWRCB Consolidated Toxic Hot Spots Cleanup Plan SWRCB Resolution No. 99-065). This plan is being implemented through a Cleanup and Abatement Order. San Francisco Bay RWQCB Order No. 01-094 provides direction for the remediation of the identified problems in Peyton Slough. The Order establishes requirements for a remedial design report and implementation schedule, documentation of the remediation of Peyton Slough, and five-year status report on the effectiveness of the implementation of the approved cleanup plan.

The order is being implemented. The first phase of the remediation has been completed. The slough channel has been realigned to a new channel east of the old alignment. The new channel is located in relatively uncontaminated wetland habitat. In 2005, an engineered cap is being placed over the old channel. This will contain the sediments in place so they are no longer exposed to the environment.

Data Reference: [Placeholder reference 2006 303\(d\)](#)

SWAMP Data: Non-SWAMP

Water Quality Objective/Criterion:
Objective/Criterion Reference:

Evaluation Guideline:
Guideline Reference:

Spatial Representation:
Temporal Representation:
Environmental Conditions:

QAPP Information: QA Info Missing
QAPP Information Reference(s):

Line of Evidence (LOE) for Decision ID 32828, p,p'-DDE

Region 2

Peyton Slough

LOE ID: 477

Pollutant: p,p'-DDE
LOE Subgroup: Pollutant-Sediment
Matrix: Sediment
Fraction: Total

Beneficial Use:	Estuarine Habitat
Number of Samples:	6
Number of Exceedances:	0
Data and Information Type:	Not Specified
Data Used to Assess Water Quality:	Six measurements. Measurement concentration ranged from 3.5 ng/g to 95.7 ng/g. (Hunt et al., 1998-b).
Data Reference:	Placeholder reference 2006 303(d)
SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	All waters shall be maintained free of toxic substances in concentrations that are lethal to or that produce other detrimental responses in aquatic organisms (SFBRWQCB, 1994).
Objective/Criterion Reference:	Placeholder reference 2006 303(d)
Evaluation Guideline:	No acceptable sediment guideline available.
Guideline Reference:	Placeholder reference 2006 303(d)
Spatial Representation:	Data was synoptically collected with benthic community and toxicity measurements.
Temporal Representation:	Data was collected from 5/95-4/97.
Environmental Conditions:	
QAPP Information:	Used BPTCP QA/QC (Stephenson et al., 1995). Data evaluation was based on USEPA guidelines for 305(b) reports, that uses a hierarchy of water quality data levels. Only data of higher overall level of information (Levels 3 and 4) were used to list a water body.
QAPP Information Reference(s):	

Line of Evidence (LOE) for Decision ID 32828, p,p'-DDE

Region 2

Peyton Slough

LOE ID:	487
Pollutant:	Sediment Toxicity
LOE Subgroup:	Toxicity
Matrix:	Sediment
Fraction:	Total
Beneficial Use:	Estuarine Habitat
Number of Samples:	10
Number of Exceedances:	8
Data and Information Type:	Not Specified
Data Used to Assess Water Quality:	Significant amphipod toxicity in 4 of 5 samples (80%), significant urchin toxicity, 4 of 5 samples (80%); (Hunt et al., 1998-b).
Data Reference:	Placeholder reference 2006 303(d)
SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	All waters shall be maintained free of toxic substances in concentrations that are lethal to or that produce other detrimental responses in aquatic organisms (SFBQWQCB, 1995).
Objective/Criterion Reference:	Placeholder reference 2006 303(d)
Evaluation Guideline:	BPTCP Reference envelope approach used.
Guideline Reference:	Placeholder reference 2006 303(d)
Spatial Representation:	Data was spatially collected.
Temporal Representation:	Data was collected, from May 1995 - April 1997.
Environmental Conditions:	
QAPP Information:	Used BPTCP QA/QC (Stephenson et al., 1994). Data evaluation was based on USEPA

guidelines for 305(b) reports, that uses a hierarchy of water quality data levels. Only data of higher overall level of information (Levels 3 and 4) were used to list a water body.

QAPP Information Reference(s):

Draft California 2016 Integrated Report (303(d) List/305(b) Report)

Supporting Information

Regional Board 2 - San Francisco Bay Region

Water Body Name: Soulajule Reservoir
Water Body ID: CAL2011201220050602211738
Water Body Type: Lake & Reservoir

DECISION ID 33060 **Region 2**
Soulajule Reservoir

Pollutant: PCBs (Polychlorinated biphenyls)
Final Listing Decision: Do Not Delist from 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision: List on 303(d) list (TMDL required list)(2012)
Revision Status Revised
Sources: Atmospheric Deposition
Expected TMDL Completion Date: 2023
Impairment from Pollutant or Pollution: Pollutant

Regional Board Staff Conclusion: This pollutant is being considered for removal from the CWA section 303(d) List under section 4.1 of the Listing Policy. Under this section a single line of evidence is necessary to assess listing status.

Four lines of evidence are available in the administrative record to assess pollutant. Two of two samples exceed the guideline.

Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against removing this water segment-pollutant combination from the CWA section 303(d) List.

This conclusion is based on the staff findings that:

1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy.
2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy.
3. Two of two samples exceed the guideline and this exceeds the allowable frequency listed in Table 4.1 of the Listing Policy.
4. Pursuant to section 4.11 of the Listing Policy, no additional data and information are available indicating that standards are met.

Regional Board Staff Decision Recommendation: After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be removed from the section 303(d) list because applicable water quality standards for the pollutant are being exceeded.

Line of Evidence (LOE) for Decision ID 33060, PCBs (Polychlorinated biphenyls) **Region 2**
Soulajule Reservoir

LOE ID: 93440
Pollutant: PCBs (Polychlorinated biphenyls)
LOE Subgroup: Pollutant-Tissue
Matrix: Tissue
Fraction: Fish fillet
Beneficial Use: Commercial or recreational collection of fish, shellfish, or organisms

Number of Samples:	1
Number of Exceedances:	0
Data and Information Type:	Fish tissue analysis
Data Used to Assess Water Quality:	State Water Board staff assessed SWAMP data for SoulaJule Reservoir to determine beneficial use support and results are as follows: 0 of 1 samples exceed the criterion for PCB, Total. One composite (5 fish per composite) was generated from one species: Largemouth Bass. Details of the compositing protocol can be found in the March 2009 report entitled: "Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Study" (SWAMP, 2009). Total PCB was assessed for as follows: PCB aroclors and congeners were summed separately and the sum that yielded the highest value was used for the assessment.
Data Reference:	Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Survey. A Report of the Surface Water Ambient Monitoring Program (SWAMP). California State Water Resources Control Board, Sacramento, CA Cruise Report for the Surface Waters Ambient Monitoring Program (SWAMP) Bioaccumulation Screening Study in California Lakes and Reservoirs. Sampling Dates: June 2007- March 2008 Statewide Lakes Sportfish Contamination Study 2007 2008 Contaminants in Fish from California Lakes and Reservoirs, 2007-2008: Summary Report on a Two-Year Screening Survey
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	Water Quality Control Plan for the San Francisco Bay Basin (2013): Controllable water quality factors shall not cause a detrimental increase in concentrations of toxic substances found in bottom sediments or aquatic life. Effects on aquatic organisms, wildlife, and human health will be considered.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	The modified OEHHA Fish Contaminant Goal for polychlorinated biphenyls in fish tissue is 2.6 ppb. This screening level assumes an average body weight of 70 kg and a consumption rate of 32 g/day for a 30 year exposure over a 70-year lifetime. This constituent is a carcinogen therefore the risk level is set to one in a million. A cooking reduction factor of 1 is applied for skin-off fillets. (Klasing, S., and R. Brodberg, 2008)
Guideline Reference:	Development of Fish Contaminant Goals and Advisory Tissue Levels for Common Contaminants in California Sport Fish: Chlordane, DDTs, Dieldrin, Methylmercury, PCBs, Selenium, and Toxaphene
Spatial Representation:	Data for this assessment unit was collected by one monitoring project: (SWB_FishLk)
Temporal Representation:	Data was collected on a single day 7/30/2007.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	Samples were collected, processed, and analyzed in accordance with the methods described in Quality Assurance Project Plan "Screening Study of Bioaccumulation in California Lakes and Reservoirs." (SWAMP, 2008).
QAPP Information Reference(s):	Quality Assurance Project Plan Screening Study of Bioaccumulation in California Lakes and Reservoirs. Moss Landing Marine Labs. Prepared for SWAMP BOG. 49 pages plus appendices and attachments

Line of Evidence (LOE) for Decision ID 33060, PCBs (Polychlorinated biphenyls)

Region 2

SoulaJule Reservoir

LOE ID:	93435
Pollutant:	PCBs (Polychlorinated biphenyls)
LOE Subgroup:	Pollutant-Tissue
Matrix:	Tissue
Fraction:	Fish fillet
Beneficial Use:	Warm Freshwater Habitat
Number of Samples:	1

Number of Exceedances:	0
Data and Information Type:	Fish tissue analysis
Data Used to Assess Water Quality:	State Water Board staff assessed SWAMP data for Soulajule Reservoir to determine beneficial use support and results are as follows: 0 of 1 samples exceed the criterion for PCB, Total. One composite (5 fish per composite) was generated from one species: Largemouth Bass. Details of the compositing protocol can be found in the March 2009 report entitled: "Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Study" (SWAMP, 2009). Total PCB was assessed for as follows: PCB aroclors and congeners were summed separately and the sum that yielded the highest value was used for the assessment.
Data Reference:	Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Survey. A Report of the Surface Water Ambient Monitoring Program (SWAMP). California State Water Resources Control Board, Sacramento, CA Cruise Report for the Surface Waters Ambient Monitoring Program (SWAMP) Bioaccumulation Screening Study in California Lakes and Reservoirs. Sampling Dates: June 2007- March 2008 Statewide Lakes Sportfish Contamination Study 2007 2008 Contaminants in Fish from California Lakes and Reservoirs, 2007-2008: Summary Report on a Two-Year Screening Survey
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	Water Quality Control Plan for the San Francisco Bay Basin (2013): Controllable water quality factors shall not cause a detrimental increase in concentrations of toxic substances found in bottom sediments or aquatic life. Effects on aquatic organisms, wildlife, and human health will be considered.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	National Academy of Science guidelines (NAS 1972) establish a maximum total PCB concentration of 500 ug/Kg (wet weight) in tissue samples for protection of aquatic life from bioaccumulation of toxic substances.
Guideline Reference:	National Academy of Sciences. Water Quality Criteria 1972. EPA-R3-73-033. Washington, D.C.: U.S. Environmental Protection Agency
Spatial Representation:	Data for this assessment unit was collected by one monitoring project: (SWB_FishLk)
Temporal Representation:	Data was collected on a single day 7/30/2007.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	Samples were collected, processed, and analyzed in accordance with the methods described in Quality Assurance Project Plan "Screening Study of Bioaccumulation in California Lakes and Reservoirs." (SWAMP, 2008).
QAPP Information Reference(s):	Quality Assurance Project Plan Screening Study of Bioaccumulation in California Lakes and Reservoirs. Moss Landing Marine Labs. Prepared for SWAMP BOG. 49 pages plus appendices and attachments

Line of Evidence (LOE) for Decision ID 33060, PCBs (Polychlorinated biphenyls)

Region 2

Soulajule Reservoir

LOE ID:	669
Pollutant:	PCBs (Polychlorinated biphenyls)
LOE Subgroup:	Pollutant-Tissue
Matrix:	Tissue
Fraction:	Total
Beneficial Use:	Commercial or recreational collection of fish, shellfish, or organisms
Number of Samples:	2
Number of Exceedances:	2
Data and Information Type:	Fish tissue analysis
Data Used to Assess Water Quality:	Two out of 2 samples exceeded. Representation: two individual channel catfish samples

	were collected and analyzed from Soulejule Reservoir. Both channel catfish samples exceeded guideline (TSMP, 2002). Placeholder reference 2006 303(d)
Data Reference:	
SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	San Francisco Bay RWQCB Basin Plan: Many pollutants can accumulate on particles, in sediment, or bioaccumulate in fish and other aquatic organisms. Controllable water quality factors shall not cause a detrimental increase in concentrations of toxic substances found in bottom sediments or aquatic life. Effects on aquatic organisms, wildlife, and human health will be considered.
Objective/Criterion Reference:	Placeholder reference 2006 303(d)
Evaluation Guideline:	20 ug/kg OEHHH Screening Value (Brodberg and Pollock, 1999)
Guideline Reference:	Placeholder reference 2006 303(d)
Spatial Representation:	One station located on the lake.
Temporal Representation:	All samples were collected on 9/20/2001.
Environmental Conditions:	
QAPP Information:	Environmental Chemistry Quality Assurance and Data Report for the Toxic Substances Monitoring Program, 2001-2002. Department of Fish and Game.
QAPP Information Reference(s):	

Line of Evidence (LOE) for Decision ID 33060, PCBs (Polychlorinated biphenyls)

Region 2

Soulajule Reservoir

LOE ID:	93436
Pollutant:	PCBs (Polychlorinated biphenyls)
LOE Subgroup:	Pollutant-Tissue
Matrix:	Tissue
Fraction:	Fish fillet
Beneficial Use:	Cold Freshwater Habitat
Number of Samples:	1
Number of Exceedances:	0
Data and Information Type:	Fish tissue analysis
Data Used to Assess Water Quality:	State Water Board staff assessed SWAMP data for Soulajule Reservoir to determine beneficial use support and results are as follows: 0 of 1 samples exceed the criterion for PCB, Total. One composite (5 fish per composite) was generated from one species: Largemouth Bass. Details of the compositing protocol can be found in the March 2009 report entitled: "Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Study" (SWAMP, 2009). Total PCB was assessed for as follows: PCB aroclors and congeners were summed separately and the sum that yielded the highest value was used for the assessment.
Data Reference:	Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Survey. A Report of the Surface Water Ambient Monitoring Program (SWAMP). California State Water Resources Control Board, Sacramento, CA Cruise Report for the Surface Waters Ambient Monitoring Program (SWAMP) Bioaccumulation Screening Study in California Lakes and Reservoirs. Sampling Dates: June 2007- March 2008 Statewide Lakes Sportfish Contamination Study 2007 2008 Contaminants in Fish from California Lakes and Reservoirs, 2007-2008: Summary Report on a Two-Year Screening Survey
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	Water Quality Control Plan for the San Francisco Bay Basin (2013): Controllable water quality factors shall not cause a detrimental increase in concentrations of toxic substances found in bottom sediments or aquatic life. Effects on aquatic organisms, wildlife, and

Objective/Criterion Reference:	human health will be considered. Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	National Academy of Science guidelines (NAS 1972) establish a maximum total PCB concentration of 500 ug/Kg (wet weight) in tissue samples for protection of aquatic life from bioaccumulation of toxic substances.
Guideline Reference:	National Academy of Sciences. Water Quality Criteria 1972. EPA-R3-73-033. Washington, D.C.: U.S. Environmental Protection Agency
Spatial Representation:	Data for this assessment unit was collected by one monitoring project: (SWB_FishLk)
Temporal Representation:	Data was collected on a single day 7/30/2007.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	Samples were collected, processed, and analyzed in accordance with the methods described in Quality Assurance Project Plan "Screening Study of Bioaccumulation in California Lakes and Reservoirs." (SWAMP, 2008).
QAPP Information Reference(s):	Quality Assurance Project Plan Screening Study of Bioaccumulation in California Lakes and Reservoirs. Moss Landing Marine Labs. Prepared for SWAMP BOG. 49 pages plus appendices and attachments

DECISION ID	33059	Region 2
Soulajule Reservoir		

Pollutant:	Mercury
Final Listing Decision:	Do Not Delist from 303(d) list (being addressed with USEPA approved TMDL)
Last Listing Cycle's Final Listing Decision:	Do Not Delist from 303(d) list (TMDL required list)(2012)
Revision Status	Revised
Sources:	Mine Tailings
TMDL Name:	Walker Creek Mercury
TMDL Project Code:	69
Date TMDL Approved by USEPA:	09/29/2008
Impairment from Pollutant or Pollution:	Pollutant
Regional Board Staff Conclusion:	<p>This pollutant is being considered for removal on the CWA section 303(d) List under sections 2.2 and 4.1 of the Listing Policy. Under section 4.1 of the Policy, a minimum of one line of evidence is needed to assess listing status.</p> <p>Three lines of evidence are available in the administrative record to assess this pollutant.</p> <p>Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against removing this water segment-pollutant combination from the CWA section 303(d) List. There is sufficient justification to place it in the Being Addressed portion of the CWA 303(d) List because a TMDL has been completed and approved by RWQCB and USEPA, and is expected to result in attainment of the standard.</p> <p>This conclusion is based on the staff findings that:</p> <ol style="list-style-type: none"> 1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy. 2. The data used satisfies the data quantity requirements of section 6.1.4 of the Policy. 3. Seventeen of seventeen samples exceeded the guideline and these exceed the allowable frequency listed in Table 4.1 of the Listing Policy. 4. The Walker Creek Mercury TMDL was approved by USEPA on 9/29/2008. 5. Pursuant to section 4.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.
Regional Board Staff Decision Recommendation:	After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be removed from the section 303(d) list because applicable water quality standards for the pollutant are being exceeded.

Soulajule Reservoir

LOE ID:	31011
Pollutant:	Mercury
LOE Subgroup:	Pollutant-Tissue
Matrix:	Tissue
Fraction:	Fish fillet
Beneficial Use:	Commercial or recreational collection of fish, shellfish, or organisms
Number of Samples:	16
Number of Exceedances:	16
Data and Information Type:	Fish tissue analysis
Data Used to Assess Water Quality:	Fish were collected for tissue analysis at one location from Soulajule Reservoir. A total of 16 sample composites were generated from one species: Largemouth Bass. Details of the compositing protocol can be found in the March 2009 report entitled: "Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Study" (SWAMP, 2009). A total of 16 out of 16 samples exceeded the OHHEA fish tissue screening value for human health.
Data Reference:	Data associated with report entitled: Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Survey. A Report of the Surface Water Ambient Monitoring Program (SWAMP). California State Water Resources Control Board, Sacramento, CA Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Survey. A Report of the Surface Water Ambient Monitoring Program (SWAMP). California State Water Resources Control Board, Sacramento, CA Cruise Report for the Surface Waters Ambient Monitoring Program (SWAMP) Bioaccumulation Screening Study in California Lakes and Reservoirs. Sampling Dates: June 2007- March 2008
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	The Basin Plan contains the following objective: Many pollutants can accumulate on particles, in sediment, or bioaccumulate in fish and other aquatic organisms. Controllable water quality factors shall not cause a detrimental increase in concentrations of toxic substances found in bottom sediments or aquatic life. Effects on aquatic organisms, wildlife, and human health will be considered.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) - San Francisco Bay Region (Region 2)
Evaluation Guideline:	Office of Environmental Health Hazard Assessment (OEHHA) Screening Value of 0.3 mg/kg to protect human health when consuming fish (OEHHA, 1999).
Guideline Reference:	Prevalence of Selected Target Chemical Contaminants in Sport Fish From Two California Lakes: Public health designed screening study. Sacramento, CA: Office of Environmental Health Hazard Assessment
Spatial Representation:	Samples were collected from one location in Soulajule Reservoir. As discussed in the Lakes and Reservoirs Report (SWAMP, 2009), individual sample locations consisted of an area within a given waterbody with an approximate one-mile diameter, from which multiple fish tissue samples were collected. The number of sample locations per waterbody was based on the overall size of the waterbody. Specifics of individual sampling locations can be found in the supplemental report entitled "Cruise Report for the Surface Waters Ambient Monitoring Program (SWAMP) Bioaccumulation Screening Study in California Lakes and Reservoirs, Sampling Dates: June 2007- March 2008" (SWAMP, 2008). Data collected from this waterbody was assigned under Station Name "Soulejoule Lake" in the SWAMP report.
Temporal Representation:	Samples were collected on July 30, 2007
Environmental Conditions:	There are no known environmental conditions (e.g., seasonality, land use practices, fire events, storms, etc.) that are related to these data.
QAPP Information:	Samples were collected, processed, and analyzed in accordance with the methods

QAPP Information Reference(s):

described in "Quality Assurance Project Plan Screening Study of Bioaccumulation in California Lakes and Reservoirs." (SWAMP, 2008).
[Quality Assurance Project Plan Screening Study of Bioaccumulation in California Lakes and Reservoirs. Moss Landing Marine Labs. Prepared for SWAMP BOG. 49 pages plus appendices and attachments](#)

Line of Evidence (LOE) for Decision ID 33059, Mercury
Soulajule Reservoir

Region 2

LOE ID: 668

Pollutant: Mercury
LOE Subgroup: Pollutant-Tissue
Matrix: Tissue
Fraction: Total

Beneficial Use: Commercial or recreational collection of fish, shellfish, or organisms

Number of Samples: 14
Number of Exceedances: 12

Data and Information Type: Fish tissue analysis
Data Used to Assess Water Quality: Twelve out of 14 samples exceeded. A total of 8 composite samples were collected and analyzed from Soulejule Reservoir - 3 black crappie and 5 largemouth bass. In addition, 4 individual largemouth bass and 2 individual channel catfish were sampled. Two channel catfish samples did not exceed (TSMP, 2002).

Data Reference: [Placeholder reference 2006 303\(d\)](#)

SWAMP Data: Non-SWAMP

Water Quality Objective/Criterion: San Francisco Bay RWQCB Basin Plan: Many pollutants can accumulate on particles, in sediment, or bioaccumulate in fish and other aquatic organisms. Controllable water quality factors shall not cause a detrimental increase in concentrations of toxic substances found in bottom sediments or aquatic life. Effects on aquatic organisms, wildlife, and human health will be considered.

Objective/Criterion Reference: [Placeholder reference 2006 303\(d\)](#)

Evaluation Guideline: 'Mercury 0.3 ug/g (OEHHA Screening Value).
Guideline Reference: [Placeholder reference 2006 303\(d\)](#)

Spatial Representation: One station.
Temporal Representation: All samples were collected on 9/20/2001.

Environmental Conditions:
QAPP Information: Environmental Chemistry Quality Assurance and Data Report for the Toxic Substances Monitoring Program, 2001-2002. Department of Fish and Game.

QAPP Information Reference(s):

Line of Evidence (LOE) for Decision ID 33059, Mercury
Soulajule Reservoir

Region 2

LOE ID: 93430

Pollutant: Mercury
LOE Subgroup: Pollutant-Tissue
Matrix: Tissue
Fraction: Fish fillet

Beneficial Use: Commercial or recreational collection of fish, shellfish, or organisms

Number of Samples: 1
Number of Exceedances: 1

Data and Information Type:	Fish tissue analysis
Data Used to Assess Water Quality:	State Water Board staff assessed SWAMP data for Soulajule Reservoir to determine beneficial use support and results are as follows: 1 of 1 samples exceed the criterion for Mercury. Sixteen composites (1 fish per composite) were generated from one species: largemouth bass. Composites were not spatially independent (as defined in the Listing Policy) and so were averaged.
Data Reference:	Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Survey. A Report of the Surface Water Ambient Monitoring Program (SWAMP). California State Water Resources Control Board, Sacramento, CA Cruise Report for the Surface Waters Ambient Monitoring Program (SWAMP) Bioaccumulation Screening Study in California Lakes and Reservoirs, Sampling Dates: June 2007- March 2008 Statewide Lakes Sportfish Contamination Study 2007 2008 Contaminants in Fish from California Lakes and Reservoirs, 2007-2008: Summary Report on a Two-Year Screening Survey
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	Water Quality Control Plan for the San Francisco Bay Basin (2013): Controllable water quality factors shall not cause a detrimental increase in concentrations of toxic substances found in bottom sediments or aquatic life. Effects on aquatic organisms, wildlife, and human health will be considered.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	The USEPA 304(a) recommended water quality criterion for concentrations of methylmercury in fish tissue of trophic level 4 fish (150 - 500 mm; fillet wet weight) is 0.2 mg/kg. This assumes a consumption rate of 32 g/day. (USEPA, 2001)
Guideline Reference:	Water Quality Criterion for the Protection of Human Health: Methylmercury. Final. United States Environmental Protection Agency Office of Science and Technology Office of Water. EPA-823-R-01-001. January 2001
Spatial Representation:	Data for this assessment unit was collected by one monitoring project: (SWB_FishLk)
Temporal Representation:	Data was collected on a single day 7/30/2007.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	Samples were collected, processed, and analyzed in accordance with the methods described in Quality Assurance Project Plan "Screening Study of Bioaccumulation in California Lakes and Reservoirs." (SWAMP, 2008).
QAPP Information Reference(s):	Quality Assurance Project Plan Screening Study of Bioaccumulation in California Lakes and Reservoirs. Moss Landing Marine Labs. Prepared for SWAMP BOG, 49 pages plus appendices and attachments

DECISION ID	65108	Region 2
Soulajule Reservoir		
Pollutant:	Aldrin	
Final Listing Decision:	Do Not List on 303(d) list (TMDL required list)	
Last Listing Cycle's Final Listing Decision:	New Decision	
Revision Status	Revised	
Impairment from Pollutant or Pollution:	Pollutant	
Regional Board Staff Conclusion:	<p>This pollutant is being considered for placement on the CWA section 303(d) List under section 3.5 of the Listing Policy. Under section 3.5 a single line of evidence is necessary to assess listing status. Two lines of evidence are available in the administrative record to assess this pollutant. Zero of one samples exceed the guideline.</p> <p>Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against placing this water segment-pollutant combination on the CWA section 303(d) List.</p>	

This conclusion is based on the staff findings that:

1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy.
2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy.
3. Zero of one samples exceed the guideline and this sample size is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating. A minimum of 16 samples is needed to determine if a beneficial use is fully supported using table 3.1.
4. Pursuant to SECTION 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.

Regional Board Staff Decision Recommendation: After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be placed on the section 303(d) list. The readily available data and information is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating.

Line of Evidence (LOE) for Decision ID 65108, Aldrin

Region 2

Soulajule Reservoir

LOE ID:	93404
Pollutant:	Aldrin
LOE Subgroup:	Pollutant-Tissue
Matrix:	Tissue
Fraction:	Fish fillet
Beneficial Use:	Cold Freshwater Habitat
Number of Samples:	1
Number of Exceedances:	0
Data and Information Type:	Fish tissue analysis
Data Used to Assess Water Quality:	State Water Board staff assessed SWAMP data for Soulajule Reservoir to determine beneficial use support and results are as follows: 0 of 1 samples exceed the criterion for Aldrin. One composite (5 fish per composite) was generated from one species: Largemouth Bass. Details of the compositing protocol can be found in the March 2009 report entitled: "Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Study" (SWAMP, 2009).
Data Reference:	Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Survey. A Report of the Surface Water Ambient Monitoring Program (SWAMP). California State Water Resources Control Board, Sacramento, CA Cruise Report for the Surface Waters Ambient Monitoring Program (SWAMP) Bioaccumulation Screening Study in California Lakes and Reservoirs, Sampling Dates: June 2007- March 2008 Statewide Lakes Sportfish Contamination Study 2007 2008 Contaminants in Fish from California Lakes and Reservoirs, 2007-2008: Summary Report on a Two-Year Screening Survey
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	Water Quality Control Plan for the San Francisco Bay Basin: Controllable water quality factors shall not cause a detrimental increase in concentrations of toxic substances found in bottom sediments or aquatic life. Effects on aquatic organisms, wildlife, and human health will be considered.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	National Academy of Science guidelines (NAS 1972) establish a maximum Aldrin concentration of 100 ug/Kg (wet weight) in tissue samples for protection of aquatic life from bioaccumulation of toxic substances.
Guideline Reference:	National Academy of Sciences. Water Quality Criteria 1972. EPA-R3-73-033. Washington, D.C.: U.S. Environmental Protection Agency

Spatial Representation:	Data for this assessment unit was collected by one monitoring project: (SWB_FishLk)
Temporal Representation:	Data was collected on a single day 7/30/2007.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	Samples were collected, processed, and analyzed in accordance with the methods described in Quality Assurance Project Plan "Screening Study of Bioaccumulation in California Lakes and Reservoirs." (SWAMP, 2008).
QAPP Information Reference(s):	Quality Assurance Project Plan Screening Study of Bioaccumulation in California Lakes and Reservoirs. Moss Landing Marine Labs. Prepared for SWAMP BOG. 49 pages plus appendices and attachments

Line of Evidence (LOE) for Decision ID 65108, Aldrin

Region 2

Soulajule Reservoir

LOE ID:	93403
Pollutant:	Aldrin
LOE Subgroup:	Pollutant-Tissue
Matrix:	Tissue
Fraction:	Fish fillet
Beneficial Use:	Warm Freshwater Habitat
Number of Samples:	1
Number of Exceedances:	0
Data and Information Type:	Fish tissue analysis
Data Used to Assess Water Quality:	State Water Board staff assessed SWAMP data for Soulajule Reservoir to determine beneficial use support and results are as follows: 0 of 1 samples exceed the criterion for Aldrin. One composite (5 fish per composite) was generated from one species: Largemouth Bass. Details of the compositing protocol can be found in the March 2009 report entitled: "Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Study" (SWAMP, 2009).
Data Reference:	Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Survey. A Report of the Surface Water Ambient Monitoring Program (SWAMP). California State Water Resources Control Board, Sacramento, CA Cruise Report for the Surface Waters Ambient Monitoring Program (SWAMP) Bioaccumulation Screening Study in California Lakes and Reservoirs. Sampling Dates: June 2007- March 2008 Statewide Lakes Sportfish Contamination Study 2007 2008 Contaminants in Fish from California Lakes and Reservoirs, 2007-2008: Summary Report on a Two-Year Screening Survey
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	Water Quality Control Plan for the San Francisco Bay Basin: Controllable water quality factors shall not cause a detrimental increase in concentrations of toxic substances found in bottom sediments or aquatic life. Effects on aquatic organisms, wildlife, and human health will be considered.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	National Academy of Science guidelines (NAS 1972) establish a maximum Aldrin concentration of 100 ug/Kg (wet weight) in tissue samples for protection of aquatic life from bioaccumulation of toxic substances.
Guideline Reference:	National Academy of Sciences. Water Quality Criteria 1972. EPA-R3-73-033. Washington, D.C.: U.S. Environmental Protection Agency
Spatial Representation:	Data for this assessment unit was collected by one monitoring project: (SWB_FishLk)
Temporal Representation:	Data was collected on a single day 7/30/2007.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	Samples were collected, processed, and analyzed in accordance with the methods described in Quality Assurance Project Plan "Screening Study of Bioaccumulation in California Lakes and Reservoirs." (SWAMP, 2008).

DECISION ID	65109	Region 2
Soulajule Reservoir		

Pollutant: Chlordane
Final Listing Decision: Do Not List on 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision: New Decision
Revision Status: Revised
Impairment from Pollutant or Pollution: Pollutant

Regional Board Staff Conclusion: This pollutant is being considered for placement on the CWA section 303(d) List under section 3.5 of the Listing Policy. Under section 3.5 a single line of evidence is necessary to assess listing status. Three lines of evidence are available in the administrative record to assess this pollutant. Zero of one samples exceed the guideline.

Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against placing this water segment-pollutant combination on the CWA section 303(d) List.

This conclusion is based on the staff findings that:

1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy.
2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy.
3. Zero of one samples exceed the guideline and this sample size is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating. A minimum of 16 samples is needed to determine if a beneficial use is fully supported using table 3.1.
4. Pursuant to SECTION 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.

Regional Board Staff Decision Recommendation: After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be placed on the section 303(d) list. The readily available data and information is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating.

Line of Evidence (LOE) for Decision ID 65109, Chlordane	Region 2
Soulajule Reservoir	

LOE ID: 93406
Pollutant: Chlordane
LOE Subgroup: Pollutant-Tissue
Matrix: Tissue
Fraction: Fish fillet
Beneficial Use: Cold Freshwater Habitat
Number of Samples: 1
Number of Exceedances: 0
Data and Information Type: Fish tissue analysis
Data Used to Assess Water Quality: State Water Board staff assessed SWAMP data for Soulajule Reservoir to determine beneficial use support and results are as follows: 0 of 1 samples exceed the criterion for Chlordane, Total. One composite (5 fish per composite) was generated from one species: Largemouth Bass. Details of the compositing protocol can be found in the March 2009 report entitled: "Contaminants in Fish from California Lakes and Reservoirs: Technical

Data Reference:	Report on Year One of a Two-Year Screening Study" (SWAMP, 2009). Total chlordane was calculated as the sum of the following chlordane isomers: cis- and trans-chlordane, cis- and trans-nonachlor, and oxychlordane. Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Survey. A Report of the Surface Water Ambient Monitoring Program (SWAMP). California State Water Resources Control Board, Sacramento, CA Cruise Report for the Surface Waters Ambient Monitoring Program (SWAMP) Bioaccumulation Screening Study in California Lakes and Reservoirs. Sampling Dates: June 2007- March 2008 Statewide Lakes Sportfish Contamination Study 2007 2008 Contaminants in Fish from California Lakes and Reservoirs, 2007-2008: Summary Report on a Two-Year Screening Survey
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	Water Quality Control Plan for the San Francisco Bay Basin: Controllable water quality factors shall not cause a detrimental increase in concentrations of toxic substances found in bottom sediments or aquatic life. Effects on aquatic organisms, wildlife, and human health will be considered.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	National Academy of Science guidelines (NAS 1972) establish a maximum total Chlordane concentration of 100 ug/Kg (wet weight) in tissue samples for protection of aquatic life from bioaccumulation of toxic substances.
Guideline Reference:	National Academy of Sciences. Water Quality Criteria 1972. EPA-R3-73-033. Washington, D.C.: U.S. Environmental Protection Agency
Spatial Representation:	Data for this assessment unit was collected by one monitoring project: (SWB_FishLk)
Temporal Representation:	Data was collected on a single day 7/30/2007.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	Samples were collected, processed, and analyzed in accordance with the methods described in Quality Assurance Project Plan "Screening Study of Bioaccumulation in California Lakes and Reservoirs." (SWAMP, 2008).
QAPP Information Reference(s):	Quality Assurance Project Plan Screening Study of Bioaccumulation in California Lakes and Reservoirs. Moss Landing Marine Labs. Prepared for SWAMP BOG. 49 pages plus appendices and attachments

Line of Evidence (LOE) for Decision ID 65109, Chlordane

Region 2

Soulajule Reservoir

LOE ID:	93405
Pollutant:	Chlordane
LOE Subgroup:	Pollutant-Tissue
Matrix:	Tissue
Fraction:	Fish fillet
Beneficial Use:	Warm Freshwater Habitat
Number of Samples:	1
Number of Exceedances:	0
Data and Information Type:	Fish tissue analysis
Data Used to Assess Water Quality:	State Water Board staff assessed SWAMP data for Soulajule Reservoir to determine beneficial use support and results are as follows: 0 of 1 samples exceed the criterion for Chlordane, Total. One composite (5 fish per composite) was generated from one species: Largemouth Bass. Details of the compositing protocol can be found in the March 2009 report entitled: "Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Study" (SWAMP, 2009). Total chlordane was calculated as the sum of the following chlordane isomers: cis- and trans-chlordane, cis- and trans-nonachlor, and oxychlordane.
Data Reference:	Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year

[One of a Two-Year Screening Survey. A Report of the Surface Water Ambient Monitoring Program \(SWAMP\). California State Water Resources Control Board, Sacramento, CA](#)
[Cruise Report for the Surface Waters Ambient Monitoring Program \(SWAMP\)](#)
[Bioaccumulation Screening Study in California Lakes and Reservoirs. Sampling Dates: June 2007- March 2008](#)
[Statewide Lakes Sportfish Contamination Study 2007 2008](#)
[Contaminants in Fish from California Lakes and Reservoirs, 2007-2008: Summary Report on a Two-Year Screening Survey](#)

SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	Water Quality Control Plan for the San Francisco Bay Basin: Controllable water quality factors shall not cause a detrimental increase in concentrations of toxic substances found in bottom sediments or aquatic life. Effects on aquatic organisms, wildlife, and human health will be considered.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	National Academy of Science guidelines (NAS 1972) establish a maximum total Chlordane concentration of 100 ug/Kg (wet weight) in tissue samples for protection of aquatic life from bioaccumulation of toxic substances.
Guideline Reference:	National Academy of Sciences. Water Quality Criteria 1972. EPA-R3-73-033. Washington, D.C.: U.S. Environmental Protection Agency
Spatial Representation:	Data for this assessment unit was collected by one monitoring project: (SWB_FishLk)
Temporal Representation:	Data was collected on a single day 7/30/2007.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	Samples were collected, processed, and analyzed in accordance with the methods described in Quality Assurance Project Plan "Screening Study of Bioaccumulation in California Lakes and Reservoirs." (SWAMP, 2008).
QAPP Information Reference(s):	Quality Assurance Project Plan Screening Study of Bioaccumulation in California Lakes and Reservoirs. Moss Landing Marine Labs. Prepared for SWAMP BOG. 49 pages plus appendices and attachments

Line of Evidence (LOE) for Decision ID 65109, Chlordane

Region 2

Soulajule Reservoir

LOE ID:	93410
Pollutant:	Chlordane
LOE Subgroup:	Pollutant-Tissue
Matrix:	Tissue
Fraction:	Fish fillet
Beneficial Use:	Commercial or recreational collection of fish, shellfish, or organisms
Number of Samples:	1
Number of Exceedances:	0
Data and Information Type:	Fish tissue analysis
Data Used to Assess Water Quality:	State Water Board staff assessed SWAMP data for Soulajule Reservoir to determine beneficial use support and results are as follows: 0 of 1 samples exceed the criterion for Chlordane, Total. One composite (5 fish per composite) was generated from one species: Largemouth Bass. Details of the compositing protocol can be found in the March 2009 report entitled: "Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Study" (SWAMP, 2009). Total chlordane was calculated as the sum of the following chlordane isomers: cis- and trans-chlordane, cis- and trans-nonachlor, and oxychlordane.
Data Reference:	Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Survey. A Report of the Surface Water Ambient Monitoring Program (SWAMP). California State Water Resources Control Board, Sacramento, CA Cruise Report for the Surface Waters Ambient Monitoring Program (SWAMP) Bioaccumulation Screening Study in California Lakes and Reservoirs. Sampling Dates:

SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	Water Quality Control Plan for the San Francisco Bay Basin: Controllable water quality factors shall not cause a detrimental increase in concentrations of toxic substances found in bottom sediments or aquatic life. Effects on aquatic organisms, wildlife, and human health will be considered.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	The modified OEHHA Fish Contaminant Goal for total chlordane in fish tissue is 3.9 ppb. This screening level assumes an average body weight of 70 kg and a consumption rate of 32 g/day for a 30 year exposure over a 70-year lifetime. This constituent is a carcinogen therefore the risk level is set to one in a million. A cooking reduction factor of 1 is applied for skin-off fillets. (Klasing, S., and R. Brodberg, 2008)
Guideline Reference:	Development of Fish Contaminant Goals and Advisory Tissue Levels for Common Contaminants in California Sport Fish: Chlordane, DDTs, Dieldrin, Methylmercury, PCBs, Selenium, and Toxaphene
Spatial Representation:	Data for this assessment unit was collected by one monitoring project: (SWB_FishLk)
Temporal Representation:	Data was collected on a single day 7/30/2007.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	Samples were collected, processed, and analyzed in accordance with the methods described in Quality Assurance Project Plan "Screening Study of Bioaccumulation in California Lakes and Reservoirs." (SWAMP, 2008).
QAPP Information Reference(s):	Quality Assurance Project Plan Screening Study of Bioaccumulation in California Lakes and Reservoirs. Moss Landing Marine Labs. Prepared for SWAMP BOG. 49 pages plus appendices and attachments

DECISION ID	65119	Region 2
Soulajule Reservoir		

Pollutant:	DDT (Dichlorodiphenyltrichloroethane)
Final Listing Decision:	Do Not List on 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision:	New Decision
Revision Status	Revised
Impairment from Pollutant or Pollution:	Pollutant

Regional Board Staff Conclusion:	<p>This pollutant is being considered for placement on the CWA section 303(d) List under section 3.5 of the Listing Policy. Under section 3.5 a single line of evidence is necessary to assess listing status. Three lines of evidence are available in the administrative record to assess this pollutant. Zero of one samples exceed the guideline.</p> <p>Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against placing this water segment-pollutant combination on the CWA section 303(d) List.</p> <p>This conclusion is based on the staff findings that:</p> <ol style="list-style-type: none"> 1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy. 2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy. 3. Zero of one samples exceed the guideline and this sample size is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating. A minimum of 16 samples is needed to determine if a beneficial use is fully supported using table 3.1. 4. Pursuant to SECTION 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.
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Regional Board Staff Decision Recommendation: After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be placed on the section 303(d) list. The readily available data and information is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating.

Line of Evidence (LOE) for Decision ID 65119, DDT (Dichlorodiphenyltrichloroethane)

Region 2

Soulajule Reservoir

LOE ID:	93446
Pollutant:	Total DDT (sum of 4,4'- and 2,4'- isomers of DDT, DDE, and DDD)
LOE Subgroup:	Pollutant-Tissue
Matrix:	Tissue
Fraction:	Fish fillet
Beneficial Use:	Cold Freshwater Habitat
Number of Samples:	1
Number of Exceedances:	0
Data and Information Type:	Fish tissue analysis
Data Used to Assess Water Quality:	State Water Board staff assessed SWAMP data for Soulajule Reservoir to determine beneficial use support and results are as follows: 0 of 1 samples exceed the criterion for DDT, Total. One composite (5 fish per composite) was generated from one species: Largemouth Bass. Details of the compositing protocol can be found in the March 2009 report entitled: "Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Study" (SWAMP, 2009). Total DDT was calculated as the sum of 4,4'- and 2,4'- isomers of DDT, DDE, and DDD.
Data Reference:	Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Survey. A Report of the Surface Water Ambient Monitoring Program (SWAMP). California State Water Resources Control Board, Sacramento, CA Cruise Report for the Surface Waters Ambient Monitoring Program (SWAMP) Bioaccumulation Screening Study in California Lakes and Reservoirs, Sampling Dates: June 2007- March 2008 Statewide Lakes Sportfish Contamination Study 2007 2008 Contaminants in Fish from California Lakes and Reservoirs, 2007-2008: Summary Report on a Two-Year Screening Survey
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	Water Quality Control Plan for the San Francisco Bay Basin: Controllable water quality factors shall not cause a detrimental increase in concentrations of toxic substances found in bottom sediments or aquatic life. Effects on aquatic organisms, wildlife, and human health will be considered.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	National Academy of Science guidelines (NAS 1972) establish a maximum total DDT concentration of 1000 ug/Kg (wet weight) in tissue samples for protection of aquatic life from bioaccumulation of toxic substances.
Guideline Reference:	National Academy of Sciences. Water Quality Criteria 1972. EPA-R3-73-033. Washington, D.C.: U.S. Environmental Protection Agency
Spatial Representation:	Data for this assessment unit was collected by one monitoring project: (SWB_FishLk)
Temporal Representation:	Data was collected on a single day 7/30/2007.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	Samples were collected, processed, and analyzed in accordance with the methods described in Quality Assurance Project Plan "Screening Study of Bioaccumulation in California Lakes and Reservoirs." (SWAMP, 2008).
QAPP Information Reference(s):	Quality Assurance Project Plan Screening Study of Bioaccumulation in California Lakes and Reservoirs. Moss Landing Marine Labs. Prepared for SWAMP BOG, 49 pages plus appendices and attachments

Soulajule Reservoir

LOE ID:	93442
Pollutant:	Total DDT (sum of 4,4'- and 2,4'- isomers of DDT, DDE, and DDD)
LOE Subgroup:	Pollutant-Tissue
Matrix:	Tissue
Fraction:	Fish fillet
Beneficial Use:	Warm Freshwater Habitat
Number of Samples:	1
Number of Exceedances:	0
Data and Information Type:	Fish tissue analysis
Data Used to Assess Water Quality:	State Water Board staff assessed SWAMP data for Soulajule Reservoir to determine beneficial use support and results are as follows: 0 of 1 samples exceed the criterion for DDT, Total. One composite (5 fish per composite) was generated from one species: Largemouth Bass. Details of the compositing protocol can be found in the March 2009 report entitled: "Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Study" (SWAMP, 2009). Total DDT was calculated as the sum of 4,4'- and 2,4'- isomers of DDT, DDE, and DDD.
Data Reference:	Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Survey. A Report of the Surface Water Ambient Monitoring Program (SWAMP). California State Water Resources Control Board, Sacramento, CA Cruise Report for the Surface Waters Ambient Monitoring Program (SWAMP) Bioaccumulation Screening Study in California Lakes and Reservoirs. Sampling Dates: June 2007- March 2008 Statewide Lakes Sportfish Contamination Study 2007 2008 Contaminants in Fish from California Lakes and Reservoirs, 2007-2008: Summary Report on a Two-Year Screening Survey
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	Water Quality Control Plan for the San Francisco Bay Basin: Controllable water quality factors shall not cause a detrimental increase in concentrations of toxic substances found in bottom sediments or aquatic life. Effects on aquatic organisms, wildlife, and human health will be considered.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	National Academy of Science guidelines (NAS 1972) establish a maximum total DDT concentration of 1000 ug/Kg (wet weight) in tissue samples for protection of aquatic life from bioaccumulation of toxic substances.
Guideline Reference:	National Academy of Sciences. Water Quality Criteria 1972. EPA-R3-73-033. Washington, D.C.: U.S. Environmental Protection Agency
Spatial Representation:	Data for this assessment unit was collected by one monitoring project: (SWB_FishLk)
Temporal Representation:	Data was collected on a single day 7/30/2007.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	Samples were collected, processed, and analyzed in accordance with the methods described in Quality Assurance Project Plan "Screening Study of Bioaccumulation in California Lakes and Reservoirs." (SWAMP, 2008).
QAPP Information Reference(s):	Quality Assurance Project Plan Screening Study of Bioaccumulation in California Lakes and Reservoirs. Moss Landing Marine Labs. Prepared for SWAMP BOG. 49 pages plus appendices and attachments

LOE ID:	93447
Pollutant:	Total DDT (sum of 4,4'- and 2,4'- isomers of DDT, DDE, and DDD)
LOE Subgroup:	Pollutant-Tissue
Matrix:	Tissue
Fraction:	Fish fillet
Beneficial Use:	Commercial or recreational collection of fish, shellfish, or organisms
Number of Samples:	1
Number of Exceedances:	0
Data and Information Type:	Fish tissue analysis
Data Used to Assess Water Quality:	State Water Board staff assessed SWAMP data for SoulaJule Reservoir to determine beneficial use support and results are as follows: 0 of 1 samples exceed the criterion for DDT, Total. One composite (5 fish per composite) was generated from one species: Largemouth Bass. Details of the compositing protocol can be found in the March 2009 report entitled: "Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Study" (SWAMP, 2009). Total DDT was calculated as the sum of 4,4'- and 2,4'- isomers of DDT, DDE, and DDD.
Data Reference:	Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Survey. A Report of the Surface Water Ambient Monitoring Program (SWAMP). California State Water Resources Control Board, Sacramento, CA Cruise Report for the Surface Waters Ambient Monitoring Program (SWAMP) Bioaccumulation Screening Study in California Lakes and Reservoirs. Sampling Dates: June 2007- March 2008 Statewide Lakes Sportfish Contamination Study 2007 2008 Contaminants in Fish from California Lakes and Reservoirs, 2007-2008: Summary Report on a Two-Year Screening Survey
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	Water Quality Control Plan for the San Francisco Bay Basin: Controllable water quality factors shall not cause a detrimental increase in concentrations of toxic substances found in bottom sediments or aquatic life. Effects on aquatic organisms, wildlife, and human health will be considered.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	The modified OEHHA Fish Contaminant Goal for total DDT in fish tissue is 15 ppb. This screening level assumes an average body weight of 70 kg and a consumption rate of 32 g/day for a 30 year exposure over a 70-year lifetime. This constituent is a carcinogen therefore the risk level is set to one in a million. A cooking reduction factor of 1 is applied for skin-off fillets. (Klasing, S., and R. Brodberg, 2008)
Guideline Reference:	Development of Fish Contaminant Goals and Advisory Tissue Levels for Common Contaminants in California Sport Fish: Chlordane, DDTs, Dieldrin, Methylmercury, PCBs, Selenium, and Toxaphene
Spatial Representation:	Data for this assessment unit was collected by one monitoring project: (SWB_FishLk)
Temporal Representation:	Data was collected on a single day 7/30/2007.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	Samples were collected, processed, and analyzed in accordance with the methods described in Quality Assurance Project Plan "Screening Study of Bioaccumulation in California Lakes and Reservoirs." (SWAMP, 2008).
QAPP Information Reference(s):	Quality Assurance Project Plan Screening Study of Bioaccumulation in California Lakes and Reservoirs. Moss Landing Marine Labs. Prepared for SWAMP BOG, 49 pages plus appendices and attachments

DECISION ID	65110	Region 2
SoulaJule Reservoir		

Pollutant: **Dieldrin**

Final Listing Decision:	Do Not List on 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision:	New Decision
Revision Status	Revised
Impairment from Pollutant or Pollution:	Pollutant

Regional Board Staff Conclusion: This pollutant is being considered for placement on the CWA section 303(d) List under section 3.5 of the Listing Policy. Under section 3.5 a single line of evidence is necessary to assess listing status. Three lines of evidence are available in the administrative record to assess this pollutant. Zero of one samples exceed the guideline.

Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against placing this water segment-pollutant combination on the CWA section 303(d) List.

This conclusion is based on the staff findings that:

1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy.
2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy.
3. Zero of one samples exceed the guideline and this sample size is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating. A minimum of 16 samples is needed to determine if a beneficial use is fully supported using table 3.1.
4. Pursuant to SECTION 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.

Regional Board Staff Decision Recommendation: After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be placed on the section 303(d) list. The readily available data and information is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating.

Line of Evidence (LOE) for Decision ID 65110, Dieldrin Soulajule Reservoir

Region 2

LOE ID:	93414
Pollutant:	Dieldrin
LOE Subgroup:	Pollutant-Tissue
Matrix:	Tissue
Fraction:	Fish fillet
Beneficial Use:	Commercial or recreational collection of fish, shellfish, or organisms
Number of Samples:	0
Number of Exceedances:	0
Data and Information Type:	Fish tissue analysis
Data Used to Assess Water Quality:	State Water Board staff assessed SWAMP data for Soulajule Reservoir to determine beneficial use support and results are as follows: 0 of 0 samples exceed the criterion for Dieldrin. One composite (5 fish per composite) was generated from one species: Largemouth Bass. Details of the compositing protocol can be found in the March 2009 report entitled: "Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Study" (SWAMP, 2009). One composite was not used in the assessment because the laboratory data reporting limit(s) was above the objective and therefore the results could not be quantified with the level of certainty required by the Listing Policy.
Data Reference:	Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Survey. A Report of the Surface Water Ambient Monitoring Program (SWAMP). California State Water Resources Control Board, Sacramento, CA Cruise Report for the Surface Waters Ambient Monitoring Program (SWAMP) Bioaccumulation Screening Study in California Lakes and Reservoirs, Sampling Dates: June 2007- March 2008

SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	Water Quality Control Plan for the San Francisco Bay Basin: Controllable water quality factors shall not cause a detrimental increase in concentrations of toxic substances found in bottom sediments or aquatic life. Effects on aquatic organisms, wildlife, and human health will be considered.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	The modified OEHHA Fish Contaminant Goal for dieldrin in fish tissue is 0.32 ppb. This screening level assumes an average body weight of 70 kg and a consumption rate of 32 g/day for a 30 year exposure over a 70-year lifetime. This constituent is a carcinogen therefore the risk level is set to one in a million. A cooking reduction factor of 1 is applied for skin-off fillets. (Klasing, S., and R. Brodberg, 2008)
Guideline Reference:	Development of Fish Contaminant Goals and Advisory Tissue Levels for Common Contaminants in California Sport Fish: Chlordane, DDTs, Dieldrin, Methylmercury, PCBs, Selenium, and Toxaphene
Spatial Representation:	Data for this assessment unit was collected by one monitoring project: (SWB_FishLk)
Temporal Representation:	Data was collected on a single day 7/30/2007.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	Samples were collected, processed, and analyzed in accordance with the methods described in Quality Assurance Project Plan "Screening Study of Bioaccumulation in California Lakes and Reservoirs." (SWAMP, 2008).
QAPP Information Reference(s):	Quality Assurance Project Plan Screening Study of Bioaccumulation in California Lakes and Reservoirs. Moss Landing Marine Labs. Prepared for SWAMP BOG, 49 pages plus appendices and attachments

Line of Evidence (LOE) for Decision ID 65110, Dieldrin	Region 2
Soulajule Reservoir	

LOE ID:	93411
Pollutant:	Dieldrin
LOE Subgroup:	Pollutant-Tissue
Matrix:	Tissue
Fraction:	Fish fillet
Beneficial Use:	Warm Freshwater Habitat
Number of Samples:	1
Number of Exceedances:	0
Data and Information Type:	Fish tissue analysis
Data Used to Assess Water Quality:	State Water Board staff assessed SWAMP data for Soulajule Reservoir to determine beneficial use support and results are as follows: 0 of 1 samples exceed the criterion for Dieldrin. One composite (5 fish per composite) was generated from one species: Largemouth Bass. Details of the compositing protocol can be found in the March 2009 report entitled: "Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Study" (SWAMP, 2009).
Data Reference:	Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Survey. A Report of the Surface Water Ambient Monitoring Program (SWAMP). California State Water Resources Control Board, Sacramento, CA Cruise Report for the Surface Waters Ambient Monitoring Program (SWAMP) Bioaccumulation Screening Study in California Lakes and Reservoirs, Sampling Dates: June 2007- March 2008 Statewide Lakes Sportfish Contamination Study 2007 2008 Contaminants in Fish from California Lakes and Reservoirs, 2007-2008: Summary Report on a Two-Year Screening Survey

SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	Water Quality Control Plan for the San Francisco Bay Basin: Controllable water quality factors shall not cause a detrimental increase in concentrations of toxic substances found in bottom sediments or aquatic life. Effects on aquatic organisms, wildlife, and human health will be considered.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	National Academy of Science guidelines (NAS 1972) establish a maximum Dieldrin concentration of 100 ug/Kg (wet weight) in tissue samples for protection of aquatic life from bioaccumulation of toxic substances.
Guideline Reference:	National Academy of Sciences. Water Quality Criteria 1972. EPA-R3-73-033. Washington, D.C.: U.S. Environmental Protection Agency
Spatial Representation:	Data for this assessment unit was collected by one monitoring project: (SWB_FishLk)
Temporal Representation:	Data was collected on a single day 7/30/2007.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	Samples were collected, processed, and analyzed in accordance with the methods described in Quality Assurance Project Plan "Screening Study of Bioaccumulation in California Lakes and Reservoirs." (SWAMP, 2008).
QAPP Information Reference(s):	Quality Assurance Project Plan Screening Study of Bioaccumulation in California Lakes and Reservoirs. Moss Landing Marine Labs. Prepared for SWAMP BOG. 49 pages plus appendices and attachments

Line of Evidence (LOE) for Decision ID 65110, Dieldrin

Region 2

Soulajule Reservoir

LOE ID:	93412
Pollutant:	Dieldrin
LOE Subgroup:	Pollutant-Tissue
Matrix:	Tissue
Fraction:	Fish fillet
Beneficial Use:	Cold Freshwater Habitat
Number of Samples:	1
Number of Exceedances:	0
Data and Information Type:	Fish tissue analysis
Data Used to Assess Water Quality:	State Water Board staff assessed SWAMP data for Soulajule Reservoir to determine beneficial use support and results are as follows: 0 of 1 samples exceed the criterion for Dieldrin. One composite (5 fish per composite) was generated from one species: Largemouth Bass. Details of the compositing protocol can be found in the March 2009 report entitled: "Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Study" (SWAMP, 2009).
Data Reference:	Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Survey. A Report of the Surface Water Ambient Monitoring Program (SWAMP). California State Water Resources Control Board, Sacramento, CA Cruise Report for the Surface Waters Ambient Monitoring Program (SWAMP) Bioaccumulation Screening Study in California Lakes and Reservoirs. Sampling Dates: June 2007- March 2008 Statewide Lakes Sportfish Contamination Study 2007 2008 Contaminants in Fish from California Lakes and Reservoirs, 2007-2008: Summary Report on a Two-Year Screening Survey

SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	Water Quality Control Plan for the San Francisco Bay Basin: Controllable water quality factors shall not cause a detrimental increase in concentrations of toxic substances found in bottom sediments or aquatic life. Effects on aquatic organisms, wildlife, and human

Objective/Criterion Reference:	health will be considered. Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	National Academy of Science guidelines (NAS 1972) establish a maximum Dieldrin concentration of 100 ug/Kg (wet weight) in tissue samples for protection of aquatic life from bioaccumulation of toxic substances.
Guideline Reference:	National Academy of Sciences. Water Quality Criteria 1972. EPA-R3-73-033. Washington, D.C.: U.S. Environmental Protection Agency
Spatial Representation:	Data for this assessment unit was collected by one monitoring project: (SWB_FishLk)
Temporal Representation:	Data was collected on a single day 7/30/2007.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	Samples were collected, processed, and analyzed in accordance with the methods described in Quality Assurance Project Plan "Screening Study of Bioaccumulation in California Lakes and Reservoirs." (SWAMP, 2008).
QAPP Information Reference(s):	Quality Assurance Project Plan Screening Study of Bioaccumulation in California Lakes and Reservoirs. Moss Landing Marine Labs. Prepared for SWAMP BOG. 49 pages plus appendices and attachments

DECISION ID	65111	Region 2
Soulajule Reservoir		

Pollutant:	Endosulfan
Final Listing Decision:	Do Not List on 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision:	New Decision
Revision Status	Revised
Impairment from Pollutant or Pollution:	Pollutant
Regional Board Staff Conclusion:	<p>This pollutant is being considered for placement on the CWA section 303(d) List under section 3.5 of the Listing Policy. Under section 3.5 a single line of evidence is necessary to assess listing status. Three lines of evidence are available in the administrative record to assess this pollutant. Zero of one samples exceed the guideline.</p> <p>Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against placing this water segment-pollutant combination on the CWA section 303(d) List.</p> <p>This conclusion is based on the staff findings that:</p> <ol style="list-style-type: none"> 1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy. 2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy. 3. Zero of one samples exceed the guideline and this sample size is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating. A minimum of 16 samples is needed to determine if a beneficial use is fully supported using table 3.1. 4. Pursuant to SECTION 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.
Regional Board Staff Decision Recommendation:	After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be placed on the section 303(d) list. The readily available data and information is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating.

Line of Evidence (LOE) for Decision ID 65111, Endosulfan	Region 2
Soulajule Reservoir	

LOE ID:	93417
Pollutant:	Endosulfan

LOE Subgroup:	Pollutant-Tissue
Matrix:	Tissue
Fraction:	Fish fillet
Beneficial Use:	Commercial or recreational collection of fish, shellfish, or organisms
Number of Samples:	1
Number of Exceedances:	0
Data and Information Type:	Fish tissue analysis
Data Used to Assess Water Quality:	State Water Board staff assessed SWAMP data for SoulaJule Reservoir to determine beneficial use support and results are as follows: 0 of 1 samples exceed the criterion for Endosulfan I. One composite (5 fish per composite) was generated from one species: Largemouth Bass. Details of the compositing protocol can be found in the March 2009 report entitled: "Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Study" (SWAMP, 2009).
Data Reference:	Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Survey. A Report of the Surface Water Ambient Monitoring Program (SWAMP). California State Water Resources Control Board, Sacramento, CA Cruise Report for the Surface Waters Ambient Monitoring Program (SWAMP) Bioaccumulation Screening Study in California Lakes and Reservoirs, Sampling Dates: June 2007- March 2008 Statewide Lakes Sportfish Contamination Study 2007 2008 Contaminants in Fish from California Lakes and Reservoirs, 2007-2008: Summary Report on a Two-Year Screening Survey
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	Water Quality Control Plan for the San Francisco Bay Basin: Controllable water quality factors shall not cause a detrimental increase in concentrations of toxic substances found in bottom sediments or aquatic life. Effects on aquatic organisms, wildlife, and human health will be considered.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	The modified OEHHA Fish Contaminant Goal for endosulfan (I and II) in fish tissue is 13,000 ppb. This screening level assumes an average body weight of 70 kg and a consumption rate of 32 g/day. A cooking reduction factor of 1 is applied for skin-off fillets. (Klasing, S., and R. Brodberg, 2008; USEPA, 2000)
Guideline Reference:	Development of Fish Contaminant Goals and Advisory Tissue Levels for Common Contaminants in California Sport Fish: Chlordane, DDTs, Dieldrin, Methylmercury, PCBs, Selenium, and Toxaphene Guidance for Assessing Chemical Contaminant Data for Use In Fish Advisories Volume 1: Fish Sampling and Analysis
Spatial Representation:	Data for this assessment unit was collected by one monitoring project: (SWB_FishLk)
Temporal Representation:	Data was collected on a single day 7/30/2007.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	Samples were collected, processed, and analyzed in accordance with the methods described in Quality Assurance Project Plan "Screening Study of Bioaccumulation in California Lakes and Reservoirs." (SWAMP, 2008).
QAPP Information Reference(s):	Quality Assurance Project Plan Screening Study of Bioaccumulation in California Lakes and Reservoirs. Moss Landing Marine Labs. Prepared for SWAMP BOG, 49 pages plus appendices and attachments

Line of Evidence (LOE) for Decision ID 65111, Endosulfan

Region 2

SoulaJule Reservoir

LOE ID:	93415
Pollutant:	Endosulfan
LOE Subgroup:	Pollutant-Tissue
Matrix:	Tissue

Fraction:	Fish fillet
Beneficial Use:	Warm Freshwater Habitat
Number of Samples:	1
Number of Exceedances:	0
Data and Information Type:	Fish tissue analysis
Data Used to Assess Water Quality:	State Water Board staff assessed SWAMP data for SoulaJule Reservoir to determine beneficial use support and results are as follows: 0 of 1 samples exceed the criterion for Endosulfan I. One composite (5 fish per composite) was generated from one species: Largemouth Bass. Details of the compositing protocol can be found in the March 2009 report entitled: "Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Study" (SWAMP, 2009).
Data Reference:	Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Survey. A Report of the Surface Water Ambient Monitoring Program (SWAMP). California State Water Resources Control Board, Sacramento, CA Cruise Report for the Surface Waters Ambient Monitoring Program (SWAMP) Bioaccumulation Screening Study in California Lakes and Reservoirs. Sampling Dates: June 2007- March 2008 Statewide Lakes Sportfish Contamination Study 2007 2008 Contaminants in Fish from California Lakes and Reservoirs, 2007-2008: Summary Report on a Two-Year Screening Survey
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	Water Quality Control Plan for the San Francisco Bay Basin: Controllable water quality factors shall not cause a detrimental increase in concentrations of toxic substances found in bottom sediments or aquatic life. Effects on aquatic organisms, wildlife, and human health will be considered.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	National Academy of Science guidelines (NAS 1972) establish a maximum Endosulfan, Total concentration of 100 ug/Kg (wet weight) in tissue samples for protection of aquatic life from bioaccumulation of toxic substances.
Guideline Reference:	National Academy of Sciences. Water Quality Criteria 1972. EPA-R3-73-033. Washington, D.C.: U.S. Environmental Protection Agency
Spatial Representation:	Data for this assessment unit was collected by one monitoring project: (SWB_FishLk)
Temporal Representation:	Data was collected on a single day 7/30/2007.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	Samples were collected, processed, and analyzed in accordance with the methods described in Quality Assurance Project Plan "Screening Study of Bioaccumulation in California Lakes and Reservoirs." (SWAMP, 2008).
QAPP Information Reference(s):	Quality Assurance Project Plan Screening Study of Bioaccumulation in California Lakes and Reservoirs. Moss Landing Marine Labs. Prepared for SWAMP BOG. 49 pages plus appendices and attachments

Line of Evidence (LOE) for Decision ID 65111, Endosulfan

Region 2

SoulaJule Reservoir

LOE ID:	93416
Pollutant:	Endosulfan
LOE Subgroup:	Pollutant-Tissue
Matrix:	Tissue
Fraction:	Fish fillet
Beneficial Use:	Cold Freshwater Habitat
Number of Samples:	1
Number of Exceedances:	0

Data and Information Type:	Fish tissue analysis
Data Used to Assess Water Quality:	State Water Board staff assessed SWAMP data for Soulajule Reservoir to determine beneficial use support and results are as follows: 0 of 1 samples exceed the criterion for Endosulfan I. One composite (5 fish per composite) was generated from one species: Largemouth Bass. Details of the compositing protocol can be found in the March 2009 report entitled: "Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Study" (SWAMP, 2009).
Data Reference:	Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Survey. A Report of the Surface Water Ambient Monitoring Program (SWAMP). California State Water Resources Control Board, Sacramento, CA Cruise Report for the Surface Waters Ambient Monitoring Program (SWAMP) Bioaccumulation Screening Study in California Lakes and Reservoirs, Sampling Dates: June 2007- March 2008 Statewide Lakes Sportfish Contamination Study 2007 2008 Contaminants in Fish from California Lakes and Reservoirs, 2007-2008: Summary Report on a Two-Year Screening Survey
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	Water Quality Control Plan for the San Francisco Bay Basin: Controllable water quality factors shall not cause a detrimental increase in concentrations of toxic substances found in bottom sediments or aquatic life. Effects on aquatic organisms, wildlife, and human health will be considered.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	National Academy of Science guidelines (NAS 1972) establish a maximum Endosulfan, Total concentration of 100 ug/Kg (wet weight) in tissue samples for protection of aquatic life from bioaccumulation of toxic substances.
Guideline Reference:	National Academy of Sciences. Water Quality Criteria 1972. EPA-R3-73-033. Washington, D.C.: U.S. Environmental Protection Agency
Spatial Representation:	Data for this assessment unit was collected by one monitoring project: (SWB_FishLk)
Temporal Representation:	Data was collected on a single day 7/30/2007.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	Samples were collected, processed, and analyzed in accordance with the methods described in Quality Assurance Project Plan "Screening Study of Bioaccumulation in California Lakes and Reservoirs." (SWAMP, 2008).
QAPP Information Reference(s):	Quality Assurance Project Plan Screening Study of Bioaccumulation in California Lakes and Reservoirs. Moss Landing Marine Labs. Prepared for SWAMP BOG, 49 pages plus appendices and attachments

DECISION ID 65112		Region 2
Soulajule Reservoir		
Pollutant:	Endrin	
Final Listing Decision:	Do Not List on 303(d) list (TMDL required list)	
Last Listing Cycle's Final Listing Decision:	New Decision	
Revision Status	Revised	
Impairment from Pollutant or Pollution:	Pollutant	
Regional Board Staff Conclusion:	<p>This pollutant is being considered for placement on the CWA section 303(d) List under section 3.5 of the Listing Policy. Under section 3.5 a single line of evidence is necessary to assess listing status. Three lines of evidence are available in the administrative record to assess this pollutant. Zero of one samples exceed the guideline.</p> <p>Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against placing this water segment-pollutant combination on the CWA section 303(d) List.</p>	

This conclusion is based on the staff findings that:

1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy.
2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy.
3. Zero of one samples exceed the guideline and this sample size is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating. A minimum of 16 samples is needed to determine if a beneficial use is fully supported using table 3.1.
4. Pursuant to SECTION 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.

Regional Board Staff Decision Recommendation: After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be placed on the section 303(d) list. The readily available data and information is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating.

Line of Evidence (LOE) for Decision ID 65112, Endrin

Region 2

Soulajule Reservoir

LOE ID:	93419
Pollutant:	Endrin
LOE Subgroup:	Pollutant-Tissue
Matrix:	Tissue
Fraction:	Fish fillet
Beneficial Use:	Cold Freshwater Habitat
Number of Samples:	1
Number of Exceedances:	0
Data and Information Type:	Fish tissue analysis
Data Used to Assess Water Quality:	State Water Board staff assessed SWAMP data for Soulajule Reservoir to determine beneficial use support and results are as follows: 0 of 1 samples exceed the criterion for Endrin. One composite (5 fish per composite) was generated from one species: Largemouth Bass. Details of the compositing protocol can be found in the March 2009 report entitled: "Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Study" (SWAMP, 2009).
Data Reference:	Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Survey. A Report of the Surface Water Ambient Monitoring Program (SWAMP). California State Water Resources Control Board, Sacramento, CA Cruise Report for the Surface Waters Ambient Monitoring Program (SWAMP) Bioaccumulation Screening Study in California Lakes and Reservoirs, Sampling Dates: June 2007- March 2008 Statewide Lakes Sportfish Contamination Study 2007 2008 Contaminants in Fish from California Lakes and Reservoirs, 2007-2008: Summary Report on a Two-Year Screening Survey
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	Water Quality Control Plan for the San Francisco Bay Basin: Controllable water quality factors shall not cause a detrimental increase in concentrations of toxic substances found in bottom sediments or aquatic life. Effects on aquatic organisms, wildlife, and human health will be considered.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	National Academy of Science guidelines (NAS 1972) establish a maximum Endrin concentration of 100 ug/Kg (wet weight) in tissue samples for protection of aquatic life from bioaccumulation of toxic substances.
Guideline Reference:	National Academy of Sciences. Water Quality Criteria 1972. EPA-R3-73-033. Washington, D.C.: U.S. Environmental Protection Agency

Spatial Representation:	Data for this assessment unit was collected by one monitoring project: (SWB_FishLk)
Temporal Representation:	Data was collected on a single day 7/30/2007.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	Samples were collected, processed, and analyzed in accordance with the methods described in Quality Assurance Project Plan "Screening Study of Bioaccumulation in California Lakes and Reservoirs." (SWAMP, 2008).
QAPP Information Reference(s):	Quality Assurance Project Plan Screening Study of Bioaccumulation in California Lakes and Reservoirs. Moss Landing Marine Labs. Prepared for SWAMP BOG. 49 pages plus appendices and attachments

Line of Evidence (LOE) for Decision ID 65112, Endrin

Region 2

Soulajule Reservoir

LOE ID:	93420
Pollutant:	Endrin
LOE Subgroup:	Pollutant-Tissue
Matrix:	Tissue
Fraction:	Fish fillet
Beneficial Use:	Commercial or recreational collection of fish, shellfish, or organisms
Number of Samples:	1
Number of Exceedances:	0
Data and Information Type:	Fish tissue analysis
Data Used to Assess Water Quality:	State Water Board staff assessed SWAMP data for Soulajule Reservoir to determine beneficial use support and results are as follows: 0 of 1 samples exceed the criterion for Endrin. One composite (5 fish per composite) was generated from one species: Largemouth Bass. Details of the compositing protocol can be found in the March 2009 report entitled: "Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Study" (SWAMP, 2009).
Data Reference:	Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Survey. A Report of the Surface Water Ambient Monitoring Program (SWAMP). California State Water Resources Control Board, Sacramento, CA Cruise Report for the Surface Waters Ambient Monitoring Program (SWAMP) Bioaccumulation Screening Study in California Lakes and Reservoirs. Sampling Dates: June 2007- March 2008 Statewide Lakes Sportfish Contamination Study 2007 2008 Contaminants in Fish from California Lakes and Reservoirs, 2007-2008: Summary Report on a Two-Year Screening Survey
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	Water Quality Control Plan for the San Francisco Bay Basin: Controllable water quality factors shall not cause a detrimental increase in concentrations of toxic substances found in bottom sediments or aquatic life. Effects on aquatic organisms, wildlife, and human health will be considered.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	The modified OEHHA Fish Contaminant Goal for endrin in fish tissue is 660 ppb. This screening level assumes an average body weight of 70 kg and a consumption rate of 32 g/day. A cooking reduction factor of 1 is applied for skin-off fillets. (Klasing, S., and R. Brodberg, 2008; USEPA, 2000)
Guideline Reference:	Development of Fish Contaminant Goals and Advisory Tissue Levels for Common Contaminants in California Sport Fish: Chlordane, DDTs, Dieldrin, Methylmercury, PCBs, Selenium, and Toxaphene Guidance for Assessing Chemical Contaminant Data for Use In Fish Advisories Volume 1: Fish Sampling and Analysis
Spatial Representation:	Data for this assessment unit was collected by one monitoring project: (SWB_FishLk)
Temporal Representation:	Data was collected on a single day 7/30/2007.

Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	Samples were collected, processed, and analyzed in accordance with the methods described in Quality Assurance Project Plan "Screening Study of Bioaccumulation in California Lakes and Reservoirs." (SWAMP, 2008).
QAPP Information Reference(s):	Quality Assurance Project Plan Screening Study of Bioaccumulation in California Lakes and Reservoirs. Moss Landing Marine Labs. Prepared for SWAMP BOG. 49 pages plus appendices and attachments

Line of Evidence (LOE) for Decision ID 65112, Endrin

Region 2

Soulajule Reservoir

LOE ID:	93418
Pollutant:	Endrin
LOE Subgroup:	Pollutant-Tissue
Matrix:	Tissue
Fraction:	Fish fillet
Beneficial Use:	Warm Freshwater Habitat
Number of Samples:	1
Number of Exceedances:	0
Data and Information Type:	Fish tissue analysis
Data Used to Assess Water Quality:	State Water Board staff assessed SWAMP data for Soulajule Reservoir to determine beneficial use support and results are as follows: 0 of 1 samples exceed the criterion for Endrin. One composite (5 fish per composite) was generated from one species: Largemouth Bass. Details of the compositing protocol can be found in the March 2009 report entitled: "Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Study" (SWAMP, 2009).
Data Reference:	Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Survey. A Report of the Surface Water Ambient Monitoring Program (SWAMP). California State Water Resources Control Board, Sacramento, CA Cruise Report for the Surface Waters Ambient Monitoring Program (SWAMP) Bioaccumulation Screening Study in California Lakes and Reservoirs. Sampling Dates: June 2007- March 2008 Statewide Lakes Sportfish Contamination Study 2007 2008 Contaminants in Fish from California Lakes and Reservoirs. 2007-2008: Summary Report on a Two-Year Screening Survey
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	Water Quality Control Plan for the San Francisco Bay Basin: Controllable water quality factors shall not cause a detrimental increase in concentrations of toxic substances found in bottom sediments or aquatic life. Effects on aquatic organisms, wildlife, and human health will be considered.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	National Academy of Science guidelines (NAS 1972) establish a maximum Endrin concentration of 100 ug/Kg (wet weight) in tissue samples for protection of aquatic life from bioaccumulation of toxic substances.
Guideline Reference:	National Academy of Sciences. Water Quality Criteria 1972. EPA-R3-73-033. Washington, D.C.: U.S. Environmental Protection Agency
Spatial Representation:	Data for this assessment unit was collected by one monitoring project: (SWB_FishLk)
Temporal Representation:	Data was collected on a single day 7/30/2007.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	Samples were collected, processed, and analyzed in accordance with the methods described in Quality Assurance Project Plan "Screening Study of Bioaccumulation in California Lakes and Reservoirs." (SWAMP, 2008).
QAPP Information Reference(s):	Quality Assurance Project Plan Screening Study of Bioaccumulation in California Lakes and Reservoirs. Moss Landing Marine Labs. Prepared for SWAMP BOG. 49 pages plus

DECISION ID	65113	Region 2
Soulajule Reservoir		

Pollutant: Heptachlor
Final Listing Decision: Do Not List on 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision: New Decision
Revision Status: Revised
Impairment from Pollutant or Pollution: Pollutant

Regional Board Staff Conclusion: This pollutant is being considered for placement on the CWA section 303(d) List under section 3.5 of the Listing Policy. Under section 3.5 a single line of evidence is necessary to assess listing status. Two lines of evidence are available in the administrative record to assess this pollutant. Zero of one samples exceed the guideline.

Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against placing this water segment-pollutant combination on the CWA section 303(d) List.

This conclusion is based on the staff findings that:

1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy.
2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy.
3. Zero of one samples exceed the guideline and this sample size is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating. A minimum of 16 samples is needed to determine if a beneficial use is fully supported using table 3.1.
4. Pursuant to SECTION 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.

Regional Board Staff Decision Recommendation: After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be placed on the section 303(d) list. The readily available data and information is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating.

Line of Evidence (LOE) for Decision ID 65113, Heptachlor	Region 2
Soulajule Reservoir	

LOE ID: 93421
Pollutant: Heptachlor
LOE Subgroup: Pollutant-Tissue
Matrix: Tissue
Fraction: Fish fillet
Beneficial Use: Warm Freshwater Habitat
Number of Samples: 1
Number of Exceedances: 0
Data and Information Type: Fish tissue analysis
Data Used to Assess Water Quality: State Water Board staff assessed SWAMP data for Soulajule Reservoir to determine beneficial use support and results are as follows: 0 of 1 samples exceed the criterion for Heptachlor. One composite (5 fish per composite) was generated from one species: Largemouth Bass. Details of the compositing protocol can be found in the March 2009 report entitled: "Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Study" (SWAMP, 2009).
Data Reference: [Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year](#)

[One of a Two-Year Screening Survey. A Report of the Surface Water Ambient Monitoring Program \(SWAMP\). California State Water Resources Control Board, Sacramento, CA](#)
[Cruise Report for the Surface Waters Ambient Monitoring Program \(SWAMP\)](#)
[Bioaccumulation Screening Study in California Lakes and Reservoirs. Sampling Dates: June 2007- March 2008](#)
[Statewide Lakes Sportfish Contamination Study 2007 2008](#)
[Contaminants in Fish from California Lakes and Reservoirs. 2007-2008: Summary Report on a Two-Year Screening Survey](#)

SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	Water Quality Control Plan for the San Francisco Bay Basin: Controllable water quality factors shall not cause a detrimental increase in concentrations of toxic substances found in bottom sediments or aquatic life. Effects on aquatic organisms, wildlife, and human health will be considered.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	National Academy of Science guidelines (NAS 1972) establish a maximum Heptachlor concentration of 100 ug/Kg (wet weight) in tissue samples for protection of aquatic life from bioaccumulation of toxic substances.
Guideline Reference:	National Academy of Sciences. Water Quality Criteria 1972. EPA-R3-73-033. Washington, D.C.: U.S. Environmental Protection Agency
Spatial Representation:	Data for this assessment unit was collected by one monitoring project: (SWB_FishLk)
Temporal Representation:	Data was collected on a single day 7/30/2007.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	Samples were collected, processed, and analyzed in accordance with the methods described in Quality Assurance Project Plan "Screening Study of Bioaccumulation in California Lakes and Reservoirs." (SWAMP, 2008).
QAPP Information Reference(s):	Quality Assurance Project Plan Screening Study of Bioaccumulation in California Lakes and Reservoirs. Moss Landing Marine Labs. Prepared for SWAMP BOG. 49 pages plus appendices and attachments

Line of Evidence (LOE) for Decision ID 65113, Heptachlor
Soulajule Reservoir

Region 2

LOE ID:	93422
Pollutant:	Heptachlor
LOE Subgroup:	Pollutant-Tissue
Matrix:	Tissue
Fraction:	Fish fillet
Beneficial Use:	Cold Freshwater Habitat
Number of Samples:	1
Number of Exceedances:	0
Data and Information Type:	Fish tissue analysis
Data Used to Assess Water Quality:	State Water Board staff assessed SWAMP data for Soulajule Reservoir to determine beneficial use support and results are as follows: 0 of 1 samples exceed the criterion for Heptachlor. One composite (5 fish per composite) was generated from one species: Largemouth Bass. Details of the compositing protocol can be found in the March 2009 report entitled: "Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Study" (SWAMP, 2009).
Data Reference:	Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Survey. A Report of the Surface Water Ambient Monitoring Program (SWAMP). California State Water Resources Control Board, Sacramento, CA Cruise Report for the Surface Waters Ambient Monitoring Program (SWAMP) Bioaccumulation Screening Study in California Lakes and Reservoirs. Sampling Dates: June 2007- March 2008 Statewide Lakes Sportfish Contamination Study 2007 2008

SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	Water Quality Control Plan for the San Francisco Bay Basin: Controllable water quality factors shall not cause a detrimental increase in concentrations of toxic substances found in bottom sediments or aquatic life. Effects on aquatic organisms, wildlife, and human health will be considered.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	National Academy of Science guidelines (NAS 1972) establish a maximum Heptachlor concentration of 100 ug/Kg (wet weight) in tissue samples for protection of aquatic life from bioaccumulation of toxic substances.
Guideline Reference:	National Academy of Sciences. Water Quality Criteria 1972. EPA-R3-73-033. Washington, D.C.: U.S. Environmental Protection Agency
Spatial Representation:	Data for this assessment unit was collected by one monitoring project: (SWB_FishLk)
Temporal Representation:	Data was collected on a single day 7/30/2007.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	Samples were collected, processed, and analyzed in accordance with the methods described in Quality Assurance Project Plan "Screening Study of Bioaccumulation in California Lakes and Reservoirs." (SWAMP, 2008).
QAPP Information Reference(s):	Quality Assurance Project Plan Screening Study of Bioaccumulation in California Lakes and Reservoirs. Moss Landing Marine Labs. Prepared for SWAMP BOG. 49 pages plus appendices and attachments

DECISION ID	65114	Region 2
Soulajule Reservoir		

Pollutant:	Heptachlor epoxide
Final Listing Decision:	Do Not List on 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision:	New Decision
Revision Status	Revised
Impairment from Pollutant or Pollution:	Pollutant
Regional Board Staff Conclusion:	<p>This pollutant is being considered for placement on the CWA section 303(d) List under section 3.5 of the Listing Policy. Under section 3.5 a single line of evidence is necessary to assess listing status. Three lines of evidence are available in the administrative record to assess this pollutant. Zero of one samples exceed the guideline.</p> <p>Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against placing this water segment-pollutant combination on the CWA section 303(d) List.</p> <p>This conclusion is based on the staff findings that:</p> <ol style="list-style-type: none"> 1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy. 2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy. 3. Zero of one samples exceed the guideline and this sample size is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating. A minimum of 16 samples is needed to determine if a beneficial use is fully supported using table 3.1. 4. Pursuant to SECTION 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.
Regional Board Staff Decision Recommendation:	After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be placed on the section 303(d) list. The readily available data and information is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating.

Line of Evidence (LOE) for Decision ID 65114, Heptachlor epoxide**Region 2****Soulajule Reservoir**

LOE ID:	93423
Pollutant:	Heptachlor epoxide
LOE Subgroup:	Pollutant-Tissue
Matrix:	Tissue
Fraction:	Fish fillet
Beneficial Use:	Warm Freshwater Habitat
Number of Samples:	1
Number of Exceedances:	0
Data and Information Type:	Fish tissue analysis
Data Used to Assess Water Quality:	State Water Board staff assessed SWAMP data for Soulajule Reservoir to determine beneficial use support and results are as follows: 0 of 1 samples exceed the criterion for Heptachlor epoxide. One composite (5 fish per composite) was generated from one species: Largemouth Bass. Details of the compositing protocol can be found in the March 2009 report entitled: "Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Study" (SWAMP, 2009).
Data Reference:	Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Survey. A Report of the Surface Water Ambient Monitoring Program (SWAMP). California State Water Resources Control Board, Sacramento, CA Cruise Report for the Surface Waters Ambient Monitoring Program (SWAMP) Bioaccumulation Screening Study in California Lakes and Reservoirs, Sampling Dates: June 2007- March 2008 Statewide Lakes Sportfish Contamination Study 2007 2008 Contaminants in Fish from California Lakes and Reservoirs, 2007-2008: Summary Report on a Two-Year Screening Survey
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	Water Quality Control Plan for the San Francisco Bay Basin: Controllable water quality factors shall not cause a detrimental increase in concentrations of toxic substances found in bottom sediments or aquatic life. Effects on aquatic organisms, wildlife, and human health will be considered.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	National Academy of Science guidelines (NAS 1972) establish a maximum Heptachlor Epoxide concentration of 100 ug/Kg (wet weight) in tissue samples for protection of aquatic life from bioaccumulation of toxic substances.
Guideline Reference:	National Academy of Sciences. Water Quality Criteria 1972. EPA-R3-73-033. Washington, D.C.: U.S. Environmental Protection Agency
Spatial Representation:	Data for this assessment unit was collected by one monitoring project: (SWB_FishLk)
Temporal Representation:	Data was collected on a single day 7/30/2007.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	Samples were collected, processed, and analyzed in accordance with the methods described in Quality Assurance Project Plan "Screening Study of Bioaccumulation in California Lakes and Reservoirs." (SWAMP, 2008).
QAPP Information Reference(s):	Quality Assurance Project Plan Screening Study of Bioaccumulation in California Lakes and Reservoirs. Moss Landing Marine Labs. Prepared for SWAMP BOG. 49 pages plus appendices and attachments

Line of Evidence (LOE) for Decision ID 65114, Heptachlor epoxide**Region 2****Soulajule Reservoir**

LOE ID: 93425

Pollutant:	Heptachlor epoxide
LOE Subgroup:	Pollutant-Tissue
Matrix:	Tissue
Fraction:	Fish fillet
Beneficial Use:	Commercial or recreational collection of fish, shellfish, or organisms
Number of Samples:	0
Number of Exceedances:	0
Data and Information Type:	Fish tissue analysis
Data Used to Assess Water Quality:	State Water Board staff assessed SWAMP data for SoulaJule Reservoir to determine beneficial use support and results are as follows: 0 of 0 samples exceed the criterion for Heptachlor epoxide. One composite (5 fish per composite) was generated from one species: Largemouth Bass. Details of the compositing protocol can be found in the March 2009 report entitled: "Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Study" (SWAMP, 2009). One composite was not used in the assessment because the laboratory data reporting limit(s) was above the objective and therefore the results could not be quantified with the level of certainty required by the Listing Policy.
Data Reference:	Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Survey. A Report of the Surface Water Ambient Monitoring Program (SWAMP). California State Water Resources Control Board. Sacramento, CA Cruise Report for the Surface Waters Ambient Monitoring Program (SWAMP) Bioaccumulation Screening Study in California Lakes and Reservoirs. Sampling Dates: June 2007- March 2008 Statewide Lakes Sportfish Contamination Study 2007 2008 Contaminants in Fish from California Lakes and Reservoirs, 2007-2008: Summary Report on a Two-Year Screening Survey
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	Water Quality Control Plan for the San Francisco Bay Basin: Controllable water quality factors shall not cause a detrimental increase in concentrations of toxic substances found in bottom sediments or aquatic life. Effects on aquatic organisms, wildlife, and human health will be considered.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	The modified OEHHA Fish Contaminant Goal for heptachlor epoxide in fish tissue is 0.93 ppb. This screening level assumes an average body weight of 70 kg and a consumption rate of 32 g/day for a 30 year exposure over a 70-year lifetime. This constituent is a carcinogen therefore the risk level is set to one in a million. A cooking reduction factor of 1 is applied for skin-off fillets. (Klasing, S., and R. Brodberg, 2008; OEHHA, 1999)
Guideline Reference:	Development of Fish Contaminant Goals and Advisory Tissue Levels for Common Contaminants in California Sport Fish: Chlordane, DDTs, Dieldrin, Methylmercury, PCBs, Selenium, and Toxaphene Public Health Goal for Heptachlor and Heptachlor Epoxide in Drinking Water
Spatial Representation:	Data for this assessment unit was collected by one monitoring project: (SWB_FishLk)
Temporal Representation:	Data was collected on a single day 7/30/2007.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	Samples were collected, processed, and analyzed in accordance with the methods described in Quality Assurance Project Plan "Screening Study of Bioaccumulation in California Lakes and Reservoirs." (SWAMP, 2008).
QAPP Information Reference(s):	Quality Assurance Project Plan Screening Study of Bioaccumulation in California Lakes and Reservoirs. Moss Landing Marine Labs. Prepared for SWAMP BOG. 49 pages plus appendices and attachments

Line of Evidence (LOE) for Decision ID 65114, Heptachlor epoxide

Region 2

SoulaJule Reservoir

LOE ID:	93424
Pollutant:	Heptachlor epoxide
LOE Subgroup:	Pollutant-Tissue
Matrix:	Tissue
Fraction:	Fish fillet
Beneficial Use:	Cold Freshwater Habitat
Number of Samples:	1
Number of Exceedances:	0
Data and Information Type:	Fish tissue analysis
Data Used to Assess Water Quality:	State Water Board staff assessed SWAMP data for SoulaJule Reservoir to determine beneficial use support and results are as follows: 0 of 1 samples exceed the criterion for Heptachlor epoxide. One composite (5 fish per composite) was generated from one species: Largemouth Bass. Details of the compositing protocol can be found in the March 2009 report entitled: "Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Study" (SWAMP, 2009).
Data Reference:	Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Survey. A Report of the Surface Water Ambient Monitoring Program (SWAMP). California State Water Resources Control Board, Sacramento, CA Cruise Report for the Surface Waters Ambient Monitoring Program (SWAMP) Bioaccumulation Screening Study in California Lakes and Reservoirs. Sampling Dates: June 2007- March 2008 Statewide Lakes Sportfish Contamination Study 2007 2008 Contaminants in Fish from California Lakes and Reservoirs, 2007-2008: Summary Report on a Two-Year Screening Survey
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	Water Quality Control Plan for the San Francisco Bay Basin: Controllable water quality factors shall not cause a detrimental increase in concentrations of toxic substances found in bottom sediments or aquatic life. Effects on aquatic organisms, wildlife, and human health will be considered.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	National Academy of Science guidelines (NAS 1972) establish a maximum Heptachlor Epoxide concentration of 100 ug/Kg (wet weight) in tissue samples for protection of aquatic life from bioaccumulation of toxic substances.
Guideline Reference:	National Academy of Sciences. Water Quality Criteria 1972. EPA-R3-73-033. Washington, D.C.: U.S. Environmental Protection Agency
Spatial Representation:	Data for this assessment unit was collected by one monitoring project: (SWB_FishLk)
Temporal Representation:	Data was collected on a single day 7/30/2007.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	Samples were collected, processed, and analyzed in accordance with the methods described in Quality Assurance Project Plan "Screening Study of Bioaccumulation in California Lakes and Reservoirs." (SWAMP, 2008).
QAPP Information Reference(s):	Quality Assurance Project Plan Screening Study of Bioaccumulation in California Lakes and Reservoirs. Moss Landing Marine Labs. Prepared for SWAMP BOG, 49 pages plus appendices and attachments

DECISION ID	65115	Region 2
SoulaJule Reservoir		
Pollutant:	Hexachlorobenzene/ HCB	
Final Listing Decision:	Do Not List on 303(d) list (TMDL required list)	
Last Listing Cycle's Final Listing Decision:	New Decision	
Revision Status	Revised	

Impairment from Pollutant or Pollution: Pollutant

Regional Board Staff Conclusion:

This pollutant is being considered for placement on the CWA section 303(d) List under section 3.5 of the Listing Policy. Under section 3.5 a single line of evidence is necessary to assess listing status. One line of evidence is available in the administrative record to assess this pollutant. Zero of one samples exceed the guideline.

Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against placing this water segment-pollutant combination on the CWA section 303(d) List.

This conclusion is based on the staff findings that:

1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy.
2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy.
3. Zero of one samples exceed the guideline and this sample size is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating. A minimum of 16 samples is needed to determine if a beneficial use is fully supported using table 3.1.
4. Pursuant to SECTION 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.

Regional Board Staff Decision Recommendation:

After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be placed on the section 303(d) list. The readily available data and information is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating.

Line of Evidence (LOE) for Decision ID 65115, Hexachlorobenzene/ HCB

Region 2

Soulajule Reservoir

LOE ID: 93426

Pollutant: Hexachlorobenzene/ HCB
LOE Subgroup: Pollutant-Tissue
Matrix: Tissue
Fraction: Fish fillet

Beneficial Use: Commercial or recreational collection of fish, shellfish, or organisms

Number of Samples: 1
Number of Exceedances: 0

Data and Information Type: Fish tissue analysis

Data Used to Assess Water Quality: State Water Board staff assessed SWAMP data for Soulajule Reservoir to determine beneficial use support and results are as follows: 0 of 1 samples exceed the criterion for Hexachlorobenzene. One composite (5 fish per composite) was generated from one species: Largemouth Bass. Details of the compositing protocol can be found in the March 2009 report entitled: "Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Study" (SWAMP, 2009).

Data Reference: [Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Survey. A Report of the Surface Water Ambient Monitoring Program \(SWAMP\). California State Water Resources Control Board, Sacramento, CA](#)
[Cruise Report for the Surface Waters Ambient Monitoring Program \(SWAMP\)](#)
[Bioaccumulation Screening Study in California Lakes and Reservoirs. Sampling Dates: June 2007- March 2008](#)
[Statewide Lakes Sportfish Contamination Study 2007 2008](#)
[Contaminants in Fish from California Lakes and Reservoirs, 2007-2008: Summary Report on a Two-Year Screening Survey](#)

SWAMP Data: SWAMP

Water Quality Objective/Criterion: Water Quality Control Plan for the San Francisco Bay Basin: Controllable water quality

factors shall not cause a detrimental increase in concentrations of toxic substances found in bottom sediments or aquatic life. Effects on aquatic organisms, wildlife, and human health will be considered.

Objective/Criterion Reference:

[Water Quality Control Plan \(Basin Plan\) San Francisco Bay Basin \(Region 2\)](#)

Evaluation Guideline:

The modified OEHHA Fish Contaminant Goal for hexachlorobenzene in fish tissue is 2.8 ppb. This screening level assumes an average body weight of 70 kg and a consumption rate of 32 g/day for a 30 year exposure over a 70-year lifetime. This constituent is a carcinogen therefore the risk level is set to one in a million. A cooking reduction factor of 1 is applied for skin-off fillets. (Klasing, S., and R. Brodberg, 2008; OEHHA, 2005)

Guideline Reference:

[Development of Fish Contaminant Goals and Advisory Tissue Levels for Common Contaminants in California Sport Fish: Chlordane, DDTs, Dieldrin, Methylmercury, PCBs, Selenium, and Toxaphene](#)
[Air Toxics Hotspots Program Risk Assessment Guidelines. Part II Technical Support Document for Describing Available Cancer Potency Values.](#)

Spatial Representation:

Data for this assessment unit was collected by one monitoring project: (SWB_FishLk)

Temporal Representation:

Data was collected on a single day 7/30/2007.

Environmental Conditions:

Staff is not aware of any special conditions that might affect interpretation of the data.

QAPP Information:

Samples were collected, processed, and analyzed in accordance with the methods described in Quality Assurance Project Plan "Screening Study of Bioaccumulation in California Lakes and Reservoirs." (SWAMP, 2008).

QAPP Information Reference(s):

[Quality Assurance Project Plan Screening Study of Bioaccumulation in California Lakes and Reservoirs. Moss Landing Marine Labs. Prepared for SWAMP BOG. 49 pages plus appendices and attachments](#)

DECISION ID	65116	Region 2
Soulajule Reservoir		

Pollutant:	Lindane/gamma Hexachlorocyclohexane (gamma-HCH)
Final Listing Decision:	Do Not List on 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision:	New Decision
Revision Status	Revised
Impairment from Pollutant or Pollution:	Pollutant

Regional Board Staff Conclusion:

This pollutant is being considered for placement on the CWA section 303(d) List under section 3.5 of the Listing Policy. Under section 3.5 a single line of evidence is necessary to assess listing status. Three lines of evidence are available in the administrative record to assess this pollutant. Zero of one samples exceed the guideline.

Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against placing this water segment-pollutant combination on the CWA section 303(d) List.

This conclusion is based on the staff findings that:

1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy.
2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy.
3. Zero of one samples exceed the guideline and this sample size is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating. A minimum of 16 samples is needed to determine if a beneficial use is fully supported using table 3.1.
4. Pursuant to SECTION 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.

Regional Board Staff Decision Recommendation:

After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be placed on the section 303(d) list. The readily available data and information is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating.

Line of Evidence (LOE) for Decision ID 65116, Lindane/gamma Hexachlorocyclohexane (gamma-HCH)

Region 2

Soulajule Reservoir

LOE ID:	93427
Pollutant:	Lindane/gamma Hexachlorocyclohexane (gamma-HCH)
LOE Subgroup:	Pollutant-Tissue
Matrix:	Tissue
Fraction:	Fish fillet
Beneficial Use:	Warm Freshwater Habitat
Number of Samples:	1
Number of Exceedances:	0
Data and Information Type:	Fish tissue analysis
Data Used to Assess Water Quality:	State Water Board staff assessed SWAMP data for Soulajule Reservoir to determine beneficial use support and results are as follows: 0 of 1 samples exceed the criterion for HCH, gamma. One composite (5 fish per composite) was generated from one species: Largemouth Bass. Details of the compositing protocol can be found in the March 2009 report entitled: "Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Study" (SWAMP, 2009).
Data Reference:	Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Survey. A Report of the Surface Water Ambient Monitoring Program (SWAMP). California State Water Resources Control Board, Sacramento, CA Cruise Report for the Surface Waters Ambient Monitoring Program (SWAMP) Bioaccumulation Screening Study in California Lakes and Reservoirs, Sampling Dates: June 2007- March 2008 Statewide Lakes Sportfish Contamination Study 2007 2008 Contaminants in Fish from California Lakes and Reservoirs, 2007-2008: Summary Report on a Two-Year Screening Survey
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	Water Quality Control Plan for the San Francisco Bay Basin: Controllable water quality factors shall not cause a detrimental increase in concentrations of toxic substances found in bottom sediments or aquatic life. Effects on aquatic organisms, wildlife, and human health will be considered.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	The modified OEHHA Fish Contaminant Goal for lindane in fish tissue is 4.6 ppb. This screening level assumes an average body weight of 70 kg and a consumption rate of 32 g/day for a 30 year exposure over a 70-year lifetime. This constituent is a carcinogen therefore the risk level is set to one in a million. A cooking reduction factor of 1 is applied for skin-off fillets. (Klasing, S., and R. Brodberg, 2008; OEHHA, 2005)
Guideline Reference:	National Academy of Sciences. Water Quality Criteria 1972. EPA-R3-73-033. Washington, D.C.: U.S. Environmental Protection Agency
Spatial Representation:	Data for this assessment unit was collected by one monitoring project: (SWB_FishLk)
Temporal Representation:	Data was collected on a single day 7/30/2007.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	Samples were collected, processed, and analyzed in accordance with the methods described in Quality Assurance Project Plan "Screening Study of Bioaccumulation in California Lakes and Reservoirs." (SWAMP, 2008).
QAPP Information Reference(s):	Quality Assurance Project Plan Screening Study of Bioaccumulation in California Lakes and Reservoirs. Moss Landing Marine Labs. Prepared for SWAMP BOG, 49 pages plus appendices and attachments

Line of Evidence (LOE) for Decision ID 65116, Lindane/gamma Hexachlorocyclohexane (gamma-HCH)

Region 2

Soulajule Reservoir

LOE ID:	93429
Pollutant:	Lindane/gamma Hexachlorocyclohexane (gamma-HCH)
LOE Subgroup:	Pollutant-Tissue
Matrix:	Tissue
Fraction:	Fish fillet
Beneficial Use:	Cold Freshwater Habitat
Number of Samples:	1
Number of Exceedances:	0
Data and Information Type:	Fish tissue analysis
Data Used to Assess Water Quality:	State Water Board staff assessed SWAMP data for SoulaJule Reservoir to determine beneficial use support and results are as follows: 0 of 1 samples exceed the criterion for HCH, gamma. One composite (5 fish per composite) was generated from one species: Largemouth Bass. Details of the compositing protocol can be found in the March 2009 report entitled: "Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Study" (SWAMP, 2009).
Data Reference:	Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Survey. A Report of the Surface Water Ambient Monitoring Program (SWAMP). California State Water Resources Control Board, Sacramento, CA Cruise Report for the Surface Waters Ambient Monitoring Program (SWAMP) Bioaccumulation Screening Study in California Lakes and Reservoirs, Sampling Dates: June 2007- March 2008 Statewide Lakes Sportfish Contamination Study 2007 2008 Contaminants in Fish from California Lakes and Reservoirs, 2007-2008: Summary Report on a Two-Year Screening Survey
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	Water Quality Control Plan for the San Francisco Bay Basin: Controllable water quality factors shall not cause a detrimental increase in concentrations of toxic substances found in bottom sediments or aquatic life. Effects on aquatic organisms, wildlife, and human health will be considered.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	The modified OEHHA Fish Contaminant Goal for lindane in fish tissue is 4.6 ppb. This screening level assumes an average body weight of 70 kg and a consumption rate of 32 g/day for a 30 year exposure over a 70-year lifetime. This constituent is a carcinogen therefore the risk level is set to one in a million. A cooking reduction factor of 1 is applied for skin-off fillets. (Klasing, S., and R. Brodberg, 2008; OEHHA, 2005)
Guideline Reference:	National Academy of Sciences. Water Quality Criteria 1972. EPA-R3-73-033. Washington, D.C.: U.S. Environmental Protection Agency
Spatial Representation:	Data for this assessment unit was collected by one monitoring project: (SWB_FishLk)
Temporal Representation:	Data was collected on a single day 7/30/2007.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	Samples were collected, processed, and analyzed in accordance with the methods described in Quality Assurance Project Plan "Screening Study of Bioaccumulation in California Lakes and Reservoirs." (SWAMP, 2008).
QAPP Information Reference(s):	Quality Assurance Project Plan Screening Study of Bioaccumulation in California Lakes and Reservoirs. Moss Landing Marine Labs. Prepared for SWAMP BOG, 49 pages plus appendices and attachments

Line of Evidence (LOE) for Decision ID 65116, Lindane/gamma Hexachlorocyclohexane (gamma-HCH)

Region 2

SoulaJule Reservoir

LOE ID: 93428

Pollutant:	Lindane/gamma Hexachlorocyclohexane (gamma-HCH)
LOE Subgroup:	Pollutant-Tissue
Matrix:	Tissue
Fraction:	Fish fillet
Beneficial Use:	Commercial or recreational collection of fish, shellfish, or organisms
Number of Samples:	1
Number of Exceedances:	0
Data and Information Type:	Fish tissue analysis
Data Used to Assess Water Quality:	State Water Board staff assessed SWAMP data for SoulaJule Reservoir to determine beneficial use support and results are as follows: 0 of 1 samples exceed the criterion for HCH, gamma. One composite (5 fish per composite) was generated from one species: Largemouth Bass. Details of the compositing protocol can be found in the March 2009 report entitled: "Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Study" (SWAMP, 2009).
Data Reference:	Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Survey. A Report of the Surface Water Ambient Monitoring Program (SWAMP). California State Water Resources Control Board, Sacramento, CA Cruise Report for the Surface Waters Ambient Monitoring Program (SWAMP) Bioaccumulation Screening Study in California Lakes and Reservoirs, Sampling Dates: June 2007- March 2008 Statewide Lakes Sportfish Contamination Study 2007 2008 Contaminants in Fish from California Lakes and Reservoirs, 2007-2008: Summary Report on a Two-Year Screening Survey
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	Water Quality Control Plan for the San Francisco Bay Basin: Controllable water quality factors shall not cause a detrimental increase in concentrations of toxic substances found in bottom sediments or aquatic life. Effects on aquatic organisms, wildlife, and human health will be considered.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	The modified OEHHA Fish Contaminant Goal for lindane in fish tissue is 4.6 ppb. This screening level assumes an average body weight of 70 kg and a consumption rate of 32 g/day for a 30 year exposure over a 70-year lifetime. This constituent is a carcinogen therefore the risk level is set to one in a million. A cooking reduction factor of 1 is applied for skin-off fillets.
Guideline Reference:	Development of Fish Contaminant Goals and Advisory Tissue Levels for Common Contaminants in California Sport Fish: Chlordane, DDTs, Dieldrin, Methylmercury, PCBs, Selenium, and Toxaphene Air Toxics Hotspots Program Risk Assessment Guidelines. Part II Technical Support Document for Describing Available Cancer Potency Values.
Spatial Representation:	Data for this assessment unit was collected by one monitoring project: (SWB_FishLk)
Temporal Representation:	Data was collected on a single day 7/30/2007.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	Samples were collected, processed, and analyzed in accordance with the methods described in Quality Assurance Project Plan "Screening Study of Bioaccumulation in California Lakes and Reservoirs." (SWAMP, 2008).
QAPP Information Reference(s):	Quality Assurance Project Plan Screening Study of Bioaccumulation in California Lakes and Reservoirs. Moss Landing Marine Labs. Prepared for SWAMP BOG, 49 pages plus appendices and attachments

DECISION ID	65117	Region 2
SoulaJule Reservoir		

Pollutant: Mirex
Final Listing Decision: Do Not List on 303(d) list (TMDL required list)

Last Listing Cycle's Final Listing Decision:
Revision Status
Impairment from Pollutant or Pollution:

New Decision

Revised
Pollutant

Regional Board Staff Conclusion:

This pollutant is being considered for placement on the CWA section 303(d) List under section 3.5 of the Listing Policy. Under section 3.5 a single line of evidence is necessary to assess listing status. One line of evidence is available in the administrative record to assess this pollutant. Zero of zero samples exceed the guideline.

Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against placing this water segment-pollutant combination on the CWA section 303(d) List.

This conclusion is based on the staff findings that:

1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy.
2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy.
3. Zero of zero samples exceed the guideline and this sample size is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating. A minimum of 16 samples is needed to determine if a beneficial use is fully supported using table 3.1.
4. Pursuant to SECTION 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.

Regional Board Staff Decision Recommendation:

After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be placed on the section 303(d) list. The readily available data and information is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating.

Line of Evidence (LOE) for Decision ID 65117, Mirex
Soulajule Reservoir

Region 2

LOE ID: 93434

Pollutant: Mirex
LOE Subgroup: Pollutant-Tissue
Matrix: Tissue
Fraction: Fish fillet

Beneficial Use: Commercial or recreational collection of fish, shellfish, or organisms

Number of Samples: 0
Number of Exceedances: 0

Data and Information Type: Fish tissue analysis
Data Used to Assess Water Quality: State Water Board staff assessed SWAMP data for Soulajule Reservoir to determine beneficial use support and results are as follows: 0 of 0 samples exceed the criterion for Mirex. One composite (5 fish per composite) was generated from one species: Largemouth Bass. Details of the compositing protocol can be found in the March 2009 report entitled: "Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Study" (SWAMP, 2009). One composite was not used in the assessment because the laboratory data reporting limit(s) was above the objective and therefore the results could not be quantified with the level of certainty required by the Listing Policy.

Data Reference: [Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Survey. A Report of the Surface Water Ambient Monitoring Program \(SWAMP\). California State Water Resources Control Board, Sacramento, CA](#)
[Cruise Report for the Surface Waters Ambient Monitoring Program \(SWAMP\)](#)
[Bioaccumulation Screening Study in California Lakes and Reservoirs, Sampling Dates: June 2007- March 2008](#)
[Statewide Lakes Sportfish Contamination Study 2007 2008](#)

SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	Water Quality Control Plan for the San Francisco Bay Basin: Controllable water quality factors shall not cause a detrimental increase in concentrations of toxic substances found in bottom sediments or aquatic life. Effects on aquatic organisms, wildlife, and human health will be considered.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	The modified OEHHA Fish Contaminant Goal for mirex in fish tissue is 0.28 ppb. This screening level assumes an average body weight of 70 kg and a consumption rate of 32 g/day. A cooking reduction factor of 1 is applied for skin-off fillets. (Klasing, S., and R. Brodberg, 2008; OEHHA, 1992)
Guideline Reference:	Development of Fish Contaminant Goals and Advisory Tissue Levels for Common Contaminants in California Sport Fish: Chlordane, DDTs, Dieldrin, Methylmercury, PCBs, Selenium, and Toxaphene Expedited Cancer Potency Values and Proposed Regulatory Levels for Certain Proposition 65 Carcinogens.
Spatial Representation:	Data for this assessment unit was collected by one monitoring project: (SWB_FishLk)
Temporal Representation:	Data was collected on a single day 7/30/2007.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	Samples were collected, processed, and analyzed in accordance with the methods described in Quality Assurance Project Plan "Screening Study of Bioaccumulation in California Lakes and Reservoirs." (SWAMP, 2008).
QAPP Information Reference(s):	Quality Assurance Project Plan Screening Study of Bioaccumulation in California Lakes and Reservoirs. Moss Landing Marine Labs. Prepared for SWAMP BOG, 49 pages plus appendices and attachments

DECISION ID	65118	Region 2
Soulajule Reservoir		

Pollutant:	Selenium
Final Listing Decision:	Do Not List on 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision:	New Decision
Revision Status	Revised
Impairment from Pollutant or Pollution:	Pollutant
Regional Board Staff Conclusion:	<p>This pollutant is being considered for placement on the CWA section 303(d) List under section 3.5 of the Listing Policy. Under section 3.5 a single line of evidence is necessary to assess listing status. One line of evidence is available in the administrative record to assess this pollutant. Zero of one samples exceed the guideline.</p> <p>Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against placing this water segment-pollutant combination on the CWA section 303(d) List.</p> <p>This conclusion is based on the staff findings that:</p> <ol style="list-style-type: none"> 1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy. 2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy. 3. Zero of one samples exceed the guideline and this sample size is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating. A minimum of 16 samples is needed to determine if a beneficial use is fully supported using table 3.1. 4. Pursuant to SECTION 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.
Regional Board Staff Decision	After review of the available data and information, RWQCB staff concludes that the water body-

Recommendation: pollutant combination should not be placed on the section 303(d) list. The readily available data and information is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating.

Line of Evidence (LOE) for Decision ID 65118, Selenium

Region 2

Soulajule Reservoir

LOE ID:	93441
Pollutant:	Selenium
LOE Subgroup:	Pollutant-Tissue
Matrix:	Tissue
Fraction:	Fish fillet
Beneficial Use:	Commercial or recreational collection of fish, shellfish, or organisms
Number of Samples:	1
Number of Exceedances:	0
Data and Information Type:	Fish tissue analysis
Data Used to Assess Water Quality:	State Water Board staff assessed SWAMP data for Soulajule Reservoir to determine beneficial use support and results are as follows: 0 of 1 samples exceed the criterion for Selenium. One composite (5 fish per composite) was generated from one species: Largemouth Bass. Details of the compositing protocol can be found in the March 2009 report entitled: "Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Study" (SWAMP, 2009).
Data Reference:	Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Survey. A Report of the Surface Water Ambient Monitoring Program (SWAMP). California State Water Resources Control Board, Sacramento, CA Cruise Report for the Surface Waters Ambient Monitoring Program (SWAMP) Bioaccumulation Screening Study in California Lakes and Reservoirs, Sampling Dates: June 2007- March 2008 Statewide Lakes Sportfish Contamination Study 2007 2008 Contaminants in Fish from California Lakes and Reservoirs, 2007-2008: Summary Report on a Two-Year Screening Survey
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	Water Quality Control Plan for the San Francisco Bay Basin (2013): Controllable water quality factors shall not cause a detrimental increase in concentrations of toxic substances found in bottom sediments or aquatic life. Effects on aquatic organisms, wildlife, and human health will be considered.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	The OEHHA Fish Contaminant Goal for selenium in fish tissue is 7.4 ppm. This screening level assumes an average body weight of 70 kg and a consumption rate of 32 g/day. A background dietary consumption rate of 0.114 mg/day is applied for this micronutrient. (Klasing, S., and R. Brodberg, 2008)
Guideline Reference:	Development of Fish Contaminant Goals and Advisory Tissue Levels for Common Contaminants in California Sport Fish: Chlordane, DDTs, Dieldrin, Methylmercury, PCBs, Selenium, and Toxaphene
Spatial Representation:	Data for this assessment unit was collected by one monitoring project: (SWB_FishLk)
Temporal Representation:	Data was collected on a single day 7/30/2007.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	Samples were collected, processed, and analyzed in accordance with the methods described in Quality Assurance Project Plan "Screening Study of Bioaccumulation in California Lakes and Reservoirs." (SWAMP, 2008).
QAPP Information Reference(s):	Quality Assurance Project Plan Screening Study of Bioaccumulation in California Lakes and Reservoirs. Moss Landing Marine Labs. Prepared for SWAMP BOG, 49 pages plus appendices and attachments

Draft California 2016 Integrated Report (303(d) List/305(b) Report)

Supporting Information

Regional Board 2 - San Francisco Bay Region

Water Body Name: Nicasio Reservoir
Water Body ID: CAL2011301220050519182548
Water Body Type: Lake & Reservoir

DECISION ID 33202 **Region 2**
Nicasio Reservoir

Pollutant: Mercury
Final Listing Decision: Do Not Delist from 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision: List on 303(d) list (TMDL required list)(2012)
Revision Status Revised
Sources: Source Unknown
Expected TMDL Completion Date: 2013
Impairment from Pollutant or Pollution: Pollutant

Regional Board Staff Conclusion: This pollutant is being considered for removal from the CWA section 303(d) List under section 4.1 of the Listing Policy. Under this section a single line of evidence is necessary to assess listing status.

Two lines of evidence are available in the administrative record to assess pollutant. Two of nine samples exceed the guideline.

Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against removing this water segment-pollutant combination from the CWA section 303(d) List.

This conclusion is based on the staff findings that:

1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy.
2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy.
3. Two of nine samples exceed the guideline and this exceeds the allowable frequency listed in Table 4.1 of the Listing Policy.
4. Pursuant to section 4.11 of the Listing Policy, no additional data and information are available indicating that standards are met.

Regional Board Staff Decision Recommendation: After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be removed from the section 303(d) list because applicable water quality standards for the pollutant are being exceeded.

Line of Evidence (LOE) for Decision ID 33202, Mercury **Region 2**
Nicasio Reservoir

LOE ID: 670
Pollutant: Mercury
LOE Subgroup: Pollutant-Tissue
Matrix: Tissue
Fraction: Total
Beneficial Use: Commercial or recreational collection of fish, shellfish, or organisms

Number of Samples:	9
Number of Exceedances:	2
Data and Information Type:	Fish tissue analysis
Data Used to Assess Water Quality:	Two out of 9 samples exceeded. A total of 9 composite samples were collected and analyzed from Nicasio Reservoir: 3 bluegill, 3 carp, and 3 largemouth bass. Two largemouth bass samples exceeded guideline (TSMP, 2002).
Data Reference:	Placeholder reference 2006 303(d)
SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	San Francisco Bay RWQCB Basin Plan: Many pollutants can accumulate on particles, in sediment, or bioaccumulate in fish and other aquatic organisms. Controllable water quality factors shall not cause a detrimental increase in concentrations of toxic substances found in bottom sediments or aquatic life. Effects on aquatic organisms, wildlife, and human health will be considered.
Objective/Criterion Reference:	Placeholder reference 2006 303(d)
Evaluation Guideline:	OEHHA Screening Value of 0.3 ug/g for mercury (Brodberg & Pollock, 1999).
Guideline Reference:	Placeholder reference 2006 303(d)
Spatial Representation:	One station.
Temporal Representation:	All samples were collected on 9/19/2001.
Environmental Conditions:	
QAPP Information:	Environmental Chemistry Quality Assurance and Data Report for the Toxic Substances Monitoring Program, 2001-2002. Department of Fish and Game.
QAPP Information Reference(s):	

Line of Evidence (LOE) for Decision ID 33202, Mercury

Region 2

Nicasio Reservoir

LOE ID:	92353
Pollutant:	Mercury
LOE Subgroup:	Pollutant-Tissue
Matrix:	Tissue
Fraction:	Fish fillet
Beneficial Use:	Commercial or recreational collection of fish, shellfish, or organisms
Number of Samples:	1
Number of Exceedances:	1
Data and Information Type:	Fish tissue analysis
Data Used to Assess Water Quality:	State Water Board staff assessed SWAMP data for Nicasio Reservoir to determine beneficial use support and results are as follows: 1 of 1 samples exceed the criterion for Mercury. Sixteen composites (1 fish per composite) were generated from one species: largemouth bass. Composites were not spatially independent (as defined in the Listing Policy) and so were averaged.
Data Reference:	Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Survey. A Report of the Surface Water Ambient Monitoring Program (SWAMP). California State Water Resources Control Board, Sacramento, CA Statewide Lakes Sportfish Contamination Study 2007 2008 Contaminants in Fish from California Lakes and Reservoirs, 2007-2008: Summary Report on a Two-Year Screening Survey Cruise report for the Surface Water Ambient Monitoring Program (SWAMP) bioaccumulation screening study in California lakes and reservoirs year two (FY 07-08). Sampling dates: April 2008 - November 2008.
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	Water Quality Control Plan for the San Francisco Bay Basin (2013): Controllable water

Objective/Criterion Reference:	quality factors shall not cause a detrimental increase in concentrations of toxic substances found in bottom sediments or aquatic life. Effects on aquatic organisms, wildlife, and human health will be considered. Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	The USEPA 304(a) recommended water quality criterion for concentrations of methylmercury in fish tissue of trophic level 4 fish (150 - 500 mm; fillet wet weight) is 0.2 mg/kg. This assumes a consumption rate of 32 g/day. (USEPA, 2001)
Guideline Reference:	Water Quality Criterion for the Protection of Human Health: Methylmercury. Final. United States Environmental Protection Agency Office of Science and Technology Office of Water. EPA-823-R-01-001. January 2001
Spatial Representation:	Data for this assessment unit was collected by one monitoring project: (SWB_FishLk)
Temporal Representation:	Data was collected on a single day 8/13/2008.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	Samples were collected, processed, and analyzed in accordance with the methods described in Quality Assurance Project Plan "Screening Study of Bioaccumulation in California Lakes and Reservoirs." (SWAMP, 2008).
QAPP Information Reference(s):	Quality Assurance Project Plan Screening Study of Bioaccumulation in California Lakes and Reservoirs. Moss Landing Marine Labs. Prepared for SWAMP BOG. 49 pages plus appendices and attachments

DECISION ID 64056 Region 2	
Nicasio Reservoir	
Pollutant:	Aldrin
Final Listing Decision:	Do Not List on 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision:	New Decision
Revision Status	Revised
Impairment from Pollutant or Pollution:	Pollutant
Regional Board Staff Conclusion:	<p>This pollutant is being considered for placement on the CWA section 303(d) List under section 3.5 of the Listing Policy. Under section 3.5 a single line of evidence is necessary to assess listing status. Two lines of evidence are available in the administrative record to assess this pollutant. Zero of one samples exceed the guideline.</p> <p>Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against placing this water segment-pollutant combination on the CWA section 303(d) List.</p> <p>This conclusion is based on the staff findings that:</p> <ol style="list-style-type: none"> 1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy. 2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy. 3. Zero of one samples exceed the guideline and this sample size is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating. A minimum of 16 samples is needed to determine if a beneficial use is fully supported using table 3.1. 4. Pursuant to SECTION 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.
Regional Board Staff Decision Recommendation:	After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be placed on the section 303(d) list. The readily available data and information is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating.

Line of Evidence (LOE) for Decision ID 64056, Aldrin	Region 2
Nicasio Reservoir	

LOE ID:	92322
Pollutant:	Aldrin
LOE Subgroup:	Pollutant-Tissue
Matrix:	Tissue
Fraction:	Fish fillet
Beneficial Use:	Cold Freshwater Habitat
Number of Samples:	1
Number of Exceedances:	0
Data and Information Type:	Fish tissue analysis
Data Used to Assess Water Quality:	State Water Board staff assessed SWAMP data for Nicasio Reservoir to determine beneficial use support and results are as follows: 0 of 1 samples exceed the criterion for Aldrin. One composite (5 fish per composite) was generated from one species: Largemouth Bass. Details of the compositing protocol can be found in the March 2009 report entitled: "Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Study" (SWAMP, 2009).
Data Reference:	Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Survey. A Report of the Surface Water Ambient Monitoring Program (SWAMP). California State Water Resources Control Board, Sacramento, CA Statewide Lakes Sportfish Contamination Study 2007 2008 Contaminants in Fish from California Lakes and Reservoirs, 2007-2008: Summary Report on a Two-Year Screening Survey Cruise report for the Surface Water Ambient Monitoring Program (SWAMP) bioaccumulation screening study in California lakes and reservoirs year two (FY 07-08). Sampling dates: April 2008 - November 2008.
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	Water Quality Control Plan for the San Francisco Bay Basin: Controllable water quality factors shall not cause a detrimental increase in concentrations of toxic substances found in bottom sediments or aquatic life. Effects on aquatic organisms, wildlife, and human health will be considered.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	National Academy of Science guidelines (NAS 1972) establish a maximum Aldrin concentration of 100 ug/Kg (wet weight) in tissue samples for protection of aquatic life from bioaccumulation of toxic substances.
Guideline Reference:	National Academy of Sciences. Water Quality Criteria 1972. EPA-R3-73-033. Washington, D.C.: U.S. Environmental Protection Agency
Spatial Representation:	Data for this assessment unit was collected by one monitoring project: (SWB_FishLk)
Temporal Representation:	Data was collected on a single day 8/13/2008.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	Samples were collected, processed, and analyzed in accordance with the methods described in Quality Assurance Project Plan "Screening Study of Bioaccumulation in California Lakes and Reservoirs." (SWAMP, 2008).
QAPP Information Reference(s):	Quality Assurance Project Plan Screening Study of Bioaccumulation in California Lakes and Reservoirs. Moss Landing Marine Labs. Prepared for SWAMP BOG. 49 pages plus appendices and attachments

Line of Evidence (LOE) for Decision ID 64056, Aldrin

Region 2

Nicasio Reservoir

LOE ID:	92323
Pollutant:	Aldrin
LOE Subgroup:	Pollutant-Tissue
Matrix:	Tissue
Fraction:	Fish fillet

Beneficial Use:	Warm Freshwater Habitat
Number of Samples:	1
Number of Exceedances:	0
Data and Information Type:	Fish tissue analysis
Data Used to Assess Water Quality:	State Water Board staff assessed SWAMP data for Nicasio Reservoir to determine beneficial use support and results are as follows: 0 of 1 samples exceed the criterion for Aldrin. One composite (5 fish per composite) was generated from one species: Largemouth Bass. Details of the compositing protocol can be found in the March 2009 report entitled: "Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Study" (SWAMP, 2009).
Data Reference:	Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Survey. A Report of the Surface Water Ambient Monitoring Program (SWAMP). California State Water Resources Control Board, Sacramento, CA Statewide Lakes Sportfish Contamination Study 2007 2008 Contaminants in Fish from California Lakes and Reservoirs, 2007-2008: Summary Report on a Two-Year Screening Survey Cruise report for the Surface Water Ambient Monitoring Program (SWAMP) bioaccumulation screening study in California lakes and reservoirs year two (FY 07-08). Sampling dates: April 2008 - November 2008.
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	Water Quality Control Plan for the San Francisco Bay Basin: Controllable water quality factors shall not cause a detrimental increase in concentrations of toxic substances found in bottom sediments or aquatic life. Effects on aquatic organisms, wildlife, and human health will be considered.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	National Academy of Science guidelines (NAS 1972) establish a maximum Aldrin concentration of 100 ug/Kg (wet weight) in tissue samples for protection of aquatic life from bioaccumulation of toxic substances.
Guideline Reference:	National Academy of Sciences. Water Quality Criteria 1972. EPA-R3-73-033. Washington, D.C.: U.S. Environmental Protection Agency
Spatial Representation:	Data for this assessment unit was collected by one monitoring project: (SWB_FishLk)
Temporal Representation:	Data was collected on a single day 8/13/2008.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	Samples were collected, processed, and analyzed in accordance with the methods described in Quality Assurance Project Plan "Screening Study of Bioaccumulation in California Lakes and Reservoirs." (SWAMP, 2008).
QAPP Information Reference(s):	Quality Assurance Project Plan Screening Study of Bioaccumulation in California Lakes and Reservoirs. Moss Landing Marine Labs. Prepared for SWAMP BOG. 49 pages plus appendices and attachments

DECISION ID	64178	Region 2
Nicasio Reservoir		
Pollutant:	Chlordane	
Final Listing Decision:	Do Not List on 303(d) list (TMDL required list)	
Last Listing Cycle's Final Listing Decision:	New Decision	
Revision Status	Revised	
Impairment from Pollutant or Pollution:	Pollutant	
Regional Board Staff Conclusion:	This pollutant is being considered for placement on the CWA section 303(d) List under section 3.5 of the Listing Policy. Under section 3.5 a single line of evidence is necessary to assess listing status. Three lines of evidence are available in the administrative record to assess this pollutant. Zero of one	

samples exceed the guideline.

Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against placing this water segment-pollutant combination on the CWA section 303(d) List.

This conclusion is based on the staff findings that:

1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy.
2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy.
3. Zero of one samples exceed the guideline and this sample size is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating. A minimum of 16 samples is needed to determine if a beneficial use is fully supported using table 3.1.
4. Pursuant to SECTION 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.

Regional Board Staff Decision Recommendation: After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be placed on the section 303(d) list. The readily available data and information is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating.

Line of Evidence (LOE) for Decision ID 64178, Chlordane

Region 2

Nicasio Reservoir

LOE ID:	92324
Pollutant:	Chlordane
LOE Subgroup:	Pollutant-Tissue
Matrix:	Tissue
Fraction:	Fish fillet
Beneficial Use:	Warm Freshwater Habitat
Number of Samples:	1
Number of Exceedances:	0
Data and Information Type:	Fish tissue analysis
Data Used to Assess Water Quality:	State Water Board staff assessed SWAMP data for Nicasio Reservoir to determine beneficial use support and results are as follows: 0 of 1 samples exceed the criterion for Chlordane, Total. One composite (5 fish per composite) was generated from one species: Largemouth Bass. Details of the compositing protocol can be found in the March 2009 report entitled: "Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Study" (SWAMP, 2009). Total chlordane was calculated as the sum of the following chlordane isomers: cis- and trans-chlordane, cis- and trans-nonachlor, and oxychlordane.
Data Reference:	Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Survey. A Report of the Surface Water Ambient Monitoring Program (SWAMP). California State Water Resources Control Board, Sacramento, CA Statewide Lakes Sportfish Contamination Study 2007 2008 Contaminants in Fish from California Lakes and Reservoirs, 2007-2008: Summary Report on a Two-Year Screening Survey Cruise report for the Surface Water Ambient Monitoring Program (SWAMP) bioaccumulation screening study in California lakes and reservoirs year two (FY 07-08). Sampling dates: April 2008 - November 2008.
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	Water Quality Control Plan for the San Francisco Bay Basin: Controllable water quality factors shall not cause a detrimental increase in concentrations of toxic substances found in bottom sediments or aquatic life. Effects on aquatic organisms, wildlife, and human health will be considered.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)

Evaluation Guideline:	National Academy of Science guidelines (NAS 1972) establish a maximum total Chlordane concentration of 100 ug/Kg (wet weight) in tissue samples for protection of aquatic life from bioaccumulation of toxic substances.
Guideline Reference:	National Academy of Sciences. Water Quality Criteria 1972. EPA-R3-73-033. Washington, D.C.: U.S. Environmental Protection Agency
Spatial Representation:	Data for this assessment unit was collected by one monitoring project: (SWB_FishLk)
Temporal Representation:	Data was collected on a single day 8/13/2008.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	Samples were collected, processed, and analyzed in accordance with the methods described in Quality Assurance Project Plan "Screening Study of Bioaccumulation in California Lakes and Reservoirs." (SWAMP, 2008).
QAPP Information Reference(s):	Quality Assurance Project Plan Screening Study of Bioaccumulation in California Lakes and Reservoirs. Moss Landing Marine Labs. Prepared for SWAMP BOG, 49 pages plus appendices and attachments

Line of Evidence (LOE) for Decision ID 64178, Chlordane
Nicasio Reservoir

Region 2

LOE ID:	92327
Pollutant:	Chlordane
LOE Subgroup:	Pollutant-Tissue
Matrix:	Tissue
Fraction:	Fish fillet
Beneficial Use:	Commercial or recreational collection of fish, shellfish, or organisms
Number of Samples:	1
Number of Exceedances:	0
Data and Information Type:	Fish tissue analysis
Data Used to Assess Water Quality:	State Water Board staff assessed SWAMP data for Nicasio Reservoir to determine beneficial use support and results are as follows: 0 of 1 samples exceed the criterion for Chlordane, Total. One composite (5 fish per composite) was generated from one species: Largemouth Bass. Details of the compositing protocol can be found in the March 2009 report entitled: "Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Study" (SWAMP, 2009). Total chlordane was calculated as the sum of the following chlordane isomers: cis- and trans-chlordane, cis- and trans-nonachlor, and oxychlordane.
Data Reference:	Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Survey. A Report of the Surface Water Ambient Monitoring Program (SWAMP). California State Water Resources Control Board, Sacramento, CA Statewide Lakes Sportfish Contamination Study 2007 2008 Contaminants in Fish from California Lakes and Reservoirs, 2007-2008: Summary Report on a Two-Year Screening Survey Cruise report for the Surface Water Ambient Monitoring Program (SWAMP) bioaccumulation screening study in California lakes and reservoirs year two (FY 07-08). Sampling dates: April 2008 - November 2008.
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	Water Quality Control Plan for the San Francisco Bay Basin: Controllable water quality factors shall not cause a detrimental increase in concentrations of toxic substances found in bottom sediments or aquatic life. Effects on aquatic organisms, wildlife, and human health will be considered.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	The modified OEHHA Fish Contaminant Goal for total chlordane in fish tissue is 3.9 ppb. This screening level assumes an average body weight of 70 kg and a consumption rate of 32 g/day for a 30 year exposure over a 70-year lifetime. This constituent is a carcinogen

Guideline Reference:	therefore the risk level is set to one in a million. A cooking reduction factor of 1 is applied for skin-off fillets. (Klasing, S., and R. Brodberg, 2008) Development of Fish Contaminant Goals and Advisory Tissue Levels for Common Contaminants in California Sport Fish: Chlordane, DDTs, Dieldrin, Methylmercury, PCBs, Selenium, and Toxaphene
Spatial Representation:	Data for this assessment unit was collected by one monitoring project: (SWB_FishLk)
Temporal Representation:	Data was collected on a single day 8/13/2008.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	Samples were collected, processed, and analyzed in accordance with the methods described in Quality Assurance Project Plan "Screening Study of Bioaccumulation in California Lakes and Reservoirs." (SWAMP, 2008).
QAPP Information Reference(s):	Quality Assurance Project Plan Screening Study of Bioaccumulation in California Lakes and Reservoirs. Moss Landing Marine Labs. Prepared for SWAMP BOG, 49 pages plus appendices and attachments

Line of Evidence (LOE) for Decision ID 64178, Chlordane

Region 2

Nicasio Reservoir

LOE ID:	92325
Pollutant:	Chlordane
LOE Subgroup:	Pollutant-Tissue
Matrix:	Tissue
Fraction:	Fish fillet
Beneficial Use:	Cold Freshwater Habitat
Number of Samples:	1
Number of Exceedances:	0
Data and Information Type:	Fish tissue analysis
Data Used to Assess Water Quality:	State Water Board staff assessed SWAMP data for Nicasio Reservoir to determine beneficial use support and results are as follows: 0 of 1 samples exceed the criterion for Chlordane, Total. One composite (5 fish per composite) was generated from one species: Largemouth Bass. Details of the compositing protocol can be found in the March 2009 report entitled: "Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Study" (SWAMP, 2009). Total chlordane was calculated as the sum of the following chlordane isomers: cis- and trans-chlordane, cis- and trans-nonachlor, and oxychlordane.
Data Reference:	Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Survey. A Report of the Surface Water Ambient Monitoring Program (SWAMP). California State Water Resources Control Board, Sacramento, CA Statewide Lakes Sportfish Contamination Study 2007 2008 Contaminants in Fish from California Lakes and Reservoirs, 2007-2008: Summary Report on a Two-Year Screening Survey Cruise report for the Surface Water Ambient Monitoring Program (SWAMP) bioaccumulation screening study in California lakes and reservoirs year two (FY 07-08). Sampling dates: April 2008 - November 2008.
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	Water Quality Control Plan for the San Francisco Bay Basin: Controllable water quality factors shall not cause a detrimental increase in concentrations of toxic substances found in bottom sediments or aquatic life. Effects on aquatic organisms, wildlife, and human health will be considered.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	National Academy of Science guidelines (NAS 1972) establish a maximum total Chlordane concentration of 100 ug/Kg (wet weight) in tissue samples for protection of aquatic life from bioaccumulation of toxic substances.
Guideline Reference:	National Academy of Sciences. Water Quality Criteria 1972. EPA-R3-73-033. Washington.

Spatial Representation: Data for this assessment unit was collected by one monitoring project: (SWB_FishLk)
Temporal Representation: Data was collected on a single day 8/13/2008.
Environmental Conditions: Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information: Samples were collected, processed, and analyzed in accordance with the methods described in Quality Assurance Project Plan "Screening Study of Bioaccumulation in California Lakes and Reservoirs." (SWAMP, 2008).
QAPP Information Reference(s): [Quality Assurance Project Plan Screening Study of Bioaccumulation in California Lakes and Reservoirs. Moss Landing Marine Labs. Prepared for SWAMP BOG. 49 pages plus appendices and attachments](#)

DECISION ID 64191 Region 2	
Nicasio Reservoir	
Pollutant: Final Listing Decision: Last Listing Cycle's Final Listing Decision: Revision Status Impairment from Pollutant or Pollution:	DDT (Dichlorodiphenyltrichloroethane) Do Not List on 303(d) list (TMDL required list) New Decision Revised Pollutant
Regional Board Staff Conclusion:	<p>This pollutant is being considered for placement on the CWA section 303(d) List under section 3.5 of the Listing Policy. Under section 3.5 a single line of evidence is necessary to assess listing status. Three lines of evidence are available in the administrative record to assess this pollutant. Zero of one samples exceed the guideline.</p> <p>Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against placing this water segment-pollutant combination on the CWA section 303(d) List.</p> <p>This conclusion is based on the staff findings that:</p> <ol style="list-style-type: none">1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy.2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy.3. Zero of one samples exceed the guideline and this sample size is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating. A minimum of 16 samples is needed to determine if a beneficial use is fully supported using table 3.1.4. Pursuant to SECTION 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.
Regional Board Staff Decision Recommendation:	After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be placed on the section 303(d) list. The readily available data and information is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating.

Line of Evidence (LOE) for Decision ID 64191, DDT (Dichlorodiphenyltrichloroethane) Region 2	
Nicasio Reservoir	
LOE ID:	92319
Pollutant:	Total DDT (sum of 4,4'- and 2,4'- isomers of DDT, DDE, and DDD)
LOE Subgroup:	Pollutant-Tissue
Matrix:	Tissue
Fraction:	Fish fillet
Beneficial Use:	Warm Freshwater Habitat
Number of Samples:	1

Number of Exceedances:	0
Data and Information Type:	Fish tissue analysis
Data Used to Assess Water Quality:	State Water Board staff assessed SWAMP data for Nicasio Reservoir to determine beneficial use support and results are as follows: 0 of 1 samples exceed the criterion for DDT, Total. One composite (5 fish per composite) was generated from one species: Largemouth Bass. Details of the compositing protocol can be found in the March 2009 report entitled: "Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Study" (SWAMP, 2009). Total DDT was calculated as the sum of 4,4'- and 2,4'- isomers of DDT, DDE, and DDD.
Data Reference:	Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Survey. A Report of the Surface Water Ambient Monitoring Program (SWAMP). California State Water Resources Control Board, Sacramento, CA Statewide Lakes Sportfish Contamination Study 2007 2008 Contaminants in Fish from California Lakes and Reservoirs, 2007-2008: Summary Report on a Two-Year Screening Survey Cruise report for the Surface Water Ambient Monitoring Program (SWAMP) bioaccumulation screening study in California lakes and reservoirs year two (FY 07-08). Sampling dates: April 2008 - November 2008.
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	Water Quality Control Plan for the San Francisco Bay Basin: Controllable water quality factors shall not cause a detrimental increase in concentrations of toxic substances found in bottom sediments or aquatic life. Effects on aquatic organisms, wildlife, and human health will be considered.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	National Academy of Science guidelines (NAS 1972) establish a maximum total DDT concentration of 1000 ug/Kg (wet weight) in tissue samples for protection of aquatic life from bioaccumulation of toxic substances.
Guideline Reference:	National Academy of Sciences. Water Quality Criteria 1972. EPA-R3-73-033. Washington, D.C.: U.S. Environmental Protection Agency
Spatial Representation:	Data for this assessment unit was collected by one monitoring project: (SWB_FishLk)
Temporal Representation:	Data was collected on a single day 8/13/2008.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	Samples were collected, processed, and analyzed in accordance with the methods described in Quality Assurance Project Plan "Screening Study of Bioaccumulation in California Lakes and Reservoirs." (SWAMP, 2008).
QAPP Information Reference(s):	Quality Assurance Project Plan Screening Study of Bioaccumulation in California Lakes and Reservoirs. Moss Landing Marine Labs. Prepared for SWAMP BOG, 49 pages plus appendices and attachments

Line of Evidence (LOE) for Decision ID 64191, DDT (Dichlorodiphenyltrichloroethane)

Region 2

Nicasio Reservoir

LOE ID:	92320
Pollutant:	Total DDT (sum of 4,4'- and 2,4'- isomers of DDT, DDE, and DDD)
LOE Subgroup:	Pollutant-Tissue
Matrix:	Tissue
Fraction:	Fish fillet
Beneficial Use:	Cold Freshwater Habitat
Number of Samples:	1
Number of Exceedances:	0
Data and Information Type:	Fish tissue analysis
Data Used to Assess Water Quality:	State Water Board staff assessed SWAMP data for Nicasio Reservoir to determine beneficial use support and results are as follows: 0 of 1 samples exceed the criterion for

Data Reference:	DDT, Total. One composite (5 fish per composite) was generated from one species: Largemouth Bass. Details of the compositing protocol can be found in the March 2009 report entitled: "Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Study" (SWAMP, 2009). Total DDT was calculated as the sum of 4,4'- and 2,4'- isomers of DDT, DDE, and DDD. Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Survey. A Report of the Surface Water Ambient Monitoring Program (SWAMP). California State Water Resources Control Board, Sacramento, CA Statewide Lakes Sportfish Contamination Study 2007 2008 Contaminants in Fish from California Lakes and Reservoirs, 2007-2008: Summary Report on a Two-Year Screening Survey Cruise report for the Surface Water Ambient Monitoring Program (SWAMP) bioaccumulation screening study in California lakes and reservoirs year two (FY 07-08). Sampling dates: April 2008 - November 2008.
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	Water Quality Control Plan for the San Francisco Bay Basin: Controllable water quality factors shall not cause a detrimental increase in concentrations of toxic substances found in bottom sediments or aquatic life. Effects on aquatic organisms, wildlife, and human health will be considered.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	National Academy of Science guidelines (NAS 1972) establish a maximum total DDT concentration of 1000 ug/Kg (wet weight) in tissue samples for protection of aquatic life from bioaccumulation of toxic substances.
Guideline Reference:	National Academy of Sciences. Water Quality Criteria 1972. EPA-R3-73-033. Washington, D.C.: U.S. Environmental Protection Agency
Spatial Representation:	Data for this assessment unit was collected by one monitoring project: (SWB_FishLk)
Temporal Representation:	Data was collected on a single day 8/13/2008.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	Samples were collected, processed, and analyzed in accordance with the methods described in Quality Assurance Project Plan "Screening Study of Bioaccumulation in California Lakes and Reservoirs." (SWAMP, 2008).
QAPP Information Reference(s):	Quality Assurance Project Plan Screening Study of Bioaccumulation in California Lakes and Reservoirs. Moss Landing Marine Labs. Prepared for SWAMP BOG. 49 pages plus appendices and attachments

Line of Evidence (LOE) for Decision ID 64191, DDT (Dichlorodiphenyltrichloroethane)

Region 2

Nicasio Reservoir

LOE ID:	92321
Pollutant:	Total DDT (sum of 4,4'- and 2,4'- isomers of DDT, DDE, and DDD)
LOE Subgroup:	Pollutant-Tissue
Matrix:	Tissue
Fraction:	Fish fillet
Beneficial Use:	Commercial or recreational collection of fish, shellfish, or organisms
Number of Samples:	1
Number of Exceedances:	0
Data and Information Type:	Fish tissue analysis
Data Used to Assess Water Quality:	State Water Board staff assessed SWAMP data for Nicasio Reservoir to determine beneficial use support and results are as follows: 0 of 1 samples exceed the criterion for DDT, Total. One composite (5 fish per composite) was generated from one species: Largemouth Bass. Details of the compositing protocol can be found in the March 2009 report entitled: "Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Study" (SWAMP, 2009). Total DDT was calculated as the sum of 4,4'- and 2,4'- isomers of DDT, DDE, and DDD.

Data Reference:	Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Survey. A Report of the Surface Water Ambient Monitoring Program (SWAMP). California State Water Resources Control Board, Sacramento, CA Statewide Lakes Sportfish Contamination Study 2007 2008 Contaminants in Fish from California Lakes and Reservoirs, 2007-2008: Summary Report on a Two-Year Screening Survey Cruise report for the Surface Water Ambient Monitoring Program (SWAMP) bioaccumulation screening study in California lakes and reservoirs year two (FY 07-08). Sampling dates: April 2008 - November 2008.
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	Water Quality Control Plan for the San Francisco Bay Basin: Controllable water quality factors shall not cause a detrimental increase in concentrations of toxic substances found in bottom sediments or aquatic life. Effects on aquatic organisms, wildlife, and human health will be considered.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	The modified OEHHA Fish Contaminant Goal for total DDT in fish tissue is 15 ppb. This screening level assumes an average body weight of 70 kg and a consumption rate of 32 g/day for a 30 year exposure over a 70-year lifetime. This constituent is a carcinogen therefore the risk level is set to one in a million. A cooking reduction factor of 1 is applied for skin-off fillets. (Klasing, S., and R. Brodberg, 2008)
Guideline Reference:	Development of Fish Contaminant Goals and Advisory Tissue Levels for Common Contaminants in California Sport Fish: Chlordane, DDTs, Dieldrin, Methylmercury, PCBs, Selenium, and Toxaphene
Spatial Representation:	Data for this assessment unit was collected by one monitoring project: (SWB_FishLk)
Temporal Representation:	Data was collected on a single day 8/13/2008.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	Samples were collected, processed, and analyzed in accordance with the methods described in Quality Assurance Project Plan "Screening Study of Bioaccumulation in California Lakes and Reservoirs." (SWAMP, 2008).
QAPP Information Reference(s):	Quality Assurance Project Plan Screening Study of Bioaccumulation in California Lakes and Reservoirs. Moss Landing Marine Labs. Prepared for SWAMP BOG. 49 pages plus appendices and attachments

DECISION ID	64179	Region 2
Nicasio Reservoir		
Pollutant:	Dieldrin	
Final Listing Decision:	Do Not List on 303(d) list (TMDL required list)	
Last Listing Cycle's Final Listing Decision:	New Decision	
Revision Status	Revised	
Impairment from Pollutant or Pollution:	Pollutant	
Regional Board Staff Conclusion:	<p>This pollutant is being considered for placement on the CWA section 303(d) List under section 3.5 of the Listing Policy. Under section 3.5 a single line of evidence is necessary to assess listing status. Three lines of evidence are available in the administrative record to assess this pollutant. Zero of one samples exceed the guideline.</p> <p>Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against placing this water segment-pollutant combination on the CWA section 303(d) List.</p> <p>This conclusion is based on the staff findings that:</p> <ol style="list-style-type: none"> 1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy. 2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy. 3. Zero of one samples exceed the guideline and this sample size is insufficient to determine, with 	

the power and confidence of the Listing Policy, the applicable beneficial use support rating. A minimum of 16 samples is needed to determine if a beneficial use is fully supported using table 3.1. 4. Pursuant to SECTION 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.

Regional Board Staff Decision Recommendation: After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be placed on the section 303(d) list. The readily available data and information is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating.

**Line of Evidence (LOE) for Decision ID 64179, Dieldrin
Nicasio Reservoir**

Region 2

LOE ID:	92330
Pollutant:	Dieldrin
LOE Subgroup:	Pollutant-Tissue
Matrix:	Tissue
Fraction:	Fish fillet
Beneficial Use:	Commercial or recreational collection of fish, shellfish, or organisms
Number of Samples:	0
Number of Exceedances:	0
Data and Information Type:	Fish tissue analysis
Data Used to Assess Water Quality:	State Water Board staff assessed SWAMP data for Nicasio Reservoir to determine beneficial use support and results are as follows: 0 of 0 samples exceed the criterion for Dieldrin. One composite (5 fish per composite) was generated from one species: Largemouth Bass. Details of the compositing protocol can be found in the March 2009 report entitled: "Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Study" (SWAMP, 2009). One composite was not used in the assessment because the laboratory data reporting limit(s) was above the objective and therefore the results could not be quantified with the level of certainty required by the Listing Policy.
Data Reference:	Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Survey. A Report of the Surface Water Ambient Monitoring Program (SWAMP). California State Water Resources Control Board, Sacramento, CA Statewide Lakes Sportfish Contamination Study 2007 2008 Contaminants in Fish from California Lakes and Reservoirs, 2007-2008: Summary Report on a Two-Year Screening Survey Cruise report for the Surface Water Ambient Monitoring Program (SWAMP) bioaccumulation screening study in California lakes and reservoirs year two (FY 07-08). Sampling dates: April 2008 - November 2008.
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	Water Quality Control Plan for the San Francisco Bay Basin: Controllable water quality factors shall not cause a detrimental increase in concentrations of toxic substances found in bottom sediments or aquatic life. Effects on aquatic organisms, wildlife, and human health will be considered.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	The modified OEHHA Fish Contaminant Goal for dieldrin in fish tissue is 0.32 ppb. This screening level assumes an average body weight of 70 kg and a consumption rate of 32 g/day for a 30 year exposure over a 70-year lifetime. This constituent is a carcinogen therefore the risk level is set to one in a million. A cooking reduction factor of 1 is applied for skin-off fillets. (Klasing, S., and R. Brodberg, 2008)
Guideline Reference:	Development of Fish Contaminant Goals and Advisory Tissue Levels for Common Contaminants in California Sport Fish: Chlordane, DDTs, Dieldrin, Methylmercury, PCBs, Selenium, and Toxaphene

Spatial Representation:	Data for this assessment unit was collected by one monitoring project: (SWB_FishLk)
Temporal Representation:	Data was collected on a single day 8/13/2008.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	Samples were collected, processed, and analyzed in accordance with the methods described in Quality Assurance Project Plan "Screening Study of Bioaccumulation in California Lakes and Reservoirs." (SWAMP, 2008).
QAPP Information Reference(s):	Quality Assurance Project Plan Screening Study of Bioaccumulation in California Lakes and Reservoirs. Moss Landing Marine Labs. Prepared for SWAMP BOG. 49 pages plus appendices and attachments

Line of Evidence (LOE) for Decision ID 64179, Dieldrin

Region 2

Nicasio Reservoir

LOE ID:	92328
Pollutant:	Dieldrin
LOE Subgroup:	Pollutant-Tissue
Matrix:	Tissue
Fraction:	Fish fillet
Beneficial Use:	Warm Freshwater Habitat
Number of Samples:	1
Number of Exceedances:	0
Data and Information Type:	Fish tissue analysis
Data Used to Assess Water Quality:	State Water Board staff assessed SWAMP data for Nicasio Reservoir to determine beneficial use support and results are as follows: 0 of 1 samples exceed the criterion for Dieldrin. One composite (5 fish per composite) was generated from one species: Largemouth Bass. Details of the compositing protocol can be found in the March 2009 report entitled: "Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Study" (SWAMP, 2009).
Data Reference:	Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Survey. A Report of the Surface Water Ambient Monitoring Program (SWAMP). California State Water Resources Control Board, Sacramento, CA Statewide Lakes Sportfish Contamination Study 2007 2008 Contaminants in Fish from California Lakes and Reservoirs, 2007-2008: Summary Report on a Two-Year Screening Survey Cruise report for the Surface Water Ambient Monitoring Program (SWAMP) bioaccumulation screening study in California lakes and reservoirs year two (FY 07-08). Sampling dates: April 2008 - November 2008.
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	Water Quality Control Plan for the San Francisco Bay Basin: Controllable water quality factors shall not cause a detrimental increase in concentrations of toxic substances found in bottom sediments or aquatic life. Effects on aquatic organisms, wildlife, and human health will be considered.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	National Academy of Science guidelines (NAS 1972) establish a maximum Dieldrin concentration of 100 ug/Kg (wet weight) in tissue samples for protection of aquatic life from bioaccumulation of toxic substances.
Guideline Reference:	National Academy of Sciences. Water Quality Criteria 1972. EPA-R3-73-033. Washington, D.C.: U.S. Environmental Protection Agency
Spatial Representation:	Data for this assessment unit was collected by one monitoring project: (SWB_FishLk)
Temporal Representation:	Data was collected on a single day 8/13/2008.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	Samples were collected, processed, and analyzed in accordance with the methods described in Quality Assurance Project Plan "Screening Study of Bioaccumulation in

QAPP Information Reference(s):	California Lakes and Reservoirs." (SWAMP, 2008). Quality Assurance Project Plan Screening Study of Bioaccumulation in California Lakes and Reservoirs. Moss Landing Marine Labs. Prepared for SWAMP BOG. 49 pages plus appendices and attachments
Line of Evidence (LOE) for Decision ID 64179, Dieldrin	
Nicasio Reservoir	
LOE ID:	92329
Pollutant:	Dieldrin
LOE Subgroup:	Pollutant-Tissue
Matrix:	Tissue
Fraction:	Fish fillet
Beneficial Use:	Cold Freshwater Habitat
Number of Samples:	1
Number of Exceedances:	0
Data and Information Type:	Fish tissue analysis
Data Used to Assess Water Quality:	State Water Board staff assessed SWAMP data for Nicasio Reservoir to determine beneficial use support and results are as follows: 0 of 1 samples exceed the criterion for Dieldrin. One composite (5 fish per composite) was generated from one species: Largemouth Bass. Details of the compositing protocol can be found in the March 2009 report entitled: "Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Study" (SWAMP, 2009).
Data Reference:	Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Survey. A Report of the Surface Water Ambient Monitoring Program (SWAMP). California State Water Resources Control Board, Sacramento, CA Statewide Lakes Sportfish Contamination Study 2007 2008 Contaminants in Fish from California Lakes and Reservoirs, 2007-2008: Summary Report on a Two-Year Screening Survey Cruise report for the Surface Water Ambient Monitoring Program (SWAMP) bioaccumulation screening study in California lakes and reservoirs year two (FY 07-08). Sampling dates: April 2008 - November 2008.
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	Water Quality Control Plan for the San Francisco Bay Basin: Controllable water quality factors shall not cause a detrimental increase in concentrations of toxic substances found in bottom sediments or aquatic life. Effects on aquatic organisms, wildlife, and human health will be considered.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	National Academy of Science guidelines (NAS 1972) establish a maximum Dieldrin concentration of 100 ug/Kg (wet weight) in tissue samples for protection of aquatic life from bioaccumulation of toxic substances.
Guideline Reference:	National Academy of Sciences. Water Quality Criteria 1972. EPA-R3-73-033. Washington, D.C.: U.S. Environmental Protection Agency
Spatial Representation:	Data for this assessment unit was collected by one monitoring project: (SWB_FishLk)
Temporal Representation:	Data was collected on a single day 8/13/2008.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	Samples were collected, processed, and analyzed in accordance with the methods described in Quality Assurance Project Plan "Screening Study of Bioaccumulation in California Lakes and Reservoirs." (SWAMP, 2008).
QAPP Information Reference(s):	Quality Assurance Project Plan Screening Study of Bioaccumulation in California Lakes and Reservoirs. Moss Landing Marine Labs. Prepared for SWAMP BOG. 49 pages plus appendices and attachments

Pollutant:	Endosulfan
Final Listing Decision:	Do Not List on 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision:	New Decision
Revision Status	Revised
Impairment from Pollutant or Pollution:	Pollutant

Regional Board Staff Conclusion: This pollutant is being considered for placement on the CWA section 303(d) List under section 3.5 of the Listing Policy. Under section 3.5 a single line of evidence is necessary to assess listing status. Three lines of evidence are available in the administrative record to assess this pollutant. Zero of one samples exceed the guideline.

Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against placing this water segment-pollutant combination on the CWA section 303(d) List.

This conclusion is based on the staff findings that:

1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy.
2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy.
3. Zero of one samples exceed the guideline and this sample size is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating. A minimum of 16 samples is needed to determine if a beneficial use is fully supported using table 3.1.
4. Pursuant to SECTION 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.

Regional Board Staff Decision Recommendation: After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be placed on the section 303(d) list. The readily available data and information is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating.

Line of Evidence (LOE) for Decision ID 64180, Endosulfan	Region 2
Nicasio Reservoir	

LOE ID:	92332
Pollutant:	Endosulfan
LOE Subgroup:	Pollutant-Tissue
Matrix:	Tissue
Fraction:	Fish fillet
Beneficial Use:	Cold Freshwater Habitat
Number of Samples:	1
Number of Exceedances:	0
Data and Information Type:	Fish tissue analysis
Data Used to Assess Water Quality:	State Water Board staff assessed SWAMP data for Nicasio Reservoir to determine beneficial use support and results are as follows: 0 of 1 samples exceed the criterion for Endosulfan I. One composite (5 fish per composite) was generated from one species: Largemouth Bass. Details of the compositing protocol can be found in the March 2009 report entitled: "Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Study" (SWAMP, 2009).
Data Reference:	Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Survey. A Report of the Surface Water Ambient Monitoring Program (SWAMP). California State Water Resources Control Board, Sacramento, CA Statewide Lakes Sportfish Contamination Study 2007 2008

[Contaminants in Fish from California Lakes and Reservoirs, 2007-2008: Summary Report on a Two-Year Screening Survey](#)
[Cruise report for the Surface Water Ambient Monitoring Program \(SWAMP\) bioaccumulation screening study in California lakes and reservoirs year two \(FY 07-08\). Sampling dates: April 2008 - November 2008.](#)

SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	Water Quality Control Plan for the San Francisco Bay Basin: Controllable water quality factors shall not cause a detrimental increase in concentrations of toxic substances found in bottom sediments or aquatic life. Effects on aquatic organisms, wildlife, and human health will be considered.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	National Academy of Science guidelines (NAS 1972) establish a maximum Endosulfan, Total concentration of 100 ug/Kg (wet weight) in tissue samples for protection of aquatic life from bioaccumulation of toxic substances.
Guideline Reference:	National Academy of Sciences. Water Quality Criteria 1972. EPA-R3-73-033. Washington, D.C.: U.S. Environmental Protection Agency
Spatial Representation:	Data for this assessment unit was collected by one monitoring project: (SWB_FishLk)
Temporal Representation:	Data was collected on a single day 8/13/2008.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	Samples were collected, processed, and analyzed in accordance with the methods described in Quality Assurance Project Plan "Screening Study of Bioaccumulation in California Lakes and Reservoirs." (SWAMP, 2008).
QAPP Information Reference(s):	Quality Assurance Project Plan Screening Study of Bioaccumulation in California Lakes and Reservoirs. Moss Landing Marine Labs. Prepared for SWAMP BOG, 49 pages plus appendices and attachments

Line of Evidence (LOE) for Decision ID 64180, Endosulfan

Region 2

Nicasio Reservoir

LOE ID:	92333
Pollutant:	Endosulfan
LOE Subgroup:	Pollutant-Tissue
Matrix:	Tissue
Fraction:	Fish fillet
Beneficial Use:	Commercial or recreational collection of fish, shellfish, or organisms
Number of Samples:	1
Number of Exceedances:	0
Data and Information Type:	Fish tissue analysis
Data Used to Assess Water Quality:	State Water Board staff assessed SWAMP data for Nicasio Reservoir to determine beneficial use support and results are as follows: 0 of 1 samples exceed the criterion for Endosulfan I. One composite (5 fish per composite) was generated from one species: Largemouth Bass. Details of the compositing protocol can be found in the March 2009 report entitled: "Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Study" (SWAMP, 2009).
Data Reference:	Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Survey. A Report of the Surface Water Ambient Monitoring Program (SWAMP). California State Water Resources Control Board, Sacramento, CA Statewide Lakes Sportfish Contamination Study 2007 2008 Contaminants in Fish from California Lakes and Reservoirs, 2007-2008: Summary Report on a Two-Year Screening Survey Cruise report for the Surface Water Ambient Monitoring Program (SWAMP) bioaccumulation screening study in California lakes and reservoirs year two (FY 07-08). Sampling dates: April 2008 - November 2008.

SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	Water Quality Control Plan for the San Francisco Bay Basin: Controllable water quality factors shall not cause a detrimental increase in concentrations of toxic substances found in bottom sediments or aquatic life. Effects on aquatic organisms, wildlife, and human health will be considered.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	The modified OEHHA Fish Contaminant Goal for endosulfan (I and II) in fish tissue is 13,000 ppb. This screening level assumes an average body weight of 70 kg and a consumption rate of 32 g/day. A cooking reduction factor of 1 is applied for skin-off fillets. (Klasing, S., and R. Brodberg, 2008; USEPA, 2000)
Guideline Reference:	Development of Fish Contaminant Goals and Advisory Tissue Levels for Common Contaminants in California Sport Fish: Chlordane, DDTs, Dieldrin, Methylmercury, PCBs, Selenium, and Toxaphene Guidance for Assessing Chemical Contaminant Data for Use In Fish Advisories Volume 1: Fish Sampling and Analysis
Spatial Representation:	Data for this assessment unit was collected by one monitoring project: (SWB_FishLk)
Temporal Representation:	Data was collected on a single day 8/13/2008.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	Samples were collected, processed, and analyzed in accordance with the methods described in Quality Assurance Project Plan "Screening Study of Bioaccumulation in California Lakes and Reservoirs." (SWAMP, 2008).
QAPP Information Reference(s):	Quality Assurance Project Plan Screening Study of Bioaccumulation in California Lakes and Reservoirs. Moss Landing Marine Labs. Prepared for SWAMP BOG, 49 pages plus appendices and attachments

Line of Evidence (LOE) for Decision ID 64180, Endosulfan

Region 2

Nicasio Reservoir

LOE ID:	92331
Pollutant:	Endosulfan
LOE Subgroup:	Pollutant-Tissue
Matrix:	Tissue
Fraction:	Fish fillet
Beneficial Use:	Warm Freshwater Habitat
Number of Samples:	1
Number of Exceedances:	0
Data and Information Type:	Fish tissue analysis
Data Used to Assess Water Quality:	State Water Board staff assessed SWAMP data for Nicasio Reservoir to determine beneficial use support and results are as follows: 0 of 1 samples exceed the criterion for Endosulfan I. One composite (5 fish per composite) was generated from one species: Largemouth Bass. Details of the compositing protocol can be found in the March 2009 report entitled: "Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Study" (SWAMP, 2009).
Data Reference:	Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Survey. A Report of the Surface Water Ambient Monitoring Program (SWAMP). California State Water Resources Control Board, Sacramento, CA Statewide Lakes Sportfish Contamination Study 2007 2008 Contaminants in Fish from California Lakes and Reservoirs, 2007-2008: Summary Report on a Two-Year Screening Survey Cruise report for the Surface Water Ambient Monitoring Program (SWAMP) bioaccumulation screening study in California lakes and reservoirs year two (FY 07-08). Sampling dates: April 2008 - November 2008.

SWAMP Data: SWAMP

Water Quality Objective/Criterion:	Water Quality Control Plan for the San Francisco Bay Basin: Controllable water quality factors shall not cause a detrimental increase in concentrations of toxic substances found in bottom sediments or aquatic life. Effects on aquatic organisms, wildlife, and human health will be considered.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	National Academy of Science guidelines (NAS 1972) establish a maximum Endosulfan, Total concentration of 100 ug/Kg (wet weight) in tissue samples for protection of aquatic life from bioaccumulation of toxic substances.
Guideline Reference:	National Academy of Sciences. Water Quality Criteria 1972. EPA-R3-73-033. Washington, D.C.: U.S. Environmental Protection Agency
Spatial Representation:	Data for this assessment unit was collected by one monitoring project: (SWB_FishLk)
Temporal Representation:	Data was collected on a single day 8/13/2008.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	Samples were collected, processed, and analyzed in accordance with the methods described in Quality Assurance Project Plan "Screening Study of Bioaccumulation in California Lakes and Reservoirs." (SWAMP, 2008).
QAPP Information Reference(s):	Quality Assurance Project Plan Screening Study of Bioaccumulation in California Lakes and Reservoirs. Moss Landing Marine Labs. Prepared for SWAMP BOG. 49 pages plus appendices and attachments

DECISION ID	64181	Region 2
Nicasio Reservoir		

Pollutant:	Endrin
Final Listing Decision:	Do Not List on 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision:	New Decision
Revision Status	Revised
Impairment from Pollutant or Pollution:	Pollutant
Regional Board Staff Conclusion:	<p>This pollutant is being considered for placement on the CWA section 303(d) List under section 3.5 of the Listing Policy. Under section 3.5 a single line of evidence is necessary to assess listing status. Three lines of evidence are available in the administrative record to assess this pollutant. Zero of one samples exceed the guideline.</p> <p>Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against placing this water segment-pollutant combination on the CWA section 303(d) List.</p> <p>This conclusion is based on the staff findings that:</p> <ol style="list-style-type: none"> 1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy. 2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy. 3. Zero of one samples exceed the guideline and this sample size is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating. A minimum of 16 samples is needed to determine if a beneficial use is fully supported using table 3.1. 4. Pursuant to SECTION 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.
Regional Board Staff Decision Recommendation:	After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be placed on the section 303(d) list. The readily available data and information is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating.

Line of Evidence (LOE) for Decision ID 64181, Endrin	Region 2
Nicasio Reservoir	

LOE ID:	92335
Pollutant:	Endrin
LOE Subgroup:	Pollutant-Tissue
Matrix:	Tissue
Fraction:	Fish fillet
Beneficial Use:	Cold Freshwater Habitat
Number of Samples:	1
Number of Exceedances:	0
Data and Information Type:	Fish tissue analysis
Data Used to Assess Water Quality:	State Water Board staff assessed SWAMP data for Nicasio Reservoir to determine beneficial use support and results are as follows: 0 of 1 samples exceed the criterion for Endrin. One composite (5 fish per composite) was generated from one species: Largemouth Bass. Details of the compositing protocol can be found in the March 2009 report entitled: "Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Study" (SWAMP, 2009).
Data Reference:	Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Survey. A Report of the Surface Water Ambient Monitoring Program (SWAMP). California State Water Resources Control Board, Sacramento, CA Statewide Lakes Sportfish Contamination Study 2007 2008 Contaminants in Fish from California Lakes and Reservoirs, 2007-2008: Summary Report on a Two-Year Screening Survey Cruise report for the Surface Water Ambient Monitoring Program (SWAMP) bioaccumulation screening study in California lakes and reservoirs year two (FY 07-08). Sampling dates: April 2008 - November 2008.
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	Water Quality Control Plan for the San Francisco Bay Basin: Controllable water quality factors shall not cause a detrimental increase in concentrations of toxic substances found in bottom sediments or aquatic life. Effects on aquatic organisms, wildlife, and human health will be considered.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	National Academy of Science guidelines (NAS 1972) establish a maximum Endrin concentration of 100 ug/Kg (wet weight) in tissue samples for protection of aquatic life from bioaccumulation of toxic substances.
Guideline Reference:	National Academy of Sciences. Water Quality Criteria 1972. EPA-R3-73-033. Washington, D.C.: U.S. Environmental Protection Agency
Spatial Representation:	Data for this assessment unit was collected by one monitoring project: (SWB_FishLk)
Temporal Representation:	Data was collected on a single day 8/13/2008.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	Samples were collected, processed, and analyzed in accordance with the methods described in Quality Assurance Project Plan "Screening Study of Bioaccumulation in California Lakes and Reservoirs." (SWAMP, 2008).
QAPP Information Reference(s):	Quality Assurance Project Plan Screening Study of Bioaccumulation in California Lakes and Reservoirs. Moss Landing Marine Labs. Prepared for SWAMP BOG. 49 pages plus appendices and attachments

Line of Evidence (LOE) for Decision ID 64181, Endrin

Region 2

Nicasio Reservoir

LOE ID:	92334
Pollutant:	Endrin
LOE Subgroup:	Pollutant-Tissue
Matrix:	Tissue
Fraction:	Fish fillet

Beneficial Use:	Warm Freshwater Habitat
Number of Samples:	1
Number of Exceedances:	0
Data and Information Type:	Fish tissue analysis
Data Used to Assess Water Quality:	State Water Board staff assessed SWAMP data for Nicasio Reservoir to determine beneficial use support and results are as follows: 0 of 1 samples exceed the criterion for Endrin. One composite (5 fish per composite) was generated from one species: Largemouth Bass. Details of the compositing protocol can be found in the March 2009 report entitled: "Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Study" (SWAMP, 2009).
Data Reference:	Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Survey. A Report of the Surface Water Ambient Monitoring Program (SWAMP). California State Water Resources Control Board, Sacramento, CA Statewide Lakes Sportfish Contamination Study 2007 2008 Contaminants in Fish from California Lakes and Reservoirs, 2007-2008: Summary Report on a Two-Year Screening Survey Cruise report for the Surface Water Ambient Monitoring Program (SWAMP) bioaccumulation screening study in California lakes and reservoirs year two (FY 07-08). Sampling dates: April 2008 - November 2008.
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	Water Quality Control Plan for the San Francisco Bay Basin: Controllable water quality factors shall not cause a detrimental increase in concentrations of toxic substances found in bottom sediments or aquatic life. Effects on aquatic organisms, wildlife, and human health will be considered.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	National Academy of Science guidelines (NAS 1972) establish a maximum Endrin concentration of 100 ug/Kg (wet weight) in tissue samples for protection of aquatic life from bioaccumulation of toxic substances.
Guideline Reference:	National Academy of Sciences. Water Quality Criteria 1972. EPA-R3-73-033. Washington, D.C.: U.S. Environmental Protection Agency
Spatial Representation:	Data for this assessment unit was collected by one monitoring project: (SWB_FishLk)
Temporal Representation:	Data was collected on a single day 8/13/2008.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	Samples were collected, processed, and analyzed in accordance with the methods described in Quality Assurance Project Plan "Screening Study of Bioaccumulation in California Lakes and Reservoirs." (SWAMP, 2008).
QAPP Information Reference(s):	Quality Assurance Project Plan Screening Study of Bioaccumulation in California Lakes and Reservoirs. Moss Landing Marine Labs. Prepared for SWAMP BOG. 49 pages plus appendices and attachments

Line of Evidence (LOE) for Decision ID 64181, Endrin

Region 2

Nicasio Reservoir

LOE ID:	92336
Pollutant:	Endrin
LOE Subgroup:	Pollutant-Tissue
Matrix:	Tissue
Fraction:	Fish fillet
Beneficial Use:	Commercial or recreational collection of fish, shellfish, or organisms
Number of Samples:	1
Number of Exceedances:	0

Data and Information Type:	Fish tissue analysis
Data Used to Assess Water Quality:	State Water Board staff assessed SWAMP data for Nicasio Reservoir to determine beneficial use support and results are as follows: 0 of 1 samples exceed the criterion for Endrin. One composite (5 fish per composite) was generated from one species: Largemouth Bass. Details of the compositing protocol can be found in the March 2009 report entitled: "Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Study" (SWAMP, 2009).
Data Reference:	Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Survey. A Report of the Surface Water Ambient Monitoring Program (SWAMP). California State Water Resources Control Board, Sacramento, CA Statewide Lakes Sportfish Contamination Study 2007 2008 Contaminants in Fish from California Lakes and Reservoirs, 2007-2008: Summary Report on a Two-Year Screening Survey Cruise report for the Surface Water Ambient Monitoring Program (SWAMP) bioaccumulation screening study in California lakes and reservoirs year two (FY 07-08). Sampling dates: April 2008 - November 2008.
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	Water Quality Control Plan for the San Francisco Bay Basin: Controllable water quality factors shall not cause a detrimental increase in concentrations of toxic substances found in bottom sediments or aquatic life. Effects on aquatic organisms, wildlife, and human health will be considered.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	The modified OEHHA Fish Contaminant Goal for endrin in fish tissue is 660 ppb. This screening level assumes an average body weight of 70 kg and a consumption rate of 32 g/day. A cooking reduction factor of 1 is applied for skin-off fillets. (Klasing, S., and R. Brodberg, 2008; USEPA, 2000)
Guideline Reference:	Development of Fish Contaminant Goals and Advisory Tissue Levels for Common Contaminants in California Sport Fish: Chlordane, DDTs, Dieldrin, Methylmercury, PCBs, Selenium, and Toxaphene Guidance for Assessing Chemical Contaminant Data for Use In Fish Advisories Volume 1: Fish Sampling and Analysis
Spatial Representation:	Data for this assessment unit was collected by one monitoring project: (SWB_FishLk)
Temporal Representation:	Data was collected on a single day 8/13/2008.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	Samples were collected, processed, and analyzed in accordance with the methods described in Quality Assurance Project Plan "Screening Study of Bioaccumulation in California Lakes and Reservoirs." (SWAMP, 2008).
QAPP Information Reference(s):	Quality Assurance Project Plan Screening Study of Bioaccumulation in California Lakes and Reservoirs. Moss Landing Marine Labs. Prepared for SWAMP BOG. 49 pages plus appendices and attachments

DECISION ID	64182	Region 2
Nicasio Reservoir		
Pollutant:	Heptachlor	
Final Listing Decision:	Do Not List on 303(d) list (TMDL required list)	
Last Listing Cycle's Final Listing Decision:	New Decision	
Revision Status	Revised	
Impairment from Pollutant or Pollution:	Pollutant	
Regional Board Staff Conclusion:	This pollutant is being considered for placement on the CWA section 303(d) List under section 3.5 of the Listing Policy. Under section 3.5 a single line of evidence is necessary to assess listing status. Two lines of evidence are available in the administrative record to assess this pollutant. Zero of one samples exceed the guideline.	

Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against placing this water segment-pollutant combination on the CWA section 303(d) List.

This conclusion is based on the staff findings that:

1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy.
2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy.
3. Zero of one samples exceed the guideline and this sample size is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating. A minimum of 16 samples is needed to determine if a beneficial use is fully supported using table 3.1.
4. Pursuant to SECTION 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.

Regional Board Staff Decision Recommendation: After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be placed on the section 303(d) list. The readily available data and information is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating.

Line of Evidence (LOE) for Decision ID 64182, Heptachlor

Region 2

Nicasio Reservoir

LOE ID:	92339
Pollutant:	Heptachlor
LOE Subgroup:	Pollutant-Tissue
Matrix:	Tissue
Fraction:	Fish fillet
Beneficial Use:	Cold Freshwater Habitat
Number of Samples:	1
Number of Exceedances:	0
Data and Information Type:	Fish tissue analysis
Data Used to Assess Water Quality:	State Water Board staff assessed SWAMP data for Nicasio Reservoir to determine beneficial use support and results are as follows: 0 of 1 samples exceed the criterion for Heptachlor. One composite (5 fish per composite) was generated from one species: Largemouth Bass. Details of the compositing protocol can be found in the March 2009 report entitled: "Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Study" (SWAMP, 2009).
Data Reference:	Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Survey. A Report of the Surface Water Ambient Monitoring Program (SWAMP). California State Water Resources Control Board, Sacramento, CA Statewide Lakes Sportfish Contamination Study 2007 2008 Contaminants in Fish from California Lakes and Reservoirs, 2007-2008: Summary Report on a Two-Year Screening Survey Cruise report for the Surface Water Ambient Monitoring Program (SWAMP) bioaccumulation screening study in California lakes and reservoirs year two (FY 07-08). Sampling dates: April 2008 - November 2008.
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	Water Quality Control Plan for the San Francisco Bay Basin: Controllable water quality factors shall not cause a detrimental increase in concentrations of toxic substances found in bottom sediments or aquatic life. Effects on aquatic organisms, wildlife, and human health will be considered.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	National Academy of Science guidelines (NAS 1972) establish a maximum Heptachlor concentration of 100 ug/Kg (wet weight) in tissue samples for protection of aquatic life from bioaccumulation of toxic substances.

Guideline Reference:	National Academy of Sciences. Water Quality Criteria 1972. EPA-R3-73-033. Washington, D.C.: U.S. Environmental Protection Agency
Spatial Representation:	Data for this assessment unit was collected by one monitoring project: (SWB_FishLk)
Temporal Representation:	Data was collected on a single day 8/13/2008.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	Samples were collected, processed, and analyzed in accordance with the methods described in Quality Assurance Project Plan "Screening Study of Bioaccumulation in California Lakes and Reservoirs." (SWAMP, 2008).
QAPP Information Reference(s):	Quality Assurance Project Plan Screening Study of Bioaccumulation in California Lakes and Reservoirs. Moss Landing Marine Labs. Prepared for SWAMP BOG. 49 pages plus appendices and attachments

Line of Evidence (LOE) for Decision ID 64182, Heptachlor
Nicasio Reservoir

Region 2

LOE ID:	92338
Pollutant:	Heptachlor
LOE Subgroup:	Pollutant-Tissue
Matrix:	Tissue
Fraction:	Fish fillet
Beneficial Use:	Warm Freshwater Habitat
Number of Samples:	1
Number of Exceedances:	0
Data and Information Type:	Fish tissue analysis
Data Used to Assess Water Quality:	State Water Board staff assessed SWAMP data for Nicasio Reservoir to determine beneficial use support and results are as follows: 0 of 1 samples exceed the criterion for Heptachlor. One composite (5 fish per composite) was generated from one species: Largemouth Bass. Details of the compositing protocol can be found in the March 2009 report entitled: "Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Study" (SWAMP, 2009).
Data Reference:	Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Survey. A Report of the Surface Water Ambient Monitoring Program (SWAMP). California State Water Resources Control Board, Sacramento, CA Statewide Lakes Sportfish Contamination Study 2007 2008 Contaminants in Fish from California Lakes and Reservoirs, 2007-2008: Summary Report on a Two-Year Screening Survey Cruise report for the Surface Water Ambient Monitoring Program (SWAMP) bioaccumulation screening study in California lakes and reservoirs year two (FY 07-08). Sampling dates: April 2008 - November 2008.
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	Water Quality Control Plan for the San Francisco Bay Basin: Controllable water quality factors shall not cause a detrimental increase in concentrations of toxic substances found in bottom sediments or aquatic life. Effects on aquatic organisms, wildlife, and human health will be considered.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	National Academy of Science guidelines (NAS 1972) establish a maximum Heptachlor concentration of 100 ug/Kg (wet weight) in tissue samples for protection of aquatic life from bioaccumulation of toxic substances.
Guideline Reference:	National Academy of Sciences. Water Quality Criteria 1972. EPA-R3-73-033. Washington, D.C.: U.S. Environmental Protection Agency
Spatial Representation:	Data for this assessment unit was collected by one monitoring project: (SWB_FishLk)
Temporal Representation:	Data was collected on a single day 8/13/2008.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.

QAPP Information: Samples were collected, processed, and analyzed in accordance with the methods described in Quality Assurance Project Plan "Screening Study of Bioaccumulation in California Lakes and Reservoirs." (SWAMP, 2008).

QAPP Information Reference(s): [Quality Assurance Project Plan Screening Study of Bioaccumulation in California Lakes and Reservoirs. Moss Landing Marine Labs. Prepared for SWAMP BOG. 49 pages plus appendices and attachments](#)

DECISION ID	64184	Region 2
Nicasio Reservoir		

Pollutant: Heptachlor epoxide
Final Listing Decision: Do Not List on 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision: New Decision
Revision Status: Revised
Impairment from Pollutant or Pollution: Pollutant

Regional Board Staff Conclusion: This pollutant is being considered for placement on the CWA section 303(d) List under section 3.5 of the Listing Policy. Under section 3.5 a single line of evidence is necessary to assess listing status. Three lines of evidence are available in the administrative record to assess this pollutant. Zero of one samples exceed the guideline.

Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against placing this water segment-pollutant combination on the CWA section 303(d) List.

This conclusion is based on the staff findings that:

1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy.
2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy.
3. Zero of one samples exceed the guideline and this sample size is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating. A minimum of 16 samples is needed to determine if a beneficial use is fully supported using table 3.1.
4. Pursuant to SECTION 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.

Regional Board Staff Decision Recommendation: After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be placed on the section 303(d) list. The readily available data and information is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating.

Line of Evidence (LOE) for Decision ID 64184, Heptachlor epoxide	Region 2
Nicasio Reservoir	

LOE ID: 92341

Pollutant: Heptachlor epoxide
LOE Subgroup: Pollutant-Tissue
Matrix: Tissue
Fraction: Fish fillet

Beneficial Use: Cold Freshwater Habitat

Number of Samples: 1
Number of Exceedances: 0

Data and Information Type: Fish tissue analysis
Data Used to Assess Water Quality: State Water Board staff assessed SWAMP data for Nicasio Reservoir to determine beneficial use support and results are as follows: 0 of 1 samples exceed the criterion for

Data Reference:	<p>Heptachlor epoxide. One composite (5 fish per composite) was generated from one species: Largemouth Bass. Details of the compositing protocol can be found in the March 2009 report entitled: "Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Study" (SWAMP, 2009). Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Survey. A Report of the Surface Water Ambient Monitoring Program (SWAMP). California State Water Resources Control Board, Sacramento, CA Statewide Lakes Sportfish Contamination Study 2007 2008 Contaminants in Fish from California Lakes and Reservoirs, 2007-2008: Summary Report on a Two-Year Screening Survey Cruise report for the Surface Water Ambient Monitoring Program (SWAMP) bioaccumulation screening study in California lakes and reservoirs year two (FY 07-08). Sampling dates: April 2008 - November 2008.</p>
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	Water Quality Control Plan for the San Francisco Bay Basin: Controllable water quality factors shall not cause a detrimental increase in concentrations of toxic substances found in bottom sediments or aquatic life. Effects on aquatic organisms, wildlife, and human health will be considered.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	National Academy of Science guidelines (NAS 1972) establish a maximum Heptachlor Epoxide concentration of 100 ug/Kg (wet weight) in tissue samples for protection of aquatic life from bioaccumulation of toxic substances.
Guideline Reference:	National Academy of Sciences. Water Quality Criteria 1972. EPA-R3-73-033. Washington, D.C.: U.S. Environmental Protection Agency
Spatial Representation:	Data for this assessment unit was collected by one monitoring project: (SWB_FishLk)
Temporal Representation:	Data was collected on a single day 8/13/2008.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	Samples were collected, processed, and analyzed in accordance with the methods described in Quality Assurance Project Plan "Screening Study of Bioaccumulation in California Lakes and Reservoirs." (SWAMP, 2008).
QAPP Information Reference(s):	Quality Assurance Project Plan Screening Study of Bioaccumulation in California Lakes and Reservoirs. Moss Landing Marine Labs. Prepared for SWAMP BOG. 49 pages plus appendices and attachments

Line of Evidence (LOE) for Decision ID 64184, Heptachlor epoxide
Nicasio Reservoir

Region 2

LOE ID:	92340
Pollutant:	Heptachlor epoxide
LOE Subgroup:	Pollutant-Tissue
Matrix:	Tissue
Fraction:	Fish fillet
Beneficial Use:	Warm Freshwater Habitat
Number of Samples:	1
Number of Exceedances:	0
Data and Information Type:	Fish tissue analysis
Data Used to Assess Water Quality:	State Water Board staff assessed SWAMP data for Nicasio Reservoir to determine beneficial use support and results are as follows: 0 of 1 samples exceed the criterion for Heptachlor epoxide. One composite (5 fish per composite) was generated from one species: Largemouth Bass. Details of the compositing protocol can be found in the March 2009 report entitled: "Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Study" (SWAMP, 2009). Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Survey. A Report of the Surface Water Ambient Monitoring
Data Reference:	

[Program \(SWAMP\). California State Water Resources Control Board, Sacramento, CA Statewide Lakes Sportfish Contamination Study 2007 2008](#)
[Contaminants in Fish from California Lakes and Reservoirs, 2007-2008: Summary Report on a Two-Year Screening Survey](#)
[Cruise report for the Surface Water Ambient Monitoring Program \(SWAMP\) bioaccumulation screening study in California lakes and reservoirs year two \(FY 07-08\). Sampling dates: April 2008 - November 2008.](#)

SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	Water Quality Control Plan for the San Francisco Bay Basin: Controllable water quality factors shall not cause a detrimental increase in concentrations of toxic substances found in bottom sediments or aquatic life. Effects on aquatic organisms, wildlife, and human health will be considered.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	National Academy of Science guidelines (NAS 1972) establish a maximum Heptachlor Epoxide concentration of 100 ug/Kg (wet weight) in tissue samples for protection of aquatic life from bioaccumulation of toxic substances.
Guideline Reference:	National Academy of Sciences. Water Quality Criteria 1972. EPA-R3-73-033. Washington, D.C.: U.S. Environmental Protection Agency
Spatial Representation:	Data for this assessment unit was collected by one monitoring project: (SWB_FishLk)
Temporal Representation:	Data was collected on a single day 8/13/2008.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	Samples were collected, processed, and analyzed in accordance with the methods described in Quality Assurance Project Plan "Screening Study of Bioaccumulation in California Lakes and Reservoirs." (SWAMP, 2008).
QAPP Information Reference(s):	Quality Assurance Project Plan Screening Study of Bioaccumulation in California Lakes and Reservoirs. Moss Landing Marine Labs. Prepared for SWAMP BOG. 49 pages plus appendices and attachments

Line of Evidence (LOE) for Decision ID 64184, Heptachlor epoxide

Region 2

Nicasio Reservoir

LOE ID:	92345
Pollutant:	Heptachlor epoxide
LOE Subgroup:	Pollutant-Tissue
Matrix:	Tissue
Fraction:	Fish fillet
Beneficial Use:	Commercial or recreational collection of fish, shellfish, or organisms
Number of Samples:	0
Number of Exceedances:	0
Data and Information Type:	Fish tissue analysis
Data Used to Assess Water Quality:	State Water Board staff assessed SWAMP data for Nicasio Reservoir to determine beneficial use support and results are as follows: 0 of 0 samples exceed the criterion for Heptachlor epoxide. One composite (5 fish per composite) was generated from one species: Largemouth Bass. Details of the compositing protocol can be found in the March 2009 report entitled: "Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Study" (SWAMP, 2009). One composite was not used in the assessment because the laboratory data reporting limit(s) was above the objective and therefore the results could not be quantified with the level of certainty required by the Listing Policy.
Data Reference:	Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Survey. A Report of the Surface Water Ambient Monitoring Program (SWAMP). California State Water Resources Control Board, Sacramento, CA Statewide Lakes Sportfish Contamination Study 2007 2008 Contaminants in Fish from California Lakes and Reservoirs, 2007-2008: Summary Report

[on a Two-Year Screening Survey](#)
[Cruise report for the Surface Water Ambient Monitoring Program \(SWAMP\)](#)
[bioaccumulation screening study in California lakes and reservoirs year two \(FY 07-08\).](#)
[Sampling dates: April 2008 - November 2008.](#)

SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	Water Quality Control Plan for the San Francisco Bay Basin: Controllable water quality factors shall not cause a detrimental increase in concentrations of toxic substances found in bottom sediments or aquatic life. Effects on aquatic organisms, wildlife, and human health will be considered.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	The modified OEHHA Fish Contaminant Goal for heptachlor epoxide in fish tissue is 0.93 ppb. This screening level assumes an average body weight of 70 kg and a consumption rate of 32 g/day for a 30 year exposure over a 70-year lifetime. This constituent is a carcinogen therefore the risk level is set to one in a million. A cooking reduction factor of 1 is applied for skin-off fillets. (Klasing, S., and R. Brodberg, 2008; OEHHA, 1999)
Guideline Reference:	Development of Fish Contaminant Goals and Advisory Tissue Levels for Common Contaminants in California Sport Fish: Chlordane, DDTs, Dieldrin, Methylmercury, PCBs, Selenium, and Toxaphene Public Health Goal for Heptachlor and Heptachlor Epoxide in Drinking Water
Spatial Representation:	Data for this assessment unit was collected by one monitoring project: (SWB_FishLk)
Temporal Representation:	Data was collected on a single day 8/13/2008.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	Samples were collected, processed, and analyzed in accordance with the methods described in Quality Assurance Project Plan "Screening Study of Bioaccumulation in California Lakes and Reservoirs." (SWAMP, 2008).
QAPP Information Reference(s):	Quality Assurance Project Plan Screening Study of Bioaccumulation in California Lakes and Reservoirs. Moss Landing Marine Labs. Prepared for SWAMP BOG. 49 pages plus appendices and attachments

DECISION ID	64186	Region 2
Nicasio Reservoir		

Pollutant:	Hexachlorobenzene/ HCB
Final Listing Decision:	Do Not List on 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision:	New Decision
Revision Status	Revised
Impairment from Pollutant or Pollution:	Pollutant
Regional Board Staff Conclusion:	<p>This pollutant is being considered for placement on the CWA section 303(d) List under section 3.5 of the Listing Policy. Under section 3.5 a single line of evidence is necessary to assess listing status. One line of evidence is available in the administrative record to assess this pollutant. Zero of one samples exceed the guideline.</p> <p>Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against placing this water segment-pollutant combination on the CWA section 303(d) List.</p> <p>This conclusion is based on the staff findings that:</p> <ol style="list-style-type: none"> 1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy. 2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy. 3. Zero of one samples exceed the guideline and this sample size is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating. A minimum of 16 samples is needed to determine if a beneficial use is fully supported using table 3.1. 4. Pursuant to SECTION 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.

Regional Board Staff Decision Recommendation: After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be placed on the section 303(d) list. The readily available data and information is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating.

Line of Evidence (LOE) for Decision ID 64186, Hexachlorobenzene/ HCB

Region 2

Nicasio Reservoir

LOE ID:	92346
Pollutant:	Hexachlorobenzene/ HCB
LOE Subgroup:	Pollutant-Tissue
Matrix:	Tissue
Fraction:	Fish fillet
Beneficial Use:	Commercial or recreational collection of fish, shellfish, or organisms
Number of Samples:	1
Number of Exceedances:	0
Data and Information Type:	Fish tissue analysis
Data Used to Assess Water Quality:	State Water Board staff assessed SWAMP data for Nicasio Reservoir to determine beneficial use support and results are as follows: 0 of 1 samples exceed the criterion for Hexachlorobenzene. One composite (5 fish per composite) was generated from one species: Largemouth Bass. Details of the compositing protocol can be found in the March 2009 report entitled: "Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Study" (SWAMP, 2009).
Data Reference:	Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Survey. A Report of the Surface Water Ambient Monitoring Program (SWAMP). California State Water Resources Control Board, Sacramento, CA Statewide Lakes Sportfish Contamination Study 2007 2008 Contaminants in Fish from California Lakes and Reservoirs, 2007-2008: Summary Report on a Two-Year Screening Survey Cruise report for the Surface Water Ambient Monitoring Program (SWAMP) bioaccumulation screening study in California lakes and reservoirs year two (FY 07-08). Sampling dates: April 2008 - November 2008.
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	Water Quality Control Plan for the San Francisco Bay Basin: Controllable water quality factors shall not cause a detrimental increase in concentrations of toxic substances found in bottom sediments or aquatic life. Effects on aquatic organisms, wildlife, and human health will be considered.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	The modified OEHHA Fish Contaminant Goal for hexachlorobenzene in fish tissue is 2.8 ppb. This screening level assumes an average body weight of 70 kg and a consumption rate of 32 g/day for a 30 year exposure over a 70-year lifetime. This constituent is a carcinogen therefore the risk level is set to one in a million. A cooking reduction factor of 1 is applied for skin-off fillets. (Klasing, S., and R. Brodberg, 2008; OEHHA, 2005)
Guideline Reference:	Development of Fish Contaminant Goals and Advisory Tissue Levels for Common Contaminants in California Sport Fish: Chlordane, DDTs, Dieldrin, Methylmercury, PCBs, Selenium, and Toxaphene Air Toxics Hotspots Program Risk Assessment Guidelines. Part II Technical Support Document for Describing Available Cancer Potency Values.
Spatial Representation:	Data for this assessment unit was collected by one monitoring project: (SWB_FishLk)
Temporal Representation:	Data was collected on a single day 8/13/2008.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	Samples were collected, processed, and analyzed in accordance with the methods

described in Quality Assurance Project Plan "Screening Study of Bioaccumulation in California Lakes and Reservoirs." (SWAMP, 2008).

QAPP Information Reference(s):

[Quality Assurance Project Plan Screening Study of Bioaccumulation in California Lakes and Reservoirs. Moss Landing Marine Labs. Prepared for SWAMP BOG. 49 pages plus appendices and attachments](#)

DECISION ID	64187	Region 2
Nicasio Reservoir		

Pollutant: Lindane/gamma Hexachlorocyclohexane (gamma-HCH)
Final Listing Decision: Do Not List on 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision: New Decision
Revision Status: Revised
Impairment from Pollutant or Pollution: Pollutant

Regional Board Staff Conclusion: This pollutant is being considered for placement on the CWA section 303(d) List under section 3.5 of the Listing Policy. Under section 3.5 a single line of evidence is necessary to assess listing status. Three lines of evidence are available in the administrative record to assess this pollutant. Zero of one samples exceed the guideline.

Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against placing this water segment-pollutant combination on the CWA section 303(d) List.

This conclusion is based on the staff findings that:

1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy.
2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy.
3. Zero of one samples exceed the guideline and this sample size is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating. A minimum of 16 samples is needed to determine if a beneficial use is fully supported using table 3.1.
4. Pursuant to SECTION 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.

Regional Board Staff Decision Recommendation: After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be placed on the section 303(d) list. The readily available data and information is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating.

Line of Evidence (LOE) for Decision ID 64187, Lindane/gamma Hexachlorocyclohexane (gamma-HCH)	Region 2
Nicasio Reservoir	

LOE ID: 92352

Pollutant: Lindane/gamma Hexachlorocyclohexane (gamma-HCH)
LOE Subgroup: Pollutant-Tissue
Matrix: Tissue
Fraction: Fish fillet

Beneficial Use: Cold Freshwater Habitat

Number of Samples: 1
Number of Exceedances: 0

Data and Information Type: Fish tissue analysis
Data Used to Assess Water Quality: State Water Board staff assessed SWAMP data for Nicasio Reservoir to determine beneficial use support and results are as follows: 0 of 1 samples exceed the criterion for

Data Reference:	<p>HCH, gamma. One composite (5 fish per composite) was generated from one species: Largemouth Bass. Details of the compositing protocol can be found in the March 2009 report entitled: "Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Study" (SWAMP, 2009).</p> <p>Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Survey. A Report of the Surface Water Ambient Monitoring Program (SWAMP). California State Water Resources Control Board, Sacramento, CA Statewide Lakes Sportfish Contamination Study 2007 2008</p> <p>Contaminants in Fish from California Lakes and Reservoirs, 2007-2008: Summary Report on a Two-Year Screening Survey</p> <p>Cruise report for the Surface Water Ambient Monitoring Program (SWAMP) bioaccumulation screening study in California lakes and reservoirs year two (FY 07-08). Sampling dates: April 2008 - November 2008.</p>
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	Water Quality Control Plan for the San Francisco Bay Basin: Controllable water quality factors shall not cause a detrimental increase in concentrations of toxic substances found in bottom sediments or aquatic life. Effects on aquatic organisms, wildlife, and human health will be considered.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	The modified OEHHA Fish Contaminant Goal for lindane in fish tissue is 4.6 ppb. This screening level assumes an average body weight of 70 kg and a consumption rate of 32 g/day for a 30 year exposure over a 70-year lifetime. This constituent is a carcinogen therefore the risk level is set to one in a million. A cooking reduction factor of 1 is applied for skin-off fillets. (Klasing, S., and R. Brodberg, 2008; OEHHA, 2005)
Guideline Reference:	National Academy of Sciences. Water Quality Criteria 1972. EPA-R3-73-033. Washington, D.C.: U.S. Environmental Protection Agency
Spatial Representation:	Data for this assessment unit was collected by one monitoring project: (SWB_FishLk)
Temporal Representation:	Data was collected on a single day 8/13/2008.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	Samples were collected, processed, and analyzed in accordance with the methods described in Quality Assurance Project Plan "Screening Study of Bioaccumulation in California Lakes and Reservoirs." (SWAMP, 2008).
QAPP Information Reference(s):	Quality Assurance Project Plan Screening Study of Bioaccumulation in California Lakes and Reservoirs. Moss Landing Marine Labs. Prepared for SWAMP BOG, 49 pages plus appendices and attachments

Line of Evidence (LOE) for Decision ID 64187, Lindane/gamma Hexachlorocyclohexane (gamma-HCH)

Region 2

Nicasio Reservoir

LOE ID:	92351
Pollutant:	Lindane/gamma Hexachlorocyclohexane (gamma-HCH)
LOE Subgroup:	Pollutant-Tissue
Matrix:	Tissue
Fraction:	Fish fillet
Beneficial Use:	Commercial or recreational collection of fish, shellfish, or organisms
Number of Samples:	1
Number of Exceedances:	0
Data and Information Type:	Fish tissue analysis
Data Used to Assess Water Quality:	State Water Board staff assessed SWAMP data for Nicasio Reservoir to determine beneficial use support and results are as follows: 0 of 1 samples exceed the criterion for HCH, gamma. One composite (5 fish per composite) was generated from one species: Largemouth Bass. Details of the compositing protocol can be found in the March 2009 report entitled: "Contaminants in Fish from California Lakes and Reservoirs: Technical

Data Reference:	Report on Year One of a Two-Year Screening Study" (SWAMP, 2009). Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Survey. A Report of the Surface Water Ambient Monitoring Program (SWAMP). California State Water Resources Control Board, Sacramento, CA Statewide Lakes Sportfish Contamination Study 2007 2008 Contaminants in Fish from California Lakes and Reservoirs, 2007-2008: Summary Report on a Two-Year Screening Survey Cruise report for the Surface Water Ambient Monitoring Program (SWAMP) bioaccumulation screening study in California lakes and reservoirs year two (FY 07-08). Sampling dates: April 2008 - November 2008.
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	Water Quality Control Plan for the San Francisco Bay Basin: Controllable water quality factors shall not cause a detrimental increase in concentrations of toxic substances found in bottom sediments or aquatic life. Effects on aquatic organisms, wildlife, and human health will be considered.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	The modified OEHHA Fish Contaminant Goal for lindane in fish tissue is 4.6 ppb. This screening level assumes an average body weight of 70 kg and a consumption rate of 32 g/day for a 30 year exposure over a 70-year lifetime. This constituent is a carcinogen therefore the risk level is set to one in a million. A cooking reduction factor of 1 is applied for skin-off fillets.
Guideline Reference:	Development of Fish Contaminant Goals and Advisory Tissue Levels for Common Contaminants in California Sport Fish: Chlordane, DDTs, Dieldrin, Methylmercury, PCBs, Selenium, and Toxaphene Air Toxics Hotspots Program Risk Assessment Guidelines. Part II Technical Support Document for Describing Available Cancer Potency Values.
Spatial Representation:	Data for this assessment unit was collected by one monitoring project: (SWB_FishLk)
Temporal Representation:	Data was collected on a single day 8/13/2008.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	Samples were collected, processed, and analyzed in accordance with the methods described in Quality Assurance Project Plan "Screening Study of Bioaccumulation in California Lakes and Reservoirs." (SWAMP, 2008).
QAPP Information Reference(s):	Quality Assurance Project Plan Screening Study of Bioaccumulation in California Lakes and Reservoirs. Moss Landing Marine Labs. Prepared for SWAMP BOG, 49 pages plus appendices and attachments

Line of Evidence (LOE) for Decision ID 64187, Lindane/gamma Hexachlorocyclohexane (gamma-HCH)

Region 2

Nicasio Reservoir

LOE ID:	92347
Pollutant:	Lindane/gamma Hexachlorocyclohexane (gamma-HCH)
LOE Subgroup:	Pollutant-Tissue
Matrix:	Tissue
Fraction:	Fish fillet
Beneficial Use:	Warm Freshwater Habitat
Number of Samples:	1
Number of Exceedances:	0
Data and Information Type:	Fish tissue analysis
Data Used to Assess Water Quality:	State Water Board staff assessed SWAMP data for Nicasio Reservoir to determine beneficial use support and results are as follows: 0 of 1 samples exceed the criterion for HCH, gamma. One composite (5 fish per composite) was generated from one species: Largemouth Bass. Details of the compositing protocol can be found in the March 2009 report entitled: "Contaminants in Fish from California Lakes and Reservoirs: Technical

Data Reference:	Report on Year One of a Two-Year Screening Study" (SWAMP, 2009). Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Survey. A Report of the Surface Water Ambient Monitoring Program (SWAMP). California State Water Resources Control Board, Sacramento, CA Statewide Lakes Sportfish Contamination Study 2007 2008 Contaminants in Fish from California Lakes and Reservoirs, 2007-2008: Summary Report on a Two-Year Screening Survey Cruise report for the Surface Water Ambient Monitoring Program (SWAMP) bioaccumulation screening study in California lakes and reservoirs year two (FY 07-08). Sampling dates: April 2008 - November 2008.
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	Water Quality Control Plan for the San Francisco Bay Basin: Controllable water quality factors shall not cause a detrimental increase in concentrations of toxic substances found in bottom sediments or aquatic life. Effects on aquatic organisms, wildlife, and human health will be considered.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	The modified OEHHA Fish Contaminant Goal for lindane in fish tissue is 4.6 ppb. This screening level assumes an average body weight of 70 kg and a consumption rate of 32 g/day for a 30 year exposure over a 70-year lifetime. This constituent is a carcinogen therefore the risk level is set to one in a million. A cooking reduction factor of 1 is applied for skin-off fillets. (Klasing, S., and R. Brodberg, 2008; OEHHA, 2005)
Guideline Reference:	National Academy of Sciences. Water Quality Criteria 1972. EPA-R3-73-033. Washington, D.C.: U.S. Environmental Protection Agency
Spatial Representation:	Data for this assessment unit was collected by one monitoring project: (SWB_FishLk)
Temporal Representation:	Data was collected on a single day 8/13/2008.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	Samples were collected, processed, and analyzed in accordance with the methods described in Quality Assurance Project Plan "Screening Study of Bioaccumulation in California Lakes and Reservoirs." (SWAMP, 2008).
QAPP Information Reference(s):	Quality Assurance Project Plan Screening Study of Bioaccumulation in California Lakes and Reservoirs. Moss Landing Marine Labs. Prepared for SWAMP BOG. 49 pages plus appendices and attachments

DECISION ID		64189	Region 2
Nicasio Reservoir			
Pollutant:	Mirex		
Final Listing Decision:	Do Not List on 303(d) list (TMDL required list)		
Last Listing Cycle's Final Listing Decision:	New Decision		
Revision Status	Revised		
Impairment from Pollutant or Pollution:	Pollutant		
Regional Board Staff Conclusion:	<p>This pollutant is being considered for placement on the CWA section 303(d) List under section 3.5 of the Listing Policy. Under section 3.5 a single line of evidence is necessary to assess listing status. One line of evidence is available in the administrative record to assess this pollutant. Zero of zero samples exceed the guideline.</p> <p>Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against placing this water segment-pollutant combination on the CWA section 303(d) List.</p> <p>This conclusion is based on the staff findings that:</p> <ol style="list-style-type: none"> 1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy. 2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy. 3. Zero of zero samples exceed the guideline and this sample size is insufficient to determine, with 		

the power and confidence of the Listing Policy, the applicable beneficial use support rating. A minimum of 16 samples is needed to determine if a beneficial use is fully supported using table 3.1. 4. Pursuant to SECTION 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.

Regional Board Staff Decision Recommendation: After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be placed on the section 303(d) list. The readily available data and information is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating.

**Line of Evidence (LOE) for Decision ID 64189, Mirex
Nicasio Reservoir**

Region 2

LOE ID:	92300
Pollutant:	Mirex
LOE Subgroup:	Pollutant-Tissue
Matrix:	Tissue
Fraction:	Fish fillet
Beneficial Use:	Commercial or recreational collection of fish, shellfish, or organisms
Number of Samples:	0
Number of Exceedances:	0
Data and Information Type:	Fish tissue analysis
Data Used to Assess Water Quality:	State Water Board staff assessed SWAMP data for Nicasio Reservoir to determine beneficial use support and results are as follows: 0 of 0 samples exceed the criterion for Mirex. One composite (5 fish per composite) was generated from one species: Largemouth Bass. Details of the compositing protocol can be found in the March 2009 report entitled: "Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Study" (SWAMP, 2009). One composite was not used in the assessment because the laboratory data reporting limit(s) was above the objective and therefore the results could not be quantified with the level of certainty required by the Listing Policy.
Data Reference:	Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Survey. A Report of the Surface Water Ambient Monitoring Program (SWAMP). California State Water Resources Control Board, Sacramento, CA Statewide Lakes Sportfish Contamination Study 2007 2008 Contaminants in Fish from California Lakes and Reservoirs, 2007-2008: Summary Report on a Two-Year Screening Survey Cruise report for the Surface Water Ambient Monitoring Program (SWAMP) bioaccumulation screening study in California lakes and reservoirs year two (FY 07-08). Sampling dates: April 2008 - November 2008.
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	Water Quality Control Plan for the San Francisco Bay Basin: Controllable water quality factors shall not cause a detrimental increase in concentrations of toxic substances found in bottom sediments or aquatic life. Effects on aquatic organisms, wildlife, and human health will be considered.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	The modified OEHHA Fish Contaminant Goal for mirex in fish tissue is 0.28 ppb. This screening level assumes an average body weight of 70 kg and a consumption rate of 32 g/day. A cooking reduction factor of 1 is applied for skin-off fillets. (Klasing, S., and R. Brodberg, 2008; OEHHA, 1992)
Guideline Reference:	Development of Fish Contaminant Goals and Advisory Tissue Levels for Common Contaminants in California Sport Fish: Chlordane, DDTs, Dieldrin, Methylmercury, PCBs, Selenium, and Toxaphene Expedited Cancer Potency Values and Proposed Regulatory Levels for Certain Proposition

Spatial Representation: Data for this assessment unit was collected by one monitoring project: (SWB_FishLk)
Temporal Representation: Data was collected on a single day 8/13/2008.
Environmental Conditions: Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information: Samples were collected, processed, and analyzed in accordance with the methods described in Quality Assurance Project Plan "Screening Study of Bioaccumulation in California Lakes and Reservoirs." (SWAMP, 2008).
QAPP Information Reference(s): [Quality Assurance Project Plan Screening Study of Bioaccumulation in California Lakes and Reservoirs. Moss Landing Marine Labs. Prepared for SWAMP BOG. 49 pages plus appendices and attachments](#)

DECISION ID	65493	Region 2
Nicasio Reservoir		

Pollutant:	PCBs (Polychlorinated biphenyls)
Final Listing Decision:	Do Not List on 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision:	New Decision
Revision Status	Revised
Impairment from Pollutant or Pollution:	Pollutant
Regional Board Staff Conclusion:	<p>This pollutant is being considered for placement on the CWA section 303(d) List under section 3.5 of the Listing Policy. Under section 3.5 a single line of evidence is necessary to assess listing status. Three lines of evidence are available in the administrative record to assess this pollutant. Zero of one samples exceed the OEHHHA guideline.</p> <p>Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against placing this water segment-pollutant combination on the CWA section 303(d) List.</p> <p>This conclusion is based on the staff findings that:</p> <ol style="list-style-type: none">1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy.2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy.3. Zero of one samples exceed the OEHHHA guideline and this sample size is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating. A minimum of 16 samples is needed to determine if a beneficial use is fully supported using table 3.1.4. Pursuant to SECTION 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.
Regional Board Staff Decision Recommendation:	After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be placed on the section 303(d) list. The readily available data and information is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating.

Line of Evidence (LOE) for Decision ID 65493, PCBs (Polychlorinated biphenyls)	Region 2
Nicasio Reservoir	

LOE ID:	92301
Pollutant:	PCBs (Polychlorinated biphenyls)
LOE Subgroup:	Pollutant-Tissue
Matrix:	Tissue
Fraction:	Fish fillet
Beneficial Use:	Warm Freshwater Habitat

Number of Samples:	1
Number of Exceedances:	0
Data and Information Type:	Fish tissue analysis
Data Used to Assess Water Quality:	State Water Board staff assessed SWAMP data for Nicasio Reservoir to determine beneficial use support and results are as follows: 0 of 1 samples exceed the criterion for PCB, Total. One composite (5 fish per composite) was generated from one species: Largemouth Bass. Details of the compositing protocol can be found in the March 2009 report entitled: "Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Study" (SWAMP, 2009). Total PCB was assessed for as follows: PCB aroclors and congeners were summed separately and the sum that yielded the highest value was used for the assessment.
Data Reference:	Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Survey. A Report of the Surface Water Ambient Monitoring Program (SWAMP). California State Water Resources Control Board, Sacramento, CA Statewide Lakes Sportfish Contamination Study 2007 2008 Contaminants in Fish from California Lakes and Reservoirs, 2007-2008: Summary Report on a Two-Year Screening Survey Cruise report for the Surface Water Ambient Monitoring Program (SWAMP) bioaccumulation screening study in California lakes and reservoirs year two (FY 07-08). Sampling dates: April 2008 - November 2008.
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	Water Quality Control Plan for the San Francisco Bay Basin (2013): Controllable water quality factors shall not cause a detrimental increase in concentrations of toxic substances found in bottom sediments or aquatic life. Effects on aquatic organisms, wildlife, and human health will be considered.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	National Academy of Science guidelines (NAS 1972) establish a maximum total PCB concentration of 500 ug/Kg (wet weight) in tissue samples for protection of aquatic life from bioaccumulation of toxic substances.
Guideline Reference:	National Academy of Sciences. Water Quality Criteria 1972. EPA-R3-73-033. Washington, D.C.: U.S. Environmental Protection Agency
Spatial Representation:	Data for this assessment unit was collected by one monitoring project: (SWB_FishLk)
Temporal Representation:	Data was collected on a single day 8/13/2008.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	Samples were collected, processed, and analyzed in accordance with the methods described in Quality Assurance Project Plan "Screening Study of Bioaccumulation in California Lakes and Reservoirs." (SWAMP, 2008).
QAPP Information Reference(s):	Quality Assurance Project Plan Screening Study of Bioaccumulation in California Lakes and Reservoirs. Moss Landing Marine Labs. Prepared for SWAMP BOG. 49 pages plus appendices and attachments

Line of Evidence (LOE) for Decision ID 65493, PCBs (Polychlorinated biphenyls)

Region 2

Nicasio Reservoir

LOE ID:	92302
Pollutant:	PCBs (Polychlorinated biphenyls)
LOE Subgroup:	Pollutant-Tissue
Matrix:	Tissue
Fraction:	Fish fillet
Beneficial Use:	Cold Freshwater Habitat
Number of Samples:	1
Number of Exceedances:	0
Data and Information Type:	Fish tissue analysis

Data Used to Assess Water Quality:	State Water Board staff assessed SWAMP data for Nicasio Reservoir to determine beneficial use support and results are as follows: 0 of 1 samples exceed the criterion for PCB, Total. One composite (5 fish per composite) was generated from one species: Largemouth Bass. Details of the compositing protocol can be found in the March 2009 report entitled: "Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Study" (SWAMP, 2009). Total PCB was assessed for as follows: PCB aroclors and congeners were summed separately and the sum that yielded the highest value was used for the assessment.
Data Reference:	Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Survey. A Report of the Surface Water Ambient Monitoring Program (SWAMP). California State Water Resources Control Board, Sacramento, CA Statewide Lakes Sportfish Contamination Study 2007 2008 Contaminants in Fish from California Lakes and Reservoirs, 2007-2008: Summary Report on a Two-Year Screening Survey Cruise report for the Surface Water Ambient Monitoring Program (SWAMP) bioaccumulation screening study in California lakes and reservoirs year two (FY 07-08). Sampling dates: April 2008 - November 2008.
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	Water Quality Control Plan for the San Francisco Bay Basin (2013): Controllable water quality factors shall not cause a detrimental increase in concentrations of toxic substances found in bottom sediments or aquatic life. Effects on aquatic organisms, wildlife, and human health will be considered.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	National Academy of Science guidelines (NAS 1972) establish a maximum total PCB concentration of 500 ug/Kg (wet weight) in tissue samples for protection of aquatic life from bioaccumulation of toxic substances.
Guideline Reference:	National Academy of Sciences. Water Quality Criteria 1972. EPA-R3-73-033. Washington, D.C.: U.S. Environmental Protection Agency
Spatial Representation:	Data for this assessment unit was collected by one monitoring project: (SWB_FishLk)
Temporal Representation:	Data was collected on a single day 8/13/2008.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	Samples were collected, processed, and analyzed in accordance with the methods described in Quality Assurance Project Plan "Screening Study of Bioaccumulation in California Lakes and Reservoirs." (SWAMP, 2008).
QAPP Information Reference(s):	Quality Assurance Project Plan Screening Study of Bioaccumulation in California Lakes and Reservoirs. Moss Landing Marine Labs. Prepared for SWAMP BOG, 49 pages plus appendices and attachments

Line of Evidence (LOE) for Decision ID 65493, PCBs (Polychlorinated biphenyls)

Region 2

Nicasio Reservoir

LOE ID:	92317
Pollutant:	PCBs (Polychlorinated biphenyls)
LOE Subgroup:	Pollutant-Tissue
Matrix:	Tissue
Fraction:	Fish fillet
Beneficial Use:	Commercial or recreational collection of fish, shellfish, or organisms
Number of Samples:	1
Number of Exceedances:	0
Data and Information Type:	Fish tissue analysis
Data Used to Assess Water Quality:	State Water Board staff assessed SWAMP data for Nicasio Reservoir to determine beneficial use support and results are as follows: 0 of 1 samples exceed the criterion for PCB, Total. One composite (5 fish per composite) was generated from one species: Largemouth Bass. Details of the compositing protocol can be found in the March 2009

Data Reference:	<p>report entitled: "Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Study" (SWAMP, 2009). Total PCB was assessed for as follows: PCB aroclors and congeners were summed separately and the sum that yielded the highest value was used for the assessment.</p> <p>Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Survey. A Report of the Surface Water Ambient Monitoring Program (SWAMP). California State Water Resources Control Board, Sacramento, CA Statewide Lakes Sportfish Contamination Study 2007 2008</p> <p>Contaminants in Fish from California Lakes and Reservoirs, 2007-2008: Summary Report on a Two-Year Screening Survey</p> <p>Cruise report for the Surface Water Ambient Monitoring Program (SWAMP) bioaccumulation screening study in California lakes and reservoirs year two (FY 07-08). Sampling dates: April 2008 - November 2008.</p>
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	Water Quality Control Plan for the San Francisco Bay Basin (2013): Controllable water quality factors shall not cause a detrimental increase in concentrations of toxic substances found in bottom sediments or aquatic life. Effects on aquatic organisms, wildlife, and human health will be considered.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	The modified OEHHA Fish Contaminant Goal for polychlorinated biphenyls in fish tissue is 2.6 ppb. This screening level assumes an average body weight of 70 kg and a consumption rate of 32 g/day for a 30 year exposure over a 70-year lifetime. This constituent is a carcinogen therefore the risk level is set to one in a million. A cooking reduction factor of 1 is applied for skin-off fillets. (Klasing, S., and R. Brodberg, 2008)
Guideline Reference:	Development of Fish Contaminant Goals and Advisory Tissue Levels for Common Contaminants in California Sport Fish: Chlordane, DDTs, Dieldrin, Methylmercury, PCBs, Selenium, and Toxaphene
Spatial Representation:	Data for this assessment unit was collected by one monitoring project: (SWB_FishLk)
Temporal Representation:	Data was collected on a single day 8/13/2008.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	Samples were collected, processed, and analyzed in accordance with the methods described in Quality Assurance Project Plan "Screening Study of Bioaccumulation in California Lakes and Reservoirs." (SWAMP, 2008).
QAPP Information Reference(s):	Quality Assurance Project Plan Screening Study of Bioaccumulation in California Lakes and Reservoirs. Moss Landing Marine Labs. Prepared for SWAMP BOG, 49 pages plus appendices and attachments

DECISION ID	64190	Region 2
Nicasio Reservoir		
Pollutant:	Selenium	
Final Listing Decision:	Do Not List on 303(d) list (TMDL required list)	
Last Listing Cycle's Final Listing Decision:	New Decision	
Revision Status	Revised	
Impairment from Pollutant or Pollution:	Pollutant	
Regional Board Staff Conclusion:	<p>This pollutant is being considered for placement on the CWA section 303(d) List under section 3.5 of the Listing Policy. Under section 3.5 a single line of evidence is necessary to assess listing status. One line of evidence is available in the administrative record to assess this pollutant. Zero of one samples exceed the guideline.</p> <p>Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against placing this water segment-pollutant combination on the CWA section 303(d) List.</p>	

This conclusion is based on the staff findings that:

1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy.
2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy.
3. Zero of one samples exceed the guideline and this sample size is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating. A minimum of 16 samples is needed to determine if a beneficial use is fully supported using table 3.1.
4. Pursuant to SECTION 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.

Regional Board Staff Decision Recommendation: After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be placed on the section 303(d) list. The readily available data and information is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating.

Line of Evidence (LOE) for Decision ID 64190, Selenium

Region 2

Nicasio Reservoir

LOE ID:	92318
Pollutant:	Selenium
LOE Subgroup:	Pollutant-Tissue
Matrix:	Tissue
Fraction:	Fish fillet
Beneficial Use:	Commercial or recreational collection of fish, shellfish, or organisms
Number of Samples:	1
Number of Exceedances:	0
Data and Information Type:	Fish tissue analysis
Data Used to Assess Water Quality:	State Water Board staff assessed SWAMP data for Nicasio Reservoir to determine beneficial use support and results are as follows: 0 of 1 samples exceed the criterion for Selenium. One composite (5 fish per composite) was generated from one species: Largemouth Bass. Details of the compositing protocol can be found in the March 2009 report entitled: "Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Study" (SWAMP, 2009).
Data Reference:	Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Survey. A Report of the Surface Water Ambient Monitoring Program (SWAMP). California State Water Resources Control Board, Sacramento, CA Statewide Lakes Sportfish Contamination Study 2007 2008 Contaminants in Fish from California Lakes and Reservoirs, 2007-2008: Summary Report on a Two-Year Screening Survey Cruise report for the Surface Water Ambient Monitoring Program (SWAMP) bioaccumulation screening study in California lakes and reservoirs year two (FY 07-08). Sampling dates: April 2008 - November 2008.
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	Water Quality Control Plan for the San Francisco Bay Basin (2013): Controllable water quality factors shall not cause a detrimental increase in concentrations of toxic substances found in bottom sediments or aquatic life. Effects on aquatic organisms, wildlife, and human health will be considered.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	The OEHHA Fish Contaminant Goal for selenium in fish tissue is 7.4 ppm. This screening level assumes an average body weight of 70 kg and a consumption rate of 32 g/day. A background dietary consumption rate of 0.114 mg/day is applied for this micronutrient. (Klasing, S., and R. Brodberg, 2008)
Guideline Reference:	Development of Fish Contaminant Goals and Advisory Tissue Levels for Common Contaminants in California Sport Fish: Chlordane, DDTs, Dieldrin, Methylmercury, PCBs, Selenium, and Toxaphene

Spatial Representation:	Data for this assessment unit was collected by one monitoring project: (SWB_FishLk)
Temporal Representation:	Data was collected on a single day 8/13/2008.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	Samples were collected, processed, and analyzed in accordance with the methods described in Quality Assurance Project Plan "Screening Study of Bioaccumulation in California Lakes and Reservoirs." (SWAMP, 2008).
QAPP Information Reference(s):	Quality Assurance Project Plan Screening Study of Bioaccumulation in California Lakes and Reservoirs. Moss Landing Marine Labs. Prepared for SWAMP BOG. 49 pages plus appendices and attachments

Draft California 2016 Integrated Report (303(d) List/305(b) Report)

Supporting Information

Regional Board 2 - San Francisco Bay Region

Water Body Name: Bon Tempe Reservoir
Water Body ID: CAL2011302020050519182103
Water Body Type: Lake & Reservoir

DECISION ID 33196 **Region 2**
Bon Tempe Reservoir

Pollutant: Mercury
Final Listing Decision: Do Not Delist from 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision: List on 303(d) list (TMDL required list)(2012)
Revision Status Revised
Sources: Source Unknown
Expected TMDL Completion Date: 2013
Impairment from Pollutant or Pollution: Pollutant

Regional Board Staff Conclusion: This pollutant is being considered for removal from the CWA section 303(d) List under section 4.1 of the Listing Policy. Under this section a single line of evidence is necessary to assess listing status.

Three lines of evidence are available in the administrative record to assess pollutant. Seven of twelve samples exceed the fish tissue criterion.

Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against removing this water segment-pollutant combination from the CWA section 303(d) List.

This conclusion is based on the staff findings that:

1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy.
2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy.
3. Seven of twelve samples exceeded the fish tissue criterion and this exceeds the allowable frequency listed in Table 4.1 of the Listing Policy.
4. Pursuant to section 4.11 of the Listing Policy, no additional data and information are available indicating that standards are met.

Regional Board Staff Decision Recommendation: After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be removed from the section 303(d) list because applicable water quality standards for the pollutant are being exceeded.

Line of Evidence (LOE) for Decision ID 33196, Mercury **Region 2**
Bon Tempe Reservoir

LOE ID: 31006
Pollutant: Mercury
LOE Subgroup: Pollutant-Tissue
Matrix: Tissue
Fraction: Fish fillet
Beneficial Use: Commercial or recreational collection of fish, shellfish, or organisms

Number of Samples:	11
Number of Exceedances:	6
Data and Information Type:	Fish tissue analysis
Data Used to Assess Water Quality:	Fish were collected for tissue analysis at one location from Bon Tempe Reservoir. A total of 11 sample composites were generated from one species: Largemouth Bass. Details of the compositing protocol can be found in the March 2009 report entitled: "Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Study" (SWAMP, 2009). A total of 6 out of 11 samples exceeded the OHHEA fish tissue screening value for human health.
Data Reference:	Data associated with report entitled: Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Survey. A Report of the Surface Water Ambient Monitoring Program (SWAMP). California State Water Resources Control Board, Sacramento, CA Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Survey. A Report of the Surface Water Ambient Monitoring Program (SWAMP). California State Water Resources Control Board, Sacramento, CA Cruise Report for the Surface Waters Ambient Monitoring Program (SWAMP) Bioaccumulation Screening Study in California Lakes and Reservoirs. Sampling Dates: June 2007- March 2008
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	The Basin Plan contains the following objective: Many pollutants can accumulate on particles, in sediment, or bioaccumulate in fish and other aquatic organisms. Controllable water quality factors shall not cause a detrimental increase in concentrations of toxic substances found in bottom sediments or aquatic life. Effects on aquatic organisms, wildlife, and human health will be considered.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) - San Francisco Bay Region (Region 2)
Evaluation Guideline:	Office of Environmental Health Hazard Assessment (OEHHA) Screening Value of 0.3 mg/kg to protect human health when consuming fish (OEHHA, 1999).
Guideline Reference:	Prevalence of Selected Target Chemical Contaminants in Sport Fish From Two California Lakes: Public health designed screening study. Sacramento, CA: Office of Environmental Health Hazard Assessment
Spatial Representation:	Samples were collected from one location in Bon Tempe Reservoir. As discussed in the Lakes and Reservoirs Report (SWAMP, 2009), individual sample locations consisted of an area within a given waterbody with an approximate one-mile diameter, from which multiple fish tissue samples were collected. The number of sample locations per waterbody was based on the overall size of the waterbody. Specifics of individual sampling locations can be found in the supplemental report entitled "Cruise Report for the Surface Waters Ambient Monitoring Program (SWAMP) Bioaccumulation Screening Study in California Lakes and Reservoirs, Sampling Dates: June 2007- March 2008" (SWAMP, 2008). Data collected from this waterbody was assigned under Station Name "Bon Tempe Lake_BOG" in the SWAMP report.
Temporal Representation:	Samples were collected on July 5, 2007
Environmental Conditions:	There are no known environmental conditions (e.g., seasonality, land use practices, fire events, storms, etc.) that are related to these data.
QAPP Information:	Samples were collected, processed, and analyzed in accordance with the methods described in "Quality Assurance Project Plan Screening Study of Bioaccumulation in California Lakes and Reservoirs." (SWAMP, 2008).
QAPP Information Reference(s):	Quality Assurance Project Plan Screening Study of Bioaccumulation in California Lakes and Reservoirs. Moss Landing Marine Labs. Prepared for SWAMP BOG, 49 pages plus appendices and attachments

Line of Evidence (LOE) for Decision ID 33196, Mercury

Region 2

Bon Tempe Reservoir

LOE ID:	671
Pollutant:	Mercury

LOE Subgroup:	Pollutant-Tissue
Matrix:	Tissue
Fraction:	Total
Beneficial Use:	Commercial or recreational collection of fish, shellfish, or organisms
Number of Samples:	2
Number of Exceedances:	2
Data and Information Type:	Fish tissue analysis
Data Used to Assess Water Quality:	Two out of 2 samples exceeded. Two individual samples of largemouth bass were collected and analyzed from Bon Tempe Reservoir. Both exceeded the guideline (TSMP, 2002).
Data Reference:	Placeholder reference 2006 303(d)
SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	San Francisco Bay RWQCB Basin Plan: Many pollutants can accumulate on particles, in sediment, or bioaccumulate in fish and other aquatic organisms. Controllable water quality factors shall not cause a detrimental increase in concentrations of toxic substances found in bottom sediments or aquatic life. Effects on aquatic organisms, wildlife, and human health will be considered.
Objective/Criterion Reference:	Placeholder reference 2006 303(d)
Evaluation Guideline:	'Mercury 0.3 ug/g - OEHHA Screening Value (Interim Health Advisory for Hg, Marin County) (Brodberg and Pollock, 1999).
Guideline Reference:	Placeholder reference 2006 303(d)
Spatial Representation:	One station located around the shoreline of the lake.
Temporal Representation:	All samples were collected on 9/20/2001.
Environmental Conditions:	
QAPP Information:	Environmental Chemistry Quality Assurance and Data Report for the Toxic Substances Monitoring Program, 2001-2002. Department of Fish and Game.
QAPP Information Reference(s):	

Line of Evidence (LOE) for Decision ID 33196, Mercury

Region 2

Bon Tempe Reservoir

LOE ID:	91124
Pollutant:	Mercury
LOE Subgroup:	Pollutant-Tissue
Matrix:	Tissue
Fraction:	Fish fillet
Beneficial Use:	Commercial or recreational collection of fish, shellfish, or organisms
Number of Samples:	1
Number of Exceedances:	1
Data and Information Type:	Fish tissue analysis
Data Used to Assess Water Quality:	State Water Board staff assessed SWAMP data for Bon Tempe Reservoir to determine beneficial use support and results are as follows: 1 of 1 samples exceed the criterion for Mercury. Eleven composites (1 fish per composite) were generated from one species: largemouth bass. Composites were not spatially independent (as defined in the Listing Policy) and so were averaged.
Data Reference:	Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Survey. A Report of the Surface Water Ambient Monitoring Program (SWAMP). California State Water Resources Control Board, Sacramento, CA Cruise Report for the Surface Waters Ambient Monitoring Program (SWAMP) Bioaccumulation Screening Study in California Lakes and Reservoirs, Sampling Dates: June 2007- March 2008

SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	Water Quality Control Plan for the San Francisco Bay Basin (2013): Controllable water quality factors shall not cause a detrimental increase in concentrations of toxic substances found in bottom sediments or aquatic life. Effects on aquatic organisms, wildlife, and human health will be considered.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	The USEPA 304(a) recommended water quality criterion for concentrations of methylmercury in fish tissue of trophic level 4 fish (150 - 500 mm; fillet wet weight) is 0.2 mg/kg. This assumes a consumption rate of 32 g/day. (USEPA, 2001)
Guideline Reference:	Water Quality Criterion for the Protection of Human Health: Methylmercury. Final. United States Environmental Protection Agency Office of Science and Technology Office of Water. EPA-823-R-01-001. January 2001
Spatial Representation:	Data for this assessment unit was collected by one monitoring project: (SWB_FishLk)
Temporal Representation:	Data was collected on a single day 7/5/2007.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	Samples were collected, processed, and analyzed in accordance with the methods described in Quality Assurance Project Plan "Screening Study of Bioaccumulation in California Lakes and Reservoirs." (SWAMP, 2008).
QAPP Information Reference(s):	Quality Assurance Project Plan Screening Study of Bioaccumulation in California Lakes and Reservoirs. Moss Landing Marine Labs. Prepared for SWAMP BOG, 49 pages plus appendices and attachments

DECISION ID	61358	Region 2
Bon Tempe Reservoir		

Pollutant:	Aldrin
Final Listing Decision:	Do Not List on 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision:	New Decision
Revision Status	Revised
Impairment from Pollutant or Pollution:	Pollutant
Regional Board Staff Conclusion:	<p>This pollutant is being considered for placement on the CWA section 303(d) List under section 3.5 of the Listing Policy. Under section 3.5 a single line of evidence is necessary to assess listing status. Two lines of evidence are available in the administrative record to assess this pollutant. Zero of one samples exceed the guideline.</p> <p>Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against placing this water segment-pollutant combination on the CWA section 303(d) List.</p> <p>This conclusion is based on the staff findings that:</p> <ol style="list-style-type: none"> 1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy. 2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy. 3. Zero of one samples exceed the guideline and this sample size is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating. A minimum of 16 samples is needed to determine if a beneficial use is fully supported using table 3.1. 4. Pursuant to SECTION 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.
Regional Board Staff Decision Recommendation:	After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be placed on the section 303(d) list. The readily available data and information is insufficient to determine, with the power and confidence of the Listing Policy, the

Line of Evidence (LOE) for Decision ID 61358, Aldrin**Region 2****Bon Tempe Reservoir**

LOE ID:	91102
Pollutant:	Aldrin
LOE Subgroup:	Pollutant-Tissue
Matrix:	Tissue
Fraction:	Fish fillet
Beneficial Use:	Cold Freshwater Habitat
Number of Samples:	1
Number of Exceedances:	0
Data and Information Type:	Fish tissue analysis
Data Used to Assess Water Quality:	State Water Board staff assessed SWAMP data for Bon Tempe Reservoir to determine beneficial use support and results are as follows: 0 of 1 samples exceed the criterion for Aldrin. One composite (5 fish per composite) was generated from one species: Largemouth Bass. Details of the compositing protocol can be found in the March 2009 report entitled: "Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Study" (SWAMP, 2009).
Data Reference:	Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Survey. A Report of the Surface Water Ambient Monitoring Program (SWAMP). California State Water Resources Control Board, Sacramento, CA Cruise Report for the Surface Waters Ambient Monitoring Program (SWAMP) Bioaccumulation Screening Study in California Lakes and Reservoirs, Sampling Dates: June 2007- March 2008 Statewide Lakes Sportfish Contamination Study 2007 2008 Contaminants in Fish from California Lakes and Reservoirs, 2007-2008: Summary Report on a Two-Year Screening Survey
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	Water Quality Control Plan for the San Francisco Bay Basin: Controllable water quality factors shall not cause a detrimental increase in concentrations of toxic substances found in bottom sediments or aquatic life. Effects on aquatic organisms, wildlife, and human health will be considered.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	National Academy of Science guidelines (NAS 1972) establish a maximum Aldrin concentration of 100 ug/Kg (wet weight) in tissue samples for protection of aquatic life from bioaccumulation of toxic substances.
Guideline Reference:	National Academy of Sciences. Water Quality Criteria 1972. EPA-R3-73-033. Washington, D.C.: U.S. Environmental Protection Agency
Spatial Representation:	Data for this assessment unit was collected by one monitoring project: (SWB_FishLk)
Temporal Representation:	Data was collected on a single day 7/5/2007.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	Samples were collected, processed, and analyzed in accordance with the methods described in Quality Assurance Project Plan "Screening Study of Bioaccumulation in California Lakes and Reservoirs." (SWAMP, 2008).
QAPP Information Reference(s):	Quality Assurance Project Plan Screening Study of Bioaccumulation in California Lakes and Reservoirs. Moss Landing Marine Labs. Prepared for SWAMP BOG. 49 pages plus appendices and attachments

Line of Evidence (LOE) for Decision ID 61358, Aldrin**Region 2****Bon Tempe Reservoir**

LOE ID:	91101
Pollutant:	Aldrin
LOE Subgroup:	Pollutant-Tissue
Matrix:	Tissue
Fraction:	Fish fillet
Beneficial Use:	Warm Freshwater Habitat
Number of Samples:	1
Number of Exceedances:	0
Data and Information Type:	Fish tissue analysis
Data Used to Assess Water Quality:	State Water Board staff assessed SWAMP data for Bon Tempe Reservoir to determine beneficial use support and results are as follows: 0 of 1 samples exceed the criterion for Aldrin. One composite (5 fish per composite) was generated from one species: Largemouth Bass. Details of the compositing protocol can be found in the March 2009 report entitled: "Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Study" (SWAMP, 2009).
Data Reference:	Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Survey. A Report of the Surface Water Ambient Monitoring Program (SWAMP). California State Water Resources Control Board, Sacramento, CA Cruise Report for the Surface Waters Ambient Monitoring Program (SWAMP) Bioaccumulation Screening Study in California Lakes and Reservoirs. Sampling Dates: June 2007- March 2008 Statewide Lakes Sportfish Contamination Study 2007 2008 Contaminants in Fish from California Lakes and Reservoirs, 2007-2008: Summary Report on a Two-Year Screening Survey
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	Water Quality Control Plan for the San Francisco Bay Basin: Controllable water quality factors shall not cause a detrimental increase in concentrations of toxic substances found in bottom sediments or aquatic life. Effects on aquatic organisms, wildlife, and human health will be considered.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	National Academy of Science guidelines (NAS 1972) establish a maximum Aldrin concentration of 100 ug/Kg (wet weight) in tissue samples for protection of aquatic life from bioaccumulation of toxic substances.
Guideline Reference:	National Academy of Sciences. Water Quality Criteria 1972. EPA-R3-73-033. Washington, D.C.: U.S. Environmental Protection Agency
Spatial Representation:	Data for this assessment unit was collected by one monitoring project: (SWB_FishLk)
Temporal Representation:	Data was collected on a single day 7/5/2007.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	Samples were collected, processed, and analyzed in accordance with the methods described in Quality Assurance Project Plan "Screening Study of Bioaccumulation in California Lakes and Reservoirs." (SWAMP, 2008).
QAPP Information Reference(s):	Quality Assurance Project Plan Screening Study of Bioaccumulation in California Lakes and Reservoirs. Moss Landing Marine Labs. Prepared for SWAMP BOG, 49 pages plus appendices and attachments

DECISION ID	61359	Region 2
Bon Tempe Reservoir		

Pollutant:	Chlordane
Final Listing Decision:	Do Not List on 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision:	New Decision

Revision Status
Impairment from Pollutant or
Pollution:

Revised
Pollutant

Regional Board Staff
Conclusion:

This pollutant is being considered for placement on the CWA section 303(d) List under section 3.5 of the Listing Policy. Under section 3.5 a single line of evidence is necessary to assess listing status. Three lines of evidence are available in the administrative record to assess this pollutant. Zero of one samples exceed the guideline.

Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against placing this water segment-pollutant combination on the CWA section 303(d) List.

This conclusion is based on the staff findings that:

1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy.
2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy.
3. Zero of one samples exceed the guideline and this sample size is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating. A minimum of 16 samples is needed to determine if a beneficial use is fully supported using table 3.1.
4. Pursuant to SECTION 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.

Regional Board Staff Decision
Recommendation:

After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be placed on the section 303(d) list. The readily available data and information is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating.

Line of Evidence (LOE) for Decision ID 61359, Chlordane

Region 2

Bon Tempe Reservoir

LOE ID: 91105

Pollutant: Chlordane
LOE Subgroup: Pollutant-Tissue
Matrix: Tissue
Fraction: Fish fillet

Beneficial Use: Commercial or recreational collection of fish, shellfish, or organisms

Number of Samples: 1
Number of Exceedances: 0

Data and Information Type: Fish tissue analysis
Data Used to Assess Water Quality: State Water Board staff assessed SWAMP data for Bon Tempe Reservoir to determine beneficial use support and results are as follows: 0 of 1 samples exceed the criterion for Chlordane, Total. One composite (5 fish per composite) was generated from one species: Largemouth Bass. Details of the compositing protocol can be found in the March 2009 report entitled: "Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Study" (SWAMP, 2009). Total chlordane was calculated as the sum of the following chlordane isomers: cis- and trans-chlordane, cis- and trans-nonachlor, and oxychlordane.

Data Reference: [Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Survey. A Report of the Surface Water Ambient Monitoring Program \(SWAMP\). California State Water Resources Control Board, Sacramento, CA](#)
[Cruise Report for the Surface Waters Ambient Monitoring Program \(SWAMP\)](#)
[Bioaccumulation Screening Study in California Lakes and Reservoirs. Sampling Dates: June 2007- March 2008](#)
[Statewide Lakes Sportfish Contamination Study 2007 2008](#)
[Contaminants in Fish from California Lakes and Reservoirs, 2007-2008: Summary Report on a Two-Year Screening Survey](#)

SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	Water Quality Control Plan for the San Francisco Bay Basin: Controllable water quality factors shall not cause a detrimental increase in concentrations of toxic substances found in bottom sediments or aquatic life. Effects on aquatic organisms, wildlife, and human health will be considered.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	The modified OEHHA Fish Contaminant Goal for total chlordane in fish tissue is 3.9 ppb. This screening level assumes an average body weight of 70 kg and a consumption rate of 32 g/day for a 30 year exposure over a 70-year lifetime. This constituent is a carcinogen therefore the risk level is set to one in a million. A cooking reduction factor of 1 is applied for skin-off fillets. (Klasing, S., and R. Brodberg, 2008)
Guideline Reference:	Development of Fish Contaminant Goals and Advisory Tissue Levels for Common Contaminants in California Sport Fish: Chlordane, DDTs, Dieldrin, Methylmercury, PCBs, Selenium, and Toxaphene
Spatial Representation:	Data for this assessment unit was collected by one monitoring project: (SWB_FishLk)
Temporal Representation:	Data was collected on a single day 7/5/2007.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	Samples were collected, processed, and analyzed in accordance with the methods described in Quality Assurance Project Plan "Screening Study of Bioaccumulation in California Lakes and Reservoirs." (SWAMP, 2008).
QAPP Information Reference(s):	Quality Assurance Project Plan Screening Study of Bioaccumulation in California Lakes and Reservoirs. Moss Landing Marine Labs. Prepared for SWAMP BOG. 49 pages plus appendices and attachments

Line of Evidence (LOE) for Decision ID 61359, Chlordane

Region 2

Bon Tempe Reservoir

LOE ID:	91104
Pollutant:	Chlordane
LOE Subgroup:	Pollutant-Tissue
Matrix:	Tissue
Fraction:	Fish fillet
Beneficial Use:	Cold Freshwater Habitat
Number of Samples:	1
Number of Exceedances:	0
Data and Information Type:	Fish tissue analysis
Data Used to Assess Water Quality:	State Water Board staff assessed SWAMP data for Bon Tempe Reservoir to determine beneficial use support and results are as follows: 0 of 1 samples exceed the criterion for Chlordane, Total. One composite (5 fish per composite) was generated from one species: Largemouth Bass. Details of the compositing protocol can be found in the March 2009 report entitled: "Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Study" (SWAMP, 2009). Total chlordane was calculated as the sum of the following chlordane isomers: cis- and trans-chlordane, cis- and trans-nonachlor, and oxychlordane.
Data Reference:	Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Survey. A Report of the Surface Water Ambient Monitoring Program (SWAMP). California State Water Resources Control Board, Sacramento, CA Cruise Report for the Surface Waters Ambient Monitoring Program (SWAMP) Bioaccumulation Screening Study in California Lakes and Reservoirs. Sampling Dates: June 2007- March 2008 Statewide Lakes Sportfish Contamination Study 2007 2008 Contaminants in Fish from California Lakes and Reservoirs, 2007-2008: Summary Report on a Two-Year Screening Survey

SWAMP Data:	SWAMP
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Water Quality Objective/Criterion:	Water Quality Control Plan for the San Francisco Bay Basin: Controllable water quality factors shall not cause a detrimental increase in concentrations of toxic substances found in bottom sediments or aquatic life. Effects on aquatic organisms, wildlife, and human health will be considered.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	National Academy of Science guidelines (NAS 1972) establish a maximum total Chlordane concentration of 100 ug/Kg (wet weight) in tissue samples for protection of aquatic life from bioaccumulation of toxic substances.
Guideline Reference:	National Academy of Sciences. Water Quality Criteria 1972. EPA-R3-73-033. Washington, D.C.: U.S. Environmental Protection Agency
Spatial Representation:	Data for this assessment unit was collected by one monitoring project: (SWB_FishLk)
Temporal Representation:	Data was collected on a single day 7/5/2007.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	Samples were collected, processed, and analyzed in accordance with the methods described in Quality Assurance Project Plan "Screening Study of Bioaccumulation in California Lakes and Reservoirs." (SWAMP, 2008).
QAPP Information Reference(s):	Quality Assurance Project Plan Screening Study of Bioaccumulation in California Lakes and Reservoirs. Moss Landing Marine Labs. Prepared for SWAMP BOG. 49 pages plus appendices and attachments

Line of Evidence (LOE) for Decision ID 61359, Chlordane

Region 2

Bon Tempe Reservoir

LOE ID:	91103
Pollutant:	Chlordane
LOE Subgroup:	Pollutant-Tissue
Matrix:	Tissue
Fraction:	Fish fillet
Beneficial Use:	Warm Freshwater Habitat
Number of Samples:	1
Number of Exceedances:	0
Data and Information Type:	Fish tissue analysis
Data Used to Assess Water Quality:	State Water Board staff assessed SWAMP data for Bon Tempe Reservoir to determine beneficial use support and results are as follows: 0 of 1 samples exceed the criterion for Chlordane, Total. One composite (5 fish per composite) was generated from one species: Largemouth Bass. Details of the compositing protocol can be found in the March 2009 report entitled: "Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Study" (SWAMP, 2009). Total chlordane was calculated as the sum of the following chlordane isomers: cis- and trans-chlordane, cis- and trans-nonachlor, and oxychlordane.
Data Reference:	Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Survey. A Report of the Surface Water Ambient Monitoring Program (SWAMP). California State Water Resources Control Board, Sacramento, CA Cruise Report for the Surface Waters Ambient Monitoring Program (SWAMP) Bioaccumulation Screening Study in California Lakes and Reservoirs. Sampling Dates: June 2007- March 2008 Statewide Lakes Sportfish Contamination Study 2007 2008 Contaminants in Fish from California Lakes and Reservoirs, 2007-2008: Summary Report on a Two-Year Screening Survey
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	Water Quality Control Plan for the San Francisco Bay Basin: Controllable water quality factors shall not cause a detrimental increase in concentrations of toxic substances found in bottom sediments or aquatic life. Effects on aquatic organisms, wildlife, and human

Objective/Criterion Reference:	health will be considered. Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	National Academy of Science guidelines (NAS 1972) establish a maximum total Chlordane concentration of 100 ug/Kg (wet weight) in tissue samples for protection of aquatic life from bioaccumulation of toxic substances.
Guideline Reference:	National Academy of Sciences. Water Quality Criteria 1972. EPA-R3-73-033. Washington, D.C.: U.S. Environmental Protection Agency
Spatial Representation:	Data for this assessment unit was collected by one monitoring project: (SWB_FishLk)
Temporal Representation:	Data was collected on a single day 7/5/2007.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	Samples were collected, processed, and analyzed in accordance with the methods described in Quality Assurance Project Plan "Screening Study of Bioaccumulation in California Lakes and Reservoirs." (SWAMP, 2008).
QAPP Information Reference(s):	Quality Assurance Project Plan Screening Study of Bioaccumulation in California Lakes and Reservoirs. Moss Landing Marine Labs. Prepared for SWAMP BOG. 49 pages plus appendices and attachments

DECISION ID	61370	Region 2
Bon Tempe Reservoir		

Pollutant:	DDT (Dichlorodiphenyltrichloroethane)
Final Listing Decision:	Do Not List on 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision:	New Decision
Revision Status	Revised
Impairment from Pollutant or Pollution:	Pollutant
Regional Board Staff Conclusion:	<p>This pollutant is being considered for placement on the CWA section 303(d) List under section 3.5 of the Listing Policy. Under section 3.5 a single line of evidence is necessary to assess listing status. Three lines of evidence are available in the administrative record to assess this pollutant. Zero of one samples exceed the guideline.</p> <p>Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against placing this water segment-pollutant combination on the CWA section 303(d) List.</p> <p>This conclusion is based on the staff findings that:</p> <ol style="list-style-type: none"> 1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy. 2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy. 3. Zero of one samples exceed the guideline and this sample size is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating. A minimum of 16 samples is needed to determine if a beneficial use is fully supported using table 3.1. 4. Pursuant to SECTION 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.
Regional Board Staff Decision Recommendation:	After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be placed on the section 303(d) list. The readily available data and information is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating.

Line of Evidence (LOE) for Decision ID 61370, DDT (Dichlorodiphenyltrichloroethane)	Region 2
Bon Tempe Reservoir	

LOE ID:	91099
Pollutant:	Total DDT (sum of 4,4'- and 2,4'- isomers of DDT, DDE, and DDD)

LOE Subgroup:	Pollutant-Tissue
Matrix:	Tissue
Fraction:	Fish fillet
Beneficial Use:	Cold Freshwater Habitat
Number of Samples:	1
Number of Exceedances:	0
Data and Information Type:	Fish tissue analysis
Data Used to Assess Water Quality:	State Water Board staff assessed SWAMP data for Bon Tempe Reservoir to determine beneficial use support and results are as follows: 0 of 1 samples exceed the criterion for DDT, Total. One composite (5 fish per composite) was generated from one species: Largemouth Bass. Details of the compositing protocol can be found in the March 2009 report entitled: "Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Study" (SWAMP, 2009). Total DDT was calculated as the sum of 4,4'- and 2,4'- isomers of DDT, DDE, and DDD.
Data Reference:	Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Survey. A Report of the Surface Water Ambient Monitoring Program (SWAMP). California State Water Resources Control Board, Sacramento, CA Cruise Report for the Surface Waters Ambient Monitoring Program (SWAMP) Bioaccumulation Screening Study in California Lakes and Reservoirs, Sampling Dates: June 2007- March 2008 Statewide Lakes Sportfish Contamination Study 2007 2008 Contaminants in Fish from California Lakes and Reservoirs, 2007-2008: Summary Report on a Two-Year Screening Survey
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	Water Quality Control Plan for the San Francisco Bay Basin: Controllable water quality factors shall not cause a detrimental increase in concentrations of toxic substances found in bottom sediments or aquatic life. Effects on aquatic organisms, wildlife, and human health will be considered.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	National Academy of Science guidelines (NAS 1972) establish a maximum total DDT concentration of 1000 ug/Kg (wet weight) in tissue samples for protection of aquatic life from bioaccumulation of toxic substances.
Guideline Reference:	National Academy of Sciences. Water Quality Criteria 1972. EPA-R3-73-033. Washington, D.C.: U.S. Environmental Protection Agency
Spatial Representation:	Data for this assessment unit was collected by one monitoring project: (SWB_FishLk)
Temporal Representation:	Data was collected on a single day 7/5/2007.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	Samples were collected, processed, and analyzed in accordance with the methods described in Quality Assurance Project Plan "Screening Study of Bioaccumulation in California Lakes and Reservoirs." (SWAMP, 2008).
QAPP Information Reference(s):	Quality Assurance Project Plan Screening Study of Bioaccumulation in California Lakes and Reservoirs. Moss Landing Marine Labs. Prepared for SWAMP BOG. 49 pages plus appendices and attachments

Line of Evidence (LOE) for Decision ID 61370, DDT (Dichlorodiphenyltrichloroethane)

Region 2

Bon Tempe Reservoir

LOE ID:	91100
Pollutant:	Total DDT (sum of 4,4'- and 2,4'- isomers of DDT, DDE, and DDD)
LOE Subgroup:	Pollutant-Tissue
Matrix:	Tissue
Fraction:	Fish fillet
Beneficial Use:	Commercial or recreational collection of fish, shellfish, or organisms

Number of Samples:	1
Number of Exceedances:	0
Data and Information Type:	Fish tissue analysis
Data Used to Assess Water Quality:	State Water Board staff assessed SWAMP data for Bon Tempe Reservoir to determine beneficial use support and results are as follows: 0 of 1 samples exceed the criterion for DDT, Total. One composite (5 fish per composite) was generated from one species: Largemouth Bass. Details of the compositing protocol can be found in the March 2009 report entitled: "Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Study" (SWAMP, 2009). Total DDT was calculated as the sum of 4,4'- and 2,4'- isomers of DDT, DDE, and DDD.
Data Reference:	Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Survey. A Report of the Surface Water Ambient Monitoring Program (SWAMP). California State Water Resources Control Board, Sacramento, CA Cruise Report for the Surface Waters Ambient Monitoring Program (SWAMP) Bioaccumulation Screening Study in California Lakes and Reservoirs. Sampling Dates: June 2007- March 2008 Statewide Lakes Sportfish Contamination Study 2007 2008 Contaminants in Fish from California Lakes and Reservoirs, 2007-2008: Summary Report on a Two-Year Screening Survey
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	Water Quality Control Plan for the San Francisco Bay Basin: Controllable water quality factors shall not cause a detrimental increase in concentrations of toxic substances found in bottom sediments or aquatic life. Effects on aquatic organisms, wildlife, and human health will be considered.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	The modified OEHHA Fish Contaminant Goal for total DDT in fish tissue is 15 ppb. This screening level assumes an average body weight of 70 kg and a consumption rate of 32 g/day for a 30 year exposure over a 70-year lifetime. This constituent is a carcinogen therefore the risk level is set to one in a million. A cooking reduction factor of 1 is applied for skin-off fillets. (Klasing, S., and R. Brodberg, 2008)
Guideline Reference:	Development of Fish Contaminant Goals and Advisory Tissue Levels for Common Contaminants in California Sport Fish: Chlordane, DDTs, Dieldrin, Methylmercury, PCBs, Selenium, and Toxaphene
Spatial Representation:	Data for this assessment unit was collected by one monitoring project: (SWB_FishLk)
Temporal Representation:	Data was collected on a single day 7/5/2007.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	Samples were collected, processed, and analyzed in accordance with the methods described in Quality Assurance Project Plan "Screening Study of Bioaccumulation in California Lakes and Reservoirs." (SWAMP, 2008).
QAPP Information Reference(s):	Quality Assurance Project Plan Screening Study of Bioaccumulation in California Lakes and Reservoirs. Moss Landing Marine Labs. Prepared for SWAMP BOG. 49 pages plus appendices and attachments

Line of Evidence (LOE) for Decision ID 61370, DDT (Dichlorodiphenyltrichloroethane)

Region 2

Bon Tempe Reservoir

LOE ID:	91098
Pollutant:	Total DDT (sum of 4,4'- and 2,4'- isomers of DDT, DDE, and DDD)
LOE Subgroup:	Pollutant-Tissue
Matrix:	Tissue
Fraction:	Fish fillet
Beneficial Use:	Warm Freshwater Habitat
Number of Samples:	1

Number of Exceedances:	0
Data and Information Type:	Fish tissue analysis
Data Used to Assess Water Quality:	State Water Board staff assessed SWAMP data for Bon Tempe Reservoir to determine beneficial use support and results are as follows: 0 of 1 samples exceed the criterion for DDT, Total. One composite (5 fish per composite) was generated from one species: Largemouth Bass. Details of the compositing protocol can be found in the March 2009 report entitled: "Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Study" (SWAMP, 2009). Total DDT was calculated as the sum of 4,4'- and 2,4'- isomers of DDT, DDE, and DDD.
Data Reference:	Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Survey. A Report of the Surface Water Ambient Monitoring Program (SWAMP). California State Water Resources Control Board, Sacramento, CA Cruise Report for the Surface Waters Ambient Monitoring Program (SWAMP) Bioaccumulation Screening Study in California Lakes and Reservoirs, Sampling Dates: June 2007- March 2008 Statewide Lakes Sportfish Contamination Study 2007 2008 Contaminants in Fish from California Lakes and Reservoirs, 2007-2008: Summary Report on a Two-Year Screening Survey
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	Water Quality Control Plan for the San Francisco Bay Basin: Controllable water quality factors shall not cause a detrimental increase in concentrations of toxic substances found in bottom sediments or aquatic life. Effects on aquatic organisms, wildlife, and human health will be considered.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	National Academy of Science guidelines (NAS 1972) establish a maximum total DDT concentration of 1000 ug/Kg (wet weight) in tissue samples for protection of aquatic life from bioaccumulation of toxic substances.
Guideline Reference:	National Academy of Sciences. Water Quality Criteria 1972. EPA-R3-73-033. Washington, D.C.: U.S. Environmental Protection Agency
Spatial Representation:	Data for this assessment unit was collected by one monitoring project: (SWB_FishLk)
Temporal Representation:	Data was collected on a single day 7/5/2007.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	Samples were collected, processed, and analyzed in accordance with the methods described in Quality Assurance Project Plan "Screening Study of Bioaccumulation in California Lakes and Reservoirs." (SWAMP, 2008).
QAPP Information Reference(s):	Quality Assurance Project Plan Screening Study of Bioaccumulation in California Lakes and Reservoirs. Moss Landing Marine Labs. Prepared for SWAMP BOG, 49 pages plus appendices and attachments

DECISION ID	61360	Region 2
Bon Tempe Reservoir		
Pollutant:	Dieldrin	
Final Listing Decision:	Do Not List on 303(d) list (TMDL required list)	
Last Listing Cycle's Final Listing Decision:	New Decision	
Revision Status	Revised	
Impairment from Pollutant or Pollution:	Pollutant	
Regional Board Staff Conclusion:	<p>This pollutant is being considered for placement on the CWA section 303(d) List under section 3.5 of the Listing Policy. Under section 3.5 a single line of evidence is necessary to assess listing status. Three lines of evidence are available in the administrative record to assess this pollutant. Zero of one samples exceed the guideline.</p> <p>Based on the readily available data and information, the weight of evidence indicates that there is</p>	

sufficient justification against placing this water segment-pollutant combination on the CWA section 303(d) List.

This conclusion is based on the staff findings that:

1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy.
2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy.
3. Zero of one samples exceed the guideline and this sample size is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating. A minimum of 16 samples is needed to determine if a beneficial use is fully supported using table 3.1.
4. Pursuant to SECTION 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.

Regional Board Staff Decision Recommendation: After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be placed on the section 303(d) list. The readily available data and information is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating.

Line of Evidence (LOE) for Decision ID 61360, Dieldrin

Region 2

Bon Tempe Reservoir

LOE ID:	91106
Pollutant:	Dieldrin
LOE Subgroup:	Pollutant-Tissue
Matrix:	Tissue
Fraction:	Fish fillet
Beneficial Use:	Warm Freshwater Habitat
Number of Samples:	1
Number of Exceedances:	0
Data and Information Type:	Fish tissue analysis
Data Used to Assess Water Quality:	State Water Board staff assessed SWAMP data for Bon Tempe Reservoir to determine beneficial use support and results are as follows: 0 of 1 samples exceed the criterion for Dieldrin. One composite (5 fish per composite) was generated from one species: Largemouth Bass. Details of the compositing protocol can be found in the March 2009 report entitled: "Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Study" (SWAMP, 2009).
Data Reference:	Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Survey. A Report of the Surface Water Ambient Monitoring Program (SWAMP). California State Water Resources Control Board, Sacramento, CA Cruise Report for the Surface Waters Ambient Monitoring Program (SWAMP) Bioaccumulation Screening Study in California Lakes and Reservoirs. Sampling Dates: June 2007- March 2008 Statewide Lakes Sportfish Contamination Study 2007 2008 Contaminants in Fish from California Lakes and Reservoirs, 2007-2008: Summary Report on a Two-Year Screening Survey
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	Water Quality Control Plan for the San Francisco Bay Basin: Controllable water quality factors shall not cause a detrimental increase in concentrations of toxic substances found in bottom sediments or aquatic life. Effects on aquatic organisms, wildlife, and human health will be considered.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	National Academy of Science guidelines (NAS 1972) establish a maximum Dieldrin concentration of 100 ug/Kg (wet weight) in tissue samples for protection of aquatic life from bioaccumulation of toxic substances.
Guideline Reference:	National Academy of Sciences. Water Quality Criteria 1972. EPA-R3-73-033. Washington.

Spatial Representation: Data for this assessment unit was collected by one monitoring project: (SWB_FishLk)
Temporal Representation: Data was collected on a single day 7/5/2007.
Environmental Conditions: Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information: Samples were collected, processed, and analyzed in accordance with the methods described in Quality Assurance Project Plan "Screening Study of Bioaccumulation in California Lakes and Reservoirs." (SWAMP, 2008).
QAPP Information Reference(s): [Quality Assurance Project Plan Screening Study of Bioaccumulation in California Lakes and Reservoirs. Moss Landing Marine Labs. Prepared for SWAMP BOG. 49 pages plus appendices and attachments](#)

Line of Evidence (LOE) for Decision ID 61360, Dieldrin

Region 2

Bon Tempe Reservoir

LOE ID: 91107

Pollutant: Dieldrin
LOE Subgroup: Pollutant-Tissue
Matrix: Tissue
Fraction: Fish fillet

Beneficial Use: Cold Freshwater Habitat

Number of Samples: 1
Number of Exceedances: 0

Data and Information Type: Fish tissue analysis
Data Used to Assess Water Quality: State Water Board staff assessed SWAMP data for Bon Tempe Reservoir to determine beneficial use support and results are as follows: 0 of 1 samples exceed the criterion for Dieldrin. One composite (5 fish per composite) was generated from one species: Largemouth Bass. Details of the compositing protocol can be found in the March 2009 report entitled: "Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Study" (SWAMP, 2009).
Data Reference: [Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Survey. A Report of the Surface Water Ambient Monitoring Program \(SWAMP\). California State Water Resources Control Board, Sacramento, CA](#)
[Cruise Report for the Surface Waters Ambient Monitoring Program \(SWAMP\) Bioaccumulation Screening Study in California Lakes and Reservoirs. Sampling Dates: June 2007- March 2008](#)
[Statewide Lakes Sportfish Contamination Study 2007 2008](#)
[Contaminants in Fish from California Lakes and Reservoirs, 2007-2008: Summary Report on a Two-Year Screening Survey](#)

SWAMP Data: SWAMP

Water Quality Objective/Criterion: Water Quality Control Plan for the San Francisco Bay Basin: Controllable water quality factors shall not cause a detrimental increase in concentrations of toxic substances found in bottom sediments or aquatic life. Effects on aquatic organisms, wildlife, and human health will be considered.
Objective/Criterion Reference: [Water Quality Control Plan \(Basin Plan\) San Francisco Bay Basin \(Region 2\)](#)

Evaluation Guideline: National Academy of Science guidelines (NAS 1972) establish a maximum Dieldrin concentration of 100 ug/Kg (wet weight) in tissue samples for protection of aquatic life from bioaccumulation of toxic substances.
Guideline Reference: [National Academy of Sciences. Water Quality Criteria 1972. EPA-R3-73-033. Washington, D.C.: U.S. Environmental Protection Agency](#)

Spatial Representation: Data for this assessment unit was collected by one monitoring project: (SWB_FishLk)
Temporal Representation: Data was collected on a single day 7/5/2007.
Environmental Conditions: Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information: Samples were collected, processed, and analyzed in accordance with the methods

QAPP Information Reference(s):

described in Quality Assurance Project Plan "Screening Study of Bioaccumulation in California Lakes and Reservoirs." (SWAMP, 2008).

[Quality Assurance Project Plan Screening Study of Bioaccumulation in California Lakes and Reservoirs. Moss Landing Marine Labs. Prepared for SWAMP BOG. 49 pages plus appendices and attachments](#)

Line of Evidence (LOE) for Decision ID 61360, Dieldrin

Region 2

Bon Tempe Reservoir

LOE ID: 91108

Pollutant: Dieldrin
LOE Subgroup: Pollutant-Tissue
Matrix: Tissue
Fraction: Fish fillet

Beneficial Use: Commercial or recreational collection of fish, shellfish, or organisms

Number of Samples: 0
Number of Exceedances: 0

Data and Information Type: Fish tissue analysis
Data Used to Assess Water Quality: State Water Board staff assessed SWAMP data for Bon Tempe Reservoir to determine beneficial use support and results are as follows: 0 of 0 samples exceed the criterion for Dieldrin. One composite (5 fish per composite) was generated from one species: Largemouth Bass. Details of the compositing protocol can be found in the March 2009 report entitled: "Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Study" (SWAMP, 2009). One composite was not used in the assessment because the laboratory data reporting limit(s) was above the objective and therefore the results could not be quantified with the level of certainty required by the Listing Policy.

Data Reference: [Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Survey. A Report of the Surface Water Ambient Monitoring Program \(SWAMP\). California State Water Resources Control Board, Sacramento, CA Cruise Report for the Surface Waters Ambient Monitoring Program \(SWAMP\) Bioaccumulation Screening Study in California Lakes and Reservoirs. Sampling Dates: June 2007- March 2008](#)
[Statewide Lakes Sportfish Contamination Study 2007 2008](#)
[Contaminants in Fish from California Lakes and Reservoirs, 2007-2008: Summary Report on a Two-Year Screening Survey](#)

SWAMP Data: SWAMP

Water Quality Objective/Criterion: Water Quality Control Plan for the San Francisco Bay Basin: Controllable water quality factors shall not cause a detrimental increase in concentrations of toxic substances found in bottom sediments or aquatic life. Effects on aquatic organisms, wildlife, and human health will be considered.

Objective/Criterion Reference: [Water Quality Control Plan \(Basin Plan\) San Francisco Bay Basin \(Region 2\)](#)

Evaluation Guideline: The modified OEHHA Fish Contaminant Goal for dieldrin in fish tissue is 0.32 ppb. This screening level assumes an average body weight of 70 kg and a consumption rate of 32 g/day for a 30 year exposure over a 70-year lifetime. This constituent is a carcinogen therefore the risk level is set to one in a million. A cooking reduction factor of 1 is applied for skin-off fillets. (Klasing, S., and R. Brodberg, 2008)

Guideline Reference: [Development of Fish Contaminant Goals and Advisory Tissue Levels for Common Contaminants in California Sport Fish: Chlordane, DDTs, Dieldrin, Methylmercury, PCBs, Selenium, and Toxaphene](#)

Spatial Representation: Data for this assessment unit was collected by one monitoring project: (SWB_FishLk)
Temporal Representation: Data was collected on a single day 7/5/2007.
Environmental Conditions: Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information: Samples were collected, processed, and analyzed in accordance with the methods

described in Quality Assurance Project Plan "Screening Study of Bioaccumulation in California Lakes and Reservoirs." (SWAMP, 2008).

QAPP Information Reference(s):

[Quality Assurance Project Plan Screening Study of Bioaccumulation in California Lakes and Reservoirs. Moss Landing Marine Labs. Prepared for SWAMP BOG. 49 pages plus appendices and attachments](#)

DECISION ID	61361	Region 2
Bon Tempe Reservoir		

Pollutant:	Endosulfan
Final Listing Decision:	Do Not List on 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision:	New Decision
Revision Status	Revised
Impairment from Pollutant or Pollution:	Pollutant

Regional Board Staff Conclusion: This pollutant is being considered for placement on the CWA section 303(d) List under section 3.5 of the Listing Policy. Under section 3.5 a single line of evidence is necessary to assess listing status. Three lines of evidence are available in the administrative record to assess this pollutant. Zero of one samples exceed the guideline.

Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against placing this water segment-pollutant combination on the CWA section 303(d) List.

This conclusion is based on the staff findings that:

1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy.
2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy.
3. Zero of one samples exceed the guideline and this sample size is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating. A minimum of 16 samples is needed to determine if a beneficial use is fully supported using table 3.1.
4. Pursuant to SECTION 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.

Regional Board Staff Decision Recommendation: After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be placed on the section 303(d) list. The readily available data and information is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating.

Line of Evidence (LOE) for Decision ID 61361, Endosulfan	Region 2
Bon Tempe Reservoir	

LOE ID:	91109
Pollutant:	Endosulfan
LOE Subgroup:	Pollutant-Tissue
Matrix:	Tissue
Fraction:	Fish fillet
Beneficial Use:	Warm Freshwater Habitat
Number of Samples:	1
Number of Exceedances:	0
Data and Information Type:	Fish tissue analysis
Data Used to Assess Water Quality:	State Water Board staff assessed SWAMP data for Bon Tempe Reservoir to determine beneficial use support and results are as follows: 0 of 1 samples exceed the criterion for Endosulfan I. One composite (5 fish per composite) was generated from one species:

Data Reference:	<p>Largemouth Bass. Details of the compositing protocol can be found in the March 2009 report entitled: "Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Study" (SWAMP, 2009).</p> <p>Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Survey. A Report of the Surface Water Ambient Monitoring Program (SWAMP). California State Water Resources Control Board, Sacramento, CA</p> <p>Cruise Report for the Surface Waters Ambient Monitoring Program (SWAMP)</p> <p>Bioaccumulation Screening Study in California Lakes and Reservoirs. Sampling Dates: June 2007- March 2008</p> <p>Statewide Lakes Sportfish Contamination Study 2007 2008</p> <p>Contaminants in Fish from California Lakes and Reservoirs, 2007-2008: Summary Report on a Two-Year Screening Survey</p>
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	Water Quality Control Plan for the San Francisco Bay Basin: Controllable water quality factors shall not cause a detrimental increase in concentrations of toxic substances found in bottom sediments or aquatic life. Effects on aquatic organisms, wildlife, and human health will be considered.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	National Academy of Science guidelines (NAS 1972) establish a maximum Endosulfan, Total concentration of 100 ug/Kg (wet weight) in tissue samples for protection of aquatic life from bioaccumulation of toxic substances.
Guideline Reference:	National Academy of Sciences. Water Quality Criteria 1972. EPA-R3-73-033. Washington, D.C.: U.S. Environmental Protection Agency
Spatial Representation:	Data for this assessment unit was collected by one monitoring project: (SWB_FishLk)
Temporal Representation:	Data was collected on a single day 7/5/2007.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	Samples were collected, processed, and analyzed in accordance with the methods described in Quality Assurance Project Plan "Screening Study of Bioaccumulation in California Lakes and Reservoirs." (SWAMP, 2008).
QAPP Information Reference(s):	Quality Assurance Project Plan Screening Study of Bioaccumulation in California Lakes and Reservoirs. Moss Landing Marine Labs. Prepared for SWAMP BOG. 49 pages plus appendices and attachments

Line of Evidence (LOE) for Decision ID 61361, Endosulfan

Region 2

Bon Tempe Reservoir

LOE ID:	91111
Pollutant:	Endosulfan
LOE Subgroup:	Pollutant-Tissue
Matrix:	Tissue
Fraction:	Fish fillet
Beneficial Use:	Commercial or recreational collection of fish, shellfish, or organisms
Number of Samples:	1
Number of Exceedances:	0
Data and Information Type:	Fish tissue analysis
Data Used to Assess Water Quality:	State Water Board staff assessed SWAMP data for Bon Tempe Reservoir to determine beneficial use support and results are as follows: 0 of 1 samples exceed the criterion for Endosulfan I. One composite (5 fish per composite) was generated from one species: Largemouth Bass. Details of the compositing protocol can be found in the March 2009 report entitled: "Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Study" (SWAMP, 2009).
Data Reference:	Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Survey. A Report of the Surface Water Ambient Monitoring Program (SWAMP). California State Water Resources Control Board, Sacramento, CA

[Cruise Report for the Surface Waters Ambient Monitoring Program \(SWAMP\) Bioaccumulation Screening Study in California Lakes and Reservoirs. Sampling Dates: June 2007- March 2008](#)
[Statewide Lakes Sportfish Contamination Study 2007 2008](#)
[Contaminants in Fish from California Lakes and Reservoirs. 2007-2008: Summary Report on a Two-Year Screening Survey](#)

SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	Water Quality Control Plan for the San Francisco Bay Basin: Controllable water quality factors shall not cause a detrimental increase in concentrations of toxic substances found in bottom sediments or aquatic life. Effects on aquatic organisms, wildlife, and human health will be considered.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	The modified OEHHA Fish Contaminant Goal for endosulfan (I and II) in fish tissue is 13,000 ppb. This screening level assumes an average body weight of 70 kg and a consumption rate of 32 g/day. A cooking reduction factor of 1 is applied for skin-off fillets. (Klasing, S., and R. Brodberg, 2008; USEPA, 2000)
Guideline Reference:	Development of Fish Contaminant Goals and Advisory Tissue Levels for Common Contaminants in California Sport Fish: Chlordane, DDTs, Dieldrin, Methylmercury, PCBs, Selenium, and Toxaphene Guidance for Assessing Chemical Contaminant Data for Use In Fish Advisories Volume 1: Fish Sampling and Analysis
Spatial Representation:	Data for this assessment unit was collected by one monitoring project: (SWB_FishLk)
Temporal Representation:	Data was collected on a single day 7/5/2007.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	Samples were collected, processed, and analyzed in accordance with the methods described in Quality Assurance Project Plan "Screening Study of Bioaccumulation in California Lakes and Reservoirs." (SWAMP, 2008).
QAPP Information Reference(s):	Quality Assurance Project Plan Screening Study of Bioaccumulation in California Lakes and Reservoirs. Moss Landing Marine Labs. Prepared for SWAMP BOG. 49 pages plus appendices and attachments

Line of Evidence (LOE) for Decision ID 61361, Endosulfan

Region 2

Bon Tempe Reservoir

LOE ID:	91110
Pollutant:	Endosulfan
LOE Subgroup:	Pollutant-Tissue
Matrix:	Tissue
Fraction:	Fish fillet
Beneficial Use:	Cold Freshwater Habitat
Number of Samples:	1
Number of Exceedances:	0
Data and Information Type:	Fish tissue analysis
Data Used to Assess Water Quality:	State Water Board staff assessed SWAMP data for Bon Tempe Reservoir to determine beneficial use support and results are as follows: 0 of 1 samples exceed the criterion for Endosulfan I. One composite (5 fish per composite) was generated from one species: Largemouth Bass. Details of the compositing protocol can be found in the March 2009 report entitled: "Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Study" (SWAMP, 2009).
Data Reference:	Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Survey. A Report of the Surface Water Ambient Monitoring Program (SWAMP). California State Water Resources Control Board, Sacramento, CA Cruise Report for the Surface Waters Ambient Monitoring Program (SWAMP) Bioaccumulation Screening Study in California Lakes and Reservoirs. Sampling Dates:

SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	Water Quality Control Plan for the San Francisco Bay Basin: Controllable water quality factors shall not cause a detrimental increase in concentrations of toxic substances found in bottom sediments or aquatic life. Effects on aquatic organisms, wildlife, and human health will be considered.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	National Academy of Science guidelines (NAS 1972) establish a maximum Endosulfan, Total concentration of 100 ug/Kg (wet weight) in tissue samples for protection of aquatic life from bioaccumulation of toxic substances.
Guideline Reference:	National Academy of Sciences. Water Quality Criteria 1972. EPA-R3-73-033. Washington, D.C.: U.S. Environmental Protection Agency
Spatial Representation:	Data for this assessment unit was collected by one monitoring project: (SWB_FishLk)
Temporal Representation:	Data was collected on a single day 7/5/2007.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	Samples were collected, processed, and analyzed in accordance with the methods described in Quality Assurance Project Plan "Screening Study of Bioaccumulation in California Lakes and Reservoirs." (SWAMP, 2008).
QAPP Information Reference(s):	Quality Assurance Project Plan Screening Study of Bioaccumulation in California Lakes and Reservoirs. Moss Landing Marine Labs. Prepared for SWAMP BOG, 49 pages plus appendices and attachments

DECISION ID	61362	Region 2
Bon Tempe Reservoir		

Pollutant:	Endrin
Final Listing Decision:	Do Not List on 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision:	New Decision
Revision Status	Revised
Impairment from Pollutant or Pollution:	Pollutant
Regional Board Staff Conclusion:	<p>This pollutant is being considered for placement on the CWA section 303(d) List under section 3.5 of the Listing Policy. Under section 3.5 a single line of evidence is necessary to assess listing status. Three lines of evidence are available in the administrative record to assess this pollutant. Zero of one samples exceed the guideline.</p> <p>Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against placing this water segment-pollutant combination on the CWA section 303(d) List.</p> <p>This conclusion is based on the staff findings that:</p> <ol style="list-style-type: none"> 1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy. 2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy. 3. Zero of one samples exceed the guideline and this sample size is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating. A minimum of 16 samples is needed to determine if a beneficial use is fully supported using table 3.1. 4. Pursuant to SECTION 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.
Regional Board Staff Decision Recommendation:	After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be placed on the section 303(d) list. The readily available data and information is insufficient to determine, with the power and confidence of the Listing Policy, the

Line of Evidence (LOE) for Decision ID 61362, Endrin**Region 2****Bon Tempe Reservoir**

LOE ID:	91113
Pollutant:	Endrin
LOE Subgroup:	Pollutant-Tissue
Matrix:	Tissue
Fraction:	Fish fillet
Beneficial Use:	Cold Freshwater Habitat
Number of Samples:	1
Number of Exceedances:	0
Data and Information Type:	Fish tissue analysis
Data Used to Assess Water Quality:	State Water Board staff assessed SWAMP data for Bon Tempe Reservoir to determine beneficial use support and results are as follows: 0 of 1 samples exceed the criterion for Endrin. One composite (5 fish per composite) was generated from one species: Largemouth Bass. Details of the compositing protocol can be found in the March 2009 report entitled: "Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Study" (SWAMP, 2009).
Data Reference:	Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Survey. A Report of the Surface Water Ambient Monitoring Program (SWAMP). California State Water Resources Control Board, Sacramento, CA Cruise Report for the Surface Waters Ambient Monitoring Program (SWAMP) Bioaccumulation Screening Study in California Lakes and Reservoirs, Sampling Dates: June 2007- March 2008 Statewide Lakes Sportfish Contamination Study 2007 2008 Contaminants in Fish from California Lakes and Reservoirs, 2007-2008: Summary Report on a Two-Year Screening Survey
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	Water Quality Control Plan for the San Francisco Bay Basin: Controllable water quality factors shall not cause a detrimental increase in concentrations of toxic substances found in bottom sediments or aquatic life. Effects on aquatic organisms, wildlife, and human health will be considered.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	National Academy of Science guidelines (NAS 1972) establish a maximum Endrin concentration of 100 ug/Kg (wet weight) in tissue samples for protection of aquatic life from bioaccumulation of toxic substances.
Guideline Reference:	National Academy of Sciences. Water Quality Criteria 1972. EPA-R3-73-033. Washington, D.C.: U.S. Environmental Protection Agency
Spatial Representation:	Data for this assessment unit was collected by one monitoring project: (SWB_FishLk)
Temporal Representation:	Data was collected on a single day 7/5/2007.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	Samples were collected, processed, and analyzed in accordance with the methods described in Quality Assurance Project Plan "Screening Study of Bioaccumulation in California Lakes and Reservoirs." (SWAMP, 2008).
QAPP Information Reference(s):	Quality Assurance Project Plan Screening Study of Bioaccumulation in California Lakes and Reservoirs. Moss Landing Marine Labs. Prepared for SWAMP BOG. 49 pages plus appendices and attachments

Line of Evidence (LOE) for Decision ID 61362, Endrin**Region 2****Bon Tempe Reservoir**

LOE ID:	91112
Pollutant:	Endrin
LOE Subgroup:	Pollutant-Tissue
Matrix:	Tissue
Fraction:	Fish fillet
Beneficial Use:	Warm Freshwater Habitat
Number of Samples:	1
Number of Exceedances:	0
Data and Information Type:	Fish tissue analysis
Data Used to Assess Water Quality:	State Water Board staff assessed SWAMP data for Bon Tempe Reservoir to determine beneficial use support and results are as follows: 0 of 1 samples exceed the criterion for Endrin. One composite (5 fish per composite) was generated from one species: Largemouth Bass. Details of the compositing protocol can be found in the March 2009 report entitled: "Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Study" (SWAMP, 2009).
Data Reference:	Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Survey. A Report of the Surface Water Ambient Monitoring Program (SWAMP). California State Water Resources Control Board, Sacramento, CA Cruise Report for the Surface Waters Ambient Monitoring Program (SWAMP) Bioaccumulation Screening Study in California Lakes and Reservoirs. Sampling Dates: June 2007- March 2008 Statewide Lakes Sportfish Contamination Study 2007 2008 Contaminants in Fish from California Lakes and Reservoirs, 2007-2008: Summary Report on a Two-Year Screening Survey
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	Water Quality Control Plan for the San Francisco Bay Basin: Controllable water quality factors shall not cause a detrimental increase in concentrations of toxic substances found in bottom sediments or aquatic life. Effects on aquatic organisms, wildlife, and human health will be considered.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	National Academy of Science guidelines (NAS 1972) establish a maximum Endrin concentration of 100 ug/Kg (wet weight) in tissue samples for protection of aquatic life from bioaccumulation of toxic substances.
Guideline Reference:	National Academy of Sciences. Water Quality Criteria 1972. EPA-R3-73-033. Washington, D.C.: U.S. Environmental Protection Agency
Spatial Representation:	Data for this assessment unit was collected by one monitoring project: (SWB_FishLk)
Temporal Representation:	Data was collected on a single day 7/5/2007.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	Samples were collected, processed, and analyzed in accordance with the methods described in Quality Assurance Project Plan "Screening Study of Bioaccumulation in California Lakes and Reservoirs." (SWAMP, 2008).
QAPP Information Reference(s):	Quality Assurance Project Plan Screening Study of Bioaccumulation in California Lakes and Reservoirs. Moss Landing Marine Labs. Prepared for SWAMP BOG, 49 pages plus appendices and attachments

Line of Evidence (LOE) for Decision ID 61362, Endrin
Bon Tempe Reservoir

Region 2

LOE ID:	91114
Pollutant:	Endrin
LOE Subgroup:	Pollutant-Tissue
Matrix:	Tissue

Fraction:	Fish fillet
Beneficial Use:	Commercial or recreational collection of fish, shellfish, or organisms
Number of Samples:	1
Number of Exceedances:	0
Data and Information Type:	Fish tissue analysis
Data Used to Assess Water Quality:	State Water Board staff assessed SWAMP data for Bon Tempe Reservoir to determine beneficial use support and results are as follows: 0 of 1 samples exceed the criterion for Endrin. One composite (5 fish per composite) was generated from one species: Largemouth Bass. Details of the compositing protocol can be found in the March 2009 report entitled: "Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Study" (SWAMP, 2009).
Data Reference:	Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Survey. A Report of the Surface Water Ambient Monitoring Program (SWAMP). California State Water Resources Control Board, Sacramento, CA Cruise Report for the Surface Waters Ambient Monitoring Program (SWAMP) Bioaccumulation Screening Study in California Lakes and Reservoirs. Sampling Dates: June 2007- March 2008 Statewide Lakes Sportfish Contamination Study 2007 2008 Contaminants in Fish from California Lakes and Reservoirs, 2007-2008: Summary Report on a Two-Year Screening Survey
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	Water Quality Control Plan for the San Francisco Bay Basin: Controllable water quality factors shall not cause a detrimental increase in concentrations of toxic substances found in bottom sediments or aquatic life. Effects on aquatic organisms, wildlife, and human health will be considered.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	The modified OEHHA Fish Contaminant Goal for endrin in fish tissue is 660 ppb. This screening level assumes an average body weight of 70 kg and a consumption rate of 32 g/day. A cooking reduction factor of 1 is applied for skin-off fillets. (Klasing, S., and R. Brodberg, 2008; USEPA, 2000)
Guideline Reference:	Development of Fish Contaminant Goals and Advisory Tissue Levels for Common Contaminants in California Sport Fish: Chlordane, DDTs, Dieldrin, Methylmercury, PCBs, Selenium, and Toxaphene Guidance for Assessing Chemical Contaminant Data for Use In Fish Advisories Volume 1: Fish Sampling and Analysis
Spatial Representation:	Data for this assessment unit was collected by one monitoring project: (SWB_FishLk)
Temporal Representation:	Data was collected on a single day 7/5/2007.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	Samples were collected, processed, and analyzed in accordance with the methods described in Quality Assurance Project Plan "Screening Study of Bioaccumulation in California Lakes and Reservoirs." (SWAMP, 2008).
QAPP Information Reference(s):	Quality Assurance Project Plan Screening Study of Bioaccumulation in California Lakes and Reservoirs. Moss Landing Marine Labs. Prepared for SWAMP BOG. 49 pages plus appendices and attachments

DECISION ID	61363	Region 2
Bon Tempe Reservoir		

Pollutant:	Heptachlor
Final Listing Decision:	Do Not List on 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision:	New Decision
Revision Status	Revised
Impairment from Pollutant or	Pollutant

Pollution:**Regional Board Staff Conclusion:**

This pollutant is being considered for placement on the CWA section 303(d) List under section 3.5 of the Listing Policy. Under section 3.5 a single line of evidence is necessary to assess listing status. Two lines of evidence are available in the administrative record to assess this pollutant. Zero of one samples exceed the guideline.

Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against placing this water segment-pollutant combination on the CWA section 303(d) List.

This conclusion is based on the staff findings that:

1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy.
2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy.
3. Zero of one samples exceed the guideline and this sample size is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating. A minimum of 16 samples is needed to determine if a beneficial use is fully supported using table 3.1.
4. Pursuant to SECTION 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.

Regional Board Staff Decision Recommendation:

After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be placed on the section 303(d) list. The readily available data and information is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating.

**Line of Evidence (LOE) for Decision ID 61363, Heptachlor
Bon Tempe Reservoir****Region 2**

LOE ID: 91115

Pollutant: Heptachlor
LOE Subgroup: Pollutant-Tissue
Matrix: Tissue
Fraction: Fish fillet

Beneficial Use: Warm Freshwater Habitat

Number of Samples: 1
Number of Exceedances: 0

Data and Information Type: Fish tissue analysis
Data Used to Assess Water Quality: State Water Board staff assessed SWAMP data for Bon Tempe Reservoir to determine beneficial use support and results are as follows: 0 of 1 samples exceed the criterion for Heptachlor. One composite (5 fish per composite) was generated from one species: Largemouth Bass. Details of the compositing protocol can be found in the March 2009 report entitled: "Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Study" (SWAMP, 2009).

Data Reference: [Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Survey. A Report of the Surface Water Ambient Monitoring Program \(SWAMP\). California State Water Resources Control Board, Sacramento, CA Cruise Report for the Surface Waters Ambient Monitoring Program \(SWAMP\) Bioaccumulation Screening Study in California Lakes and Reservoirs. Sampling Dates: June 2007- March 2008 Statewide Lakes Sportfish Contamination Study 2007 2008 Contaminants in Fish from California Lakes and Reservoirs, 2007-2008: Summary Report on a Two-Year Screening Survey](#)

SWAMP Data: SWAMP

Water Quality Objective/Criterion: Water Quality Control Plan for the San Francisco Bay Basin: Controllable water quality factors shall not cause a detrimental increase in concentrations of toxic substances found

Objective/Criterion Reference:	in bottom sediments or aquatic life. Effects on aquatic organisms, wildlife, and human health will be considered. Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	National Academy of Science guidelines (NAS 1972) establish a maximum Heptachlor concentration of 100 ug/Kg (wet weight) in tissue samples for protection of aquatic life from bioaccumulation of toxic substances.
Guideline Reference:	National Academy of Sciences. Water Quality Criteria 1972. EPA-R3-73-033. Washington, D.C.: U.S. Environmental Protection Agency
Spatial Representation:	Data for this assessment unit was collected by one monitoring project: (SWB_FishLk)
Temporal Representation:	Data was collected on a single day 7/5/2007.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	Samples were collected, processed, and analyzed in accordance with the methods described in Quality Assurance Project Plan "Screening Study of Bioaccumulation in California Lakes and Reservoirs." (SWAMP, 2008).
QAPP Information Reference(s):	Quality Assurance Project Plan Screening Study of Bioaccumulation in California Lakes and Reservoirs. Moss Landing Marine Labs. Prepared for SWAMP BOG. 49 pages plus appendices and attachments

Line of Evidence (LOE) for Decision ID 61363, Heptachlor

Region 2

Bon Tempe Reservoir

LOE ID:	91116
Pollutant:	Heptachlor
LOE Subgroup:	Pollutant-Tissue
Matrix:	Tissue
Fraction:	Fish fillet
Beneficial Use:	Cold Freshwater Habitat
Number of Samples:	1
Number of Exceedances:	0
Data and Information Type:	Fish tissue analysis
Data Used to Assess Water Quality:	State Water Board staff assessed SWAMP data for Bon Tempe Reservoir to determine beneficial use support and results are as follows: 0 of 1 samples exceed the criterion for Heptachlor. One composite (5 fish per composite) was generated from one species: Largemouth Bass. Details of the compositing protocol can be found in the March 2009 report entitled: "Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Study" (SWAMP, 2009).
Data Reference:	Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Survey. A Report of the Surface Water Ambient Monitoring Program (SWAMP). California State Water Resources Control Board, Sacramento, CA Cruise Report for the Surface Waters Ambient Monitoring Program (SWAMP) Bioaccumulation Screening Study in California Lakes and Reservoirs. Sampling Dates: June 2007- March 2008 Statewide Lakes Sportfish Contamination Study 2007 2008 Contaminants in Fish from California Lakes and Reservoirs, 2007-2008: Summary Report on a Two-Year Screening Survey
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	Water Quality Control Plan for the San Francisco Bay Basin: Controllable water quality factors shall not cause a detrimental increase in concentrations of toxic substances found in bottom sediments or aquatic life. Effects on aquatic organisms, wildlife, and human health will be considered.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	National Academy of Science guidelines (NAS 1972) establish a maximum Heptachlor concentration of 100 ug/Kg (wet weight) in tissue samples for protection of aquatic life

Guideline Reference: from bioaccumulation of toxic substances.
[National Academy of Sciences. Water Quality Criteria 1972. EPA-R3-73-033. Washington, D.C.: U.S. Environmental Protection Agency](#)

Spatial Representation: Data for this assessment unit was collected by one monitoring project: (SWB_FishLk)

Temporal Representation: Data was collected on a single day 7/5/2007.

Environmental Conditions: Staff is not aware of any special conditions that might affect interpretation of the data.

QAPP Information: Samples were collected, processed, and analyzed in accordance with the methods described in Quality Assurance Project Plan "Screening Study of Bioaccumulation in California Lakes and Reservoirs." (SWAMP, 2008).

QAPP Information Reference(s): [Quality Assurance Project Plan Screening Study of Bioaccumulation in California Lakes and Reservoirs. Moss Landing Marine Labs. Prepared for SWAMP BOG. 49 pages plus appendices and attachments](#)

DECISION ID 61364		Region 2
Bon Tempe Reservoir		
Pollutant:	Heptachlor epoxide	
Final Listing Decision:	Do Not List on 303(d) list (TMDL required list)	
Last Listing Cycle's Final Listing Decision:	New Decision	
Revision Status	Revised	
Impairment from Pollutant or Pollution:	Pollutant	
Regional Board Staff Conclusion:	<p>This pollutant is being considered for placement on the CWA section 303(d) List under section 3.5 of the Listing Policy. Under section 3.5 a single line of evidence is necessary to assess listing status. Three lines of evidence are available in the administrative record to assess this pollutant. Zero of one samples exceed the guideline.</p> <p>Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against placing this water segment-pollutant combination on the CWA section 303(d) List.</p> <p>This conclusion is based on the staff findings that:</p> <ol style="list-style-type: none"> 1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy. 2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy. 3. Zero of one samples exceed the guideline and this sample size is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating. A minimum of 16 samples is needed to determine if a beneficial use is fully supported using table 3.1. 4. Pursuant to SECTION 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met. 	
Regional Board Staff Decision Recommendation:	After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be placed on the section 303(d) list. The readily available data and information is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating.	

Line of Evidence (LOE) for Decision ID 61364, Heptachlor epoxide		Region 2
Bon Tempe Reservoir		
LOE ID:	91117	
Pollutant:	Heptachlor epoxide	
LOE Subgroup:	Pollutant-Tissue	
Matrix:	Tissue	
Fraction:	Fish fillet	
Beneficial Use:	Warm Freshwater Habitat	

Number of Samples:	1
Number of Exceedances:	0
Data and Information Type:	Fish tissue analysis
Data Used to Assess Water Quality:	State Water Board staff assessed SWAMP data for Bon Tempe Reservoir to determine beneficial use support and results are as follows: 0 of 1 samples exceed the criterion for Heptachlor epoxide. One composite (5 fish per composite) was generated from one species: Largemouth Bass. Details of the compositing protocol can be found in the March 2009 report entitled: "Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Study" (SWAMP, 2009).
Data Reference:	Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Survey. A Report of the Surface Water Ambient Monitoring Program (SWAMP). California State Water Resources Control Board, Sacramento, CA Cruise Report for the Surface Waters Ambient Monitoring Program (SWAMP) Bioaccumulation Screening Study in California Lakes and Reservoirs. Sampling Dates: June 2007- March 2008 Statewide Lakes Sportfish Contamination Study 2007 2008 Contaminants in Fish from California Lakes and Reservoirs, 2007-2008: Summary Report on a Two-Year Screening Survey
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	Water Quality Control Plan for the San Francisco Bay Basin: Controllable water quality factors shall not cause a detrimental increase in concentrations of toxic substances found in bottom sediments or aquatic life. Effects on aquatic organisms, wildlife, and human health will be considered.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	National Academy of Science guidelines (NAS 1972) establish a maximum Heptachlor Epoxide concentration of 100 ug/Kg (wet weight) in tissue samples for protection of aquatic life from bioaccumulation of toxic substances.
Guideline Reference:	National Academy of Sciences. Water Quality Criteria 1972. EPA-R3-73-033. Washington, D.C.: U.S. Environmental Protection Agency
Spatial Representation:	Data for this assessment unit was collected by one monitoring project: (SWB_FishLk)
Temporal Representation:	Data was collected on a single day 7/5/2007.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	Samples were collected, processed, and analyzed in accordance with the methods described in Quality Assurance Project Plan "Screening Study of Bioaccumulation in California Lakes and Reservoirs." (SWAMP, 2008).
QAPP Information Reference(s):	Quality Assurance Project Plan Screening Study of Bioaccumulation in California Lakes and Reservoirs. Moss Landing Marine Labs. Prepared for SWAMP BOG. 49 pages plus appendices and attachments

Line of Evidence (LOE) for Decision ID 61364, Heptachlor epoxide

Region 2

Bon Tempe Reservoir

LOE ID:	91118
Pollutant:	Heptachlor epoxide
LOE Subgroup:	Pollutant-Tissue
Matrix:	Tissue
Fraction:	Fish fillet
Beneficial Use:	Cold Freshwater Habitat
Number of Samples:	1
Number of Exceedances:	0
Data and Information Type:	Fish tissue analysis
Data Used to Assess Water Quality:	State Water Board staff assessed SWAMP data for Bon Tempe Reservoir to determine

Data Reference:	beneficial use support and results are as follows: 0 of 1 samples exceed the criterion for Heptachlor epoxide. One composite (5 fish per composite) was generated from one species: Largemouth Bass. Details of the compositing protocol can be found in the March 2009 report entitled: "Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Study" (SWAMP, 2009). Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Survey. A Report of the Surface Water Ambient Monitoring Program (SWAMP). California State Water Resources Control Board, Sacramento, CA Cruise Report for the Surface Waters Ambient Monitoring Program (SWAMP) Bioaccumulation Screening Study in California Lakes and Reservoirs. Sampling Dates: June 2007- March 2008 Statewide Lakes Sportfish Contamination Study 2007 2008 Contaminants in Fish from California Lakes and Reservoirs, 2007-2008: Summary Report on a Two-Year Screening Survey
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	Water Quality Control Plan for the San Francisco Bay Basin: Controllable water quality factors shall not cause a detrimental increase in concentrations of toxic substances found in bottom sediments or aquatic life. Effects on aquatic organisms, wildlife, and human health will be considered.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	National Academy of Science guidelines (NAS 1972) establish a maximum Heptachlor Epoxide concentration of 100 ug/Kg (wet weight) in tissue samples for protection of aquatic life from bioaccumulation of toxic substances.
Guideline Reference:	National Academy of Sciences. Water Quality Criteria 1972. EPA-R3-73-033. Washington, D.C.: U.S. Environmental Protection Agency
Spatial Representation:	Data for this assessment unit was collected by one monitoring project: (SWB_FishLk)
Temporal Representation:	Data was collected on a single day 7/5/2007.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	Samples were collected, processed, and analyzed in accordance with the methods described in Quality Assurance Project Plan "Screening Study of Bioaccumulation in California Lakes and Reservoirs." (SWAMP, 2008).
QAPP Information Reference(s):	Quality Assurance Project Plan Screening Study of Bioaccumulation in California Lakes and Reservoirs. Moss Landing Marine Labs. Prepared for SWAMP BOG. 49 pages plus appendices and attachments

Line of Evidence (LOE) for Decision ID 61364, Heptachlor epoxide

Region 2

Bon Tempe Reservoir

LOE ID:	91119
Pollutant:	Heptachlor epoxide
LOE Subgroup:	Pollutant-Tissue
Matrix:	Tissue
Fraction:	Fish fillet
Beneficial Use:	Commercial or recreational collection of fish, shellfish, or organisms
Number of Samples:	0
Number of Exceedances:	0
Data and Information Type:	Fish tissue analysis
Data Used to Assess Water Quality:	State Water Board staff assessed SWAMP data for Bon Tempe Reservoir to determine beneficial use support and results are as follows: 0 of 0 samples exceed the criterion for Heptachlor epoxide. One composite (5 fish per composite) was generated from one species: Largemouth Bass. Details of the compositing protocol can be found in the March 2009 report entitled: "Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Study" (SWAMP, 2009). One composite was not used in the assessment because the laboratory data reporting limit(s)

was above the objective and therefore the results could not be quantified with the level of certainty required by the Listing Policy.

Data Reference:

[Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Survey. A Report of the Surface Water Ambient Monitoring Program \(SWAMP\). California State Water Resources Control Board, Sacramento, CA](#)
[Cruise Report for the Surface Waters Ambient Monitoring Program \(SWAMP\)](#)
[Bioaccumulation Screening Study in California Lakes and Reservoirs. Sampling Dates: June 2007- March 2008](#)
[Statewide Lakes Sportfish Contamination Study 2007 2008](#)
[Contaminants in Fish from California Lakes and Reservoirs, 2007-2008: Summary Report on a Two-Year Screening Survey](#)

SWAMP Data:

SWAMP

Water Quality Objective/Criterion:

Water Quality Control Plan for the San Francisco Bay Basin: Controllable water quality factors shall not cause a detrimental increase in concentrations of toxic substances found in bottom sediments or aquatic life. Effects on aquatic organisms, wildlife, and human health will be considered.

Objective/Criterion Reference:

[Water Quality Control Plan \(Basin Plan\) San Francisco Bay Basin \(Region 2\)](#)

Evaluation Guideline:

The modified OEHHA Fish Contaminant Goal for heptachlor epoxide in fish tissue is 0.93 ppb. This screening level assumes an average body weight of 70 kg and a consumption rate of 32 g/day for a 30 year exposure over a 70-year lifetime. This constituent is a carcinogen therefore the risk level is set to one in a million. A cooking reduction factor of 1 is applied for skin-off fillets. (Klasing, S., and R. Brodberg, 2008; OEHHA, 1999)

Guideline Reference:

[Development of Fish Contaminant Goals and Advisory Tissue Levels for Common Contaminants in California Sport Fish: Chlordane, DDTs, Dieldrin, Methylmercury, PCBs, Selenium, and Toxaphene](#)
[Public Health Goal for Heptachlor and Heptachlor Epoxide in Drinking Water](#)

Spatial Representation:

Data for this assessment unit was collected by one monitoring project: (SWB_FishLk)

Temporal Representation:

Data was collected on a single day 7/5/2007.

Environmental Conditions:

Staff is not aware of any special conditions that might affect interpretation of the data.

QAPP Information:

Samples were collected, processed, and analyzed in accordance with the methods described in Quality Assurance Project Plan "Screening Study of Bioaccumulation in California Lakes and Reservoirs." (SWAMP, 2008).

QAPP Information Reference(s):

[Quality Assurance Project Plan Screening Study of Bioaccumulation in California Lakes and Reservoirs. Moss Landing Marine Labs. Prepared for SWAMP BOG. 49 pages plus appendices and attachments](#)

DECISION ID	61365	Region 2
Bon Tempe Reservoir		

Pollutant:

Hexachlorobenzene/ HCB

Final Listing Decision:

Do Not List on 303(d) list (TMDL required list)

Last Listing Cycle's Final

New Decision

Listing Decision:

Revision Status

Revised

Impairment from Pollutant or Pollution:

Pollutant

Regional Board Staff

Conclusion:

This pollutant is being considered for placement on the CWA section 303(d) List under section 3.5 of the Listing Policy. Under section 3.5 a single line of evidence is necessary to assess listing status. One line of evidence is available in the administrative record to assess this pollutant. Zero of one samples exceed the guideline.

Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against placing this water segment-pollutant combination on the CWA section 303(d) List.

This conclusion is based on the staff findings that:

1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy.
2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy.
3. Zero of one samples exceed the guideline and this sample size is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating. A minimum of 16 samples is needed to determine if a beneficial use is fully supported using table 3.1.
4. Pursuant to SECTION 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.

Regional Board Staff Decision Recommendation: After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be placed on the section 303(d) list. The readily available data and information is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating.

Line of Evidence (LOE) for Decision ID 61365, Hexachlorobenzene/ HCB

Region 2

Bon Tempe Reservoir

LOE ID:	91120
Pollutant:	Hexachlorobenzene/ HCB
LOE Subgroup:	Pollutant-Tissue
Matrix:	Tissue
Fraction:	Fish fillet
Beneficial Use:	Commercial or recreational collection of fish, shellfish, or organisms
Number of Samples:	1
Number of Exceedances:	0
Data and Information Type:	Fish tissue analysis
Data Used to Assess Water Quality:	State Water Board staff assessed SWAMP data for Bon Tempe Reservoir to determine beneficial use support and results are as follows: 0 of 1 samples exceed the criterion for Hexachlorobenzene. One composite (5 fish per composite) was generated from one species: Largemouth Bass. Details of the compositing protocol can be found in the March 2009 report entitled: "Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Study" (SWAMP, 2009).
Data Reference:	Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Survey. A Report of the Surface Water Ambient Monitoring Program (SWAMP). California State Water Resources Control Board, Sacramento, CA Cruise Report for the Surface Waters Ambient Monitoring Program (SWAMP) Bioaccumulation Screening Study in California Lakes and Reservoirs, Sampling Dates: June 2007- March 2008 Statewide Lakes Sportfish Contamination Study 2007 2008 Contaminants in Fish from California Lakes and Reservoirs, 2007-2008: Summary Report on a Two-Year Screening Survey
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	Water Quality Control Plan for the San Francisco Bay Basin: Controllable water quality factors shall not cause a detrimental increase in concentrations of toxic substances found in bottom sediments or aquatic life. Effects on aquatic organisms, wildlife, and human health will be considered.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	The modified OEHHA Fish Contaminant Goal for hexachlorobenzene in fish tissue is 2.8 ppb. This screening level assumes an average body weight of 70 kg and a consumption rate of 32 g/day for a 30 year exposure over a 70-year lifetime. This constituent is a carcinogen therefore the risk level is set to one in a million. A cooking reduction factor of 1 is applied for skin-off fillets. (Klasing, S., and R. Brodberg, 2008; OEHHA, 2005)
Guideline Reference:	Development of Fish Contaminant Goals and Advisory Tissue Levels for Common Contaminants in California Sport Fish: Chlordane, DDTs, Dieldrin, Methylmercury, PCBs, Selenium, and Toxaphene

Spatial Representation: Data for this assessment unit was collected by one monitoring project: (SWB_FishLk)
 Temporal Representation: Data was collected on a single day 7/5/2007.
 Environmental Conditions: Staff is not aware of any special conditions that might affect interpretation of the data.
 QAPP Information: Samples were collected, processed, and analyzed in accordance with the methods described in Quality Assurance Project Plan "Screening Study of Bioaccumulation in California Lakes and Reservoirs." (SWAMP, 2008).
 QAPP Information Reference(s): [Quality Assurance Project Plan Screening Study of Bioaccumulation in California Lakes and Reservoirs. Moss Landing Marine Labs. Prepared for SWAMP BOG. 49 pages plus appendices and attachments](#)

DECISION ID 61366		Region 2
Bon Tempe Reservoir		
Pollutant:	Lindane/gamma Hexachlorocyclohexane (gamma-HCH)	
Final Listing Decision:	Do Not List on 303(d) list (TMDL required list)	
Last Listing Cycle's Final Listing Decision:	New Decision	
Revision Status	Revised	
Impairment from Pollutant or Pollution:	Pollutant	
Regional Board Staff Conclusion:	<p>This pollutant is being considered for placement on the CWA section 303(d) List under section 3.5 of the Listing Policy. Under section 3.5 a single line of evidence is necessary to assess listing status. Three lines of evidence are available in the administrative record to assess this pollutant. Zero of one samples exceed the guideline.</p> <p>Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against placing this water segment-pollutant combination on the CWA section 303(d) List.</p> <p>This conclusion is based on the staff findings that:</p> <ol style="list-style-type: none"> 1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy. 2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy. 3. Zero of one samples exceed the guideline and this sample size is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating. A minimum of 16 samples is needed to determine if a beneficial use is fully supported using table 3.1. 4. Pursuant to SECTION 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met. 	
Regional Board Staff Decision Recommendation:	After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be placed on the section 303(d) list. The readily available data and information is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating.	

Line of Evidence (LOE) for Decision ID 61366, Lindane/gamma Hexachlorocyclohexane (gamma-HCH)		Region 2
Bon Tempe Reservoir		
LOE ID:	91122	
Pollutant:	Lindane/gamma Hexachlorocyclohexane (gamma-HCH)	
LOE Subgroup:	Pollutant-Tissue	
Matrix:	Tissue	
Fraction:	Fish fillet	
Beneficial Use:	Commercial or recreational collection of fish, shellfish, or organisms	

Number of Samples:	1
Number of Exceedances:	0
Data and Information Type:	Fish tissue analysis
Data Used to Assess Water Quality:	State Water Board staff assessed SWAMP data for Bon Tempe Reservoir to determine beneficial use support and results are as follows: 0 of 1 samples exceed the criterion for HCH, gamma. One composite (5 fish per composite) was generated from one species: Largemouth Bass. Details of the compositing protocol can be found in the March 2009 report entitled: "Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Study" (SWAMP, 2009).
Data Reference:	Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Survey. A Report of the Surface Water Ambient Monitoring Program (SWAMP). California State Water Resources Control Board, Sacramento, CA Cruise Report for the Surface Waters Ambient Monitoring Program (SWAMP) Bioaccumulation Screening Study in California Lakes and Reservoirs. Sampling Dates: June 2007- March 2008 Statewide Lakes Sportfish Contamination Study 2007 2008 Contaminants in Fish from California Lakes and Reservoirs, 2007-2008: Summary Report on a Two-Year Screening Survey
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	Water Quality Control Plan for the San Francisco Bay Basin: Controllable water quality factors shall not cause a detrimental increase in concentrations of toxic substances found in bottom sediments or aquatic life. Effects on aquatic organisms, wildlife, and human health will be considered.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	The modified OEHHA Fish Contaminant Goal for lindane in fish tissue is 4.6 ppb. This screening level assumes an average body weight of 70 kg and a consumption rate of 32 g/day for a 30 year exposure over a 70-year lifetime. This constituent is a carcinogen therefore the risk level is set to one in a million. A cooking reduction factor of 1 is applied for skin-off fillets.
Guideline Reference:	Development of Fish Contaminant Goals and Advisory Tissue Levels for Common Contaminants in California Sport Fish: Chlordane, DDTs, Dieldrin, Methylmercury, PCBs, Selenium, and Toxaphene Air Toxics Hotspots Program Risk Assessment Guidelines. Part II Technical Support Document for Describing Available Cancer Potency Values.
Spatial Representation:	Data for this assessment unit was collected by one monitoring project: (SWB_FishLk)
Temporal Representation:	Data was collected on a single day 7/5/2007.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	Samples were collected, processed, and analyzed in accordance with the methods described in Quality Assurance Project Plan "Screening Study of Bioaccumulation in California Lakes and Reservoirs." (SWAMP, 2008).
QAPP Information Reference(s):	Quality Assurance Project Plan Screening Study of Bioaccumulation in California Lakes and Reservoirs. Moss Landing Marine Labs. Prepared for SWAMP BOG. 49 pages plus appendices and attachments

Line of Evidence (LOE) for Decision ID 61366, Lindane/gamma Hexachlorocyclohexane (gamma-HCH)

Region 2

Bon Tempe Reservoir

LOE ID:	91123
Pollutant:	Lindane/gamma Hexachlorocyclohexane (gamma-HCH)
LOE Subgroup:	Pollutant-Tissue
Matrix:	Tissue
Fraction:	Fish fillet
Beneficial Use:	Cold Freshwater Habitat

Number of Samples:	1
Number of Exceedances:	0
Data and Information Type:	Fish tissue analysis
Data Used to Assess Water Quality:	State Water Board staff assessed SWAMP data for Bon Tempe Reservoir to determine beneficial use support and results are as follows: 0 of 1 samples exceed the criterion for HCH, gamma. One composite (5 fish per composite) was generated from one species: Largemouth Bass. Details of the compositing protocol can be found in the March 2009 report entitled: "Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Study" (SWAMP, 2009).
Data Reference:	Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Survey. A Report of the Surface Water Ambient Monitoring Program (SWAMP). California State Water Resources Control Board, Sacramento, CA Cruise Report for the Surface Waters Ambient Monitoring Program (SWAMP) Bioaccumulation Screening Study in California Lakes and Reservoirs. Sampling Dates: June 2007- March 2008 Statewide Lakes Sportfish Contamination Study 2007 2008 Contaminants in Fish from California Lakes and Reservoirs, 2007-2008: Summary Report on a Two-Year Screening Survey
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	Water Quality Control Plan for the San Francisco Bay Basin: Controllable water quality factors shall not cause a detrimental increase in concentrations of toxic substances found in bottom sediments or aquatic life. Effects on aquatic organisms, wildlife, and human health will be considered.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	The modified OEHHA Fish Contaminant Goal for lindane in fish tissue is 4.6 ppb. This screening level assumes an average body weight of 70 kg and a consumption rate of 32 g/day for a 30 year exposure over a 70-year lifetime. This constituent is a carcinogen therefore the risk level is set to one in a million. A cooking reduction factor of 1 is applied for skin-off fillets. (Klasing, S., and R. Brodberg, 2008; OEHHA, 2005)
Guideline Reference:	National Academy of Sciences. Water Quality Criteria 1972. EPA-R3-73-033. Washington, D.C.: U.S. Environmental Protection Agency
Spatial Representation:	Data for this assessment unit was collected by one monitoring project: (SWB_FishLk)
Temporal Representation:	Data was collected on a single day 7/5/2007.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	Samples were collected, processed, and analyzed in accordance with the methods described in Quality Assurance Project Plan "Screening Study of Bioaccumulation in California Lakes and Reservoirs." (SWAMP, 2008).
QAPP Information Reference(s):	Quality Assurance Project Plan Screening Study of Bioaccumulation in California Lakes and Reservoirs. Moss Landing Marine Labs. Prepared for SWAMP BOG. 49 pages plus appendices and attachments

Line of Evidence (LOE) for Decision ID 61366, Lindane/gamma Hexachlorocyclohexane (gamma-HCH)

Region 2

Bon Tempe Reservoir

LOE ID:	91121
Pollutant:	Lindane/gamma Hexachlorocyclohexane (gamma-HCH)
LOE Subgroup:	Pollutant-Tissue
Matrix:	Tissue
Fraction:	Fish fillet
Beneficial Use:	Warm Freshwater Habitat
Number of Samples:	1
Number of Exceedances:	0

Data and Information Type:	Fish tissue analysis
Data Used to Assess Water Quality:	State Water Board staff assessed SWAMP data for Bon Tempe Reservoir to determine beneficial use support and results are as follows: 0 of 1 samples exceed the criterion for HCH, gamma. One composite (5 fish per composite) was generated from one species: Largemouth Bass. Details of the compositing protocol can be found in the March 2009 report entitled: "Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Study" (SWAMP, 2009).
Data Reference:	Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Survey. A Report of the Surface Water Ambient Monitoring Program (SWAMP). California State Water Resources Control Board, Sacramento, CA Cruise Report for the Surface Waters Ambient Monitoring Program (SWAMP) Bioaccumulation Screening Study in California Lakes and Reservoirs, Sampling Dates: June 2007- March 2008 Statewide Lakes Sportfish Contamination Study 2007 2008 Contaminants in Fish from California Lakes and Reservoirs, 2007-2008: Summary Report on a Two-Year Screening Survey
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	Water Quality Control Plan for the San Francisco Bay Basin: Controllable water quality factors shall not cause a detrimental increase in concentrations of toxic substances found in bottom sediments or aquatic life. Effects on aquatic organisms, wildlife, and human health will be considered.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	The modified OEHHA Fish Contaminant Goal for lindane in fish tissue is 4.6 ppb. This screening level assumes an average body weight of 70 kg and a consumption rate of 32 g/day for a 30 year exposure over a 70-year lifetime. This constituent is a carcinogen therefore the risk level is set to one in a million. A cooking reduction factor of 1 is applied for skin-off fillets. (Klasing, S., and R. Brodberg, 2008; OEHHA, 2005)
Guideline Reference:	National Academy of Sciences. Water Quality Criteria 1972. EPA-R3-73-033. Washington, D.C.: U.S. Environmental Protection Agency
Spatial Representation:	Data for this assessment unit was collected by one monitoring project: (SWB_FishLk)
Temporal Representation:	Data was collected on a single day 7/5/2007.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	Samples were collected, processed, and analyzed in accordance with the methods described in Quality Assurance Project Plan "Screening Study of Bioaccumulation in California Lakes and Reservoirs." (SWAMP, 2008).
QAPP Information Reference(s):	Quality Assurance Project Plan Screening Study of Bioaccumulation in California Lakes and Reservoirs. Moss Landing Marine Labs. Prepared for SWAMP BOG, 49 pages plus appendices and attachments

DECISION ID	61367	Region 2
Bon Tempe Reservoir		
Pollutant:	Mirex	
Final Listing Decision:	Do Not List on 303(d) list (TMDL required list)	
Last Listing Cycle's Final Listing Decision:	New Decision	
Revision Status	Revised	
Impairment from Pollutant or Pollution:	Pollutant	
Regional Board Staff Conclusion:	<p>This pollutant is being considered for placement on the CWA section 303(d) List under section 3.5 of the Listing Policy. Under section 3.5 a single line of evidence is necessary to assess listing status. One line of evidence is available in the administrative record to assess this pollutant. Zero of zero samples exceed the guideline.</p> <p>Based on the readily available data and information, the weight of evidence indicates that there is</p>	

sufficient justification against placing this water segment-pollutant combination on the CWA section 303(d) List.

This conclusion is based on the staff findings that:

1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy.
2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy.
3. Zero of zero samples exceed the guideline and this sample size is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating. A minimum of 16 samples is needed to determine if a beneficial use is fully supported using table 3.1.
4. Pursuant to SECTION 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.

Regional Board Staff Decision Recommendation: After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be placed on the section 303(d) list. The readily available data and information is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating.

Line of Evidence (LOE) for Decision ID 61367, Mirex

Region 2

Bon Tempe Reservoir

LOE ID:	91093
Pollutant:	Mirex
LOE Subgroup:	Pollutant-Tissue
Matrix:	Tissue
Fraction:	Fish fillet
Beneficial Use:	Commercial or recreational collection of fish, shellfish, or organisms
Number of Samples:	0
Number of Exceedances:	0
Data and Information Type:	Fish tissue analysis
Data Used to Assess Water Quality:	State Water Board staff assessed SWAMP data for Bon Tempe Reservoir to determine beneficial use support and results are as follows: 0 of 0 samples exceed the criterion for Mirex. One composite (5 fish per composite) was generated from one species: Largemouth Bass. Details of the compositing protocol can be found in the March 2009 report entitled: "Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Study" (SWAMP, 2009). One composite was not used in the assessment because the laboratory data reporting limit(s) was above the objective and therefore the results could not be quantified with the level of certainty required by the Listing Policy.
Data Reference:	Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Survey. A Report of the Surface Water Ambient Monitoring Program (SWAMP). California State Water Resources Control Board, Sacramento, CA Cruise Report for the Surface Waters Ambient Monitoring Program (SWAMP) Bioaccumulation Screening Study in California Lakes and Reservoirs, Sampling Dates: June 2007- March 2008 Statewide Lakes Sportfish Contamination Study 2007 2008 Contaminants in Fish from California Lakes and Reservoirs, 2007-2008: Summary Report on a Two-Year Screening Survey
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	Water Quality Control Plan for the San Francisco Bay Basin: Controllable water quality factors shall not cause a detrimental increase in concentrations of toxic substances found in bottom sediments or aquatic life. Effects on aquatic organisms, wildlife, and human health will be considered.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	The modified OEHHA Fish Contaminant Goal for mirex in fish tissue is 0.28 ppb. This

Guideline Reference:	<p>screening level assumes an average body weight of 70 kg and a consumption rate of 32 g/day. A cooking reduction factor of 1 is applied for skin-off fillets. (Klasing, S., and R. Brodberg, 2008; OEHHA, 1992)</p> <p>Development of Fish Contaminant Goals and Advisory Tissue Levels for Common Contaminants in California Sport Fish: Chlordane, DDTs, Dieldrin, Methylmercury, PCBs, Selenium, and Toxaphene</p> <p>Expedited Cancer Potency Values and Proposed Regulatory Levels for Certain Proposition 65 Carcinogens.</p>
Spatial Representation:	Data for this assessment unit was collected by one monitoring project: (SWB_FishLk)
Temporal Representation:	Data was collected on a single day 7/5/2007.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	Samples were collected, processed, and analyzed in accordance with the methods described in Quality Assurance Project Plan "Screening Study of Bioaccumulation in California Lakes and Reservoirs." (SWAMP, 2008).
QAPP Information Reference(s):	Quality Assurance Project Plan Screening Study of Bioaccumulation in California Lakes and Reservoirs. Moss Landing Marine Labs. Prepared for SWAMP BOG. 49 pages plus appendices and attachments

DECISION ID 61368 Region 2	
Bon Tempe Reservoir	
Pollutant: Final Listing Decision: Last Listing Cycle's Final Listing Decision: Revision Status Impairment from Pollutant or Pollution:	PCBs (Polychlorinated biphenyls) Do Not List on 303(d) list (TMDL required list) New Decision Revised Pollutant
Regional Board Staff Conclusion:	<p>This pollutant is being considered for placement on the CWA section 303(d) List under section 3.5 of the Listing Policy. Under section 3.5 a single line of evidence is necessary to assess listing status. Three lines of evidence are available in the administrative record to assess this pollutant. Zero of one samples exceed the guideline.</p> <p>Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against placing this water segment-pollutant combination on the CWA section 303(d) List.</p> <p>This conclusion is based on the staff findings that:</p> <ol style="list-style-type: none"> 1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy. 2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy. 3. Zero of one samples exceed the guideline and this sample size is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating. A minimum of 16 samples is needed to determine if a beneficial use is fully supported using table 3.1. 4. Pursuant to SECTION 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.
Regional Board Staff Decision Recommendation:	After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be placed on the section 303(d) list. The readily available data and information is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating.

Line of Evidence (LOE) for Decision ID 61368, PCBs (Polychlorinated biphenyls) Region 2	
Bon Tempe Reservoir	
LOE ID:	91094
Pollutant:	PCBs (Polychlorinated biphenyls)

LOE Subgroup:	Pollutant-Tissue
Matrix:	Tissue
Fraction:	Fish fillet
Beneficial Use:	Warm Freshwater Habitat
Number of Samples:	1
Number of Exceedances:	0
Data and Information Type:	Fish tissue analysis
Data Used to Assess Water Quality:	State Water Board staff assessed SWAMP data for Bon Tempe Reservoir to determine beneficial use support and results are as follows: 0 of 1 samples exceed the criterion for PCB, Total. One composite (5 fish per composite) was generated from one species: Largemouth Bass. Details of the compositing protocol can be found in the March 2009 report entitled: "Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Study" (SWAMP, 2009). Total PCB was assessed for as follows: PCB aroclors and congeners were summed separately and the sum that yielded the highest value was used for the assessment.
Data Reference:	Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Survey. A Report of the Surface Water Ambient Monitoring Program (SWAMP). California State Water Resources Control Board, Sacramento, CA Cruise Report for the Surface Waters Ambient Monitoring Program (SWAMP) Bioaccumulation Screening Study in California Lakes and Reservoirs, Sampling Dates: June 2007- March 2008 Statewide Lakes Sportfish Contamination Study 2007 2008 Contaminants in Fish from California Lakes and Reservoirs, 2007-2008: Summary Report on a Two-Year Screening Survey
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	Water Quality Control Plan for the San Francisco Bay Basin (2013): Controllable water quality factors shall not cause a detrimental increase in concentrations of toxic substances found in bottom sediments or aquatic life. Effects on aquatic organisms, wildlife, and human health will be considered.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	National Academy of Science guidelines (NAS 1972) establish a maximum total PCB concentration of 500 ug/Kg (wet weight) in tissue samples for protection of aquatic life from bioaccumulation of toxic substances.
Guideline Reference:	National Academy of Sciences. Water Quality Criteria 1972. EPA-R3-73-033. Washington, D.C.: U.S. Environmental Protection Agency
Spatial Representation:	Data for this assessment unit was collected by one monitoring project: (SWB_FishLk)
Temporal Representation:	Data was collected on a single day 7/5/2007.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	Samples were collected, processed, and analyzed in accordance with the methods described in Quality Assurance Project Plan "Screening Study of Bioaccumulation in California Lakes and Reservoirs." (SWAMP, 2008).
QAPP Information Reference(s):	Quality Assurance Project Plan Screening Study of Bioaccumulation in California Lakes and Reservoirs. Moss Landing Marine Labs. Prepared for SWAMP BOG. 49 pages plus appendices and attachments

Line of Evidence (LOE) for Decision ID 61368, PCBs (Polychlorinated biphenyls)
Bon Tempe Reservoir

Region 2

LOE ID:	91095
Pollutant:	PCBs (Polychlorinated biphenyls)
LOE Subgroup:	Pollutant-Tissue
Matrix:	Tissue
Fraction:	Fish fillet

Beneficial Use:	Cold Freshwater Habitat
Number of Samples:	1
Number of Exceedances:	0
Data and Information Type:	Fish tissue analysis
Data Used to Assess Water Quality:	State Water Board staff assessed SWAMP data for Bon Tempe Reservoir to determine beneficial use support and results are as follows: 0 of 1 samples exceed the criterion for PCB, Total. One composite (5 fish per composite) was generated from one species: Largemouth Bass. Details of the compositing protocol can be found in the March 2009 report entitled: "Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Study" (SWAMP, 2009). Total PCB was assessed for as follows: PCB aroclors and congeners were summed separately and the sum that yielded the highest value was used for the assessment.
Data Reference:	Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Survey. A Report of the Surface Water Ambient Monitoring Program (SWAMP). California State Water Resources Control Board, Sacramento, CA Cruise Report for the Surface Waters Ambient Monitoring Program (SWAMP) Bioaccumulation Screening Study in California Lakes and Reservoirs. Sampling Dates: June 2007- March 2008 Statewide Lakes Sportfish Contamination Study 2007 2008 Contaminants in Fish from California Lakes and Reservoirs, 2007-2008: Summary Report on a Two-Year Screening Survey
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	Water Quality Control Plan for the San Francisco Bay Basin (2013): Controllable water quality factors shall not cause a detrimental increase in concentrations of toxic substances found in bottom sediments or aquatic life. Effects on aquatic organisms, wildlife, and human health will be considered.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	National Academy of Science guidelines (NAS 1972) establish a maximum total PCB concentration of 500 ug/Kg (wet weight) in tissue samples for protection of aquatic life from bioaccumulation of toxic substances.
Guideline Reference:	National Academy of Sciences. Water Quality Criteria 1972. EPA-R3-73-033. Washington, D.C.: U.S. Environmental Protection Agency
Spatial Representation:	Data for this assessment unit was collected by one monitoring project: (SWB_FishLk)
Temporal Representation:	Data was collected on a single day 7/5/2007.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	Samples were collected, processed, and analyzed in accordance with the methods described in Quality Assurance Project Plan "Screening Study of Bioaccumulation in California Lakes and Reservoirs." (SWAMP, 2008).
QAPP Information Reference(s):	Quality Assurance Project Plan Screening Study of Bioaccumulation in California Lakes and Reservoirs. Moss Landing Marine Labs. Prepared for SWAMP BOG. 49 pages plus appendices and attachments

Line of Evidence (LOE) for Decision ID 61368, PCBs (Polychlorinated biphenyls)

Region 2

Bon Tempe Reservoir

LOE ID:	91096
Pollutant:	PCBs (Polychlorinated biphenyls)
LOE Subgroup:	Pollutant-Tissue
Matrix:	Tissue
Fraction:	Fish fillet
Beneficial Use:	Commercial or recreational collection of fish, shellfish, or organisms
Number of Samples:	1
Number of Exceedances:	0

Data and Information Type:	Fish tissue analysis
Data Used to Assess Water Quality:	State Water Board staff assessed SWAMP data for Bon Tempe Reservoir to determine beneficial use support and results are as follows: 0 of 1 samples exceed the criterion for PCB, Total. One composite (5 fish per composite) was generated from one species: Largemouth Bass. Details of the compositing protocol can be found in the March 2009 report entitled: "Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Study" (SWAMP, 2009). Total PCB was assessed for as follows: PCB aroclors and congeners were summed separately and the sum that yielded the highest value was used for the assessment.
Data Reference:	Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Survey. A Report of the Surface Water Ambient Monitoring Program (SWAMP). California State Water Resources Control Board, Sacramento, CA Cruise Report for the Surface Waters Ambient Monitoring Program (SWAMP) Bioaccumulation Screening Study in California Lakes and Reservoirs, Sampling Dates: June 2007- March 2008 Statewide Lakes Sportfish Contamination Study 2007 2008 Contaminants in Fish from California Lakes and Reservoirs, 2007-2008: Summary Report on a Two-Year Screening Survey
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	Water Quality Control Plan for the San Francisco Bay Basin (2013): Controllable water quality factors shall not cause a detrimental increase in concentrations of toxic substances found in bottom sediments or aquatic life. Effects on aquatic organisms, wildlife, and human health will be considered.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	The modified OEHHA Fish Contaminant Goal for polychlorinated biphenyls in fish tissue is 2.6 ppb. This screening level assumes an average body weight of 70 kg and a consumption rate of 32 g/day for a 30 year exposure over a 70-year lifetime. This constituent is a carcinogen therefore the risk level is set to one in a million. A cooking reduction factor of 1 is applied for skin-off fillets. (Klasing, S., and R. Brodberg, 2008)
Guideline Reference:	Development of Fish Contaminant Goals and Advisory Tissue Levels for Common Contaminants in California Sport Fish: Chlordane, DDTs, Dieldrin, Methylmercury, PCBs, Selenium, and Toxaphene
Spatial Representation:	Data for this assessment unit was collected by one monitoring project: (SWB_FishLk)
Temporal Representation:	Data was collected on a single day 7/5/2007.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	Samples were collected, processed, and analyzed in accordance with the methods described in Quality Assurance Project Plan "Screening Study of Bioaccumulation in California Lakes and Reservoirs." (SWAMP, 2008).
QAPP Information Reference(s):	Quality Assurance Project Plan Screening Study of Bioaccumulation in California Lakes and Reservoirs. Moss Landing Marine Labs. Prepared for SWAMP BOG. 49 pages plus appendices and attachments

DECISION ID	61369	Region 2
Bon Tempe Reservoir		
Pollutant:	Selenium	
Final Listing Decision:	Do Not List on 303(d) list (TMDL required list)	
Last Listing Cycle's Final Listing Decision:	New Decision	
Revision Status	Revised	
Impairment from Pollutant or Pollution:	Pollutant	
Regional Board Staff Conclusion:	This pollutant is being considered for placement on the CWA section 303(d) List under section 3.5 of the Listing Policy. Under section 3.5 a single line of evidence is necessary to assess listing status. One line of evidence is available in the administrative record to assess this pollutant. Zero of one	

samples exceed the guideline.

Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against placing this water segment-pollutant combination on the CWA section 303(d) List.

This conclusion is based on the staff findings that:

1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy.
2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy.
3. Zero of one samples exceed the guideline and this sample size is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating. A minimum of 16 samples is needed to determine if a beneficial use is fully supported using table 3.1.
4. Pursuant to SECTION 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.

Regional Board Staff Decision Recommendation: After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be placed on the section 303(d) list. The readily available data and information is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating.

Line of Evidence (LOE) for Decision ID 61369, Selenium

Region 2

Bon Tempe Reservoir

LOE ID:	91097
Pollutant:	Selenium
LOE Subgroup:	Pollutant-Tissue
Matrix:	Tissue
Fraction:	Fish fillet
Beneficial Use:	Commercial or recreational collection of fish, shellfish, or organisms
Number of Samples:	1
Number of Exceedances:	0
Data and Information Type:	Fish tissue analysis
Data Used to Assess Water Quality:	State Water Board staff assessed SWAMP data for Bon Tempe Reservoir to determine beneficial use support and results are as follows: 0 of 1 samples exceed the criterion for Selenium. One composite (5 fish per composite) was generated from one species: Largemouth Bass. Details of the compositing protocol can be found in the March 2009 report entitled: "Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Study" (SWAMP, 2009).
Data Reference:	Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Survey. A Report of the Surface Water Ambient Monitoring Program (SWAMP). California State Water Resources Control Board, Sacramento, CA Cruise Report for the Surface Waters Ambient Monitoring Program (SWAMP) Bioaccumulation Screening Study in California Lakes and Reservoirs, Sampling Dates: June 2007- March 2008 Statewide Lakes Sportfish Contamination Study 2007 2008 Contaminants in Fish from California Lakes and Reservoirs, 2007-2008: Summary Report on a Two-Year Screening Survey
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	Water Quality Control Plan for the San Francisco Bay Basin (2013): Controllable water quality factors shall not cause a detrimental increase in concentrations of toxic substances found in bottom sediments or aquatic life. Effects on aquatic organisms, wildlife, and human health will be considered.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	The OEHHA Fish Contaminant Goal for selenium in fish tissue is 7.4 ppm. This screening

level assumes an average body weight of 70 kg and a consumption rate of 32 g/day. A background dietary consumption rate of 0.114 mg/day is applied for this micronutrient. (Klasing, S., and R. Brodberg, 2008)

Guideline Reference:

[Development of Fish Contaminant Goals and Advisory Tissue Levels for Common Contaminants in California Sport Fish: Chlordane, DDTs, Dieldrin, Methylmercury, PCBs, Selenium, and Toxaphene](#)

Spatial Representation:

Data for this assessment unit was collected by one monitoring project: (SWB_FishLk)

Temporal Representation:

Data was collected on a single day 7/5/2007.

Environmental Conditions:

Staff is not aware of any special conditions that might affect interpretation of the data.

QAPP Information:

Samples were collected, processed, and analyzed in accordance with the methods described in Quality Assurance Project Plan "Screening Study of Bioaccumulation in California Lakes and Reservoirs." (SWAMP, 2008).

QAPP Information Reference(s):

[Quality Assurance Project Plan Screening Study of Bioaccumulation in California Lakes and Reservoirs. Moss Landing Marine Labs. Prepared for SWAMP BOG, 49 pages plus appendices and attachments](#)

Draft California 2016 Integrated Report (303(d) List/305(b) Report)

Supporting Information

Regional Board 2 - San Francisco Bay Region

Water Body Name: Lake Merced
Water Body ID: CAL2021001020020315204138
Water Body Type: Lake & Reservoir

DECISION ID 34437 **Region 2**
Lake Merced

Pollutant: Oxygen, Dissolved
Final Listing Decision: Do Not Delist from 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision: List on 303(d) list (TMDL required list)(2012)
Revision Status Revised
Sources: Source Unknown
Expected TMDL Completion Date: 2019
Impairment from Pollutant or Pollution: Pollutant

Regional Board Staff Conclusion: This pollutant is being considered for removal from the CWA section 303(d) List under section 4.2 of the Listing Policy. Under this section a single line of evidence is necessary to assess listing status.

Two lines of evidence are available in the administrative record to assess this pollutant. One hundred forty-three of two hundred thirty-six samples exceed the objective.

Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against removing this water segment-pollutant combination from the CWA section 303(d) List.

This conclusion is based on the staff findings that:

1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy.
2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy.
3. One hundred forty-three of two hundred thirty-six samples exceed the objective and this exceeds the allowable frequency listed in Table 4.2 of the Listing Policy.
4. Pursuant to section 4.11 of the Listing Policy, no additional data and information are available indicating that standards are met.

Regional Board Staff Decision Recommendation: After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be removed from the section 303(d) list because applicable water quality standards for the pollutant are being exceeded.

Line of Evidence (LOE) for Decision ID 34437, Oxygen, Dissolved **Region 2**
Lake Merced

LOE ID: 3758
Pollutant: Low Dissolved Oxygen
LOE Subgroup: Pollutant-Water
Matrix: Water
Fraction: Not Recorded
Beneficial Use: Warm Freshwater Habitat

Number of Samples:	0
Number of Exceedances:	0
Data and Information Type:	Not Specified
Data Used to Assess Water Quality:	Unspecified--This LOE is a placeholder to support a 303(d) listing decision made prior to 2006.
Data Reference:	Placeholder reference pre-2006 303(d)
SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	
Objective/Criterion Reference:	
Evaluation Guideline:	
Guideline Reference:	
Spatial Representation:	Unspecified
Temporal Representation:	Unspecified
Environmental Conditions:	Unspecified
QAPP Information:	Unspecified
QAPP Information Reference(s):	

Line of Evidence (LOE) for Decision ID 34437, Oxygen, Dissolved Lake Merced

Region 2

LOE ID:	92035
Pollutant:	Oxygen, Dissolved
LOE Subgroup:	Pollutant-Water
Matrix:	Water
Fraction:	None
Beneficial Use:	Cold Freshwater Habitat
Number of Samples:	236
Number of Exceedances:	143
Data and Information Type:	PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality:	Data was collected on 60 days at varying depths (depth profiles) at four different sites in the lake. The minimum value from each stations depth profile was used to assess water quality. Among 143 of the samples collected, the minimum Dissolved Oxygen (DO) from the profile was lower than the objective specified in the basin plan and therefore did not meet the water quality objective for DO.
Data Reference:	Data for dissolved oxygen, pH, and other various pollutants in Lake Merced, May, 1997-Jul, 2010
SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	For waters designated as COLD (cold freshwater habitat), the water quality objective for dissolved oxygen is a minimum level of 7.0 mg/L(Water Quality Control Plan for the San Francisco Bay Basin).
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	
Guideline Reference:	
Spatial Representation:	Samples were collected at the following locations in the lake: Lake Merced South - Pump Station Lake Merced South - Pistol Range Lake Merced North Lake Merced North East
Temporal Representation:	Samples were collected approximately 2-4 times per year from May 15th, 1997 to June 15th, 2010.
Environmental Conditions:	
QAPP Information:	Quality Assurance document outlining QA procedures included with this data and signed

QAPP Information Reference(s):

DECISION ID	34214	Region 2
Lake Merced		

Pollutant: pH
Final Listing Decision: **Do Not Delist from 303(d) list (TMDL required list)**
Last Listing Cycle's Final Listing Decision: List on 303(d) list (TMDL required list)(2012)
Revision Status: Revised
Sources: Source Unknown
Expected TMDL Completion Date: 2019
Impairment from Pollutant or Pollution: Pollutant

Regional Board Staff Conclusion: This pollutant is being considered for removal from the CWA section 303(d) List under section 4.2 of the Listing Policy. Under this section a single line of evidence is necessary to assess listing status.

Two lines of evidence are available in the administrative record to assess this pollutant. Seventy of two-hundred forty samples exceed the objective.

Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against removing this water segment-pollutant combination from the CWA section 303(d) List.

This conclusion is based on the staff findings that:

1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy.
2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy.
3. Seventy of two-hundred forty samples exceed the objective and this exceeds the allowable frequency listed in Table 4.2 of the Listing Policy.
4. Pursuant to section 4.11 of the Listing Policy, no additional data and information are available indicating that standards are met.

Regional Board Staff Decision Recommendation: After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be removed from the section 303(d) list because applicable water quality standards for the pollutant are being exceeded.

Line of Evidence (LOE) for Decision ID 34214, pH	Region 2
Lake Merced	

LOE ID: 92036

Pollutant: pH
LOE Subgroup: Pollutant-Water
Matrix: Water
Fraction: None

Beneficial Use: Cold Freshwater Habitat

Number of Samples: 240
Number of Exceedances: 70

Data and Information Type: PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality: Data was collected on 61 days at varying depths (depth profiles) among four different sites in the lake. The maximum value at each station's depth profile was compared to the upper pH limit (8.5), and the minimum value at each station's depth profile was compared to the lower pH limit (6.5). If either the maximum value exceeded the upper limit or the

	minimum value was lower than the lower limit, then an exceedence occurred. An exceedence occurred from 143 data points.
Data Reference:	Data for dissolved oxygen, pH, and other various pollutants in Lake Merced, May, 1997-Jul, 2010
SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	The pH shall not be depressed below 6.5 nor raised above 8.5. This encompasses the pH range usually found in waters within the basin. Controllable water quality factors shall not cause changes greater than 0.5 units in normal ambient pH levels. (Water Quality Control Plan for the San Francisco Bay Basin)
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) - San Francisco Bay Region (Region 2)
Evaluation Guideline:	
Guideline Reference:	
Spatial Representation:	Samples were collected at the following locations in the lake: Lake Merced South - Pump Station Lake Merced South - Pistol Range Lake Merced North Lake Merced North East
Temporal Representation:	Samples were collected approximately 2-4 times per year from May 15th, 1997 to June 15th, 2010.
Environmental Conditions:	
QAPP Information:	Quality Assurance document outlining QA procedures included with this data and signed off on by the manager of the Biological Resources Section of the SFPUC.
QAPP Information Reference(s):	

Line of Evidence (LOE) for Decision ID 34214, pH

Region 2

Lake Merced

LOE ID:	3759
Pollutant:	pH
LOE Subgroup:	Pollutant-Water
Matrix:	Water
Fraction:	Not Recorded
Beneficial Use:	Warm Freshwater Habitat
Number of Samples:	0
Number of Exceedances:	0
Data and Information Type:	Not Specified
Data Used to Assess Water Quality:	Unspecified--This LOE is a placeholder to support a 303(d) listing decision made prior to 2006.
Data Reference:	Placeholder reference pre-2006 303(d)
SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	
Objective/Criterion Reference:	
Evaluation Guideline:	
Guideline Reference:	
Spatial Representation:	Unspecified
Temporal Representation:	Unspecified
Environmental Conditions:	Unspecified
QAPP Information:	Unspecified
QAPP Information Reference(s):	

Draft California 2016 Integrated Report (303(d) List/305(b) Report)

Supporting Information

Regional Board 2 - San Francisco Bay Region

Water Body Name: Lake Chabot (Alameda Co)
Water Body ID: CAL2042003020060515154933
Water Body Type: Lake & Reservoir

DECISION ID 33563 **Region 2**
Lake Chabot (Alameda Co)

Pollutant: Chlordane
Final Listing Decision: Do Not Delist from 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision: List on 303(d) list (TMDL required list)(2012)
Revision Status Revised
Sources: Source Unknown
Expected TMDL Completion Date: 2019
Impairment from Pollutant or Pollution: Pollutant

Regional Board Staff Conclusion: This pollutant is being considered for removal from the CWA section 303(d) List under section 4.1 of the Listing Policy. Under this section a single line of evidence is necessary to assess listing status.

Four lines of evidence are available in the administrative record to assess pollutant. Three of nine samples exceed the guideline.

Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against removing this water segment-pollutant combination from the CWA section 303(d) List.

This conclusion is based on the staff findings that:

1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy.
2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy.
3. Three of nine samples exceed the guideline and this exceeds the allowable frequency listed in Table 4.1 of the Listing Policy.
4. Pursuant to section 4.11 of the Listing Policy, no additional data and information are available indicating that standards are met.

Regional Board Staff Decision Recommendation: After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be removed from the section 303(d) list because applicable water quality standards for the pollutant are being exceeded.

Line of Evidence (LOE) for Decision ID 33563, Chlordane **Region 2**
Lake Chabot (Alameda Co)

LOE ID: 92008
Pollutant: Chlordane
LOE Subgroup: Pollutant-Tissue
Matrix: Tissue
Fraction: Fish fillet
Beneficial Use: Commercial or recreational collection of fish, shellfish, or organisms

Number of Samples:	1
Number of Exceedances:	1
Data and Information Type:	Fish tissue analysis
Data Used to Assess Water Quality:	State Water Board staff assessed SWAMP data for Lake Chabot (Alameda Co) to determine beneficial use support and results are as follows: 1 of 1 samples exceed the criterion for Chlordane, Total. Two composites (5 fish per composite) were generated from one species: Common Carp. Composites were not spatially independent (as defined in the Listing Policy) and so were averaged. Details of the compositing protocol can be found in the March 2009 report entitled: "Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Study" (SWAMP, 2009). Total chlordane was calculated as the sum of the following chlordane isomers: cis- and trans-chlordane, cis- and trans-nonachlor, and oxychlordane.
Data Reference:	Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Survey. A Report of the Surface Water Ambient Monitoring Program (SWAMP). California State Water Resources Control Board, Sacramento, CA Cruise Report for the Surface Waters Ambient Monitoring Program (SWAMP) Bioaccumulation Screening Study in California Lakes and Reservoirs. Sampling Dates: June 2007- March 2008 Statewide Lakes Sportfish Contamination Study 2007 2008 Contaminants in Fish from California Lakes and Reservoirs, 2007-2008: Summary Report on a Two-Year Screening Survey
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	Water Quality Control Plan for the San Francisco Bay Basin: Controllable water quality factors shall not cause a detrimental increase in concentrations of toxic substances found in bottom sediments or aquatic life. Effects on aquatic organisms, wildlife, and human health will be considered.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	The modified OEHHA Fish Contaminant Goal for total chlordane in fish tissue is 3.9 ppb. This screening level assumes an average body weight of 70 kg and a consumption rate of 32 g/day for a 30 year exposure over a 70-year lifetime. This constituent is a carcinogen therefore the risk level is set to one in a million. A cooking reduction factor of 1 is applied for skin-off fillets. (Klasing, S., and R. Brodberg, 2008)
Guideline Reference:	Development of Fish Contaminant Goals and Advisory Tissue Levels for Common Contaminants in California Sport Fish: Chlordane, DDTs, Dieldrin, Methylmercury, PCBs, Selenium, and Toxaphene
Spatial Representation:	Data for this assessment unit was collected by one monitoring project: (SWB_FishLk)
Temporal Representation:	Data was collected on a single day 7/31/2007.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	Samples were collected, processed, and analyzed in accordance with the methods described in Quality Assurance Project Plan "Screening Study of Bioaccumulation in California Lakes and Reservoirs." (SWAMP, 2008).
QAPP Information Reference(s):	Quality Assurance Project Plan Screening Study of Bioaccumulation in California Lakes and Reservoirs. Moss Landing Marine Labs. Prepared for SWAMP BOG. 49 pages plus appendices and attachments

Line of Evidence (LOE) for Decision ID 33563, Chlordane
Lake Chabot (Alameda Co)

Region 2

LOE ID:	92007
Pollutant:	Chlordane
LOE Subgroup:	Pollutant-Tissue
Matrix:	Tissue
Fraction:	Fish fillet
Beneficial Use:	Cold Freshwater Habitat

Number of Samples:	1
Number of Exceedances:	0
Data and Information Type:	Fish tissue analysis
Data Used to Assess Water Quality:	State Water Board staff assessed SWAMP data for Lake Chabot (Alameda Co) to determine beneficial use support and results are as follows: 0 of 1 samples exceed the criterion for Chlordane, Total. Two composites (5 fish per composite) were generated from one species: Common Carp. Composites were not spatially independent (as defined in the Listing Policy) and so were averaged. Details of the compositing protocol can be found in the March 2009 report entitled: "Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Study" (SWAMP, 2009). Total chlordane was calculated as the sum of the following chlordane isomers: cis- and trans-chlordane, cis- and trans-nonachlor, and oxychlordane.
Data Reference:	Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Survey. A Report of the Surface Water Ambient Monitoring Program (SWAMP). California State Water Resources Control Board, Sacramento, CA Cruise Report for the Surface Waters Ambient Monitoring Program (SWAMP) Bioaccumulation Screening Study in California Lakes and Reservoirs. Sampling Dates: June 2007- March 2008 Statewide Lakes Sportfish Contamination Study 2007 2008 Contaminants in Fish from California Lakes and Reservoirs, 2007-2008: Summary Report on a Two-Year Screening Survey
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	Water Quality Control Plan for the San Francisco Bay Basin: Controllable water quality factors shall not cause a detrimental increase in concentrations of toxic substances found in bottom sediments or aquatic life. Effects on aquatic organisms, wildlife, and human health will be considered.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	National Academy of Science guidelines (NAS 1972) establish a maximum total Chlordane concentration of 100 ug/Kg (wet weight) in tissue samples for protection of aquatic life from bioaccumulation of toxic substances.
Guideline Reference:	National Academy of Sciences. Water Quality Criteria 1972. EPA-R3-73-033. Washington, D.C.: U.S. Environmental Protection Agency
Spatial Representation:	Data for this assessment unit was collected by one monitoring project: (SWB_FishLk)
Temporal Representation:	Data was collected on a single day 7/31/2007.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	Samples were collected, processed, and analyzed in accordance with the methods described in Quality Assurance Project Plan "Screening Study of Bioaccumulation in California Lakes and Reservoirs." (SWAMP, 2008).
QAPP Information Reference(s):	Quality Assurance Project Plan Screening Study of Bioaccumulation in California Lakes and Reservoirs. Moss Landing Marine Labs. Prepared for SWAMP BOG. 49 pages plus appendices and attachments

Line of Evidence (LOE) for Decision ID 33563, Chlordane
Lake Chabot (Alameda Co)

Region 2

LOE ID:	92006
Pollutant:	Chlordane
LOE Subgroup:	Pollutant-Tissue
Matrix:	Tissue
Fraction:	Fish fillet
Beneficial Use:	Warm Freshwater Habitat
Number of Samples:	1
Number of Exceedances:	0

Data and Information Type:	Fish tissue analysis
Data Used to Assess Water Quality:	State Water Board staff assessed SWAMP data for Lake Chabot (Alameda Co) to determine beneficial use support and results are as follows: 0 of 1 samples exceed the criterion for Chlordane, Total. Two composites (5 fish per composite) were generated from one species: Common Carp. Composites were not spatially independent (as defined in the Listing Policy) and so were averaged. Details of the compositing protocol can be found in the March 2009 report entitled: "Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Study" (SWAMP, 2009). Total chlordane was calculated as the sum of the following chlordane isomers: cis- and trans-chlordane, cis- and trans-nonachlor, and oxychlordane.
Data Reference:	Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Survey. A Report of the Surface Water Ambient Monitoring Program (SWAMP). California State Water Resources Control Board, Sacramento, CA Cruise Report for the Surface Waters Ambient Monitoring Program (SWAMP) Bioaccumulation Screening Study in California Lakes and Reservoirs, Sampling Dates: June 2007- March 2008 Statewide Lakes Sportfish Contamination Study 2007 2008 Contaminants in Fish from California Lakes and Reservoirs, 2007-2008: Summary Report on a Two-Year Screening Survey
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	Water Quality Control Plan for the San Francisco Bay Basin: Controllable water quality factors shall not cause a detrimental increase in concentrations of toxic substances found in bottom sediments or aquatic life. Effects on aquatic organisms, wildlife, and human health will be considered.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	National Academy of Science guidelines (NAS 1972) establish a maximum total Chlordane concentration of 100 ug/Kg (wet weight) in tissue samples for protection of aquatic life from bioaccumulation of toxic substances.
Guideline Reference:	National Academy of Sciences. Water Quality Criteria 1972. EPA-R3-73-033. Washington, D.C.: U.S. Environmental Protection Agency
Spatial Representation:	Data for this assessment unit was collected by one monitoring project: (SWB_FishLk)
Temporal Representation:	Data was collected on a single day 7/31/2007.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	Samples were collected, processed, and analyzed in accordance with the methods described in Quality Assurance Project Plan "Screening Study of Bioaccumulation in California Lakes and Reservoirs." (SWAMP, 2008).
QAPP Information Reference(s):	Quality Assurance Project Plan Screening Study of Bioaccumulation in California Lakes and Reservoirs. Moss Landing Marine Labs. Prepared for SWAMP BOG, 49 pages plus appendices and attachments

Line of Evidence (LOE) for Decision ID 33563, Chlordane
Lake Chabot (Alameda Co)

Region 2

LOE ID:	672
Pollutant:	Chlordane
LOE Subgroup:	Pollutant-Tissue
Matrix:	Tissue
Fraction:	Total
Beneficial Use:	Commercial or recreational collection of fish, shellfish, or organisms
Number of Samples:	9
Number of Exceedances:	3
Data and Information Type:	Fish tissue analysis
Data Used to Assess Water Quality:	Three out of 9 samples exceeded. A total of 9 composite samples were collected and analyzed from Lake Chabot: 3 channel catfish, 3 largemouth bass, and 3 carp. Three carp

Data Reference:	samples exceeded guideline (TSMP, 2002). Placeholder reference 2006 303(d)
SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	San Francisco Bay RWQCB Basin Plan: Many pollutants can accumulate on particles, in sediment, or bioaccumulate in fish and other aquatic organisms. Controllable water quality factors shall not cause a detrimental increase in concentrations of toxic substances found in bottom sediments or aquatic life. Effects on aquatic organisms, wildlife, and human health will be considered.
Objective/Criterion Reference:	Placeholder reference 2006 303(d)
Evaluation Guideline:	Total Chlordane 30.0 ng/g - OEHHA Screening Value (Interim Health Advisory for Hg and PCB, Alameda County) (Brodberg and Pollock, 1999).
Guideline Reference:	Placeholder reference 2006 303(d)
Spatial Representation:	One station.
Temporal Representation:	Samples were collected on 4/24/2001 and 6/6/2001.
Environmental Conditions:	
QAPP Information:	Environmental Chemistry Quality Assurance and Data Report for the Toxic Substances Monitoring Program, 2001-2002. Department of Fish and Game.
QAPP Information Reference(s):	

DECISION ID	33785	Region 2
Lake Chabot (Alameda Co)		

Pollutant:	Dieldrin
Final Listing Decision:	Do Not Delist from 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision:	List on 303(d) list (TMDL required list)(2012)
Revision Status	Revised
Sources:	Source Unknown
Expected TMDL Completion Date:	2019
Impairment from Pollutant or Pollution:	Pollutant
Regional Board Staff Conclusion:	<p>This pollutant is being considered for removal from the CWA section 303(d) List under section 4.1 of the Listing Policy. Under this section a single line of evidence is necessary to assess listing status.</p> <p>Four lines of evidence are available in the administrative record to assess pollutant. Six of nine samples exceed the guideline.</p> <p>Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against removing this water segment-pollutant combination from the CWA section 303(d) List.</p> <p>This conclusion is based on the staff findings that:</p> <ol style="list-style-type: none"> 1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy. 2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy. 3. Six of nine samples exceed the guideline and this exceeds the allowable frequency listed in Table 4.1 of the Listing Policy. 4. Pursuant to section 4.11 of the Listing Policy, no additional data and information are available indicating that standards are met.
Regional Board Staff Decision Recommendation:	After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be removed from the section 303(d) list because applicable water quality standards for the pollutant are being exceeded.

Line of Evidence (LOE) for Decision ID 33785, Dieldrin	Region 2
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Lake Chabot (Alameda Co)

LOE ID:	92011
Pollutant:	Dieldrin
LOE Subgroup:	Pollutant-Tissue
Matrix:	Tissue
Fraction:	Fish fillet
Beneficial Use:	Cold Freshwater Habitat
Number of Samples:	1
Number of Exceedances:	0
Data and Information Type:	Fish tissue analysis
Data Used to Assess Water Quality:	State Water Board staff assessed SWAMP data for Lake Chabot (Alameda Co) to determine beneficial use support and results are as follows: 0 of 1 samples exceed the criterion for Dieldrin. Two composites (5 fish per composite) were generated from one species: Common Carp. Composites were not spatially independent (as defined in the Listing Policy) and so were averaged. Details of the compositing protocol can be found in the March 2009 report entitled: "Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Study" (SWAMP, 2009).
Data Reference:	Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Survey. A Report of the Surface Water Ambient Monitoring Program (SWAMP). California State Water Resources Control Board, Sacramento, CA Cruise Report for the Surface Waters Ambient Monitoring Program (SWAMP) Bioaccumulation Screening Study in California Lakes and Reservoirs. Sampling Dates: June 2007- March 2008 Statewide Lakes Sportfish Contamination Study 2007 2008 Contaminants in Fish from California Lakes and Reservoirs, 2007-2008: Summary Report on a Two-Year Screening Survey
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	Water Quality Control Plan for the San Francisco Bay Basin: Controllable water quality factors shall not cause a detrimental increase in concentrations of toxic substances found in bottom sediments or aquatic life. Effects on aquatic organisms, wildlife, and human health will be considered.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	National Academy of Science guidelines (NAS 1972) establish a maximum Dieldrin concentration of 100 ug/Kg (wet weight) in tissue samples for protection of aquatic life from bioaccumulation of toxic substances.
Guideline Reference:	National Academy of Sciences. Water Quality Criteria 1972. EPA-R3-73-033. Washington, D.C.: U.S. Environmental Protection Agency
Spatial Representation:	Data for this assessment unit was collected by one monitoring project: (SWB_FishLk)
Temporal Representation:	Data was collected on a single day 7/31/2007.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	Samples were collected, processed, and analyzed in accordance with the methods described in Quality Assurance Project Plan "Screening Study of Bioaccumulation in California Lakes and Reservoirs." (SWAMP, 2008).
QAPP Information Reference(s):	Quality Assurance Project Plan Screening Study of Bioaccumulation in California Lakes and Reservoirs. Moss Landing Marine Labs. Prepared for SWAMP BOG. 49 pages plus appendices and attachments

Line of Evidence (LOE) for Decision ID 33785, Dieldrin**Region 2****Lake Chabot (Alameda Co)**

LOE ID: 92010

Pollutant:	Dieldrin
LOE Subgroup:	Pollutant-Tissue
Matrix:	Tissue
Fraction:	Fish fillet
Beneficial Use:	Warm Freshwater Habitat
Number of Samples:	1
Number of Exceedances:	0
Data and Information Type:	Fish tissue analysis
Data Used to Assess Water Quality:	State Water Board staff assessed SWAMP data for Lake Chabot (Alameda Co) to determine beneficial use support and results are as follows: 0 of 1 samples exceed the criterion for Dieldrin. Two composites (5 fish per composite) were generated from one species: Common Carp. Composites were not spatially independent (as defined in the Listing Policy) and so were averaged. Details of the compositing protocol can be found in the March 2009 report entitled: "Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Study" (SWAMP, 2009).
Data Reference:	Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Survey. A Report of the Surface Water Ambient Monitoring Program (SWAMP). California State Water Resources Control Board, Sacramento, CA Cruise Report for the Surface Waters Ambient Monitoring Program (SWAMP) Bioaccumulation Screening Study in California Lakes and Reservoirs. Sampling Dates: June 2007- March 2008 Statewide Lakes Sportfish Contamination Study 2007 2008 Contaminants in Fish from California Lakes and Reservoirs, 2007-2008: Summary Report on a Two-Year Screening Survey
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	Water Quality Control Plan for the San Francisco Bay Basin: Controllable water quality factors shall not cause a detrimental increase in concentrations of toxic substances found in bottom sediments or aquatic life. Effects on aquatic organisms, wildlife, and human health will be considered.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	National Academy of Science guidelines (NAS 1972) establish a maximum Dieldrin concentration of 100 ug/Kg (wet weight) in tissue samples for protection of aquatic life from bioaccumulation of toxic substances.
Guideline Reference:	National Academy of Sciences. Water Quality Criteria 1972. EPA-R3-73-033. Washington, D.C.: U.S. Environmental Protection Agency
Spatial Representation:	Data for this assessment unit was collected by one monitoring project: (SWB_FishLk)
Temporal Representation:	Data was collected on a single day 7/31/2007.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	Samples were collected, processed, and analyzed in accordance with the methods described in Quality Assurance Project Plan "Screening Study of Bioaccumulation in California Lakes and Reservoirs." (SWAMP, 2008).
QAPP Information Reference(s):	Quality Assurance Project Plan Screening Study of Bioaccumulation in California Lakes and Reservoirs. Moss Landing Marine Labs. Prepared for SWAMP BOG. 49 pages plus appendices and attachments

**Line of Evidence (LOE) for Decision ID 33785, Dieldrin
Lake Chabot (Alameda Co)**

Region 2

LOE ID:	92012
Pollutant:	Dieldrin
LOE Subgroup:	Pollutant-Tissue
Matrix:	Tissue
Fraction:	Fish fillet

Beneficial Use:	Commercial or recreational collection of fish, shellfish, or organisms
Number of Samples:	1
Number of Exceedances:	1
Data and Information Type:	Fish tissue analysis
Data Used to Assess Water Quality:	State Water Board staff assessed SWAMP data for Lake Chabot (Alameda Co) to determine beneficial use support and results are as follows: 1 of 1 samples exceed the criterion for Dieldrin. Two composites (5 fish per composite) were generated from one species: Common Carp. Composites were not spatially independent (as defined in the Listing Policy) and so were averaged. Composites were not independent and were averaged. Details of the compositing protocol can be found in the March 2009 report entitled: "Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Study" (SWAMP, 2009).
Data Reference:	Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Survey. A Report of the Surface Water Ambient Monitoring Program (SWAMP). California State Water Resources Control Board, Sacramento, CA Cruise Report for the Surface Waters Ambient Monitoring Program (SWAMP) Bioaccumulation Screening Study in California Lakes and Reservoirs, Sampling Dates: June 2007- March 2008 Statewide Lakes Sportfish Contamination Study 2007 2008 Contaminants in Fish from California Lakes and Reservoirs, 2007-2008: Summary Report on a Two-Year Screening Survey
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	Water Quality Control Plan for the San Francisco Bay Basin: Controllable water quality factors shall not cause a detrimental increase in concentrations of toxic substances found in bottom sediments or aquatic life. Effects on aquatic organisms, wildlife, and human health will be considered.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	The modified OEHHA Fish Contaminant Goal for dieldrin in fish tissue is 0.32 ppb. This screening level assumes an average body weight of 70 kg and a consumption rate of 32 g/day for a 30 year exposure over a 70-year lifetime. This constituent is a carcinogen therefore the risk level is set to one in a million. A cooking reduction factor of 1 is applied for skin-off fillets. (Klasing, S., and R. Brodberg, 2008)
Guideline Reference:	Development of Fish Contaminant Goals and Advisory Tissue Levels for Common Contaminants in California Sport Fish: Chlordane, DDTs, Dieldrin, Methylmercury, PCBs, Selenium, and Toxaphene
Spatial Representation:	Data for this assessment unit was collected by one monitoring project: (SWB_FishLk)
Temporal Representation:	Data was collected on a single day 7/31/2007.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	Samples were collected, processed, and analyzed in accordance with the methods described in Quality Assurance Project Plan "Screening Study of Bioaccumulation in California Lakes and Reservoirs." (SWAMP, 2008).
QAPP Information Reference(s):	Quality Assurance Project Plan Screening Study of Bioaccumulation in California Lakes and Reservoirs. Moss Landing Marine Labs. Prepared for SWAMP BOG. 49 pages plus appendices and attachments

**Line of Evidence (LOE) for Decision ID 33785, Dieldrin
Lake Chabot (Alameda Co)**

Region 2

LOE ID:	674
Pollutant:	Dieldrin
LOE Subgroup:	Pollutant-Tissue
Matrix:	Tissue
Fraction:	Total

Beneficial Use:	Commercial or recreational collection of fish, shellfish, or organisms
Number of Samples:	9
Number of Exceedances:	6
Data and Information Type:	Fish tissue analysis
Data Used to Assess Water Quality:	Six out of 9 samples exceeded. A total of 9 composite samples were collected and analyzed from Lake Chabot - 3 channel catfish, 3 largemouth bass, and 3 carp. Three carp and three channel catfish samples exceeded guideline (TSMP, 2002).
Data Reference:	Placeholder reference 2006 303(d)
SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	San Francisco Bay RWQCB Basin Plan: Many pollutants can accumulate on particles, in sediment, or bioaccumulate in fish and other aquatic organisms. Controllable water quality factors shall not cause a detrimental increase in concentrations of toxic substances found in bottom sediments or aquatic life. Effects on aquatic organisms, wildlife, and human health will be considered.
Objective/Criterion Reference:	Placeholder reference 2006 303(d)
Evaluation Guideline:	Dieldrin 2.0 ng/g - OEHHA Screening Value (Brodberg and Pollock, 1999).
Guideline Reference:	Placeholder reference 2006 303(d)
Spatial Representation:	One station.
Temporal Representation:	Samples were collected on 4/24/2001 and 6/6/2001.
Environmental Conditions:	
QAPP Information:	Environmental Chemistry Quality Assurance and Data Report for the Toxic Substances Monitoring Program, 2001-2002. Department of Fish and Game.
QAPP Information Reference(s):	

DECISION ID	33786	Region 2
Lake Chabot (Alameda Co)		

Pollutant:	Mercury
Final Listing Decision:	Do Not Delist from 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision:	Do Not Delist from 303(d) list (TMDL required list)(2012)
Revision Status	Revised
Sources:	Source Unknown
Expected TMDL Completion Date:	2013
Impairment from Pollutant or Pollution:	Pollutant

Regional Board Staff Conclusion:	<p>This pollutant is being considered for removal from the CWA section 303(d) List under section 4.5 of the Listing Policy. Under this section a single line of evidence is necessary to assess listing status.</p> <p>Three lines of evidence are available in the administrative record to assess pollutant. Thirteen of fourteen samples exceed the guideline.</p> <p>Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against removing this water segment-pollutant combination from the CWA section 303(d) List.</p> <p>This conclusion is based on the staff findings that:</p> <ol style="list-style-type: none"> 1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy. 2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy. 3. Thirteen of fourteen samples exceed the guideline and this exceeds the allowable frequency listed in Table 4.1 of the Listing Policy. 4. Pursuant to section 4.11 of the Listing Policy, no additional data and information are available indicating that standards are met.
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Regional Board Staff Decision Recommendation: After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be removed from the section 303(d) list because applicable water quality standards for the pollutant are being exceeded.

**Line of Evidence (LOE) for Decision ID 33786, Mercury
Lake Chabot (Alameda Co)**

Region 2

LOE ID: 675

Pollutant: Mercury
LOE Subgroup: Pollutant-Tissue
Matrix: Tissue
Fraction: Total

Beneficial Use: Commercial or recreational collection of fish, shellfish, or organisms

Number of Samples: 11
Number of Exceedances: 6

Data and Information Type: Fish tissue analysis
Data Used to Assess Water Quality: Six out of 11 samples exceeded. A total of 11 composite samples were collected and analyzed from Lake Chabot - 3 black crappie, 1 channel catfish, 3 largemouth bass, and 3 goldfish. Three goldfish and two largemouth bass samples exceeded the guideline (TSMP, 2002).

Data Reference: [Placeholder reference 2006 303\(d\)](#)

SWAMP Data: Non-SWAMP

Water Quality Objective/Criterion: San Francisco Bay RWQCB Basin Plan: Many pollutants can accumulate on particles, in sediment, or bioaccumulate in fish and other aquatic organisms. Controllable water quality factors shall not cause a detrimental increase in concentrations of toxic substances found in bottom sediments or aquatic life. Effects on aquatic organisms, wildlife, and human health will be considered.

Objective/Criterion Reference: [Placeholder reference 2006 303\(d\)](#)

Evaluation Guideline: Hg 0.3 ug/g - OEHA Screening Value (Brodberg and Pollock, 1999).
Guideline Reference: [Placeholder reference 2006 303\(d\)](#)

Spatial Representation: One station.
Temporal Representation: Samples were collected on 4/24/2001 and 6/6/2001.

Environmental Conditions:
QAPP Information: Environmental Chemistry Quality Assurance and Data Report for the Toxic Substances Monitoring Program, 2001-2002. Department of Fish and Game.

QAPP Information Reference(s):

**Line of Evidence (LOE) for Decision ID 33786, Mercury
Lake Chabot (Alameda Co)**

Region 2

LOE ID: 31012

Pollutant: Mercury
LOE Subgroup: Pollutant-Tissue
Matrix: Tissue
Fraction: Fish fillet

Beneficial Use: Commercial or recreational collection of fish, shellfish, or organisms

Number of Samples: 13
Number of Exceedances: 12

Data and Information Type:	Fish tissue analysis
Data Used to Assess Water Quality:	Fish were collected for tissue analysis at one location from Lake Chabot (Alameda Co). A total of 13 sample composites were generated from two species: Largemouth Bass (11) and Common Carp (2). Details of the compositing protocol can be found in the March 2009 report entitled: "Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Study" (SWAMP, 2009). A total of 12 out of 13 samples exceeded the OHHEA fish tissue screening value for human health.
Data Reference:	Data associated with report entitled: Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Survey. A Report of the Surface Water Ambient Monitoring Program (SWAMP). California State Water Resources Control Board, Sacramento, CA Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Survey. A Report of the Surface Water Ambient Monitoring Program (SWAMP). California State Water Resources Control Board, Sacramento, CA Cruise Report for the Surface Waters Ambient Monitoring Program (SWAMP) Bioaccumulation Screening Study in California Lakes and Reservoirs. Sampling Dates: June 2007- March 2008
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	The Basin Plan contains the following objective: Many pollutants can accumulate on particles, in sediment, or bioaccumulate in fish and other aquatic organisms. Controllable water quality factors shall not cause a detrimental increase in concentrations of toxic substances found in bottom sediments or aquatic life. Effects on aquatic organisms, wildlife, and human health will be considered.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) - San Francisco Bay Region (Region 2)
Evaluation Guideline:	Office of Environmental Health Hazard Assessment (OEHHA) Screening Value of 0.3 mg/kg to protect human health when consuming fish (OEHHA, 1999).
Guideline Reference:	Prevalence of Selected Target Chemical Contaminants in Sport Fish From Two California Lakes: Public health designed screening study. Sacramento, CA: Office of Environmental Health Hazard Assessment
Spatial Representation:	Samples were collected from one location in Lake Chabot (Alameda Co). As discussed in the Lakes and Reservoirs Report (SWAMP, 2009), individual sample locations consisted of an area within a given waterbody with an approximate one-mile diameter, from which multiple fish tissue samples were collected. The number of sample locations per waterbody was based on the overall size of the waterbody. Specifics of individual sampling locations can be found in the supplemental report entitled "Cruise Report for the Surface Waters Ambient Monitoring Program (SWAMP) Bioaccumulation Screening Study in California Lakes and Reservoirs, Sampling Dates: June 2007- March 2008" (SWAMP, 2008). Data collected from this waterbody was assigned under Station Name "Lake Chabot (San Leandro)_BOG" in the SWAMP report.
Temporal Representation:	Samples were collected on July 31, 2007
Environmental Conditions:	There are no known environmental conditions (e.g., seasonality, land use practices, fire events, storms, etc.) that are related to these data.
QAPP Information:	Samples were collected, processed, and analyzed in accordance with the methods described in "Quality Assurance Project Plan Screening Study of Bioaccumulation in California Lakes and Reservoirs." (SWAMP, 2008).
QAPP Information Reference(s):	Quality Assurance Project Plan Screening Study of Bioaccumulation in California Lakes and Reservoirs. Moss Landing Marine Labs. Prepared for SWAMP BOG. 49 pages plus appendices and attachments

Line of Evidence (LOE) for Decision ID 33786, Mercury
Lake Chabot (Alameda Co)

Region 2

LOE ID:	92043
Pollutant:	Mercury
LOE Subgroup:	Pollutant-Tissue

Matrix:	Tissue
Fraction:	Fish fillet
Beneficial Use:	Commercial or recreational collection of fish, shellfish, or organisms
Number of Samples:	1
Number of Exceedances:	1
Data and Information Type:	Fish tissue analysis
Data Used to Assess Water Quality:	State Water Board staff assessed SWAMP data for Lake Chabot (Alameda Co) to determine beneficial use support and results are as follows: 1 of 1 samples exceed the criterion for Mercury. Composites were generated from largemouth bass (11 composites - 1 fish per composite) and common carp (2 composites - 5 fish per composite). Composites were not spatially independent (as defined in the Listing Policy) and so were averaged by species. The 1 sample for largemouth bass exceeded the criterion. Two common carp composites could not be used in the assessment due to total fish lengths that did not fall within lengths noted in the guideline.
Data Reference:	Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Survey. A Report of the Surface Water Ambient Monitoring Program (SWAMP). California State Water Resources Control Board, Sacramento, CA Cruise Report for the Surface Waters Ambient Monitoring Program (SWAMP) Bioaccumulation Screening Study in California Lakes and Reservoirs, Sampling Dates: June 2007- March 2008 Statewide Lakes Sportfish Contamination Study 2007 2008 Contaminants in Fish from California Lakes and Reservoirs, 2007-2008: Summary Report on a Two-Year Screening Survey
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	Water Quality Control Plan for the San Francisco Bay Basin (2013): Controllable water quality factors shall not cause a detrimental increase in concentrations of toxic substances found in bottom sediments or aquatic life. Effects on aquatic organisms, wildlife, and human health will be considered.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	The USEPA 304(a) recommended water quality criterion for concentrations of methylmercury in fish tissue of trophic level 4 fish (150 - 500 mm; fillet wet weight) is 0.2 mg/kg. This assumes a consumption rate of 32 g/day. (USEPA, 2001)
Guideline Reference:	Water Quality Criterion for the Protection of Human Health: Methylmercury. Final. United States Environmental Protection Agency Office of Science and Technology Office of Water. EPA-823-R-01-001. January 2001
Spatial Representation:	Data for this assessment unit was collected by one monitoring project: (SWB_FishLk)
Temporal Representation:	Data was collected on a single day 7/31/2007.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	Samples were collected, processed, and analyzed in accordance with the methods described in Quality Assurance Project Plan "Screening Study of Bioaccumulation in California Lakes and Reservoirs." (SWAMP, 2008).
QAPP Information Reference(s):	Quality Assurance Project Plan Screening Study of Bioaccumulation in California Lakes and Reservoirs. Moss Landing Marine Labs. Prepared for SWAMP BOG. 49 pages plus appendices and attachments

DECISION ID	33787	Region 2
Lake Chabot (Alameda Co)		

Pollutant:	PCBs (Polychlorinated biphenyls)
Final Listing Decision:	Do Not Delist from 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision:	List on 303(d) list (TMDL required list)(2012)
Revision Status	Revised
Sources:	Source Unknown

Expected TMDL Completion Date: 2019
Impairment from Pollutant or Pollution: Pollutant

Regional Board Staff Conclusion: This pollutant is being considered for removal from the CWA section 303(d) List under section 4.5 of the Listing Policy. Under this section a single line of evidence is necessary to assess listing status.

Four lines of evidence are available in the administrative record to assess pollutant. Five of nine samples exceed the guideline.

Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against removing this water segment-pollutant combination from the CWA section 303(d) List.

This conclusion is based on the staff findings that:

1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy.
2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy.
3. Five of nine samples exceed the guideline and this exceeds the allowable frequency listed in Table 4.1 of the Listing Policy.
4. Pursuant to section 4.11 of the Listing Policy, no additional data and information are available indicating that standards are met.

Regional Board Staff Decision Recommendation: After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be removed from the section 303(d) list because applicable water quality standards for the pollutant are being exceeded.

Line of Evidence (LOE) for Decision ID 33787, PCBs (Polychlorinated biphenyls)
Lake Chabot (Alameda Co)

Region 2

LOE ID: 92046

Pollutant: PCBs (Polychlorinated biphenyls)
LOE Subgroup: Pollutant-Tissue
Matrix: Tissue
Fraction: Fish fillet

Beneficial Use: Warm Freshwater Habitat

Number of Samples: 1
Number of Exceedances: 0

Data and Information Type: Fish tissue analysis
Data Used to Assess Water Quality: State Water Board staff assessed SWAMP data for Lake Chabot (Alameda Co) to determine beneficial use support and results are as follows: 0 of 1 samples exceed the criterion for PCB, Total. Two composites (5 fish per composite) were generated from one species: Common Carp. Composites were not spatially independent (as defined in the Listing Policy) and so were averaged. Details of the compositing protocol can be found in the March 2009 report entitled: "Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Study" (SWAMP, 2009). Total PCB was assessed for as follows: PCB aroclors and congeners were summed separately and the sum that yielded the highest value was used for the assessment.

Data Reference: [Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Survey. A Report of the Surface Water Ambient Monitoring Program \(SWAMP\). California State Water Resources Control Board, Sacramento, CA](#)
[Cruise Report for the Surface Waters Ambient Monitoring Program \(SWAMP\)](#)
[Bioaccumulation Screening Study in California Lakes and Reservoirs, Sampling Dates: June 2007- March 2008](#)
[Statewide Lakes Sportfish Contamination Study 2007 2008](#)
[Contaminants in Fish from California Lakes and Reservoirs, 2007-2008: Summary Report](#)

SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	Water Quality Control Plan for the San Francisco Bay Basin (2013): Controllable water quality factors shall not cause a detrimental increase in concentrations of toxic substances found in bottom sediments or aquatic life. Effects on aquatic organisms, wildlife, and human health will be considered.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	National Academy of Science guidelines (NAS 1972) establish a maximum total PCB concentration of 500 ug/Kg (wet weight) in tissue samples for protection of aquatic life from bioaccumulation of toxic substances.
Guideline Reference:	National Academy of Sciences. Water Quality Criteria 1972. EPA-R3-73-033. Washington, D.C.: U.S. Environmental Protection Agency
Spatial Representation:	Data for this assessment unit was collected by one monitoring project: (SWB_FishLk)
Temporal Representation:	Data was collected on a single day 7/31/2007.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	Samples were collected, processed, and analyzed in accordance with the methods described in Quality Assurance Project Plan "Screening Study of Bioaccumulation in California Lakes and Reservoirs." (SWAMP, 2008).
QAPP Information Reference(s):	Quality Assurance Project Plan Screening Study of Bioaccumulation in California Lakes and Reservoirs. Moss Landing Marine Labs. Prepared for SWAMP BOG. 49 pages plus appendices and attachments

Line of Evidence (LOE) for Decision ID 33787, PCBs (Polychlorinated biphenyls)
Lake Chabot (Alameda Co)

Region 2

LOE ID:	92047
Pollutant:	PCBs (Polychlorinated biphenyls)
LOE Subgroup:	Pollutant-Tissue
Matrix:	Tissue
Fraction:	Fish fillet
Beneficial Use:	Cold Freshwater Habitat
Number of Samples:	1
Number of Exceedances:	0
Data and Information Type:	Fish tissue analysis
Data Used to Assess Water Quality:	State Water Board staff assessed SWAMP data for Lake Chabot (Alameda Co) to determine beneficial use support and results are as follows: 0 of 1 samples exceed the criterion for PCB, Total. Two composites (5 fish per composite) were generated from one species: Common Carp. Composites were not spatially independent (as defined in the Listing Policy) and so were averaged. Details of the compositing protocol can be found in the March 2009 report entitled: "Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Study" (SWAMP, 2009). Total PCB was assessed for as follows: PCB aroclors and congeners were summed separately and the sum that yielded the highest value was used for the assessment.
Data Reference:	Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Survey. A Report of the Surface Water Ambient Monitoring Program (SWAMP). California State Water Resources Control Board, Sacramento, CA Cruise Report for the Surface Waters Ambient Monitoring Program (SWAMP) Bioaccumulation Screening Study in California Lakes and Reservoirs. Sampling Dates: June 2007- March 2008 Statewide Lakes Sportfish Contamination Study 2007 2008 Contaminants in Fish from California Lakes and Reservoirs, 2007-2008: Summary Report on a Two-Year Screening Survey

SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	Water Quality Control Plan for the San Francisco Bay Basin (2013): Controllable water quality factors shall not cause a detrimental increase in concentrations of toxic substances found in bottom sediments or aquatic life. Effects on aquatic organisms, wildlife, and human health will be considered.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	National Academy of Science guidelines (NAS 1972) establish a maximum total PCB concentration of 500 ug/Kg (wet weight) in tissue samples for protection of aquatic life from bioaccumulation of toxic substances.
Guideline Reference:	National Academy of Sciences. Water Quality Criteria 1972. EPA-R3-73-033. Washington, D.C.: U.S. Environmental Protection Agency
Spatial Representation:	Data for this assessment unit was collected by one monitoring project: (SWB_FishLk)
Temporal Representation:	Data was collected on a single day 7/31/2007.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	Samples were collected, processed, and analyzed in accordance with the methods described in Quality Assurance Project Plan "Screening Study of Bioaccumulation in California Lakes and Reservoirs." (SWAMP, 2008).
QAPP Information Reference(s):	Quality Assurance Project Plan Screening Study of Bioaccumulation in California Lakes and Reservoirs. Moss Landing Marine Labs. Prepared for SWAMP BOG. 49 pages plus appendices and attachments

Line of Evidence (LOE) for Decision ID 33787, PCBs (Polychlorinated biphenyls)
Lake Chabot (Alameda Co)

Region 2

LOE ID:	92049
Pollutant:	PCBs (Polychlorinated biphenyls)
LOE Subgroup:	Pollutant-Tissue
Matrix:	Tissue
Fraction:	Fish fillet
Beneficial Use:	Commercial or recreational collection of fish, shellfish, or organisms
Number of Samples:	1
Number of Exceedances:	1
Data and Information Type:	Fish tissue analysis
Data Used to Assess Water Quality:	State Water Board staff assessed SWAMP data for Lake Chabot (Alameda Co) to determine beneficial use support and results are as follows: 1 of 1 samples exceed the criterion for PCB, Total. Two composites (5 fish per composite) were generated from one species: Common Carp. Composites were not spatially independent (as defined in the Listing Policy) and so were averaged. Details of the compositing protocol can be found in the March 2009 report entitled: "Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Study" (SWAMP, 2009). Total PCB was assessed for as follows: PCB aroclors and congeners were summed separately and the sum that yielded the highest value was used for the assessment.
Data Reference:	Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Survey. A Report of the Surface Water Ambient Monitoring Program (SWAMP). California State Water Resources Control Board, Sacramento, CA Cruise Report for the Surface Waters Ambient Monitoring Program (SWAMP) Bioaccumulation Screening Study in California Lakes and Reservoirs. Sampling Dates: June 2007- March 2008 Statewide Lakes Sportfish Contamination Study 2007 2008 Contaminants in Fish from California Lakes and Reservoirs, 2007-2008: Summary Report on a Two-Year Screening Survey
SWAMP Data:	SWAMP

Water Quality Objective/Criterion:	Water Quality Control Plan for the San Francisco Bay Basin (2013): Controllable water quality factors shall not cause a detrimental increase in concentrations of toxic substances found in bottom sediments or aquatic life. Effects on aquatic organisms, wildlife, and human health will be considered.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	The modified OEHHA Fish Contaminant Goal for polychlorinated biphenyls in fish tissue is 2.6 ppb. This screening level assumes an average body weight of 70 kg and a consumption rate of 32 g/day for a 30 year exposure over a 70-year lifetime. This constituent is a carcinogen therefore the risk level is set to one in a million. A cooking reduction factor of 1 is applied for skin-off fillets. (Klasing, S., and R. Brodberg, 2008)
Guideline Reference:	Development of Fish Contaminant Goals and Advisory Tissue Levels for Common Contaminants in California Sport Fish: Chlordane, DDTs, Dieldrin, Methylmercury, PCBs, Selenium, and Toxaphene
Spatial Representation:	Data for this assessment unit was collected by one monitoring project: (SWB_FishLk)
Temporal Representation:	Data was collected on a single day 7/31/2007.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	Samples were collected, processed, and analyzed in accordance with the methods described in Quality Assurance Project Plan "Screening Study of Bioaccumulation in California Lakes and Reservoirs." (SWAMP, 2008).
QAPP Information Reference(s):	Quality Assurance Project Plan Screening Study of Bioaccumulation in California Lakes and Reservoirs. Moss Landing Marine Labs. Prepared for SWAMP BOG. 49 pages plus appendices and attachments

Line of Evidence (LOE) for Decision ID 33787, PCBs (Polychlorinated biphenyls)
Lake Chabot (Alameda Co)

Region 2

LOE ID:	676
Pollutant:	PCBs (Polychlorinated biphenyls)
LOE Subgroup:	Pollutant-Tissue
Matrix:	Tissue
Fraction:	Total
Beneficial Use:	Commercial or recreational collection of fish, shellfish, or organisms
Number of Samples:	9
Number of Exceedances:	5
Data and Information Type:	Fish tissue analysis
Data Used to Assess Water Quality:	Five out of 9 samples exceeded. A total of 9 composite samples were collected and analyzed from Lake Chabot: 3 channel catfish, 3 largemouth bass, and 3 carp. Two carp and three channel catfish samples exceeded guideline (TSMP, 2002).
Data Reference:	Placeholder reference 2006 303(d)
SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	San Francisco Bay RWQCB Basin Plan: Many pollutants can accumulate on particles, in sediment, or bioaccumulate in fish and other aquatic organisms. Controllable water quality factors shall not cause a detrimental increase in concentrations of toxic substances found in bottom sediments or aquatic life. Effects on aquatic organisms, wildlife, and human health will be considered.
Objective/Criterion Reference:	Placeholder reference 2006 303(d)
Evaluation Guideline:	PCB 20.0 ng/g - OEHHA Screening Value (Interim Health Advisory for Hg and PCB, Alameda County) (Brodberg and Pollock, 1999).
Guideline Reference:	Placeholder reference 2006 303(d)
Spatial Representation:	One station.
Temporal Representation:	Samples were collected on 4/24/2001 and 6/6/2001.
Environmental Conditions:	

DECISION ID	63756	Region 2
Lake Chabot (Alameda Co)		

Pollutant: Aldrin
Final Listing Decision: Do Not List on 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision: New Decision
Revision Status: Revised
Impairment from Pollutant or Pollution: Pollutant

Regional Board Staff Conclusion: This pollutant is being considered for placement on the CWA section 303(d) List under section 3.5 of the Listing Policy. Under section 3.5 a single line of evidence is necessary to assess listing status. Two lines of evidence are available in the administrative record to assess this pollutant. Zero of one samples exceed the guideline.

Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against placing this water segment-pollutant combination on the CWA section 303(d) List.

This conclusion is based on the staff findings that:

1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy.
2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy.
3. Zero of one samples exceed the guideline and this sample size is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating. A minimum of 16 samples is needed to determine if a beneficial use is fully supported using table 3.1.
4. Pursuant to SECTION 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.

Regional Board Staff Decision Recommendation: After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be placed on the section 303(d) list. The readily available data and information is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating.

Line of Evidence (LOE) for Decision ID 63756, Aldrin	Region 2
Lake Chabot (Alameda Co)	

LOE ID: 91999
Pollutant: Aldrin
LOE Subgroup: Pollutant-Tissue
Matrix: Tissue
Fraction: Fish fillet
Beneficial Use: Warm Freshwater Habitat
Number of Samples: 1
Number of Exceedances: 0
Data and Information Type: Fish tissue analysis
Data Used to Assess Water Quality: State Water Board staff assessed SWAMP data for Lake Chabot (Alameda Co) to determine beneficial use support and results are as follows: 0 of 1 samples exceed the criterion for Aldrin. Two composites (5 fish per composite) were generated from one species: Common Carp. Composites were not spatially independent (as defined in the Listing Policy) and so were averaged. Details of the compositing protocol can be found in

Data Reference:	<p>the March 2009 report entitled: "Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Study" (SWAMP, 2009).</p> <p>Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Survey. A Report of the Surface Water Ambient Monitoring Program (SWAMP). California State Water Resources Control Board, Sacramento, CA</p> <p>Cruise Report for the Surface Waters Ambient Monitoring Program (SWAMP) Bioaccumulation Screening Study in California Lakes and Reservoirs. Sampling Dates: June 2007- March 2008</p> <p>Statewide Lakes Sportfish Contamination Study 2007 2008</p> <p>Contaminants in Fish from California Lakes and Reservoirs, 2007-2008: Summary Report on a Two-Year Screening Survey</p>
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	Water Quality Control Plan for the San Francisco Bay Basin: Controllable water quality factors shall not cause a detrimental increase in concentrations of toxic substances found in bottom sediments or aquatic life. Effects on aquatic organisms, wildlife, and human health will be considered.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	National Academy of Science guidelines (NAS 1972) establish a maximum Aldrin concentration of 100 ug/Kg (wet weight) in tissue samples for protection of aquatic life from bioaccumulation of toxic substances.
Guideline Reference:	National Academy of Sciences. Water Quality Criteria 1972. EPA-R3-73-033. Washington, D.C.: U.S. Environmental Protection Agency
Spatial Representation:	Data for this assessment unit was collected by one monitoring project: (SWB_FishLk)
Temporal Representation:	Data was collected on a single day 7/31/2007.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	Samples were collected, processed, and analyzed in accordance with the methods described in Quality Assurance Project Plan "Screening Study of Bioaccumulation in California Lakes and Reservoirs." (SWAMP, 2008).
QAPP Information Reference(s):	Quality Assurance Project Plan Screening Study of Bioaccumulation in California Lakes and Reservoirs. Moss Landing Marine Labs. Prepared for SWAMP BOG. 49 pages plus appendices and attachments

**Line of Evidence (LOE) for Decision ID 63756, Aldrin
Lake Chabot (Alameda Co)**

Region 2

LOE ID:	92000
Pollutant:	Aldrin
LOE Subgroup:	Pollutant-Tissue
Matrix:	Tissue
Fraction:	Fish fillet
Beneficial Use:	Cold Freshwater Habitat
Number of Samples:	1
Number of Exceedances:	0
Data and Information Type:	Fish tissue analysis
Data Used to Assess Water Quality:	State Water Board staff assessed SWAMP data for Lake Chabot (Alameda Co) to determine beneficial use support and results are as follows: 0 of 1 samples exceed the criterion for Aldrin. Two composites (5 fish per composite) were generated from one species: Common Carp. Composites were not spatially independent (as defined in the Listing Policy) and so were averaged. Details of the compositing protocol can be found in the March 2009 report entitled: "Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Study" (SWAMP, 2009).
Data Reference:	Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year

[One of a Two-Year Screening Survey. A Report of the Surface Water Ambient Monitoring Program \(SWAMP\). California State Water Resources Control Board, Sacramento, CA](#)
[Cruise Report for the Surface Waters Ambient Monitoring Program \(SWAMP\)](#)
[Bioaccumulation Screening Study in California Lakes and Reservoirs. Sampling Dates: June 2007- March 2008](#)
[Statewide Lakes Sportfish Contamination Study 2007 2008](#)
[Contaminants in Fish from California Lakes and Reservoirs, 2007-2008: Summary Report on a Two-Year Screening Survey](#)

SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	Water Quality Control Plan for the San Francisco Bay Basin: Controllable water quality factors shall not cause a detrimental increase in concentrations of toxic substances found in bottom sediments or aquatic life. Effects on aquatic organisms, wildlife, and human health will be considered.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	National Academy of Science guidelines (NAS 1972) establish a maximum Aldrin concentration of 100 ug/Kg (wet weight) in tissue samples for protection of aquatic life from bioaccumulation of toxic substances.
Guideline Reference:	National Academy of Sciences. Water Quality Criteria 1972. EPA-R3-73-033. Washington, D.C.: U.S. Environmental Protection Agency
Spatial Representation:	Data for this assessment unit was collected by one monitoring project: (SWB_FishLk)
Temporal Representation:	Data was collected on a single day 7/31/2007.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	Samples were collected, processed, and analyzed in accordance with the methods described in Quality Assurance Project Plan "Screening Study of Bioaccumulation in California Lakes and Reservoirs." (SWAMP, 2008).
QAPP Information Reference(s):	Quality Assurance Project Plan Screening Study of Bioaccumulation in California Lakes and Reservoirs. Moss Landing Marine Labs. Prepared for SWAMP BOG. 49 pages plus appendices and attachments

DECISION ID	63757	Region 2
Lake Chabot (Alameda Co)		

Pollutant:	Endosulfan
Final Listing Decision:	Do Not List on 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision:	New Decision
Revision Status	Revised
Impairment from Pollutant or Pollution:	Pollutant
Regional Board Staff Conclusion:	<p>This pollutant is being considered for placement on the CWA section 303(d) List under section 3.5 of the Listing Policy. Under section 3.5 a single line of evidence is necessary to assess listing status. Three lines of evidence are available in the administrative record to assess this pollutant. Zero of one samples exceed the guideline.</p> <p>Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against placing this water segment-pollutant combination on the CWA section 303(d) List.</p> <p>This conclusion is based on the staff findings that:</p> <ol style="list-style-type: none"> 1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy. 2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy. 3. Zero of one samples exceed the guideline and this sample size is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating. A minimum of 16 samples is needed to determine if a beneficial use is fully supported using table 3.1. 4. Pursuant to SECTION 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.

Regional Board Staff Decision Recommendation: After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be placed on the section 303(d) list. The readily available data and information is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating.

**Line of Evidence (LOE) for Decision ID 63757, Endosulfan
Lake Chabot (Alameda Co)**

Region 2

LOE ID:	91940
Pollutant:	Endosulfan
LOE Subgroup:	Pollutant-Tissue
Matrix:	Tissue
Fraction:	Fish fillet
Beneficial Use:	Commercial or recreational collection of fish, shellfish, or organisms
Number of Samples:	1
Number of Exceedances:	0
Data and Information Type:	Fish tissue analysis
Data Used to Assess Water Quality:	State Water Board staff assessed SWAMP data for Lake Chabot (Alameda Co) to determine beneficial use support and results are as follows: 0 of 1 samples exceed the criterion for Endosulfan I. Two composites (5 fish per composite) were generated from one species: Common Carp. Composites were not spatially independent (as defined in the Listing Policy) and so were averaged. Details of the compositing protocol can be found in the March 2009 report entitled: "Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Study" (SWAMP, 2009).
Data Reference:	Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Survey. A Report of the Surface Water Ambient Monitoring Program (SWAMP). California State Water Resources Control Board, Sacramento, CA Cruise Report for the Surface Waters Ambient Monitoring Program (SWAMP) Bioaccumulation Screening Study in California Lakes and Reservoirs. Sampling Dates: June 2007- March 2008 Statewide Lakes Sportfish Contamination Study 2007 2008 Contaminants in Fish from California Lakes and Reservoirs, 2007-2008: Summary Report on a Two-Year Screening Survey
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	Water Quality Control Plan for the San Francisco Bay Basin: Controllable water quality factors shall not cause a detrimental increase in concentrations of toxic substances found in bottom sediments or aquatic life. Effects on aquatic organisms, wildlife, and human health will be considered.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	The modified OEHHA Fish Contaminant Goal for endosulfan (I and II) in fish tissue is 13,000 ppb. This screening level assumes an average body weight of 70 kg and a consumption rate of 32 g/day. A cooking reduction factor of 1 is applied for skin-off fillets. (Klasing, S., and R. Brodberg, 2008; USEPA, 2000)
Guideline Reference:	Development of Fish Contaminant Goals and Advisory Tissue Levels for Common Contaminants in California Sport Fish: Chlordane, DDTs, Dieldrin, Methylmercury, PCBs, Selenium, and Toxaphene Guidance for Assessing Chemical Contaminant Data for Use In Fish Advisories Volume 1: Fish Sampling and Analysis
Spatial Representation:	Data for this assessment unit was collected by one monitoring project: (SWB_FishLk)
Temporal Representation:	Data was collected on a single day 7/31/2007.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.

QAPP Information: Samples were collected, processed, and analyzed in accordance with the methods described in Quality Assurance Project Plan "Screening Study of Bioaccumulation in California Lakes and Reservoirs." (SWAMP, 2008).

QAPP Information Reference(s): [Quality Assurance Project Plan Screening Study of Bioaccumulation in California Lakes and Reservoirs. Moss Landing Marine Labs. Prepared for SWAMP BOG. 49 pages plus appendices and attachments](#)

**Line of Evidence (LOE) for Decision ID 63757, Endosulfan
Lake Chabot (Alameda Co)**

Region 2

LOE ID: 91938

Pollutant: Endosulfan
LOE Subgroup: Pollutant-Tissue
Matrix: Tissue
Fraction: Fish fillet

Beneficial Use: Warm Freshwater Habitat

Number of Samples: 1
Number of Exceedances: 0

Data and Information Type: Fish tissue analysis
Data Used to Assess Water Quality: State Water Board staff assessed SWAMP data for Lake Chabot (Alameda Co) to determine beneficial use support and results are as follows: 0 of 1 samples exceed the criterion for Endosulfan I. Two composites (5 fish per composite) were generated from one species: Common Carp. Composites were not spatially independent (as defined in the Listing Policy) and so were averaged. Details of the compositing protocol can be found in the March 2009 report entitled: "Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Study" (SWAMP, 2009).

Data Reference: [Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Survey. A Report of the Surface Water Ambient Monitoring Program \(SWAMP\). California State Water Resources Control Board, Sacramento, CA Cruise Report for the Surface Waters Ambient Monitoring Program \(SWAMP\) Bioaccumulation Screening Study in California Lakes and Reservoirs. Sampling Dates: June 2007- March 2008](#)
[Statewide Lakes Sportfish Contamination Study 2007 2008](#)
[Contaminants in Fish from California Lakes and Reservoirs, 2007-2008: Summary Report on a Two-Year Screening Survey](#)

SWAMP Data: SWAMP

Water Quality Objective/Criterion: Water Quality Control Plan for the San Francisco Bay Basin: Controllable water quality factors shall not cause a detrimental increase in concentrations of toxic substances found in bottom sediments or aquatic life. Effects on aquatic organisms, wildlife, and human health will be considered.

Objective/Criterion Reference: [Water Quality Control Plan \(Basin Plan\) San Francisco Bay Basin \(Region 2\)](#)

Evaluation Guideline: National Academy of Science guidelines (NAS 1972) establish a maximum Endosulfan, Total concentration of 100 ug/Kg (wet weight) in tissue samples for protection of aquatic life from bioaccumulation of toxic substances.

Guideline Reference: [National Academy of Sciences. Water Quality Criteria 1972. EPA-R3-73-033. Washington, D.C.: U.S. Environmental Protection Agency](#)

Spatial Representation: Data for this assessment unit was collected by one monitoring project: (SWB_FishLk)
Temporal Representation: Data was collected on a single day 7/31/2007.
Environmental Conditions: Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information: Samples were collected, processed, and analyzed in accordance with the methods described in Quality Assurance Project Plan "Screening Study of Bioaccumulation in California Lakes and Reservoirs." (SWAMP, 2008).

QAPP Information Reference(s): [Quality Assurance Project Plan Screening Study of Bioaccumulation in California Lakes](#)

**Line of Evidence (LOE) for Decision ID 63757, Endosulfan
Lake Chabot (Alameda Co)**

Region 2

LOE ID:	91939
Pollutant:	Endosulfan
LOE Subgroup:	Pollutant-Tissue
Matrix:	Tissue
Fraction:	Fish fillet
Beneficial Use:	Cold Freshwater Habitat
Number of Samples:	1
Number of Exceedances:	0
Data and Information Type:	Fish tissue analysis
Data Used to Assess Water Quality:	State Water Board staff assessed SWAMP data for Lake Chabot (Alameda Co) to determine beneficial use support and results are as follows: 0 of 1 samples exceed the criterion for Endosulfan I. Two composites (5 fish per composite) were generated from one species: Common Carp. Composites were not spatially independent (as defined in the Listing Policy) and so were averaged. Details of the compositing protocol can be found in the March 2009 report entitled: "Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Study" (SWAMP, 2009).
Data Reference:	Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Survey. A Report of the Surface Water Ambient Monitoring Program (SWAMP). California State Water Resources Control Board, Sacramento, CA Cruise Report for the Surface Waters Ambient Monitoring Program (SWAMP) Bioaccumulation Screening Study in California Lakes and Reservoirs, Sampling Dates: June 2007- March 2008 Statewide Lakes Sportfish Contamination Study 2007 2008 Contaminants in Fish from California Lakes and Reservoirs, 2007-2008: Summary Report on a Two-Year Screening Survey
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	Water Quality Control Plan for the San Francisco Bay Basin: Controllable water quality factors shall not cause a detrimental increase in concentrations of toxic substances found in bottom sediments or aquatic life. Effects on aquatic organisms, wildlife, and human health will be considered.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	National Academy of Science guidelines (NAS 1972) establish a maximum Endosulfan, Total concentration of 100 ug/Kg (wet weight) in tissue samples for protection of aquatic life from bioaccumulation of toxic substances.
Guideline Reference:	National Academy of Sciences. Water Quality Criteria 1972. EPA-R3-73-033. Washington, D.C.: U.S. Environmental Protection Agency
Spatial Representation:	Data for this assessment unit was collected by one monitoring project: (SWB_FishLk)
Temporal Representation:	Data was collected on a single day 7/31/2007.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	Samples were collected, processed, and analyzed in accordance with the methods described in Quality Assurance Project Plan "Screening Study of Bioaccumulation in California Lakes and Reservoirs." (SWAMP, 2008).
QAPP Information Reference(s):	Quality Assurance Project Plan Screening Study of Bioaccumulation in California Lakes and Reservoirs. Moss Landing Marine Labs. Prepared for SWAMP BOG, 49 pages plus appendices and attachments

Pollutant:	Endrin
Final Listing Decision:	Do Not List on 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision:	New Decision
Revision Status	Revised
Impairment from Pollutant or Pollution:	Pollutant

Regional Board Staff Conclusion: This pollutant is being considered for placement on the CWA section 303(d) List under section 3.5 of the Listing Policy. Under section 3.5 a single line of evidence is necessary to assess listing status. Three lines of evidence are available in the administrative record to assess this pollutant. Zero of one samples exceed the guideline.

Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against placing this water segment-pollutant combination on the CWA section 303(d) List.

This conclusion is based on the staff findings that:

1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy.
2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy.
3. Zero of one samples exceed the guideline and this sample size is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating. A minimum of 16 samples is needed to determine if a beneficial use is fully supported using table 3.1.
4. Pursuant to SECTION 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.

Regional Board Staff Decision Recommendation: After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be placed on the section 303(d) list. The readily available data and information is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating.

Line of Evidence (LOE) for Decision ID 63758, Endrin	Region 2
Lake Chabot (Alameda Co)	

LOE ID:	91942
Pollutant:	Endrin
LOE Subgroup:	Pollutant-Tissue
Matrix:	Tissue
Fraction:	Fish fillet
Beneficial Use:	Cold Freshwater Habitat
Number of Samples:	1
Number of Exceedances:	0
Data and Information Type:	Fish tissue analysis
Data Used to Assess Water Quality:	State Water Board staff assessed SWAMP data for Lake Chabot (Alameda Co) to determine beneficial use support and results are as follows: 0 of 1 samples exceed the criterion for Endrin. Two composites (5 fish per composite) were generated from one species: Common Carp. Composites were not spatially independent (as defined in the Listing Policy) and so were averaged. Details of the compositing protocol can be found in the March 2009 report entitled: "Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Study" (SWAMP, 2009).
Data Reference:	Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Survey. A Report of the Surface Water Ambient Monitoring

Program (SWAMP). California State Water Resources Control Board, Sacramento, CA
[Cruise Report for the Surface Waters Ambient Monitoring Program \(SWAMP\)](#)
[Bioaccumulation Screening Study in California Lakes and Reservoirs. Sampling Dates: June 2007- March 2008](#)
[Statewide Lakes Sportfish Contamination Study 2007 2008](#)
[Contaminants in Fish from California Lakes and Reservoirs. 2007-2008: Summary Report on a Two-Year Screening Survey](#)

SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	Water Quality Control Plan for the San Francisco Bay Basin: Controllable water quality factors shall not cause a detrimental increase in concentrations of toxic substances found in bottom sediments or aquatic life. Effects on aquatic organisms, wildlife, and human health will be considered.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	National Academy of Science guidelines (NAS 1972) establish a maximum Endrin concentration of 100 ug/Kg (wet weight) in tissue samples for protection of aquatic life from bioaccumulation of toxic substances.
Guideline Reference:	National Academy of Sciences. Water Quality Criteria 1972. EPA-R3-73-033. Washington, D.C.: U.S. Environmental Protection Agency
Spatial Representation:	Data for this assessment unit was collected by one monitoring project: (SWB_FishLk)
Temporal Representation:	Data was collected on a single day 7/31/2007.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	Samples were collected, processed, and analyzed in accordance with the methods described in Quality Assurance Project Plan "Screening Study of Bioaccumulation in California Lakes and Reservoirs." (SWAMP, 2008).
QAPP Information Reference(s):	Quality Assurance Project Plan Screening Study of Bioaccumulation in California Lakes and Reservoirs. Moss Landing Marine Labs. Prepared for SWAMP BOG. 49 pages plus appendices and attachments

**Line of Evidence (LOE) for Decision ID 63758, Endrin
Lake Chabot (Alameda Co)**

Region 2

LOE ID:	91941
Pollutant:	Endrin
LOE Subgroup:	Pollutant-Tissue
Matrix:	Tissue
Fraction:	Fish fillet
Beneficial Use:	Warm Freshwater Habitat
Number of Samples:	1
Number of Exceedances:	0
Data and Information Type:	Fish tissue analysis
Data Used to Assess Water Quality:	State Water Board staff assessed SWAMP data for Lake Chabot (Alameda Co) to determine beneficial use support and results are as follows: 0 of 1 samples exceed the criterion for Endrin. Two composites (5 fish per composite) were generated from one species: Common Carp. Composites were not spatially independent (as defined in the Listing Policy) and so were averaged. Details of the compositing protocol can be found in the March 2009 report entitled: "Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Study" (SWAMP, 2009).
Data Reference:	Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Survey. A Report of the Surface Water Ambient Monitoring Program (SWAMP). California State Water Resources Control Board, Sacramento, CA Cruise Report for the Surface Waters Ambient Monitoring Program (SWAMP) Bioaccumulation Screening Study in California Lakes and Reservoirs. Sampling Dates: June 2007- March 2008

SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	Water Quality Control Plan for the San Francisco Bay Basin: Controllable water quality factors shall not cause a detrimental increase in concentrations of toxic substances found in bottom sediments or aquatic life. Effects on aquatic organisms, wildlife, and human health will be considered.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	National Academy of Science guidelines (NAS 1972) establish a maximum Endrin concentration of 100 ug/Kg (wet weight) in tissue samples for protection of aquatic life from bioaccumulation of toxic substances.
Guideline Reference:	National Academy of Sciences. Water Quality Criteria 1972. EPA-R3-73-033. Washington, D.C.: U.S. Environmental Protection Agency
Spatial Representation:	Data for this assessment unit was collected by one monitoring project: (SWB_FishLk)
Temporal Representation:	Data was collected on a single day 7/31/2007.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	Samples were collected, processed, and analyzed in accordance with the methods described in Quality Assurance Project Plan "Screening Study of Bioaccumulation in California Lakes and Reservoirs." (SWAMP, 2008).
QAPP Information Reference(s):	Quality Assurance Project Plan Screening Study of Bioaccumulation in California Lakes and Reservoirs. Moss Landing Marine Labs. Prepared for SWAMP BOG, 49 pages plus appendices and attachments

Line of Evidence (LOE) for Decision ID 63758, Endrin
Lake Chabot (Alameda Co)

Region 2

LOE ID:	91943
Pollutant:	Endrin
LOE Subgroup:	Pollutant-Tissue
Matrix:	Tissue
Fraction:	Fish fillet
Beneficial Use:	Commercial or recreational collection of fish, shellfish, or organisms
Number of Samples:	1
Number of Exceedances:	0
Data and Information Type:	Fish tissue analysis
Data Used to Assess Water Quality:	State Water Board staff assessed SWAMP data for Lake Chabot (Alameda Co) to determine beneficial use support and results are as follows: 0 of 1 samples exceed the criterion for Endrin. Two composites (5 fish per composite) were generated from one species: Common Carp. Composites were not spatially independent (as defined in the Listing Policy) and so were averaged. Details of the compositing protocol can be found in the March 2009 report entitled: "Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Study" (SWAMP, 2009).
Data Reference:	Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Survey. A Report of the Surface Water Ambient Monitoring Program (SWAMP). California State Water Resources Control Board, Sacramento, CA Cruise Report for the Surface Waters Ambient Monitoring Program (SWAMP) Bioaccumulation Screening Study in California Lakes and Reservoirs. Sampling Dates: June 2007- March 2008 Statewide Lakes Sportfish Contamination Study 2007 2008 Contaminants in Fish from California Lakes and Reservoirs, 2007-2008: Summary Report on a Two-Year Screening Survey

SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	Water Quality Control Plan for the San Francisco Bay Basin: Controllable water quality factors shall not cause a detrimental increase in concentrations of toxic substances found in bottom sediments or aquatic life. Effects on aquatic organisms, wildlife, and human health will be considered.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	The modified OEHHA Fish Contaminant Goal for endrin in fish tissue is 660 ppb. This screening level assumes an average body weight of 70 kg and a consumption rate of 32 g/day. A cooking reduction factor of 1 is applied for skin-off fillets. (Klasing, S., and R. Brodberg, 2008; USEPA, 2000)
Guideline Reference:	Development of Fish Contaminant Goals and Advisory Tissue Levels for Common Contaminants in California Sport Fish: Chlordane, DDTs, Dieldrin, Methylmercury, PCBs, Selenium, and Toxaphene Guidance for Assessing Chemical Contaminant Data for Use In Fish Advisories Volume 1: Fish Sampling and Analysis
Spatial Representation:	Data for this assessment unit was collected by one monitoring project: (SWB_FishLk)
Temporal Representation:	Data was collected on a single day 7/31/2007.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	Samples were collected, processed, and analyzed in accordance with the methods described in Quality Assurance Project Plan "Screening Study of Bioaccumulation in California Lakes and Reservoirs." (SWAMP, 2008).
QAPP Information Reference(s):	Quality Assurance Project Plan Screening Study of Bioaccumulation in California Lakes and Reservoirs. Moss Landing Marine Labs. Prepared for SWAMP BOG, 49 pages plus appendices and attachments

DECISION ID	63759	Region 2
Lake Chabot (Alameda Co)		
Pollutant:	Heptachlor	
Final Listing Decision:	Do Not List on 303(d) list (TMDL required list)	
Last Listing Cycle's Final Listing Decision:	New Decision	
Revision Status	Revised	
Impairment from Pollutant or Pollution:	Pollutant	
Regional Board Staff Conclusion:	<p>This pollutant is being considered for placement on the CWA section 303(d) List under section 3.5 of the Listing Policy. Under section 3.5 a single line of evidence is necessary to assess listing status. Two lines of evidence are available in the administrative record to assess this pollutant. Zero of one samples exceed the guideline.</p> <p>Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against placing this water segment-pollutant combination on the CWA section 303(d) List.</p> <p>This conclusion is based on the staff findings that:</p> <ol style="list-style-type: none"> 1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy. 2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy. 3. Zero of one samples exceed the guideline and this sample size is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating. A minimum of 16 samples is needed to determine if a beneficial use is fully supported using table 3.1. 4. Pursuant to SECTION 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met. 	
Regional Board Staff Decision Recommendation:	After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be placed on the section 303(d) list. The readily available data and information is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating.	

**Line of Evidence (LOE) for Decision ID 63759, Heptachlor
Lake Chabot (Alameda Co)**

Region 2

LOE ID:	91945
Pollutant:	Heptachlor
LOE Subgroup:	Pollutant-Tissue
Matrix:	Tissue
Fraction:	Fish fillet
Beneficial Use:	Cold Freshwater Habitat
Number of Samples:	1
Number of Exceedances:	0
Data and Information Type:	Fish tissue analysis
Data Used to Assess Water Quality:	State Water Board staff assessed SWAMP data for Lake Chabot (Alameda Co) to determine beneficial use support and results are as follows: 0 of 1 samples exceed the criterion for Heptachlor. Two composites (5 fish per composite) were generated from one species: Common Carp. Composites were not spatially independent (as defined in the Listing Policy) and so were averaged. Details of the compositing protocol can be found in the March 2009 report entitled: "Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Study" (SWAMP, 2009).
Data Reference:	Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Survey. A Report of the Surface Water Ambient Monitoring Program (SWAMP). California State Water Resources Control Board, Sacramento, CA Cruise Report for the Surface Waters Ambient Monitoring Program (SWAMP) Bioaccumulation Screening Study in California Lakes and Reservoirs. Sampling Dates: June 2007- March 2008 Statewide Lakes Sportfish Contamination Study 2007 2008 Contaminants in Fish from California Lakes and Reservoirs, 2007-2008: Summary Report on a Two-Year Screening Survey
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	Water Quality Control Plan for the San Francisco Bay Basin: Controllable water quality factors shall not cause a detrimental increase in concentrations of toxic substances found in bottom sediments or aquatic life. Effects on aquatic organisms, wildlife, and human health will be considered.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	National Academy of Science guidelines (NAS 1972) establish a maximum Heptachlor concentration of 100 ug/Kg (wet weight) in tissue samples for protection of aquatic life from bioaccumulation of toxic substances.
Guideline Reference:	National Academy of Sciences. Water Quality Criteria 1972. EPA-R3-73-033. Washington, D.C.: U.S. Environmental Protection Agency
Spatial Representation:	Data for this assessment unit was collected by one monitoring project: (SWB_FishLk)
Temporal Representation:	Data was collected on a single day 7/31/2007.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	Samples were collected, processed, and analyzed in accordance with the methods described in Quality Assurance Project Plan "Screening Study of Bioaccumulation in California Lakes and Reservoirs." (SWAMP, 2008).
QAPP Information Reference(s):	Quality Assurance Project Plan Screening Study of Bioaccumulation in California Lakes and Reservoirs. Moss Landing Marine Labs. Prepared for SWAMP BOG, 49 pages plus appendices and attachments

Line of Evidence (LOE) for Decision ID 63759, Heptachlor

Region 2

Lake Chabot (Alameda Co)

LOE ID:	91944
Pollutant:	Heptachlor
LOE Subgroup:	Pollutant-Tissue
Matrix:	Tissue
Fraction:	Fish fillet
Beneficial Use:	Warm Freshwater Habitat
Number of Samples:	1
Number of Exceedances:	0
Data and Information Type:	Fish tissue analysis
Data Used to Assess Water Quality:	State Water Board staff assessed SWAMP data for Lake Chabot (Alameda Co) to determine beneficial use support and results are as follows: 0 of 1 samples exceed the criterion for Heptachlor. Two composites (5 fish per composite) were generated from one species: Common Carp. Composites were not spatially independent (as defined in the Listing Policy) and so were averaged. Details of the compositing protocol can be found in the March 2009 report entitled: "Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Study" (SWAMP, 2009).
Data Reference:	Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Survey. A Report of the Surface Water Ambient Monitoring Program (SWAMP). California State Water Resources Control Board, Sacramento, CA Cruise Report for the Surface Waters Ambient Monitoring Program (SWAMP) Bioaccumulation Screening Study in California Lakes and Reservoirs. Sampling Dates: June 2007- March 2008 Statewide Lakes Sportfish Contamination Study 2007 2008 Contaminants in Fish from California Lakes and Reservoirs, 2007-2008: Summary Report on a Two-Year Screening Survey
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	Water Quality Control Plan for the San Francisco Bay Basin: Controllable water quality factors shall not cause a detrimental increase in concentrations of toxic substances found in bottom sediments or aquatic life. Effects on aquatic organisms, wildlife, and human health will be considered.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	National Academy of Science guidelines (NAS 1972) establish a maximum Heptachlor concentration of 100 ug/Kg (wet weight) in tissue samples for protection of aquatic life from bioaccumulation of toxic substances.
Guideline Reference:	National Academy of Sciences. Water Quality Criteria 1972. EPA-R3-73-033. Washington, D.C.: U.S. Environmental Protection Agency
Spatial Representation:	Data for this assessment unit was collected by one monitoring project: (SWB_FishLk)
Temporal Representation:	Data was collected on a single day 7/31/2007.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	Samples were collected, processed, and analyzed in accordance with the methods described in Quality Assurance Project Plan "Screening Study of Bioaccumulation in California Lakes and Reservoirs." (SWAMP, 2008).
QAPP Information Reference(s):	Quality Assurance Project Plan Screening Study of Bioaccumulation in California Lakes and Reservoirs. Moss Landing Marine Labs. Prepared for SWAMP BOG. 49 pages plus appendices and attachments

DECISION ID 63760**Region 2****Lake Chabot (Alameda Co)****Pollutant:** Heptachlor epoxide

Final Listing Decision:	Do Not List on 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision:	New Decision
Revision Status	Revised
Impairment from Pollutant or Pollution:	Pollutant

Regional Board Staff Conclusion: This pollutant is being considered for placement on the CWA section 303(d) List under section 3.5 of the Listing Policy. Under section 3.5 a single line of evidence is necessary to assess listing status. Three lines of evidence are available in the administrative record to assess this pollutant. Zero of one samples exceed the guideline.

Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against placing this water segment-pollutant combination on the CWA section 303(d) List.

This conclusion is based on the staff findings that:

1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy.
2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy.
3. Zero of one samples exceed the guideline and this sample size is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating. A minimum of 16 samples is needed to determine if a beneficial use is fully supported using table 3.1.
4. Pursuant to SECTION 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.

Regional Board Staff Decision Recommendation: After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be placed on the section 303(d) list. The readily available data and information is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating.

Line of Evidence (LOE) for Decision ID 63760, Heptachlor epoxide Lake Chabot (Alameda Co)

Region 2

LOE ID:	91948
Pollutant:	Heptachlor epoxide
LOE Subgroup:	Pollutant-Tissue
Matrix:	Tissue
Fraction:	Fish fillet
Beneficial Use:	Commercial or recreational collection of fish, shellfish, or organisms
Number of Samples:	0
Number of Exceedances:	0
Data and Information Type:	Fish tissue analysis
Data Used to Assess Water Quality:	State Water Board staff assessed SWAMP data for Lake Chabot (Alameda Co) to determine beneficial use support and results are as follows: 0 of 0 samples exceed the criterion for Heptachlor epoxide. Two composites (5 fish per composite) were generated from one species: Common Carp. Details of the compositing protocol can be found in the March 2009 report entitled: "Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Study" (SWAMP, 2009). Two composites were not used in the assessment because the laboratory data reporting limit(s) was above the objective and therefore the results could not be quantified with the level of certainty required by the Listing Policy.
Data Reference:	Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Survey. A Report of the Surface Water Ambient Monitoring Program (SWAMP). California State Water Resources Control Board, Sacramento, CA Cruise Report for the Surface Waters Ambient Monitoring Program (SWAMP) Bioaccumulation Screening Study in California Lakes and Reservoirs, Sampling Dates: June 2007- March 2008

SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	Water Quality Control Plan for the San Francisco Bay Basin: Controllable water quality factors shall not cause a detrimental increase in concentrations of toxic substances found in bottom sediments or aquatic life. Effects on aquatic organisms, wildlife, and human health will be considered.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	The modified OEHHA Fish Contaminant Goal for heptachlor epoxide in fish tissue is 0.93 ppb. This screening level assumes an average body weight of 70 kg and a consumption rate of 32 g/day for a 30 year exposure over a 70-year lifetime. This constituent is a carcinogen therefore the risk level is set to one in a million. A cooking reduction factor of 1 is applied for skin-off fillets. (Klasing, S., and R. Brodberg, 2008; OEHHA, 1999)
Guideline Reference:	Development of Fish Contaminant Goals and Advisory Tissue Levels for Common Contaminants in California Sport Fish: Chlordane, DDTs, Dieldrin, Methylmercury, PCBs, Selenium, and Toxaphene Public Health Goal for Heptachlor and Heptachlor Epoxide in Drinking Water
Spatial Representation:	Data for this assessment unit was collected by one monitoring project: (SWB_FishLk)
Temporal Representation:	Data was collected on a single day 7/31/2007.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	Samples were collected, processed, and analyzed in accordance with the methods described in Quality Assurance Project Plan "Screening Study of Bioaccumulation in California Lakes and Reservoirs." (SWAMP, 2008).
QAPP Information Reference(s):	Quality Assurance Project Plan Screening Study of Bioaccumulation in California Lakes and Reservoirs. Moss Landing Marine Labs. Prepared for SWAMP BOG. 49 pages plus appendices and attachments

Line of Evidence (LOE) for Decision ID 63760, Heptachlor epoxide	Region 2
Lake Chabot (Alameda Co)	

LOE ID:	91946
Pollutant:	Heptachlor epoxide
LOE Subgroup:	Pollutant-Tissue
Matrix:	Tissue
Fraction:	Fish fillet
Beneficial Use:	Warm Freshwater Habitat
Number of Samples:	1
Number of Exceedances:	0
Data and Information Type:	Fish tissue analysis
Data Used to Assess Water Quality:	State Water Board staff assessed SWAMP data for Lake Chabot (Alameda Co) to determine beneficial use support and results are as follows: 0 of 1 samples exceed the criterion for Heptachlor epoxide. Two composites (5 fish per composite) were generated from one species: Common Carp. Composites were not spatially independent (as defined in the Listing Policy) and so were averaged. Details of the compositing protocol can be found in the March 2009 report entitled: "Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Study" (SWAMP, 2009).
Data Reference:	Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Survey. A Report of the Surface Water Ambient Monitoring Program (SWAMP). California State Water Resources Control Board, Sacramento, CA Cruise Report for the Surface Waters Ambient Monitoring Program (SWAMP) Bioaccumulation Screening Study in California Lakes and Reservoirs, Sampling Dates: June 2007- March 2008

SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	Water Quality Control Plan for the San Francisco Bay Basin: Controllable water quality factors shall not cause a detrimental increase in concentrations of toxic substances found in bottom sediments or aquatic life. Effects on aquatic organisms, wildlife, and human health will be considered.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	National Academy of Science guidelines (NAS 1972) establish a maximum Heptachlor Epoxide concentration of 100 ug/Kg (wet weight) in tissue samples for protection of aquatic life from bioaccumulation of toxic substances.
Guideline Reference:	National Academy of Sciences. Water Quality Criteria 1972. EPA-R3-73-033. Washington, D.C.: U.S. Environmental Protection Agency
Spatial Representation:	Data for this assessment unit was collected by one monitoring project: (SWB_FishLk)
Temporal Representation:	Data was collected on a single day 7/31/2007.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	Samples were collected, processed, and analyzed in accordance with the methods described in Quality Assurance Project Plan "Screening Study of Bioaccumulation in California Lakes and Reservoirs." (SWAMP, 2008).
QAPP Information Reference(s):	Quality Assurance Project Plan Screening Study of Bioaccumulation in California Lakes and Reservoirs. Moss Landing Marine Labs. Prepared for SWAMP BOG, 49 pages plus appendices and attachments

**Line of Evidence (LOE) for Decision ID 63760, Heptachlor epoxide
Lake Chabot (Alameda Co)**

Region 2

LOE ID:	91947
Pollutant:	Heptachlor epoxide
LOE Subgroup:	Pollutant-Tissue
Matrix:	Tissue
Fraction:	Fish fillet
Beneficial Use:	Cold Freshwater Habitat
Number of Samples:	1
Number of Exceedances:	0
Data and Information Type:	Fish tissue analysis
Data Used to Assess Water Quality:	State Water Board staff assessed SWAMP data for Lake Chabot (Alameda Co) to determine beneficial use support and results are as follows: 0 of 1 samples exceed the criterion for Heptachlor epoxide. Two composites (5 fish per composite) were generated from one species: Common Carp. Composites were not spatially independent (as defined in the Listing Policy) and so were averaged. Details of the compositing protocol can be found in the March 2009 report entitled: "Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Study" (SWAMP, 2009).
Data Reference:	Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Survey. A Report of the Surface Water Ambient Monitoring Program (SWAMP). California State Water Resources Control Board, Sacramento, CA Cruise Report for the Surface Waters Ambient Monitoring Program (SWAMP) Bioaccumulation Screening Study in California Lakes and Reservoirs. Sampling Dates: June 2007- March 2008 Statewide Lakes Sportfish Contamination Study 2007 2008 Contaminants in Fish from California Lakes and Reservoirs, 2007-2008: Summary Report on a Two-Year Screening Survey

SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	Water Quality Control Plan for the San Francisco Bay Basin: Controllable water quality factors shall not cause a detrimental increase in concentrations of toxic substances found in bottom sediments or aquatic life. Effects on aquatic organisms, wildlife, and human health will be considered.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	National Academy of Science guidelines (NAS 1972) establish a maximum Heptachlor Epoxide concentration of 100 ug/Kg (wet weight) in tissue samples for protection of aquatic life from bioaccumulation of toxic substances.
Guideline Reference:	National Academy of Sciences. Water Quality Criteria 1972. EPA-R3-73-033. Washington, D.C.: U.S. Environmental Protection Agency
Spatial Representation:	Data for this assessment unit was collected by one monitoring project: (SWB_FishLk)
Temporal Representation:	Data was collected on a single day 7/31/2007.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	Samples were collected, processed, and analyzed in accordance with the methods described in Quality Assurance Project Plan "Screening Study of Bioaccumulation in California Lakes and Reservoirs." (SWAMP, 2008).
QAPP Information Reference(s):	Quality Assurance Project Plan Screening Study of Bioaccumulation in California Lakes and Reservoirs. Moss Landing Marine Labs. Prepared for SWAMP BOG. 49 pages plus appendices and attachments

DECISION ID	63761	Region 2
Lake Chabot (Alameda Co)		

Pollutant:	Hexachlorobenzene/ HCB
Final Listing Decision:	Do Not List on 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision:	New Decision
Revision Status	Revised
Impairment from Pollutant or Pollution:	Pollutant

Regional Board Staff Conclusion: This pollutant is being considered for placement on the CWA section 303(d) List under section 3.5 of the Listing Policy. Under section 3.5 a single line of evidence is necessary to assess listing status. One line of evidence is available in the administrative record to assess this pollutant. Zero of one samples exceed the guideline.

Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against placing this water segment-pollutant combination on the CWA section 303(d) List.

This conclusion is based on the staff findings that:

1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy.
2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy.
3. Zero of one samples exceed the guideline and this sample size is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating. A minimum of 16 samples is needed to determine if a beneficial use is fully supported using table 3.1.
4. Pursuant to SECTION 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.

Regional Board Staff Decision Recommendation: After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be placed on the section 303(d) list. The readily available data and information is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating.

Line of Evidence (LOE) for Decision ID 63761, Hexachlorobenzene/ HCB	Region 2
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Lake Chabot (Alameda Co)

LOE ID:	91949
Pollutant:	Hexachlorobenzene/ HCB
LOE Subgroup:	Pollutant-Tissue
Matrix:	Tissue
Fraction:	Fish fillet
Beneficial Use:	Commercial or recreational collection of fish, shellfish, or organisms
Number of Samples:	1
Number of Exceedances:	0
Data and Information Type:	Fish tissue analysis
Data Used to Assess Water Quality:	State Water Board staff assessed SWAMP data for Lake Chabot (Alameda Co) to determine beneficial use support and results are as follows: 0 of 1 samples exceed the criterion for Hexachlorobenzene. Two composites (5 fish per composite) were generated from one species: Common Carp. Composites were not spatially independent (as defined in the Listing Policy) and so were averaged. Details of the compositing protocol can be found in the March 2009 report entitled: "Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Study" (SWAMP, 2009).
Data Reference:	Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Survey. A Report of the Surface Water Ambient Monitoring Program (SWAMP). California State Water Resources Control Board, Sacramento, CA Cruise Report for the Surface Waters Ambient Monitoring Program (SWAMP) Bioaccumulation Screening Study in California Lakes and Reservoirs, Sampling Dates: June 2007- March 2008 Statewide Lakes Sportfish Contamination Study 2007 2008 Contaminants in Fish from California Lakes and Reservoirs, 2007-2008: Summary Report on a Two-Year Screening Survey
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	Water Quality Control Plan for the San Francisco Bay Basin: Controllable water quality factors shall not cause a detrimental increase in concentrations of toxic substances found in bottom sediments or aquatic life. Effects on aquatic organisms, wildlife, and human health will be considered.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	The modified OEHHA Fish Contaminant Goal for hexachlorobenzene in fish tissue is 2.8 ppb. This screening level assumes an average body weight of 70 kg and a consumption rate of 32 g/day for a 30 year exposure over a 70-year lifetime. This constituent is a carcinogen therefore the risk level is set to one in a million. A cooking reduction factor of 1 is applied for skin-off fillets. (Klasing, S., and R. Brodberg, 2008; OEHHA, 2005)
Guideline Reference:	Development of Fish Contaminant Goals and Advisory Tissue Levels for Common Contaminants in California Sport Fish: Chlordane, DDTs, Dieldrin, Methylmercury, PCBs, Selenium, and Toxaphene Air Toxics Hotspots Program Risk Assessment Guidelines. Part II Technical Support Document for Describing Available Cancer Potency Values.
Spatial Representation:	Data for this assessment unit was collected by one monitoring project: (SWB_FishLk)
Temporal Representation:	Data was collected on a single day 7/31/2007.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	Samples were collected, processed, and analyzed in accordance with the methods described in Quality Assurance Project Plan "Screening Study of Bioaccumulation in California Lakes and Reservoirs." (SWAMP, 2008).
QAPP Information Reference(s):	Quality Assurance Project Plan Screening Study of Bioaccumulation in California Lakes and Reservoirs. Moss Landing Marine Labs. Prepared for SWAMP BOG, 49 pages plus appendices and attachments

Pollutant: Lindane/gamma Hexachlorocyclohexane (gamma-HCH)
Final Listing Decision: Do Not List on 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision: New Decision
Revision Status: Revised
Impairment from Pollutant or Pollution: Pollutant

Regional Board Staff Conclusion: This pollutant is being considered for placement on the CWA section 303(d) List under section 3.5 of the Listing Policy. Under section 3.5 a single line of evidence is necessary to assess listing status. Three lines of evidence are available in the administrative record to assess this pollutant. Zero of one samples exceed the guideline.

Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against placing this water segment-pollutant combination on the CWA section 303(d) List.

This conclusion is based on the staff findings that:
 1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy.
 2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy.
 3. Zero of one samples exceed the guideline and this sample size is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating. A minimum of 16 samples is needed to determine if a beneficial use is fully supported using table 3.1.
 4. Pursuant to SECTION 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.

Regional Board Staff Decision Recommendation: After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be placed on the section 303(d) list. The readily available data and information is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating.

Line of Evidence (LOE) for Decision ID 63762, Lindane/gamma Hexachlorocyclohexane (gamma-HCH)	Region 2
Lake Chabot (Alameda Co)	

LOE ID: 91952
Pollutant: Lindane/gamma Hexachlorocyclohexane (gamma-HCH)
LOE Subgroup: Pollutant-Tissue
Matrix: Tissue
Fraction: Fish fillet
Beneficial Use: Commercial or recreational collection of fish, shellfish, or organisms
Number of Samples: 1
Number of Exceedances: 0
Data and Information Type: Fish tissue analysis
Data Used to Assess Water Quality: State Water Board staff assessed SWAMP data for Lake Chabot (Alameda Co) to determine beneficial use support and results are as follows: 0 of 1 samples exceed the criterion for HCH, gamma. Two composites (5 fish per composite) were generated from one species: Common Carp. Composites were not spatially independent (as defined in the Listing Policy) and so were averaged. Details of the compositing protocol can be found in the March 2009 report entitled: "Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Study" (SWAMP, 2009).
Data Reference: [Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year](#)

[One of a Two-Year Screening Survey. A Report of the Surface Water Ambient Monitoring Program \(SWAMP\). California State Water Resources Control Board, Sacramento, CA](#)
[Cruise Report for the Surface Waters Ambient Monitoring Program \(SWAMP\)](#)
[Bioaccumulation Screening Study in California Lakes and Reservoirs. Sampling Dates: June 2007- March 2008](#)
[Statewide Lakes Sportfish Contamination Study 2007 2008](#)
[Contaminants in Fish from California Lakes and Reservoirs, 2007-2008: Summary Report on a Two-Year Screening Survey](#)

SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	Water Quality Control Plan for the San Francisco Bay Basin: Controllable water quality factors shall not cause a detrimental increase in concentrations of toxic substances found in bottom sediments or aquatic life. Effects on aquatic organisms, wildlife, and human health will be considered.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	The modified OEHHA Fish Contaminant Goal for lindane in fish tissue is 4.6 ppb. This screening level assumes an average body weight of 70 kg and a consumption rate of 32 g/day for a 30 year exposure over a 70-year lifetime. This constituent is a carcinogen therefore the risk level is set to one in a million. A cooking reduction factor of 1 is applied for skin-off fillets.
Guideline Reference:	Development of Fish Contaminant Goals and Advisory Tissue Levels for Common Contaminants in California Sport Fish: Chlordane, DDTs, Dieldrin, Methylmercury, PCBs, Selenium, and Toxaphene Air Toxics Hotspots Program Risk Assessment Guidelines. Part II Technical Support Document for Describing Available Cancer Potency Values.
Spatial Representation:	Data for this assessment unit was collected by one monitoring project: (SWB_FishLk)
Temporal Representation:	Data was collected on a single day 7/31/2007.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	Samples were collected, processed, and analyzed in accordance with the methods described in Quality Assurance Project Plan "Screening Study of Bioaccumulation in California Lakes and Reservoirs." (SWAMP, 2008).
QAPP Information Reference(s):	Quality Assurance Project Plan Screening Study of Bioaccumulation in California Lakes and Reservoirs. Moss Landing Marine Labs. Prepared for SWAMP BOG. 49 pages plus appendices and attachments

Line of Evidence (LOE) for Decision ID 63762, Lindane/gamma Hexachlorocyclohexane (gamma-HCH)

Region 2

Lake Chabot (Alameda Co)

LOE ID:	91951
Pollutant:	Lindane/gamma Hexachlorocyclohexane (gamma-HCH)
LOE Subgroup:	Pollutant-Tissue
Matrix:	Tissue
Fraction:	Fish fillet
Beneficial Use:	Warm Freshwater Habitat
Number of Samples:	1
Number of Exceedances:	0
Data and Information Type:	Fish tissue analysis
Data Used to Assess Water Quality:	State Water Board staff assessed SWAMP data for Lake Chabot (Alameda Co) to determine beneficial use support and results are as follows: 0 of 1 samples exceed the criterion for HCH, gamma. Two composites (5 fish per composite) were generated from one species: Common Carp. Composites were not spatially independent (as defined in the Listing Policy) and so were averaged. Details of the compositing protocol can be found in the March 2009 report entitled: "Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Study" (SWAMP,

Data Reference:	2009). Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Survey. A Report of the Surface Water Ambient Monitoring Program (SWAMP). California State Water Resources Control Board, Sacramento, CA Cruise Report for the Surface Waters Ambient Monitoring Program (SWAMP) Bioaccumulation Screening Study in California Lakes and Reservoirs. Sampling Dates: June 2007- March 2008 Statewide Lakes Sportfish Contamination Study 2007 2008 Contaminants in Fish from California Lakes and Reservoirs, 2007-2008: Summary Report on a Two-Year Screening Survey
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	Water Quality Control Plan for the San Francisco Bay Basin: Controllable water quality factors shall not cause a detrimental increase in concentrations of toxic substances found in bottom sediments or aquatic life. Effects on aquatic organisms, wildlife, and human health will be considered.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	The modified OEHHA Fish Contaminant Goal for lindane in fish tissue is 4.6 ppb. This screening level assumes an average body weight of 70 kg and a consumption rate of 32 g/day for a 30 year exposure over a 70-year lifetime. This constituent is a carcinogen therefore the risk level is set to one in a million. A cooking reduction factor of 1 is applied for skin-off fillets. (Klasing, S., and R. Brodberg, 2008; OEHHA, 2005)
Guideline Reference:	National Academy of Sciences. Water Quality Criteria 1972. EPA-R3-73-033. Washington, D.C.: U.S. Environmental Protection Agency
Spatial Representation:	Data for this assessment unit was collected by one monitoring project: (SWB_FishLk)
Temporal Representation:	Data was collected on a single day 7/31/2007.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	Samples were collected, processed, and analyzed in accordance with the methods described in Quality Assurance Project Plan "Screening Study of Bioaccumulation in California Lakes and Reservoirs." (SWAMP, 2008).
QAPP Information Reference(s):	Quality Assurance Project Plan Screening Study of Bioaccumulation in California Lakes and Reservoirs. Moss Landing Marine Labs. Prepared for SWAMP BOG. 49 pages plus appendices and attachments

Line of Evidence (LOE) for Decision ID 63762, Lindane/gamma Hexachlorocyclohexane (gamma-HCH)

Region 2

Lake Chabot (Alameda Co)

LOE ID:	91953
Pollutant:	Lindane/gamma Hexachlorocyclohexane (gamma-HCH)
LOE Subgroup:	Pollutant-Tissue
Matrix:	Tissue
Fraction:	Fish fillet
Beneficial Use:	Cold Freshwater Habitat
Number of Samples:	1
Number of Exceedances:	0
Data and Information Type:	Fish tissue analysis
Data Used to Assess Water Quality:	State Water Board staff assessed SWAMP data for Lake Chabot (Alameda Co) to determine beneficial use support and results are as follows: 0 of 1 samples exceed the criterion for HCH, gamma. Two composites (5 fish per composite) were generated from one species: Common Carp. Composites were not spatially independent (as defined in the Listing Policy) and so were averaged. Details of the compositing protocol can be found in the March 2009 report entitled: "Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Study" (SWAMP, 2009).

Data Reference:	Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Survey. A Report of the Surface Water Ambient Monitoring Program (SWAMP). California State Water Resources Control Board, Sacramento, CA Cruise Report for the Surface Waters Ambient Monitoring Program (SWAMP) Bioaccumulation Screening Study in California Lakes and Reservoirs. Sampling Dates: June 2007- March 2008 Statewide Lakes Sportfish Contamination Study 2007 2008 Contaminants in Fish from California Lakes and Reservoirs, 2007-2008: Summary Report on a Two-Year Screening Survey
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	Water Quality Control Plan for the San Francisco Bay Basin: Controllable water quality factors shall not cause a detrimental increase in concentrations of toxic substances found in bottom sediments or aquatic life. Effects on aquatic organisms, wildlife, and human health will be considered.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	The modified OEHHA Fish Contaminant Goal for lindane in fish tissue is 4.6 ppb. This screening level assumes an average body weight of 70 kg and a consumption rate of 32 g/day for a 30 year exposure over a 70-year lifetime. This constituent is a carcinogen therefore the risk level is set to one in a million. A cooking reduction factor of 1 is applied for skin-off fillets. (Klasing, S., and R. Brodberg, 2008; OEHHA, 2005)
Guideline Reference:	National Academy of Sciences. Water Quality Criteria 1972. EPA-R3-73-033. Washington, D.C.: U.S. Environmental Protection Agency
Spatial Representation:	Data for this assessment unit was collected by one monitoring project: (SWB_FishLk)
Temporal Representation:	Data was collected on a single day 7/31/2007.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	Samples were collected, processed, and analyzed in accordance with the methods described in Quality Assurance Project Plan "Screening Study of Bioaccumulation in California Lakes and Reservoirs." (SWAMP, 2008).
QAPP Information Reference(s):	Quality Assurance Project Plan Screening Study of Bioaccumulation in California Lakes and Reservoirs. Moss Landing Marine Labs. Prepared for SWAMP BOG. 49 pages plus appendices and attachments

DECISION ID	63763	Region 2
Lake Chabot (Alameda Co)		
Pollutant:	Mirex	
Final Listing Decision:	Do Not List on 303(d) list (TMDL required list)	
Last Listing Cycle's Final Listing Decision:	New Decision	
Revision Status	Revised	
Impairment from Pollutant or Pollution:	Pollutant	
Regional Board Staff Conclusion:	<p>This pollutant is being considered for placement on the CWA section 303(d) List under section 3.5 of the Listing Policy. Under section 3.5 a single line of evidence is necessary to assess listing status. One line of evidence is available in the administrative record to assess this pollutant. Zero of zero samples exceed the guideline.</p> <p>Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against placing this water segment-pollutant combination on the CWA section 303(d) List.</p> <p>This conclusion is based on the staff findings that:</p> <ol style="list-style-type: none"> 1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy. 2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy. 3. Zero of zero samples exceed the guideline and this sample size is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating. A 	

minimum of 16 samples is needed to determine if a beneficial use is fully supported using table 3.1. 4. Pursuant to SECTION 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.

Regional Board Staff Decision Recommendation: After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be placed on the section 303(d) list. The readily available data and information is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating.

**Line of Evidence (LOE) for Decision ID 63763, Mirex
Lake Chabot (Alameda Co)**

Region 2

LOE ID:	92045
Pollutant:	Mirex
LOE Subgroup:	Pollutant-Tissue
Matrix:	Tissue
Fraction:	Fish fillet
Beneficial Use:	Commercial or recreational collection of fish, shellfish, or organisms
Number of Samples:	0
Number of Exceedances:	0
Data and Information Type:	Fish tissue analysis
Data Used to Assess Water Quality:	State Water Board staff assessed SWAMP data for Lake Chabot (Alameda Co) to determine beneficial use support and results are as follows: 0 of 0 samples exceed the criterion for Mirex. Two composites (5 fish per composite) were generated from one species: Common Carp. Details of the compositing protocol can be found in the March 2009 report entitled: "Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Study" (SWAMP, 2009). Two composites were not used in the assessment because the laboratory data reporting limit(s) was above the objective and therefore the results could not be quantified with the level of certainty required by the Listing Policy.
Data Reference:	Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Survey. A Report of the Surface Water Ambient Monitoring Program (SWAMP). California State Water Resources Control Board, Sacramento, CA Cruise Report for the Surface Waters Ambient Monitoring Program (SWAMP) Bioaccumulation Screening Study in California Lakes and Reservoirs, Sampling Dates: June 2007- March 2008 Statewide Lakes Sportfish Contamination Study 2007 2008 Contaminants in Fish from California Lakes and Reservoirs, 2007-2008: Summary Report on a Two-Year Screening Survey
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	Water Quality Control Plan for the San Francisco Bay Basin: Controllable water quality factors shall not cause a detrimental increase in concentrations of toxic substances found in bottom sediments or aquatic life. Effects on aquatic organisms, wildlife, and human health will be considered.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	The modified OEHHA Fish Contaminant Goal for mirex in fish tissue is 0.28 ppb. This screening level assumes an average body weight of 70 kg and a consumption rate of 32 g/day. A cooking reduction factor of 1 is applied for skin-off fillets. (Klasing, S., and R. Brodberg, 2008; OEHHA, 1992)
Guideline Reference:	Development of Fish Contaminant Goals and Advisory Tissue Levels for Common Contaminants in California Sport Fish: Chlordane, DDTs, Dieldrin, Methylmercury, PCBs, Selenium, and Toxaphene Expedited Cancer Potency Values and Proposed Regulatory Levels for Certain Proposition 65 Carcinogens.

Spatial Representation:	Data for this assessment unit was collected by one monitoring project: (SWB_FishLk)
Temporal Representation:	Data was collected on a single day 7/31/2007.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	Samples were collected, processed, and analyzed in accordance with the methods described in Quality Assurance Project Plan "Screening Study of Bioaccumulation in California Lakes and Reservoirs." (SWAMP, 2008).
QAPP Information Reference(s):	Quality Assurance Project Plan Screening Study of Bioaccumulation in California Lakes and Reservoirs. Moss Landing Marine Labs. Prepared for SWAMP BOG. 49 pages plus appendices and attachments

DECISION ID	63764	Region 2
Lake Chabot (Alameda Co)		

Pollutant: Final Listing Decision: Last Listing Cycle's Final Listing Decision: Revision Status Impairment from Pollutant or Pollution:	Selenium Do Not List on 303(d) list (TMDL required list) New Decision Revised Pollutant
Regional Board Staff Conclusion:	<p>This pollutant is being considered for placement on the CWA section 303(d) List under section 3.5 of the Listing Policy. Under section 3.5 a single line of evidence is necessary to assess listing status. One line of evidence is available in the administrative record to assess this pollutant. Zero of one samples exceed the guideline.</p> <p>Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against placing this water segment-pollutant combination on the CWA section 303(d) List.</p> <p>This conclusion is based on the staff findings that:</p> <ol style="list-style-type: none"> 1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy. 2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy. 3. Zero of one samples exceed the guideline and this sample size is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating. A minimum of 16 samples is needed to determine if a beneficial use is fully supported using table 3.1. 4. Pursuant to SECTION 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met. <p>After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be placed on the section 303(d) list. The readily available data and information is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating.</p>
Regional Board Staff Decision Recommendation:	<p>After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be placed on the section 303(d) list. The readily available data and information is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating.</p>

Line of Evidence (LOE) for Decision ID 63764, Selenium		Region 2
Lake Chabot (Alameda Co)		

LOE ID: Pollutant: LOE Subgroup: Matrix: Fraction: Beneficial Use: Number of Samples: Number of Exceedances:	92050 Selenium Pollutant-Tissue Tissue Fish fillet Commercial or recreational collection of fish, shellfish, or organisms 1 0
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Data and Information Type:	Fish tissue analysis
Data Used to Assess Water Quality:	State Water Board staff assessed SWAMP data for Lake Chabot (Alameda Co) to determine beneficial use support and results are as follows: 0 of 1 samples exceed the criterion for Selenium. One composite (5 fish per composite) was generated from one species: Common Carp. Details of the compositing protocol can be found in the March 2009 report entitled: "Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Study" (SWAMP, 2009).
Data Reference:	Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Survey. A Report of the Surface Water Ambient Monitoring Program (SWAMP). California State Water Resources Control Board, Sacramento, CA Cruise Report for the Surface Waters Ambient Monitoring Program (SWAMP) Bioaccumulation Screening Study in California Lakes and Reservoirs, Sampling Dates: June 2007- March 2008 Statewide Lakes Sportfish Contamination Study 2007 2008 Contaminants in Fish from California Lakes and Reservoirs, 2007-2008: Summary Report on a Two-Year Screening Survey
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	Water Quality Control Plan for the San Francisco Bay Basin (2013): Controllable water quality factors shall not cause a detrimental increase in concentrations of toxic substances found in bottom sediments or aquatic life. Effects on aquatic organisms, wildlife, and human health will be considered.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	The OEHHA Fish Contaminant Goal for selenium in fish tissue is 7.4 ppm. This screening level assumes an average body weight of 70 kg and a consumption rate of 32 g/day. A background dietary consumption rate of 0.114 mg/day is applied for this micronutrient. (Klasing, S., and R. Brodberg, 2008)
Guideline Reference:	Development of Fish Contaminant Goals and Advisory Tissue Levels for Common Contaminants in California Sport Fish: Chlordane, DDTs, Dieldrin, Methylmercury, PCBs, Selenium, and Toxaphene
Spatial Representation:	Data for this assessment unit was collected by one monitoring project: (SWB_FishLk)
Temporal Representation:	Data was collected on a single day 7/31/2007.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	Samples were collected, processed, and analyzed in accordance with the methods described in Quality Assurance Project Plan "Screening Study of Bioaccumulation in California Lakes and Reservoirs." (SWAMP, 2008).
QAPP Information Reference(s):	Quality Assurance Project Plan Screening Study of Bioaccumulation in California Lakes and Reservoirs. Moss Landing Marine Labs. Prepared for SWAMP BOG, 49 pages plus appendices and attachments

DECISION ID	34103	Region 2
Lake Chabot (Alameda Co)		
Pollutant:	DDT (Dichlorodiphenyltrichloroethane)	
Final Listing Decision:	Do Not Delist from 303(d) list (TMDL required list)	
Last Listing Cycle's Final Listing Decision:	List on 303(d) list (TMDL required list)(2012)	
Revision Status	Original	
Sources:	Source Unknown	
Expected TMDL Completion Date:	2019	
Impairment from Pollutant or Pollution:	Pollutant	
Regional Board Staff Conclusion:	This pollutant is being considered for removal from the CWA section 303(d) List under section 4.1 of the Listing Policy. Under this section a single line of evidence is necessary to assess listing status.	

Four lines of evidence are available in the administrative record to assess pollutant. Two of nine samples exceed the guideline.

Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against removing this water segment-pollutant combination from the CWA section 303(d) List.

This conclusion is based on the staff findings that:

1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy.
2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy.
3. Two of nine samples exceed the guideline and this exceeds the allowable frequency listed in Table 4.1 of the Listing Policy.
4. Pursuant to section 4.11 of the Listing Policy, no additional data and information are available indicating that standards are met.

Regional Board Staff Decision Recommendation: After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be removed from the section 303(d) list because applicable water quality standards for the pollutant are being exceeded.

**Line of Evidence (LOE) for Decision ID 34103, DDT (Dichlorodiphenyltrichloroethane)
Lake Chabot (Alameda Co)**

Region 2

LOE ID:	92051
Pollutant:	Total DDT (sum of 4,4'- and 2,4'- isomers of DDT, DDE, and DDD)
LOE Subgroup:	Pollutant-Tissue
Matrix:	Tissue
Fraction:	Fish fillet
Beneficial Use:	Warm Freshwater Habitat
Number of Samples:	1
Number of Exceedances:	0
Data and Information Type:	Fish tissue analysis
Data Used to Assess Water Quality:	State Water Board staff assessed SWAMP data for Lake Chabot (Alameda Co) to determine beneficial use support and results are as follows: 0 of 1 samples exceed the criterion for DDT, Total. Two composites (5 fish per composite) were generated from one species: Common Carp. Composites were not spatially independent (as defined in the Listing Policy) and so were averaged. Details of the compositing protocol can be found in the March 2009 report entitled: "Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Study" (SWAMP, 2009). Total DDT was calculated as the sum of 4,4'- and 2,4'- isomers of DDT, DDE, and DDD.
Data Reference:	Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Survey. A Report of the Surface Water Ambient Monitoring Program (SWAMP). California State Water Resources Control Board, Sacramento, CA Cruise Report for the Surface Waters Ambient Monitoring Program (SWAMP) Bioaccumulation Screening Study in California Lakes and Reservoirs. Sampling Dates: June 2007- March 2008 Statewide Lakes Sportfish Contamination Study 2007 2008 Contaminants in Fish from California Lakes and Reservoirs, 2007-2008: Summary Report on a Two-Year Screening Survey
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	Water Quality Control Plan for the San Francisco Bay Basin: Controllable water quality factors shall not cause a detrimental increase in concentrations of toxic substances found in bottom sediments or aquatic life. Effects on aquatic organisms, wildlife, and human health will be considered.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)

Evaluation Guideline:	National Academy of Science guidelines (NAS 1972) establish a maximum total DDT concentration of 1000 ug/Kg (wet weight) in tissue samples for protection of aquatic life from bioaccumulation of toxic substances.
Guideline Reference:	National Academy of Sciences. Water Quality Criteria 1972. EPA-R3-73-033. Washington, D.C.: U.S. Environmental Protection Agency
Spatial Representation:	Data for this assessment unit was collected by one monitoring project: (SWB_FishLk)
Temporal Representation:	Data was collected on a single day 7/31/2007.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	Samples were collected, processed, and analyzed in accordance with the methods described in Quality Assurance Project Plan "Screening Study of Bioaccumulation in California Lakes and Reservoirs." (SWAMP, 2008).
QAPP Information Reference(s):	Quality Assurance Project Plan Screening Study of Bioaccumulation in California Lakes and Reservoirs. Moss Landing Marine Labs. Prepared for SWAMP BOG, 49 pages plus appendices and attachments

Line of Evidence (LOE) for Decision ID 34103, DDT (Dichlorodiphenyltrichloroethane)
Lake Chabot (Alameda Co)

Region 2

LOE ID:	673
Pollutant:	DDT (Dichlorodiphenyltrichloroethane)
LOE Subgroup:	Pollutant-Tissue
Matrix:	Tissue
Fraction:	Total
Beneficial Use:	Commercial or recreational collection of fish, shellfish, or organisms
Number of Samples:	9
Number of Exceedances:	2
Data and Information Type:	Fish tissue analysis
Data Used to Assess Water Quality:	Two out of 9 samples exceeded. A total of 9 composite samples were collected and analyzed from Lake Chabot: 3 channel catfish, 3 largemouth bass, and 3 carp. Two carp samples exceeded guideline (TSMP, 2002).
Data Reference:	Placeholder reference 2006 303(d)
SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	San Francisco Bay Basin Plan: Many pollutants can accumulate on particles, in sediment, or bioaccumulate in fish and other aquatic organisms. Controllable water quality factors shall not cause a detrimental increase in concentrations of toxic substances found in bottom sediments or aquatic life. Effects on aquatic organisms, wildlife, and human health will be considered.
Objective/Criterion Reference:	Placeholder reference 2006 303(d)
Evaluation Guideline:	Total DDT 100.0 ng/g - OEHHA Screening Value (Brodberg and Pollack, 1999).
Guideline Reference:	Placeholder reference 2006 303(d)
Spatial Representation:	One station.
Temporal Representation:	Samples were collected on 4/24/2001 and 6/6/2001.
Environmental Conditions:	
QAPP Information:	Environmental Chemistry Quality Assurance and Data Report for the Toxic Substances Monitoring Program, 2001-2002. Department of Fish and Game.
QAPP Information Reference(s):	

Line of Evidence (LOE) for Decision ID 34103, DDT (Dichlorodiphenyltrichloroethane)
Lake Chabot (Alameda Co)

Region 2

LOE ID:	92053
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Pollutant:	Total DDT (sum of 4,4'- and 2,4'- isomers of DDT, DDE, and DDD)
LOE Subgroup:	Pollutant-Tissue
Matrix:	Tissue
Fraction:	Fish fillet
Beneficial Use:	Cold Freshwater Habitat
Number of Samples:	1
Number of Exceedances:	0
Data and Information Type:	Fish tissue analysis
Data Used to Assess Water Quality:	State Water Board staff assessed SWAMP data for Lake Chabot (Alameda Co) to determine beneficial use support and results are as follows: 0 of 1 samples exceed the criterion for DDT, Total. Two composites (5 fish per composite) were generated from one species: Common Carp. Composites were not spatially independent (as defined in the Listing Policy) and so were averaged. Details of the compositing protocol can be found in the March 2009 report entitled: "Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Study" (SWAMP, 2009). Total DDT was calculated as the sum of 4,4'- and 2,4'- isomers of DDT, DDE, and DDD.
Data Reference:	Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Survey. A Report of the Surface Water Ambient Monitoring Program (SWAMP). California State Water Resources Control Board, Sacramento, CA Cruise Report for the Surface Waters Ambient Monitoring Program (SWAMP) Bioaccumulation Screening Study in California Lakes and Reservoirs, Sampling Dates: June 2007- March 2008 Statewide Lakes Sportfish Contamination Study 2007 2008 Contaminants in Fish from California Lakes and Reservoirs, 2007-2008: Summary Report on a Two-Year Screening Survey
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	Water Quality Control Plan for the San Francisco Bay Basin: Controllable water quality factors shall not cause a detrimental increase in concentrations of toxic substances found in bottom sediments or aquatic life. Effects on aquatic organisms, wildlife, and human health will be considered.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	National Academy of Science guidelines (NAS 1972) establish a maximum total DDT concentration of 1000 ug/Kg (wet weight) in tissue samples for protection of aquatic life from bioaccumulation of toxic substances.
Guideline Reference:	National Academy of Sciences. Water Quality Criteria 1972. EPA-R3-73-033. Washington, D.C.: U.S. Environmental Protection Agency
Spatial Representation:	Data for this assessment unit was collected by one monitoring project: (SWB_FishLk)
Temporal Representation:	Data was collected on a single day 7/31/2007.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	Samples were collected, processed, and analyzed in accordance with the methods described in Quality Assurance Project Plan "Screening Study of Bioaccumulation in California Lakes and Reservoirs." (SWAMP, 2008).
QAPP Information Reference(s):	Quality Assurance Project Plan Screening Study of Bioaccumulation in California Lakes and Reservoirs. Moss Landing Marine Labs. Prepared for SWAMP BOG, 49 pages plus appendices and attachments

Line of Evidence (LOE) for Decision ID 34103, DDT (Dichlorodiphenyltrichloroethane)
Lake Chabot (Alameda Co)

Region 2

LOE ID:	92054
Pollutant:	Total DDT (sum of 4,4'- and 2,4'- isomers of DDT, DDE, and DDD)
LOE Subgroup:	Pollutant-Tissue

Matrix:	Tissue
Fraction:	Fish fillet
Beneficial Use:	Commercial or recreational collection of fish, shellfish, or organisms
Number of Samples:	1
Number of Exceedances:	1
Data and Information Type:	Fish tissue analysis
Data Used to Assess Water Quality:	State Water Board staff assessed SWAMP data for Lake Chabot (Alameda Co) to determine beneficial use support and results are as follows: 1 of 1 samples exceed the criterion for DDT, Total. Two composites (5 fish per composite) were generated from one species: Common Carp. Composites were not spatially independent (as defined in the Listing Policy) and so were averaged. Details of the compositing protocol can be found in the March 2009 report entitled: "Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Study" (SWAMP, 2009). Total DDT was calculated as the sum of 4,4'- and 2,4'- isomers of DDT, DDE, and DDD.
Data Reference:	Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Survey. A Report of the Surface Water Ambient Monitoring Program (SWAMP). California State Water Resources Control Board, Sacramento, CA Cruise Report for the Surface Waters Ambient Monitoring Program (SWAMP) Bioaccumulation Screening Study in California Lakes and Reservoirs, Sampling Dates: June 2007- March 2008 Statewide Lakes Sportfish Contamination Study 2007 2008 Contaminants in Fish from California Lakes and Reservoirs, 2007-2008: Summary Report on a Two-Year Screening Survey
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	Water Quality Control Plan for the San Francisco Bay Basin: Controllable water quality factors shall not cause a detrimental increase in concentrations of toxic substances found in bottom sediments or aquatic life. Effects on aquatic organisms, wildlife, and human health will be considered.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	The modified OEHHA Fish Contaminant Goal for total DDT in fish tissue is 15 ppb. This screening level assumes an average body weight of 70 kg and a consumption rate of 32 g/day for a 30 year exposure over a 70-year lifetime. This constituent is a carcinogen therefore the risk level is set to one in a million. A cooking reduction factor of 1 is applied for skin-off fillets. (Klasing, S., and R. Brodberg, 2008)
Guideline Reference:	Development of Fish Contaminant Goals and Advisory Tissue Levels for Common Contaminants in California Sport Fish: Chlordane, DDTs, Dieldrin, Methylmercury, PCBs, Selenium, and Toxaphene
Spatial Representation:	Data for this assessment unit was collected by one monitoring project: (SWB_FishLk)
Temporal Representation:	Data was collected on a single day 7/31/2007.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	Samples were collected, processed, and analyzed in accordance with the methods described in Quality Assurance Project Plan "Screening Study of Bioaccumulation in California Lakes and Reservoirs." (SWAMP, 2008).
QAPP Information Reference(s):	Quality Assurance Project Plan Screening Study of Bioaccumulation in California Lakes and Reservoirs. Moss Landing Marine Labs. Prepared for SWAMP BOG, 49 pages plus appendices and attachments

Draft California 2016 Integrated Report (303(d) List/305(b) Report)

Supporting Information

Regional Board 2 - San Francisco Bay Region

Water Body Name: Lake Merritt
Water Body ID: CAL2042004019990218150956
Water Body Type: Lake & Reservoir

DECISION ID	44585	Region 2
Lake Merritt		

Pollutant: Trash
Final Listing Decision: Do Not Delist from 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision: List on 303(d) list (TMDL required list)(2012)
Revision Status Revised
Sources: Source Unknown
Expected TMDL Completion Date: 2019
Impairment from Pollutant or Pollution: Pollutant

Regional Board Staff Conclusion: This pollutant is being considered for removal from the CWA section 303(d) List under section 4.11 of the Listing Policy. Under this section a single line of evidence is necessary to assess listing status.

Five lines of evidence are available in the administrative record to assess pollutant. Two of two samples exceed the evaluation guideline.

Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against removing this water segment-pollutant combination from the CWA section 303(d) List.

This conclusion is based on the staff findings that:

1. Five lines of evidence are available in the administrative record to assess this pollutant. All lines of evidence involve inspection of photographic evidence by Regional Water Board staff trained to conduct the Rapid Trash Assessment (RTA) methodology. The staff inspected these photos and applied the RTA methodology to develop Category 1 (Level of Trash) and Category 3 (Threat to Aquatic Life) scores for each photograph. Based on the readily available photographic evidence for this waterbody, the weight of evidence indicates that there is sufficient justification available in favor of leaving this water segment-pollutant combination on the section 303(d) list in the Water Quality Limited Segments category.
2. Photographic evidence has been evaluated that supports this decision.
3. Applying the Rapid Trash Assessment methodology to the photographic evidence suggests that this waterbody had level of trash parameter scores in the poor category (indicating impairment of non-contact water recreational beneficial uses).
4. This waterbody also had threat to aquatic life parameter scores in the poor category (indicating threat to Wildlife Habitat beneficial uses) in more than one location or on more than one date.
5. This waterbody is considered impaired by trash because there were exceedances of the evaluation guidelines (poor condition category for the trash assessment metrics) in more than one location or on more than one date.
6. Two of two samples collected exceeded the evaluation guideline.
7. Pursuant to section 4.11 of the Listing Policy, no additional data and information are available indicating that standards are met.
8. The data used satisfy the data quality requirements of section 6.1.4 of the Policy.
9. The data used satisfy the data quantity requirements of section 6.1.5 of the Policy.

Regional Board Staff Decision Recommendation: After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be removed from the section 303(d) list because applicable water quality standards for the pollutant are being exceeded.

**Line of Evidence (LOE) for Decision ID 44585, Trash
Lake Merritt**

Region 2

LOE ID:	92052
Pollutant:	Trash
LOE Subgroup:	Pollutant-Nuisance
Matrix:	Not Specified
Fraction:	Not Recorded
Beneficial Use:	Wildlife Habitat
Number of Samples:	1
Number of Exceedances:	1
Data and Information Type:	Occurrence of conditions judged to cause impairment
Data Used to Assess Water Quality:	Data available consist of photographic evidence of trash and interpretation of these photos by an experienced trash assessment specialist. Each photograph was analyzed to establish the RTA score for the level of trash and threat to aquatic life parameters, which relate to impairment of REC2 and WILD, respectively. Only those photos clear enough to establish these RTA scores were relied on for the listing determination. These results are available for photos taken on 3/7/07 on the South side of the lake. This water body had threat to aquatic life parameter scores in the poor category (indicating threat to Wildlife Habitat beneficial uses).
Data Reference:	Photos of trash in various San Francisco Bay water bodies, Mar. 2007-Mar. 2008
SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	The Basin Plan prohibits discharge of Rubbish, refuse, bark, sawdust, or other solid wastes into surface waters or at any place where they would contact or where they would be eventually transported to surface waters, including flood plain areas. The Basin Plan has a narrative objective for floating material, Waters shall not contain floating material, including solids, liquids, foams, and scum, in concentrations that cause nuisance or adversely affect beneficial uses. The Basin Plan has a narrative objective for settleable material, Waters shall not contain substances in concentrations that result in the deposition of material that cause nuisance or adversely affect beneficial uses.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	If the Rapid Trash Assessment (RTA) Parameter 1 (Level of Trash) is in the poor condition category (scores 0-5), REC2 is not supported. This level of trash distracts the eye on first glance, making the site unsuitable for recreation. The RTA defines poor condition for this parameter as follows, trash distracts the eye on first glance. Stream, bank surfaces, and immediate riparian zone contain substantial levels of litter and debris (>100 pieces). Evidence of site being used frequently by people: many cans, bottles, and food wrappers, blankets, clothing. State Water Board staff trained in the RTA inspected the available photographic evidence and applied the assessment method to determine the Level of Trash score. If the RTA Parameter 3 (Threat to Aquatic Life) is in the poor condition category (scores 0-5), then WILD is not supported. This level of trash is a large amount (>50 pieces) of transportable, persistent, buoyant litter that is detrimental to aquatic life. The RTA defines poor condition for this parameter as follows, large amount (>50 pieces) of transportable, persistent, buoyant litter such as: hard or soft plastics, balloons, Styrofoam, cigarette butts; toxic items such as batteries, lighters, or spray cans; large clumps of yard waste or dumped leaf litter; or large amount (>50 pieces) of settleable glass or metal. State Water Board staff trained in the RTA inspected the available photographic evidence and applied the assessment method to determine the Threat to Aquatic Life score.

Guideline Reference:	Water Quality Control Plan for the California Regional Water Quality Control Board Central Valley Region, Sacramento and San Joaquin River Basins, 4th ed
Spatial Representation:	All photos taken on the South side of the lake.
Temporal Representation:	All photos taken on 3/7/07.
Environmental Conditions:	
QAPP Information:	Assessments of the photographic evidence using the RTA were performed by a State Water Board staff person. Assessments based on photographic evidence were only conducted when sufficient reach-scale and close-up photos were available for a site on a specific date. Photos used for the evaluation needed to be numerous enough and clear enough to document the level of trash at the site in a similar way as the assessor would experience during an actual site visit in the field. For example, at a minimum, one reach-scale photograph (showing at least a 100 linear foot section of the waterbody) and two close-up photographs (of representative trash deposits) were required.
QAPP Information Reference(s):	

Line of Evidence (LOE) for Decision ID 44585, Trash

Region 2

Lake Merritt

LOE ID:	92040
Pollutant:	Trash
LOE Subgroup:	Pollutant-Nuisance
Matrix:	Not Specified
Fraction:	None
Beneficial Use:	Non-Contact Recreation
Number of Samples:	1
Number of Exceedances:	1
Data and Information Type:	Occurrence of conditions judged to cause impairment
Data Used to Assess Water Quality:	Data available consist of photographic evidence of trash and interpretation of these photos by an experienced trash assessment specialist. Each photograph was analyzed to establish the RTA score for the level of trash and threat to aquatic life parameters, which relate to impairment of REC2 and WILD, respectively. Only those photos clear enough to establish these RTA scores were relied on for the listing determination. These results are available for photos taken on 4/14/10 on Lake Merritt. This waterbody had level of trash parameter scores in the poor category (indicating impairment of non-contact water recreational beneficial uses).
Data Reference:	Photos of trash in various San Francisco Bay water bodies, Oct. 2008-Aug. 2010
SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	The Basin Plan prohibits discharge of Rubbish, refuse, bark, sawdust, or other solid wastes into surface waters or at any place where they would contact or where they would be eventually transported to surface waters, including flood plain areas. The Basin Plan has a narrative objective for floating material, Waters shall not contain floating material, including solids, liquids, foams, and scum, in concentrations that cause nuisance or adversely affect beneficial uses. The Basin Plan has a narrative objective for settleable material, Waters shall not contain substances in concentrations that result in the deposition of material that cause nuisance or adversely affect beneficial uses.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	If the Rapid Trash Assessment (RTA) Parameter 1 (Level of Trash) is in the poor condition category (scores 0-5), REC2 is not supported. This level of trash distracts the eye on first glance, making the site unsuitable for recreation. The RTA defines poor condition for this parameter as follows, trash distracts the eye on first glance. Stream, bank surfaces, and immediate riparian zone contain substantial levels of litter and debris (>100 pieces). Evidence of site being used frequently by people: many cans, bottles, and food wrappers, blankets, clothing. State Water Board staff trained in the RTA inspected the available photographic evidence and applied the assessment method to determine the

Level of Trash score. If the RTA Parameter 3 (Threat to Aquatic Life) is in the poor condition category (scores 0-5), then WILD is not supported. This level of trash is a large amount (>50 pieces) of transportable, persistent, buoyant litter that is detrimental to aquatic life. The RTA defines poor condition for this parameter as follows, large amount (>50 pieces) of transportable, persistent, buoyant litter such as: hard or soft plastics, balloons, Styrofoam, cigarette butts; toxic items such as batteries, lighters, or spray cans; large clumps of yard waste or dumped leaf litter; or State Water Board staff trained in the RTA inspected the available photographic evidence and applied the assessment method to determine the Threat to Aquatic Life score.

Guideline Reference: [A Rapid Trash Assessment Method Applied to Waters of the San Francisco Bay Region: Trash Measurement in Streams](#)

Spatial Representation: Photos taken on 4/14/2010 at Lake Merritt.

Temporal Representation: Photos taken on 4/14/2010 at Lake Merritt.

Environmental Conditions:

QAPP Information: Assessments of the photographic evidence using the RTA were performed by a State Water Board staff person. Assessments based on photographic evidence were only conducted when sufficient reach-scale and close-up photos were available for a site on a specific date. Photos used for the evaluation needed to be numerous enough and clear enough to document the level of trash at the site in a similar way as the assessor would experience during an actual site visit in the field. For example, at a minimum, one reach-scale photograph (showing at least a 100 linear foot section of the waterbody) and two close-up photographs (of representative trash deposits) were required.

QAPP Information Reference(s):

Line of Evidence (LOE) for Decision ID 44585, Trash

Region 2

Lake Merritt

LOE ID: 92044

Pollutant: Trash
LOE Subgroup: Pollutant-Nuisance
Matrix: Not Specified
Fraction: Not Recorded

Beneficial Use: Wildlife Habitat

Number of Samples: 1
Number of Exceedances: 1

Data and Information Type: Occurrence of conditions judged to cause impairment
Data Used to Assess Water Quality: Data available consist of photographic evidence of trash and interpretation of these photos by an experienced trash assessment specialist. Each photograph was analyzed to establish the RTA score for the level of trash and threat to aquatic life parameters, which relate to impairment of REC2 and WILD, respectively. Only those photos clear enough to establish these RTA scores were relied on for the listing determination. These results are available for photos taken on 4/14/10 on Lake Merritt. This waterbody had threat to aquatic life parameter scores in the poor category (indicating threat to Wildlife Habitat beneficial uses).

Data Reference: [Photos of trash in various San Francisco Bay water bodies, Oct. 2008-Aug. 2010](#)

SWAMP Data: Non-SWAMP

Water Quality Objective/Criterion: The Basin Plan prohibits discharge of Rubbish, refuse, bark, sawdust, or other solid wastes into surface waters or at any place where they would contact or where they would be eventually transported to surface waters, including flood plain areas. The Basin Plan has a narrative objective for floating material, Waters shall not contain floating material, including solids, liquids, foams, and scum, in concentrations that cause nuisance or adversely affect beneficial uses. The Basin Plan has a narrative objective for settleable material, Waters shall not contain substances in concentrations that result in the deposition of material that cause nuisance or adversely affect beneficial uses.

Objective/Criterion Reference: [Water Quality Control Plan \(Basin Plan\) San Francisco Bay Basin \(Region 2\)](#)

Evaluation Guideline:	<p>If the Rapid Trash Assessment (RTA) Parameter 1 (Level of Trash) is in the poor condition category (scores 0-5), REC2 is not supported. This level of trash distracts the eye on first glance, making the site unsuitable for recreation. The RTA defines poor condition for this parameter as follows, trash distracts the eye on first glance. Stream, bank surfaces, and immediate riparian zone contain substantial levels of litter and debris (>100 pieces). Evidence of site being used frequently by people: many cans, bottles, and food wrappers, blankets, clothing. State Water Board staff trained in the RTA inspected the available photographic evidence and applied the assessment method to determine the Level of Trash score. If the RTA Parameter 3 (Threat to Aquatic Life) is in the poor condition category (scores 0-5), then WILD is not supported. This level of trash is a large amount (>50 pieces) of transportable, persistent, buoyant litter that is detrimental to aquatic life. The RTA defines poor condition for this parameter as follows, large amount (>50 pieces) of transportable, persistent, buoyant litter such as: hard or soft plastics, balloons, Styrofoam, cigarette butts; toxic items such as batteries, lighters, or spray cans; large clumps of yard waste or dumped leaf litter; or large amount (>50 pieces) of settleable glass or metal. State Water Board staff trained in the RTA inspected the available photographic evidence and applied the assessment method to determine the Threat to Aquatic Life score.</p>
Guideline Reference:	A Rapid Trash Assessment Method Applied to Waters of the San Francisco Bay Region:Trash Measurement in Streams
Spatial Representation:	Photos taken on 4/14/2010 at Lake Merritt.
Temporal Representation:	Photos taken on 4/14/2010 at Lake Merritt.
Environmental Conditions:	
QAPP Information:	Assessments of the photographic evidence using the RTA were performed by a State Water Board staff person. Assessments based on photographic evidence were only conducted when sufficient reach-scale and close-up photos were available for a site on a specific date. Photos used for the evaluation needed to be numerous enough and clear enough to document the level of trash at the site in a similar way as the assessor would experience during an actual site visit in the field. For example, at a minimum, one reach-scale photograph (showing at least a 100 linear foot section of the waterbody) and two close-up photographs (of representative trash deposits) were required.
QAPP Information Reference(s):	

Line of Evidence (LOE) for Decision ID 44585, Trash		Region 2
Lake Merritt		
LOE ID:	3761	
Pollutant:	Trash	
LOE Subgroup:	Visual	
Matrix:	Not Specified	
Fraction:	Not Recorded	
Beneficial Use:	Non-Contact Recreation	
Number of Samples:	0	
Number of Exceedances:	0	
Data and Information Type:	Not Specified	
Data Used to Assess Water Quality:	Unspecified--This LOE is a placeholder to support a 303(d) listing decision made prior to 2006.	
Data Reference:	Placeholder reference pre-2006 303(d)	
SWAMP Data:	Non-SWAMP	
Water Quality Objective/Criterion:	Unspecified	
Objective/Criterion Reference:	Placeholder reference pre-2006 303(d)	
Evaluation Guideline:	Unspecified	
Guideline Reference:	Placeholder reference pre-2006 303(d)	

Spatial Representation:	Unspecified
Temporal Representation:	Unspecified
Environmental Conditions:	Unspecified
QAPP Information:	Unspecified
QAPP Information Reference(s):	

**Line of Evidence (LOE) for Decision ID 44585, Trash
Lake Merritt**

Region 2

LOE ID:	92048
Pollutant:	Trash
LOE Subgroup:	Pollutant-Nuisance
Matrix:	Not Specified
Fraction:	None
Beneficial Use:	Non-Contact Recreation
Number of Samples:	1
Number of Exceedances:	1
Data and Information Type:	Occurrence of conditions judged to cause impairment
Data Used to Assess Water Quality:	Data available consist of photographic evidence of trash and interpretation of these photos by an experienced trash assessment specialist. Each photograph was analyzed to establish the RTA score for the level of trash and threat to aquatic life parameters, which relate to impairment of REC2 and WILD, respectively. Only those photos clear enough to establish these RTA scores were relied on for the listing determination. These results are available for photos taken on 3/7/07 on the South side of the Lake. This waterbody had level of trash parameter scores in the poor category (indicating impairment of non-contact water recreational beneficial uses).
Data Reference:	Photos of trash in various San Francisco Bay water bodies, Mar. 2007-Mar. 2008
SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	The Basin Plan prohibits discharge of Rubbish, refuse, bark, sawdust, or other solid wastes into surface waters or at any place where they would contact or where they would be eventually transported to surface waters, including flood plain areas. The Basin Plan has a narrative objective for floating material, Waters shall not contain floating material, including solids, liquids, foams, and scum, in concentrations that cause nuisance or adversely affect beneficial uses. The Basin Plan has a narrative objective for settleable material, Waters shall not contain substances in concentrations that result in the deposition of material that cause nuisance or adversely affect beneficial uses.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	If the Rapid Trash Assessment (RTA) Parameter 1 (Level of Trash) is in the poor condition category (scores 0-5), REC2 is not supported. This level of trash distracts the eye on first glance, making the site unsuitable for recreation. The RTA defines poor condition for this parameter as follows, trash distracts the eye on first glance. Stream, bank surfaces, and immediate riparian zone contain substantial levels of litter and debris (>100 pieces). Evidence of site being used frequently by people: many cans, bottles, and food wrappers, blankets, clothing. State Water Board staff trained in the RTA inspected the available photographic evidence and applied the assessment method to determine the Level of Trash score. If the RTA Parameter 3 (Threat to Aquatic Life) is in the poor condition category (scores 0-5), then WILD is not supported. This level of trash is a large amount (>50 pieces) of transportable, persistent, buoyant litter that is detrimental to aquatic life. The RTA defines poor condition for this parameter as follows, large amount (>50 pieces) of transportable, persistent, buoyant litter such as: hard or soft plastics, balloons, Styrofoam, cigarette butts; toxic items such as batteries, lighters, or spray cans; large clumps of yard waste or dumped leaf litter; or large amount (>50 pieces) of settleable glass or metal. State Water Board staff trained in the RTA inspected the available photographic evidence and applied the assessment method to determine the

Guideline Reference: Threat to Aquatic Life score.
[A Rapid Trash Assessment Method Applied to Waters of the San Francisco Bay Region:Trash Measurement in Streams](#)

Spatial Representation: All photos were taken on the South side of the lake.
 Temporal Representation: All photos were taken on 3/7/07.
 Environmental Conditions:
 QAPP Information: Assessments of the photographic evidence using the RTA were performed by a State Water Board staff person. Assessments based on photographic evidence were only conducted when sufficient reach-scale and close-up photos were available for a site on a specific date. Photos used for the evaluation needed to be numerous enough and clear enough to document the level of trash at the site in a similar way as the assessor would experience during an actual site visit in the field. For example, at a minimum, one reach-scale photograph (showing at least a 100 linear foot section of the waterbody) and two close-up photographs (of representative trash deposits) were required.

QAPP Information Reference(s):

DECISION ID	34215	Region 2
Lake Merritt		

Pollutant: Organic Enrichment/Low Dissolved Oxygen
Final Listing Decision: List on 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision: List on 303(d) list (TMDL required list)(2012)
Revision Status Original
Sources: Source Unknown
Expected TMDL Completion Date: 2019
Impairment from Pollutant or Pollution: Pollutant

Regional Board Staff Conclusion: 303(d) listing decisions made prior to 2006 were not held in an assessment database. The Regional Boards will update this decision when new data and information become available and are assessed.

Regional Board Staff Decision Recommendation: This is a decision previously approved by the State Water Resources Control Board and the USEPA. No new data were assessed by the Regional Board for the current. The decision has not changed.

Line of Evidence (LOE) for Decision ID 34215, Organic Enrichment/Low Dissolved Oxygen	Region 2
Lake Merritt	

LOE ID: 3760

Pollutant: Organic Enrichment/Low Dissolved Oxygen
LOE Subgroup: Pollutant-Water
Matrix: Water
Fraction: Not Recorded

Beneficial Use: Estuarine Habitat

Number of Samples: 0
Number of Exceedances: 0

Data and Information Type: Not Specified
Data Used to Assess Water Quality: Unspecified--This LOE is a placeholder to support a 303(d) listing decision made prior to 2006.
Data Reference: [Placeholder reference pre-2006 303\(d\)](#)

SWAMP Data: Non-SWAMP

Water Quality Objective/Criterion:
Objective/Criterion Reference:

Evaluation Guideline:
Guideline Reference:

Spatial Representation:	Unspecified
Temporal Representation:	Unspecified
Environmental Conditions:	Unspecified
QAPP Information:	Unspecified
QAPP Information Reference(s):	

Draft California 2016 Integrated Report (303(d) List/305(b) Report)

Supporting Information

Regional Board 2 - San Francisco Bay Region

Water Body Name: Alameda Creek Quarry Ponds
Water Body ID: CAL2042004020020327162335
Water Body Type: Lake & Reservoir

DECISION ID 61146 **Region 2**
Alameda Creek Quarry Ponds

Pollutant: Aldrin
Final Listing Decision: Do Not List on 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision: New Decision
Revision Status Revised
Impairment from Pollutant or Pollution: Pollutant

Regional Board Staff Conclusion: This pollutant is being considered for placement on the CWA section 303(d) List under section 3.1 of the Listing Policy. Under section 3.1 a single line of evidence is necessary to assess listing status. Two lines of evidence are available in the administrative record to assess this pollutant. Zero of one samples exceed the guideline.

Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against placing this water segment-pollutant combination on the CWA section 303(d) List.

This conclusion is based on the staff findings that:

1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy.
2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy.
3. Zero of one samples exceed the guideline and this sample size is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating. A minimum of 16 samples is needed to determine if a beneficial use is fully supported using table 3.1.
4. Pursuant to SECTION 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.

Regional Board Staff Decision Recommendation: After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be placed on the section 303(d) list. The readily available data and information is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating.

Line of Evidence (LOE) for Decision ID 61146, Aldrin **Region 2**
Alameda Creek Quarry Ponds

LOE ID: 90972
Pollutant: Aldrin
LOE Subgroup: Pollutant-Tissue
Matrix: Tissue
Fraction: Fish fillet
Beneficial Use: Cold Freshwater Habitat
Number of Samples: 1
Number of Exceedances: 0

Data and Information Type:	Fish tissue analysis
Data Used to Assess Water Quality:	State Water Board staff assessed SWAMP data for Alameda Creek Quarry Ponds to determine beneficial use support and results are as follows: 0 of 1 samples exceed the criterion for Aldrin. One composite (2 fish per composite) was generated from one species: Channel Catfish. Details of the compositing protocol can be found in the March 2009 report entitled: "Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Study" (SWAMP, 2009).
Data Reference:	Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Survey. A Report of the Surface Water Ambient Monitoring Program (SWAMP). California State Water Resources Control Board, Sacramento, CA Cruise Report for the Surface Waters Ambient Monitoring Program (SWAMP) Bioaccumulation Screening Study in California Lakes and Reservoirs, Sampling Dates: June 2007- March 2008 Statewide Lakes Sportfish Contamination Study 2007 2008 Contaminants in Fish from California Lakes and Reservoirs, 2007-2008: Summary Report on a Two-Year Screening Survey
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	Water Quality Control Plan for the San Francisco Bay Basin: Controllable water quality factors shall not cause a detrimental increase in concentrations of toxic substances found in bottom sediments or aquatic life. Effects on aquatic organisms, wildlife, and human health will be considered.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	National Academy of Science guidelines (NAS 1972) establish a maximum Aldrin concentration of 100 ug/Kg (wet weight) in tissue samples for protection of aquatic life from bioaccumulation of toxic substances.
Guideline Reference:	National Academy of Sciences. Water Quality Criteria 1972. EPA-R3-73-033. Washington, D.C.: U.S. Environmental Protection Agency
Spatial Representation:	Data for this assessment unit was collected by one monitoring project: (SWB_FishLk)
Temporal Representation:	Data was collected on a single day 10/8/2007.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	Samples were collected, processed, and analyzed in accordance with the methods described in Quality Assurance Project Plan "Screening Study of Bioaccumulation in California Lakes and Reservoirs." (SWAMP, 2008).
QAPP Information Reference(s):	Quality Assurance Project Plan Screening Study of Bioaccumulation in California Lakes and Reservoirs. Moss Landing Marine Labs. Prepared for SWAMP BOG, 49 pages plus appendices and attachments

Line of Evidence (LOE) for Decision ID 61146, Aldrin	Region 2
Alameda Creek Quarry Ponds	

LOE ID:	90971
Pollutant:	Aldrin
LOE Subgroup:	Pollutant-Tissue
Matrix:	Tissue
Fraction:	Fish fillet
Beneficial Use:	Warm Freshwater Habitat
Number of Samples:	1
Number of Exceedances:	0
Data and Information Type:	Fish tissue analysis
Data Used to Assess Water Quality:	State Water Board staff assessed SWAMP data for Alameda Creek Quarry Ponds to determine beneficial use support and results are as follows: 0 of 1 samples exceed the criterion for Aldrin. One composite (2 fish per composite) was generated from one species: Channel Catfish. Details of the compositing protocol can be found in the March

Data Reference:	2009 report entitled: "Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Study" (SWAMP, 2009). Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Survey. A Report of the Surface Water Ambient Monitoring Program (SWAMP). California State Water Resources Control Board, Sacramento, CA Cruise Report for the Surface Waters Ambient Monitoring Program (SWAMP) Bioaccumulation Screening Study in California Lakes and Reservoirs. Sampling Dates: June 2007- March 2008 Statewide Lakes Sportfish Contamination Study 2007 2008 Contaminants in Fish from California Lakes and Reservoirs, 2007-2008: Summary Report on a Two-Year Screening Survey
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	Water Quality Control Plan for the San Francisco Bay Basin: Controllable water quality factors shall not cause a detrimental increase in concentrations of toxic substances found in bottom sediments or aquatic life. Effects on aquatic organisms, wildlife, and human health will be considered.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	National Academy of Science guidelines (NAS 1972) establish a maximum Aldrin concentration of 100 ug/Kg (wet weight) in tissue samples for protection of aquatic life from bioaccumulation of toxic substances.
Guideline Reference:	National Academy of Sciences. Water Quality Criteria 1972. EPA-R3-73-033. Washington, D.C.: U.S. Environmental Protection Agency
Spatial Representation:	Data for this assessment unit was collected by one monitoring project: (SWB_FishLk)
Temporal Representation:	Data was collected on a single day 10/8/2007.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	Samples were collected, processed, and analyzed in accordance with the methods described in Quality Assurance Project Plan "Screening Study of Bioaccumulation in California Lakes and Reservoirs." (SWAMP, 2008).
QAPP Information Reference(s):	Quality Assurance Project Plan Screening Study of Bioaccumulation in California Lakes and Reservoirs. Moss Landing Marine Labs. Prepared for SWAMP BOG. 49 pages plus appendices and attachments

DECISION ID	61151	Region 2
Alameda Creek Quarry Ponds		
Pollutant:	Chlordane	
Final Listing Decision:	Do Not List on 303(d) list (TMDL required list)	
Last Listing Cycle's Final Listing Decision:	New Decision	
Revision Status	Revised	
Impairment from Pollutant or Pollution:	Pollutant	
Regional Board Staff Conclusion:	<p>This pollutant is being considered for placement on the CWA section 303(d) List under section 3.1 of the Listing Policy. Under section 3.1 a single line of evidence is necessary to assess listing status. Three lines of evidence are available in the administrative record to assess this pollutant. Zero of one samples exceed the guideline.</p> <p>Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against placing this water segment-pollutant combination on the CWA section 303(d) List.</p> <p>This conclusion is based on the staff findings that:</p> <ol style="list-style-type: none"> 1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy. 2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy. 3. Zero of one samples exceed the guideline and this sample size is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating. A 	

minimum of 16 samples is needed to determine if a beneficial use is fully supported using table 3.1. 4. Pursuant to SECTION 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.

Regional Board Staff Decision Recommendation: After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be placed on the section 303(d) list. The readily available data and information is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating.

Line of Evidence (LOE) for Decision ID 61151, Chlordane

Region 2

Alameda Creek Quarry Ponds

LOE ID:	90974
Pollutant:	Chlordane
LOE Subgroup:	Pollutant-Tissue
Matrix:	Tissue
Fraction:	Fish fillet
Beneficial Use:	Cold Freshwater Habitat
Number of Samples:	1
Number of Exceedances:	0
Data and Information Type:	Fish tissue analysis
Data Used to Assess Water Quality:	State Water Board staff assessed SWAMP data for Alameda Creek Quarry Ponds to determine beneficial use support and results are as follows: 0 of 1 samples exceed the criterion for Chlordane, Total. One composite (2 fish per composite) was generated from one species: Channel Catfish. Details of the compositing protocol can be found in the March 2009 report entitled: "Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Study" (SWAMP, 2009). Total chlordane was calculated as the sum of the following chlordane isomers: cis- and trans-chlordane, cis- and trans-nonachlor, and oxychlordane.
Data Reference:	Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Survey. A Report of the Surface Water Ambient Monitoring Program (SWAMP). California State Water Resources Control Board, Sacramento, CA Cruise Report for the Surface Waters Ambient Monitoring Program (SWAMP) Bioaccumulation Screening Study in California Lakes and Reservoirs. Sampling Dates: June 2007- March 2008 Statewide Lakes Sportfish Contamination Study 2007 2008 Contaminants in Fish from California Lakes and Reservoirs, 2007-2008: Summary Report on a Two-Year Screening Survey
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	Water Quality Control Plan for the San Francisco Bay Basin: Controllable water quality factors shall not cause a detrimental increase in concentrations of toxic substances found in bottom sediments or aquatic life. Effects on aquatic organisms, wildlife, and human health will be considered.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	National Academy of Science guidelines (NAS 1972) establish a maximum total Chlordane concentration of 100 ug/Kg (wet weight) in tissue samples for protection of aquatic life from bioaccumulation of toxic substances.
Guideline Reference:	National Academy of Sciences. Water Quality Criteria 1972. EPA-R3-73-033. Washington, D.C.: U.S. Environmental Protection Agency
Spatial Representation:	Data for this assessment unit was collected by one monitoring project: (SWB_FishLk)
Temporal Representation:	Data was collected on a single day 10/8/2007.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	Samples were collected, processed, and analyzed in accordance with the methods

QAPP Information Reference(s):

described in Quality Assurance Project Plan "Screening Study of Bioaccumulation in California Lakes and Reservoirs." (SWAMP, 2008).

[Quality Assurance Project Plan Screening Study of Bioaccumulation in California Lakes and Reservoirs. Moss Landing Marine Labs. Prepared for SWAMP BOG. 49 pages plus appendices and attachments](#)

Line of Evidence (LOE) for Decision ID 61151, Chlordane

Region 2

Alameda Creek Quarry Ponds

LOE ID: 90975

Pollutant: Chlordane
LOE Subgroup: Pollutant-Tissue
Matrix: Tissue
Fraction: Fish fillet

Beneficial Use: Commercial or recreational collection of fish, shellfish, or organisms

Number of Samples: 1
Number of Exceedances: 0

Data and Information Type: Fish tissue analysis
Data Used to Assess Water Quality: State Water Board staff assessed SWAMP data for Alameda Creek Quarry Ponds to determine beneficial use support and results are as follows: 0 of 1 samples exceed the criterion for Chlordane, Total. One composite (2 fish per composite) was generated from one species: Channel Catfish. Details of the compositing protocol can be found in the March 2009 report entitled: "Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Study" (SWAMP, 2009). Total chlordane was calculated as the sum of the following chlordane isomers: cis- and trans-chlordane, cis- and trans-nonachlor, and oxychlordane.

Data Reference: [Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Survey. A Report of the Surface Water Ambient Monitoring Program \(SWAMP\). California State Water Resources Control Board, Sacramento, CA Cruise Report for the Surface Waters Ambient Monitoring Program \(SWAMP\) Bioaccumulation Screening Study in California Lakes and Reservoirs. Sampling Dates: June 2007- March 2008](#)
[Statewide Lakes Sportfish Contamination Study 2007 2008](#)
[Contaminants in Fish from California Lakes and Reservoirs. 2007-2008: Summary Report on a Two-Year Screening Survey](#)

SWAMP Data: SWAMP

Water Quality Objective/Criterion: Water Quality Control Plan for the San Francisco Bay Basin: Controllable water quality factors shall not cause a detrimental increase in concentrations of toxic substances found in bottom sediments or aquatic life. Effects on aquatic organisms, wildlife, and human health will be considered.

Objective/Criterion Reference: [Water Quality Control Plan \(Basin Plan\) San Francisco Bay Basin \(Region 2\)](#)

Evaluation Guideline: The modified OEHHA Fish Contaminant Goal for total chlordane in fish tissue is 3.9 ppb. This screening level assumes an average body weight of 70 kg and a consumption rate of 32 g/day for a 30 year exposure over a 70-year lifetime. This constituent is a carcinogen therefore the risk level is set to one in a million. A cooking reduction factor of 1 is applied for skin-off fillets. (Klasing, S., and R. Brodberg, 2008)

Guideline Reference: [Development of Fish Contaminant Goals and Advisory Tissue Levels for Common Contaminants in California Sport Fish: Chlordane, DDTs, Dieldrin, Methylmercury, PCBs, Selenium, and Toxaphene](#)

Spatial Representation: Data for this assessment unit was collected by one monitoring project: (SWB_FishLk)
Temporal Representation: Data was collected on a single day 10/8/2007.
Environmental Conditions: Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information: Samples were collected, processed, and analyzed in accordance with the methods described in Quality Assurance Project Plan "Screening Study of Bioaccumulation in

QAPP Information Reference(s):	California Lakes and Reservoirs." (SWAMP, 2008). Quality Assurance Project Plan Screening Study of Bioaccumulation in California Lakes and Reservoirs. Moss Landing Marine Labs. Prepared for SWAMP BOG, 49 pages plus appendices and attachments
Line of Evidence (LOE) for Decision ID 61151, Chlordane	
Alameda Creek Quarry Ponds	
LOE ID:	90973
Pollutant:	Chlordane
LOE Subgroup:	Pollutant-Tissue
Matrix:	Tissue
Fraction:	Fish fillet
Beneficial Use:	Warm Freshwater Habitat
Number of Samples:	1
Number of Exceedances:	0
Data and Information Type:	Fish tissue analysis
Data Used to Assess Water Quality:	State Water Board staff assessed SWAMP data for Alameda Creek Quarry Ponds to determine beneficial use support and results are as follows: 0 of 1 samples exceed the criterion for Chlordane, Total. One composite (2 fish per composite) was generated from one species: Channel Catfish. Details of the compositing protocol can be found in the March 2009 report entitled: "Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Study" (SWAMP, 2009). Total chlordane was calculated as the sum of the following chlordane isomers: cis- and trans-chlordane, cis- and trans-nonachlor, and oxychlordane.
Data Reference:	Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Survey. A Report of the Surface Water Ambient Monitoring Program (SWAMP). California State Water Resources Control Board, Sacramento, CA Cruise Report for the Surface Waters Ambient Monitoring Program (SWAMP) Bioaccumulation Screening Study in California Lakes and Reservoirs, Sampling Dates: June 2007- March 2008 Statewide Lakes Sportfish Contamination Study 2007 2008 Contaminants in Fish from California Lakes and Reservoirs, 2007-2008: Summary Report on a Two-Year Screening Survey
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	Water Quality Control Plan for the San Francisco Bay Basin: Controllable water quality factors shall not cause a detrimental increase in concentrations of toxic substances found in bottom sediments or aquatic life. Effects on aquatic organisms, wildlife, and human health will be considered.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	National Academy of Science guidelines (NAS 1972) establish a maximum total Chlordane concentration of 100 ug/Kg (wet weight) in tissue samples for protection of aquatic life from bioaccumulation of toxic substances.
Guideline Reference:	National Academy of Sciences. Water Quality Criteria 1972. EPA-R3-73-033. Washington, D.C.: U.S. Environmental Protection Agency
Spatial Representation:	Data for this assessment unit was collected by one monitoring project: (SWB_FishLk)
Temporal Representation:	Data was collected on a single day 10/8/2007.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	Samples were collected, processed, and analyzed in accordance with the methods described in Quality Assurance Project Plan "Screening Study of Bioaccumulation in California Lakes and Reservoirs." (SWAMP, 2008).
QAPP Information Reference(s):	Quality Assurance Project Plan Screening Study of Bioaccumulation in California Lakes and Reservoirs. Moss Landing Marine Labs. Prepared for SWAMP BOG, 49 pages plus appendices and attachments

DECISION ID	61185	Region 2
Alameda Creek Quarry Ponds		

Pollutant:	DDT (Dichlorodiphenyltrichloroethane)
Final Listing Decision:	Do Not List on 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision:	New Decision
Revision Status	Revised
Impairment from Pollutant or Pollution:	Pollutant
Regional Board Staff Conclusion:	<p>This pollutant is being considered for placement on the CWA section 303(d) List under section 3.1 of the Listing Policy. Under section 3.1 a single line of evidence is necessary to assess listing status. Three lines of evidence are available in the administrative record to assess this pollutant. Zero of one samples exceed the guideline.</p> <p>Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against placing this water segment-pollutant combination on the CWA section 303(d) List.</p> <p>This conclusion is based on the staff findings that:</p> <ol style="list-style-type: none"> 1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy. 2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy. 3. Zero of one samples exceed the guideline and this sample size is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating. A minimum of 16 samples is needed to determine if a beneficial use is fully supported using table 3.1. 4. Pursuant to SECTION 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.
Regional Board Staff Decision Recommendation:	After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be placed on the section 303(d) list. The readily available data and information is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating.

Line of Evidence (LOE) for Decision ID 61185, DDT (Dichlorodiphenyltrichloroethane)	Region 2
Alameda Creek Quarry Ponds	

LOE ID:	91011
Pollutant:	Total DDT (sum of 4,4'- and 2,4'- isomers of DDT, DDE, and DDD)
LOE Subgroup:	Pollutant-Tissue
Matrix:	Tissue
Fraction:	Fish fillet
Beneficial Use:	Cold Freshwater Habitat
Number of Samples:	1
Number of Exceedances:	0
Data and Information Type:	Fish tissue analysis
Data Used to Assess Water Quality:	State Water Board staff assessed SWAMP data for Alameda Creek Quarry Ponds to determine beneficial use support and results are as follows: 0 of 1 samples exceed the criterion for DDT, Total. One composite (2 fish per composite) was generated from one species: Channel Catfish. Details of the compositing protocol can be found in the March 2009 report entitled: "Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Study" (SWAMP, 2009). Total DDT was calculated as the sum of 4,4'- and 2,4'- isomers of DDT, DDE, and DDD.
Data Reference:	Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year

[One of a Two-Year Screening Survey. A Report of the Surface Water Ambient Monitoring Program \(SWAMP\). California State Water Resources Control Board, Sacramento, CA](#)
[Cruise Report for the Surface Waters Ambient Monitoring Program \(SWAMP\)](#)
[Bioaccumulation Screening Study in California Lakes and Reservoirs, Sampling Dates: June 2007- March 2008](#)
[Statewide Lakes Sportfish Contamination Study 2007 2008](#)
[Contaminants in Fish from California Lakes and Reservoirs, 2007-2008: Summary Report on a Two-Year Screening Survey](#)

SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	Water Quality Control Plan for the San Francisco Bay Basin: Controllable water quality factors shall not cause a detrimental increase in concentrations of toxic substances found in bottom sediments or aquatic life. Effects on aquatic organisms, wildlife, and human health will be considered.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	National Academy of Science guidelines (NAS 1972) establish a maximum total DDT concentration of 1000 ug/Kg (wet weight) in tissue samples for protection of aquatic life from bioaccumulation of toxic substances.
Guideline Reference:	National Academy of Sciences. Water Quality Criteria 1972. EPA-R3-73-033. Washington, D.C.: U.S. Environmental Protection Agency
Spatial Representation:	Data for this assessment unit was collected by one monitoring project: (SWB_FishLk)
Temporal Representation:	Data was collected on a single day 10/8/2007.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	Samples were collected, processed, and analyzed in accordance with the methods described in Quality Assurance Project Plan "Screening Study of Bioaccumulation in California Lakes and Reservoirs." (SWAMP, 2008).
QAPP Information Reference(s):	Quality Assurance Project Plan Screening Study of Bioaccumulation in California Lakes and Reservoirs. Moss Landing Marine Labs. Prepared for SWAMP BOG. 49 pages plus appendices and attachments

Line of Evidence (LOE) for Decision ID 61185, DDT (Dichlorodiphenyltrichloroethane)

Region 2

Alameda Creek Quarry Ponds

LOE ID:	91012
Pollutant:	Total DDT (sum of 4,4'- and 2,4'- isomers of DDT, DDE, and DDD)
LOE Subgroup:	Pollutant-Tissue
Matrix:	Tissue
Fraction:	Fish fillet
Beneficial Use:	Commercial or recreational collection of fish, shellfish, or organisms
Number of Samples:	1
Number of Exceedances:	0
Data and Information Type:	Fish tissue analysis
Data Used to Assess Water Quality:	State Water Board staff assessed SWAMP data for Alameda Creek Quarry Ponds to determine beneficial use support and results are as follows: 0 of 1 samples exceed the criterion for DDT, Total. One composite (2 fish per composite) was generated from one species: Channel Catfish. Details of the compositing protocol can be found in the March 2009 report entitled: "Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Study" (SWAMP, 2009). Total DDT was calculated as the sum of 4,4'- and 2,4'- isomers of DDT, DDE, and DDD.
Data Reference:	Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Survey. A Report of the Surface Water Ambient Monitoring Program (SWAMP). California State Water Resources Control Board, Sacramento, CA Cruise Report for the Surface Waters Ambient Monitoring Program (SWAMP) Bioaccumulation Screening Study in California Lakes and Reservoirs, Sampling Dates: June 2007- March 2008

SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	Water Quality Control Plan for the San Francisco Bay Basin: Controllable water quality factors shall not cause a detrimental increase in concentrations of toxic substances found in bottom sediments or aquatic life. Effects on aquatic organisms, wildlife, and human health will be considered.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	The modified OEHHA Fish Contaminant Goal for total DDT in fish tissue is 15 ppb. This screening level assumes an average body weight of 70 kg and a consumption rate of 32 g/day for a 30 year exposure over a 70-year lifetime. This constituent is a carcinogen therefore the risk level is set to one in a million. A cooking reduction factor of 1 is applied for skin-off fillets. (Klasing, S., and R. Brodberg, 2008)
Guideline Reference:	Development of Fish Contaminant Goals and Advisory Tissue Levels for Common Contaminants in California Sport Fish: Chlordane, DDTs, Dieldrin, Methylmercury, PCBs, Selenium, and Toxaphene
Spatial Representation:	Data for this assessment unit was collected by one monitoring project: (SWB_FishLk)
Temporal Representation:	Data was collected on a single day 10/8/2007.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	Samples were collected, processed, and analyzed in accordance with the methods described in Quality Assurance Project Plan "Screening Study of Bioaccumulation in California Lakes and Reservoirs." (SWAMP, 2008).
QAPP Information Reference(s):	Quality Assurance Project Plan Screening Study of Bioaccumulation in California Lakes and Reservoirs. Moss Landing Marine Labs. Prepared for SWAMP BOG, 49 pages plus appendices and attachments

Line of Evidence (LOE) for Decision ID 61185, DDT (Dichlorodiphenyltrichloroethane)

Region 2

Alameda Creek Quarry Ponds

LOE ID:	91010
Pollutant:	Total DDT (sum of 4,4'- and 2,4'- isomers of DDT, DDE, and DDD)
LOE Subgroup:	Pollutant-Tissue
Matrix:	Tissue
Fraction:	Fish fillet
Beneficial Use:	Warm Freshwater Habitat
Number of Samples:	1
Number of Exceedances:	0
Data and Information Type:	Fish tissue analysis
Data Used to Assess Water Quality:	State Water Board staff assessed SWAMP data for Alameda Creek Quarry Ponds to determine beneficial use support and results are as follows: 0 of 1 samples exceed the criterion for DDT, Total. One composite (2 fish per composite) was generated from one species: Channel Catfish. Details of the compositing protocol can be found in the March 2009 report entitled: "Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Study" (SWAMP, 2009). Total DDT was calculated as the sum of 4,4'- and 2,4'- isomers of DDT, DDE, and DDD.
Data Reference:	Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Survey. A Report of the Surface Water Ambient Monitoring Program (SWAMP). California State Water Resources Control Board, Sacramento, CA Cruise Report for the Surface Waters Ambient Monitoring Program (SWAMP) Bioaccumulation Screening Study in California Lakes and Reservoirs, Sampling Dates: June 2007- March 2008 Statewide Lakes Sportfish Contamination Study 2007 2008 Contaminants in Fish from California Lakes and Reservoirs, 2007-2008: Summary Report

SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	Water Quality Control Plan for the San Francisco Bay Basin: Controllable water quality factors shall not cause a detrimental increase in concentrations of toxic substances found in bottom sediments or aquatic life. Effects on aquatic organisms, wildlife, and human health will be considered.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	National Academy of Science guidelines (NAS 1972) establish a maximum total DDT concentration of 1000 ug/Kg (wet weight) in tissue samples for protection of aquatic life from bioaccumulation of toxic substances.
Guideline Reference:	National Academy of Sciences. Water Quality Criteria 1972. EPA-R3-73-033. Washington, D.C.: U.S. Environmental Protection Agency
Spatial Representation:	Data for this assessment unit was collected by one monitoring project: (SWB_FishLk)
Temporal Representation:	Data was collected on a single day 10/8/2007.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	Samples were collected, processed, and analyzed in accordance with the methods described in Quality Assurance Project Plan "Screening Study of Bioaccumulation in California Lakes and Reservoirs." (SWAMP, 2008).
QAPP Information Reference(s):	Quality Assurance Project Plan Screening Study of Bioaccumulation in California Lakes and Reservoirs. Moss Landing Marine Labs. Prepared for SWAMP BOG. 49 pages plus appendices and attachments

DECISION ID	61152	Region 2
Alameda Creek Quarry Ponds		

Pollutant:	Dieldrin
Final Listing Decision:	Do Not List on 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision:	New Decision
Revision Status	Revised
Impairment from Pollutant or Pollution:	Pollutant
Regional Board Staff Conclusion:	<p>This pollutant is being considered for placement on the CWA section 303(d) List under section 3.1 of the Listing Policy. Under section 3.1 a single line of evidence is necessary to assess listing status. Three lines of evidence are available in the administrative record to assess this pollutant. Zero of one samples exceed the guideline.</p> <p>Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against placing this water segment-pollutant combination on the CWA section 303(d) List.</p> <p>This conclusion is based on the staff findings that:</p> <ol style="list-style-type: none">1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy.2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy.3. Zero of one samples exceed the guideline and this sample size is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating. A minimum of 16 samples is needed to determine if a beneficial use is fully supported using table 3.1.4. Pursuant to SECTION 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.
Regional Board Staff Decision Recommendation:	After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be placed on the section 303(d) list. The readily available data and information is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating.

Alameda Creek Quarry Ponds

LOE ID:	90976
Pollutant:	Dieldrin
LOE Subgroup:	Pollutant-Tissue
Matrix:	Tissue
Fraction:	Fish fillet
Beneficial Use:	Warm Freshwater Habitat
Number of Samples:	1
Number of Exceedances:	0
Data and Information Type:	Fish tissue analysis
Data Used to Assess Water Quality:	State Water Board staff assessed SWAMP data for Alameda Creek Quarry Ponds to determine beneficial use support and results are as follows: 0 of 1 samples exceed the criterion for Dieldrin. One composite (2 fish per composite) was generated from one species: Channel Catfish. Details of the compositing protocol can be found in the March 2009 report entitled: "Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Study" (SWAMP, 2009).
Data Reference:	Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Survey. A Report of the Surface Water Ambient Monitoring Program (SWAMP). California State Water Resources Control Board, Sacramento, CA Cruise Report for the Surface Waters Ambient Monitoring Program (SWAMP) Bioaccumulation Screening Study in California Lakes and Reservoirs, Sampling Dates: June 2007- March 2008 Statewide Lakes Sportfish Contamination Study 2007 2008 Contaminants in Fish from California Lakes and Reservoirs, 2007-2008: Summary Report on a Two-Year Screening Survey
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	Water Quality Control Plan for the San Francisco Bay Basin: Controllable water quality factors shall not cause a detrimental increase in concentrations of toxic substances found in bottom sediments or aquatic life. Effects on aquatic organisms, wildlife, and human health will be considered.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	National Academy of Science guidelines (NAS 1972) establish a maximum Dieldrin concentration of 100 ug/Kg (wet weight) in tissue samples for protection of aquatic life from bioaccumulation of toxic substances.
Guideline Reference:	National Academy of Sciences. Water Quality Criteria 1972. EPA-R3-73-033. Washington, D.C.: U.S. Environmental Protection Agency
Spatial Representation:	Data for this assessment unit was collected by one monitoring project: (SWB_FishLk)
Temporal Representation:	Data was collected on a single day 10/8/2007.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	Samples were collected, processed, and analyzed in accordance with the methods described in Quality Assurance Project Plan "Screening Study of Bioaccumulation in California Lakes and Reservoirs." (SWAMP, 2008).
QAPP Information Reference(s):	Quality Assurance Project Plan Screening Study of Bioaccumulation in California Lakes and Reservoirs. Moss Landing Marine Labs. Prepared for SWAMP BOG, 49 pages plus appendices and attachments

Alameda Creek Quarry Ponds

LOE ID: 90986

Pollutant:	Dieldrin
LOE Subgroup:	Pollutant-Tissue
Matrix:	Tissue
Fraction:	Fish fillet
Beneficial Use:	Commercial or recreational collection of fish, shellfish, or organisms
Number of Samples:	0
Number of Exceedances:	0
Data and Information Type:	Fish tissue analysis
Data Used to Assess Water Quality:	State Water Board staff assessed SWAMP data for Alameda Creek Quarry Ponds to determine beneficial use support and results are as follows: 0 of 0 samples exceed the criterion for Dieldrin. One composite (2 fish per composite) was generated from one species: Channel Catfish. Details of the compositing protocol can be found in the March 2009 report entitled: "Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Study" (SWAMP, 2009). One composite was not used in the assessment because the laboratory data reporting limit(s) was above the objective and therefore the results could not be quantified with the level of certainty required by the Listing Policy.
Data Reference:	Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Survey. A Report of the Surface Water Ambient Monitoring Program (SWAMP). California State Water Resources Control Board, Sacramento, CA Cruise Report for the Surface Waters Ambient Monitoring Program (SWAMP) Bioaccumulation Screening Study in California Lakes and Reservoirs. Sampling Dates: June 2007- March 2008 Statewide Lakes Sportfish Contamination Study 2007 2008 Contaminants in Fish from California Lakes and Reservoirs, 2007-2008: Summary Report on a Two-Year Screening Survey
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	Water Quality Control Plan for the San Francisco Bay Basin: Controllable water quality factors shall not cause a detrimental increase in concentrations of toxic substances found in bottom sediments or aquatic life. Effects on aquatic organisms, wildlife, and human health will be considered.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	The modified OEHHA Fish Contaminant Goal for dieldrin in fish tissue is 0.32 ppb. This screening level assumes an average body weight of 70 kg and a consumption rate of 32 g/day for a 30 year exposure over a 70-year lifetime. This constituent is a carcinogen therefore the risk level is set to one in a million. A cooking reduction factor of 1 is applied for skin-off fillets. (Klasing, S., and R. Brodberg, 2008)
Guideline Reference:	Development of Fish Contaminant Goals and Advisory Tissue Levels for Common Contaminants in California Sport Fish: Chlordane, DDTs, Dieldrin, Methylmercury, PCBs, Selenium, and Toxaphene
Spatial Representation:	Data for this assessment unit was collected by one monitoring project: (SWB_FishLk)
Temporal Representation:	Data was collected on a single day 10/8/2007.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	Samples were collected, processed, and analyzed in accordance with the methods described in Quality Assurance Project Plan "Screening Study of Bioaccumulation in California Lakes and Reservoirs." (SWAMP, 2008).
QAPP Information Reference(s):	Quality Assurance Project Plan Screening Study of Bioaccumulation in California Lakes and Reservoirs. Moss Landing Marine Labs. Prepared for SWAMP BOG, 49 pages plus appendices and attachments

Line of Evidence (LOE) for Decision ID 61152, Dieldrin

Region 2

Alameda Creek Quarry Ponds

LOE ID: 90985

Pollutant:	Dieldrin
LOE Subgroup:	Pollutant-Tissue
Matrix:	Tissue
Fraction:	Fish fillet
Beneficial Use:	Cold Freshwater Habitat
Number of Samples:	1
Number of Exceedances:	0
Data and Information Type:	Fish tissue analysis
Data Used to Assess Water Quality:	State Water Board staff assessed SWAMP data for Alameda Creek Quarry Ponds to determine beneficial use support and results are as follows: 0 of 1 samples exceed the criterion for Dieldrin. One composite (2 fish per composite) was generated from one species: Channel Catfish. Details of the compositing protocol can be found in the March 2009 report entitled: "Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Study" (SWAMP, 2009).
Data Reference:	Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Survey. A Report of the Surface Water Ambient Monitoring Program (SWAMP). California State Water Resources Control Board, Sacramento, CA Cruise Report for the Surface Waters Ambient Monitoring Program (SWAMP) Bioaccumulation Screening Study in California Lakes and Reservoirs, Sampling Dates: June 2007- March 2008 Statewide Lakes Sportfish Contamination Study 2007 2008 Contaminants in Fish from California Lakes and Reservoirs, 2007-2008: Summary Report on a Two-Year Screening Survey
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	Water Quality Control Plan for the San Francisco Bay Basin: Controllable water quality factors shall not cause a detrimental increase in concentrations of toxic substances found in bottom sediments or aquatic life. Effects on aquatic organisms, wildlife, and human health will be considered.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	National Academy of Science guidelines (NAS 1972) establish a maximum Dieldrin concentration of 100 ug/Kg (wet weight) in tissue samples for protection of aquatic life from bioaccumulation of toxic substances.
Guideline Reference:	National Academy of Sciences. Water Quality Criteria 1972. EPA-R3-73-033. Washington, D.C.: U.S. Environmental Protection Agency
Spatial Representation:	Data for this assessment unit was collected by one monitoring project: (SWB_FishLk)
Temporal Representation:	Data was collected on a single day 10/8/2007.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	Samples were collected, processed, and analyzed in accordance with the methods described in Quality Assurance Project Plan "Screening Study of Bioaccumulation in California Lakes and Reservoirs." (SWAMP, 2008).
QAPP Information Reference(s):	Quality Assurance Project Plan Screening Study of Bioaccumulation in California Lakes and Reservoirs. Moss Landing Marine Labs. Prepared for SWAMP BOG. 49 pages plus appendices and attachments

DECISION ID	61153	Region 2
Alameda Creek Quarry Ponds		

Pollutant:	Endosulfan
Final Listing Decision:	Do Not List on 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision:	New Decision
Revision Status	Revised
Impairment from Pollutant or Pollution:	Pollutant

Regional Board Staff Conclusion:

This pollutant is being considered for placement on the CWA section 303(d) List under section 3.1 of the Listing Policy. Under section 3.1 a single line of evidence is necessary to assess listing status. Three lines of evidence are available in the administrative record to assess this pollutant. Zero of one samples exceed the guideline.

Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against placing this water segment-pollutant combination on the CWA section 303(d) List.

This conclusion is based on the staff findings that:

1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy.
2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy.
3. Zero of one samples exceed the guideline and this sample size is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating. A minimum of 16 samples is needed to determine if a beneficial use is fully supported using table 3.1.
4. Pursuant to SECTION 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.

Regional Board Staff Decision Recommendation:

After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be placed on the section 303(d) list. The readily available data and information is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating.

**Line of Evidence (LOE) for Decision ID 61153, Endosulfan
Alameda Creek Quarry Ponds**

Region 2

LOE ID:	90987
Pollutant:	Endosulfan
LOE Subgroup:	Pollutant-Tissue
Matrix:	Tissue
Fraction:	Fish fillet
Beneficial Use:	Warm Freshwater Habitat
Number of Samples:	1
Number of Exceedances:	0
Data and Information Type:	Fish tissue analysis
Data Used to Assess Water Quality:	State Water Board staff assessed SWAMP data for Alameda Creek Quarry Ponds to determine beneficial use support and results are as follows: 0 of 1 samples exceed the criterion for Endosulfan I. One composite (2 fish per composite) was generated from one species: Channel Catfish. Details of the compositing protocol can be found in the March 2009 report entitled: "Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Study" (SWAMP, 2009).
Data Reference:	Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Survey. A Report of the Surface Water Ambient Monitoring Program (SWAMP). California State Water Resources Control Board, Sacramento, CA Cruise Report for the Surface Waters Ambient Monitoring Program (SWAMP) Bioaccumulation Screening Study in California Lakes and Reservoirs. Sampling Dates: June 2007- March 2008 Statewide Lakes Sportfish Contamination Study 2007 2008 Contaminants in Fish from California Lakes and Reservoirs, 2007-2008: Summary Report on a Two-Year Screening Survey
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	Water Quality Control Plan for the San Francisco Bay Basin: Controllable water quality factors shall not cause a detrimental increase in concentrations of toxic substances found in bottom sediments or aquatic life. Effects on aquatic organisms, wildlife, and human

Objective/Criterion Reference:	health will be considered. Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	National Academy of Science guidelines (NAS 1972) establish a maximum Endosulfan, Total concentration of 100 ug/Kg (wet weight) in tissue samples for protection of aquatic life from bioaccumulation of toxic substances.
Guideline Reference:	National Academy of Sciences. Water Quality Criteria 1972. EPA-R3-73-033. Washington, D.C.: U.S. Environmental Protection Agency
Spatial Representation:	Data for this assessment unit was collected by one monitoring project: (SWB_FishLk)
Temporal Representation:	Data was collected on a single day 10/8/2007.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	Samples were collected, processed, and analyzed in accordance with the methods described in Quality Assurance Project Plan "Screening Study of Bioaccumulation in California Lakes and Reservoirs." (SWAMP, 2008).
QAPP Information Reference(s):	Quality Assurance Project Plan Screening Study of Bioaccumulation in California Lakes and Reservoirs. Moss Landing Marine Labs. Prepared for SWAMP BOG. 49 pages plus appendices and attachments

Line of Evidence (LOE) for Decision ID 61153, Endosulfan

Region 2

Alameda Creek Quarry Ponds

LOE ID:	90977
Pollutant:	Endosulfan
LOE Subgroup:	Pollutant-Tissue
Matrix:	Tissue
Fraction:	Fish fillet
Beneficial Use:	Cold Freshwater Habitat
Number of Samples:	1
Number of Exceedances:	0
Data and Information Type:	Fish tissue analysis
Data Used to Assess Water Quality:	State Water Board staff assessed SWAMP data for Alameda Creek Quarry Ponds to determine beneficial use support and results are as follows: 0 of 1 samples exceed the criterion for Endosulfan I. One composite (2 fish per composite) was generated from one species: Channel Catfish. Details of the compositing protocol can be found in the March 2009 report entitled: "Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Study" (SWAMP, 2009).
Data Reference:	Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Survey. A Report of the Surface Water Ambient Monitoring Program (SWAMP). California State Water Resources Control Board, Sacramento, CA Cruise Report for the Surface Waters Ambient Monitoring Program (SWAMP) Bioaccumulation Screening Study in California Lakes and Reservoirs, Sampling Dates: June 2007- March 2008 Statewide Lakes Sportfish Contamination Study 2007 2008 Contaminants in Fish from California Lakes and Reservoirs, 2007-2008: Summary Report on a Two-Year Screening Survey
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	Water Quality Control Plan for the San Francisco Bay Basin: Controllable water quality factors shall not cause a detrimental increase in concentrations of toxic substances found in bottom sediments or aquatic life. Effects on aquatic organisms, wildlife, and human health will be considered.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	National Academy of Science guidelines (NAS 1972) establish a maximum Endosulfan, Total concentration of 100 ug/Kg (wet weight) in tissue samples for protection of aquatic life from bioaccumulation of toxic substances.

Guideline Reference:	National Academy of Sciences. Water Quality Criteria 1972. EPA-R3-73-033. Washington, D.C.: U.S. Environmental Protection Agency
Spatial Representation:	Data for this assessment unit was collected by one monitoring project: (SWB_FishLk)
Temporal Representation:	Data was collected on a single day 10/8/2007.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	Samples were collected, processed, and analyzed in accordance with the methods described in Quality Assurance Project Plan "Screening Study of Bioaccumulation in California Lakes and Reservoirs." (SWAMP, 2008).
QAPP Information Reference(s):	Quality Assurance Project Plan Screening Study of Bioaccumulation in California Lakes and Reservoirs. Moss Landing Marine Labs. Prepared for SWAMP BOG. 49 pages plus appendices and attachments

Line of Evidence (LOE) for Decision ID 61153, Endosulfan

Region 2

Alameda Creek Quarry Ponds

LOE ID:	90978
Pollutant:	Endosulfan
LOE Subgroup:	Pollutant-Tissue
Matrix:	Tissue
Fraction:	Fish fillet
Beneficial Use:	Commercial or recreational collection of fish, shellfish, or organisms
Number of Samples:	1
Number of Exceedances:	0
Data and Information Type:	Fish tissue analysis
Data Used to Assess Water Quality:	State Water Board staff assessed SWAMP data for Alameda Creek Quarry Ponds to determine beneficial use support and results are as follows: 0 of 1 samples exceed the criterion for Endosulfan I. One composite (2 fish per composite) was generated from one species: Channel Catfish. Details of the compositing protocol can be found in the March 2009 report entitled: "Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Study" (SWAMP, 2009).
Data Reference:	Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Survey. A Report of the Surface Water Ambient Monitoring Program (SWAMP). California State Water Resources Control Board, Sacramento, CA Cruise Report for the Surface Waters Ambient Monitoring Program (SWAMP) Bioaccumulation Screening Study in California Lakes and Reservoirs. Sampling Dates: June 2007- March 2008 Statewide Lakes Sportfish Contamination Study 2007 2008 Contaminants in Fish from California Lakes and Reservoirs, 2007-2008: Summary Report on a Two-Year Screening Survey
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	Water Quality Control Plan for the San Francisco Bay Basin: Controllable water quality factors shall not cause a detrimental increase in concentrations of toxic substances found in bottom sediments or aquatic life. Effects on aquatic organisms, wildlife, and human health will be considered.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	The modified OEHHA Fish Contaminant Goal for endosulfan (I and II) in fish tissue is 13,000 ppb. This screening level assumes an average body weight of 70 kg and a consumption rate of 32 g/day. A cooking reduction factor of 1 is applied for skin-off fillets. (Klasing, S., and R. Brodberg, 2008; USEPA, 2000)
Guideline Reference:	Development of Fish Contaminant Goals and Advisory Tissue Levels for Common Contaminants in California Sport Fish: Chlordane, DDTs, Dieldrin, Methylmercury, PCBs, Selenium, and Toxaphene Guidance for Assessing Chemical Contaminant Data for Use In Fish Advisories Volume 1: Fish Sampling and Analysis

Spatial Representation:	Data for this assessment unit was collected by one monitoring project: (SWB_FishLk)
Temporal Representation:	Data was collected on a single day 10/8/2007.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	Samples were collected, processed, and analyzed in accordance with the methods described in Quality Assurance Project Plan "Screening Study of Bioaccumulation in California Lakes and Reservoirs." (SWAMP, 2008).
QAPP Information Reference(s):	Quality Assurance Project Plan Screening Study of Bioaccumulation in California Lakes and Reservoirs. Moss Landing Marine Labs. Prepared for SWAMP BOG. 49 pages plus appendices and attachments

DECISION ID	61154	Region 2
Alameda Creek Quarry Ponds		

Pollutant:	Endrin
Final Listing Decision:	Do Not List on 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision:	New Decision
Revision Status	Revised
Impairment from Pollutant or Pollution:	Pollutant

Regional Board Staff Conclusion: This pollutant is being considered for placement on the CWA section 303(d) List under section 3.1 of the Listing Policy. Under section 3.1 a single line of evidence is necessary to assess listing status. Three lines of evidence are available in the administrative record to assess this pollutant. Zero of one samples exceed the guideline.

Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against placing this water segment-pollutant combination on the CWA section 303(d) List.

This conclusion is based on the staff findings that:

1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy.
2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy.
3. Zero of one samples exceed the guideline and this sample size is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating. A minimum of 16 samples is needed to determine if a beneficial use is fully supported using table 3.1.
4. Pursuant to SECTION 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.

Regional Board Staff Decision Recommendation: After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be placed on the section 303(d) list. The readily available data and information is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating.

Line of Evidence (LOE) for Decision ID 61154, Endrin	Region 2
Alameda Creek Quarry Ponds	

LOE ID:	90979
Pollutant:	Endrin
LOE Subgroup:	Pollutant-Tissue
Matrix:	Tissue
Fraction:	Fish fillet
Beneficial Use:	Cold Freshwater Habitat
Number of Samples:	1
Number of Exceedances:	0

Data and Information Type:	Fish tissue analysis
Data Used to Assess Water Quality:	State Water Board staff assessed SWAMP data for Alameda Creek Quarry Ponds to determine beneficial use support and results are as follows: 0 of 1 samples exceed the criterion for Endrin. One composite (2 fish per composite) was generated from one species: Channel Catfish. Details of the compositing protocol can be found in the March 2009 report entitled: "Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Study" (SWAMP, 2009).
Data Reference:	Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Survey. A Report of the Surface Water Ambient Monitoring Program (SWAMP). California State Water Resources Control Board, Sacramento, CA Cruise Report for the Surface Waters Ambient Monitoring Program (SWAMP) Bioaccumulation Screening Study in California Lakes and Reservoirs, Sampling Dates: June 2007- March 2008 Statewide Lakes Sportfish Contamination Study 2007 2008 Contaminants in Fish from California Lakes and Reservoirs, 2007-2008: Summary Report on a Two-Year Screening Survey
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	Water Quality Control Plan for the San Francisco Bay Basin: Controllable water quality factors shall not cause a detrimental increase in concentrations of toxic substances found in bottom sediments or aquatic life. Effects on aquatic organisms, wildlife, and human health will be considered.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	National Academy of Science guidelines (NAS 1972) establish a maximum Endrin concentration of 100 ug/Kg (wet weight) in tissue samples for protection of aquatic life from bioaccumulation of toxic substances.
Guideline Reference:	National Academy of Sciences. Water Quality Criteria 1972. EPA-R3-73-033. Washington, D.C.: U.S. Environmental Protection Agency
Spatial Representation:	Data for this assessment unit was collected by one monitoring project: (SWB_FishLk)
Temporal Representation:	Data was collected on a single day 10/8/2007.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	Samples were collected, processed, and analyzed in accordance with the methods described in Quality Assurance Project Plan "Screening Study of Bioaccumulation in California Lakes and Reservoirs." (SWAMP, 2008).
QAPP Information Reference(s):	Quality Assurance Project Plan Screening Study of Bioaccumulation in California Lakes and Reservoirs. Moss Landing Marine Labs. Prepared for SWAMP BOG, 49 pages plus appendices and attachments

Line of Evidence (LOE) for Decision ID 61154, Endrin	Region 2
Alameda Creek Quarry Ponds	

LOE ID:	90981
Pollutant:	Endrin
LOE Subgroup:	Pollutant-Tissue
Matrix:	Tissue
Fraction:	Fish fillet
Beneficial Use:	Commercial or recreational collection of fish, shellfish, or organisms
Number of Samples:	1
Number of Exceedances:	0
Data and Information Type:	Fish tissue analysis
Data Used to Assess Water Quality:	State Water Board staff assessed SWAMP data for Alameda Creek Quarry Ponds to determine beneficial use support and results are as follows: 0 of 1 samples exceed the criterion for Endrin. One composite (2 fish per composite) was generated from one species: Channel Catfish. Details of the compositing protocol can be found in the March

Data Reference:	2009 report entitled: "Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Study" (SWAMP, 2009). Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Survey. A Report of the Surface Water Ambient Monitoring Program (SWAMP). California State Water Resources Control Board, Sacramento, CA Cruise Report for the Surface Waters Ambient Monitoring Program (SWAMP) Bioaccumulation Screening Study in California Lakes and Reservoirs. Sampling Dates: June 2007- March 2008 Statewide Lakes Sportfish Contamination Study 2007 2008 Contaminants in Fish from California Lakes and Reservoirs, 2007-2008: Summary Report on a Two-Year Screening Survey
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	Water Quality Control Plan for the San Francisco Bay Basin: Controllable water quality factors shall not cause a detrimental increase in concentrations of toxic substances found in bottom sediments or aquatic life. Effects on aquatic organisms, wildlife, and human health will be considered.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	The modified OEHHA Fish Contaminant Goal for endrin in fish tissue is 660 ppb. This screening level assumes an average body weight of 70 kg and a consumption rate of 32 g/day. A cooking reduction factor of 1 is applied for skin-off fillets. (Klasing, S., and R. Brodberg, 2008; USEPA, 2000)
Guideline Reference:	Development of Fish Contaminant Goals and Advisory Tissue Levels for Common Contaminants in California Sport Fish: Chlordane, DDTs, Dieldrin, Methylmercury, PCBs, Selenium, and Toxaphene Guidance for Assessing Chemical Contaminant Data for Use In Fish Advisories Volume 1: Fish Sampling and Analysis
Spatial Representation:	Data for this assessment unit was collected by one monitoring project: (SWB_FishLk)
Temporal Representation:	Data was collected on a single day 10/8/2007.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	Samples were collected, processed, and analyzed in accordance with the methods described in Quality Assurance Project Plan "Screening Study of Bioaccumulation in California Lakes and Reservoirs." (SWAMP, 2008).
QAPP Information Reference(s):	Quality Assurance Project Plan Screening Study of Bioaccumulation in California Lakes and Reservoirs. Moss Landing Marine Labs. Prepared for SWAMP BOG. 49 pages plus appendices and attachments

Line of Evidence (LOE) for Decision ID 61154, Endrin
Alameda Creek Quarry Ponds

Region 2

LOE ID:	90980
Pollutant:	Endrin
LOE Subgroup:	Pollutant-Tissue
Matrix:	Tissue
Fraction:	Fish fillet
Beneficial Use:	Warm Freshwater Habitat
Number of Samples:	1
Number of Exceedances:	0
Data and Information Type:	Fish tissue analysis
Data Used to Assess Water Quality:	State Water Board staff assessed SWAMP data for Alameda Creek Quarry Ponds to determine beneficial use support and results are as follows: 0 of 1 samples exceed the criterion for Endrin. One composite (2 fish per composite) was generated from one species: Channel Catfish. Details of the compositing protocol can be found in the March 2009 report entitled: "Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Study" (SWAMP, 2009).

Data Reference:	Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Survey. A Report of the Surface Water Ambient Monitoring Program (SWAMP). California State Water Resources Control Board, Sacramento, CA Cruise Report for the Surface Waters Ambient Monitoring Program (SWAMP) Bioaccumulation Screening Study in California Lakes and Reservoirs. Sampling Dates: June 2007- March 2008 Statewide Lakes Sportfish Contamination Study 2007 2008 Contaminants in Fish from California Lakes and Reservoirs, 2007-2008: Summary Report on a Two-Year Screening Survey
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	Water Quality Control Plan for the San Francisco Bay Basin: Controllable water quality factors shall not cause a detrimental increase in concentrations of toxic substances found in bottom sediments or aquatic life. Effects on aquatic organisms, wildlife, and human health will be considered.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	National Academy of Science guidelines (NAS 1972) establish a maximum Endrin concentration of 100 ug/Kg (wet weight) in tissue samples for protection of aquatic life from bioaccumulation of toxic substances.
Guideline Reference:	National Academy of Sciences. Water Quality Criteria 1972. EPA-R3-73-033. Washington, D.C.: U.S. Environmental Protection Agency
Spatial Representation:	Data for this assessment unit was collected by one monitoring project: (SWB_FishLk)
Temporal Representation:	Data was collected on a single day 10/8/2007.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	Samples were collected, processed, and analyzed in accordance with the methods described in Quality Assurance Project Plan "Screening Study of Bioaccumulation in California Lakes and Reservoirs." (SWAMP, 2008).
QAPP Information Reference(s):	Quality Assurance Project Plan Screening Study of Bioaccumulation in California Lakes and Reservoirs. Moss Landing Marine Labs. Prepared for SWAMP BOG. 49 pages plus appendices and attachments

DECISION ID	61155	Region 2
Alameda Creek Quarry Ponds		
Pollutant:	Heptachlor	
Final Listing Decision:	Do Not List on 303(d) list (TMDL required list)	
Last Listing Cycle's Final Listing Decision:	New Decision	
Revision Status	Revised	
Impairment from Pollutant or Pollution:	Pollutant	
Regional Board Staff Conclusion:	<p>This pollutant is being considered for placement on the CWA section 303(d) List under section 3.1 of the Listing Policy. Under section 3.1 a single line of evidence is necessary to assess listing status. Two lines of evidence are available in the administrative record to assess this pollutant. Zero of one samples exceed the guideline.</p> <p>Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against placing this water segment-pollutant combination on the CWA section 303(d) List.</p> <p>This conclusion is based on the staff findings that:</p> <ol style="list-style-type: none"> 1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy. 2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy. 3. Zero of one samples exceed the guideline and this sample size is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating. A minimum of 16 samples is needed to determine if a beneficial use is fully supported using table 3.1. 4. Pursuant to SECTION 3.11 of the Listing Policy, no additional data and information are available 	

indicating that standards are not met.

Regional Board Staff Decision Recommendation: After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be placed on the section 303(d) list. The readily available data and information is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating.

Line of Evidence (LOE) for Decision ID 61155, Heptachlor

Region 2

Alameda Creek Quarry Ponds

LOE ID:	90982
Pollutant:	Heptachlor
LOE Subgroup:	Pollutant-Tissue
Matrix:	Tissue
Fraction:	Fish fillet
Beneficial Use:	Warm Freshwater Habitat
Number of Samples:	1
Number of Exceedances:	0
Data and Information Type:	Fish tissue analysis
Data Used to Assess Water Quality:	State Water Board staff assessed SWAMP data for Alameda Creek Quarry Ponds to determine beneficial use support and results are as follows: 0 of 1 samples exceed the criterion for Heptachlor. One composite (2 fish per composite) was generated from one species: Channel Catfish. Details of the compositing protocol can be found in the March 2009 report entitled: "Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Study" (SWAMP, 2009).
Data Reference:	Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Survey. A Report of the Surface Water Ambient Monitoring Program (SWAMP). California State Water Resources Control Board, Sacramento, CA Cruise Report for the Surface Waters Ambient Monitoring Program (SWAMP) Bioaccumulation Screening Study in California Lakes and Reservoirs, Sampling Dates: June 2007- March 2008 Statewide Lakes Sportfish Contamination Study 2007 2008 Contaminants in Fish from California Lakes and Reservoirs, 2007-2008: Summary Report on a Two-Year Screening Survey
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	Water Quality Control Plan for the San Francisco Bay Basin: Controllable water quality factors shall not cause a detrimental increase in concentrations of toxic substances found in bottom sediments or aquatic life. Effects on aquatic organisms, wildlife, and human health will be considered.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	National Academy of Science guidelines (NAS 1972) establish a maximum Heptachlor concentration of 100 ug/Kg (wet weight) in tissue samples for protection of aquatic life from bioaccumulation of toxic substances.
Guideline Reference:	National Academy of Sciences. Water Quality Criteria 1972. EPA-R3-73-033. Washington, D.C.: U.S. Environmental Protection Agency
Spatial Representation:	Data for this assessment unit was collected by one monitoring project: (SWB_FishLk)
Temporal Representation:	Data was collected on a single day 10/8/2007.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	Samples were collected, processed, and analyzed in accordance with the methods described in Quality Assurance Project Plan "Screening Study of Bioaccumulation in California Lakes and Reservoirs." (SWAMP, 2008).
QAPP Information Reference(s):	Quality Assurance Project Plan Screening Study of Bioaccumulation in California Lakes and Reservoirs. Moss Landing Marine Labs. Prepared for SWAMP BOG, 49 pages plus

Line of Evidence (LOE) for Decision ID 61155, Heptachlor**Region 2****Alameda Creek Quarry Ponds**

LOE ID:	90983
Pollutant:	Heptachlor
LOE Subgroup:	Pollutant-Tissue
Matrix:	Tissue
Fraction:	Fish fillet
Beneficial Use:	Cold Freshwater Habitat
Number of Samples:	1
Number of Exceedances:	0
Data and Information Type:	Fish tissue analysis
Data Used to Assess Water Quality:	State Water Board staff assessed SWAMP data for Alameda Creek Quarry Ponds to determine beneficial use support and results are as follows: 0 of 1 samples exceed the criterion for Heptachlor. One composite (2 fish per composite) was generated from one species: Channel Catfish. Details of the compositing protocol can be found in the March 2009 report entitled: "Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Study" (SWAMP, 2009).
Data Reference:	Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Survey. A Report of the Surface Water Ambient Monitoring Program (SWAMP). California State Water Resources Control Board, Sacramento, CA Cruise Report for the Surface Waters Ambient Monitoring Program (SWAMP) Bioaccumulation Screening Study in California Lakes and Reservoirs, Sampling Dates: June 2007- March 2008 Statewide Lakes Sportfish Contamination Study 2007 2008 Contaminants in Fish from California Lakes and Reservoirs, 2007-2008: Summary Report on a Two-Year Screening Survey
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	Water Quality Control Plan for the San Francisco Bay Basin: Controllable water quality factors shall not cause a detrimental increase in concentrations of toxic substances found in bottom sediments or aquatic life. Effects on aquatic organisms, wildlife, and human health will be considered.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	National Academy of Science guidelines (NAS 1972) establish a maximum Heptachlor concentration of 100 ug/Kg (wet weight) in tissue samples for protection of aquatic life from bioaccumulation of toxic substances.
Guideline Reference:	National Academy of Sciences. Water Quality Criteria 1972. EPA-R3-73-033. Washington, D.C.: U.S. Environmental Protection Agency
Spatial Representation:	Data for this assessment unit was collected by one monitoring project: (SWB_FishLk)
Temporal Representation:	Data was collected on a single day 10/8/2007.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	Samples were collected, processed, and analyzed in accordance with the methods described in Quality Assurance Project Plan "Screening Study of Bioaccumulation in California Lakes and Reservoirs." (SWAMP, 2008).
QAPP Information Reference(s):	Quality Assurance Project Plan Screening Study of Bioaccumulation in California Lakes and Reservoirs. Moss Landing Marine Labs. Prepared for SWAMP BOG. 49 pages plus appendices and attachments

DECISION ID 61156**Region 2****Alameda Creek Quarry Ponds**

Pollutant:	Heptachlor epoxide
Final Listing Decision:	Do Not List on 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision:	New Decision
Revision Status	Revised
Impairment from Pollutant or Pollution:	Pollutant

Regional Board Staff Conclusion: This pollutant is being considered for placement on the CWA section 303(d) List under section 3.1 of the Listing Policy. Under section 3.1 a single line of evidence is necessary to assess listing status. Three lines of evidence are available in the administrative record to assess this pollutant. Zero of one samples exceed the guideline.

Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against placing this water segment-pollutant combination on the CWA section 303(d) List.

This conclusion is based on the staff findings that:

1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy.
2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy.
3. Zero of one samples exceed the guideline and this sample size is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating. A minimum of 16 samples is needed to determine if a beneficial use is fully supported using table 3.1.
4. Pursuant to SECTION 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.

Regional Board Staff Decision Recommendation: After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be placed on the section 303(d) list. The readily available data and information is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating.

Line of Evidence (LOE) for Decision ID 61156, Heptachlor epoxide Alameda Creek Quarry Ponds

Region 2

LOE ID: 90999

Pollutant:	Heptachlor epoxide
LOE Subgroup:	Pollutant-Tissue
Matrix:	Tissue
Fraction:	Fish fillet

Beneficial Use: Commercial or recreational collection of fish, shellfish, or organisms

Number of Samples:	0
Number of Exceedances:	0

Data and Information Type:	Fish tissue analysis
Data Used to Assess Water Quality:	State Water Board staff assessed SWAMP data for Alameda Creek Quarry Ponds to determine beneficial use support and results are as follows: 0 of 0 samples exceed the criterion for Heptachlor epoxide. One composite (2 fish per composite) was generated from one species: Channel Catfish. Details of the compositing protocol can be found in the March 2009 report entitled: "Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Study" (SWAMP, 2009). One composite was not used in the assessment because the laboratory data reporting limit(s) was above the objective and therefore the results could not be quantified with the level of certainty required by the Listing Policy.

Data Reference: [Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Survey. A Report of the Surface Water Ambient Monitoring Program \(SWAMP\). California State Water Resources Control Board, Sacramento, CA Cruise Report for the Surface Waters Ambient Monitoring Program \(SWAMP\)](#)

[Bioaccumulation Screening Study in California Lakes and Reservoirs, Sampling Dates: June 2007- March 2008](#)
[Statewide Lakes Sportfish Contamination Study 2007 2008](#)
[Contaminants in Fish from California Lakes and Reservoirs, 2007-2008: Summary Report on a Two-Year Screening Survey](#)

SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	Water Quality Control Plan for the San Francisco Bay Basin: Controllable water quality factors shall not cause a detrimental increase in concentrations of toxic substances found in bottom sediments or aquatic life. Effects on aquatic organisms, wildlife, and human health will be considered.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	The modified OEHHA Fish Contaminant Goal for heptachlor epoxide in fish tissue is 0.93 ppb. This screening level assumes an average body weight of 70 kg and a consumption rate of 32 g/day for a 30 year exposure over a 70-year lifetime. This constituent is a carcinogen therefore the risk level is set to one in a million. A cooking reduction factor of 1 is applied for skin-off fillets. (Klasing, S., and R. Brodberg, 2008; OEHHA, 1999)
Guideline Reference:	Development of Fish Contaminant Goals and Advisory Tissue Levels for Common Contaminants in California Sport Fish: Chlordane, DDTs, Dieldrin, Methylmercury, PCBs, Selenium, and Toxaphene Public Health Goal for Heptachlor and Heptachlor Epoxide in Drinking Water
Spatial Representation:	Data for this assessment unit was collected by one monitoring project: (SWB_FishLk)
Temporal Representation:	Data was collected on a single day 10/8/2007.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	Samples were collected, processed, and analyzed in accordance with the methods described in Quality Assurance Project Plan "Screening Study of Bioaccumulation in California Lakes and Reservoirs." (SWAMP, 2008).
QAPP Information Reference(s):	Quality Assurance Project Plan Screening Study of Bioaccumulation in California Lakes and Reservoirs. Moss Landing Marine Labs. Prepared for SWAMP BOG. 49 pages plus appendices and attachments

Line of Evidence (LOE) for Decision ID 61156, Heptachlor epoxide
Alameda Creek Quarry Ponds

Region 2

LOE ID:	90998
Pollutant:	Heptachlor epoxide
LOE Subgroup:	Pollutant-Tissue
Matrix:	Tissue
Fraction:	Fish fillet
Beneficial Use:	Cold Freshwater Habitat
Number of Samples:	1
Number of Exceedances:	0
Data and Information Type:	Fish tissue analysis
Data Used to Assess Water Quality:	State Water Board staff assessed SWAMP data for Alameda Creek Quarry Ponds to determine beneficial use support and results are as follows: 0 of 1 samples exceed the criterion for Heptachlor epoxide. One composite (2 fish per composite) was generated from one species: Channel Catfish. Details of the compositing protocol can be found in the March 2009 report entitled: "Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Study" (SWAMP, 2009).
Data Reference:	Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Survey. A Report of the Surface Water Ambient Monitoring Program (SWAMP). California State Water Resources Control Board, Sacramento, CA Cruise Report for the Surface Waters Ambient Monitoring Program (SWAMP) Bioaccumulation Screening Study in California Lakes and Reservoirs, Sampling Dates:

[June 2007- March 2008](#)
[Statewide Lakes Sportfish Contamination Study 2007 2008](#)
[Contaminants in Fish from California Lakes and Reservoirs, 2007-2008: Summary Report on a Two-Year Screening Survey](#)

SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	Water Quality Control Plan for the San Francisco Bay Basin: Controllable water quality factors shall not cause a detrimental increase in concentrations of toxic substances found in bottom sediments or aquatic life. Effects on aquatic organisms, wildlife, and human health will be considered.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	National Academy of Science guidelines (NAS 1972) establish a maximum Heptachlor Epoxide concentration of 100 ug/Kg (wet weight) in tissue samples for protection of aquatic life from bioaccumulation of toxic substances.
Guideline Reference:	National Academy of Sciences. Water Quality Criteria 1972. EPA-R3-73-033. Washington, D.C.: U.S. Environmental Protection Agency
Spatial Representation:	Data for this assessment unit was collected by one monitoring project: (SWB_FishLk)
Temporal Representation:	Data was collected on a single day 10/8/2007.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	Samples were collected, processed, and analyzed in accordance with the methods described in Quality Assurance Project Plan "Screening Study of Bioaccumulation in California Lakes and Reservoirs." (SWAMP, 2008).
QAPP Information Reference(s):	Quality Assurance Project Plan Screening Study of Bioaccumulation in California Lakes and Reservoirs. Moss Landing Marine Labs. Prepared for SWAMP BOG, 49 pages plus appendices and attachments

Line of Evidence (LOE) for Decision ID 61156, Heptachlor epoxide

Region 2

Alameda Creek Quarry Ponds

LOE ID:	90984
Pollutant:	Heptachlor epoxide
LOE Subgroup:	Pollutant-Tissue
Matrix:	Tissue
Fraction:	Fish fillet
Beneficial Use:	Warm Freshwater Habitat
Number of Samples:	1
Number of Exceedances:	0
Data and Information Type:	Fish tissue analysis
Data Used to Assess Water Quality:	State Water Board staff assessed SWAMP data for Alameda Creek Quarry Ponds to determine beneficial use support and results are as follows: 0 of 1 samples exceed the criterion for Heptachlor epoxide. One composite (2 fish per composite) was generated from one species: Channel Catfish. Details of the compositing protocol can be found in the March 2009 report entitled: "Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Study" (SWAMP, 2009).
Data Reference:	Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Survey. A Report of the Surface Water Ambient Monitoring Program (SWAMP). California State Water Resources Control Board, Sacramento, CA Cruise Report for the Surface Waters Ambient Monitoring Program (SWAMP) Bioaccumulation Screening Study in California Lakes and Reservoirs. Sampling Dates: June 2007- March 2008 Statewide Lakes Sportfish Contamination Study 2007 2008 Contaminants in Fish from California Lakes and Reservoirs, 2007-2008: Summary Report on a Two-Year Screening Survey

SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	Water Quality Control Plan for the San Francisco Bay Basin: Controllable water quality factors shall not cause a detrimental increase in concentrations of toxic substances found in bottom sediments or aquatic life. Effects on aquatic organisms, wildlife, and human health will be considered.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	National Academy of Science guidelines (NAS 1972) establish a maximum Heptachlor Epoxide concentration of 100 ug/Kg (wet weight) in tissue samples for protection of aquatic life from bioaccumulation of toxic substances.
Guideline Reference:	National Academy of Sciences. Water Quality Criteria 1972. EPA-R3-73-033. Washington, D.C.: U.S. Environmental Protection Agency
Spatial Representation:	Data for this assessment unit was collected by one monitoring project: (SWB_FishLk)
Temporal Representation:	Data was collected on a single day 10/8/2007.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	Samples were collected, processed, and analyzed in accordance with the methods described in Quality Assurance Project Plan "Screening Study of Bioaccumulation in California Lakes and Reservoirs." (SWAMP, 2008).
QAPP Information Reference(s):	Quality Assurance Project Plan Screening Study of Bioaccumulation in California Lakes and Reservoirs. Moss Landing Marine Labs. Prepared for SWAMP BOG. 49 pages plus appendices and attachments

DECISION ID	61157	Region 2
Alameda Creek Quarry Ponds		

Pollutant:	Hexachlorobenzene/ HCB
Final Listing Decision:	Do Not List on 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision:	New Decision
Revision Status	Revised
Impairment from Pollutant or Pollution:	Pollutant

Regional Board Staff Conclusion: This pollutant is being considered for placement on the CWA section 303(d) List under section 3.1 of the Listing Policy. Under section 3.1 a single line of evidence is necessary to assess listing status. One line of evidence is available in the administrative record to assess this pollutant. Zero of one samples exceed the guideline.

Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against placing this water segment-pollutant combination on the CWA section 303(d) List.

This conclusion is based on the staff findings that:

1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy.
2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy.
3. Zero of one samples exceed the guideline and this sample size is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating. A minimum of 16 samples is needed to determine if a beneficial use is fully supported using table 3.1.
4. Pursuant to SECTION 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.

Regional Board Staff Decision Recommendation: After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be placed on the section 303(d) list. The readily available data and information is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating.

Line of Evidence (LOE) for Decision ID 61157, Hexachlorobenzene/ HCB	Region 2
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Alameda Creek Quarry Ponds

LOE ID:	91000
Pollutant:	Hexachlorobenzene/ HCB
LOE Subgroup:	Pollutant-Tissue
Matrix:	Tissue
Fraction:	Fish fillet
Beneficial Use:	Commercial or recreational collection of fish, shellfish, or organisms
Number of Samples:	1
Number of Exceedances:	0
Data and Information Type:	Fish tissue analysis
Data Used to Assess Water Quality:	State Water Board staff assessed SWAMP data for Alameda Creek Quarry Ponds to determine beneficial use support and results are as follows: 0 of 1 samples exceed the criterion for Hexachlorobenzene. One composite (2 fish per composite) was generated from one species: Channel Catfish. Details of the compositing protocol can be found in the March 2009 report entitled: "Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Study" (SWAMP, 2009).
Data Reference:	Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Survey. A Report of the Surface Water Ambient Monitoring Program (SWAMP). California State Water Resources Control Board, Sacramento, CA Cruise Report for the Surface Waters Ambient Monitoring Program (SWAMP) Bioaccumulation Screening Study in California Lakes and Reservoirs, Sampling Dates: June 2007- March 2008 Statewide Lakes Sportfish Contamination Study 2007 2008 Contaminants in Fish from California Lakes and Reservoirs, 2007-2008: Summary Report on a Two-Year Screening Survey
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	Water Quality Control Plan for the San Francisco Bay Basin: Controllable water quality factors shall not cause a detrimental increase in concentrations of toxic substances found in bottom sediments or aquatic life. Effects on aquatic organisms, wildlife, and human health will be considered.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	The modified OEHHA Fish Contaminant Goal for hexachlorobenzene in fish tissue is 2.8 ppb. This screening level assumes an average body weight of 70 kg and a consumption rate of 32 g/day for a 30 year exposure over a 70-year lifetime. This constituent is a carcinogen therefore the risk level is set to one in a million. A cooking reduction factor of 1 is applied for skin-off fillets. (Klasing, S., and R. Brodberg, 2008; OEHHA, 2005)
Guideline Reference:	Development of Fish Contaminant Goals and Advisory Tissue Levels for Common Contaminants in California Sport Fish: Chlordane, DDTs, Dieldrin, Methylmercury, PCBs, Selenium, and Toxaphene Air Toxics Hotspots Program Risk Assessment Guidelines. Part II Technical Support Document for Describing Available Cancer Potency Values.
Spatial Representation:	Data for this assessment unit was collected by one monitoring project: (SWB_FishLk)
Temporal Representation:	Data was collected on a single day 10/8/2007.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	Samples were collected, processed, and analyzed in accordance with the methods described in Quality Assurance Project Plan "Screening Study of Bioaccumulation in California Lakes and Reservoirs." (SWAMP, 2008).
QAPP Information Reference(s):	Quality Assurance Project Plan Screening Study of Bioaccumulation in California Lakes and Reservoirs. Moss Landing Marine Labs. Prepared for SWAMP BOG, 49 pages plus appendices and attachments

Pollutant: Lindane/gamma Hexachlorocyclohexane (gamma-HCH)
Final Listing Decision: Do Not List on 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision: New Decision
Revision Status: Revised
Impairment from Pollutant or Pollution: Pollutant

Regional Board Staff Conclusion: This pollutant is being considered for placement on the CWA section 303(d) List under section 3.1 of the Listing Policy. Under section 3.1 a single line of evidence is necessary to assess listing status. Three lines of evidence are available in the administrative record to assess this pollutant. Zero of one samples exceed the guideline.

Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against placing this water segment-pollutant combination on the CWA section 303(d) List.

This conclusion is based on the staff findings that:

1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy.
2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy.
3. Zero of one samples exceed the guideline and this sample size is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating. A minimum of 16 samples is needed to determine if a beneficial use is fully supported using table 3.1.
4. Pursuant to SECTION 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.

Regional Board Staff Decision Recommendation: After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be placed on the section 303(d) list. The readily available data and information is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating.

Line of Evidence (LOE) for Decision ID 61178, Lindane/gamma Hexachlorocyclohexane (gamma-HCH)	Region 2
Alameda Creek Quarry Ponds	

LOE ID: 91003
Pollutant: Lindane/gamma Hexachlorocyclohexane (gamma-HCH)
LOE Subgroup: Pollutant-Tissue
Matrix: Tissue
Fraction: Fish fillet
Beneficial Use: Cold Freshwater Habitat
Number of Samples: 1
Number of Exceedances: 0
Data and Information Type: Fish tissue analysis
Data Used to Assess Water Quality: State Water Board staff assessed SWAMP data for Alameda Creek Quarry Ponds to determine beneficial use support and results are as follows: 0 of 1 samples exceed the criterion for HCH, gamma. One composite (2 fish per composite) was generated from one species: Channel Catfish. Details of the compositing protocol can be found in the March 2009 report entitled: "Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Study" (SWAMP, 2009).
Data Reference: [Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Survey. A Report of the Surface Water Ambient Monitoring Program \(SWAMP\). California State Water Resources Control Board, Sacramento, CA](#)

[Cruise Report for the Surface Waters Ambient Monitoring Program \(SWAMP\) Bioaccumulation Screening Study in California Lakes and Reservoirs. Sampling Dates: June 2007- March 2008](#)
[Statewide Lakes Sportfish Contamination Study 2007 2008](#)
[Contaminants in Fish from California Lakes and Reservoirs. 2007-2008: Summary Report on a Two-Year Screening Survey](#)

SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	Water Quality Control Plan for the San Francisco Bay Basin: Controllable water quality factors shall not cause a detrimental increase in concentrations of toxic substances found in bottom sediments or aquatic life. Effects on aquatic organisms, wildlife, and human health will be considered.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	The modified OEHHA Fish Contaminant Goal for lindane in fish tissue is 4.6 ppb. This screening level assumes an average body weight of 70 kg and a consumption rate of 32 g/day for a 30 year exposure over a 70-year lifetime. This constituent is a carcinogen therefore the risk level is set to one in a million. A cooking reduction factor of 1 is applied for skin-off fillets. (Klasing, S., and R. Brodberg, 2008; OEHHA, 2005)
Guideline Reference:	National Academy of Sciences. Water Quality Criteria 1972. EPA-R3-73-033. Washington, D.C.: U.S. Environmental Protection Agency
Spatial Representation:	Data for this assessment unit was collected by one monitoring project: (SWB_FishLk)
Temporal Representation:	Data was collected on a single day 10/8/2007.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	Samples were collected, processed, and analyzed in accordance with the methods described in Quality Assurance Project Plan "Screening Study of Bioaccumulation in California Lakes and Reservoirs." (SWAMP, 2008).
QAPP Information Reference(s):	Quality Assurance Project Plan Screening Study of Bioaccumulation in California Lakes and Reservoirs. Moss Landing Marine Labs. Prepared for SWAMP BOG. 49 pages plus appendices and attachments

Line of Evidence (LOE) for Decision ID 61178, Lindane/gamma Hexachlorocyclohexane (gamma-HCH)

Region 2

Alameda Creek Quarry Ponds

LOE ID:	91002
Pollutant:	Lindane/gamma Hexachlorocyclohexane (gamma-HCH)
LOE Subgroup:	Pollutant-Tissue
Matrix:	Tissue
Fraction:	Fish fillet
Beneficial Use:	Commercial or recreational collection of fish, shellfish, or organisms
Number of Samples:	1
Number of Exceedances:	0
Data and Information Type:	Fish tissue analysis
Data Used to Assess Water Quality:	State Water Board staff assessed SWAMP data for Alameda Creek Quarry Ponds to determine beneficial use support and results are as follows: 0 of 1 samples exceed the criterion for HCH, gamma. One composite (2 fish per composite) was generated from one species: Channel Catfish. Details of the compositing protocol can be found in the March 2009 report entitled: "Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Study" (SWAMP, 2009).
Data Reference:	Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Survey. A Report of the Surface Water Ambient Monitoring Program (SWAMP). California State Water Resources Control Board, Sacramento, CA Cruise Report for the Surface Waters Ambient Monitoring Program (SWAMP) Bioaccumulation Screening Study in California Lakes and Reservoirs. Sampling Dates: June 2007- March 2008

SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	Water Quality Control Plan for the San Francisco Bay Basin: Controllable water quality factors shall not cause a detrimental increase in concentrations of toxic substances found in bottom sediments or aquatic life. Effects on aquatic organisms, wildlife, and human health will be considered.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	The modified OEHHA Fish Contaminant Goal for lindane in fish tissue is 4.6 ppb. This screening level assumes an average body weight of 70 kg and a consumption rate of 32 g/day for a 30 year exposure over a 70-year lifetime. This constituent is a carcinogen therefore the risk level is set to one in a million. A cooking reduction factor of 1 is applied for skin-off fillets.
Guideline Reference:	Development of Fish Contaminant Goals and Advisory Tissue Levels for Common Contaminants in California Sport Fish: Chlordane, DDTs, Dieldrin, Methylmercury, PCBs, Selenium, and Toxaphene Air Toxics Hotspots Program Risk Assessment Guidelines. Part II Technical Support Document for Describing Available Cancer Potency Values.
Spatial Representation:	Data for this assessment unit was collected by one monitoring project: (SWB_FishLk)
Temporal Representation:	Data was collected on a single day 10/8/2007.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	Samples were collected, processed, and analyzed in accordance with the methods described in Quality Assurance Project Plan "Screening Study of Bioaccumulation in California Lakes and Reservoirs." (SWAMP, 2008).
QAPP Information Reference(s):	Quality Assurance Project Plan Screening Study of Bioaccumulation in California Lakes and Reservoirs. Moss Landing Marine Labs. Prepared for SWAMP BOG. 49 pages plus appendices and attachments

Line of Evidence (LOE) for Decision ID 61178, Lindane/gamma Hexachlorocyclohexane (gamma-HCH)

Region 2

Alameda Creek Quarry Ponds

LOE ID:	91001
Pollutant:	Lindane/gamma Hexachlorocyclohexane (gamma-HCH)
LOE Subgroup:	Pollutant-Tissue
Matrix:	Tissue
Fraction:	Fish fillet
Beneficial Use:	Warm Freshwater Habitat
Number of Samples:	1
Number of Exceedances:	0
Data and Information Type:	Fish tissue analysis
Data Used to Assess Water Quality:	State Water Board staff assessed SWAMP data for Alameda Creek Quarry Ponds to determine beneficial use support and results are as follows: 0 of 1 samples exceed the criterion for HCH, gamma. One composite (2 fish per composite) was generated from one species: Channel Catfish. Details of the compositing protocol can be found in the March 2009 report entitled: "Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Study" (SWAMP, 2009).
Data Reference:	Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Survey. A Report of the Surface Water Ambient Monitoring Program (SWAMP). California State Water Resources Control Board, Sacramento, CA Cruise Report for the Surface Waters Ambient Monitoring Program (SWAMP) Bioaccumulation Screening Study in California Lakes and Reservoirs, Sampling Dates: June 2007- March 2008

SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	Water Quality Control Plan for the San Francisco Bay Basin: Controllable water quality factors shall not cause a detrimental increase in concentrations of toxic substances found in bottom sediments or aquatic life. Effects on aquatic organisms, wildlife, and human health will be considered.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	The modified OEHHA Fish Contaminant Goal for lindane in fish tissue is 4.6 ppb. This screening level assumes an average body weight of 70 kg and a consumption rate of 32 g/day for a 30 year exposure over a 70-year lifetime. This constituent is a carcinogen therefore the risk level is set to one in a million. A cooking reduction factor of 1 is applied for skin-off fillets. (Klasing, S., and R. Brodberg, 2008; OEHHA, 2005)
Guideline Reference:	National Academy of Sciences. Water Quality Criteria 1972. EPA-R3-73-033. Washington, D.C.: U.S. Environmental Protection Agency
Spatial Representation:	Data for this assessment unit was collected by one monitoring project: (SWB_FishLk)
Temporal Representation:	Data was collected on a single day 10/8/2007.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	Samples were collected, processed, and analyzed in accordance with the methods described in Quality Assurance Project Plan "Screening Study of Bioaccumulation in California Lakes and Reservoirs." (SWAMP, 2008).
QAPP Information Reference(s):	Quality Assurance Project Plan Screening Study of Bioaccumulation in California Lakes and Reservoirs. Moss Landing Marine Labs. Prepared for SWAMP BOG, 49 pages plus appendices and attachments

DECISION ID	61180	Region 2
Alameda Creek Quarry Ponds		

Pollutant:	Mercury
Final Listing Decision:	Do Not List on 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision:	New Decision
Revision Status	Revised
Impairment from Pollutant or Pollution:	Pollutant
Regional Board Staff Conclusion:	<p>This pollutant is being considered for placement on the CWA section 303(d) List under section 3.1 of the Listing Policy. Under section 3.1 a single line of evidence is necessary to assess listing status. One line of evidence is available in the administrative record to assess this pollutant. Zero of zero samples exceed the guideline.</p> <p>Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against placing this water segment-pollutant combination on the CWA section 303(d) List.</p> <p>This conclusion is based on the staff findings that:</p> <ol style="list-style-type: none"> 1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy. 2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy. 3. Zero of zero samples exceed the guideline and this sample size is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating. A minimum of 16 samples is needed to determine if a beneficial use is fully supported using table 3.1. 4. Pursuant to SECTION 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.
Regional Board Staff Decision Recommendation:	After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be placed on the section 303(d) list. The readily available data and

information is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating.

Line of Evidence (LOE) for Decision ID 61180, Mercury

Region 2

Alameda Creek Quarry Ponds

LOE ID:	91004
Pollutant:	Mercury
LOE Subgroup:	Pollutant-Tissue
Matrix:	Tissue
Fraction:	Fish fillet
Beneficial Use:	Commercial or recreational collection of fish, shellfish, or organisms
Number of Samples:	0
Number of Exceedances:	0
Data and Information Type:	Fish tissue analysis
Data Used to Assess Water Quality:	State Water Board staff assessed SWAMP data for Alameda Creek Quarry Ponds to determine beneficial use support and results are as follows: 0 of 0 samples exceed the criterion for Mercury. The one composite for channel catfish could not be used in the assessment due to a total fish length that did not fall within lengths noted in the guideline.
Data Reference:	Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Survey. A Report of the Surface Water Ambient Monitoring Program (SWAMP). California State Water Resources Control Board, Sacramento, CA Cruise Report for the Surface Waters Ambient Monitoring Program (SWAMP) Bioaccumulation Screening Study in California Lakes and Reservoirs, Sampling Dates: June 2007- March 2008 Statewide Lakes Sportfish Contamination Study 2007 2008 Contaminants in Fish from California Lakes and Reservoirs, 2007-2008: Summary Report on a Two-Year Screening Survey
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	Water Quality Control Plan for the San Francisco Bay Basin (2013): Controllable water quality factors shall not cause a detrimental increase in concentrations of toxic substances found in bottom sediments or aquatic life. Effects on aquatic organisms, wildlife, and human health will be considered.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	The USEPA 304(a) recommended water quality criterion for concentrations of methylmercury in fish tissue of trophic level 4 fish (150 - 500 mm; fillet wet weight) is 0.2 mg/kg. This assumes a consumption rate of 32 g/day. (USEPA, 2001)
Guideline Reference:	Water Quality Criterion for the Protection of Human Health: Methylmercury. Final. United States Environmental Protection Agency Office of Science and Technology Office of Water. EPA-823-R-01-001. January 2001
Spatial Representation:	Data for this assessment unit was collected by one monitoring project: (SWB_FishLk)
Temporal Representation:	Data was collected on a single day 10/8/2007.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	Samples were collected, processed, and analyzed in accordance with the methods described in Quality Assurance Project Plan "Screening Study of Bioaccumulation in California Lakes and Reservoirs." (SWAMP, 2008).
QAPP Information Reference(s):	Quality Assurance Project Plan Screening Study of Bioaccumulation in California Lakes and Reservoirs. Moss Landing Marine Labs. Prepared for SWAMP BOG. 49 pages plus appendices and attachments

DECISION ID

61181

Region 2

Alameda Creek Quarry Ponds

Pollutant: Mirex
Final Listing Decision: Do Not List on 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision: New Decision
Revision Status: Revised
Impairment from Pollutant or Pollution: Pollutant

Regional Board Staff Conclusion: This pollutant is being considered for placement on the CWA section 303(d) List under section 3.1 of the Listing Policy. Under section 3.1 a single line of evidence is necessary to assess listing status. One line of evidence is available in the administrative record to assess this pollutant. Zero of zero samples exceed the guideline.

Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against placing this water segment-pollutant combination on the CWA section 303(d) List.

This conclusion is based on the staff findings that:

1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy.
2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy.
3. Zero of zero samples exceed the guideline and this sample size is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating. A minimum of 16 samples is needed to determine if a beneficial use is fully supported using table 3.1.
4. Pursuant to SECTION 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.

Regional Board Staff Decision Recommendation: After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be placed on the section 303(d) list. The readily available data and information is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating.

Line of Evidence (LOE) for Decision ID 61181, Mirex

Region 2

Alameda Creek Quarry Ponds

LOE ID: 91005

Pollutant: Mirex
LOE Subgroup: Pollutant-Tissue
Matrix: Tissue
Fraction: Fish fillet

Beneficial Use: Commercial or recreational collection of fish, shellfish, or organisms

Number of Samples: 0
Number of Exceedances: 0

Data and Information Type: Fish tissue analysis
Data Used to Assess Water Quality: State Water Board staff assessed SWAMP data for Alameda Creek Quarry Ponds to determine beneficial use support and results are as follows: 0 of 0 samples exceed the criterion for Mirex. One composite (2 fish per composite) was generated from one species: Channel Catfish. Details of the compositing protocol can be found in the March 2009 report entitled: "Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Study" (SWAMP, 2009). One composite was not used in the assessment because the laboratory data reporting limit(s) was above the objective and therefore the results could not be quantified with the level of certainty required by the Listing Policy.

Data Reference: [Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Survey. A Report of the Surface Water Ambient Monitoring Program \(SWAMP\). California State Water Resources Control Board, Sacramento, CA](#)

[Cruise Report for the Surface Waters Ambient Monitoring Program \(SWAMP\) Bioaccumulation Screening Study in California Lakes and Reservoirs. Sampling Dates: June 2007- March 2008](#)
[Statewide Lakes Sportfish Contamination Study 2007 2008](#)
[Contaminants in Fish from California Lakes and Reservoirs, 2007-2008: Summary Report on a Two-Year Screening Survey](#)

SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	Water Quality Control Plan for the San Francisco Bay Basin: Controllable water quality factors shall not cause a detrimental increase in concentrations of toxic substances found in bottom sediments or aquatic life. Effects on aquatic organisms, wildlife, and human health will be considered.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	The modified OEHHA Fish Contaminant Goal for mirex in fish tissue is 0.28 ppb. This screening level assumes an average body weight of 70 kg and a consumption rate of 32 g/day. A cooking reduction factor of 1 is applied for skin-off fillets. (Klasing, S., and R. Brodberg, 2008; OEHHA, 1992)
Guideline Reference:	Development of Fish Contaminant Goals and Advisory Tissue Levels for Common Contaminants in California Sport Fish: Chlordane, DDTs, Dieldrin, Methylmercury, PCBs, Selenium, and Toxaphene Expedited Cancer Potency Values and Proposed Regulatory Levels for Certain Proposition 65 Carcinogens.
Spatial Representation:	Data for this assessment unit was collected by one monitoring project: (SWB_FishLk)
Temporal Representation:	Data was collected on a single day 10/8/2007.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	Samples were collected, processed, and analyzed in accordance with the methods described in Quality Assurance Project Plan "Screening Study of Bioaccumulation in California Lakes and Reservoirs." (SWAMP, 2008).
QAPP Information Reference(s):	Quality Assurance Project Plan Screening Study of Bioaccumulation in California Lakes and Reservoirs. Moss Landing Marine Labs. Prepared for SWAMP BOG. 49 pages plus appendices and attachments

DECISION ID	61182	Region 2
Alameda Creek Quarry Ponds		
Pollutant:	PCBs (Polychlorinated biphenyls)	
Final Listing Decision:	Do Not List on 303(d) list (TMDL required list)	
Last Listing Cycle's Final Listing Decision:	New Decision	
Revision Status	Revised	
Impairment from Pollutant or Pollution:	Pollutant	
Regional Board Staff Conclusion:	<p>This pollutant is being considered for placement on the CWA section 303(d) List under section 3.1 of the Listing Policy. Under section 3.1 a single line of evidence is necessary to assess listing status. Three lines of evidence are available in the administrative record to assess this pollutant. Zero of one samples exceed the guideline.</p> <p>Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against placing this water segment-pollutant combination on the CWA section 303(d) List.</p> <p>This conclusion is based on the staff findings that:</p> <ol style="list-style-type: none"> 1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy. 2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy. 3. Zero of one samples exceed the guideline and this sample size is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating. A minimum of 16 samples is needed to determine if a beneficial use is fully supported using table 3.1. 	

4. Pursuant to SECTION 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.

Regional Board Staff Decision Recommendation: After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be placed on the section 303(d) list. The readily available data and information is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating.

Line of Evidence (LOE) for Decision ID 61182, PCBs (Polychlorinated biphenyls)

Region 2

Alameda Creek Quarry Ponds

LOE ID:	91008
Pollutant:	PCBs (Polychlorinated biphenyls)
LOE Subgroup:	Pollutant-Tissue
Matrix:	Tissue
Fraction:	Fish fillet
Beneficial Use:	Commercial or recreational collection of fish, shellfish, or organisms
Number of Samples:	1
Number of Exceedances:	0
Data and Information Type:	Fish tissue analysis
Data Used to Assess Water Quality:	State Water Board staff assessed SWAMP data for Alameda Creek Quarry Ponds to determine beneficial use support and results are as follows: 0 of 1 samples exceed the criterion for PCB, Total. One composite (2 fish per composite) was generated from one species: Channel Catfish. Details of the compositing protocol can be found in the March 2009 report entitled: "Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Study" (SWAMP, 2009). Total PCB was assessed for as follows: PCB aroclors and congeners were summed separately and the sum that yielded the highest value was used for the assessment.
Data Reference:	Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Survey. A Report of the Surface Water Ambient Monitoring Program (SWAMP). California State Water Resources Control Board, Sacramento, CA Cruise Report for the Surface Waters Ambient Monitoring Program (SWAMP) Bioaccumulation Screening Study in California Lakes and Reservoirs. Sampling Dates: June 2007- March 2008 Statewide Lakes Sportfish Contamination Study 2007 2008 Contaminants in Fish from California Lakes and Reservoirs, 2007-2008: Summary Report on a Two-Year Screening Survey
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	Water Quality Control Plan for the San Francisco Bay Basin (2013): Controllable water quality factors shall not cause a detrimental increase in concentrations of toxic substances found in bottom sediments or aquatic life. Effects on aquatic organisms, wildlife, and human health will be considered.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	The modified OEHHA Fish Contaminant Goal for polychlorinated biphenyls in fish tissue is 2.6 ppb. This screening level assumes an average body weight of 70 kg and a consumption rate of 32 g/day for a 30 year exposure over a 70-year lifetime. This constituent is a carcinogen therefore the risk level is set to one in a million. A cooking reduction factor of 1 is applied for skin-off fillets. (Klasing, S., and R. Brodberg, 2008)
Guideline Reference:	Development of Fish Contaminant Goals and Advisory Tissue Levels for Common Contaminants in California Sport Fish: Chlordane, DDTs, Dieldrin, Methylmercury, PCBs, Selenium, and Toxaphene
Spatial Representation:	Data for this assessment unit was collected by one monitoring project: (SWB_FishLk)
Temporal Representation:	Data was collected on a single day 10/8/2007.

Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	Samples were collected, processed, and analyzed in accordance with the methods described in Quality Assurance Project Plan "Screening Study of Bioaccumulation in California Lakes and Reservoirs." (SWAMP, 2008).
QAPP Information Reference(s):	Quality Assurance Project Plan Screening Study of Bioaccumulation in California Lakes and Reservoirs. Moss Landing Marine Labs. Prepared for SWAMP BOG. 49 pages plus appendices and attachments

Line of Evidence (LOE) for Decision ID 61182, PCBs (Polychlorinated biphenyls)	Region 2
Alameda Creek Quarry Ponds	

LOE ID:	91007
Pollutant:	PCBs (Polychlorinated biphenyls)
LOE Subgroup:	Pollutant-Tissue
Matrix:	Tissue
Fraction:	Fish fillet
Beneficial Use:	Cold Freshwater Habitat
Number of Samples:	1
Number of Exceedances:	0
Data and Information Type:	Fish tissue analysis
Data Used to Assess Water Quality:	State Water Board staff assessed SWAMP data for Alameda Creek Quarry Ponds to determine beneficial use support and results are as follows: 0 of 1 samples exceed the criterion for PCB, Total. One composite (2 fish per composite) was generated from one species: Channel Catfish. Details of the compositing protocol can be found in the March 2009 report entitled: "Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Study" (SWAMP, 2009). Total PCB was assessed for as follows: PCB aroclors and congeners were summed separately and the sum that yielded the highest value was used for the assessment.
Data Reference:	Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Survey. A Report of the Surface Water Ambient Monitoring Program (SWAMP). California State Water Resources Control Board, Sacramento, CA Cruise Report for the Surface Waters Ambient Monitoring Program (SWAMP) Bioaccumulation Screening Study in California Lakes and Reservoirs. Sampling Dates: June 2007- March 2008 Statewide Lakes Sportfish Contamination Study 2007 2008 Contaminants in Fish from California Lakes and Reservoirs, 2007-2008: Summary Report on a Two-Year Screening Survey
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	Water Quality Control Plan for the San Francisco Bay Basin (2013): Controllable water quality factors shall not cause a detrimental increase in concentrations of toxic substances found in bottom sediments or aquatic life. Effects on aquatic organisms, wildlife, and human health will be considered.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	National Academy of Science guidelines (NAS 1972) establish a maximum total PCB concentration of 500 ug/Kg (wet weight) in tissue samples for protection of aquatic life from bioaccumulation of toxic substances.
Guideline Reference:	National Academy of Sciences. Water Quality Criteria 1972. EPA-R3-73-033. Washington, D.C.: U.S. Environmental Protection Agency
Spatial Representation:	Data for this assessment unit was collected by one monitoring project: (SWB_FishLk)
Temporal Representation:	Data was collected on a single day 10/8/2007.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	Samples were collected, processed, and analyzed in accordance with the methods described in Quality Assurance Project Plan "Screening Study of Bioaccumulation in California Lakes and Reservoirs." (SWAMP, 2008).

QAPP Information Reference(s): [Quality Assurance Project Plan Screening Study of Bioaccumulation in California Lakes and Reservoirs. Moss Landing Marine Labs. Prepared for SWAMP BOG. 49 pages plus appendices and attachments](#)

Line of Evidence (LOE) for Decision ID 61182, PCBs (Polychlorinated biphenyls)

Region 2

Alameda Creek Quarry Ponds

LOE ID: 91006

Pollutant: PCBs (Polychlorinated biphenyls)
LOE Subgroup: Pollutant-Tissue
Matrix: Tissue
Fraction: Fish fillet

Beneficial Use: Warm Freshwater Habitat

Number of Samples: 1
Number of Exceedances: 0

Data and Information Type: Fish tissue analysis
Data Used to Assess Water Quality: State Water Board staff assessed SWAMP data for Alameda Creek Quarry Ponds to determine beneficial use support and results are as follows: 0 of 1 samples exceed the criterion for PCB, Total. One composite (2 fish per composite) was generated from one species: Channel Catfish. Details of the compositing protocol can be found in the March 2009 report entitled: "Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Study" (SWAMP, 2009). Total PCB was assessed for as follows: PCB aroclors and congeners were summed separately and the sum that yielded the highest value was used for the assessment.

Data Reference: [Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Survey. A Report of the Surface Water Ambient Monitoring Program \(SWAMP\). California State Water Resources Control Board, Sacramento, CA Cruise Report for the Surface Waters Ambient Monitoring Program \(SWAMP\) Bioaccumulation Screening Study in California Lakes and Reservoirs, Sampling Dates: June 2007- March 2008](#)
[Statewide Lakes Sportfish Contamination Study 2007 2008](#)
[Contaminants in Fish from California Lakes and Reservoirs, 2007-2008: Summary Report on a Two-Year Screening Survey](#)

SWAMP Data: SWAMP

Water Quality Objective/Criterion: Water Quality Control Plan for the San Francisco Bay Basin (2013): Controllable water quality factors shall not cause a detrimental increase in concentrations of toxic substances found in bottom sediments or aquatic life. Effects on aquatic organisms, wildlife, and human health will be considered.

Objective/Criterion Reference: [Water Quality Control Plan \(Basin Plan\) San Francisco Bay Basin \(Region 2\)](#)

Evaluation Guideline: National Academy of Science guidelines (NAS 1972) establish a maximum total PCB concentration of 500 ug/Kg (wet weight) in tissue samples for protection of aquatic life from bioaccumulation of toxic substances.

Guideline Reference: [National Academy of Sciences. Water Quality Criteria 1972. EPA-R3-73-033. Washington, D.C.: U.S. Environmental Protection Agency](#)

Spatial Representation: Data for this assessment unit was collected by one monitoring project: (SWB_FishLk)
Temporal Representation: Data was collected on a single day 10/8/2007.
Environmental Conditions: Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information: Samples were collected, processed, and analyzed in accordance with the methods described in Quality Assurance Project Plan "Screening Study of Bioaccumulation in California Lakes and Reservoirs." (SWAMP, 2008).

QAPP Information Reference(s): [Quality Assurance Project Plan Screening Study of Bioaccumulation in California Lakes and Reservoirs. Moss Landing Marine Labs. Prepared for SWAMP BOG. 49 pages plus appendices and attachments](#)

DECISION ID	61184	Region 2
Alameda Creek Quarry Ponds		

Pollutant:	Selenium
Final Listing Decision:	Do Not List on 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision:	New Decision
Revision Status	Revised
Impairment from Pollutant or Pollution:	Pollutant

Regional Board Staff Conclusion: This pollutant is being considered for placement on the CWA section 303(d) List under section 3.1 of the Listing Policy. Under section 3.1 a single line of evidence is necessary to assess listing status. One line of evidence is available in the administrative record to assess this pollutant. Zero of one samples exceed the guideline.

Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against placing this water segment-pollutant combination on the CWA section 303(d) List.

This conclusion is based on the staff findings that:

1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy.
2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy.
3. Zero of one samples exceed the guideline and this sample size is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating. A minimum of 16 samples is needed to determine if a beneficial use is fully supported using table 3.1.
4. Pursuant to SECTION 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.

Regional Board Staff Decision Recommendation: After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be placed on the section 303(d) list. The readily available data and information is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating.

Line of Evidence (LOE) for Decision ID 61184, Selenium	Region 2
Alameda Creek Quarry Ponds	

LOE ID:	91009
Pollutant:	Selenium
LOE Subgroup:	Pollutant-Tissue
Matrix:	Tissue
Fraction:	Fish fillet
Beneficial Use:	Commercial or recreational collection of fish, shellfish, or organisms
Number of Samples:	1
Number of Exceedances:	0
Data and Information Type:	Fish tissue analysis
Data Used to Assess Water Quality:	State Water Board staff assessed SWAMP data for Alameda Creek Quarry Ponds to determine beneficial use support and results are as follows: 0 of 1 samples exceed the criterion for Selenium. One composite (2 fish per composite) was generated from one species: Channel Catfish. Details of the compositing protocol can be found in the March 2009 report entitled: "Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Study" (SWAMP, 2009).
Data Reference:	Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Survey. A Report of the Surface Water Ambient Monitoring Program (SWAMP). California State Water Resources Control Board, Sacramento, CA

[Cruise Report for the Surface Waters Ambient Monitoring Program \(SWAMP\) Bioaccumulation Screening Study in California Lakes and Reservoirs. Sampling Dates: June 2007- March 2008](#)
[Statewide Lakes Sportfish Contamination Study 2007 2008](#)
[Contaminants in Fish from California Lakes and Reservoirs, 2007-2008: Summary Report on a Two-Year Screening Survey](#)

SWAMP Data:

SWAMP

Water Quality Objective/Criterion:

Water Quality Control Plan for the San Francisco Bay Basin (2013): Controllable water quality factors shall not cause a detrimental increase in concentrations of toxic substances found in bottom sediments or aquatic life. Effects on aquatic organisms, wildlife, and human health will be considered.

Objective/Criterion Reference:

[Water Quality Control Plan \(Basin Plan\) San Francisco Bay Basin \(Region 2\)](#)

Evaluation Guideline:

The OEHHA Fish Contaminant Goal for selenium in fish tissue is 7.4 ppm. This screening level assumes an average body weight of 70 kg and a consumption rate of 32 g/day. A background dietary consumption rate of 0.114 mg/day is applied for this micronutrient. (Klasing, S., and R. Brodberg, 2008)

Guideline Reference:

[Development of Fish Contaminant Goals and Advisory Tissue Levels for Common Contaminants in California Sport Fish: Chlordane, DDTs, Dieldrin, Methylmercury, PCBs, Selenium, and Toxaphene](#)

Spatial Representation:

Data for this assessment unit was collected by one monitoring project: (SWB_FishLk)

Temporal Representation:

Data was collected on a single day 10/8/2007.

Environmental Conditions:

Staff is not aware of any special conditions that might affect interpretation of the data.

QAPP Information:

Samples were collected, processed, and analyzed in accordance with the methods described in Quality Assurance Project Plan "Screening Study of Bioaccumulation in California Lakes and Reservoirs." (SWAMP, 2008).

QAPP Information Reference(s):

[Quality Assurance Project Plan Screening Study of Bioaccumulation in California Lakes and Reservoirs. Moss Landing Marine Labs. Prepared for SWAMP BOG. 49 pages plus appendices and attachments](#)

Draft California 2016 Integrated Report (303(d) List/305(b) Report)

Supporting Information

Regional Board 2 - San Francisco Bay Region

Water Body Name: Del Valle Reservoir
Water Body ID: CAL2043002420050519181540
Water Body Type: Lake & Reservoir

DECISION ID 33244 **Region 2**
Del Valle Reservoir

Pollutant: Mercury
Final Listing Decision: Do Not Delist from 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision: List on 303(d) list (TMDL required list)(2012)
Revision Status Revised
Sources: Source Unknown
Expected TMDL Completion Date: 2013
Impairment from Pollutant or Pollution: Pollutant

Regional Board Staff Conclusion: This pollutant is being considered for removal from the CWA section 303(d) List under section 4.1 of the Listing Policy. Under this section a single line of evidence is necessary to assess listing status.

Two lines of evidence are available in the administrative record to assess pollutant. Four of twelve samples exceed the evaluation guideline.

Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against removing this water segment-pollutant combination from the CWA section 303(d) List.

This conclusion is based on the staff findings that:

1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy.
2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy.
3. Four of twelve samples exceeded the evaluation guideline and this exceeds the allowable frequency listed in Table 4.1 of the Listing Policy.
4. Pursuant to section 4.11 of the Listing Policy, no additional data and information are available indicating that standards are met.

Regional Board Staff Decision Recommendation: After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be removed from the section 303(d) list because applicable water quality standards for the pollutant are being exceeded.

Line of Evidence (LOE) for Decision ID 33244, Mercury **Region 2**
Del Valle Reservoir

LOE ID: 677
Pollutant: Mercury
LOE Subgroup: Pollutant-Tissue
Matrix: Tissue
Fraction: Total
Beneficial Use: Commercial or recreational collection of fish, shellfish, or organisms

Number of Samples:	12
Number of Exceedances:	4
Data and Information Type:	Fish tissue analysis
Data Used to Assess Water Quality:	Four out of 12 samples exceeded. A total of 12 composite samples were collected and analyzed from Del Valle Reservoir - 3 bluegill, 3 channel catfish, 3 largemouth bass, and 3 redear sunfish. One catfish and all three largemouth bass samples exceeded the Hg guideline (TSMP, 2002).
Data Reference:	Placeholder reference 2006 303(d)
SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	San Francisco Bay RWQCB Basin Plan: Many pollutants can accumulate on particles, in sediment, or bioaccumulate in fish and other aquatic organisms. Controllable water quality factors shall not cause a detrimental increase in concentrations of toxic substances found in bottom sediments or aquatic life. Effects on aquatic organisms, wildlife, and human health will be considered.
Objective/Criterion Reference:	Placeholder reference 2006 303(d)
Evaluation Guideline:	OEHHA Screening Value of 0.3 ug/g for mercury (Brodberg and Pollock, 1999).
Guideline Reference:	Placeholder reference 2006 303(d)
Spatial Representation:	One station located in upper end of reservoir south of boat ramp.
Temporal Representation:	All samples were collected on 4/25/2001.
Environmental Conditions:	
QAPP Information:	Environmental Chemistry Quality Assurance and Data Report for the Toxic Substances Monitoring Program, 2001-2002. Department of Fish and Game.
QAPP Information Reference(s):	

Line of Evidence (LOE) for Decision ID 33244, Mercury

Region 2

Del Valle Reservoir

LOE ID:	91711
Pollutant:	Mercury
LOE Subgroup:	Pollutant-Tissue
Matrix:	Tissue
Fraction:	Fish fillet
Beneficial Use:	Commercial or recreational collection of fish, shellfish, or organisms
Number of Samples:	1
Number of Exceedances:	1
Data and Information Type:	Fish tissue analysis
Data Used to Assess Water Quality:	State Water Board staff assessed SWAMP data for Del Valle Reservoir to determine beneficial use support and results are as follows: 1 of 1 samples exceed the criterion for Mercury. Composites were generated from largemouth bass (11 composites - 1 fish per composite) and channel catfish (2 composites - 5 fish per composite). Composites were not spatially independent (as defined in the Listing Policy) and so were averaged by species. The 1 sample for largemouth bass exceeded the criterion. One largemouth bass and two channel catfish composites could not be used in the assessment due to total fish lengths that did not fall within lengths noted in the guideline.
Data Reference:	Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Survey. A Report of the Surface Water Ambient Monitoring Program (SWAMP). California State Water Resources Control Board, Sacramento, CA Statewide Lakes Sportfish Contamination Study 2007 2008 Contaminants in Fish from California Lakes and Reservoirs, 2007-2008: Summary Report on a Two-Year Screening Survey Cruise report for the Surface Water Ambient Monitoring Program (SWAMP) bioaccumulation screening study in California lakes and reservoirs year two (FY 07-08). Sampling dates: April 2008 - November 2008.

SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	Water Quality Control Plan for the San Francisco Bay Basin (2013): Controllable water quality factors shall not cause a detrimental increase in concentrations of toxic substances found in bottom sediments or aquatic life. Effects on aquatic organisms, wildlife, and human health will be considered.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	The USEPA 304(a) recommended water quality criterion for concentrations of methylmercury in fish tissue of trophic level 4 fish (150 - 500 mm; fillet wet weight) is 0.2 mg/kg. This assumes a consumption rate of 32 g/day. (USEPA, 2001)
Guideline Reference:	Water Quality Criterion for the Protection of Human Health: Methylmercury. Final. United States Environmental Protection Agency Office of Science and Technology Office of Water. EPA-823-R-01-001. January 2001
Spatial Representation:	Data for this assessment unit was collected by one monitoring project: (SWB_FishLk)
Temporal Representation:	Data was collected on a single day 6/19/2008.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	Samples were collected, processed, and analyzed in accordance with the methods described in Quality Assurance Project Plan "Screening Study of Bioaccumulation in California Lakes and Reservoirs." (SWAMP, 2008).
QAPP Information Reference(s):	Quality Assurance Project Plan Screening Study of Bioaccumulation in California Lakes and Reservoirs. Moss Landing Marine Labs. Prepared for SWAMP BOG. 49 pages plus appendices and attachments

DECISION ID	33156	Region 2
Del Valle Reservoir		

Pollutant:	PCBs (Polychlorinated biphenyls)
Final Listing Decision:	Do Not Delist from 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision:	List on 303(d) list (TMDL required list)(2012)
Revision Status	Revised
Sources:	Source Unknown
Expected TMDL Completion Date:	2019
Impairment from Pollutant or Pollution:	Pollutant
Regional Board Staff Conclusion:	<p>This pollutant is being considered for removal from the CWA section 303(d) List under section 4.1 of the Listing Policy. Under this section a single line of evidence is necessary to assess listing status.</p> <p>Four lines of evidence are available in the administrative record to assess pollutant. Three of the three samples exceed the evaluation guideline.</p> <p>Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against removing this water segment-pollutant combination from the CWA section 303(d) List.</p> <p>This conclusion is based on the staff findings that:</p> <ol style="list-style-type: none"> 1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy. 2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy. 3. Three of three samples exceeded the evaluation guideline and this exceeds the allowable frequency listed in Table 4.1 of the Listing Policy. 4. Pursuant to section 4.11 of the Listing Policy, no additional data and information are available indicating that standards are met.
Regional Board Staff Decision Recommendation:	After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be removed from the section 303(d) list because applicable water quality standards for the pollutant are being exceeded.

Line of Evidence (LOE) for Decision ID 33156, PCBs (Polychlorinated biphenyls)**Region 2****Del Valle Reservoir**

LOE ID:	678
Pollutant:	PCBs (Polychlorinated biphenyls)
LOE Subgroup:	Pollutant-Tissue
Matrix:	Tissue
Fraction:	Total
Beneficial Use:	Commercial or recreational collection of fish, shellfish, or organisms
Number of Samples:	3
Number of Exceedances:	3
Data and Information Type:	Fish tissue analysis
Data Used to Assess Water Quality:	Three out of 3 samples exceeded. A total of 3 channel catfish composite samples were collected and analyzed from Del Valle Reservoir. All samples exceeded guideline (TSMP, 2002).
Data Reference:	Placeholder reference 2006 303(d)
SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	San Francisco Bay RWQCB Basin Plan: Many pollutants can accumulate on particles, in sediment, or bioaccumulate in fish and other aquatic organisms. Controllable water quality factors shall not cause a detrimental increase in concentrations of toxic substances found in bottom sediments or aquatic life. Effects on aquatic organisms, wildlife, and human health will be considered.
Objective/Criterion Reference:	Placeholder reference 2006 303(d)
Evaluation Guideline:	20.0 ng/g PCB - OEHHA Screening Value (Interim Health Advisory for Hg and PCB, Alameda County) (Brodberg and Pollock, 1999).
Guideline Reference:	Placeholder reference 2006 303(d)
Spatial Representation:	One station located in upper end of reservoir south of boat ramp.
Temporal Representation:	All samples were collected on 4/25/2001.
Environmental Conditions:	
QAPP Information:	Environmental Chemistry Quality Assurance and Data Report for the Toxic Substances Monitoring Program, 2001-2002. Department of Fish and Game.
QAPP Information Reference(s):	

Line of Evidence (LOE) for Decision ID 33156, PCBs (Polychlorinated biphenyls)**Region 2****Del Valle Reservoir**

LOE ID:	91716
Pollutant:	PCBs (Polychlorinated biphenyls)
LOE Subgroup:	Pollutant-Tissue
Matrix:	Tissue
Fraction:	Fish fillet
Beneficial Use:	Cold Freshwater Habitat
Number of Samples:	1
Number of Exceedances:	0
Data and Information Type:	Fish tissue analysis
Data Used to Assess Water Quality:	State Water Board staff assessed SWAMP data for Del Valle Reservoir to determine beneficial use support and results are as follows: 0 of 1 samples exceed the criterion for

	PCB, Total. One composite (5 fish per composite) was generated from one species: Channel Catfish. Details of the compositing protocol can be found in the March 2009 report entitled: "Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Study" (SWAMP, 2009). Total PCB was assessed for as follows: PCB aroclors and congeners were summed separately and the sum that yielded the highest value was used for the assessment.
Data Reference:	Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Survey. A Report of the Surface Water Ambient Monitoring Program (SWAMP). California State Water Resources Control Board, Sacramento, CA Statewide Lakes Sportfish Contamination Study 2007 2008 Contaminants in Fish from California Lakes and Reservoirs, 2007-2008: Summary Report on a Two-Year Screening Survey Cruise report for the Surface Water Ambient Monitoring Program (SWAMP) bioaccumulation screening study in California lakes and reservoirs year two (FY 07-08). Sampling dates: April 2008 - November 2008.
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	Water Quality Control Plan for the San Francisco Bay Basin (2013): Controllable water quality factors shall not cause a detrimental increase in concentrations of toxic substances found in bottom sediments or aquatic life. Effects on aquatic organisms, wildlife, and human health will be considered.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	National Academy of Science guidelines (NAS 1972) establish a maximum total PCB concentration of 500 ug/Kg (wet weight) in tissue samples for protection of aquatic life from bioaccumulation of toxic substances.
Guideline Reference:	National Academy of Sciences. Water Quality Criteria 1972. EPA-R3-73-033. Washington, D.C.: U.S. Environmental Protection Agency
Spatial Representation:	Data for this assessment unit was collected by one monitoring project: (SWB_FishLk)
Temporal Representation:	Data was collected on a single day 6/19/2008.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	Samples were collected, processed, and analyzed in accordance with the methods described in Quality Assurance Project Plan "Screening Study of Bioaccumulation in California Lakes and Reservoirs." (SWAMP, 2008).
QAPP Information Reference(s):	Quality Assurance Project Plan Screening Study of Bioaccumulation in California Lakes and Reservoirs. Moss Landing Marine Labs. Prepared for SWAMP BOG. 49 pages plus appendices and attachments

Line of Evidence (LOE) for Decision ID 33156, PCBs (Polychlorinated biphenyls)		Region 2
Del Valle Reservoir		
LOE ID:	91715	
Pollutant:	PCBs (Polychlorinated biphenyls)	
LOE Subgroup:	Pollutant-Tissue	
Matrix:	Tissue	
Fraction:	Fish fillet	
Beneficial Use:	Warm Freshwater Habitat	
Number of Samples:	1	
Number of Exceedances:	0	
Data and Information Type:	Fish tissue analysis	
Data Used to Assess Water Quality:	State Water Board staff assessed SWAMP data for Del Valle Reservoir to determine beneficial use support and results are as follows: 0 of 1 samples exceed the criterion for PCB, Total. One composite (5 fish per composite) was generated from one species: Channel Catfish. Details of the compositing protocol can be found in the March 2009 report entitled: "Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Study" (SWAMP, 2009). Total PCB was	

assessed for as follows: PCB aroclors and congeners were summed separately and the sum that yielded the highest value was used for the assessment.	
Data Reference:	Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Survey. A Report of the Surface Water Ambient Monitoring Program (SWAMP). California State Water Resources Control Board, Sacramento, CA Statewide Lakes Sportfish Contamination Study 2007 2008 Contaminants in Fish from California Lakes and Reservoirs, 2007-2008: Summary Report on a Two-Year Screening Survey Cruise report for the Surface Water Ambient Monitoring Program (SWAMP) bioaccumulation screening study in California lakes and reservoirs year two (FY 07-08). Sampling dates: April 2008 - November 2008.
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	Water Quality Control Plan for the San Francisco Bay Basin (2013): Controllable water quality factors shall not cause a detrimental increase in concentrations of toxic substances found in bottom sediments or aquatic life. Effects on aquatic organisms, wildlife, and human health will be considered.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	National Academy of Science guidelines (NAS 1972) establish a maximum total PCB concentration of 500 ug/Kg (wet weight) in tissue samples for protection of aquatic life from bioaccumulation of toxic substances.
Guideline Reference:	National Academy of Sciences. Water Quality Criteria 1972. EPA-R3-73-033. Washington, D.C.: U.S. Environmental Protection Agency
Spatial Representation:	Data for this assessment unit was collected by one monitoring project: (SWB_FishLk)
Temporal Representation:	Data was collected on a single day 6/19/2008.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	Samples were collected, processed, and analyzed in accordance with the methods described in Quality Assurance Project Plan "Screening Study of Bioaccumulation in California Lakes and Reservoirs." (SWAMP, 2008).
QAPP Information Reference(s):	Quality Assurance Project Plan Screening Study of Bioaccumulation in California Lakes and Reservoirs. Moss Landing Marine Labs. Prepared for SWAMP BOG. 49 pages plus appendices and attachments

Line of Evidence (LOE) for Decision ID 33156, PCBs (Polychlorinated biphenyls)		Region 2
Del Valle Reservoir		
LOE ID:	91717	
Pollutant:	PCBs (Polychlorinated biphenyls)	
LOE Subgroup:	Pollutant-Tissue	
Matrix:	Tissue	
Fraction:	Fish fillet	
Beneficial Use:	Commercial or recreational collection of fish, shellfish, or organisms	
Number of Samples:	1	
Number of Exceedances:	0	
Data and Information Type:	Fish tissue analysis	
Data Used to Assess Water Quality:	State Water Board staff assessed SWAMP data for Del Valle Reservoir to determine beneficial use support and results are as follows: 0 of 1 samples exceed the criterion for PCB, Total. One composite (5 fish per composite) was generated from one species: Channel Catfish. Details of the compositing protocol can be found in the March 2009 report entitled: "Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Study" (SWAMP, 2009). Total PCB was assessed for as follows: PCB aroclors and congeners were summed separately and the sum that yielded the highest value was used for the assessment.	
Data Reference:	Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Survey. A Report of the Surface Water Ambient Monitoring	

[Program \(SWAMP\). California State Water Resources Control Board, Sacramento, CA Statewide Lakes Sportfish Contamination Study 2007 2008](#)
[Contaminants in Fish from California Lakes and Reservoirs, 2007-2008: Summary Report on a Two-Year Screening Survey](#)
[Cruise report for the Surface Water Ambient Monitoring Program \(SWAMP\) bioaccumulation screening study in California lakes and reservoirs year two \(FY 07-08\). Sampling dates: April 2008 - November 2008.](#)

SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	Water Quality Control Plan for the San Francisco Bay Basin (2013): Controllable water quality factors shall not cause a detrimental increase in concentrations of toxic substances found in bottom sediments or aquatic life. Effects on aquatic organisms, wildlife, and human health will be considered.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	The modified OEHHA Fish Contaminant Goal for polychlorinated biphenyls in fish tissue is 2.6 ppb. This screening level assumes an average body weight of 70 kg and a consumption rate of 32 g/day for a 30 year exposure over a 70-year lifetime. This constituent is a carcinogen therefore the risk level is set to one in a million. A cooking reduction factor of 1 is applied for skin-off fillets. (Klasing, S., and R. Brodberg, 2008)
Guideline Reference:	Development of Fish Contaminant Goals and Advisory Tissue Levels for Common Contaminants in California Sport Fish: Chlordane, DDTs, Dieldrin, Methylmercury, PCBs, Selenium, and Toxaphene
Spatial Representation:	Data for this assessment unit was collected by one monitoring project: (SWB_FishLk)
Temporal Representation:	Data was collected on a single day 6/19/2008.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	Samples were collected, processed, and analyzed in accordance with the methods described in Quality Assurance Project Plan "Screening Study of Bioaccumulation in California Lakes and Reservoirs." (SWAMP, 2008).
QAPP Information Reference(s):	Quality Assurance Project Plan Screening Study of Bioaccumulation in California Lakes and Reservoirs. Moss Landing Marine Labs. Prepared for SWAMP BOG. 49 pages plus appendices and attachments

DECISION ID		64291	Region 2
Del Valle Reservoir			
Pollutant:	1, 1-dichloroethane		
Final Listing Decision:	Do Not List on 303(d) list (TMDL required list)		
Last Listing Cycle's Final Listing Decision:	New Decision		
Revision Status	Revised		
Impairment from Pollutant or Pollution:	Pollutant		
Regional Board Staff Conclusion:	<p>This pollutant is being considered for placement on the CWA section 303(d) List under section 3.1 of the Listing Policy. Under section 3.1 a single line of evidence is necessary to assess listing status.</p> <p>Two lines of evidence are available in the administrative record to assess this pollutant. Zero of one hundred fourteen samples exceed the guideline.</p> <p>Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against placing this water segment-pollutant combination on the CWA section 303(d) List in the Water Quality Limited Segments category.</p> <p>This conclusion is based on the staff findings that:</p> <ol style="list-style-type: none"> 1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy. 2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy. 3. Zero of one hundred fourteen samples exceed the guideline, and this does not exceed the allowable frequency listed in Table 3.1 of the Listing Policy. 		

4. Pursuant to section 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.

Regional Board Staff Decision Recommendation: After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be placed on the section 303(d) list because applicable water quality standards are not being exceeded.

**Line of Evidence (LOE) for Decision ID 64291, 1, 1-dichloroethane
Del Valle Reservoir**

Region 2

LOE ID: 91656

Pollutant: 1, 1-dichloroethane
LOE Subgroup: Pollutant-Water
Matrix: Water
Fraction: None

Beneficial Use: Municipal & Domestic Supply

Number of Samples: 114
Number of Exceedances: 0

Data and Information Type: PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality: State Water Board staff assessed DWR data for Del Valle Reservoir to determine beneficial use support and results are as follows: 0 of 114 samples exceed the criterion for 1, 1-Dichloroethane.

Data Reference: [Data for Metals, Nutrients, Inorganics, Organics, and Pesticides in Regions 2,5 and 6, 2004-2010.](#)

SWAMP Data: Non-SWAMP

Water Quality Objective/Criterion: The California Maximum Contaminant Level for 1, 1-Dichloroethane incorporated by reference in the Water Quality Control Plan, San Francisco Bay Region is 5 ug/L (Water Quality Control Plan, San Francisco Bay Region).

Objective/Criterion Reference: [Water Quality Control Plan \(Basin Plan\) San Francisco Bay Basin \(Region 2\)](#)

Evaluation Guideline:
Guideline Reference:

Spatial Representation: Data for this line of evidence for Del Valle Reservoir was collected at 1 monitoring site [Lake Del Valle at Glory Hole]

Temporal Representation: Data was collected over the time period 1/20/2004 10:50:00 AM-12/15/2009 12:00:00 PM.

Environmental Conditions: Staff is not aware of any special conditions that might affect interpretation of the data.

QAPP Information: The Quality Assurance Project Plan for Bryte Chemical Laboratory was used.

QAPP Information Reference(s): [Quality Assurance Project Plan from Bryte Chemical Laboratory.](#)

**Line of Evidence (LOE) for Decision ID 64291, 1, 1-dichloroethane
Del Valle Reservoir**

Region 2

LOE ID: 91657

Pollutant: 1, 2-Dibromoethane
LOE Subgroup: Pollutant-Water
Matrix: Water
Fraction: None

Beneficial Use: Municipal & Domestic Supply

Number of Samples: 0
Number of Exceedances: 0

Data and Information Type: PHYSICAL/CHEMICAL MONITORING

Data Used to Assess Water Quality: State Water Board staff assessed DWR data for Del Valle Reservoir to determine beneficial use support and results are as follows: 0 of 0 samples exceed the criterion for 1, 2-Dibromoethane. One hundred and fourteen sample results were not used in the assessment because the laboratory data reporting limit(s) was above the objective and therefore the results could not be quantified with the level of certainty required by the Listing Policy.

Data Reference: [Data for Metals, Nutrients, Inorganics, Organics, and Pesticides in Regions 2.5 and 6, 2004-2010.](#)

SWAMP Data: Non-SWAMP

Water Quality Objective/Criterion: The California Maximum Contaminant Level for ethylene dibromide (EDB) incorporated by reference in the Water Quality Control Plan, San Francisco Bay Region is 0.05 ug/L (Water Quality Control Plan, San Francisco Bay Region).

Objective/Criterion Reference: [Water Quality Control Plan \(Basin Plan\) San Francisco Bay Basin \(Region 2\)](#)

Evaluation Guideline:

Guideline Reference:

Spatial Representation: Data for this line of evidence for Del Valle Reservoir was collected at 1 monitoring site [Lake Del Valle at Glory Hole]

Temporal Representation: Data was collected over the time period 1/20/2004 10:50:00 AM-12/15/2009 12:00:00 PM.

Environmental Conditions: Staff is not aware of any special conditions that might affect interpretation of the data.

QAPP Information: The Quality Assurance Project Plan for Bryte Chemical Laboratory was used.

QAPP Information Reference(s): [Quality Assurance Project Plan from Bryte Chemical Laboratory.](#)

DECISION ID		64292	Region 2
Del Valle Reservoir			
Pollutant:	1,1,1-Trichloroethane		
Final Listing Decision:	Do Not List on 303(d) list (TMDL required list)		
Last Listing Cycle's Final Listing Decision:	New Decision		
Revision Status	Revised		
Impairment from Pollutant or Pollution:	Pollutant		
Regional Board Staff Conclusion:	<p>This pollutant is being considered for placement on the CWA section 303(d) List under section 3.1 of the Listing Policy. Under section 3.1 a single line of evidence is necessary to assess listing status.</p> <p>One line of evidence is available in the administrative record to assess this pollutant. Zero of one hundred fourteen samples exceed the guideline.</p> <p>Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against placing this water segment-pollutant combination on the CWA section 303(d) List in the Water Quality Limited Segments category.</p> <p>This conclusion is based on the staff findings that:</p> <ol style="list-style-type: none"> 1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy. 2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy. 3. Zero of one hundred fourteen samples exceed the guideline and this does not exceed the allowable frequency listed in Table 3.1 of the Listing Policy. 4. Pursuant to section 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met. 		
Regional Board Staff Decision Recommendation:	After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be placed on the section 303(d) list because applicable water quality standards are not being exceeded.		

Del Valle Reservoir

LOE ID:	91658
Pollutant:	1,1,1-Trichloroethane
LOE Subgroup:	Pollutant-Water
Matrix:	Water
Fraction:	None
Beneficial Use:	Municipal & Domestic Supply
Number of Samples:	114
Number of Exceedances:	0
Data and Information Type:	PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality:	State Water Board staff assessed DWR data for Del Valle Reservoir to determine beneficial use support and results are as follows: 0 of 114 samples exceed the criterion for 1, 1, 1-Trichloroethane.
Data Reference:	Data for Metals, Nutrients, Inorganics, Organics, and Pesticides in Regions 2,5 and 6, 2004-2010.
SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	The California Maximum Contaminant Level for 1, 1, 1-Trichloroethane incorporated by reference in the Water Quality Control Plan, San Francisco Bay Region is 200 ug/L (Water Quality Control Plan, San Francisco Bay Region).
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	
Guideline Reference:	
Spatial Representation:	Data for this line of evidence for Del Valle Reservoir was collected at 1 monitoring site [Lake Del Valle at Glory Hole]
Temporal Representation:	Data was collected over the time period 1/20/2004 10:50:00 AM-12/15/2009 12:00:00 PM.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	The Quality Assurance Project Plan for Bryte Chemical Laboratory was used.
QAPP Information Reference(s):	Quality Assurance Project Plan from Bryte Chemical Laboratory.

DECISION ID

64293

Region 2

Del Valle Reservoir

Pollutant:	1,1,2-Trichloroethane
Final Listing Decision:	Do Not List on 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision:	New Decision
Revision Status	Revised
Impairment from Pollutant or Pollution:	Pollutant
Regional Board Staff Conclusion:	<p>This pollutant is being considered for placement on the CWA section 303(d) List under section 3.1 of the Listing Policy. Under section 3.1 a single line of evidence is necessary to assess listing status.</p> <p>Two lines of evidence are available in the administrative record to assess this pollutant. Zero of one hundred fourteen samples exceed the guideline.</p> <p>Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against placing this water segment-pollutant combination on the CWA section 303(d) List in the Water Quality Limited Segments category.</p>

This conclusion is based on the staff findings that:

1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy.
2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy.
3. Zero of one hundred fourteen samples exceed the guideline and this does not exceed the allowable frequency listed in Table 3.1 of the Listing Policy.
4. Pursuant to section 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.

Regional Board Staff Decision Recommendation: After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be placed on the section 303(d) list because applicable water quality standards are not being exceeded.

**Line of Evidence (LOE) for Decision ID 64293, 1,1,2-Trichloroethane
Del Valle Reservoir**

Region 2

LOE ID: 91660

Pollutant: 1,1,2-Trichloroethane
LOE Subgroup: Pollutant-Water
Matrix: Water
Fraction: None

Beneficial Use: Commercial or recreational collection of fish, shellfish, or organisms

Number of Samples: 114
Number of Exceedances: 0

Data and Information Type: PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality: State Water Board staff assessed DWR data for Del Valle Reservoir to determine beneficial use support and results are as follows: 0 of 114 samples exceed the criterion for 1, 1, 2-Trichloroethane.

Data Reference: [Data for Metals, Nutrients, Inorganics, Organics, and Pesticides in Regions 2,5 and 6, 2004-2010.](#)

SWAMP Data: Non-SWAMP

Water Quality Objective/Criterion: The 1, 1, 2-Trichloroethane criteria for the protection of human health from consumption of organisms only is 42 ug/L (California Toxics Rule, 2000).

Objective/Criterion Reference: [Code of Federal Regulations 40 part 131.38 Establishment of numeric criteria for priority toxic pollutants for the State of California. 7/1/2011 Edition](#)

Evaluation Guideline:
Guideline Reference:

Spatial Representation: Data for this line of evidence for Del Valle Reservoir was collected at 1 monitoring site [Lake Del Valle at Glory Hole]

Temporal Representation: Data was collected over the time period 1/20/2004 10:50:00 AM-12/15/2009 12:00:00 PM.

Environmental Conditions: Staff is not aware of any special conditions that might affect interpretation of the data.

QAPP Information: The Quality Assurance Project Plan for Bryte Chemical Laboratory was used.

QAPP Information Reference(s): [Quality Assurance Project Plan from Bryte Chemical Laboratory.](#)

**Line of Evidence (LOE) for Decision ID 64293, 1,1,2-Trichloroethane
Del Valle Reservoir**

Region 2

LOE ID: 91659

Pollutant: 1,1,2-Trichloroethane
LOE Subgroup: Pollutant-Water
Matrix: Water

Fraction:	None
Beneficial Use:	Municipal & Domestic Supply
Number of Samples:	114
Number of Exceedances:	0
Data and Information Type:	PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality:	State Water Board staff assessed DWR data for Del Valle Reservoir to determine beneficial use support and results are as follows: 0 of 114 samples exceed the criterion for 1, 1, 2-Trichloroethane.
Data Reference:	Data for Metals, Nutrients, Inorganics, Organics, and Pesticides in Regions 2.5 and 6, 2004-2010.
SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	The 1, 1, 2-Trichloroethane criterion for the protection of human health from the consumption of water and organisms is 0.60 ug/L (California Toxics Rule, 2000).
Objective/Criterion Reference:	Code of Federal Regulations 40 part 131.38 Establishment of numeric criteria for priority toxic pollutants for the State of California. 7/1/2011 Edition
Evaluation Guideline:	
Guideline Reference:	
Spatial Representation:	Data for this line of evidence for Del Valle Reservoir was collected at 1 monitoring site [Lake Del Valle at Glory Hole]
Temporal Representation:	Data was collected over the time period 1/20/2004 10:50:00 AM-12/15/2009 12:00:00 PM.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	The Quality Assurance Project Plan for Bryte Chemical Laboratory was used.
QAPP Information Reference(s):	Quality Assurance Project Plan from Bryte Chemical Laboratory.

DECISION ID	64294	Region 2
Del Valle Reservoir		

Pollutant:	1,2,4-Trichlorobenzene
Final Listing Decision:	Do Not List on 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision:	New Decision
Revision Status	Revised
Impairment from Pollutant or Pollution:	Pollutant
Regional Board Staff Conclusion:	<p>This pollutant is being considered for placement on the CWA section 303(d) List under section 3.1 of the Listing Policy. Under section 3.1 a single line of evidence is necessary to assess listing status.</p> <p>One line of evidence is available in the administrative record to assess this pollutant. Zero of one hundred fourteen samples exceed the guideline.</p> <p>Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against placing this water segment-pollutant combination on the CWA section 303(d) List in the Water Quality Limited Segments category.</p> <p>This conclusion is based on the staff findings that:</p> <ol style="list-style-type: none"> 1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy. 2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy. 3. Zero of one hundred fourteen samples exceed the guideline and this does not exceed the allowable frequency listed in Table 3.1 of the Listing Policy. 4. Pursuant to section 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.
Regional Board Staff Decision	After review of the available data and information, RWQCB staff concludes that the water body-

Recommendation: pollutant combination should not be placed on the section 303(d) list because applicable water quality standards are not being exceeded.

Line of Evidence (LOE) for Decision ID 64294, 1,2,4-Trichlorobenzene

Region 2

Del Valle Reservoir

LOE ID: 91662

Pollutant: 1,2,4-Trichlorobenzene
LOE Subgroup: Pollutant-Water
Matrix: Water
Fraction: None

Beneficial Use: Municipal & Domestic Supply

Number of Samples: 114
Number of Exceedances: 0

Data and Information Type: PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality: State Water Board staff assessed DWR data for Del Valle Reservoir to determine beneficial use support and results are as follows: 0 of 114 samples exceed the criterion for 1, 2, 4-Trichlorobenzene.

Data Reference: [Data for Metals, Nutrients, Inorganics, Organics, and Pesticides in Regions 2,5 and 6, 2004-2010.](#)

SWAMP Data: Non-SWAMP

Water Quality Objective/Criterion: The maximum contaminant level listed in Table 64444-A for 1, 2, 4-Trichlorobenzene is 5 ug/L.

Objective/Criterion Reference: [Maximum Contaminant Levels for organic and inorganic chemicals. CCR](#)

Evaluation Guideline:
Guideline Reference:

Spatial Representation: Data for this line of evidence for Del Valle Reservoir was collected at 1 monitoring site [Lake Del Valle at Glory Hole]

Temporal Representation: Data was collected over the time period 1/20/2004 10:50:00 AM-12/15/2009 12:00:00 PM.

Environmental Conditions: Staff is not aware of any special conditions that might affect interpretation of the data.

QAPP Information: The Quality Assurance Project Plan for Bryte Chemical Laboratory was used.

QAPP Information Reference(s): [Quality Assurance Project Plan from Bryte Chemical Laboratory.](#)

DECISION ID

64295

Region 2

Del Valle Reservoir

Pollutant: 1,2-Dibromo-3-chloropropane (DBCP)
Final Listing Decision: Do Not List on 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision: New Decision
Revision Status: Revised
Impairment from Pollutant or Pollution: Pollutant

Regional Board Staff Conclusion:

This pollutant is being considered for placement on the CWA section 303(d) List under section 3.1 of the Listing Policy. Under section 3.1 a single line of evidence is necessary to assess listing status. One line of evidence is available in the administrative record to assess this pollutant. Zero of zero samples exceed the guideline.

Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against placing this water segment-pollutant combination on the CWA section

303(d) List.

This conclusion is based on the staff findings that:

1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy.
2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy.
3. Zero of zero samples exceed the guideline and this sample size is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating. A minimum of 16 samples is needed to determine if a beneficial use is fully supported using table 3.1.
4. Pursuant to SECTION 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.

Regional Board Staff Decision Recommendation: After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be placed on the section 303(d) list. The readily available data and information is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating.

Line of Evidence (LOE) for Decision ID 64295, 1,2-Dibromo-3-chloropropane (DBCP)

Region 2

Del Valle Reservoir

LOE ID:	91663
Pollutant:	1,2-Dibromo-3-chloropropane (DBCP)
LOE Subgroup:	Pollutant-Water
Matrix:	Water
Fraction:	None
Beneficial Use:	Municipal & Domestic Supply
Number of Samples:	0
Number of Exceedances:	0
Data and Information Type:	PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality:	State Water Board staff assessed DWR data for Del Valle Reservoir to determine beneficial use support and results are as follows: 0 of 0 samples exceed the criterion for 1, 2-Dibromo-3-Chloropropane(DBCP). One hundred and fourteen sample results were not used in the assessment because the laboratory data reporting limit(s) was above the objective and therefore the results could not be quantified with the level of certainty required by the Listing Policy.
Data Reference:	Data for Metals, Nutrients, Inorganics, Organics, and Pesticides in Regions 2,5 and 6, 2004-2010.
SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	The California Maximum Contaminant Level for 1, 2-Dibromo-3-Chloropropane(DBCP) incorporated by reference in the Water Quality Control Plan, San Francisco Bay Region is 0.20 ug/L (Water Quality Control Plan, San Francisco Bay Region).
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	
Guideline Reference:	
Spatial Representation:	Data for this line of evidence for Del Valle Reservoir was collected at 1 monitoring site [Lake Del Valle at Glory Hole]
Temporal Representation:	Data was collected over the time period 1/20/2004 10:50:00 AM-12/15/2009 12:00:00 PM.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	The Quality Assurance Project Plan for Bryte Chemical Laboratory was used.
QAPP Information Reference(s):	Quality Assurance Project Plan from Bryte Chemical Laboratory.

DECISION ID

64296

Region 2

Del Valle Reservoir

Pollutant: 1,2-Dichloroethane
Final Listing Decision: Do Not List on 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision: New Decision
Revision Status: Revised
Impairment from Pollutant or Pollution: Pollutant

Regional Board Staff Conclusion: This pollutant is being considered for placement on the CWA section 303(d) List under section 3.1 of the Listing Policy. Under section 3.1 a single line of evidence is necessary to assess listing status.

Two lines of evidence are available in the administrative record to assess this pollutant. Zero of one hundred fourteen samples exceed the guideline.

Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against placing this water segment-pollutant combination on the CWA section 303(d) List in the Water Quality Limited Segments category.

This conclusion is based on the staff findings that:

1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy.
2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy.
3. Zero of one hundred fourteen samples exceed the guideline and this does not exceed the allowable frequency listed in Table 3.1 of the Listing Policy.
4. Pursuant to section 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.

Regional Board Staff Decision Recommendation: After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be placed on the section 303(d) list because applicable water quality standards are not being exceeded.

Line of Evidence (LOE) for Decision ID 64296, 1,2-Dichloroethane

Region 2

Del Valle Reservoir

LOE ID: 91664

Pollutant: 1,2-Dichloroethane
LOE Subgroup: Pollutant-Water
Matrix: Water
Fraction: None

Beneficial Use: Municipal & Domestic Supply

Number of Samples: 0
Number of Exceedances: 0

Data and Information Type: PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality: State Water Board staff assessed DWR data for Del Valle Reservoir to determine beneficial use support and results are as follows: 0 of 0 samples exceed the criterion for 1, 2-Dichloroethane. One hundred and fourteen sample results were not used in the assessment because the laboratory data reporting limit(s) was above the objective and therefore the results could not be quantified with the level of certainty required by the Listing Policy.

Data Reference: [Data for Metals, Nutrients, Inorganics, Organics, and Pesticides in Regions 2,5 and 6, 2004-2010.](#)

SWAMP Data: Non-SWAMP

Water Quality Objective/Criterion: The 1, 2-Dichloroethane criterion for the protection of human health from the consumption of water and organisms is 0.38 ug/L (California Toxics Rule, 2000).

Objective/Criterion Reference: [Code of Federal Regulations 40 part 131.38 Establishment of numeric criteria for priority toxic pollutants for the State of California. 7/1/2011 Edition](#)

Evaluation Guideline:
Guideline Reference:

Spatial Representation: Data for this line of evidence for Del Valle Reservoir was collected at 1 monitoring site [Lake Del Valle at Glory Hole]

Temporal Representation: Data was collected over the time period 1/20/2004 10:50:00 AM-12/15/2009 12:00:00 PM.

Environmental Conditions: Staff is not aware of any special conditions that might affect interpretation of the data.

QAPP Information: The Quality Assurance Project Plan for Bryte Chemical Laboratory was used.

QAPP Information Reference(s): [Quality Assurance Project Plan from Bryte Chemical Laboratory.](#)

Line of Evidence (LOE) for Decision ID 64296, 1,2-Dichloroethane
Del Valle Reservoir

Region 2

LOE ID: 91665

Pollutant: 1,2-Dichloroethane
LOE Subgroup: Pollutant-Water
Matrix: Water
Fraction: None

Beneficial Use: Commercial or recreational collection of fish, shellfish, or organisms

Number of Samples: 114
Number of Exceedances: 0

Data and Information Type: PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality: State Water Board staff assessed DWR data for Del Valle Reservoir to determine beneficial use support and results are as follows: 0 of 114 samples exceed the criterion for 1, 2-Dichloroethane.

Data Reference: [Data for Metals, Nutrients, Inorganics, Organics, and Pesticides in Regions 2,5 and 6, 2004-2010.](#)

SWAMP Data: Non-SWAMP

Water Quality Objective/Criterion: The 1, 2-Dichloroethane criteria for the protection of human health from consumption of organisms only is 99 ug/L (California Toxics Rule, 2000).

Objective/Criterion Reference: [Code of Federal Regulations 40 part 131.38 Establishment of numeric criteria for priority toxic pollutants for the State of California. 7/1/2011 Edition](#)

Evaluation Guideline:
Guideline Reference:

Spatial Representation: Data for this line of evidence for Del Valle Reservoir was collected at 1 monitoring site [Lake Del Valle at Glory Hole]

Temporal Representation: Data was collected over the time period 1/20/2004 10:50:00 AM-12/15/2009 12:00:00 PM.

Environmental Conditions: Staff is not aware of any special conditions that might affect interpretation of the data.

QAPP Information: The Quality Assurance Project Plan for Bryte Chemical Laboratory was used.

QAPP Information Reference(s): [Quality Assurance Project Plan from Bryte Chemical Laboratory.](#)

DECISION ID 64297
Del Valle Reservoir

Region 2

Pollutant: 1,2-Dichloropropane
Final Listing Decision: Do Not List on 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision: New Decision
Revision Status Revised

Impairment from Pollutant or Pollution: Pollutant

Regional Board Staff Conclusion:

This pollutant is being considered for placement on the CWA section 303(d) List under section 3.1 of the Listing Policy. Under section 3.1 a single line of evidence is necessary to assess listing status.

Two lines of evidence are available in the administrative record to assess this pollutant. Zero of one hundred fourteen samples exceed the guideline.

Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against placing this water segment-pollutant combination on the CWA section 303(d) List in the Water Quality Limited Segments category.

This conclusion is based on the staff findings that:

1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy.
2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy.
3. Zero of one hundred fourteen samples exceed the guideline and this does not exceed the allowable frequency listed in Table 3.1 of the Listing Policy.
4. Pursuant to section 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.

Regional Board Staff Decision Recommendation:

After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be placed on the section 303(d) list because applicable water quality standards are not being exceeded.

**Line of Evidence (LOE) for Decision ID 64297, 1,2-Dichloropropane
Del Valle Reservoir**

Region 2

LOE ID:	91666
Pollutant:	1,2-Dichloropropane
LOE Subgroup:	Pollutant-Water
Matrix:	Water
Fraction:	None
Beneficial Use:	Municipal & Domestic Supply
Number of Samples:	114
Number of Exceedances:	0
Data and Information Type:	PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality:	State Water Board staff assessed DWR data for Del Valle Reservoir to determine beneficial use support and results are as follows: 0 of 114 samples exceed the criterion for 1, 2-Dichloropropane.
Data Reference:	Data for Metals, Nutrients, Inorganics, Organics, and Pesticides in Regions 2.5 and 6, 2004-2010.
SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	The 1, 2-Dichloropropane criterion for the protection of human health from the consumption of water and organisms is 0.52 ug/L (California Toxics Rule, 2000).
Objective/Criterion Reference:	Code of Federal Regulations 40 part 131.38 Establishment of numeric criteria for priority toxic pollutants for the State of California. 7/1/2011 Edition
Evaluation Guideline:	
Guideline Reference:	
Spatial Representation:	Data for this line of evidence for Del Valle Reservoir was collected at 1 monitoring site [Lake Del Valle at Glory Hole]
Temporal Representation:	Data was collected over the time period 1/20/2004 10:50:00 AM-12/15/2009 12:00:00 PM.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.

QAPP Information: The Quality Assurance Project Plan for Bryte Chemical Laboratory was used.
QAPP Information Reference(s): [Quality Assurance Project Plan from Bryte Chemical Laboratory.](#)

Line of Evidence (LOE) for Decision ID 64297, 1,2-Dichloropropane
Del Valle Reservoir

Region 2

LOE ID: 91667

Pollutant: 1,2-Dichloropropane
LOE Subgroup: Pollutant-Water
Matrix: Water
Fraction: None

Beneficial Use: Commercial or recreational collection of fish, shellfish, or organisms

Number of Samples: 114
Number of Exceedances: 0

Data and Information Type: PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality: State Water Board staff assessed DWR data for Del Valle Reservoir to determine beneficial use support and results are as follows: 0 of 114 samples exceed the criterion for 1, 2-Dichloropropane.

Data Reference: [Data for Metals, Nutrients, Inorganics, Organics, and Pesticides in Regions 2,5 and 6, 2004-2010.](#)

SWAMP Data: Non-SWAMP

Water Quality Objective/Criterion: The 1, 2-Dichloropropane criteria for the protection of human health from consumption of organisms only is 39 ug/L (California Toxics Rule, 2000).

Objective/Criterion Reference: [Code of Federal Regulations 40 part 131.38 Establishment of numeric criteria for priority toxic pollutants for the State of California. 7/1/2011 Edition](#)

Evaluation Guideline:
Guideline Reference:

Spatial Representation: Data for this line of evidence for Del Valle Reservoir was collected at 1 monitoring site [Lake Del Valle at Glory Hole]

Temporal Representation: Data was collected over the time period 1/20/2004 10:50:00 AM-12/15/2009 12:00:00 PM.

Environmental Conditions: Staff is not aware of any special conditions that might affect interpretation of the data.

QAPP Information: The Quality Assurance Project Plan for Bryte Chemical Laboratory was used.

QAPP Information Reference(s): [Quality Assurance Project Plan from Bryte Chemical Laboratory.](#)

DECISION ID

64298

Region 2

Del Valle Reservoir

Pollutant: Aldrin
Final Listing Decision: Do Not List on 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision: New Decision
Revision Status Revised
Impairment from Pollutant or Pollution: Pollutant

Regional Board Staff Conclusion:

This pollutant is being considered for placement on the CWA section 303(d) List under section 3.5 of the Listing Policy. Under section 3.5 a single line of evidence is necessary to assess listing status. Two lines of evidence are available in the administrative record to assess this pollutant. Zero of one samples exceed the OEHHHA guideline.

Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against placing this water segment-pollutant combination on the CWA section

303(d) List.

This conclusion is based on the staff findings that:

1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy.
2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy.
3. Zero of one samples exceed the OEHHA guideline and this sample size is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating. A minimum of 16 samples is needed to determine if a beneficial use is fully supported using table 3.1.
4. Pursuant to SECTION 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.

Regional Board Staff Decision Recommendation: After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be placed on the section 303(d) list. The readily available data and information is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating.

Line of Evidence (LOE) for Decision ID 64298, Aldrin

Region 2

Del Valle Reservoir

LOE ID:	91668
Pollutant:	Aldrin
LOE Subgroup:	Pollutant-Tissue
Matrix:	Tissue
Fraction:	Fish fillet
Beneficial Use:	Warm Freshwater Habitat
Number of Samples:	1
Number of Exceedances:	0
Data and Information Type:	Fish tissue analysis
Data Used to Assess Water Quality:	State Water Board staff assessed SWAMP data for Del Valle Reservoir to determine beneficial use support and results are as follows: 0 of 1 samples exceed the criterion for Aldrin. One composite (5 fish per composite) was generated from one species: Channel Catfish. Details of the compositing protocol can be found in the March 2009 report entitled: "Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Study" (SWAMP, 2009).
Data Reference:	Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Survey. A Report of the Surface Water Ambient Monitoring Program (SWAMP). California State Water Resources Control Board, Sacramento, CA Statewide Lakes Sportfish Contamination Study 2007 2008 Contaminants in Fish from California Lakes and Reservoirs, 2007-2008: Summary Report on a Two-Year Screening Survey Cruise report for the Surface Water Ambient Monitoring Program (SWAMP) bioaccumulation screening study in California lakes and reservoirs year two (FY 07-08). Sampling dates: April 2008 - November 2008.
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	Water Quality Control Plan for the San Francisco Bay Basin: Controllable water quality factors shall not cause a detrimental increase in concentrations of toxic substances found in bottom sediments or aquatic life. Effects on aquatic organisms, wildlife, and human health will be considered.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	National Academy of Science guidelines (NAS 1972) establish a maximum Aldrin concentration of 100 ug/Kg (wet weight) in tissue samples for protection of aquatic life from bioaccumulation of toxic substances.
Guideline Reference:	National Academy of Sciences. Water Quality Criteria 1972. EPA-R3-73-033. Washington.

Spatial Representation: Data for this assessment unit was collected by one monitoring project: (SWB_FishLk)
Temporal Representation: Data was collected on a single day 6/19/2008.
Environmental Conditions: Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information: Samples were collected, processed, and analyzed in accordance with the methods described in Quality Assurance Project Plan "Screening Study of Bioaccumulation in California Lakes and Reservoirs." (SWAMP, 2008).
QAPP Information Reference(s): [Quality Assurance Project Plan Screening Study of Bioaccumulation in California Lakes and Reservoirs. Moss Landing Marine Labs. Prepared for SWAMP BOG. 49 pages plus appendices and attachments](#)

Line of Evidence (LOE) for Decision ID 64298, Aldrin

Region 2

Del Valle Reservoir

LOE ID: 91669

Pollutant: Aldrin
LOE Subgroup: Pollutant-Tissue
Matrix: Tissue
Fraction: Fish fillet

Beneficial Use: Cold Freshwater Habitat

Number of Samples: 1
Number of Exceedances: 0

Data and Information Type: Fish tissue analysis
Data Used to Assess Water Quality: State Water Board staff assessed SWAMP data for Del Valle Reservoir to determine beneficial use support and results are as follows: 0 of 1 samples exceed the criterion for Aldrin. One composite (5 fish per composite) was generated from one species: Channel Catfish. Details of the compositing protocol can be found in the March 2009 report entitled: "Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Study" (SWAMP, 2009).
Data Reference: [Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Survey. A Report of the Surface Water Ambient Monitoring Program \(SWAMP\). California State Water Resources Control Board, Sacramento, CA Statewide Lakes Sportfish Contamination Study 2007 2008](#)
[Contaminants in Fish from California Lakes and Reservoirs, 2007-2008: Summary Report on a Two-Year Screening Survey](#)
[Cruise report for the Surface Water Ambient Monitoring Program \(SWAMP\) bioaccumulation screening study in California lakes and reservoirs year two \(FY 07-08\). Sampling dates: April 2008 - November 2008.](#)

SWAMP Data: SWAMP

Water Quality Objective/Criterion: Water Quality Control Plan for the San Francisco Bay Basin: Controllable water quality factors shall not cause a detrimental increase in concentrations of toxic substances found in bottom sediments or aquatic life. Effects on aquatic organisms, wildlife, and human health will be considered.

Objective/Criterion Reference: [Water Quality Control Plan \(Basin Plan\) San Francisco Bay Basin \(Region 2\)](#)

Evaluation Guideline: National Academy of Science guidelines (NAS 1972) establish a maximum Aldrin concentration of 100 ug/Kg (wet weight) in tissue samples for protection of aquatic life from bioaccumulation of toxic substances.

Guideline Reference: [National Academy of Sciences. Water Quality Criteria 1972. EPA-R3-73-033. Washington, D.C.: U.S. Environmental Protection Agency](#)

Spatial Representation: Data for this assessment unit was collected by one monitoring project: (SWB_FishLk)
Temporal Representation: Data was collected on a single day 6/19/2008.
Environmental Conditions: Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information: Samples were collected, processed, and analyzed in accordance with the methods

QAPP Information Reference(s):

described in Quality Assurance Project Plan "Screening Study of Bioaccumulation in California Lakes and Reservoirs." (SWAMP, 2008).

[Quality Assurance Project Plan Screening Study of Bioaccumulation in California Lakes and Reservoirs. Moss Landing Marine Labs. Prepared for SWAMP BOG. 49 pages plus appendices and attachments](#)

DECISION ID	64345	Region 2
Del Valle Reservoir		

Pollutant:	Benzene
Final Listing Decision:	Do Not List on 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision:	New Decision
Revision Status	Revised
Impairment from Pollutant or Pollution:	Pollutant

Regional Board Staff Conclusion: This pollutant is being considered for placement on the CWA section 303(d) List under section 3.1 of the Listing Policy. Under section 3.1 a single line of evidence is necessary to assess listing status.

Two lines of evidence are available in the administrative record to assess this pollutant. Zero of one hundred fourteen samples exceed the guideline.

Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against placing this water segment-pollutant combination on the CWA section 303(d) List in the Water Quality Limited Segments category.

This conclusion is based on the staff findings that:

1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy.
2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy.
3. Zero of one hundred fourteen samples exceed the guideline and this does not exceed the allowable frequency listed in Table 3.1 of the Listing Policy.
4. Pursuant to section 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.

Regional Board Staff Decision Recommendation: After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be placed on the section 303(d) list because applicable water quality standards are not being exceeded.

Line of Evidence (LOE) for Decision ID 64345, Benzene	Region 2
Del Valle Reservoir	

LOE ID:	91671
Pollutant:	Benzene
LOE Subgroup:	Pollutant-Water
Matrix:	Water
Fraction:	None
Beneficial Use:	Commercial or recreational collection of fish, shellfish, or organisms
Number of Samples:	114
Number of Exceedances:	0
Data and Information Type:	PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality:	State Water Board staff assessed DWR data for Del Valle Reservoir to determine beneficial use support and results are as follows: 0 of 114 samples exceed the criterion for Benzene.
Data Reference:	Data for Metals, Nutrients, Inorganics, Organics, and Pesticides in Regions 2,5 and 6.

[2004-2010.](#)

SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	The Benzene criteria for the protection of human health from consumption of organisms only is 71 ug/L (California Toxics Rule, 2000).
Objective/Criterion Reference:	Code of Federal Regulations 40 part 131.38 Establishment of numeric criteria for priority toxic pollutants for the State of California. 7/1/2011 Edition
Evaluation Guideline:	
Guideline Reference:	
Spatial Representation:	Data for this line of evidence for Del Valle Reservoir was collected at 1 monitoring site [Lake Del Valle at Glory Hole]
Temporal Representation:	Data was collected over the time period 1/20/2004 10:50:00 AM-12/15/2009 12:00:00 PM.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	The Quality Assurance Project Plan for Bryte Chemical Laboratory was used.
QAPP Information Reference(s):	Quality Assurance Project Plan from Bryte Chemical Laboratory.

Line of Evidence (LOE) for Decision ID 64345, Benzene

Region 2

Del Valle Reservoir

LOE ID:	91670
Pollutant:	Benzene
LOE Subgroup:	Pollutant-Water
Matrix:	Water
Fraction:	None
Beneficial Use:	Municipal & Domestic Supply
Number of Samples:	114
Number of Exceedances:	0
Data and Information Type:	PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality:	State Water Board staff assessed DWR data for Del Valle Reservoir to determine beneficial use support and results are as follows: 0 of 114 samples exceed the criterion for Benzene.
Data Reference:	Data for Metals, Nutrients, Inorganics, Organics, and Pesticides in Regions 2,5 and 6, 2004-2010.
SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	The California Maximum Contaminant Level for Benzene incorporated by reference in the Water Quality Control Plan, San Francisco Bay Region is 1 ug/L (Water Quality Control Plan, San Francisco Bay Region).
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	
Guideline Reference:	
Spatial Representation:	Data for this line of evidence for Del Valle Reservoir was collected at 1 monitoring site [Lake Del Valle at Glory Hole]
Temporal Representation:	Data was collected over the time period 1/20/2004 10:50:00 AM-12/15/2009 12:00:00 PM.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	The Quality Assurance Project Plan for Bryte Chemical Laboratory was used.
QAPP Information Reference(s):	Quality Assurance Project Plan from Bryte Chemical Laboratory.

DECISION ID

64387

Region 2

Del Valle Reservoir

Pollutant:	Boron
Final Listing Decision:	Do Not List on 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision:	New Decision
Revision Status	Revised
Impairment from Pollutant or Pollution:	Pollutant

Regional Board Staff Conclusion: This pollutant is being considered for placement on the CWA section 303(d) List under section 3.1 of the Listing Policy. Under section 3.1 a single line of evidence is necessary to assess listing status. One line of evidence is available in the administrative record to assess this pollutant. Zero of four samples exceed the guideline.

Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against placing this water segment-pollutant combination on the CWA section 303(d) List.

This conclusion is based on the staff findings that:

1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy.
2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy.
3. Zero of four samples exceed the guideline and this sample size is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating. A minimum of 16 samples is needed to determine if a beneficial use is fully supported using table 3.1.
4. Pursuant to SECTION 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.

Regional Board Staff Decision Recommendation: After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be placed on the section 303(d) list. The readily available data and information is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating.

Line of Evidence (LOE) for Decision ID 64387, Boron Del Valle Reservoir

Region 2

LOE ID:	91672
Pollutant:	Boron
LOE Subgroup:	Pollutant-Water
Matrix:	Water
Fraction:	Dissolved
Beneficial Use:	Municipal & Domestic Supply
Number of Samples:	4
Number of Exceedances:	0
Data and Information Type:	PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality:	Zero of the 4 samples exceeded the evaluation guideline
Data Reference:	Data for Metals, Nutrients, Inorganics, Organics, and Pesticides in Regions 2,5 and 6, 2004-2010.
SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	Waters shall not contain chemical constituents in concentrations that adversely affect beneficial uses.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	Notification levels (formerly called "action levels") are published by the California Department of Public Health (CDPH) for chemicals for which there is no drinking water MCL. Notification levels are based mainly on health effects -- in most cases an

incremental cancer risk estimate of 10(-6) for carcinogens and a threshold toxicity limit for other constituents. As with MCLs, the ability to quantify the amount of the constituent in a water sample using readily available analytical methods may cause notification levels to be set at somewhat higher concentrations than purely health-based values. Notification levels are advisory to water suppliers. If a notification level is exceeded, local government notification is required and customer notification is recommended. At a higher level, called the response level, the drinking water source is recommended to be taken out of service. The criteria for boron is 1000 ug/L (1 mg/L).

Guideline Reference:

[California Code of Regulations, Title 22, Division 4, Chapter 15. Domestic Water Quality and Monitoring](#)

Spatial Representation:

Samples were collected from the DV001000 station.

Temporal Representation:

Samples were collected on the following dates: 5/19/2009 10:55 8/18/2009 11:15
11/17/2009 11:40 5/25/2010 12:50

Environmental Conditions:

QAPP Information:

N/A

QAPP Information Reference(s):

DECISION ID	64390	Region 2
Del Valle Reservoir		

Pollutant:	Bromoform
Final Listing Decision:	Do Not List on 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision:	New Decision
Revision Status	Revised
Impairment from Pollutant or Pollution:	Pollutant

Regional Board Staff Conclusion:

This pollutant is being considered for placement on the CWA section 303(d) List under section 3.1 of the Listing Policy. Under section 3.1 a single line of evidence is necessary to assess listing status.

Two lines of evidence are available in the administrative record to assess this pollutant. Zero of one hundred fourteen samples exceed the guideline.

Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against placing this water segment-pollutant combination on the CWA section 303(d) List in the Water Quality Limited Segments category.

This conclusion is based on the staff findings that:

1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy.
2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy.
3. Zero of one hundred fourteen samples exceed the guideline and this does not exceed the allowable frequency listed in Table 3.1 of the Listing Policy.
4. Pursuant to section 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.

Regional Board Staff Decision Recommendation:

After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be placed on the section 303(d) list because applicable water quality standards are not being exceeded.

Line of Evidence (LOE) for Decision ID 64390, Bromoform	Region 2
Del Valle Reservoir	

LOE ID:	91673
Pollutant:	Bromoform
LOE Subgroup:	Pollutant-Water
Matrix:	Water

Fraction:	None
Beneficial Use:	Municipal & Domestic Supply
Number of Samples:	114
Number of Exceedances:	0
Data and Information Type:	PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality:	State Water Board staff assessed DWR data for Del Valle Reservoir to determine beneficial use support and results are as follows: 0 of 114 samples exceed the criterion for Bromoform.
Data Reference:	Data for Metals, Nutrients, Inorganics, Organics, and Pesticides in Regions 2.5 and 6, 2004-2010.
SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	The Bromoform criterion for the protection of human health from the consumption of water and organisms is 4.3 ug/L (California Toxics Rule, 2000).
Objective/Criterion Reference:	Code of Federal Regulations 40 part 131.38 Establishment of numeric criteria for priority toxic pollutants for the State of California. 7/1/2011 Edition
Evaluation Guideline:	
Guideline Reference:	
Spatial Representation:	Data for this line of evidence for Del Valle Reservoir was collected at 1 monitoring site [Lake Del Valle at Glory Hole]
Temporal Representation:	Data was collected over the time period 1/20/2004 10:50:00 AM-12/15/2009 12:00:00 PM.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	The Quality Assurance Project Plan for Bryte Chemical Laboratory was used.
QAPP Information Reference(s):	Quality Assurance Project Plan from Bryte Chemical Laboratory.

Line of Evidence (LOE) for Decision ID 64390, Bromoform

Region 2

Del Valle Reservoir

LOE ID:	91674
Pollutant:	Bromoform
LOE Subgroup:	Pollutant-Water
Matrix:	Water
Fraction:	None
Beneficial Use:	Commercial or recreational collection of fish, shellfish, or organisms
Number of Samples:	114
Number of Exceedances:	0
Data and Information Type:	PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality:	State Water Board staff assessed DWR data for Del Valle Reservoir to determine beneficial use support and results are as follows: 0 of 114 samples exceed the criterion for Bromoform.
Data Reference:	Data for Metals, Nutrients, Inorganics, Organics, and Pesticides in Regions 2.5 and 6, 2004-2010.
SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	The Bromoform criteria for the protection of human health from consumption of organisms only is 360 ug/L (California Toxics Rule, 2000).
Objective/Criterion Reference:	Code of Federal Regulations 40 part 131.38 Establishment of numeric criteria for priority toxic pollutants for the State of California. 7/1/2011 Edition
Evaluation Guideline:	
Guideline Reference:	

Spatial Representation:	Data for this line of evidence for Del Valle Reservoir was collected at 1 monitoring site [Lake Del Valle at Glory Hole]
Temporal Representation:	Data was collected over the time period 1/20/2004 10:50:00 AM-12/15/2009 12:00:00 PM.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	The Quality Assurance Project Plan for Bryte Chemical Laboratory was used.
QAPP Information Reference(s):	Quality Assurance Project Plan from Bryte Chemical Laboratory.

DECISION ID	64391	Region 2
Del Valle Reservoir		

Pollutant:	Carbon tetrachloride
Final Listing Decision:	Do Not List on 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision:	New Decision
Revision Status	Revised
Impairment from Pollutant or Pollution:	Pollutant

Regional Board Staff Conclusion:

This pollutant is being considered for placement on the CWA section 303(d) List under section 3.1 of the Listing Policy. Under section 3.1 a single line of evidence is necessary to assess listing status.

Two lines of evidence are available in the administrative record to assess this pollutant. Zero of one hundred fourteen samples exceed the guideline.

Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against placing this water segment-pollutant combination on the CWA section 303(d) List in the Water Quality Limited Segments category.

This conclusion is based on the staff findings that:

1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy.
2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy.
3. Zero of one hundred fourteen samples exceed the guideline and this does not exceed the allowable frequency listed in Table 3.1 of the Listing Policy.
4. Pursuant to section 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.

Regional Board Staff Decision Recommendation: After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be placed on the section 303(d) list because applicable water quality standards are not being exceeded.

Line of Evidence (LOE) for Decision ID 64391, Carbon tetrachloride	Region 2
Del Valle Reservoir	

LOE ID:	91675
Pollutant:	Carbon tetrachloride
LOE Subgroup:	Pollutant-Water
Matrix:	Water
Fraction:	None
Beneficial Use:	Municipal & Domestic Supply
Number of Samples:	0
Number of Exceedances:	0
Data and Information Type:	PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality:	State Water Board staff assessed DWR data for Del Valle Reservoir to determine beneficial use support and results are as follows: 0 of 0 samples exceed the criterion for

	Carbon tetrachloride. One hundred and fourteen sample results were not used in the assessment because the laboratory data reporting limit(s) was above the objective and therefore the results could not be quantified with the level of certainty required by the Listing Policy.
Data Reference:	Data for Metals, Nutrients, Inorganics, Organics, and Pesticides in Regions 2,5 and 6, 2004-2010.
SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	The carbon tetrachloride criterion for the protection of human health from the consumption of water and organisms is 0.25 ug/L (California Toxics Rule, 2000).
Objective/Criterion Reference:	Code of Federal Regulations 40 part 131.38 Establishment of numeric criteria for priority toxic pollutants for the State of California. 7/1/2011 Edition
Evaluation Guideline:	
Guideline Reference:	
Spatial Representation:	Data for this line of evidence for Del Valle Reservoir was collected at 1 monitoring site [Lake Del Valle at Glory Hole]
Temporal Representation:	Data was collected over the time period 1/20/2004 10:50:00 AM-12/15/2009 12:00:00 PM.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	The Quality Assurance Project Plan for Bryte Chemical Laboratory was used.
QAPP Information Reference(s):	Quality Assurance Project Plan from Bryte Chemical Laboratory.

Line of Evidence (LOE) for Decision ID 64391, Carbon tetrachloride Del Valle Reservoir

Region 2

LOE ID:	91676
Pollutant:	Carbon tetrachloride
LOE Subgroup:	Pollutant-Water
Matrix:	Water
Fraction:	None
Beneficial Use:	Commercial or recreational collection of fish, shellfish, or organisms
Number of Samples:	114
Number of Exceedances:	0
Data and Information Type:	PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality:	State Water Board staff assessed DWR data for Del Valle Reservoir to determine beneficial use support and results are as follows: 0 of 114 samples exceed the criterion for Carbon tetrachloride.
Data Reference:	Data for Metals, Nutrients, Inorganics, Organics, and Pesticides in Regions 2,5 and 6, 2004-2010.
SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	The Carbon tetrachloride criteria for the protection of human health from consumption of organisms only is 4.4 ug/L (California Toxics Rule, 2000).
Objective/Criterion Reference:	Code of Federal Regulations 40 part 131.38 Establishment of numeric criteria for priority toxic pollutants for the State of California. 7/1/2011 Edition
Evaluation Guideline:	
Guideline Reference:	
Spatial Representation:	Data for this line of evidence for Del Valle Reservoir was collected at 1 monitoring site [Lake Del Valle at Glory Hole]
Temporal Representation:	Data was collected over the time period 1/20/2004 10:50:00 AM-12/15/2009 12:00:00 PM.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	The Quality Assurance Project Plan for Bryte Chemical Laboratory was used.
QAPP Information Reference(s):	Quality Assurance Project Plan from Bryte Chemical Laboratory.

DECISION ID	64392	Region 2
Del Valle Reservoir		

Pollutant: Chlordane
Final Listing Decision: Do Not List on 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision: New Decision
Revision Status: Revised
Impairment from Pollutant or Pollution: Pollutant

Regional Board Staff Conclusion: This pollutant is being considered for placement on the CWA section 303(d) List under section 3.5 of the Listing Policy. Under section 3.5 a single line of evidence is necessary to assess listing status. Three lines of evidence are available in the administrative record to assess this pollutant. Zero of one samples exceed the OEHHHA guideline.

Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against placing this water segment-pollutant combination on the CWA section 303(d) List.

This conclusion is based on the staff findings that:

1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy.
2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy.
3. Zero of one samples exceed the OEHHHA guideline and this sample size is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating. A minimum of 16 samples is needed to determine if a beneficial use is fully supported using table 3.1.
4. Pursuant to SECTION 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.

Regional Board Staff Decision Recommendation: After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be placed on the section 303(d) list. The readily available data and information is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating.

Line of Evidence (LOE) for Decision ID 64392, Chlordane	Region 2
Del Valle Reservoir	

LOE ID: 91677
Pollutant: Chlordane
LOE Subgroup: Pollutant-Tissue
Matrix: Tissue
Fraction: Fish fillet
Beneficial Use: Warm Freshwater Habitat
Number of Samples: 1
Number of Exceedances: 0
Data and Information Type: Fish tissue analysis
Data Used to Assess Water Quality: State Water Board staff assessed SWAMP data for Del Valle Reservoir to determine beneficial use support and results are as follows: 0 of 1 samples exceed the criterion for Chlordane, Total. One composite (5 fish per composite) was generated from one species: Channel Catfish. Details of the compositing protocol can be found in the March 2009 report entitled: "Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Study" (SWAMP, 2009). Total chlordane was calculated as the sum of the following chlordane isomers: cis- and trans-chlordane,

Data Reference:	<p>cis- and trans-nonachlor, and oxychlordane.</p> <p>Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Survey. A Report of the Surface Water Ambient Monitoring Program (SWAMP). California State Water Resources Control Board, Sacramento, CA Statewide Lakes Sportfish Contamination Study 2007 2008</p> <p>Contaminants in Fish from California Lakes and Reservoirs, 2007-2008: Summary Report on a Two-Year Screening Survey</p> <p>Cruise report for the Surface Water Ambient Monitoring Program (SWAMP) bioaccumulation screening study in California lakes and reservoirs year two (FY 07-08). Sampling dates: April 2008 - November 2008.</p>
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	Water Quality Control Plan for the San Francisco Bay Basin: Controllable water quality factors shall not cause a detrimental increase in concentrations of toxic substances found in bottom sediments or aquatic life. Effects on aquatic organisms, wildlife, and human health will be considered.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	National Academy of Science guidelines (NAS 1972) establish a maximum total Chlordane concentration of 100 ug/Kg (wet weight) in tissue samples for protection of aquatic life from bioaccumulation of toxic substances.
Guideline Reference:	National Academy of Sciences. Water Quality Criteria 1972. EPA-R3-73-033. Washington, D.C.: U.S. Environmental Protection Agency
Spatial Representation:	Data for this assessment unit was collected by one monitoring project: (SWB_FishLk)
Temporal Representation:	Data was collected on a single day 6/19/2008.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	Samples were collected, processed, and analyzed in accordance with the methods described in Quality Assurance Project Plan "Screening Study of Bioaccumulation in California Lakes and Reservoirs." (SWAMP, 2008).
QAPP Information Reference(s):	Quality Assurance Project Plan Screening Study of Bioaccumulation in California Lakes and Reservoirs. Moss Landing Marine Labs. Prepared for SWAMP BOG. 49 pages plus appendices and attachments

Line of Evidence (LOE) for Decision ID 64392, Chlordane
Del Valle Reservoir

Region 2

LOE ID:	91679
Pollutant:	Chlordane
LOE Subgroup:	Pollutant-Tissue
Matrix:	Tissue
Fraction:	Fish fillet
Beneficial Use:	Commercial or recreational collection of fish, shellfish, or organisms
Number of Samples:	1
Number of Exceedances:	0
Data and Information Type:	Fish tissue analysis
Data Used to Assess Water Quality:	State Water Board staff assessed SWAMP data for Del Valle Reservoir to determine beneficial use support and results are as follows: 0 of 1 samples exceed the criterion for Chlordane, Total. One composite (5 fish per composite) was generated from one species: Channel Catfish. Details of the compositing protocol can be found in the March 2009 report entitled: "Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Study" (SWAMP, 2009). Total chlordane was calculated as the sum of the following chlordane isomers: cis- and trans-chlordane, cis- and trans-nonachlor, and oxychlordane.
Data Reference:	Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Survey. A Report of the Surface Water Ambient Monitoring Program (SWAMP). California State Water Resources Control Board, Sacramento, CA

[Statewide Lakes Sportfish Contamination Study 2007 2008](#)
[Contaminants in Fish from California Lakes and Reservoirs, 2007-2008: Summary Report on a Two-Year Screening Survey](#)
[Cruise report for the Surface Water Ambient Monitoring Program \(SWAMP\) bioaccumulation screening study in California lakes and reservoirs year two \(FY 07-08\). Sampling dates: April 2008 - November 2008.](#)

SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	Water Quality Control Plan for the San Francisco Bay Basin: Controllable water quality factors shall not cause a detrimental increase in concentrations of toxic substances found in bottom sediments or aquatic life. Effects on aquatic organisms, wildlife, and human health will be considered.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	The modified OEHHA Fish Contaminant Goal for total chlordane in fish tissue is 3.9 ppb. This screening level assumes an average body weight of 70 kg and a consumption rate of 32 g/day for a 30 year exposure over a 70-year lifetime. This constituent is a carcinogen therefore the risk level is set to one in a million. A cooking reduction factor of 1 is applied for skin-off fillets. (Klasing, S., and R. Brodberg, 2008)
Guideline Reference:	Development of Fish Contaminant Goals and Advisory Tissue Levels for Common Contaminants in California Sport Fish: Chlordane, DDTs, Dieldrin, Methylmercury, PCBs, Selenium, and Toxaphene
Spatial Representation:	Data for this assessment unit was collected by one monitoring project: (SWB_FishLk)
Temporal Representation:	Data was collected on a single day 6/19/2008.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	Samples were collected, processed, and analyzed in accordance with the methods described in Quality Assurance Project Plan "Screening Study of Bioaccumulation in California Lakes and Reservoirs." (SWAMP, 2008).
QAPP Information Reference(s):	Quality Assurance Project Plan Screening Study of Bioaccumulation in California Lakes and Reservoirs. Moss Landing Marine Labs. Prepared for SWAMP BOG. 49 pages plus appendices and attachments

Line of Evidence (LOE) for Decision ID 64392, Chlordane
Del Valle Reservoir

Region 2

LOE ID:	91678
Pollutant:	Chlordane
LOE Subgroup:	Pollutant-Tissue
Matrix:	Tissue
Fraction:	Fish fillet
Beneficial Use:	Cold Freshwater Habitat
Number of Samples:	1
Number of Exceedances:	0
Data and Information Type:	Fish tissue analysis
Data Used to Assess Water Quality:	State Water Board staff assessed SWAMP data for Del Valle Reservoir to determine beneficial use support and results are as follows: 0 of 1 samples exceed the criterion for Chlordane, Total. One composite (5 fish per composite) was generated from one species: Channel Catfish. Details of the compositing protocol can be found in the March 2009 report entitled: "Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Study" (SWAMP, 2009). Total chlordane was calculated as the sum of the following chlordane isomers: cis- and trans-chlordane, cis- and trans-nonachlor, and oxychlordane.
Data Reference:	Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Survey. A Report of the Surface Water Ambient Monitoring Program (SWAMP). California State Water Resources Control Board, Sacramento, CA Statewide Lakes Sportfish Contamination Study 2007 2008

[Contaminants in Fish from California Lakes and Reservoirs, 2007-2008: Summary Report on a Two-Year Screening Survey](#)
[Cruise report for the Surface Water Ambient Monitoring Program \(SWAMP\) bioaccumulation screening study in California lakes and reservoirs year two \(FY 07-08\). Sampling dates: April 2008 - November 2008.](#)

SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	Water Quality Control Plan for the San Francisco Bay Basin: Controllable water quality factors shall not cause a detrimental increase in concentrations of toxic substances found in bottom sediments or aquatic life. Effects on aquatic organisms, wildlife, and human health will be considered.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	National Academy of Science guidelines (NAS 1972) establish a maximum total Chlordane concentration of 100 ug/Kg (wet weight) in tissue samples for protection of aquatic life from bioaccumulation of toxic substances.
Guideline Reference:	National Academy of Sciences. Water Quality Criteria 1972. EPA-R3-73-033. Washington, D.C.: U.S. Environmental Protection Agency
Spatial Representation:	Data for this assessment unit was collected by one monitoring project: (SWB_FishLk)
Temporal Representation:	Data was collected on a single day 6/19/2008.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	Samples were collected, processed, and analyzed in accordance with the methods described in Quality Assurance Project Plan "Screening Study of Bioaccumulation in California Lakes and Reservoirs." (SWAMP, 2008).
QAPP Information Reference(s):	Quality Assurance Project Plan Screening Study of Bioaccumulation in California Lakes and Reservoirs. Moss Landing Marine Labs. Prepared for SWAMP BOG, 49 pages plus appendices and attachments

DECISION ID	64393	Region 2
Del Valle Reservoir		

Pollutant:	Chlorobenzene (mono)
Final Listing Decision:	Do Not List on 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision:	New Decision
Revision Status	Revised
Impairment from Pollutant or Pollution:	Pollutant
Regional Board Staff Conclusion:	<p>This pollutant is being considered for placement on the CWA section 303(d) List under section 3.1 of the Listing Policy. Under section 3.1 a single line of evidence is necessary to assess listing status.</p> <p>Two lines of evidence are available in the administrative record to assess this pollutant. Zero of one hundred fourteen samples exceed the guideline.</p> <p>Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against placing this water segment-pollutant combination on the CWA section 303(d) List in the Water Quality Limited Segments category.</p> <p>This conclusion is based on the staff findings that:</p> <ol style="list-style-type: none"> 1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy. 2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy. 3. Zero of one hundred fourteen samples exceed the guideline and this does not exceed the allowable frequency listed in Table 3.1 of the Listing Policy. 4. Pursuant to section 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.
Regional Board Staff Decision Recommendation:	After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be placed on the section 303(d) list because applicable water

quality standards are not being exceeded.

Line of Evidence (LOE) for Decision ID 64393, Chlorobenzene (mono)

Region 2

Del Valle Reservoir

LOE ID:	91680
Pollutant:	Chlorobenzene (mono)
LOE Subgroup:	Pollutant-Water
Matrix:	Water
Fraction:	None
Beneficial Use:	Municipal & Domestic Supply
Number of Samples:	114
Number of Exceedances:	0
Data and Information Type:	PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality:	State Water Board staff assessed DWR data for Del Valle Reservoir to determine beneficial use support and results are as follows: 0 of 114 samples exceed the criterion for Chlorobenzene.
Data Reference:	Data for Metals, Nutrients, Inorganics, Organics, and Pesticides in Regions 2,5 and 6, 2004-2010.
SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	The California Maximum Contaminant Level for monochlorobenzene incorporated by reference in the Water Quality Control Plan, San Francisco Bay Region is 70 ug/L (Water Quality Control Plan, San Francisco Bay Region).
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	
Guideline Reference:	
Spatial Representation:	Data for this line of evidence for Del Valle Reservoir was collected at 1 monitoring site [Lake Del Valle at Glory Hole]
Temporal Representation:	Data was collected over the time period 1/20/2004 10:50:00 AM-12/15/2009 12:00:00 PM.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	The Quality Assurance Project Plan for Bryte Chemical Laboratory was used.
QAPP Information Reference(s):	Quality Assurance Project Plan from Bryte Chemical Laboratory.

Line of Evidence (LOE) for Decision ID 64393, Chlorobenzene (mono)

Region 2

Del Valle Reservoir

LOE ID:	91681
Pollutant:	Chlorobenzene (mono)
LOE Subgroup:	Pollutant-Water
Matrix:	Water
Fraction:	None
Beneficial Use:	Commercial or recreational collection of fish, shellfish, or organisms
Number of Samples:	114
Number of Exceedances:	0
Data and Information Type:	PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality:	State Water Board staff assessed DWR data for Del Valle Reservoir to determine beneficial use support and results are as follows: 0 of 114 samples exceed the criterion for Chlorobenzene.

Data Reference: [Data for Metals, Nutrients, Inorganics, Organics, and Pesticides in Regions 2,5 and 6, 2004-2010.](#)

SWAMP Data: Non-SWAMP

Water Quality Objective/Criterion: The Chlorobenzene criteria for the protection of human health from consumption of organisms only is 21,000 ug/L (California Toxics Rule, 2000).

Objective/Criterion Reference: [Code of Federal Regulations 40 part 131.38 Establishment of numeric criteria for priority toxic pollutants for the State of California. 7/1/2011 Edition](#)

Evaluation Guideline:

Guideline Reference:

Spatial Representation: Data for this line of evidence for Del Valle Reservoir was collected at 1 monitoring site [Lake Del Valle at Glory Hole]

Temporal Representation: Data was collected over the time period 1/20/2004 10:50:00 AM-12/15/2009 12:00:00 PM.

Environmental Conditions: Staff is not aware of any special conditions that might affect interpretation of the data.

QAPP Information: The Quality Assurance Project Plan for Bryte Chemical Laboratory was used.

QAPP Information Reference(s): [Quality Assurance Project Plan from Bryte Chemical Laboratory.](#)

DECISION ID	64394	Region 2
Del Valle Reservoir		

Pollutant: Chlorodibromomethane

Final Listing Decision: Do Not List on 303(d) list (TMDL required list)

Last Listing Cycle's Final Listing Decision: New Decision

Revision Status: Revised

Impairment from Pollutant or Pollution: Pollutant

Regional Board Staff Conclusion:

This pollutant is being considered for placement on the CWA section 303(d) List under section 3.1 of the Listing Policy. Under section 3.1 a single line of evidence is necessary to assess listing status.

One line of evidence is available in the administrative record to assess this pollutant. Zero of zero samples exceed the guideline.

Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against placing this water segment-pollutant combination on the CWA section 303(d) List in the Water Quality Limited Segments category.

This conclusion is based on the staff findings that:

1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy.
2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy.
3. Zero of zero samples exceed the guideline and this does not exceed the allowable frequency listed in Table 3.1 of the Listing Policy.
4. Pursuant to section 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.

Regional Board Staff Decision Recommendation: After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be placed on the section 303(d) list. The readily available data and information is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating.

Line of Evidence (LOE) for Decision ID 64394, Chlorodibromomethane	Region 2
Del Valle Reservoir	

LOE ID: 91682

Pollutant:	Chlorodibromomethane
LOE Subgroup:	Pollutant-Water
Matrix:	Water
Fraction:	None
Beneficial Use:	Municipal & Domestic Supply
Number of Samples:	0
Number of Exceedances:	0
Data and Information Type:	PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality:	State Water Board staff assessed DWR data for Del Valle Reservoir to determine beneficial use support and results are as follows: 0 of 0 samples exceed the criterion for Dibromochloromethane. One hundred and fourteen sample results were not used in the assessment because the laboratory data reporting limit(s) was above the objective and therefore the results could not be quantified with the level of certainty required by the Listing Policy.
Data Reference:	Data for Metals, Nutrients, Inorganics, Organics, and Pesticides in Regions 2,5 and 6, 2004-2010.
SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	The Dibromochloromethane criterion for the protection of human health from the consumption of water and organisms is 0.41 ug/L (California Toxics Rule, 2000).
Objective/Criterion Reference:	Code of Federal Regulations 40 part 131.38 Establishment of numeric criteria for priority toxic pollutants for the State of California. 7/1/2011 Edition
Evaluation Guideline:	
Guideline Reference:	
Spatial Representation:	Data for this line of evidence for Del Valle Reservoir was collected at 1 monitoring site [Lake Del Valle at Glory Hole]
Temporal Representation:	Data was collected over the time period 1/20/2004 10:50:00 AM-12/15/2009 12:00:00 PM.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	The Quality Assurance Project Plan for Bryte Chemical Laboratory was used.
QAPP Information Reference(s):	Quality Assurance Project Plan from Bryte Chemical Laboratory.

DECISION ID	64395	Region 2
Del Valle Reservoir		

Pollutant:	Chloroform
Final Listing Decision:	Do Not List on 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision:	New Decision
Revision Status	Revised
Impairment from Pollutant or Pollution:	Pollutant
Regional Board Staff Conclusion:	<p>This pollutant is being considered for placement on the CWA section 303(d) List under section 3.1 of the Listing Policy. Under section 3.1 a single line of evidence is necessary to assess listing status.</p> <p>Two lines of evidence are available in the administrative record to assess this pollutant. Zero of one hundred fourteen samples exceed the guideline.</p> <p>Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against placing this water segment-pollutant combination on the CWA section 303(d) List in the Water Quality Limited Segments category.</p> <p>This conclusion is based on the staff findings that:</p> <ol style="list-style-type: none"> 1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy. 2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy.

3. Zero of one hundred fourteen samples exceed the guideline and this does not exceed the allowable frequency listed in Table 3.1 of the Listing Policy.
4. Pursuant to section 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.

Regional Board Staff Decision Recommendation: After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be placed on the section 303(d) list because applicable water quality standards are not being exceeded.

Line of Evidence (LOE) for Decision ID 64395, Chloroform

Region 2

Del Valle Reservoir

LOE ID: 91684

Pollutant: Chloroform
 LOE Subgroup: Pollutant-Water
 Matrix: Water
 Fraction: None

Beneficial Use: Municipal & Domestic Supply

Number of Samples: 114
 Number of Exceedances: 0

Data and Information Type: PHYSICAL/CHEMICAL MONITORING
 Data Used to Assess Water Quality: State Water Board staff assessed DWR data for Del Valle Reservoir to determine beneficial use support and results are as follows: 0 of 114 samples exceed the criterion for Chloroform.

Data Reference: [Data for Metals, Nutrients, Inorganics, Organics, and Pesticides in Regions 2,5 and 6, 2004-2010.](#)

SWAMP Data: Non-SWAMP

Water Quality Objective/Criterion: The California Maximum Contaminant Level for Chloroform is 80 ug/L.
 Objective/Criterion Reference: [Maximum Contaminant Levels for organic and inorganic chemicals. CCR](#)

Evaluation Guideline:
 Guideline Reference:

Spatial Representation: Data for this line of evidence for Del Valle Reservoir was collected at 1 monitoring site [Lake Del Valle at Glory Hole]

Temporal Representation: Data was collected over the time period 1/20/2004 10:50:00 AM-12/15/2009 12:00:00 PM.

Environmental Conditions: Staff is not aware of any special conditions that might affect interpretation of the data.

QAPP Information: The Quality Assurance Project Plan for Bryte Chemical Laboratory was used.

QAPP Information Reference(s): [Quality Assurance Project Plan from Bryte Chemical Laboratory.](#)

Line of Evidence (LOE) for Decision ID 64395, Chloroform

Region 2

Del Valle Reservoir

LOE ID: 91683

Pollutant: Chloroform
 LOE Subgroup: Pollutant-Water
 Matrix: Water
 Fraction: None

Beneficial Use: Commercial or recreational collection of fish, shellfish, or organisms

Number of Samples: 114
 Number of Exceedances: 0

Data and Information Type:	PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality:	State Water Board staff assessed DWR data for Del Valle Reservoir to determine beneficial use support and results are as follows: 0 of 114 samples exceed the criterion for Chloroform.
Data Reference:	Data for Metals, Nutrients, Inorganics, Organics, and Pesticides in Regions 2.5 and 6, 2004-2010.
SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	Surface waters shall not contain concentrations of chemical constituents in amounts that adversely affect any designated beneficial use.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	The Chloroform criteria for the protection of freshwater aquatic life is 2400 ug/L (National Recommended Water Quality Criteria, 2009).
Guideline Reference:	National Recommended Water Quality Criteria. United States Environmental Protection Agency. Office of Water. Office of Science and Technology
Spatial Representation:	Data for this line of evidence for Del Valle Reservoir was collected at 1 monitoring site [Lake Del Valle at Glory Hole]
Temporal Representation:	Data was collected over the time period 1/20/2004 10:50:00 AM-12/15/2009 12:00:00 PM.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	The Quality Assurance Project Plan for Bryte Chemical Laboratory was used.
QAPP Information Reference(s):	Quality Assurance Project Plan from Bryte Chemical Laboratory.

DECISION ID	64415	Region 2
Del Valle Reservoir		

Pollutant: Final Listing Decision: Last Listing Cycle's Final Listing Decision: Revision Status Impairment from Pollutant or Pollution:	DDT (Dichlorodiphenyltrichloroethane) Do Not List on 303(d) list (TMDL required list) New Decision Revised Pollutant
Regional Board Staff Conclusion:	<p>This pollutant is being considered for placement on the CWA section 303(d) List under section 3.5 of the Listing Policy. Under section 3.5 a single line of evidence is necessary to assess listing status. Three lines of evidence are available in the administrative record to assess this pollutant. One of one samples exceed the OEHHHA guideline.</p> <p>Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against placing this water segment-pollutant combination on the CWA section 303(d) List.</p> <p>This conclusion is based on the staff findings that:</p> <ol style="list-style-type: none"> 1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy. 2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy. 3. One of one samples exceed the OEHHHA guideline and this sample size is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating. A minimum of 16 samples is needed to determine if a beneficial use is fully supported using table 3.1. 4. Pursuant to SECTION 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.
Regional Board Staff Decision Recommendation:	<p>After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be placed on the section 303(d) list. The readily available data and information is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating.</p>

Del Valle Reservoir

LOE ID:	91655
Pollutant:	Total DDT (sum of 4,4'- and 2,4'- isomers of DDT, DDE, and DDD)
LOE Subgroup:	Pollutant-Tissue
Matrix:	Tissue
Fraction:	Fish fillet
Beneficial Use:	Commercial or recreational collection of fish, shellfish, or organisms
Number of Samples:	1
Number of Exceedances:	1
Data and Information Type:	Fish tissue analysis
Data Used to Assess Water Quality:	State Water Board staff assessed SWAMP data for Del Valle Reservoir to determine beneficial use support and results are as follows: 1 of 1 samples exceed the criterion for DDT, Total. One composite (5 fish per composite) was generated from one species: Channel Catfish. Details of the compositing protocol can be found in the March 2009 report entitled: "Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Study" (SWAMP, 2009). Total DDT was calculated as the sum of 4,4'- and 2,4'- isomers of DDT, DDE, and DDD.
Data Reference:	Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Survey. A Report of the Surface Water Ambient Monitoring Program (SWAMP). California State Water Resources Control Board, Sacramento, CA Statewide Lakes Sportfish Contamination Study 2007 2008 Contaminants in Fish from California Lakes and Reservoirs, 2007-2008: Summary Report on a Two-Year Screening Survey Cruise report for the Surface Water Ambient Monitoring Program (SWAMP) bioaccumulation screening study in California lakes and reservoirs year two (FY 07-08). Sampling dates: April 2008 - November 2008.
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	Water Quality Control Plan for the San Francisco Bay Basin: Controllable water quality factors shall not cause a detrimental increase in concentrations of toxic substances found in bottom sediments or aquatic life. Effects on aquatic organisms, wildlife, and human health will be considered.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	The modified OEHHA Fish Contaminant Goal for total DDT in fish tissue is 15 ppb. This screening level assumes an average body weight of 70 kg and a consumption rate of 32 g/day for a 30 year exposure over a 70-year lifetime. This constituent is a carcinogen therefore the risk level is set to one in a million. A cooking reduction factor of 1 is applied for skin-off fillets. (Klasing, S., and R. Brodberg, 2008)
Guideline Reference:	Development of Fish Contaminant Goals and Advisory Tissue Levels for Common Contaminants in California Sport Fish: Chlordane, DDTs, Dieldrin, Methylmercury, PCBs, Selenium, and Toxaphene
Spatial Representation:	Data for this assessment unit was collected by one monitoring project: (SWB_FishLk)
Temporal Representation:	Data was collected on a single day 6/19/2008.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	Samples were collected, processed, and analyzed in accordance with the methods described in Quality Assurance Project Plan "Screening Study of Bioaccumulation in California Lakes and Reservoirs." (SWAMP, 2008).
QAPP Information Reference(s):	Quality Assurance Project Plan Screening Study of Bioaccumulation in California Lakes and Reservoirs. Moss Landing Marine Labs. Prepared for SWAMP BOG. 49 pages plus appendices and attachments

Del Valle Reservoir

LOE ID:	91654
Pollutant:	Total DDT (sum of 4,4'- and 2,4'- isomers of DDT, DDE, and DDD)
LOE Subgroup:	Pollutant-Tissue
Matrix:	Tissue
Fraction:	Fish fillet
Beneficial Use:	Cold Freshwater Habitat
Number of Samples:	1
Number of Exceedances:	0
Data and Information Type:	Fish tissue analysis
Data Used to Assess Water Quality:	State Water Board staff assessed SWAMP data for Del Valle Reservoir to determine beneficial use support and results are as follows: 0 of 1 samples exceed the criterion for DDT, Total. One composite (5 fish per composite) was generated from one species: Channel Catfish. Details of the compositing protocol can be found in the March 2009 report entitled: "Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Study" (SWAMP, 2009). Total DDT was calculated as the sum of 4,4'- and 2,4'- isomers of DDT, DDE, and DDD.
Data Reference:	Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Survey. A Report of the Surface Water Ambient Monitoring Program (SWAMP). California State Water Resources Control Board, Sacramento, CA Statewide Lakes Sportfish Contamination Study 2007 2008 Contaminants in Fish from California Lakes and Reservoirs, 2007-2008: Summary Report on a Two-Year Screening Survey Cruise report for the Surface Water Ambient Monitoring Program (SWAMP) bioaccumulation screening study in California lakes and reservoirs year two (FY 07-08). Sampling dates: April 2008 - November 2008.
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	Water Quality Control Plan for the San Francisco Bay Basin: Controllable water quality factors shall not cause a detrimental increase in concentrations of toxic substances found in bottom sediments or aquatic life. Effects on aquatic organisms, wildlife, and human health will be considered.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	National Academy of Science guidelines (NAS 1972) establish a maximum total DDT concentration of 1000 ug/Kg (wet weight) in tissue samples for protection of aquatic life from bioaccumulation of toxic substances.
Guideline Reference:	National Academy of Sciences. Water Quality Criteria 1972. EPA-R3-73-033. Washington, D.C.: U.S. Environmental Protection Agency
Spatial Representation:	Data for this assessment unit was collected by one monitoring project: (SWB_FishLk)
Temporal Representation:	Data was collected on a single day 6/19/2008.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	Samples were collected, processed, and analyzed in accordance with the methods described in Quality Assurance Project Plan "Screening Study of Bioaccumulation in California Lakes and Reservoirs." (SWAMP, 2008).
QAPP Information Reference(s):	Quality Assurance Project Plan Screening Study of Bioaccumulation in California Lakes and Reservoirs. Moss Landing Marine Labs. Prepared for SWAMP BOG, 49 pages plus appendices and attachments

Line of Evidence (LOE) for Decision ID 64415, DDT (Dichlorodiphenyltrichloroethane)

Region 2

Del Valle Reservoir

LOE ID:	91653
Pollutant:	Total DDT (sum of 4,4'- and 2,4'- isomers of DDT, DDE, and DDD)

LOE Subgroup:	Pollutant-Tissue
Matrix:	Tissue
Fraction:	Fish fillet
Beneficial Use:	Warm Freshwater Habitat
Number of Samples:	1
Number of Exceedances:	0
Data and Information Type:	Fish tissue analysis
Data Used to Assess Water Quality:	State Water Board staff assessed SWAMP data for Del Valle Reservoir to determine beneficial use support and results are as follows: 0 of 1 samples exceed the criterion for DDT, Total. One composite (5 fish per composite) was generated from one species: Channel Catfish. Details of the compositing protocol can be found in the March 2009 report entitled: "Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Study" (SWAMP, 2009). Total DDT was calculated as the sum of 4,4'- and 2,4'- isomers of DDT, DDE, and DDD.
Data Reference:	Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Survey. A Report of the Surface Water Ambient Monitoring Program (SWAMP). California State Water Resources Control Board, Sacramento, CA Statewide Lakes Sportfish Contamination Study 2007 2008 Contaminants in Fish from California Lakes and Reservoirs, 2007-2008: Summary Report on a Two-Year Screening Survey Cruise report for the Surface Water Ambient Monitoring Program (SWAMP) bioaccumulation screening study in California lakes and reservoirs year two (FY 07-08). Sampling dates: April 2008 - November 2008.
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	Water Quality Control Plan for the San Francisco Bay Basin: Controllable water quality factors shall not cause a detrimental increase in concentrations of toxic substances found in bottom sediments or aquatic life. Effects on aquatic organisms, wildlife, and human health will be considered.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	National Academy of Science guidelines (NAS 1972) establish a maximum total DDT concentration of 1000 ug/Kg (wet weight) in tissue samples for protection of aquatic life from bioaccumulation of toxic substances.
Guideline Reference:	National Academy of Sciences. Water Quality Criteria 1972. EPA-R3-73-033. Washington, D.C.: U.S. Environmental Protection Agency
Spatial Representation:	Data for this assessment unit was collected by one monitoring project: (SWB_FishLk)
Temporal Representation:	Data was collected on a single day 6/19/2008.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	Samples were collected, processed, and analyzed in accordance with the methods described in Quality Assurance Project Plan "Screening Study of Bioaccumulation in California Lakes and Reservoirs." (SWAMP, 2008).
QAPP Information Reference(s):	Quality Assurance Project Plan Screening Study of Bioaccumulation in California Lakes and Reservoirs. Moss Landing Marine Labs. Prepared for SWAMP BOG. 49 pages plus appendices and attachments

DECISION ID	64396	Region 2
Del Valle Reservoir		

Pollutant:	Dichlorobromomethane
Final Listing Decision:	Do Not List on 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision:	New Decision
Revision Status	Revised
Impairment from Pollutant or Pollution:	Pollutant

Regional Board Staff Conclusion:

This pollutant is being considered for placement on the CWA section 303(d) List under section 3.1 of the Listing Policy. Under section 3.1 a single line of evidence is necessary to assess listing status.

One line of evidence is available in the administrative record to assess this pollutant. Zero of one hundred fourteen samples exceed the guideline.

Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against placing this water segment-pollutant combination on the CWA section 303(d) List in the Water Quality Limited Segments category.

This conclusion is based on the staff findings that:

1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy.
2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy.
3. Zero of one hundred fourteen samples exceed the guideline and this does not exceed the allowable frequency listed in Table 3.1 of the Listing Policy.
4. Pursuant to section 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.

Regional Board Staff Decision Recommendation:

After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be placed on the section 303(d) list because applicable water quality standards are not being exceeded.

**Line of Evidence (LOE) for Decision ID 64396, Dichlorobromomethane
Del Valle Reservoir**

Region 2

LOE ID:	91686
Pollutant:	Dichlorobromomethane
LOE Subgroup:	Pollutant-Water
Matrix:	Water
Fraction:	None
Beneficial Use:	Municipal & Domestic Supply
Number of Samples:	114
Number of Exceedances:	0
Data and Information Type:	PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality:	State Water Board staff assessed DWR data for Del Valle Reservoir to determine beneficial use support and results are as follows: 0 of 114 samples exceed the criterion for Bromodichloromethane.
Data Reference:	Data for Metals, Nutrients, Inorganics, Organics, and Pesticides in Regions 2,5 and 6, 2004-2010.
SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	The Bromodichloromethane criterion for the protection of human health from the consumption of water and organisms is 0.56 ug/L (California Toxics Rule, 2000).
Objective/Criterion Reference:	Code of Federal Regulations 40 part 131.38 Establishment of numeric criteria for priority toxic pollutants for the State of California. 7/1/2011 Edition
Evaluation Guideline:	
Guideline Reference:	
Spatial Representation:	Data for this line of evidence for Del Valle Reservoir was collected at 1 monitoring site [Lake Del Valle at Glory Hole]
Temporal Representation:	Data was collected over the time period 1/20/2004 10:50:00 AM-12/15/2009 12:00:00 PM.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	The Quality Assurance Project Plan for Bryte Chemical Laboratory was used.
QAPP Information Reference(s):	Quality Assurance Project Plan from Bryte Chemical Laboratory.

DECISION ID	64398	Region 2
Del Valle Reservoir		

Pollutant: Dieldrin
Final Listing Decision: Do Not List on 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision: New Decision
Revision Status: Revised
Impairment from Pollutant or Pollution: Pollutant

Regional Board Staff Conclusion: This pollutant is being considered for placement on the CWA section 303(d) List under section 3.5 of the Listing Policy. Under section 3.5 a single line of evidence is necessary to assess listing status. Three lines of evidence are available in the administrative record to assess this pollutant. Zero of one samples exceed the OEHHA guideline.

Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against placing this water segment-pollutant combination on the CWA section 303(d) List.

This conclusion is based on the staff findings that:

1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy.
2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy.
3. Zero of one samples exceed the OEHHA guideline and this sample size is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating. A minimum of 16 samples is needed to determine if a beneficial use is fully supported using table 3.1.
4. Pursuant to SECTION 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.

Regional Board Staff Decision Recommendation: After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be placed on the section 303(d) list. The readily available data and information is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating.

Line of Evidence (LOE) for Decision ID 64398, Dieldrin	Region 2
Del Valle Reservoir	

LOE ID: 91689
Pollutant: Dieldrin
LOE Subgroup: Pollutant-Tissue
Matrix: Tissue
Fraction: Fish fillet
Beneficial Use: Commercial or recreational collection of fish, shellfish, or organisms
Number of Samples: 1
Number of Exceedances: 1
Data and Information Type: Fish tissue analysis
Data Used to Assess Water Quality: State Water Board staff assessed SWAMP data for Del Valle Reservoir to determine beneficial use support and results are as follows: 1 of 1 samples exceed the criterion for Dieldrin. One composite (5 fish per composite) was generated from one species: Channel Catfish. Details of the compositing protocol can be found in the March 2009 report entitled: "Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Study" (SWAMP, 2009).
Data Reference: [Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year](#)

[One of a Two-Year Screening Survey. A Report of the Surface Water Ambient Monitoring Program \(SWAMP\). California State Water Resources Control Board, Sacramento, CA Statewide Lakes Sportfish Contamination Study 2007 2008](#)
[Contaminants in Fish from California Lakes and Reservoirs, 2007-2008: Summary Report on a Two-Year Screening Survey](#)
[Cruise report for the Surface Water Ambient Monitoring Program \(SWAMP\) bioaccumulation screening study in California lakes and reservoirs year two \(FY 07-08\). Sampling dates: April 2008 - November 2008.](#)

SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	Water Quality Control Plan for the San Francisco Bay Basin: Controllable water quality factors shall not cause a detrimental increase in concentrations of toxic substances found in bottom sediments or aquatic life. Effects on aquatic organisms, wildlife, and human health will be considered.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	The modified OEHHA Fish Contaminant Goal for dieldrin in fish tissue is 0.32 ppb. This screening level assumes an average body weight of 70 kg and a consumption rate of 32 g/day for a 30 year exposure over a 70-year lifetime. This constituent is a carcinogen therefore the risk level is set to one in a million. A cooking reduction factor of 1 is applied for skin-off fillets. (Klasing, S., and R. Brodberg, 2008)
Guideline Reference:	Development of Fish Contaminant Goals and Advisory Tissue Levels for Common Contaminants in California Sport Fish: Chlordane, DDTs, Dieldrin, Methylmercury, PCBs, Selenium, and Toxaphene
Spatial Representation:	Data for this assessment unit was collected by one monitoring project: (SWB_FishLk)
Temporal Representation:	Data was collected on a single day 6/19/2008.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	Samples were collected, processed, and analyzed in accordance with the methods described in Quality Assurance Project Plan "Screening Study of Bioaccumulation in California Lakes and Reservoirs." (SWAMP, 2008).
QAPP Information Reference(s):	Quality Assurance Project Plan Screening Study of Bioaccumulation in California Lakes and Reservoirs. Moss Landing Marine Labs. Prepared for SWAMP BOG. 49 pages plus appendices and attachments

Line of Evidence (LOE) for Decision ID 64398, Dieldrin

Region 2

Del Valle Reservoir

LOE ID:	91688
Pollutant:	Dieldrin
LOE Subgroup:	Pollutant-Tissue
Matrix:	Tissue
Fraction:	Fish fillet
Beneficial Use:	Cold Freshwater Habitat
Number of Samples:	1
Number of Exceedances:	0
Data and Information Type:	Fish tissue analysis
Data Used to Assess Water Quality:	State Water Board staff assessed SWAMP data for Del Valle Reservoir to determine beneficial use support and results are as follows: 0 of 1 samples exceed the criterion for Dieldrin. One composite (5 fish per composite) was generated from one species: Channel Catfish. Details of the compositing protocol can be found in the March 2009 report entitled: "Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Study" (SWAMP, 2009).
Data Reference:	Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Survey. A Report of the Surface Water Ambient Monitoring Program (SWAMP). California State Water Resources Control Board, Sacramento, CA Statewide Lakes Sportfish Contamination Study 2007 2008

[Contaminants in Fish from California Lakes and Reservoirs, 2007-2008: Summary Report on a Two-Year Screening Survey](#)
[Cruise report for the Surface Water Ambient Monitoring Program \(SWAMP\) bioaccumulation screening study in California lakes and reservoirs year two \(FY 07-08\). Sampling dates: April 2008 - November 2008.](#)

SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	Water Quality Control Plan for the San Francisco Bay Basin: Controllable water quality factors shall not cause a detrimental increase in concentrations of toxic substances found in bottom sediments or aquatic life. Effects on aquatic organisms, wildlife, and human health will be considered.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	National Academy of Science guidelines (NAS 1972) establish a maximum Dieldrin concentration of 100 ug/Kg (wet weight) in tissue samples for protection of aquatic life from bioaccumulation of toxic substances.
Guideline Reference:	National Academy of Sciences. Water Quality Criteria 1972. EPA-R3-73-033. Washington, D.C.: U.S. Environmental Protection Agency
Spatial Representation:	Data for this assessment unit was collected by one monitoring project: (SWB_FishLk)
Temporal Representation:	Data was collected on a single day 6/19/2008.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	Samples were collected, processed, and analyzed in accordance with the methods described in Quality Assurance Project Plan "Screening Study of Bioaccumulation in California Lakes and Reservoirs." (SWAMP, 2008).
QAPP Information Reference(s):	Quality Assurance Project Plan Screening Study of Bioaccumulation in California Lakes and Reservoirs. Moss Landing Marine Labs. Prepared for SWAMP BOG, 49 pages plus appendices and attachments

Line of Evidence (LOE) for Decision ID 64398, Dieldrin

Region 2

Del Valle Reservoir

LOE ID:	91687
Pollutant:	Dieldrin
LOE Subgroup:	Pollutant-Tissue
Matrix:	Tissue
Fraction:	Fish fillet
Beneficial Use:	Warm Freshwater Habitat
Number of Samples:	1
Number of Exceedances:	0
Data and Information Type:	Fish tissue analysis
Data Used to Assess Water Quality:	State Water Board staff assessed SWAMP data for Del Valle Reservoir to determine beneficial use support and results are as follows: 0 of 1 samples exceed the criterion for Dieldrin. One composite (5 fish per composite) was generated from one species: Channel Catfish. Details of the compositing protocol can be found in the March 2009 report entitled: "Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Study" (SWAMP, 2009).
Data Reference:	Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Survey. A Report of the Surface Water Ambient Monitoring Program (SWAMP). California State Water Resources Control Board, Sacramento, CA Statewide Lakes Sportfish Contamination Study 2007 2008 Contaminants in Fish from California Lakes and Reservoirs, 2007-2008: Summary Report on a Two-Year Screening Survey Cruise report for the Surface Water Ambient Monitoring Program (SWAMP) bioaccumulation screening study in California lakes and reservoirs year two (FY 07-08). Sampling dates: April 2008 - November 2008.

SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	Water Quality Control Plan for the San Francisco Bay Basin: Controllable water quality factors shall not cause a detrimental increase in concentrations of toxic substances found in bottom sediments or aquatic life. Effects on aquatic organisms, wildlife, and human health will be considered.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	National Academy of Science guidelines (NAS 1972) establish a maximum Dieldrin concentration of 100 ug/Kg (wet weight) in tissue samples for protection of aquatic life from bioaccumulation of toxic substances.
Guideline Reference:	National Academy of Sciences. Water Quality Criteria 1972. EPA-R3-73-033. Washington, D.C.: U.S. Environmental Protection Agency
Spatial Representation:	Data for this assessment unit was collected by one monitoring project: (SWB_FishLk)
Temporal Representation:	Data was collected on a single day 6/19/2008.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	Samples were collected, processed, and analyzed in accordance with the methods described in Quality Assurance Project Plan "Screening Study of Bioaccumulation in California Lakes and Reservoirs." (SWAMP, 2008).
QAPP Information Reference(s):	Quality Assurance Project Plan Screening Study of Bioaccumulation in California Lakes and Reservoirs. Moss Landing Marine Labs. Prepared for SWAMP BOG. 49 pages plus appendices and attachments

DECISION ID	64399	Region 2
Del Valle Reservoir		

Pollutant:	Endosulfan
Final Listing Decision:	Do Not List on 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision:	New Decision
Revision Status	Revised
Impairment from Pollutant or Pollution:	Pollutant
Regional Board Staff Conclusion:	<p>This pollutant is being considered for placement on the CWA section 303(d) List under section 3.5 of the Listing Policy. Under section 3.5 a single line of evidence is necessary to assess listing status. Three lines of evidence are available in the administrative record to assess this pollutant. Zero of one samples exceed the OEHHHA guideline.</p> <p>Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against placing this water segment-pollutant combination on the CWA section 303(d) List.</p> <p>This conclusion is based on the staff findings that:</p> <ol style="list-style-type: none"> 1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy. 2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy. 3. Zero of one samples exceed the OEHHHA guideline and this sample size is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating. A minimum of 16 samples is needed to determine if a beneficial use is fully supported using table 3.1. 4. Pursuant to SECTION 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.
Regional Board Staff Decision Recommendation:	After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be placed on the section 303(d) list. The readily available data and information is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating.

Line of Evidence (LOE) for Decision ID 64399, Endosulfan	Region 2
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Del Valle Reservoir

LOE ID:	91692
Pollutant:	Endosulfan
LOE Subgroup:	Pollutant-Tissue
Matrix:	Tissue
Fraction:	Fish fillet
Beneficial Use:	Commercial or recreational collection of fish, shellfish, or organisms
Number of Samples:	1
Number of Exceedances:	0
Data and Information Type:	Fish tissue analysis
Data Used to Assess Water Quality:	State Water Board staff assessed SWAMP data for Del Valle Reservoir to determine beneficial use support and results are as follows: 0 of 1 samples exceed the criterion for Endosulfan I. One composite (5 fish per composite) was generated from one species: Channel Catfish. Details of the compositing protocol can be found in the March 2009 report entitled: "Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Study" (SWAMP, 2009).
Data Reference:	Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Survey. A Report of the Surface Water Ambient Monitoring Program (SWAMP). California State Water Resources Control Board, Sacramento, CA Statewide Lakes Sportfish Contamination Study 2007 2008 Contaminants in Fish from California Lakes and Reservoirs, 2007-2008: Summary Report on a Two-Year Screening Survey Cruise report for the Surface Water Ambient Monitoring Program (SWAMP) bioaccumulation screening study in California lakes and reservoirs year two (FY 07-08). Sampling dates: April 2008 - November 2008.
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	Water Quality Control Plan for the San Francisco Bay Basin: Controllable water quality factors shall not cause a detrimental increase in concentrations of toxic substances found in bottom sediments or aquatic life. Effects on aquatic organisms, wildlife, and human health will be considered.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	The modified OEHHA Fish Contaminant Goal for endosulfan (I and II) in fish tissue is 13,000 ppb. This screening level assumes an average body weight of 70 kg and a consumption rate of 32 g/day. A cooking reduction factor of 1 is applied for skin-off fillets. (Klasing, S., and R. Brodberg, 2008; USEPA, 2000)
Guideline Reference:	Development of Fish Contaminant Goals and Advisory Tissue Levels for Common Contaminants in California Sport Fish: Chlordane, DDTs, Dieldrin, Methylmercury, PCBs, Selenium, and Toxaphene Guidance for Assessing Chemical Contaminant Data for Use In Fish Advisories Volume 1: Fish Sampling and Analysis
Spatial Representation:	Data for this assessment unit was collected by one monitoring project: (SWB_FishLk)
Temporal Representation:	Data was collected on a single day 6/19/2008.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	Samples were collected, processed, and analyzed in accordance with the methods described in Quality Assurance Project Plan "Screening Study of Bioaccumulation in California Lakes and Reservoirs." (SWAMP, 2008).
QAPP Information Reference(s):	Quality Assurance Project Plan Screening Study of Bioaccumulation in California Lakes and Reservoirs. Moss Landing Marine Labs. Prepared for SWAMP BOG. 49 pages plus appendices and attachments

Line of Evidence (LOE) for Decision ID 64399, Endosulfan

Region 2

Del Valle Reservoir

LOE ID:	91691
Pollutant:	Endosulfan
LOE Subgroup:	Pollutant-Tissue
Matrix:	Tissue
Fraction:	Fish fillet
Beneficial Use:	Cold Freshwater Habitat
Number of Samples:	1
Number of Exceedances:	0
Data and Information Type:	Fish tissue analysis
Data Used to Assess Water Quality:	State Water Board staff assessed SWAMP data for Del Valle Reservoir to determine beneficial use support and results are as follows: 0 of 1 samples exceed the criterion for Endosulfan I. One composite (5 fish per composite) was generated from one species: Channel Catfish. Details of the compositing protocol can be found in the March 2009 report entitled: "Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Study" (SWAMP, 2009).
Data Reference:	Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Survey. A Report of the Surface Water Ambient Monitoring Program (SWAMP). California State Water Resources Control Board, Sacramento, CA Statewide Lakes Sportfish Contamination Study 2007 2008 Contaminants in Fish from California Lakes and Reservoirs, 2007-2008: Summary Report on a Two-Year Screening Survey Cruise report for the Surface Water Ambient Monitoring Program (SWAMP) bioaccumulation screening study in California lakes and reservoirs year two (FY 07-08). Sampling dates: April 2008 - November 2008.
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	Water Quality Control Plan for the San Francisco Bay Basin: Controllable water quality factors shall not cause a detrimental increase in concentrations of toxic substances found in bottom sediments or aquatic life. Effects on aquatic organisms, wildlife, and human health will be considered.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	National Academy of Science guidelines (NAS 1972) establish a maximum Endosulfan, Total concentration of 100 ug/Kg (wet weight) in tissue samples for protection of aquatic life from bioaccumulation of toxic substances.
Guideline Reference:	National Academy of Sciences. Water Quality Criteria 1972. EPA-R3-73-033. Washington, D.C.: U.S. Environmental Protection Agency
Spatial Representation:	Data for this assessment unit was collected by one monitoring project: (SWB_FishLk)
Temporal Representation:	Data was collected on a single day 6/19/2008.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	Samples were collected, processed, and analyzed in accordance with the methods described in Quality Assurance Project Plan "Screening Study of Bioaccumulation in California Lakes and Reservoirs." (SWAMP, 2008).
QAPP Information Reference(s):	Quality Assurance Project Plan Screening Study of Bioaccumulation in California Lakes and Reservoirs. Moss Landing Marine Labs. Prepared for SWAMP BOG. 49 pages plus appendices and attachments

Line of Evidence (LOE) for Decision ID 64399, Endosulfan

Region 2

Del Valle Reservoir

LOE ID:	91690
Pollutant:	Endosulfan
LOE Subgroup:	Pollutant-Tissue
Matrix:	Tissue
Fraction:	Fish fillet

Beneficial Use:	Warm Freshwater Habitat
Number of Samples:	1
Number of Exceedances:	0
Data and Information Type:	Fish tissue analysis
Data Used to Assess Water Quality:	State Water Board staff assessed SWAMP data for Del Valle Reservoir to determine beneficial use support and results are as follows: 0 of 1 samples exceed the criterion for Endosulfan I. One composite (5 fish per composite) was generated from one species: Channel Catfish. Details of the compositing protocol can be found in the March 2009 report entitled: "Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Study" (SWAMP, 2009).
Data Reference:	Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Survey. A Report of the Surface Water Ambient Monitoring Program (SWAMP). California State Water Resources Control Board, Sacramento, CA Statewide Lakes Sportfish Contamination Study 2007 2008 Contaminants in Fish from California Lakes and Reservoirs, 2007-2008: Summary Report on a Two-Year Screening Survey Cruise report for the Surface Water Ambient Monitoring Program (SWAMP) bioaccumulation screening study in California lakes and reservoirs year two (FY 07-08). Sampling dates: April 2008 - November 2008.
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	Water Quality Control Plan for the San Francisco Bay Basin: Controllable water quality factors shall not cause a detrimental increase in concentrations of toxic substances found in bottom sediments or aquatic life. Effects on aquatic organisms, wildlife, and human health will be considered.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	National Academy of Science guidelines (NAS 1972) establish a maximum Endosulfan, Total concentration of 100 ug/Kg (wet weight) in tissue samples for protection of aquatic life from bioaccumulation of toxic substances.
Guideline Reference:	National Academy of Sciences. Water Quality Criteria 1972. EPA-R3-73-033. Washington, D.C.: U.S. Environmental Protection Agency
Spatial Representation:	Data for this assessment unit was collected by one monitoring project: (SWB_FishLk)
Temporal Representation:	Data was collected on a single day 6/19/2008.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	Samples were collected, processed, and analyzed in accordance with the methods described in Quality Assurance Project Plan "Screening Study of Bioaccumulation in California Lakes and Reservoirs." (SWAMP, 2008).
QAPP Information Reference(s):	Quality Assurance Project Plan Screening Study of Bioaccumulation in California Lakes and Reservoirs. Moss Landing Marine Labs. Prepared for SWAMP BOG. 49 pages plus appendices and attachments

DECISION ID	64400	Region 2
Del Valle Reservoir		

Pollutant:	Endrin
Final Listing Decision:	Do Not List on 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision:	New Decision
Revision Status	Revised
Impairment from Pollutant or Pollution:	Pollutant

Regional Board Staff Conclusion:	This pollutant is being considered for placement on the CWA section 303(d) List under section 3.5 of the Listing Policy. Under section 3.5 a single line of evidence is necessary to assess listing status. Three lines of evidence are available in the administrative record to assess this pollutant. Zero of one
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samples exceed the OEHHA guideline.

Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against placing this water segment-pollutant combination on the CWA section 303(d) List.

This conclusion is based on the staff findings that:

1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy.
2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy.
3. Zero of one samples exceed the OEHHA guideline and this sample size is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating. A minimum of 16 samples is needed to determine if a beneficial use is fully supported using table 3.1.
4. Pursuant to SECTION 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.

Regional Board Staff Decision Recommendation: After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be placed on the section 303(d) list. The readily available data and information is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating.

Line of Evidence (LOE) for Decision ID 64400, Endrin

Region 2

Del Valle Reservoir

LOE ID:	91693
Pollutant:	Endrin
LOE Subgroup:	Pollutant-Tissue
Matrix:	Tissue
Fraction:	Fish fillet
Beneficial Use:	Warm Freshwater Habitat
Number of Samples:	1
Number of Exceedances:	0
Data and Information Type:	Fish tissue analysis
Data Used to Assess Water Quality:	State Water Board staff assessed SWAMP data for Del Valle Reservoir to determine beneficial use support and results are as follows: 0 of 1 samples exceed the criterion for Endrin. One composite (5 fish per composite) was generated from one species: Channel Catfish. Details of the compositing protocol can be found in the March 2009 report entitled: "Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Study" (SWAMP, 2009).
Data Reference:	Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Survey. A Report of the Surface Water Ambient Monitoring Program (SWAMP). California State Water Resources Control Board, Sacramento, CA Statewide Lakes Sportfish Contamination Study 2007 2008 Contaminants in Fish from California Lakes and Reservoirs, 2007-2008: Summary Report on a Two-Year Screening Survey Cruise report for the Surface Water Ambient Monitoring Program (SWAMP) bioaccumulation screening study in California lakes and reservoirs year two (FY 07-08). Sampling dates: April 2008 - November 2008.
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	Water Quality Control Plan for the San Francisco Bay Basin: Controllable water quality factors shall not cause a detrimental increase in concentrations of toxic substances found in bottom sediments or aquatic life. Effects on aquatic organisms, wildlife, and human health will be considered.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)

Evaluation Guideline:	National Academy of Science guidelines (NAS 1972) establish a maximum Endrin concentration of 100 ug/Kg (wet weight) in tissue samples for protection of aquatic life from bioaccumulation of toxic substances.
Guideline Reference:	National Academy of Sciences. Water Quality Criteria 1972. EPA-R3-73-033. Washington, D.C.: U.S. Environmental Protection Agency
Spatial Representation:	Data for this assessment unit was collected by one monitoring project: (SWB_FishLk)
Temporal Representation:	Data was collected on a single day 6/19/2008.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	Samples were collected, processed, and analyzed in accordance with the methods described in Quality Assurance Project Plan "Screening Study of Bioaccumulation in California Lakes and Reservoirs." (SWAMP, 2008).
QAPP Information Reference(s):	Quality Assurance Project Plan Screening Study of Bioaccumulation in California Lakes and Reservoirs. Moss Landing Marine Labs. Prepared for SWAMP BOG, 49 pages plus appendices and attachments

Line of Evidence (LOE) for Decision ID 64400, Endrin

Region 2

Del Valle Reservoir

LOE ID:	91694
Pollutant:	Endrin
LOE Subgroup:	Pollutant-Tissue
Matrix:	Tissue
Fraction:	Fish fillet
Beneficial Use:	Cold Freshwater Habitat
Number of Samples:	1
Number of Exceedances:	0
Data and Information Type:	Fish tissue analysis
Data Used to Assess Water Quality:	State Water Board staff assessed SWAMP data for Del Valle Reservoir to determine beneficial use support and results are as follows: 0 of 1 samples exceed the criterion for Endrin. One composite (5 fish per composite) was generated from one species: Channel Catfish. Details of the compositing protocol can be found in the March 2009 report entitled: "Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Study" (SWAMP, 2009).
Data Reference:	Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Survey. A Report of the Surface Water Ambient Monitoring Program (SWAMP). California State Water Resources Control Board, Sacramento, CA Statewide Lakes Sportfish Contamination Study 2007 2008 Contaminants in Fish from California Lakes and Reservoirs, 2007-2008: Summary Report on a Two-Year Screening Survey Cruise report for the Surface Water Ambient Monitoring Program (SWAMP) bioaccumulation screening study in California lakes and reservoirs year two (FY 07-08). Sampling dates: April 2008 - November 2008.
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	Water Quality Control Plan for the San Francisco Bay Basin: Controllable water quality factors shall not cause a detrimental increase in concentrations of toxic substances found in bottom sediments or aquatic life. Effects on aquatic organisms, wildlife, and human health will be considered.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	National Academy of Science guidelines (NAS 1972) establish a maximum Endrin concentration of 100 ug/Kg (wet weight) in tissue samples for protection of aquatic life from bioaccumulation of toxic substances.
Guideline Reference:	National Academy of Sciences. Water Quality Criteria 1972. EPA-R3-73-033. Washington, D.C.: U.S. Environmental Protection Agency

Spatial Representation:	Data for this assessment unit was collected by one monitoring project: (SWB_FishLk)
Temporal Representation:	Data was collected on a single day 6/19/2008.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	Samples were collected, processed, and analyzed in accordance with the methods described in Quality Assurance Project Plan "Screening Study of Bioaccumulation in California Lakes and Reservoirs." (SWAMP, 2008).
QAPP Information Reference(s):	Quality Assurance Project Plan Screening Study of Bioaccumulation in California Lakes and Reservoirs. Moss Landing Marine Labs. Prepared for SWAMP BOG. 49 pages plus appendices and attachments

Line of Evidence (LOE) for Decision ID 64400, Endrin

Region 2

Del Valle Reservoir

LOE ID:	91695
Pollutant:	Endrin
LOE Subgroup:	Pollutant-Tissue
Matrix:	Tissue
Fraction:	Fish fillet
Beneficial Use:	Commercial or recreational collection of fish, shellfish, or organisms
Number of Samples:	1
Number of Exceedances:	0
Data and Information Type:	Fish tissue analysis
Data Used to Assess Water Quality:	State Water Board staff assessed SWAMP data for Del Valle Reservoir to determine beneficial use support and results are as follows: 0 of 1 samples exceed the criterion for Endrin. One composite (5 fish per composite) was generated from one species: Channel Catfish. Details of the compositing protocol can be found in the March 2009 report entitled: "Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Study" (SWAMP, 2009).
Data Reference:	Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Survey. A Report of the Surface Water Ambient Monitoring Program (SWAMP). California State Water Resources Control Board, Sacramento, CA Statewide Lakes Sportfish Contamination Study 2007 2008 Contaminants in Fish from California Lakes and Reservoirs. 2007-2008: Summary Report on a Two-Year Screening Survey Cruise report for the Surface Water Ambient Monitoring Program (SWAMP) bioaccumulation screening study in California lakes and reservoirs year two (FY 07-08). Sampling dates: April 2008 - November 2008.
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	Water Quality Control Plan for the San Francisco Bay Basin: Controllable water quality factors shall not cause a detrimental increase in concentrations of toxic substances found in bottom sediments or aquatic life. Effects on aquatic organisms, wildlife, and human health will be considered.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	The modified OEHHA Fish Contaminant Goal for endrin in fish tissue is 660 ppb. This screening level assumes an average body weight of 70 kg and a consumption rate of 32 g/day. A cooking reduction factor of 1 is applied for skin-off fillets. (Klasing, S., and R. Brodberg, 2008; USEPA, 2000)
Guideline Reference:	Development of Fish Contaminant Goals and Advisory Tissue Levels for Common Contaminants in California Sport Fish: Chlordane, DDTs, Dieldrin, Methylmercury, PCBs, Selenium, and Toxaphene Guidance for Assessing Chemical Contaminant Data for Use In Fish Advisories Volume 1: Fish Sampling and Analysis
Spatial Representation:	Data for this assessment unit was collected by one monitoring project: (SWB_FishLk)
Temporal Representation:	Data was collected on a single day 6/19/2008.

Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	Samples were collected, processed, and analyzed in accordance with the methods described in Quality Assurance Project Plan "Screening Study of Bioaccumulation in California Lakes and Reservoirs." (SWAMP, 2008).
QAPP Information Reference(s):	Quality Assurance Project Plan Screening Study of Bioaccumulation in California Lakes and Reservoirs. Moss Landing Marine Labs. Prepared for SWAMP BOG. 49 pages plus appendices and attachments

DECISION ID	64401	Region 2
Del Valle Reservoir		

Pollutant:	Ethylbenzene
Final Listing Decision:	Do Not List on 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision:	New Decision
Revision Status	Revised
Impairment from Pollutant or Pollution:	Pollutant

Regional Board Staff Conclusion:

This pollutant is being considered for placement on the CWA section 303(d) List under section 3.1 of the Listing Policy. Under section 3.1 a single line of evidence is necessary to assess listing status.

Two lines of evidence are available in the administrative record to assess this pollutant. Zero of one hundred fourteen samples exceed the guideline.

Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against placing this water segment-pollutant combination on the CWA section 303(d) List in the Water Quality Limited Segments category.

This conclusion is based on the staff findings that:

1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy.
2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy.
3. Zero of one hundred fourteen samples exceed the guideline and this does not exceed the allowable frequency listed in Table 3.1 of the Listing Policy.
4. Pursuant to section 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.

Regional Board Staff Decision Recommendation: After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be placed on the section 303(d) list because applicable water quality standards are not being exceeded.

Line of Evidence (LOE) for Decision ID 64401, Ethylbenzene	Region 2
Del Valle Reservoir	

LOE ID:	91697
Pollutant:	Ethylbenzene
LOE Subgroup:	Pollutant-Water
Matrix:	Water
Fraction:	None
Beneficial Use:	Commercial or recreational collection of fish, shellfish, or organisms
Number of Samples:	114
Number of Exceedances:	0
Data and Information Type:	PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality:	State Water Board staff assessed DWR data for Del Valle Reservoir to determine beneficial use support and results are as follows: 0 of 114 samples exceed the criterion

Data Reference:	for Ethylbenzene. Data for Metals, Nutrients, Inorganics, Organics, and Pesticides in Regions 2,5 and 6, 2004-2010.
SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	The Ethylbenzene criteria for the protection of human health from consumption of organisms only is 29,000 ug/L (California Toxics Rule, 2000).
Objective/Criterion Reference:	Code of Federal Regulations 40 part 131.38 Establishment of numeric criteria for priority toxic pollutants for the State of California. 7/1/2011 Edition
Evaluation Guideline:	
Guideline Reference:	
Spatial Representation:	Data for this line of evidence for Del Valle Reservoir was collected at 1 monitoring site [Lake Del Valle at Glory Hole]
Temporal Representation:	Data was collected over the time period 1/20/2004 10:50:00 AM-12/15/2009 12:00:00 PM.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	The Quality Assurance Project Plan for Bryte Chemical Laboratory was used.
QAPP Information Reference(s):	Quality Assurance Project Plan from Bryte Chemical Laboratory.

Line of Evidence (LOE) for Decision ID 64401, Ethylbenzene

Region 2

Del Valle Reservoir

LOE ID:	91696
Pollutant:	Ethylbenzene
LOE Subgroup:	Pollutant-Water
Matrix:	Water
Fraction:	None
Beneficial Use:	Municipal & Domestic Supply
Number of Samples:	114
Number of Exceedances:	0
Data and Information Type:	PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality:	State Water Board staff assessed DWR data for Del Valle Reservoir to determine beneficial use support and results are as follows: 0 of 114 samples exceed the criterion for Ethylbenzene.
Data Reference:	Data for Metals, Nutrients, Inorganics, Organics, and Pesticides in Regions 2,5 and 6, 2004-2010.
SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	The California Maximum Contaminant Level for Ethylbenzene incorporated by reference in the Water Quality Control Plan, San Francisco Bay Region is 0.7 mg/L (Water Quality Control Plan, San Francisco Bay Region).
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	
Guideline Reference:	
Spatial Representation:	Data for this line of evidence for Del Valle Reservoir was collected at 1 monitoring site [Lake Del Valle at Glory Hole]
Temporal Representation:	Data was collected over the time period 1/20/2004 10:50:00 AM-12/15/2009 12:00:00 PM.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	The Quality Assurance Project Plan for Bryte Chemical Laboratory was used.
QAPP Information Reference(s):	Quality Assurance Project Plan from Bryte Chemical Laboratory.

DECISION ID

64402

Region 2

Del Valle Reservoir

Pollutant: Heptachlor
Final Listing Decision: Do Not List on 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision: New Decision
Revision Status: Revised
Impairment from Pollutant or Pollution: Pollutant

Regional Board Staff Conclusion:

This pollutant is being considered for placement on the CWA section 303(d) List under section 3.5 of the Listing Policy. Under section 3.5 a single line of evidence is necessary to assess listing status. Three lines of evidence are available in the administrative record to assess this pollutant. Zero of one samples exceed the OEHHHA guideline.

Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against placing this water segment-pollutant combination on the CWA section 303(d) List.

This conclusion is based on the staff findings that:

1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy.
2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy.
3. Zero of one samples exceed the OEHHHA guideline and this sample size is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating. A minimum of 16 samples is needed to determine if a beneficial use is fully supported using table 3.1.
4. Pursuant to SECTION 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.

Regional Board Staff Decision Recommendation: After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be placed on the section 303(d) list. The readily available data and information is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating.

Line of Evidence (LOE) for Decision ID 64402, Heptachlor

Region 2

Del Valle Reservoir

LOE ID: 91698

Pollutant: Heptachlor
LOE Subgroup: Pollutant-Tissue
Matrix: Tissue
Fraction: Fish fillet

Beneficial Use: Warm Freshwater Habitat

Number of Samples: 1
Number of Exceedances: 0

Data and Information Type: Fish tissue analysis
Data Used to Assess Water Quality: State Water Board staff assessed SWAMP data for Del Valle Reservoir to determine beneficial use support and results are as follows: 0 of 1 samples exceed the criterion for Heptachlor. One composite (5 fish per composite) was generated from one species: Channel Catfish. Details of the compositing protocol can be found in the March 2009 report entitled: "Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Study" (SWAMP, 2009).

Data Reference: [Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Survey. A Report of the Surface Water Ambient Monitoring Program \(SWAMP\). California State Water Resources Control Board, Sacramento, CA Statewide Lakes Sportfish Contamination Study 2007 2008](#)
[Contaminants in Fish from California Lakes and Reservoirs, 2007-2008: Summary Report](#)

[on a Two-Year Screening Survey](#)
[Cruise report for the Surface Water Ambient Monitoring Program \(SWAMP\)](#)
[bioaccumulation screening study in California lakes and reservoirs year two \(FY 07-08\).](#)
[Sampling dates: April 2008 - November 2008.](#)

SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	Water Quality Control Plan for the San Francisco Bay Basin: Controllable water quality factors shall not cause a detrimental increase in concentrations of toxic substances found in bottom sediments or aquatic life. Effects on aquatic organisms, wildlife, and human health will be considered.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	National Academy of Science guidelines (NAS 1972) establish a maximum Heptachlor concentration of 100 ug/Kg (wet weight) in tissue samples for protection of aquatic life from bioaccumulation of toxic substances.
Guideline Reference:	National Academy of Sciences. Water Quality Criteria 1972. EPA-R3-73-033. Washington, D.C.: U.S. Environmental Protection Agency
Spatial Representation:	Data for this assessment unit was collected by one monitoring project: (SWB_FishLk)
Temporal Representation:	Data was collected on a single day 6/19/2008.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	Samples were collected, processed, and analyzed in accordance with the methods described in Quality Assurance Project Plan "Screening Study of Bioaccumulation in California Lakes and Reservoirs." (SWAMP, 2008).
QAPP Information Reference(s):	Quality Assurance Project Plan Screening Study of Bioaccumulation in California Lakes and Reservoirs. Moss Landing Marine Labs. Prepared for SWAMP BOG, 49 pages plus appendices and attachments

Line of Evidence (LOE) for Decision ID 64402, Heptachlor

Region 2

Del Valle Reservoir

LOE ID:	91699
Pollutant:	Heptachlor
LOE Subgroup:	Pollutant-Tissue
Matrix:	Tissue
Fraction:	Fish fillet
Beneficial Use:	Cold Freshwater Habitat
Number of Samples:	1
Number of Exceedances:	0
Data and Information Type:	Fish tissue analysis
Data Used to Assess Water Quality:	State Water Board staff assessed SWAMP data for Del Valle Reservoir to determine beneficial use support and results are as follows: 0 of 1 samples exceed the criterion for Heptachlor. One composite (5 fish per composite) was generated from one species: Channel Catfish. Details of the compositing protocol can be found in the March 2009 report entitled: "Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Study" (SWAMP, 2009).
Data Reference:	Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Survey. A Report of the Surface Water Ambient Monitoring Program (SWAMP). California State Water Resources Control Board, Sacramento, CA Statewide Lakes Sportfish Contamination Study 2007 2008 Contaminants in Fish from California Lakes and Reservoirs, 2007-2008: Summary Report on a Two-Year Screening Survey Cruise report for the Surface Water Ambient Monitoring Program (SWAMP) bioaccumulation screening study in California lakes and reservoirs year two (FY 07-08). Sampling dates: April 2008 - November 2008.

SWAMP Data:	SWAMP
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Water Quality Objective/Criterion:	Water Quality Control Plan for the San Francisco Bay Basin: Controllable water quality factors shall not cause a detrimental increase in concentrations of toxic substances found in bottom sediments or aquatic life. Effects on aquatic organisms, wildlife, and human health will be considered.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	National Academy of Science guidelines (NAS 1972) establish a maximum Heptachlor concentration of 100 ug/Kg (wet weight) in tissue samples for protection of aquatic life from bioaccumulation of toxic substances.
Guideline Reference:	National Academy of Sciences. Water Quality Criteria 1972. EPA-R3-73-033. Washington, D.C.: U.S. Environmental Protection Agency
Spatial Representation:	Data for this assessment unit was collected by one monitoring project: (SWB_FishLk)
Temporal Representation:	Data was collected on a single day 6/19/2008.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	Samples were collected, processed, and analyzed in accordance with the methods described in Quality Assurance Project Plan "Screening Study of Bioaccumulation in California Lakes and Reservoirs." (SWAMP, 2008).
QAPP Information Reference(s):	Quality Assurance Project Plan Screening Study of Bioaccumulation in California Lakes and Reservoirs. Moss Landing Marine Labs. Prepared for SWAMP BOG. 49 pages plus appendices and attachments

DECISION ID	64403	Region 2
Del Valle Reservoir		

Pollutant:	Heptachlor epoxide
Final Listing Decision:	Do Not List on 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision:	New Decision
Revision Status	Revised
Impairment from Pollutant or Pollution:	Pollutant
Regional Board Staff Conclusion:	<p>This pollutant is being considered for placement on the CWA section 303(d) List under section 3.5 of the Listing Policy. Under section 3.5 a single line of evidence is necessary to assess listing status. Three lines of evidence are available in the administrative record to assess this pollutant. Zero of one samples exceed the OEHHHA guideline.</p> <p>Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against placing this water segment-pollutant combination on the CWA section 303(d) List.</p> <p>This conclusion is based on the staff findings that:</p> <ol style="list-style-type: none"> 1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy. 2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy. 3. Zero of one samples exceed the OEHHHA guideline and this sample size is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating. A minimum of 16 samples is needed to determine if a beneficial use is fully supported using table 3.1. 4. Pursuant to SECTION 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.
Regional Board Staff Decision Recommendation:	After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be placed on the section 303(d) list. The readily available data and information is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating.

Line of Evidence (LOE) for Decision ID 64403, Heptachlor epoxide	Region 2
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Del Valle Reservoir

LOE ID:	91701
Pollutant:	Heptachlor epoxide
LOE Subgroup:	Pollutant-Tissue
Matrix:	Tissue
Fraction:	Fish fillet
Beneficial Use:	Cold Freshwater Habitat
Number of Samples:	1
Number of Exceedances:	0
Data and Information Type:	Fish tissue analysis
Data Used to Assess Water Quality:	State Water Board staff assessed SWAMP data for Del Valle Reservoir to determine beneficial use support and results are as follows: 0 of 1 samples exceed the criterion for Heptachlor epoxide. One composite (5 fish per composite) was generated from one species: Channel Catfish. Details of the compositing protocol can be found in the March 2009 report entitled: "Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Study" (SWAMP, 2009).
Data Reference:	Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Survey. A Report of the Surface Water Ambient Monitoring Program (SWAMP). California State Water Resources Control Board, Sacramento, CA Statewide Lakes Sportfish Contamination Study 2007 2008 Contaminants in Fish from California Lakes and Reservoirs, 2007-2008: Summary Report on a Two-Year Screening Survey Cruise report for the Surface Water Ambient Monitoring Program (SWAMP) bioaccumulation screening study in California lakes and reservoirs year two (FY 07-08). Sampling dates: April 2008 - November 2008.
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	Water Quality Control Plan for the San Francisco Bay Basin: Controllable water quality factors shall not cause a detrimental increase in concentrations of toxic substances found in bottom sediments or aquatic life. Effects on aquatic organisms, wildlife, and human health will be considered.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	National Academy of Science guidelines (NAS 1972) establish a maximum Heptachlor Epoxide concentration of 100 ug/Kg (wet weight) in tissue samples for protection of aquatic life from bioaccumulation of toxic substances.
Guideline Reference:	National Academy of Sciences. Water Quality Criteria 1972. EPA-R3-73-033. Washington, D.C.: U.S. Environmental Protection Agency
Spatial Representation:	Data for this assessment unit was collected by one monitoring project: (SWB_FishLk)
Temporal Representation:	Data was collected on a single day 6/19/2008.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	Samples were collected, processed, and analyzed in accordance with the methods described in Quality Assurance Project Plan "Screening Study of Bioaccumulation in California Lakes and Reservoirs." (SWAMP, 2008).
QAPP Information Reference(s):	Quality Assurance Project Plan Screening Study of Bioaccumulation in California Lakes and Reservoirs. Moss Landing Marine Labs. Prepared for SWAMP BOG. 49 pages plus appendices and attachments

Line of Evidence (LOE) for Decision ID 64403, Heptachlor epoxide

Region 2

Del Valle Reservoir

LOE ID:	91700
Pollutant:	Heptachlor epoxide
LOE Subgroup:	Pollutant-Tissue

Matrix:	Tissue
Fraction:	Fish fillet
Beneficial Use:	Warm Freshwater Habitat
Number of Samples:	1
Number of Exceedances:	0
Data and Information Type:	Fish tissue analysis
Data Used to Assess Water Quality:	State Water Board staff assessed SWAMP data for Del Valle Reservoir to determine beneficial use support and results are as follows: 0 of 1 samples exceed the criterion for Heptachlor epoxide. One composite (5 fish per composite) was generated from one species: Channel Catfish. Details of the compositing protocol can be found in the March 2009 report entitled: "Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Study" (SWAMP, 2009).
Data Reference:	Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Survey. A Report of the Surface Water Ambient Monitoring Program (SWAMP). California State Water Resources Control Board, Sacramento, CA Statewide Lakes Sportfish Contamination Study 2007 2008 Contaminants in Fish from California Lakes and Reservoirs, 2007-2008: Summary Report on a Two-Year Screening Survey Cruise report for the Surface Water Ambient Monitoring Program (SWAMP) bioaccumulation screening study in California lakes and reservoirs year two (FY 07-08). Sampling dates: April 2008 - November 2008.
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	Water Quality Control Plan for the San Francisco Bay Basin: Controllable water quality factors shall not cause a detrimental increase in concentrations of toxic substances found in bottom sediments or aquatic life. Effects on aquatic organisms, wildlife, and human health will be considered.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	National Academy of Science guidelines (NAS 1972) establish a maximum Heptachlor Epoxide concentration of 100 ug/Kg (wet weight) in tissue samples for protection of aquatic life from bioaccumulation of toxic substances.
Guideline Reference:	National Academy of Sciences. Water Quality Criteria 1972. EPA-R3-73-033. Washington, D.C.: U.S. Environmental Protection Agency
Spatial Representation:	Data for this assessment unit was collected by one monitoring project: (SWB_FishLk)
Temporal Representation:	Data was collected on a single day 6/19/2008.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	Samples were collected, processed, and analyzed in accordance with the methods described in Quality Assurance Project Plan "Screening Study of Bioaccumulation in California Lakes and Reservoirs." (SWAMP, 2008).
QAPP Information Reference(s):	Quality Assurance Project Plan Screening Study of Bioaccumulation in California Lakes and Reservoirs. Moss Landing Marine Labs. Prepared for SWAMP BOG. 49 pages plus appendices and attachments

Line of Evidence (LOE) for Decision ID 64403, Heptachlor epoxide

Region 2

Del Valle Reservoir

LOE ID:	91702
Pollutant:	Heptachlor epoxide
LOE Subgroup:	Pollutant-Tissue
Matrix:	Tissue
Fraction:	Fish fillet
Beneficial Use:	Commercial or recreational collection of fish, shellfish, or organisms
Number of Samples:	1

Number of Exceedances:	0
Data and Information Type:	Fish tissue analysis
Data Used to Assess Water Quality:	State Water Board staff assessed SWAMP data for Del Valle Reservoir to determine beneficial use support and results are as follows: 0 of 1 samples exceed the criterion for Heptachlor epoxide. One composite (5 fish per composite) was generated from one species: Channel Catfish. Details of the compositing protocol can be found in the March 2009 report entitled: "Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Study" (SWAMP, 2009).
Data Reference:	Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Survey. A Report of the Surface Water Ambient Monitoring Program (SWAMP). California State Water Resources Control Board, Sacramento, CA Statewide Lakes Sportfish Contamination Study 2007 2008 Contaminants in Fish from California Lakes and Reservoirs, 2007-2008: Summary Report on a Two-Year Screening Survey Cruise report for the Surface Water Ambient Monitoring Program (SWAMP) bioaccumulation screening study in California lakes and reservoirs year two (FY 07-08). Sampling dates: April 2008 - November 2008.
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	Water Quality Control Plan for the San Francisco Bay Basin: Controllable water quality factors shall not cause a detrimental increase in concentrations of toxic substances found in bottom sediments or aquatic life. Effects on aquatic organisms, wildlife, and human health will be considered.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	The modified OEHHA Fish Contaminant Goal for heptachlor epoxide in fish tissue is 0.93 ppb. This screening level assumes an average body weight of 70 kg and a consumption rate of 32 g/day for a 30 year exposure over a 70-year lifetime. This constituent is a carcinogen therefore the risk level is set to one in a million. A cooking reduction factor of 1 is applied for skin-off fillets. (Klasing, S., and R. Brodberg, 2008; OEHHA, 1999)
Guideline Reference:	Development of Fish Contaminant Goals and Advisory Tissue Levels for Common Contaminants in California Sport Fish: Chlordane, DDTs, Dieldrin, Methylmercury, PCBs, Selenium, and Toxaphene Public Health Goal for Heptachlor and Heptachlor Epoxide in Drinking Water
Spatial Representation:	Data for this assessment unit was collected by one monitoring project: (SWB_FishLk)
Temporal Representation:	Data was collected on a single day 6/19/2008.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	Samples were collected, processed, and analyzed in accordance with the methods described in Quality Assurance Project Plan "Screening Study of Bioaccumulation in California Lakes and Reservoirs." (SWAMP, 2008).
QAPP Information Reference(s):	Quality Assurance Project Plan Screening Study of Bioaccumulation in California Lakes and Reservoirs. Moss Landing Marine Labs. Prepared for SWAMP BOG. 49 pages plus appendices and attachments

DECISION ID	64404	Region 2
Del Valle Reservoir		
Pollutant:	Hexachlorobenzene/ HCB	
Final Listing Decision:	Do Not List on 303(d) list (TMDL required list)	
Last Listing Cycle's Final Listing Decision:	New Decision	
Revision Status	Revised	
Impairment from Pollutant or Pollution:	Pollutant	
Regional Board Staff Conclusion:	This pollutant is being considered for placement on the CWA section 303(d) List under section 3.5 of the Listing Policy. Under section 3.5 a single line of evidence is necessary to assess listing status. One line of evidence is available in the administrative record to assess this pollutant. Zero of one	

samples exceed the OEHHA guideline.

Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against placing this water segment-pollutant combination on the CWA section 303(d) List.

This conclusion is based on the staff findings that:

1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy.
2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy.
3. Zero of one samples exceed the OEHHA guideline and this sample size is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating. A minimum of 16 samples is needed to determine if a beneficial use is fully supported using table 3.1.
4. Pursuant to SECTION 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.

Regional Board Staff Decision Recommendation: After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be placed on the section 303(d) list. The readily available data and information is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating.

Line of Evidence (LOE) for Decision ID 64404, Hexachlorobenzene/ HCB

Region 2

Del Valle Reservoir

LOE ID:	91703
Pollutant:	Hexachlorobenzene/ HCB
LOE Subgroup:	Pollutant-Tissue
Matrix:	Tissue
Fraction:	Fish fillet
Beneficial Use:	Commercial or recreational collection of fish, shellfish, or organisms
Number of Samples:	1
Number of Exceedances:	0
Data and Information Type:	Fish tissue analysis
Data Used to Assess Water Quality:	State Water Board staff assessed SWAMP data for Del Valle Reservoir to determine beneficial use support and results are as follows: 0 of 1 samples exceed the criterion for Hexachlorobenzene. One composite (5 fish per composite) was generated from one species: Channel Catfish. Details of the compositing protocol can be found in the March 2009 report entitled: "Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Study" (SWAMP, 2009).
Data Reference:	Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Survey. A Report of the Surface Water Ambient Monitoring Program (SWAMP). California State Water Resources Control Board, Sacramento, CA Statewide Lakes Sportfish Contamination Study 2007 2008 Contaminants in Fish from California Lakes and Reservoirs, 2007-2008: Summary Report on a Two-Year Screening Survey Cruise report for the Surface Water Ambient Monitoring Program (SWAMP) bioaccumulation screening study in California lakes and reservoirs year two (FY 07-08). Sampling dates: April 2008 - November 2008.
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	Water Quality Control Plan for the San Francisco Bay Basin: Controllable water quality factors shall not cause a detrimental increase in concentrations of toxic substances found in bottom sediments or aquatic life. Effects on aquatic organisms, wildlife, and human health will be considered.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)

Evaluation Guideline:	The modified OEHHA Fish Contaminant Goal for hexachlorobenzene in fish tissue is 2.8 ppb. This screening level assumes an average body weight of 70 kg and a consumption rate of 32 g/day for a 30 year exposure over a 70-year lifetime. This constituent is a carcinogen therefore the risk level is set to one in a million. A cooking reduction factor of 1 is applied for skin-off fillets. (Klasing, S., and R. Brodberg, 2008; OEHHA, 2005)
Guideline Reference:	Development of Fish Contaminant Goals and Advisory Tissue Levels for Common Contaminants in California Sport Fish: Chlordane, DDTs, Dieldrin, Methylmercury, PCBs, Selenium, and Toxaphene Air Toxics Hotspots Program Risk Assessment Guidelines. Part II Technical Support Document for Describing Available Cancer Potency Values.
Spatial Representation:	Data for this assessment unit was collected by one monitoring project: (SWB_FishLk)
Temporal Representation:	Data was collected on a single day 6/19/2008.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	Samples were collected, processed, and analyzed in accordance with the methods described in Quality Assurance Project Plan "Screening Study of Bioaccumulation in California Lakes and Reservoirs." (SWAMP, 2008).
QAPP Information Reference(s):	Quality Assurance Project Plan Screening Study of Bioaccumulation in California Lakes and Reservoirs. Moss Landing Marine Labs. Prepared for SWAMP BOG. 49 pages plus appendices and attachments

DECISION ID	64405	Region 2
Del Valle Reservoir		
Pollutant:	Hexachlorobutadiene	
Final Listing Decision:	Do Not List on 303(d) list (TMDL required list)	
Last Listing Cycle's Final Listing Decision:	New Decision	
Revision Status	Revised	
Impairment from Pollutant or Pollution:	Pollutant	
Regional Board Staff Conclusion:	<p>This pollutant is being considered for placement on the CWA section 303(d) List under section 3.1 of the Listing Policy. Under section 3.1 a single line of evidence is necessary to assess listing status.</p> <p>Two lines of evidence are available in the administrative record to assess this pollutant. Zero of one hundred fourteen samples exceed the guideline.</p> <p>Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against placing this water segment-pollutant combination on the CWA section 303(d) List in the Water Quality Limited Segments category.</p> <p>This conclusion is based on the staff findings that:</p> <ol style="list-style-type: none"> 1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy. 2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy. 3. Zero of one hundred fourteen samples exceed the guideline and this does not exceed the allowable frequency listed in Table 3.1 of the Listing Policy. 4. Pursuant to section 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met. 	
Regional Board Staff Decision Recommendation:	After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be placed on the section 303(d) list because applicable water quality standards are not being exceeded.	
Line of Evidence (LOE) for Decision ID 64405, Hexachlorobutadiene		Region 2
Del Valle Reservoir		

LOE ID: 91705

Pollutant:	Hexachlorobutadiene
LOE Subgroup:	Pollutant-Water
Matrix:	Water
Fraction:	None
Beneficial Use:	Commercial or recreational collection of fish, shellfish, or organisms
Number of Samples:	114
Number of Exceedances:	0
Data and Information Type:	PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality:	State Water Board staff assessed DWR data for Del Valle Reservoir to determine beneficial use support and results are as follows: 0 of 114 samples exceed the criterion for Hexachlorobutadiene.
Data Reference:	Data for Metals, Nutrients, Inorganics, Organics, and Pesticides in Regions 2,5 and 6, 2004-2010.
SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	The Hexachlorobutadiene criteria for the protection of human health from consumption of organisms only is 50 ug/L (California Toxics Rule, 2000).
Objective/Criterion Reference:	Code of Federal Regulations 40 part 131.38 Establishment of numeric criteria for priority toxic pollutants for the State of California. 7/1/2011 Edition
Evaluation Guideline:	
Guideline Reference:	
Spatial Representation:	Data for this line of evidence for Del Valle Reservoir was collected at 1 monitoring site [Lake Del Valle at Glory Hole]
Temporal Representation:	Data was collected over the time period 1/20/2004 10:50:00 AM-12/15/2009 12:00:00 PM.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	The Quality Assurance Project Plan for Bryte Chemical Laboratory was used.
QAPP Information Reference(s):	Quality Assurance Project Plan from Bryte Chemical Laboratory.

Line of Evidence (LOE) for Decision ID 64405, Hexachlorobutadiene

Region 2

Del Valle Reservoir

LOE ID:	91704
Pollutant:	Hexachlorobutadiene
LOE Subgroup:	Pollutant-Water
Matrix:	Water
Fraction:	None
Beneficial Use:	Municipal & Domestic Supply
Number of Samples:	0
Number of Exceedances:	0
Data and Information Type:	PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality:	State Water Board staff assessed DWR data for Del Valle Reservoir to determine beneficial use support and results are as follows: 0 of 0 samples exceed the criterion for Hexachlorobutadiene. One hundred and fourteen sample results were not used in the assessment because the laboratory data reporting limit(s) was above the objective and therefore the results could not be quantified with the level of certainty required by the Listing Policy.
Data Reference:	Data for Metals, Nutrients, Inorganics, Organics, and Pesticides in Regions 2,5 and 6, 2004-2010.
SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	The Hexachlorobutadiene criterion for the protection of human health from the

consumption of water and organisms is 0.44 ug/L (California Toxics Rule, 2000).
 Objective/Criterion Reference: [Code of Federal Regulations 40 part 131.38 Establishment of numeric criteria for priority toxic pollutants for the State of California. 7/1/2011 Edition](#)

Evaluation Guideline:
 Guideline Reference:

Spatial Representation: Data for this line of evidence for Del Valle Reservoir was collected at 1 monitoring site [Lake Del Valle at Glory Hole]

Temporal Representation: Data was collected over the time period 1/20/2004 10:50:00 AM-12/15/2009 12:00:00 PM.

Environmental Conditions: Staff is not aware of any special conditions that might affect interpretation of the data.

QAPP Information: The Quality Assurance Project Plan for Bryte Chemical Laboratory was used.

QAPP Information Reference(s): [Quality Assurance Project Plan from Bryte Chemical Laboratory.](#)

DECISION ID	64406	Region 2
Del Valle Reservoir		

Pollutant: Lindane/gamma Hexachlorocyclohexane (gamma-HCH)
Final Listing Decision: Do Not List on 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision: New Decision

Revision Status: Revised
Impairment from Pollutant or Pollution: Pollutant

Regional Board Staff Conclusion: This pollutant is being considered for placement on the CWA section 303(d) List under section 3.5 of the Listing Policy. Under section 3.5 a single line of evidence is necessary to assess listing status. Three lines of evidence are available in the administrative record to assess this pollutant. Zero of one samples exceed the OEHHHA guideline.

Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against placing this water segment-pollutant combination on the CWA section 303(d) List.

This conclusion is based on the staff findings that:

1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy.
2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy.
3. Zero of one samples exceed the OEHHHA guideline and this sample size is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating. A minimum of 16 samples is needed to determine if a beneficial use is fully supported using table 3.1.
4. Pursuant to SECTION 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.

Regional Board Staff Decision Recommendation: After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be placed on the section 303(d) list. The readily available data and information is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating.

Line of Evidence (LOE) for Decision ID 64406, Lindane/gamma Hexachlorocyclohexane (gamma-HCH)	Region 2
Del Valle Reservoir	

LOE ID: 91707

Pollutant: Lindane/gamma Hexachlorocyclohexane (gamma-HCH)
LOE Subgroup: Pollutant-Tissue
Matrix: Tissue
Fraction: Fish fillet

Beneficial Use:	Commercial or recreational collection of fish, shellfish, or organisms
Number of Samples:	1
Number of Exceedances:	0
Data and Information Type:	Fish tissue analysis
Data Used to Assess Water Quality:	State Water Board staff assessed SWAMP data for Del Valle Reservoir to determine beneficial use support and results are as follows: 0 of 1 samples exceed the criterion for HCH, gamma. One composite (5 fish per composite) was generated from one species: Channel Catfish. Details of the compositing protocol can be found in the March 2009 report entitled: "Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Study" (SWAMP, 2009).
Data Reference:	Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Survey. A Report of the Surface Water Ambient Monitoring Program (SWAMP). California State Water Resources Control Board, Sacramento, CA Statewide Lakes Sportfish Contamination Study 2007 2008 Contaminants in Fish from California Lakes and Reservoirs, 2007-2008: Summary Report on a Two-Year Screening Survey Cruise report for the Surface Water Ambient Monitoring Program (SWAMP) bioaccumulation screening study in California lakes and reservoirs year two (FY 07-08). Sampling dates: April 2008 - November 2008.
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	Water Quality Control Plan for the San Francisco Bay Basin: Controllable water quality factors shall not cause a detrimental increase in concentrations of toxic substances found in bottom sediments or aquatic life. Effects on aquatic organisms, wildlife, and human health will be considered.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	The modified OEHHA Fish Contaminant Goal for lindane in fish tissue is 4.6 ppb. This screening level assumes an average body weight of 70 kg and a consumption rate of 32 g/day for a 30 year exposure over a 70-year lifetime. This constituent is a carcinogen therefore the risk level is set to one in a million. A cooking reduction factor of 1 is applied for skin-off fillets.
Guideline Reference:	Development of Fish Contaminant Goals and Advisory Tissue Levels for Common Contaminants in California Sport Fish: Chlordane, DDTs, Dieldrin, Methylmercury, PCBs, Selenium, and Toxaphene Air Toxics Hotspots Program Risk Assessment Guidelines. Part II Technical Support Document for Describing Available Cancer Potency Values.
Spatial Representation:	Data for this assessment unit was collected by one monitoring project: (SWB_FishLk)
Temporal Representation:	Data was collected on a single day 6/19/2008.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	Samples were collected, processed, and analyzed in accordance with the methods described in Quality Assurance Project Plan "Screening Study of Bioaccumulation in California Lakes and Reservoirs." (SWAMP, 2008).
QAPP Information Reference(s):	Quality Assurance Project Plan Screening Study of Bioaccumulation in California Lakes and Reservoirs. Moss Landing Marine Labs. Prepared for SWAMP BOG. 49 pages plus appendices and attachments

Line of Evidence (LOE) for Decision ID 64406, Lindane/gamma Hexachlorocyclohexane (gamma-HCH)

Region 2

Del Valle Reservoir

LOE ID:	91708
Pollutant:	Lindane/gamma Hexachlorocyclohexane (gamma-HCH)
LOE Subgroup:	Pollutant-Tissue
Matrix:	Tissue
Fraction:	Fish fillet

Beneficial Use:	Cold Freshwater Habitat
Number of Samples:	1
Number of Exceedances:	0
Data and Information Type:	Fish tissue analysis
Data Used to Assess Water Quality:	State Water Board staff assessed SWAMP data for Del Valle Reservoir to determine beneficial use support and results are as follows: 0 of 1 samples exceed the criterion for HCH, gamma. One composite (5 fish per composite) was generated from one species: Channel Catfish. Details of the compositing protocol can be found in the March 2009 report entitled: "Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Study" (SWAMP, 2009).
Data Reference:	Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Survey. A Report of the Surface Water Ambient Monitoring Program (SWAMP). California State Water Resources Control Board, Sacramento, CA Statewide Lakes Sportfish Contamination Study 2007 2008 Contaminants in Fish from California Lakes and Reservoirs, 2007-2008: Summary Report on a Two-Year Screening Survey Cruise report for the Surface Water Ambient Monitoring Program (SWAMP) bioaccumulation screening study in California lakes and reservoirs year two (FY 07-08). Sampling dates: April 2008 - November 2008.
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	Water Quality Control Plan for the San Francisco Bay Basin: Controllable water quality factors shall not cause a detrimental increase in concentrations of toxic substances found in bottom sediments or aquatic life. Effects on aquatic organisms, wildlife, and human health will be considered.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	The modified OEHHA Fish Contaminant Goal for lindane in fish tissue is 4.6 ppb. This screening level assumes an average body weight of 70 kg and a consumption rate of 32 g/day for a 30 year exposure over a 70-year lifetime. This constituent is a carcinogen therefore the risk level is set to one in a million. A cooking reduction factor of 1 is applied for skin-off fillets. (Klasing, S., and R. Brodberg, 2008; OEHHA, 2005)
Guideline Reference:	National Academy of Sciences. Water Quality Criteria 1972. EPA-R3-73-033. Washington, D.C.: U.S. Environmental Protection Agency
Spatial Representation:	Data for this assessment unit was collected by one monitoring project: (SWB_FishLk)
Temporal Representation:	Data was collected on a single day 6/19/2008.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	Samples were collected, processed, and analyzed in accordance with the methods described in Quality Assurance Project Plan "Screening Study of Bioaccumulation in California Lakes and Reservoirs." (SWAMP, 2008).
QAPP Information Reference(s):	Quality Assurance Project Plan Screening Study of Bioaccumulation in California Lakes and Reservoirs. Moss Landing Marine Labs. Prepared for SWAMP BOG. 49 pages plus appendices and attachments

Line of Evidence (LOE) for Decision ID 64406, Lindane/gamma Hexachlorocyclohexane (gamma-HCH)

Region 2

Del Valle Reservoir

LOE ID:	91706
Pollutant:	Lindane/gamma Hexachlorocyclohexane (gamma-HCH)
LOE Subgroup:	Pollutant-Tissue
Matrix:	Tissue
Fraction:	Fish fillet
Beneficial Use:	Warm Freshwater Habitat

Number of Samples:	1
Number of Exceedances:	0
Data and Information Type:	Fish tissue analysis
Data Used to Assess Water Quality:	State Water Board staff assessed SWAMP data for Del Valle Reservoir to determine beneficial use support and results are as follows: 0 of 1 samples exceed the criterion for HCH, gamma. One composite (5 fish per composite) was generated from one species: Channel Catfish. Details of the compositing protocol can be found in the March 2009 report entitled: "Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Study" (SWAMP, 2009).
Data Reference:	Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Survey. A Report of the Surface Water Ambient Monitoring Program (SWAMP). California State Water Resources Control Board, Sacramento, CA Statewide Lakes Sportfish Contamination Study 2007 2008 Contaminants in Fish from California Lakes and Reservoirs, 2007-2008: Summary Report on a Two-Year Screening Survey Cruise report for the Surface Water Ambient Monitoring Program (SWAMP) bioaccumulation screening study in California lakes and reservoirs year two (FY 07-08). Sampling dates: April 2008 - November 2008.
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	Water Quality Control Plan for the San Francisco Bay Basin: Controllable water quality factors shall not cause a detrimental increase in concentrations of toxic substances found in bottom sediments or aquatic life. Effects on aquatic organisms, wildlife, and human health will be considered.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	The modified OEHHA Fish Contaminant Goal for lindane in fish tissue is 4.6 ppb. This screening level assumes an average body weight of 70 kg and a consumption rate of 32 g/day for a 30 year exposure over a 70-year lifetime. This constituent is a carcinogen therefore the risk level is set to one in a million. A cooking reduction factor of 1 is applied for skin-off fillets. (Klasing, S., and R. Brodberg, 2008; OEHHA, 2005)
Guideline Reference:	National Academy of Sciences. Water Quality Criteria 1972. EPA-R3-73-033. Washington, D.C.: U.S. Environmental Protection Agency
Spatial Representation:	Data for this assessment unit was collected by one monitoring project: (SWB_FishLk)
Temporal Representation:	Data was collected on a single day 6/19/2008.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	Samples were collected, processed, and analyzed in accordance with the methods described in Quality Assurance Project Plan "Screening Study of Bioaccumulation in California Lakes and Reservoirs." (SWAMP, 2008).
QAPP Information Reference(s):	Quality Assurance Project Plan Screening Study of Bioaccumulation in California Lakes and Reservoirs. Moss Landing Marine Labs. Prepared for SWAMP BOG. 49 pages plus appendices and attachments

DECISION ID	64408	Region 2
Del Valle Reservoir		
Pollutant:	Mirex	
Final Listing Decision:	Do Not List on 303(d) list (TMDL required list)	
Last Listing Cycle's Final Listing Decision:	New Decision	
Revision Status	Revised	
Impairment from Pollutant or Pollution:	Pollutant	
Regional Board Staff Conclusion:	This pollutant is being considered for placement on the CWA section 303(d) List under section 3.5 of the Listing Policy. Under section 3.5 a single line of evidence is necessary to assess listing status. One line of evidence is available in the administrative record to assess this pollutant. Zero of zero samples exceed the OEHHA guideline.	

Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against placing this water segment-pollutant combination on the CWA section 303(d) List.

This conclusion is based on the staff findings that:

1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy.
2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy.
3. Zero of zero samples exceed the OEHHHA guideline and this sample size is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating. A minimum of 16 samples is needed to determine if a beneficial use is fully supported using table 3.1.
4. Pursuant to SECTION 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.

Regional Board Staff Decision Recommendation: After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be placed on the section 303(d) list. The readily available data and information is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating.

Line of Evidence (LOE) for Decision ID 64408, Mirex

Region 2

Del Valle Reservoir

LOE ID:	91712
Pollutant:	Mirex
LOE Subgroup:	Pollutant-Tissue
Matrix:	Tissue
Fraction:	Fish fillet
Beneficial Use:	Commercial or recreational collection of fish, shellfish, or organisms
Number of Samples:	0
Number of Exceedances:	0
Data and Information Type:	Fish tissue analysis
Data Used to Assess Water Quality:	State Water Board staff assessed SWAMP data for Del Valle Reservoir to determine beneficial use support and results are as follows: 0 of 0 samples exceed the criterion for Mirex. One composite (5 fish per composite) was generated from one species: Channel Catfish. Details of the compositing protocol can be found in the March 2009 report entitled: "Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Study" (SWAMP, 2009). One composite was not used in the assessment because the laboratory data reporting limit(s) was above the objective and therefore the results could not be quantified with the level of certainty required by the Listing Policy.
Data Reference:	Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Survey. A Report of the Surface Water Ambient Monitoring Program (SWAMP). California State Water Resources Control Board, Sacramento, CA Statewide Lakes Sportfish Contamination Study 2007 2008 Contaminants in Fish from California Lakes and Reservoirs, 2007-2008: Summary Report on a Two-Year Screening Survey Cruise report for the Surface Water Ambient Monitoring Program (SWAMP) bioaccumulation screening study in California lakes and reservoirs year two (FY 07-08). Sampling dates: April 2008 - November 2008.
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	Water Quality Control Plan for the San Francisco Bay Basin: Controllable water quality factors shall not cause a detrimental increase in concentrations of toxic substances found in bottom sediments or aquatic life. Effects on aquatic organisms, wildlife, and human health will be considered.

Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	The modified OEHHA Fish Contaminant Goal for mirex in fish tissue is 0.28 ppb. This screening level assumes an average body weight of 70 kg and a consumption rate of 32 g/day. A cooking reduction factor of 1 is applied for skin-off fillets. (Klasing, S., and R. Brodberg, 2008; OEHHA, 1992)
Guideline Reference:	Development of Fish Contaminant Goals and Advisory Tissue Levels for Common Contaminants in California Sport Fish: Chlordane, DDTs, Dieldrin, Methylmercury, PCBs, Selenium, and Toxaphene Expedited Cancer Potency Values and Proposed Regulatory Levels for Certain Proposition 65 Carcinogens.
Spatial Representation:	Data for this assessment unit was collected by one monitoring project: (SWB_FishLk)
Temporal Representation:	Data was collected on a single day 6/19/2008.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	Samples were collected, processed, and analyzed in accordance with the methods described in Quality Assurance Project Plan "Screening Study of Bioaccumulation in California Lakes and Reservoirs." (SWAMP, 2008).
QAPP Information Reference(s):	Quality Assurance Project Plan Screening Study of Bioaccumulation in California Lakes and Reservoirs. Moss Landing Marine Labs. Prepared for SWAMP BOG. 49 pages plus appendices and attachments

DECISION ID	64407	Region 2
Del Valle Reservoir		

Pollutant:	Selenium
Final Listing Decision:	Do Not List on 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision:	New Decision
Revision Status	Revised
Impairment from Pollutant or Pollution:	Pollutant
Regional Board Staff Conclusion:	<p>This pollutant is being considered for placement on the CWA section 303(d) List under section 3.5 of the Listing Policy. Under section 3.5 a single line of evidence is necessary to assess listing status. One line of evidence is available in the administrative record to assess this pollutant. Zero of one samples exceed the OEHHA guideline.</p> <p>Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against placing this water segment-pollutant combination on the CWA section 303(d) List.</p> <p>This conclusion is based on the staff findings that:</p> <ol style="list-style-type: none"> 1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy. 2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy. 3. Zero of one samples exceed the OEHHA guideline and this sample size is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating. A minimum of 16 samples is needed to determine if a beneficial use is fully supported using table 3.1. 4. Pursuant to SECTION 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.
Regional Board Staff Decision Recommendation:	After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be placed on the section 303(d) list. The readily available data and information is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating.

Line of Evidence (LOE) for Decision ID 64407, Selenium	Region 2
Del Valle Reservoir	

LOE ID: 91649

Pollutant: Selenium
 LOE Subgroup: Pollutant-Tissue
 Matrix: Tissue
 Fraction: Fish fillet

Beneficial Use: Commercial or recreational collection of fish, shellfish, or organisms

Number of Samples: 1
 Number of Exceedances: 0

Data and Information Type: Fish tissue analysis
 Data Used to Assess Water Quality: State Water Board staff assessed SWAMP data for Del Valle Reservoir to determine beneficial use support and results are as follows: 0 of 1 samples exceed the criterion for Selenium. One composite (5 fish per composite) was generated from one species: Channel Catfish. Details of the compositing protocol can be found in the March 2009 report entitled: "Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Study" (SWAMP, 2009).

Data Reference: [Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Survey. A Report of the Surface Water Ambient Monitoring Program \(SWAMP\). California State Water Resources Control Board, Sacramento, CA Statewide Lakes Sportfish Contamination Study 2007 2008](#)
[Contaminants in Fish from California Lakes and Reservoirs, 2007-2008: Summary Report on a Two-Year Screening Survey](#)
[Cruise report for the Surface Water Ambient Monitoring Program \(SWAMP\) bioaccumulation screening study in California lakes and reservoirs year two \(FY 07-08\). Sampling dates: April 2008 - November 2008.](#)

SWAMP Data: SWAMP

Water Quality Objective/Criterion: Water Quality Control Plan for the San Francisco Bay Basin (2013): Controllable water quality factors shall not cause a detrimental increase in concentrations of toxic substances found in bottom sediments or aquatic life. Effects on aquatic organisms, wildlife, and human health will be considered.

Objective/Criterion Reference: [Water Quality Control Plan \(Basin Plan\) San Francisco Bay Basin \(Region 2\)](#)

Evaluation Guideline: The OEHHA Fish Contaminant Goal for selenium in fish tissue is 7.4 ppm. This screening level assumes an average body weight of 70 kg and a consumption rate of 32 g/day. A background dietary consumption rate of 0.114 mg/day is applied for this micronutrient. (Klasing, S., and R. Brodberg, 2008)

Guideline Reference: [Development of Fish Contaminant Goals and Advisory Tissue Levels for Common Contaminants in California Sport Fish: Chlordane, DDTs, Dieldrin, Methylmercury, PCBs, Selenium, and Toxaphene](#)

Spatial Representation: Data for this assessment unit was collected by one monitoring project: (SWB_FishLk)
 Temporal Representation: Data was collected on a single day 6/19/2008.
 Environmental Conditions: Staff is not aware of any special conditions that might affect interpretation of the data.
 QAPP Information: Samples were collected, processed, and analyzed in accordance with the methods described in Quality Assurance Project Plan "Screening Study of Bioaccumulation in California Lakes and Reservoirs." (SWAMP, 2008).

QAPP Information Reference(s): [Quality Assurance Project Plan Screening Study of Bioaccumulation in California Lakes and Reservoirs. Moss Landing Marine Labs. Prepared for SWAMP BOG, 49 pages plus appendices and attachments](#)

DECISION ID	64413	Region 2
Del Valle Reservoir		

Pollutant: Specific Conductivity
Final Listing Decision: Do Not List on 303(d) list (TMDL required list)

Last Listing Cycle's Final Listing Decision:
Revision Status
Impairment from Pollutant or Pollution:

New Decision

Revised
Pollutant

Regional Board Staff Conclusion:

This pollutant is being considered for placement on the CWA section 303(d) List under section 3.2 of the Listing Policy. Under section 3.2 a single line of evidence is necessary to assess listing status. One line of evidence is available in the administrative record to assess this pollutant. Zero of three samples exceed the objective.

Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against placing this water segment-pollutant combination on the CWA section 303(d) List.

This conclusion is based on the staff findings that:

1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy.
2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy.
3. Zero of three samples exceed the objective and this sample size is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating. A minimum of 26 samples is needed to determine if a beneficial use is fully supported using table 3.2.
4. Pursuant to SECTION 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.

Regional Board Staff Decision Recommendation:

After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be placed on the section 303(d) list. The readily available data and information is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating.

Line of Evidence (LOE) for Decision ID 64413, Specific Conductivity

Region 2

Del Valle Reservoir

LOE ID: 91650

Pollutant: Specific Conductivity
LOE Subgroup: Pollutant-Water
Matrix: Water
Fraction: None

Beneficial Use: Municipal & Domestic Supply

Number of Samples: 3
Number of Exceedances: 0

Data and Information Type: PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality: State Water Board staff assessed DWR data for Del Valle Reservoir to determine beneficial use support and results are as follows: 0 of 3 samples exceed the criterion for Conductivity(Us).

Data Reference: [Data for Metals, Nutrients, Inorganics, Organics, and Pesticides in Regions 2,5 and 6, 2004-2010.](#)

SWAMP Data: Non-SWAMP

Water Quality Objective/Criterion: The California Secondary MCL for Specific Conductance is 900 us/cm (Water Quality Control Plan, San Francisco Bay Region).

Objective/Criterion Reference: [Water Quality Control Plan \(Basin Plan\) San Francisco Bay Basin \(Region 2\)](#)

Evaluation Guideline:
Guideline Reference:

Spatial Representation: Data for this line of evidence for Del Valle Reservoir was collected at 1 monitoring site [

Temporal Representation:	Lake Del Valle at Glory Hole]
Environmental Conditions:	Data was collected over the time period 5/19/2009 10:55:00 AM-11/17/2009 11:40:00 AM.
QAPP Information:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information Reference(s):	The Quality Assurance Project Plan for Bryte Chemical Laboratory was used. Quality Assurance Project Plan from Bryte Chemical Laboratory.

DECISION ID	64414	Region 2
Del Valle Reservoir		

Pollutant:	Toluene
Final Listing Decision:	Do Not List on 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision:	New Decision
Revision Status	Revised
Impairment from Pollutant or Pollution:	Pollutant

Regional Board Staff Conclusion: This pollutant is being considered for placement on the CWA section 303(d) List under section 3.1 of the Listing Policy. Under section 3.1 a single line of evidence is necessary to assess listing status.

Two lines of evidence are available in the administrative record to assess this pollutant. Zero of one hundred fourteen samples exceed the guideline.

Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against placing this water segment-pollutant combination on the CWA section 303(d) List in the Water Quality Limited Segments category.

This conclusion is based on the staff findings that:

1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy.
2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy.
3. Zero of one hundred fourteen samples exceed the guideline and this does not exceed the allowable frequency listed in Table 3.1 of the Listing Policy.
4. Pursuant to section 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.

Regional Board Staff Decision Recommendation: After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be placed on the section 303(d) list because applicable water quality standards are not being exceeded.

Line of Evidence (LOE) for Decision ID 64414, Toluene	Region 2
Del Valle Reservoir	

LOE ID:	91651
Pollutant:	Toluene
LOE Subgroup:	Pollutant-Water
Matrix:	Water
Fraction:	None
Beneficial Use:	Municipal & Domestic Supply
Number of Samples:	114
Number of Exceedances:	0
Data and Information Type:	PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality:	State Water Board staff assessed DWR data for Del Valle Reservoir to determine beneficial use support and results are as follows: 0 of 114 samples exceed the criterion for Toluene.
Data Reference:	Data for Metals, Nutrients, Inorganics, Organics, and Pesticides in Regions 2,5 and 6.

[2004-2010.](#)

SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	The California Maximum Contaminant Level for Toluene incorporated by reference in the Water Quality Control Plan, San Francisco Bay Region is 150 ug/L (Water Quality Control Plan, San Francisco Bay Region).
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	
Guideline Reference:	
Spatial Representation:	Data for this line of evidence for Del Valle Reservoir was collected at 1 monitoring site [Lake Del Valle at Glory Hole]
Temporal Representation:	Data was collected over the time period 1/20/2004 10:50:00 AM-12/15/2009 12:00:00 PM.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	The Quality Assurance Project Plan for Bryte Chemical Laboratory was used.
QAPP Information Reference(s):	Quality Assurance Project Plan from Bryte Chemical Laboratory.

Line of Evidence (LOE) for Decision ID 64414, Toluene

Region 2

Del Valle Reservoir

LOE ID:	91652
Pollutant:	Toluene
LOE Subgroup:	Pollutant-Water
Matrix:	Water
Fraction:	None
Beneficial Use:	Commercial or recreational collection of fish, shellfish, or organisms
Number of Samples:	114
Number of Exceedances:	0
Data and Information Type:	PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality:	State Water Board staff assessed DWR data for Del Valle Reservoir to determine beneficial use support and results are as follows: 0 of 114 samples exceed the criterion for Toluene.
Data Reference:	Data for Metals, Nutrients, Inorganics, Organics, and Pesticides in Regions 2,5 and 6, 2004-2010.
SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	The Toluene criteria for the protection of human health from consumption of organisms only is 200,000 ug/L (California Toxics Rule, 2000).
Objective/Criterion Reference:	Code of Federal Regulations 40 part 131.38 Establishment of numeric criteria for priority toxic pollutants for the State of California. 7/1/2011 Edition
Evaluation Guideline:	
Guideline Reference:	
Spatial Representation:	Data for this line of evidence for Del Valle Reservoir was collected at 1 monitoring site [Lake Del Valle at Glory Hole]
Temporal Representation:	Data was collected over the time period 1/20/2004 10:50:00 AM-12/15/2009 12:00:00 PM.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	The Quality Assurance Project Plan for Bryte Chemical Laboratory was used.
QAPP Information Reference(s):	Quality Assurance Project Plan from Bryte Chemical Laboratory.

DECISION ID

64416

Region 2

Del Valle Reservoir

Pollutant:	Total Dissolved Solids
Final Listing Decision:	Do Not List on 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision:	New Decision
Revision Status	Revised
Impairment from Pollutant or Pollution:	Pollutant

Regional Board Staff Conclusion: This pollutant is being considered for placement on the CWA section 303(d) List under section 3.1 of the Listing Policy. Under section 3.1 a single line of evidence is necessary to assess listing status. One line of evidence is available in the administrative record to assess this pollutant. Zero of five samples exceed the guideline.

Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against placing this water segment-pollutant combination on the CWA section 303(d) List.

This conclusion is based on the staff findings that:

1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy.
2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy.
3. Zero of five samples exceed the guideline and this sample size is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating. A minimum of 16 samples is needed to determine if a beneficial use is fully supported using table 3.1.
4. Pursuant to SECTION 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.

Regional Board Staff Decision Recommendation: After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be placed on the section 303(d) list. The readily available data and information is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating.

Line of Evidence (LOE) for Decision ID 64416, Total Dissolved Solids Del Valle Reservoir

Region 2

LOE ID:	91661
Pollutant:	Total Dissolved Solids
LOE Subgroup:	Pollutant-Water
Matrix:	Water
Fraction:	None
Beneficial Use:	Municipal & Domestic Supply
Number of Samples:	5
Number of Exceedances:	0
Data and Information Type:	PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality:	None of the 5 samples were over 500 mg/L.
Data Reference:	Data for Metals, Nutrients, Inorganics, Organics, and Pesticides in Regions 2,5 and 6, 2004-2010.
SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	The secondary MCLs for Total Dissolved Solids provide a range of values including a recommended level (500 mg/L), upper level (1000 mg/L) and a short-term level (1500 mg/L). The 'recommended' concentration of 500 mg/L was used as it is intended to be protective of all drinking water uses.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	

Guideline Reference:

Spatial Representation:

Samples collected from the DV001000 station.

Temporal Representation:

Samples were collected on the following dates: 5/19/2009 10:55, 5/19/2009 10:55, 8/18/2009 11:15, 11/17/2009 11:40, and 5/25/2010 12:50.

Environmental Conditions:

QAPP Information:

N/A

QAPP Information Reference(s):

DECISION ID

64397

Region 2

Del Valle Reservoir

Pollutant:

cis-1,2-Dichloroethylene

Final Listing Decision:

Do Not List on 303(d) list (TMDL required list)

Last Listing Cycle's Final

New Decision

Listing Decision:

Revision Status

Revised

**Impairment from Pollutant or
Pollution:**

Pollutant

Regional Board Staff

Conclusion:

This pollutant is being considered for placement on the CWA section 303(d) List under section 3.1 of the Listing Policy. Under section 3.1 a single line of evidence is necessary to assess listing status.

One line of evidence is available in the administrative record to assess this pollutant. Zero of one hundred fourteen samples exceed the guideline.

Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against placing this water segment-pollutant combination on the CWA section 303(d) List in the Water Quality Limited Segments category.

This conclusion is based on the staff findings that:

1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy.
2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy.
3. Zero of one hundred fourteen samples exceed the guideline and this does not exceed the allowable frequency listed in Table 3.1 of the Listing Policy.
4. Pursuant to section 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.

Regional Board Staff Decision

Recommendation:

After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be placed on the section 303(d) list because applicable water quality standards are not being exceeded.

Line of Evidence (LOE) for Decision ID 64397, cis-1,2-Dichloroethylene

Region 2

Del Valle Reservoir

LOE ID:

91685

Pollutant:

cis-1,2-Dichloroethylene

LOE Subgroup:

Pollutant-Water

Matrix:

Water

Fraction:

None

Beneficial Use:

Municipal & Domestic Supply

Number of Samples:

114

Number of Exceedances:

0

Data and Information Type:

PHYSICAL/CHEMICAL MONITORING

Data Used to Assess Water Quality:

State Water Board staff assessed DWR data for Del Valle Reservoir to determine

beneficial use support and results are as follows: 0 of 114 samples exceed the criterion for cis-1, 2-Dichloroethene.

Data Reference: [Data for Metals, Nutrients, Inorganics, Organics, and Pesticides in Regions 2,5 and 6, 2004-2010.](#)

SWAMP Data: Non-SWAMP

Water Quality Objective/Criterion: The California Maximum Contaminant Level for cis-1,2-Dichloroethylene incorporated by reference in the Water Quality Control Plan, San Francisco Bay Region is 6 ug/L (Water Quality Control Plan, San Francisco Bay Region).

Objective/Criterion Reference: [Water Quality Control Plan \(Basin Plan\) San Francisco Bay Basin \(Region 2\)](#)

Evaluation Guideline:
Guideline Reference:

Spatial Representation: Data for this line of evidence for Del Valle Reservoir was collected at 1 monitoring site [Lake Del Valle at Glory Hole]

Temporal Representation: Data was collected over the time period 1/20/2004 10:50:00 AM-12/15/2009 12:00:00 PM.

Environmental Conditions: Staff is not aware of any special conditions that might affect interpretation of the data.

QAPP Information: The Quality Assurance Project Plan for Bryte Chemical Laboratory was used.

QAPP Information Reference(s): [Quality Assurance Project Plan from Bryte Chemical Laboratory.](#)

DECISION ID	64409	Region 2
Del Valle Reservoir		

Pollutant: m-Dichlorobenzene

Final Listing Decision: Do Not List on 303(d) list (TMDL required list)

Last Listing Cycle's Final Listing Decision: New Decision

Revision Status: Revised

Impairment from Pollutant or Pollution: Pollutant

Regional Board Staff Conclusion:

This pollutant is being considered for placement on the CWA section 303(d) List under section 3.1 of the Listing Policy. Under section 3.1 a single line of evidence is necessary to assess listing status.

Two lines of evidence are available in the administrative record to assess this pollutant. Zero of one hundred fourteen samples exceed the guideline.

Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against placing this water segment-pollutant combination on the CWA section 303(d) List in the Water Quality Limited Segments category.

This conclusion is based on the staff findings that:

1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy.
2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy.
3. Zero of one hundred fourteen samples exceed the guideline and this does not exceed the allowable frequency listed in Table 3.1 of the Listing Policy.
4. Pursuant to section 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.

Regional Board Staff Decision Recommendation: After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be placed on the section 303(d) list because applicable water quality standards are not being exceeded.

Line of Evidence (LOE) for Decision ID 64409, m-Dichlorobenzene	Region 2
Del Valle Reservoir	

LOE ID: 91710

Pollutant:	m-Dichlorobenzene
LOE Subgroup:	Pollutant-Water
Matrix:	Water
Fraction:	None
Beneficial Use:	Commercial or recreational collection of fish, shellfish, or organisms
Number of Samples:	114
Number of Exceedances:	0
Data and Information Type:	PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality:	State Water Board staff assessed DWR data for Del Valle Reservoir to determine beneficial use support and results are as follows: 0 of 114 samples exceed the criterion for 1, 3-Dichlorobenzene.
Data Reference:	Data for Metals, Nutrients, Inorganics, Organics, and Pesticides in Regions 2.5 and 6, 2004-2010.
SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	The 1, 3-Dichlorobenzene criteria for the protection of human health from consumption of organisms only is 2,600 ug/L (California Toxics Rule, 2000).
Objective/Criterion Reference:	Code of Federal Regulations 40 part 131.38 Establishment of numeric criteria for priority toxic pollutants for the State of California. 7/1/2011 Edition
Evaluation Guideline:	
Guideline Reference:	
Spatial Representation:	Data for this line of evidence for Del Valle Reservoir was collected at 1 monitoring site [Lake Del Valle at Glory Hole]
Temporal Representation:	Data was collected over the time period 1/20/2004 10:50:00 AM-12/15/2009 12:00:00 PM.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	The Quality Assurance Project Plan for Bryte Chemical Laboratory was used.
QAPP Information Reference(s):	Quality Assurance Project Plan from Bryte Chemical Laboratory.

Line of Evidence (LOE) for Decision ID 64409, m-Dichlorobenzene
Del Valle Reservoir

Region 2

LOE ID:	91709
Pollutant:	m-Dichlorobenzene
LOE Subgroup:	Pollutant-Water
Matrix:	Water
Fraction:	None
Beneficial Use:	Municipal & Domestic Supply
Number of Samples:	114
Number of Exceedances:	0
Data and Information Type:	PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality:	State Water Board staff assessed DWR data for Del Valle Reservoir to determine beneficial use support and results are as follows: 0 of 114 samples exceed the criterion for 1, 3-Dichlorobenzene.
Data Reference:	Data for Metals, Nutrients, Inorganics, Organics, and Pesticides in Regions 2.5 and 6, 2004-2010.
SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	The 1, 3-Dichlorobenzene criterion for the protection of human health from the consumption of water and organisms is 400 ug/L (California Toxics Rule, 2000).
Objective/Criterion Reference:	Code of Federal Regulations 40 part 131.38 Establishment of numeric criteria for priority

Evaluation Guideline:

Guideline Reference:

Spatial Representation:

Data for this line of evidence for Del Valle Reservoir was collected at 1 monitoring site [Lake Del Valle at Glory Hole]

Temporal Representation:

Data was collected over the time period 1/20/2004 10:50:00 AM-12/15/2009 12:00:00 PM.

Environmental Conditions:

Staff is not aware of any special conditions that might affect interpretation of the data.

QAPP Information:

The Quality Assurance Project Plan for Bryte Chemical Laboratory was used.

QAPP Information Reference(s):

[Quality Assurance Project Plan from Bryte Chemical Laboratory.](#)

DECISION ID	64410	Region 2
Del Valle Reservoir		

Pollutant: o-Dichlorobenzene
Final Listing Decision: Do Not List on 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision: New Decision
Revision Status Revised
Impairment from Pollutant or Pollution: Pollutant

Regional Board Staff Conclusion: This pollutant is being considered for placement on the CWA section 303(d) List under section 3.1 of the Listing Policy. Under section 3.1 a single line of evidence is necessary to assess listing status.

Two lines of evidence are available in the administrative record to assess this pollutant. Zero of one hundred fourteen samples exceed the guideline.

Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against placing this water segment-pollutant combination on the CWA section 303(d) List in the Water Quality Limited Segments category.

This conclusion is based on the staff findings that:

1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy.
2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy.
3. Zero of one hundred fourteen samples exceed the guideline and this does not exceed the allowable frequency listed in Table 3.1 of the Listing Policy.
4. Pursuant to section 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.

Regional Board Staff Decision Recommendation: After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be placed on the section 303(d) list because applicable water quality standards are not being exceeded.

Line of Evidence (LOE) for Decision ID 64410, o-Dichlorobenzene	Region 2
Del Valle Reservoir	

LOE ID: 91713

Pollutant: o-Dichlorobenzene
LOE Subgroup: Pollutant-Water
Matrix: Water
Fraction: None

Beneficial Use: Municipal & Domestic Supply

Number of Samples: 114
Number of Exceedances: 0

Data and Information Type:	PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality:	State Water Board staff assessed DWR data for Del Valle Reservoir to determine beneficial use support and results are as follows: 0 of 114 samples exceed the criterion for 1, 2-Dichlorobenzene.
Data Reference:	Data for Metals, Nutrients, Inorganics, Organics, and Pesticides in Regions 2.5 and 6, 2004-2010.
SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	The California Maximum Contaminant Level for 1, 2-Dichlorobenzene incorporated by reference in the Water Quality Control Plan, San Francisco Bay Region is 600 ug/L (Water Quality Control Plan, San Francisco Bay Region).
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	
Guideline Reference:	
Spatial Representation:	Data for this line of evidence for Del Valle Reservoir was collected at 1 monitoring site [Lake Del Valle at Glory Hole]
Temporal Representation:	Data was collected over the time period 1/20/2004 10:50:00 AM-12/15/2009 12:00:00 PM.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	The Quality Assurance Project Plan for Bryte Chemical Laboratory was used.
QAPP Information Reference(s):	Quality Assurance Project Plan from Bryte Chemical Laboratory.

Line of Evidence (LOE) for Decision ID 64410, o-Dichlorobenzene

Region 2

Del Valle Reservoir

LOE ID:	91714
Pollutant:	o-Dichlorobenzene
LOE Subgroup:	Pollutant-Water
Matrix:	Water
Fraction:	None
Beneficial Use:	Commercial or recreational collection of fish, shellfish, or organisms
Number of Samples:	114
Number of Exceedances:	0
Data and Information Type:	PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality:	State Water Board staff assessed DWR data for Del Valle Reservoir to determine beneficial use support and results are as follows: 0 of 114 samples exceed the criterion for 1, 2-Dichlorobenzene.
Data Reference:	Data for Metals, Nutrients, Inorganics, Organics, and Pesticides in Regions 2.5 and 6, 2004-2010.
SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	The 1, 2-Dichlorobenzene criteria for the protection of human health from consumption of organisms only is 17,000 ug/L (California Toxics Rule, 2000).
Objective/Criterion Reference:	Code of Federal Regulations 40 part 131.38 Establishment of numeric criteria for priority toxic pollutants for the State of California. 7/1/2011 Edition
Evaluation Guideline:	
Guideline Reference:	
Spatial Representation:	Data for this line of evidence for Del Valle Reservoir was collected at 1 monitoring site [Lake Del Valle at Glory Hole]
Temporal Representation:	Data was collected over the time period 1/20/2004 10:50:00 AM-12/15/2009 12:00:00 PM.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	The Quality Assurance Project Plan for Bryte Chemical Laboratory was used.

DECISION ID	64411	Region 2
Del Valle Reservoir		

Pollutant: p-Dichlorobenzene (DCB)
Final Listing Decision: Do Not List on 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision: New Decision
Revision Status: Revised
Impairment from Pollutant or Pollution: Pollutant

Regional Board Staff Conclusion: This pollutant is being considered for placement on the CWA section 303(d) List under section 3.1 of the Listing Policy. Under section 3.1 a single line of evidence is necessary to assess listing status.

Two lines of evidence are available in the administrative record to assess this pollutant. Zero of one hundred fourteen samples exceed the guideline.

Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against placing this water segment-pollutant combination on the CWA section 303(d) List in the Water Quality Limited Segments category.

This conclusion is based on the staff findings that:

1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy.
2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy.
3. Zero of one hundred fourteen samples exceed the guideline and this does not exceed the allowable frequency listed in Table 3.1 of the Listing Policy.
4. Pursuant to section 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.

Regional Board Staff Decision Recommendation: After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be placed on the section 303(d) list because applicable water quality standards are not being exceeded.

Line of Evidence (LOE) for Decision ID 64411, p-Dichlorobenzene (DCB)	Region 2
Del Valle Reservoir	

LOE ID: 91646

Pollutant: p-Dichlorobenzene (DCB)
LOE Subgroup: Pollutant-Water
Matrix: Water
Fraction: None

Beneficial Use: Municipal & Domestic Supply

Number of Samples: 114
Number of Exceedances: 0

Data and Information Type: PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality: State Water Board staff assessed DWR data for Del Valle Reservoir to determine beneficial use support and results are as follows: 0 of 114 samples exceed the criterion for 1, 4-Dichlorobenzene.

Data Reference: [Data for Metals, Nutrients, Inorganics, Organics, and Pesticides in Regions 2,5 and 6, 2004-2010.](#)

SWAMP Data: Non-SWAMP

Water Quality Objective/Criterion: The California Maximum Contaminant Level for 1, 4-Dichlorobenzene incorporated by reference in the Water Quality Control Plan, San Francisco Bay Region is 5 ug/L (Water Quality Control Plan, San Francisco Bay Region).

Objective/Criterion Reference: [Water Quality Control Plan \(Basin Plan\) San Francisco Bay Basin \(Region 2\)](#)

Evaluation Guideline:

Guideline Reference:

Spatial Representation: Data for this line of evidence for Del Valle Reservoir was collected at 1 monitoring site [Lake Del Valle at Glory Hole]

Temporal Representation: Data was collected over the time period 1/20/2004 10:50:00 AM-12/15/2009 12:00:00 PM.

Environmental Conditions: Staff is not aware of any special conditions that might affect interpretation of the data.

QAPP Information: The Quality Assurance Project Plan for Bryte Chemical Laboratory was used.

QAPP Information Reference(s): [Quality Assurance Project Plan from Bryte Chemical Laboratory.](#)

Line of Evidence (LOE) for Decision ID 64411, p-Dichlorobenzene (DCB)

Region 2

Del Valle Reservoir

LOE ID: 91647

Pollutant: p-Dichlorobenzene (DCB)

LOE Subgroup: Pollutant-Water

Matrix: Water

Fraction: None

Beneficial Use: Commercial or recreational collection of fish, shellfish, or organisms

Number of Samples: 114

Number of Exceedances: 0

Data and Information Type: PHYSICAL/CHEMICAL MONITORING

Data Used to Assess Water Quality: State Water Board staff assessed DWR data for Del Valle Reservoir to determine beneficial use support and results are as follows: 0 of 114 samples exceed the criterion for 1, 4-Dichlorobenzene.

Data Reference: [Data for Metals, Nutrients, Inorganics, Organics, and Pesticides in Regions 2,5 and 6, 2004-2010.](#)

SWAMP Data: Non-SWAMP

Water Quality Objective/Criterion: The 1, 4-Dichlorobenzene criteria for the protection of human health from consumption of organisms only is 2,600 ug/L (California Toxics Rule, 2000).

Objective/Criterion Reference: [Code of Federal Regulations 40 part 131.38 Establishment of numeric criteria for priority toxic pollutants for the State of California. 7/1/2011 Edition](#)

Evaluation Guideline:

Guideline Reference:

Spatial Representation: Data for this line of evidence for Del Valle Reservoir was collected at 1 monitoring site [Lake Del Valle at Glory Hole]

Temporal Representation: Data was collected over the time period 1/20/2004 10:50:00 AM-12/15/2009 12:00:00 PM.

Environmental Conditions: Staff is not aware of any special conditions that might affect interpretation of the data.

QAPP Information: The Quality Assurance Project Plan for Bryte Chemical Laboratory was used.

QAPP Information Reference(s): [Quality Assurance Project Plan from Bryte Chemical Laboratory.](#)

DECISION ID 64412

Region 2

Del Valle Reservoir

Pollutant: pH

Final Listing Decision: Do Not List on 303(d) list (TMDL required list)

Last Listing Cycle's Final: New Decision

Listing Decision:
Revision Status Revised
Impairment from Pollutant or Pollution: Pollutant

Regional Board Staff Conclusion: This pollutant is being considered for placement on the CWA section 303(d) List under section 3.2 of the Listing Policy. Under section 3.2 a single line of evidence is necessary to assess listing status. One line of evidence is available in the administrative record to assess this pollutant. One of four samples exceed the objective.

Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against placing this water segment-pollutant combination on the CWA section 303(d) List.

This conclusion is based on the staff findings that:

1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy.
2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy.
3. One of four samples exceed the objective and this sample size is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating. A minimum of 26 samples is needed to determine if a beneficial use is fully supported using table 3.2.
4. Pursuant to SECTION 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.

Regional Board Staff Decision Recommendation: After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be placed on the section 303(d) list. The readily available data and information is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating.

Line of Evidence (LOE) for Decision ID 64412, pH

Region 2

Del Valle Reservoir

LOE ID:	91648
Pollutant:	pH
LOE Subgroup:	Pollutant-Water
Matrix:	Water
Fraction:	Dissolved
Beneficial Use:	Cold Freshwater Habitat
Number of Samples:	4
Number of Exceedances:	1
Data and Information Type:	PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality:	One of the 4 samples exceeded the objective.
Data Reference:	Data for Metals, Nutrients, Inorganics, Organics, and Pesticides in Regions 2,5 and 6, 2004-2010.
SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	The pH shall not be depressed below 6.5 nor raised above 8.5.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	
Guideline Reference:	
Spatial Representation:	Samples were collected from the DV001000 station.
Temporal Representation:	Samples were collected on the following dates: 5/19/2009 10:55, 8/18/2009 11:15, 11/17/2009 11:40, and 5/25/2010 12:50.
Environmental Conditions:	
QAPP Information:	N/A

QAPP Information Reference(s):

Draft California 2016 Integrated Report (303(d) List/305(b) Report)

Supporting Information

Regional Board 2 - San Francisco Bay Region

Water Body Name: Shadow Cliffs Reservoir
Water Body ID: CAL2043008020050624182314
Water Body Type: Lake & Reservoir

DECISION ID 33759 **Region 2**
Shadow Cliffs Reservoir

Pollutant: Mercury
Final Listing Decision: Do Not Delist from 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision: List on 303(d) list (TMDL required list)(2012)
Revision Status Revised
Sources: Source Unknown
Expected TMDL Completion Date: 2013
Impairment from Pollutant or Pollution: Pollutant

Regional Board Staff Conclusion: This pollutant is being considered for removal from the CWA section 303(d) List under section 4.1 of the Listing Policy. Under this section a single line of evidence is necessary to assess listing status.

Two lines of evidence are available in the administrative record to assess pollutant. Three of five samples exceed the guideline.

Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against removing this water segment-pollutant combination from the CWA section 303(d) List.

This conclusion is based on the staff findings that:

1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy.
2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy.
3. Three of five samples exceed the guideline and this exceeds the allowable frequency listed in Table 4.1 of the Listing Policy.
4. Pursuant to section 4.11 of the Listing Policy, no additional data and information are available indicating that standards are met.

Regional Board Staff Decision Recommendation: After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be removed from the section 303(d) list because applicable water quality standards for the pollutant are being exceeded.

Line of Evidence (LOE) for Decision ID 33759, Mercury **Region 2**
Shadow Cliffs Reservoir

LOE ID: 679
Pollutant: Mercury
LOE Subgroup: Pollutant-Tissue
Matrix: Tissue
Fraction: Total
Beneficial Use: Commercial or recreational collection of fish, shellfish, or organisms

Number of Samples:	4
Number of Exceedances:	2
Data and Information Type:	Fish tissue analysis
Data Used to Assess Water Quality:	Two out of 4 samples exceeded. A total of 2 composite samples, 1 carp and 1 channel catfish, along with 2 individual samples of largemouth bass were collected and analyzed from Shadow Cliffs Reservoir. Both largemouth bass samples exceeded guideline (TSMP, 2002).
Data Reference:	Placeholder reference 2006 303(d)
SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	San Francisco Bay RWQCB Basin Plan: Many pollutants can accumulate on particles, in sediment, or bioaccumulate in fish and other aquatic organisms. Controllable water quality factors shall not cause a detrimental increase in concentrations of toxic substances found in bottom sediments or aquatic life. Effects on aquatic organisms, wildlife, and human health will be considered.
Objective/Criterion Reference:	Placeholder reference 2006 303(d)
Evaluation Guideline:	OEHHA Screening Value of 0.3 µg/g for mercury (Brodberg & Pollock, 1999).
Guideline Reference:	Placeholder reference 2006 303(d)
Spatial Representation:	One station.
Temporal Representation:	All samples were collected on 8/13/2002.
Environmental Conditions:	
QAPP Information:	Environmental Chemistry Quality Assurance and Data Report for the Toxic Substances Monitoring Program, 2001-2002. Department of Fish and Game.
QAPP Information Reference(s):	

Line of Evidence (LOE) for Decision ID 33759, Mercury

Region 2

Shadow Cliffs Reservoir

LOE ID:	93218
Pollutant:	Mercury
LOE Subgroup:	Pollutant-Tissue
Matrix:	Tissue
Fraction:	Fish fillet
Beneficial Use:	Commercial or recreational collection of fish, shellfish, or organisms
Number of Samples:	1
Number of Exceedances:	1
Data and Information Type:	Fish tissue analysis
Data Used to Assess Water Quality:	State Water Board staff assessed SWAMP data for Shadow Cliffs Reservoir to determine beneficial use support and results are as follows: 1 of 1 samples exceed the criterion for Mercury. Composites were generated from largemouth bass (11 composites - 1 fish per composite) and channel catfish (2 composites - 5 fish per composite). Composites were not spatially independent (as defined in the Listing Policy) and so were averaged by species. The 1 sample for largemouth bass exceeded the criterion. Two channel catfish composites could not be used in the assessment due to total fish lengths that did not fall within lengths noted in the guideline.
Data Reference:	Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Survey. A Report of the Surface Water Ambient Monitoring Program (SWAMP). California State Water Resources Control Board, Sacramento, CA Statewide Lakes Sportfish Contamination Study 2007 2008 Contaminants in Fish from California Lakes and Reservoirs, 2007-2008: Summary Report on a Two-Year Screening Survey Cruise report for the Surface Water Ambient Monitoring Program (SWAMP) bioaccumulation screening study in California lakes and reservoirs year two (FY 07-08). Sampling dates: April 2008 - November 2008.

SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	Water Quality Control Plan for the San Francisco Bay Basin (2013): Controllable water quality factors shall not cause a detrimental increase in concentrations of toxic substances found in bottom sediments or aquatic life. Effects on aquatic organisms, wildlife, and human health will be considered.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	The USEPA 304(a) recommended water quality criterion for concentrations of methylmercury in fish tissue of trophic level 4 fish (150 - 500 mm; fillet wet weight) is 0.2 mg/kg. This assumes a consumption rate of 32 g/day. (USEPA, 2001)
Guideline Reference:	Water Quality Criterion for the Protection of Human Health: Methylmercury. Final. United States Environmental Protection Agency Office of Science and Technology Office of Water. EPA-823-R-01-001. January 2001
Spatial Representation:	Data for this assessment unit was collected by one monitoring project: (SWB_FishLk)
Temporal Representation:	Data was collected on a single day 6/19/2008.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	Samples were collected, processed, and analyzed in accordance with the methods described in Quality Assurance Project Plan "Screening Study of Bioaccumulation in California Lakes and Reservoirs." (SWAMP, 2008).
QAPP Information Reference(s):	Quality Assurance Project Plan Screening Study of Bioaccumulation in California Lakes and Reservoirs. Moss Landing Marine Labs. Prepared for SWAMP BOG. 49 pages plus appendices and attachments

DECISION ID	33760	Region 2
Shadow Cliffs Reservoir		

Pollutant:	PCBs (Polychlorinated biphenyls)
Final Listing Decision:	Do Not Delist from 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision:	List on 303(d) list (TMDL required list)(2012)
Revision Status	Revised
Sources:	Source Unknown
Expected TMDL Completion Date:	2019
Impairment from Pollutant or Pollution:	Pollutant
Regional Board Staff Conclusion:	<p>This pollutant is being considered for removal from the CWA section 303(d) List under section 4.1 of the Listing Policy. Under this section a single line of evidence is necessary to assess listing status.</p> <p>Four lines of evidence are available in the administrative record to assess pollutant. Two of two samples exceed the guideline.</p> <p>Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against removing this water segment-pollutant combination from the CWA section 303(d) List.</p> <p>This conclusion is based on the staff findings that:</p> <ol style="list-style-type: none"> 1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy. 2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy. 3. Two of two samples exceed the guideline and this exceeds the allowable frequency listed in Table 4.1 of the Listing Policy. 4. Pursuant to section 4.11 of the Listing Policy, no additional data and information are available indicating that standards are met.
Regional Board Staff Decision Recommendation:	After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be removed from the section 303(d) list because applicable water quality standards for the pollutant are being exceeded.

Shadow Cliffs Reservoir

LOE ID:	93222
Pollutant:	PCBs (Polychlorinated biphenyls)
LOE Subgroup:	Pollutant-Tissue
Matrix:	Tissue
Fraction:	Fish fillet
Beneficial Use:	Commercial or recreational collection of fish, shellfish, or organisms
Number of Samples:	1
Number of Exceedances:	1
Data and Information Type:	Fish tissue analysis
Data Used to Assess Water Quality:	State Water Board staff assessed SWAMP data for Shadow Cliffs Reservoir to determine beneficial use support and results are as follows: 1 of 1 samples exceed the criterion for PCB, Total. One composite (5 fish per composite) was generated from one species: Channel Catfish. Details of the compositing protocol can be found in the March 2009 report entitled: "Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Study" (SWAMP, 2009). Total PCB was assessed for as follows: PCB aroclors and congeners were summed separately and the sum that yielded the highest value was used for the assessment.
Data Reference:	Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Survey. A Report of the Surface Water Ambient Monitoring Program (SWAMP). California State Water Resources Control Board, Sacramento, CA Statewide Lakes Sportfish Contamination Study 2007 2008 Contaminants in Fish from California Lakes and Reservoirs, 2007-2008: Summary Report on a Two-Year Screening Survey Cruise report for the Surface Water Ambient Monitoring Program (SWAMP) bioaccumulation screening study in California lakes and reservoirs year two (FY 07-08). Sampling dates: April 2008 - November 2008.
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	Water Quality Control Plan for the San Francisco Bay Basin (2013): Controllable water quality factors shall not cause a detrimental increase in concentrations of toxic substances found in bottom sediments or aquatic life. Effects on aquatic organisms, wildlife, and human health will be considered.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	The modified OEHHA Fish Contaminant Goal for polychlorinated biphenyls in fish tissue is 2.6 ppb. This screening level assumes an average body weight of 70 kg and a consumption rate of 32 g/day for a 30 year exposure over a 70-year lifetime. This constituent is a carcinogen therefore the risk level is set to one in a million. A cooking reduction factor of 1 is applied for skin-off fillets. (Klasing, S., and R. Brodberg, 2008)
Guideline Reference:	Development of Fish Contaminant Goals and Advisory Tissue Levels for Common Contaminants in California Sport Fish: Chlordane, DDTs, Dieldrin, Methylmercury, PCBs, Selenium, and Toxaphene
Spatial Representation:	Data for this assessment unit was collected by one monitoring project: (SWB_FishLk)
Temporal Representation:	Data was collected on a single day 6/19/2008.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	Samples were collected, processed, and analyzed in accordance with the methods described in Quality Assurance Project Plan "Screening Study of Bioaccumulation in California Lakes and Reservoirs." (SWAMP, 2008).
QAPP Information Reference(s):	Quality Assurance Project Plan Screening Study of Bioaccumulation in California Lakes and Reservoirs. Moss Landing Marine Labs. Prepared for SWAMP BOG, 49 pages plus appendices and attachments

Shadow Cliffs Reservoir

LOE ID:	93220
Pollutant:	PCBs (Polychlorinated biphenyls)
LOE Subgroup:	Pollutant-Tissue
Matrix:	Tissue
Fraction:	Fish fillet
Beneficial Use:	Warm Freshwater Habitat
Number of Samples:	1
Number of Exceedances:	0
Data and Information Type:	Fish tissue analysis
Data Used to Assess Water Quality:	State Water Board staff assessed SWAMP data for Shadow Cliffs Reservoir to determine beneficial use support and results are as follows: 0 of 1 samples exceed the criterion for PCB, Total. One composite (5 fish per composite) was generated from one species: Channel Catfish. Details of the compositing protocol can be found in the March 2009 report entitled: "Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Study" (SWAMP, 2009). Total PCB was assessed for as follows: PCB aroclors and congeners were summed separately and the sum that yielded the highest value was used for the assessment.
Data Reference:	Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Survey. A Report of the Surface Water Ambient Monitoring Program (SWAMP). California State Water Resources Control Board, Sacramento, CA Statewide Lakes Sportfish Contamination Study 2007 2008 Contaminants in Fish from California Lakes and Reservoirs, 2007-2008: Summary Report on a Two-Year Screening Survey Cruise report for the Surface Water Ambient Monitoring Program (SWAMP) bioaccumulation screening study in California lakes and reservoirs year two (FY 07-08). Sampling dates: April 2008 - November 2008.
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	Water Quality Control Plan for the San Francisco Bay Basin (2013): Controllable water quality factors shall not cause a detrimental increase in concentrations of toxic substances found in bottom sediments or aquatic life. Effects on aquatic organisms, wildlife, and human health will be considered.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	National Academy of Science guidelines (NAS 1972) establish a maximum total PCB concentration of 500 ug/Kg (wet weight) in tissue samples for protection of aquatic life from bioaccumulation of toxic substances.
Guideline Reference:	National Academy of Sciences. Water Quality Criteria 1972. EPA-R3-73-033. Washington, D.C.: U.S. Environmental Protection Agency
Spatial Representation:	Data for this assessment unit was collected by one monitoring project: (SWB_FishLk)
Temporal Representation:	Data was collected on a single day 6/19/2008.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	Samples were collected, processed, and analyzed in accordance with the methods described in Quality Assurance Project Plan "Screening Study of Bioaccumulation in California Lakes and Reservoirs." (SWAMP, 2008).
QAPP Information Reference(s):	Quality Assurance Project Plan Screening Study of Bioaccumulation in California Lakes and Reservoirs. Moss Landing Marine Labs. Prepared for SWAMP BOG. 49 pages plus appendices and attachments

LOE ID:	93221
Pollutant:	PCBs (Polychlorinated biphenyls)
LOE Subgroup:	Pollutant-Tissue
Matrix:	Tissue
Fraction:	Fish fillet
Beneficial Use:	Cold Freshwater Habitat
Number of Samples:	1
Number of Exceedances:	0
Data and Information Type:	Fish tissue analysis
Data Used to Assess Water Quality:	State Water Board staff assessed SWAMP data for Shadow Cliffs Reservoir to determine beneficial use support and results are as follows: 0 of 1 samples exceed the criterion for PCB, Total. One composite (5 fish per composite) was generated from one species: Channel Catfish. Details of the compositing protocol can be found in the March 2009 report entitled: "Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Study" (SWAMP, 2009). Total PCB was assessed for as follows: PCB aroclors and congeners were summed separately and the sum that yielded the highest value was used for the assessment.
Data Reference:	Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Survey. A Report of the Surface Water Ambient Monitoring Program (SWAMP). California State Water Resources Control Board, Sacramento, CA Statewide Lakes Sportfish Contamination Study 2007 2008 Contaminants in Fish from California Lakes and Reservoirs, 2007-2008: Summary Report on a Two-Year Screening Survey Cruise report for the Surface Water Ambient Monitoring Program (SWAMP) bioaccumulation screening study in California lakes and reservoirs year two (FY 07-08). Sampling dates: April 2008 - November 2008.
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	Water Quality Control Plan for the San Francisco Bay Basin (2013): Controllable water quality factors shall not cause a detrimental increase in concentrations of toxic substances found in bottom sediments or aquatic life. Effects on aquatic organisms, wildlife, and human health will be considered.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	National Academy of Science guidelines (NAS 1972) establish a maximum total PCB concentration of 500 ug/Kg (wet weight) in tissue samples for protection of aquatic life from bioaccumulation of toxic substances.
Guideline Reference:	National Academy of Sciences. Water Quality Criteria 1972. EPA-R3-73-033. Washington, D.C.: U.S. Environmental Protection Agency
Spatial Representation:	Data for this assessment unit was collected by one monitoring project: (SWB_FishLk)
Temporal Representation:	Data was collected on a single day 6/19/2008.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	Samples were collected, processed, and analyzed in accordance with the methods described in Quality Assurance Project Plan "Screening Study of Bioaccumulation in California Lakes and Reservoirs." (SWAMP, 2008).
QAPP Information Reference(s):	Quality Assurance Project Plan Screening Study of Bioaccumulation in California Lakes and Reservoirs. Moss Landing Marine Labs. Prepared for SWAMP BOG, 49 pages plus appendices and attachments

Line of Evidence (LOE) for Decision ID 33760, PCBs (Polychlorinated biphenyls)
Shadow Cliffs Reservoir

Region 2

LOE ID:	680
Pollutant:	PCBs (Polychlorinated biphenyls)

LOE Subgroup:	Pollutant-Tissue
Matrix:	Tissue
Fraction:	Total
Beneficial Use:	Commercial or recreational collection of fish, shellfish, or organisms
Number of Samples:	2
Number of Exceedances:	2
Data and Information Type:	Fish tissue analysis
Data Used to Assess Water Quality:	Two out of 2 samples exceeded. A total of 2 composite samples were collected and analyzed from Shadow Cliffs Reservoir - 1 carp and 1 channel catfish. Both samples exceeded guideline (TSMP, 2002).
Data Reference:	Placeholder reference 2006 303(d)
SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	San Francisco Bay RWQCB Basin Plan: Many pollutants can accumulate on particles, in sediment, or bioaccumulate in fish and other aquatic organisms. Controllable water quality factors shall not cause a detrimental increase in concentrations of toxic substances found in bottom sediments or aquatic life. Effects on aquatic organisms, wildlife, and human health will be considered.
Objective/Criterion Reference:	Placeholder reference 2006 303(d)
Evaluation Guideline:	PCB 20.0 ng/g - OEHHA Screening Value (Interim Health Advisory for Hg and PCB, Alameda County (Brodberg & Pollock, 1999).
Guideline Reference:	Placeholder reference 2006 303(d)
Spatial Representation:	One station.
Temporal Representation:	All samples were collected on 8/13/2002.
Environmental Conditions:	
QAPP Information:	Environmental Chemistry Quality Assurance and Data Report for the Toxic Substances Monitoring Program, 2001-2002. Department of Fish and Game.
QAPP Information Reference(s):	

DECISION ID	65039	Region 2
Shadow Cliffs Reservoir		
Pollutant:	Aldrin	
Final Listing Decision:	Do Not List on 303(d) list (TMDL required list)	
Last Listing Cycle's Final Listing Decision:	New Decision	
Revision Status	Revised	
Impairment from Pollutant or Pollution:	Pollutant	
Regional Board Staff Conclusion:	<p>This pollutant is being considered for placement on the CWA section 303(d) List under section 3.5 of the Listing Policy. Under section 3.5 a single line of evidence is necessary to assess listing status. Two lines of evidence are available in the administrative record to assess this pollutant. Zero of one samples exceed the guideline.</p> <p>Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against placing this water segment-pollutant combination on the CWA section 303(d) List.</p> <p>This conclusion is based on the staff findings that:</p> <ol style="list-style-type: none"> 1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy. 2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy. 3. Zero of one samples exceed the guideline and this sample size is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating. A minimum of 16 samples is needed to determine if a beneficial use is fully supported using table 3.1. 	

4. Pursuant to SECTION 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.

Regional Board Staff Decision Recommendation: After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be placed on the section 303(d) list. The readily available data and information is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating.

Line of Evidence (LOE) for Decision ID 65039, Aldrin

Region 2

Shadow Cliffs Reservoir

LOE ID:	93235
Pollutant:	Aldrin
LOE Subgroup:	Pollutant-Tissue
Matrix:	Tissue
Fraction:	Fish fillet
Beneficial Use:	Warm Freshwater Habitat
Number of Samples:	1
Number of Exceedances:	0
Data and Information Type:	Fish tissue analysis
Data Used to Assess Water Quality:	State Water Board staff assessed SWAMP data for Shadow Cliffs Reservoir to determine beneficial use support and results are as follows: 0 of 1 samples exceed the criterion for Aldrin. One composite (5 fish per composite) was generated from one species: Channel Catfish. Details of the compositing protocol can be found in the March 2009 report entitled: "Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Study" (SWAMP, 2009).
Data Reference:	Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Survey. A Report of the Surface Water Ambient Monitoring Program (SWAMP). California State Water Resources Control Board, Sacramento, CA Statewide Lakes Sportfish Contamination Study 2007 2008 Contaminants in Fish from California Lakes and Reservoirs, 2007-2008: Summary Report on a Two-Year Screening Survey Cruise report for the Surface Water Ambient Monitoring Program (SWAMP) bioaccumulation screening study in California lakes and reservoirs year two (FY 07-08). Sampling dates: April 2008 - November 2008.
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	Water Quality Control Plan for the San Francisco Bay Basin: Controllable water quality factors shall not cause a detrimental increase in concentrations of toxic substances found in bottom sediments or aquatic life. Effects on aquatic organisms, wildlife, and human health will be considered.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	National Academy of Science guidelines (NAS 1972) establish a maximum Aldrin concentration of 100 ug/Kg (wet weight) in tissue samples for protection of aquatic life from bioaccumulation of toxic substances.
Guideline Reference:	National Academy of Sciences. Water Quality Criteria 1972. EPA-R3-73-033. Washington, D.C.: U.S. Environmental Protection Agency
Spatial Representation:	Data for this assessment unit was collected by one monitoring project: (SWB_FishLk)
Temporal Representation:	Data was collected on a single day 6/19/2008.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	Samples were collected, processed, and analyzed in accordance with the methods described in Quality Assurance Project Plan "Screening Study of Bioaccumulation in California Lakes and Reservoirs." (SWAMP, 2008).
QAPP Information Reference(s):	Quality Assurance Project Plan Screening Study of Bioaccumulation in California Lakes

Line of Evidence (LOE) for Decision ID 65039, Aldrin

Region 2

Shadow Cliffs Reservoir

LOE ID:	93242
Pollutant:	Aldrin
LOE Subgroup:	Pollutant-Tissue
Matrix:	Tissue
Fraction:	Fish fillet
Beneficial Use:	Cold Freshwater Habitat
Number of Samples:	1
Number of Exceedances:	0
Data and Information Type:	Fish tissue analysis
Data Used to Assess Water Quality:	State Water Board staff assessed SWAMP data for Shadow Cliffs Reservoir to determine beneficial use support and results are as follows: 0 of 1 samples exceed the criterion for Aldrin. One composite (5 fish per composite) was generated from one species: Channel Catfish. Details of the compositing protocol can be found in the March 2009 report entitled: "Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Study" (SWAMP, 2009).
Data Reference:	Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Survey. A Report of the Surface Water Ambient Monitoring Program (SWAMP). California State Water Resources Control Board, Sacramento, CA Statewide Lakes Sportfish Contamination Study 2007 2008 Contaminants in Fish from California Lakes and Reservoirs, 2007-2008: Summary Report on a Two-Year Screening Survey Cruise report for the Surface Water Ambient Monitoring Program (SWAMP) bioaccumulation screening study in California lakes and reservoirs year two (FY 07-08). Sampling dates: April 2008 - November 2008.
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	Water Quality Control Plan for the San Francisco Bay Basin: Controllable water quality factors shall not cause a detrimental increase in concentrations of toxic substances found in bottom sediments or aquatic life. Effects on aquatic organisms, wildlife, and human health will be considered.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	National Academy of Science guidelines (NAS 1972) establish a maximum Aldrin concentration of 100 ug/Kg (wet weight) in tissue samples for protection of aquatic life from bioaccumulation of toxic substances.
Guideline Reference:	National Academy of Sciences. Water Quality Criteria 1972. EPA-R3-73-033. Washington, D.C.: U.S. Environmental Protection Agency
Spatial Representation:	Data for this assessment unit was collected by one monitoring project: (SWB_FishLk)
Temporal Representation:	Data was collected on a single day 6/19/2008.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	Samples were collected, processed, and analyzed in accordance with the methods described in Quality Assurance Project Plan "Screening Study of Bioaccumulation in California Lakes and Reservoirs." (SWAMP, 2008).
QAPP Information Reference(s):	Quality Assurance Project Plan Screening Study of Bioaccumulation in California Lakes and Reservoirs. Moss Landing Marine Labs. Prepared for SWAMP BOG. 49 pages plus appendices and attachments

DECISION ID

65040

Region 2

Shadow Cliffs Reservoir

Pollutant: Chlordane
Final Listing Decision: Do Not List on 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision: New Decision
Revision Status: Revised
Impairment from Pollutant or Pollution: Pollutant

Regional Board Staff Conclusion: This pollutant is being considered for placement on the CWA section 303(d) List under section 3.5 of the Listing Policy. Under section 3.5 a single line of evidence is necessary to assess listing status. Three lines of evidence are available in the administrative record to assess this pollutant. Zero of one samples exceed the guideline.

Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against placing this water segment-pollutant combination on the CWA section 303(d) List.

This conclusion is based on the staff findings that:

1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy.
2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy.
3. Zero of one samples exceed the guideline and this sample size is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating. A minimum of 16 samples is needed to determine if a beneficial use is fully supported using table 3.1.
4. Pursuant to SECTION 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.

Regional Board Staff Decision Recommendation: After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be placed on the section 303(d) list. The readily available data and information is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating.

Line of Evidence (LOE) for Decision ID 65040, Chlordane

Region 2

Shadow Cliffs Reservoir

LOE ID: 93251

Pollutant: Chlordane
LOE Subgroup: Pollutant-Tissue
Matrix: Tissue
Fraction: Fish fillet

Beneficial Use: Commercial or recreational collection of fish, shellfish, or organisms

Number of Samples: 1
Number of Exceedances: 0

Data and Information Type: Fish tissue analysis
Data Used to Assess Water Quality: State Water Board staff assessed SWAMP data for Shadow Cliffs Reservoir to determine beneficial use support and results are as follows: 0 of 1 samples exceed the criterion for Chlordane, Total. One composite (5 fish per composite) was generated from one species: Channel Catfish. Details of the compositing protocol can be found in the March 2009 report entitled: "Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Study" (SWAMP, 2009). Total chlordane was calculated as the sum of the following chlordane isomers: cis- and trans-chlordane, cis- and trans-nonachlor, and oxychlordane.

Data Reference: [Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Survey. A Report of the Surface Water Ambient Monitoring Program \(SWAMP\). California State Water Resources Control Board, Sacramento, CA Statewide Lakes Sportfish Contamination Study 2007 2008](#)

[Contaminants in Fish from California Lakes and Reservoirs, 2007-2008: Summary Report on a Two-Year Screening Survey](#)
[Cruise report for the Surface Water Ambient Monitoring Program \(SWAMP\) bioaccumulation screening study in California lakes and reservoirs year two \(FY 07-08\). Sampling dates: April 2008 - November 2008.](#)

SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	Water Quality Control Plan for the San Francisco Bay Basin: Controllable water quality factors shall not cause a detrimental increase in concentrations of toxic substances found in bottom sediments or aquatic life. Effects on aquatic organisms, wildlife, and human health will be considered.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	The modified OEHHA Fish Contaminant Goal for total chlordane in fish tissue is 3.9 ppb. This screening level assumes an average body weight of 70 kg and a consumption rate of 32 g/day for a 30 year exposure over a 70-year lifetime. This constituent is a carcinogen therefore the risk level is set to one in a million. A cooking reduction factor of 1 is applied for skin-off fillets. (Klasing, S., and R. Brodberg, 2008)
Guideline Reference:	Development of Fish Contaminant Goals and Advisory Tissue Levels for Common Contaminants in California Sport Fish: Chlordane, DDTs, Dieldrin, Methylmercury, PCBs, Selenium, and Toxaphene
Spatial Representation:	Data for this assessment unit was collected by one monitoring project: (SWB_FishLk)
Temporal Representation:	Data was collected on a single day 6/19/2008.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	Samples were collected, processed, and analyzed in accordance with the methods described in Quality Assurance Project Plan "Screening Study of Bioaccumulation in California Lakes and Reservoirs." (SWAMP, 2008).
QAPP Information Reference(s):	Quality Assurance Project Plan Screening Study of Bioaccumulation in California Lakes and Reservoirs. Moss Landing Marine Labs. Prepared for SWAMP BOG. 49 pages plus appendices and attachments

Line of Evidence (LOE) for Decision ID 65040, Chlordane
Shadow Cliffs Reservoir

Region 2

LOE ID:	93243
Pollutant:	Chlordane
LOE Subgroup:	Pollutant-Tissue
Matrix:	Tissue
Fraction:	Fish fillet
Beneficial Use:	Warm Freshwater Habitat
Number of Samples:	1
Number of Exceedances:	0
Data and Information Type:	Fish tissue analysis
Data Used to Assess Water Quality:	State Water Board staff assessed SWAMP data for Shadow Cliffs Reservoir to determine beneficial use support and results are as follows: 0 of 1 samples exceed the criterion for Chlordane, Total. One composite (5 fish per composite) was generated from one species: Channel Catfish. Details of the compositing protocol can be found in the March 2009 report entitled: "Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Study" (SWAMP, 2009). Total chlordane was calculated as the sum of the following chlordane isomers: cis- and trans-chlordane, cis- and trans-nonachlor, and oxychlordane.
Data Reference:	Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Survey. A Report of the Surface Water Ambient Monitoring Program (SWAMP). California State Water Resources Control Board, Sacramento, CA Statewide Lakes Sportfish Contamination Study 2007 2008 Contaminants in Fish from California Lakes and Reservoirs, 2007-2008: Summary Report

[on a Two-Year Screening Survey](#)
[Cruise report for the Surface Water Ambient Monitoring Program \(SWAMP\)](#)
[bioaccumulation screening study in California lakes and reservoirs year two \(FY 07-08\).](#)
[Sampling dates: April 2008 - November 2008.](#)

SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	Water Quality Control Plan for the San Francisco Bay Basin: Controllable water quality factors shall not cause a detrimental increase in concentrations of toxic substances found in bottom sediments or aquatic life. Effects on aquatic organisms, wildlife, and human health will be considered.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	National Academy of Science guidelines (NAS 1972) establish a maximum total Chlordane concentration of 100 ug/Kg (wet weight) in tissue samples for protection of aquatic life from bioaccumulation of toxic substances.
Guideline Reference:	National Academy of Sciences. Water Quality Criteria 1972. EPA-R3-73-033. Washington, D.C.: U.S. Environmental Protection Agency
Spatial Representation:	Data for this assessment unit was collected by one monitoring project: (SWB_FishLk)
Temporal Representation:	Data was collected on a single day 6/19/2008.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	Samples were collected, processed, and analyzed in accordance with the methods described in Quality Assurance Project Plan "Screening Study of Bioaccumulation in California Lakes and Reservoirs." (SWAMP, 2008).
QAPP Information Reference(s):	Quality Assurance Project Plan Screening Study of Bioaccumulation in California Lakes and Reservoirs. Moss Landing Marine Labs. Prepared for SWAMP BOG, 49 pages plus appendices and attachments

Line of Evidence (LOE) for Decision ID 65040, Chlordane

Region 2

Shadow Cliffs Reservoir

LOE ID:	93244
Pollutant:	Chlordane
LOE Subgroup:	Pollutant-Tissue
Matrix:	Tissue
Fraction:	Fish fillet
Beneficial Use:	Cold Freshwater Habitat
Number of Samples:	1
Number of Exceedances:	0
Data and Information Type:	Fish tissue analysis
Data Used to Assess Water Quality:	State Water Board staff assessed SWAMP data for Shadow Cliffs Reservoir to determine beneficial use support and results are as follows: 0 of 1 samples exceed the criterion for Chlordane, Total. One composite (5 fish per composite) was generated from one species: Channel Catfish. Details of the compositing protocol can be found in the March 2009 report entitled: "Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Study" (SWAMP, 2009). Total chlordane was calculated as the sum of the following chlordane isomers: cis- and trans-chlordane, cis- and trans-nonachlor, and oxychlordane.
Data Reference:	Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Survey. A Report of the Surface Water Ambient Monitoring Program (SWAMP). California State Water Resources Control Board, Sacramento, CA Statewide Lakes Sportfish Contamination Study 2007 2008 Contaminants in Fish from California Lakes and Reservoirs, 2007-2008: Summary Report on a Two-Year Screening Survey Cruise report for the Surface Water Ambient Monitoring Program (SWAMP) bioaccumulation screening study in California lakes and reservoirs year two (FY 07-08). Sampling dates: April 2008 - November 2008.

SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	Water Quality Control Plan for the San Francisco Bay Basin: Controllable water quality factors shall not cause a detrimental increase in concentrations of toxic substances found in bottom sediments or aquatic life. Effects on aquatic organisms, wildlife, and human health will be considered.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	National Academy of Science guidelines (NAS 1972) establish a maximum total Chlordane concentration of 100 ug/Kg (wet weight) in tissue samples for protection of aquatic life from bioaccumulation of toxic substances.
Guideline Reference:	National Academy of Sciences. Water Quality Criteria 1972. EPA-R3-73-033. Washington, D.C.: U.S. Environmental Protection Agency
Spatial Representation:	Data for this assessment unit was collected by one monitoring project: (SWB_FishLk)
Temporal Representation:	Data was collected on a single day 6/19/2008.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	Samples were collected, processed, and analyzed in accordance with the methods described in Quality Assurance Project Plan "Screening Study of Bioaccumulation in California Lakes and Reservoirs." (SWAMP, 2008).
QAPP Information Reference(s):	Quality Assurance Project Plan Screening Study of Bioaccumulation in California Lakes and Reservoirs. Moss Landing Marine Labs. Prepared for SWAMP BOG. 49 pages plus appendices and attachments

DECISION ID	65054	Region 2
Shadow Cliffs Reservoir		

Pollutant:	DDT (Dichlorodiphenyltrichloroethane)
Final Listing Decision:	Do Not List on 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision:	New Decision
Revision Status	Revised
Impairment from Pollutant or Pollution:	Pollutant
Regional Board Staff Conclusion:	<p>This pollutant is being considered for placement on the CWA section 303(d) List under section 3.5 of the Listing Policy. Under section 3.5 a single line of evidence is necessary to assess listing status. Three lines of evidence are available in the administrative record to assess this pollutant. Zero of one samples exceed the guideline.</p> <p>Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against placing this water segment-pollutant combination on the CWA section 303(d) List.</p> <p>This conclusion is based on the staff findings that:</p> <ol style="list-style-type: none"> 1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy. 2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy. 3. Zero of one samples exceed the guideline and this sample size is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating. A minimum of 16 samples is needed to determine if a beneficial use is fully supported using table 3.1. 4. Pursuant to SECTION 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.
Regional Board Staff Decision Recommendation:	After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be placed on the section 303(d) list. The readily available data and information is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating.

Line of Evidence (LOE) for Decision ID 65054, DDT (Dichlorodiphenyltrichloroethane)	Region 2
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Shadow Cliffs Reservoir

LOE ID:	93228
Pollutant:	Total DDT (sum of 4,4'- and 2,4'- isomers of DDT, DDE, and DDD)
LOE Subgroup:	Pollutant-Tissue
Matrix:	Tissue
Fraction:	Fish fillet
Beneficial Use:	Cold Freshwater Habitat
Number of Samples:	1
Number of Exceedances:	0
Data and Information Type:	Fish tissue analysis
Data Used to Assess Water Quality:	State Water Board staff assessed SWAMP data for Shadow Cliffs Reservoir to determine beneficial use support and results are as follows: 0 of 1 samples exceed the criterion for DDT, Total. One composite (5 fish per composite) was generated from one species: Channel Catfish. Details of the compositing protocol can be found in the March 2009 report entitled: "Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Study" (SWAMP, 2009). Total DDT was calculated as the sum of 4,4'- and 2,4'- isomers of DDT, DDE, and DDD.
Data Reference:	Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Survey. A Report of the Surface Water Ambient Monitoring Program (SWAMP). California State Water Resources Control Board, Sacramento, CA Statewide Lakes Sportfish Contamination Study 2007 2008 Contaminants in Fish from California Lakes and Reservoirs, 2007-2008: Summary Report on a Two-Year Screening Survey Cruise report for the Surface Water Ambient Monitoring Program (SWAMP) bioaccumulation screening study in California lakes and reservoirs year two (FY 07-08). Sampling dates: April 2008 - November 2008.
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	Water Quality Control Plan for the San Francisco Bay Basin: Controllable water quality factors shall not cause a detrimental increase in concentrations of toxic substances found in bottom sediments or aquatic life. Effects on aquatic organisms, wildlife, and human health will be considered.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	National Academy of Science guidelines (NAS 1972) establish a maximum total DDT concentration of 1000 ug/Kg (wet weight) in tissue samples for protection of aquatic life from bioaccumulation of toxic substances.
Guideline Reference:	National Academy of Sciences. Water Quality Criteria 1972. EPA-R3-73-033. Washington, D.C.: U.S. Environmental Protection Agency
Spatial Representation:	Data for this assessment unit was collected by one monitoring project: (SWB_FishLk)
Temporal Representation:	Data was collected on a single day 6/19/2008.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	Samples were collected, processed, and analyzed in accordance with the methods described in Quality Assurance Project Plan "Screening Study of Bioaccumulation in California Lakes and Reservoirs." (SWAMP, 2008).
QAPP Information Reference(s):	Quality Assurance Project Plan Screening Study of Bioaccumulation in California Lakes and Reservoirs. Moss Landing Marine Labs. Prepared for SWAMP BOG, 49 pages plus appendices and attachments

Line of Evidence (LOE) for Decision ID 65054, DDT (Dichlorodiphenyltrichloroethane)

Region 2

Shadow Cliffs Reservoir

LOE ID:	93229
Pollutant:	Total DDT (sum of 4,4'- and 2,4'- isomers of DDT, DDE, and DDD)

LOE Subgroup:	Pollutant-Tissue
Matrix:	Tissue
Fraction:	Fish fillet
Beneficial Use:	Commercial or recreational collection of fish, shellfish, or organisms
Number of Samples:	1
Number of Exceedances:	0
Data and Information Type:	Fish tissue analysis
Data Used to Assess Water Quality:	State Water Board staff assessed SWAMP data for Shadow Cliffs Reservoir to determine beneficial use support and results are as follows: 0 of 1 samples exceed the criterion for DDT, Total. One composite (5 fish per composite) was generated from one species: Channel Catfish. Details of the compositing protocol can be found in the March 2009 report entitled: "Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Study" (SWAMP, 2009). Total DDT was calculated as the sum of 4,4'- and 2,4'- isomers of DDT, DDE, and DDD.
Data Reference:	Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Survey. A Report of the Surface Water Ambient Monitoring Program (SWAMP). California State Water Resources Control Board, Sacramento, CA Statewide Lakes Sportfish Contamination Study 2007 2008 Contaminants in Fish from California Lakes and Reservoirs, 2007-2008: Summary Report on a Two-Year Screening Survey Cruise report for the Surface Water Ambient Monitoring Program (SWAMP) bioaccumulation screening study in California lakes and reservoirs year two (FY 07-08). Sampling dates: April 2008 - November 2008.
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	Water Quality Control Plan for the San Francisco Bay Basin: Controllable water quality factors shall not cause a detrimental increase in concentrations of toxic substances found in bottom sediments or aquatic life. Effects on aquatic organisms, wildlife, and human health will be considered.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	The modified OEHHA Fish Contaminant Goal for total DDT in fish tissue is 15 ppb. This screening level assumes an average body weight of 70 kg and a consumption rate of 32 g/day for a 30 year exposure over a 70-year lifetime. This constituent is a carcinogen therefore the risk level is set to one in a million. A cooking reduction factor of 1 is applied for skin-off fillets. (Klasing, S., and R. Brodberg, 2008)
Guideline Reference:	Development of Fish Contaminant Goals and Advisory Tissue Levels for Common Contaminants in California Sport Fish: Chlordane, DDTs, Dieldrin, Methylmercury, PCBs, Selenium, and Toxaphene
Spatial Representation:	Data for this assessment unit was collected by one monitoring project: (SWB_FishLk)
Temporal Representation:	Data was collected on a single day 6/19/2008.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	Samples were collected, processed, and analyzed in accordance with the methods described in Quality Assurance Project Plan "Screening Study of Bioaccumulation in California Lakes and Reservoirs." (SWAMP, 2008).
QAPP Information Reference(s):	Quality Assurance Project Plan Screening Study of Bioaccumulation in California Lakes and Reservoirs. Moss Landing Marine Labs. Prepared for SWAMP BOG. 49 pages plus appendices and attachments

Line of Evidence (LOE) for Decision ID 65054, DDT (Dichlorodiphenyltrichloroethane)

Region 2

Shadow Cliffs Reservoir

LOE ID:	93224
Pollutant:	Total DDT (sum of 4,4'- and 2,4'- isomers of DDT, DDE, and DDD)
LOE Subgroup:	Pollutant-Tissue
Matrix:	Tissue

Fraction:	Fish fillet
Beneficial Use:	Warm Freshwater Habitat
Number of Samples:	1
Number of Exceedances:	0
Data and Information Type:	Fish tissue analysis
Data Used to Assess Water Quality:	State Water Board staff assessed SWAMP data for Shadow Cliffs Reservoir to determine beneficial use support and results are as follows: 0 of 1 samples exceed the criterion for DDT, Total. One composite (5 fish per composite) was generated from one species: Channel Catfish. Details of the compositing protocol can be found in the March 2009 report entitled: "Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Study" (SWAMP, 2009). Total DDT was calculated as the sum of 4,4'- and 2,4'- isomers of DDT, DDE, and DDD.
Data Reference:	Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Survey. A Report of the Surface Water Ambient Monitoring Program (SWAMP). California State Water Resources Control Board, Sacramento, CA Statewide Lakes Sportfish Contamination Study 2007 2008 Contaminants in Fish from California Lakes and Reservoirs, 2007-2008: Summary Report on a Two-Year Screening Survey Cruise report for the Surface Water Ambient Monitoring Program (SWAMP) bioaccumulation screening study in California lakes and reservoirs year two (FY 07-08). Sampling dates: April 2008 - November 2008.
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	Water Quality Control Plan for the San Francisco Bay Basin: Controllable water quality factors shall not cause a detrimental increase in concentrations of toxic substances found in bottom sediments or aquatic life. Effects on aquatic organisms, wildlife, and human health will be considered.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	National Academy of Science guidelines (NAS 1972) establish a maximum total DDT concentration of 1000 ug/Kg (wet weight) in tissue samples for protection of aquatic life from bioaccumulation of toxic substances.
Guideline Reference:	National Academy of Sciences. Water Quality Criteria 1972. EPA-R3-73-033. Washington, D.C.: U.S. Environmental Protection Agency
Spatial Representation:	Data for this assessment unit was collected by one monitoring project: (SWB_FishLk)
Temporal Representation:	Data was collected on a single day 6/19/2008.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	Samples were collected, processed, and analyzed in accordance with the methods described in Quality Assurance Project Plan "Screening Study of Bioaccumulation in California Lakes and Reservoirs." (SWAMP, 2008).
QAPP Information Reference(s):	Quality Assurance Project Plan Screening Study of Bioaccumulation in California Lakes and Reservoirs. Moss Landing Marine Labs. Prepared for SWAMP BOG. 49 pages plus appendices and attachments

DECISION ID	65041	Region 2
Shadow Cliffs Reservoir		
Pollutant:	Dieldrin	
Final Listing Decision:	Do Not List on 303(d) list (TMDL required list)	
Last Listing Cycle's Final Listing Decision:	New Decision	
Revision Status	Revised	
Impairment from Pollutant or Pollution:	Pollutant	
Regional Board Staff	This pollutant is being considered for placement on the CWA section 303(d) List under section 3.5 of	

Conclusion: the Listing Policy. Under section 3.5 a single line of evidence is necessary to assess listing status. Three lines of evidence are available in the administrative record to assess this pollutant. Zero of one samples exceed the guideline.

Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against placing this water segment-pollutant combination on the CWA section 303(d) List.

This conclusion is based on the staff findings that:

1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy.
2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy.
3. Zero of one samples exceed the guideline and this sample size is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating. A minimum of 16 samples is needed to determine if a beneficial use is fully supported using table 3.1.
4. Pursuant to SECTION 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.

Regional Board Staff Decision Recommendation: After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be placed on the section 303(d) list. The readily available data and information is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating.

Line of Evidence (LOE) for Decision ID 65041, Dieldrin

Region 2

Shadow Cliffs Reservoir

LOE ID:	93255
Pollutant:	Dieldrin
LOE Subgroup:	Pollutant-Tissue
Matrix:	Tissue
Fraction:	Fish fillet
Beneficial Use:	Commercial or recreational collection of fish, shellfish, or organisms
Number of Samples:	0
Number of Exceedances:	0
Data and Information Type:	Fish tissue analysis
Data Used to Assess Water Quality:	State Water Board staff assessed SWAMP data for Shadow Cliffs Reservoir to determine beneficial use support and results are as follows: 0 of 0 samples exceed the criterion for Dieldrin. One composite (5 fish per composite) was generated from one species: Channel Catfish. Details of the compositing protocol can be found in the March 2009 report entitled: "Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Study" (SWAMP, 2009). One composite was not used in the assessment because the laboratory data reporting limit(s) was above the objective and therefore the results could not be quantified with the level of certainty required by the Listing Policy.
Data Reference:	Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Survey. A Report of the Surface Water Ambient Monitoring Program (SWAMP). California State Water Resources Control Board, Sacramento, CA Statewide Lakes Sportfish Contamination Study 2007 2008 Contaminants in Fish from California Lakes and Reservoirs, 2007-2008: Summary Report on a Two-Year Screening Survey Cruise report for the Surface Water Ambient Monitoring Program (SWAMP) bioaccumulation screening study in California lakes and reservoirs year two (FY 07-08). Sampling dates: April 2008 - November 2008.
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	Water Quality Control Plan for the San Francisco Bay Basin: Controllable water quality factors shall not cause a detrimental increase in concentrations of toxic substances found

Objective/Criterion Reference:	in bottom sediments or aquatic life. Effects on aquatic organisms, wildlife, and human health will be considered. Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	The modified OEHHA Fish Contaminant Goal for dieldrin in fish tissue is 0.32 ppb. This screening level assumes an average body weight of 70 kg and a consumption rate of 32 g/day for a 30 year exposure over a 70-year lifetime. This constituent is a carcinogen therefore the risk level is set to one in a million. A cooking reduction factor of 1 is applied for skin-off fillets. (Klasing, S., and R. Brodberg, 2008)
Guideline Reference:	Development of Fish Contaminant Goals and Advisory Tissue Levels for Common Contaminants in California Sport Fish: Chlordane, DDTs, Dieldrin, Methylmercury, PCBs, Selenium, and Toxaphene
Spatial Representation:	Data for this assessment unit was collected by one monitoring project: (SWB_FishLk)
Temporal Representation:	Data was collected on a single day 6/19/2008.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	Samples were collected, processed, and analyzed in accordance with the methods described in Quality Assurance Project Plan "Screening Study of Bioaccumulation in California Lakes and Reservoirs." (SWAMP, 2008).
QAPP Information Reference(s):	Quality Assurance Project Plan Screening Study of Bioaccumulation in California Lakes and Reservoirs. Moss Landing Marine Labs. Prepared for SWAMP BOG. 49 pages plus appendices and attachments

Line of Evidence (LOE) for Decision ID 65041, Dieldrin

Region 2

Shadow Cliffs Reservoir

LOE ID:	93252
Pollutant:	Dieldrin
LOE Subgroup:	Pollutant-Tissue
Matrix:	Tissue
Fraction:	Fish fillet
Beneficial Use:	Warm Freshwater Habitat
Number of Samples:	1
Number of Exceedances:	0
Data and Information Type:	Fish tissue analysis
Data Used to Assess Water Quality:	State Water Board staff assessed SWAMP data for Shadow Cliffs Reservoir to determine beneficial use support and results are as follows: 0 of 1 samples exceed the criterion for Dieldrin. One composite (5 fish per composite) was generated from one species: Channel Catfish. Details of the compositing protocol can be found in the March 2009 report entitled: "Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Study" (SWAMP, 2009).
Data Reference:	Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Survey. A Report of the Surface Water Ambient Monitoring Program (SWAMP). California State Water Resources Control Board, Sacramento, CA Statewide Lakes Sportfish Contamination Study 2007 2008 Contaminants in Fish from California Lakes and Reservoirs, 2007-2008: Summary Report on a Two-Year Screening Survey Cruise report for the Surface Water Ambient Monitoring Program (SWAMP) bioaccumulation screening study in California lakes and reservoirs year two (FY 07-08). Sampling dates: April 2008 - November 2008.
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	Water Quality Control Plan for the San Francisco Bay Basin: Controllable water quality factors shall not cause a detrimental increase in concentrations of toxic substances found in bottom sediments or aquatic life. Effects on aquatic organisms, wildlife, and human health will be considered.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)

Evaluation Guideline:	National Academy of Science guidelines (NAS 1972) establish a maximum Dieldrin concentration of 100 ug/Kg (wet weight) in tissue samples for protection of aquatic life from bioaccumulation of toxic substances.
Guideline Reference:	National Academy of Sciences. Water Quality Criteria 1972. EPA-R3-73-033. Washington, D.C.: U.S. Environmental Protection Agency
Spatial Representation:	Data for this assessment unit was collected by one monitoring project: (SWB_FishLk)
Temporal Representation:	Data was collected on a single day 6/19/2008.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	Samples were collected, processed, and analyzed in accordance with the methods described in Quality Assurance Project Plan "Screening Study of Bioaccumulation in California Lakes and Reservoirs." (SWAMP, 2008).
QAPP Information Reference(s):	Quality Assurance Project Plan Screening Study of Bioaccumulation in California Lakes and Reservoirs. Moss Landing Marine Labs. Prepared for SWAMP BOG, 49 pages plus appendices and attachments

Line of Evidence (LOE) for Decision ID 65041, Dieldrin
Shadow Cliffs Reservoir

Region 2

LOE ID:	93253
Pollutant:	Dieldrin
LOE Subgroup:	Pollutant-Tissue
Matrix:	Tissue
Fraction:	Fish fillet
Beneficial Use:	Cold Freshwater Habitat
Number of Samples:	1
Number of Exceedances:	0
Data and Information Type:	Fish tissue analysis
Data Used to Assess Water Quality:	State Water Board staff assessed SWAMP data for Shadow Cliffs Reservoir to determine beneficial use support and results are as follows: 0 of 1 samples exceed the criterion for Dieldrin. One composite (5 fish per composite) was generated from one species: Channel Catfish. Details of the compositing protocol can be found in the March 2009 report entitled: "Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Study" (SWAMP, 2009).
Data Reference:	Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Survey. A Report of the Surface Water Ambient Monitoring Program (SWAMP). California State Water Resources Control Board, Sacramento, CA Statewide Lakes Sportfish Contamination Study 2007 2008 Contaminants in Fish from California Lakes and Reservoirs, 2007-2008: Summary Report on a Two-Year Screening Survey Cruise report for the Surface Water Ambient Monitoring Program (SWAMP) bioaccumulation screening study in California lakes and reservoirs year two (FY 07-08). Sampling dates: April 2008 - November 2008.
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	Water Quality Control Plan for the San Francisco Bay Basin: Controllable water quality factors shall not cause a detrimental increase in concentrations of toxic substances found in bottom sediments or aquatic life. Effects on aquatic organisms, wildlife, and human health will be considered.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	National Academy of Science guidelines (NAS 1972) establish a maximum Dieldrin concentration of 100 ug/Kg (wet weight) in tissue samples for protection of aquatic life from bioaccumulation of toxic substances.
Guideline Reference:	National Academy of Sciences. Water Quality Criteria 1972. EPA-R3-73-033. Washington, D.C.: U.S. Environmental Protection Agency

Spatial Representation:	Data for this assessment unit was collected by one monitoring project: (SWB_FishLk)
Temporal Representation:	Data was collected on a single day 6/19/2008.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	Samples were collected, processed, and analyzed in accordance with the methods described in Quality Assurance Project Plan "Screening Study of Bioaccumulation in California Lakes and Reservoirs." (SWAMP, 2008).
QAPP Information Reference(s):	Quality Assurance Project Plan Screening Study of Bioaccumulation in California Lakes and Reservoirs. Moss Landing Marine Labs. Prepared for SWAMP BOG. 49 pages plus appendices and attachments

DECISION ID	65042	Region 2
Shadow Cliffs Reservoir		

Pollutant:	Endosulfan
Final Listing Decision:	Do Not List on 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision:	New Decision
Revision Status	Revised
Impairment from Pollutant or Pollution:	Pollutant
 Regional Board Staff Conclusion:	<p>This pollutant is being considered for placement on the CWA section 303(d) List under section 3.5 of the Listing Policy. Under section 3.5 a single line of evidence is necessary to assess listing status. Three lines of evidence are available in the administrative record to assess this pollutant. Zero of one samples exceed the guideline.</p> <p>Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against placing this water segment-pollutant combination on the CWA section 303(d) List.</p> <p>This conclusion is based on the staff findings that:</p> <ol style="list-style-type: none"> 1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy. 2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy. 3. Zero of one samples exceed the guideline and this sample size is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating. A minimum of 16 samples is needed to determine if a beneficial use is fully supported using table 3.1. 4. Pursuant to SECTION 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.
 Regional Board Staff Decision Recommendation:	<p>After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be placed on the section 303(d) list. The readily available data and information is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating.</p>

Line of Evidence (LOE) for Decision ID 65042, Endosulfan	Region 2
Shadow Cliffs Reservoir	

LOE ID:	93257
Pollutant:	Endosulfan
LOE Subgroup:	Pollutant-Tissue
Matrix:	Tissue
Fraction:	Fish fillet
 Beneficial Use:	 Cold Freshwater Habitat
Number of Samples:	1
Number of Exceedances:	0

Data and Information Type:	Fish tissue analysis
Data Used to Assess Water Quality:	State Water Board staff assessed SWAMP data for Shadow Cliffs Reservoir to determine beneficial use support and results are as follows: 0 of 1 samples exceed the criterion for Endosulfan I. One composite (5 fish per composite) was generated from one species: Channel Catfish. Details of the compositing protocol can be found in the March 2009 report entitled: "Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Study" (SWAMP, 2009).
Data Reference:	Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Survey. A Report of the Surface Water Ambient Monitoring Program (SWAMP). California State Water Resources Control Board, Sacramento, CA Statewide Lakes Sportfish Contamination Study 2007 2008 Contaminants in Fish from California Lakes and Reservoirs, 2007-2008: Summary Report on a Two-Year Screening Survey Cruise report for the Surface Water Ambient Monitoring Program (SWAMP) bioaccumulation screening study in California lakes and reservoirs year two (FY 07-08). Sampling dates: April 2008 - November 2008.
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	Water Quality Control Plan for the San Francisco Bay Basin: Controllable water quality factors shall not cause a detrimental increase in concentrations of toxic substances found in bottom sediments or aquatic life. Effects on aquatic organisms, wildlife, and human health will be considered.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	National Academy of Science guidelines (NAS 1972) establish a maximum Endosulfan, Total concentration of 100 ug/Kg (wet weight) in tissue samples for protection of aquatic life from bioaccumulation of toxic substances.
Guideline Reference:	National Academy of Sciences. Water Quality Criteria 1972. EPA-R3-73-033. Washington, D.C.: U.S. Environmental Protection Agency
Spatial Representation:	Data for this assessment unit was collected by one monitoring project: (SWB_FishLk)
Temporal Representation:	Data was collected on a single day 6/19/2008.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	Samples were collected, processed, and analyzed in accordance with the methods described in Quality Assurance Project Plan "Screening Study of Bioaccumulation in California Lakes and Reservoirs." (SWAMP, 2008).
QAPP Information Reference(s):	Quality Assurance Project Plan Screening Study of Bioaccumulation in California Lakes and Reservoirs. Moss Landing Marine Labs. Prepared for SWAMP BOG, 49 pages plus appendices and attachments

Line of Evidence (LOE) for Decision ID 65042, Endosulfan	Region 2
Shadow Cliffs Reservoir	

LOE ID:	93258
Pollutant:	Endosulfan
LOE Subgroup:	Pollutant-Tissue
Matrix:	Tissue
Fraction:	Fish fillet
Beneficial Use:	Commercial or recreational collection of fish, shellfish, or organisms
Number of Samples:	1
Number of Exceedances:	0
Data and Information Type:	Fish tissue analysis
Data Used to Assess Water Quality:	State Water Board staff assessed SWAMP data for Shadow Cliffs Reservoir to determine beneficial use support and results are as follows: 0 of 1 samples exceed the criterion for Endosulfan I. One composite (5 fish per composite) was generated from one species: Channel Catfish. Details of the compositing protocol can be found in the March 2009

Data Reference:	<p>report entitled: "Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Study" (SWAMP, 2009). Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Survey. A Report of the Surface Water Ambient Monitoring Program (SWAMP). California State Water Resources Control Board, Sacramento, CA Statewide Lakes Sportfish Contamination Study 2007 2008 Contaminants in Fish from California Lakes and Reservoirs, 2007-2008: Summary Report on a Two-Year Screening Survey Cruise report for the Surface Water Ambient Monitoring Program (SWAMP) bioaccumulation screening study in California lakes and reservoirs year two (FY 07-08). Sampling dates: April 2008 - November 2008.</p>
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	Water Quality Control Plan for the San Francisco Bay Basin: Controllable water quality factors shall not cause a detrimental increase in concentrations of toxic substances found in bottom sediments or aquatic life. Effects on aquatic organisms, wildlife, and human health will be considered.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	The modified OEHHA Fish Contaminant Goal for endosulfan (I and II) in fish tissue is 13,000 ppb. This screening level assumes an average body weight of 70 kg and a consumption rate of 32 g/day. A cooking reduction factor of 1 is applied for skin-off fillets. (Klasing, S., and R. Brodberg, 2008; USEPA, 2000)
Guideline Reference:	Development of Fish Contaminant Goals and Advisory Tissue Levels for Common Contaminants in California Sport Fish: Chlordane, DDTs, Dieldrin, Methylmercury, PCBs, Selenium, and Toxaphene Guidance for Assessing Chemical Contaminant Data for Use In Fish Advisories Volume 1: Fish Sampling and Analysis
Spatial Representation:	Data for this assessment unit was collected by one monitoring project: (SWB_FishLk)
Temporal Representation:	Data was collected on a single day 6/19/2008.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	Samples were collected, processed, and analyzed in accordance with the methods described in Quality Assurance Project Plan "Screening Study of Bioaccumulation in California Lakes and Reservoirs." (SWAMP, 2008).
QAPP Information Reference(s):	Quality Assurance Project Plan Screening Study of Bioaccumulation in California Lakes and Reservoirs. Moss Landing Marine Labs. Prepared for SWAMP BOG, 49 pages plus appendices and attachments

**Line of Evidence (LOE) for Decision ID 65042, Endosulfan
Shadow Cliffs Reservoir**

Region 2

LOE ID:	93256
Pollutant:	Endosulfan
LOE Subgroup:	Pollutant-Tissue
Matrix:	Tissue
Fraction:	Fish fillet
Beneficial Use:	Warm Freshwater Habitat
Number of Samples:	1
Number of Exceedances:	0
Data and Information Type:	Fish tissue analysis
Data Used to Assess Water Quality:	State Water Board staff assessed SWAMP data for Shadow Cliffs Reservoir to determine beneficial use support and results are as follows: 0 of 1 samples exceed the criterion for Endosulfan I. One composite (5 fish per composite) was generated from one species: Channel Catfish. Details of the compositing protocol can be found in the March 2009 report entitled: "Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Study" (SWAMP, 2009).

Data Reference:	Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Survey. A Report of the Surface Water Ambient Monitoring Program (SWAMP). California State Water Resources Control Board, Sacramento, CA Statewide Lakes Sportfish Contamination Study 2007 2008 Contaminants in Fish from California Lakes and Reservoirs, 2007-2008: Summary Report on a Two-Year Screening Survey Cruise report for the Surface Water Ambient Monitoring Program (SWAMP) bioaccumulation screening study in California lakes and reservoirs year two (FY 07-08). Sampling dates: April 2008 - November 2008.
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	Water Quality Control Plan for the San Francisco Bay Basin: Controllable water quality factors shall not cause a detrimental increase in concentrations of toxic substances found in bottom sediments or aquatic life. Effects on aquatic organisms, wildlife, and human health will be considered.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	National Academy of Science guidelines (NAS 1972) establish a maximum Endosulfan, Total concentration of 100 ug/Kg (wet weight) in tissue samples for protection of aquatic life from bioaccumulation of toxic substances.
Guideline Reference:	National Academy of Sciences. Water Quality Criteria 1972. EPA-R3-73-033. Washington, D.C.: U.S. Environmental Protection Agency
Spatial Representation:	Data for this assessment unit was collected by one monitoring project: (SWB_FishLk)
Temporal Representation:	Data was collected on a single day 6/19/2008.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	Samples were collected, processed, and analyzed in accordance with the methods described in Quality Assurance Project Plan "Screening Study of Bioaccumulation in California Lakes and Reservoirs." (SWAMP, 2008).
QAPP Information Reference(s):	Quality Assurance Project Plan Screening Study of Bioaccumulation in California Lakes and Reservoirs. Moss Landing Marine Labs. Prepared for SWAMP BOG. 49 pages plus appendices and attachments

DECISION ID	65047	Region 2
Shadow Cliffs Reservoir		
Pollutant:	Endrin	
Final Listing Decision:	Do Not List on 303(d) list (TMDL required list)	
Last Listing Cycle's Final Listing Decision:	New Decision	
Revision Status	Revised	
Impairment from Pollutant or Pollution:	Pollutant	
Regional Board Staff Conclusion:	<p>This pollutant is being considered for placement on the CWA section 303(d) List under section 3.5 of the Listing Policy. Under section 3.5 a single line of evidence is necessary to assess listing status. Three lines of evidence are available in the administrative record to assess this pollutant. Zero of one samples exceed the guideline.</p> <p>Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against placing this water segment-pollutant combination on the CWA section 303(d) List.</p> <p>This conclusion is based on the staff findings that:</p> <ol style="list-style-type: none"> 1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy. 2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy. 3. Zero of one samples exceed the guideline and this sample size is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating. A minimum of 16 samples is needed to determine if a beneficial use is fully supported using table 3.1. 4. Pursuant to SECTION 3.11 of the Listing Policy, no additional data and information are available 	

indicating that standards are not met.

Regional Board Staff Decision Recommendation: After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be placed on the section 303(d) list. The readily available data and information is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating.

Line of Evidence (LOE) for Decision ID 65047, Endrin

Region 2

Shadow Cliffs Reservoir

LOE ID:	93261
Pollutant:	Endrin
LOE Subgroup:	Pollutant-Tissue
Matrix:	Tissue
Fraction:	Fish fillet
Beneficial Use:	Commercial or recreational collection of fish, shellfish, or organisms
Number of Samples:	1
Number of Exceedances:	0
Data and Information Type:	Fish tissue analysis
Data Used to Assess Water Quality:	State Water Board staff assessed SWAMP data for Shadow Cliffs Reservoir to determine beneficial use support and results are as follows: 0 of 1 samples exceed the criterion for Endrin. One composite (5 fish per composite) was generated from one species: Channel Catfish. Details of the compositing protocol can be found in the March 2009 report entitled: "Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Study" (SWAMP, 2009).
Data Reference:	Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Survey. A Report of the Surface Water Ambient Monitoring Program (SWAMP). California State Water Resources Control Board, Sacramento, CA Statewide Lakes Sportfish Contamination Study 2007 2008 Contaminants in Fish from California Lakes and Reservoirs, 2007-2008: Summary Report on a Two-Year Screening Survey Cruise report for the Surface Water Ambient Monitoring Program (SWAMP) bioaccumulation screening study in California lakes and reservoirs year two (FY 07-08). Sampling dates: April 2008 - November 2008.
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	Water Quality Control Plan for the San Francisco Bay Basin: Controllable water quality factors shall not cause a detrimental increase in concentrations of toxic substances found in bottom sediments or aquatic life. Effects on aquatic organisms, wildlife, and human health will be considered.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	The modified OEHHA Fish Contaminant Goal for endrin in fish tissue is 660 ppb. This screening level assumes an average body weight of 70 kg and a consumption rate of 32 g/day. A cooking reduction factor of 1 is applied for skin-off fillets. (Klasing, S., and R. Brodberg, 2008; USEPA, 2000)
Guideline Reference:	Development of Fish Contaminant Goals and Advisory Tissue Levels for Common Contaminants in California Sport Fish: Chlordane, DDTs, Dieldrin, Methylmercury, PCBs, Selenium, and Toxaphene Guidance for Assessing Chemical Contaminant Data for Use In Fish Advisories Volume 1: Fish Sampling and Analysis
Spatial Representation:	Data for this assessment unit was collected by one monitoring project: (SWB_FishLk)
Temporal Representation:	Data was collected on a single day 6/19/2008.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	Samples were collected, processed, and analyzed in accordance with the methods

QAPP Information Reference(s):	described in Quality Assurance Project Plan "Screening Study of Bioaccumulation in California Lakes and Reservoirs." (SWAMP, 2008). Quality Assurance Project Plan Screening Study of Bioaccumulation in California Lakes and Reservoirs. Moss Landing Marine Labs. Prepared for SWAMP BOG, 49 pages plus appendices and attachments	
Line of Evidence (LOE) for Decision ID 65047, Endrin		Region 2
Shadow Cliffs Reservoir		
LOE ID:	93260	
Pollutant:	Endrin	
LOE Subgroup:	Pollutant-Tissue	
Matrix:	Tissue	
Fraction:	Fish fillet	
Beneficial Use:	Cold Freshwater Habitat	
Number of Samples:	1	
Number of Exceedances:	0	
Data and Information Type:	Fish tissue analysis	
Data Used to Assess Water Quality:	State Water Board staff assessed SWAMP data for Shadow Cliffs Reservoir to determine beneficial use support and results are as follows: 0 of 1 samples exceed the criterion for Endrin. One composite (5 fish per composite) was generated from one species: Channel Catfish. Details of the compositing protocol can be found in the March 2009 report entitled: "Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Study" (SWAMP, 2009).	
Data Reference:	Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Survey. A Report of the Surface Water Ambient Monitoring Program (SWAMP). California State Water Resources Control Board, Sacramento, CA Statewide Lakes Sportfish Contamination Study 2007 2008 Contaminants in Fish from California Lakes and Reservoirs, 2007-2008: Summary Report on a Two-Year Screening Survey Cruise report for the Surface Water Ambient Monitoring Program (SWAMP) bioaccumulation screening study in California lakes and reservoirs year two (FY 07-08). Sampling dates: April 2008 - November 2008.	
SWAMP Data:	SWAMP	
Water Quality Objective/Criterion:	Water Quality Control Plan for the San Francisco Bay Basin: Controllable water quality factors shall not cause a detrimental increase in concentrations of toxic substances found in bottom sediments or aquatic life. Effects on aquatic organisms, wildlife, and human health will be considered.	
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)	
Evaluation Guideline:	National Academy of Science guidelines (NAS 1972) establish a maximum Endrin concentration of 100 ug/Kg (wet weight) in tissue samples for protection of aquatic life from bioaccumulation of toxic substances.	
Guideline Reference:	National Academy of Sciences. Water Quality Criteria 1972. EPA-R3-73-033. Washington, D.C.: U.S. Environmental Protection Agency	
Spatial Representation:	Data for this assessment unit was collected by one monitoring project: (SWB_FishLk)	
Temporal Representation:	Data was collected on a single day 6/19/2008.	
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.	
QAPP Information:	Samples were collected, processed, and analyzed in accordance with the methods described in Quality Assurance Project Plan "Screening Study of Bioaccumulation in California Lakes and Reservoirs." (SWAMP, 2008).	
QAPP Information Reference(s):	Quality Assurance Project Plan Screening Study of Bioaccumulation in California Lakes and Reservoirs. Moss Landing Marine Labs. Prepared for SWAMP BOG, 49 pages plus appendices and attachments	

Shadow Cliffs Reservoir

LOE ID:	93259
Pollutant:	Endrin
LOE Subgroup:	Pollutant-Tissue
Matrix:	Tissue
Fraction:	Fish fillet
Beneficial Use:	Warm Freshwater Habitat
Number of Samples:	1
Number of Exceedances:	0
Data and Information Type:	Fish tissue analysis
Data Used to Assess Water Quality:	State Water Board staff assessed SWAMP data for Shadow Cliffs Reservoir to determine beneficial use support and results are as follows: 0 of 1 samples exceed the criterion for Endrin. One composite (5 fish per composite) was generated from one species: Channel Catfish. Details of the compositing protocol can be found in the March 2009 report entitled: "Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Study" (SWAMP, 2009).
Data Reference:	Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Survey. A Report of the Surface Water Ambient Monitoring Program (SWAMP). California State Water Resources Control Board, Sacramento, CA Statewide Lakes Sportfish Contamination Study 2007 2008 Contaminants in Fish from California Lakes and Reservoirs, 2007-2008: Summary Report on a Two-Year Screening Survey Cruise report for the Surface Water Ambient Monitoring Program (SWAMP) bioaccumulation screening study in California lakes and reservoirs year two (FY 07-08). Sampling dates: April 2008 - November 2008.
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	Water Quality Control Plan for the San Francisco Bay Basin: Controllable water quality factors shall not cause a detrimental increase in concentrations of toxic substances found in bottom sediments or aquatic life. Effects on aquatic organisms, wildlife, and human health will be considered.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	National Academy of Science guidelines (NAS 1972) establish a maximum Endrin concentration of 100 ug/Kg (wet weight) in tissue samples for protection of aquatic life from bioaccumulation of toxic substances.
Guideline Reference:	National Academy of Sciences. Water Quality Criteria 1972. EPA-R3-73-033. Washington, D.C.: U.S. Environmental Protection Agency
Spatial Representation:	Data for this assessment unit was collected by one monitoring project: (SWB_FishLk)
Temporal Representation:	Data was collected on a single day 6/19/2008.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	Samples were collected, processed, and analyzed in accordance with the methods described in Quality Assurance Project Plan "Screening Study of Bioaccumulation in California Lakes and Reservoirs." (SWAMP, 2008).
QAPP Information Reference(s):	Quality Assurance Project Plan Screening Study of Bioaccumulation in California Lakes and Reservoirs. Moss Landing Marine Labs. Prepared for SWAMP BOG, 49 pages plus appendices and attachments

DECISION ID 65048

Region 2

Shadow Cliffs Reservoir

Pollutant: Heptachlor

Final Listing Decision:	Do Not List on 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision:	New Decision
Revision Status	Revised
Impairment from Pollutant or Pollution:	Pollutant

Regional Board Staff Conclusion: This pollutant is being considered for placement on the CWA section 303(d) List under section 3.5 of the Listing Policy. Under section 3.5 a single line of evidence is necessary to assess listing status. Two lines of evidence are available in the administrative record to assess this pollutant. Zero of one samples exceed the guideline.

Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against placing this water segment-pollutant combination on the CWA section 303(d) List.

This conclusion is based on the staff findings that:

1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy.
2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy.
3. Zero of one samples exceed the guideline and this sample size is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating. A minimum of 16 samples is needed to determine if a beneficial use is fully supported using table 3.1.
4. Pursuant to SECTION 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.

Regional Board Staff Decision Recommendation: After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be placed on the section 303(d) list. The readily available data and information is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating.

Line of Evidence (LOE) for Decision ID 65048, Heptachlor	Region 2
Shadow Cliffs Reservoir	

LOE ID:	93209
Pollutant:	Heptachlor
LOE Subgroup:	Pollutant-Tissue
Matrix:	Tissue
Fraction:	Fish fillet
Beneficial Use:	Warm Freshwater Habitat
Number of Samples:	1
Number of Exceedances:	0
Data and Information Type:	Fish tissue analysis
Data Used to Assess Water Quality:	State Water Board staff assessed SWAMP data for Shadow Cliffs Reservoir to determine beneficial use support and results are as follows: 0 of 1 samples exceed the criterion for Heptachlor. One composite (5 fish per composite) was generated from one species: Channel Catfish. Details of the compositing protocol can be found in the March 2009 report entitled: "Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Study" (SWAMP, 2009).
Data Reference:	Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Survey. A Report of the Surface Water Ambient Monitoring Program (SWAMP). California State Water Resources Control Board, Sacramento, CA Statewide Lakes Sportfish Contamination Study 2007 2008 Contaminants in Fish from California Lakes and Reservoirs, 2007-2008: Summary Report on a Two-Year Screening Survey Cruise report for the Surface Water Ambient Monitoring Program (SWAMP) bioaccumulation screening study in California lakes and reservoirs year two (FY 07-08). Sampling dates: April 2008 - November 2008.

SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	Water Quality Control Plan for the San Francisco Bay Basin: Controllable water quality factors shall not cause a detrimental increase in concentrations of toxic substances found in bottom sediments or aquatic life. Effects on aquatic organisms, wildlife, and human health will be considered.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	National Academy of Science guidelines (NAS 1972) establish a maximum Heptachlor concentration of 100 ug/Kg (wet weight) in tissue samples for protection of aquatic life from bioaccumulation of toxic substances.
Guideline Reference:	National Academy of Sciences. Water Quality Criteria 1972. EPA-R3-73-033. Washington, D.C.: U.S. Environmental Protection Agency
Spatial Representation:	Data for this assessment unit was collected by one monitoring project: (SWB_FishLk)
Temporal Representation:	Data was collected on a single day 6/19/2008.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	Samples were collected, processed, and analyzed in accordance with the methods described in Quality Assurance Project Plan "Screening Study of Bioaccumulation in California Lakes and Reservoirs." (SWAMP, 2008).
QAPP Information Reference(s):	Quality Assurance Project Plan Screening Study of Bioaccumulation in California Lakes and Reservoirs. Moss Landing Marine Labs. Prepared for SWAMP BOG. 49 pages plus appendices and attachments

Line of Evidence (LOE) for Decision ID 65048, Heptachlor

Region 2

Shadow Cliffs Reservoir

LOE ID:	93210
Pollutant:	Heptachlor
LOE Subgroup:	Pollutant-Tissue
Matrix:	Tissue
Fraction:	Fish fillet
Beneficial Use:	Cold Freshwater Habitat
Number of Samples:	1
Number of Exceedances:	0
Data and Information Type:	Fish tissue analysis
Data Used to Assess Water Quality:	State Water Board staff assessed SWAMP data for Shadow Cliffs Reservoir to determine beneficial use support and results are as follows: 0 of 1 samples exceed the criterion for Heptachlor. One composite (5 fish per composite) was generated from one species: Channel Catfish. Details of the compositing protocol can be found in the March 2009 report entitled: "Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Study" (SWAMP, 2009).
Data Reference:	Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Survey. A Report of the Surface Water Ambient Monitoring Program (SWAMP). California State Water Resources Control Board, Sacramento, CA Statewide Lakes Sportfish Contamination Study 2007 2008 Contaminants in Fish from California Lakes and Reservoirs, 2007-2008: Summary Report on a Two-Year Screening Survey Cruise report for the Surface Water Ambient Monitoring Program (SWAMP) bioaccumulation screening study in California lakes and reservoirs year two (FY 07-08). Sampling dates: April 2008 - November 2008.
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	Water Quality Control Plan for the San Francisco Bay Basin: Controllable water quality factors shall not cause a detrimental increase in concentrations of toxic substances found in bottom sediments or aquatic life. Effects on aquatic organisms, wildlife, and human

Objective/Criterion Reference:	health will be considered. Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	National Academy of Science guidelines (NAS 1972) establish a maximum Heptachlor concentration of 100 ug/Kg (wet weight) in tissue samples for protection of aquatic life from bioaccumulation of toxic substances.
Guideline Reference:	National Academy of Sciences. Water Quality Criteria 1972. EPA-R3-73-033. Washington, D.C.: U.S. Environmental Protection Agency
Spatial Representation:	Data for this assessment unit was collected by one monitoring project: (SWB_FishLk)
Temporal Representation:	Data was collected on a single day 6/19/2008.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	Samples were collected, processed, and analyzed in accordance with the methods described in Quality Assurance Project Plan "Screening Study of Bioaccumulation in California Lakes and Reservoirs." (SWAMP, 2008).
QAPP Information Reference(s):	Quality Assurance Project Plan Screening Study of Bioaccumulation in California Lakes and Reservoirs. Moss Landing Marine Labs. Prepared for SWAMP BOG. 49 pages plus appendices and attachments

DECISION ID	65049	Region 2
Shadow Cliffs Reservoir		

Pollutant:	Heptachlor epoxide
Final Listing Decision:	Do Not List on 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision:	New Decision
Revision Status	Revised
Impairment from Pollutant or Pollution:	Pollutant

Regional Board Staff Conclusion: This pollutant is being considered for placement on the CWA section 303(d) List under section 3.5 of the Listing Policy. Under section 3.5 a single line of evidence is necessary to assess listing status. Three lines of evidence are available in the administrative record to assess this pollutant. Zero of one samples exceed the guideline.

Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against placing this water segment-pollutant combination on the CWA section 303(d) List.

This conclusion is based on the staff findings that:

1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy.
2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy.
3. Zero of one samples exceed the guideline and this sample size is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating. A minimum of 16 samples is needed to determine if a beneficial use is fully supported using table 3.1.
4. Pursuant to SECTION 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.

Regional Board Staff Decision Recommendation: After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be placed on the section 303(d) list. The readily available data and information is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating.

Line of Evidence (LOE) for Decision ID 65049, Heptachlor epoxide	Region 2
Shadow Cliffs Reservoir	

LOE ID:	93212
Pollutant:	Heptachlor epoxide

LOE Subgroup:	Pollutant-Tissue
Matrix:	Tissue
Fraction:	Fish fillet
Beneficial Use:	Cold Freshwater Habitat
Number of Samples:	1
Number of Exceedances:	0
Data and Information Type:	Fish tissue analysis
Data Used to Assess Water Quality:	State Water Board staff assessed SWAMP data for Shadow Cliffs Reservoir to determine beneficial use support and results are as follows: 0 of 1 samples exceed the criterion for Heptachlor epoxide. One composite (5 fish per composite) was generated from one species: Channel Catfish. Details of the compositing protocol can be found in the March 2009 report entitled: "Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Study" (SWAMP, 2009).
Data Reference:	Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Survey. A Report of the Surface Water Ambient Monitoring Program (SWAMP). California State Water Resources Control Board, Sacramento, CA Statewide Lakes Sportfish Contamination Study 2007 2008 Contaminants in Fish from California Lakes and Reservoirs, 2007-2008: Summary Report on a Two-Year Screening Survey Cruise report for the Surface Water Ambient Monitoring Program (SWAMP) bioaccumulation screening study in California lakes and reservoirs year two (FY 07-08). Sampling dates: April 2008 - November 2008.
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	Water Quality Control Plan for the San Francisco Bay Basin: Controllable water quality factors shall not cause a detrimental increase in concentrations of toxic substances found in bottom sediments or aquatic life. Effects on aquatic organisms, wildlife, and human health will be considered.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	National Academy of Science guidelines (NAS 1972) establish a maximum Heptachlor Epoxide concentration of 100 ug/Kg (wet weight) in tissue samples for protection of aquatic life from bioaccumulation of toxic substances.
Guideline Reference:	National Academy of Sciences. Water Quality Criteria 1972. EPA-R3-73-033. Washington, D.C.: U.S. Environmental Protection Agency
Spatial Representation:	Data for this assessment unit was collected by one monitoring project: (SWB_FishLk)
Temporal Representation:	Data was collected on a single day 6/19/2008.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	Samples were collected, processed, and analyzed in accordance with the methods described in Quality Assurance Project Plan "Screening Study of Bioaccumulation in California Lakes and Reservoirs." (SWAMP, 2008).
QAPP Information Reference(s):	Quality Assurance Project Plan Screening Study of Bioaccumulation in California Lakes and Reservoirs. Moss Landing Marine Labs. Prepared for SWAMP BOG. 49 pages plus appendices and attachments

**Line of Evidence (LOE) for Decision ID 65049, Heptachlor epoxide
Shadow Cliffs Reservoir**

Region 2

LOE ID:	93211
Pollutant:	Heptachlor epoxide
LOE Subgroup:	Pollutant-Tissue
Matrix:	Tissue
Fraction:	Fish fillet
Beneficial Use:	Warm Freshwater Habitat

Number of Samples:	1
Number of Exceedances:	0
Data and Information Type:	Fish tissue analysis
Data Used to Assess Water Quality:	State Water Board staff assessed SWAMP data for Shadow Cliffs Reservoir to determine beneficial use support and results are as follows: 0 of 1 samples exceed the criterion for Heptachlor epoxide. One composite (5 fish per composite) was generated from one species: Channel Catfish. Details of the compositing protocol can be found in the March 2009 report entitled: "Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Study" (SWAMP, 2009).
Data Reference:	Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Survey. A Report of the Surface Water Ambient Monitoring Program (SWAMP). California State Water Resources Control Board, Sacramento, CA Statewide Lakes Sportfish Contamination Study 2007 2008 Contaminants in Fish from California Lakes and Reservoirs, 2007-2008: Summary Report on a Two-Year Screening Survey Cruise report for the Surface Water Ambient Monitoring Program (SWAMP) bioaccumulation screening study in California lakes and reservoirs year two (FY 07-08). Sampling dates: April 2008 - November 2008.
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	Water Quality Control Plan for the San Francisco Bay Basin: Controllable water quality factors shall not cause a detrimental increase in concentrations of toxic substances found in bottom sediments or aquatic life. Effects on aquatic organisms, wildlife, and human health will be considered.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	National Academy of Science guidelines (NAS 1972) establish a maximum Heptachlor Epoxide concentration of 100 ug/Kg (wet weight) in tissue samples for protection of aquatic life from bioaccumulation of toxic substances.
Guideline Reference:	National Academy of Sciences. Water Quality Criteria 1972. EPA-R3-73-033. Washington, D.C.: U.S. Environmental Protection Agency
Spatial Representation:	Data for this assessment unit was collected by one monitoring project: (SWB_FishLk)
Temporal Representation:	Data was collected on a single day 6/19/2008.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	Samples were collected, processed, and analyzed in accordance with the methods described in Quality Assurance Project Plan "Screening Study of Bioaccumulation in California Lakes and Reservoirs." (SWAMP, 2008).
QAPP Information Reference(s):	Quality Assurance Project Plan Screening Study of Bioaccumulation in California Lakes and Reservoirs. Moss Landing Marine Labs. Prepared for SWAMP BOG, 49 pages plus appendices and attachments

Line of Evidence (LOE) for Decision ID 65049, Heptachlor epoxide

Region 2

Shadow Cliffs Reservoir

LOE ID:	93213
Pollutant:	Heptachlor epoxide
LOE Subgroup:	Pollutant-Tissue
Matrix:	Tissue
Fraction:	Fish fillet
Beneficial Use:	Commercial or recreational collection of fish, shellfish, or organisms
Number of Samples:	0
Number of Exceedances:	0
Data and Information Type:	Fish tissue analysis
Data Used to Assess Water Quality:	State Water Board staff assessed SWAMP data for Shadow Cliffs Reservoir to determine beneficial use support and results are as follows: 0 of 0 samples exceed the criterion for

Heptachlor epoxide. One composite (5 fish per composite) was generated from one species: Channel Catfish. Details of the compositing protocol can be found in the March 2009 report entitled: "Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Study" (SWAMP, 2009). One composite was not used in the assessment because the laboratory data reporting limit(s) was above the objective and therefore the results could not be quantified with the level of certainty required by the Listing Policy.

Data Reference: [Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Survey. A Report of the Surface Water Ambient Monitoring Program \(SWAMP\). California State Water Resources Control Board, Sacramento, CA Statewide Lakes Sportfish Contamination Study 2007 2008](#)
[Contaminants in Fish from California Lakes and Reservoirs, 2007-2008: Summary Report on a Two-Year Screening Survey](#)
[Cruise report for the Surface Water Ambient Monitoring Program \(SWAMP\) bioaccumulation screening study in California lakes and reservoirs year two \(FY 07-08\). Sampling dates: April 2008 - November 2008.](#)

SWAMP Data: SWAMP

Water Quality Objective/Criterion: Water Quality Control Plan for the San Francisco Bay Basin: Controllable water quality factors shall not cause a detrimental increase in concentrations of toxic substances found in bottom sediments or aquatic life. Effects on aquatic organisms, wildlife, and human health will be considered.

Objective/Criterion Reference: [Water Quality Control Plan \(Basin Plan\) San Francisco Bay Basin \(Region 2\)](#)

Evaluation Guideline: The modified OEHHA Fish Contaminant Goal for heptachlor epoxide in fish tissue is 0.93 ppb. This screening level assumes an average body weight of 70 kg and a consumption rate of 32 g/day for a 30 year exposure over a 70-year lifetime. This constituent is a carcinogen therefore the risk level is set to one in a million. A cooking reduction factor of 1 is applied for skin-off fillets. (Klasing, S., and R. Brodberg, 2008; OEHHA, 1999)

Guideline Reference: [Development of Fish Contaminant Goals and Advisory Tissue Levels for Common Contaminants in California Sport Fish: Chlordane, DDTs, Dieldrin, Methylmercury, PCBs, Selenium, and Toxaphene](#)
[Public Health Goal for Heptachlor and Heptachlor Epoxide in Drinking Water](#)

Spatial Representation: Data for this assessment unit was collected by one monitoring project: (SWB_FishLk)

Temporal Representation: Data was collected on a single day 6/19/2008.

Environmental Conditions: Staff is not aware of any special conditions that might affect interpretation of the data.

QAPP Information: Samples were collected, processed, and analyzed in accordance with the methods described in Quality Assurance Project Plan "Screening Study of Bioaccumulation in California Lakes and Reservoirs." (SWAMP, 2008).

QAPP Information Reference(s): [Quality Assurance Project Plan Screening Study of Bioaccumulation in California Lakes and Reservoirs. Moss Landing Marine Labs. Prepared for SWAMP BOG. 49 pages plus appendices and attachments](#)

DECISION ID	65050	Region 2
Shadow Cliffs Reservoir		

Pollutant:	Hexachlorobenzene/ HCB
Final Listing Decision:	Do Not List on 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision:	New Decision
Revision Status	Revised
Impairment from Pollutant or Pollution:	Pollutant

Regional Board Staff Conclusion: This pollutant is being considered for placement on the CWA section 303(d) List under section 3.5 of the Listing Policy. Under section 3.5 a single line of evidence is necessary to assess listing status. One line of evidence is available in the administrative record to assess this pollutant. Zero of one samples exceed the guideline.

Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against placing this water segment-pollutant combination on the CWA section 303(d) List.

This conclusion is based on the staff findings that:

1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy.
2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy.
3. Zero of one samples exceed the guideline and this sample size is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating. A minimum of 16 samples is needed to determine if a beneficial use is fully supported using table 3.1.
4. Pursuant to SECTION 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.

Regional Board Staff Decision Recommendation: After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be placed on the section 303(d) list. The readily available data and information is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating.

Line of Evidence (LOE) for Decision ID 65050, Hexachlorobenzene/ HCB

Region 2

Shadow Cliffs Reservoir

LOE ID:	93214
Pollutant:	Hexachlorobenzene/ HCB
LOE Subgroup:	Pollutant-Tissue
Matrix:	Tissue
Fraction:	Fish fillet
Beneficial Use:	Commercial or recreational collection of fish, shellfish, or organisms
Number of Samples:	1
Number of Exceedances:	0
Data and Information Type:	Fish tissue analysis
Data Used to Assess Water Quality:	State Water Board staff assessed SWAMP data for Shadow Cliffs Reservoir to determine beneficial use support and results are as follows: 0 of 1 samples exceed the criterion for Hexachlorobenzene. One composite (5 fish per composite) was generated from one species: Channel Catfish. Details of the compositing protocol can be found in the March 2009 report entitled: "Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Study" (SWAMP, 2009).
Data Reference:	Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Survey. A Report of the Surface Water Ambient Monitoring Program (SWAMP). California State Water Resources Control Board, Sacramento, CA Statewide Lakes Sportfish Contamination Study 2007-2008 Contaminants in Fish from California Lakes and Reservoirs, 2007-2008: Summary Report on a Two-Year Screening Survey Cruise report for the Surface Water Ambient Monitoring Program (SWAMP) bioaccumulation screening study in California lakes and reservoirs year two (FY 07-08). Sampling dates: April 2008 - November 2008.
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	Water Quality Control Plan for the San Francisco Bay Basin: Controllable water quality factors shall not cause a detrimental increase in concentrations of toxic substances found in bottom sediments or aquatic life. Effects on aquatic organisms, wildlife, and human health will be considered.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	The modified OEHHA Fish Contaminant Goal for hexachlorobenzene in fish tissue is 2.8 ppb. This screening level assumes an average body weight of 70 kg and a consumption rate of 32 g/day for a 30 year exposure over a 70-year lifetime. This constituent is a

Guideline Reference:	carcinogen therefore the risk level is set to one in a million. A cooking reduction factor of 1 is applied for skin-off fillets. (Klasing, S., and R. Brodberg, 2008; OEHHA, 2005) Development of Fish Contaminant Goals and Advisory Tissue Levels for Common Contaminants in California Sport Fish: Chlordane, DDTs, Dieldrin, Methylmercury, PCBs, Selenium, and Toxaphene Air Toxics Hotspots Program Risk Assessment Guidelines. Part II Technical Support Document for Describing Available Cancer Potency Values.
Spatial Representation:	Data for this assessment unit was collected by one monitoring project: (SWB_FishLk)
Temporal Representation:	Data was collected on a single day 6/19/2008.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	Samples were collected, processed, and analyzed in accordance with the methods described in Quality Assurance Project Plan "Screening Study of Bioaccumulation in California Lakes and Reservoirs." (SWAMP, 2008).
QAPP Information Reference(s):	Quality Assurance Project Plan Screening Study of Bioaccumulation in California Lakes and Reservoirs. Moss Landing Marine Labs. Prepared for SWAMP BOG, 49 pages plus appendices and attachments

DECISION ID	65051	Region 2
Shadow Cliffs Reservoir		

Pollutant:	Lindane/gamma Hexachlorocyclohexane (gamma-HCH)
Final Listing Decision:	Do Not List on 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision:	New Decision
Revision Status	Revised
Impairment from Pollutant or Pollution:	Pollutant

Regional Board Staff Conclusion: This pollutant is being considered for placement on the CWA section 303(d) List under section 3.5 of the Listing Policy. Under section 3.5 a single line of evidence is necessary to assess listing status. Three lines of evidence are available in the administrative record to assess this pollutant. Zero of one samples exceed the guideline.

Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against placing this water segment-pollutant combination on the CWA section 303(d) List.

This conclusion is based on the staff findings that:

1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy.
2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy.
3. Zero of one samples exceed the guideline and this sample size is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating. A minimum of 16 samples is needed to determine if a beneficial use is fully supported using table 3.1.
4. Pursuant to SECTION 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.

Regional Board Staff Decision Recommendation: After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be placed on the section 303(d) list. The readily available data and information is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating.

Line of Evidence (LOE) for Decision ID 65051, Lindane/gamma Hexachlorocyclohexane (gamma-HCH)	Region 2
Shadow Cliffs Reservoir	

LOE ID:	93216
Pollutant:	Lindane/gamma Hexachlorocyclohexane (gamma-HCH)

LOE Subgroup:	Pollutant-Tissue
Matrix:	Tissue
Fraction:	Fish fillet
Beneficial Use:	Commercial or recreational collection of fish, shellfish, or organisms
Number of Samples:	1
Number of Exceedances:	0
Data and Information Type:	Fish tissue analysis
Data Used to Assess Water Quality:	State Water Board staff assessed SWAMP data for Shadow Cliffs Reservoir to determine beneficial use support and results are as follows: 0 of 1 samples exceed the criterion for HCH, gamma. One composite (5 fish per composite) was generated from one species: Channel Catfish. Details of the compositing protocol can be found in the March 2009 report entitled: "Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Study" (SWAMP, 2009).
Data Reference:	Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Survey. A Report of the Surface Water Ambient Monitoring Program (SWAMP). California State Water Resources Control Board, Sacramento, CA Statewide Lakes Sportfish Contamination Study 2007 2008 Contaminants in Fish from California Lakes and Reservoirs, 2007-2008: Summary Report on a Two-Year Screening Survey Cruise report for the Surface Water Ambient Monitoring Program (SWAMP) bioaccumulation screening study in California lakes and reservoirs year two (FY 07-08). Sampling dates: April 2008 - November 2008.
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	Water Quality Control Plan for the San Francisco Bay Basin: Controllable water quality factors shall not cause a detrimental increase in concentrations of toxic substances found in bottom sediments or aquatic life. Effects on aquatic organisms, wildlife, and human health will be considered.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	The modified OEHHA Fish Contaminant Goal for lindane in fish tissue is 4.6 ppb. This screening level assumes an average body weight of 70 kg and a consumption rate of 32 g/day for a 30 year exposure over a 70-year lifetime. This constituent is a carcinogen therefore the risk level is set to one in a million. A cooking reduction factor of 1 is applied for skin-off fillets.
Guideline Reference:	Development of Fish Contaminant Goals and Advisory Tissue Levels for Common Contaminants in California Sport Fish: Chlordane, DDTs, Dieldrin, Methylmercury, PCBs, Selenium, and Toxaphene Air Toxics Hotspots Program Risk Assessment Guidelines. Part II Technical Support Document for Describing Available Cancer Potency Values.
Spatial Representation:	Data for this assessment unit was collected by one monitoring project: (SWB_FishLk)
Temporal Representation:	Data was collected on a single day 6/19/2008.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	Samples were collected, processed, and analyzed in accordance with the methods described in Quality Assurance Project Plan "Screening Study of Bioaccumulation in California Lakes and Reservoirs." (SWAMP, 2008).
QAPP Information Reference(s):	Quality Assurance Project Plan Screening Study of Bioaccumulation in California Lakes and Reservoirs. Moss Landing Marine Labs. Prepared for SWAMP BOG. 49 pages plus appendices and attachments

Line of Evidence (LOE) for Decision ID 65051, Lindane/gamma Hexachlorocyclohexane (gamma-HCH)

Region 2

Shadow Cliffs Reservoir

LOE ID:	93217
Pollutant:	Lindane/gamma Hexachlorocyclohexane (gamma-HCH)

LOE Subgroup:	Pollutant-Tissue
Matrix:	Tissue
Fraction:	Fish fillet
Beneficial Use:	Cold Freshwater Habitat
Number of Samples:	1
Number of Exceedances:	0
Data and Information Type:	Fish tissue analysis
Data Used to Assess Water Quality:	State Water Board staff assessed SWAMP data for Shadow Cliffs Reservoir to determine beneficial use support and results are as follows: 0 of 1 samples exceed the criterion for HCH, gamma. One composite (5 fish per composite) was generated from one species: Channel Catfish. Details of the compositing protocol can be found in the March 2009 report entitled: "Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Study" (SWAMP, 2009).
Data Reference:	Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Survey. A Report of the Surface Water Ambient Monitoring Program (SWAMP). California State Water Resources Control Board, Sacramento, CA Statewide Lakes Sportfish Contamination Study 2007 2008 Contaminants in Fish from California Lakes and Reservoirs, 2007-2008: Summary Report on a Two-Year Screening Survey Cruise report for the Surface Water Ambient Monitoring Program (SWAMP) bioaccumulation screening study in California lakes and reservoirs year two (FY 07-08). Sampling dates: April 2008 - November 2008.
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	Water Quality Control Plan for the San Francisco Bay Basin: Controllable water quality factors shall not cause a detrimental increase in concentrations of toxic substances found in bottom sediments or aquatic life. Effects on aquatic organisms, wildlife, and human health will be considered.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	The modified OEHHA Fish Contaminant Goal for lindane in fish tissue is 4.6 ppb. This screening level assumes an average body weight of 70 kg and a consumption rate of 32 g/day for a 30 year exposure over a 70-year lifetime. This constituent is a carcinogen therefore the risk level is set to one in a million. A cooking reduction factor of 1 is applied for skin-off fillets. (Klasing, S., and R. Brodberg, 2008; OEHHA, 2005)
Guideline Reference:	National Academy of Sciences. Water Quality Criteria 1972. EPA-R3-73-033. Washington, D.C.: U.S. Environmental Protection Agency
Spatial Representation:	Data for this assessment unit was collected by one monitoring project: (SWB_FishLk)
Temporal Representation:	Data was collected on a single day 6/19/2008.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	Samples were collected, processed, and analyzed in accordance with the methods described in Quality Assurance Project Plan "Screening Study of Bioaccumulation in California Lakes and Reservoirs." (SWAMP, 2008).
QAPP Information Reference(s):	Quality Assurance Project Plan Screening Study of Bioaccumulation in California Lakes and Reservoirs. Moss Landing Marine Labs. Prepared for SWAMP BOG. 49 pages plus appendices and attachments

Line of Evidence (LOE) for Decision ID 65051, Lindane/gamma Hexachlorocyclohexane (gamma-HCH)

Region 2

Shadow Cliffs Reservoir

LOE ID:	93215
Pollutant:	Lindane/gamma Hexachlorocyclohexane (gamma-HCH)
LOE Subgroup:	Pollutant-Tissue
Matrix:	Tissue
Fraction:	Fish fillet

Beneficial Use:	Warm Freshwater Habitat
Number of Samples:	1
Number of Exceedances:	0
Data and Information Type:	Fish tissue analysis
Data Used to Assess Water Quality:	State Water Board staff assessed SWAMP data for Shadow Cliffs Reservoir to determine beneficial use support and results are as follows: 0 of 1 samples exceed the criterion for HCH, gamma. One composite (5 fish per composite) was generated from one species: Channel Catfish. Details of the compositing protocol can be found in the March 2009 report entitled: "Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Study" (SWAMP, 2009).
Data Reference:	Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Survey. A Report of the Surface Water Ambient Monitoring Program (SWAMP). California State Water Resources Control Board, Sacramento, CA Statewide Lakes Sportfish Contamination Study 2007 2008 Contaminants in Fish from California Lakes and Reservoirs, 2007-2008: Summary Report on a Two-Year Screening Survey Cruise report for the Surface Water Ambient Monitoring Program (SWAMP) bioaccumulation screening study in California lakes and reservoirs year two (FY 07-08). Sampling dates: April 2008 - November 2008.
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	Water Quality Control Plan for the San Francisco Bay Basin: Controllable water quality factors shall not cause a detrimental increase in concentrations of toxic substances found in bottom sediments or aquatic life. Effects on aquatic organisms, wildlife, and human health will be considered.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	The modified OEHHA Fish Contaminant Goal for lindane in fish tissue is 4.6 ppb. This screening level assumes an average body weight of 70 kg and a consumption rate of 32 g/day for a 30 year exposure over a 70-year lifetime. This constituent is a carcinogen therefore the risk level is set to one in a million. A cooking reduction factor of 1 is applied for skin-off fillets. (Klasing, S., and R. Brodberg, 2008; OEHHA, 2005)
Guideline Reference:	National Academy of Sciences. Water Quality Criteria 1972. EPA-R3-73-033. Washington, D.C.: U.S. Environmental Protection Agency
Spatial Representation:	Data for this assessment unit was collected by one monitoring project: (SWB_FishLk)
Temporal Representation:	Data was collected on a single day 6/19/2008.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	Samples were collected, processed, and analyzed in accordance with the methods described in Quality Assurance Project Plan "Screening Study of Bioaccumulation in California Lakes and Reservoirs." (SWAMP, 2008).
QAPP Information Reference(s):	Quality Assurance Project Plan Screening Study of Bioaccumulation in California Lakes and Reservoirs. Moss Landing Marine Labs. Prepared for SWAMP BOG. 49 pages plus appendices and attachments

DECISION ID	65052	Region 2
Shadow Cliffs Reservoir		
Pollutant:	Mirex	
Final Listing Decision:	Do Not List on 303(d) list (TMDL required list)	
Last Listing Cycle's Final Listing Decision:	New Decision	
Revision Status	Revised	
Impairment from Pollutant or Pollution:	Pollutant	
Regional Board Staff	This pollutant is being considered for placement on the CWA section 303(d) List under section 3.5 of	

Conclusion:	<p>the Listing Policy. Under section 3.5 a single line of evidence is necessary to assess listing status. One line of evidence is available in the administrative record to assess this pollutant. Zero of zero samples exceed the guideline.</p> <p>Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against placing this water segment-pollutant combination on the CWA section 303(d) List.</p> <p>This conclusion is based on the staff findings that:</p> <ol style="list-style-type: none"> 1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy. 2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy. 3. Zero of zero samples exceed the guideline and this sample size is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating. A minimum of 16 samples is needed to determine if a beneficial use is fully supported using table 3.1. 4. Pursuant to SECTION 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.
Regional Board Staff Decision Recommendation:	After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be placed on the section 303(d) list. The readily available data and information is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating.

Line of Evidence (LOE) for Decision ID 65052, Mirex

Region 2

Shadow Cliffs Reservoir

LOE ID:	93219
Pollutant:	Mirex
LOE Subgroup:	Pollutant-Tissue
Matrix:	Tissue
Fraction:	Fish fillet
Beneficial Use:	Commercial or recreational collection of fish, shellfish, or organisms
Number of Samples:	0
Number of Exceedances:	0
Data and Information Type:	Fish tissue analysis
Data Used to Assess Water Quality:	State Water Board staff assessed SWAMP data for Shadow Cliffs Reservoir to determine beneficial use support and results are as follows: 0 of 0 samples exceed the criterion for Mirex. One composite (5 fish per composite) was generated from one species: Channel Catfish. Details of the compositing protocol can be found in the March 2009 report entitled: "Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Study" (SWAMP, 2009). One composite was not used in the assessment because the laboratory data reporting limit(s) was above the objective and therefore the results could not be quantified with the level of certainty required by the Listing Policy.
Data Reference:	Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Survey. A Report of the Surface Water Ambient Monitoring Program (SWAMP). California State Water Resources Control Board, Sacramento, CA Statewide Lakes Sportfish Contamination Study 2007 2008 Contaminants in Fish from California Lakes and Reservoirs, 2007-2008: Summary Report on a Two-Year Screening Survey Cruise report for the Surface Water Ambient Monitoring Program (SWAMP) bioaccumulation screening study in California lakes and reservoirs year two (FY 07-08). Sampling dates: April 2008 - November 2008.
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	Water Quality Control Plan for the San Francisco Bay Basin: Controllable water quality factors shall not cause a detrimental increase in concentrations of toxic substances found

Objective/Criterion Reference:	in bottom sediments or aquatic life. Effects on aquatic organisms, wildlife, and human health will be considered. Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	The modified OEHHA Fish Contaminant Goal for mirex in fish tissue is 0.28 ppb. This screening level assumes an average body weight of 70 kg and a consumption rate of 32 g/day. A cooking reduction factor of 1 is applied for skin-off fillets. (Klasing, S., and R. Brodberg, 2008; OEHHA, 1992)
Guideline Reference:	Development of Fish Contaminant Goals and Advisory Tissue Levels for Common Contaminants in California Sport Fish: Chlordane, DDTs, Dieldrin, Methylmercury, PCBs, Selenium, and Toxaphene Expedited Cancer Potency Values and Proposed Regulatory Levels for Certain Proposition 65 Carcinogens.
Spatial Representation:	Data for this assessment unit was collected by one monitoring project: (SWB_FishLk)
Temporal Representation:	Data was collected on a single day 6/19/2008.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	Samples were collected, processed, and analyzed in accordance with the methods described in Quality Assurance Project Plan "Screening Study of Bioaccumulation in California Lakes and Reservoirs." (SWAMP, 2008).
QAPP Information Reference(s):	Quality Assurance Project Plan Screening Study of Bioaccumulation in California Lakes and Reservoirs. Moss Landing Marine Labs. Prepared for SWAMP BOG. 49 pages plus appendices and attachments

DECISION ID 65053 Region 2	
Shadow Cliffs Reservoir	
Pollutant:	Selenium
Final Listing Decision:	Do Not List on 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision:	New Decision
Revision Status	Revised
Impairment from Pollutant or Pollution:	Pollutant
Regional Board Staff Conclusion:	<p>This pollutant is being considered for placement on the CWA section 303(d) List under section 3.5 of the Listing Policy. Under section 3.5 a single line of evidence is necessary to assess listing status. One line of evidence is available in the administrative record to assess this pollutant. Zero of one samples exceed the guideline.</p> <p>Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against placing this water segment-pollutant combination on the CWA section 303(d) List.</p> <p>This conclusion is based on the staff findings that:</p> <ol style="list-style-type: none"> 1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy. 2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy. 3. Zero of one samples exceed the guideline and this sample size is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating. A minimum of 16 samples is needed to determine if a beneficial use is fully supported using table 3.1. 4. Pursuant to SECTION 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.
Regional Board Staff Decision Recommendation:	After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be placed on the section 303(d) list. The readily available data and information is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating.

Line of Evidence (LOE) for Decision ID 65053, Selenium	Region 2
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Shadow Cliffs Reservoir

LOE ID:	93223
Pollutant:	Selenium
LOE Subgroup:	Pollutant-Tissue
Matrix:	Tissue
Fraction:	Fish fillet
Beneficial Use:	Commercial or recreational collection of fish, shellfish, or organisms
Number of Samples:	1
Number of Exceedances:	0
Data and Information Type:	Fish tissue analysis
Data Used to Assess Water Quality:	State Water Board staff assessed SWAMP data for Shadow Cliffs Reservoir to determine beneficial use support and results are as follows: 0 of 1 samples exceed the criterion for Selenium. One composite (5 fish per composite) was generated from one species: Channel Catfish. Details of the compositing protocol can be found in the March 2009 report entitled: "Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Study" (SWAMP, 2009).
Data Reference:	Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Survey. A Report of the Surface Water Ambient Monitoring Program (SWAMP). California State Water Resources Control Board, Sacramento, CA Statewide Lakes Sportfish Contamination Study 2007 2008 Contaminants in Fish from California Lakes and Reservoirs, 2007-2008: Summary Report on a Two-Year Screening Survey Cruise report for the Surface Water Ambient Monitoring Program (SWAMP) bioaccumulation screening study in California lakes and reservoirs year two (FY 07-08). Sampling dates: April 2008 - November 2008.
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	Water Quality Control Plan for the San Francisco Bay Basin (2013): Controllable water quality factors shall not cause a detrimental increase in concentrations of toxic substances found in bottom sediments or aquatic life. Effects on aquatic organisms, wildlife, and human health will be considered.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	The OEHHA Fish Contaminant Goal for selenium in fish tissue is 7.4 ppm. This screening level assumes an average body weight of 70 kg and a consumption rate of 32 g/day. A background dietary consumption rate of 0.114 mg/day is applied for this micronutrient. (Klasing, S., and R. Brodberg, 2008)
Guideline Reference:	Development of Fish Contaminant Goals and Advisory Tissue Levels for Common Contaminants in California Sport Fish: Chlordane, DDTs, Dieldrin, Methylmercury, PCBs, Selenium, and Toxaphene
Spatial Representation:	Data for this assessment unit was collected by one monitoring project: (SWB_FishLk)
Temporal Representation:	Data was collected on a single day 6/19/2008.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	Samples were collected, processed, and analyzed in accordance with the methods described in Quality Assurance Project Plan "Screening Study of Bioaccumulation in California Lakes and Reservoirs." (SWAMP, 2008).
QAPP Information Reference(s):	Quality Assurance Project Plan Screening Study of Bioaccumulation in California Lakes and Reservoirs. Moss Landing Marine Labs. Prepared for SWAMP BOG. 49 pages plus appendices and attachments

Draft California 2016 Integrated Report (303(d) List/305(b) Report)

Supporting Information

Regional Board 2 - San Francisco Bay Region

Water Body Name: Elizabeth Lake (Alameda County)
Water Body ID: CAL2052000020000304121319
Water Body Type: Lake & Reservoir

DECISION ID 61929 **Region 2**
Elizabeth Lake (Alameda County)

Pollutant: Aldrin
Final Listing Decision: Do Not List on 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision: New Decision
Revision Status Revised
Impairment from Pollutant or Pollution: Pollutant

Regional Board Staff Conclusion: This pollutant is being considered for placement on the CWA section 303(d) List under section 3.5 of the Listing Policy. Under section 3.5 a single line of evidence is necessary to assess listing status. Two lines of evidence are available in the administrative record to assess this pollutant. Zero of one samples exceed the guideline.

Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against placing this water segment-pollutant combination on the CWA section 303(d) List.

This conclusion is based on the staff findings that:

1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy.
2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy.
3. Zero of one samples exceed the guideline and this sample size is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating. A minimum of 16 samples is needed to determine if a beneficial use is fully supported using table 3.1.
4. Pursuant to SECTION 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.

Regional Board Staff Decision Recommendation: After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be placed on the section 303(d) list. The readily available data and information is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating.

Line of Evidence (LOE) for Decision ID 61929, Aldrin **Region 2**
Elizabeth Lake (Alameda County)

LOE ID: 91739
Pollutant: Aldrin
LOE Subgroup: Pollutant-Tissue
Matrix: Tissue
Fraction: Fish fillet
Beneficial Use: Cold Freshwater Habitat
Number of Samples: 1
Number of Exceedances: 0

Data and Information Type:	Fish tissue analysis
Data Used to Assess Water Quality:	State Water Board staff assessed SWAMP data for Elizabeth Lake to determine beneficial use support and results are as follows: 0 of 1 samples exceed the criterion for Aldrin. One composite (5 fish per composite) was generated from one species: Common Carp. Details of the compositing protocol can be found in the March 2009 report entitled: "Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Study" (SWAMP, 2009).
Data Reference:	Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Survey. A Report of the Surface Water Ambient Monitoring Program (SWAMP). California State Water Resources Control Board, Sacramento, CA Statewide Lakes Sportfish Contamination Study 2007 2008 Contaminants in Fish from California Lakes and Reservoirs, 2007-2008: Summary Report on a Two-Year Screening Survey Cruise report for the Surface Water Ambient Monitoring Program (SWAMP) bioaccumulation screening study in California lakes and reservoirs year two (FY 07-08). Sampling dates: April 2008 - November 2008.
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	Water Quality Control Plan for the San Francisco Bay Basin: Controllable water quality factors shall not cause a detrimental increase in concentrations of toxic substances found in bottom sediments or aquatic life. Effects on aquatic organisms, wildlife, and human health will be considered.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	National Academy of Science guidelines (NAS 1972) establish a maximum Aldrin concentration of 100 ug/Kg (wet weight) in tissue samples for protection of aquatic life from bioaccumulation of toxic substances.
Guideline Reference:	National Academy of Sciences. Water Quality Criteria 1972. EPA-R3-73-033. Washington, D.C.: U.S. Environmental Protection Agency
Spatial Representation:	Data for this assessment unit was collected by one monitoring project: (SWB_FishLk)
Temporal Representation:	Data was collected on 11/13/2008
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	Samples were collected, processed, and analyzed in accordance with the methods described in Quality Assurance Project Plan "Screening Study of Bioaccumulation in California Lakes and Reservoirs." (SWAMP, 2008).
QAPP Information Reference(s):	Quality Assurance Project Plan Screening Study of Bioaccumulation in California Lakes and Reservoirs. Moss Landing Marine Labs. Prepared for SWAMP BOG, 49 pages plus appendices and attachments

Line of Evidence (LOE) for Decision ID 61929, Aldrin	Region 2
Elizabeth Lake (Alameda County)	

LOE ID:	91738
Pollutant:	Aldrin
LOE Subgroup:	Pollutant-Tissue
Matrix:	Tissue
Fraction:	Fish fillet
Beneficial Use:	Warm Freshwater Habitat
Number of Samples:	1
Number of Exceedances:	0
Data and Information Type:	Fish tissue analysis
Data Used to Assess Water Quality:	State Water Board staff assessed SWAMP data for Elizabeth Lake to determine beneficial use support and results are as follows: 0 of 1 samples exceed the criterion for Aldrin. One composite (5 fish per composite) was generated from one species: Common Carp. Details of the compositing protocol can be found in the March 2009 report entitled: "Contaminants

Data Reference:	<p>in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Study" (SWAMP, 2009).</p> <p>Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Survey. A Report of the Surface Water Ambient Monitoring Program (SWAMP). California State Water Resources Control Board, Sacramento, CA Statewide Lakes Sportfish Contamination Study 2007 2008</p> <p>Contaminants in Fish from California Lakes and Reservoirs, 2007-2008: Summary Report on a Two-Year Screening Survey</p> <p>Cruise report for the Surface Water Ambient Monitoring Program (SWAMP) bioaccumulation screening study in California lakes and reservoirs year two (FY 07-08). Sampling dates: April 2008 - November 2008.</p>
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	Water Quality Control Plan for the San Francisco Bay Basin: Controllable water quality factors shall not cause a detrimental increase in concentrations of toxic substances found in bottom sediments or aquatic life. Effects on aquatic organisms, wildlife, and human health will be considered.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	National Academy of Science guidelines (NAS 1972) establish a maximum Aldrin concentration of 100 ug/Kg (wet weight) in tissue samples for protection of aquatic life from bioaccumulation of toxic substances.
Guideline Reference:	National Academy of Sciences. Water Quality Criteria 1972. EPA-R3-73-033. Washington, D.C.: U.S. Environmental Protection Agency
Spatial Representation:	Data for this assessment unit was collected by one monitoring project: (SWB_FishLk)
Temporal Representation:	Data was collected on 11/13/2008
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	Samples were collected, processed, and analyzed in accordance with the methods described in Quality Assurance Project Plan "Screening Study of Bioaccumulation in California Lakes and Reservoirs." (SWAMP, 2008).
QAPP Information Reference(s):	Quality Assurance Project Plan Screening Study of Bioaccumulation in California Lakes and Reservoirs. Moss Landing Marine Labs. Prepared for SWAMP BOG. 49 pages plus appendices and attachments

DECISION ID	61930	Region 2
Elizabeth Lake (Alameda County)		
Pollutant:	Chlordane	
Final Listing Decision:	Do Not List on 303(d) list (TMDL required list)	
Last Listing Cycle's Final Listing Decision:	New Decision	
Revision Status	Revised	
Impairment from Pollutant or Pollution:	Pollutant	
Regional Board Staff Conclusion:	<p>This pollutant is being considered for placement on the CWA section 303(d) List under section 3.5 of the Listing Policy. Under section 3.5 a single line of evidence is necessary to assess listing status. Three lines of evidence are available in the administrative record to assess this pollutant. Zero of one samples exceed the guideline.</p> <p>Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against placing this water segment-pollutant combination on the CWA section 303(d) List.</p> <p>This conclusion is based on the staff findings that:</p> <ol style="list-style-type: none"> 1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy. 2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy. 3. Zero of one samples exceed the guideline and this sample size is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating. A 	

minimum of 16 samples is needed to determine if a beneficial use is fully supported using table 3.1. 4. Pursuant to SECTION 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.

Regional Board Staff Decision Recommendation: After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be placed on the section 303(d) list. The readily available data and information is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating.

**Line of Evidence (LOE) for Decision ID 61930, Chlordane
Elizabeth Lake (Alameda County)**

Region 2

LOE ID:	91740
Pollutant:	Chlordane
LOE Subgroup:	Pollutant-Tissue
Matrix:	Tissue
Fraction:	Fish fillet
Beneficial Use:	Warm Freshwater Habitat
Number of Samples:	1
Number of Exceedances:	0
Data and Information Type:	Fish tissue analysis
Data Used to Assess Water Quality:	State Water Board staff assessed SWAMP data for Elizabeth Lake to determine beneficial use support and results are as follows: 0 of 1 samples exceed the criterion for Chlordane, Total. One composite (5 fish per composite) was generated from one species: Common Carp. Details of the compositing protocol can be found in the March 2009 report entitled: "Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Study" (SWAMP, 2009). Total chlordane was calculated as the sum of the following chlordane isomers: cis- and trans-chlordane, cis- and trans-nonachlor, and oxychlordane.
Data Reference:	Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Survey. A Report of the Surface Water Ambient Monitoring Program (SWAMP). California State Water Resources Control Board, Sacramento, CA Statewide Lakes Sportfish Contamination Study 2007 2008 Contaminants in Fish from California Lakes and Reservoirs, 2007-2008: Summary Report on a Two-Year Screening Survey Cruise report for the Surface Water Ambient Monitoring Program (SWAMP) bioaccumulation screening study in California lakes and reservoirs year two (FY 07-08). Sampling dates: April 2008 - November 2008.
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	Water Quality Control Plan for the San Francisco Bay Basin: Controllable water quality factors shall not cause a detrimental increase in concentrations of toxic substances found in bottom sediments or aquatic life. Effects on aquatic organisms, wildlife, and human health will be considered.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	National Academy of Science guidelines (NAS 1972) establish a maximum total Chlordane concentration of 100 ug/Kg (wet weight) in tissue samples for protection of aquatic life from bioaccumulation of toxic substances.
Guideline Reference:	National Academy of Sciences. Water Quality Criteria 1972. EPA-R3-73-033. Washington, D.C.: U.S. Environmental Protection Agency
Spatial Representation:	Data for this assessment unit was collected by one monitoring project: (SWB_FishLk)
Temporal Representation:	Data was collected on 11/13/2008
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	Samples were collected, processed, and analyzed in accordance with the methods

QAPP Information Reference(s):

described in Quality Assurance Project Plan "Screening Study of Bioaccumulation in California Lakes and Reservoirs." (SWAMP, 2008).

[Quality Assurance Project Plan Screening Study of Bioaccumulation in California Lakes and Reservoirs. Moss Landing Marine Labs. Prepared for SWAMP BOG. 49 pages plus appendices and attachments](#)

Line of Evidence (LOE) for Decision ID 61930, Chlordane
Elizabeth Lake (Alameda County)

Region 2

LOE ID: 91742

Pollutant: Chlordane
LOE Subgroup: Pollutant-Tissue
Matrix: Tissue
Fraction: Fish fillet

Beneficial Use: Commercial or recreational collection of fish, shellfish, or organisms

Number of Samples: 1
Number of Exceedances: 0

Data and Information Type: Fish tissue analysis
Data Used to Assess Water Quality: State Water Board staff assessed SWAMP data for Elizabeth Lake to determine beneficial use support and results are as follows: 0 of 1 samples exceed the criterion for Chlordane, Total. One composite (5 fish per composite) was generated from one species: Common Carp. Details of the compositing protocol can be found in the March 2009 report entitled: "Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Study" (SWAMP, 2009). Total chlordane was calculated as the sum of the following chlordane isomers: cis- and trans-chlordane, cis- and trans-nonachlor, and oxychlordane.

Data Reference: [Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Survey. A Report of the Surface Water Ambient Monitoring Program \(SWAMP\). California State Water Resources Control Board, Sacramento, CA Statewide Lakes Sportfish Contamination Study 2007 2008](#)
[Contaminants in Fish from California Lakes and Reservoirs, 2007-2008: Summary Report on a Two-Year Screening Survey](#)
[Cruise report for the Surface Water Ambient Monitoring Program \(SWAMP\) bioaccumulation screening study in California lakes and reservoirs year two \(FY 07-08\). Sampling dates: April 2008 - November 2008.](#)

SWAMP Data: SWAMP

Water Quality Objective/Criterion: Water Quality Control Plan for the San Francisco Bay Basin: Controllable water quality factors shall not cause a detrimental increase in concentrations of toxic substances found in bottom sediments or aquatic life. Effects on aquatic organisms, wildlife, and human health will be considered.

Objective/Criterion Reference: [Water Quality Control Plan \(Basin Plan\) San Francisco Bay Basin \(Region 2\)](#)

Evaluation Guideline: The modified OEHHA Fish Contaminant Goal for total chlordane in fish tissue is 3.9 ppb. This screening level assumes an average body weight of 70 kg and a consumption rate of 32 g/day for a 30 year exposure over a 70-year lifetime. This constituent is a carcinogen therefore the risk level is set to one in a million. A cooking reduction factor of 1 is applied for skin-off fillets. (Klasing, S., and R. Brodberg, 2008)

Guideline Reference: [Development of Fish Contaminant Goals and Advisory Tissue Levels for Common Contaminants in California Sport Fish: Chlordane, DDTs, Dieldrin, Methylmercury, PCBs, Selenium, and Toxaphene](#)

Spatial Representation: Data for this assessment unit was collected by one monitoring project: (SWB_FishLk)
Temporal Representation: Data was collected on 11/13/2008
Environmental Conditions: Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information: Samples were collected, processed, and analyzed in accordance with the methods described in Quality Assurance Project Plan "Screening Study of Bioaccumulation in

QAPP Information Reference(s):	California Lakes and Reservoirs." (SWAMP, 2008). Quality Assurance Project Plan Screening Study of Bioaccumulation in California Lakes and Reservoirs. Moss Landing Marine Labs. Prepared for SWAMP BOG, 49 pages plus appendices and attachments
Line of Evidence (LOE) for Decision ID 61930, Chlordane	
Elizabeth Lake (Alameda County)	
LOE ID:	91741
Pollutant:	Chlordane
LOE Subgroup:	Pollutant-Tissue
Matrix:	Tissue
Fraction:	Fish fillet
Beneficial Use:	Cold Freshwater Habitat
Number of Samples:	1
Number of Exceedances:	0
Data and Information Type:	Fish tissue analysis
Data Used to Assess Water Quality:	State Water Board staff assessed SWAMP data for Elizabeth Lake to determine beneficial use support and results are as follows: 0 of 1 samples exceed the criterion for Chlordane, Total. One composite (5 fish per composite) was generated from one species: Common Carp. Details of the compositing protocol can be found in the March 2009 report entitled: "Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Study" (SWAMP, 2009). Total chlordane was calculated as the sum of the following chlordane isomers: cis- and trans-chlordane, cis- and trans-nonachlor, and oxychlordane.
Data Reference:	Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Survey. A Report of the Surface Water Ambient Monitoring Program (SWAMP). California State Water Resources Control Board, Sacramento, CA Statewide Lakes Sportfish Contamination Study 2007 2008 Contaminants in Fish from California Lakes and Reservoirs, 2007-2008: Summary Report on a Two-Year Screening Survey Cruise report for the Surface Water Ambient Monitoring Program (SWAMP) bioaccumulation screening study in California lakes and reservoirs year two (FY 07-08). Sampling dates: April 2008 - November 2008.
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	Water Quality Control Plan for the San Francisco Bay Basin: Controllable water quality factors shall not cause a detrimental increase in concentrations of toxic substances found in bottom sediments or aquatic life. Effects on aquatic organisms, wildlife, and human health will be considered.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	National Academy of Science guidelines (NAS 1972) establish a maximum total Chlordane concentration of 100 ug/Kg (wet weight) in tissue samples for protection of aquatic life from bioaccumulation of toxic substances.
Guideline Reference:	National Academy of Sciences. Water Quality Criteria 1972. EPA-R3-73-033. Washington, D.C.: U.S. Environmental Protection Agency
Spatial Representation:	Data for this assessment unit was collected by one monitoring project: (SWB_FishLk)
Temporal Representation:	Data was collected on 11/13/2008
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	Samples were collected, processed, and analyzed in accordance with the methods described in Quality Assurance Project Plan "Screening Study of Bioaccumulation in California Lakes and Reservoirs." (SWAMP, 2008).
QAPP Information Reference(s):	Quality Assurance Project Plan Screening Study of Bioaccumulation in California Lakes and Reservoirs. Moss Landing Marine Labs. Prepared for SWAMP BOG, 49 pages plus appendices and attachments

DECISION ID	61991	Region 2
Elizabeth Lake (Alameda County)		

Pollutant:	DDT (Dichlorodiphenyltrichloroethane)
Final Listing Decision:	Do Not List on 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision:	New Decision
Revision Status	Revised
Impairment from Pollutant or Pollution:	Pollutant
Regional Board Staff Conclusion:	<p>This pollutant is being considered for placement on the CWA section 303(d) List under section 3.5 of the Listing Policy. Under section 3.5 a single line of evidence is necessary to assess listing status. Three lines of evidence are available in the administrative record to assess this pollutant. One of one samples exceed the guideline.</p> <p>Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against placing this water segment-pollutant combination on the CWA section 303(d) List.</p> <p>This conclusion is based on the staff findings that:</p> <ol style="list-style-type: none"> 1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy. 2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy. 3. One of one samples exceed the guideline and this sample size is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating. A minimum of 16 samples is needed to determine if a beneficial use is fully supported using table 3.1. 4. Pursuant to SECTION 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.
Regional Board Staff Decision Recommendation:	After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be placed on the section 303(d) list. The readily available data and information is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating.

Line of Evidence (LOE) for Decision ID 61991, DDT (Dichlorodiphenyltrichloroethane)	Region 2
Elizabeth Lake (Alameda County)	

LOE ID:	91767
Pollutant:	Total DDT (sum of 4,4'- and 2,4'- isomers of DDT, DDE, and DDD)
LOE Subgroup:	Pollutant-Tissue
Matrix:	Tissue
Fraction:	Fish fillet
Beneficial Use:	Warm Freshwater Habitat
Number of Samples:	1
Number of Exceedances:	0
Data and Information Type:	Fish tissue analysis
Data Used to Assess Water Quality:	State Water Board staff assessed SWAMP data for Elizabeth Lake to determine beneficial use support and results are as follows: 0 of 1 samples exceed the criterion for DDT, Total. One composite (5 fish per composite) was generated from one species: Common Carp. Details of the compositing protocol can be found in the March 2009 report entitled: "Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Study" (SWAMP, 2009). Total DDT was calculated as the sum of 4,4'- and 2,4'- isomers of DDT, DDE, and DDD.
Data Reference:	Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year

[One of a Two-Year Screening Survey. A Report of the Surface Water Ambient Monitoring Program \(SWAMP\). California State Water Resources Control Board, Sacramento, CA Statewide Lakes Sportfish Contamination Study 2007 2008](#)
[Contaminants in Fish from California Lakes and Reservoirs, 2007-2008: Summary Report on a Two-Year Screening Survey](#)
[Cruise report for the Surface Water Ambient Monitoring Program \(SWAMP\) bioaccumulation screening study in California lakes and reservoirs year two \(FY 07-08\). Sampling dates: April 2008 - November 2008.](#)

SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	Water Quality Control Plan for the San Francisco Bay Basin: Controllable water quality factors shall not cause a detrimental increase in concentrations of toxic substances found in bottom sediments or aquatic life. Effects on aquatic organisms, wildlife, and human health will be considered.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	National Academy of Science guidelines (NAS 1972) establish a maximum total DDT concentration of 1000 ug/Kg (wet weight) in tissue samples for protection of aquatic life from bioaccumulation of toxic substances.
Guideline Reference:	National Academy of Sciences. Water Quality Criteria 1972. EPA-R3-73-033. Washington, D.C.: U.S. Environmental Protection Agency
Spatial Representation:	Data for this assessment unit was collected by one monitoring project: (SWB_FishLk)
Temporal Representation:	Data was collected on 11/13/2008
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	Samples were collected, processed, and analyzed in accordance with the methods described in Quality Assurance Project Plan "Screening Study of Bioaccumulation in California Lakes and Reservoirs." (SWAMP, 2008).
QAPP Information Reference(s):	Quality Assurance Project Plan Screening Study of Bioaccumulation in California Lakes and Reservoirs. Moss Landing Marine Labs. Prepared for SWAMP BOG. 49 pages plus appendices and attachments

Line of Evidence (LOE) for Decision ID 61991, DDT (Dichlorodiphenyltrichloroethane)
Elizabeth Lake (Alameda County)

Region 2

LOE ID:	91768
Pollutant:	Total DDT (sum of 4,4'- and 2,4'- isomers of DDT, DDE, and DDD)
LOE Subgroup:	Pollutant-Tissue
Matrix:	Tissue
Fraction:	Fish fillet
Beneficial Use:	Cold Freshwater Habitat
Number of Samples:	1
Number of Exceedances:	0
Data and Information Type:	Fish tissue analysis
Data Used to Assess Water Quality:	State Water Board staff assessed SWAMP data for Elizabeth Lake to determine beneficial use support and results are as follows: 0 of 1 samples exceed the criterion for DDT, Total. One composite (5 fish per composite) was generated from one species: Common Carp. Details of the compositing protocol can be found in the March 2009 report entitled: "Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Study" (SWAMP, 2009). Total DDT was calculated as the sum of 4,4'- and 2,4'- isomers of DDT, DDE, and DDD.
Data Reference:	Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Survey. A Report of the Surface Water Ambient Monitoring Program (SWAMP). California State Water Resources Control Board, Sacramento, CA Statewide Lakes Sportfish Contamination Study 2007 2008 Contaminants in Fish from California Lakes and Reservoirs, 2007-2008: Summary Report on a Two-Year Screening Survey

[Cruise report for the Surface Water Ambient Monitoring Program \(SWAMP\) bioaccumulation screening study in California lakes and reservoirs year two \(FY 07-08\). Sampling dates: April 2008 - November 2008.](#)

SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	Water Quality Control Plan for the San Francisco Bay Basin: Controllable water quality factors shall not cause a detrimental increase in concentrations of toxic substances found in bottom sediments or aquatic life. Effects on aquatic organisms, wildlife, and human health will be considered.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	National Academy of Science guidelines (NAS 1972) establish a maximum total DDT concentration of 1000 ug/Kg (wet weight) in tissue samples for protection of aquatic life from bioaccumulation of toxic substances.
Guideline Reference:	National Academy of Sciences. Water Quality Criteria 1972. EPA-R3-73-033. Washington, D.C.: U.S. Environmental Protection Agency
Spatial Representation:	Data for this assessment unit was collected by one monitoring project: (SWB_FishLk)
Temporal Representation:	Data was collected on 11/13/2008
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	Samples were collected, processed, and analyzed in accordance with the methods described in Quality Assurance Project Plan "Screening Study of Bioaccumulation in California Lakes and Reservoirs." (SWAMP, 2008).
QAPP Information Reference(s):	Quality Assurance Project Plan Screening Study of Bioaccumulation in California Lakes and Reservoirs. Moss Landing Marine Labs. Prepared for SWAMP BOG, 49 pages plus appendices and attachments

Line of Evidence (LOE) for Decision ID 61991, DDT (Dichlorodiphenyltrichloroethane)

Region 2

Elizabeth Lake (Alameda County)

LOE ID:	91769
Pollutant:	Total DDT (sum of 4,4'- and 2,4'- isomers of DDT, DDE, and DDD)
LOE Subgroup:	Pollutant-Tissue
Matrix:	Tissue
Fraction:	Fish fillet
Beneficial Use:	Commercial or recreational collection of fish, shellfish, or organisms
Number of Samples:	1
Number of Exceedances:	1
Data and Information Type:	Fish tissue analysis
Data Used to Assess Water Quality:	State Water Board staff assessed SWAMP data for Elizabeth Lake to determine beneficial use support and results are as follows: 1 of 1 samples exceed the criterion for DDT, Total. One composite (5 fish per composite) was generated from one species: Common Carp. Details of the compositing protocol can be found in the March 2009 report entitled: "Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Study" (SWAMP, 2009). Total DDT was calculated as the sum of 4,4'- and 2,4'- isomers of DDT, DDE, and DDD.
Data Reference:	Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Survey. A Report of the Surface Water Ambient Monitoring Program (SWAMP). California State Water Resources Control Board, Sacramento, CA Statewide Lakes Sportfish Contamination Study 2007 2008 Contaminants in Fish from California Lakes and Reservoirs, 2007-2008: Summary Report on a Two-Year Screening Survey Cruise report for the Surface Water Ambient Monitoring Program (SWAMP) bioaccumulation screening study in California lakes and reservoirs year two (FY 07-08). Sampling dates: April 2008 - November 2008.

SWAMP Data:	SWAMP
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Water Quality Objective/Criterion:	Water Quality Control Plan for the San Francisco Bay Basin: Controllable water quality factors shall not cause a detrimental increase in concentrations of toxic substances found in bottom sediments or aquatic life. Effects on aquatic organisms, wildlife, and human health will be considered.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	The modified OEHHA Fish Contaminant Goal for total DDT in fish tissue is 15 ppb. This screening level assumes an average body weight of 70 kg and a consumption rate of 32 g/day for a 30 year exposure over a 70-year lifetime. This constituent is a carcinogen therefore the risk level is set to one in a million. A cooking reduction factor of 1 is applied for skin-off fillets. (Klasing, S., and R. Brodberg, 2008)
Guideline Reference:	Development of Fish Contaminant Goals and Advisory Tissue Levels for Common Contaminants in California Sport Fish: Chlordane, DDTs, Dieldrin, Methylmercury, PCBs, Selenium, and Toxaphene
Spatial Representation:	Data for this assessment unit was collected by one monitoring project: (SWB_FishLk)
Temporal Representation:	Data was collected on 11/13/2008
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	Samples were collected, processed, and analyzed in accordance with the methods described in Quality Assurance Project Plan "Screening Study of Bioaccumulation in California Lakes and Reservoirs." (SWAMP, 2008).
QAPP Information Reference(s):	Quality Assurance Project Plan Screening Study of Bioaccumulation in California Lakes and Reservoirs. Moss Landing Marine Labs. Prepared for SWAMP BOG. 49 pages plus appendices and attachments

DECISION ID	61964	Region 2
Elizabeth Lake (Alameda County)		

Pollutant:	Dieldrin
Final Listing Decision:	Do Not List on 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision:	New Decision
Revision Status	Revised
Impairment from Pollutant or Pollution:	Pollutant

Regional Board Staff Conclusion: This pollutant is being considered for placement on the CWA section 303(d) List under section 3.5 of the Listing Policy. Under section 3.5 a single line of evidence is necessary to assess listing status. Three lines of evidence are available in the administrative record to assess this pollutant. Zero of one samples exceed the guideline.

Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against placing this water segment-pollutant combination on the CWA section 303(d) List.

This conclusion is based on the staff findings that:

1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy.
2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy.
3. Zero of one samples exceed the guideline and this sample size is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating. A minimum of 16 samples is needed to determine if a beneficial use is fully supported using table 3.1.
4. Pursuant to SECTION 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.

Regional Board Staff Decision Recommendation: After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be placed on the section 303(d) list. The readily available data and information is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating.

Elizabeth Lake (Alameda County)

LOE ID:	91745
Pollutant:	Dieldrin
LOE Subgroup:	Pollutant-Tissue
Matrix:	Tissue
Fraction:	Fish fillet
Beneficial Use:	Commercial or recreational collection of fish, shellfish, or organisms
Number of Samples:	0
Number of Exceedances:	0
Data and Information Type:	Fish tissue analysis
Data Used to Assess Water Quality:	State Water Board staff assessed SWAMP data for Elizabeth Lake to determine beneficial use support and results are as follows: 0 of 0 samples exceed the criterion for Dieldrin. One composite (5 fish per composite) was generated from one species: Common Carp. Details of the compositing protocol can be found in the March 2009 report entitled: "Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Study" (SWAMP, 2009). One sample were not used in the assessment because the laboratory data reporting limit(s) was above the objective and therefore the results could not be quantified with the level of certainty required by the Listing Policy.
Data Reference:	Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Survey. A Report of the Surface Water Ambient Monitoring Program (SWAMP). California State Water Resources Control Board, Sacramento, CA Statewide Lakes Sportfish Contamination Study 2007 2008 Contaminants in Fish from California Lakes and Reservoirs, 2007-2008: Summary Report on a Two-Year Screening Survey Cruise report for the Surface Water Ambient Monitoring Program (SWAMP) bioaccumulation screening study in California lakes and reservoirs year two (FY 07-08). Sampling dates: April 2008 - November 2008.
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	Water Quality Control Plan for the San Francisco Bay Basin: Controllable water quality factors shall not cause a detrimental increase in concentrations of toxic substances found in bottom sediments or aquatic life. Effects on aquatic organisms, wildlife, and human health will be considered.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	The modified OEHHA Fish Contaminant Goal for dieldrin in fish tissue is 0.32 ppb. This screening level assumes an average body weight of 70 kg and a consumption rate of 32 g/day for a 30 year exposure over a 70-year lifetime. This constituent is a carcinogen therefore the risk level is set to one in a million. A cooking reduction factor of 1 is applied for skin-off fillets. (Klasing, S., and R. Brodberg, 2008)
Guideline Reference:	Development of Fish Contaminant Goals and Advisory Tissue Levels for Common Contaminants in California Sport Fish: Chlordane, DDTs, Dieldrin, Methylmercury, PCBs, Selenium, and Toxaphene
Spatial Representation:	Data for this assessment unit was collected by one monitoring project: (SWB_FishLk)
Temporal Representation:	Data was collected on 11/13/2008
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	Samples were collected, processed, and analyzed in accordance with the methods described in Quality Assurance Project Plan "Screening Study of Bioaccumulation in California Lakes and Reservoirs." (SWAMP, 2008).
QAPP Information Reference(s):	Quality Assurance Project Plan Screening Study of Bioaccumulation in California Lakes and Reservoirs. Moss Landing Marine Labs. Prepared for SWAMP BOG. 49 pages plus appendices and attachments

Elizabeth Lake (Alameda County)

LOE ID:	91744
Pollutant:	Dieldrin
LOE Subgroup:	Pollutant-Tissue
Matrix:	Tissue
Fraction:	Fish fillet
Beneficial Use:	Cold Freshwater Habitat
Number of Samples:	1
Number of Exceedances:	0
Data and Information Type:	Fish tissue analysis
Data Used to Assess Water Quality:	State Water Board staff assessed SWAMP data for Elizabeth Lake to determine beneficial use support and results are as follows: 0 of 1 samples exceed the criterion for Dieldrin. One composite (5 fish per composite) was generated from one species: Common Carp. Details of the compositing protocol can be found in the March 2009 report entitled: "Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Study" (SWAMP, 2009).
Data Reference:	Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Survey. A Report of the Surface Water Ambient Monitoring Program (SWAMP). California State Water Resources Control Board, Sacramento, CA Statewide Lakes Sportfish Contamination Study 2007 2008 Contaminants in Fish from California Lakes and Reservoirs, 2007-2008: Summary Report on a Two-Year Screening Survey Cruise report for the Surface Water Ambient Monitoring Program (SWAMP) bioaccumulation screening study in California lakes and reservoirs year two (FY 07-08). Sampling dates: April 2008 - November 2008.
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	Water Quality Control Plan for the San Francisco Bay Basin: Controllable water quality factors shall not cause a detrimental increase in concentrations of toxic substances found in bottom sediments or aquatic life. Effects on aquatic organisms, wildlife, and human health will be considered.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	National Academy of Science guidelines (NAS 1972) establish a maximum Dieldrin concentration of 100 ug/Kg (wet weight) in tissue samples for protection of aquatic life from bioaccumulation of toxic substances.
Guideline Reference:	National Academy of Sciences. Water Quality Criteria 1972. EPA-R3-73-033. Washington, D.C.: U.S. Environmental Protection Agency
Spatial Representation:	Data for this assessment unit was collected by one monitoring project: (SWB_FishLk)
Temporal Representation:	Data was collected on 11/13/2008
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	Samples were collected, processed, and analyzed in accordance with the methods described in Quality Assurance Project Plan "Screening Study of Bioaccumulation in California Lakes and Reservoirs." (SWAMP, 2008).
QAPP Information Reference(s):	Quality Assurance Project Plan Screening Study of Bioaccumulation in California Lakes and Reservoirs. Moss Landing Marine Labs. Prepared for SWAMP BOG, 49 pages plus appendices and attachments

Elizabeth Lake (Alameda County)

LOE ID: 91743

Pollutant:	Dieldrin
LOE Subgroup:	Pollutant-Tissue
Matrix:	Tissue
Fraction:	Fish fillet
Beneficial Use:	Warm Freshwater Habitat
Number of Samples:	1
Number of Exceedances:	0
Data and Information Type:	Fish tissue analysis
Data Used to Assess Water Quality:	State Water Board staff assessed SWAMP data for Elizabeth Lake to determine beneficial use support and results are as follows: 0 of 1 samples exceed the criterion for Dieldrin. One composite (5 fish per composite) was generated from one species: Common Carp. Details of the compositing protocol can be found in the March 2009 report entitled: "Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Study" (SWAMP, 2009).
Data Reference:	Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Survey. A Report of the Surface Water Ambient Monitoring Program (SWAMP). California State Water Resources Control Board, Sacramento, CA Statewide Lakes Sportfish Contamination Study 2007 2008 Contaminants in Fish from California Lakes and Reservoirs, 2007-2008: Summary Report on a Two-Year Screening Survey Cruise report for the Surface Water Ambient Monitoring Program (SWAMP) bioaccumulation screening study in California lakes and reservoirs year two (FY 07-08). Sampling dates: April 2008 - November 2008.
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	Water Quality Control Plan for the San Francisco Bay Basin: Controllable water quality factors shall not cause a detrimental increase in concentrations of toxic substances found in bottom sediments or aquatic life. Effects on aquatic organisms, wildlife, and human health will be considered.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	National Academy of Science guidelines (NAS 1972) establish a maximum Dieldrin concentration of 100 ug/Kg (wet weight) in tissue samples for protection of aquatic life from bioaccumulation of toxic substances.
Guideline Reference:	National Academy of Sciences. Water Quality Criteria 1972. EPA-R3-73-033. Washington, D.C.: U.S. Environmental Protection Agency
Spatial Representation:	Data for this assessment unit was collected by one monitoring project: (SWB_FishLk)
Temporal Representation:	Data was collected on 11/13/2008
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	Samples were collected, processed, and analyzed in accordance with the methods described in Quality Assurance Project Plan "Screening Study of Bioaccumulation in California Lakes and Reservoirs." (SWAMP, 2008).
QAPP Information Reference(s):	Quality Assurance Project Plan Screening Study of Bioaccumulation in California Lakes and Reservoirs. Moss Landing Marine Labs. Prepared for SWAMP BOG. 49 pages plus appendices and attachments

DECISION ID	61967	Region 2
Elizabeth Lake (Alameda County)		

Pollutant:	Endosulfan
Final Listing Decision:	Do Not List on 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision:	New Decision
Revision Status	Revised
Impairment from Pollutant or Pollution:	Pollutant

**Regional Board Staff
Conclusion:**

This pollutant is being considered for placement on the CWA section 303(d) List under section 3.5 of the Listing Policy. Under section 3.5 a single line of evidence is necessary to assess listing status. Three lines of evidence are available in the administrative record to assess this pollutant. Zero of one samples exceed the guideline.

Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against placing this water segment-pollutant combination on the CWA section 303(d) List.

This conclusion is based on the staff findings that:

1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy.
2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy.
3. Zero of one samples exceed the guideline and this sample size is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating. A minimum of 16 samples is needed to determine if a beneficial use is fully supported using table 3.1.
4. Pursuant to SECTION 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.

**Regional Board Staff Decision
Recommendation:**

After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be placed on the section 303(d) list. The readily available data and information is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating.

**Line of Evidence (LOE) for Decision ID 61967, Endosulfan
Elizabeth Lake (Alameda County)**

Region 2

LOE ID:	91748
Pollutant:	Endosulfan
LOE Subgroup:	Pollutant-Tissue
Matrix:	Tissue
Fraction:	Fish fillet
Beneficial Use:	Commercial or recreational collection of fish, shellfish, or organisms
Number of Samples:	1
Number of Exceedances:	0
Data and Information Type:	Fish tissue analysis
Data Used to Assess Water Quality:	State Water Board staff assessed SWAMP data for Elizabeth Lake to determine beneficial use support and results are as follows: 0 of 1 samples exceed the criterion for Endosulfan I. One composite (5 fish per composite) was generated from one species: Common Carp. Details of the compositing protocol can be found in the March 2009 report entitled: "Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Study" (SWAMP, 2009).
Data Reference:	Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Survey. A Report of the Surface Water Ambient Monitoring Program (SWAMP). California State Water Resources Control Board, Sacramento, CA Statewide Lakes Sportfish Contamination Study 2007 2008 Contaminants in Fish from California Lakes and Reservoirs, 2007-2008: Summary Report on a Two-Year Screening Survey Cruise report for the Surface Water Ambient Monitoring Program (SWAMP) bioaccumulation screening study in California lakes and reservoirs year two (FY 07-08). Sampling dates: April 2008 - November 2008.
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	Water Quality Control Plan for the San Francisco Bay Basin: Controllable water quality factors shall not cause a detrimental increase in concentrations of toxic substances found in bottom sediments or aquatic life. Effects on aquatic organisms, wildlife, and human

Objective/Criterion Reference:	health will be considered. Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	The modified OEHHA Fish Contaminant Goal for endosulfan (I and II) in fish tissue is 13,000 ppb. This screening level assumes an average body weight of 70 kg and a consumption rate of 32 g/day. A cooking reduction factor of 1 is applied for skin-off fillets. (Klasing, S., and R. Brodberg, 2008; USEPA, 2000)
Guideline Reference:	Development of Fish Contaminant Goals and Advisory Tissue Levels for Common Contaminants in California Sport Fish: Chlordane, DDTs, Dieldrin, Methylmercury, PCBs, Selenium, and Toxaphene Guidance for Assessing Chemical Contaminant Data for Use In Fish Advisories Volume 1: Fish Sampling and Analysis
Spatial Representation:	Data for this assessment unit was collected by one monitoring project: (SWB_FishLk)
Temporal Representation:	Data was collected on 11/13/2008
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	Samples were collected, processed, and analyzed in accordance with the methods described in Quality Assurance Project Plan "Screening Study of Bioaccumulation in California Lakes and Reservoirs." (SWAMP, 2008).
QAPP Information Reference(s):	Quality Assurance Project Plan Screening Study of Bioaccumulation in California Lakes and Reservoirs. Moss Landing Marine Labs. Prepared for SWAMP BOG. 49 pages plus appendices and attachments

Line of Evidence (LOE) for Decision ID 61967, Endosulfan

Region 2

Elizabeth Lake (Alameda County)

LOE ID:	91746
Pollutant:	Endosulfan
LOE Subgroup:	Pollutant-Tissue
Matrix:	Tissue
Fraction:	Fish fillet
Beneficial Use:	Warm Freshwater Habitat
Number of Samples:	1
Number of Exceedances:	0
Data and Information Type:	Fish tissue analysis
Data Used to Assess Water Quality:	State Water Board staff assessed SWAMP data for Elizabeth Lake to determine beneficial use support and results are as follows: 0 of 1 samples exceed the criterion for Endosulfan I. One composite (5 fish per composite) was generated from one species: Common Carp. Details of the compositing protocol can be found in the March 2009 report entitled: "Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Study" (SWAMP, 2009).
Data Reference:	Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Survey. A Report of the Surface Water Ambient Monitoring Program (SWAMP). California State Water Resources Control Board, Sacramento, CA Statewide Lakes Sportfish Contamination Study 2007 2008 Contaminants in Fish from California Lakes and Reservoirs, 2007-2008: Summary Report on a Two-Year Screening Survey Cruise report for the Surface Water Ambient Monitoring Program (SWAMP) bioaccumulation screening study in California lakes and reservoirs year two (FY 07-08). Sampling dates: April 2008 - November 2008.
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	Water Quality Control Plan for the San Francisco Bay Basin: Controllable water quality factors shall not cause a detrimental increase in concentrations of toxic substances found in bottom sediments or aquatic life. Effects on aquatic organisms, wildlife, and human health will be considered.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)

Evaluation Guideline:	National Academy of Science guidelines (NAS 1972) establish a maximum Endosulfan, Total concentration of 100 ug/Kg (wet weight) in tissue samples for protection of aquatic life from bioaccumulation of toxic substances.
Guideline Reference:	National Academy of Sciences. Water Quality Criteria 1972. EPA-R3-73-033. Washington, D.C.: U.S. Environmental Protection Agency
Spatial Representation:	Data for this assessment unit was collected by one monitoring project: (SWB_FishLk)
Temporal Representation:	Data was collected on 11/13/2008
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	Samples were collected, processed, and analyzed in accordance with the methods described in Quality Assurance Project Plan "Screening Study of Bioaccumulation in California Lakes and Reservoirs." (SWAMP, 2008).
QAPP Information Reference(s):	Quality Assurance Project Plan Screening Study of Bioaccumulation in California Lakes and Reservoirs. Moss Landing Marine Labs. Prepared for SWAMP BOG, 49 pages plus appendices and attachments

Line of Evidence (LOE) for Decision ID 61967, Endosulfan
Elizabeth Lake (Alameda County)

Region 2

LOE ID:	91747
Pollutant:	Endosulfan
LOE Subgroup:	Pollutant-Tissue
Matrix:	Tissue
Fraction:	Fish fillet
Beneficial Use:	Cold Freshwater Habitat
Number of Samples:	1
Number of Exceedances:	0
Data and Information Type:	Fish tissue analysis
Data Used to Assess Water Quality:	State Water Board staff assessed SWAMP data for Elizabeth Lake to determine beneficial use support and results are as follows: 0 of 1 samples exceed the criterion for Endosulfan I. One composite (5 fish per composite) was generated from one species: Common Carp. Details of the compositing protocol can be found in the March 2009 report entitled: "Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Study" (SWAMP, 2009).
Data Reference:	Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Survey. A Report of the Surface Water Ambient Monitoring Program (SWAMP). California State Water Resources Control Board, Sacramento, CA Statewide Lakes Sportfish Contamination Study 2007 2008 Contaminants in Fish from California Lakes and Reservoirs, 2007-2008: Summary Report on a Two-Year Screening Survey Cruise report for the Surface Water Ambient Monitoring Program (SWAMP) bioaccumulation screening study in California lakes and reservoirs year two (FY 07-08). Sampling dates: April 2008 - November 2008.
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	Water Quality Control Plan for the San Francisco Bay Basin: Controllable water quality factors shall not cause a detrimental increase in concentrations of toxic substances found in bottom sediments or aquatic life. Effects on aquatic organisms, wildlife, and human health will be considered.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	National Academy of Science guidelines (NAS 1972) establish a maximum Endosulfan, Total concentration of 100 ug/Kg (wet weight) in tissue samples for protection of aquatic life from bioaccumulation of toxic substances.
Guideline Reference:	National Academy of Sciences. Water Quality Criteria 1972. EPA-R3-73-033. Washington, D.C.: U.S. Environmental Protection Agency

Spatial Representation:	Data for this assessment unit was collected by one monitoring project: (SWB_FishLk)
Temporal Representation:	Data was collected on 11/13/2008
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	Samples were collected, processed, and analyzed in accordance with the methods described in Quality Assurance Project Plan "Screening Study of Bioaccumulation in California Lakes and Reservoirs." (SWAMP, 2008).
QAPP Information Reference(s):	Quality Assurance Project Plan Screening Study of Bioaccumulation in California Lakes and Reservoirs. Moss Landing Marine Labs. Prepared for SWAMP BOG. 49 pages plus appendices and attachments

DECISION ID	61968	Region 2
Elizabeth Lake (Alameda County)		

Pollutant: Final Listing Decision: Last Listing Cycle's Final Listing Decision: Revision Status Impairment from Pollutant or Pollution:	Endrin Do Not List on 303(d) list (TMDL required list) New Decision Revised Pollutant
Regional Board Staff Conclusion:	<p>This pollutant is being considered for placement on the CWA section 303(d) List under section 3.5 of the Listing Policy. Under section 3.5 a single line of evidence is necessary to assess listing status. Three lines of evidence are available in the administrative record to assess this pollutant. Zero of one samples exceed the guideline.</p> <p>Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against placing this water segment-pollutant combination on the CWA section 303(d) List.</p> <p>This conclusion is based on the staff findings that:</p> <ol style="list-style-type: none"> 1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy. 2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy. 3. Zero of one samples exceed the guideline and this sample size is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating. A minimum of 16 samples is needed to determine if a beneficial use is fully supported using table 3.1. 4. Pursuant to SECTION 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met. <p>After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be placed on the section 303(d) list. The readily available data and information is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating.</p>
Regional Board Staff Decision Recommendation:	<p>After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be placed on the section 303(d) list. The readily available data and information is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating.</p>

Line of Evidence (LOE) for Decision ID 61968, Endrin	Region 2
Elizabeth Lake (Alameda County)	

LOE ID: Pollutant: LOE Subgroup: Matrix: Fraction: Beneficial Use: Number of Samples: Number of Exceedances:	91751 Endrin Pollutant-Tissue Tissue Fish fillet Commercial or recreational collection of fish, shellfish, or organisms 1 0
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Data and Information Type:	Fish tissue analysis
Data Used to Assess Water Quality:	State Water Board staff assessed SWAMP data for Elizabeth Lake to determine beneficial use support and results are as follows: 0 of 1 samples exceed the criterion for Endrin. One composite (5 fish per composite) was generated from one species: Common Carp. Details of the compositing protocol can be found in the March 2009 report entitled: "Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Study" (SWAMP, 2009).
Data Reference:	Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Survey. A Report of the Surface Water Ambient Monitoring Program (SWAMP). California State Water Resources Control Board, Sacramento, CA Statewide Lakes Sportfish Contamination Study 2007 2008 Contaminants in Fish from California Lakes and Reservoirs, 2007-2008: Summary Report on a Two-Year Screening Survey Cruise report for the Surface Water Ambient Monitoring Program (SWAMP) bioaccumulation screening study in California lakes and reservoirs year two (FY 07-08). Sampling dates: April 2008 - November 2008.
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	Water Quality Control Plan for the San Francisco Bay Basin: Controllable water quality factors shall not cause a detrimental increase in concentrations of toxic substances found in bottom sediments or aquatic life. Effects on aquatic organisms, wildlife, and human health will be considered.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	The modified OEHHA Fish Contaminant Goal for endrin in fish tissue is 660 ppb. This screening level assumes an average body weight of 70 kg and a consumption rate of 32 g/day. A cooking reduction factor of 1 is applied for skin-off fillets. (Klasing, S., and R. Brodberg, 2008; USEPA, 2000)
Guideline Reference:	Development of Fish Contaminant Goals and Advisory Tissue Levels for Common Contaminants in California Sport Fish: Chlordane, DDTs, Dieldrin, Methylmercury, PCBs, Selenium, and Toxaphene Guidance for Assessing Chemical Contaminant Data for Use In Fish Advisories Volume 1: Fish Sampling and Analysis
Spatial Representation:	Data for this assessment unit was collected by one monitoring project: (SWB_FishLk)
Temporal Representation:	Data was collected on 11/13/2008
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	Samples were collected, processed, and analyzed in accordance with the methods described in Quality Assurance Project Plan "Screening Study of Bioaccumulation in California Lakes and Reservoirs." (SWAMP, 2008).
QAPP Information Reference(s):	Quality Assurance Project Plan Screening Study of Bioaccumulation in California Lakes and Reservoirs. Moss Landing Marine Labs. Prepared for SWAMP BOG, 49 pages plus appendices and attachments

Line of Evidence (LOE) for Decision ID 61968, Endrin
Elizabeth Lake (Alameda County)

Region 2

LOE ID:	91750
Pollutant:	Endrin
LOE Subgroup:	Pollutant-Tissue
Matrix:	Tissue
Fraction:	Fish fillet
Beneficial Use:	Cold Freshwater Habitat
Number of Samples:	1
Number of Exceedances:	0
Data and Information Type:	Fish tissue analysis

Data Used to Assess Water Quality:	State Water Board staff assessed SWAMP data for Elizabeth Lake to determine beneficial use support and results are as follows: 0 of 1 samples exceed the criterion for Endrin. One composite (5 fish per composite) was generated from one species: Common Carp. Details of the compositing protocol can be found in the March 2009 report entitled: "Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Study" (SWAMP, 2009).
Data Reference:	Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Survey. A Report of the Surface Water Ambient Monitoring Program (SWAMP). California State Water Resources Control Board, Sacramento, CA Statewide Lakes Sportfish Contamination Study 2007 2008 Contaminants in Fish from California Lakes and Reservoirs, 2007-2008: Summary Report on a Two-Year Screening Survey Cruise report for the Surface Water Ambient Monitoring Program (SWAMP) bioaccumulation screening study in California lakes and reservoirs year two (FY 07-08). Sampling dates: April 2008 - November 2008.
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	Water Quality Control Plan for the San Francisco Bay Basin: Controllable water quality factors shall not cause a detrimental increase in concentrations of toxic substances found in bottom sediments or aquatic life. Effects on aquatic organisms, wildlife, and human health will be considered.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	National Academy of Science guidelines (NAS 1972) establish a maximum Endrin concentration of 100 ug/Kg (wet weight) in tissue samples for protection of aquatic life from bioaccumulation of toxic substances.
Guideline Reference:	National Academy of Sciences. Water Quality Criteria 1972. EPA-R3-73-033. Washington, D.C.: U.S. Environmental Protection Agency
Spatial Representation:	Data for this assessment unit was collected by one monitoring project: (SWB_FishLk)
Temporal Representation:	Data was collected on 11/13/2008
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	Samples were collected, processed, and analyzed in accordance with the methods described in Quality Assurance Project Plan "Screening Study of Bioaccumulation in California Lakes and Reservoirs." (SWAMP, 2008).
QAPP Information Reference(s):	Quality Assurance Project Plan Screening Study of Bioaccumulation in California Lakes and Reservoirs. Moss Landing Marine Labs. Prepared for SWAMP BOG, 49 pages plus appendices and attachments

**Line of Evidence (LOE) for Decision ID 61968, Endrin
Elizabeth Lake (Alameda County)**

Region 2

LOE ID:	91749
Pollutant:	Endrin
LOE Subgroup:	Pollutant-Tissue
Matrix:	Tissue
Fraction:	Fish fillet
Beneficial Use:	Warm Freshwater Habitat
Number of Samples:	1
Number of Exceedances:	0
Data and Information Type:	Fish tissue analysis
Data Used to Assess Water Quality:	State Water Board staff assessed SWAMP data for Elizabeth Lake to determine beneficial use support and results are as follows: 0 of 1 samples exceed the criterion for Endrin. One composite (5 fish per composite) was generated from one species: Common Carp. Details of the compositing protocol can be found in the March 2009 report entitled: "Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Study" (SWAMP, 2009).

Data Reference:	Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Survey. A Report of the Surface Water Ambient Monitoring Program (SWAMP). California State Water Resources Control Board, Sacramento, CA Statewide Lakes Sportfish Contamination Study 2007 2008 Contaminants in Fish from California Lakes and Reservoirs, 2007-2008: Summary Report on a Two-Year Screening Survey Cruise report for the Surface Water Ambient Monitoring Program (SWAMP) bioaccumulation screening study in California lakes and reservoirs year two (FY 07-08). Sampling dates: April 2008 - November 2008.
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	Water Quality Control Plan for the San Francisco Bay Basin: Controllable water quality factors shall not cause a detrimental increase in concentrations of toxic substances found in bottom sediments or aquatic life. Effects on aquatic organisms, wildlife, and human health will be considered.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	National Academy of Science guidelines (NAS 1972) establish a maximum Endrin concentration of 100 ug/Kg (wet weight) in tissue samples for protection of aquatic life from bioaccumulation of toxic substances.
Guideline Reference:	National Academy of Sciences. Water Quality Criteria 1972. EPA-R3-73-033. Washington, D.C.: U.S. Environmental Protection Agency
Spatial Representation:	Data for this assessment unit was collected by one monitoring project: (SWB_FishLk)
Temporal Representation:	Data was collected on 11/13/2008
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	Samples were collected, processed, and analyzed in accordance with the methods described in Quality Assurance Project Plan "Screening Study of Bioaccumulation in California Lakes and Reservoirs." (SWAMP, 2008).
QAPP Information Reference(s):	Quality Assurance Project Plan Screening Study of Bioaccumulation in California Lakes and Reservoirs. Moss Landing Marine Labs. Prepared for SWAMP BOG. 49 pages plus appendices and attachments

DECISION ID	61969	Region 2
Elizabeth Lake (Alameda County)		
Pollutant:	Heptachlor	
Final Listing Decision:	Do Not List on 303(d) list (TMDL required list)	
Last Listing Cycle's Final Listing Decision:	New Decision	
Revision Status	Revised	
Impairment from Pollutant or Pollution:	Pollutant	
Regional Board Staff Conclusion:	<p>This pollutant is being considered for placement on the CWA section 303(d) List under section 3.5 of the Listing Policy. Under section 3.5 a single line of evidence is necessary to assess listing status. Two lines of evidence are available in the administrative record to assess this pollutant. Zero of one samples exceed the guideline.</p> <p>Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against placing this water segment-pollutant combination on the CWA section 303(d) List.</p> <p>This conclusion is based on the staff findings that:</p> <ol style="list-style-type: none"> 1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy. 2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy. 3. Zero of one samples exceed the guideline and this sample size is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating. A minimum of 16 samples is needed to determine if a beneficial use is fully supported using table 3.1. 4. Pursuant to SECTION 3.11 of the Listing Policy, no additional data and information are available 	

indicating that standards are not met.

Regional Board Staff Decision Recommendation: After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be placed on the section 303(d) list. The readily available data and information is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating.

**Line of Evidence (LOE) for Decision ID 61969, Heptachlor
Elizabeth Lake (Alameda County)**

Region 2

LOE ID:	91752
Pollutant:	Heptachlor
LOE Subgroup:	Pollutant-Tissue
Matrix:	Tissue
Fraction:	Fish fillet
Beneficial Use:	Cold Freshwater Habitat
Number of Samples:	1
Number of Exceedances:	0
Data and Information Type:	Fish tissue analysis
Data Used to Assess Water Quality:	State Water Board staff assessed SWAMP data for Elizabeth Lake to determine beneficial use support and results are as follows: 0 of 1 samples exceed the criterion for Heptachlor. One composite (5 fish per composite) was generated from one species: Common Carp. Details of the compositing protocol can be found in the March 2009 report entitled: "Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Study" (SWAMP, 2009).
Data Reference:	Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Survey. A Report of the Surface Water Ambient Monitoring Program (SWAMP). California State Water Resources Control Board, Sacramento, CA Statewide Lakes Sportfish Contamination Study 2007 2008 Contaminants in Fish from California Lakes and Reservoirs, 2007-2008: Summary Report on a Two-Year Screening Survey Cruise report for the Surface Water Ambient Monitoring Program (SWAMP) bioaccumulation screening study in California lakes and reservoirs year two (FY 07-08). Sampling dates: April 2008 - November 2008.
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	Water Quality Control Plan for the San Francisco Bay Basin: Controllable water quality factors shall not cause a detrimental increase in concentrations of toxic substances found in bottom sediments or aquatic life. Effects on aquatic organisms, wildlife, and human health will be considered.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	National Academy of Science guidelines (NAS 1972) establish a maximum Heptachlor concentration of 100 ug/Kg (wet weight) in tissue samples for protection of aquatic life from bioaccumulation of toxic substances.
Guideline Reference:	National Academy of Sciences. Water Quality Criteria 1972. EPA-R3-73-033. Washington, D.C.: U.S. Environmental Protection Agency
Spatial Representation:	Data for this assessment unit was collected by one monitoring project: (SWB_FishLk)
Temporal Representation:	Data was collected on 11/13/2008
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	Samples were collected, processed, and analyzed in accordance with the methods described in Quality Assurance Project Plan "Screening Study of Bioaccumulation in California Lakes and Reservoirs." (SWAMP, 2008).
QAPP Information Reference(s):	Quality Assurance Project Plan Screening Study of Bioaccumulation in California Lakes and Reservoirs. Moss Landing Marine Labs. Prepared for SWAMP BOG, 49 pages plus

**Line of Evidence (LOE) for Decision ID 61969, Heptachlor
Elizabeth Lake (Alameda County)****Region 2**

LOE ID:	91753
Pollutant:	Heptachlor
LOE Subgroup:	Pollutant-Tissue
Matrix:	Tissue
Fraction:	Fish fillet
Beneficial Use:	Warm Freshwater Habitat
Number of Samples:	1
Number of Exceedances:	0
Data and Information Type:	Fish tissue analysis
Data Used to Assess Water Quality:	State Water Board staff assessed SWAMP data for Elizabeth Lake to determine beneficial use support and results are as follows: 0 of 1 samples exceed the criterion for Heptachlor. One composite (5 fish per composite) was generated from one species: Common Carp. Details of the compositing protocol can be found in the March 2009 report entitled: "Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Study" (SWAMP, 2009).
Data Reference:	Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Survey. A Report of the Surface Water Ambient Monitoring Program (SWAMP). California State Water Resources Control Board, Sacramento, CA Statewide Lakes Sportfish Contamination Study 2007 2008 Contaminants in Fish from California Lakes and Reservoirs, 2007-2008: Summary Report on a Two-Year Screening Survey Cruise report for the Surface Water Ambient Monitoring Program (SWAMP) bioaccumulation screening study in California lakes and reservoirs year two (FY 07-08). Sampling dates: April 2008 - November 2008.
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	Water Quality Control Plan for the San Francisco Bay Basin: Controllable water quality factors shall not cause a detrimental increase in concentrations of toxic substances found in bottom sediments or aquatic life. Effects on aquatic organisms, wildlife, and human health will be considered.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	National Academy of Science guidelines (NAS 1972) establish a maximum Heptachlor concentration of 100 ug/Kg (wet weight) in tissue samples for protection of aquatic life from bioaccumulation of toxic substances.
Guideline Reference:	National Academy of Sciences. Water Quality Criteria 1972. EPA-R3-73-033. Washington, D.C.: U.S. Environmental Protection Agency
Spatial Representation:	Data for this assessment unit was collected by one monitoring project: (SWB_FishLk)
Temporal Representation:	Data was collected on 11/13/2008
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	Samples were collected, processed, and analyzed in accordance with the methods described in Quality Assurance Project Plan "Screening Study of Bioaccumulation in California Lakes and Reservoirs." (SWAMP, 2008).
QAPP Information Reference(s):	Quality Assurance Project Plan Screening Study of Bioaccumulation in California Lakes and Reservoirs. Moss Landing Marine Labs. Prepared for SWAMP BOG. 49 pages plus appendices and attachments

Pollutant:	Heptachlor epoxide
Final Listing Decision:	Do Not List on 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision:	New Decision
Revision Status	Revised
Impairment from Pollutant or Pollution:	Pollutant

Regional Board Staff Conclusion: This pollutant is being considered for placement on the CWA section 303(d) List under section 3.5 of the Listing Policy. Under section 3.5 a single line of evidence is necessary to assess listing status. Three lines of evidence are available in the administrative record to assess this pollutant. Zero of one samples exceed the guideline.

Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against placing this water segment-pollutant combination on the CWA section 303(d) List.

This conclusion is based on the staff findings that:

1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy.
2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy.
3. Zero of one samples exceed the guideline and this sample size is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating. A minimum of 16 samples is needed to determine if a beneficial use is fully supported using table 3.1.
4. Pursuant to SECTION 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.

Regional Board Staff Decision Recommendation: After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be placed on the section 303(d) list. The readily available data and information is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating.

Line of Evidence (LOE) for Decision ID 61971, Heptachlor epoxide Elizabeth Lake (Alameda County)

Region 2

LOE ID: 91756

Pollutant:	Heptachlor epoxide
LOE Subgroup:	Pollutant-Tissue
Matrix:	Tissue
Fraction:	Fish fillet

Beneficial Use: Commercial or recreational collection of fish, shellfish, or organisms

Number of Samples:	0
Number of Exceedances:	0

Data and Information Type:	Fish tissue analysis
Data Used to Assess Water Quality:	State Water Board staff assessed SWAMP data for Elizabeth Lake to determine beneficial use support and results are as follows: 0 of 0 samples exceed the criterion for Heptachlor epoxide. One composite (5 fish per composite) was generated from one species: Common Carp. Details of the compositing protocol can be found in the March 2009 report entitled: "Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Study" (SWAMP, 2009). One composite was not used in the assessment because the laboratory data reporting limit(s) was above the objective and therefore the results could not be quantified with the level of certainty required by the Listing Policy.

Data Reference: [Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Survey. A Report of the Surface Water Ambient Monitoring Program \(SWAMP\). California State Water Resources Control Board, Sacramento, CA Statewide Lakes Sportfish Contamination Study 2007 2008](#)

[Contaminants in Fish from California Lakes and Reservoirs, 2007-2008: Summary Report on a Two-Year Screening Survey](#)
[Cruise report for the Surface Water Ambient Monitoring Program \(SWAMP\) bioaccumulation screening study in California lakes and reservoirs year two \(FY 07-08\). Sampling dates: April 2008 - November 2008.](#)

SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	Water Quality Control Plan for the San Francisco Bay Basin: Controllable water quality factors shall not cause a detrimental increase in concentrations of toxic substances found in bottom sediments or aquatic life. Effects on aquatic organisms, wildlife, and human health will be considered.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	The modified OEHHA Fish Contaminant Goal for heptachlor epoxide in fish tissue is 0.93 ppb. This screening level assumes an average body weight of 70 kg and a consumption rate of 32 g/day for a 30 year exposure over a 70-year lifetime. This constituent is a carcinogen therefore the risk level is set to one in a million. A cooking reduction factor of 1 is applied for skin-off fillets. (Klasing, S., and R. Brodberg, 2008; OEHHA, 1999)
Guideline Reference:	Development of Fish Contaminant Goals and Advisory Tissue Levels for Common Contaminants in California Sport Fish: Chlordane, DDTs, Dieldrin, Methylmercury, PCBs, Selenium, and Toxaphene Public Health Goal for Heptachlor and Heptachlor Epoxide in Drinking Water
Spatial Representation:	Data for this assessment unit was collected by one monitoring project: (SWB_FishLk)
Temporal Representation:	Data was collected on 11/13/2008
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	Samples were collected, processed, and analyzed in accordance with the methods described in Quality Assurance Project Plan "Screening Study of Bioaccumulation in California Lakes and Reservoirs." (SWAMP, 2008).
QAPP Information Reference(s):	Quality Assurance Project Plan Screening Study of Bioaccumulation in California Lakes and Reservoirs. Moss Landing Marine Labs. Prepared for SWAMP BOG. 49 pages plus appendices and attachments

**Line of Evidence (LOE) for Decision ID 61971, Heptachlor epoxide
Elizabeth Lake (Alameda County)**

Region 2

LOE ID:	91755
Pollutant:	Heptachlor epoxide
LOE Subgroup:	Pollutant-Tissue
Matrix:	Tissue
Fraction:	Fish fillet
Beneficial Use:	Cold Freshwater Habitat
Number of Samples:	1
Number of Exceedances:	0
Data and Information Type:	Fish tissue analysis
Data Used to Assess Water Quality:	State Water Board staff assessed SWAMP data for Elizabeth Lake to determine beneficial use support and results are as follows: 0 of 1 samples exceed the criterion for Heptachlor epoxide. One composite (5 fish per composite) was generated from one species: Common Carp. Details of the compositing protocol can be found in the March 2009 report entitled: "Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Study" (SWAMP, 2009).
Data Reference:	Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Survey. A Report of the Surface Water Ambient Monitoring Program (SWAMP). California State Water Resources Control Board, Sacramento, CA Statewide Lakes Sportfish Contamination Study 2007 2008 Contaminants in Fish from California Lakes and Reservoirs, 2007-2008: Summary Report on a Two-Year Screening Survey

[Cruise report for the Surface Water Ambient Monitoring Program \(SWAMP\) bioaccumulation screening study in California lakes and reservoirs year two \(FY 07-08\). Sampling dates: April 2008 - November 2008.](#)

SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	Water Quality Control Plan for the San Francisco Bay Basin: Controllable water quality factors shall not cause a detrimental increase in concentrations of toxic substances found in bottom sediments or aquatic life. Effects on aquatic organisms, wildlife, and human health will be considered.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	National Academy of Science guidelines (NAS 1972) establish a maximum Heptachlor Epoxide concentration of 100 ug/Kg (wet weight) in tissue samples for protection of aquatic life from bioaccumulation of toxic substances.
Guideline Reference:	National Academy of Sciences. Water Quality Criteria 1972. EPA-R3-73-033. Washington, D.C.: U.S. Environmental Protection Agency
Spatial Representation:	Data for this assessment unit was collected by one monitoring project: (SWB_FishLk)
Temporal Representation:	Data was collected on 11/13/2008
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	Samples were collected, processed, and analyzed in accordance with the methods described in Quality Assurance Project Plan "Screening Study of Bioaccumulation in California Lakes and Reservoirs." (SWAMP, 2008).
QAPP Information Reference(s):	Quality Assurance Project Plan Screening Study of Bioaccumulation in California Lakes and Reservoirs. Moss Landing Marine Labs. Prepared for SWAMP BOG, 49 pages plus appendices and attachments

Line of Evidence (LOE) for Decision ID 61971, Heptachlor epoxide	Region 2
Elizabeth Lake (Alameda County)	

LOE ID:	91754
Pollutant:	Heptachlor epoxide
LOE Subgroup:	Pollutant-Tissue
Matrix:	Tissue
Fraction:	Fish fillet
Beneficial Use:	Warm Freshwater Habitat
Number of Samples:	1
Number of Exceedances:	0
Data and Information Type:	Fish tissue analysis
Data Used to Assess Water Quality:	State Water Board staff assessed SWAMP data for Elizabeth Lake to determine beneficial use support and results are as follows: 0 of 1 samples exceed the criterion for Heptachlor epoxide. One composite (5 fish per composite) was generated from one species: Common Carp. Details of the compositing protocol can be found in the March 2009 report entitled: "Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Study" (SWAMP, 2009).
Data Reference:	Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Survey. A Report of the Surface Water Ambient Monitoring Program (SWAMP). California State Water Resources Control Board, Sacramento, CA Statewide Lakes Sportfish Contamination Study 2007 2008 Contaminants in Fish from California Lakes and Reservoirs, 2007-2008: Summary Report on a Two-Year Screening Survey Cruise report for the Surface Water Ambient Monitoring Program (SWAMP) bioaccumulation screening study in California lakes and reservoirs year two (FY 07-08). Sampling dates: April 2008 - November 2008.

SWAMP Data:	SWAMP
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Water Quality Objective/Criterion:	Water Quality Control Plan for the San Francisco Bay Basin: Controllable water quality factors shall not cause a detrimental increase in concentrations of toxic substances found in bottom sediments or aquatic life. Effects on aquatic organisms, wildlife, and human health will be considered.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	National Academy of Science guidelines (NAS 1972) establish a maximum Heptachlor Epoxide concentration of 100 ug/Kg (wet weight) in tissue samples for protection of aquatic life from bioaccumulation of toxic substances.
Guideline Reference:	National Academy of Sciences. Water Quality Criteria 1972. EPA-R3-73-033. Washington, D.C.: U.S. Environmental Protection Agency
Spatial Representation:	Data for this assessment unit was collected by one monitoring project: (SWB_FishLk)
Temporal Representation:	Data was collected on 11/13/2008
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	Samples were collected, processed, and analyzed in accordance with the methods described in Quality Assurance Project Plan "Screening Study of Bioaccumulation in California Lakes and Reservoirs." (SWAMP, 2008).
QAPP Information Reference(s):	Quality Assurance Project Plan Screening Study of Bioaccumulation in California Lakes and Reservoirs. Moss Landing Marine Labs. Prepared for SWAMP BOG. 49 pages plus appendices and attachments

DECISION ID	61974	Region 2
Elizabeth Lake (Alameda County)		

Pollutant:	Hexachlorobenzene/ HCB
Final Listing Decision:	Do Not List on 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision:	New Decision
Revision Status	Revised
Impairment from Pollutant or Pollution:	Pollutant

Regional Board Staff Conclusion: This pollutant is being considered for placement on the CWA section 303(d) List under section 3.5 of the Listing Policy. Under section 3.5 a single line of evidence is necessary to assess listing status. One line of evidence is available in the administrative record to assess this pollutant. Zero of one samples exceed the guideline.

Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against placing this water segment-pollutant combination on the CWA section 303(d) List.

This conclusion is based on the staff findings that:

1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy.
2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy.
3. Zero of one samples exceed the guideline and this sample size is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating. A minimum of 16 samples is needed to determine if a beneficial use is fully supported using table 3.1.
4. Pursuant to SECTION 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.

Regional Board Staff Decision Recommendation: After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be placed on the section 303(d) list. The readily available data and information is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating.

Line of Evidence (LOE) for Decision ID 61974, Hexachlorobenzene/ HCB	Region 2
Elizabeth Lake (Alameda County)	

LOE ID:	91757
Pollutant:	Hexachlorobenzene/ HCB
LOE Subgroup:	Pollutant-Tissue
Matrix:	Tissue
Fraction:	Fish fillet
Beneficial Use:	Commercial or recreational collection of fish, shellfish, or organisms
Number of Samples:	1
Number of Exceedances:	0
Data and Information Type:	Fish tissue analysis
Data Used to Assess Water Quality:	State Water Board staff assessed SWAMP data for Elizabeth Lake to determine beneficial use support and results are as follows: 0 of 1 samples exceed the criterion for Hexachlorobenzene. One composite (5 fish per composite) was generated from one species: Common Carp. Details of the compositing protocol can be found in the March 2009 report entitled: "Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Study" (SWAMP, 2009).
Data Reference:	Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Survey. A Report of the Surface Water Ambient Monitoring Program (SWAMP). California State Water Resources Control Board, Sacramento, CA Statewide Lakes Sportfish Contamination Study 2007 2008 Contaminants in Fish from California Lakes and Reservoirs, 2007-2008: Summary Report on a Two-Year Screening Survey Cruise report for the Surface Water Ambient Monitoring Program (SWAMP) bioaccumulation screening study in California lakes and reservoirs year two (FY 07-08). Sampling dates: April 2008 - November 2008.
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	Water Quality Control Plan for the San Francisco Bay Basin: Controllable water quality factors shall not cause a detrimental increase in concentrations of toxic substances found in bottom sediments or aquatic life. Effects on aquatic organisms, wildlife, and human health will be considered.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	The modified OEHHA Fish Contaminant Goal for hexachlorobenzene in fish tissue is 2.8 ppb. This screening level assumes an average body weight of 70 kg and a consumption rate of 32 g/day for a 30 year exposure over a 70-year lifetime. This constituent is a carcinogen therefore the risk level is set to one in a million. A cooking reduction factor of 1 is applied for skin-off fillets. (Klasing, S., and R. Brodberg, 2008; OEHHA, 2005)
Guideline Reference:	Development of Fish Contaminant Goals and Advisory Tissue Levels for Common Contaminants in California Sport Fish: Chlordane, DDTs, Dieldrin, Methylmercury, PCBs, Selenium, and Toxaphene Air Toxics Hotspots Program Risk Assessment Guidelines. Part II Technical Support Document for Describing Available Cancer Potency Values.
Spatial Representation:	Data for this assessment unit was collected by one monitoring project: (SWB_FishLk)
Temporal Representation:	Data was collected on 11/13/2008
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	Samples were collected, processed, and analyzed in accordance with the methods described in Quality Assurance Project Plan "Screening Study of Bioaccumulation in California Lakes and Reservoirs." (SWAMP, 2008).
QAPP Information Reference(s):	Quality Assurance Project Plan Screening Study of Bioaccumulation in California Lakes and Reservoirs. Moss Landing Marine Labs. Prepared for SWAMP BOG, 49 pages plus appendices and attachments

DECISION ID 61987

Region 2

Elizabeth Lake (Alameda County)

Pollutant:	Lindane/gamma Hexachlorocyclohexane (gamma-HCH)
Final Listing Decision:	Do Not List on 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision:	New Decision
Revision Status	Revised
Impairment from Pollutant or Pollution:	Pollutant

Regional Board Staff Conclusion: This pollutant is being considered for placement on the CWA section 303(d) List under section 3.5 of the Listing Policy. Under section 3.5 a single line of evidence is necessary to assess listing status. Three lines of evidence are available in the administrative record to assess this pollutant. Zero of one samples exceed the guideline.

Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against placing this water segment-pollutant combination on the CWA section 303(d) List.

This conclusion is based on the staff findings that:

1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy.
2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy.
3. Zero of one samples exceed the guideline and this sample size is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating. A minimum of 16 samples is needed to determine if a beneficial use is fully supported using table 3.1.
4. Pursuant to SECTION 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.

Regional Board Staff Decision Recommendation: After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be placed on the section 303(d) list. The readily available data and information is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating.

Line of Evidence (LOE) for Decision ID 61987, Lindane/gamma Hexachlorocyclohexane (gamma-HCH)

Region 2

Elizabeth Lake (Alameda County)

LOE ID: 91758

Pollutant:	Lindane/gamma Hexachlorocyclohexane (gamma-HCH)
LOE Subgroup:	Pollutant-Tissue
Matrix:	Tissue
Fraction:	Fish fillet

Beneficial Use: Warm Freshwater Habitat

Number of Samples:	1
Number of Exceedances:	0

Data and Information Type:	Fish tissue analysis
Data Used to Assess Water Quality:	State Water Board staff assessed SWAMP data for Elizabeth Lake to determine beneficial use support and results are as follows: 0 of 1 samples exceed the criterion for HCH, gamma. One composite (5 fish per composite) was generated from one species: Common Carp. Details of the compositing protocol can be found in the March 2009 report entitled: "Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Study" (SWAMP, 2009).

Data Reference: [Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Survey. A Report of the Surface Water Ambient Monitoring Program \(SWAMP\). California State Water Resources Control Board, Sacramento, CA Statewide Lakes Sportfish Contamination Study 2007 2008](#)
[Contaminants in Fish from California Lakes and Reservoirs, 2007-2008: Summary Report on a Two-Year Screening Survey](#)
[Cruise report for the Surface Water Ambient Monitoring Program \(SWAMP\)](#)

[bioaccumulation screening study in California lakes and reservoirs year two \(FY 07-08\). Sampling dates: April 2008 - November 2008.](#)

SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	Water Quality Control Plan for the San Francisco Bay Basin: Controllable water quality factors shall not cause a detrimental increase in concentrations of toxic substances found in bottom sediments or aquatic life. Effects on aquatic organisms, wildlife, and human health will be considered.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	The modified OEHHA Fish Contaminant Goal for lindane in fish tissue is 4.6 ppb. This screening level assumes an average body weight of 70 kg and a consumption rate of 32 g/day for a 30 year exposure over a 70-year lifetime. This constituent is a carcinogen therefore the risk level is set to one in a million. A cooking reduction factor of 1 is applied for skin-off fillets. (Klasing, S., and R. Brodberg, 2008; OEHHA, 2005)
Guideline Reference:	National Academy of Sciences. Water Quality Criteria 1972. EPA-R3-73-033. Washington, D.C.: U.S. Environmental Protection Agency
Spatial Representation:	Data for this assessment unit was collected by one monitoring project: (SWB_FishLk)
Temporal Representation:	Data was collected on 11/13/2008
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	Samples were collected, processed, and analyzed in accordance with the methods described in Quality Assurance Project Plan "Screening Study of Bioaccumulation in California Lakes and Reservoirs." (SWAMP, 2008).
QAPP Information Reference(s):	Quality Assurance Project Plan Screening Study of Bioaccumulation in California Lakes and Reservoirs. Moss Landing Marine Labs. Prepared for SWAMP BOG, 49 pages plus appendices and attachments

Line of Evidence (LOE) for Decision ID 61987, Lindane/gamma Hexachlorocyclohexane (gamma-HCH)

Region 2

Elizabeth Lake (Alameda County)

LOE ID:	91759
Pollutant:	Lindane/gamma Hexachlorocyclohexane (gamma-HCH)
LOE Subgroup:	Pollutant-Tissue
Matrix:	Tissue
Fraction:	Fish fillet
Beneficial Use:	Commercial or recreational collection of fish, shellfish, or organisms
Number of Samples:	1
Number of Exceedances:	0
Data and Information Type:	Fish tissue analysis
Data Used to Assess Water Quality:	State Water Board staff assessed SWAMP data for Elizabeth Lake to determine beneficial use support and results are as follows: 0 of 1 samples exceed the criterion for HCH, gamma. One composite (5 fish per composite) was generated from one species: Common Carp. Details of the compositing protocol can be found in the March 2009 report entitled: "Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Study" (SWAMP, 2009).
Data Reference:	Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Survey. A Report of the Surface Water Ambient Monitoring Program (SWAMP). California State Water Resources Control Board, Sacramento, CA Statewide Lakes Sportfish Contamination Study 2007 2008 Contaminants in Fish from California Lakes and Reservoirs, 2007-2008: Summary Report on a Two-Year Screening Survey Cruise report for the Surface Water Ambient Monitoring Program (SWAMP) bioaccumulation screening study in California lakes and reservoirs year two (FY 07-08). Sampling dates: April 2008 - November 2008.

SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	Water Quality Control Plan for the San Francisco Bay Basin: Controllable water quality factors shall not cause a detrimental increase in concentrations of toxic substances found in bottom sediments or aquatic life. Effects on aquatic organisms, wildlife, and human health will be considered.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	The modified OEHHA Fish Contaminant Goal for lindane in fish tissue is 4.6 ppb. This screening level assumes an average body weight of 70 kg and a consumption rate of 32 g/day for a 30 year exposure over a 70-year lifetime. This constituent is a carcinogen therefore the risk level is set to one in a million. A cooking reduction factor of 1 is applied for skin-off fillets.
Guideline Reference:	Development of Fish Contaminant Goals and Advisory Tissue Levels for Common Contaminants in California Sport Fish: Chlordane, DDTs, Dieldrin, Methylmercury, PCBs, Selenium, and Toxaphene Air Toxics Hotspots Program Risk Assessment Guidelines. Part II Technical Support Document for Describing Available Cancer Potency Values.
Spatial Representation:	Data for this assessment unit was collected by one monitoring project: (SWB_FishLk)
Temporal Representation:	Data was collected on 11/13/2008
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	Samples were collected, processed, and analyzed in accordance with the methods described in Quality Assurance Project Plan "Screening Study of Bioaccumulation in California Lakes and Reservoirs." (SWAMP, 2008).
QAPP Information Reference(s):	Quality Assurance Project Plan Screening Study of Bioaccumulation in California Lakes and Reservoirs. Moss Landing Marine Labs. Prepared for SWAMP BOG, 49 pages plus appendices and attachments

Line of Evidence (LOE) for Decision ID 61987, Lindane/gamma Hexachlorocyclohexane (gamma-HCH)

Region 2

Elizabeth Lake (Alameda County)

LOE ID:	91760
Pollutant:	Lindane/gamma Hexachlorocyclohexane (gamma-HCH)
LOE Subgroup:	Pollutant-Tissue
Matrix:	Tissue
Fraction:	Fish fillet
Beneficial Use:	Cold Freshwater Habitat
Number of Samples:	1
Number of Exceedances:	0
Data and Information Type:	Fish tissue analysis
Data Used to Assess Water Quality:	State Water Board staff assessed SWAMP data for Elizabeth Lake to determine beneficial use support and results are as follows: 0 of 1 samples exceed the criterion for HCH, gamma. One composite (5 fish per composite) was generated from one species: Common Carp. Details of the compositing protocol can be found in the March 2009 report entitled: "Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Study" (SWAMP, 2009).
Data Reference:	Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Survey. A Report of the Surface Water Ambient Monitoring Program (SWAMP). California State Water Resources Control Board, Sacramento, CA Statewide Lakes Sportfish Contamination Study 2007 2008 Contaminants in Fish from California Lakes and Reservoirs, 2007-2008: Summary Report on a Two-Year Screening Survey Cruise report for the Surface Water Ambient Monitoring Program (SWAMP) bioaccumulation screening study in California lakes and reservoirs year two (FY 07-08). Sampling dates: April 2008 - November 2008.

SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	Water Quality Control Plan for the San Francisco Bay Basin: Controllable water quality factors shall not cause a detrimental increase in concentrations of toxic substances found in bottom sediments or aquatic life. Effects on aquatic organisms, wildlife, and human health will be considered.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	The modified OEHHA Fish Contaminant Goal for lindane in fish tissue is 4.6 ppb. This screening level assumes an average body weight of 70 kg and a consumption rate of 32 g/day for a 30 year exposure over a 70-year lifetime. This constituent is a carcinogen therefore the risk level is set to one in a million. A cooking reduction factor of 1 is applied for skin-off fillets. (Klasing, S., and R. Brodberg, 2008; OEHHA, 2005)
Guideline Reference:	National Academy of Sciences. Water Quality Criteria 1972. EPA-R3-73-033. Washington, D.C.: U.S. Environmental Protection Agency
Spatial Representation:	Data for this assessment unit was collected by one monitoring project: (SWB_FishLk)
Temporal Representation:	Data was collected on 11/13/2008
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	Samples were collected, processed, and analyzed in accordance with the methods described in Quality Assurance Project Plan "Screening Study of Bioaccumulation in California Lakes and Reservoirs." (SWAMP, 2008).
QAPP Information Reference(s):	Quality Assurance Project Plan Screening Study of Bioaccumulation in California Lakes and Reservoirs. Moss Landing Marine Labs. Prepared for SWAMP BOG. 49 pages plus appendices and attachments

DECISION ID	65485	Region 2
Elizabeth Lake (Alameda County)		

Pollutant:	Mercury
Final Listing Decision:	Do Not List on 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision:	New Decision
Revision Status	Revised
Impairment from Pollutant or Pollution:	Pollutant
Regional Board Staff Conclusion:	<p>This pollutant is being considered for placement on the CWA section 303(d) List under section 3.5 of the Listing Policy. Under section 3.5 a single line of evidence is necessary to assess listing status. One line of evidence is available in the administrative record to assess this pollutant. Zero of zero samples exceed the OEHHA guideline.</p> <p>Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against placing this water segment-pollutant combination on the CWA section 303(d) List.</p> <p>This conclusion is based on the staff findings that:</p> <ol style="list-style-type: none"> 1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy. 2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy. 3. Zero of zero samples exceed the OEHHA guideline and this sample size is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating. A minimum of 16 samples is needed to determine if a beneficial use is fully supported using table 3.1. 4. Pursuant to SECTION 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.
Regional Board Staff Decision Recommendation:	After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be placed on the section 303(d) list. The readily available data and information is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating.

Elizabeth Lake (Alameda County)

LOE ID:	91761
Pollutant:	Mercury
LOE Subgroup:	Pollutant-Tissue
Matrix:	Tissue
Fraction:	Fish fillet
Beneficial Use:	Commercial or recreational collection of fish, shellfish, or organisms
Number of Samples:	0
Number of Exceedances:	0
Data and Information Type:	Fish tissue analysis
Data Used to Assess Water Quality:	State Water Board staff assessed SWAMP data for Elizabeth Lake to determine beneficial use support and results are as follows: 0 of 0 samples exceed the criterion for Mercury. The two composites for common carp could not be used in the assessment due to total fish lengths that did not fall within lengths noted in the guideline.
Data Reference:	Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Survey. A Report of the Surface Water Ambient Monitoring Program (SWAMP). California State Water Resources Control Board, Sacramento, CA Statewide Lakes Sportfish Contamination Study 2007 2008 Contaminants in Fish from California Lakes and Reservoirs, 2007-2008: Summary Report on a Two-Year Screening Survey Cruise report for the Surface Water Ambient Monitoring Program (SWAMP) bioaccumulation screening study in California lakes and reservoirs year two (FY 07-08). Sampling dates: April 2008 - November 2008.
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	Water Quality Control Plan for the San Francisco Bay Basin (2013): Controllable water quality factors shall not cause a detrimental increase in concentrations of toxic substances found in bottom sediments or aquatic life. Effects on aquatic organisms, wildlife, and human health will be considered.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	The USEPA 304(a) recommended water quality criterion for concentrations of methylmercury in fish tissue of trophic level 4 fish (150 - 500 mm; fillet wet weight) is 0.2 mg/kg. This assumes a consumption rate of 32 g/day. (USEPA, 2001)
Guideline Reference:	Water Quality Criterion for the Protection of Human Health: Methylmercury. Final. United States Environmental Protection Agency Office of Science and Technology Office of Water. EPA-823-R-01-001. January 2001
Spatial Representation:	Data for this assessment unit was collected by one monitoring project: (SWB_FishLk)
Temporal Representation:	Data was collected on a single day 11/13/2008.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	Samples were collected, processed, and analyzed in accordance with the methods described in Quality Assurance Project Plan "Screening Study of Bioaccumulation in California Lakes and Reservoirs." (SWAMP, 2008).
QAPP Information Reference(s):	Quality Assurance Project Plan Screening Study of Bioaccumulation in California Lakes and Reservoirs. Moss Landing Marine Labs. Prepared for SWAMP BOG. 49 pages plus appendices and attachments

DECISION ID 61988

Region 2

Elizabeth Lake (Alameda County)

Pollutant: Mirex

Final Listing Decision:	Do Not List on 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision:	New Decision
Revision Status	Revised
Impairment from Pollutant or Pollution:	Pollutant

Regional Board Staff Conclusion: This pollutant is being considered for placement on the CWA section 303(d) List under section 3.5 of the Listing Policy. Under section 3.5 a single line of evidence is necessary to assess listing status. One line of evidence is available in the administrative record to assess this pollutant. Zero of zero samples exceed the guideline.

Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against placing this water segment-pollutant combination on the CWA section 303(d) List.

This conclusion is based on the staff findings that:

1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy.
2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy.
3. Zero of zero samples exceed the guideline and this sample size is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating. A minimum of 16 samples is needed to determine if a beneficial use is fully supported using table 3.1.
4. Pursuant to SECTION 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.

Regional Board Staff Decision Recommendation: After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be placed on the section 303(d) list. The readily available data and information is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating.

**Line of Evidence (LOE) for Decision ID 61988, Mirex
Elizabeth Lake (Alameda County)**

Region 2

LOE ID: 91762

Pollutant: Mirex
LOE Subgroup: Pollutant-Tissue
Matrix: Tissue
Fraction: Fish fillet

Beneficial Use: Commercial or recreational collection of fish, shellfish, or organisms

Number of Samples: 0
Number of Exceedances: 0

Data and Information Type: Fish tissue analysis
Data Used to Assess Water Quality: State Water Board staff assessed SWAMP data for Elizabeth Lake to determine beneficial use support and results are as follows: 0 of 0 samples exceed the criterion for Mirex. One composite (5 fish per composite) was generated from one species: Common Carp. Details of the compositing protocol can be found in the March 2009 report entitled: "Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Study" (SWAMP, 2009). Two composites were not used in the assessment because the laboratory data reporting limit(s) was above the objective and therefore the results could not be quantified with the level of certainty required by the Listing Policy.

Data Reference: [Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Survey. A Report of the Surface Water Ambient Monitoring Program \(SWAMP\). California State Water Resources Control Board, Sacramento, CA Statewide Lakes Sportfish Contamination Study 2007 2008](#)
[Contaminants in Fish from California Lakes and Reservoirs, 2007-2008: Summary Report on a Two-Year Screening Survey](#)

[Cruise report for the Surface Water Ambient Monitoring Program \(SWAMP\) bioaccumulation screening study in California lakes and reservoirs year two \(FY 07-08\). Sampling dates: April 2008 - November 2008.](#)

SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	Water Quality Control Plan for the San Francisco Bay Basin: Controllable water quality factors shall not cause a detrimental increase in concentrations of toxic substances found in bottom sediments or aquatic life. Effects on aquatic organisms, wildlife, and human health will be considered.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	The modified OEHHA Fish Contaminant Goal for mirex in fish tissue is 0.28 ppb. This screening level assumes an average body weight of 70 kg and a consumption rate of 32 g/day. A cooking reduction factor of 1 is applied for skin-off fillets. (Klasing, S., and R. Brodberg, 2008; OEHHA, 1992)
Guideline Reference:	Development of Fish Contaminant Goals and Advisory Tissue Levels for Common Contaminants in California Sport Fish: Chlordane, DDTs, Dieldrin, Methylmercury, PCBs, Selenium, and Toxaphene Expedited Cancer Potency Values and Proposed Regulatory Levels for Certain Proposition 65 Carcinogens.
Spatial Representation:	Data for this assessment unit was collected by one monitoring project: (SWB_FishLk)
Temporal Representation:	Data was collected on 11/13/2008
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	Samples were collected, processed, and analyzed in accordance with the methods described in Quality Assurance Project Plan "Screening Study of Bioaccumulation in California Lakes and Reservoirs." (SWAMP, 2008).
QAPP Information Reference(s):	Quality Assurance Project Plan Screening Study of Bioaccumulation in California Lakes and Reservoirs. Moss Landing Marine Labs. Prepared for SWAMP BOG. 49 pages plus appendices and attachments

DECISION ID	65486	Region 2
Elizabeth Lake (Alameda County)		

Pollutant:	PCBs (Polychlorinated biphenyls)
Final Listing Decision:	Do Not List on 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision:	New Decision
Revision Status	Revised
Impairment from Pollutant or Pollution:	Pollutant
Regional Board Staff Conclusion:	<p>This pollutant is being considered for placement on the CWA section 303(d) List under section 3.5 of the Listing Policy. Under section 3.5 a single line of evidence is necessary to assess listing status. Three lines of evidence are available in the administrative record to assess this pollutant. One of one samples exceed the OEHHA guideline.</p> <p>Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against placing this water segment-pollutant combination on the CWA section 303(d) List.</p> <p>This conclusion is based on the staff findings that:</p> <ol style="list-style-type: none"> 1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy. 2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy. 3. One of one samples exceed the OEHHA guideline and this sample size is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating. A minimum of 16 samples is needed to determine if a beneficial use is fully supported using table 3.1. 4. Pursuant to SECTION 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.

Regional Board Staff Decision Recommendation: After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be placed on the section 303(d) list. The readily available data and information is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating.

Line of Evidence (LOE) for Decision ID 65486, PCBs (Polychlorinated biphenyls)

Region 2

Elizabeth Lake (Alameda County)

LOE ID:	91764
Pollutant:	PCBs (Polychlorinated biphenyls)
LOE Subgroup:	Pollutant-Tissue
Matrix:	Tissue
Fraction:	Fish fillet
Beneficial Use:	Cold Freshwater Habitat
Number of Samples:	1
Number of Exceedances:	0
Data and Information Type:	Fish tissue analysis
Data Used to Assess Water Quality:	State Water Board staff assessed SWAMP data for Elizabeth Lake to determine beneficial use support and results are as follows: 0 of 1 samples exceed the criterion for PCB, Total. One composite (5 fish per composite) was generated from one species: Common Carp. Details of the compositing protocol can be found in the March 2009 report entitled: "Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Study" (SWAMP, 2009). Total PCB was assessed for as follows: PCB aroclors and congeners were summed separately and the sum that yielded the highest value was used for the assessment.
Data Reference:	Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Survey. A Report of the Surface Water Ambient Monitoring Program (SWAMP). California State Water Resources Control Board, Sacramento, CA Statewide Lakes Sportfish Contamination Study 2007 2008 Contaminants in Fish from California Lakes and Reservoirs, 2007-2008: Summary Report on a Two-Year Screening Survey Cruise report for the Surface Water Ambient Monitoring Program (SWAMP) bioaccumulation screening study in California lakes and reservoirs year two (FY 07-08). Sampling dates: April 2008 - November 2008.
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	Water Quality Control Plan for the San Francisco Bay Basin (2013): Controllable water quality factors shall not cause a detrimental increase in concentrations of toxic substances found in bottom sediments or aquatic life. Effects on aquatic organisms, wildlife, and human health will be considered.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	National Academy of Science guidelines (NAS 1972) establish a maximum total PCB concentration of 500 ug/Kg (wet weight) in tissue samples for protection of aquatic life from bioaccumulation of toxic substances.
Guideline Reference:	National Academy of Sciences. Water Quality Criteria 1972. EPA-R3-73-033. Washington, D.C.: U.S. Environmental Protection Agency
Spatial Representation:	Data for this assessment unit was collected by one monitoring project: (SWB_FishLk)
Temporal Representation:	Data was collected on 11/13/2008
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	Samples were collected, processed, and analyzed in accordance with the methods described in Quality Assurance Project Plan "Screening Study of Bioaccumulation in California Lakes and Reservoirs." (SWAMP, 2008).
QAPP Information Reference(s):	Quality Assurance Project Plan Screening Study of Bioaccumulation in California Lakes

Line of Evidence (LOE) for Decision ID 65486, PCBs (Polychlorinated biphenyls)
Elizabeth Lake (Alameda County)

Region 2

LOE ID:	91765
Pollutant:	PCBs (Polychlorinated biphenyls)
LOE Subgroup:	Pollutant-Tissue
Matrix:	Tissue
Fraction:	Fish fillet
Beneficial Use:	Commercial or recreational collection of fish, shellfish, or organisms
Number of Samples:	1
Number of Exceedances:	1
Data and Information Type:	Fish tissue analysis
Data Used to Assess Water Quality:	State Water Board staff assessed SWAMP data for Elizabeth Lake to determine beneficial use support and results are as follows: 1 of 1 samples exceed the criterion for PCB, Total. One composite (5 fish per composite) was generated from one species: Common Carp. Details of the compositing protocol can be found in the March 2009 report entitled: "Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Study" (SWAMP, 2009). Total PCB was assessed for as follows: PCB aroclors and congeners were summed separately and the sum that yielded the highest value was used for the assessment.
Data Reference:	Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Survey. A Report of the Surface Water Ambient Monitoring Program (SWAMP). California State Water Resources Control Board, Sacramento, CA Statewide Lakes Sportfish Contamination Study 2007 2008 Contaminants in Fish from California Lakes and Reservoirs, 2007-2008: Summary Report on a Two-Year Screening Survey Cruise report for the Surface Water Ambient Monitoring Program (SWAMP) bioaccumulation screening study in California lakes and reservoirs year two (FY 07-08). Sampling dates: April 2008 - November 2008.
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	Water Quality Control Plan for the San Francisco Bay Basin (2013): Controllable water quality factors shall not cause a detrimental increase in concentrations of toxic substances found in bottom sediments or aquatic life. Effects on aquatic organisms, wildlife, and human health will be considered.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	The modified OEHHA Fish Contaminant Goal for polychlorinated biphenyls in fish tissue is 2.6 ppb. This screening level assumes an average body weight of 70 kg and a consumption rate of 32 g/day for a 30 year exposure over a 70-year lifetime. This constituent is a carcinogen therefore the risk level is set to one in a million. A cooking reduction factor of 1 is applied for skin-off fillets. (Klasing, S., and R. Brodberg, 2008)
Guideline Reference:	Development of Fish Contaminant Goals and Advisory Tissue Levels for Common Contaminants in California Sport Fish: Chlordane, DDTs, Dieldrin, Methylmercury, PCBs, Selenium, and Toxaphene
Spatial Representation:	Data for this assessment unit was collected by one monitoring project: (SWB_FishLk)
Temporal Representation:	Data was collected on 11/13/2008
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	Samples were collected, processed, and analyzed in accordance with the methods described in Quality Assurance Project Plan "Screening Study of Bioaccumulation in California Lakes and Reservoirs." (SWAMP, 2008).
QAPP Information Reference(s):	Quality Assurance Project Plan Screening Study of Bioaccumulation in California Lakes and Reservoirs. Moss Landing Marine Labs. Prepared for SWAMP BOG, 49 pages plus

**Line of Evidence (LOE) for Decision ID 65486, PCBs (Polychlorinated biphenyls)
Elizabeth Lake (Alameda County)****Region 2**

LOE ID:	91763
Pollutant:	PCBs (Polychlorinated biphenyls)
LOE Subgroup:	Pollutant-Tissue
Matrix:	Tissue
Fraction:	Fish fillet
Beneficial Use:	Warm Freshwater Habitat
Number of Samples:	1
Number of Exceedances:	0
Data and Information Type:	Fish tissue analysis
Data Used to Assess Water Quality:	State Water Board staff assessed SWAMP data for Elizabeth Lake to determine beneficial use support and results are as follows: 0 of 1 samples exceed the criterion for PCB, Total. One composite (5 fish per composite) was generated from one species: Common Carp. Details of the compositing protocol can be found in the March 2009 report entitled: "Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Study" (SWAMP, 2009). Total PCB was assessed for as follows: PCB aroclors and congeners were summed separately and the sum that yielded the highest value was used for the assessment.
Data Reference:	Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Survey. A Report of the Surface Water Ambient Monitoring Program (SWAMP). California State Water Resources Control Board, Sacramento, CA Statewide Lakes Sportfish Contamination Study 2007 2008 Contaminants in Fish from California Lakes and Reservoirs, 2007-2008: Summary Report on a Two-Year Screening Survey Cruise report for the Surface Water Ambient Monitoring Program (SWAMP) bioaccumulation screening study in California lakes and reservoirs year two (FY 07-08). Sampling dates: April 2008 - November 2008.
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	Water Quality Control Plan for the San Francisco Bay Basin (2013): Controllable water quality factors shall not cause a detrimental increase in concentrations of toxic substances found in bottom sediments or aquatic life. Effects on aquatic organisms, wildlife, and human health will be considered.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	National Academy of Science guidelines (NAS 1972) establish a maximum total PCB concentration of 500 ug/Kg (wet weight) in tissue samples for protection of aquatic life from bioaccumulation of toxic substances.
Guideline Reference:	National Academy of Sciences. Water Quality Criteria 1972. EPA-R3-73-033. Washington, D.C.: U.S. Environmental Protection Agency
Spatial Representation:	Data for this assessment unit was collected by one monitoring project: (SWB_FishLk)
Temporal Representation:	Data was collected on 11/13/2008
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	Samples were collected, processed, and analyzed in accordance with the methods described in Quality Assurance Project Plan "Screening Study of Bioaccumulation in California Lakes and Reservoirs." (SWAMP, 2008).
QAPP Information Reference(s):	Quality Assurance Project Plan Screening Study of Bioaccumulation in California Lakes and Reservoirs. Moss Landing Marine Labs. Prepared for SWAMP BOG, 49 pages plus appendices and attachments

Elizabeth Lake (Alameda County)

Pollutant: Selenium
Final Listing Decision: Do Not List on 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision: New Decision
Revision Status: Revised
Impairment from Pollutant or Pollution: Pollutant

Regional Board Staff Conclusion: This pollutant is being considered for placement on the CWA section 303(d) List under section 3.5 of the Listing Policy. Under section 3.5 a single line of evidence is necessary to assess listing status. One line of evidence is available in the administrative record to assess this pollutant. Zero of one samples exceed the guideline.

Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against placing this water segment-pollutant combination on the CWA section 303(d) List.

This conclusion is based on the staff findings that:

1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy.
2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy.
3. Zero of one samples exceed the guideline and this sample size is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating. A minimum of 16 samples is needed to determine if a beneficial use is fully supported using table 3.1.
4. Pursuant to SECTION 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.

Regional Board Staff Decision Recommendation: After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be placed on the section 303(d) list. The readily available data and information is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating.

Line of Evidence (LOE) for Decision ID 61989, Selenium

Region 2

Elizabeth Lake (Alameda County)

LOE ID: 91766

Pollutant: Selenium
LOE Subgroup: Pollutant-Tissue
Matrix: Tissue
Fraction: Fish fillet

Beneficial Use: Commercial or recreational collection of fish, shellfish, or organisms

Number of Samples: 1
Number of Exceedances: 0

Data and Information Type: Fish tissue analysis
Data Used to Assess Water Quality: State Water Board staff assessed SWAMP data for Elizabeth Lake to determine beneficial use support and results are as follows: 0 of 1 samples exceed the criterion for Selenium. One composite (5 fish per composite) was generated from one species: Common Carp. Details of the compositing protocol can be found in the March 2009 report entitled: "Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Study" (SWAMP, 2009).

Data Reference: [Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Survey. A Report of the Surface Water Ambient Monitoring Program \(SWAMP\). California State Water Resources Control Board, Sacramento, CA Statewide Lakes Sportfish Contamination Study 2007 2008](#)
[Contaminants in Fish from California Lakes and Reservoirs, 2007-2008: Summary Report on a Two-Year Screening Survey](#)

[Cruise report for the Surface Water Ambient Monitoring Program \(SWAMP\) bioaccumulation screening study in California lakes and reservoirs year two \(FY 07-08\). Sampling dates: April 2008 - November 2008.](#)

SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	Water Quality Control Plan for the San Francisco Bay Basin (2013): Controllable water quality factors shall not cause a detrimental increase in concentrations of toxic substances found in bottom sediments or aquatic life. Effects on aquatic organisms, wildlife, and human health will be considered.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	The OEHHA Fish Contaminant Goal for selenium in fish tissue is 7.4 ppm. This screening level assumes an average body weight of 70 kg and a consumption rate of 32 g/day. A background dietary consumption rate of 0.114 mg/day is applied for this micronutrient. (Klasing, S., and R. Brodberg, 2008)
Guideline Reference:	Development of Fish Contaminant Goals and Advisory Tissue Levels for Common Contaminants in California Sport Fish: Chlordane, DDTs, Dieldrin, Methylmercury, PCBs, Selenium, and Toxaphene
Spatial Representation:	Data for this assessment unit was collected by one monitoring project: (SWB_FishLk)
Temporal Representation:	Data was collected on 11/13/2008
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	Samples were collected, processed, and analyzed in accordance with the methods described in Quality Assurance Project Plan "Screening Study of Bioaccumulation in California Lakes and Reservoirs." (SWAMP, 2008).
QAPP Information Reference(s):	Quality Assurance Project Plan Screening Study of Bioaccumulation in California Lakes and Reservoirs. Moss Landing Marine Labs. Prepared for SWAMP BOG, 49 pages plus appendices and attachments

Draft California 2016 Integrated Report (303(d) List/305(b) Report)

Supporting Information

Regional Board 2 - San Francisco Bay Region

Water Body Name: Coyote Reservoir
Water Body ID: CAL2053003220000304122753
Water Body Type: Lake & Reservoir

DECISION ID 61557 **Region 2**
Coyote Reservoir

Pollutant: Aldrin
Final Listing Decision: Do Not List on 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision: New Decision
Revision Status Revised
Impairment from Pollutant or Pollution: Pollutant

Regional Board Staff Conclusion: This pollutant is being considered for placement on the CWA section 303(d) List under section 3.5 of the Listing Policy. Under section 3.5 a single line of evidence is necessary to assess listing status. Two lines of evidence are available in the administrative record to assess this pollutant. Zero of one samples exceed the guideline.

Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against placing this water segment-pollutant combination on the CWA section 303(d) List.

This conclusion is based on the staff findings that:

1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy.
2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy.
3. Zero of one samples exceed the guideline and this sample size is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating. A minimum of 16 samples is needed to determine if a beneficial use is fully supported using table 3.1.
4. Pursuant to SECTION 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.

Regional Board Staff Decision Recommendation: After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be placed on the section 303(d) list. The readily available data and information is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating.

Line of Evidence (LOE) for Decision ID 61557, Aldrin **Region 2**
Coyote Reservoir

LOE ID: 91542
Pollutant: Aldrin
LOE Subgroup: Pollutant-Tissue
Matrix: Tissue
Fraction: Fish fillet
Beneficial Use: Cold Freshwater Habitat
Number of Samples: 1
Number of Exceedances: 0

Data and Information Type:	Fish tissue analysis
Data Used to Assess Water Quality:	State Water Board staff assessed SWAMP data for Coyote Reservoir to determine beneficial use support and results are as follows: 0 of 1 samples exceed the criterion for Aldrin. One composite (5 fish per composite) was generated from one species: Common Carp. Details of the compositing protocol can be found in the March 2009 report entitled: "Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Study" (SWAMP, 2009).
Data Reference:	Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Survey. A Report of the Surface Water Ambient Monitoring Program (SWAMP). California State Water Resources Control Board, Sacramento, CA Statewide Lakes Sportfish Contamination Study 2007 2008 Contaminants in Fish from California Lakes and Reservoirs, 2007-2008: Summary Report on a Two-Year Screening Survey Cruise report for the Surface Water Ambient Monitoring Program (SWAMP) bioaccumulation screening study in California lakes and reservoirs year two (FY 07-08). Sampling dates: April 2008 - November 2008.
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	Water Quality Control Plan for the San Francisco Bay Basin: Controllable water quality factors shall not cause a detrimental increase in concentrations of toxic substances found in bottom sediments or aquatic life. Effects on aquatic organisms, wildlife, and human health will be considered.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	National Academy of Science guidelines (NAS 1972) establish a maximum Aldrin concentration of 100 ug/Kg (wet weight) in tissue samples for protection of aquatic life from bioaccumulation of toxic substances.
Guideline Reference:	National Academy of Sciences. Water Quality Criteria 1972. EPA-R3-73-033. Washington, D.C.: U.S. Environmental Protection Agency
Spatial Representation:	Data for this assessment unit was collected by one monitoring project: (SWB_FishLk)
Temporal Representation:	Data was collected on a single day 6/25/2008.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	Samples were collected, processed, and analyzed in accordance with the methods described in Quality Assurance Project Plan "Screening Study of Bioaccumulation in California Lakes and Reservoirs." (SWAMP, 2008).
QAPP Information Reference(s):	Quality Assurance Project Plan Screening Study of Bioaccumulation in California Lakes and Reservoirs. Moss Landing Marine Labs. Prepared for SWAMP BOG, 49 pages plus appendices and attachments

Line of Evidence (LOE) for Decision ID 61557, Aldrin	Region 2
Coyote Reservoir	

LOE ID:	91541
Pollutant:	Aldrin
LOE Subgroup:	Pollutant-Tissue
Matrix:	Tissue
Fraction:	Fish fillet
Beneficial Use:	Warm Freshwater Habitat
Number of Samples:	1
Number of Exceedances:	0
Data and Information Type:	Fish tissue analysis
Data Used to Assess Water Quality:	State Water Board staff assessed SWAMP data for Coyote Reservoir to determine beneficial use support and results are as follows: 0 of 1 samples exceed the criterion for Aldrin. One composite (5 fish per composite) was generated from one species: Common Carp. Details of the compositing protocol can be found in the March 2009 report entitled:

Data Reference:	<p>"Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Study" (SWAMP, 2009). Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Survey. A Report of the Surface Water Ambient Monitoring Program (SWAMP). California State Water Resources Control Board, Sacramento, CA Statewide Lakes Sportfish Contamination Study 2007 2008 Contaminants in Fish from California Lakes and Reservoirs, 2007-2008: Summary Report on a Two-Year Screening Survey Cruise report for the Surface Water Ambient Monitoring Program (SWAMP) bioaccumulation screening study in California lakes and reservoirs year two (FY 07-08). Sampling dates: April 2008 - November 2008.</p>
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	Water Quality Control Plan for the San Francisco Bay Basin: Controllable water quality factors shall not cause a detrimental increase in concentrations of toxic substances found in bottom sediments or aquatic life. Effects on aquatic organisms, wildlife, and human health will be considered.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	National Academy of Science guidelines (NAS 1972) establish a maximum Aldrin concentration of 100 ug/Kg (wet weight) in tissue samples for protection of aquatic life from bioaccumulation of toxic substances.
Guideline Reference:	National Academy of Sciences. Water Quality Criteria 1972. EPA-R3-73-033. Washington, D.C.: U.S. Environmental Protection Agency
Spatial Representation:	Data for this assessment unit was collected by one monitoring project: (SWB_FishLk)
Temporal Representation:	Data was collected on a single day 6/25/2008.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	Samples were collected, processed, and analyzed in accordance with the methods described in Quality Assurance Project Plan "Screening Study of Bioaccumulation in California Lakes and Reservoirs." (SWAMP, 2008).
QAPP Information Reference(s):	Quality Assurance Project Plan Screening Study of Bioaccumulation in California Lakes and Reservoirs. Moss Landing Marine Labs. Prepared for SWAMP BOG. 49 pages plus appendices and attachments

DECISION ID		61561	Region 2
Coyote Reservoir			
Pollutant:	Chlordane		
Final Listing Decision:	Do Not List on 303(d) list (TMDL required list)		
Last Listing Cycle's Final Listing Decision:	New Decision		
Revision Status	Revised		
Impairment from Pollutant or Pollution:	Pollutant		
Regional Board Staff Conclusion:	<p>This pollutant is being considered for placement on the CWA section 303(d) List under section 3.5 of the Listing Policy. Under section 3.5 a single line of evidence is necessary to assess listing status. Three lines of evidence are available in the administrative record to assess this pollutant. Zero of one samples exceed the guideline.</p> <p>Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against placing this water segment-pollutant combination on the CWA section 303(d) List.</p> <p>This conclusion is based on the staff findings that:</p> <ol style="list-style-type: none"> 1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy. 2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy. 3. Zero of one samples exceed the guideline and this sample size is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating. A 		

minimum of 16 samples is needed to determine if a beneficial use is fully supported using table 3.1. 4. Pursuant to SECTION 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.

Regional Board Staff Decision Recommendation: After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be placed on the section 303(d) list. The readily available data and information is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating.

Line of Evidence (LOE) for Decision ID 61561, Chlordane

Region 2

Coyote Reservoir

LOE ID:	91543
Pollutant:	Chlordane
LOE Subgroup:	Pollutant-Tissue
Matrix:	Tissue
Fraction:	Fish fillet
Beneficial Use:	Warm Freshwater Habitat
Number of Samples:	1
Number of Exceedances:	0
Data and Information Type:	Fish tissue analysis
Data Used to Assess Water Quality:	State Water Board staff assessed SWAMP data for Coyote Reservoir to determine beneficial use support and results are as follows: 0 of 1 samples exceed the criterion for Chlordane, Total. One composite (5 fish per composite) was generated from one species: Common Carp. Details of the compositing protocol can be found in the March 2009 report entitled: "Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Study" (SWAMP, 2009). Total chlordane was calculated as the sum of the following chlordane isomers: cis- and trans-chlordane, cis- and trans-nonachlor, and oxychlordane.
Data Reference:	Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Survey. A Report of the Surface Water Ambient Monitoring Program (SWAMP). California State Water Resources Control Board, Sacramento, CA Statewide Lakes Sportfish Contamination Study 2007 2008 Contaminants in Fish from California Lakes and Reservoirs, 2007-2008: Summary Report on a Two-Year Screening Survey Cruise report for the Surface Water Ambient Monitoring Program (SWAMP) bioaccumulation screening study in California lakes and reservoirs year two (FY 07-08). Sampling dates: April 2008 - November 2008.
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	Water Quality Control Plan for the San Francisco Bay Basin: Controllable water quality factors shall not cause a detrimental increase in concentrations of toxic substances found in bottom sediments or aquatic life. Effects on aquatic organisms, wildlife, and human health will be considered.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	National Academy of Science guidelines (NAS 1972) establish a maximum total Chlordane concentration of 100 ug/Kg (wet weight) in tissue samples for protection of aquatic life from bioaccumulation of toxic substances.
Guideline Reference:	National Academy of Sciences. Water Quality Criteria 1972. EPA-R3-73-033. Washington, D.C.: U.S. Environmental Protection Agency
Spatial Representation:	Data for this assessment unit was collected by one monitoring project: (SWB_FishLk)
Temporal Representation:	Data was collected on a single day 6/25/2008.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	Samples were collected, processed, and analyzed in accordance with the methods

QAPP Information Reference(s):

described in Quality Assurance Project Plan "Screening Study of Bioaccumulation in California Lakes and Reservoirs." (SWAMP, 2008).

[Quality Assurance Project Plan Screening Study of Bioaccumulation in California Lakes and Reservoirs. Moss Landing Marine Labs. Prepared for SWAMP BOG. 49 pages plus appendices and attachments](#)

**Line of Evidence (LOE) for Decision ID 61561, Chlordane
Coyote Reservoir**

Region 2

LOE ID: 91545

Pollutant: Chlordane
LOE Subgroup: Pollutant-Tissue
Matrix: Tissue
Fraction: Fish fillet

Beneficial Use: Commercial or recreational collection of fish, shellfish, or organisms

Number of Samples: 1
Number of Exceedances: 0

Data and Information Type: Fish tissue analysis
Data Used to Assess Water Quality: State Water Board staff assessed SWAMP data for Coyote Reservoir to determine beneficial use support and results are as follows: 0 of 1 samples exceed the criterion for Chlordane, Total. One composite (5 fish per composite) was generated from one species: Common Carp. Details of the compositing protocol can be found in the March 2009 report entitled: "Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Study" (SWAMP, 2009). Total chlordane was calculated as the sum of the following chlordane isomers: cis- and trans-chlordane, cis- and trans-nonachlor, and oxychlordane.

Data Reference: [Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Survey. A Report of the Surface Water Ambient Monitoring Program \(SWAMP\). California State Water Resources Control Board, Sacramento, CA Statewide Lakes Sportfish Contamination Study 2007 2008](#)
[Contaminants in Fish from California Lakes and Reservoirs, 2007-2008: Summary Report on a Two-Year Screening Survey](#)
[Cruise report for the Surface Water Ambient Monitoring Program \(SWAMP\) bioaccumulation screening study in California lakes and reservoirs year two \(FY 07-08\). Sampling dates: April 2008 - November 2008.](#)

SWAMP Data: SWAMP

Water Quality Objective/Criterion: Water Quality Control Plan for the San Francisco Bay Basin: Controllable water quality factors shall not cause a detrimental increase in concentrations of toxic substances found in bottom sediments or aquatic life. Effects on aquatic organisms, wildlife, and human health will be considered.

Objective/Criterion Reference: [Water Quality Control Plan \(Basin Plan\) San Francisco Bay Basin \(Region 2\)](#)

Evaluation Guideline: The modified OEHHA Fish Contaminant Goal for total chlordane in fish tissue is 3.9 ppb. This screening level assumes an average body weight of 70 kg and a consumption rate of 32 g/day for a 30 year exposure over a 70-year lifetime. This constituent is a carcinogen therefore the risk level is set to one in a million. A cooking reduction factor of 1 is applied for skin-off fillets. (Klasing, S., and R. Brodberg, 2008)

Guideline Reference: [Development of Fish Contaminant Goals and Advisory Tissue Levels for Common Contaminants in California Sport Fish: Chlordane, DDTs, Dieldrin, Methylmercury, PCBs, Selenium, and Toxaphene](#)

Spatial Representation: Data for this assessment unit was collected by one monitoring project: (SWB_FishLk)
Temporal Representation: Data was collected on a single day 6/25/2008.
Environmental Conditions: Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information: Samples were collected, processed, and analyzed in accordance with the methods described in Quality Assurance Project Plan "Screening Study of Bioaccumulation in

QAPP Information Reference(s):	California Lakes and Reservoirs." (SWAMP, 2008). Quality Assurance Project Plan Screening Study of Bioaccumulation in California Lakes and Reservoirs. Moss Landing Marine Labs. Prepared for SWAMP BOG, 49 pages plus appendices and attachments
Line of Evidence (LOE) for Decision ID 61561, Chlordane	
Coyote Reservoir	
LOE ID:	91544
Pollutant:	Chlordane
LOE Subgroup:	Pollutant-Tissue
Matrix:	Tissue
Fraction:	Fish fillet
Beneficial Use:	Cold Freshwater Habitat
Number of Samples:	1
Number of Exceedances:	0
Data and Information Type:	Fish tissue analysis
Data Used to Assess Water Quality:	State Water Board staff assessed SWAMP data for Coyote Reservoir to determine beneficial use support and results are as follows: 0 of 1 samples exceed the criterion for Chlordane, Total. One composite (5 fish per composite) was generated from one species: Common Carp. Details of the compositing protocol can be found in the March 2009 report entitled: "Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Study" (SWAMP, 2009). Total chlordane was calculated as the sum of the following chlordane isomers: cis- and trans-chlordane, cis- and trans-nonachlor, and oxychlordane.
Data Reference:	Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Survey. A Report of the Surface Water Ambient Monitoring Program (SWAMP). California State Water Resources Control Board, Sacramento, CA Statewide Lakes Sportfish Contamination Study 2007 2008 Contaminants in Fish from California Lakes and Reservoirs, 2007-2008: Summary Report on a Two-Year Screening Survey Cruise report for the Surface Water Ambient Monitoring Program (SWAMP) bioaccumulation screening study in California lakes and reservoirs year two (FY 07-08). Sampling dates: April 2008 - November 2008.
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	Water Quality Control Plan for the San Francisco Bay Basin: Controllable water quality factors shall not cause a detrimental increase in concentrations of toxic substances found in bottom sediments or aquatic life. Effects on aquatic organisms, wildlife, and human health will be considered.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	National Academy of Science guidelines (NAS 1972) establish a maximum total Chlordane concentration of 100 ug/Kg (wet weight) in tissue samples for protection of aquatic life from bioaccumulation of toxic substances.
Guideline Reference:	National Academy of Sciences. Water Quality Criteria 1972. EPA-R3-73-033. Washington, D.C.: U.S. Environmental Protection Agency
Spatial Representation:	Data for this assessment unit was collected by one monitoring project: (SWB_FishLk)
Temporal Representation:	Data was collected on a single day 6/25/2008.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	Samples were collected, processed, and analyzed in accordance with the methods described in Quality Assurance Project Plan "Screening Study of Bioaccumulation in California Lakes and Reservoirs." (SWAMP, 2008).
QAPP Information Reference(s):	Quality Assurance Project Plan Screening Study of Bioaccumulation in California Lakes and Reservoirs. Moss Landing Marine Labs. Prepared for SWAMP BOG, 49 pages plus appendices and attachments

DECISION ID	61641	Region 2
Coyote Reservoir		

Pollutant: DDT (Dichlorodiphenyltrichloroethane)
Final Listing Decision: Do Not List on 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision: New Decision
Revision Status: Revised
Impairment from Pollutant or Pollution: Pollutant

Regional Board Staff Conclusion: This pollutant is being considered for placement on the CWA section 303(d) List under section 3.5 of the Listing Policy. Under section 3.5 a single line of evidence is necessary to assess listing status. Three lines of evidence are available in the administrative record to assess this pollutant. Zero of one samples exceed the guideline.

Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against placing this water segment-pollutant combination on the CWA section 303(d) List.

This conclusion is based on the staff findings that:

1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy.
2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy.
3. Zero of one samples exceed the guideline and this sample size is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating. A minimum of 16 samples is needed to determine if a beneficial use is fully supported using table 3.1.
4. Pursuant to SECTION 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.

Regional Board Staff Decision Recommendation: After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be placed on the section 303(d) list. The readily available data and information is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating.

Line of Evidence (LOE) for Decision ID 61641, DDT (Dichlorodiphenyltrichloroethane)	Region 2
Coyote Reservoir	

LOE ID: 91587
Pollutant: Total DDT (sum of 4,4'- and 2,4'- isomers of DDT, DDE, and DDD)
LOE Subgroup: Pollutant-Tissue
Matrix: Tissue
Fraction: Fish fillet

Beneficial Use: Commercial or recreational collection of fish, shellfish, or organisms

Number of Samples: 1
Number of Exceedances: 0

Data and Information Type: Fish tissue analysis
Data Used to Assess Water Quality: State Water Board staff assessed SWAMP data for Coyote Reservoir to determine beneficial use support and results are as follows: 0 of 1 samples exceed the criterion for DDT, Total. One composite (5 fish per composite) was generated from one species: Common Carp. Details of the compositing protocol can be found in the March 2009 report entitled: "Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Study" (SWAMP, 2009). Total DDT was calculated as the sum of 4,4'- and 2,4'- isomers of DDT, DDE, and DDD.

Data Reference: [Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year](#)

[One of a Two-Year Screening Survey. A Report of the Surface Water Ambient Monitoring Program \(SWAMP\). California State Water Resources Control Board, Sacramento, CA](#)
[Statewide Lakes Sportfish Contamination Study 2007 2008](#)
[Contaminants in Fish from California Lakes and Reservoirs, 2007-2008: Summary Report on a Two-Year Screening Survey](#)
[Cruise report for the Surface Water Ambient Monitoring Program \(SWAMP\)](#)
[bioaccumulation screening study in California lakes and reservoirs year two \(FY 07-08\).](#)
[Sampling dates: April 2008 - November 2008.](#)

SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	Water Quality Control Plan for the San Francisco Bay Basin: Controllable water quality factors shall not cause a detrimental increase in concentrations of toxic substances found in bottom sediments or aquatic life. Effects on aquatic organisms, wildlife, and human health will be considered.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	The modified OEHHA Fish Contaminant Goal for total DDT in fish tissue is 15 ppb. This screening level assumes an average body weight of 70 kg and a consumption rate of 32 g/day for a 30 year exposure over a 70-year lifetime. This constituent is a carcinogen therefore the risk level is set to one in a million. A cooking reduction factor of 1 is applied for skin-off fillets. (Klasing, S., and R. Brodberg, 2008)
Guideline Reference:	Development of Fish Contaminant Goals and Advisory Tissue Levels for Common Contaminants in California Sport Fish: Chlordane, DDTs, Dieldrin, Methylmercury, PCBs, Selenium, and Toxaphene
Spatial Representation:	Data for this assessment unit was collected by one monitoring project: (SWB_FishLk)
Temporal Representation:	Data was collected on a single day 6/25/2008.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	Samples were collected, processed, and analyzed in accordance with the methods described in Quality Assurance Project Plan "Screening Study of Bioaccumulation in California Lakes and Reservoirs." (SWAMP, 2008).
QAPP Information Reference(s):	Quality Assurance Project Plan Screening Study of Bioaccumulation in California Lakes and Reservoirs. Moss Landing Marine Labs. Prepared for SWAMP BOG. 49 pages plus appendices and attachments

Line of Evidence (LOE) for Decision ID 61641, DDT (Dichlorodiphenyltrichloroethane)

Region 2

Coyote Reservoir

LOE ID:	91586
Pollutant:	Total DDT (sum of 4,4'- and 2,4'- isomers of DDT, DDE, and DDD)
LOE Subgroup:	Pollutant-Tissue
Matrix:	Tissue
Fraction:	Fish fillet
Beneficial Use:	Cold Freshwater Habitat
Number of Samples:	1
Number of Exceedances:	0
Data and Information Type:	Fish tissue analysis
Data Used to Assess Water Quality:	State Water Board staff assessed SWAMP data for Coyote Reservoir to determine beneficial use support and results are as follows: 0 of 1 samples exceed the criterion for DDT, Total. One composite (5 fish per composite) was generated from one species: Common Carp. Details of the compositing protocol can be found in the March 2009 report entitled: "Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Study" (SWAMP, 2009). Total DDT was calculated as the sum of 4,4'- and 2,4'- isomers of DDT, DDE, and DDD.
Data Reference:	Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Survey. A Report of the Surface Water Ambient Monitoring Program (SWAMP). California State Water Resources Control Board, Sacramento, CA

[Statewide Lakes Sportfish Contamination Study 2007 2008](#)
[Contaminants in Fish from California Lakes and Reservoirs, 2007-2008: Summary Report on a Two-Year Screening Survey](#)
[Cruise report for the Surface Water Ambient Monitoring Program \(SWAMP\)](#)
[bioaccumulation screening study in California lakes and reservoirs year two \(FY 07-08\).](#)
[Sampling dates: April 2008 - November 2008.](#)

SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	Water Quality Control Plan for the San Francisco Bay Basin: Controllable water quality factors shall not cause a detrimental increase in concentrations of toxic substances found in bottom sediments or aquatic life. Effects on aquatic organisms, wildlife, and human health will be considered.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	National Academy of Science guidelines (NAS 1972) establish a maximum total DDT concentration of 1000 ug/Kg (wet weight) in tissue samples for protection of aquatic life from bioaccumulation of toxic substances.
Guideline Reference:	National Academy of Sciences. Water Quality Criteria 1972. EPA-R3-73-033. Washington, D.C.: U.S. Environmental Protection Agency
Spatial Representation:	Data for this assessment unit was collected by one monitoring project: (SWB_FishLk)
Temporal Representation:	Data was collected on a single day 6/25/2008.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	Samples were collected, processed, and analyzed in accordance with the methods described in Quality Assurance Project Plan "Screening Study of Bioaccumulation in California Lakes and Reservoirs." (SWAMP, 2008).
QAPP Information Reference(s):	Quality Assurance Project Plan Screening Study of Bioaccumulation in California Lakes and Reservoirs. Moss Landing Marine Labs. Prepared for SWAMP BOG, 49 pages plus appendices and attachments

Line of Evidence (LOE) for Decision ID 61641, DDT (Dichlorodiphenyltrichloroethane)
Coyote Reservoir

Region 2

LOE ID:	91585
Pollutant:	Total DDT (sum of 4,4'- and 2,4'- isomers of DDT, DDE, and DDD)
LOE Subgroup:	Pollutant-Tissue
Matrix:	Tissue
Fraction:	Fish fillet
Beneficial Use:	Warm Freshwater Habitat
Number of Samples:	1
Number of Exceedances:	0
Data and Information Type:	Fish tissue analysis
Data Used to Assess Water Quality:	State Water Board staff assessed SWAMP data for Coyote Reservoir to determine beneficial use support and results are as follows: 0 of 1 samples exceed the criterion for DDT, Total. One composite (5 fish per composite) was generated from one species: Common Carp. Details of the compositing protocol can be found in the March 2009 report entitled: "Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Study" (SWAMP, 2009). Total DDT was calculated as the sum of 4,4'- and 2,4'- isomers of DDT, DDE, and DDD.
Data Reference:	Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Survey. A Report of the Surface Water Ambient Monitoring Program (SWAMP). California State Water Resources Control Board, Sacramento, CA Statewide Lakes Sportfish Contamination Study 2007 2008 Contaminants in Fish from California Lakes and Reservoirs, 2007-2008: Summary Report on a Two-Year Screening Survey Cruise report for the Surface Water Ambient Monitoring Program (SWAMP) bioaccumulation screening study in California lakes and reservoirs year two (FY 07-08).

[Sampling dates: April 2008 - November 2008.](#)

SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	Water Quality Control Plan for the San Francisco Bay Basin: Controllable water quality factors shall not cause a detrimental increase in concentrations of toxic substances found in bottom sediments or aquatic life. Effects on aquatic organisms, wildlife, and human health will be considered.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	National Academy of Science guidelines (NAS 1972) establish a maximum total DDT concentration of 1000 ug/Kg (wet weight) in tissue samples for protection of aquatic life from bioaccumulation of toxic substances.
Guideline Reference:	National Academy of Sciences. Water Quality Criteria 1972. EPA-R3-73-033. Washington, D.C.: U.S. Environmental Protection Agency
Spatial Representation:	Data for this assessment unit was collected by one monitoring project: (SWB_FishLk)
Temporal Representation:	Data was collected on a single day 6/25/2008.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	Samples were collected, processed, and analyzed in accordance with the methods described in Quality Assurance Project Plan "Screening Study of Bioaccumulation in California Lakes and Reservoirs." (SWAMP, 2008).
QAPP Information Reference(s):	Quality Assurance Project Plan Screening Study of Bioaccumulation in California Lakes and Reservoirs. Moss Landing Marine Labs. Prepared for SWAMP BOG. 49 pages plus appendices and attachments

DECISION ID	61622	Region 2
Coyote Reservoir		

Pollutant:	Dieldrin
Final Listing Decision:	Do Not List on 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision:	New Decision
Revision Status	Revised
Impairment from Pollutant or Pollution:	Pollutant
Regional Board Staff Conclusion:	<p>This pollutant is being considered for placement on the CWA section 303(d) List under section 3.5 of the Listing Policy. Under section 3.5 a single line of evidence is necessary to assess listing status. Three lines of evidence are available in the administrative record to assess this pollutant. Zero of one samples exceed the guideline.</p> <p>Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against placing this water segment-pollutant combination on the CWA section 303(d) List.</p> <p>This conclusion is based on the staff findings that:</p> <ol style="list-style-type: none">1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy.2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy.3. Zero of one samples exceed the guideline and this sample size is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating. A minimum of 16 samples is needed to determine if a beneficial use is fully supported using table 3.1.4. Pursuant to SECTION 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.
Regional Board Staff Decision Recommendation:	After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be placed on the section 303(d) list. The readily available data and information is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating.

Coyote Reservoir

LOE ID:	91546
Pollutant:	Dieldrin
LOE Subgroup:	Pollutant-Tissue
Matrix:	Tissue
Fraction:	Fish fillet
Beneficial Use:	Warm Freshwater Habitat
Number of Samples:	1
Number of Exceedances:	0
Data and Information Type:	Fish tissue analysis
Data Used to Assess Water Quality:	State Water Board staff assessed SWAMP data for Coyote Reservoir to determine beneficial use support and results are as follows: 0 of 1 samples exceed the criterion for Dieldrin. One composite (5 fish per composite) was generated from one species: Common Carp. Details of the compositing protocol can be found in the March 2009 report entitled: "Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Study" (SWAMP, 2009).
Data Reference:	Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Survey. A Report of the Surface Water Ambient Monitoring Program (SWAMP). California State Water Resources Control Board, Sacramento, CA Statewide Lakes Sportfish Contamination Study 2007 2008 Contaminants in Fish from California Lakes and Reservoirs, 2007-2008: Summary Report on a Two-Year Screening Survey Cruise report for the Surface Water Ambient Monitoring Program (SWAMP) bioaccumulation screening study in California lakes and reservoirs year two (FY 07-08). Sampling dates: April 2008 - November 2008.
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	Water Quality Control Plan for the San Francisco Bay Basin: Controllable water quality factors shall not cause a detrimental increase in concentrations of toxic substances found in bottom sediments or aquatic life. Effects on aquatic organisms, wildlife, and human health will be considered.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	National Academy of Science guidelines (NAS 1972) establish a maximum Dieldrin concentration of 100 ug/Kg (wet weight) in tissue samples for protection of aquatic life from bioaccumulation of toxic substances.
Guideline Reference:	National Academy of Sciences. Water Quality Criteria 1972. EPA-R3-73-033. Washington, D.C.: U.S. Environmental Protection Agency
Spatial Representation:	Data for this assessment unit was collected by one monitoring project: (SWB_FishLk)
Temporal Representation:	Data was collected on a single day 6/25/2008.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	Samples were collected, processed, and analyzed in accordance with the methods described in Quality Assurance Project Plan "Screening Study of Bioaccumulation in California Lakes and Reservoirs." (SWAMP, 2008).
QAPP Information Reference(s):	Quality Assurance Project Plan Screening Study of Bioaccumulation in California Lakes and Reservoirs. Moss Landing Marine Labs. Prepared for SWAMP BOG, 49 pages plus appendices and attachments

Coyote Reservoir

LOE ID: 91551

Pollutant:	Dieldrin
LOE Subgroup:	Pollutant-Tissue
Matrix:	Tissue
Fraction:	Fish fillet
Beneficial Use:	Cold Freshwater Habitat
Number of Samples:	1
Number of Exceedances:	0
Data and Information Type:	Fish tissue analysis
Data Used to Assess Water Quality:	State Water Board staff assessed SWAMP data for Coyote Reservoir to determine beneficial use support and results are as follows: 0 of 1 samples exceed the criterion for Dieldrin. One composite (5 fish per composite) was generated from one species: Common Carp. Details of the compositing protocol can be found in the March 2009 report entitled: "Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Study" (SWAMP, 2009).
Data Reference:	Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Survey. A Report of the Surface Water Ambient Monitoring Program (SWAMP). California State Water Resources Control Board, Sacramento, CA Statewide Lakes Sportfish Contamination Study 2007 2008 Contaminants in Fish from California Lakes and Reservoirs, 2007-2008: Summary Report on a Two-Year Screening Survey Cruise report for the Surface Water Ambient Monitoring Program (SWAMP) bioaccumulation screening study in California lakes and reservoirs year two (FY 07-08). Sampling dates: April 2008 - November 2008.
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	Water Quality Control Plan for the San Francisco Bay Basin: Controllable water quality factors shall not cause a detrimental increase in concentrations of toxic substances found in bottom sediments or aquatic life. Effects on aquatic organisms, wildlife, and human health will be considered.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	National Academy of Science guidelines (NAS 1972) establish a maximum Dieldrin concentration of 100 ug/Kg (wet weight) in tissue samples for protection of aquatic life from bioaccumulation of toxic substances.
Guideline Reference:	National Academy of Sciences. Water Quality Criteria 1972. EPA-R3-73-033. Washington, D.C.: U.S. Environmental Protection Agency
Spatial Representation:	Data for this assessment unit was collected by one monitoring project: (SWB_FishLk)
Temporal Representation:	Data was collected on a single day 6/25/2008.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	Samples were collected, processed, and analyzed in accordance with the methods described in Quality Assurance Project Plan "Screening Study of Bioaccumulation in California Lakes and Reservoirs." (SWAMP, 2008).
QAPP Information Reference(s):	Quality Assurance Project Plan Screening Study of Bioaccumulation in California Lakes and Reservoirs. Moss Landing Marine Labs. Prepared for SWAMP BOG. 49 pages plus appendices and attachments

Line of Evidence (LOE) for Decision ID 61622, Dieldrin

Region 2

Coyote Reservoir

LOE ID:	91552
Pollutant:	Dieldrin
LOE Subgroup:	Pollutant-Tissue
Matrix:	Tissue
Fraction:	Fish fillet
Beneficial Use:	Commercial or recreational collection of fish, shellfish, or organisms

Number of Samples:	0
Number of Exceedances:	0
Data and Information Type:	Fish tissue analysis
Data Used to Assess Water Quality:	State Water Board staff assessed SWAMP data for Coyote Reservoir to determine beneficial use support and results are as follows: 0 of 0 samples exceed the criterion for Dieldrin. One composite (5 fish per composite) was generated from one species: Common Carp. Details of the compositing protocol can be found in the March 2009 report entitled: "Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Study" (SWAMP, 2009). One composite was not used in the assessment because the laboratory data reporting limit(s) was above the objective and therefore the results could not be quantified with the level of certainty required by the Listing Policy.
Data Reference:	Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Survey. A Report of the Surface Water Ambient Monitoring Program (SWAMP). California State Water Resources Control Board, Sacramento, CA Statewide Lakes Sportfish Contamination Study 2007 2008 Contaminants in Fish from California Lakes and Reservoirs, 2007-2008: Summary Report on a Two-Year Screening Survey Cruise report for the Surface Water Ambient Monitoring Program (SWAMP) bioaccumulation screening study in California lakes and reservoirs year two (FY 07-08). Sampling dates: April 2008 - November 2008.
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	Water Quality Control Plan for the San Francisco Bay Basin: Controllable water quality factors shall not cause a detrimental increase in concentrations of toxic substances found in bottom sediments or aquatic life. Effects on aquatic organisms, wildlife, and human health will be considered.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	The modified OEHHA Fish Contaminant Goal for dieldrin in fish tissue is 0.32 ppb. This screening level assumes an average body weight of 70 kg and a consumption rate of 32 g/day for a 30 year exposure over a 70-year lifetime. This constituent is a carcinogen therefore the risk level is set to one in a million. A cooking reduction factor of 1 is applied for skin-off fillets. (Klasing, S., and R. Brodberg, 2008)
Guideline Reference:	Development of Fish Contaminant Goals and Advisory Tissue Levels for Common Contaminants in California Sport Fish: Chlordane, DDTs, Dieldrin, Methylmercury, PCBs, Selenium, and Toxaphene
Spatial Representation:	Data for this assessment unit was collected by one monitoring project: (SWB_FishLk)
Temporal Representation:	Data was collected on a single day 6/25/2008.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	Samples were collected, processed, and analyzed in accordance with the methods described in Quality Assurance Project Plan "Screening Study of Bioaccumulation in California Lakes and Reservoirs." (SWAMP, 2008).
QAPP Information Reference(s):	Quality Assurance Project Plan Screening Study of Bioaccumulation in California Lakes and Reservoirs. Moss Landing Marine Labs. Prepared for SWAMP BOG. 49 pages plus appendices and attachments

DECISION ID	61623	Region 2
Coyote Reservoir		

Pollutant:	Endosulfan
Final Listing Decision:	Do Not List on 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision:	New Decision
Revision Status	Revised
Impairment from Pollutant or Pollution:	Pollutant

**Regional Board Staff
Conclusion:**

This pollutant is being considered for placement on the CWA section 303(d) List under section 3.5 of the Listing Policy. Under section 3.5 a single line of evidence is necessary to assess listing status. Three lines of evidence are available in the administrative record to assess this pollutant. Zero of one samples exceed the guideline.

Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against placing this water segment-pollutant combination on the CWA section 303(d) List.

This conclusion is based on the staff findings that:

1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy.
2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy.
3. Zero of one samples exceed the guideline and this sample size is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating. A minimum of 16 samples is needed to determine if a beneficial use is fully supported using table 3.1.
4. Pursuant to SECTION 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.

**Regional Board Staff Decision
Recommendation:**

After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be placed on the section 303(d) list. The readily available data and information is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating.

**Line of Evidence (LOE) for Decision ID 61623, Endosulfan
Coyote Reservoir**

Region 2

LOE ID:	91562
Pollutant:	Endosulfan
LOE Subgroup:	Pollutant-Tissue
Matrix:	Tissue
Fraction:	Fish fillet
Beneficial Use:	Commercial or recreational collection of fish, shellfish, or organisms
Number of Samples:	1
Number of Exceedances:	0
Data and Information Type:	Fish tissue analysis
Data Used to Assess Water Quality:	State Water Board staff assessed SWAMP data for Coyote Reservoir to determine beneficial use support and results are as follows: 0 of 1 samples exceed the criterion for Endosulfan I. One composite (5 fish per composite) was generated from one species: Common Carp. Details of the compositing protocol can be found in the March 2009 report entitled: "Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Study" (SWAMP, 2009).
Data Reference:	Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Survey. A Report of the Surface Water Ambient Monitoring Program (SWAMP). California State Water Resources Control Board, Sacramento, CA Statewide Lakes Sportfish Contamination Study 2007 2008 Contaminants in Fish from California Lakes and Reservoirs, 2007-2008: Summary Report on a Two-Year Screening Survey Cruise report for the Surface Water Ambient Monitoring Program (SWAMP) bioaccumulation screening study in California lakes and reservoirs year two (FY 07-08). Sampling dates: April 2008 - November 2008.
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	Water Quality Control Plan for the San Francisco Bay Basin: Controllable water quality factors shall not cause a detrimental increase in concentrations of toxic substances found in bottom sediments or aquatic life. Effects on aquatic organisms, wildlife, and human

Objective/Criterion Reference:	health will be considered. Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	The modified OEHHA Fish Contaminant Goal for endosulfan (I and II) in fish tissue is 13,000 ppb. This screening level assumes an average body weight of 70 kg and a consumption rate of 32 g/day. A cooking reduction factor of 1 is applied for skin-off fillets. (Klasing, S., and R. Brodberg, 2008; USEPA, 2000)
Guideline Reference:	Development of Fish Contaminant Goals and Advisory Tissue Levels for Common Contaminants in California Sport Fish: Chlordane, DDTs, Dieldrin, Methylmercury, PCBs, Selenium, and Toxaphene Guidance for Assessing Chemical Contaminant Data for Use In Fish Advisories Volume 1: Fish Sampling and Analysis
Spatial Representation:	Data for this assessment unit was collected by one monitoring project: (SWB_FishLk)
Temporal Representation:	Data was collected on a single day 6/25/2008.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	Samples were collected, processed, and analyzed in accordance with the methods described in Quality Assurance Project Plan "Screening Study of Bioaccumulation in California Lakes and Reservoirs." (SWAMP, 2008).
QAPP Information Reference(s):	Quality Assurance Project Plan Screening Study of Bioaccumulation in California Lakes and Reservoirs. Moss Landing Marine Labs. Prepared for SWAMP BOG. 49 pages plus appendices and attachments

Line of Evidence (LOE) for Decision ID 61623, Endosulfan

Region 2

Coyote Reservoir

LOE ID:	91554
Pollutant:	Endosulfan
LOE Subgroup:	Pollutant-Tissue
Matrix:	Tissue
Fraction:	Fish fillet
Beneficial Use:	Cold Freshwater Habitat
Number of Samples:	1
Number of Exceedances:	0
Data and Information Type:	Fish tissue analysis
Data Used to Assess Water Quality:	State Water Board staff assessed SWAMP data for Coyote Reservoir to determine beneficial use support and results are as follows: 0 of 1 samples exceed the criterion for Endosulfan I. One composite (5 fish per composite) was generated from one species: Common Carp. Details of the compositing protocol can be found in the March 2009 report entitled: "Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Study" (SWAMP, 2009).
Data Reference:	Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Survey. A Report of the Surface Water Ambient Monitoring Program (SWAMP). California State Water Resources Control Board, Sacramento, CA Statewide Lakes Sportfish Contamination Study 2007 2008 Contaminants in Fish from California Lakes and Reservoirs, 2007-2008: Summary Report on a Two-Year Screening Survey Cruise report for the Surface Water Ambient Monitoring Program (SWAMP) bioaccumulation screening study in California lakes and reservoirs year two (FY 07-08). Sampling dates: April 2008 - November 2008.
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	Water Quality Control Plan for the San Francisco Bay Basin: Controllable water quality factors shall not cause a detrimental increase in concentrations of toxic substances found in bottom sediments or aquatic life. Effects on aquatic organisms, wildlife, and human health will be considered.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)

Evaluation Guideline:	National Academy of Science guidelines (NAS 1972) establish a maximum Endosulfan, Total concentration of 100 ug/Kg (wet weight) in tissue samples for protection of aquatic life from bioaccumulation of toxic substances.
Guideline Reference:	National Academy of Sciences. Water Quality Criteria 1972. EPA-R3-73-033. Washington, D.C.: U.S. Environmental Protection Agency
Spatial Representation:	Data for this assessment unit was collected by one monitoring project: (SWB_FishLk)
Temporal Representation:	Data was collected on a single day 6/25/2008.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	Samples were collected, processed, and analyzed in accordance with the methods described in Quality Assurance Project Plan "Screening Study of Bioaccumulation in California Lakes and Reservoirs." (SWAMP, 2008).
QAPP Information Reference(s):	Quality Assurance Project Plan Screening Study of Bioaccumulation in California Lakes and Reservoirs. Moss Landing Marine Labs. Prepared for SWAMP BOG, 49 pages plus appendices and attachments

**Line of Evidence (LOE) for Decision ID 61623, Endosulfan
Coyote Reservoir**

Region 2

LOE ID:	91553
Pollutant:	Endosulfan
LOE Subgroup:	Pollutant-Tissue
Matrix:	Tissue
Fraction:	Fish fillet
Beneficial Use:	Warm Freshwater Habitat
Number of Samples:	1
Number of Exceedances:	0
Data and Information Type:	Fish tissue analysis
Data Used to Assess Water Quality:	State Water Board staff assessed SWAMP data for Coyote Reservoir to determine beneficial use support and results are as follows: 0 of 1 samples exceed the criterion for Endosulfan I. One composite (5 fish per composite) was generated from one species: Common Carp. Details of the compositing protocol can be found in the March 2009 report entitled: "Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Study" (SWAMP, 2009).
Data Reference:	Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Survey. A Report of the Surface Water Ambient Monitoring Program (SWAMP). California State Water Resources Control Board, Sacramento, CA Statewide Lakes Sportfish Contamination Study 2007 2008 Contaminants in Fish from California Lakes and Reservoirs, 2007-2008: Summary Report on a Two-Year Screening Survey Cruise report for the Surface Water Ambient Monitoring Program (SWAMP) bioaccumulation screening study in California lakes and reservoirs year two (FY 07-08). Sampling dates: April 2008 - November 2008.
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	Water Quality Control Plan for the San Francisco Bay Basin: Controllable water quality factors shall not cause a detrimental increase in concentrations of toxic substances found in bottom sediments or aquatic life. Effects on aquatic organisms, wildlife, and human health will be considered.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	National Academy of Science guidelines (NAS 1972) establish a maximum Endosulfan, Total concentration of 100 ug/Kg (wet weight) in tissue samples for protection of aquatic life from bioaccumulation of toxic substances.
Guideline Reference:	National Academy of Sciences. Water Quality Criteria 1972. EPA-R3-73-033. Washington, D.C.: U.S. Environmental Protection Agency

Spatial Representation:	Data for this assessment unit was collected by one monitoring project: (SWB_FishLk)
Temporal Representation:	Data was collected on a single day 6/25/2008.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	Samples were collected, processed, and analyzed in accordance with the methods described in Quality Assurance Project Plan "Screening Study of Bioaccumulation in California Lakes and Reservoirs." (SWAMP, 2008).
QAPP Information Reference(s):	Quality Assurance Project Plan Screening Study of Bioaccumulation in California Lakes and Reservoirs. Moss Landing Marine Labs. Prepared for SWAMP BOG. 49 pages plus appendices and attachments

DECISION ID	61626	Region 2
Coyote Reservoir		

Pollutant: Final Listing Decision: Last Listing Cycle's Final Listing Decision: Revision Status Impairment from Pollutant or Pollution:	Endrin Do Not List on 303(d) list (TMDL required list) New Decision Revised Pollutant
Regional Board Staff Conclusion:	<p>This pollutant is being considered for placement on the CWA section 303(d) List under section 3.5 of the Listing Policy. Under section 3.5 a single line of evidence is necessary to assess listing status. Three lines of evidence are available in the administrative record to assess this pollutant. Zero of one samples exceed the guideline.</p> <p>Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against placing this water segment-pollutant combination on the CWA section 303(d) List.</p> <p>This conclusion is based on the staff findings that:</p> <ol style="list-style-type: none"> 1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy. 2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy. 3. Zero of one samples exceed the guideline and this sample size is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating. A minimum of 16 samples is needed to determine if a beneficial use is fully supported using table 3.1. 4. Pursuant to SECTION 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met. <p>Regional Board Staff Decision Recommendation: After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be placed on the section 303(d) list. The readily available data and information is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating.</p>

Line of Evidence (LOE) for Decision ID 61626, Endrin	Region 2
Coyote Reservoir	

LOE ID: Pollutant: LOE Subgroup: Matrix: Fraction:	91565 Endrin Pollutant-Tissue Tissue Fish fillet
Beneficial Use:	Commercial or recreational collection of fish, shellfish, or organisms
Number of Samples:	1
Number of Exceedances:	0

Data and Information Type:	Fish tissue analysis
Data Used to Assess Water Quality:	State Water Board staff assessed SWAMP data for Coyote Reservoir to determine beneficial use support and results are as follows: 0 of 1 samples exceed the criterion for Endrin. One composite (5 fish per composite) was generated from one species: Common Carp. Details of the compositing protocol can be found in the March 2009 report entitled: "Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Study" (SWAMP, 2009).
Data Reference:	Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Survey. A Report of the Surface Water Ambient Monitoring Program (SWAMP). California State Water Resources Control Board, Sacramento, CA Statewide Lakes Sportfish Contamination Study 2007 2008 Contaminants in Fish from California Lakes and Reservoirs, 2007-2008: Summary Report on a Two-Year Screening Survey Cruise report for the Surface Water Ambient Monitoring Program (SWAMP) bioaccumulation screening study in California lakes and reservoirs year two (FY 07-08). Sampling dates: April 2008 - November 2008.
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	Water Quality Control Plan for the San Francisco Bay Basin: Controllable water quality factors shall not cause a detrimental increase in concentrations of toxic substances found in bottom sediments or aquatic life. Effects on aquatic organisms, wildlife, and human health will be considered.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	The modified OEHHA Fish Contaminant Goal for endrin in fish tissue is 660 ppb. This screening level assumes an average body weight of 70 kg and a consumption rate of 32 g/day. A cooking reduction factor of 1 is applied for skin-off fillets. (Klasing, S., and R. Brodberg, 2008; USEPA, 2000)
Guideline Reference:	Development of Fish Contaminant Goals and Advisory Tissue Levels for Common Contaminants in California Sport Fish: Chlordane, DDTs, Dieldrin, Methylmercury, PCBs, Selenium, and Toxaphene Guidance for Assessing Chemical Contaminant Data for Use In Fish Advisories Volume 1: Fish Sampling and Analysis
Spatial Representation:	Data for this assessment unit was collected by one monitoring project: (SWB_FishLk)
Temporal Representation:	Data was collected on a single day 6/25/2008.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	Samples were collected, processed, and analyzed in accordance with the methods described in Quality Assurance Project Plan "Screening Study of Bioaccumulation in California Lakes and Reservoirs." (SWAMP, 2008).
QAPP Information Reference(s):	Quality Assurance Project Plan Screening Study of Bioaccumulation in California Lakes and Reservoirs. Moss Landing Marine Labs. Prepared for SWAMP BOG, 49 pages plus appendices and attachments

Line of Evidence (LOE) for Decision ID 61626, Endrin

Region 2

Coyote Reservoir

LOE ID:	91564
Pollutant:	Endrin
LOE Subgroup:	Pollutant-Tissue
Matrix:	Tissue
Fraction:	Fish fillet
Beneficial Use:	Cold Freshwater Habitat
Number of Samples:	1
Number of Exceedances:	0
Data and Information Type:	Fish tissue analysis

Data Used to Assess Water Quality:	State Water Board staff assessed SWAMP data for Coyote Reservoir to determine beneficial use support and results are as follows: 0 of 1 samples exceed the criterion for Endrin. One composite (5 fish per composite) was generated from one species: Common Carp. Details of the compositing protocol can be found in the March 2009 report entitled: "Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Study" (SWAMP, 2009).
Data Reference:	Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Survey. A Report of the Surface Water Ambient Monitoring Program (SWAMP). California State Water Resources Control Board, Sacramento, CA Statewide Lakes Sportfish Contamination Study 2007 2008 Contaminants in Fish from California Lakes and Reservoirs, 2007-2008: Summary Report on a Two-Year Screening Survey Cruise report for the Surface Water Ambient Monitoring Program (SWAMP) bioaccumulation screening study in California lakes and reservoirs year two (FY 07-08). Sampling dates: April 2008 - November 2008.
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	Water Quality Control Plan for the San Francisco Bay Basin: Controllable water quality factors shall not cause a detrimental increase in concentrations of toxic substances found in bottom sediments or aquatic life. Effects on aquatic organisms, wildlife, and human health will be considered.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	National Academy of Science guidelines (NAS 1972) establish a maximum Endrin concentration of 100 ug/Kg (wet weight) in tissue samples for protection of aquatic life from bioaccumulation of toxic substances.
Guideline Reference:	National Academy of Sciences. Water Quality Criteria 1972. EPA-R3-73-033. Washington, D.C.: U.S. Environmental Protection Agency
Spatial Representation:	Data for this assessment unit was collected by one monitoring project: (SWB_FishLk)
Temporal Representation:	Data was collected on a single day 6/25/2008.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	Samples were collected, processed, and analyzed in accordance with the methods described in Quality Assurance Project Plan "Screening Study of Bioaccumulation in California Lakes and Reservoirs." (SWAMP, 2008).
QAPP Information Reference(s):	Quality Assurance Project Plan Screening Study of Bioaccumulation in California Lakes and Reservoirs. Moss Landing Marine Labs. Prepared for SWAMP BOG, 49 pages plus appendices and attachments

Line of Evidence (LOE) for Decision ID 61626, Endrin
Coyote Reservoir

Region 2

LOE ID:	91563
Pollutant:	Endrin
LOE Subgroup:	Pollutant-Tissue
Matrix:	Tissue
Fraction:	Fish fillet
Beneficial Use:	Warm Freshwater Habitat
Number of Samples:	1
Number of Exceedances:	0
Data and Information Type:	Fish tissue analysis
Data Used to Assess Water Quality:	State Water Board staff assessed SWAMP data for Coyote Reservoir to determine beneficial use support and results are as follows: 0 of 1 samples exceed the criterion for Endrin. One composite (5 fish per composite) was generated from one species: Common Carp. Details of the compositing protocol can be found in the March 2009 report entitled: "Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Study" (SWAMP, 2009).

Data Reference:	Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Survey. A Report of the Surface Water Ambient Monitoring Program (SWAMP). California State Water Resources Control Board, Sacramento, CA Statewide Lakes Sportfish Contamination Study 2007 2008 Contaminants in Fish from California Lakes and Reservoirs, 2007-2008: Summary Report on a Two-Year Screening Survey Cruise report for the Surface Water Ambient Monitoring Program (SWAMP) bioaccumulation screening study in California lakes and reservoirs year two (FY 07-08). Sampling dates: April 2008 - November 2008.
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	Water Quality Control Plan for the San Francisco Bay Basin: Controllable water quality factors shall not cause a detrimental increase in concentrations of toxic substances found in bottom sediments or aquatic life. Effects on aquatic organisms, wildlife, and human health will be considered.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	National Academy of Science guidelines (NAS 1972) establish a maximum Endrin concentration of 100 ug/Kg (wet weight) in tissue samples for protection of aquatic life from bioaccumulation of toxic substances.
Guideline Reference:	National Academy of Sciences. Water Quality Criteria 1972. EPA-R3-73-033. Washington, D.C.: U.S. Environmental Protection Agency
Spatial Representation:	Data for this assessment unit was collected by one monitoring project: (SWB_FishLk)
Temporal Representation:	Data was collected on a single day 6/25/2008.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	Samples were collected, processed, and analyzed in accordance with the methods described in Quality Assurance Project Plan "Screening Study of Bioaccumulation in California Lakes and Reservoirs." (SWAMP, 2008).
QAPP Information Reference(s):	Quality Assurance Project Plan Screening Study of Bioaccumulation in California Lakes and Reservoirs. Moss Landing Marine Labs. Prepared for SWAMP BOG. 49 pages plus appendices and attachments

DECISION ID	61629	Region 2
Coyote Reservoir		
Pollutant:	Heptachlor	
Final Listing Decision:	Do Not List on 303(d) list (TMDL required list)	
Last Listing Cycle's Final Listing Decision:	New Decision	
Revision Status	Revised	
Impairment from Pollutant or Pollution:	Pollutant	
Regional Board Staff Conclusion:	<p>This pollutant is being considered for placement on the CWA section 303(d) List under section 3.5 of the Listing Policy. Under section 3.5 a single line of evidence is necessary to assess listing status. Two lines of evidence are available in the administrative record to assess this pollutant. Zero of one samples exceed the guideline.</p> <p>Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against placing this water segment-pollutant combination on the CWA section 303(d) List.</p> <p>This conclusion is based on the staff findings that:</p> <ol style="list-style-type: none"> 1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy. 2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy. 3. Zero of one samples exceed the guideline and this sample size is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating. A minimum of 16 samples is needed to determine if a beneficial use is fully supported using table 3.1. 4. Pursuant to SECTION 3.11 of the Listing Policy, no additional data and information are available 	

indicating that standards are not met.

Regional Board Staff Decision Recommendation: After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be placed on the section 303(d) list. The readily available data and information is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating.

**Line of Evidence (LOE) for Decision ID 61629, Heptachlor
Coyote Reservoir**

Region 2

LOE ID:	91570
Pollutant:	Heptachlor
LOE Subgroup:	Pollutant-Tissue
Matrix:	Tissue
Fraction:	Fish fillet
Beneficial Use:	Warm Freshwater Habitat
Number of Samples:	1
Number of Exceedances:	0
Data and Information Type:	Fish tissue analysis
Data Used to Assess Water Quality:	State Water Board staff assessed SWAMP data for Coyote Reservoir to determine beneficial use support and results are as follows: 0 of 1 samples exceed the criterion for Heptachlor. One composite (5 fish per composite) was generated from one species: Common Carp. Details of the compositing protocol can be found in the March 2009 report entitled: "Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Study" (SWAMP, 2009).
Data Reference:	Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Survey. A Report of the Surface Water Ambient Monitoring Program (SWAMP). California State Water Resources Control Board, Sacramento, CA Statewide Lakes Sportfish Contamination Study 2007 2008 Contaminants in Fish from California Lakes and Reservoirs, 2007-2008: Summary Report on a Two-Year Screening Survey Cruise report for the Surface Water Ambient Monitoring Program (SWAMP) bioaccumulation screening study in California lakes and reservoirs year two (FY 07-08). Sampling dates: April 2008 - November 2008.
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	Water Quality Control Plan for the San Francisco Bay Basin: Controllable water quality factors shall not cause a detrimental increase in concentrations of toxic substances found in bottom sediments or aquatic life. Effects on aquatic organisms, wildlife, and human health will be considered.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	National Academy of Science guidelines (NAS 1972) establish a maximum Heptachlor concentration of 100 ug/Kg (wet weight) in tissue samples for protection of aquatic life from bioaccumulation of toxic substances.
Guideline Reference:	National Academy of Sciences. Water Quality Criteria 1972. EPA-R3-73-033. Washington, D.C.: U.S. Environmental Protection Agency
Spatial Representation:	Data for this assessment unit was collected by one monitoring project: (SWB_FishLk)
Temporal Representation:	Data was collected on a single day 6/25/2008.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	Samples were collected, processed, and analyzed in accordance with the methods described in Quality Assurance Project Plan "Screening Study of Bioaccumulation in California Lakes and Reservoirs." (SWAMP, 2008).
QAPP Information Reference(s):	Quality Assurance Project Plan Screening Study of Bioaccumulation in California Lakes and Reservoirs. Moss Landing Marine Labs. Prepared for SWAMP BOG, 49 pages plus

Line of Evidence (LOE) for Decision ID 61629, Heptachlor

Region 2

Coyote Reservoir

LOE ID:	91571
Pollutant:	Heptachlor
LOE Subgroup:	Pollutant-Tissue
Matrix:	Tissue
Fraction:	Fish fillet
Beneficial Use:	Cold Freshwater Habitat
Number of Samples:	1
Number of Exceedances:	0
Data and Information Type:	Fish tissue analysis
Data Used to Assess Water Quality:	State Water Board staff assessed SWAMP data for Coyote Reservoir to determine beneficial use support and results are as follows: 0 of 1 samples exceed the criterion for Heptachlor. One composite (5 fish per composite) was generated from one species: Common Carp. Details of the compositing protocol can be found in the March 2009 report entitled: "Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Study" (SWAMP, 2009).
Data Reference:	Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Survey. A Report of the Surface Water Ambient Monitoring Program (SWAMP). California State Water Resources Control Board, Sacramento, CA Statewide Lakes Sportfish Contamination Study 2007 2008 Contaminants in Fish from California Lakes and Reservoirs, 2007-2008: Summary Report on a Two-Year Screening Survey Cruise report for the Surface Water Ambient Monitoring Program (SWAMP) bioaccumulation screening study in California lakes and reservoirs year two (FY 07-08). Sampling dates: April 2008 - November 2008.
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	Water Quality Control Plan for the San Francisco Bay Basin: Controllable water quality factors shall not cause a detrimental increase in concentrations of toxic substances found in bottom sediments or aquatic life. Effects on aquatic organisms, wildlife, and human health will be considered.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	National Academy of Science guidelines (NAS 1972) establish a maximum Heptachlor concentration of 100 ug/Kg (wet weight) in tissue samples for protection of aquatic life from bioaccumulation of toxic substances.
Guideline Reference:	National Academy of Sciences. Water Quality Criteria 1972. EPA-R3-73-033. Washington, D.C.: U.S. Environmental Protection Agency
Spatial Representation:	Data for this assessment unit was collected by one monitoring project: (SWB_FishLk)
Temporal Representation:	Data was collected on a single day 6/25/2008.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	Samples were collected, processed, and analyzed in accordance with the methods described in Quality Assurance Project Plan "Screening Study of Bioaccumulation in California Lakes and Reservoirs." (SWAMP, 2008).
QAPP Information Reference(s):	Quality Assurance Project Plan Screening Study of Bioaccumulation in California Lakes and Reservoirs. Moss Landing Marine Labs. Prepared for SWAMP BOG. 49 pages plus appendices and attachments

DECISION ID

61630

Region 2

Coyote Reservoir

Pollutant:	Heptachlor epoxide
Final Listing Decision:	Do Not List on 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision:	New Decision
Revision Status	Revised
Impairment from Pollutant or Pollution:	Pollutant

Regional Board Staff Conclusion: This pollutant is being considered for placement on the CWA section 303(d) List under section 3.5 of the Listing Policy. Under section 3.5 a single line of evidence is necessary to assess listing status. Three lines of evidence are available in the administrative record to assess this pollutant. Zero of one samples exceed the guideline.

Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against placing this water segment-pollutant combination on the CWA section 303(d) List.

This conclusion is based on the staff findings that:

1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy.
2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy.
3. Zero of one samples exceed the guideline and this sample size is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating. A minimum of 16 samples is needed to determine if a beneficial use is fully supported using table 3.1.
4. Pursuant to SECTION 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.

Regional Board Staff Decision Recommendation: After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be placed on the section 303(d) list. The readily available data and information is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating.

Line of Evidence (LOE) for Decision ID 61630, Heptachlor epoxide Coyote Reservoir

Region 2

LOE ID: 91574

Pollutant:	Heptachlor epoxide
LOE Subgroup:	Pollutant-Tissue
Matrix:	Tissue
Fraction:	Fish fillet

Beneficial Use: Commercial or recreational collection of fish, shellfish, or organisms

Number of Samples:	0
Number of Exceedances:	0

Data and Information Type:	Fish tissue analysis
Data Used to Assess Water Quality:	State Water Board staff assessed SWAMP data for Coyote Reservoir to determine beneficial use support and results are as follows: 0 of 0 samples exceed the criterion for Heptachlor epoxide. One composite (5 fish per composite) was generated from one species: Common Carp. Details of the compositing protocol can be found in the March 2009 report entitled: "Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Study" (SWAMP, 2009). One composite was not used in the assessment because the laboratory data reporting limit(s) was above the objective and therefore the results could not be quantified with the level of certainty required by the Listing Policy.

Data Reference: [Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Survey. A Report of the Surface Water Ambient Monitoring Program \(SWAMP\). California State Water Resources Control Board, Sacramento, CA Statewide Lakes Sportfish Contamination Study 2007 2008](#)

[Contaminants in Fish from California Lakes and Reservoirs, 2007-2008: Summary Report on a Two-Year Screening Survey](#)
[Cruise report for the Surface Water Ambient Monitoring Program \(SWAMP\) bioaccumulation screening study in California lakes and reservoirs year two \(FY 07-08\). Sampling dates: April 2008 - November 2008.](#)

SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	Water Quality Control Plan for the San Francisco Bay Basin: Controllable water quality factors shall not cause a detrimental increase in concentrations of toxic substances found in bottom sediments or aquatic life. Effects on aquatic organisms, wildlife, and human health will be considered.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	The modified OEHHA Fish Contaminant Goal for heptachlor epoxide in fish tissue is 0.93 ppb. This screening level assumes an average body weight of 70 kg and a consumption rate of 32 g/day for a 30 year exposure over a 70-year lifetime. This constituent is a carcinogen therefore the risk level is set to one in a million. A cooking reduction factor of 1 is applied for skin-off fillets. (Klasing, S., and R. Brodberg, 2008; OEHHA, 1999)
Guideline Reference:	Development of Fish Contaminant Goals and Advisory Tissue Levels for Common Contaminants in California Sport Fish: Chlordane, DDTs, Dieldrin, Methylmercury, PCBs, Selenium, and Toxaphene Public Health Goal for Heptachlor and Heptachlor Epoxide in Drinking Water
Spatial Representation:	Data for this assessment unit was collected by one monitoring project: (SWB_FishLk)
Temporal Representation:	Data was collected on a single day 6/25/2008.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	Samples were collected, processed, and analyzed in accordance with the methods described in Quality Assurance Project Plan "Screening Study of Bioaccumulation in California Lakes and Reservoirs." (SWAMP, 2008).
QAPP Information Reference(s):	Quality Assurance Project Plan Screening Study of Bioaccumulation in California Lakes and Reservoirs. Moss Landing Marine Labs. Prepared for SWAMP BOG. 49 pages plus appendices and attachments

**Line of Evidence (LOE) for Decision ID 61630, Heptachlor epoxide
Coyote Reservoir**

Region 2

LOE ID:	91572
Pollutant:	Heptachlor epoxide
LOE Subgroup:	Pollutant-Tissue
Matrix:	Tissue
Fraction:	Fish fillet
Beneficial Use:	Warm Freshwater Habitat
Number of Samples:	1
Number of Exceedances:	0
Data and Information Type:	Fish tissue analysis
Data Used to Assess Water Quality:	State Water Board staff assessed SWAMP data for Coyote Reservoir to determine beneficial use support and results are as follows: 0 of 1 samples exceed the criterion for Heptachlor epoxide. One composite (5 fish per composite) was generated from one species: Common Carp. Details of the compositing protocol can be found in the March 2009 report entitled: "Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Study" (SWAMP, 2009).
Data Reference:	Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Survey. A Report of the Surface Water Ambient Monitoring Program (SWAMP). California State Water Resources Control Board, Sacramento, CA Statewide Lakes Sportfish Contamination Study 2007 2008 Contaminants in Fish from California Lakes and Reservoirs, 2007-2008: Summary Report on a Two-Year Screening Survey

[Cruise report for the Surface Water Ambient Monitoring Program \(SWAMP\) bioaccumulation screening study in California lakes and reservoirs year two \(FY 07-08\). Sampling dates: April 2008 - November 2008.](#)

SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	Water Quality Control Plan for the San Francisco Bay Basin: Controllable water quality factors shall not cause a detrimental increase in concentrations of toxic substances found in bottom sediments or aquatic life. Effects on aquatic organisms, wildlife, and human health will be considered.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	National Academy of Science guidelines (NAS 1972) establish a maximum Heptachlor Epoxide concentration of 100 ug/Kg (wet weight) in tissue samples for protection of aquatic life from bioaccumulation of toxic substances.
Guideline Reference:	National Academy of Sciences. Water Quality Criteria 1972. EPA-R3-73-033. Washington, D.C.: U.S. Environmental Protection Agency
Spatial Representation:	Data for this assessment unit was collected by one monitoring project: (SWB_FishLk)
Temporal Representation:	Data was collected on a single day 6/25/2008.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	Samples were collected, processed, and analyzed in accordance with the methods described in Quality Assurance Project Plan "Screening Study of Bioaccumulation in California Lakes and Reservoirs." (SWAMP, 2008).
QAPP Information Reference(s):	Quality Assurance Project Plan Screening Study of Bioaccumulation in California Lakes and Reservoirs. Moss Landing Marine Labs. Prepared for SWAMP BOG, 49 pages plus appendices and attachments

**Line of Evidence (LOE) for Decision ID 61630, Heptachlor epoxide
Coyote Reservoir**

Region 2

LOE ID:	91573
Pollutant:	Heptachlor epoxide
LOE Subgroup:	Pollutant-Tissue
Matrix:	Tissue
Fraction:	Fish fillet
Beneficial Use:	Cold Freshwater Habitat
Number of Samples:	1
Number of Exceedances:	0
Data and Information Type:	Fish tissue analysis
Data Used to Assess Water Quality:	State Water Board staff assessed SWAMP data for Coyote Reservoir to determine beneficial use support and results are as follows: 0 of 1 samples exceed the criterion for Heptachlor epoxide. One composite (5 fish per composite) was generated from one species: Common Carp. Details of the compositing protocol can be found in the March 2009 report entitled: "Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Study" (SWAMP, 2009).
Data Reference:	Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Survey. A Report of the Surface Water Ambient Monitoring Program (SWAMP). California State Water Resources Control Board, Sacramento, CA Statewide Lakes Sportfish Contamination Study 2007 2008 Contaminants in Fish from California Lakes and Reservoirs, 2007-2008: Summary Report on a Two-Year Screening Survey Cruise report for the Surface Water Ambient Monitoring Program (SWAMP) bioaccumulation screening study in California lakes and reservoirs year two (FY 07-08). Sampling dates: April 2008 - November 2008.

SWAMP Data:	SWAMP
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Water Quality Objective/Criterion:	Water Quality Control Plan for the San Francisco Bay Basin: Controllable water quality factors shall not cause a detrimental increase in concentrations of toxic substances found in bottom sediments or aquatic life. Effects on aquatic organisms, wildlife, and human health will be considered.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	National Academy of Science guidelines (NAS 1972) establish a maximum Heptachlor Epoxide concentration of 100 ug/Kg (wet weight) in tissue samples for protection of aquatic life from bioaccumulation of toxic substances.
Guideline Reference:	National Academy of Sciences. Water Quality Criteria 1972. EPA-R3-73-033. Washington, D.C.: U.S. Environmental Protection Agency
Spatial Representation:	Data for this assessment unit was collected by one monitoring project: (SWB_FishLk)
Temporal Representation:	Data was collected on a single day 6/25/2008.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	Samples were collected, processed, and analyzed in accordance with the methods described in Quality Assurance Project Plan "Screening Study of Bioaccumulation in California Lakes and Reservoirs." (SWAMP, 2008).
QAPP Information Reference(s):	Quality Assurance Project Plan Screening Study of Bioaccumulation in California Lakes and Reservoirs. Moss Landing Marine Labs. Prepared for SWAMP BOG. 49 pages plus appendices and attachments

DECISION ID 61632 Region 2	
Coyote Reservoir	
Pollutant:	Hexachlorobenzene/ HCB
Final Listing Decision:	Do Not List on 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision:	New Decision
Revision Status	Revised
Impairment from Pollutant or Pollution:	Pollutant
Regional Board Staff Conclusion:	<p>This pollutant is being considered for placement on the CWA section 303(d) List under section 3.5 of the Listing Policy. Under section 3.5 a single line of evidence is necessary to assess listing status. One line of evidence is available in the administrative record to assess this pollutant. Zero of one samples exceed the guideline.</p> <p>Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against placing this water segment-pollutant combination on the CWA section 303(d) List.</p> <p>This conclusion is based on the staff findings that:</p> <ol style="list-style-type: none"> 1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy. 2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy. 3. Zero of one samples exceed the guideline and this sample size is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating. A minimum of 16 samples is needed to determine if a beneficial use is fully supported using table 3.1. 4. Pursuant to SECTION 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.
Regional Board Staff Decision Recommendation:	After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be placed on the section 303(d) list. The readily available data and information is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating.

Line of Evidence (LOE) for Decision ID 61632, Hexachlorobenzene/ HCB Region 2	
Coyote Reservoir	

LOE ID:	91575
Pollutant:	Hexachlorobenzene/ HCB
LOE Subgroup:	Pollutant-Tissue
Matrix:	Tissue
Fraction:	Fish fillet
Beneficial Use:	Commercial or recreational collection of fish, shellfish, or organisms
Number of Samples:	1
Number of Exceedances:	0
Data and Information Type:	Fish tissue analysis
Data Used to Assess Water Quality:	State Water Board staff assessed SWAMP data for Coyote Reservoir to determine beneficial use support and results are as follows: 0 of 1 samples exceed the criterion for Hexachlorobenzene. One composite (5 fish per composite) was generated from one species: Common Carp. Details of the compositing protocol can be found in the March 2009 report entitled: "Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Study" (SWAMP, 2009).
Data Reference:	Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Survey. A Report of the Surface Water Ambient Monitoring Program (SWAMP). California State Water Resources Control Board, Sacramento, CA Statewide Lakes Sportfish Contamination Study 2007 2008 Contaminants in Fish from California Lakes and Reservoirs, 2007-2008: Summary Report on a Two-Year Screening Survey Cruise report for the Surface Water Ambient Monitoring Program (SWAMP) bioaccumulation screening study in California lakes and reservoirs year two (FY 07-08). Sampling dates: April 2008 - November 2008.
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	Water Quality Control Plan for the San Francisco Bay Basin: Controllable water quality factors shall not cause a detrimental increase in concentrations of toxic substances found in bottom sediments or aquatic life. Effects on aquatic organisms, wildlife, and human health will be considered.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	The modified OEHHA Fish Contaminant Goal for hexachlorobenzene in fish tissue is 2.8 ppb. This screening level assumes an average body weight of 70 kg and a consumption rate of 32 g/day for a 30 year exposure over a 70-year lifetime. This constituent is a carcinogen therefore the risk level is set to one in a million. A cooking reduction factor of 1 is applied for skin-off fillets. (Klasing, S., and R. Brodberg, 2008; OEHHA, 2005)
Guideline Reference:	Development of Fish Contaminant Goals and Advisory Tissue Levels for Common Contaminants in California Sport Fish: Chlordane, DDTs, Dieldrin, Methylmercury, PCBs, Selenium, and Toxaphene Air Toxics Hotspots Program Risk Assessment Guidelines. Part II Technical Support Document for Describing Available Cancer Potency Values.
Spatial Representation:	Data for this assessment unit was collected by one monitoring project: (SWB_FishLk)
Temporal Representation:	Data was collected on a single day 6/25/2008.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	Samples were collected, processed, and analyzed in accordance with the methods described in Quality Assurance Project Plan "Screening Study of Bioaccumulation in California Lakes and Reservoirs." (SWAMP, 2008).
QAPP Information Reference(s):	Quality Assurance Project Plan Screening Study of Bioaccumulation in California Lakes and Reservoirs. Moss Landing Marine Labs. Prepared for SWAMP BOG, 49 pages plus appendices and attachments

DECISION ID	61635	Region 2
Coyote Reservoir		

Pollutant:	Lindane/gamma Hexachlorocyclohexane (gamma-HCH)
Final Listing Decision:	Do Not List on 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision:	New Decision
Revision Status	Revised
Impairment from Pollutant or Pollution:	Pollutant

Regional Board Staff Conclusion: This pollutant is being considered for placement on the CWA section 303(d) List under section 3.5 of the Listing Policy. Under section 3.5 a single line of evidence is necessary to assess listing status. Three lines of evidence are available in the administrative record to assess this pollutant. Zero of one samples exceed the guideline.

Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against placing this water segment-pollutant combination on the CWA section 303(d) List.

This conclusion is based on the staff findings that:

1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy.
2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy.
3. Zero of one samples exceed the guideline and this sample size is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating. A minimum of 16 samples is needed to determine if a beneficial use is fully supported using table 3.1.
4. Pursuant to SECTION 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.

Regional Board Staff Decision Recommendation: After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be placed on the section 303(d) list. The readily available data and information is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating.

Line of Evidence (LOE) for Decision ID 61635, Lindane/gamma Hexachlorocyclohexane (gamma-HCH)

Region 2

Coyote Reservoir

LOE ID: 91578

Pollutant:	Lindane/gamma Hexachlorocyclohexane (gamma-HCH)
LOE Subgroup:	Pollutant-Tissue
Matrix:	Tissue
Fraction:	Fish fillet

Beneficial Use: Cold Freshwater Habitat

Number of Samples:	1
Number of Exceedances:	0

Data and Information Type:	Fish tissue analysis
Data Used to Assess Water Quality:	State Water Board staff assessed SWAMP data for Coyote Reservoir to determine beneficial use support and results are as follows: 0 of 1 samples exceed the criterion for HCH, gamma. One composite (5 fish per composite) was generated from one species: Common Carp. Details of the compositing protocol can be found in the March 2009 report entitled: "Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Study" (SWAMP, 2009).

Data Reference: [Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Survey. A Report of the Surface Water Ambient Monitoring Program \(SWAMP\). California State Water Resources Control Board, Sacramento, CA Statewide Lakes Sportfish Contamination Study 2007 2008](#)
[Contaminants in Fish from California Lakes and Reservoirs, 2007-2008: Summary Report on a Two-Year Screening Survey](#)
[Cruise report for the Surface Water Ambient Monitoring Program \(SWAMP\)](#)

[bioaccumulation screening study in California lakes and reservoirs year two \(FY 07-08\). Sampling dates: April 2008 - November 2008.](#)

SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	Water Quality Control Plan for the San Francisco Bay Basin: Controllable water quality factors shall not cause a detrimental increase in concentrations of toxic substances found in bottom sediments or aquatic life. Effects on aquatic organisms, wildlife, and human health will be considered.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	The modified OEHHA Fish Contaminant Goal for lindane in fish tissue is 4.6 ppb. This screening level assumes an average body weight of 70 kg and a consumption rate of 32 g/day for a 30 year exposure over a 70-year lifetime. This constituent is a carcinogen therefore the risk level is set to one in a million. A cooking reduction factor of 1 is applied for skin-off fillets. (Klasing, S., and R. Brodberg, 2008; OEHHA, 2005)
Guideline Reference:	National Academy of Sciences. Water Quality Criteria 1972. EPA-R3-73-033. Washington, D.C.: U.S. Environmental Protection Agency
Spatial Representation:	Data for this assessment unit was collected by one monitoring project: (SWB_FishLk)
Temporal Representation:	Data was collected on a single day 6/25/2008.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	Samples were collected, processed, and analyzed in accordance with the methods described in Quality Assurance Project Plan "Screening Study of Bioaccumulation in California Lakes and Reservoirs." (SWAMP, 2008).
QAPP Information Reference(s):	Quality Assurance Project Plan Screening Study of Bioaccumulation in California Lakes and Reservoirs. Moss Landing Marine Labs. Prepared for SWAMP BOG, 49 pages plus appendices and attachments

Line of Evidence (LOE) for Decision ID 61635, Lindane/gamma Hexachlorocyclohexane (gamma-HCH)

Region 2

Coyote Reservoir

LOE ID:	91577
Pollutant:	Lindane/gamma Hexachlorocyclohexane (gamma-HCH)
LOE Subgroup:	Pollutant-Tissue
Matrix:	Tissue
Fraction:	Fish fillet
Beneficial Use:	Commercial or recreational collection of fish, shellfish, or organisms
Number of Samples:	1
Number of Exceedances:	0
Data and Information Type:	Fish tissue analysis
Data Used to Assess Water Quality:	State Water Board staff assessed SWAMP data for Coyote Reservoir to determine beneficial use support and results are as follows: 0 of 1 samples exceed the criterion for HCH, gamma. One composite (5 fish per composite) was generated from one species: Common Carp. Details of the compositing protocol can be found in the March 2009 report entitled: "Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Study" (SWAMP, 2009).
Data Reference:	Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Survey. A Report of the Surface Water Ambient Monitoring Program (SWAMP). California State Water Resources Control Board, Sacramento, CA Statewide Lakes Sportfish Contamination Study 2007 2008 Contaminants in Fish from California Lakes and Reservoirs, 2007-2008: Summary Report on a Two-Year Screening Survey Cruise report for the Surface Water Ambient Monitoring Program (SWAMP) bioaccumulation screening study in California lakes and reservoirs year two (FY 07-08). Sampling dates: April 2008 - November 2008.

SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	Water Quality Control Plan for the San Francisco Bay Basin: Controllable water quality factors shall not cause a detrimental increase in concentrations of toxic substances found in bottom sediments or aquatic life. Effects on aquatic organisms, wildlife, and human health will be considered.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	The modified OEHHA Fish Contaminant Goal for lindane in fish tissue is 4.6 ppb. This screening level assumes an average body weight of 70 kg and a consumption rate of 32 g/day for a 30 year exposure over a 70-year lifetime. This constituent is a carcinogen therefore the risk level is set to one in a million. A cooking reduction factor of 1 is applied for skin-off fillets.
Guideline Reference:	Development of Fish Contaminant Goals and Advisory Tissue Levels for Common Contaminants in California Sport Fish: Chlordane, DDTs, Dieldrin, Methylmercury, PCBs, Selenium, and Toxaphene Air Toxics Hotspots Program Risk Assessment Guidelines. Part II Technical Support Document for Describing Available Cancer Potency Values.
Spatial Representation:	Data for this assessment unit was collected by one monitoring project: (SWB_FishLk)
Temporal Representation:	Data was collected on a single day 6/25/2008.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	Samples were collected, processed, and analyzed in accordance with the methods described in Quality Assurance Project Plan "Screening Study of Bioaccumulation in California Lakes and Reservoirs." (SWAMP, 2008).
QAPP Information Reference(s):	Quality Assurance Project Plan Screening Study of Bioaccumulation in California Lakes and Reservoirs. Moss Landing Marine Labs. Prepared for SWAMP BOG, 49 pages plus appendices and attachments

Line of Evidence (LOE) for Decision ID 61635, Lindane/gamma Hexachlorocyclohexane (gamma-HCH)

Region 2

Coyote Reservoir

LOE ID:	91576
Pollutant:	Lindane/gamma Hexachlorocyclohexane (gamma-HCH)
LOE Subgroup:	Pollutant-Tissue
Matrix:	Tissue
Fraction:	Fish fillet
Beneficial Use:	Warm Freshwater Habitat
Number of Samples:	1
Number of Exceedances:	0
Data and Information Type:	Fish tissue analysis
Data Used to Assess Water Quality:	State Water Board staff assessed SWAMP data for Coyote Reservoir to determine beneficial use support and results are as follows: 0 of 1 samples exceed the criterion for HCH, gamma. One composite (5 fish per composite) was generated from one species: Common Carp. Details of the compositing protocol can be found in the March 2009 report entitled: "Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Study" (SWAMP, 2009).
Data Reference:	Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Survey. A Report of the Surface Water Ambient Monitoring Program (SWAMP). California State Water Resources Control Board, Sacramento, CA Statewide Lakes Sportfish Contamination Study 2007 2008 Contaminants in Fish from California Lakes and Reservoirs, 2007-2008: Summary Report on a Two-Year Screening Survey Cruise report for the Surface Water Ambient Monitoring Program (SWAMP) bioaccumulation screening study in California lakes and reservoirs year two (FY 07-08). Sampling dates: April 2008 - November 2008.

SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	Water Quality Control Plan for the San Francisco Bay Basin: Controllable water quality factors shall not cause a detrimental increase in concentrations of toxic substances found in bottom sediments or aquatic life. Effects on aquatic organisms, wildlife, and human health will be considered.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	The modified OEHHA Fish Contaminant Goal for lindane in fish tissue is 4.6 ppb. This screening level assumes an average body weight of 70 kg and a consumption rate of 32 g/day for a 30 year exposure over a 70-year lifetime. This constituent is a carcinogen therefore the risk level is set to one in a million. A cooking reduction factor of 1 is applied for skin-off fillets. (Klasing, S., and R. Brodberg, 2008; OEHHA, 2005)
Guideline Reference:	National Academy of Sciences. Water Quality Criteria 1972. EPA-R3-73-033. Washington, D.C.: U.S. Environmental Protection Agency
Spatial Representation:	Data for this assessment unit was collected by one monitoring project: (SWB_FishLk)
Temporal Representation:	Data was collected on a single day 6/25/2008.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	Samples were collected, processed, and analyzed in accordance with the methods described in Quality Assurance Project Plan "Screening Study of Bioaccumulation in California Lakes and Reservoirs." (SWAMP, 2008).
QAPP Information Reference(s):	Quality Assurance Project Plan Screening Study of Bioaccumulation in California Lakes and Reservoirs. Moss Landing Marine Labs. Prepared for SWAMP BOG. 49 pages plus appendices and attachments

DECISION ID 61638 Region 2	
Coyote Reservoir	
Pollutant: Final Listing Decision: Last Listing Cycle's Final Listing Decision: Revision Status Impairment from Pollutant or Pollution:	Mirex Do Not List on 303(d) list (TMDL required list) New Decision Revised Pollutant
Regional Board Staff Conclusion:	<p>This pollutant is being considered for placement on the CWA section 303(d) List under section 3.5 of the Listing Policy. Under section 3.5 a single line of evidence is necessary to assess listing status. One line of evidence is available in the administrative record to assess this pollutant. Zero of zero samples exceed the guideline.</p> <p>Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against placing this water segment-pollutant combination on the CWA section 303(d) List.</p> <p>This conclusion is based on the staff findings that:</p> <ol style="list-style-type: none"> 1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy. 2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy. 3. Zero of zero samples exceed the guideline and this sample size is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating. A minimum of 16 samples is needed to determine if a beneficial use is fully supported using table 3.1. 4. Pursuant to SECTION 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.
Regional Board Staff Decision Recommendation:	After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be placed on the section 303(d) list. The readily available data and information is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating.

Coyote Reservoir

LOE ID:	91580
Pollutant:	Mirex
LOE Subgroup:	Pollutant-Tissue
Matrix:	Tissue
Fraction:	Fish fillet
Beneficial Use:	Commercial or recreational collection of fish, shellfish, or organisms
Number of Samples:	0
Number of Exceedances:	0
Data and Information Type:	Fish tissue analysis
Data Used to Assess Water Quality:	State Water Board staff assessed SWAMP data for Coyote Reservoir to determine beneficial use support and results are as follows: 0 of 0 samples exceed the criterion for Mirex. One composite (5 fish per composite) was generated from one species: Common Carp. Details of the compositing protocol can be found in the March 2009 report entitled: "Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Study" (SWAMP, 2009). One composite was not used in the assessment because the laboratory data reporting limit(s) was above the objective and therefore the results could not be quantified with the level of certainty required by the Listing Policy.
Data Reference:	Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Survey. A Report of the Surface Water Ambient Monitoring Program (SWAMP). California State Water Resources Control Board, Sacramento, CA Statewide Lakes Sportfish Contamination Study 2007 2008 Contaminants in Fish from California Lakes and Reservoirs, 2007-2008: Summary Report on a Two-Year Screening Survey Cruise report for the Surface Water Ambient Monitoring Program (SWAMP) bioaccumulation screening study in California lakes and reservoirs year two (FY 07-08). Sampling dates: April 2008 - November 2008.
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	Water Quality Control Plan for the San Francisco Bay Basin: Controllable water quality factors shall not cause a detrimental increase in concentrations of toxic substances found in bottom sediments or aquatic life. Effects on aquatic organisms, wildlife, and human health will be considered.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	The modified OEHHA Fish Contaminant Goal for mirex in fish tissue is 0.28 ppb. This screening level assumes an average body weight of 70 kg and a consumption rate of 32 g/day. A cooking reduction factor of 1 is applied for skin-off fillets. (Klasing, S., and R. Brodberg, 2008; OEHHA, 1992)
Guideline Reference:	Development of Fish Contaminant Goals and Advisory Tissue Levels for Common Contaminants in California Sport Fish: Chlordane, DDTs, Dieldrin, Methylmercury, PCBs, Selenium, and Toxaphene Expedited Cancer Potency Values and Proposed Regulatory Levels for Certain Proposition 65 Carcinogens.
Spatial Representation:	Data for this assessment unit was collected by one monitoring project: (SWB_FishLk)
Temporal Representation:	Data was collected on a single day 6/25/2008.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	Samples were collected, processed, and analyzed in accordance with the methods described in Quality Assurance Project Plan "Screening Study of Bioaccumulation in California Lakes and Reservoirs." (SWAMP, 2008).
QAPP Information Reference(s):	Quality Assurance Project Plan Screening Study of Bioaccumulation in California Lakes and Reservoirs. Moss Landing Marine Labs. Prepared for SWAMP BOG. 49 pages plus appendices and attachments

DECISION ID	65482	Region 2
Coyote Reservoir		

Pollutant:	PCBs (Polychlorinated biphenyls)
Final Listing Decision:	Do Not List on 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision:	New Decision
Revision Status	Revised
Impairment from Pollutant or Pollution:	Pollutant
Regional Board Staff Conclusion:	<p>This pollutant is being considered for placement on the CWA section 303(d) List under section 3.5 of the Listing Policy. Under section 3.5 a single line of evidence is necessary to assess listing status. Three lines of evidence are available in the administrative record to assess this pollutant. One of one samples exceed the OEHHA guideline.</p> <p>Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against placing this water segment-pollutant combination on the CWA section 303(d) List.</p> <p>This conclusion is based on the staff findings that:</p> <ol style="list-style-type: none"> 1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy. 2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy. 3. One of one samples exceed the OEHHA guideline and this sample size is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating. A minimum of 16 samples is needed to determine if a beneficial use is fully supported using table 3.1. 4. Pursuant to SECTION 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.
Regional Board Staff Decision Recommendation:	After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be placed on the section 303(d) list. The readily available data and information is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating.

Line of Evidence (LOE) for Decision ID 65482, PCBs (Polychlorinated biphenyls)	Region 2
Coyote Reservoir	

LOE ID:	91582
Pollutant:	PCBs (Polychlorinated biphenyls)
LOE Subgroup:	Pollutant-Tissue
Matrix:	Tissue
Fraction:	Fish fillet
Beneficial Use:	Cold Freshwater Habitat
Number of Samples:	1
Number of Exceedances:	0
Data and Information Type:	Fish tissue analysis
Data Used to Assess Water Quality:	State Water Board staff assessed SWAMP data for Coyote Reservoir to determine beneficial use support and results are as follows: 0 of 1 samples exceed the criterion for PCB, Total. One composite (5 fish per composite) was generated from one species: Common Carp. Details of the compositing protocol can be found in the March 2009 report entitled: "Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Study" (SWAMP, 2009). Total PCB was assessed for as follows: PCB aroclors and congeners were summed separately and the sum that

Data Reference:	<p>yielded the highest value was used for the assessment.</p> <p>Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Survey. A Report of the Surface Water Ambient Monitoring Program (SWAMP). California State Water Resources Control Board, Sacramento, CA Statewide Lakes Sportfish Contamination Study 2007 2008</p> <p>Contaminants in Fish from California Lakes and Reservoirs, 2007-2008: Summary Report on a Two-Year Screening Survey</p> <p>Cruise report for the Surface Water Ambient Monitoring Program (SWAMP) bioaccumulation screening study in California lakes and reservoirs year two (FY 07-08). Sampling dates: April 2008 - November 2008.</p>
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	Water Quality Control Plan for the San Francisco Bay Basin (2013): Controllable water quality factors shall not cause a detrimental increase in concentrations of toxic substances found in bottom sediments or aquatic life. Effects on aquatic organisms, wildlife, and human health will be considered.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	National Academy of Science guidelines (NAS 1972) establish a maximum total PCB concentration of 500 ug/Kg (wet weight) in tissue samples for protection of aquatic life from bioaccumulation of toxic substances.
Guideline Reference:	National Academy of Sciences. Water Quality Criteria 1972. EPA-R3-73-033. Washington, D.C.: U.S. Environmental Protection Agency
Spatial Representation:	Data for this assessment unit was collected by one monitoring project: (SWB_FishLk)
Temporal Representation:	Data was collected on a single day 6/25/2008.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	Samples were collected, processed, and analyzed in accordance with the methods described in Quality Assurance Project Plan "Screening Study of Bioaccumulation in California Lakes and Reservoirs." (SWAMP, 2008).
QAPP Information Reference(s):	Quality Assurance Project Plan Screening Study of Bioaccumulation in California Lakes and Reservoirs. Moss Landing Marine Labs. Prepared for SWAMP BOG. 49 pages plus appendices and attachments

Line of Evidence (LOE) for Decision ID 65482, PCBs (Polychlorinated biphenyls)

Region 2

Coyote Reservoir

LOE ID:	91581
Pollutant:	PCBs (Polychlorinated biphenyls)
LOE Subgroup:	Pollutant-Tissue
Matrix:	Tissue
Fraction:	Fish fillet
Beneficial Use:	Warm Freshwater Habitat
Number of Samples:	1
Number of Exceedances:	0
Data and Information Type:	Fish tissue analysis
Data Used to Assess Water Quality:	State Water Board staff assessed SWAMP data for Coyote Reservoir to determine beneficial use support and results are as follows: 0 of 1 samples exceed the criterion for PCB, Total. One composite (5 fish per composite) was generated from one species: Common Carp. Details of the compositing protocol can be found in the March 2009 report entitled: "Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Study" (SWAMP, 2009). Total PCB was assessed for as follows: PCB aroclors and congeners were summed separately and the sum that yielded the highest value was used for the assessment.
Data Reference:	Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Survey. A Report of the Surface Water Ambient Monitoring Program (SWAMP). California State Water Resources Control Board, Sacramento, CA

[Statewide Lakes Sportfish Contamination Study 2007 2008](#)
[Contaminants in Fish from California Lakes and Reservoirs, 2007-2008: Summary Report on a Two-Year Screening Survey](#)
[Cruise report for the Surface Water Ambient Monitoring Program \(SWAMP\)](#)
[bioaccumulation screening study in California lakes and reservoirs year two \(FY 07-08\).](#)
[Sampling dates: April 2008 - November 2008.](#)

SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	Water Quality Control Plan for the San Francisco Bay Basin (2013): Controllable water quality factors shall not cause a detrimental increase in concentrations of toxic substances found in bottom sediments or aquatic life. Effects on aquatic organisms, wildlife, and human health will be considered.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	National Academy of Science guidelines (NAS 1972) establish a maximum total PCB concentration of 500 ug/Kg (wet weight) in tissue samples for protection of aquatic life from bioaccumulation of toxic substances.
Guideline Reference:	National Academy of Sciences. Water Quality Criteria 1972. EPA-R3-73-033. Washington, D.C.: U.S. Environmental Protection Agency
Spatial Representation:	Data for this assessment unit was collected by one monitoring project: (SWB_FishLk)
Temporal Representation:	Data was collected on a single day 6/25/2008.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	Samples were collected, processed, and analyzed in accordance with the methods described in Quality Assurance Project Plan "Screening Study of Bioaccumulation in California Lakes and Reservoirs." (SWAMP, 2008).
QAPP Information Reference(s):	Quality Assurance Project Plan Screening Study of Bioaccumulation in California Lakes and Reservoirs. Moss Landing Marine Labs. Prepared for SWAMP BOG, 49 pages plus appendices and attachments

Line of Evidence (LOE) for Decision ID 65482, PCBs (Polychlorinated biphenyls)
Coyote Reservoir

Region 2

LOE ID:	91583
Pollutant:	PCBs (Polychlorinated biphenyls)
LOE Subgroup:	Pollutant-Tissue
Matrix:	Tissue
Fraction:	Fish fillet
Beneficial Use:	Commercial or recreational collection of fish, shellfish, or organisms
Number of Samples:	1
Number of Exceedances:	1
Data and Information Type:	Fish tissue analysis
Data Used to Assess Water Quality:	State Water Board staff assessed SWAMP data for Coyote Reservoir to determine beneficial use support and results are as follows: 1 of 1 samples exceed the criterion for PCB, Total. One composite (5 fish per composite) was generated from one species: Common Carp. Details of the compositing protocol can be found in the March 2009 report entitled: "Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Study" (SWAMP, 2009). Total PCB was assessed for as follows: PCB aroclors and congeners were summed separately and the sum that yielded the highest value was used for the assessment.
Data Reference:	Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Survey. A Report of the Surface Water Ambient Monitoring Program (SWAMP). California State Water Resources Control Board, Sacramento, CA Statewide Lakes Sportfish Contamination Study 2007 2008 Contaminants in Fish from California Lakes and Reservoirs, 2007-2008: Summary Report on a Two-Year Screening Survey Cruise report for the Surface Water Ambient Monitoring Program (SWAMP)

[bioaccumulation screening study in California lakes and reservoirs year two \(FY 07-08\). Sampling dates: April 2008 - November 2008.](#)

SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	Water Quality Control Plan for the San Francisco Bay Basin (2013): Controllable water quality factors shall not cause a detrimental increase in concentrations of toxic substances found in bottom sediments or aquatic life. Effects on aquatic organisms, wildlife, and human health will be considered.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	The modified OEHHA Fish Contaminant Goal for polychlorinated biphenyls in fish tissue is 2.6 ppb. This screening level assumes an average body weight of 70 kg and a consumption rate of 32 g/day for a 30 year exposure over a 70-year lifetime. This constituent is a carcinogen therefore the risk level is set to one in a million. A cooking reduction factor of 1 is applied for skin-off fillets. (Klasing, S., and R. Brodberg, 2008)
Guideline Reference:	Development of Fish Contaminant Goals and Advisory Tissue Levels for Common Contaminants in California Sport Fish: Chlordane, DDTs, Dieldrin, Methylmercury, PCBs, Selenium, and Toxaphene
Spatial Representation:	Data for this assessment unit was collected by one monitoring project: (SWB_FishLk)
Temporal Representation:	Data was collected on a single day 6/25/2008.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	Samples were collected, processed, and analyzed in accordance with the methods described in Quality Assurance Project Plan "Screening Study of Bioaccumulation in California Lakes and Reservoirs." (SWAMP, 2008).
QAPP Information Reference(s):	Quality Assurance Project Plan Screening Study of Bioaccumulation in California Lakes and Reservoirs. Moss Landing Marine Labs. Prepared for SWAMP BOG, 49 pages plus appendices and attachments

DECISION ID	61639	Region 2
Coyote Reservoir		

Pollutant:	Selenium
Final Listing Decision:	Do Not List on 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision:	New Decision
Revision Status	Revised
Impairment from Pollutant or Pollution:	Pollutant
Regional Board Staff Conclusion:	<p>This pollutant is being considered for placement on the CWA section 303(d) List under section 3.5 of the Listing Policy. Under section 3.5 a single line of evidence is necessary to assess listing status. One line of evidence is available in the administrative record to assess this pollutant. Zero of one samples exceed the guideline.</p> <p>Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against placing this water segment-pollutant combination on the CWA section 303(d) List.</p> <p>This conclusion is based on the staff findings that:</p> <ol style="list-style-type: none"> 1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy. 2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy. 3. Zero of one samples exceed the guideline and this sample size is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating. A minimum of 16 samples is needed to determine if a beneficial use is fully supported using table 3.1. 4. Pursuant to SECTION 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.
Regional Board Staff Decision Recommendation:	After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be placed on the section 303(d) list. The readily available data and

information is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating.

Line of Evidence (LOE) for Decision ID 61639, Selenium

Region 2

Coyote Reservoir

LOE ID:	91584
Pollutant:	Selenium
LOE Subgroup:	Pollutant-Tissue
Matrix:	Tissue
Fraction:	Fish fillet
Beneficial Use:	Commercial or recreational collection of fish, shellfish, or organisms
Number of Samples:	1
Number of Exceedances:	0
Data and Information Type:	Fish tissue analysis
Data Used to Assess Water Quality:	State Water Board staff assessed SWAMP data for Coyote Reservoir to determine beneficial use support and results are as follows: 0 of 1 samples exceed the criterion for Selenium. One composite (5 fish per composite) was generated from one species: Common Carp. Details of the compositing protocol can be found in the March 2009 report entitled: "Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Study" (SWAMP, 2009).
Data Reference:	Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Survey. A Report of the Surface Water Ambient Monitoring Program (SWAMP). California State Water Resources Control Board, Sacramento, CA Statewide Lakes Sportfish Contamination Study 2007 2008 Contaminants in Fish from California Lakes and Reservoirs, 2007-2008: Summary Report on a Two-Year Screening Survey Cruise report for the Surface Water Ambient Monitoring Program (SWAMP) bioaccumulation screening study in California lakes and reservoirs year two (FY 07-08). Sampling dates: April 2008 - November 2008.
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	Water Quality Control Plan for the San Francisco Bay Basin (2013): Controllable water quality factors shall not cause a detrimental increase in concentrations of toxic substances found in bottom sediments or aquatic life. Effects on aquatic organisms, wildlife, and human health will be considered.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	The OEHHA Fish Contaminant Goal for selenium in fish tissue is 7.4 ppm. This screening level assumes an average body weight of 70 kg and a consumption rate of 32 g/day. A background dietary consumption rate of 0.114 mg/day is applied for this micronutrient. (Klasing, S., and R. Brodberg, 2008)
Guideline Reference:	Development of Fish Contaminant Goals and Advisory Tissue Levels for Common Contaminants in California Sport Fish: Chlordane, DDTs, Dieldrin, Methylmercury, PCBs, Selenium, and Toxaphene
Spatial Representation:	Data for this assessment unit was collected by one monitoring project: (SWB_FishLk)
Temporal Representation:	Data was collected on a single day 6/25/2008.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	Samples were collected, processed, and analyzed in accordance with the methods described in Quality Assurance Project Plan "Screening Study of Bioaccumulation in California Lakes and Reservoirs." (SWAMP, 2008).
QAPP Information Reference(s):	Quality Assurance Project Plan Screening Study of Bioaccumulation in California Lakes and Reservoirs. Moss Landing Marine Labs. Prepared for SWAMP BOG, 49 pages plus appendices and attachments

DECISION ID	65481	Region 2
Coyote Reservoir		

Pollutant: Mercury
Final Listing Decision: List on 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision: New Decision
Revision Status: Revised
Sources: Source Unknown
Expected TMDL Completion Date: 2029
Impairment from Pollutant or Pollution: Pollutant

Regional Board Staff Conclusion: This pollutant is being considered for placement on the CWA section 303(d) List under section 3.4 of the Listing Policy. Under section 3.4 a single line of evidence is necessary to assess listing status in addition to the presence of a fish consumption advisory for the waterbody.

One line of evidence is available in the administrative record to assess this pollutant. One of one samples exceed the OEHHA guideline.

Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification in favor of placing this water segment-pollutant combination on the CWA section 303(d) List.

Though the samples were collected from a single location on a single day, fish are not static and move throughout a lake and accumulate mercury in tissue over time. Therefore, the idea of spatial and temporal independence (Section 6.1.5 of the Listing Policy) does not apply.

This conclusion is based on the staff findings that:

1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy.
2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy, except that composite samples collected at a single location for a single day were evaluated as a single sample and not averaged.
3. One of one samples exceed the OEHHA guideline and this is less than the allowable frequency to list in Table 3.1 of the Listing Policy.
4. Pursuant to section 3.11 of the Listing Policy, additional data and information are available indicating that standards are not met. The sample exceeding the guideline is constituted by several fish that have independently accumulated enough mercury such that the average of all these fish exceeds the evaluation guideline. Therefore, it is highly likely that if more fish had been caught on another day to form additional composites, these would also exceed the evaluation guideline and, hence, the number of exceedances would exceed the allowable frequency described in section 3.4 of the listing policy.

Regional Board Staff Decision Recommendation: After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should be placed on the section 303(d) list because applicable water quality standards are exceeded and a pollutant contributes to or causes the problem.

Line of Evidence (LOE) for Decision ID 65481, Mercury	Region 2
Coyote Reservoir	

LOE ID: 91579
Pollutant: Mercury
LOE Subgroup: Pollutant-Tissue
Matrix: Tissue
Fraction: Fish fillet
Beneficial Use: Commercial or recreational collection of fish, shellfish, or organisms

Number of Samples:	1
Number of Exceedances:	1
Data and Information Type:	Fish tissue analysis
Data Used to Assess Water Quality:	State Water Board staff assessed SWAMP data for Coyote Reservoir to determine beneficial use support and results are as follows: 1 of 1 samples exceed the criterion for Mercury. Composites were generated from largemouth bass (11 composites - 1 fish per composite) and common carp (2 composites - 5 fish per composite). Composites were not spatially independent (as defined in the Listing Policy) and so were averaged by species. The 1 sample for largemouth bass exceeded the criterion. Two common carp composites could not be used in the assessment due to total fish lengths that did not fall within lengths noted in the guideline.
Data Reference:	Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Survey. A Report of the Surface Water Ambient Monitoring Program (SWAMP). California State Water Resources Control Board, Sacramento, CA Statewide Lakes Sportfish Contamination Study 2007 2008 Contaminants in Fish from California Lakes and Reservoirs, 2007-2008: Summary Report on a Two-Year Screening Survey Cruise report for the Surface Water Ambient Monitoring Program (SWAMP) bioaccumulation screening study in California lakes and reservoirs year two (FY 07-08). Sampling dates: April 2008 - November 2008.
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	Water Quality Control Plan for the San Francisco Bay Basin (2013): Controllable water quality factors shall not cause a detrimental increase in concentrations of toxic substances found in bottom sediments or aquatic life. Effects on aquatic organisms, wildlife, and human health will be considered.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	The USEPA 304(a) recommended water quality criterion for concentrations of methylmercury in fish tissue of trophic level 4 fish (150 - 500 mm; fillet wet weight) is 0.2 mg/kg. This assumes a consumption rate of 32 g/day. (USEPA, 2001)
Guideline Reference:	Water Quality Criterion for the Protection of Human Health: Methylmercury. Final. United States Environmental Protection Agency Office of Science and Technology Office of Water. EPA-823-R-01-001. January 2001
Spatial Representation:	Data for this assessment unit was collected by one monitoring project: (SWB_FishLk)
Temporal Representation:	Data was collected on a single day 6/25/2008.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	Samples were collected, processed, and analyzed in accordance with the methods described in Quality Assurance Project Plan "Screening Study of Bioaccumulation in California Lakes and Reservoirs." (SWAMP, 2008).
QAPP Information Reference(s):	Quality Assurance Project Plan Screening Study of Bioaccumulation in California Lakes and Reservoirs. Moss Landing Marine Labs. Prepared for SWAMP BOG. 49 pages plus appendices and attachments

Draft California 2016 Integrated Report (303(d) List/305(b) Report)

Supporting Information

Regional Board 2 - San Francisco Bay Region

Water Body Name: Anderson Reservoir
Water Body ID: CAL2053005020000304122049
Water Body Type: Lake & Reservoir

DECISION ID 33630 **Region 2**
Anderson Reservoir

Pollutant: Mercury
Final Listing Decision: Do Not Delist from 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision: Do Not Delist from 303(d) list (TMDL required list)(2012)
Revision Status Revised
Sources: Source Unknown
Expected TMDL Completion Date: 2013
Impairment from Pollutant or Pollution: Pollutant

Regional Board Staff Conclusion: This pollutant is being considered for removal from the CWA section 303(d) List under section 4.1 of the Listing Policy. Under this section a single line of evidence is necessary to assess listing status.

Three lines of evidence are available in the administrative record to assess pollutant. Twenty-one of the twenty-three samples exceed the fish tissue criterion.

Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against removing this water segment-pollutant combination from the CWA section 303(d) List.

This conclusion is based on the staff findings that:

1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy.
2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy.
3. Twenty-one of twenty-three samples exceeded the fish tissue criterion and this exceeds the allowable frequency listed in Table 4.1 of the Listing Policy.
4. Pursuant to section 4.11 of the Listing Policy, no additional data and information are available indicating that standards are met.

Regional Board Staff Decision Recommendation: After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be removed from the section 303(d) list because applicable water quality standards for the pollutant are being exceeded.

Line of Evidence (LOE) for Decision ID 33630, Mercury **Region 2**
Anderson Reservoir

LOE ID: 31008
Pollutant: Mercury
LOE Subgroup: Pollutant-Tissue
Matrix: Tissue
Fraction: Fish fillet
Beneficial Use: Commercial or recreational collection of fish, shellfish, or organisms

Number of Samples:	13
Number of Exceedances:	13
Data and Information Type:	Fish tissue analysis
Data Used to Assess Water Quality:	Fish were collected for tissue analysis at one location from Anderson Reservoir. A total of 13 sample composites were generated from two species: Largemouth Bass (11) and Common Carp (2). Details of the compositing protocol can be found in the March 2009 report entitled: "Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Study" (SWAMP, 2009). A total of 13 out of 13 samples exceeded the OHHEA fish tissue screening value for human health.
Data Reference:	Data associated with report entitled: Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Survey. A Report of the Surface Water Ambient Monitoring Program (SWAMP). California State Water Resources Control Board, Sacramento, CA Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Survey. A Report of the Surface Water Ambient Monitoring Program (SWAMP). California State Water Resources Control Board, Sacramento, CA Cruise Report for the Surface Waters Ambient Monitoring Program (SWAMP) Bioaccumulation Screening Study in California Lakes and Reservoirs. Sampling Dates: June 2007- March 2008
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	The Basin Plan contains the following objective: Many pollutants can accumulate on particles, in sediment, or bioaccumulate in fish and other aquatic organisms. Controllable water quality factors shall not cause a detrimental increase in concentrations of toxic substances found in bottom sediments or aquatic life. Effects on aquatic organisms, wildlife, and human health will be considered.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) - San Francisco Bay Region (Region 2)
Evaluation Guideline:	Office of Environmental Health Hazard Assessment (OEHHA) Screening Value of 0.3 mg/kg to protect human health when consuming fish (OEHHA, 1999).
Guideline Reference:	Prevalence of Selected Target Chemical Contaminants in Sport Fish From Two California Lakes: Public health designed screening study. Sacramento, CA: Office of Environmental Health Hazard Assessment
Spatial Representation:	Samples were collected from one location in Anderson Reservoir. As discussed in the Lakes and Reservoirs Report (SWAMP, 2009), individual sample locations consisted of an area within a given waterbody with an approximate one-mile diameter, from which multiple fish tissue samples were collected. The number of sample locations per waterbody was based on the overall size of the waterbody. Specifics of individual sampling locations can be found in the supplemental report entitled "Cruise Report for the Surface Waters Ambient Monitoring Program (SWAMP) Bioaccumulation Screening Study in California Lakes and Reservoirs, Sampling Dates: June 2007- March 2008" (SWAMP, 2008). Data collected from this waterbody was assigned under Station Name "Anderson Lake_BOG" in the SWAMP report.
Temporal Representation:	Samples were collected on July 3, 2007
Environmental Conditions:	There are no known environmental conditions (e.g., seasonality, land use practices, fire events, storms, etc.) that are related to these data.
QAPP Information:	Samples were collected, processed, and analyzed in accordance with the methods described in "Quality Assurance Project Plan Screening Study of Bioaccumulation in California Lakes and Reservoirs." (SWAMP, 2008).
QAPP Information Reference(s):	Quality Assurance Project Plan Screening Study of Bioaccumulation in California Lakes and Reservoirs. Moss Landing Marine Labs. Prepared for SWAMP BOG, 49 pages plus appendices and attachments

Line of Evidence (LOE) for Decision ID 33630, Mercury

Region 2

Anderson Reservoir

LOE ID:	91058
Pollutant:	Mercury

LOE Subgroup:	Pollutant-Tissue
Matrix:	Tissue
Fraction:	Fish fillet
Beneficial Use:	Commercial or recreational collection of fish, shellfish, or organisms
Number of Samples:	1
Number of Exceedances:	1
Data and Information Type:	Fish tissue analysis
Data Used to Assess Water Quality:	State Water Board staff assessed SWAMP data for Anderson Reservoir to determine beneficial use support and results are as follows: 1 of 1 samples exceed the criterion for Mercury. Composites were generated from largemouth bass (11 composites - 1 fish per composite) and common carp (2 composites - 5 fish per composite). Composites were not spatially independent (as defined in the Listing Policy) and so were averaged by species. The 1 sample for largemouth bass exceeded the criterion. Two largemouth bass and two common carp composites could not be used in the assessment due to total fish lengths that did not fall within lengths noted in the guideline.
Data Reference:	Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Survey. A Report of the Surface Water Ambient Monitoring Program (SWAMP). California State Water Resources Control Board, Sacramento, CA Cruise Report for the Surface Waters Ambient Monitoring Program (SWAMP) Bioaccumulation Screening Study in California Lakes and Reservoirs, Sampling Dates: June 2007- March 2008 Statewide Lakes Sportfish Contamination Study 2007 2008 Contaminants in Fish from California Lakes and Reservoirs, 2007-2008: Summary Report on a Two-Year Screening Survey
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	Water Quality Control Plan for the San Francisco Bay Basin (2013): Controllable water quality factors shall not cause a detrimental increase in concentrations of toxic substances found in bottom sediments or aquatic life. Effects on aquatic organisms, wildlife, and human health will be considered.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	The USEPA 304(a) recommended water quality criterion for concentrations of methylmercury in fish tissue of trophic level 4 fish (150 - 500 mm; fillet wet weight) is 0.2 mg/kg. This assumes a consumption rate of 32 g/day. (USEPA, 2001)
Guideline Reference:	Water Quality Criterion for the Protection of Human Health: Methylmercury. Final. United States Environmental Protection Agency Office of Science and Technology Office of Water. EPA-823-R-01-001. January 2001
Spatial Representation:	Data for this assessment unit was collected by one monitoring project: (SWB_FishLk)
Temporal Representation:	Data was collected on a single day 7/3/2007.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	Samples were collected, processed, and analyzed in accordance with the methods described in Quality Assurance Project Plan "Screening Study of Bioaccumulation in California Lakes and Reservoirs." (SWAMP, 2008).
QAPP Information Reference(s):	Quality Assurance Project Plan Screening Study of Bioaccumulation in California Lakes and Reservoirs. Moss Landing Marine Labs. Prepared for SWAMP BOG. 49 pages plus appendices and attachments

Line of Evidence (LOE) for Decision ID 33630, Mercury

Region 2

Anderson Reservoir

LOE ID:	681
Pollutant:	Mercury
LOE Subgroup:	Pollutant-Tissue
Matrix:	Tissue
Fraction:	Fish fillet

Beneficial Use:	Commercial or recreational collection of fish, shellfish, or organisms
Number of Samples:	9
Number of Exceedances:	7
Data and Information Type:	Not Specified
Data Used to Assess Water Quality:	Seven out of 9 samples exceeded. A total of 9 composite samples were collected and analyzed from Anderson Reservoir: 3 black crappie, 3 carp, and 3 largemouth bass. Two black crappie samples did not exceed (TSMP, 2002).
Data Reference:	Placeholder reference 2006 303(d)
SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	San Francisco Bay RWQCB Basin Plan: Many pollutants can accumulate on particles, in sediment, or bioaccumulate in fish and other aquatic organisms. Controllable water quality factors shall not cause a detrimental increase in concentrations of toxic substances found in bottom sediments or aquatic life. Effects on aquatic organisms, wildlife, and human health will be considered.
Objective/Criterion Reference:	Placeholder reference 2006 303(d)
Evaluation Guideline:	Hg 0.3 ug/g - OEHHA Screening Value (Brodberg and Pollock, 1999).
Guideline Reference:	Placeholder reference 2006 303(d)
Spatial Representation:	One station located near the face of dam.
Temporal Representation:	All samples were collected on 9/13/2001.
Environmental Conditions:	
QAPP Information:	Environmental Chemistry Quality Assurance and Data Report for the Toxic Substances Monitoring Program, 2001-2002. Department of Fish and Game.
QAPP Information Reference(s):	

DECISION ID	33562	Region 2
Anderson Reservoir		

Pollutant:	PCBs (Polychlorinated biphenyls)
Final Listing Decision:	Do Not Delist from 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision:	List on 303(d) list (TMDL required list)(2012)
Revision Status	Revised
Sources:	Source Unknown
Expected TMDL Completion Date:	2019
Impairment from Pollutant or Pollution:	Pollutant

Regional Board Staff Conclusion:	<p>This pollutant is being considered for removal from the CWA section 303(d) List under section 4.1 of the Listing Policy. Under this section a single line of evidence is necessary to assess listing status.</p> <p>Four lines of evidence are available in the administrative record to assess pollutant. Four of the seven samples exceed the evaluation guideline.</p> <p>Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against removing this water segment-pollutant combination from the CWA section 303(d) List.</p> <p>This conclusion is based on the staff findings that:</p> <ol style="list-style-type: none"> 1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy. 2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy. 3. Four of seven samples exceeded the guideline and this exceeds the allowable frequency listed in Table 4.1 of the Listing Policy. 4. Pursuant to section 4.11 of the Listing Policy, no additional data and information are available
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indicating that standards are met.

Regional Board Staff Decision Recommendation: After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be removed from the section 303(d) list because applicable water quality standards for the pollutant are being exceeded.

Line of Evidence (LOE) for Decision ID 33562, PCBs (Polychlorinated biphenyls)

Region 2

Anderson Reservoir

LOE ID: 682

Pollutant: PCBs (Polychlorinated biphenyls)
LOE Subgroup: Pollutant-Tissue
Matrix: Tissue
Fraction: Fish fillet

Beneficial Use: Commercial or recreational collection of fish, shellfish, or organisms

Number of Samples: 6
Number of Exceedances: 3

Data and Information Type: Fish tissue analysis
Data Used to Assess Water Quality: Three out of 6 samples exceeded. A total of 6 composite samples were collected and analyzed from Anderson Reservoir - 3 black crappie and 3 carp. All carp samples exceeded guideline (TSMP, 2002).
Data Reference: [Placeholder reference 2006 303\(d\)](#)

SWAMP Data: Non-SWAMP

Water Quality Objective/Criterion: San Francisco Bay RWQCB Basin Plan: Many pollutants can accumulate on particles, in sediment, or bioaccumulate in fish and other aquatic organisms. Controllable water quality factors shall not cause a detrimental increase in concentrations of toxic substances found in bottom sediments or aquatic life. Effects on aquatic organisms, wildlife, and human health will be considered.
Objective/Criterion Reference: [Placeholder reference 2006 303\(d\)](#)

Evaluation Guideline: PCB 20.0 ng/g (OEHHA Screening Value) (Brodberg and Pollock, 1999).
Guideline Reference: [Placeholder reference 2006 303\(d\)](#)

Spatial Representation: One station located near the face of dam.
Temporal Representation: All samples were collected on 9/13/2001.
Environmental Conditions:
QAPP Information: Environmental Chemistry Quality Assurance and Data Report for the Toxic Substances Monitoring Program, 2001-2002. Department of Fish and Game.
QAPP Information Reference(s):

Line of Evidence (LOE) for Decision ID 33562, PCBs (Polychlorinated biphenyls)

Region 2

Anderson Reservoir

LOE ID: 91077

Pollutant: PCBs (Polychlorinated biphenyls)
LOE Subgroup: Pollutant-Tissue
Matrix: Tissue
Fraction: Fish fillet

Beneficial Use: Commercial or recreational collection of fish, shellfish, or organisms

Number of Samples: 1
Number of Exceedances: 1

Data and Information Type:	Fish tissue analysis
Data Used to Assess Water Quality:	State Water Board staff assessed SWAMP data for Anderson Reservoir to determine beneficial use support and results are as follows: 1 of 1 samples exceed the criterion for PCB, Total. One composite (5 fish per composite) was generated from one species: Common Carp. Details of the compositing protocol can be found in the March 2009 report entitled: "Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Study" (SWAMP, 2009). Total PCB was assessed for as follows: PCB aroclors and congeners were summed separately and the sum that yielded the highest value was used for the assessment.
Data Reference:	Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Survey. A Report of the Surface Water Ambient Monitoring Program (SWAMP). California State Water Resources Control Board, Sacramento, CA Cruise Report for the Surface Waters Ambient Monitoring Program (SWAMP) Bioaccumulation Screening Study in California Lakes and Reservoirs, Sampling Dates: June 2007- March 2008 Statewide Lakes Sportfish Contamination Study 2007 2008 Contaminants in Fish from California Lakes and Reservoirs, 2007-2008: Summary Report on a Two-Year Screening Survey
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	Water Quality Control Plan for the San Francisco Bay Basin (2013): Controllable water quality factors shall not cause a detrimental increase in concentrations of toxic substances found in bottom sediments or aquatic life. Effects on aquatic organisms, wildlife, and human health will be considered.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	The modified OEHHA Fish Contaminant Goal for polychlorinated biphenyls in fish tissue is 2.6 ppb. This screening level assumes an average body weight of 70 kg and a consumption rate of 32 g/day for a 30 year exposure over a 70-year lifetime. This constituent is a carcinogen therefore the risk level is set to one in a million. A cooking reduction factor of 1 is applied for skin-off fillets. (Klasing, S., and R. Brodberg, 2008)
Guideline Reference:	Development of Fish Contaminant Goals and Advisory Tissue Levels for Common Contaminants in California Sport Fish: Chlordane, DDTs, Dieldrin, Methylmercury, PCBs, Selenium, and Toxaphene
Spatial Representation:	Data for this assessment unit was collected by one monitoring project: (SWB_FishLk)
Temporal Representation:	Data was collected on a single day 7/3/2007.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	Samples were collected, processed, and analyzed in accordance with the methods described in Quality Assurance Project Plan "Screening Study of Bioaccumulation in California Lakes and Reservoirs." (SWAMP, 2008).
QAPP Information Reference(s):	Quality Assurance Project Plan Screening Study of Bioaccumulation in California Lakes and Reservoirs. Moss Landing Marine Labs. Prepared for SWAMP BOG. 49 pages plus appendices and attachments

Line of Evidence (LOE) for Decision ID 33562, PCBs (Polychlorinated biphenyls)

Region 2

Anderson Reservoir

LOE ID:	91060
Pollutant:	PCBs (Polychlorinated biphenyls)
LOE Subgroup:	Pollutant-Tissue
Matrix:	Tissue
Fraction:	Fish fillet
Beneficial Use:	Warm Freshwater Habitat
Number of Samples:	1
Number of Exceedances:	0

Data and Information Type:	Fish tissue analysis
Data Used to Assess Water Quality:	State Water Board staff assessed SWAMP data for Anderson Reservoir to determine beneficial use support and results are as follows: 0 of 1 samples exceed the criterion for PCB, Total. One composite (5 fish per composite) was generated from one species: Common Carp. Details of the compositing protocol can be found in the March 2009 report entitled: "Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Study" (SWAMP, 2009). Total PCB was assessed for as follows: PCB aroclors and congeners were summed separately and the sum that yielded the highest value was used for the assessment.
Data Reference:	Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Survey. A Report of the Surface Water Ambient Monitoring Program (SWAMP). California State Water Resources Control Board, Sacramento, CA Cruise Report for the Surface Waters Ambient Monitoring Program (SWAMP) Bioaccumulation Screening Study in California Lakes and Reservoirs, Sampling Dates: June 2007- March 2008 Statewide Lakes Sportfish Contamination Study 2007 2008 Contaminants in Fish from California Lakes and Reservoirs, 2007-2008: Summary Report on a Two-Year Screening Survey
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	Water Quality Control Plan for the San Francisco Bay Basin (2013): Controllable water quality factors shall not cause a detrimental increase in concentrations of toxic substances found in bottom sediments or aquatic life. Effects on aquatic organisms, wildlife, and human health will be considered.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	National Academy of Science guidelines (NAS 1972) establish a maximum total PCB concentration of 500 ug/Kg (wet weight) in tissue samples for protection of aquatic life from bioaccumulation of toxic substances.
Guideline Reference:	National Academy of Sciences. Water Quality Criteria 1972. EPA-R3-73-033. Washington, D.C.: U.S. Environmental Protection Agency
Spatial Representation:	Data for this assessment unit was collected by one monitoring project: (SWB_FishLk)
Temporal Representation:	Data was collected on a single day 7/3/2007.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	Samples were collected, processed, and analyzed in accordance with the methods described in Quality Assurance Project Plan "Screening Study of Bioaccumulation in California Lakes and Reservoirs." (SWAMP, 2008).
QAPP Information Reference(s):	Quality Assurance Project Plan Screening Study of Bioaccumulation in California Lakes and Reservoirs. Moss Landing Marine Labs. Prepared for SWAMP BOG, 49 pages plus appendices and attachments

Line of Evidence (LOE) for Decision ID 33562, PCBs (Polychlorinated biphenyls)

Region 2

Anderson Reservoir

LOE ID:	91061
Pollutant:	PCBs (Polychlorinated biphenyls)
LOE Subgroup:	Pollutant-Tissue
Matrix:	Tissue
Fraction:	Fish fillet
Beneficial Use:	Cold Freshwater Habitat
Number of Samples:	1
Number of Exceedances:	0
Data and Information Type:	Fish tissue analysis
Data Used to Assess Water Quality:	State Water Board staff assessed SWAMP data for Anderson Reservoir to determine beneficial use support and results are as follows: 0 of 1 samples exceed the criterion for PCB, Total. One composite (5 fish per composite) was generated from one species:

Data Reference:	<p>Common Carp. Details of the compositing protocol can be found in the March 2009 report entitled: "Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Study" (SWAMP, 2009). Total PCB was assessed for as follows: PCB aroclors and congeners were summed separately and the sum that yielded the highest value was used for the assessment.</p> <p>Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Survey. A Report of the Surface Water Ambient Monitoring Program (SWAMP). California State Water Resources Control Board, Sacramento, CA Cruise Report for the Surface Waters Ambient Monitoring Program (SWAMP) Bioaccumulation Screening Study in California Lakes and Reservoirs. Sampling Dates: June 2007- March 2008 Statewide Lakes Sportfish Contamination Study 2007 2008 Contaminants in Fish from California Lakes and Reservoirs, 2007-2008: Summary Report on a Two-Year Screening Survey</p>
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	Water Quality Control Plan for the San Francisco Bay Basin (2013): Controllable water quality factors shall not cause a detrimental increase in concentrations of toxic substances found in bottom sediments or aquatic life. Effects on aquatic organisms, wildlife, and human health will be considered.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	National Academy of Science guidelines (NAS 1972) establish a maximum total PCB concentration of 500 ug/Kg (wet weight) in tissue samples for protection of aquatic life from bioaccumulation of toxic substances.
Guideline Reference:	National Academy of Sciences. Water Quality Criteria 1972. EPA-R3-73-033. Washington, D.C.: U.S. Environmental Protection Agency
Spatial Representation:	Data for this assessment unit was collected by one monitoring project: (SWB_FishLk)
Temporal Representation:	Data was collected on a single day 7/3/2007.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	Samples were collected, processed, and analyzed in accordance with the methods described in Quality Assurance Project Plan "Screening Study of Bioaccumulation in California Lakes and Reservoirs." (SWAMP, 2008).
QAPP Information Reference(s):	Quality Assurance Project Plan Screening Study of Bioaccumulation in California Lakes and Reservoirs. Moss Landing Marine Labs. Prepared for SWAMP BOG. 49 pages plus appendices and attachments

DECISION ID 61251 Region 2	
Anderson Reservoir	
Pollutant:	Aldrin
Final Listing Decision:	Do Not List on 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision:	New Decision
Revision Status	Revised
Impairment from Pollutant or Pollution:	Pollutant
Regional Board Staff Conclusion:	<p>This pollutant is being considered for placement on the CWA section 303(d) List under section 3.1 of the Listing Policy. Under section 3.1 a single line of evidence is necessary to assess listing status. Two lines of evidence are available in the administrative record to assess this pollutant. Zero of one samples exceed the guideline.</p> <p>Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against placing this water segment-pollutant combination on the CWA section 303(d) List.</p> <p>This conclusion is based on the staff findings that:</p> <ol style="list-style-type: none"> 1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy.

2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy.
3. Zero of one samples exceed the guideline and this sample size is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating. A minimum of 16 samples is needed to determine if a beneficial use is fully supported using table 3.1.
4. Pursuant to SECTION 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.

Regional Board Staff Decision Recommendation: After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be placed on the section 303(d) list. The readily available data and information is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating.

Line of Evidence (LOE) for Decision ID 61251, Aldrin

Region 2

Anderson Reservoir

LOE ID:	91064
Pollutant:	Aldrin
LOE Subgroup:	Pollutant-Tissue
Matrix:	Tissue
Fraction:	Fish fillet
Beneficial Use:	Warm Freshwater Habitat
Number of Samples:	1
Number of Exceedances:	0
Data and Information Type:	Fish tissue analysis
Data Used to Assess Water Quality:	State Water Board staff assessed SWAMP data for Anderson Reservoir to determine beneficial use support and results are as follows: 0 of 1 samples exceed the criterion for Aldrin. One composite (5 fish per composite) was generated from one species: Common Carp. Details of the compositing protocol can be found in the March 2009 report entitled: "Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Study" (SWAMP, 2009).
Data Reference:	Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Survey. A Report of the Surface Water Ambient Monitoring Program (SWAMP). California State Water Resources Control Board, Sacramento, CA Cruise Report for the Surface Waters Ambient Monitoring Program (SWAMP) Bioaccumulation Screening Study in California Lakes and Reservoirs, Sampling Dates: June 2007- March 2008 Statewide Lakes Sportfish Contamination Study 2007 2008 Contaminants in Fish from California Lakes and Reservoirs, 2007-2008: Summary Report on a Two-Year Screening Survey
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	Water Quality Control Plan for the San Francisco Bay Basin: Controllable water quality factors shall not cause a detrimental increase in concentrations of toxic substances found in bottom sediments or aquatic life. Effects on aquatic organisms, wildlife, and human health will be considered.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	National Academy of Science guidelines (NAS 1972) establish a maximum Aldrin concentration of 100 ug/Kg (wet weight) in tissue samples for protection of aquatic life from bioaccumulation of toxic substances.
Guideline Reference:	National Academy of Sciences. Water Quality Criteria 1972. EPA-R3-73-033. Washington, D.C.: U.S. Environmental Protection Agency
Spatial Representation:	Data for this assessment unit was collected by one monitoring project: (SWB_FishLk)
Temporal Representation:	Data was collected on a single day 7/3/2007.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.

QAPP Information:	Samples were collected, processed, and analyzed in accordance with the methods described in Quality Assurance Project Plan "Screening Study of Bioaccumulation in California Lakes and Reservoirs." (SWAMP, 2008).
QAPP Information Reference(s):	Quality Assurance Project Plan Screening Study of Bioaccumulation in California Lakes and Reservoirs. Moss Landing Marine Labs. Prepared for SWAMP BOG. 49 pages plus appendices and attachments

Line of Evidence (LOE) for Decision ID 61251, Aldrin

Region 2

Anderson Reservoir

LOE ID:	91065
Pollutant:	Aldrin
LOE Subgroup:	Pollutant-Tissue
Matrix:	Tissue
Fraction:	Fish fillet
Beneficial Use:	Cold Freshwater Habitat
Number of Samples:	1
Number of Exceedances:	0
Data and Information Type:	Fish tissue analysis
Data Used to Assess Water Quality:	State Water Board staff assessed SWAMP data for Anderson Reservoir to determine beneficial use support and results are as follows: 0 of 1 samples exceed the criterion for Aldrin. One composite (5 fish per composite) was generated from one species: Common Carp. Details of the compositing protocol can be found in the March 2009 report entitled: "Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Study" (SWAMP, 2009).
Data Reference:	Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Survey. A Report of the Surface Water Ambient Monitoring Program (SWAMP). California State Water Resources Control Board, Sacramento, CA Cruise Report for the Surface Waters Ambient Monitoring Program (SWAMP) Bioaccumulation Screening Study in California Lakes and Reservoirs, Sampling Dates: June 2007- March 2008 Statewide Lakes Sportfish Contamination Study 2007 2008 Contaminants in Fish from California Lakes and Reservoirs, 2007-2008: Summary Report on a Two-Year Screening Survey
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	Water Quality Control Plan for the San Francisco Bay Basin: Controllable water quality factors shall not cause a detrimental increase in concentrations of toxic substances found in bottom sediments or aquatic life. Effects on aquatic organisms, wildlife, and human health will be considered.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	National Academy of Science guidelines (NAS 1972) establish a maximum Aldrin concentration of 100 ug/Kg (wet weight) in tissue samples for protection of aquatic life from bioaccumulation of toxic substances.
Guideline Reference:	National Academy of Sciences. Water Quality Criteria 1972. EPA-R3-73-033. Washington, D.C.: U.S. Environmental Protection Agency
Spatial Representation:	Data for this assessment unit was collected by one monitoring project: (SWB_FishLk)
Temporal Representation:	Data was collected on a single day 7/3/2007.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	Samples were collected, processed, and analyzed in accordance with the methods described in Quality Assurance Project Plan "Screening Study of Bioaccumulation in California Lakes and Reservoirs." (SWAMP, 2008).
QAPP Information Reference(s):	Quality Assurance Project Plan Screening Study of Bioaccumulation in California Lakes and Reservoirs. Moss Landing Marine Labs. Prepared for SWAMP BOG. 49 pages plus appendices and attachments

DECISION ID	61259	Region 2
Anderson Reservoir		

Pollutant: Chlordane
Final Listing Decision: Do Not List on 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision: New Decision
Revision Status: Revised
Impairment from Pollutant or Pollution: Pollutant

Regional Board Staff Conclusion: This pollutant is being considered for placement on the CWA section 303(d) List under section 3.1 of the Listing Policy. Under section 3.1 a single line of evidence is necessary to assess listing status. Three lines of evidence are available in the administrative record to assess this pollutant. Zero of one samples exceed the guideline.

Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against placing this water segment-pollutant combination on the CWA section 303(d) List.

This conclusion is based on the staff findings that:

1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy.
2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy.
3. Zero of one samples exceed the guideline and this sample size is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating. A minimum of 16 samples is needed to determine if a beneficial use is fully supported using table 3.1.
4. Pursuant to SECTION 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.

Regional Board Staff Decision Recommendation: After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be placed on the section 303(d) list. The readily available data and information is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating.

Line of Evidence (LOE) for Decision ID 61259, Chlordane	Region 2
Anderson Reservoir	

LOE ID: 91067
Pollutant: Chlordane
LOE Subgroup: Pollutant-Tissue
Matrix: Tissue
Fraction: Fish fillet

Beneficial Use: Cold Freshwater Habitat

Number of Samples: 1
Number of Exceedances: 0

Data and Information Type: Fish tissue analysis
Data Used to Assess Water Quality: State Water Board staff assessed SWAMP data for Anderson Reservoir to determine beneficial use support and results are as follows: 0 of 1 samples exceed the criterion for Chlordane, Total. One composite (5 fish per composite) was generated from one species: Common Carp. Details of the compositing protocol can be found in the March 2009 report entitled: "Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Study" (SWAMP, 2009). Total chlordane was calculated as the sum of the following chlordane isomers: cis- and trans-chlordane, cis- and trans-nonachlor, and oxychlordane.

Data Reference:	Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Survey. A Report of the Surface Water Ambient Monitoring Program (SWAMP). California State Water Resources Control Board, Sacramento, CA Cruise Report for the Surface Waters Ambient Monitoring Program (SWAMP) Bioaccumulation Screening Study in California Lakes and Reservoirs. Sampling Dates: June 2007- March 2008 Statewide Lakes Sportfish Contamination Study 2007 2008 Contaminants in Fish from California Lakes and Reservoirs, 2007-2008: Summary Report on a Two-Year Screening Survey
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	Water Quality Control Plan for the San Francisco Bay Basin: Controllable water quality factors shall not cause a detrimental increase in concentrations of toxic substances found in bottom sediments or aquatic life. Effects on aquatic organisms, wildlife, and human health will be considered.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	National Academy of Science guidelines (NAS 1972) establish a maximum total Chlordane concentration of 100 ug/Kg (wet weight) in tissue samples for protection of aquatic life from bioaccumulation of toxic substances.
Guideline Reference:	National Academy of Sciences. Water Quality Criteria 1972. EPA-R3-73-033. Washington, D.C.: U.S. Environmental Protection Agency
Spatial Representation:	Data for this assessment unit was collected by one monitoring project: (SWB_FishLk)
Temporal Representation:	Data was collected on a single day 7/3/2007.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	Samples were collected, processed, and analyzed in accordance with the methods described in Quality Assurance Project Plan "Screening Study of Bioaccumulation in California Lakes and Reservoirs." (SWAMP, 2008).
QAPP Information Reference(s):	Quality Assurance Project Plan Screening Study of Bioaccumulation in California Lakes and Reservoirs. Moss Landing Marine Labs. Prepared for SWAMP BOG. 49 pages plus appendices and attachments

Line of Evidence (LOE) for Decision ID 61259, Chlordane

Region 2

Anderson Reservoir

LOE ID:	91066
Pollutant:	Chlordane
LOE Subgroup:	Pollutant-Tissue
Matrix:	Tissue
Fraction:	Fish fillet
Beneficial Use:	Warm Freshwater Habitat
Number of Samples:	1
Number of Exceedances:	0
Data and Information Type:	Fish tissue analysis
Data Used to Assess Water Quality:	State Water Board staff assessed SWAMP data for Anderson Reservoir to determine beneficial use support and results are as follows: 0 of 1 samples exceed the criterion for Chlordane, Total. One composite (5 fish per composite) was generated from one species: Common Carp. Details of the compositing protocol can be found in the March 2009 report entitled: "Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Study" (SWAMP, 2009). Total chlordane was calculated as the sum of the following chlordane isomers: cis- and trans-chlordane, cis- and trans-nonachlor, and oxychlordane.
Data Reference:	Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Survey. A Report of the Surface Water Ambient Monitoring Program (SWAMP). California State Water Resources Control Board, Sacramento, CA Cruise Report for the Surface Waters Ambient Monitoring Program (SWAMP)

[Bioaccumulation Screening Study in California Lakes and Reservoirs, Sampling Dates: June 2007- March 2008](#)
[Statewide Lakes Sportfish Contamination Study 2007 2008](#)
[Contaminants in Fish from California Lakes and Reservoirs, 2007-2008: Summary Report on a Two-Year Screening Survey](#)

SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	Water Quality Control Plan for the San Francisco Bay Basin: Controllable water quality factors shall not cause a detrimental increase in concentrations of toxic substances found in bottom sediments or aquatic life. Effects on aquatic organisms, wildlife, and human health will be considered.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	National Academy of Science guidelines (NAS 1972) establish a maximum total Chlordane concentration of 100 ug/Kg (wet weight) in tissue samples for protection of aquatic life from bioaccumulation of toxic substances.
Guideline Reference:	National Academy of Sciences. Water Quality Criteria 1972. EPA-R3-73-033. Washington, D.C.: U.S. Environmental Protection Agency
Spatial Representation:	Data for this assessment unit was collected by one monitoring project: (SWB_FishLk)
Temporal Representation:	Data was collected on a single day 7/3/2007.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	Samples were collected, processed, and analyzed in accordance with the methods described in Quality Assurance Project Plan "Screening Study of Bioaccumulation in California Lakes and Reservoirs." (SWAMP, 2008).
QAPP Information Reference(s):	Quality Assurance Project Plan Screening Study of Bioaccumulation in California Lakes and Reservoirs. Moss Landing Marine Labs. Prepared for SWAMP BOG, 49 pages plus appendices and attachments

Line of Evidence (LOE) for Decision ID 61259, Chlordane

Region 2

Anderson Reservoir

LOE ID:	91068
Pollutant:	Chlordane
LOE Subgroup:	Pollutant-Tissue
Matrix:	Tissue
Fraction:	Fish fillet
Beneficial Use:	Commercial or recreational collection of fish, shellfish, or organisms
Number of Samples:	1
Number of Exceedances:	0
Data and Information Type:	Fish tissue analysis
Data Used to Assess Water Quality:	State Water Board staff assessed SWAMP data for Anderson Reservoir to determine beneficial use support and results are as follows: 0 of 1 samples exceed the criterion for Chlordane, Total. One composite (5 fish per composite) was generated from one species: Common Carp. Details of the compositing protocol can be found in the March 2009 report entitled: "Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Study" (SWAMP, 2009). Total chlordane was calculated as the sum of the following chlordane isomers: cis- and trans-chlordane, cis- and trans-nonachlor, and oxychlordane.
Data Reference:	Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Survey. A Report of the Surface Water Ambient Monitoring Program (SWAMP). California State Water Resources Control Board, Sacramento, CA Cruise Report for the Surface Waters Ambient Monitoring Program (SWAMP) Bioaccumulation Screening Study in California Lakes and Reservoirs, Sampling Dates: June 2007- March 2008 Statewide Lakes Sportfish Contamination Study 2007 2008 Contaminants in Fish from California Lakes and Reservoirs, 2007-2008: Summary Report

SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	Water Quality Control Plan for the San Francisco Bay Basin: Controllable water quality factors shall not cause a detrimental increase in concentrations of toxic substances found in bottom sediments or aquatic life. Effects on aquatic organisms, wildlife, and human health will be considered.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	The modified OEHHA Fish Contaminant Goal for total chlordane in fish tissue is 3.9 ppb. This screening level assumes an average body weight of 70 kg and a consumption rate of 32 g/day for a 30 year exposure over a 70-year lifetime. This constituent is a carcinogen therefore the risk level is set to one in a million. A cooking reduction factor of 1 is applied for skin-off fillets. (Klasing, S., and R. Brodberg, 2008)
Guideline Reference:	Development of Fish Contaminant Goals and Advisory Tissue Levels for Common Contaminants in California Sport Fish: Chlordane, DDTs, Dieldrin, Methylmercury, PCBs, Selenium, and Toxaphene
Spatial Representation:	Data for this assessment unit was collected by one monitoring project: (SWB_FishLk)
Temporal Representation:	Data was collected on a single day 7/3/2007.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	Samples were collected, processed, and analyzed in accordance with the methods described in Quality Assurance Project Plan "Screening Study of Bioaccumulation in California Lakes and Reservoirs." (SWAMP, 2008).
QAPP Information Reference(s):	Quality Assurance Project Plan Screening Study of Bioaccumulation in California Lakes and Reservoirs. Moss Landing Marine Labs. Prepared for SWAMP BOG, 49 pages plus appendices and attachments

DECISION ID	61269	Region 2
Anderson Reservoir		

Pollutant:	DDT (Dichlorodiphenyltrichloroethane)
Final Listing Decision:	Do Not List on 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision:	New Decision
Revision Status	Revised
Impairment from Pollutant or Pollution:	Pollutant
Regional Board Staff Conclusion:	<p>This pollutant is being considered for placement on the CWA section 303(d) List under section 3.1 of the Listing Policy. Under section 3.1 a single line of evidence is necessary to assess listing status. Three lines of evidence are available in the administrative record to assess this pollutant. Zero of one samples exceed the guideline.</p> <p>Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against placing this water segment-pollutant combination on the CWA section 303(d) List.</p> <p>This conclusion is based on the staff findings that:</p> <ol style="list-style-type: none"> 1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy. 2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy. 3. Zero of one samples exceed the guideline and this sample size is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating. A minimum of 16 samples is needed to determine if a beneficial use is fully supported using table 3.1. 4. Pursuant to SECTION 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.
Regional Board Staff Decision Recommendation:	After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be placed on the section 303(d) list. The readily available data and information is insufficient to determine, with the power and confidence of the Listing Policy, the

Line of Evidence (LOE) for Decision ID 61269, DDT (Dichlorodiphenyltrichloroethane)**Region 2****Anderson Reservoir**

LOE ID:	91080
Pollutant:	Total DDT (sum of 4,4'- and 2,4'- isomers of DDT, DDE, and DDD)
LOE Subgroup:	Pollutant-Tissue
Matrix:	Tissue
Fraction:	Fish fillet
Beneficial Use:	Cold Freshwater Habitat
Number of Samples:	1
Number of Exceedances:	0
Data and Information Type:	Fish tissue analysis
Data Used to Assess Water Quality:	State Water Board staff assessed SWAMP data for Anderson Reservoir to determine beneficial use support and results are as follows: 0 of 1 samples exceed the criterion for DDT, Total. One composite (5 fish per composite) was generated from one species: Common Carp. Details of the compositing protocol can be found in the March 2009 report entitled: "Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Study" (SWAMP, 2009). Total DDT was calculated as the sum of 4,4'- and 2,4'- isomers of DDT, DDE, and DDD.
Data Reference:	Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Survey. A Report of the Surface Water Ambient Monitoring Program (SWAMP). California State Water Resources Control Board, Sacramento, CA Cruise Report for the Surface Waters Ambient Monitoring Program (SWAMP) Bioaccumulation Screening Study in California Lakes and Reservoirs. Sampling Dates: June 2007- March 2008 Statewide Lakes Sportfish Contamination Study 2007 2008 Contaminants in Fish from California Lakes and Reservoirs, 2007-2008: Summary Report on a Two-Year Screening Survey
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	Water Quality Control Plan for the San Francisco Bay Basin: Controllable water quality factors shall not cause a detrimental increase in concentrations of toxic substances found in bottom sediments or aquatic life. Effects on aquatic organisms, wildlife, and human health will be considered.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	National Academy of Science guidelines (NAS 1972) establish a maximum total DDT concentration of 1000 ug/Kg (wet weight) in tissue samples for protection of aquatic life from bioaccumulation of toxic substances.
Guideline Reference:	National Academy of Sciences. Water Quality Criteria 1972. EPA-R3-73-033. Washington, D.C.: U.S. Environmental Protection Agency
Spatial Representation:	Data for this assessment unit was collected by one monitoring project: (SWB_FishLk)
Temporal Representation:	Data was collected on a single day 7/3/2007.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	Samples were collected, processed, and analyzed in accordance with the methods described in Quality Assurance Project Plan "Screening Study of Bioaccumulation in California Lakes and Reservoirs." (SWAMP, 2008).
QAPP Information Reference(s):	Quality Assurance Project Plan Screening Study of Bioaccumulation in California Lakes and Reservoirs. Moss Landing Marine Labs. Prepared for SWAMP BOG, 49 pages plus appendices and attachments

Line of Evidence (LOE) for Decision ID 61269, DDT (Dichlorodiphenyltrichloroethane)**Region 2**

Anderson Reservoir

LOE ID:	91081
Pollutant:	Total DDT (sum of 4,4'- and 2,4'- isomers of DDT, DDE, and DDD)
LOE Subgroup:	Pollutant-Tissue
Matrix:	Tissue
Fraction:	Fish fillet
Beneficial Use:	Commercial or recreational collection of fish, shellfish, or organisms
Number of Samples:	1
Number of Exceedances:	0
Data and Information Type:	Fish tissue analysis
Data Used to Assess Water Quality:	State Water Board staff assessed SWAMP data for Anderson Reservoir to determine beneficial use support and results are as follows: 0 of 1 samples exceed the criterion for DDT, Total. One composite (5 fish per composite) was generated from one species: Common Carp. Details of the compositing protocol can be found in the March 2009 report entitled: "Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Study" (SWAMP, 2009). Total DDT was calculated as the sum of 4,4'- and 2,4'- isomers of DDT, DDE, and DDD.
Data Reference:	Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Survey. A Report of the Surface Water Ambient Monitoring Program (SWAMP). California State Water Resources Control Board, Sacramento, CA Cruise Report for the Surface Waters Ambient Monitoring Program (SWAMP) Bioaccumulation Screening Study in California Lakes and Reservoirs, Sampling Dates: June 2007- March 2008 Statewide Lakes Sportfish Contamination Study 2007 2008 Contaminants in Fish from California Lakes and Reservoirs, 2007-2008: Summary Report on a Two-Year Screening Survey
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	Water Quality Control Plan for the San Francisco Bay Basin: Controllable water quality factors shall not cause a detrimental increase in concentrations of toxic substances found in bottom sediments or aquatic life. Effects on aquatic organisms, wildlife, and human health will be considered.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	The modified OEHHA Fish Contaminant Goal for total DDT in fish tissue is 15 ppb. This screening level assumes an average body weight of 70 kg and a consumption rate of 32 g/day for a 30 year exposure over a 70-year lifetime. This constituent is a carcinogen therefore the risk level is set to one in a million. A cooking reduction factor of 1 is applied for skin-off fillets. (Klasing, S., and R. Brodberg, 2008)
Guideline Reference:	Development of Fish Contaminant Goals and Advisory Tissue Levels for Common Contaminants in California Sport Fish: Chlordane, DDTs, Dieldrin, Methylmercury, PCBs, Selenium, and Toxaphene
Spatial Representation:	Data for this assessment unit was collected by one monitoring project: (SWB_FishLk)
Temporal Representation:	Data was collected on a single day 7/3/2007.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	Samples were collected, processed, and analyzed in accordance with the methods described in Quality Assurance Project Plan "Screening Study of Bioaccumulation in California Lakes and Reservoirs." (SWAMP, 2008).
QAPP Information Reference(s):	Quality Assurance Project Plan Screening Study of Bioaccumulation in California Lakes and Reservoirs. Moss Landing Marine Labs. Prepared for SWAMP BOG. 49 pages plus appendices and attachments

Line of Evidence (LOE) for Decision ID 61269, DDT (Dichlorodiphenyltrichloroethane)

Region 2

Anderson Reservoir

LOE ID:	91079
Pollutant:	Total DDT (sum of 4,4'- and 2,4'- isomers of DDT, DDE, and DDD)
LOE Subgroup:	Pollutant-Tissue
Matrix:	Tissue
Fraction:	Fish fillet
Beneficial Use:	Warm Freshwater Habitat
Number of Samples:	1
Number of Exceedances:	0
Data and Information Type:	Fish tissue analysis
Data Used to Assess Water Quality:	State Water Board staff assessed SWAMP data for Anderson Reservoir to determine beneficial use support and results are as follows: 0 of 1 samples exceed the criterion for DDT, Total. One composite (5 fish per composite) was generated from one species: Common Carp. Details of the compositing protocol can be found in the March 2009 report entitled: "Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Study" (SWAMP, 2009). Total DDT was calculated as the sum of 4,4'- and 2,4'- isomers of DDT, DDE, and DDD.
Data Reference:	Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Survey. A Report of the Surface Water Ambient Monitoring Program (SWAMP). California State Water Resources Control Board, Sacramento, CA Cruise Report for the Surface Waters Ambient Monitoring Program (SWAMP) Bioaccumulation Screening Study in California Lakes and Reservoirs. Sampling Dates: June 2007- March 2008 Statewide Lakes Sportfish Contamination Study 2007 2008 Contaminants in Fish from California Lakes and Reservoirs, 2007-2008: Summary Report on a Two-Year Screening Survey
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	Water Quality Control Plan for the San Francisco Bay Basin: Controllable water quality factors shall not cause a detrimental increase in concentrations of toxic substances found in bottom sediments or aquatic life. Effects on aquatic organisms, wildlife, and human health will be considered.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	National Academy of Science guidelines (NAS 1972) establish a maximum total DDT concentration of 1000 ug/Kg (wet weight) in tissue samples for protection of aquatic life from bioaccumulation of toxic substances.
Guideline Reference:	National Academy of Sciences. Water Quality Criteria 1972. EPA-R3-73-033. Washington, D.C.: U.S. Environmental Protection Agency
Spatial Representation:	Data for this assessment unit was collected by one monitoring project: (SWB_FishLk)
Temporal Representation:	Data was collected on a single day 7/3/2007.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	Samples were collected, processed, and analyzed in accordance with the methods described in Quality Assurance Project Plan "Screening Study of Bioaccumulation in California Lakes and Reservoirs." (SWAMP, 2008).
QAPP Information Reference(s):	Quality Assurance Project Plan Screening Study of Bioaccumulation in California Lakes and Reservoirs. Moss Landing Marine Labs. Prepared for SWAMP BOG, 49 pages plus appendices and attachments

DECISION ID	61260	Region 2
Anderson Reservoir		

Pollutant:	Dieldrin
Final Listing Decision:	Do Not List on 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision:	New Decision

Revision Status
Impairment from Pollutant or
Pollution:

Revised
Pollutant

Regional Board Staff
Conclusion:

This pollutant is being considered for placement on the CWA section 303(d) List under section 3.1 of the Listing Policy. Under section 3.1 a single line of evidence is necessary to assess listing status. Three lines of evidence are available in the administrative record to assess this pollutant. Zero of one samples exceed the guideline.

Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against placing this water segment-pollutant combination on the CWA section 303(d) List.

This conclusion is based on the staff findings that:

1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy.
2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy.
3. Zero of one samples exceed the guideline and this sample size is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating. A minimum of 16 samples is needed to determine if a beneficial use is fully supported using table 3.1.
4. Pursuant to SECTION 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.

Regional Board Staff Decision
Recommendation:

After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be placed on the section 303(d) list. The readily available data and information is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating.

Line of Evidence (LOE) for Decision ID 61260, Dieldrin

Region 2

Anderson Reservoir

LOE ID: 91070

Pollutant: Dieldrin
LOE Subgroup: Pollutant-Tissue
Matrix: Tissue
Fraction: Fish fillet

Beneficial Use: Cold Freshwater Habitat

Number of Samples: 1
Number of Exceedances: 0

Data and Information Type: Fish tissue analysis
Data Used to Assess Water Quality: State Water Board staff assessed SWAMP data for Anderson Reservoir to determine beneficial use support and results are as follows: 0 of 1 samples exceed the criterion for Dieldrin. One composite (5 fish per composite) was generated from one species: Common Carp. Details of the compositing protocol can be found in the March 2009 report entitled: "Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Study" (SWAMP, 2009).

Data Reference: [Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Survey. A Report of the Surface Water Ambient Monitoring Program \(SWAMP\). California State Water Resources Control Board, Sacramento, CA](#)
[Cruise Report for the Surface Waters Ambient Monitoring Program \(SWAMP\)](#)
[Bioaccumulation Screening Study in California Lakes and Reservoirs, Sampling Dates: June 2007- March 2008](#)
[Statewide Lakes Sportfish Contamination Study 2007 2008](#)
[Contaminants in Fish from California Lakes and Reservoirs, 2007-2008: Summary Report on a Two-Year Screening Survey](#)

SWAMP Data: SWAMP

Water Quality Objective/Criterion:	Water Quality Control Plan for the San Francisco Bay Basin: Controllable water quality factors shall not cause a detrimental increase in concentrations of toxic substances found in bottom sediments or aquatic life. Effects on aquatic organisms, wildlife, and human health will be considered.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	National Academy of Science guidelines (NAS 1972) establish a maximum Dieldrin concentration of 100 ug/Kg (wet weight) in tissue samples for protection of aquatic life from bioaccumulation of toxic substances.
Guideline Reference:	National Academy of Sciences. Water Quality Criteria 1972. EPA-R3-73-033. Washington, D.C.: U.S. Environmental Protection Agency
Spatial Representation:	Data for this assessment unit was collected by one monitoring project: (SWB_FishLk)
Temporal Representation:	Data was collected on a single day 7/3/2007.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	Samples were collected, processed, and analyzed in accordance with the methods described in Quality Assurance Project Plan "Screening Study of Bioaccumulation in California Lakes and Reservoirs." (SWAMP, 2008).
QAPP Information Reference(s):	Quality Assurance Project Plan Screening Study of Bioaccumulation in California Lakes and Reservoirs. Moss Landing Marine Labs. Prepared for SWAMP BOG. 49 pages plus appendices and attachments

Line of Evidence (LOE) for Decision ID 61260, Dieldrin

Region 2

Anderson Reservoir

LOE ID:	91069
Pollutant:	Dieldrin
LOE Subgroup:	Pollutant-Tissue
Matrix:	Tissue
Fraction:	Fish fillet
Beneficial Use:	Warm Freshwater Habitat
Number of Samples:	1
Number of Exceedances:	0
Data and Information Type:	Fish tissue analysis
Data Used to Assess Water Quality:	State Water Board staff assessed SWAMP data for Anderson Reservoir to determine beneficial use support and results are as follows: 0 of 1 samples exceed the criterion for Dieldrin. One composite (5 fish per composite) was generated from one species: Common Carp. Details of the compositing protocol can be found in the March 2009 report entitled: "Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Study" (SWAMP, 2009).
Data Reference:	Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Survey. A Report of the Surface Water Ambient Monitoring Program (SWAMP). California State Water Resources Control Board, Sacramento, CA Cruise Report for the Surface Waters Ambient Monitoring Program (SWAMP) Bioaccumulation Screening Study in California Lakes and Reservoirs. Sampling Dates: June 2007- March 2008 Statewide Lakes Sportfish Contamination Study 2007 2008 Contaminants in Fish from California Lakes and Reservoirs, 2007-2008: Summary Report on a Two-Year Screening Survey
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	Water Quality Control Plan for the San Francisco Bay Basin: Controllable water quality factors shall not cause a detrimental increase in concentrations of toxic substances found in bottom sediments or aquatic life. Effects on aquatic organisms, wildlife, and human health will be considered.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)

Evaluation Guideline:	National Academy of Science guidelines (NAS 1972) establish a maximum Dieldrin concentration of 100 ug/Kg (wet weight) in tissue samples for protection of aquatic life from bioaccumulation of toxic substances.
Guideline Reference:	National Academy of Sciences. Water Quality Criteria 1972. EPA-R3-73-033. Washington, D.C.: U.S. Environmental Protection Agency
Spatial Representation:	Data for this assessment unit was collected by one monitoring project: (SWB_FishLk)
Temporal Representation:	Data was collected on a single day 7/3/2007.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	Samples were collected, processed, and analyzed in accordance with the methods described in Quality Assurance Project Plan "Screening Study of Bioaccumulation in California Lakes and Reservoirs." (SWAMP, 2008).
QAPP Information Reference(s):	Quality Assurance Project Plan Screening Study of Bioaccumulation in California Lakes and Reservoirs. Moss Landing Marine Labs. Prepared for SWAMP BOG, 49 pages plus appendices and attachments

Line of Evidence (LOE) for Decision ID 61260, Dieldrin

Region 2

Anderson Reservoir

LOE ID:	91071
Pollutant:	Dieldrin
LOE Subgroup:	Pollutant-Tissue
Matrix:	Tissue
Fraction:	Fish fillet
Beneficial Use:	Commercial or recreational collection of fish, shellfish, or organisms
Number of Samples:	0
Number of Exceedances:	0
Data and Information Type:	Fish tissue analysis
Data Used to Assess Water Quality:	State Water Board staff assessed SWAMP data for Anderson Reservoir to determine beneficial use support and results are as follows: 0 of 0 samples exceed the criterion for Dieldrin. One composite (5 fish per composite) was generated from one species: Common Carp. Details of the compositing protocol can be found in the March 2009 report entitled: "Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Study" (SWAMP, 2009). One composite was not used in the assessment because the laboratory data reporting limit(s) was above the objective and therefore the results could not be quantified with the level of certainty required by the Listing Policy.
Data Reference:	Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Survey. A Report of the Surface Water Ambient Monitoring Program (SWAMP). California State Water Resources Control Board, Sacramento, CA Cruise Report for the Surface Waters Ambient Monitoring Program (SWAMP) Bioaccumulation Screening Study in California Lakes and Reservoirs, Sampling Dates: June 2007- March 2008 Statewide Lakes Sportfish Contamination Study 2007 2008 Contaminants in Fish from California Lakes and Reservoirs, 2007-2008: Summary Report on a Two-Year Screening Survey
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	Water Quality Control Plan for the San Francisco Bay Basin: Controllable water quality factors shall not cause a detrimental increase in concentrations of toxic substances found in bottom sediments or aquatic life. Effects on aquatic organisms, wildlife, and human health will be considered.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	The modified OEHHA Fish Contaminant Goal for dieldrin in fish tissue is 0.32 ppb. This screening level assumes an average body weight of 70 kg and a consumption rate of 32 g/day for a 30 year exposure over a 70-year lifetime. This constituent is a carcinogen

Guideline Reference:	therefore the risk level is set to one in a million. A cooking reduction factor of 1 is applied for skin-off fillets. (Klasing, S., and R. Brodberg, 2008) Development of Fish Contaminant Goals and Advisory Tissue Levels for Common Contaminants in California Sport Fish: Chlordane, DDTs, Dieldrin, Methylmercury, PCBs, Selenium, and Toxaphene
Spatial Representation:	Data for this assessment unit was collected by one monitoring project: (SWB_FishLk)
Temporal Representation:	Data was collected on a single day 7/3/2007.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	Samples were collected, processed, and analyzed in accordance with the methods described in Quality Assurance Project Plan "Screening Study of Bioaccumulation in California Lakes and Reservoirs." (SWAMP, 2008).
QAPP Information Reference(s):	Quality Assurance Project Plan Screening Study of Bioaccumulation in California Lakes and Reservoirs. Moss Landing Marine Labs. Prepared for SWAMP BOG, 49 pages plus appendices and attachments

DECISION ID	61261	Region 2
Anderson Reservoir		

Pollutant:	Endosulfan
Final Listing Decision:	Do Not List on 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision:	New Decision
Revision Status	Revised
Impairment from Pollutant or Pollution:	Pollutant
Regional Board Staff Conclusion:	<p>This pollutant is being considered for placement on the CWA section 303(d) List under section 3.1 of the Listing Policy. Under section 3.1 a single line of evidence is necessary to assess listing status. Three lines of evidence are available in the administrative record to assess this pollutant. Zero of one samples exceed the guideline.</p> <p>Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against placing this water segment-pollutant combination on the CWA section 303(d) List.</p> <p>This conclusion is based on the staff findings that:</p> <ol style="list-style-type: none"> 1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy. 2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy. 3. Zero of one samples exceed the guideline and this sample size is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating. A minimum of 16 samples is needed to determine if a beneficial use is fully supported using table 3.1. 4. Pursuant to SECTION 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.
Regional Board Staff Decision Recommendation:	After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be placed on the section 303(d) list. The readily available data and information is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating.

Line of Evidence (LOE) for Decision ID 61261, Endosulfan	Region 2
Anderson Reservoir	

LOE ID:	91073
Pollutant:	Endosulfan
LOE Subgroup:	Pollutant-Tissue
Matrix:	Tissue
Fraction:	Fish fillet

Beneficial Use:	Cold Freshwater Habitat
Number of Samples:	1
Number of Exceedances:	0
Data and Information Type:	Fish tissue analysis
Data Used to Assess Water Quality:	State Water Board staff assessed SWAMP data for Anderson Reservoir to determine beneficial use support and results are as follows: 0 of 1 samples exceed the criterion for Endosulfan I. One composite (5 fish per composite) was generated from one species: Common Carp. Details of the compositing protocol can be found in the March 2009 report entitled: "Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Study" (SWAMP, 2009).
Data Reference:	Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Survey. A Report of the Surface Water Ambient Monitoring Program (SWAMP). California State Water Resources Control Board, Sacramento, CA Cruise Report for the Surface Waters Ambient Monitoring Program (SWAMP) Bioaccumulation Screening Study in California Lakes and Reservoirs. Sampling Dates: June 2007- March 2008 Statewide Lakes Sportfish Contamination Study 2007 2008 Contaminants in Fish from California Lakes and Reservoirs, 2007-2008: Summary Report on a Two-Year Screening Survey
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	Water Quality Control Plan for the San Francisco Bay Basin: Controllable water quality factors shall not cause a detrimental increase in concentrations of toxic substances found in bottom sediments or aquatic life. Effects on aquatic organisms, wildlife, and human health will be considered.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	National Academy of Science guidelines (NAS 1972) establish a maximum Endosulfan, Total concentration of 100 ug/Kg (wet weight) in tissue samples for protection of aquatic life from bioaccumulation of toxic substances.
Guideline Reference:	National Academy of Sciences. Water Quality Criteria 1972. EPA-R3-73-033. Washington, D.C.: U.S. Environmental Protection Agency
Spatial Representation:	Data for this assessment unit was collected by one monitoring project: (SWB_FishLk)
Temporal Representation:	Data was collected on a single day 7/3/2007.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	Samples were collected, processed, and analyzed in accordance with the methods described in Quality Assurance Project Plan "Screening Study of Bioaccumulation in California Lakes and Reservoirs." (SWAMP, 2008).
QAPP Information Reference(s):	Quality Assurance Project Plan Screening Study of Bioaccumulation in California Lakes and Reservoirs. Moss Landing Marine Labs. Prepared for SWAMP BOG. 49 pages plus appendices and attachments

Line of Evidence (LOE) for Decision ID 61261, Endosulfan

Region 2

Anderson Reservoir

LOE ID:	91072
Pollutant:	Endosulfan
LOE Subgroup:	Pollutant-Tissue
Matrix:	Tissue
Fraction:	Fish fillet
Beneficial Use:	Warm Freshwater Habitat
Number of Samples:	1
Number of Exceedances:	0

Data and Information Type:	Fish tissue analysis
Data Used to Assess Water Quality:	State Water Board staff assessed SWAMP data for Anderson Reservoir to determine beneficial use support and results are as follows: 0 of 1 samples exceed the criterion for Endosulfan I. One composite (5 fish per composite) was generated from one species: Common Carp. Details of the compositing protocol can be found in the March 2009 report entitled: "Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Study" (SWAMP, 2009).
Data Reference:	Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Survey. A Report of the Surface Water Ambient Monitoring Program (SWAMP). California State Water Resources Control Board, Sacramento, CA Cruise Report for the Surface Waters Ambient Monitoring Program (SWAMP) Bioaccumulation Screening Study in California Lakes and Reservoirs, Sampling Dates: June 2007- March 2008 Statewide Lakes Sportfish Contamination Study 2007 2008 Contaminants in Fish from California Lakes and Reservoirs, 2007-2008: Summary Report on a Two-Year Screening Survey
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	Water Quality Control Plan for the San Francisco Bay Basin: Controllable water quality factors shall not cause a detrimental increase in concentrations of toxic substances found in bottom sediments or aquatic life. Effects on aquatic organisms, wildlife, and human health will be considered.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	National Academy of Science guidelines (NAS 1972) establish a maximum Endosulfan, Total concentration of 100 ug/Kg (wet weight) in tissue samples for protection of aquatic life from bioaccumulation of toxic substances.
Guideline Reference:	National Academy of Sciences. Water Quality Criteria 1972. EPA-R3-73-033. Washington, D.C.: U.S. Environmental Protection Agency
Spatial Representation:	Data for this assessment unit was collected by one monitoring project: (SWB_FishLk)
Temporal Representation:	Data was collected on a single day 7/3/2007.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	Samples were collected, processed, and analyzed in accordance with the methods described in Quality Assurance Project Plan "Screening Study of Bioaccumulation in California Lakes and Reservoirs." (SWAMP, 2008).
QAPP Information Reference(s):	Quality Assurance Project Plan Screening Study of Bioaccumulation in California Lakes and Reservoirs. Moss Landing Marine Labs. Prepared for SWAMP BOG, 49 pages plus appendices and attachments

Line of Evidence (LOE) for Decision ID 61261, Endosulfan

Region 2

Anderson Reservoir

LOE ID:	91045
Pollutant:	Endosulfan
LOE Subgroup:	Pollutant-Tissue
Matrix:	Tissue
Fraction:	Fish fillet
Beneficial Use:	Commercial or recreational collection of fish, shellfish, or organisms
Number of Samples:	1
Number of Exceedances:	0
Data and Information Type:	Fish tissue analysis
Data Used to Assess Water Quality:	State Water Board staff assessed SWAMP data for Anderson Reservoir to determine beneficial use support and results are as follows: 0 of 1 samples exceed the criterion for Endosulfan I. One composite (5 fish per composite) was generated from one species: Common Carp. Details of the compositing protocol can be found in the March 2009 report entitled: "Contaminants in Fish from California Lakes and Reservoirs: Technical Report on

Data Reference:	<p>Year One of a Two-Year Screening Study" (SWAMP, 2009). Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Survey. A Report of the Surface Water Ambient Monitoring Program (SWAMP). California State Water Resources Control Board, Sacramento, CA Cruise Report for the Surface Waters Ambient Monitoring Program (SWAMP) Bioaccumulation Screening Study in California Lakes and Reservoirs. Sampling Dates: June 2007- March 2008 Statewide Lakes Sportfish Contamination Study 2007 2008 Contaminants in Fish from California Lakes and Reservoirs, 2007-2008: Summary Report on a Two-Year Screening Survey</p>
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	Water Quality Control Plan for the San Francisco Bay Basin: Controllable water quality factors shall not cause a detrimental increase in concentrations of toxic substances found in bottom sediments or aquatic life. Effects on aquatic organisms, wildlife, and human health will be considered.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	The modified OEHHA Fish Contaminant Goal for endosulfan (I and II) in fish tissue is 13,000 ppb. This screening level assumes an average body weight of 70 kg and a consumption rate of 32 g/day. A cooking reduction factor of 1 is applied for skin-off fillets. (Klasing, S., and R. Brodberg, 2008; USEPA, 2000)
Guideline Reference:	Development of Fish Contaminant Goals and Advisory Tissue Levels for Common Contaminants in California Sport Fish: Chlordane, DDTs, Dieldrin, Methylmercury, PCBs, Selenium, and Toxaphene Guidance for Assessing Chemical Contaminant Data for Use In Fish Advisories Volume 1: Fish Sampling and Analysis
Spatial Representation:	Data for this assessment unit was collected by one monitoring project: (SWB_FishLk)
Temporal Representation:	Data was collected on a single day 7/3/2007.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	Samples were collected, processed, and analyzed in accordance with the methods described in Quality Assurance Project Plan "Screening Study of Bioaccumulation in California Lakes and Reservoirs." (SWAMP, 2008).
QAPP Information Reference(s):	Quality Assurance Project Plan Screening Study of Bioaccumulation in California Lakes and Reservoirs. Moss Landing Marine Labs. Prepared for SWAMP BOG. 49 pages plus appendices and attachments

DECISION ID	61262	Region 2
Anderson Reservoir		
Pollutant:	Endrin	
Final Listing Decision:	Do Not List on 303(d) list (TMDL required list)	
Last Listing Cycle's Final Listing Decision:	New Decision	
Revision Status	Revised	
Impairment from Pollutant or Pollution:	Pollutant	
Regional Board Staff Conclusion:	<p>This pollutant is being considered for placement on the CWA section 303(d) List under section 3.1 of the Listing Policy. Under section 3.1 a single line of evidence is necessary to assess listing status. Three lines of evidence are available in the administrative record to assess this pollutant. Zero of one samples exceed the guideline.</p> <p>Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against placing this water segment-pollutant combination on the CWA section 303(d) List.</p> <p>This conclusion is based on the staff findings that:</p> <ol style="list-style-type: none"> 1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy. 	

2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy.
3. Zero of one samples exceed the guideline and this sample size is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating. A minimum of 16 samples is needed to determine if a beneficial use is fully supported using table 3.1.
4. Pursuant to SECTION 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.

Regional Board Staff Decision Recommendation: After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be placed on the section 303(d) list. The readily available data and information is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating.

Line of Evidence (LOE) for Decision ID 61262, Endrin

Region 2

Anderson Reservoir

LOE ID:	91048
Pollutant:	Endrin
LOE Subgroup:	Pollutant-Tissue
Matrix:	Tissue
Fraction:	Fish fillet
Beneficial Use:	Commercial or recreational collection of fish, shellfish, or organisms
Number of Samples:	1
Number of Exceedances:	0
Data and Information Type:	Fish tissue analysis
Data Used to Assess Water Quality:	State Water Board staff assessed SWAMP data for Anderson Reservoir to determine beneficial use support and results are as follows: 0 of 1 samples exceed the criterion for Endrin. One composite (5 fish per composite) was generated from one species: Common Carp. Details of the compositing protocol can be found in the March 2009 report entitled: "Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Study" (SWAMP, 2009).
Data Reference:	Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Survey. A Report of the Surface Water Ambient Monitoring Program (SWAMP). California State Water Resources Control Board, Sacramento, CA Cruise Report for the Surface Waters Ambient Monitoring Program (SWAMP) Bioaccumulation Screening Study in California Lakes and Reservoirs, Sampling Dates: June 2007- March 2008 Statewide Lakes Sportfish Contamination Study 2007 2008 Contaminants in Fish from California Lakes and Reservoirs, 2007-2008: Summary Report on a Two-Year Screening Survey
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	Water Quality Control Plan for the San Francisco Bay Basin: Controllable water quality factors shall not cause a detrimental increase in concentrations of toxic substances found in bottom sediments or aquatic life. Effects on aquatic organisms, wildlife, and human health will be considered.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	The modified OEHHA Fish Contaminant Goal for endrin in fish tissue is 660 ppb. This screening level assumes an average body weight of 70 kg and a consumption rate of 32 g/day. A cooking reduction factor of 1 is applied for skin-off fillets. (Klasing, S., and R. Brodberg, 2008; USEPA, 2000)
Guideline Reference:	Development of Fish Contaminant Goals and Advisory Tissue Levels for Common Contaminants in California Sport Fish: Chlordane, DDTs, Dieldrin, Methylmercury, PCBs, Selenium, and Toxaphene Guidance for Assessing Chemical Contaminant Data for Use In Fish Advisories Volume 1: Fish Sampling and Analysis

Spatial Representation:	Data for this assessment unit was collected by one monitoring project: (SWB_FishLk)
Temporal Representation:	Data was collected on a single day 7/3/2007.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	Samples were collected, processed, and analyzed in accordance with the methods described in Quality Assurance Project Plan "Screening Study of Bioaccumulation in California Lakes and Reservoirs." (SWAMP, 2008).
QAPP Information Reference(s):	Quality Assurance Project Plan Screening Study of Bioaccumulation in California Lakes and Reservoirs. Moss Landing Marine Labs. Prepared for SWAMP BOG. 49 pages plus appendices and attachments

Line of Evidence (LOE) for Decision ID 61262, Endrin

Region 2

Anderson Reservoir

LOE ID:	91046
Pollutant:	Endrin
LOE Subgroup:	Pollutant-Tissue
Matrix:	Tissue
Fraction:	Fish fillet
Beneficial Use:	Warm Freshwater Habitat
Number of Samples:	1
Number of Exceedances:	0
Data and Information Type:	Fish tissue analysis
Data Used to Assess Water Quality:	State Water Board staff assessed SWAMP data for Anderson Reservoir to determine beneficial use support and results are as follows: 0 of 1 samples exceed the criterion for Endrin. One composite (5 fish per composite) was generated from one species: Common Carp. Details of the compositing protocol can be found in the March 2009 report entitled: "Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Study" (SWAMP, 2009).
Data Reference:	Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Survey. A Report of the Surface Water Ambient Monitoring Program (SWAMP). California State Water Resources Control Board, Sacramento, CA Cruise Report for the Surface Waters Ambient Monitoring Program (SWAMP) Bioaccumulation Screening Study in California Lakes and Reservoirs. Sampling Dates: June 2007- March 2008 Statewide Lakes Sportfish Contamination Study 2007 2008 Contaminants in Fish from California Lakes and Reservoirs, 2007-2008: Summary Report on a Two-Year Screening Survey
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	Water Quality Control Plan for the San Francisco Bay Basin: Controllable water quality factors shall not cause a detrimental increase in concentrations of toxic substances found in bottom sediments or aquatic life. Effects on aquatic organisms, wildlife, and human health will be considered.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	National Academy of Science guidelines (NAS 1972) establish a maximum Endrin concentration of 100 ug/Kg (wet weight) in tissue samples for protection of aquatic life from bioaccumulation of toxic substances.
Guideline Reference:	National Academy of Sciences. Water Quality Criteria 1972. EPA-R3-73-033. Washington, D.C.: U.S. Environmental Protection Agency
Spatial Representation:	Data for this assessment unit was collected by one monitoring project: (SWB_FishLk)
Temporal Representation:	Data was collected on a single day 7/3/2007.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	Samples were collected, processed, and analyzed in accordance with the methods described in Quality Assurance Project Plan "Screening Study of Bioaccumulation in

QAPP Information Reference(s):	California Lakes and Reservoirs." (SWAMP, 2008). Quality Assurance Project Plan Screening Study of Bioaccumulation in California Lakes and Reservoirs. Moss Landing Marine Labs. Prepared for SWAMP BOG. 49 pages plus appendices and attachments
Line of Evidence (LOE) for Decision ID 61262, Endrin	
Anderson Reservoir	
LOE ID:	91047
Pollutant:	Endrin
LOE Subgroup:	Pollutant-Tissue
Matrix:	Tissue
Fraction:	Fish fillet
Beneficial Use:	Cold Freshwater Habitat
Number of Samples:	1
Number of Exceedances:	0
Data and Information Type:	Fish tissue analysis
Data Used to Assess Water Quality:	State Water Board staff assessed SWAMP data for Anderson Reservoir to determine beneficial use support and results are as follows: 0 of 1 samples exceed the criterion for Endrin. One composite (5 fish per composite) was generated from one species: Common Carp. Details of the compositing protocol can be found in the March 2009 report entitled: "Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Study" (SWAMP, 2009).
Data Reference:	Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Survey. A Report of the Surface Water Ambient Monitoring Program (SWAMP). California State Water Resources Control Board, Sacramento, CA Cruise Report for the Surface Waters Ambient Monitoring Program (SWAMP) Bioaccumulation Screening Study in California Lakes and Reservoirs, Sampling Dates: June 2007- March 2008 Statewide Lakes Sportfish Contamination Study 2007 2008 Contaminants in Fish from California Lakes and Reservoirs, 2007-2008: Summary Report on a Two-Year Screening Survey
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	Water Quality Control Plan for the San Francisco Bay Basin: Controllable water quality factors shall not cause a detrimental increase in concentrations of toxic substances found in bottom sediments or aquatic life. Effects on aquatic organisms, wildlife, and human health will be considered.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	National Academy of Science guidelines (NAS 1972) establish a maximum Endrin concentration of 100 ug/Kg (wet weight) in tissue samples for protection of aquatic life from bioaccumulation of toxic substances.
Guideline Reference:	National Academy of Sciences. Water Quality Criteria 1972. EPA-R3-73-033. Washington, D.C.: U.S. Environmental Protection Agency
Spatial Representation:	Data for this assessment unit was collected by one monitoring project: (SWB_FishLk)
Temporal Representation:	Data was collected on a single day 7/3/2007.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	Samples were collected, processed, and analyzed in accordance with the methods described in Quality Assurance Project Plan "Screening Study of Bioaccumulation in California Lakes and Reservoirs." (SWAMP, 2008).
QAPP Information Reference(s):	Quality Assurance Project Plan Screening Study of Bioaccumulation in California Lakes and Reservoirs. Moss Landing Marine Labs. Prepared for SWAMP BOG. 49 pages plus appendices and attachments

Pollutant:	Heptachlor
Final Listing Decision:	Do Not List on 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision:	New Decision
Revision Status	Revised
Impairment from Pollutant or Pollution:	Pollutant

Regional Board Staff Conclusion: This pollutant is being considered for placement on the CWA section 303(d) List under section 3.1 of the Listing Policy. Under section 3.1 a single line of evidence is necessary to assess listing status. Two lines of evidence are available in the administrative record to assess this pollutant. Zero of one samples exceed the guideline.

Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against placing this water segment-pollutant combination on the CWA section 303(d) List.

This conclusion is based on the staff findings that:

1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy.
2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy.
3. Zero of one samples exceed the guideline and this sample size is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating. A minimum of 16 samples is needed to determine if a beneficial use is fully supported using table 3.1.
4. Pursuant to SECTION 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.

Regional Board Staff Decision Recommendation: After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be placed on the section 303(d) list. The readily available data and information is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating.

Line of Evidence (LOE) for Decision ID 61263, Heptachlor	Region 2
Anderson Reservoir	

LOE ID:	91050
Pollutant:	Heptachlor
LOE Subgroup:	Pollutant-Tissue
Matrix:	Tissue
Fraction:	Fish fillet
Beneficial Use:	Cold Freshwater Habitat
Number of Samples:	1
Number of Exceedances:	0
Data and Information Type:	Fish tissue analysis
Data Used to Assess Water Quality:	State Water Board staff assessed SWAMP data for Anderson Reservoir to determine beneficial use support and results are as follows: 0 of 1 samples exceed the criterion for Heptachlor. One composite (5 fish per composite) was generated from one species: Common Carp. Details of the compositing protocol can be found in the March 2009 report entitled: "Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Study" (SWAMP, 2009).
Data Reference:	Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Survey. A Report of the Surface Water Ambient Monitoring Program (SWAMP). California State Water Resources Control Board, Sacramento, CA Cruise Report for the Surface Waters Ambient Monitoring Program (SWAMP)

Bioaccumulation Screening Study in California Lakes and Reservoirs, Sampling Dates: [June 2007- March 2008](#)
[Statewide Lakes Sportfish Contamination Study 2007 2008](#)
[Contaminants in Fish from California Lakes and Reservoirs, 2007-2008: Summary Report on a Two-Year Screening Survey](#)

SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	Water Quality Control Plan for the San Francisco Bay Basin: Controllable water quality factors shall not cause a detrimental increase in concentrations of toxic substances found in bottom sediments or aquatic life. Effects on aquatic organisms, wildlife, and human health will be considered.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	National Academy of Science guidelines (NAS 1972) establish a maximum Heptachlor concentration of 100 ug/Kg (wet weight) in tissue samples for protection of aquatic life from bioaccumulation of toxic substances.
Guideline Reference:	National Academy of Sciences. Water Quality Criteria 1972. EPA-R3-73-033. Washington, D.C.: U.S. Environmental Protection Agency
Spatial Representation:	Data for this assessment unit was collected by one monitoring project: (SWB_FishLk)
Temporal Representation:	Data was collected on a single day 7/3/2007.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	Samples were collected, processed, and analyzed in accordance with the methods described in Quality Assurance Project Plan "Screening Study of Bioaccumulation in California Lakes and Reservoirs." (SWAMP, 2008).
QAPP Information Reference(s):	Quality Assurance Project Plan Screening Study of Bioaccumulation in California Lakes and Reservoirs. Moss Landing Marine Labs. Prepared for SWAMP BOG, 49 pages plus appendices and attachments

Line of Evidence (LOE) for Decision ID 61263, Heptachlor

Region 2

Anderson Reservoir

LOE ID:	91049
Pollutant:	Heptachlor
LOE Subgroup:	Pollutant-Tissue
Matrix:	Tissue
Fraction:	Fish fillet
Beneficial Use:	Warm Freshwater Habitat
Number of Samples:	1
Number of Exceedances:	0
Data and Information Type:	Fish tissue analysis
Data Used to Assess Water Quality:	State Water Board staff assessed SWAMP data for Anderson Reservoir to determine beneficial use support and results are as follows: 0 of 1 samples exceed the criterion for Heptachlor. One composite (5 fish per composite) was generated from one species: Common Carp. Details of the compositing protocol can be found in the March 2009 report entitled: "Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Study" (SWAMP, 2009).
Data Reference:	Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Survey. A Report of the Surface Water Ambient Monitoring Program (SWAMP). California State Water Resources Control Board, Sacramento, CA Cruise Report for the Surface Waters Ambient Monitoring Program (SWAMP) Bioaccumulation Screening Study in California Lakes and Reservoirs, Sampling Dates: June 2007- March 2008 Statewide Lakes Sportfish Contamination Study 2007 2008 Contaminants in Fish from California Lakes and Reservoirs, 2007-2008: Summary Report on a Two-Year Screening Survey

SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	Water Quality Control Plan for the San Francisco Bay Basin: Controllable water quality factors shall not cause a detrimental increase in concentrations of toxic substances found in bottom sediments or aquatic life. Effects on aquatic organisms, wildlife, and human health will be considered.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	National Academy of Science guidelines (NAS 1972) establish a maximum Heptachlor concentration of 100 ug/Kg (wet weight) in tissue samples for protection of aquatic life from bioaccumulation of toxic substances.
Guideline Reference:	National Academy of Sciences. Water Quality Criteria 1972. EPA-R3-73-033. Washington, D.C.: U.S. Environmental Protection Agency
Spatial Representation:	Data for this assessment unit was collected by one monitoring project: (SWB_FishLk)
Temporal Representation:	Data was collected on a single day 7/3/2007.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	Samples were collected, processed, and analyzed in accordance with the methods described in Quality Assurance Project Plan "Screening Study of Bioaccumulation in California Lakes and Reservoirs." (SWAMP, 2008).
QAPP Information Reference(s):	Quality Assurance Project Plan Screening Study of Bioaccumulation in California Lakes and Reservoirs. Moss Landing Marine Labs. Prepared for SWAMP BOG. 49 pages plus appendices and attachments

DECISION ID	61264	Region 2
Anderson Reservoir		

Pollutant:	Heptachlor epoxide
Final Listing Decision:	Do Not List on 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision:	New Decision
Revision Status	Revised
Impairment from Pollutant or Pollution:	Pollutant

Regional Board Staff Conclusion: This pollutant is being considered for placement on the CWA section 303(d) List under section 3.1 of the Listing Policy. Under section 3.1 a single line of evidence is necessary to assess listing status. Three lines of evidence are available in the administrative record to assess this pollutant. Zero of one samples exceed the guideline.

Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against placing this water segment-pollutant combination on the CWA section 303(d) List.

This conclusion is based on the staff findings that:

1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy.
2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy.
3. Zero of one samples exceed the guideline and this sample size is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating. A minimum of 16 samples is needed to determine if a beneficial use is fully supported using table 3.1.
4. Pursuant to SECTION 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.

Regional Board Staff Decision Recommendation: After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be placed on the section 303(d) list. The readily available data and information is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating.

Line of Evidence (LOE) for Decision ID 61264, Heptachlor epoxide	Region 2
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Anderson Reservoir

LOE ID:	91051
Pollutant:	Heptachlor epoxide
LOE Subgroup:	Pollutant-Tissue
Matrix:	Tissue
Fraction:	Fish fillet
Beneficial Use:	Warm Freshwater Habitat
Number of Samples:	1
Number of Exceedances:	0
Data and Information Type:	Fish tissue analysis
Data Used to Assess Water Quality:	State Water Board staff assessed SWAMP data for Anderson Reservoir to determine beneficial use support and results are as follows: 0 of 1 samples exceed the criterion for Heptachlor epoxide. One composite (5 fish per composite) was generated from one species: Common Carp. Details of the compositing protocol can be found in the March 2009 report entitled: "Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Study" (SWAMP, 2009).
Data Reference:	Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Survey. A Report of the Surface Water Ambient Monitoring Program (SWAMP). California State Water Resources Control Board, Sacramento, CA Cruise Report for the Surface Waters Ambient Monitoring Program (SWAMP) Bioaccumulation Screening Study in California Lakes and Reservoirs, Sampling Dates: June 2007- March 2008 Statewide Lakes Sportfish Contamination Study 2007 2008 Contaminants in Fish from California Lakes and Reservoirs, 2007-2008: Summary Report on a Two-Year Screening Survey
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	Water Quality Control Plan for the San Francisco Bay Basin: Controllable water quality factors shall not cause a detrimental increase in concentrations of toxic substances found in bottom sediments or aquatic life. Effects on aquatic organisms, wildlife, and human health will be considered.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	National Academy of Science guidelines (NAS 1972) establish a maximum Heptachlor Epoxide concentration of 100 ug/Kg (wet weight) in tissue samples for protection of aquatic life from bioaccumulation of toxic substances.
Guideline Reference:	National Academy of Sciences. Water Quality Criteria 1972. EPA-R3-73-033. Washington, D.C.: U.S. Environmental Protection Agency
Spatial Representation:	Data for this assessment unit was collected by one monitoring project: (SWB_FishLk)
Temporal Representation:	Data was collected on a single day 7/3/2007.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	Samples were collected, processed, and analyzed in accordance with the methods described in Quality Assurance Project Plan "Screening Study of Bioaccumulation in California Lakes and Reservoirs." (SWAMP, 2008).
QAPP Information Reference(s):	Quality Assurance Project Plan Screening Study of Bioaccumulation in California Lakes and Reservoirs. Moss Landing Marine Labs. Prepared for SWAMP BOG. 49 pages plus appendices and attachments

Line of Evidence (LOE) for Decision ID 61264, Heptachlor epoxide

Region 2

Anderson Reservoir

LOE ID:	91053
Pollutant:	Heptachlor epoxide
LOE Subgroup:	Pollutant-Tissue

Matrix:	Tissue
Fraction:	Fish fillet
Beneficial Use:	Commercial or recreational collection of fish, shellfish, or organisms
Number of Samples:	0
Number of Exceedances:	0
Data and Information Type:	Fish tissue analysis
Data Used to Assess Water Quality:	State Water Board staff assessed SWAMP data for Anderson Reservoir to determine beneficial use support and results are as follows: 0 of 0 samples exceed the criterion for Heptachlor epoxide. One composite (5 fish per composite) was generated from one species: Common Carp. Details of the compositing protocol can be found in the March 2009 report entitled: "Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Study" (SWAMP, 2009). One composite was not used in the assessment because the laboratory data reporting limit(s) was above the objective and therefore the results could not be quantified with the level of certainty required by the Listing Policy.
Data Reference:	Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Survey. A Report of the Surface Water Ambient Monitoring Program (SWAMP). California State Water Resources Control Board, Sacramento, CA Cruise Report for the Surface Waters Ambient Monitoring Program (SWAMP) Bioaccumulation Screening Study in California Lakes and Reservoirs, Sampling Dates: June 2007- March 2008 Statewide Lakes Sportfish Contamination Study 2007 2008 Contaminants in Fish from California Lakes and Reservoirs, 2007-2008: Summary Report on a Two-Year Screening Survey
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	Water Quality Control Plan for the San Francisco Bay Basin: Controllable water quality factors shall not cause a detrimental increase in concentrations of toxic substances found in bottom sediments or aquatic life. Effects on aquatic organisms, wildlife, and human health will be considered.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	The modified OEHHA Fish Contaminant Goal for heptachlor epoxide in fish tissue is 0.93 ppb. This screening level assumes an average body weight of 70 kg and a consumption rate of 32 g/day for a 30 year exposure over a 70-year lifetime. This constituent is a carcinogen therefore the risk level is set to one in a million. A cooking reduction factor of 1 is applied for skin-off fillets. (Klasing, S., and R. Brodberg, 2008; OEHHA, 1999)
Guideline Reference:	Development of Fish Contaminant Goals and Advisory Tissue Levels for Common Contaminants in California Sport Fish: Chlordane, DDTs, Dieldrin, Methylmercury, PCBs, Selenium, and Toxaphene Public Health Goal for Heptachlor and Heptachlor Epoxide in Drinking Water
Spatial Representation:	Data for this assessment unit was collected by one monitoring project: (SWB_FishLk)
Temporal Representation:	Data was collected on a single day 7/3/2007.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	Samples were collected, processed, and analyzed in accordance with the methods described in Quality Assurance Project Plan "Screening Study of Bioaccumulation in California Lakes and Reservoirs." (SWAMP, 2008).
QAPP Information Reference(s):	Quality Assurance Project Plan Screening Study of Bioaccumulation in California Lakes and Reservoirs. Moss Landing Marine Labs. Prepared for SWAMP BOG, 49 pages plus appendices and attachments

**Line of Evidence (LOE) for Decision ID 61264, Heptachlor epoxide
Anderson Reservoir**

Region 2

LOE ID:	91052
Pollutant:	Heptachlor epoxide

LOE Subgroup:	Pollutant-Tissue
Matrix:	Tissue
Fraction:	Fish fillet
Beneficial Use:	Cold Freshwater Habitat
Number of Samples:	1
Number of Exceedances:	0
Data and Information Type:	Fish tissue analysis
Data Used to Assess Water Quality:	State Water Board staff assessed SWAMP data for Anderson Reservoir to determine beneficial use support and results are as follows: 0 of 1 samples exceed the criterion for Heptachlor epoxide. One composite (5 fish per composite) was generated from one species: Common Carp. Details of the compositing protocol can be found in the March 2009 report entitled: "Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Study" (SWAMP, 2009).
Data Reference:	Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Survey. A Report of the Surface Water Ambient Monitoring Program (SWAMP). California State Water Resources Control Board, Sacramento, CA Cruise Report for the Surface Waters Ambient Monitoring Program (SWAMP) Bioaccumulation Screening Study in California Lakes and Reservoirs, Sampling Dates: June 2007- March 2008 Statewide Lakes Sportfish Contamination Study 2007 2008 Contaminants in Fish from California Lakes and Reservoirs, 2007-2008: Summary Report on a Two-Year Screening Survey
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	Water Quality Control Plan for the San Francisco Bay Basin: Controllable water quality factors shall not cause a detrimental increase in concentrations of toxic substances found in bottom sediments or aquatic life. Effects on aquatic organisms, wildlife, and human health will be considered.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	National Academy of Science guidelines (NAS 1972) establish a maximum Heptachlor Epoxide concentration of 100 ug/Kg (wet weight) in tissue samples for protection of aquatic life from bioaccumulation of toxic substances.
Guideline Reference:	National Academy of Sciences. Water Quality Criteria 1972. EPA-R3-73-033. Washington, D.C.: U.S. Environmental Protection Agency
Spatial Representation:	Data for this assessment unit was collected by one monitoring project: (SWB_FishLk)
Temporal Representation:	Data was collected on a single day 7/3/2007.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	Samples were collected, processed, and analyzed in accordance with the methods described in Quality Assurance Project Plan "Screening Study of Bioaccumulation in California Lakes and Reservoirs." (SWAMP, 2008).
QAPP Information Reference(s):	Quality Assurance Project Plan Screening Study of Bioaccumulation in California Lakes and Reservoirs. Moss Landing Marine Labs. Prepared for SWAMP BOG. 49 pages plus appendices and attachments

DECISION ID	61265	Region 2
Anderson Reservoir		

Pollutant:	Hexachlorobenzene/ HCB
Final Listing Decision:	Do Not List on 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision:	New Decision
Revision Status	Revised
Impairment from Pollutant or Pollution:	Pollutant

**Regional Board Staff
Conclusion:**

This pollutant is being considered for placement on the CWA section 303(d) List under section 3.1 of the Listing Policy. Under section 3.1 a single line of evidence is necessary to assess listing status. One line of evidence is available in the administrative record to assess this pollutant. Zero of one samples exceed the guideline.

Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against placing this water segment-pollutant combination on the CWA section 303(d) List.

This conclusion is based on the staff findings that:

1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy.
2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy.
3. Zero of one samples exceed the guideline and this sample size is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating. A minimum of 16 samples is needed to determine if a beneficial use is fully supported using table 3.1.
4. Pursuant to SECTION 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.

**Regional Board Staff Decision
Recommendation:**

After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be placed on the section 303(d) list. The readily available data and information is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating.

Line of Evidence (LOE) for Decision ID 61265, Hexachlorobenzene/ HCB

Region 2

Anderson Reservoir

LOE ID:	91054
Pollutant:	Hexachlorobenzene/ HCB
LOE Subgroup:	Pollutant-Tissue
Matrix:	Tissue
Fraction:	Fish fillet
Beneficial Use:	Commercial or recreational collection of fish, shellfish, or organisms
Number of Samples:	1
Number of Exceedances:	0
Data and Information Type:	Fish tissue analysis
Data Used to Assess Water Quality:	State Water Board staff assessed SWAMP data for Anderson Reservoir to determine beneficial use support and results are as follows: 0 of 1 samples exceed the criterion for Hexachlorobenzene. One composite (5 fish per composite) was generated from one species: Common Carp. Details of the compositing protocol can be found in the March 2009 report entitled: "Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Study" (SWAMP, 2009).
Data Reference:	Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Survey. A Report of the Surface Water Ambient Monitoring Program (SWAMP). California State Water Resources Control Board, Sacramento, CA Cruise Report for the Surface Waters Ambient Monitoring Program (SWAMP) Bioaccumulation Screening Study in California Lakes and Reservoirs. Sampling Dates: June 2007- March 2008 Statewide Lakes Sportfish Contamination Study 2007 2008 Contaminants in Fish from California Lakes and Reservoirs, 2007-2008: Summary Report on a Two-Year Screening Survey
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	Water Quality Control Plan for the San Francisco Bay Basin: Controllable water quality factors shall not cause a detrimental increase in concentrations of toxic substances found in bottom sediments or aquatic life. Effects on aquatic organisms, wildlife, and human health will be considered.

Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	The modified OEHHA Fish Contaminant Goal for hexachlorobenzene in fish tissue is 2.8 ppb. This screening level assumes an average body weight of 70 kg and a consumption rate of 32 g/day for a 30 year exposure over a 70-year lifetime. This constituent is a carcinogen therefore the risk level is set to one in a million. A cooking reduction factor of 1 is applied for skin-off fillets. (Klasing, S., and R. Brodberg, 2008; OEHHA, 2005)
Guideline Reference:	Development of Fish Contaminant Goals and Advisory Tissue Levels for Common Contaminants in California Sport Fish: Chlordane, DDTs, Dieldrin, Methylmercury, PCBs, Selenium, and Toxaphene Air Toxics Hotspots Program Risk Assessment Guidelines. Part II Technical Support Document for Describing Available Cancer Potency Values.
Spatial Representation:	Data for this assessment unit was collected by one monitoring project: (SWB_FishLk)
Temporal Representation:	Data was collected on a single day 7/3/2007.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	Samples were collected, processed, and analyzed in accordance with the methods described in Quality Assurance Project Plan "Screening Study of Bioaccumulation in California Lakes and Reservoirs." (SWAMP, 2008).
QAPP Information Reference(s):	Quality Assurance Project Plan Screening Study of Bioaccumulation in California Lakes and Reservoirs. Moss Landing Marine Labs. Prepared for SWAMP BOG. 49 pages plus appendices and attachments

DECISION ID	61266	Region 2
Anderson Reservoir		

Pollutant:	Lindane/gamma Hexachlorocyclohexane (gamma-HCH)
Final Listing Decision:	Do Not List on 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision:	New Decision
Revision Status	Revised
Impairment from Pollutant or Pollution:	Pollutant

Regional Board Staff Conclusion:	<p>This pollutant is being considered for placement on the CWA section 303(d) List under section 3.1 of the Listing Policy. Under section 3.1 a single line of evidence is necessary to assess listing status. Three lines of evidence are available in the administrative record to assess this pollutant. Zero of one samples exceed the guideline.</p>
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Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against placing this water segment-pollutant combination on the CWA section 303(d) List.

This conclusion is based on the staff findings that:

1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy.
2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy.
3. Zero of one samples exceed the guideline and this sample size is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating. A minimum of 16 samples is needed to determine if a beneficial use is fully supported using table 3.1.
4. Pursuant to SECTION 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.

Regional Board Staff Decision Recommendation:	After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be placed on the section 303(d) list. The readily available data and information is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating.
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Line of Evidence (LOE) for Decision ID 61266, Lindane/gamma Hexachlorocyclohexane (gamma-HCH)	Region 2
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Anderson Reservoir

LOE ID:	91056
Pollutant:	Lindane/gamma Hexachlorocyclohexane (gamma-HCH)
LOE Subgroup:	Pollutant-Tissue
Matrix:	Tissue
Fraction:	Fish fillet
Beneficial Use:	Commercial or recreational collection of fish, shellfish, or organisms
Number of Samples:	1
Number of Exceedances:	0
Data and Information Type:	Fish tissue analysis
Data Used to Assess Water Quality:	State Water Board staff assessed SWAMP data for Anderson Reservoir to determine beneficial use support and results are as follows: 0 of 1 samples exceed the criterion for HCH, gamma. One composite (5 fish per composite) was generated from one species: Common Carp. Details of the compositing protocol can be found in the March 2009 report entitled: "Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Study" (SWAMP, 2009).
Data Reference:	Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Survey. A Report of the Surface Water Ambient Monitoring Program (SWAMP). California State Water Resources Control Board, Sacramento, CA Cruise Report for the Surface Waters Ambient Monitoring Program (SWAMP) Bioaccumulation Screening Study in California Lakes and Reservoirs, Sampling Dates: June 2007- March 2008 Statewide Lakes Sportfish Contamination Study 2007 2008 Contaminants in Fish from California Lakes and Reservoirs, 2007-2008: Summary Report on a Two-Year Screening Survey
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	Water Quality Control Plan for the San Francisco Bay Basin: Controllable water quality factors shall not cause a detrimental increase in concentrations of toxic substances found in bottom sediments or aquatic life. Effects on aquatic organisms, wildlife, and human health will be considered.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	The modified OEHHA Fish Contaminant Goal for lindane in fish tissue is 4.6 ppb. This screening level assumes an average body weight of 70 kg and a consumption rate of 32 g/day for a 30 year exposure over a 70-year lifetime. This constituent is a carcinogen therefore the risk level is set to one in a million. A cooking reduction factor of 1 is applied for skin-off fillets.
Guideline Reference:	Development of Fish Contaminant Goals and Advisory Tissue Levels for Common Contaminants in California Sport Fish: Chlordane, DDTs, Dieldrin, Methylmercury, PCBs, Selenium, and Toxaphene Air Toxics Hotspots Program Risk Assessment Guidelines. Part II Technical Support Document for Describing Available Cancer Potency Values.
Spatial Representation:	Data for this assessment unit was collected by one monitoring project: (SWB_FishLk)
Temporal Representation:	Data was collected on a single day 7/3/2007.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	Samples were collected, processed, and analyzed in accordance with the methods described in Quality Assurance Project Plan "Screening Study of Bioaccumulation in California Lakes and Reservoirs." (SWAMP, 2008).
QAPP Information Reference(s):	Quality Assurance Project Plan Screening Study of Bioaccumulation in California Lakes and Reservoirs. Moss Landing Marine Labs. Prepared for SWAMP BOG. 49 pages plus appendices and attachments

Line of Evidence (LOE) for Decision ID 61266, Lindane/gamma Hexachlorocyclohexane (gamma-HCH)

Region 2

Anderson Reservoir

LOE ID:	91057
Pollutant:	Lindane/gamma Hexachlorocyclohexane (gamma-HCH)
LOE Subgroup:	Pollutant-Tissue
Matrix:	Tissue
Fraction:	Fish fillet
Beneficial Use:	Cold Freshwater Habitat
Number of Samples:	1
Number of Exceedances:	0
Data and Information Type:	Fish tissue analysis
Data Used to Assess Water Quality:	State Water Board staff assessed SWAMP data for Anderson Reservoir to determine beneficial use support and results are as follows: 0 of 1 samples exceed the criterion for HCH, gamma. One composite (5 fish per composite) was generated from one species: Common Carp. Details of the compositing protocol can be found in the March 2009 report entitled: "Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Study" (SWAMP, 2009).
Data Reference:	Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Survey. A Report of the Surface Water Ambient Monitoring Program (SWAMP). California State Water Resources Control Board, Sacramento, CA Cruise Report for the Surface Waters Ambient Monitoring Program (SWAMP) Bioaccumulation Screening Study in California Lakes and Reservoirs, Sampling Dates: June 2007- March 2008 Statewide Lakes Sportfish Contamination Study 2007 2008 Contaminants in Fish from California Lakes and Reservoirs, 2007-2008: Summary Report on a Two-Year Screening Survey
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	Water Quality Control Plan for the San Francisco Bay Basin: Controllable water quality factors shall not cause a detrimental increase in concentrations of toxic substances found in bottom sediments or aquatic life. Effects on aquatic organisms, wildlife, and human health will be considered.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	The modified OEHHA Fish Contaminant Goal for lindane in fish tissue is 4.6 ppb. This screening level assumes an average body weight of 70 kg and a consumption rate of 32 g/day for a 30 year exposure over a 70-year lifetime. This constituent is a carcinogen therefore the risk level is set to one in a million. A cooking reduction factor of 1 is applied for skin-off fillets. (Klasing, S., and R. Brodberg, 2008; OEHHA, 2005)
Guideline Reference:	National Academy of Sciences. Water Quality Criteria 1972. EPA-R3-73-033. Washington, D.C.: U.S. Environmental Protection Agency
Spatial Representation:	Data for this assessment unit was collected by one monitoring project: (SWB_FishLk)
Temporal Representation:	Data was collected on a single day 7/3/2007.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	Samples were collected, processed, and analyzed in accordance with the methods described in Quality Assurance Project Plan "Screening Study of Bioaccumulation in California Lakes and Reservoirs." (SWAMP, 2008).
QAPP Information Reference(s):	Quality Assurance Project Plan Screening Study of Bioaccumulation in California Lakes and Reservoirs. Moss Landing Marine Labs. Prepared for SWAMP BOG. 49 pages plus appendices and attachments

Line of Evidence (LOE) for Decision ID 61266, Lindane/gamma Hexachlorocyclohexane (gamma-HCH)

Region 2

Anderson Reservoir

LOE ID: 91055

Pollutant:	Lindane/gamma Hexachlorocyclohexane (gamma-HCH)
LOE Subgroup:	Pollutant-Tissue
Matrix:	Tissue
Fraction:	Fish fillet
Beneficial Use:	Warm Freshwater Habitat
Number of Samples:	1
Number of Exceedances:	0
Data and Information Type:	Fish tissue analysis
Data Used to Assess Water Quality:	State Water Board staff assessed SWAMP data for Anderson Reservoir to determine beneficial use support and results are as follows: 0 of 1 samples exceed the criterion for HCH, gamma. One composite (5 fish per composite) was generated from one species: Common Carp. Details of the compositing protocol can be found in the March 2009 report entitled: "Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Study" (SWAMP, 2009).
Data Reference:	Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Survey. A Report of the Surface Water Ambient Monitoring Program (SWAMP). California State Water Resources Control Board, Sacramento, CA Cruise Report for the Surface Waters Ambient Monitoring Program (SWAMP) Bioaccumulation Screening Study in California Lakes and Reservoirs, Sampling Dates: June 2007- March 2008 Statewide Lakes Sportfish Contamination Study 2007 2008 Contaminants in Fish from California Lakes and Reservoirs, 2007-2008: Summary Report on a Two-Year Screening Survey
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	Water Quality Control Plan for the San Francisco Bay Basin: Controllable water quality factors shall not cause a detrimental increase in concentrations of toxic substances found in bottom sediments or aquatic life. Effects on aquatic organisms, wildlife, and human health will be considered.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	The modified OEHHA Fish Contaminant Goal for lindane in fish tissue is 4.6 ppb. This screening level assumes an average body weight of 70 kg and a consumption rate of 32 g/day for a 30 year exposure over a 70-year lifetime. This constituent is a carcinogen therefore the risk level is set to one in a million. A cooking reduction factor of 1 is applied for skin-off fillets. (Klasing, S., and R. Brodberg, 2008; OEHHA, 2005)
Guideline Reference:	National Academy of Sciences. Water Quality Criteria 1972. EPA-R3-73-033. Washington, D.C.: U.S. Environmental Protection Agency
Spatial Representation:	Data for this assessment unit was collected by one monitoring project: (SWB_FishLk)
Temporal Representation:	Data was collected on a single day 7/3/2007.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	Samples were collected, processed, and analyzed in accordance with the methods described in Quality Assurance Project Plan "Screening Study of Bioaccumulation in California Lakes and Reservoirs." (SWAMP, 2008).
QAPP Information Reference(s):	Quality Assurance Project Plan Screening Study of Bioaccumulation in California Lakes and Reservoirs. Moss Landing Marine Labs. Prepared for SWAMP BOG. 49 pages plus appendices and attachments

DECISION ID	61267	Region 2
Anderson Reservoir		

Pollutant:	Mirex
Final Listing Decision:	Do Not List on 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision:	New Decision

Revision Status
Impairment from Pollutant or
Pollution:

Revised
Pollutant

Regional Board Staff
Conclusion:

This pollutant is being considered for placement on the CWA section 303(d) List under section 3.1 of the Listing Policy. Under section 3.1 a single line of evidence is necessary to assess listing status. One line of evidence is available in the administrative record to assess this pollutant. Zero of zero samples exceed the guideline.

Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against placing this water segment-pollutant combination on the CWA section 303(d) List.

This conclusion is based on the staff findings that:

1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy.
2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy.
3. Zero of zero samples exceed the guideline and this sample size is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating. A minimum of 16 samples is needed to determine if a beneficial use is fully supported using table 3.1.
4. Pursuant to SECTION 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.

Regional Board Staff Decision
Recommendation:

After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be placed on the section 303(d) list. The readily available data and information is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating.

Line of Evidence (LOE) for Decision ID 61267, Mirex

Region 2

Anderson Reservoir

LOE ID: 91059

Pollutant: Mirex
LOE Subgroup: Pollutant-Tissue
Matrix: Tissue
Fraction: Fish fillet

Beneficial Use: Commercial or recreational collection of fish, shellfish, or organisms

Number of Samples: 0
Number of Exceedances: 0

Data and Information Type: Fish tissue analysis

Data Used to Assess Water Quality: State Water Board staff assessed SWAMP data for Anderson Reservoir to determine beneficial use support and results are as follows: 0 of 0 samples exceed the criterion for Mirex. One composite (5 fish per composite) was generated from one species: Common Carp. Details of the compositing protocol can be found in the March 2009 report entitled: "Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Study" (SWAMP, 2009). One composite was not used in the assessment because the laboratory data reporting limit(s) was above the objective and therefore the results could not be quantified with the level of certainty required by the Listing Policy.

Data Reference: [Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Survey. A Report of the Surface Water Ambient Monitoring Program \(SWAMP\). California State Water Resources Control Board, Sacramento, CA](#)
[Cruise Report for the Surface Waters Ambient Monitoring Program \(SWAMP\)](#)
[Bioaccumulation Screening Study in California Lakes and Reservoirs, Sampling Dates: June 2007- March 2008](#)
[Statewide Lakes Sportfish Contamination Study 2007 2008](#)
[Contaminants in Fish from California Lakes and Reservoirs, 2007-2008: Summary Report on a Two-Year Screening Survey](#)

SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	Water Quality Control Plan for the San Francisco Bay Basin: Controllable water quality factors shall not cause a detrimental increase in concentrations of toxic substances found in bottom sediments or aquatic life. Effects on aquatic organisms, wildlife, and human health will be considered.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	The modified OEHHA Fish Contaminant Goal for mirex in fish tissue is 0.28 ppb. This screening level assumes an average body weight of 70 kg and a consumption rate of 32 g/day. A cooking reduction factor of 1 is applied for skin-off fillets. (Klasing, S., and R. Brodberg, 2008; OEHHA, 1992)
Guideline Reference:	Development of Fish Contaminant Goals and Advisory Tissue Levels for Common Contaminants in California Sport Fish: Chlordane, DDTs, Dieldrin, Methylmercury, PCBs, Selenium, and Toxaphene Expedited Cancer Potency Values and Proposed Regulatory Levels for Certain Proposition 65 Carcinogens.
Spatial Representation:	Data for this assessment unit was collected by one monitoring project: (SWB_FishLk)
Temporal Representation:	Data was collected on a single day 7/3/2007.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	Samples were collected, processed, and analyzed in accordance with the methods described in Quality Assurance Project Plan "Screening Study of Bioaccumulation in California Lakes and Reservoirs." (SWAMP, 2008).
QAPP Information Reference(s):	Quality Assurance Project Plan Screening Study of Bioaccumulation in California Lakes and Reservoirs. Moss Landing Marine Labs. Prepared for SWAMP BOG, 49 pages plus appendices and attachments

DECISION ID	61268	Region 2
Anderson Reservoir		
Pollutant:	Selenium	
Final Listing Decision:	Do Not List on 303(d) list (TMDL required list)	
Last Listing Cycle's Final Listing Decision:	New Decision	
Revision Status	Revised	
Impairment from Pollutant or Pollution:	Pollutant	
Regional Board Staff Conclusion:	<p>This pollutant is being considered for placement on the CWA section 303(d) List under section 3.1 of the Listing Policy. Under section 3.1 a single line of evidence is necessary to assess listing status. One line of evidence is available in the administrative record to assess this pollutant. Zero of one samples exceed the guideline.</p> <p>Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against placing this water segment-pollutant combination on the CWA section 303(d) List.</p> <p>This conclusion is based on the staff findings that:</p> <ol style="list-style-type: none"> 1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy. 2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy. 3. Zero of one samples exceed the guideline and this sample size is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating. A minimum of 16 samples is needed to determine if a beneficial use is fully supported using table 3.1. 4. Pursuant to SECTION 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met. 	
Regional Board Staff Decision Recommendation:	After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be placed on the section 303(d) list. The readily available data and information is insufficient to determine, with the power and confidence of the Listing Policy, the	

Line of Evidence (LOE) for Decision ID 61268, Selenium**Region 2****Anderson Reservoir**

LOE ID:	91078
Pollutant:	Selenium
LOE Subgroup:	Pollutant-Tissue
Matrix:	Tissue
Fraction:	Fish fillet
Beneficial Use:	Commercial or recreational collection of fish, shellfish, or organisms
Number of Samples:	1
Number of Exceedances:	0
Data and Information Type:	Fish tissue analysis
Data Used to Assess Water Quality:	State Water Board staff assessed SWAMP data for Anderson Reservoir to determine beneficial use support and results are as follows: 0 of 1 samples exceed the criterion for Selenium. One composite (5 fish per composite) was generated from one species: Common Carp. Details of the compositing protocol can be found in the March 2009 report entitled: "Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Study" (SWAMP, 2009).
Data Reference:	Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Survey. A Report of the Surface Water Ambient Monitoring Program (SWAMP). California State Water Resources Control Board, Sacramento, CA Cruise Report for the Surface Waters Ambient Monitoring Program (SWAMP) Bioaccumulation Screening Study in California Lakes and Reservoirs. Sampling Dates: June 2007- March 2008 Statewide Lakes Sportfish Contamination Study 2007 2008 Contaminants in Fish from California Lakes and Reservoirs, 2007-2008: Summary Report on a Two-Year Screening Survey
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	Water Quality Control Plan for the San Francisco Bay Basin (2013): Controllable water quality factors shall not cause a detrimental increase in concentrations of toxic substances found in bottom sediments or aquatic life. Effects on aquatic organisms, wildlife, and human health will be considered.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	The OEHHA Fish Contaminant Goal for selenium in fish tissue is 7.4 ppm. This screening level assumes an average body weight of 70 kg and a consumption rate of 32 g/day. A background dietary consumption rate of 0.114 mg/day is applied for this micronutrient. (Klasing, S., and R. Brodberg, 2008)
Guideline Reference:	Development of Fish Contaminant Goals and Advisory Tissue Levels for Common Contaminants in California Sport Fish: Chlordane, DDTs, Dieldrin, Methylmercury, PCBs, Selenium, and Toxaphene
Spatial Representation:	Data for this assessment unit was collected by one monitoring project: (SWB_FishLk)
Temporal Representation:	Data was collected on a single day 7/3/2007.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	Samples were collected, processed, and analyzed in accordance with the methods described in Quality Assurance Project Plan "Screening Study of Bioaccumulation in California Lakes and Reservoirs." (SWAMP, 2008).
QAPP Information Reference(s):	Quality Assurance Project Plan Screening Study of Bioaccumulation in California Lakes and Reservoirs. Moss Landing Marine Labs. Prepared for SWAMP BOG. 49 pages plus appendices and attachments

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Supporting Information

Regional Board 2 - San Francisco Bay Region

Water Body Name: Lexington Reservoir
Water Body ID: CAL2054002020000304130209
Water Body Type: Lake & Reservoir

DECISION ID 65537 **Region 2**
Lexington Reservoir

Pollutant: Mercury
Final Listing Decision: List on 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision: New Decision
Revision Status Revised
Sources: Source Unknown
Expected TMDL Completion Date: 2029
Impairment from Pollutant or Pollution: Pollutant

Regional Board Staff Conclusion: This pollutant is being considered for placement on the CWA section 303(d) List under section 3.4 of the Listing Policy. Under section 3.4 a single line of evidence is necessary to assess listing status in addition to the presence of a fish consumption advisory for the waterbody.

One line of evidence is available in the administrative record to assess this pollutant. Twenty-seven of fifty-one samples exceed the OEHHHA guideline.

Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification in favor of placing this water segment-pollutant combination on the CWA section 303(d) List.

This conclusion is based on the staff findings that:

1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy.
2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy.
3. Twenty-seven of fifty-one samples exceed the OEHHHA guideline and there is a fish consumption advisory in effect for this waterbody, and this exceeds the allowable frequency described in section 3.4 of the listing policy.
4. Pursuant to section 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.

Regional Board Staff Decision Recommendation: After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should be placed on the section 303(d) list because applicable water quality standards are exceeded and a pollutant contributes to or causes the problem.

Line of Evidence (LOE) for Decision ID 65537, Mercury **Region 2**
Lexington Reservoir

LOE ID: 92134
Pollutant: Mercury
LOE Subgroup: Pollutant-Tissue
Matrix: Tissue
Fraction: Fish fillet

Beneficial Use:	Commercial or recreational collection of fish, shellfish, or organisms
Number of Samples:	51
Number of Exceedances:	27
Data and Information Type:	Fish tissue analysis
Data Used to Assess Water Quality:	Twenty-seven of the 51 samples exceeded the guideline. None of the twenty, 1-year old largemouth bass collected in 2004 exceeded the guideline. All eleven adult largemouth bass collected in 2004 exceeded the guideline. Data for 2006 were reported on a dry weight basis and were converted to a wet weight basis by multiplying the dry-weight concentration by a factor of 1 minus the percentage of moisture content expressed as a decimal. The data for 2004 were assumed to be reported on a wet-weight basis. Only the muscle tissue samples analyzed with the skin-off were used to assess the commercial beneficial use.
Data Reference:	Data from the Guadalupe River Watershed Mercury TMDL project, Aug. 2004-Nov 2006
SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	All waters shall be maintained free of toxic substances in concentrations that are toxic to, or that produce detrimental physiological responses in human, plant, animal, or aquatic life. Many pollutants can accumulate on particles, in sediment, or bioaccumulate in fish and other aquatic organisms. Controllable water quality factors shall not cause a detrimental increase in concentrations of toxic substances found in bottom sediments or aquatic life. Effects on aquatic organisms, wildlife, and human health will be considered.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	The OEHHA (2008) fish contaminant goal is 220 ppb. This screening level assumes an average body weight of 70 kg and a consumption rate of 32 g/day. Total mercury is assumed to be 100% methylmercury. The more conservative reference dose of 1×10^{-4} mg/kg-day.
Guideline Reference:	Development of Fish Contaminant Goals and Advisory Tissue Levels for Common Contaminants in California Sport Fish: Chlordane, DDTs, Dieldrin, Methylmercury, PCBs, Selenium, and Toxaphene
Spatial Representation:	Samples were collected in Lexington Reservoir.
Temporal Representation:	Samples were collected on 11/14/2006 and on 9/8/2004.
Environmental Conditions:	
QAPP Information:	Samples were collected in accordance with the Quality Assurance Plan prepared on June 13, 2003 for the Santa Clara Valley Water District per Agreement No. A2643G, the Guadalupe River Watershed Mercury TMDL Project.
QAPP Information Reference(s):	

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Supporting Information

Regional Board 2 - San Francisco Bay Region

Water Body Name: Almaden Reservoir
Water Body ID: CAL2054003020000304125701
Water Body Type: Lake & Reservoir

DECISION ID 35122 **Region 2**
Almaden Reservoir

Pollutant: Mercury
Final Listing Decision: List on 303(d) list (being addressed by USEPA approved TMDL)
Last Listing Cycle's Final Listing Decision: List on 303(d) list (TMDL required list)(2012)
Revision Status Original
Sources: Source Unknown
TMDL Name: Guadalupe River Watershed Mercury
TMDL Project Code: 11
Date TMDL Approved by USEPA: 06/01/2010
Impairment from Pollutant or Pollution: Pollutant

Regional Board Staff Conclusion: This pollutant is being considered for listing under sections 3.5 of the Listing Policy. Under this section, a single line of evidence is necessary to assess listing status. There is one line of evidence available in the administrative record to assess this pollutant. This evidence is a mercury in fish tissue dataset collected in 2004 for the Santa Clara Valley Water District to support Guadalupe River Watershed TMDL efforts in the Guadalupe River Watershed. Based on the readily available data for this water body, the weight of evidence indicates that there is sufficient justification available in favor of adding this water segment-pollutant combination to the section 303(d) list in the Water Quality Limited Segments category. This conclusion is based on the staff findings that:

1. The data concerning current conditions and supporting the listing decision satisfy the data quality requirements of section 6.1.4 of the Policy.
2. The available data satisfy the data quantity requirements of section 6.1.5 of the Policy.
3. Twenty of twenty samples exceeded the U.S. EPA fish tissue methylmercury criterion for the protection of human health, and this exceeds the allowable frequency listed in Table 3.1 of the Listing Policy.
4. Pursuant to section 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.
5. The Guadalupe River Mercury TMDL was approved by USEPA on 6/1/2010.

Regional Board Staff Decision Recommendation: This is a decision previously approved by the State Water Resources Control Board and the USEPA. No new data were assessed by the Regional Board for the current. The decision has not changed.

Line of Evidence (LOE) for Decision ID 35122, Mercury **Region 2**
Almaden Reservoir

LOE ID: 5739
Pollutant: Mercury (tissue)
LOE Subgroup: Pollutant-Tissue
Matrix: Tissue
Fraction: None

Beneficial Use:	Commercial or recreational collection of fish, shellfish, or organisms
Number of Samples:	20
Number of Exceedances:	20
Data and Information Type:	Fish tissue analysis
Data Used to Assess Water Quality:	The 20 fish tissue samples were collected in 2004 to support development of the Guadalupe River watershed mercury TMDL. The fish were all largemouth bass ranging in lengths from 330 to 500 mm and weighing between 520 and 2080 grams. The mercury concentrations ranged from 2.16 to 7.35 mg/kg. All 20 fish tissue samples exceeded the criterion.
Data Reference:	Technical Memorandum 5.3.2 Data Collection Report, Volume II, prepared by TetraTech Inc. Prepared for Santa Clara Valley Water District. February 8, 2005
SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	The Basin Plan contains the following objective: Many pollutants can accumulate on particles, in sediment, or bioaccumulate in fish and other aquatic organisms. Controllable water quality factors shall not cause a detrimental increase in concentrations of toxic substances found in bottom sediments or aquatic life. Effects on aquatic organisms, wildlife, and human health will be considered.
Objective/Criterion Reference:	In 2001, U.S. EPA adopted a fish tissue methylmercury criterion of 0.3 mg/kg (in whole fish) for the protection of human health. Water Quality Criterion For The Protection of Human Health: Methylmercury 2002 303(d) List Update Reference # 87 Water Quality Control Plan (Basin Plan) - San Francisco Bay Region (Region 2)
Evaluation Guideline:	
Guideline Reference:	Water Quality Criterion For The Protection of Human Health: Methylmercury 2002 303(d) List Update Reference # 87
Spatial Representation:	These fish were caught throughout the reservoir, and fish of this size integrate spatially because they consume prey from a wide spatial range.
Temporal Representation:	Fish tissue data were collected for this waterbody in late summer 2004. These adult fish integrate mercury concentrations over several years.
Environmental Conditions:	
QAPP Information:	There is a well-developed QA plan for these data Tetra Tech, Inc. (Tetra Tech) 2003. Technical Memorandum 7.4.2, Quality Assurance Plan, Prepared for Santa Clara Valley Water District. June 13.
QAPP Information Reference(s):	Technical Memorandum 7.4.2, Quality Assurance Plan, Prepared for Santa Clara Valley Water District. June 13

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Supporting Information

Regional Board 2 - San Francisco Bay Region

Water Body Name: Calero Reservoir
Water Body ID: CAL2054003119980928111759
Water Body Type: Lake & Reservoir

DECISION ID 32505 **Region 2**
Calero Reservoir

Pollutant: Mercury
Final Listing Decision: Do Not Delist from 303(d) list (being addressed with USEPA approved TMDL)
Last Listing Cycle's Final Listing Decision: List on 303(d) list (TMDL required list)(2012)
Revision Status Revised
Sources: Source Unknown
TMDL Name: Guadalupe River Watershed Mercury
TMDL Project Code: 11
Date TMDL Approved by USEPA: 06/01/2010
Impairment from Pollutant or Pollution: Pollutant

Regional Board Staff Conclusion: This pollutant is being considered for removal on the CWA section 303(d) List under sections 2.2 and 4.1 of the Listing Policy. Under 4.1 of the Policy, a minimum of one line of evidence is needed to assess listing status.

Two lines of evidence are available in the administrative record to assess this pollutant.

Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against removing this water segment-pollutant combination from the CWA section 303(d) List. There is sufficient justification to place it in the Being Addressed portion of the CWA 303(d) List because a TMDL has been completed and approved by RWQCB and USEPA, and is expected to result in attainment of the standard.

This conclusion is based on the staff findings that:

1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy.
2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy.
3. One of one samples exceeded the criterion and these exceed the allowable frequency listed in Table 4.1 of the Listing Policy.
4. The Guadalupe River Watershed mercury TMDL was approved by USEPA on 6/1/2010.
5. Pursuant to section 4.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.

Regional Board Staff Decision Recommendation: After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be removed from the section 303(d) list because applicable water quality standards for the pollutant are being exceeded.

Line of Evidence (LOE) for Decision ID 32505, Mercury **Region 2**
Calero Reservoir

LOE ID: 3723
Pollutant: Mercury
LOE Subgroup: Pollutant-Tissue

Matrix:	Tissue
Fraction:	Not Recorded
Beneficial Use:	Commercial or recreational collection of fish, shellfish, or organisms
Number of Samples:	0
Number of Exceedances:	0
Data and Information Type:	Not Specified
Data Used to Assess Water Quality:	Unspecified--This LOE is a placeholder to support a 303(d) listing decision made prior to 2006.
Data Reference:	Placeholder reference pre-2006 303(d)
SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	Unspecified
Objective/Criterion Reference:	Placeholder reference pre-2006 303(d)
Evaluation Guideline:	Unspecified
Guideline Reference:	Placeholder reference pre-2006 303(d)
Spatial Representation:	Unspecified
Temporal Representation:	Unspecified
Environmental Conditions:	Unspecified
QAPP Information:	Unspecified
QAPP Information Reference(s):	

Line of Evidence (LOE) for Decision ID 32505, Mercury

Region 2

Calero Reservoir

LOE ID:	91191
Pollutant:	Mercury
LOE Subgroup:	Pollutant-Tissue
Matrix:	Tissue
Fraction:	Fish fillet
Beneficial Use:	Commercial or recreational collection of fish, shellfish, or organisms
Number of Samples:	1
Number of Exceedances:	1
Data and Information Type:	Fish tissue analysis
Data Used to Assess Water Quality:	State Water Board staff assessed SWAMP data for Calero Reservoir to determine beneficial use support and results are as follows: 1 of 1 samples exceed the criterion for Mercury. Sixteen composites (1 fish per composite) were generated from one species: largemouth bass. Composites were not spatially independent (as defined in the Listing Policy) and so were averaged.
Data Reference:	Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Survey. A Report of the Surface Water Ambient Monitoring Program (SWAMP). California State Water Resources Control Board, Sacramento, CA Statewide Lakes Sportfish Contamination Study 2007 2008 Contaminants in Fish from California Lakes and Reservoirs, 2007-2008: Summary Report on a Two-Year Screening Survey Cruise report for the Surface Water Ambient Monitoring Program (SWAMP) bioaccumulation screening study in California lakes and reservoirs year two (FY 07-08). Sampling dates: April 2008 - November 2008.
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	Water Quality Control Plan for the San Francisco Bay Basin (2013): Controllable water quality factors shall not cause a detrimental increase in concentrations of toxic substances

Objective/Criterion Reference:	found in bottom sediments or aquatic life. Effects on aquatic organisms, wildlife, and human health will be considered. Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	The USEPA 304(a) recommended water quality criterion for concentrations of methylmercury in fish tissue of trophic level 4 fish (150 - 500 mm; fillet wet weight) is 0.2 mg/kg. This assumes a consumption rate of 32 g/day. (USEPA, 2001)
Guideline Reference:	Water Quality Criterion for the Protection of Human Health: Methylmercury. Final. United States Environmental Protection Agency Office of Science and Technology Office of Water. EPA-823-R-01-001. January 2001
Spatial Representation:	Data for this assessment unit was collected by one monitoring project: (SWB_FishLk)
Temporal Representation:	Data was collected on a single day 6/25/2008.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	Samples were collected, processed, and analyzed in accordance with the methods described in Quality Assurance Project Plan "Screening Study of Bioaccumulation in California Lakes and Reservoirs." (SWAMP, 2008).
QAPP Information Reference(s):	Quality Assurance Project Plan Screening Study of Bioaccumulation in California Lakes and Reservoirs. Moss Landing Marine Labs. Prepared for SWAMP BOG. 49 pages plus appendices and attachments

DECISION ID 61426 Region 2	
Calero Reservoir	
Pollutant: Final Listing Decision: Last Listing Cycle's Final Listing Decision: Revision Status Impairment from Pollutant or Pollution:	Aldrin Do Not List on 303(d) list (TMDL required list) New Decision Revised Pollutant
Regional Board Staff Conclusion:	<p>This pollutant is being considered for placement on the CWA section 303(d) List under section 3.5 of the Listing Policy. Under section 3.5 a single line of evidence is necessary to assess listing status. Two lines of evidence are available in the administrative record to assess this pollutant. Zero of one samples exceed the guideline.</p> <p>Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against placing this water segment-pollutant combination on the CWA section 303(d) List.</p> <p>This conclusion is based on the staff findings that:</p> <ol style="list-style-type: none"> 1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy. 2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy. 3. Zero of one samples exceed the guideline and this sample size is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating. A minimum of 16 samples is needed to determine if a beneficial use is fully supported using table 3.1. 4. Pursuant to SECTION 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.
Regional Board Staff Decision Recommendation:	After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be placed on the section 303(d) list. The readily available data and information is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating.

Line of Evidence (LOE) for Decision ID 61426, Aldrin Region 2	
Calero Reservoir	

LOE ID: 91167

Pollutant:	Aldrin
LOE Subgroup:	Pollutant-Tissue
Matrix:	Tissue
Fraction:	Fish fillet
Beneficial Use:	Cold Freshwater Habitat
Number of Samples:	1
Number of Exceedances:	0
Data and Information Type:	Fish tissue analysis
Data Used to Assess Water Quality:	State Water Board staff assessed SWAMP data for Calero Reservoir to determine beneficial use support and results are as follows: 0 of 1 samples exceed the criterion for Aldrin. One composite (5 fish per composite) was generated from one species: Largemouth Bass. Details of the compositing protocol can be found in the March 2009 report entitled: "Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Study" (SWAMP, 2009).
Data Reference:	Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Survey. A Report of the Surface Water Ambient Monitoring Program (SWAMP). California State Water Resources Control Board, Sacramento, CA Statewide Lakes Sportfish Contamination Study 2007 2008 Contaminants in Fish from California Lakes and Reservoirs, 2007-2008: Summary Report on a Two-Year Screening Survey Cruise report for the Surface Water Ambient Monitoring Program (SWAMP) bioaccumulation screening study in California lakes and reservoirs year two (FY 07-08). Sampling dates: April 2008 - November 2008.
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	Water Quality Control Plan for the San Francisco Bay Basin: Controllable water quality factors shall not cause a detrimental increase in concentrations of toxic substances found in bottom sediments or aquatic life. Effects on aquatic organisms, wildlife, and human health will be considered.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	National Academy of Science guidelines (NAS 1972) establish a maximum Aldrin concentration of 100 ug/Kg (wet weight) in tissue samples for protection of aquatic life from bioaccumulation of toxic substances.
Guideline Reference:	National Academy of Sciences. Water Quality Criteria 1972. EPA-R3-73-033. Washington, D.C.: U.S. Environmental Protection Agency
Spatial Representation:	Data for this assessment unit was collected by one monitoring project: (SWB_FishLk)
Temporal Representation:	Data was collected on a single day 6/25/2008.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	Samples were collected, processed, and analyzed in accordance with the methods described in Quality Assurance Project Plan "Screening Study of Bioaccumulation in California Lakes and Reservoirs." (SWAMP, 2008).
QAPP Information Reference(s):	Quality Assurance Project Plan Screening Study of Bioaccumulation in California Lakes and Reservoirs. Moss Landing Marine Labs. Prepared for SWAMP BOG. 49 pages plus appendices and attachments

Line of Evidence (LOE) for Decision ID 61426, Aldrin

Region 2

Calero Reservoir

LOE ID:	91166
Pollutant:	Aldrin
LOE Subgroup:	Pollutant-Tissue
Matrix:	Tissue
Fraction:	Fish fillet

Beneficial Use:	Warm Freshwater Habitat
Number of Samples:	1
Number of Exceedances:	0
Data and Information Type:	Fish tissue analysis
Data Used to Assess Water Quality:	State Water Board staff assessed SWAMP data for Calero Reservoir to determine beneficial use support and results are as follows: 0 of 1 samples exceed the criterion for Aldrin. One composite (5 fish per composite) was generated from one species: Largemouth Bass. Details of the compositing protocol can be found in the March 2009 report entitled: "Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Study" (SWAMP, 2009).
Data Reference:	Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Survey. A Report of the Surface Water Ambient Monitoring Program (SWAMP). California State Water Resources Control Board, Sacramento, CA Statewide Lakes Sportfish Contamination Study 2007 2008 Contaminants in Fish from California Lakes and Reservoirs, 2007-2008: Summary Report on a Two-Year Screening Survey Cruise report for the Surface Water Ambient Monitoring Program (SWAMP) bioaccumulation screening study in California lakes and reservoirs year two (FY 07-08). Sampling dates: April 2008 - November 2008.
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	Water Quality Control Plan for the San Francisco Bay Basin: Controllable water quality factors shall not cause a detrimental increase in concentrations of toxic substances found in bottom sediments or aquatic life. Effects on aquatic organisms, wildlife, and human health will be considered.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	National Academy of Science guidelines (NAS 1972) establish a maximum Aldrin concentration of 100 ug/Kg (wet weight) in tissue samples for protection of aquatic life from bioaccumulation of toxic substances.
Guideline Reference:	National Academy of Sciences. Water Quality Criteria 1972. EPA-R3-73-033. Washington, D.C.: U.S. Environmental Protection Agency
Spatial Representation:	Data for this assessment unit was collected by one monitoring project: (SWB_FishLk)
Temporal Representation:	Data was collected on a single day 6/25/2008.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	Samples were collected, processed, and analyzed in accordance with the methods described in Quality Assurance Project Plan "Screening Study of Bioaccumulation in California Lakes and Reservoirs." (SWAMP, 2008).
QAPP Information Reference(s):	Quality Assurance Project Plan Screening Study of Bioaccumulation in California Lakes and Reservoirs. Moss Landing Marine Labs. Prepared for SWAMP BOG, 49 pages plus appendices and attachments

DECISION ID	61433	Region 2
Calero Reservoir		
Pollutant:	Chlordane	
Final Listing Decision:	Do Not List on 303(d) list (TMDL required list)	
Last Listing Cycle's Final Listing Decision:	New Decision	
Revision Status	Revised	
Impairment from Pollutant or Pollution:	Pollutant	
Regional Board Staff Conclusion:	This pollutant is being considered for placement on the CWA section 303(d) List under section 3.5 of the Listing Policy. Under section 3.5 a single line of evidence is necessary to assess listing status. Three lines of evidence are available in the administrative record to assess this pollutant. Zero of one samples exceed the guideline.	

Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against placing this water segment-pollutant combination on the CWA section 303(d) List.

This conclusion is based on the staff findings that:

1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy.
2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy.
3. Zero of one samples exceed the guideline and this sample size is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating. A minimum of 16 samples is needed to determine if a beneficial use is fully supported using table 3.1.
4. Pursuant to SECTION 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.

Regional Board Staff Decision Recommendation: After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be placed on the section 303(d) list. The readily available data and information is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating.

**Line of Evidence (LOE) for Decision ID 61433, Chlordane
Calero Reservoir**

Region 2

LOE ID:	91168
Pollutant:	Chlordane
LOE Subgroup:	Pollutant-Tissue
Matrix:	Tissue
Fraction:	Fish fillet
Beneficial Use:	Warm Freshwater Habitat
Number of Samples:	1
Number of Exceedances:	0
Data and Information Type:	Fish tissue analysis
Data Used to Assess Water Quality:	State Water Board staff assessed SWAMP data for Calero Reservoir to determine beneficial use support and results are as follows: 0 of 1 samples exceed the criterion for Chlordane, Total. One composite (5 fish per composite) was generated from one species: Largemouth Bass. Details of the compositing protocol can be found in the March 2009 report entitled: "Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Study" (SWAMP, 2009). Total chlordane was calculated as the sum of the following chlordane isomers: cis- and trans-chlordane, cis- and trans-nonachlor, and oxychlordane.
Data Reference:	Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Survey. A Report of the Surface Water Ambient Monitoring Program (SWAMP). California State Water Resources Control Board, Sacramento, CA Statewide Lakes Sportfish Contamination Study 2007 2008 Contaminants in Fish from California Lakes and Reservoirs, 2007-2008: Summary Report on a Two-Year Screening Survey Cruise report for the Surface Water Ambient Monitoring Program (SWAMP) bioaccumulation screening study in California lakes and reservoirs year two (FY 07-08). Sampling dates: April 2008 - November 2008.
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	Water Quality Control Plan for the San Francisco Bay Basin: Controllable water quality factors shall not cause a detrimental increase in concentrations of toxic substances found in bottom sediments or aquatic life. Effects on aquatic organisms, wildlife, and human health will be considered.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)

Evaluation Guideline:	National Academy of Science guidelines (NAS 1972) establish a maximum total Chlordane concentration of 100 ug/Kg (wet weight) in tissue samples for protection of aquatic life from bioaccumulation of toxic substances.
Guideline Reference:	National Academy of Sciences. Water Quality Criteria 1972. EPA-R3-73-033. Washington, D.C.: U.S. Environmental Protection Agency
Spatial Representation:	Data for this assessment unit was collected by one monitoring project: (SWB_FishLk)
Temporal Representation:	Data was collected on a single day 6/25/2008.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	Samples were collected, processed, and analyzed in accordance with the methods described in Quality Assurance Project Plan "Screening Study of Bioaccumulation in California Lakes and Reservoirs." (SWAMP, 2008).
QAPP Information Reference(s):	Quality Assurance Project Plan Screening Study of Bioaccumulation in California Lakes and Reservoirs. Moss Landing Marine Labs. Prepared for SWAMP BOG, 49 pages plus appendices and attachments

Line of Evidence (LOE) for Decision ID 61433, Chlordane

Region 2

Calero Reservoir

LOE ID:	91170
Pollutant:	Chlordane
LOE Subgroup:	Pollutant-Tissue
Matrix:	Tissue
Fraction:	Fish fillet
Beneficial Use:	Commercial or recreational collection of fish, shellfish, or organisms
Number of Samples:	1
Number of Exceedances:	0
Data and Information Type:	Fish tissue analysis
Data Used to Assess Water Quality:	State Water Board staff assessed SWAMP data for Calero Reservoir to determine beneficial use support and results are as follows: 0 of 1 samples exceed the criterion for Chlordane, Total. One composite (5 fish per composite) was generated from one species: Largemouth Bass. Details of the compositing protocol can be found in the March 2009 report entitled: "Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Study" (SWAMP, 2009). Total chlordane was calculated as the sum of the following chlordane isomers: cis- and trans-chlordane, cis- and trans-nonachlor, and oxychlordane.
Data Reference:	Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Survey. A Report of the Surface Water Ambient Monitoring Program (SWAMP). California State Water Resources Control Board, Sacramento, CA Statewide Lakes Sportfish Contamination Study 2007 2008 Contaminants in Fish from California Lakes and Reservoirs, 2007-2008: Summary Report on a Two-Year Screening Survey Cruise report for the Surface Water Ambient Monitoring Program (SWAMP) bioaccumulation screening study in California lakes and reservoirs year two (FY 07-08). Sampling dates: April 2008 - November 2008.
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	Water Quality Control Plan for the San Francisco Bay Basin: Controllable water quality factors shall not cause a detrimental increase in concentrations of toxic substances found in bottom sediments or aquatic life. Effects on aquatic organisms, wildlife, and human health will be considered.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	The modified OEHHA Fish Contaminant Goal for total chlordane in fish tissue is 3.9 ppb. This screening level assumes an average body weight of 70 kg and a consumption rate of 32 g/day for a 30 year exposure over a 70-year lifetime. This constituent is a carcinogen therefore the risk level is set to one in a million. A cooking reduction factor of 1 is applied

Guideline Reference:	for skin-off fillets. (Klasing, S., and R. Brodberg, 2008) Development of Fish Contaminant Goals and Advisory Tissue Levels for Common Contaminants in California Sport Fish: Chlordane, DDTs, Dieldrin, Methylmercury, PCBs, Selenium, and Toxaphene
Spatial Representation:	Data for this assessment unit was collected by one monitoring project: (SWB_FishLk)
Temporal Representation:	Data was collected on a single day 6/25/2008.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	Samples were collected, processed, and analyzed in accordance with the methods described in Quality Assurance Project Plan "Screening Study of Bioaccumulation in California Lakes and Reservoirs." (SWAMP, 2008).
QAPP Information Reference(s):	Quality Assurance Project Plan Screening Study of Bioaccumulation in California Lakes and Reservoirs. Moss Landing Marine Labs. Prepared for SWAMP BOG, 49 pages plus appendices and attachments

Line of Evidence (LOE) for Decision ID 61433, Chlordane
Calero Reservoir

Region 2

LOE ID:	91169
Pollutant:	Chlordane
LOE Subgroup:	Pollutant-Tissue
Matrix:	Tissue
Fraction:	Fish fillet
Beneficial Use:	Cold Freshwater Habitat
Number of Samples:	1
Number of Exceedances:	0
Data and Information Type:	Fish tissue analysis
Data Used to Assess Water Quality:	State Water Board staff assessed SWAMP data for Calero Reservoir to determine beneficial use support and results are as follows: 0 of 1 samples exceed the criterion for Chlordane, Total. One composite (5 fish per composite) was generated from one species: Largemouth Bass. Details of the compositing protocol can be found in the March 2009 report entitled: "Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Study" (SWAMP, 2009). Total chlordane was calculated as the sum of the following chlordane isomers: cis- and trans-chlordane, cis- and trans-nonachlor, and oxychlordane.
Data Reference:	Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Survey. A Report of the Surface Water Ambient Monitoring Program (SWAMP). California State Water Resources Control Board, Sacramento, CA Statewide Lakes Sportfish Contamination Study 2007 2008 Contaminants in Fish from California Lakes and Reservoirs, 2007-2008: Summary Report on a Two-Year Screening Survey Cruise report for the Surface Water Ambient Monitoring Program (SWAMP) bioaccumulation screening study in California lakes and reservoirs year two (FY 07-08). Sampling dates: April 2008 - November 2008.
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	Water Quality Control Plan for the San Francisco Bay Basin: Controllable water quality factors shall not cause a detrimental increase in concentrations of toxic substances found in bottom sediments or aquatic life. Effects on aquatic organisms, wildlife, and human health will be considered.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	National Academy of Science guidelines (NAS 1972) establish a maximum total Chlordane concentration of 100 ug/Kg (wet weight) in tissue samples for protection of aquatic life from bioaccumulation of toxic substances.
Guideline Reference:	National Academy of Sciences. Water Quality Criteria 1972. EPA-R3-73-033. Washington, D.C.: U.S. Environmental Protection Agency

Spatial Representation:	Data for this assessment unit was collected by one monitoring project: (SWB_FishLk)
Temporal Representation:	Data was collected on a single day 6/25/2008.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	Samples were collected, processed, and analyzed in accordance with the methods described in Quality Assurance Project Plan "Screening Study of Bioaccumulation in California Lakes and Reservoirs." (SWAMP, 2008).
QAPP Information Reference(s):	Quality Assurance Project Plan Screening Study of Bioaccumulation in California Lakes and Reservoirs. Moss Landing Marine Labs. Prepared for SWAMP BOG. 49 pages plus appendices and attachments

DECISION ID	61476	Region 2
Calero Reservoir		

Pollutant: Final Listing Decision: Last Listing Cycle's Final Listing Decision: Revision Status Impairment from Pollutant or Pollution:	DDT (Dichlorodiphenyltrichloroethane) Do Not List on 303(d) list (TMDL required list) New Decision Revised Pollutant
Regional Board Staff Conclusion:	<p>This pollutant is being considered for placement on the CWA section 303(d) List under section 3.5 of the Listing Policy. Under section 3.5 a single line of evidence is necessary to assess listing status. Three lines of evidence are available in the administrative record to assess this pollutant. Zero of one samples exceed the OEHHHA guideline.</p> <p>Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against placing this water segment-pollutant combination on the CWA section 303(d) List.</p> <p>This conclusion is based on the staff findings that:</p> <ol style="list-style-type: none"> 1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy. 2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy. 3. Zero of one samples exceed the OEHHHA guideline and this sample size is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating. A minimum of 16 samples is needed to determine if a beneficial use is fully supported using table 3.1. 4. Pursuant to SECTION 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.
Regional Board Staff Decision Recommendation:	<p>After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be placed on the section 303(d) list. The readily available data and information is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating.</p>

Line of Evidence (LOE) for Decision ID 61476, DDT (Dichlorodiphenyltrichloroethane)	Region 2
Calero Reservoir	

LOE ID:	91204
Pollutant:	Total DDT (sum of 4,4'- and 2,4'- isomers of DDT, DDE, and DDD)
LOE Subgroup:	Pollutant-Tissue
Matrix:	Tissue
Fraction:	Fish fillet
Beneficial Use:	Warm Freshwater Habitat
Number of Samples:	1

Number of Exceedances:	0
Data and Information Type:	Fish tissue analysis
Data Used to Assess Water Quality:	State Water Board staff assessed SWAMP data for Calero Reservoir to determine beneficial use support and results are as follows: 0 of 1 samples exceed the criterion for DDT, Total. One composite (5 fish per composite) was generated from one species: Largemouth Bass. Details of the compositing protocol can be found in the March 2009 report entitled: "Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Study" (SWAMP, 2009). Total DDT was calculated as the sum of 4,4'- and 2,4'- isomers of DDT, DDE, and DDD.
Data Reference:	Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Survey. A Report of the Surface Water Ambient Monitoring Program (SWAMP). California State Water Resources Control Board, Sacramento, CA Statewide Lakes Sportfish Contamination Study 2007 2008 Contaminants in Fish from California Lakes and Reservoirs, 2007-2008: Summary Report on a Two-Year Screening Survey Cruise report for the Surface Water Ambient Monitoring Program (SWAMP) bioaccumulation screening study in California lakes and reservoirs year two (FY 07-08). Sampling dates: April 2008 - November 2008.
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	Water Quality Control Plan for the San Francisco Bay Basin: Controllable water quality factors shall not cause a detrimental increase in concentrations of toxic substances found in bottom sediments or aquatic life. Effects on aquatic organisms, wildlife, and human health will be considered.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	National Academy of Science guidelines (NAS 1972) establish a maximum total DDT concentration of 1000 ug/Kg (wet weight) in tissue samples for protection of aquatic life from bioaccumulation of toxic substances.
Guideline Reference:	National Academy of Sciences. Water Quality Criteria 1972. EPA-R3-73-033. Washington, D.C.: U.S. Environmental Protection Agency
Spatial Representation:	Data for this assessment unit was collected by one monitoring project: (SWB_FishLk)
Temporal Representation:	Data was collected on a single day 6/25/2008.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	Samples were collected, processed, and analyzed in accordance with the methods described in Quality Assurance Project Plan "Screening Study of Bioaccumulation in California Lakes and Reservoirs." (SWAMP, 2008).
QAPP Information Reference(s):	Quality Assurance Project Plan Screening Study of Bioaccumulation in California Lakes and Reservoirs. Moss Landing Marine Labs. Prepared for SWAMP BOG, 49 pages plus appendices and attachments

Line of Evidence (LOE) for Decision ID 61476, DDT (Dichlorodiphenyltrichloroethane)

Region 2

Calero Reservoir

LOE ID:	91210
Pollutant:	Total DDT (sum of 4,4'- and 2,4'- isomers of DDT, DDE, and DDD)
LOE Subgroup:	Pollutant-Tissue
Matrix:	Tissue
Fraction:	Fish fillet
Beneficial Use:	Commercial or recreational collection of fish, shellfish, or organisms
Number of Samples:	1
Number of Exceedances:	0
Data and Information Type:	Fish tissue analysis
Data Used to Assess Water Quality:	State Water Board staff assessed SWAMP data for Calero Reservoir to determine beneficial use support and results are as follows: 0 of 1 samples exceed the criterion for

Data Reference:	DDT, Total. One composite (5 fish per composite) was generated from one species: Largemouth Bass. Details of the compositing protocol can be found in the March 2009 report entitled: "Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Study" (SWAMP, 2009). Total DDT was calculated as the sum of 4,4'- and 2,4'- isomers of DDT, DDE, and DDD. Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Survey. A Report of the Surface Water Ambient Monitoring Program (SWAMP). California State Water Resources Control Board, Sacramento, CA Statewide Lakes Sportfish Contamination Study 2007 2008 Contaminants in Fish from California Lakes and Reservoirs, 2007-2008: Summary Report on a Two-Year Screening Survey Cruise report for the Surface Water Ambient Monitoring Program (SWAMP) bioaccumulation screening study in California lakes and reservoirs year two (FY 07-08). Sampling dates: April 2008 - November 2008.
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	Water Quality Control Plan for the San Francisco Bay Basin: Controllable water quality factors shall not cause a detrimental increase in concentrations of toxic substances found in bottom sediments or aquatic life. Effects on aquatic organisms, wildlife, and human health will be considered.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	The modified OEHHA Fish Contaminant Goal for total DDT in fish tissue is 15 ppb. This screening level assumes an average body weight of 70 kg and a consumption rate of 32 g/day for a 30 year exposure over a 70-year lifetime. This constituent is a carcinogen therefore the risk level is set to one in a million. A cooking reduction factor of 1 is applied for skin-off fillets. (Klasing, S., and R. Brodberg, 2008)
Guideline Reference:	Development of Fish Contaminant Goals and Advisory Tissue Levels for Common Contaminants in California Sport Fish: Chlordane, DDTs, Dieldrin, Methylmercury, PCBs, Selenium, and Toxaphene
Spatial Representation:	Data for this assessment unit was collected by one monitoring project: (SWB_FishLk)
Temporal Representation:	Data was collected on a single day 6/25/2008.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	Samples were collected, processed, and analyzed in accordance with the methods described in Quality Assurance Project Plan "Screening Study of Bioaccumulation in California Lakes and Reservoirs." (SWAMP, 2008).
QAPP Information Reference(s):	Quality Assurance Project Plan Screening Study of Bioaccumulation in California Lakes and Reservoirs. Moss Landing Marine Labs. Prepared for SWAMP BOG, 49 pages plus appendices and attachments

Line of Evidence (LOE) for Decision ID 61476, DDT (Dichlorodiphenyltrichloroethane)

Region 2

Calero Reservoir

LOE ID:	91209
Pollutant:	Total DDT (sum of 4,4'- and 2,4'- isomers of DDT, DDE, and DDD)
LOE Subgroup:	Pollutant-Tissue
Matrix:	Tissue
Fraction:	Fish fillet
Beneficial Use:	Cold Freshwater Habitat
Number of Samples:	1
Number of Exceedances:	0
Data and Information Type:	Fish tissue analysis
Data Used to Assess Water Quality:	State Water Board staff assessed SWAMP data for Calero Reservoir to determine beneficial use support and results are as follows: 0 of 1 samples exceed the criterion for DDT, Total. One composite (5 fish per composite) was generated from one species: Largemouth Bass. Details of the compositing protocol can be found in the March 2009

Data Reference:	<p>report entitled: "Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Study" (SWAMP, 2009). Total DDT was calculated as the sum of 4,4'- and 2,4'- isomers of DDT, DDE, and DDD.</p> <p>Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Survey. A Report of the Surface Water Ambient Monitoring Program (SWAMP). California State Water Resources Control Board, Sacramento, CA Statewide Lakes Sportfish Contamination Study 2007 2008</p> <p>Contaminants in Fish from California Lakes and Reservoirs, 2007-2008: Summary Report on a Two-Year Screening Survey</p> <p>Cruise report for the Surface Water Ambient Monitoring Program (SWAMP) bioaccumulation screening study in California lakes and reservoirs year two (FY 07-08). Sampling dates: April 2008 - November 2008.</p>
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	Water Quality Control Plan for the San Francisco Bay Basin: Controllable water quality factors shall not cause a detrimental increase in concentrations of toxic substances found in bottom sediments or aquatic life. Effects on aquatic organisms, wildlife, and human health will be considered.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	National Academy of Science guidelines (NAS 1972) establish a maximum total DDT concentration of 1000 ug/Kg (wet weight) in tissue samples for protection of aquatic life from bioaccumulation of toxic substances.
Guideline Reference:	National Academy of Sciences. Water Quality Criteria 1972. EPA-R3-73-033. Washington, D.C.: U.S. Environmental Protection Agency
Spatial Representation:	Data for this assessment unit was collected by one monitoring project: (SWB_FishLk)
Temporal Representation:	Data was collected on a single day 6/25/2008.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	Samples were collected, processed, and analyzed in accordance with the methods described in Quality Assurance Project Plan "Screening Study of Bioaccumulation in California Lakes and Reservoirs." (SWAMP, 2008).
QAPP Information Reference(s):	Quality Assurance Project Plan Screening Study of Bioaccumulation in California Lakes and Reservoirs. Moss Landing Marine Labs. Prepared for SWAMP BOG. 49 pages plus appendices and attachments

DECISION ID	61434	Region 2
Calero Reservoir		
Pollutant:	Dieldrin	
Final Listing Decision:	Do Not List on 303(d) list (TMDL required list)	
Last Listing Cycle's Final Listing Decision:	New Decision	
Revision Status	Revised	
Impairment from Pollutant or Pollution:	Pollutant	
Regional Board Staff Conclusion:	<p>This pollutant is being considered for placement on the CWA section 303(d) List under section 3.5 of the Listing Policy. Under section 3.5 a single line of evidence is necessary to assess listing status. Three lines of evidence are available in the administrative record to assess this pollutant. Zero of one samples exceed the guideline.</p> <p>Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against placing this water segment-pollutant combination on the CWA section 303(d) List.</p> <p>This conclusion is based on the staff findings that:</p> <ol style="list-style-type: none"> 1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy. 2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy. 3. Zero of one samples exceed the guideline and this sample size is insufficient to determine, with 	

the power and confidence of the Listing Policy, the applicable beneficial use support rating. A minimum of 16 samples is needed to determine if a beneficial use is fully supported using table 3.1. 4. Pursuant to SECTION 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.

Regional Board Staff Decision Recommendation: After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be placed on the section 303(d) list. The readily available data and information is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating.

Line of Evidence (LOE) for Decision ID 61434, Dieldrin

Region 2

Calero Reservoir

LOE ID:	91171
Pollutant:	Dieldrin
LOE Subgroup:	Pollutant-Tissue
Matrix:	Tissue
Fraction:	Fish fillet
Beneficial Use:	Warm Freshwater Habitat
Number of Samples:	1
Number of Exceedances:	0
Data and Information Type:	Fish tissue analysis
Data Used to Assess Water Quality:	State Water Board staff assessed SWAMP data for Calero Reservoir to determine beneficial use support and results are as follows: 0 of 1 samples exceed the criterion for Dieldrin. One composite (5 fish per composite) was generated from one species: Largemouth Bass. Details of the compositing protocol can be found in the March 2009 report entitled: "Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Study" (SWAMP, 2009).
Data Reference:	Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Survey. A Report of the Surface Water Ambient Monitoring Program (SWAMP). California State Water Resources Control Board, Sacramento, CA Statewide Lakes Sportfish Contamination Study 2007 2008 Contaminants in Fish from California Lakes and Reservoirs, 2007-2008: Summary Report on a Two-Year Screening Survey Cruise report for the Surface Water Ambient Monitoring Program (SWAMP) bioaccumulation screening study in California lakes and reservoirs year two (FY 07-08). Sampling dates: April 2008 - November 2008.
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	Water Quality Control Plan for the San Francisco Bay Basin: Controllable water quality factors shall not cause a detrimental increase in concentrations of toxic substances found in bottom sediments or aquatic life. Effects on aquatic organisms, wildlife, and human health will be considered.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	National Academy of Science guidelines (NAS 1972) establish a maximum Dieldrin concentration of 100 ug/Kg (wet weight) in tissue samples for protection of aquatic life from bioaccumulation of toxic substances.
Guideline Reference:	National Academy of Sciences. Water Quality Criteria 1972. EPA-R3-73-033. Washington, D.C.: U.S. Environmental Protection Agency
Spatial Representation:	Data for this assessment unit was collected by one monitoring project: (SWB_FishLk)
Temporal Representation:	Data was collected on a single day 6/25/2008.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	Samples were collected, processed, and analyzed in accordance with the methods described in Quality Assurance Project Plan "Screening Study of Bioaccumulation in

QAPP Information Reference(s):	California Lakes and Reservoirs." (SWAMP, 2008). Quality Assurance Project Plan Screening Study of Bioaccumulation in California Lakes and Reservoirs. Moss Landing Marine Labs. Prepared for SWAMP BOG. 49 pages plus appendices and attachments
Line of Evidence (LOE) for Decision ID 61434, Dieldrin	
Calero Reservoir	
LOE ID:	91172
Pollutant:	Dieldrin
LOE Subgroup:	Pollutant-Tissue
Matrix:	Tissue
Fraction:	Fish fillet
Beneficial Use:	Cold Freshwater Habitat
Number of Samples:	1
Number of Exceedances:	0
Data and Information Type:	Fish tissue analysis
Data Used to Assess Water Quality:	State Water Board staff assessed SWAMP data for Calero Reservoir to determine beneficial use support and results are as follows: 0 of 1 samples exceed the criterion for Dieldrin. One composite (5 fish per composite) was generated from one species: Largemouth Bass. Details of the compositing protocol can be found in the March 2009 report entitled: "Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Study" (SWAMP, 2009).
Data Reference:	Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Survey. A Report of the Surface Water Ambient Monitoring Program (SWAMP). California State Water Resources Control Board, Sacramento, CA Statewide Lakes Sportfish Contamination Study 2007 2008 Contaminants in Fish from California Lakes and Reservoirs, 2007-2008: Summary Report on a Two-Year Screening Survey Cruise report for the Surface Water Ambient Monitoring Program (SWAMP) bioaccumulation screening study in California lakes and reservoirs year two (FY 07-08). Sampling dates: April 2008 - November 2008.
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	Water Quality Control Plan for the San Francisco Bay Basin: Controllable water quality factors shall not cause a detrimental increase in concentrations of toxic substances found in bottom sediments or aquatic life. Effects on aquatic organisms, wildlife, and human health will be considered.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	National Academy of Science guidelines (NAS 1972) establish a maximum Dieldrin concentration of 100 ug/Kg (wet weight) in tissue samples for protection of aquatic life from bioaccumulation of toxic substances.
Guideline Reference:	National Academy of Sciences. Water Quality Criteria 1972. EPA-R3-73-033. Washington, D.C.: U.S. Environmental Protection Agency
Spatial Representation:	Data for this assessment unit was collected by one monitoring project: (SWB_FishLk)
Temporal Representation:	Data was collected on a single day 6/25/2008.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	Samples were collected, processed, and analyzed in accordance with the methods described in Quality Assurance Project Plan "Screening Study of Bioaccumulation in California Lakes and Reservoirs." (SWAMP, 2008).
QAPP Information Reference(s):	Quality Assurance Project Plan Screening Study of Bioaccumulation in California Lakes and Reservoirs. Moss Landing Marine Labs. Prepared for SWAMP BOG. 49 pages plus appendices and attachments

Line of Evidence (LOE) for Decision ID 61434, Dieldrin

Region 2

Calero Reservoir

LOE ID:	91173
Pollutant:	Dieldrin
LOE Subgroup:	Pollutant-Tissue
Matrix:	Tissue
Fraction:	Fish fillet
Beneficial Use:	Commercial or recreational collection of fish, shellfish, or organisms
Number of Samples:	0
Number of Exceedances:	0
Data and Information Type:	Fish tissue analysis
Data Used to Assess Water Quality:	State Water Board staff assessed SWAMP data for Calero Reservoir to determine beneficial use support and results are as follows: 0 of 0 samples exceed the criterion for Dieldrin. One composite (5 fish per composite) was generated from one species: Largemouth Bass. Details of the compositing protocol can be found in the March 2009 report entitled: "Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Study" (SWAMP, 2009). One composite was not used in the assessment because the laboratory data reporting limit(s) was above the objective and therefore the results could not be quantified with the level of certainty required by the Listing Policy.
Data Reference:	Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Survey. A Report of the Surface Water Ambient Monitoring Program (SWAMP). California State Water Resources Control Board, Sacramento, CA Statewide Lakes Sportfish Contamination Study 2007 2008 Contaminants in Fish from California Lakes and Reservoirs, 2007-2008: Summary Report on a Two-Year Screening Survey Cruise report for the Surface Water Ambient Monitoring Program (SWAMP) bioaccumulation screening study in California lakes and reservoirs year two (FY 07-08). Sampling dates: April 2008 - November 2008.
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	Water Quality Control Plan for the San Francisco Bay Basin: Controllable water quality factors shall not cause a detrimental increase in concentrations of toxic substances found in bottom sediments or aquatic life. Effects on aquatic organisms, wildlife, and human health will be considered.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	The modified OEHHA Fish Contaminant Goal for dieldrin in fish tissue is 0.32 ppb. This screening level assumes an average body weight of 70 kg and a consumption rate of 32 g/day for a 30 year exposure over a 70-year lifetime. This constituent is a carcinogen therefore the risk level is set to one in a million. A cooking reduction factor of 1 is applied for skin-off fillets. (Klasing, S., and R. Brodberg, 2008)
Guideline Reference:	Development of Fish Contaminant Goals and Advisory Tissue Levels for Common Contaminants in California Sport Fish: Chlordane, DDTs, Dieldrin, Methylmercury, PCBs, Selenium, and Toxaphene
Spatial Representation:	Data for this assessment unit was collected by one monitoring project: (SWB_FishLk)
Temporal Representation:	Data was collected on a single day 6/25/2008.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	Samples were collected, processed, and analyzed in accordance with the methods described in Quality Assurance Project Plan "Screening Study of Bioaccumulation in California Lakes and Reservoirs." (SWAMP, 2008).
QAPP Information Reference(s):	Quality Assurance Project Plan Screening Study of Bioaccumulation in California Lakes and Reservoirs. Moss Landing Marine Labs. Prepared for SWAMP BOG. 49 pages plus appendices and attachments

Pollutant:	Endosulfan
Final Listing Decision:	Do Not List on 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision:	New Decision
Revision Status	Revised
Impairment from Pollutant or Pollution:	Pollutant

Regional Board Staff Conclusion: This pollutant is being considered for placement on the CWA section 303(d) List under section 3.5 of the Listing Policy. Under section 3.5 a single line of evidence is necessary to assess listing status. Three lines of evidence are available in the administrative record to assess this pollutant. Zero of one samples exceed the guideline.

Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against placing this water segment-pollutant combination on the CWA section 303(d) List.

This conclusion is based on the staff findings that:

1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy.
2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy.
3. Zero of one samples exceed the guideline and this sample size is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating. A minimum of 16 samples is needed to determine if a beneficial use is fully supported using table 3.1.
4. Pursuant to SECTION 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.

Regional Board Staff Decision Recommendation: After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be placed on the section 303(d) list. The readily available data and information is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating.

Line of Evidence (LOE) for Decision ID 61435, Endosulfan	Region 2
Calero Reservoir	

LOE ID:	91175
Pollutant:	Endosulfan
LOE Subgroup:	Pollutant-Tissue
Matrix:	Tissue
Fraction:	Fish fillet
Beneficial Use:	Cold Freshwater Habitat
Number of Samples:	1
Number of Exceedances:	0
Data and Information Type:	Fish tissue analysis
Data Used to Assess Water Quality:	State Water Board staff assessed SWAMP data for Calero Reservoir to determine beneficial use support and results are as follows: 0 of 1 samples exceed the criterion for Endosulfan I. One composite (5 fish per composite) was generated from one species: Largemouth Bass. Details of the compositing protocol can be found in the March 2009 report entitled: "Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Study" (SWAMP, 2009).
Data Reference:	Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Survey. A Report of the Surface Water Ambient Monitoring Program (SWAMP). California State Water Resources Control Board, Sacramento, CA Statewide Lakes Sportfish Contamination Study 2007 2008

[Contaminants in Fish from California Lakes and Reservoirs, 2007-2008: Summary Report on a Two-Year Screening Survey](#)
[Cruise report for the Surface Water Ambient Monitoring Program \(SWAMP\) bioaccumulation screening study in California lakes and reservoirs year two \(FY 07-08\). Sampling dates: April 2008 - November 2008.](#)

SWAMP Data:

SWAMP

Water Quality Objective/Criterion:

Water Quality Control Plan for the San Francisco Bay Basin: Controllable water quality factors shall not cause a detrimental increase in concentrations of toxic substances found in bottom sediments or aquatic life. Effects on aquatic organisms, wildlife, and human health will be considered.

Objective/Criterion Reference:

[Water Quality Control Plan \(Basin Plan\) San Francisco Bay Basin \(Region 2\)](#)

Evaluation Guideline:

National Academy of Science guidelines (NAS 1972) establish a maximum Endosulfan, Total concentration of 100 ug/Kg (wet weight) in tissue samples for protection of aquatic life from bioaccumulation of toxic substances.

Guideline Reference:

[National Academy of Sciences. Water Quality Criteria 1972. EPA-R3-73-033. Washington, D.C.: U.S. Environmental Protection Agency](#)

Spatial Representation:

Data for this assessment unit was collected by one monitoring project: (SWB_FishLk)

Temporal Representation:

Data was collected on a single day 6/25/2008.

Environmental Conditions:

Staff is not aware of any special conditions that might affect interpretation of the data.

QAPP Information:

Samples were collected, processed, and analyzed in accordance with the methods described in Quality Assurance Project Plan "Screening Study of Bioaccumulation in California Lakes and Reservoirs." (SWAMP, 2008).

QAPP Information Reference(s):

[Quality Assurance Project Plan Screening Study of Bioaccumulation in California Lakes and Reservoirs. Moss Landing Marine Labs. Prepared for SWAMP BOG, 49 pages plus appendices and attachments](#)

Line of Evidence (LOE) for Decision ID 61435, Endosulfan

Region 2

Calero Reservoir

LOE ID:

91176

Pollutant:

Endosulfan

LOE Subgroup:

Pollutant-Tissue

Matrix:

Tissue

Fraction:

Fish fillet

Beneficial Use:

Commercial or recreational collection of fish, shellfish, or organisms

Number of Samples:

1

Number of Exceedances:

0

Data and Information Type:

Fish tissue analysis

Data Used to Assess Water Quality:

State Water Board staff assessed SWAMP data for Calero Reservoir to determine beneficial use support and results are as follows: 0 of 1 samples exceed the criterion for Endosulfan I. One composite (5 fish per composite) was generated from one species: Largemouth Bass. Details of the compositing protocol can be found in the March 2009 report entitled: "Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Study" (SWAMP, 2009).

Data Reference:

[Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Survey. A Report of the Surface Water Ambient Monitoring Program \(SWAMP\). California State Water Resources Control Board, Sacramento, CA Statewide Lakes Sportfish Contamination Study 2007 2008](#)
[Contaminants in Fish from California Lakes and Reservoirs, 2007-2008: Summary Report on a Two-Year Screening Survey](#)
[Cruise report for the Surface Water Ambient Monitoring Program \(SWAMP\) bioaccumulation screening study in California lakes and reservoirs year two \(FY 07-08\). Sampling dates: April 2008 - November 2008.](#)

SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	Water Quality Control Plan for the San Francisco Bay Basin: Controllable water quality factors shall not cause a detrimental increase in concentrations of toxic substances found in bottom sediments or aquatic life. Effects on aquatic organisms, wildlife, and human health will be considered.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	The modified OEHHA Fish Contaminant Goal for endosulfan (I and II) in fish tissue is 13,000 ppb. This screening level assumes an average body weight of 70 kg and a consumption rate of 32 g/day. A cooking reduction factor of 1 is applied for skin-off fillets. (Klasing, S., and R. Brodberg, 2008; USEPA, 2000)
Guideline Reference:	Development of Fish Contaminant Goals and Advisory Tissue Levels for Common Contaminants in California Sport Fish: Chlordane, DDTs, Dieldrin, Methylmercury, PCBs, Selenium, and Toxaphene Guidance for Assessing Chemical Contaminant Data for Use In Fish Advisories Volume 1: Fish Sampling and Analysis
Spatial Representation:	Data for this assessment unit was collected by one monitoring project: (SWB_FishLk)
Temporal Representation:	Data was collected on a single day 6/25/2008.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	Samples were collected, processed, and analyzed in accordance with the methods described in Quality Assurance Project Plan "Screening Study of Bioaccumulation in California Lakes and Reservoirs." (SWAMP, 2008).
QAPP Information Reference(s):	Quality Assurance Project Plan Screening Study of Bioaccumulation in California Lakes and Reservoirs. Moss Landing Marine Labs. Prepared for SWAMP BOG, 49 pages plus appendices and attachments

Line of Evidence (LOE) for Decision ID 61435, Endosulfan

Region 2

Calero Reservoir

LOE ID:	91174
Pollutant:	Endosulfan
LOE Subgroup:	Pollutant-Tissue
Matrix:	Tissue
Fraction:	Fish fillet
Beneficial Use:	Warm Freshwater Habitat
Number of Samples:	1
Number of Exceedances:	0
Data and Information Type:	Fish tissue analysis
Data Used to Assess Water Quality:	State Water Board staff assessed SWAMP data for Calero Reservoir to determine beneficial use support and results are as follows: 0 of 1 samples exceed the criterion for Endosulfan I. One composite (5 fish per composite) was generated from one species: Largemouth Bass. Details of the compositing protocol can be found in the March 2009 report entitled: "Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Study" (SWAMP, 2009).
Data Reference:	Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Survey. A Report of the Surface Water Ambient Monitoring Program (SWAMP). California State Water Resources Control Board, Sacramento, CA Statewide Lakes Sportfish Contamination Study 2007 2008 Contaminants in Fish from California Lakes and Reservoirs, 2007-2008: Summary Report on a Two-Year Screening Survey Cruise report for the Surface Water Ambient Monitoring Program (SWAMP) bioaccumulation screening study in California lakes and reservoirs year two (FY 07-08). Sampling dates: April 2008 - November 2008.

SWAMP Data: SWAMP

Water Quality Objective/Criterion:	Water Quality Control Plan for the San Francisco Bay Basin: Controllable water quality factors shall not cause a detrimental increase in concentrations of toxic substances found in bottom sediments or aquatic life. Effects on aquatic organisms, wildlife, and human health will be considered.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	National Academy of Science guidelines (NAS 1972) establish a maximum Endosulfan, Total concentration of 100 ug/Kg (wet weight) in tissue samples for protection of aquatic life from bioaccumulation of toxic substances.
Guideline Reference:	National Academy of Sciences. Water Quality Criteria 1972. EPA-R3-73-033. Washington, D.C.: U.S. Environmental Protection Agency
Spatial Representation:	Data for this assessment unit was collected by one monitoring project: (SWB_FishLk)
Temporal Representation:	Data was collected on a single day 6/25/2008.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	Samples were collected, processed, and analyzed in accordance with the methods described in Quality Assurance Project Plan "Screening Study of Bioaccumulation in California Lakes and Reservoirs." (SWAMP, 2008).
QAPP Information Reference(s):	Quality Assurance Project Plan Screening Study of Bioaccumulation in California Lakes and Reservoirs. Moss Landing Marine Labs. Prepared for SWAMP BOG. 49 pages plus appendices and attachments

DECISION ID	61436	Region 2
Calero Reservoir		

Pollutant:	Endrin
Final Listing Decision:	Do Not List on 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision:	New Decision
Revision Status	Revised
Impairment from Pollutant or Pollution:	Pollutant

Regional Board Staff Conclusion: This pollutant is being considered for placement on the CWA section 303(d) List under section 3.5 of the Listing Policy. Under section 3.5 a single line of evidence is necessary to assess listing status. Three lines of evidence are available in the administrative record to assess this pollutant. Zero of one samples exceed the guideline.

Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against placing this water segment-pollutant combination on the CWA section 303(d) List.

This conclusion is based on the staff findings that:

1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy.
2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy.
3. Zero of one samples exceed the guideline and this sample size is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating. A minimum of 16 samples is needed to determine if a beneficial use is fully supported using table 3.1.
4. Pursuant to SECTION 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.

Regional Board Staff Decision Recommendation: After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be placed on the section 303(d) list. The readily available data and information is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating.

Line of Evidence (LOE) for Decision ID 61436, Endrin	Region 2
Calero Reservoir	

LOE ID:	91177
Pollutant:	Endrin
LOE Subgroup:	Pollutant-Tissue
Matrix:	Tissue
Fraction:	Fish fillet
Beneficial Use:	Warm Freshwater Habitat
Number of Samples:	1
Number of Exceedances:	0
Data and Information Type:	Fish tissue analysis
Data Used to Assess Water Quality:	State Water Board staff assessed SWAMP data for Calero Reservoir to determine beneficial use support and results are as follows: 0 of 1 samples exceed the criterion for Endrin. One composite (5 fish per composite) was generated from one species: Largemouth Bass. Details of the compositing protocol can be found in the March 2009 report entitled: "Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Study" (SWAMP, 2009).
Data Reference:	Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Survey. A Report of the Surface Water Ambient Monitoring Program (SWAMP). California State Water Resources Control Board, Sacramento, CA Statewide Lakes Sportfish Contamination Study 2007 2008 Contaminants in Fish from California Lakes and Reservoirs, 2007-2008: Summary Report on a Two-Year Screening Survey Cruise report for the Surface Water Ambient Monitoring Program (SWAMP) bioaccumulation screening study in California lakes and reservoirs year two (FY 07-08). Sampling dates: April 2008 - November 2008.
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	Water Quality Control Plan for the San Francisco Bay Basin: Controllable water quality factors shall not cause a detrimental increase in concentrations of toxic substances found in bottom sediments or aquatic life. Effects on aquatic organisms, wildlife, and human health will be considered.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	National Academy of Science guidelines (NAS 1972) establish a maximum Endrin concentration of 100 ug/Kg (wet weight) in tissue samples for protection of aquatic life from bioaccumulation of toxic substances.
Guideline Reference:	National Academy of Sciences. Water Quality Criteria 1972. EPA-R3-73-033. Washington, D.C.: U.S. Environmental Protection Agency
Spatial Representation:	Data for this assessment unit was collected by one monitoring project: (SWB_FishLk)
Temporal Representation:	Data was collected on a single day 6/25/2008.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	Samples were collected, processed, and analyzed in accordance with the methods described in Quality Assurance Project Plan "Screening Study of Bioaccumulation in California Lakes and Reservoirs." (SWAMP, 2008).
QAPP Information Reference(s):	Quality Assurance Project Plan Screening Study of Bioaccumulation in California Lakes and Reservoirs. Moss Landing Marine Labs. Prepared for SWAMP BOG. 49 pages plus appendices and attachments

Line of Evidence (LOE) for Decision ID 61436, Endrin

Region 2

Calero Reservoir

LOE ID:	91178
Pollutant:	Endrin
LOE Subgroup:	Pollutant-Tissue
Matrix:	Tissue
Fraction:	Fish fillet

Beneficial Use:	Cold Freshwater Habitat
Number of Samples:	1
Number of Exceedances:	0
Data and Information Type:	Fish tissue analysis
Data Used to Assess Water Quality:	State Water Board staff assessed SWAMP data for Calero Reservoir to determine beneficial use support and results are as follows: 0 of 1 samples exceed the criterion for Endrin. One composite (5 fish per composite) was generated from one species: Largemouth Bass. Details of the compositing protocol can be found in the March 2009 report entitled: "Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Study" (SWAMP, 2009).
Data Reference:	Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Survey. A Report of the Surface Water Ambient Monitoring Program (SWAMP). California State Water Resources Control Board, Sacramento, CA Statewide Lakes Sportfish Contamination Study 2007 2008 Contaminants in Fish from California Lakes and Reservoirs, 2007-2008: Summary Report on a Two-Year Screening Survey Cruise report for the Surface Water Ambient Monitoring Program (SWAMP) bioaccumulation screening study in California lakes and reservoirs year two (FY 07-08). Sampling dates: April 2008 - November 2008.
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	Water Quality Control Plan for the San Francisco Bay Basin: Controllable water quality factors shall not cause a detrimental increase in concentrations of toxic substances found in bottom sediments or aquatic life. Effects on aquatic organisms, wildlife, and human health will be considered.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	National Academy of Science guidelines (NAS 1972) establish a maximum Endrin concentration of 100 ug/Kg (wet weight) in tissue samples for protection of aquatic life from bioaccumulation of toxic substances.
Guideline Reference:	National Academy of Sciences. Water Quality Criteria 1972. EPA-R3-73-033. Washington, D.C.: U.S. Environmental Protection Agency
Spatial Representation:	Data for this assessment unit was collected by one monitoring project: (SWB_FishLk)
Temporal Representation:	Data was collected on a single day 6/25/2008.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	Samples were collected, processed, and analyzed in accordance with the methods described in Quality Assurance Project Plan "Screening Study of Bioaccumulation in California Lakes and Reservoirs." (SWAMP, 2008).
QAPP Information Reference(s):	Quality Assurance Project Plan Screening Study of Bioaccumulation in California Lakes and Reservoirs. Moss Landing Marine Labs. Prepared for SWAMP BOG. 49 pages plus appendices and attachments

Line of Evidence (LOE) for Decision ID 61436, Endrin

Region 2

Calero Reservoir

LOE ID:	91179
Pollutant:	Endrin
LOE Subgroup:	Pollutant-Tissue
Matrix:	Tissue
Fraction:	Fish fillet
Beneficial Use:	Commercial or recreational collection of fish, shellfish, or organisms
Number of Samples:	1
Number of Exceedances:	0

Data and Information Type:	Fish tissue analysis
Data Used to Assess Water Quality:	State Water Board staff assessed SWAMP data for Calero Reservoir to determine beneficial use support and results are as follows: 0 of 1 samples exceed the criterion for Endrin. One composite (5 fish per composite) was generated from one species: Largemouth Bass. Details of the compositing protocol can be found in the March 2009 report entitled: "Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Study" (SWAMP, 2009).
Data Reference:	Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Survey. A Report of the Surface Water Ambient Monitoring Program (SWAMP). California State Water Resources Control Board, Sacramento, CA Statewide Lakes Sportfish Contamination Study 2007 2008 Contaminants in Fish from California Lakes and Reservoirs, 2007-2008: Summary Report on a Two-Year Screening Survey Cruise report for the Surface Water Ambient Monitoring Program (SWAMP) bioaccumulation screening study in California lakes and reservoirs year two (FY 07-08). Sampling dates: April 2008 - November 2008.
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	Water Quality Control Plan for the San Francisco Bay Basin: Controllable water quality factors shall not cause a detrimental increase in concentrations of toxic substances found in bottom sediments or aquatic life. Effects on aquatic organisms, wildlife, and human health will be considered.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	The modified OEHHA Fish Contaminant Goal for endrin in fish tissue is 660 ppb. This screening level assumes an average body weight of 70 kg and a consumption rate of 32 g/day. A cooking reduction factor of 1 is applied for skin-off fillets. (Klasing, S., and R. Brodberg, 2008; USEPA, 2000)
Guideline Reference:	Development of Fish Contaminant Goals and Advisory Tissue Levels for Common Contaminants in California Sport Fish: Chlordane, DDTs, Dieldrin, Methylmercury, PCBs, Selenium, and Toxaphene Guidance for Assessing Chemical Contaminant Data for Use In Fish Advisories Volume 1: Fish Sampling and Analysis
Spatial Representation:	Data for this assessment unit was collected by one monitoring project: (SWB_FishLk)
Temporal Representation:	Data was collected on a single day 6/25/2008.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	Samples were collected, processed, and analyzed in accordance with the methods described in Quality Assurance Project Plan "Screening Study of Bioaccumulation in California Lakes and Reservoirs." (SWAMP, 2008).
QAPP Information Reference(s):	Quality Assurance Project Plan Screening Study of Bioaccumulation in California Lakes and Reservoirs. Moss Landing Marine Labs. Prepared for SWAMP BOG. 49 pages plus appendices and attachments

DECISION ID	61437	Region 2
Calero Reservoir		
Pollutant:	Heptachlor	
Final Listing Decision:	Do Not List on 303(d) list (TMDL required list)	
Last Listing Cycle's Final Listing Decision:	New Decision	
Revision Status	Revised	
Impairment from Pollutant or Pollution:	Pollutant	
Regional Board Staff Conclusion:	This pollutant is being considered for placement on the CWA section 303(d) List under section 3.5 of the Listing Policy. Under section 3.5 a single line of evidence is necessary to assess listing status. Two lines of evidence are available in the administrative record to assess this pollutant. Zero of one samples exceed the guideline.	

Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against placing this water segment-pollutant combination on the CWA section 303(d) List.

This conclusion is based on the staff findings that:

1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy.
2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy.
3. Zero of one samples exceed the guideline and this sample size is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating. A minimum of 16 samples is needed to determine if a beneficial use is fully supported using table 3.1.
4. Pursuant to SECTION 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.

Regional Board Staff Decision Recommendation: After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be placed on the section 303(d) list. The readily available data and information is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating.

**Line of Evidence (LOE) for Decision ID 61437, Heptachlor
Calero Reservoir**

Region 2

LOE ID:	91181
Pollutant:	Heptachlor
LOE Subgroup:	Pollutant-Tissue
Matrix:	Tissue
Fraction:	Fish fillet
Beneficial Use:	Cold Freshwater Habitat
Number of Samples:	1
Number of Exceedances:	0
Data and Information Type:	Fish tissue analysis
Data Used to Assess Water Quality:	State Water Board staff assessed SWAMP data for Calero Reservoir to determine beneficial use support and results are as follows: 0 of 1 samples exceed the criterion for Heptachlor. One composite (5 fish per composite) was generated from one species: Largemouth Bass. Details of the compositing protocol can be found in the March 2009 report entitled: "Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Study" (SWAMP, 2009).
Data Reference:	Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Survey. A Report of the Surface Water Ambient Monitoring Program (SWAMP). California State Water Resources Control Board, Sacramento, CA Statewide Lakes Sportfish Contamination Study 2007-2008 Contaminants in Fish from California Lakes and Reservoirs, 2007-2008: Summary Report on a Two-Year Screening Survey Cruise report for the Surface Water Ambient Monitoring Program (SWAMP) bioaccumulation screening study in California lakes and reservoirs year two (FY 07-08). Sampling dates: April 2008 - November 2008.
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	Water Quality Control Plan for the San Francisco Bay Basin: Controllable water quality factors shall not cause a detrimental increase in concentrations of toxic substances found in bottom sediments or aquatic life. Effects on aquatic organisms, wildlife, and human health will be considered.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	National Academy of Science guidelines (NAS 1972) establish a maximum Heptachlor concentration of 100 ug/Kg (wet weight) in tissue samples for protection of aquatic life from bioaccumulation of toxic substances.

Guideline Reference:	National Academy of Sciences. Water Quality Criteria 1972. EPA-R3-73-033. Washington, D.C.: U.S. Environmental Protection Agency
Spatial Representation:	Data for this assessment unit was collected by one monitoring project: (SWB_FishLk)
Temporal Representation:	Data was collected on a single day 6/25/2008.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	Samples were collected, processed, and analyzed in accordance with the methods described in Quality Assurance Project Plan "Screening Study of Bioaccumulation in California Lakes and Reservoirs." (SWAMP, 2008).
QAPP Information Reference(s):	Quality Assurance Project Plan Screening Study of Bioaccumulation in California Lakes and Reservoirs. Moss Landing Marine Labs. Prepared for SWAMP BOG. 49 pages plus appendices and attachments

**Line of Evidence (LOE) for Decision ID 61437, Heptachlor
Calero Reservoir**

Region 2

LOE ID:	91180
Pollutant:	Heptachlor
LOE Subgroup:	Pollutant-Tissue
Matrix:	Tissue
Fraction:	Fish fillet
Beneficial Use:	Warm Freshwater Habitat
Number of Samples:	1
Number of Exceedances:	0
Data and Information Type:	Fish tissue analysis
Data Used to Assess Water Quality:	State Water Board staff assessed SWAMP data for Calero Reservoir to determine beneficial use support and results are as follows: 0 of 1 samples exceed the criterion for Heptachlor. One composite (5 fish per composite) was generated from one species: Largemouth Bass. Details of the compositing protocol can be found in the March 2009 report entitled: "Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Study" (SWAMP, 2009).
Data Reference:	Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Survey. A Report of the Surface Water Ambient Monitoring Program (SWAMP). California State Water Resources Control Board, Sacramento, CA Statewide Lakes Sportfish Contamination Study 2007 2008 Contaminants in Fish from California Lakes and Reservoirs, 2007-2008: Summary Report on a Two-Year Screening Survey Cruise report for the Surface Water Ambient Monitoring Program (SWAMP) bioaccumulation screening study in California lakes and reservoirs year two (FY 07-08). Sampling dates: April 2008 - November 2008.
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	Water Quality Control Plan for the San Francisco Bay Basin: Controllable water quality factors shall not cause a detrimental increase in concentrations of toxic substances found in bottom sediments or aquatic life. Effects on aquatic organisms, wildlife, and human health will be considered.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	National Academy of Science guidelines (NAS 1972) establish a maximum Heptachlor concentration of 100 ug/Kg (wet weight) in tissue samples for protection of aquatic life from bioaccumulation of toxic substances.
Guideline Reference:	National Academy of Sciences. Water Quality Criteria 1972. EPA-R3-73-033. Washington, D.C.: U.S. Environmental Protection Agency
Spatial Representation:	Data for this assessment unit was collected by one monitoring project: (SWB_FishLk)
Temporal Representation:	Data was collected on a single day 6/25/2008.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.

QAPP Information: Samples were collected, processed, and analyzed in accordance with the methods described in Quality Assurance Project Plan "Screening Study of Bioaccumulation in California Lakes and Reservoirs." (SWAMP, 2008).

QAPP Information Reference(s): [Quality Assurance Project Plan Screening Study of Bioaccumulation in California Lakes and Reservoirs. Moss Landing Marine Labs. Prepared for SWAMP BOG. 49 pages plus appendices and attachments](#)

DECISION ID	61470	Region 2
Calero Reservoir		

Pollutant: Heptachlor epoxide
Final Listing Decision: Do Not List on 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision: New Decision
Revision Status: Revised
Impairment from Pollutant or Pollution: Pollutant

Regional Board Staff Conclusion: This pollutant is being considered for placement on the CWA section 303(d) List under section 3.5 of the Listing Policy. Under section 3.5 a single line of evidence is necessary to assess listing status. Three lines of evidence are available in the administrative record to assess this pollutant. Zero of one samples exceed the guideline.

Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against placing this water segment-pollutant combination on the CWA section 303(d) List.

This conclusion is based on the staff findings that:

1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy.
2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy.
3. Zero of one samples exceed the guideline and this sample size is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating. A minimum of 16 samples is needed to determine if a beneficial use is fully supported using table 3.1.
4. Pursuant to SECTION 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.

Regional Board Staff Decision Recommendation: After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be placed on the section 303(d) list. The readily available data and information is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating.

Line of Evidence (LOE) for Decision ID 61470, Heptachlor epoxide	Region 2
Calero Reservoir	

LOE ID: 91183

Pollutant: Heptachlor epoxide
LOE Subgroup: Pollutant-Tissue
Matrix: Tissue
Fraction: Fish fillet

Beneficial Use: Cold Freshwater Habitat

Number of Samples: 1
Number of Exceedances: 0

Data and Information Type: Fish tissue analysis
Data Used to Assess Water Quality: State Water Board staff assessed SWAMP data for Calero Reservoir to determine beneficial use support and results are as follows: 0 of 1 samples exceed the criterion for

Data Reference:	<p>Heptachlor epoxide. One composite (5 fish per composite) was generated from one species: Largemouth Bass. Details of the compositing protocol can be found in the March 2009 report entitled: "Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Study" (SWAMP, 2009). Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Survey. A Report of the Surface Water Ambient Monitoring Program (SWAMP). California State Water Resources Control Board, Sacramento, CA Statewide Lakes Sportfish Contamination Study 2007 2008 Contaminants in Fish from California Lakes and Reservoirs, 2007-2008: Summary Report on a Two-Year Screening Survey Cruise report for the Surface Water Ambient Monitoring Program (SWAMP) bioaccumulation screening study in California lakes and reservoirs year two (FY 07-08). Sampling dates: April 2008 - November 2008.</p>
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	Water Quality Control Plan for the San Francisco Bay Basin: Controllable water quality factors shall not cause a detrimental increase in concentrations of toxic substances found in bottom sediments or aquatic life. Effects on aquatic organisms, wildlife, and human health will be considered.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	National Academy of Science guidelines (NAS 1972) establish a maximum Heptachlor Epoxide concentration of 100 ug/Kg (wet weight) in tissue samples for protection of aquatic life from bioaccumulation of toxic substances.
Guideline Reference:	National Academy of Sciences. Water Quality Criteria 1972. EPA-R3-73-033. Washington, D.C.: U.S. Environmental Protection Agency
Spatial Representation:	Data for this assessment unit was collected by one monitoring project: (SWB_FishLk)
Temporal Representation:	Data was collected on a single day 6/25/2008.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	Samples were collected, processed, and analyzed in accordance with the methods described in Quality Assurance Project Plan "Screening Study of Bioaccumulation in California Lakes and Reservoirs." (SWAMP, 2008).
QAPP Information Reference(s):	Quality Assurance Project Plan Screening Study of Bioaccumulation in California Lakes and Reservoirs. Moss Landing Marine Labs. Prepared for SWAMP BOG. 49 pages plus appendices and attachments

**Line of Evidence (LOE) for Decision ID 61470, Heptachlor epoxide
Calero Reservoir**

Region 2

LOE ID:	91182
Pollutant:	Heptachlor epoxide
LOE Subgroup:	Pollutant-Tissue
Matrix:	Tissue
Fraction:	Fish fillet
Beneficial Use:	Warm Freshwater Habitat
Number of Samples:	1
Number of Exceedances:	0
Data and Information Type:	Fish tissue analysis
Data Used to Assess Water Quality:	State Water Board staff assessed SWAMP data for Calero Reservoir to determine beneficial use support and results are as follows: 0 of 1 samples exceed the criterion for Heptachlor epoxide. One composite (5 fish per composite) was generated from one species: Largemouth Bass. Details of the compositing protocol can be found in the March 2009 report entitled: "Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Study" (SWAMP, 2009).
Data Reference:	Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Survey. A Report of the Surface Water Ambient Monitoring

[Program \(SWAMP\). California State Water Resources Control Board, Sacramento, CA Statewide Lakes Sportfish Contamination Study 2007 2008](#)
[Contaminants in Fish from California Lakes and Reservoirs, 2007-2008: Summary Report on a Two-Year Screening Survey](#)
[Cruise report for the Surface Water Ambient Monitoring Program \(SWAMP\) bioaccumulation screening study in California lakes and reservoirs year two \(FY 07-08\). Sampling dates: April 2008 - November 2008.](#)

SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	Water Quality Control Plan for the San Francisco Bay Basin: Controllable water quality factors shall not cause a detrimental increase in concentrations of toxic substances found in bottom sediments or aquatic life. Effects on aquatic organisms, wildlife, and human health will be considered.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	National Academy of Science guidelines (NAS 1972) establish a maximum Heptachlor Epoxide concentration of 100 ug/Kg (wet weight) in tissue samples for protection of aquatic life from bioaccumulation of toxic substances.
Guideline Reference:	National Academy of Sciences. Water Quality Criteria 1972. EPA-R3-73-033. Washington, D.C.: U.S. Environmental Protection Agency
Spatial Representation:	Data for this assessment unit was collected by one monitoring project: (SWB_FishLk)
Temporal Representation:	Data was collected on a single day 6/25/2008.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	Samples were collected, processed, and analyzed in accordance with the methods described in Quality Assurance Project Plan "Screening Study of Bioaccumulation in California Lakes and Reservoirs." (SWAMP, 2008).
QAPP Information Reference(s):	Quality Assurance Project Plan Screening Study of Bioaccumulation in California Lakes and Reservoirs. Moss Landing Marine Labs. Prepared for SWAMP BOG. 49 pages plus appendices and attachments

Line of Evidence (LOE) for Decision ID 61470, Heptachlor epoxide	Region 2
Calero Reservoir	

LOE ID:	91184
Pollutant:	Heptachlor epoxide
LOE Subgroup:	Pollutant-Tissue
Matrix:	Tissue
Fraction:	Fish fillet
Beneficial Use:	Commercial or recreational collection of fish, shellfish, or organisms
Number of Samples:	0
Number of Exceedances:	0
Data and Information Type:	Fish tissue analysis
Data Used to Assess Water Quality:	State Water Board staff assessed SWAMP data for Calero Reservoir to determine beneficial use support and results are as follows: 0 of 0 samples exceed the criterion for Heptachlor epoxide. One composite (5 fish per composite) was generated from one species: Largemouth Bass. Details of the compositing protocol can be found in the March 2009 report entitled: "Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Study" (SWAMP, 2009). One composite was not used in the assessment because the laboratory data reporting limit(s) was above the objective and therefore the results could not be quantified with the level of certainty required by the Listing Policy.
Data Reference:	Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Survey. A Report of the Surface Water Ambient Monitoring Program (SWAMP). California State Water Resources Control Board, Sacramento, CA Statewide Lakes Sportfish Contamination Study 2007 2008 Contaminants in Fish from California Lakes and Reservoirs, 2007-2008: Summary Report

[on a Two-Year Screening Survey](#)
[Cruise report for the Surface Water Ambient Monitoring Program \(SWAMP\)](#)
[bioaccumulation screening study in California lakes and reservoirs year two \(FY 07-08\).](#)
[Sampling dates: April 2008 - November 2008.](#)

SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	Water Quality Control Plan for the San Francisco Bay Basin: Controllable water quality factors shall not cause a detrimental increase in concentrations of toxic substances found in bottom sediments or aquatic life. Effects on aquatic organisms, wildlife, and human health will be considered.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	The modified OEHHA Fish Contaminant Goal for heptachlor epoxide in fish tissue is 0.93 ppb. This screening level assumes an average body weight of 70 kg and a consumption rate of 32 g/day for a 30 year exposure over a 70-year lifetime. This constituent is a carcinogen therefore the risk level is set to one in a million. A cooking reduction factor of 1 is applied for skin-off fillets. (Klasing, S., and R. Brodberg, 2008; OEHHA, 1999)
Guideline Reference:	Development of Fish Contaminant Goals and Advisory Tissue Levels for Common Contaminants in California Sport Fish: Chlordane, DDTs, Dieldrin, Methylmercury, PCBs, Selenium, and Toxaphene Public Health Goal for Heptachlor and Heptachlor Epoxide in Drinking Water
Spatial Representation:	Data for this assessment unit was collected by one monitoring project: (SWB_FishLk)
Temporal Representation:	Data was collected on a single day 6/25/2008.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	Samples were collected, processed, and analyzed in accordance with the methods described in Quality Assurance Project Plan "Screening Study of Bioaccumulation in California Lakes and Reservoirs." (SWAMP, 2008).
QAPP Information Reference(s):	Quality Assurance Project Plan Screening Study of Bioaccumulation in California Lakes and Reservoirs. Moss Landing Marine Labs. Prepared for SWAMP BOG. 49 pages plus appendices and attachments

DECISION ID	61471	Region 2
Calero Reservoir		

Pollutant:	Hexachlorobenzene/ HCB
Final Listing Decision:	Do Not List on 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision:	New Decision
Revision Status	Revised
Impairment from Pollutant or Pollution:	Pollutant
Regional Board Staff Conclusion:	<p>This pollutant is being considered for placement on the CWA section 303(d) List under section 3.5 of the Listing Policy. Under section 3.5 a single line of evidence is necessary to assess listing status. One line of evidence is available in the administrative record to assess this pollutant. Zero of one samples exceed the guideline.</p> <p>Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against placing this water segment-pollutant combination on the CWA section 303(d) List.</p> <p>This conclusion is based on the staff findings that:</p> <ol style="list-style-type: none"> 1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy. 2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy. 3. Zero of one samples exceed the guideline and this sample size is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating. A minimum of 16 samples is needed to determine if a beneficial use is fully supported using table 3.1. 4. Pursuant to SECTION 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.

Regional Board Staff Decision Recommendation: After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be placed on the section 303(d) list. The readily available data and information is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating.

Line of Evidence (LOE) for Decision ID 61471, Hexachlorobenzene/ HCB

Region 2

Calero Reservoir

LOE ID:	91185
Pollutant:	Hexachlorobenzene/ HCB
LOE Subgroup:	Pollutant-Tissue
Matrix:	Tissue
Fraction:	Fish fillet
Beneficial Use:	Commercial or recreational collection of fish, shellfish, or organisms
Number of Samples:	1
Number of Exceedances:	0
Data and Information Type:	Fish tissue analysis
Data Used to Assess Water Quality:	State Water Board staff assessed SWAMP data for Calero Reservoir to determine beneficial use support and results are as follows: 0 of 1 samples exceed the criterion for Hexachlorobenzene. One composite (5 fish per composite) was generated from one species: Largemouth Bass. Details of the compositing protocol can be found in the March 2009 report entitled: "Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Study" (SWAMP, 2009).
Data Reference:	Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Survey. A Report of the Surface Water Ambient Monitoring Program (SWAMP). California State Water Resources Control Board, Sacramento, CA Statewide Lakes Sportfish Contamination Study 2007 2008 Contaminants in Fish from California Lakes and Reservoirs, 2007-2008: Summary Report on a Two-Year Screening Survey Cruise report for the Surface Water Ambient Monitoring Program (SWAMP) bioaccumulation screening study in California lakes and reservoirs year two (FY 07-08). Sampling dates: April 2008 - November 2008.
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	Water Quality Control Plan for the San Francisco Bay Basin: Controllable water quality factors shall not cause a detrimental increase in concentrations of toxic substances found in bottom sediments or aquatic life. Effects on aquatic organisms, wildlife, and human health will be considered.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	The modified OEHHA Fish Contaminant Goal for hexachlorobenzene in fish tissue is 2.8 ppb. This screening level assumes an average body weight of 70 kg and a consumption rate of 32 g/day for a 30 year exposure over a 70-year lifetime. This constituent is a carcinogen therefore the risk level is set to one in a million. A cooking reduction factor of 1 is applied for skin-off fillets. (Klasing, S., and R. Brodberg, 2008; OEHHA, 2005)
Guideline Reference:	Development of Fish Contaminant Goals and Advisory Tissue Levels for Common Contaminants in California Sport Fish: Chlordane, DDTs, Dieldrin, Methylmercury, PCBs, Selenium, and Toxaphene Air Toxics Hotspots Program Risk Assessment Guidelines. Part II Technical Support Document for Describing Available Cancer Potency Values.
Spatial Representation:	Data for this assessment unit was collected by one monitoring project: (SWB_FishLk)
Temporal Representation:	Data was collected on a single day 6/25/2008.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	Samples were collected, processed, and analyzed in accordance with the methods

described in Quality Assurance Project Plan "Screening Study of Bioaccumulation in California Lakes and Reservoirs." (SWAMP, 2008).

QAPP Information Reference(s):

[Quality Assurance Project Plan Screening Study of Bioaccumulation in California Lakes and Reservoirs. Moss Landing Marine Labs. Prepared for SWAMP BOG. 49 pages plus appendices and attachments](#)

DECISION ID	61472	Region 2
Calero Reservoir		

Pollutant: Lindane/gamma Hexachlorocyclohexane (gamma-HCH)
Final Listing Decision: Do Not List on 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision: New Decision
Revision Status: Revised
Impairment from Pollutant or Pollution: Pollutant

Regional Board Staff Conclusion: This pollutant is being considered for placement on the CWA section 303(d) List under section 3.5 of the Listing Policy. Under section 3.5 a single line of evidence is necessary to assess listing status. Three lines of evidence are available in the administrative record to assess this pollutant. Zero of one samples exceed the guideline.

Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against placing this water segment-pollutant combination on the CWA section 303(d) List.

This conclusion is based on the staff findings that:

1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy.
2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy.
3. Zero of one samples exceed the guideline and this sample size is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating. A minimum of 16 samples is needed to determine if a beneficial use is fully supported using table 3.1.
4. Pursuant to SECTION 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.

Regional Board Staff Decision Recommendation: After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be placed on the section 303(d) list. The readily available data and information is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating.

Line of Evidence (LOE) for Decision ID 61472, Lindane/gamma Hexachlorocyclohexane (gamma-HCH)	Region 2
Calero Reservoir	

LOE ID: 91186

Pollutant: Lindane/gamma Hexachlorocyclohexane (gamma-HCH)
LOE Subgroup: Pollutant-Tissue
Matrix: Tissue
Fraction: Fish fillet

Beneficial Use: Warm Freshwater Habitat

Number of Samples: 1
Number of Exceedances: 0

Data and Information Type: Fish tissue analysis
Data Used to Assess Water Quality: State Water Board staff assessed SWAMP data for Calero Reservoir to determine beneficial use support and results are as follows: 0 of 1 samples exceed the criterion for

Data Reference:	<p>HCH, gamma. One composite (5 fish per composite) was generated from one species: Largemouth Bass. Details of the compositing protocol can be found in the March 2009 report entitled: "Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Study" (SWAMP, 2009).</p> <p>Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Survey. A Report of the Surface Water Ambient Monitoring Program (SWAMP). California State Water Resources Control Board, Sacramento, CA Statewide Lakes Sportfish Contamination Study 2007 2008</p> <p>Contaminants in Fish from California Lakes and Reservoirs, 2007-2008: Summary Report on a Two-Year Screening Survey</p> <p>Cruise report for the Surface Water Ambient Monitoring Program (SWAMP) bioaccumulation screening study in California lakes and reservoirs year two (FY 07-08). Sampling dates: April 2008 - November 2008.</p>
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	Water Quality Control Plan for the San Francisco Bay Basin: Controllable water quality factors shall not cause a detrimental increase in concentrations of toxic substances found in bottom sediments or aquatic life. Effects on aquatic organisms, wildlife, and human health will be considered.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	The modified OEHHA Fish Contaminant Goal for lindane in fish tissue is 4.6 ppb. This screening level assumes an average body weight of 70 kg and a consumption rate of 32 g/day for a 30 year exposure over a 70-year lifetime. This constituent is a carcinogen therefore the risk level is set to one in a million. A cooking reduction factor of 1 is applied for skin-off fillets. (Klasing, S., and R. Brodberg, 2008; OEHHA, 2005)
Guideline Reference:	National Academy of Sciences. Water Quality Criteria 1972. EPA-R3-73-033. Washington, D.C.: U.S. Environmental Protection Agency
Spatial Representation:	Data for this assessment unit was collected by one monitoring project: (SWB_FishLk)
Temporal Representation:	Data was collected on a single day 6/25/2008.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	Samples were collected, processed, and analyzed in accordance with the methods described in Quality Assurance Project Plan "Screening Study of Bioaccumulation in California Lakes and Reservoirs." (SWAMP, 2008).
QAPP Information Reference(s):	Quality Assurance Project Plan Screening Study of Bioaccumulation in California Lakes and Reservoirs. Moss Landing Marine Labs. Prepared for SWAMP BOG, 49 pages plus appendices and attachments

Line of Evidence (LOE) for Decision ID 61472, Lindane/gamma Hexachlorocyclohexane (gamma-HCH)

Region 2

Calero Reservoir

LOE ID:	91189
Pollutant:	Lindane/gamma Hexachlorocyclohexane (gamma-HCH)
LOE Subgroup:	Pollutant-Tissue
Matrix:	Tissue
Fraction:	Fish fillet
Beneficial Use:	Commercial or recreational collection of fish, shellfish, or organisms
Number of Samples:	1
Number of Exceedances:	0
Data and Information Type:	Fish tissue analysis
Data Used to Assess Water Quality:	State Water Board staff assessed SWAMP data for Calero Reservoir to determine beneficial use support and results are as follows: 0 of 1 samples exceed the criterion for HCH, gamma. One composite (5 fish per composite) was generated from one species: Largemouth Bass. Details of the compositing protocol can be found in the March 2009 report entitled: "Contaminants in Fish from California Lakes and Reservoirs: Technical

Data Reference:	Report on Year One of a Two-Year Screening Study" (SWAMP, 2009). Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Survey. A Report of the Surface Water Ambient Monitoring Program (SWAMP). California State Water Resources Control Board, Sacramento, CA Statewide Lakes Sportfish Contamination Study 2007 2008 Contaminants in Fish from California Lakes and Reservoirs, 2007-2008: Summary Report on a Two-Year Screening Survey Cruise report for the Surface Water Ambient Monitoring Program (SWAMP) bioaccumulation screening study in California lakes and reservoirs year two (FY 07-08). Sampling dates: April 2008 - November 2008.
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	Water Quality Control Plan for the San Francisco Bay Basin: Controllable water quality factors shall not cause a detrimental increase in concentrations of toxic substances found in bottom sediments or aquatic life. Effects on aquatic organisms, wildlife, and human health will be considered.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	The modified OEHHA Fish Contaminant Goal for lindane in fish tissue is 4.6 ppb. This screening level assumes an average body weight of 70 kg and a consumption rate of 32 g/day for a 30 year exposure over a 70-year lifetime. This constituent is a carcinogen therefore the risk level is set to one in a million. A cooking reduction factor of 1 is applied for skin-off fillets.
Guideline Reference:	Development of Fish Contaminant Goals and Advisory Tissue Levels for Common Contaminants in California Sport Fish: Chlordane, DDTs, Dieldrin, Methylmercury, PCBs, Selenium, and Toxaphene Air Toxics Hotspots Program Risk Assessment Guidelines. Part II Technical Support Document for Describing Available Cancer Potency Values.
Spatial Representation:	Data for this assessment unit was collected by one monitoring project: (SWB_FishLk)
Temporal Representation:	Data was collected on a single day 6/25/2008.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	Samples were collected, processed, and analyzed in accordance with the methods described in Quality Assurance Project Plan "Screening Study of Bioaccumulation in California Lakes and Reservoirs." (SWAMP, 2008).
QAPP Information Reference(s):	Quality Assurance Project Plan Screening Study of Bioaccumulation in California Lakes and Reservoirs. Moss Landing Marine Labs. Prepared for SWAMP BOG, 49 pages plus appendices and attachments

Line of Evidence (LOE) for Decision ID 61472, Lindane/gamma Hexachlorocyclohexane (gamma-HCH)

Region 2

Calero Reservoir

LOE ID:	91190
Pollutant:	Lindane/gamma Hexachlorocyclohexane (gamma-HCH)
LOE Subgroup:	Pollutant-Tissue
Matrix:	Tissue
Fraction:	Fish fillet
Beneficial Use:	Cold Freshwater Habitat
Number of Samples:	1
Number of Exceedances:	0
Data and Information Type:	Fish tissue analysis
Data Used to Assess Water Quality:	State Water Board staff assessed SWAMP data for Calero Reservoir to determine beneficial use support and results are as follows: 0 of 1 samples exceed the criterion for HCH, gamma. One composite (5 fish per composite) was generated from one species: Largemouth Bass. Details of the compositing protocol can be found in the March 2009 report entitled: "Contaminants in Fish from California Lakes and Reservoirs: Technical

Data Reference:	Report on Year One of a Two-Year Screening Study" (SWAMP, 2009). Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Survey. A Report of the Surface Water Ambient Monitoring Program (SWAMP). California State Water Resources Control Board, Sacramento, CA Statewide Lakes Sportfish Contamination Study 2007 2008 Contaminants in Fish from California Lakes and Reservoirs, 2007-2008: Summary Report on a Two-Year Screening Survey Cruise report for the Surface Water Ambient Monitoring Program (SWAMP) bioaccumulation screening study in California lakes and reservoirs year two (FY 07-08). Sampling dates: April 2008 - November 2008.
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	Water Quality Control Plan for the San Francisco Bay Basin: Controllable water quality factors shall not cause a detrimental increase in concentrations of toxic substances found in bottom sediments or aquatic life. Effects on aquatic organisms, wildlife, and human health will be considered.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	The modified OEHHA Fish Contaminant Goal for lindane in fish tissue is 4.6 ppb. This screening level assumes an average body weight of 70 kg and a consumption rate of 32 g/day for a 30 year exposure over a 70-year lifetime. This constituent is a carcinogen therefore the risk level is set to one in a million. A cooking reduction factor of 1 is applied for skin-off fillets. (Klasing, S., and R. Brodberg, 2008; OEHHA, 2005)
Guideline Reference:	National Academy of Sciences. Water Quality Criteria 1972. EPA-R3-73-033. Washington, D.C.: U.S. Environmental Protection Agency
Spatial Representation:	Data for this assessment unit was collected by one monitoring project: (SWB_FishLk)
Temporal Representation:	Data was collected on a single day 6/25/2008.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	Samples were collected, processed, and analyzed in accordance with the methods described in Quality Assurance Project Plan "Screening Study of Bioaccumulation in California Lakes and Reservoirs." (SWAMP, 2008).
QAPP Information Reference(s):	Quality Assurance Project Plan Screening Study of Bioaccumulation in California Lakes and Reservoirs. Moss Landing Marine Labs. Prepared for SWAMP BOG. 49 pages plus appendices and attachments

DECISION ID		61473	Region 2
Calero Reservoir			
Pollutant:	Mirex		
Final Listing Decision:	Do Not List on 303(d) list (TMDL required list)		
Last Listing Cycle's Final Listing Decision:	New Decision		
Revision Status	Revised		
Impairment from Pollutant or Pollution:	Pollutant		
Regional Board Staff Conclusion:	<p>This pollutant is being considered for placement on the CWA section 303(d) List under section 3.5 of the Listing Policy. Under section 3.5 a single line of evidence is necessary to assess listing status. One line of evidence is available in the administrative record to assess this pollutant. Zero of zero samples exceed the guideline. No data met the QA criteria.</p> <p>Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against placing this water segment-pollutant combination on the CWA section 303(d) List.</p> <p>This conclusion is based on the staff findings that:</p> <ol style="list-style-type: none"> 1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy. 2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy. 3. Zero of zero samples exceed the guideline and this sample size is insufficient to determine, with 		

the power and confidence of the Listing Policy, the applicable beneficial use support rating. A minimum of 16 samples is needed to determine if a beneficial use is fully supported using table 3.1. 4. Pursuant to SECTION 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.

Regional Board Staff Decision Recommendation: After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be placed on the section 303(d) list. The readily available data and information is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating.

Line of Evidence (LOE) for Decision ID 61473, Mirex

Region 2

Calero Reservoir

LOE ID:	91195
Pollutant:	Mirex
LOE Subgroup:	Pollutant-Tissue
Matrix:	Tissue
Fraction:	Fish fillet
Beneficial Use:	Commercial or recreational collection of fish, shellfish, or organisms
Number of Samples:	0
Number of Exceedances:	0
Data and Information Type:	Fish tissue analysis
Data Used to Assess Water Quality:	State Water Board staff assessed SWAMP data for Calero Reservoir to determine beneficial use support and results are as follows: 0 of 0 samples exceed the criterion for Mirex. One composite (5 fish per composite) was generated from one species: Largemouth Bass. Details of the compositing protocol can be found in the March 2009 report entitled: "Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Study" (SWAMP, 2009). One composite was not used in the assessment because the laboratory data reporting limit(s) was above the objective and therefore the results could not be quantified with the level of certainty required by the Listing Policy.
Data Reference:	Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Survey. A Report of the Surface Water Ambient Monitoring Program (SWAMP). California State Water Resources Control Board, Sacramento, CA Statewide Lakes Sportfish Contamination Study 2007 2008 Contaminants in Fish from California Lakes and Reservoirs, 2007-2008: Summary Report on a Two-Year Screening Survey Cruise report for the Surface Water Ambient Monitoring Program (SWAMP) bioaccumulation screening study in California lakes and reservoirs year two (FY 07-08). Sampling dates: April 2008 - November 2008.
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	Water Quality Control Plan for the San Francisco Bay Basin: Controllable water quality factors shall not cause a detrimental increase in concentrations of toxic substances found in bottom sediments or aquatic life. Effects on aquatic organisms, wildlife, and human health will be considered.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	The modified OEHHA Fish Contaminant Goal for mirex in fish tissue is 0.28 ppb. This screening level assumes an average body weight of 70 kg and a consumption rate of 32 g/day. A cooking reduction factor of 1 is applied for skin-off fillets. (Klasing, S., and R. Brodberg, 2008; OEHHA, 1992)
Guideline Reference:	Development of Fish Contaminant Goals and Advisory Tissue Levels for Common Contaminants in California Sport Fish: Chlordane, DDTs, Dieldrin, Methylmercury, PCBs, Selenium, and Toxaphene Expedited Cancer Potency Values and Proposed Regulatory Levels for Certain Proposition

Spatial Representation: Data for this assessment unit was collected by one monitoring project: (SWB_FishLk)
Temporal Representation: Data was collected on a single day 6/25/2008.
Environmental Conditions: Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information: Samples were collected, processed, and analyzed in accordance with the methods described in Quality Assurance Project Plan "Screening Study of Bioaccumulation in California Lakes and Reservoirs." (SWAMP, 2008).
QAPP Information Reference(s): [Quality Assurance Project Plan Screening Study of Bioaccumulation in California Lakes and Reservoirs. Moss Landing Marine Labs. Prepared for SWAMP BOG. 49 pages plus appendices and attachments](#)

DECISION ID 61474		Region 2
Calero Reservoir		
Pollutant:	PCBs (Polychlorinated biphenyls)	
Final Listing Decision:	Do Not List on 303(d) list (TMDL required list)	
Last Listing Cycle's Final Listing Decision:	New Decision	
Revision Status	Revised	
Impairment from Pollutant or Pollution:	Pollutant	
Regional Board Staff Conclusion:	<p>This pollutant is being considered for placement on the CWA section 303(d) List under section 3.5 of the Listing Policy. Under section 3.5 a single line of evidence is necessary to assess listing status. Three lines of evidence are available in the administrative record to assess this pollutant. One of one samples exceed the guideline.</p> <p>Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against placing this water segment-pollutant combination on the CWA section 303(d) List.</p> <p>This conclusion is based on the staff findings that:</p> <ol style="list-style-type: none">1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy.2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy.3. One of one samples exceed the guideline and this sample size is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating. A minimum of 16 samples is needed to determine if a beneficial use is fully supported using table 3.1.4. Pursuant to SECTION 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.	
Regional Board Staff Decision Recommendation:	After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be placed on the section 303(d) list. The readily available data and information is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating.	

Line of Evidence (LOE) for Decision ID 61474, PCBs (Polychlorinated biphenyls)		Region 2
Calero Reservoir		
LOE ID:	91202	
Pollutant:	PCBs (Polychlorinated biphenyls)	
LOE Subgroup:	Pollutant-Tissue	
Matrix:	Tissue	
Fraction:	Fish fillet	
Beneficial Use:	Commercial or recreational collection of fish, shellfish, or organisms	
Number of Samples:	1	

Number of Exceedances:	1
Data and Information Type:	Fish tissue analysis
Data Used to Assess Water Quality:	State Water Board staff assessed SWAMP data for Calero Reservoir to determine beneficial use support and results are as follows: 1 of 1 samples exceed the criterion for PCB, Total. One composite (5 fish per composite) was generated from one species: Largemouth Bass. Details of the compositing protocol can be found in the March 2009 report entitled: "Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Study" (SWAMP, 2009). Total PCB was assessed for as follows: PCB aroclors and congeners were summed separately and the sum that yielded the highest value was used for the assessment.
Data Reference:	Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Survey. A Report of the Surface Water Ambient Monitoring Program (SWAMP). California State Water Resources Control Board, Sacramento, CA Statewide Lakes Sportfish Contamination Study 2007 2008 Contaminants in Fish from California Lakes and Reservoirs, 2007-2008: Summary Report on a Two-Year Screening Survey Cruise report for the Surface Water Ambient Monitoring Program (SWAMP) bioaccumulation screening study in California lakes and reservoirs year two (FY 07-08). Sampling dates: April 2008 - November 2008.
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	Water Quality Control Plan for the San Francisco Bay Basin (2013): Controllable water quality factors shall not cause a detrimental increase in concentrations of toxic substances found in bottom sediments or aquatic life. Effects on aquatic organisms, wildlife, and human health will be considered.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	The modified OEHHA Fish Contaminant Goal for polychlorinated biphenyls in fish tissue is 2.6 ppb. This screening level assumes an average body weight of 70 kg and a consumption rate of 32 g/day for a 30 year exposure over a 70-year lifetime. This constituent is a carcinogen therefore the risk level is set to one in a million. A cooking reduction factor of 1 is applied for skin-off fillets. (Klasing, S., and R. Brodberg, 2008)
Guideline Reference:	Development of Fish Contaminant Goals and Advisory Tissue Levels for Common Contaminants in California Sport Fish: Chlordane, DDTs, Dieldrin, Methylmercury, PCBs, Selenium, and Toxaphene
Spatial Representation:	Data for this assessment unit was collected by one monitoring project: (SWB_FishLk)
Temporal Representation:	Data was collected on a single day 6/25/2008.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	Samples were collected, processed, and analyzed in accordance with the methods described in Quality Assurance Project Plan "Screening Study of Bioaccumulation in California Lakes and Reservoirs." (SWAMP, 2008).
QAPP Information Reference(s):	Quality Assurance Project Plan Screening Study of Bioaccumulation in California Lakes and Reservoirs. Moss Landing Marine Labs. Prepared for SWAMP BOG. 49 pages plus appendices and attachments

Line of Evidence (LOE) for Decision ID 61474, PCBs (Polychlorinated biphenyls)

Region 2

Calero Reservoir

LOE ID:	91197
Pollutant:	PCBs (Polychlorinated biphenyls)
LOE Subgroup:	Pollutant-Tissue
Matrix:	Tissue
Fraction:	Fish fillet
Beneficial Use:	Cold Freshwater Habitat
Number of Samples:	1
Number of Exceedances:	0

Data and Information Type:	Fish tissue analysis
Data Used to Assess Water Quality:	State Water Board staff assessed SWAMP data for Calero Reservoir to determine beneficial use support and results are as follows: 0 of 1 samples exceed the criterion for PCB, Total. One composite (5 fish per composite) was generated from one species: Largemouth Bass. Details of the compositing protocol can be found in the March 2009 report entitled: "Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Study" (SWAMP, 2009). Total PCB was assessed for as follows: PCB aroclors and congeners were summed separately and the sum that yielded the highest value was used for the assessment.
Data Reference:	Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Survey. A Report of the Surface Water Ambient Monitoring Program (SWAMP). California State Water Resources Control Board, Sacramento, CA Statewide Lakes Sportfish Contamination Study 2007 2008 Contaminants in Fish from California Lakes and Reservoirs, 2007-2008: Summary Report on a Two-Year Screening Survey Cruise report for the Surface Water Ambient Monitoring Program (SWAMP) bioaccumulation screening study in California lakes and reservoirs year two (FY 07-08). Sampling dates: April 2008 - November 2008.
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	Water Quality Control Plan for the San Francisco Bay Basin (2013): Controllable water quality factors shall not cause a detrimental increase in concentrations of toxic substances found in bottom sediments or aquatic life. Effects on aquatic organisms, wildlife, and human health will be considered.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	National Academy of Science guidelines (NAS 1972) establish a maximum total PCB concentration of 500 ug/Kg (wet weight) in tissue samples for protection of aquatic life from bioaccumulation of toxic substances.
Guideline Reference:	National Academy of Sciences. Water Quality Criteria 1972. EPA-R3-73-033. Washington, D.C.: U.S. Environmental Protection Agency
Spatial Representation:	Data for this assessment unit was collected by one monitoring project: (SWB_FishLk)
Temporal Representation:	Data was collected on a single day 6/25/2008.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	Samples were collected, processed, and analyzed in accordance with the methods described in Quality Assurance Project Plan "Screening Study of Bioaccumulation in California Lakes and Reservoirs." (SWAMP, 2008).
QAPP Information Reference(s):	Quality Assurance Project Plan Screening Study of Bioaccumulation in California Lakes and Reservoirs. Moss Landing Marine Labs. Prepared for SWAMP BOG, 49 pages plus appendices and attachments

Line of Evidence (LOE) for Decision ID 61474, PCBs (Polychlorinated biphenyls)		Region 2
Calero Reservoir		
LOE ID:	91196	
Pollutant:	PCBs (Polychlorinated biphenyls)	
LOE Subgroup:	Pollutant-Tissue	
Matrix:	Tissue	
Fraction:	Fish fillet	
Beneficial Use:	Warm Freshwater Habitat	
Number of Samples:	1	
Number of Exceedances:	0	
Data and Information Type:	Fish tissue analysis	
Data Used to Assess Water Quality:	State Water Board staff assessed SWAMP data for Calero Reservoir to determine beneficial use support and results are as follows: 0 of 1 samples exceed the criterion for	

	PCB, Total. One composite (5 fish per composite) was generated from one species: Largemouth Bass. Details of the compositing protocol can be found in the March 2009 report entitled: "Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Study" (SWAMP, 2009). Total PCB was assessed for as follows: PCB aroclors and congeners were summed separately and the sum that yielded the highest value was used for the assessment.
Data Reference:	Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Survey. A Report of the Surface Water Ambient Monitoring Program (SWAMP). California State Water Resources Control Board, Sacramento, CA Statewide Lakes Sportfish Contamination Study 2007 2008 Contaminants in Fish from California Lakes and Reservoirs, 2007-2008: Summary Report on a Two-Year Screening Survey Cruise report for the Surface Water Ambient Monitoring Program (SWAMP) bioaccumulation screening study in California lakes and reservoirs year two (FY 07-08). Sampling dates: April 2008 - November 2008.
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	Water Quality Control Plan for the San Francisco Bay Basin (2013): Controllable water quality factors shall not cause a detrimental increase in concentrations of toxic substances found in bottom sediments or aquatic life. Effects on aquatic organisms, wildlife, and human health will be considered.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	National Academy of Science guidelines (NAS 1972) establish a maximum total PCB concentration of 500 ug/Kg (wet weight) in tissue samples for protection of aquatic life from bioaccumulation of toxic substances.
Guideline Reference:	National Academy of Sciences. Water Quality Criteria 1972. EPA-R3-73-033. Washington, D.C.: U.S. Environmental Protection Agency
Spatial Representation:	Data for this assessment unit was collected by one monitoring project: (SWB_FishLk)
Temporal Representation:	Data was collected on a single day 6/25/2008.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	Samples were collected, processed, and analyzed in accordance with the methods described in Quality Assurance Project Plan "Screening Study of Bioaccumulation in California Lakes and Reservoirs." (SWAMP, 2008).
QAPP Information Reference(s):	Quality Assurance Project Plan Screening Study of Bioaccumulation in California Lakes and Reservoirs. Moss Landing Marine Labs. Prepared for SWAMP BOG. 49 pages plus appendices and attachments

DECISION ID	61475	Region 2
Calero Reservoir		
Pollutant:	Selenium	
Final Listing Decision:	Do Not List on 303(d) list (TMDL required list)	
Last Listing Cycle's Final Listing Decision:	New Decision	
Revision Status	Revised	
Impairment from Pollutant or Pollution:	Pollutant	
Regional Board Staff Conclusion:	<p>This pollutant is being considered for placement on the CWA section 303(d) List under section 3.5 of the Listing Policy. Under section 3.5 a single line of evidence is necessary to assess listing status. One line of evidence is available in the administrative record to assess this pollutant. Zero of one samples exceed the guideline.</p> <p>Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against placing this water segment-pollutant combination on the CWA section 303(d) List.</p> <p>This conclusion is based on the staff findings that:</p>	

1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy.
2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy.
3. Zero of one samples exceed the guideline and this sample size is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating. A minimum of 16 samples is needed to determine if a beneficial use is fully supported using table 3.1.
4. Pursuant to SECTION 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.

Regional Board Staff Decision Recommendation: After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be placed on the section 303(d) list. The readily available data and information is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating.

**Line of Evidence (LOE) for Decision ID 61475, Selenium
Calero Reservoir**

Region 2

LOE ID:	91203
Pollutant:	Selenium
LOE Subgroup:	Pollutant-Tissue
Matrix:	Tissue
Fraction:	Fish fillet
Beneficial Use:	Commercial or recreational collection of fish, shellfish, or organisms
Number of Samples:	1
Number of Exceedances:	0
Data and Information Type:	Fish tissue analysis
Data Used to Assess Water Quality:	State Water Board staff assessed SWAMP data for Calero Reservoir to determine beneficial use support and results are as follows: 0 of 1 samples exceed the criterion for Selenium. One composite (5 fish per composite) was generated from one species: Largemouth Bass. Details of the compositing protocol can be found in the March 2009 report entitled: "Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Study" (SWAMP, 2009).
Data Reference:	Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Survey. A Report of the Surface Water Ambient Monitoring Program (SWAMP). California State Water Resources Control Board, Sacramento, CA Statewide Lakes Sportfish Contamination Study 2007 2008 Contaminants in Fish from California Lakes and Reservoirs, 2007-2008: Summary Report on a Two-Year Screening Survey Cruise report for the Surface Water Ambient Monitoring Program (SWAMP) bioaccumulation screening study in California lakes and reservoirs year two (FY 07-08). Sampling dates: April 2008 - November 2008.
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	Water Quality Control Plan for the San Francisco Bay Basin (2013): Controllable water quality factors shall not cause a detrimental increase in concentrations of toxic substances found in bottom sediments or aquatic life. Effects on aquatic organisms, wildlife, and human health will be considered.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	The OEHHA Fish Contaminant Goal for selenium in fish tissue is 7.4 ppm. This screening level assumes an average body weight of 70 kg and a consumption rate of 32 g/day. A background dietary consumption rate of 0.114 mg/day is applied for this micronutrient. (Klasing, S., and R. Brodberg, 2008)
Guideline Reference:	Development of Fish Contaminant Goals and Advisory Tissue Levels for Common Contaminants in California Sport Fish: Chlordane, DDTs, Dieldrin, Methylmercury, PCBs, Selenium, and Toxaphene

Spatial Representation:	Data for this assessment unit was collected by one monitoring project: (SWB_FishLk)
Temporal Representation:	Data was collected on a single day 6/25/2008.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	Samples were collected, processed, and analyzed in accordance with the methods described in Quality Assurance Project Plan "Screening Study of Bioaccumulation in California Lakes and Reservoirs." (SWAMP, 2008).
QAPP Information Reference(s):	Quality Assurance Project Plan Screening Study of Bioaccumulation in California Lakes and Reservoirs. Moss Landing Marine Labs. Prepared for SWAMP BOG. 49 pages plus appendices and attachments

Draft California 2016 Integrated Report (303(d) List/305(b) Report)

Supporting Information

Regional Board 2 - San Francisco Bay Region

Water Body Name: Guadalupe Reservoir
Water Body ID: CAL2054004019980928155642
Water Body Type: Lake & Reservoir

DECISION ID 34073 **Region 2**
Guadalupe Reservoir

Pollutant: Mercury
Final Listing Decision: Do Not Delist from 303(d) list (being addressed with USEPA approved TMDL)
Last Listing Cycle's Final Listing Decision: List on 303(d) list (TMDL required list)(2012)
Revision Status Revised
Sources: Source Unknown
TMDL Name: Guadalupe River Watershed Mercury
TMDL Project Code: 11
Date TMDL Approved by USEPA: 06/01/2010
Impairment from Pollutant or Pollution: Pollutant

Regional Board Staff Conclusion: 303(d) listing decisions made prior to 2006 were not held in an assessment database. The Regional Boards will update this decision when new data and information become available and are assessed.

Regional Board Staff Decision Recommendation: This is a decision previously approved by the State Water Resources Control Board and the USEPA. No new data were assessed by the Regional Board for the current. The decision has not changed.

Line of Evidence (LOE) for Decision ID 34073, Mercury **Region 2** **Guadalupe Reservoir**

LOE ID: 3750
Pollutant: Mercury
LOE Subgroup: Pollutant-Tissue
Matrix: Tissue
Fraction: Not Recorded
Beneficial Use: Commercial or recreational collection of fish, shellfish, or organisms
Number of Samples: 0
Number of Exceedances: 0
Data and Information Type: Not Specified
Data Used to Assess Water Quality: Unspecified--This LOE is a placeholder to support a 303(d) listing decision made prior to 2006.
Data Reference: [Placeholder reference pre-2006 303\(d\)](#)
SWAMP Data: Non-SWAMP
Water Quality Objective/Criterion: Unspecified
Objective/Criterion Reference: [Placeholder reference pre-2006 303\(d\)](#)
Evaluation Guideline: Unspecified

Guideline Reference: [Placeholder reference pre-2006 303\(d\)](#)

Spatial Representation: Unspecified

Temporal Representation: Unspecified

Environmental Conditions: Unspecified

QAPP Information: Unspecified

QAPP Information Reference(s):

Draft California 2016 Integrated Report (303(d) List/305(b) Report)

Supporting Information

Regional Board 2 - San Francisco Bay Region

Water Body Name: Vasona Lake
Water Body ID: CAL2054005020020327162629
Water Body Type: Lake & Reservoir

DECISION ID 65120 **Region 2**
Vasona Lake

Pollutant: Aldrin
Final Listing Decision: Do Not List on 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision: New Decision
Revision Status Revised
Impairment from Pollutant or Pollution: Pollutant

Regional Board Staff Conclusion: This pollutant is being considered for placement on the CWA section 303(d) List under section 3.5 of the Listing Policy. Under section 3.5 a single line of evidence is necessary to assess listing status. Two lines of evidence are available in the administrative record to assess this pollutant. Zero of one samples exceed the guideline.

Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against placing this water segment-pollutant combination on the CWA section 303(d) List.

This conclusion is based on the staff findings that:

1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy.
2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy.
3. Zero of one samples exceed the guideline and this sample size is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating. A minimum of 16 samples is needed to determine if a beneficial use is fully supported using table 3.1.
4. Pursuant to SECTION 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.

Regional Board Staff Decision Recommendation: After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be placed on the section 303(d) list. The readily available data and information is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating.

Line of Evidence (LOE) for Decision ID 65120, Aldrin **Region 2**
Vasona Lake

LOE ID: 93564
Pollutant: Aldrin
LOE Subgroup: Pollutant-Tissue
Matrix: Tissue
Fraction: Fish fillet
Beneficial Use: Cold Freshwater Habitat
Number of Samples: 1
Number of Exceedances: 0

Data and Information Type:	Fish tissue analysis
Data Used to Assess Water Quality:	State Water Board staff assessed SWAMP data for Vasona Lake to determine beneficial use support and results are as follows: 0 of 1 samples exceed the criterion for Aldrin. Two composites (5 fish per composite) were generated from one species: Common Carp. Composites were not spatially independent (as defined in the Listing Policy) and so were averaged. Details of the compositing protocol can be found in the March 2009 report entitled: "Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Study" (SWAMP, 2009).
Data Reference:	Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Survey. A Report of the Surface Water Ambient Monitoring Program (SWAMP). California State Water Resources Control Board, Sacramento, CA Statewide Lakes Sportfish Contamination Study 2007 2008 Contaminants in Fish from California Lakes and Reservoirs, 2007-2008: Summary Report on a Two-Year Screening Survey Cruise report for the Surface Water Ambient Monitoring Program (SWAMP) bioaccumulation screening study in California lakes and reservoirs year two (FY 07-08). Sampling dates: April 2008 - November 2008.
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	Water Quality Control Plan for the San Francisco Bay Basin: Controllable water quality factors shall not cause a detrimental increase in concentrations of toxic substances found in bottom sediments or aquatic life. Effects on aquatic organisms, wildlife, and human health will be considered.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	National Academy of Science guidelines (NAS 1972) establish a maximum Aldrin concentration of 100 ug/Kg (wet weight) in tissue samples for protection of aquatic life from bioaccumulation of toxic substances.
Guideline Reference:	National Academy of Sciences. Water Quality Criteria 1972. EPA-R3-73-033. Washington, D.C.: U.S. Environmental Protection Agency
Spatial Representation:	Data for this assessment unit was collected by one monitoring project: (SWB_FishLk)
Temporal Representation:	Data was collected on a single day 11/5/2008.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	Samples were collected, processed, and analyzed in accordance with the methods described in Quality Assurance Project Plan "Screening Study of Bioaccumulation in California Lakes and Reservoirs." (SWAMP, 2008).
QAPP Information Reference(s):	Quality Assurance Project Plan Screening Study of Bioaccumulation in California Lakes and Reservoirs. Moss Landing Marine Labs. Prepared for SWAMP BOG, 49 pages plus appendices and attachments

Line of Evidence (LOE) for Decision ID 65120, Aldrin

Region 2

Vasona Lake

LOE ID:	93563
Pollutant:	Aldrin
LOE Subgroup:	Pollutant-Tissue
Matrix:	Tissue
Fraction:	Fish fillet
Beneficial Use:	Warm Freshwater Habitat
Number of Samples:	1
Number of Exceedances:	0

Data and Information Type:	Fish tissue analysis
Data Used to Assess Water Quality:	State Water Board staff assessed SWAMP data for Vasona Lake to determine beneficial use support and results are as follows: 0 of 1 samples exceed the criterion for Aldrin. Two composites (5 fish per composite) were generated from one species: Common Carp.

	Composites were not spatially independent (as defined in the Listing Policy) and so were averaged. Details of the compositing protocol can be found in the March 2009 report entitled: "Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Study" (SWAMP, 2009).
Data Reference:	Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Survey. A Report of the Surface Water Ambient Monitoring Program (SWAMP). California State Water Resources Control Board, Sacramento, CA Statewide Lakes Sportfish Contamination Study 2007 2008 Contaminants in Fish from California Lakes and Reservoirs, 2007-2008: Summary Report on a Two-Year Screening Survey Cruise report for the Surface Water Ambient Monitoring Program (SWAMP) bioaccumulation screening study in California lakes and reservoirs year two (FY 07-08). Sampling dates: April 2008 - November 2008.
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	Water Quality Control Plan for the San Francisco Bay Basin: Controllable water quality factors shall not cause a detrimental increase in concentrations of toxic substances found in bottom sediments or aquatic life. Effects on aquatic organisms, wildlife, and human health will be considered.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	National Academy of Science guidelines (NAS 1972) establish a maximum Aldrin concentration of 100 ug/Kg (wet weight) in tissue samples for protection of aquatic life from bioaccumulation of toxic substances.
Guideline Reference:	National Academy of Sciences. Water Quality Criteria 1972. EPA-R3-73-033. Washington, D.C.: U.S. Environmental Protection Agency
Spatial Representation:	Data for this assessment unit was collected by one monitoring project: (SWB_FishLk)
Temporal Representation:	Data was collected on a single day 11/5/2008.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	Samples were collected, processed, and analyzed in accordance with the methods described in Quality Assurance Project Plan "Screening Study of Bioaccumulation in California Lakes and Reservoirs." (SWAMP, 2008).
QAPP Information Reference(s):	Quality Assurance Project Plan Screening Study of Bioaccumulation in California Lakes and Reservoirs. Moss Landing Marine Labs. Prepared for SWAMP BOG. 49 pages plus appendices and attachments

DECISION ID	65121	Region 2
Vasona Lake		
Pollutant:	Chlordane	
Final Listing Decision:	Do Not List on 303(d) list (TMDL required list)	
Last Listing Cycle's Final Listing Decision:	New Decision	
Revision Status	Revised	
Impairment from Pollutant or Pollution:	Pollutant	
Regional Board Staff Conclusion:	<p>This pollutant is being considered for placement on the CWA section 303(d) List under section 3.5 of the Listing Policy. Under section 3.5 a single line of evidence is necessary to assess listing status. Three lines of evidence are available in the administrative record to assess this pollutant. One of one samples exceed the guideline.</p> <p>Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against placing this water segment-pollutant combination on the CWA section 303(d) List.</p> <p>This conclusion is based on the staff findings that:</p> <ol style="list-style-type: none"> 1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy. 2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy. 	

3. One of one samples exceed the guideline and this sample size is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating. A minimum of 16 samples is needed to determine if a beneficial use is fully supported using table 3.1.
4. Pursuant to SECTION 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.

Regional Board Staff Decision Recommendation: After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be placed on the section 303(d) list. The readily available data and information is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating.

**Line of Evidence (LOE) for Decision ID 65121, Chlordane
Vasona Lake**

Region 2

LOE ID:	93576
Pollutant:	Chlordane
LOE Subgroup:	Pollutant-Tissue
Matrix:	Tissue
Fraction:	Fish fillet
Beneficial Use:	Cold Freshwater Habitat
Number of Samples:	1
Number of Exceedances:	0
Data and Information Type:	Fish tissue analysis
Data Used to Assess Water Quality:	State Water Board staff assessed SWAMP data for Vasona Lake to determine beneficial use support and results are as follows: 0 of 1 samples exceed the criterion for Chlordane, Total. Two composites (5 fish per composite) were generated from one species: Common Carp. Composites were not spatially independent (as defined in the Listing Policy) and so were averaged. Details of the compositing protocol can be found in the March 2009 report entitled: "Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Study" (SWAMP, 2009). Total chlordane was calculated as the sum of the following chlordane isomers: cis- and trans-chlordane, cis- and trans-nonachlor, and oxychlordane.
Data Reference:	Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Survey. A Report of the Surface Water Ambient Monitoring Program (SWAMP). California State Water Resources Control Board, Sacramento, CA Statewide Lakes Sportfish Contamination Study 2007 2008 Contaminants in Fish from California Lakes and Reservoirs, 2007-2008: Summary Report on a Two-Year Screening Survey Cruise report for the Surface Water Ambient Monitoring Program (SWAMP) bioaccumulation screening study in California lakes and reservoirs year two (FY 07-08). Sampling dates: April 2008 - November 2008.
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	Water Quality Control Plan for the San Francisco Bay Basin: Controllable water quality factors shall not cause a detrimental increase in concentrations of toxic substances found in bottom sediments or aquatic life. Effects on aquatic organisms, wildlife, and human health will be considered.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	National Academy of Science guidelines (NAS 1972) establish a maximum total Chlordane concentration of 100 ug/Kg (wet weight) in tissue samples for protection of aquatic life from bioaccumulation of toxic substances.
Guideline Reference:	National Academy of Sciences. Water Quality Criteria 1972. EPA-R3-73-033. Washington, D.C.: U.S. Environmental Protection Agency
Spatial Representation:	Data for this assessment unit was collected by one monitoring project: (SWB_FishLk)

Temporal Representation:	Data was collected on a single day 11/5/2008.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	Samples were collected, processed, and analyzed in accordance with the methods described in Quality Assurance Project Plan "Screening Study of Bioaccumulation in California Lakes and Reservoirs." (SWAMP, 2008).
QAPP Information Reference(s):	Quality Assurance Project Plan Screening Study of Bioaccumulation in California Lakes and Reservoirs. Moss Landing Marine Labs. Prepared for SWAMP BOG. 49 pages plus appendices and attachments

Line of Evidence (LOE) for Decision ID 65121, Chlordane

Region 2

Vasona Lake

LOE ID:	93577
Pollutant:	Chlordane
LOE Subgroup:	Pollutant-Tissue
Matrix:	Tissue
Fraction:	Fish fillet
Beneficial Use:	Commercial or recreational collection of fish, shellfish, or organisms
Number of Samples:	1
Number of Exceedances:	1
Data and Information Type:	Fish tissue analysis
Data Used to Assess Water Quality:	State Water Board staff assessed SWAMP data for Vasona Lake to determine beneficial use support and results are as follows: 1 of 1 samples exceed the criterion for Chlordane, Total. Two composites (5 fish per composite) were generated from one species: Common Carp. Composites were not spatially independent (as defined in the Listing Policy) and so were averaged. Details of the compositing protocol can be found in the March 2009 report entitled: "Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Study" (SWAMP, 2009). Total chlordane was calculated as the sum of the following chlordane isomers: cis- and trans-chlordane, cis- and trans-nonachlor, and oxychlordane.
Data Reference:	Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Survey. A Report of the Surface Water Ambient Monitoring Program (SWAMP). California State Water Resources Control Board, Sacramento, CA Statewide Lakes Sportfish Contamination Study 2007 2008 Contaminants in Fish from California Lakes and Reservoirs, 2007-2008: Summary Report on a Two-Year Screening Survey Cruise report for the Surface Water Ambient Monitoring Program (SWAMP) bioaccumulation screening study in California lakes and reservoirs year two (FY 07-08). Sampling dates: April 2008 - November 2008.
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	Water Quality Control Plan for the San Francisco Bay Basin: Controllable water quality factors shall not cause a detrimental increase in concentrations of toxic substances found in bottom sediments or aquatic life. Effects on aquatic organisms, wildlife, and human health will be considered.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	The modified OEHHA Fish Contaminant Goal for total chlordane in fish tissue is 3.9 ppb. This screening level assumes an average body weight of 70 kg and a consumption rate of 32 g/day for a 30 year exposure over a 70-year lifetime. This constituent is a carcinogen therefore the risk level is set to one in a million. A cooking reduction factor of 1 is applied for skin-off fillets. (Klasing, S., and R. Brodberg, 2008)
Guideline Reference:	Development of Fish Contaminant Goals and Advisory Tissue Levels for Common Contaminants in California Sport Fish: Chlordane, DDTs, Dieldrin, Methylmercury, PCBs, Selenium, and Toxaphene
Spatial Representation:	Data for this assessment unit was collected by one monitoring project: (SWB_FishLk)

Temporal Representation:	Data was collected on a single day 11/5/2008.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	Samples were collected, processed, and analyzed in accordance with the methods described in Quality Assurance Project Plan "Screening Study of Bioaccumulation in California Lakes and Reservoirs." (SWAMP, 2008).
QAPP Information Reference(s):	Quality Assurance Project Plan Screening Study of Bioaccumulation in California Lakes and Reservoirs. Moss Landing Marine Labs. Prepared for SWAMP BOG. 49 pages plus appendices and attachments

Line of Evidence (LOE) for Decision ID 65121, Chlordane

Region 2

Vasona Lake

LOE ID:	93575
Pollutant:	Chlordane
LOE Subgroup:	Pollutant-Tissue
Matrix:	Tissue
Fraction:	Fish fillet
Beneficial Use:	Warm Freshwater Habitat
Number of Samples:	1
Number of Exceedances:	0
Data and Information Type:	Fish tissue analysis
Data Used to Assess Water Quality:	State Water Board staff assessed SWAMP data for Vasona Lake to determine beneficial use support and results are as follows: 0 of 1 samples exceed the criterion for Chlordane, Total. Two composites (5 fish per composite) were generated from one species: Common Carp. Composites were not spatially independent (as defined in the Listing Policy) and so were averaged. Details of the compositing protocol can be found in the March 2009 report entitled: "Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Study" (SWAMP, 2009). Total chlordane was calculated as the sum of the following chlordane isomers: cis- and trans-chlordane, cis- and trans-nonachlor, and oxychlordane.
Data Reference:	Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Survey. A Report of the Surface Water Ambient Monitoring Program (SWAMP). California State Water Resources Control Board, Sacramento, CA Statewide Lakes Sportfish Contamination Study 2007 2008 Contaminants in Fish from California Lakes and Reservoirs, 2007-2008: Summary Report on a Two-Year Screening Survey Cruise report for the Surface Water Ambient Monitoring Program (SWAMP) bioaccumulation screening study in California lakes and reservoirs year two (FY 07-08). Sampling dates: April 2008 - November 2008.
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	Water Quality Control Plan for the San Francisco Bay Basin: Controllable water quality factors shall not cause a detrimental increase in concentrations of toxic substances found in bottom sediments or aquatic life. Effects on aquatic organisms, wildlife, and human health will be considered.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	National Academy of Science guidelines (NAS 1972) establish a maximum total Chlordane concentration of 100 ug/Kg (wet weight) in tissue samples for protection of aquatic life from bioaccumulation of toxic substances.
Guideline Reference:	National Academy of Sciences. Water Quality Criteria 1972. EPA-R3-73-033. Washington, D.C.: U.S. Environmental Protection Agency
Spatial Representation:	Data for this assessment unit was collected by one monitoring project: (SWB_FishLk)
Temporal Representation:	Data was collected on a single day 11/5/2008.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	Samples were collected, processed, and analyzed in accordance with the methods

QAPP Information Reference(s):

described in Quality Assurance Project Plan "Screening Study of Bioaccumulation in California Lakes and Reservoirs." (SWAMP, 2008).

[Quality Assurance Project Plan Screening Study of Bioaccumulation in California Lakes and Reservoirs. Moss Landing Marine Labs. Prepared for SWAMP BOG. 49 pages plus appendices and attachments](#)

DECISION ID	65131	Region 2
Vasona Lake		

Pollutant: DDT (Dichlorodiphenyltrichloroethane)
Final Listing Decision: Do Not List on 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision: New Decision
Revision Status: Revised
Impairment from Pollutant or Pollution: Pollutant

Regional Board Staff Conclusion: This pollutant is being considered for placement on the CWA section 303(d) List under section 3.5 of the Listing Policy. Under section 3.5 a single line of evidence is necessary to assess listing status. Three lines of evidence are available in the administrative record to assess this pollutant. One of one samples exceed the guideline.

Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against placing this water segment-pollutant combination on the CWA section 303(d) List.

This conclusion is based on the staff findings that:

1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy.
2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy.
3. One of one samples exceed the guideline and this sample size is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating. A minimum of 16 samples is needed to determine if a beneficial use is fully supported using table 3.1.
4. Pursuant to SECTION 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.

Regional Board Staff Decision Recommendation: After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be placed on the section 303(d) list. The readily available data and information is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating.

Line of Evidence (LOE) for Decision ID 65131, DDT (Dichlorodiphenyltrichloroethane)	Region 2
Vasona Lake	

LOE ID: 93518

Pollutant: Total DDT (sum of 4,4'- and 2,4'- isomers of DDT, DDE, and DDD)
LOE Subgroup: Pollutant-Tissue
Matrix: Tissue
Fraction: Fish fillet

Beneficial Use: Commercial or recreational collection of fish, shellfish, or organisms

Number of Samples: 1
Number of Exceedances: 1

Data and Information Type: Fish tissue analysis
Data Used to Assess Water Quality: State Water Board staff assessed SWAMP data for Vasona Lake to determine beneficial use support and results are as follows: 1 of 1 samples exceed the criterion for DDT, Total. Two composites (5 fish per composite) were generated from one species: Common Carp.

	Composites were not spatially independent (as defined in the Listing Policy) and so were averaged. Details of the compositing protocol can be found in the March 2009 report entitled: "Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Study" (SWAMP, 2009). Total DDT was calculated as the sum of 4,4'- and 2,4'- isomers of DDT, DDE, and DDD.
Data Reference:	Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Survey. A Report of the Surface Water Ambient Monitoring Program (SWAMP). California State Water Resources Control Board, Sacramento, CA Statewide Lakes Sportfish Contamination Study 2007 2008 Contaminants in Fish from California Lakes and Reservoirs, 2007-2008: Summary Report on a Two-Year Screening Survey Cruise report for the Surface Water Ambient Monitoring Program (SWAMP) bioaccumulation screening study in California lakes and reservoirs year two (FY 07-08). Sampling dates: April 2008 - November 2008.
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	Water Quality Control Plan for the San Francisco Bay Basin: Controllable water quality factors shall not cause a detrimental increase in concentrations of toxic substances found in bottom sediments or aquatic life. Effects on aquatic organisms, wildlife, and human health will be considered.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	The modified OEHHA Fish Contaminant Goal for total DDT in fish tissue is 15 ppb. This screening level assumes an average body weight of 70 kg and a consumption rate of 32 g/day for a 30 year exposure over a 70-year lifetime. This constituent is a carcinogen therefore the risk level is set to one in a million. A cooking reduction factor of 1 is applied for skin-off fillets. (Klasing, S., and R. Brodberg, 2008)
Guideline Reference:	Development of Fish Contaminant Goals and Advisory Tissue Levels for Common Contaminants in California Sport Fish: Chlordane, DDTs, Dieldrin, Methylmercury, PCBs, Selenium, and Toxaphene
Spatial Representation:	Data for this assessment unit was collected by one monitoring project: (SWB_FishLk)
Temporal Representation:	Data was collected on a single day 11/5/2008.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	Samples were collected, processed, and analyzed in accordance with the methods described in Quality Assurance Project Plan "Screening Study of Bioaccumulation in California Lakes and Reservoirs." (SWAMP, 2008).
QAPP Information Reference(s):	Quality Assurance Project Plan Screening Study of Bioaccumulation in California Lakes and Reservoirs. Moss Landing Marine Labs. Prepared for SWAMP BOG, 49 pages plus appendices and attachments

Line of Evidence (LOE) for Decision ID 65131, DDT (Dichlorodiphenyltrichloroethane)		Region 2
Vasona Lake		
LOE ID:	93511	
Pollutant:	Total DDT (sum of 4,4'- and 2,4'- isomers of DDT, DDE, and DDD)	
LOE Subgroup:	Pollutant-Tissue	
Matrix:	Tissue	
Fraction:	Fish fillet	
Beneficial Use:	Warm Freshwater Habitat	
Number of Samples:	1	
Number of Exceedances:	0	
Data and Information Type:	Fish tissue analysis	
Data Used to Assess Water Quality:	State Water Board staff assessed SWAMP data for Vasona Lake to determine beneficial use support and results are as follows: 0 of 1 samples exceed the criterion for DDT, Total. Two composites (5 fish per composite) were generated from one species: Common Carp. Composites were not spatially independent (as defined in the Listing Policy) and so were	

	averaged. Details of the compositing protocol can be found in the March 2009 report entitled: "Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Study" (SWAMP, 2009). Total DDT was calculated as the sum of 4,4'- and 2,4'- isomers of DDT, DDE, and DDD.
Data Reference:	Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Survey. A Report of the Surface Water Ambient Monitoring Program (SWAMP). California State Water Resources Control Board, Sacramento, CA Statewide Lakes Sportfish Contamination Study 2007 2008 Contaminants in Fish from California Lakes and Reservoirs, 2007-2008: Summary Report on a Two-Year Screening Survey Cruise report for the Surface Water Ambient Monitoring Program (SWAMP) bioaccumulation screening study in California lakes and reservoirs year two (FY 07-08). Sampling dates: April 2008 - November 2008.
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	Water Quality Control Plan for the San Francisco Bay Basin: Controllable water quality factors shall not cause a detrimental increase in concentrations of toxic substances found in bottom sediments or aquatic life. Effects on aquatic organisms, wildlife, and human health will be considered.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	National Academy of Science guidelines (NAS 1972) establish a maximum total DDT concentration of 1000 ug/Kg (wet weight) in tissue samples for protection of aquatic life from bioaccumulation of toxic substances.
Guideline Reference:	National Academy of Sciences. Water Quality Criteria 1972. EPA-R3-73-033. Washington, D.C.: U.S. Environmental Protection Agency
Spatial Representation:	Data for this assessment unit was collected by one monitoring project: (SWB_FishLk)
Temporal Representation:	Data was collected on a single day 11/5/2008.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	Samples were collected, processed, and analyzed in accordance with the methods described in Quality Assurance Project Plan "Screening Study of Bioaccumulation in California Lakes and Reservoirs." (SWAMP, 2008).
QAPP Information Reference(s):	Quality Assurance Project Plan Screening Study of Bioaccumulation in California Lakes and Reservoirs. Moss Landing Marine Labs. Prepared for SWAMP BOG. 49 pages plus appendices and attachments

Line of Evidence (LOE) for Decision ID 65131, DDT (Dichlorodiphenyltrichloroethane)

Region 2

Vasona Lake

LOE ID:	93512
Pollutant:	Total DDT (sum of 4,4'- and 2,4'- isomers of DDT, DDE, and DDD)
LOE Subgroup:	Pollutant-Tissue
Matrix:	Tissue
Fraction:	Fish fillet
Beneficial Use:	Cold Freshwater Habitat
Number of Samples:	1
Number of Exceedances:	0
Data and Information Type:	Fish tissue analysis
Data Used to Assess Water Quality:	State Water Board staff assessed SWAMP data for Vasona Lake to determine beneficial use support and results are as follows: 0 of 1 samples exceed the criterion for DDT, Total. Two composites (5 fish per composite) were generated from one species: Common Carp. Composites were not spatially independent (as defined in the Listing Policy) and so were averaged. Details of the compositing protocol can be found in the March 2009 report entitled: "Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Study" (SWAMP, 2009). Total DDT was calculated as the sum of 4,4'- and 2,4'- isomers of DDT, DDE, and DDD.

Data Reference:	Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Survey. A Report of the Surface Water Ambient Monitoring Program (SWAMP). California State Water Resources Control Board, Sacramento, CA Statewide Lakes Sportfish Contamination Study 2007 2008 Contaminants in Fish from California Lakes and Reservoirs, 2007-2008: Summary Report on a Two-Year Screening Survey Cruise report for the Surface Water Ambient Monitoring Program (SWAMP) bioaccumulation screening study in California lakes and reservoirs year two (FY 07-08). Sampling dates: April 2008 - November 2008.
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	Water Quality Control Plan for the San Francisco Bay Basin: Controllable water quality factors shall not cause a detrimental increase in concentrations of toxic substances found in bottom sediments or aquatic life. Effects on aquatic organisms, wildlife, and human health will be considered.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	National Academy of Science guidelines (NAS 1972) establish a maximum total DDT concentration of 1000 ug/Kg (wet weight) in tissue samples for protection of aquatic life from bioaccumulation of toxic substances.
Guideline Reference:	National Academy of Sciences. Water Quality Criteria 1972. EPA-R3-73-033. Washington, D.C.: U.S. Environmental Protection Agency
Spatial Representation:	Data for this assessment unit was collected by one monitoring project: (SWB_FishLk)
Temporal Representation:	Data was collected on a single day 11/5/2008.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	Samples were collected, processed, and analyzed in accordance with the methods described in Quality Assurance Project Plan "Screening Study of Bioaccumulation in California Lakes and Reservoirs." (SWAMP, 2008).
QAPP Information Reference(s):	Quality Assurance Project Plan Screening Study of Bioaccumulation in California Lakes and Reservoirs. Moss Landing Marine Labs. Prepared for SWAMP BOG. 49 pages plus appendices and attachments

DECISION ID	65122	Region 2
Vasona Lake		
Pollutant:	Dieldrin	
Final Listing Decision:	Do Not List on 303(d) list (TMDL required list)	
Last Listing Cycle's Final Listing Decision:	New Decision	
Revision Status	Revised	
Impairment from Pollutant or Pollution:	Pollutant	
Regional Board Staff Conclusion:	<p>This pollutant is being considered for placement on the CWA section 303(d) List under section 3.5 of the Listing Policy. Under section 3.5 a single line of evidence is necessary to assess listing status. Three lines of evidence are available in the administrative record to assess this pollutant. One of one samples exceed the guideline.</p> <p>Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against placing this water segment-pollutant combination on the CWA section 303(d) List.</p> <p>This conclusion is based on the staff findings that:</p> <ol style="list-style-type: none"> 1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy. 2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy. 3. One of one samples exceed the guideline and this sample size is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating. A minimum of 16 samples is needed to determine if a beneficial use is fully supported using table 3.1. 4. Pursuant to SECTION 3.11 of the Listing Policy, no additional data and information are available 	

indicating that standards are not met.

Regional Board Staff Decision Recommendation: After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be placed on the section 303(d) list. The readily available data and information is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating.

Line of Evidence (LOE) for Decision ID 65122, Dieldrin

Region 2

Vasona Lake

LOE ID:	93588
Pollutant:	Dieldrin
LOE Subgroup:	Pollutant-Tissue
Matrix:	Tissue
Fraction:	Fish fillet
Beneficial Use:	Warm Freshwater Habitat
Number of Samples:	1
Number of Exceedances:	0
Data and Information Type:	Fish tissue analysis
Data Used to Assess Water Quality:	State Water Board staff assessed SWAMP data for Vasona Lake to determine beneficial use support and results are as follows: 0 of 1 samples exceed the criterion for Dieldrin. Two composites (5 fish per composite) were generated from one species: Common Carp. Composites were not spatially independent (as defined in the Listing Policy) and so were averaged. Details of the compositing protocol can be found in the March 2009 report entitled: "Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Study" (SWAMP, 2009).
Data Reference:	Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Survey. A Report of the Surface Water Ambient Monitoring Program (SWAMP). California State Water Resources Control Board, Sacramento, CA Statewide Lakes Sportfish Contamination Study 2007 2008 Contaminants in Fish from California Lakes and Reservoirs, 2007-2008: Summary Report on a Two-Year Screening Survey Cruise report for the Surface Water Ambient Monitoring Program (SWAMP) bioaccumulation screening study in California lakes and reservoirs year two (FY 07-08). Sampling dates: April 2008 - November 2008.
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	Water Quality Control Plan for the San Francisco Bay Basin: Controllable water quality factors shall not cause a detrimental increase in concentrations of toxic substances found in bottom sediments or aquatic life. Effects on aquatic organisms, wildlife, and human health will be considered.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	National Academy of Science guidelines (NAS 1972) establish a maximum Dieldrin concentration of 100 ug/Kg (wet weight) in tissue samples for protection of aquatic life from bioaccumulation of toxic substances.
Guideline Reference:	National Academy of Sciences. Water Quality Criteria 1972. EPA-R3-73-033. Washington, D.C.: U.S. Environmental Protection Agency
Spatial Representation:	Data for this assessment unit was collected by one monitoring project: (SWB_FishLk)
Temporal Representation:	Data was collected on a single day 11/5/2008.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	Samples were collected, processed, and analyzed in accordance with the methods described in Quality Assurance Project Plan "Screening Study of Bioaccumulation in California Lakes and Reservoirs." (SWAMP, 2008).
QAPP Information Reference(s):	Quality Assurance Project Plan Screening Study of Bioaccumulation in California Lakes

Line of Evidence (LOE) for Decision ID 65122, Dieldrin

Region 2

Vasona Lake

LOE ID:	93589
Pollutant:	Dieldrin
LOE Subgroup:	Pollutant-Tissue
Matrix:	Tissue
Fraction:	Fish fillet
Beneficial Use:	Cold Freshwater Habitat
Number of Samples:	1
Number of Exceedances:	0
Data and Information Type:	Fish tissue analysis
Data Used to Assess Water Quality:	State Water Board staff assessed SWAMP data for Vasona Lake to determine beneficial use support and results are as follows: 0 of 1 samples exceed the criterion for Dieldrin. Two composites (5 fish per composite) were generated from one species: Common Carp. Composites were not spatially independent (as defined in the Listing Policy) and so were averaged. Details of the compositing protocol can be found in the March 2009 report entitled: "Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Study" (SWAMP, 2009).
Data Reference:	Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Survey. A Report of the Surface Water Ambient Monitoring Program (SWAMP). California State Water Resources Control Board, Sacramento, CA Statewide Lakes Sportfish Contamination Study 2007 2008 Contaminants in Fish from California Lakes and Reservoirs, 2007-2008: Summary Report on a Two-Year Screening Survey Cruise report for the Surface Water Ambient Monitoring Program (SWAMP) bioaccumulation screening study in California lakes and reservoirs year two (FY 07-08). Sampling dates: April 2008 - November 2008.
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	Water Quality Control Plan for the San Francisco Bay Basin: Controllable water quality factors shall not cause a detrimental increase in concentrations of toxic substances found in bottom sediments or aquatic life. Effects on aquatic organisms, wildlife, and human health will be considered.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	National Academy of Science guidelines (NAS 1972) establish a maximum Dieldrin concentration of 100 ug/Kg (wet weight) in tissue samples for protection of aquatic life from bioaccumulation of toxic substances.
Guideline Reference:	National Academy of Sciences. Water Quality Criteria 1972. EPA-R3-73-033. Washington, D.C.: U.S. Environmental Protection Agency
Spatial Representation:	Data for this assessment unit was collected by one monitoring project: (SWB_FishLk)
Temporal Representation:	Data was collected on a single day 11/5/2008.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	Samples were collected, processed, and analyzed in accordance with the methods described in Quality Assurance Project Plan "Screening Study of Bioaccumulation in California Lakes and Reservoirs." (SWAMP, 2008).
QAPP Information Reference(s):	Quality Assurance Project Plan Screening Study of Bioaccumulation in California Lakes and Reservoirs. Moss Landing Marine Labs. Prepared for SWAMP BOG, 49 pages plus appendices and attachments

Line of Evidence (LOE) for Decision ID 65122, Dieldrin

Region 2

Vasona Lake

LOE ID:	93590
Pollutant:	Dieldrin
LOE Subgroup:	Pollutant-Tissue
Matrix:	Tissue
Fraction:	Fish fillet
Beneficial Use:	Commercial or recreational collection of fish, shellfish, or organisms
Number of Samples:	1
Number of Exceedances:	1
Data and Information Type:	Fish tissue analysis
Data Used to Assess Water Quality:	State Water Board staff assessed SWAMP data for Vasona Lake to determine beneficial use support and results are as follows: 1 of 1 samples exceed the criterion for Dieldrin. Two composites (5 fish per composite) were generated from one species: Common Carp. Composites were not spatially independent (as defined in the Listing Policy) and so were averaged. Details of the compositing protocol can be found in the March 2009 report entitled: "Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Study" (SWAMP, 2009).
Data Reference:	Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Survey. A Report of the Surface Water Ambient Monitoring Program (SWAMP). California State Water Resources Control Board, Sacramento, CA Statewide Lakes Sportfish Contamination Study 2007 2008 Contaminants in Fish from California Lakes and Reservoirs, 2007-2008: Summary Report on a Two-Year Screening Survey Cruise report for the Surface Water Ambient Monitoring Program (SWAMP) bioaccumulation screening study in California lakes and reservoirs year two (FY 07-08). Sampling dates: April 2008 - November 2008.
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	Water Quality Control Plan for the San Francisco Bay Basin: Controllable water quality factors shall not cause a detrimental increase in concentrations of toxic substances found in bottom sediments or aquatic life. Effects on aquatic organisms, wildlife, and human health will be considered.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	The modified OEHHA Fish Contaminant Goal for dieldrin in fish tissue is 0.32 ppb. This screening level assumes an average body weight of 70 kg and a consumption rate of 32 g/day for a 30 year exposure over a 70-year lifetime. This constituent is a carcinogen therefore the risk level is set to one in a million. A cooking reduction factor of 1 is applied for skin-off fillets. (Klasing, S., and R. Brodberg, 2008)
Guideline Reference:	Development of Fish Contaminant Goals and Advisory Tissue Levels for Common Contaminants in California Sport Fish: Chlordane, DDTs, Dieldrin, Methylmercury, PCBs, Selenium, and Toxaphene
Spatial Representation:	Data for this assessment unit was collected by one monitoring project: (SWB_FishLk)
Temporal Representation:	Data was collected on a single day 11/5/2008.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	Samples were collected, processed, and analyzed in accordance with the methods described in Quality Assurance Project Plan "Screening Study of Bioaccumulation in California Lakes and Reservoirs." (SWAMP, 2008).
QAPP Information Reference(s):	Quality Assurance Project Plan Screening Study of Bioaccumulation in California Lakes and Reservoirs. Moss Landing Marine Labs. Prepared for SWAMP BOG. 49 pages plus appendices and attachments

DECISION ID

65123

Region 2

Vasona Lake

Pollutant:	Endosulfan
Final Listing Decision:	Do Not List on 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision:	New Decision
Revision Status	Revised
Impairment from Pollutant or Pollution:	Pollutant

Regional Board Staff Conclusion: This pollutant is being considered for placement on the CWA section 303(d) List under section 3.5 of the Listing Policy. Under section 3.5 a single line of evidence is necessary to assess listing status. Three lines of evidence are available in the administrative record to assess this pollutant. Zero of one samples exceed the guideline.

Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against placing this water segment-pollutant combination on the CWA section 303(d) List.

This conclusion is based on the staff findings that:

1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy.
2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy.
3. Zero of one samples exceed the guideline and this sample size is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating. A minimum of 16 samples is needed to determine if a beneficial use is fully supported using table 3.1.
4. Pursuant to SECTION 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.

Regional Board Staff Decision Recommendation: After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be placed on the section 303(d) list. The readily available data and information is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating.

Line of Evidence (LOE) for Decision ID 65123, Endosulfan

Region 2

Vasona Lake

LOE ID:	93603
Pollutant:	Endosulfan
LOE Subgroup:	Pollutant-Tissue
Matrix:	Tissue
Fraction:	Fish fillet
Beneficial Use:	Commercial or recreational collection of fish, shellfish, or organisms
Number of Samples:	1
Number of Exceedances:	0
Data and Information Type:	Fish tissue analysis
Data Used to Assess Water Quality:	State Water Board staff assessed SWAMP data for Vasona Lake to determine beneficial use support and results are as follows: 0 of 1 samples exceed the criterion for Endosulfan I. Two composites (5 fish per composite) were generated from one species: Common Carp. Composites were not spatially independent (as defined in the Listing Policy) and so were averaged. Details of the compositing protocol can be found in the March 2009 report entitled: "Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Study" (SWAMP, 2009).
Data Reference:	Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Survey. A Report of the Surface Water Ambient Monitoring Program (SWAMP). California State Water Resources Control Board, Sacramento, CA Statewide Lakes Sportfish Contamination Study 2007 2008 Contaminants in Fish from California Lakes and Reservoirs, 2007-2008: Summary Report on a Two-Year Screening Survey

[Cruise report for the Surface Water Ambient Monitoring Program \(SWAMP\) bioaccumulation screening study in California lakes and reservoirs year two \(FY 07-08\). Sampling dates: April 2008 - November 2008.](#)

SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	Water Quality Control Plan for the San Francisco Bay Basin: Controllable water quality factors shall not cause a detrimental increase in concentrations of toxic substances found in bottom sediments or aquatic life. Effects on aquatic organisms, wildlife, and human health will be considered.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	The modified OEHHA Fish Contaminant Goal for endosulfan (I and II) in fish tissue is 13,000 ppb. This screening level assumes an average body weight of 70 kg and a consumption rate of 32 g/day. A cooking reduction factor of 1 is applied for skin-off fillets. (Klasing, S., and R. Brodberg, 2008; USEPA, 2000)
Guideline Reference:	Development of Fish Contaminant Goals and Advisory Tissue Levels for Common Contaminants in California Sport Fish: Chlordane, DDTs, Dieldrin, Methylmercury, PCBs, Selenium, and Toxaphene Guidance for Assessing Chemical Contaminant Data for Use In Fish Advisories Volume 1: Fish Sampling and Analysis
Spatial Representation:	Data for this assessment unit was collected by one monitoring project: (SWB_FishLk)
Temporal Representation:	Data was collected on a single day 11/5/2008.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	Samples were collected, processed, and analyzed in accordance with the methods described in Quality Assurance Project Plan "Screening Study of Bioaccumulation in California Lakes and Reservoirs." (SWAMP, 2008).
QAPP Information Reference(s):	Quality Assurance Project Plan Screening Study of Bioaccumulation in California Lakes and Reservoirs. Moss Landing Marine Labs. Prepared for SWAMP BOG. 49 pages plus appendices and attachments

Line of Evidence (LOE) for Decision ID 65123, Endosulfan

Region 2

Vasona Lake

LOE ID:	93602
Pollutant:	Endosulfan
LOE Subgroup:	Pollutant-Tissue
Matrix:	Tissue
Fraction:	Fish fillet
Beneficial Use:	Cold Freshwater Habitat
Number of Samples:	1
Number of Exceedances:	0
Data and Information Type:	Fish tissue analysis
Data Used to Assess Water Quality:	State Water Board staff assessed SWAMP data for Vasona Lake to determine beneficial use support and results are as follows: 0 of 1 samples exceed the criterion for Endosulfan I. Two composites (5 fish per composite) were generated from one species: Common Carp. Composites were not spatially independent (as defined in the Listing Policy) and so were averaged. Details of the compositing protocol can be found in the March 2009 report entitled: "Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Study" (SWAMP, 2009).
Data Reference:	Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Survey. A Report of the Surface Water Ambient Monitoring Program (SWAMP). California State Water Resources Control Board, Sacramento, CA Statewide Lakes Sportfish Contamination Study 2007 2008 Contaminants in Fish from California Lakes and Reservoirs, 2007-2008: Summary Report on a Two-Year Screening Survey Cruise report for the Surface Water Ambient Monitoring Program (SWAMP)

[bioaccumulation screening study in California lakes and reservoirs year two \(FY 07-08\). Sampling dates: April 2008 - November 2008.](#)

SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	Water Quality Control Plan for the San Francisco Bay Basin: Controllable water quality factors shall not cause a detrimental increase in concentrations of toxic substances found in bottom sediments or aquatic life. Effects on aquatic organisms, wildlife, and human health will be considered.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	National Academy of Science guidelines (NAS 1972) establish a maximum Endosulfan, Total concentration of 100 ug/Kg (wet weight) in tissue samples for protection of aquatic life from bioaccumulation of toxic substances.
Guideline Reference:	National Academy of Sciences. Water Quality Criteria 1972. EPA-R3-73-033. Washington, D.C.: U.S. Environmental Protection Agency
Spatial Representation:	Data for this assessment unit was collected by one monitoring project: (SWB_FishLk)
Temporal Representation:	Data was collected on a single day 11/5/2008.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	Samples were collected, processed, and analyzed in accordance with the methods described in Quality Assurance Project Plan "Screening Study of Bioaccumulation in California Lakes and Reservoirs." (SWAMP, 2008).
QAPP Information Reference(s):	Quality Assurance Project Plan Screening Study of Bioaccumulation in California Lakes and Reservoirs. Moss Landing Marine Labs. Prepared for SWAMP BOG. 49 pages plus appendices and attachments

Line of Evidence (LOE) for Decision ID 65123, Endosulfan

Region 2

Vasona Lake

LOE ID:	93601
Pollutant:	Endosulfan
LOE Subgroup:	Pollutant-Tissue
Matrix:	Tissue
Fraction:	Fish fillet
Beneficial Use:	Warm Freshwater Habitat
Number of Samples:	1
Number of Exceedances:	0
Data and Information Type:	Fish tissue analysis
Data Used to Assess Water Quality:	State Water Board staff assessed SWAMP data for Vasona Lake to determine beneficial use support and results are as follows: 0 of 1 samples exceed the criterion for Endosulfan I. Two composites (5 fish per composite) were generated from one species: Common Carp. Composites were not spatially independent (as defined in the Listing Policy) and so were averaged. Details of the compositing protocol can be found in the March 2009 report entitled: "Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Study" (SWAMP, 2009).
Data Reference:	Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Survey. A Report of the Surface Water Ambient Monitoring Program (SWAMP). California State Water Resources Control Board, Sacramento, CA Statewide Lakes Sportfish Contamination Study 2007 2008 Contaminants in Fish from California Lakes and Reservoirs, 2007-2008: Summary Report on a Two-Year Screening Survey Cruise report for the Surface Water Ambient Monitoring Program (SWAMP) bioaccumulation screening study in California lakes and reservoirs year two (FY 07-08). Sampling dates: April 2008 - November 2008.

SWAMP Data: SWAMP

Water Quality Objective/Criterion:	Water Quality Control Plan for the San Francisco Bay Basin: Controllable water quality factors shall not cause a detrimental increase in concentrations of toxic substances found in bottom sediments or aquatic life. Effects on aquatic organisms, wildlife, and human health will be considered.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	National Academy of Science guidelines (NAS 1972) establish a maximum Endosulfan, Total concentration of 100 ug/Kg (wet weight) in tissue samples for protection of aquatic life from bioaccumulation of toxic substances.
Guideline Reference:	National Academy of Sciences. Water Quality Criteria 1972. EPA-R3-73-033. Washington, D.C.: U.S. Environmental Protection Agency
Spatial Representation:	Data for this assessment unit was collected by one monitoring project: (SWB_FishLk)
Temporal Representation:	Data was collected on a single day 11/5/2008.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	Samples were collected, processed, and analyzed in accordance with the methods described in Quality Assurance Project Plan "Screening Study of Bioaccumulation in California Lakes and Reservoirs." (SWAMP, 2008).
QAPP Information Reference(s):	Quality Assurance Project Plan Screening Study of Bioaccumulation in California Lakes and Reservoirs. Moss Landing Marine Labs. Prepared for SWAMP BOG. 49 pages plus appendices and attachments

DECISION ID	65124	Region 2
Vasona Lake		

Pollutant:	Endrin
Final Listing Decision:	Do Not List on 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision:	New Decision
Revision Status	Revised
Impairment from Pollutant or Pollution:	Pollutant
Regional Board Staff Conclusion:	<p>This pollutant is being considered for placement on the CWA section 303(d) List under section 3.5 of the Listing Policy. Under section 3.5 a single line of evidence is necessary to assess listing status. Three lines of evidence are available in the administrative record to assess this pollutant. Zero of one samples exceed the guideline.</p> <p>Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against placing this water segment-pollutant combination on the CWA section 303(d) List.</p> <p>This conclusion is based on the staff findings that:</p> <ol style="list-style-type: none"> 1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy. 2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy. 3. Zero of one samples exceed the guideline and this sample size is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating. A minimum of 16 samples is needed to determine if a beneficial use is fully supported using table 3.1. 4. Pursuant to SECTION 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.
Regional Board Staff Decision Recommendation:	After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be placed on the section 303(d) list. The readily available data and information is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating.

Line of Evidence (LOE) for Decision ID 65124, Endrin	Region 2
Vasona Lake	

LOE ID:	93451
Pollutant:	Endrin
LOE Subgroup:	Pollutant-Tissue
Matrix:	Tissue
Fraction:	Fish fillet
Beneficial Use:	Commercial or recreational collection of fish, shellfish, or organisms
Number of Samples:	1
Number of Exceedances:	0
Data and Information Type:	Fish tissue analysis
Data Used to Assess Water Quality:	State Water Board staff assessed SWAMP data for Vasona Lake to determine beneficial use support and results are as follows: 0 of 1 samples exceed the criterion for Endrin. Two composites (5 fish per composite) were generated from one species: Common Carp. Composites were not spatially independent (as defined in the Listing Policy) and so were averaged. Details of the compositing protocol can be found in the March 2009 report entitled: "Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Study" (SWAMP, 2009).
Data Reference:	Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Survey. A Report of the Surface Water Ambient Monitoring Program (SWAMP). California State Water Resources Control Board, Sacramento, CA Statewide Lakes Sportfish Contamination Study 2007 2008 Contaminants in Fish from California Lakes and Reservoirs, 2007-2008: Summary Report on a Two-Year Screening Survey Cruise report for the Surface Water Ambient Monitoring Program (SWAMP) bioaccumulation screening study in California lakes and reservoirs year two (FY 07-08). Sampling dates: April 2008 - November 2008.
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	Water Quality Control Plan for the San Francisco Bay Basin: Controllable water quality factors shall not cause a detrimental increase in concentrations of toxic substances found in bottom sediments or aquatic life. Effects on aquatic organisms, wildlife, and human health will be considered.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	The modified OEHHA Fish Contaminant Goal for endrin in fish tissue is 660 ppb. This screening level assumes an average body weight of 70 kg and a consumption rate of 32 g/day. A cooking reduction factor of 1 is applied for skin-off fillets. (Klasing, S., and R. Brodberg, 2008; USEPA, 2000)
Guideline Reference:	Development of Fish Contaminant Goals and Advisory Tissue Levels for Common Contaminants in California Sport Fish: Chlordane, DDTs, Dieldrin, Methylmercury, PCBs, Selenium, and Toxaphene Guidance for Assessing Chemical Contaminant Data for Use In Fish Advisories Volume 1: Fish Sampling and Analysis
Spatial Representation:	Data for this assessment unit was collected by one monitoring project: (SWB_FishLk)
Temporal Representation:	Data was collected on a single day 11/5/2008.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	Samples were collected, processed, and analyzed in accordance with the methods described in Quality Assurance Project Plan "Screening Study of Bioaccumulation in California Lakes and Reservoirs." (SWAMP, 2008).
QAPP Information Reference(s):	Quality Assurance Project Plan Screening Study of Bioaccumulation in California Lakes and Reservoirs. Moss Landing Marine Labs. Prepared for SWAMP BOG, 49 pages plus appendices and attachments

Line of Evidence (LOE) for Decision ID 65124, Endrin
Vasona Lake

Region 2

LOE ID: 93450

Pollutant:	Endrin
LOE Subgroup:	Pollutant-Tissue
Matrix:	Tissue
Fraction:	Fish fillet
Beneficial Use:	Cold Freshwater Habitat
Number of Samples:	1
Number of Exceedances:	0
Data and Information Type:	Fish tissue analysis
Data Used to Assess Water Quality:	State Water Board staff assessed SWAMP data for Vasona Lake to determine beneficial use support and results are as follows: 0 of 1 samples exceed the criterion for Endrin. Two composites (5 fish per composite) were generated from one species: Common Carp. Composites were not spatially independent (as defined in the Listing Policy) and so were averaged. Details of the compositing protocol can be found in the March 2009 report entitled: "Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Study" (SWAMP, 2009).
Data Reference:	Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Survey. A Report of the Surface Water Ambient Monitoring Program (SWAMP). California State Water Resources Control Board, Sacramento, CA Statewide Lakes Sportfish Contamination Study 2007 2008 Contaminants in Fish from California Lakes and Reservoirs, 2007-2008: Summary Report on a Two-Year Screening Survey Cruise report for the Surface Water Ambient Monitoring Program (SWAMP) bioaccumulation screening study in California lakes and reservoirs year two (FY 07-08). Sampling dates: April 2008 - November 2008.
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	Water Quality Control Plan for the San Francisco Bay Basin: Controllable water quality factors shall not cause a detrimental increase in concentrations of toxic substances found in bottom sediments or aquatic life. Effects on aquatic organisms, wildlife, and human health will be considered.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	National Academy of Science guidelines (NAS 1972) establish a maximum Endrin concentration of 100 ug/Kg (wet weight) in tissue samples for protection of aquatic life from bioaccumulation of toxic substances.
Guideline Reference:	National Academy of Sciences. Water Quality Criteria 1972. EPA-R3-73-033. Washington, D.C.: U.S. Environmental Protection Agency
Spatial Representation:	Data for this assessment unit was collected by one monitoring project: (SWB_FishLk)
Temporal Representation:	Data was collected on a single day 11/5/2008.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	Samples were collected, processed, and analyzed in accordance with the methods described in Quality Assurance Project Plan "Screening Study of Bioaccumulation in California Lakes and Reservoirs." (SWAMP, 2008).
QAPP Information Reference(s):	Quality Assurance Project Plan Screening Study of Bioaccumulation in California Lakes and Reservoirs. Moss Landing Marine Labs. Prepared for SWAMP BOG, 49 pages plus appendices and attachments

Line of Evidence (LOE) for Decision ID 65124, Endrin

Region 2

Vasona Lake

LOE ID:	93604
Pollutant:	Endrin
LOE Subgroup:	Pollutant-Tissue
Matrix:	Tissue
Fraction:	Fish fillet

Beneficial Use:	Warm Freshwater Habitat
Number of Samples:	1
Number of Exceedances:	0
Data and Information Type:	Fish tissue analysis
Data Used to Assess Water Quality:	State Water Board staff assessed SWAMP data for Vasona Lake to determine beneficial use support and results are as follows: 0 of 1 samples exceed the criterion for Endrin. Two composites (5 fish per composite) were generated from one species: Common Carp. Composites were not spatially independent (as defined in the Listing Policy) and so were averaged. Details of the compositing protocol can be found in the March 2009 report entitled: "Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Study" (SWAMP, 2009).
Data Reference:	Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Survey. A Report of the Surface Water Ambient Monitoring Program (SWAMP). California State Water Resources Control Board, Sacramento, CA Statewide Lakes Sportfish Contamination Study 2007 2008 Contaminants in Fish from California Lakes and Reservoirs, 2007-2008: Summary Report on a Two-Year Screening Survey Cruise report for the Surface Water Ambient Monitoring Program (SWAMP) bioaccumulation screening study in California lakes and reservoirs year two (FY 07-08). Sampling dates: April 2008 - November 2008.
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	Water Quality Control Plan for the San Francisco Bay Basin: Controllable water quality factors shall not cause a detrimental increase in concentrations of toxic substances found in bottom sediments or aquatic life. Effects on aquatic organisms, wildlife, and human health will be considered.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	National Academy of Science guidelines (NAS 1972) establish a maximum Endrin concentration of 100 ug/Kg (wet weight) in tissue samples for protection of aquatic life from bioaccumulation of toxic substances.
Guideline Reference:	National Academy of Sciences. Water Quality Criteria 1972. EPA-R3-73-033. Washington, D.C.: U.S. Environmental Protection Agency
Spatial Representation:	Data for this assessment unit was collected by one monitoring project: (SWB_FishLk)
Temporal Representation:	Data was collected on a single day 11/5/2008.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	Samples were collected, processed, and analyzed in accordance with the methods described in Quality Assurance Project Plan "Screening Study of Bioaccumulation in California Lakes and Reservoirs." (SWAMP, 2008).
QAPP Information Reference(s):	Quality Assurance Project Plan Screening Study of Bioaccumulation in California Lakes and Reservoirs. Moss Landing Marine Labs. Prepared for SWAMP BOG. 49 pages plus appendices and attachments

DECISION ID	65125	Region 2
Vasona Lake		

Pollutant:	Heptachlor
Final Listing Decision:	Do Not List on 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision:	New Decision
Revision Status	Revised
Impairment from Pollutant or Pollution:	Pollutant

Regional Board Staff Conclusion: This pollutant is being considered for placement on the CWA section 303(d) List under section 3.5 of the Listing Policy. Under section 3.5 a single line of evidence is necessary to assess listing status.

Two lines of evidence are available in the administrative record to assess this pollutant. Zero of one samples exceed the guideline.

Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against placing this water segment-pollutant combination on the CWA section 303(d) List.

This conclusion is based on the staff findings that:

1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy.
2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy.
3. Zero of one samples exceed the guideline and this sample size is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating. A minimum of 16 samples is needed to determine if a beneficial use is fully supported using table 3.1.
4. Pursuant to SECTION 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.

Regional Board Staff Decision Recommendation: After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be placed on the section 303(d) list. The readily available data and information is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating.

**Line of Evidence (LOE) for Decision ID 65125, Heptachlor
Vasona Lake**

Region 2

LOE ID:	93452
Pollutant:	Heptachlor
LOE Subgroup:	Pollutant-Tissue
Matrix:	Tissue
Fraction:	Fish fillet
Beneficial Use:	Warm Freshwater Habitat
Number of Samples:	1
Number of Exceedances:	0
Data and Information Type:	Fish tissue analysis
Data Used to Assess Water Quality:	State Water Board staff assessed SWAMP data for Vasona Lake to determine beneficial use support and results are as follows: 0 of 1 samples exceed the criterion for Heptachlor. Two composites (5 fish per composite) were generated from one species: Common Carp. Composites were not spatially independent (as defined in the Listing Policy) and so were averaged. Details of the compositing protocol can be found in the March 2009 report entitled: "Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Study" (SWAMP, 2009).
Data Reference:	Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Survey. A Report of the Surface Water Ambient Monitoring Program (SWAMP). California State Water Resources Control Board, Sacramento, CA Statewide Lakes Sportfish Contamination Study 2007 2008 Contaminants in Fish from California Lakes and Reservoirs, 2007-2008: Summary Report on a Two-Year Screening Survey Cruise report for the Surface Water Ambient Monitoring Program (SWAMP) bioaccumulation screening study in California lakes and reservoirs year two (FY 07-08). Sampling dates: April 2008 - November 2008.
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	Water Quality Control Plan for the San Francisco Bay Basin: Controllable water quality factors shall not cause a detrimental increase in concentrations of toxic substances found in bottom sediments or aquatic life. Effects on aquatic organisms, wildlife, and human health will be considered.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)

Evaluation Guideline:	National Academy of Science guidelines (NAS 1972) establish a maximum Heptachlor concentration of 100 ug/Kg (wet weight) in tissue samples for protection of aquatic life from bioaccumulation of toxic substances.
Guideline Reference:	National Academy of Sciences. Water Quality Criteria 1972. EPA-R3-73-033. Washington, D.C.: U.S. Environmental Protection Agency
Spatial Representation:	Data for this assessment unit was collected by one monitoring project: (SWB_FishLk)
Temporal Representation:	Data was collected on a single day 11/5/2008.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	Samples were collected, processed, and analyzed in accordance with the methods described in Quality Assurance Project Plan "Screening Study of Bioaccumulation in California Lakes and Reservoirs." (SWAMP, 2008).
QAPP Information Reference(s):	Quality Assurance Project Plan Screening Study of Bioaccumulation in California Lakes and Reservoirs. Moss Landing Marine Labs. Prepared for SWAMP BOG, 49 pages plus appendices and attachments

**Line of Evidence (LOE) for Decision ID 65125, Heptachlor
Vasona Lake**

Region 2

LOE ID:	93453
Pollutant:	Heptachlor
LOE Subgroup:	Pollutant-Tissue
Matrix:	Tissue
Fraction:	Fish fillet
Beneficial Use:	Cold Freshwater Habitat
Number of Samples:	1
Number of Exceedances:	0
Data and Information Type:	Fish tissue analysis
Data Used to Assess Water Quality:	State Water Board staff assessed SWAMP data for Vasona Lake to determine beneficial use support and results are as follows: 0 of 1 samples exceed the criterion for Heptachlor. Two composites (5 fish per composite) were generated from one species: Common Carp. Composites were not spatially independent (as defined in the Listing Policy) and so were averaged. Details of the compositing protocol can be found in the March 2009 report entitled: "Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Study" (SWAMP, 2009).
Data Reference:	Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Survey. A Report of the Surface Water Ambient Monitoring Program (SWAMP). California State Water Resources Control Board, Sacramento, CA Statewide Lakes Sportfish Contamination Study 2007 2008 Contaminants in Fish from California Lakes and Reservoirs, 2007-2008: Summary Report on a Two-Year Screening Survey Cruise report for the Surface Water Ambient Monitoring Program (SWAMP) bioaccumulation screening study in California lakes and reservoirs year two (FY 07-08). Sampling dates: April 2008 - November 2008.
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	Water Quality Control Plan for the San Francisco Bay Basin: Controllable water quality factors shall not cause a detrimental increase in concentrations of toxic substances found in bottom sediments or aquatic life. Effects on aquatic organisms, wildlife, and human health will be considered.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	National Academy of Science guidelines (NAS 1972) establish a maximum Heptachlor concentration of 100 ug/Kg (wet weight) in tissue samples for protection of aquatic life from bioaccumulation of toxic substances.
Guideline Reference:	National Academy of Sciences. Water Quality Criteria 1972. EPA-R3-73-033. Washington,

Spatial Representation: Data for this assessment unit was collected by one monitoring project: (SWB_FishLk)
Temporal Representation: Data was collected on a single day 11/5/2008.
Environmental Conditions: Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information: Samples were collected, processed, and analyzed in accordance with the methods described in Quality Assurance Project Plan "Screening Study of Bioaccumulation in California Lakes and Reservoirs." (SWAMP, 2008).
QAPP Information Reference(s): [Quality Assurance Project Plan Screening Study of Bioaccumulation in California Lakes and Reservoirs. Moss Landing Marine Labs. Prepared for SWAMP BOG. 49 pages plus appendices and attachments](#)

DECISION ID	65126	Region 2
Vasona Lake		

Pollutant: Heptachlor epoxide
Final Listing Decision: Do Not List on 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision: New Decision
Revision Status: Revised
Impairment from Pollutant or Pollution: Pollutant

Regional Board Staff Conclusion: This pollutant is being considered for placement on the CWA section 303(d) List under section 3.5 of the Listing Policy. Under section 3.5 a single line of evidence is necessary to assess listing status. Three lines of evidence are available in the administrative record to assess this pollutant. Zero of one samples exceed the guideline.

Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against placing this water segment-pollutant combination on the CWA section 303(d) List.

This conclusion is based on the staff findings that:

1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy.
2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy.
3. Zero of one samples exceed the guideline and this sample size is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating. A minimum of 16 samples is needed to determine if a beneficial use is fully supported using table 3.1.
4. Pursuant to SECTION 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.

Regional Board Staff Decision Recommendation: After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be placed on the section 303(d) list. The readily available data and information is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating.

Line of Evidence (LOE) for Decision ID 65126, Heptachlor epoxide	Region 2
Vasona Lake	

LOE ID: 93461

Pollutant: Heptachlor epoxide
LOE Subgroup: Pollutant-Tissue
Matrix: Tissue
Fraction: Fish fillet

Beneficial Use: Commercial or recreational collection of fish, shellfish, or organisms

Number of Samples: 0

Number of Exceedances:	0
Data and Information Type:	Fish tissue analysis
Data Used to Assess Water Quality:	State Water Board staff assessed SWAMP data for Vasona Lake to determine beneficial use support and results are as follows: 0 of 0 samples exceed the criterion for Heptachlor epoxide. Two composites (5 fish per composite) were generated from one species: Common Carp. Details of the compositing protocol can be found in the March 2009 report entitled: "Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Study" (SWAMP, 2009). Two samples was not used in the assessment because the laboratory data reporting limit(s) was above the objective and therefore the results could not be quantified with the level of certainty required by the Listing Policy.
Data Reference:	Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Survey. A Report of the Surface Water Ambient Monitoring Program (SWAMP). California State Water Resources Control Board, Sacramento, CA Statewide Lakes Sportfish Contamination Study 2007 2008 Contaminants in Fish from California Lakes and Reservoirs, 2007-2008: Summary Report on a Two-Year Screening Survey Cruise report for the Surface Water Ambient Monitoring Program (SWAMP) bioaccumulation screening study in California lakes and reservoirs year two (FY 07-08). Sampling dates: April 2008 - November 2008.
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	Water Quality Control Plan for the San Francisco Bay Basin: Controllable water quality factors shall not cause a detrimental increase in concentrations of toxic substances found in bottom sediments or aquatic life. Effects on aquatic organisms, wildlife, and human health will be considered.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	The modified OEHHA Fish Contaminant Goal for heptachlor epoxide in fish tissue is 0.93 ppb. This screening level assumes an average body weight of 70 kg and a consumption rate of 32 g/day for a 30 year exposure over a 70-year lifetime. This constituent is a carcinogen therefore the risk level is set to one in a million. A cooking reduction factor of 1 is applied for skin-off fillets. (Klasing, S., and R. Brodberg, 2008; OEHHA, 1999)
Guideline Reference:	Development of Fish Contaminant Goals and Advisory Tissue Levels for Common Contaminants in California Sport Fish: Chlordane, DDTs, Dieldrin, Methylmercury, PCBs, Selenium, and Toxaphene Public Health Goal for Heptachlor and Heptachlor Epoxide in Drinking Water
Spatial Representation:	Data for this assessment unit was collected by one monitoring project: (SWB_FishLk)
Temporal Representation:	Data was collected on a single day 11/5/2008.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	Samples were collected, processed, and analyzed in accordance with the methods described in Quality Assurance Project Plan "Screening Study of Bioaccumulation in California Lakes and Reservoirs." (SWAMP, 2008).
QAPP Information Reference(s):	Quality Assurance Project Plan Screening Study of Bioaccumulation in California Lakes and Reservoirs. Moss Landing Marine Labs. Prepared for SWAMP BOG. 49 pages plus appendices and attachments

Line of Evidence (LOE) for Decision ID 65126, Heptachlor epoxide

Region 2

Vasona Lake

LOE ID:	93459
Pollutant:	Heptachlor epoxide
LOE Subgroup:	Pollutant-Tissue
Matrix:	Tissue
Fraction:	Fish fillet
Beneficial Use:	Warm Freshwater Habitat

Number of Samples:	1
Number of Exceedances:	0
Data and Information Type:	Fish tissue analysis
Data Used to Assess Water Quality:	State Water Board staff assessed SWAMP data for Vasona Lake to determine beneficial use support and results are as follows: 0 of 1 samples exceed the criterion for Heptachlor epoxide. Two composites (5 fish per composite) were generated from one species: Common Carp. Composites were not spatially independent (as defined in the Listing Policy) and so were averaged. Details of the compositing protocol can be found in the March 2009 report entitled: "Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Study" (SWAMP, 2009).
Data Reference:	Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Survey. A Report of the Surface Water Ambient Monitoring Program (SWAMP). California State Water Resources Control Board, Sacramento, CA Statewide Lakes Sportfish Contamination Study 2007 2008 Contaminants in Fish from California Lakes and Reservoirs, 2007-2008: Summary Report on a Two-Year Screening Survey Cruise report for the Surface Water Ambient Monitoring Program (SWAMP) bioaccumulation screening study in California lakes and reservoirs year two (FY 07-08). Sampling dates: April 2008 - November 2008.
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	Water Quality Control Plan for the San Francisco Bay Basin: Controllable water quality factors shall not cause a detrimental increase in concentrations of toxic substances found in bottom sediments or aquatic life. Effects on aquatic organisms, wildlife, and human health will be considered.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	National Academy of Science guidelines (NAS 1972) establish a maximum Heptachlor Epoxide concentration of 100 ug/Kg (wet weight) in tissue samples for protection of aquatic life from bioaccumulation of toxic substances.
Guideline Reference:	National Academy of Sciences. Water Quality Criteria 1972. EPA-R3-73-033. Washington, D.C.: U.S. Environmental Protection Agency
Spatial Representation:	Data for this assessment unit was collected by one monitoring project: (SWB_FishLk)
Temporal Representation:	Data was collected on a single day 11/5/2008.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	Samples were collected, processed, and analyzed in accordance with the methods described in Quality Assurance Project Plan "Screening Study of Bioaccumulation in California Lakes and Reservoirs." (SWAMP, 2008).
QAPP Information Reference(s):	Quality Assurance Project Plan Screening Study of Bioaccumulation in California Lakes and Reservoirs. Moss Landing Marine Labs. Prepared for SWAMP BOG. 49 pages plus appendices and attachments

Line of Evidence (LOE) for Decision ID 65126, Heptachlor epoxide

Region 2

Vasona Lake

LOE ID:	93460
Pollutant:	Heptachlor epoxide
LOE Subgroup:	Pollutant-Tissue
Matrix:	Tissue
Fraction:	Fish fillet
Beneficial Use:	Cold Freshwater Habitat
Number of Samples:	1
Number of Exceedances:	0
Data and Information Type:	Fish tissue analysis
Data Used to Assess Water Quality:	State Water Board staff assessed SWAMP data for Vasona Lake to determine beneficial

	use support and results are as follows: 0 of 1 samples exceed the criterion for Heptachlor epoxide. Two composites (5 fish per composite) were generated from one species: Common Carp. Composites were not spatially independent (as defined in the Listing Policy) and so were averaged. Details of the compositing protocol can be found in the March 2009 report entitled: "Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Study" (SWAMP, 2009).
Data Reference:	Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Survey. A Report of the Surface Water Ambient Monitoring Program (SWAMP). California State Water Resources Control Board, Sacramento, CA Statewide Lakes Sportfish Contamination Study 2007 2008 Contaminants in Fish from California Lakes and Reservoirs, 2007-2008: Summary Report on a Two-Year Screening Survey Cruise report for the Surface Water Ambient Monitoring Program (SWAMP) bioaccumulation screening study in California lakes and reservoirs year two (FY 07-08). Sampling dates: April 2008 - November 2008.
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	Water Quality Control Plan for the San Francisco Bay Basin: Controllable water quality factors shall not cause a detrimental increase in concentrations of toxic substances found in bottom sediments or aquatic life. Effects on aquatic organisms, wildlife, and human health will be considered.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	National Academy of Science guidelines (NAS 1972) establish a maximum Heptachlor Epoxide concentration of 100 ug/Kg (wet weight) in tissue samples for protection of aquatic life from bioaccumulation of toxic substances.
Guideline Reference:	National Academy of Sciences. Water Quality Criteria 1972. EPA-R3-73-033. Washington, D.C.: U.S. Environmental Protection Agency
Spatial Representation:	Data for this assessment unit was collected by one monitoring project: (SWB_FishLk)
Temporal Representation:	Data was collected on a single day 11/5/2008.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	Samples were collected, processed, and analyzed in accordance with the methods described in Quality Assurance Project Plan "Screening Study of Bioaccumulation in California Lakes and Reservoirs." (SWAMP, 2008).
QAPP Information Reference(s):	Quality Assurance Project Plan Screening Study of Bioaccumulation in California Lakes and Reservoirs. Moss Landing Marine Labs. Prepared for SWAMP BOG, 49 pages plus appendices and attachments

DECISION ID	65127	Region 2
Vasona Lake		
Pollutant:	Hexachlorobenzene/ HCB	
Final Listing Decision:	Do Not List on 303(d) list (TMDL required list)	
Last Listing Cycle's Final Listing Decision:	New Decision	
Revision Status	Revised	
Impairment from Pollutant or Pollution:	Pollutant	
Regional Board Staff Conclusion:	<p>This pollutant is being considered for placement on the CWA section 303(d) List under section 3.5 of the Listing Policy. Under section 3.5 a single line of evidence is necessary to assess listing status. One line of evidence is available in the administrative record to assess this pollutant. Zero of one samples exceed the guideline.</p> <p>Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against placing this water segment-pollutant combination on the CWA section 303(d) List.</p> <p>This conclusion is based on the staff findings that:</p>	

1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy.
2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy.
3. Zero of one samples exceed the guideline and this sample size is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating. A minimum of 16 samples is needed to determine if a beneficial use is fully supported using table 3.1.
4. Pursuant to SECTION 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.

Regional Board Staff Decision Recommendation: After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be placed on the section 303(d) list. The readily available data and information is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating.

Line of Evidence (LOE) for Decision ID 65127, Hexachlorobenzene/ HCB

Region 2

Vasona Lake

LOE ID:	93471
Pollutant:	Hexachlorobenzene/ HCB
LOE Subgroup:	Pollutant-Tissue
Matrix:	Tissue
Fraction:	Fish fillet
Beneficial Use:	Commercial or recreational collection of fish, shellfish, or organisms
Number of Samples:	1
Number of Exceedances:	0
Data and Information Type:	Fish tissue analysis
Data Used to Assess Water Quality:	State Water Board staff assessed SWAMP data for Vasona Lake to determine beneficial use support and results are as follows: 0 of 1 samples exceed the criterion for Hexachlorobenzene. Two composites (5 fish per composite) were generated from one species: Common Carp. Composites were not spatially independent (as defined in the Listing Policy) and so were averaged. Details of the compositing protocol can be found in the March 2009 report entitled: "Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Study" (SWAMP, 2009).
Data Reference:	Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Survey. A Report of the Surface Water Ambient Monitoring Program (SWAMP). California State Water Resources Control Board, Sacramento, CA Statewide Lakes Sportfish Contamination Study 2007 2008 Contaminants in Fish from California Lakes and Reservoirs, 2007-2008: Summary Report on a Two-Year Screening Survey Cruise report for the Surface Water Ambient Monitoring Program (SWAMP) bioaccumulation screening study in California lakes and reservoirs year two (FY 07-08). Sampling dates: April 2008 - November 2008.
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	Water Quality Control Plan for the San Francisco Bay Basin: Controllable water quality factors shall not cause a detrimental increase in concentrations of toxic substances found in bottom sediments or aquatic life. Effects on aquatic organisms, wildlife, and human health will be considered.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	The modified OEHHA Fish Contaminant Goal for hexachlorobenzene in fish tissue is 2.8 ppb. This screening level assumes an average body weight of 70 kg and a consumption rate of 32 g/day for a 30 year exposure over a 70-year lifetime. This constituent is a carcinogen therefore the risk level is set to one in a million. A cooking reduction factor of 1 is applied for skin-off fillets. (Klasing, S., and R. Brodberg, 2008; OEHHA, 2005)
Guideline Reference:	Development of Fish Contaminant Goals and Advisory Tissue Levels for Common

[Contaminants in California Sport Fish: Chlordane, DDTs, Dieldrin, Methylmercury, PCBs, Selenium, and Toxaphene](#)

[Air Toxics Hotspots Program Risk Assessment Guidelines. Part II Technical Support Document for Describing Available Cancer Potency Values.](#)

Spatial Representation: Data for this assessment unit was collected by one monitoring project: (SWB_FishLk)
 Temporal Representation: Data was collected on a single day 11/5/2008.
 Environmental Conditions: Staff is not aware of any special conditions that might affect interpretation of the data.
 QAPP Information: Samples were collected, processed, and analyzed in accordance with the methods described in Quality Assurance Project Plan "Screening Study of Bioaccumulation in California Lakes and Reservoirs." (SWAMP, 2008).
 QAPP Information Reference(s): [Quality Assurance Project Plan Screening Study of Bioaccumulation in California Lakes and Reservoirs. Moss Landing Marine Labs. Prepared for SWAMP BOG, 49 pages plus appendices and attachments](#)

DECISION ID	65128	Region 2
Vasona Lake		

Pollutant: Lindane/gamma Hexachlorocyclohexane (gamma-HCH)
Final Listing Decision: Do Not List on 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision: New Decision
Revision Status: Revised
Impairment from Pollutant or Pollution: Pollutant

Regional Board Staff Conclusion: This pollutant is being considered for placement on the CWA section 303(d) List under section 3.5 of the Listing Policy. Under section 3.5 a single line of evidence is necessary to assess listing status. Three lines of evidence are available in the administrative record to assess this pollutant. Zero of one samples exceed the guideline.

Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against placing this water segment-pollutant combination on the CWA section 303(d) List.

This conclusion is based on the staff findings that:

1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy.
2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy.
3. Zero of one samples exceed the guideline and this sample size is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating. A minimum of 16 samples is needed to determine if a beneficial use is fully supported using table 3.1.
4. Pursuant to SECTION 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.

Regional Board Staff Decision Recommendation: After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be placed on the section 303(d) list. The readily available data and information is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating.

Line of Evidence (LOE) for Decision ID 65128, Lindane/gamma Hexachlorocyclohexane (gamma-HCH)	Region 2
Vasona Lake	

LOE ID: 93473
Pollutant: Lindane/gamma Hexachlorocyclohexane (gamma-HCH)
LOE Subgroup: Pollutant-Tissue
Matrix: Tissue
Fraction: Fish fillet

Beneficial Use:	Commercial or recreational collection of fish, shellfish, or organisms
Number of Samples:	1
Number of Exceedances:	0
Data and Information Type:	Fish tissue analysis
Data Used to Assess Water Quality:	State Water Board staff assessed SWAMP data for Vasona Lake to determine beneficial use support and results are as follows: 0 of 1 samples exceed the criterion for HCH, gamma. Two composites (5 fish per composite) were generated from one species: Common Carp. Composites were not spatially independent (as defined in the Listing Policy) and so were averaged. Details of the compositing protocol can be found in the March 2009 report entitled: "Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Study" (SWAMP, 2009).
Data Reference:	Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Survey. A Report of the Surface Water Ambient Monitoring Program (SWAMP). California State Water Resources Control Board, Sacramento, CA Statewide Lakes Sportfish Contamination Study 2007 2008 Contaminants in Fish from California Lakes and Reservoirs, 2007-2008: Summary Report on a Two-Year Screening Survey Cruise report for the Surface Water Ambient Monitoring Program (SWAMP) bioaccumulation screening study in California lakes and reservoirs year two (FY 07-08). Sampling dates: April 2008 - November 2008.
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	Water Quality Control Plan for the San Francisco Bay Basin: Controllable water quality factors shall not cause a detrimental increase in concentrations of toxic substances found in bottom sediments or aquatic life. Effects on aquatic organisms, wildlife, and human health will be considered.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	The modified OEHHA Fish Contaminant Goal for lindane in fish tissue is 4.6 ppb. This screening level assumes an average body weight of 70 kg and a consumption rate of 32 g/day for a 30 year exposure over a 70-year lifetime. This constituent is a carcinogen therefore the risk level is set to one in a million. A cooking reduction factor of 1 is applied for skin-off fillets.
Guideline Reference:	Development of Fish Contaminant Goals and Advisory Tissue Levels for Common Contaminants in California Sport Fish: Chlordane, DDTs, Dieldrin, Methylmercury, PCBs, Selenium, and Toxaphene Air Toxics Hotspots Program Risk Assessment Guidelines. Part II Technical Support Document for Describing Available Cancer Potency Values.
Spatial Representation:	Data for this assessment unit was collected by one monitoring project: (SWB_FishLk)
Temporal Representation:	Data was collected on a single day 11/5/2008.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	Samples were collected, processed, and analyzed in accordance with the methods described in Quality Assurance Project Plan "Screening Study of Bioaccumulation in California Lakes and Reservoirs." (SWAMP, 2008).
QAPP Information Reference(s):	Quality Assurance Project Plan Screening Study of Bioaccumulation in California Lakes and Reservoirs. Moss Landing Marine Labs. Prepared for SWAMP BOG, 49 pages plus appendices and attachments

Line of Evidence (LOE) for Decision ID 65128, Lindane/gamma Hexachlorocyclohexane (gamma-HCH)
Vasona Lake

Region 2

LOE ID:	93472
Pollutant:	Lindane/gamma Hexachlorocyclohexane (gamma-HCH)
LOE Subgroup:	Pollutant-Tissue
Matrix:	Tissue

Fraction:	Fish fillet
Beneficial Use:	Warm Freshwater Habitat
Number of Samples:	1
Number of Exceedances:	0
Data and Information Type:	Fish tissue analysis
Data Used to Assess Water Quality:	State Water Board staff assessed SWAMP data for Vasona Lake to determine beneficial use support and results are as follows: 0 of 1 samples exceed the criterion for HCH, gamma. Two composites (5 fish per composite) were generated from one species: Common Carp. Composites were not spatially independent (as defined in the Listing Policy) and so were averaged. Details of the compositing protocol can be found in the March 2009 report entitled: "Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Study" (SWAMP, 2009).
Data Reference:	Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Survey. A Report of the Surface Water Ambient Monitoring Program (SWAMP). California State Water Resources Control Board, Sacramento, CA Statewide Lakes Sportfish Contamination Study 2007 2008 Contaminants in Fish from California Lakes and Reservoirs, 2007-2008: Summary Report on a Two-Year Screening Survey Cruise report for the Surface Water Ambient Monitoring Program (SWAMP) bioaccumulation screening study in California lakes and reservoirs year two (FY 07-08). Sampling dates: April 2008 - November 2008.
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	Water Quality Control Plan for the San Francisco Bay Basin: Controllable water quality factors shall not cause a detrimental increase in concentrations of toxic substances found in bottom sediments or aquatic life. Effects on aquatic organisms, wildlife, and human health will be considered.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	The modified OEHHA Fish Contaminant Goal for lindane in fish tissue is 4.6 ppb. This screening level assumes an average body weight of 70 kg and a consumption rate of 32 g/day for a 30 year exposure over a 70-year lifetime. This constituent is a carcinogen therefore the risk level is set to one in a million. A cooking reduction factor of 1 is applied for skin-off fillets. (Klasing, S., and R. Brodberg, 2008; OEHHA, 2005)
Guideline Reference:	National Academy of Sciences. Water Quality Criteria 1972. EPA-R3-73-033. Washington, D.C.: U.S. Environmental Protection Agency
Spatial Representation:	Data for this assessment unit was collected by one monitoring project: (SWB_FishLk)
Temporal Representation:	Data was collected on a single day 11/5/2008.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	Samples were collected, processed, and analyzed in accordance with the methods described in Quality Assurance Project Plan "Screening Study of Bioaccumulation in California Lakes and Reservoirs." (SWAMP, 2008).
QAPP Information Reference(s):	Quality Assurance Project Plan Screening Study of Bioaccumulation in California Lakes and Reservoirs. Moss Landing Marine Labs. Prepared for SWAMP BOG. 49 pages plus appendices and attachments

Line of Evidence (LOE) for Decision ID 65128, Lindane/gamma Hexachlorocyclohexane (gamma-HCH)

Region 2

Vasona Lake

LOE ID:	93484
Pollutant:	Lindane/gamma Hexachlorocyclohexane (gamma-HCH)
LOE Subgroup:	Pollutant-Tissue
Matrix:	Tissue
Fraction:	Fish fillet

Beneficial Use:	Cold Freshwater Habitat
Number of Samples:	1
Number of Exceedances:	0
Data and Information Type:	Fish tissue analysis
Data Used to Assess Water Quality:	State Water Board staff assessed SWAMP data for Vasona Lake to determine beneficial use support and results are as follows: 0 of 1 samples exceed the criterion for HCH, gamma. Two composites (5 fish per composite) were generated from one species: Common Carp. Composites were not spatially independent (as defined in the Listing Policy) and so were averaged. Details of the compositing protocol can be found in the March 2009 report entitled: "Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Study" (SWAMP, 2009).
Data Reference:	Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Survey. A Report of the Surface Water Ambient Monitoring Program (SWAMP). California State Water Resources Control Board, Sacramento, CA Statewide Lakes Sportfish Contamination Study 2007 2008 Contaminants in Fish from California Lakes and Reservoirs, 2007-2008: Summary Report on a Two-Year Screening Survey Cruise report for the Surface Water Ambient Monitoring Program (SWAMP) bioaccumulation screening study in California lakes and reservoirs year two (FY 07-08). Sampling dates: April 2008 - November 2008.
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	Water Quality Control Plan for the San Francisco Bay Basin: Controllable water quality factors shall not cause a detrimental increase in concentrations of toxic substances found in bottom sediments or aquatic life. Effects on aquatic organisms, wildlife, and human health will be considered.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	The modified OEHHA Fish Contaminant Goal for lindane in fish tissue is 4.6 ppb. This screening level assumes an average body weight of 70 kg and a consumption rate of 32 g/day for a 30 year exposure over a 70-year lifetime. This constituent is a carcinogen therefore the risk level is set to one in a million. A cooking reduction factor of 1 is applied for skin-off fillets. (Klasing, S., and R. Brodberg, 2008; OEHHA, 2005)
Guideline Reference:	National Academy of Sciences. Water Quality Criteria 1972. EPA-R3-73-033. Washington, D.C.: U.S. Environmental Protection Agency
Spatial Representation:	Data for this assessment unit was collected by one monitoring project: (SWB_FishLk)
Temporal Representation:	Data was collected on a single day 11/5/2008.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	Samples were collected, processed, and analyzed in accordance with the methods described in Quality Assurance Project Plan "Screening Study of Bioaccumulation in California Lakes and Reservoirs." (SWAMP, 2008).
QAPP Information Reference(s):	Quality Assurance Project Plan Screening Study of Bioaccumulation in California Lakes and Reservoirs. Moss Landing Marine Labs. Prepared for SWAMP BOG. 49 pages plus appendices and attachments

DECISION ID	66756	Region 2
Vasona Lake		
Pollutant:	Mercury	
Final Listing Decision:	Do Not List on 303(d) list (TMDL required list)	
Last Listing Cycle's Final Listing Decision:	New Decision	
Revision Status	Revised	
Impairment from Pollutant or Pollution:	Pollutant	
Regional Board Staff	This pollutant is being considered for placement on the CWA section 303(d) List under section 3.5 of	

Conclusion:	<p>the Listing Policy. Under section 3.5 a single line of evidence is necessary to assess listing status. One line of evidence is available in the administrative record to assess this pollutant. Zero of one samples exceed the OEHHA guideline.</p> <p>Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against placing this water segment-pollutant combination on the CWA section 303(d) List.</p> <p>This conclusion is based on the staff findings that:</p> <ol style="list-style-type: none"> 1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy. 2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy. 3. Zero of one samples exceed the OEHHA guideline and this sample size is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating. A minimum of 16 samples is needed to determine if a beneficial use is fully supported using table 3.1. 4. Pursuant to SECTION 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.
Regional Board Staff Decision Recommendation:	After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be placed on the section 303(d) list. The readily available data and information is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating.

**Line of Evidence (LOE) for Decision ID 66756, Mercury
Vasona Lake**

Region 2

LOE ID:	93485
Pollutant:	Mercury
LOE Subgroup:	Pollutant-Tissue
Matrix:	Tissue
Fraction:	Fish fillet
Beneficial Use:	Commercial or recreational collection of fish, shellfish, or organisms
Number of Samples:	1
Number of Exceedances:	0
Data and Information Type:	Fish tissue analysis
Data Used to Assess Water Quality:	State Water Board staff assessed SWAMP data for Vasona Lake to determine beneficial use support and results are as follows: 0 of 1 samples exceed the criterion for Mercury. Composites were generated from largemouth bass (11 composites - 1 fish per composite) and common carp (2 composites - 5 fish per composite). Composites were not spatially independent (as defined in the Listing Policy) and so were averaged by species. Two common carp composites could not be used in the assessment due to total fish lengths that did not fall within lengths noted in the guideline.
Data Reference:	Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Survey. A Report of the Surface Water Ambient Monitoring Program (SWAMP). California State Water Resources Control Board, Sacramento, CA Statewide Lakes Sportfish Contamination Study 2007 2008 Contaminants in Fish from California Lakes and Reservoirs, 2007-2008: Summary Report on a Two-Year Screening Survey Cruise report for the Surface Water Ambient Monitoring Program (SWAMP) bioaccumulation screening study in California lakes and reservoirs year two (FY 07-08). Sampling dates: April 2008 - November 2008.
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	Water Quality Control Plan for the San Francisco Bay Basin (2013): Controllable water quality factors shall not cause a detrimental increase in concentrations of toxic substances found in bottom sediments or aquatic life. Effects on aquatic organisms, wildlife, and

Objective/Criterion Reference:	human health will be considered. Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	The USEPA 304(a) recommended water quality criterion for concentrations of methylmercury in fish tissue of trophic level 4 fish (150 - 500 mm; fillet wet weight) is 0.2 mg/kg. This assumes a consumption rate of 32 g/day. (USEPA, 2001)
Guideline Reference:	Water Quality Criterion for the Protection of Human Health: Methylmercury. Final. United States Environmental Protection Agency Office of Science and Technology Office of Water. EPA-823-R-01-001. January 2001
Spatial Representation:	Data for this assessment unit was collected by one monitoring project: (SWB_FishLk)
Temporal Representation:	Data was collected on a single day 11/5/2008.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	Samples were collected, processed, and analyzed in accordance with the methods described in Quality Assurance Project Plan "Screening Study of Bioaccumulation in California Lakes and Reservoirs." (SWAMP, 2008).
QAPP Information Reference(s):	Quality Assurance Project Plan Screening Study of Bioaccumulation in California Lakes and Reservoirs. Moss Landing Marine Labs. Prepared for SWAMP BOG. 49 pages plus appendices and attachments

DECISION ID 65129 Region 2	
Vasona Lake	
Pollutant:	Mirex
Final Listing Decision:	Do Not List on 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision:	New Decision
Revision Status	Revised
Impairment from Pollutant or Pollution:	Pollutant
Regional Board Staff Conclusion:	<p>This pollutant is being considered for placement on the CWA section 303(d) List under section 3.5 of the Listing Policy. Under section 3.5 a single line of evidence is necessary to assess listing status. One line of evidence is available in the administrative record to assess this pollutant. Zero of zero samples exceed the guideline.</p> <p>Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against placing this water segment-pollutant combination on the CWA section 303(d) List.</p> <p>This conclusion is based on the staff findings that:</p> <ol style="list-style-type: none"> 1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy. 2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy. 3. Zero of zero samples exceed the guideline and this sample size is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating. A minimum of 16 samples is needed to determine if a beneficial use is fully supported using table 3.1. 4. Pursuant to SECTION 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.
Regional Board Staff Decision Recommendation:	After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be placed on the section 303(d) list. The readily available data and information is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating.

Line of Evidence (LOE) for Decision ID 65129, Mirex Region 2	
Vasona Lake	
LOE ID:	93486

Pollutant:	Mirex
LOE Subgroup:	Pollutant-Tissue
Matrix:	Tissue
Fraction:	Fish fillet
Beneficial Use:	Commercial or recreational collection of fish, shellfish, or organisms
Number of Samples:	0
Number of Exceedances:	0
Data and Information Type:	Fish tissue analysis
Data Used to Assess Water Quality:	State Water Board staff assessed SWAMP data for Vasona Lake to determine beneficial use support and results are as follows: 0 of 0 samples exceed the criterion for Mirex. Two composites (5 fish per composite) were generated from one species: Common Carp. Details of the compositing protocol can be found in the March 2009 report entitled: "Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Study" (SWAMP, 2009). Two samples was not used in the assessment because the laboratory data reporting limit(s) was above the objective and therefore the results could not be quantified with the level of certainty required by the Listing Policy.
Data Reference:	Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Survey. A Report of the Surface Water Ambient Monitoring Program (SWAMP). California State Water Resources Control Board, Sacramento, CA Statewide Lakes Sportfish Contamination Study 2007 2008 Contaminants in Fish from California Lakes and Reservoirs, 2007-2008: Summary Report on a Two-Year Screening Survey Cruise report for the Surface Water Ambient Monitoring Program (SWAMP) bioaccumulation screening study in California lakes and reservoirs year two (FY 07-08). Sampling dates: April 2008 - November 2008.
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	Water Quality Control Plan for the San Francisco Bay Basin: Controllable water quality factors shall not cause a detrimental increase in concentrations of toxic substances found in bottom sediments or aquatic life. Effects on aquatic organisms, wildlife, and human health will be considered.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	The modified OEHHA Fish Contaminant Goal for mirex in fish tissue is 0.28 ppb. This screening level assumes an average body weight of 70 kg and a consumption rate of 32 g/day. A cooking reduction factor of 1 is applied for skin-off fillets. (Klasing, S., and R. Brodberg, 2008; OEHHA, 1992)
Guideline Reference:	Development of Fish Contaminant Goals and Advisory Tissue Levels for Common Contaminants in California Sport Fish: Chlordane, DDTs, Dieldrin, Methylmercury, PCBs, Selenium, and Toxaphene Expedited Cancer Potency Values and Proposed Regulatory Levels for Certain Proposition 65 Carcinogens.
Spatial Representation:	Data for this assessment unit was collected by one monitoring project: (SWB_FishLk)
Temporal Representation:	Data was collected on a single day 11/5/2008.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	Samples were collected, processed, and analyzed in accordance with the methods described in Quality Assurance Project Plan "Screening Study of Bioaccumulation in California Lakes and Reservoirs." (SWAMP, 2008).
QAPP Information Reference(s):	Quality Assurance Project Plan Screening Study of Bioaccumulation in California Lakes and Reservoirs. Moss Landing Marine Labs. Prepared for SWAMP BOG, 49 pages plus appendices and attachments

DECISION ID

66757

Region 2

Vasona Lake

Pollutant: PCBs (Polychlorinated biphenyls)
Final Listing Decision: Do Not List on 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision: New Decision
Revision Status: Revised
Impairment from Pollutant or Pollution: Pollutant

Regional Board Staff Conclusion: This pollutant is being considered for placement on the CWA section 303(d) List under section 3.5 of the Listing Policy. Under section 3.5 a single line of evidence is necessary to assess listing status. Three lines of evidence are available in the administrative record to assess this pollutant. Zero of one samples exceed the OEHHHA guideline.

Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against placing this water segment-pollutant combination on the CWA section 303(d) List.

This conclusion is based on the staff findings that:

1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy.
2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy.
3. Zero of one samples exceed the OEHHHA guideline and this sample size is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating. A minimum of 16 samples is needed to determine if a beneficial use is fully supported using table 3.1.
4. Pursuant to SECTION 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.

Regional Board Staff Decision Recommendation: After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be placed on the section 303(d) list. The readily available data and information is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating.

Line of Evidence (LOE) for Decision ID 66757, PCBs (Polychlorinated biphenyls)

Region 2

Vasona Lake

LOE ID: 93497

Pollutant: PCBs (Polychlorinated biphenyls)
LOE Subgroup: Pollutant-Tissue
Matrix: Tissue
Fraction: Fish fillet

Beneficial Use: Warm Freshwater Habitat

Number of Samples: 1
Number of Exceedances: 0

Data and Information Type: Fish tissue analysis
Data Used to Assess Water Quality: State Water Board staff assessed SWAMP data for Vasona Lake to determine beneficial use support and results are as follows: 0 of 1 samples exceed the criterion for PCB, Total. One composite (5 fish per composite) was generated from one species: Common Carp. Details of the compositing protocol can be found in the March 2009 report entitled: "Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Study" (SWAMP, 2009). Total PCB was assessed for as follows: PCB aroclors and congeners were summed separately and the sum that yielded the highest value was used for the assessment.

Data Reference: [Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Survey. A Report of the Surface Water Ambient Monitoring Program \(SWAMP\). California State Water Resources Control Board, Sacramento, CA Statewide Lakes Sportfish Contamination Study 2007 2008](#)
[Contaminants in Fish from California Lakes and Reservoirs, 2007-2008: Summary Report](#)

[on a Two-Year Screening Survey](#)
[Cruise report for the Surface Water Ambient Monitoring Program \(SWAMP\)](#)
[bioaccumulation screening study in California lakes and reservoirs year two \(FY 07-08\).](#)
[Sampling dates: April 2008 - November 2008.](#)

SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	Water Quality Control Plan for the San Francisco Bay Basin (2013): Controllable water quality factors shall not cause a detrimental increase in concentrations of toxic substances found in bottom sediments or aquatic life. Effects on aquatic organisms, wildlife, and human health will be considered.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	National Academy of Science guidelines (NAS 1972) establish a maximum total PCB concentration of 500 ug/Kg (wet weight) in tissue samples for protection of aquatic life from bioaccumulation of toxic substances.
Guideline Reference:	National Academy of Sciences. Water Quality Criteria 1972. EPA-R3-73-033. Washington, D.C.: U.S. Environmental Protection Agency
Spatial Representation:	Data for this assessment unit was collected by one monitoring project: (SWB_FishLk)
Temporal Representation:	Data was collected on a single day 11/5/2008.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	Samples were collected, processed, and analyzed in accordance with the methods described in Quality Assurance Project Plan "Screening Study of Bioaccumulation in California Lakes and Reservoirs." (SWAMP, 2008).
QAPP Information Reference(s):	Quality Assurance Project Plan Screening Study of Bioaccumulation in California Lakes and Reservoirs. Moss Landing Marine Labs. Prepared for SWAMP BOG, 49 pages plus appendices and attachments

Line of Evidence (LOE) for Decision ID 66757, PCBs (Polychlorinated biphenyls)

Region 2

Vasona Lake

LOE ID:	93499
Pollutant:	PCBs (Polychlorinated biphenyls)
LOE Subgroup:	Pollutant-Tissue
Matrix:	Tissue
Fraction:	Fish fillet
Beneficial Use:	Commercial or recreational collection of fish, shellfish, or organisms
Number of Samples:	1
Number of Exceedances:	1
Data and Information Type:	Fish tissue analysis
Data Used to Assess Water Quality:	State Water Board staff assessed SWAMP data for Vasona Lake to determine beneficial use support and results are as follows: 1 of 1 samples exceed the criterion for PCB, Total. One composite (5 fish per composite) was generated from one species: Common Carp. Details of the compositing protocol can be found in the March 2009 report entitled: "Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Study" (SWAMP, 2009). Total PCB was assessed for as follows: PCB aroclors and congeners were summed separately and the sum that yielded the highest value was used for the assessment.
Data Reference:	Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Survey. A Report of the Surface Water Ambient Monitoring Program (SWAMP). California State Water Resources Control Board, Sacramento, CA Statewide Lakes Sportfish Contamination Study 2007 2008 Contaminants in Fish from California Lakes and Reservoirs, 2007-2008: Summary Report on a Two-Year Screening Survey Cruise report for the Surface Water Ambient Monitoring Program (SWAMP) bioaccumulation screening study in California lakes and reservoirs year two (FY 07-08). Sampling dates: April 2008 - November 2008.

SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	Water Quality Control Plan for the San Francisco Bay Basin (2013): Controllable water quality factors shall not cause a detrimental increase in concentrations of toxic substances found in bottom sediments or aquatic life. Effects on aquatic organisms, wildlife, and human health will be considered.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	The modified OEHHA Fish Contaminant Goal for polychlorinated biphenyls in fish tissue is 2.6 ppb. This screening level assumes an average body weight of 70 kg and a consumption rate of 32 g/day for a 30 year exposure over a 70-year lifetime. This constituent is a carcinogen therefore the risk level is set to one in a million. A cooking reduction factor of 1 is applied for skin-off fillets. (Klasing, S., and R. Brodberg, 2008)
Guideline Reference:	Development of Fish Contaminant Goals and Advisory Tissue Levels for Common Contaminants in California Sport Fish: Chlordane, DDTs, Dieldrin, Methylmercury, PCBs, Selenium, and Toxaphene
Spatial Representation:	Data for this assessment unit was collected by one monitoring project: (SWB_FishLk)
Temporal Representation:	Data was collected on a single day 11/5/2008.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	Samples were collected, processed, and analyzed in accordance with the methods described in Quality Assurance Project Plan "Screening Study of Bioaccumulation in California Lakes and Reservoirs." (SWAMP, 2008).
QAPP Information Reference(s):	Quality Assurance Project Plan Screening Study of Bioaccumulation in California Lakes and Reservoirs. Moss Landing Marine Labs. Prepared for SWAMP BOG, 49 pages plus appendices and attachments

Line of Evidence (LOE) for Decision ID 66757, PCBs (Polychlorinated biphenyls)

Region 2

Vasona Lake

LOE ID:	93498
Pollutant:	PCBs (Polychlorinated biphenyls)
LOE Subgroup:	Pollutant-Tissue
Matrix:	Tissue
Fraction:	Fish fillet
Beneficial Use:	Cold Freshwater Habitat
Number of Samples:	1
Number of Exceedances:	0
Data and Information Type:	Fish tissue analysis
Data Used to Assess Water Quality:	State Water Board staff assessed SWAMP data for Vasona Lake to determine beneficial use support and results are as follows: 0 of 1 samples exceed the criterion for PCB, Total. One composite (5 fish per composite) was generated from one species: Common Carp. Details of the compositing protocol can be found in the March 2009 report entitled: "Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Study" (SWAMP, 2009). Total PCB was assessed for as follows: PCB aroclors and congeners were summed separately and the sum that yielded the highest value was used for the assessment.
Data Reference:	Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Survey. A Report of the Surface Water Ambient Monitoring Program (SWAMP). California State Water Resources Control Board, Sacramento, CA Statewide Lakes Sportfish Contamination Study 2007 2008 Contaminants in Fish from California Lakes and Reservoirs, 2007-2008: Summary Report on a Two-Year Screening Survey Cruise report for the Surface Water Ambient Monitoring Program (SWAMP) bioaccumulation screening study in California lakes and reservoirs year two (FY 07-08). Sampling dates: April 2008 - November 2008.

SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	Water Quality Control Plan for the San Francisco Bay Basin (2013): Controllable water quality factors shall not cause a detrimental increase in concentrations of toxic substances found in bottom sediments or aquatic life. Effects on aquatic organisms, wildlife, and human health will be considered.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	National Academy of Science guidelines (NAS 1972) establish a maximum total PCB concentration of 500 ug/Kg (wet weight) in tissue samples for protection of aquatic life from bioaccumulation of toxic substances.
Guideline Reference:	National Academy of Sciences. Water Quality Criteria 1972. EPA-R3-73-033. Washington, D.C.: U.S. Environmental Protection Agency
Spatial Representation:	Data for this assessment unit was collected by one monitoring project: (SWB_FishLk)
Temporal Representation:	Data was collected on a single day 11/5/2008.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	Samples were collected, processed, and analyzed in accordance with the methods described in Quality Assurance Project Plan "Screening Study of Bioaccumulation in California Lakes and Reservoirs." (SWAMP, 2008).
QAPP Information Reference(s):	Quality Assurance Project Plan Screening Study of Bioaccumulation in California Lakes and Reservoirs. Moss Landing Marine Labs. Prepared for SWAMP BOG. 49 pages plus appendices and attachments

DECISION ID	65130	Region 2
Vasona Lake		

Pollutant:	Selenium
Final Listing Decision:	Do Not List on 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision:	New Decision
Revision Status	Revised
Impairment from Pollutant or Pollution:	Pollutant
Regional Board Staff Conclusion:	<p>This pollutant is being considered for placement on the CWA section 303(d) List under section 3.5 of the Listing Policy. Under section 3.5 a single line of evidence is necessary to assess listing status. One line of evidence is available in the administrative record to assess this pollutant. Zero of one samples exceed the guideline.</p> <p>Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against placing this water segment-pollutant combination on the CWA section 303(d) List.</p> <p>This conclusion is based on the staff findings that:</p> <ol style="list-style-type: none"> 1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy. 2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy. 3. Zero of one samples exceed the guideline and this sample size is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating. A minimum of 16 samples is needed to determine if a beneficial use is fully supported using table 3.1. 4. Pursuant to SECTION 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.
Regional Board Staff Decision Recommendation:	After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be placed on the section 303(d) list. The readily available data and information is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating.

Line of Evidence (LOE) for Decision ID 65130, Selenium	Region 2
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Vasona Lake

LOE ID:	93510
Pollutant:	Selenium
LOE Subgroup:	Pollutant-Tissue
Matrix:	Tissue
Fraction:	Fish fillet
Beneficial Use:	Commercial or recreational collection of fish, shellfish, or organisms
Number of Samples:	1
Number of Exceedances:	0
Data and Information Type:	Fish tissue analysis
Data Used to Assess Water Quality:	State Water Board staff assessed SWAMP data for Vasona Lake to determine beneficial use support and results are as follows: 0 of 1 samples exceed the criterion for Selenium. One composite (5 fish per composite) was generated from one species: Common Carp. Details of the compositing protocol can be found in the March 2009 report entitled: "Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Study" (SWAMP, 2009).
Data Reference:	Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Survey. A Report of the Surface Water Ambient Monitoring Program (SWAMP). California State Water Resources Control Board, Sacramento, CA Statewide Lakes Sportfish Contamination Study 2007 2008 Contaminants in Fish from California Lakes and Reservoirs, 2007-2008: Summary Report on a Two-Year Screening Survey Cruise report for the Surface Water Ambient Monitoring Program (SWAMP) bioaccumulation screening study in California lakes and reservoirs year two (FY 07-08). Sampling dates: April 2008 - November 2008.
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	Water Quality Control Plan for the San Francisco Bay Basin (2013): Controllable water quality factors shall not cause a detrimental increase in concentrations of toxic substances found in bottom sediments or aquatic life. Effects on aquatic organisms, wildlife, and human health will be considered.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	The OEHHA Fish Contaminant Goal for selenium in fish tissue is 7.4 ppm. This screening level assumes an average body weight of 70 kg and a consumption rate of 32 g/day. A background dietary consumption rate of 0.114 mg/day is applied for this micronutrient. (Klasing, S., and R. Brodberg, 2008)
Guideline Reference:	Development of Fish Contaminant Goals and Advisory Tissue Levels for Common Contaminants in California Sport Fish: Chlordane, DDTs, Dieldrin, Methylmercury, PCBs, Selenium, and Toxaphene
Spatial Representation:	Data for this assessment unit was collected by one monitoring project: (SWB_FishLk)
Temporal Representation:	Data was collected on a single day 11/5/2008.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	Samples were collected, processed, and analyzed in accordance with the methods described in Quality Assurance Project Plan "Screening Study of Bioaccumulation in California Lakes and Reservoirs." (SWAMP, 2008).
QAPP Information Reference(s):	Quality Assurance Project Plan Screening Study of Bioaccumulation in California Lakes and Reservoirs. Moss Landing Marine Labs. Prepared for SWAMP BOG. 49 pages plus appendices and attachments

Draft California 2016 Integrated Report (303(d) List/305(b) Report)

Supporting Information

Regional Board 2 - San Francisco Bay Region

Water Body Name: Stevens Creek Reservoir
Water Body ID: CAL2055003120050519182844
Water Body Type: Lake & Reservoir

DECISION ID 34129 **Region 2**
Stevens Creek Reservoir

Pollutant: Chlordane
Final Listing Decision: Do Not Delist from 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision: List on 303(d) list (TMDL required list)(2012)
Revision Status Revised
Sources: Source Unknown
Expected TMDL Completion Date: 2019
Impairment from Pollutant or Pollution: Pollutant

Regional Board Staff Conclusion: This pollutant is being considered for removal from the CWA section 303(d) List under section 4.1 of the Listing Policy. Under this section a single line of evidence is necessary to assess listing status. Four lines of evidence are available in the administrative record to assess pollutant. Three of six samples exceed the guideline.

Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against removing this water segment-pollutant combination from the CWA section 303(d) List.

This conclusion is based on the staff findings that:

1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy.
2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy.
3. Three of six samples exceed the guideline and this exceeds the allowable frequency listed in Table 4.1 of the Listing Policy.
4. Pursuant to section 4.11 of the Listing Policy, no additional data and information are available indicating that standards are met.

Regional Board Staff Decision Recommendation: After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be removed from the section 303(d) list because applicable water quality standards for the pollutant are being exceeded.

Line of Evidence (LOE) for Decision ID 34129, Chlordane **Region 2** Stevens Creek Reservoir

LOE ID: 93438
Pollutant: Chlordane
LOE Subgroup: Pollutant-Tissue
Matrix: Tissue
Fraction: Fish fillet
Beneficial Use: Warm Freshwater Habitat
Number of Samples: 1

Number of Exceedances:	0
Data and Information Type:	Fish tissue analysis
Data Used to Assess Water Quality:	State Water Board staff assessed SWAMP data for Stevens Creek Reservoir to determine beneficial use support and results are as follows: 0 of 1 samples exceed the criterion for Chlordane, Total. Two composites (5 fish per composite) were generated from one species: Common Carp. Composites were not spatially independent (as defined in the Listing Policy) and so were averaged. Details of the compositing protocol can be found in the March 2009 report entitled: "Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Study" (SWAMP, 2009). Total chlordane was calculated as the sum of the following chlordane isomers: cis- and trans-chlordane, cis- and trans-nonachlor, and oxychlordane.
Data Reference:	Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Survey. A Report of the Surface Water Ambient Monitoring Program (SWAMP). California State Water Resources Control Board, Sacramento, CA Cruise Report for the Surface Waters Ambient Monitoring Program (SWAMP) Bioaccumulation Screening Study in California Lakes and Reservoirs. Sampling Dates: June 2007- March 2008 Statewide Lakes Sportfish Contamination Study 2007 2008 Contaminants in Fish from California Lakes and Reservoirs, 2007-2008: Summary Report on a Two-Year Screening Survey
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	Water Quality Control Plan for the San Francisco Bay Basin: Controllable water quality factors shall not cause a detrimental increase in concentrations of toxic substances found in bottom sediments or aquatic life. Effects on aquatic organisms, wildlife, and human health will be considered.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	National Academy of Science guidelines (NAS 1972) establish a maximum total Chlordane concentration of 100 ug/Kg (wet weight) in tissue samples for protection of aquatic life from bioaccumulation of toxic substances.
Guideline Reference:	National Academy of Sciences. Water Quality Criteria 1972. EPA-R3-73-033. Washington, D.C.: U.S. Environmental Protection Agency
Spatial Representation:	Data for this assessment unit was collected by one monitoring project: (SWB_FishLk)
Temporal Representation:	Data was collected on a single day 7/31/2007.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	Samples were collected, processed, and analyzed in accordance with the methods described in Quality Assurance Project Plan "Screening Study of Bioaccumulation in California Lakes and Reservoirs." (SWAMP, 2008).
QAPP Information Reference(s):	Quality Assurance Project Plan Screening Study of Bioaccumulation in California Lakes and Reservoirs. Moss Landing Marine Labs. Prepared for SWAMP BOG. 49 pages plus appendices and attachments

Line of Evidence (LOE) for Decision ID 34129, Chlordane
Stevens Creek Reservoir

Region 2

LOE ID:	93443
Pollutant:	Chlordane
LOE Subgroup:	Pollutant-Tissue
Matrix:	Tissue
Fraction:	Fish fillet
Beneficial Use:	Commercial or recreational collection of fish, shellfish, or organisms
Number of Samples:	1
Number of Exceedances:	1
Data and Information Type:	Fish tissue analysis

Data Used to Assess Water Quality:	State Water Board staff assessed SWAMP data for Stevens Creek Reservoir to determine beneficial use support and results are as follows: 1 of 1 samples exceed the criterion for Chlordane, Total. Two composites (5 fish per composite) were generated from one species: Common Carp. Composites were not spatially independent (as defined in the Listing Policy) and so were averaged. Details of the compositing protocol can be found in the March 2009 report entitled: "Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Study" (SWAMP, 2009). Total chlordane was calculated as the sum of the following chlordane isomers: cis- and trans-chlordane, cis- and trans-nonachlor, and oxychlordane.
Data Reference:	Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Survey. A Report of the Surface Water Ambient Monitoring Program (SWAMP). California State Water Resources Control Board, Sacramento, CA Cruise Report for the Surface Waters Ambient Monitoring Program (SWAMP) Bioaccumulation Screening Study in California Lakes and Reservoirs, Sampling Dates: June 2007- March 2008 Statewide Lakes Sportfish Contamination Study 2007 2008 Contaminants in Fish from California Lakes and Reservoirs, 2007-2008: Summary Report on a Two-Year Screening Survey
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	Water Quality Control Plan for the San Francisco Bay Basin: Controllable water quality factors shall not cause a detrimental increase in concentrations of toxic substances found in bottom sediments or aquatic life. Effects on aquatic organisms, wildlife, and human health will be considered.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	The modified OEHHA Fish Contaminant Goal for total chlordane in fish tissue is 3.9 ppb. This screening level assumes an average body weight of 70 kg and a consumption rate of 32 g/day for a 30 year exposure over a 70-year lifetime. This constituent is a carcinogen therefore the risk level is set to one in a million. A cooking reduction factor of 1 is applied for skin-off fillets. (Klasing, S., and R. Brodberg, 2008)
Guideline Reference:	Development of Fish Contaminant Goals and Advisory Tissue Levels for Common Contaminants in California Sport Fish: Chlordane, DDTs, Dieldrin, Methylmercury, PCBs, Selenium, and Toxaphene
Spatial Representation:	Data for this assessment unit was collected by one monitoring project: (SWB_FishLk)
Temporal Representation:	Data was collected on a single day 7/31/2007.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	Samples were collected, processed, and analyzed in accordance with the methods described in Quality Assurance Project Plan "Screening Study of Bioaccumulation in California Lakes and Reservoirs." (SWAMP, 2008).
QAPP Information Reference(s):	Quality Assurance Project Plan Screening Study of Bioaccumulation in California Lakes and Reservoirs. Moss Landing Marine Labs. Prepared for SWAMP BOG, 49 pages plus appendices and attachments

Line of Evidence (LOE) for Decision ID 34129, Chlordane
Stevens Creek Reservoir

Region 2

LOE ID:	683
Pollutant:	Chlordane
LOE Subgroup:	Pollutant-Tissue
Matrix:	Tissue
Fraction:	Total
Beneficial Use:	Commercial or recreational collection of fish, shellfish, or organisms
Number of Samples:	6
Number of Exceedances:	3
Data and Information Type:	Fish tissue analysis

Data Used to Assess Water Quality:	Three out of 6 samples exceeded. A total of 6 composite samples were collected and analyzed from Stevens Creek Reservoir. There were 3 channel catfish and 3 largemouth bass. Three channel catfish samples exceeded the guideline (TSMP, 2002).
Data Reference:	Placeholder reference 2006 303(d)
SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	San Francisco Bay RWQCB Basin Plan: Many pollutants can accumulate on particles, in sediment, or bioaccumulate in fish and other aquatic organisms. Controllable water quality factors shall not cause a detrimental increase in concentrations of toxic substances found in bottom sediments or aquatic life. Effects on aquatic organisms, wildlife, and human health will be considered.
Objective/Criterion Reference:	Placeholder reference 2006 303(d)
Evaluation Guideline:	30.0 ng/g Total Chlordane - OEHA Screening Value (Brodberg and Pollock, 1999).
Guideline Reference:	Placeholder reference 2006 303(d)
Spatial Representation:	One station located off the point on the west shore of the lake 600 yards upstream of the dam.
Temporal Representation:	Samples were collected on 5/4/2001 and 6/6/2001.
Environmental Conditions:	
QAPP Information:	Environmental Chemistry Quality Assurance and Data Report for the Toxic Substances Monitoring Program, 2001-2002. Department of Fish and Game.
QAPP Information Reference(s):	

Line of Evidence (LOE) for Decision ID 34129, Chlordane

Region 2

Stevens Creek Reservoir

LOE ID:	93439
Pollutant:	Chlordane
LOE Subgroup:	Pollutant-Tissue
Matrix:	Tissue
Fraction:	Fish fillet
Beneficial Use:	Cold Freshwater Habitat
Number of Samples:	1
Number of Exceedances:	0
Data and Information Type:	Fish tissue analysis
Data Used to Assess Water Quality:	State Water Board staff assessed SWAMP data for Stevens Creek Reservoir to determine beneficial use support and results are as follows: 0 of 1 samples exceed the criterion for Chlordane, Total. Two composites (5 fish per composite) were generated from one species: Common Carp. Composites were not spatially independent (as defined in the Listing Policy) and so were averaged. Details of the compositing protocol can be found in the March 2009 report entitled: "Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Study" (SWAMP, 2009). Total chlordane was calculated as the sum of the following chlordane isomers: cis- and trans-chlordane, cis- and trans-nonachlor, and oxychlordane.
Data Reference:	Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Survey. A Report of the Surface Water Ambient Monitoring Program (SWAMP). California State Water Resources Control Board, Sacramento, CA Cruise Report for the Surface Waters Ambient Monitoring Program (SWAMP) Bioaccumulation Screening Study in California Lakes and Reservoirs. Sampling Dates: June 2007- March 2008 Statewide Lakes Sportfish Contamination Study 2007 2008 Contaminants in Fish from California Lakes and Reservoirs, 2007-2008: Summary Report on a Two-Year Screening Survey
SWAMP Data:	SWAMP

Water Quality Objective/Criterion:	Water Quality Control Plan for the San Francisco Bay Basin: Controllable water quality factors shall not cause a detrimental increase in concentrations of toxic substances found in bottom sediments or aquatic life. Effects on aquatic organisms, wildlife, and human health will be considered.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	National Academy of Science guidelines (NAS 1972) establish a maximum total Chlordane concentration of 100 ug/Kg (wet weight) in tissue samples for protection of aquatic life from bioaccumulation of toxic substances.
Guideline Reference:	National Academy of Sciences. Water Quality Criteria 1972. EPA-R3-73-033. Washington, D.C.: U.S. Environmental Protection Agency
Spatial Representation:	Data for this assessment unit was collected by one monitoring project: (SWB_FishLk)
Temporal Representation:	Data was collected on a single day 7/31/2007.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	Samples were collected, processed, and analyzed in accordance with the methods described in Quality Assurance Project Plan "Screening Study of Bioaccumulation in California Lakes and Reservoirs." (SWAMP, 2008).
QAPP Information Reference(s):	Quality Assurance Project Plan Screening Study of Bioaccumulation in California Lakes and Reservoirs. Moss Landing Marine Labs. Prepared for SWAMP BOG. 49 pages plus appendices and attachments

DECISION ID	34131	Region 2
Stevens Creek Reservoir		

Pollutant:	Dieldrin
Final Listing Decision:	Do Not Delist from 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision:	List on 303(d) list (TMDL required list)(2012)
Revision Status	Revised
Sources:	Source Unknown
Expected TMDL Completion Date:	2019
Impairment from Pollutant or Pollution:	Pollutant

Regional Board Staff Conclusion:	<p>This pollutant is being considered for removal from the CWA section 303(d) List under section 4.1 of the Listing Policy. Under this section a single line of evidence is necessary to assess listing status.</p> <p>Four lines of evidence are available in the administrative record to assess pollutant. Three of six samples exceed the guideline.</p> <p>Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against removing this water segment-pollutant combination from the CWA section 303(d) List.</p> <p>This conclusion is based on the staff findings that:</p> <ol style="list-style-type: none"> 1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy. 2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy. 3. Three of six samples exceed the guideline and this exceeds the allowable frequency listed in Table 4.1 of the Listing Policy. 4. Pursuant to section 4.11 of the Listing Policy, no additional data and information are available indicating that standards are met.
Regional Board Staff Decision Recommendation:	After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be removed from the section 303(d) list because applicable water quality standards for the pollutant are being exceeded.

Line of Evidence (LOE) for Decision ID 34131, Dieldrin	Region 2
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Stevens Creek Reservoir

LOE ID:	684
Pollutant:	Dieldrin
LOE Subgroup:	Pollutant-Tissue
Matrix:	Tissue
Fraction:	Total
Beneficial Use:	Commercial or recreational collection of fish, shellfish, or organisms
Number of Samples:	6
Number of Exceedances:	3
Data and Information Type:	Fish tissue analysis
Data Used to Assess Water Quality:	Three out of 6 samples exceeded. A total of 6 composite samples were collected and analyzed from Stevens Creek Reservoir. There were 3 channel catfish and 3 largemouth bass. Three channel catfish samples exceeded guideline (TSMP, 2002).
Data Reference:	Placeholder reference 2006 303(d)
SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	San Francisco Bay RWQCB Basin Plan: Many pollutants can accumulate on particles, in sediment, or bioaccumulate in fish and other aquatic organisms. Controllable water quality factors shall not cause a detrimental increase in concentrations of toxic substances found in bottom sediments or aquatic life. Effects on aquatic organisms, wildlife, and human health will be considered.
Objective/Criterion Reference:	Placeholder reference 2006 303(d)
Evaluation Guideline:	2.0 ng/g Dieldrin - OEHHA Screening Value (Brodberg & Pollock, 1999).
Guideline Reference:	Placeholder reference 2006 303(d)
Spatial Representation:	One station located off the point on the west shore of the lake 600 yards upstream of the dam.
Temporal Representation:	Samples were collected on 5/4/2001 and 6/6/2001.
Environmental Conditions:	
QAPP Information:	Environmental Chemistry Quality Assurance and Data Report for the Toxic Substances Monitoring Program, 2001-2002. Department of Fish and Game.
QAPP Information Reference(s):	

Line of Evidence (LOE) for Decision ID 34131, Dieldrin

Region 2

Stevens Creek Reservoir

LOE ID:	93380
Pollutant:	Dieldrin
LOE Subgroup:	Pollutant-Tissue
Matrix:	Tissue
Fraction:	Fish fillet
Beneficial Use:	Commercial or recreational collection of fish, shellfish, or organisms
Number of Samples:	1
Number of Exceedances:	1
Data and Information Type:	Fish tissue analysis
Data Used to Assess Water Quality:	State Water Board staff assessed SWAMP data for Stevens Creek Reservoir to determine beneficial use support and results are as follows: 1 of 1 samples exceed the criterion for Dieldrin. Two composites (5 fish per composite) were generated from one species: Common Carp. Composites were not spatially independent (as defined in the Listing Policy) and so were averaged. Composites were not independent and were averaged. Details of the compositing protocol can be found in the March 2009 report entitled:

Data Reference:	<p>"Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Study" (SWAMP, 2009). Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Survey. A Report of the Surface Water Ambient Monitoring Program (SWAMP). California State Water Resources Control Board, Sacramento, CA Cruise Report for the Surface Waters Ambient Monitoring Program (SWAMP) Bioaccumulation Screening Study in California Lakes and Reservoirs. Sampling Dates: June 2007- March 2008 Statewide Lakes Sportfish Contamination Study 2007 2008 Contaminants in Fish from California Lakes and Reservoirs, 2007-2008: Summary Report on a Two-Year Screening Survey</p>
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	Water Quality Control Plan for the San Francisco Bay Basin: Controllable water quality factors shall not cause a detrimental increase in concentrations of toxic substances found in bottom sediments or aquatic life. Effects on aquatic organisms, wildlife, and human health will be considered.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	The modified OEHHA Fish Contaminant Goal for dieldrin in fish tissue is 0.32 ppb. This screening level assumes an average body weight of 70 kg and a consumption rate of 32 g/day for a 30 year exposure over a 70-year lifetime. This constituent is a carcinogen therefore the risk level is set to one in a million. A cooking reduction factor of 1 is applied for skin-off fillets. (Klasing, S., and R. Brodberg, 2008)
Guideline Reference:	Development of Fish Contaminant Goals and Advisory Tissue Levels for Common Contaminants in California Sport Fish: Chlordane, DDTs, Dieldrin, Methylmercury, PCBs, Selenium, and Toxaphene
Spatial Representation:	Data for this assessment unit was collected by one monitoring project: (SWB_FishLk)
Temporal Representation:	Data was collected on a single day 7/31/2007.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	Samples were collected, processed, and analyzed in accordance with the methods described in Quality Assurance Project Plan "Screening Study of Bioaccumulation in California Lakes and Reservoirs." (SWAMP, 2008).
QAPP Information Reference(s):	Quality Assurance Project Plan Screening Study of Bioaccumulation in California Lakes and Reservoirs. Moss Landing Marine Labs. Prepared for SWAMP BOG. 49 pages plus appendices and attachments

Line of Evidence (LOE) for Decision ID 34131, Dieldrin

Region 2

Stevens Creek Reservoir

LOE ID:	93445
Pollutant:	Dieldrin
LOE Subgroup:	Pollutant-Tissue
Matrix:	Tissue
Fraction:	Fish fillet
Beneficial Use:	Cold Freshwater Habitat
Number of Samples:	1
Number of Exceedances:	0
Data and Information Type:	Fish tissue analysis
Data Used to Assess Water Quality:	State Water Board staff assessed SWAMP data for Stevens Creek Reservoir to determine beneficial use support and results are as follows: 0 of 1 samples exceed the criterion for Dieldrin. Two composites (5 fish per composite) were generated from one species: Common Carp. Composites were not spatially independent (as defined in the Listing Policy) and so were averaged. Details of the compositing protocol can be found in the March 2009 report entitled: "Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Study" (SWAMP, 2009).

Data Reference:	Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Survey. A Report of the Surface Water Ambient Monitoring Program (SWAMP). California State Water Resources Control Board, Sacramento, CA Cruise Report for the Surface Waters Ambient Monitoring Program (SWAMP) Bioaccumulation Screening Study in California Lakes and Reservoirs, Sampling Dates: June 2007- March 2008 Statewide Lakes Sportfish Contamination Study 2007 2008 Contaminants in Fish from California Lakes and Reservoirs, 2007-2008: Summary Report on a Two-Year Screening Survey
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	Water Quality Control Plan for the San Francisco Bay Basin: Controllable water quality factors shall not cause a detrimental increase in concentrations of toxic substances found in bottom sediments or aquatic life. Effects on aquatic organisms, wildlife, and human health will be considered.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	National Academy of Science guidelines (NAS 1972) establish a maximum Dieldrin concentration of 100 ug/Kg (wet weight) in tissue samples for protection of aquatic life from bioaccumulation of toxic substances.
Guideline Reference:	National Academy of Sciences. Water Quality Criteria 1972. EPA-R3-73-033. Washington, D.C.: U.S. Environmental Protection Agency
Spatial Representation:	Data for this assessment unit was collected by one monitoring project: (SWB_FishLk)
Temporal Representation:	Data was collected on a single day 7/31/2007.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	Samples were collected, processed, and analyzed in accordance with the methods described in Quality Assurance Project Plan "Screening Study of Bioaccumulation in California Lakes and Reservoirs." (SWAMP, 2008).
QAPP Information Reference(s):	Quality Assurance Project Plan Screening Study of Bioaccumulation in California Lakes and Reservoirs. Moss Landing Marine Labs. Prepared for SWAMP BOG. 49 pages plus appendices and attachments

Line of Evidence (LOE) for Decision ID 34131, Dieldrin

Region 2

Stevens Creek Reservoir

LOE ID:	93444
Pollutant:	Dieldrin
LOE Subgroup:	Pollutant-Tissue
Matrix:	Tissue
Fraction:	Fish fillet
Beneficial Use:	Warm Freshwater Habitat
Number of Samples:	1
Number of Exceedances:	0
Data and Information Type:	Fish tissue analysis
Data Used to Assess Water Quality:	State Water Board staff assessed SWAMP data for Stevens Creek Reservoir to determine beneficial use support and results are as follows: 0 of 1 samples exceed the criterion for Dieldrin. Two composites (5 fish per composite) were generated from one species: Common Carp. Composites were not spatially independent (as defined in the Listing Policy) and so were averaged. Details of the compositing protocol can be found in the March 2009 report entitled: "Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Study" (SWAMP, 2009).
Data Reference:	Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Survey. A Report of the Surface Water Ambient Monitoring Program (SWAMP). California State Water Resources Control Board, Sacramento, CA Cruise Report for the Surface Waters Ambient Monitoring Program (SWAMP) Bioaccumulation Screening Study in California Lakes and Reservoirs, Sampling Dates:

SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	Water Quality Control Plan for the San Francisco Bay Basin: Controllable water quality factors shall not cause a detrimental increase in concentrations of toxic substances found in bottom sediments or aquatic life. Effects on aquatic organisms, wildlife, and human health will be considered.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	National Academy of Science guidelines (NAS 1972) establish a maximum Dieldrin concentration of 100 ug/Kg (wet weight) in tissue samples for protection of aquatic life from bioaccumulation of toxic substances.
Guideline Reference:	National Academy of Sciences. Water Quality Criteria 1972. EPA-R3-73-033. Washington, D.C.: U.S. Environmental Protection Agency
Spatial Representation:	Data for this assessment unit was collected by one monitoring project: (SWB_FishLk)
Temporal Representation:	Data was collected on a single day 7/31/2007.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	Samples were collected, processed, and analyzed in accordance with the methods described in Quality Assurance Project Plan "Screening Study of Bioaccumulation in California Lakes and Reservoirs." (SWAMP, 2008).
QAPP Information Reference(s):	Quality Assurance Project Plan Screening Study of Bioaccumulation in California Lakes and Reservoirs. Moss Landing Marine Labs. Prepared for SWAMP BOG, 49 pages plus appendices and attachments

DECISION ID	34132	Region 2
Stevens Creek Reservoir		

Pollutant:	Mercury
Final Listing Decision:	Do Not Delist from 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision:	Do Not Delist from 303(d) list (TMDL required list)(2012)
Revision Status	Revised
Sources:	Source Unknown
Expected TMDL Completion Date:	2013
Impairment from Pollutant or Pollution:	Pollutant
Regional Board Staff Conclusion:	<p>This pollutant is being considered for removal from the CWA section 303(d) List under section 4.1 of the Listing Policy. Under this section a single line of evidence is necessary to assess listing status.</p> <p>Three lines of evidence are available in the administrative record to assess pollutant. Eleven of fourteen samples exceed the guideline.</p> <p>Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against removing this water segment-pollutant combination from the CWA section 303(d) List.</p> <p>This conclusion is based on the staff findings that:</p> <ol style="list-style-type: none"> 1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy. 2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy. 3. Eleven of fourteen samples exceed the guideline and this exceeds the allowable frequency listed in Table 4.1 of the Listing Policy. 4. Pursuant to section 4.11 of the Listing Policy, no additional data and information are available indicating that standards are met.

Regional Board Staff Decision Recommendation: After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be removed from the section 303(d) list because applicable water quality standards for the pollutant are being exceeded.

Line of Evidence (LOE) for Decision ID 34132, Mercury

Region 2

Stevens Creek Reservoir

LOE ID:	31009
Pollutant:	Mercury
LOE Subgroup:	Pollutant-Tissue
Matrix:	Tissue
Fraction:	Fish fillet
Beneficial Use:	Commercial or recreational collection of fish, shellfish, or organisms
Number of Samples:	13
Number of Exceedances:	10
Data and Information Type:	Fish tissue analysis
Data Used to Assess Water Quality:	Fish were collected for tissue analysis at one location from Stevens Creek Reservoir. A total of 13 sample composites were generated from two species: Largemouth Bass (11) and Common Carp (2). Details of the compositing protocol can be found in the March 2009 report entitled: "Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Study" (SWAMP, 2009). A total of 10 out of 13 samples exceeded the OHHEA fish tissue screening value for human health.
Data Reference:	Data associated with report entitled: Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Survey. A Report of the Surface Water Ambient Monitoring Program (SWAMP). California State Water Resources Control Board, Sacramento, CA Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Survey. A Report of the Surface Water Ambient Monitoring Program (SWAMP). California State Water Resources Control Board, Sacramento, CA Cruise Report for the Surface Waters Ambient Monitoring Program (SWAMP) Bioaccumulation Screening Study in California Lakes and Reservoirs. Sampling Dates: June 2007- March 2008
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	The Basin Plan contains the following objective: Many pollutants can accumulate on particles, in sediment, or bioaccumulate in fish and other aquatic organisms. Controllable water quality factors shall not cause a detrimental increase in concentrations of toxic substances found in bottom sediments or aquatic life. Effects on aquatic organisms, wildlife, and human health will be considered.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) - San Francisco Bay Region (Region 2)
Evaluation Guideline:	Office of Environmental Health Hazard Assessment (OEHHA) Screening Value of 0.3 mg/kg to protect human health when consuming fish (OEHHA, 1999).
Guideline Reference:	Prevalence of Selected Target Chemical Contaminants in Sport Fish From Two California Lakes: Public health designed screening study. Sacramento, CA: Office of Environmental Health Hazard Assessment
Spatial Representation:	Samples were collected from one location in Stevens Creek Reservoir. As discussed in the Lakes and Reservoirs Report (SWAMP, 2009), individual sample locations consisted of an area within a given waterbody with an approximate one-mile diameter, from which multiple fish tissue samples were collected. The number of sample locations per waterbody was based on the overall size of the waterbody. Specifics of individual sampling locations can be found in the supplemental report entitled "Cruise Report for the Surface Waters Ambient Monitoring Program (SWAMP) Bioaccumulation Screening Study in California Lakes and Reservoirs, Sampling Dates: June 2007- March 2008" (SWAMP,

2008).

Temporal Representation: Samples were collected on July 31, 2007

Environmental Conditions: There are no known environmental conditions (e.g., seasonality, land use practices, fire events, storms, etc.) that are related to these data.

QAPP Information: Samples were collected, processed, and analyzed in accordance with the methods described in "Quality Assurance Project Plan Screening Study of Bioaccumulation in California Lakes and Reservoirs." (SWAMP, 2008).

QAPP Information Reference(s): [Quality Assurance Project Plan Screening Study of Bioaccumulation in California Lakes and Reservoirs. Moss Landing Marine Labs. Prepared for SWAMP BOG. 49 pages plus appendices and attachments](#)

Line of Evidence (LOE) for Decision ID 34132, Mercury
Stevens Creek Reservoir

Region 2

LOE ID: 93398

Pollutant: Mercury

LOE Subgroup: Pollutant-Tissue

Matrix: Tissue

Fraction: Fish fillet

Beneficial Use: Commercial or recreational collection of fish, shellfish, or organisms

Number of Samples: 1

Number of Exceedances: 1

Data and Information Type: Fish tissue analysis

Data Used to Assess Water Quality: State Water Board staff assessed SWAMP data for Stevens Creek Reservoir to determine beneficial use support and results are as follows: 1 of 1 samples exceed the criterion for Mercury. Composites were generated from largemouth bass (11 composites - 1 fish per composite) and common carp (2 composites - 5 fish per composite). Composites were not spatially independent (as defined in the Listing Policy) and so were averaged by species. The 1 sample for largemouth bass exceeded the criterion. Two common carp composites could not be used in the assessment due to total fish lengths that did not fall within lengths noted in the guideline.

Data Reference: [Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Survey. A Report of the Surface Water Ambient Monitoring Program \(SWAMP\). California State Water Resources Control Board, Sacramento, CA](#)
[Cruise Report for the Surface Waters Ambient Monitoring Program \(SWAMP\) Bioaccumulation Screening Study in California Lakes and Reservoirs. Sampling Dates: June 2007- March 2008](#)
[Statewide Lakes Sportfish Contamination Study 2007 2008](#)
[Contaminants in Fish from California Lakes and Reservoirs, 2007-2008: Summary Report on a Two-Year Screening Survey](#)

SWAMP Data: SWAMP

Water Quality Objective/Criterion: Water Quality Control Plan for the San Francisco Bay Basin (2013): Controllable water quality factors shall not cause a detrimental increase in concentrations of toxic substances found in bottom sediments or aquatic life. Effects on aquatic organisms, wildlife, and human health will be considered.

Objective/Criterion Reference: [Water Quality Control Plan \(Basin Plan\) San Francisco Bay Basin \(Region 2\)](#)

Evaluation Guideline: The USEPA 304(a) recommended water quality criterion for concentrations of methylmercury in fish tissue of trophic level 4 fish (150 - 500 mm; fillet wet weight) is 0.2 mg/kg. This assumes a consumption rate of 32 g/day. (USEPA, 2001)

Guideline Reference: [Water Quality Criterion for the Protection of Human Health: Methylmercury. Final. United States Environmental Protection Agency Office of Science and Technology Office of Water. EPA-823-R-01-001. January 2001](#)

Spatial Representation: Data for this assessment unit was collected by one monitoring project: (SWB_FishLk)

Temporal Representation: Data was collected on a single day 7/31/2007.

Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	Samples were collected, processed, and analyzed in accordance with the methods described in Quality Assurance Project Plan "Screening Study of Bioaccumulation in California Lakes and Reservoirs." (SWAMP, 2008).
QAPP Information Reference(s):	Quality Assurance Project Plan Screening Study of Bioaccumulation in California Lakes and Reservoirs. Moss Landing Marine Labs. Prepared for SWAMP BOG. 49 pages plus appendices and attachments

**Line of Evidence (LOE) for Decision ID 34132, Mercury
Stevens Creek Reservoir**

Region 2

LOE ID:	685
Pollutant:	Mercury
LOE Subgroup:	Pollutant-Tissue
Matrix:	Tissue
Fraction:	Total
Beneficial Use:	Commercial or recreational collection of fish, shellfish, or organisms
Number of Samples:	10
Number of Exceedances:	9
Data and Information Type:	Fish tissue analysis
Data Used to Assess Water Quality:	Nine out of 10 samples exceeded. A total of 7 composite samples, 4 black crappie and 3 largemouth bass, along with 3 individual samples of channel catfish were collected and analyzed from Stevens Creek Reservoir. One channel catfish sample did not exceed guideline (TSMP, 2002).
Data Reference:	Placeholder reference 2006 303(d)
SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	San Francisco Bay RWQCB Basin Plan: Many pollutants can accumulate on particles, in sediment, or bioaccumulate in fish and other aquatic organisms. Controllable water quality factors shall not cause a detrimental increase in concentrations of toxic substances found in bottom sediments or aquatic life. Effects on aquatic organisms, wildlife, and human health will be considered.
Objective/Criterion Reference:	Placeholder reference 2006 303(d)
Evaluation Guideline:	0.3 ug/g Hg - OEHHA Screening Value (Interim Health Advisory for Hg and PCB, Contra Costa County) (Brodberg and Pollock, 1999).
Guideline Reference:	Placeholder reference 2006 303(d)
Spatial Representation:	One station located off the point on the west shore of the lake 600 yards upstream of the dam.
Temporal Representation:	Samples were collected on 5/4/2001 and 6/6/2001.
Environmental Conditions:	
QAPP Information:	Environmental Chemistry Quality Assurance and Data Report for the Toxic Substances Monitoring Program, 2001-2002. Department of Fish and Game.
QAPP Information Reference(s):	

**DECISION ID 34133
Stevens Creek Reservoir**

Region 2

Pollutant:	PCBs (Polychlorinated biphenyls)
Final Listing Decision:	Do Not Delist from 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision:	List on 303(d) list (TMDL required list)(2012)
Revision Status	Revised
Sources:	Source Unknown

Expected TMDL Completion Date: 2019
Impairment from Pollutant or Pollution: Pollutant

Regional Board Staff Conclusion: This pollutant is being considered for removal from the CWA section 303(d) List under section 4.1 of the Listing Policy. Under this section a single line of evidence is necessary to assess listing status.

Four lines of evidence are available in the administrative record to assess pollutant. Six of six samples exceed the guideline.

Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against removing this water segment-pollutant combination from the CWA section 303(d) List.

This conclusion is based on the staff findings that:

1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy.
2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy.
3. Six of six samples exceed the guideline and this exceeds the allowable frequency listed in Table 4.1 of the Listing Policy.
4. Pursuant to section 4.11 of the Listing Policy, no additional data and information are available indicating that standards are met.

Regional Board Staff Decision Recommendation: After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be removed from the section 303(d) list because applicable water quality standards for the pollutant are being exceeded.

Line of Evidence (LOE) for Decision ID 34133, PCBs (Polychlorinated biphenyls)

Region 2

Stevens Creek Reservoir

LOE ID: 93400

Pollutant: PCBs (Polychlorinated biphenyls)
LOE Subgroup: Pollutant-Tissue
Matrix: Tissue
Fraction: Fish fillet

Beneficial Use: Warm Freshwater Habitat

Number of Samples: 1
Number of Exceedances: 0

Data and Information Type: Fish tissue analysis
Data Used to Assess Water Quality: State Water Board staff assessed SWAMP data for Stevens Creek Reservoir to determine beneficial use support and results are as follows: 0 of 1 samples exceed the criterion for PCB, Total. Two composites (5 fish per composite) were generated from one species: Common Carp. Composites were not spatially independent (as defined in the Listing Policy) and so were averaged. Details of the compositing protocol can be found in the March 2009 report entitled: "Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Study" (SWAMP, 2009). Total PCB was assessed for as follows: PCB aroclors and congeners were summed separately and the sum that yielded the highest value was used for the assessment.

Data Reference: [Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Survey. A Report of the Surface Water Ambient Monitoring Program \(SWAMP\). California State Water Resources Control Board, Sacramento, CA](#)
[Cruise Report for the Surface Waters Ambient Monitoring Program \(SWAMP\)](#)
[Bioaccumulation Screening Study in California Lakes and Reservoirs, Sampling Dates: June 2007- March 2008](#)
[Statewide Lakes Sportfish Contamination Study 2007 2008](#)
[Contaminants in Fish from California Lakes and Reservoirs, 2007-2008: Summary Report on a Two-Year Screening Survey](#)

SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	Water Quality Control Plan for the San Francisco Bay Basin (2013): Controllable water quality factors shall not cause a detrimental increase in concentrations of toxic substances found in bottom sediments or aquatic life. Effects on aquatic organisms, wildlife, and human health will be considered.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	National Academy of Science guidelines (NAS 1972) establish a maximum total PCB concentration of 500 ug/Kg (wet weight) in tissue samples for protection of aquatic life from bioaccumulation of toxic substances.
Guideline Reference:	National Academy of Sciences. Water Quality Criteria 1972. EPA-R3-73-033. Washington, D.C.: U.S. Environmental Protection Agency
Spatial Representation:	Data for this assessment unit was collected by one monitoring project: (SWB_FishLk)
Temporal Representation:	Data was collected on a single day 7/31/2007.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	Samples were collected, processed, and analyzed in accordance with the methods described in Quality Assurance Project Plan "Screening Study of Bioaccumulation in California Lakes and Reservoirs." (SWAMP, 2008).
QAPP Information Reference(s):	Quality Assurance Project Plan Screening Study of Bioaccumulation in California Lakes and Reservoirs. Moss Landing Marine Labs. Prepared for SWAMP BOG. 49 pages plus appendices and attachments

Line of Evidence (LOE) for Decision ID 34133, PCBs (Polychlorinated biphenyls)

Region 2

Stevens Creek Reservoir

LOE ID:	93401
Pollutant:	PCBs (Polychlorinated biphenyls)
LOE Subgroup:	Pollutant-Tissue
Matrix:	Tissue
Fraction:	Fish fillet
Beneficial Use:	Cold Freshwater Habitat
Number of Samples:	1
Number of Exceedances:	0
Data and Information Type:	Fish tissue analysis
Data Used to Assess Water Quality:	State Water Board staff assessed SWAMP data for Stevens Creek Reservoir to determine beneficial use support and results are as follows: 0 of 1 samples exceed the criterion for PCB, Total. Two composites (5 fish per composite) were generated from one species: Common Carp. Composites were not spatially independent (as defined in the Listing Policy) and so were averaged. Details of the compositing protocol can be found in the March 2009 report entitled: "Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Study" (SWAMP, 2009). Total PCB was assessed for as follows: PCB aroclors and congeners were summed separately and the sum that yielded the highest value was used for the assessment.
Data Reference:	Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Survey. A Report of the Surface Water Ambient Monitoring Program (SWAMP). California State Water Resources Control Board, Sacramento, CA Cruise Report for the Surface Waters Ambient Monitoring Program (SWAMP) Bioaccumulation Screening Study in California Lakes and Reservoirs. Sampling Dates: June 2007- March 2008 Statewide Lakes Sportfish Contamination Study 2007 2008 Contaminants in Fish from California Lakes and Reservoirs, 2007-2008: Summary Report on a Two-Year Screening Survey

SWAMP Data: SWAMP

Water Quality Objective/Criterion:	Water Quality Control Plan for the San Francisco Bay Basin (2013): Controllable water quality factors shall not cause a detrimental increase in concentrations of toxic substances found in bottom sediments or aquatic life. Effects on aquatic organisms, wildlife, and human health will be considered.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	National Academy of Science guidelines (NAS 1972) establish a maximum total PCB concentration of 500 ug/Kg (wet weight) in tissue samples for protection of aquatic life from bioaccumulation of toxic substances.
Guideline Reference:	National Academy of Sciences. Water Quality Criteria 1972. EPA-R3-73-033. Washington, D.C.: U.S. Environmental Protection Agency
Spatial Representation:	Data for this assessment unit was collected by one monitoring project: (SWB_FishLk)
Temporal Representation:	Data was collected on a single day 7/31/2007.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	Samples were collected, processed, and analyzed in accordance with the methods described in Quality Assurance Project Plan "Screening Study of Bioaccumulation in California Lakes and Reservoirs." (SWAMP, 2008).
QAPP Information Reference(s):	Quality Assurance Project Plan Screening Study of Bioaccumulation in California Lakes and Reservoirs. Moss Landing Marine Labs. Prepared for SWAMP BOG. 49 pages plus appendices and attachments

Line of Evidence (LOE) for Decision ID 34133, PCBs (Polychlorinated biphenyls)

Region 2

Stevens Creek Reservoir

LOE ID:	93402
Pollutant:	PCBs (Polychlorinated biphenyls)
LOE Subgroup:	Pollutant-Tissue
Matrix:	Tissue
Fraction:	Fish fillet
Beneficial Use:	Commercial or recreational collection of fish, shellfish, or organisms
Number of Samples:	1
Number of Exceedances:	1
Data and Information Type:	Fish tissue analysis
Data Used to Assess Water Quality:	State Water Board staff assessed SWAMP data for Stevens Creek Reservoir to determine beneficial use support and results are as follows: 1 of 1 samples exceed the criterion for PCB, Total. Two composites (5 fish per composite) were generated from one species: Common Carp. Composites were not spatially independent (as defined in the Listing Policy) and so were averaged. Details of the compositing protocol can be found in the March 2009 report entitled: "Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Study" (SWAMP, 2009). Total PCB was assessed for as follows: PCB aroclors and congeners were summed separately and the sum that yielded the highest value was used for the assessment.
Data Reference:	Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Survey. A Report of the Surface Water Ambient Monitoring Program (SWAMP). California State Water Resources Control Board, Sacramento, CA Cruise Report for the Surface Waters Ambient Monitoring Program (SWAMP) Bioaccumulation Screening Study in California Lakes and Reservoirs. Sampling Dates: June 2007- March 2008 Statewide Lakes Sportfish Contamination Study 2007 2008 Contaminants in Fish from California Lakes and Reservoirs, 2007-2008: Summary Report on a Two-Year Screening Survey
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	Water Quality Control Plan for the San Francisco Bay Basin (2013): Controllable water quality factors shall not cause a detrimental increase in concentrations of toxic substances found in bottom sediments or aquatic life. Effects on aquatic organisms, wildlife, and

Objective/Criterion Reference:	human health will be considered. Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	The modified OEHHA Fish Contaminant Goal for polychlorinated biphenyls in fish tissue is 2.6 ppb. This screening level assumes an average body weight of 70 kg and a consumption rate of 32 g/day for a 30 year exposure over a 70-year lifetime. This constituent is a carcinogen therefore the risk level is set to one in a million. A cooking reduction factor of 1 is applied for skin-off fillets. (Klasing, S., and R. Brodberg, 2008)
Guideline Reference:	Development of Fish Contaminant Goals and Advisory Tissue Levels for Common Contaminants in California Sport Fish: Chlordane, DDTs, Dieldrin, Methylmercury, PCBs, Selenium, and Toxaphene
Spatial Representation:	Data for this assessment unit was collected by one monitoring project: (SWB_FishLk)
Temporal Representation:	Data was collected on a single day 7/31/2007.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	Samples were collected, processed, and analyzed in accordance with the methods described in Quality Assurance Project Plan "Screening Study of Bioaccumulation in California Lakes and Reservoirs." (SWAMP, 2008).
QAPP Information Reference(s):	Quality Assurance Project Plan Screening Study of Bioaccumulation in California Lakes and Reservoirs. Moss Landing Marine Labs. Prepared for SWAMP BOG. 49 pages plus appendices and attachments

Line of Evidence (LOE) for Decision ID 34133, PCBs (Polychlorinated biphenyls)

Region 2

Stevens Creek Reservoir

LOE ID:	686
Pollutant:	PCBs (Polychlorinated biphenyls)
LOE Subgroup:	Pollutant-Tissue
Matrix:	Tissue
Fraction:	Total
Beneficial Use:	Commercial or recreational collection of fish, shellfish, or organisms
Number of Samples:	6
Number of Exceedances:	6
Data and Information Type:	Fish tissue analysis
Data Used to Assess Water Quality:	Six out of 6 samples exceeded. A total of 6 composite samples were collected and analyzed from Stevens Creek Reservoir. There were 3 channel catfish and 3 largemouth bass. All exceeded guideline (TSMP, 2002).
Data Reference:	Placeholder reference 2006 303(d)
SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	San Francisco Bay RWQCB Basin Plan: Many pollutants can accumulate on particles, in sediment, or bioaccumulate in fish and other aquatic organisms. Controllable water quality factors shall not cause a detrimental increase in concentrations of toxic substances found in bottom sediments or aquatic life. Effects on aquatic organisms, wildlife, and human health will be considered.
Objective/Criterion Reference:	Placeholder reference 2006 303(d)
Evaluation Guideline:	20.0 ng/g PCB - OEHHA Screening Value (Interim Health Advisory for Hg and PCB, Santa Clara County) (Brodberg & Pollock, 1999).
Guideline Reference:	Placeholder reference 2006 303(d)
Spatial Representation:	One station located off the point on the west shore of the lake 600 yards upstream of the dam.
Temporal Representation:	Samples were collected on 5/4/2001 and 6/6/2001.
Environmental Conditions:	
QAPP Information:	Environmental Chemistry Quality Assurance and Data Report for the Toxic Substances Monitoring Program, 2001-2002. Department of Fish and Game.

DECISION ID	65913	Region 2
Stevens Creek Reservoir		

Pollutant: Aldrin
Final Listing Decision: Do Not List on 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision: New Decision
Revision Status: Revised
Impairment from Pollutant or Pollution: Pollutant

Regional Board Staff Conclusion: This pollutant is being considered for placement on the CWA section 303(d) List under section 3.5 of the Listing Policy. Under section 3.5 a single line(s) of evidence are necessary to assess listing status.

One lines of evidence are available in the administrative record to assess this pollutant. Zero of the one samples exceed the National Academy of Science guidelines (NAS 1972) established a maximum Aldrin concentration of 100 ug/Kg (wet weight) in tissue samples for protection of aquatic life from bioaccumulation of toxic substances. .

Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against placing this water segment-pollutant combination on the CWA section 303(d) List.

This conclusion is based on the staff findings that:

1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy.
2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy.
3. Zero of the one samples exceeded the guideline for Aldrin. A minimum of 16 samples is needed to determine if a beneficial use is fully supported using table 3.1.
4. Pursuant to SECTION 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.

Regional Board Staff Decision Recommendation: After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be placed on the section 303(d) list because applicable water quality standards are not being exceeded.

Line of Evidence (LOE) for Decision ID 65913, Aldrin	Region 2
Stevens Creek Reservoir	

LOE ID: 93437
Pollutant: Aldrin
LOE Subgroup: Pollutant-Tissue
Matrix: Tissue
Fraction: Fish fillet
Beneficial Use: Cold Freshwater Habitat
Number of Samples: 1
Number of Exceedances: 0
Data and Information Type: Fish tissue analysis
Data Used to Assess Water Quality: State Water Board staff assessed SWAMP data for Stevens Creek Reservoir to determine beneficial use support and results are as follows: 0 of 1 samples exceed the criterion for Aldrin. Two composites (5 fish per composite) were generated from one species: Common Carp. Composites were not spatially independent (as defined in the Listing Policy) and so were averaged. Details of the compositing protocol can be found in the March 2009 report

Data Reference:	entitled: "Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Study" (SWAMP, 2009). Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Survey. A Report of the Surface Water Ambient Monitoring Program (SWAMP). California State Water Resources Control Board, Sacramento, CA Cruise Report for the Surface Waters Ambient Monitoring Program (SWAMP) Bioaccumulation Screening Study in California Lakes and Reservoirs. Sampling Dates: June 2007- March 2008 Statewide Lakes Sportfish Contamination Study 2007 2008 Contaminants in Fish from California Lakes and Reservoirs, 2007-2008: Summary Report on a Two-Year Screening Survey
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	Water Quality Control Plan for the San Francisco Bay Basin: Controllable water quality factors shall not cause a detrimental increase in concentrations of toxic substances found in bottom sediments or aquatic life. Effects on aquatic organisms, wildlife, and human health will be considered.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	National Academy of Science guidelines (NAS 1972) establish a maximum Aldrin concentration of 100 ug/Kg (wet weight) in tissue samples for protection of aquatic life from bioaccumulation of toxic substances.
Guideline Reference:	National Academy of Sciences. Water Quality Criteria 1972. EPA-R3-73-033. Washington, D.C.: U.S. Environmental Protection Agency
Spatial Representation:	Data for this assessment unit was collected by one monitoring project: (SWB_FishLk)
Temporal Representation:	Data was collected on a single day 7/31/2007.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	Samples were collected, processed, and analyzed in accordance with the methods described in Quality Assurance Project Plan "Screening Study of Bioaccumulation in California Lakes and Reservoirs." (SWAMP, 2008).
QAPP Information Reference(s):	Quality Assurance Project Plan Screening Study of Bioaccumulation in California Lakes and Reservoirs. Moss Landing Marine Labs. Prepared for SWAMP BOG. 49 pages plus appendices and attachments

DECISION ID	66047	Region 2
Stevens Creek Reservoir		
Pollutant:	DDT (Dichlorodiphenyltrichloroethane)	
Final Listing Decision:	Do Not List on 303(d) list (TMDL required list)	
Last Listing Cycle's Final Listing Decision:	New Decision	
Revision Status	Revised	
Impairment from Pollutant or Pollution:	Pollutant	
Regional Board Staff Conclusion:	<p>This pollutant is being considered for placement on the CWA section 303(d) List under section 3.5 of the Listing Policy. Under section 3.5 a single line(s) of evidence are necessary to assess listing status.</p> <p>Two lines of evidence are available in the administrative record to assess this pollutant. one of the two samples exceed the guideline for Total DDT.</p> <p>Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against placing this water segment-pollutant combination on the CWA section 303(d) List.</p> <p>This conclusion is based on the staff findings that:</p> <ol style="list-style-type: none"> 1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy. 2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy. 	

3. One of Two samples exceeded the guideline for Total DDT and this sample size is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating. A minimum of 16 samples is needed to determine if a beneficial use is fully supported using table 3.1.
4. Pursuant to SECTION 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.

Regional Board Staff Decision Recommendation: After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be placed on the section 303(d) list. The readily available data and information is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating.

Line of Evidence (LOE) for Decision ID 66047, DDT (Dichlorodiphenyltrichloroethane)

Region 2

Stevens Creek Reservoir

LOE ID:	93409
Pollutant:	Total DDT (sum of 4,4'- and 2,4'- isomers of DDT, DDE, and DDD)
LOE Subgroup:	Pollutant-Tissue
Matrix:	Tissue
Fraction:	Fish fillet
Beneficial Use:	Cold Freshwater Habitat
Number of Samples:	1
Number of Exceedances:	0
Data and Information Type:	Fish tissue analysis
Data Used to Assess Water Quality:	State Water Board staff assessed SWAMP data for Stevens Creek Reservoir to determine beneficial use support and results are as follows: 0 of 1 samples exceed the criterion for DDT, Total. Two composites (5 fish per composite) were generated from one species: Common Carp. Composites were not spatially independent (as defined in the Listing Policy) and so were averaged. Details of the compositing protocol can be found in the March 2009 report entitled: "Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Study" (SWAMP, 2009). Total DDT was calculated as the sum of 4,4'- and 2,4'- isomers of DDT, DDE, and DDD.
Data Reference:	Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Survey. A Report of the Surface Water Ambient Monitoring Program (SWAMP). California State Water Resources Control Board, Sacramento, CA Cruise Report for the Surface Waters Ambient Monitoring Program (SWAMP) Bioaccumulation Screening Study in California Lakes and Reservoirs, Sampling Dates: June 2007- March 2008 Statewide Lakes Sportfish Contamination Study 2007 2008 Contaminants in Fish from California Lakes and Reservoirs, 2007-2008: Summary Report on a Two-Year Screening Survey
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	Water Quality Control Plan for the San Francisco Bay Basin: Controllable water quality factors shall not cause a detrimental increase in concentrations of toxic substances found in bottom sediments or aquatic life. Effects on aquatic organisms, wildlife, and human health will be considered.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	National Academy of Science guidelines (NAS 1972) establish a maximum total DDT concentration of 1000 ug/Kg (wet weight) in tissue samples for protection of aquatic life from bioaccumulation of toxic substances.
Guideline Reference:	National Academy of Sciences. Water Quality Criteria 1972. EPA-R3-73-033. Washington, D.C.: U.S. Environmental Protection Agency
Spatial Representation:	Data for this assessment unit was collected by one monitoring project: (SWB_FishLk)

Temporal Representation:	Data was collected on a single day 7/31/2007.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	Samples were collected, processed, and analyzed in accordance with the methods described in Quality Assurance Project Plan "Screening Study of Bioaccumulation in California Lakes and Reservoirs." (SWAMP, 2008).
QAPP Information Reference(s):	Quality Assurance Project Plan Screening Study of Bioaccumulation in California Lakes and Reservoirs. Moss Landing Marine Labs. Prepared for SWAMP BOG. 49 pages plus appendices and attachments

Line of Evidence (LOE) for Decision ID 66047, DDT (Dichlorodiphenyltrichloroethane)	Region 2
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Stevens Creek Reservoir

LOE ID:	93413
Pollutant:	Total DDT (sum of 4,4'- and 2,4'- isomers of DDT, DDE, and DDD)
LOE Subgroup:	Pollutant-Tissue
Matrix:	Tissue
Fraction:	Fish fillet
Beneficial Use:	Commercial or recreational collection of fish, shellfish, or organisms
Number of Samples:	1
Number of Exceedances:	1
Data and Information Type:	Fish tissue analysis
Data Used to Assess Water Quality:	State Water Board staff assessed SWAMP data for Stevens Creek Reservoir to determine beneficial use support and results are as follows: 1 of 1 samples exceed the criterion for DDT, Total. Two composites (5 fish per composite) were generated from one species: Common Carp. Composites were not spatially independent (as defined in the Listing Policy) and so were averaged. Details of the compositing protocol can be found in the March 2009 report entitled: "Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Study" (SWAMP, 2009). Total DDT was calculated as the sum of 4,4'- and 2,4'- isomers of DDT, DDE, and DDD.
Data Reference:	Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Survey. A Report of the Surface Water Ambient Monitoring Program (SWAMP). California State Water Resources Control Board, Sacramento, CA Cruise Report for the Surface Waters Ambient Monitoring Program (SWAMP) Bioaccumulation Screening Study in California Lakes and Reservoirs. Sampling Dates: June 2007- March 2008 Statewide Lakes Sportfish Contamination Study 2007 2008 Contaminants in Fish from California Lakes and Reservoirs, 2007-2008: Summary Report on a Two-Year Screening Survey
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	Water Quality Control Plan for the San Francisco Bay Basin: Controllable water quality factors shall not cause a detrimental increase in concentrations of toxic substances found in bottom sediments or aquatic life. Effects on aquatic organisms, wildlife, and human health will be considered.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	The modified OEHHA Fish Contaminant Goal for total DDT in fish tissue is 15 ppb. This screening level assumes an average body weight of 70 kg and a consumption rate of 32 g/day for a 30 year exposure over a 70-year lifetime. This constituent is a carcinogen therefore the risk level is set to one in a million. A cooking reduction factor of 1 is applied for skin-off fillets. (Klasing, S., and R. Brodberg, 2008)
Guideline Reference:	Development of Fish Contaminant Goals and Advisory Tissue Levels for Common Contaminants in California Sport Fish: Chlordane, DDTs, Dieldrin, Methylmercury, PCBs, Selenium, and Toxaphene
Spatial Representation:	Data for this assessment unit was collected by one monitoring project: (SWB_FishLk)
Temporal Representation:	Data was collected on a single day 7/31/2007.

Environmental Conditions:

QAPP Information:

QAPP Information Reference(s):

Staff is not aware of any special conditions that might affect interpretation of the data.

Samples were collected, processed, and analyzed in accordance with the methods described in Quality Assurance Project Plan "Screening Study of Bioaccumulation in California Lakes and Reservoirs." (SWAMP, 2008).

[Quality Assurance Project Plan Screening Study of Bioaccumulation in California Lakes and Reservoirs. Moss Landing Marine Labs. Prepared for SWAMP BOG. 49 pages plus appendices and attachments](#)

DECISION ID	66038	Region 2
Stevens Creek Reservoir		

Pollutant:	Endosulfan
Final Listing Decision:	Do Not List on 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision:	New Decision
Revision Status	Revised
Impairment from Pollutant or Pollution:	Pollutant

Regional Board Staff Conclusion: This pollutant is being considered for placement on the CWA section 303(d) List under section 3.5 of the Listing Policy. Under section 3.5 a Single line(s) of evidence are necessary to assess listing status.

Two lines of evidence are available in the administrative record to assess this pollutant. Zero of One sample exceed the guideline for Endosulfan.

Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against placing this water segment-pollutant combination on the CWA section 303(d) List.

This conclusion is based on the staff findings that:

1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy.
2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy.
3. Zero of One sample exceeded the guideline for Endosulfan and this sample size is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating. A minimum of 16 samples is needed to determine if a beneficial use is fully supported using table 3.1.
4. Pursuant to SECTION 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.

Regional Board Staff Decision Recommendation: After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be placed on the section 303(d) list. The readily available data and information is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating.

Line of Evidence (LOE) for Decision ID 66038, Endosulfan	Region 2
Stevens Creek Reservoir	

LOE ID:	93385
Pollutant:	Endosulfan
LOE Subgroup:	Pollutant-Tissue
Matrix:	Tissue
Fraction:	Fish fillet
Beneficial Use:	Commercial or recreational collection of fish, shellfish, or organisms
Number of Samples:	1
Number of Exceedances:	0

Data and Information Type:	Fish tissue analysis
Data Used to Assess Water Quality:	State Water Board staff assessed SWAMP data for Stevens Creek Reservoir to determine beneficial use support and results are as follows: 0 of 1 samples exceed the criterion for Endosulfan I. Two composites (5 fish per composite) were generated from one species: Common Carp. Composites were not spatially independent (as defined in the Listing Policy) and so were averaged. Details of the compositing protocol can be found in the March 2009 report entitled: "Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Study" (SWAMP, 2009).
Data Reference:	Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Survey. A Report of the Surface Water Ambient Monitoring Program (SWAMP). California State Water Resources Control Board, Sacramento, CA Cruise Report for the Surface Waters Ambient Monitoring Program (SWAMP) Bioaccumulation Screening Study in California Lakes and Reservoirs, Sampling Dates: June 2007- March 2008 Statewide Lakes Sportfish Contamination Study 2007 2008 Contaminants in Fish from California Lakes and Reservoirs, 2007-2008: Summary Report on a Two-Year Screening Survey
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	Water Quality Control Plan for the San Francisco Bay Basin: Controllable water quality factors shall not cause a detrimental increase in concentrations of toxic substances found in bottom sediments or aquatic life. Effects on aquatic organisms, wildlife, and human health will be considered.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	The modified OEHHA Fish Contaminant Goal for endosulfan (I and II) in fish tissue is 13,000 ppb. This screening level assumes an average body weight of 70 kg and a consumption rate of 32 g/day. A cooking reduction factor of 1 is applied for skin-off fillets. (Klasing, S., and R. Brodberg, 2008; USEPA, 2000)
Guideline Reference:	Development of Fish Contaminant Goals and Advisory Tissue Levels for Common Contaminants in California Sport Fish: Chlordane, DDTs, Dieldrin, Methylmercury, PCBs, Selenium, and Toxaphene Guidance for Assessing Chemical Contaminant Data for Use In Fish Advisories Volume 1: Fish Sampling and Analysis
Spatial Representation:	Data for this assessment unit was collected by one monitoring project: (SWB_FishLk)
Temporal Representation:	Data was collected on a single day 7/31/2007.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	Samples were collected, processed, and analyzed in accordance with the methods described in Quality Assurance Project Plan "Screening Study of Bioaccumulation in California Lakes and Reservoirs." (SWAMP, 2008).
QAPP Information Reference(s):	Quality Assurance Project Plan Screening Study of Bioaccumulation in California Lakes and Reservoirs. Moss Landing Marine Labs. Prepared for SWAMP BOG. 49 pages plus appendices and attachments

Line of Evidence (LOE) for Decision ID 66038, Endosulfan

Region 2

Stevens Creek Reservoir

LOE ID:	93382
Pollutant:	Endosulfan
LOE Subgroup:	Pollutant-Tissue
Matrix:	Tissue
Fraction:	Fish fillet
Beneficial Use:	Cold Freshwater Habitat
Number of Samples:	1
Number of Exceedances:	0

Data and Information Type:	Fish tissue analysis
Data Used to Assess Water Quality:	State Water Board staff assessed SWAMP data for Stevens Creek Reservoir to determine beneficial use support and results are as follows: 0 of 1 samples exceed the criterion for Endosulfan I. Two composites (5 fish per composite) were generated from one species: Common Carp. Composites were not spatially independent (as defined in the Listing Policy) and so were averaged. Details of the compositing protocol can be found in the March 2009 report entitled: "Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Study" (SWAMP, 2009).
Data Reference:	Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Survey. A Report of the Surface Water Ambient Monitoring Program (SWAMP). California State Water Resources Control Board, Sacramento, CA Cruise Report for the Surface Waters Ambient Monitoring Program (SWAMP) Bioaccumulation Screening Study in California Lakes and Reservoirs, Sampling Dates: June 2007- March 2008 Statewide Lakes Sportfish Contamination Study 2007 2008 Contaminants in Fish from California Lakes and Reservoirs, 2007-2008: Summary Report on a Two-Year Screening Survey
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	Water Quality Control Plan for the San Francisco Bay Basin: Controllable water quality factors shall not cause a detrimental increase in concentrations of toxic substances found in bottom sediments or aquatic life. Effects on aquatic organisms, wildlife, and human health will be considered.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	National Academy of Science guidelines (NAS 1972) establish a maximum Endosulfan, Total concentration of 100 ug/Kg (wet weight) in tissue samples for protection of aquatic life from bioaccumulation of toxic substances.
Guideline Reference:	National Academy of Sciences. Water Quality Criteria 1972. EPA-R3-73-033. Washington, D.C.: U.S. Environmental Protection Agency
Spatial Representation:	Data for this assessment unit was collected by one monitoring project: (SWB_FishLk)
Temporal Representation:	Data was collected on a single day 7/31/2007.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	Samples were collected, processed, and analyzed in accordance with the methods described in Quality Assurance Project Plan "Screening Study of Bioaccumulation in California Lakes and Reservoirs." (SWAMP, 2008).
QAPP Information Reference(s):	Quality Assurance Project Plan Screening Study of Bioaccumulation in California Lakes and Reservoirs. Moss Landing Marine Labs. Prepared for SWAMP BOG, 49 pages plus appendices and attachments

DECISION ID 66039		Region 2
Stevens Creek Reservoir		
Pollutant:	Endrin	
Final Listing Decision:	Do Not List on 303(d) list (TMDL required list)	
Last Listing Cycle's Final Listing Decision:	New Decision	
Revision Status	Revised	
Impairment from Pollutant or Pollution:	Pollutant	
Regional Board Staff Conclusion:	<p>This pollutant is being considered for placement on the CWA section 303(d) List under section 3.5 of the Listing Policy. Under section 3.5 a single line(s) of evidence are necessary to assess listing status.</p> <p>Two lines of evidence are available in the administrative record to assess this pollutant. Zero of the one sample exceed the guideline for Endrin.</p> <p>Based on the readily available data and information, the weight of evidence indicates that there is</p>	

sufficient justification against placing this water segment-pollutant combination on the CWA section 303(d) List.

This conclusion is based on the staff findings that:

1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy.
2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy.
3. Zero of one sample exceeded the guideline for Endrin and this sample size is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating. A minimum of 16 samples is needed to determine if a beneficial use is fully supported using table 3.1.
4. Pursuant to SECTION 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.

Regional Board Staff Decision Recommendation: After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be placed on the section 303(d) list. The readily available data and information is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating.

Line of Evidence (LOE) for Decision ID 66039, Endrin

Region 2

Stevens Creek Reservoir

LOE ID:	93387
Pollutant:	Endrin
LOE Subgroup:	Pollutant-Tissue
Matrix:	Tissue
Fraction:	Fish fillet
Beneficial Use:	Cold Freshwater Habitat
Number of Samples:	1
Number of Exceedances:	0
Data and Information Type:	Fish tissue analysis
Data Used to Assess Water Quality:	State Water Board staff assessed SWAMP data for Stevens Creek Reservoir to determine beneficial use support and results are as follows: 0 of 1 samples exceed the criterion for Endrin. Two composites (5 fish per composite) were generated from one species: Common Carp. Composites were not spatially independent (as defined in the Listing Policy) and so were averaged. Details of the compositing protocol can be found in the March 2009 report entitled: "Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Study" (SWAMP, 2009).
Data Reference:	Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Survey. A Report of the Surface Water Ambient Monitoring Program (SWAMP). California State Water Resources Control Board, Sacramento, CA Cruise Report for the Surface Waters Ambient Monitoring Program (SWAMP) Bioaccumulation Screening Study in California Lakes and Reservoirs, Sampling Dates: June 2007- March 2008 Statewide Lakes Sportfish Contamination Study 2007 2008 Contaminants in Fish from California Lakes and Reservoirs, 2007-2008: Summary Report on a Two-Year Screening Survey
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	Water Quality Control Plan for the San Francisco Bay Basin: Controllable water quality factors shall not cause a detrimental increase in concentrations of toxic substances found in bottom sediments or aquatic life. Effects on aquatic organisms, wildlife, and human health will be considered.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	National Academy of Science guidelines (NAS 1972) establish a maximum Endrin concentration of 100 ug/Kg (wet weight) in tissue samples for protection of aquatic life

Guideline Reference: from bioaccumulation of toxic substances.
[National Academy of Sciences. Water Quality Criteria 1972. EPA-R3-73-033. Washington, D.C.: U.S. Environmental Protection Agency](#)

Spatial Representation: Data for this assessment unit was collected by one monitoring project: (SWB_FishLk)

Temporal Representation: Data was collected on a single day 7/31/2007.

Environmental Conditions: Staff is not aware of any special conditions that might affect interpretation of the data.

QAPP Information: Samples were collected, processed, and analyzed in accordance with the methods described in Quality Assurance Project Plan "Screening Study of Bioaccumulation in California Lakes and Reservoirs." (SWAMP, 2008).

QAPP Information Reference(s): [Quality Assurance Project Plan Screening Study of Bioaccumulation in California Lakes and Reservoirs. Moss Landing Marine Labs. Prepared for SWAMP BOG. 49 pages plus appendices and attachments](#)

**Line of Evidence (LOE) for Decision ID 66039, Endrin
Stevens Creek Reservoir**

Region 2

LOE ID: 93388

Pollutant: Endrin

LOE Subgroup: Pollutant-Tissue

Matrix: Tissue

Fraction: Fish fillet

Beneficial Use: Commercial or recreational collection of fish, shellfish, or organisms

Number of Samples: 1

Number of Exceedances: 0

Data and Information Type: Fish tissue analysis

Data Used to Assess Water Quality: State Water Board staff assessed SWAMP data for Stevens Creek Reservoir to determine beneficial use support and results are as follows: 0 of 1 samples exceed the criterion for Endrin. Two composites (5 fish per composite) were generated from one species: Common Carp. Composites were not spatially independent (as defined in the Listing Policy) and so were averaged. Details of the compositing protocol can be found in the March 2009 report entitled: "Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Study" (SWAMP, 2009).

Data Reference: [Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Survey. A Report of the Surface Water Ambient Monitoring Program \(SWAMP\). California State Water Resources Control Board, Sacramento, CA](#)
[Cruise Report for the Surface Waters Ambient Monitoring Program \(SWAMP\)](#)
[Bioaccumulation Screening Study in California Lakes and Reservoirs. Sampling Dates: June 2007- March 2008](#)
[Statewide Lakes Sportfish Contamination Study 2007 2008](#)
[Contaminants in Fish from California Lakes and Reservoirs, 2007-2008: Summary Report on a Two-Year Screening Survey](#)

SWAMP Data: SWAMP

Water Quality Objective/Criterion: Water Quality Control Plan for the San Francisco Bay Basin: Controllable water quality factors shall not cause a detrimental increase in concentrations of toxic substances found in bottom sediments or aquatic life. Effects on aquatic organisms, wildlife, and human health will be considered.

Objective/Criterion Reference: [Water Quality Control Plan \(Basin Plan\) San Francisco Bay Basin \(Region 2\)](#)

Evaluation Guideline: The modified OEHHA Fish Contaminant Goal for endrin in fish tissue is 660 ppb. This screening level assumes an average body weight of 70 kg and a consumption rate of 32 g/day. A cooking reduction factor of 1 is applied for skin-off fillets. (Klasing, S., and R. Brodberg, 2008; USEPA, 2000)

Guideline Reference: [Development of Fish Contaminant Goals and Advisory Tissue Levels for Common Contaminants in California Sport Fish: Chlordane, DDTs, Dieldrin, Methylmercury, PCBs, Selenium, and Toxaphene](#)

Spatial Representation: Data for this assessment unit was collected by one monitoring project: (SWB_FishLk)
 Temporal Representation: Data was collected on a single day 7/31/2007.
 Environmental Conditions: Staff is not aware of any special conditions that might affect interpretation of the data.
 QAPP Information: Samples were collected, processed, and analyzed in accordance with the methods described in Quality Assurance Project Plan "Screening Study of Bioaccumulation in California Lakes and Reservoirs." (SWAMP, 2008).
 QAPP Information Reference(s): [Quality Assurance Project Plan Screening Study of Bioaccumulation in California Lakes and Reservoirs. Moss Landing Marine Labs. Prepared for SWAMP BOG. 49 pages plus appendices and attachments](#)

DECISION ID	66040	Region 2
Stevens Creek Reservoir		

Pollutant: Heptachlor
Final Listing Decision: Do Not List on 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision: New Decision
Revision Status: Revised
Impairment from Pollutant or Pollution: Pollutant

Regional Board Staff Conclusion: This pollutant is being considered for placement on the CWA section 303(d) List under section 3.5 of the Listing Policy. Under section 3.5 a single line(s) of evidence are necessary to assess listing status.

One line of evidence are available in the administrative record to assess this pollutant. zero of the one samples exceed the guideline for Heptachlor.

Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against placing this water segment-pollutant combination on the CWA section 303(d) List.

This conclusion is based on the staff findings that:

1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy.
2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy.
3. Zero of one samples exceeded the guideline for Heptachlor and this sample size is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating. A minimum of 16 samples is needed to determine if a beneficial use is fully supported using table 3.1.
4. Pursuant to SECTION 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.

Regional Board Staff Decision Recommendation: After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be placed on the section 303(d) list. The readily available data and information is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating.

Line of Evidence (LOE) for Decision ID 66040, Heptachlor	Region 2
Stevens Creek Reservoir	

LOE ID: 93390
Pollutant: Heptachlor
LOE Subgroup: Pollutant-Tissue
Matrix: Tissue
Fraction: Fish fillet

Beneficial Use:	Cold Freshwater Habitat
Number of Samples:	1
Number of Exceedances:	0
Data and Information Type:	Fish tissue analysis
Data Used to Assess Water Quality:	State Water Board staff assessed SWAMP data for Stevens Creek Reservoir to determine beneficial use support and results are as follows: 0 of 1 samples exceed the criterion for Heptachlor. Two composites (5 fish per composite) were generated from one species: Common Carp. Composites were not spatially independent (as defined in the Listing Policy) and so were averaged. Details of the compositing protocol can be found in the March 2009 report entitled: "Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Study" (SWAMP, 2009).
Data Reference:	Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Survey. A Report of the Surface Water Ambient Monitoring Program (SWAMP). California State Water Resources Control Board, Sacramento, CA Cruise Report for the Surface Waters Ambient Monitoring Program (SWAMP) Bioaccumulation Screening Study in California Lakes and Reservoirs. Sampling Dates: June 2007- March 2008 Statewide Lakes Sportfish Contamination Study 2007 2008 Contaminants in Fish from California Lakes and Reservoirs, 2007-2008: Summary Report on a Two-Year Screening Survey
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	Water Quality Control Plan for the San Francisco Bay Basin: Controllable water quality factors shall not cause a detrimental increase in concentrations of toxic substances found in bottom sediments or aquatic life. Effects on aquatic organisms, wildlife, and human health will be considered.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	National Academy of Science guidelines (NAS 1972) establish a maximum Heptachlor concentration of 100 ug/Kg (wet weight) in tissue samples for protection of aquatic life from bioaccumulation of toxic substances.
Guideline Reference:	National Academy of Sciences. Water Quality Criteria 1972. EPA-R3-73-033. Washington, D.C.: U.S. Environmental Protection Agency
Spatial Representation:	Data for this assessment unit was collected by one monitoring project: (SWB_FishLk)
Temporal Representation:	Data was collected on a single day 7/31/2007.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	Samples were collected, processed, and analyzed in accordance with the methods described in Quality Assurance Project Plan "Screening Study of Bioaccumulation in California Lakes and Reservoirs." (SWAMP, 2008).
QAPP Information Reference(s):	Quality Assurance Project Plan Screening Study of Bioaccumulation in California Lakes and Reservoirs. Moss Landing Marine Labs. Prepared for SWAMP BOG. 49 pages plus appendices and attachments

DECISION ID	66042	Region 2
Stevens Creek Reservoir		

Pollutant:	Heptachlor epoxide
Final Listing Decision:	Do Not List on 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision:	New Decision
Revision Status	Revised
Impairment from Pollutant or Pollution:	Pollutant

Regional Board Staff Conclusion:	This pollutant is being considered for placement on the CWA section 303(d) List under section 3.5 Tissue of the Listing Policy. Under section 3.5 a single line(s) of evidence are necessary to assess
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listing status.

One lines of evidence are available in the administrative record to assess this pollutant. zero of the one sample exceed the guideline for Heptachlor epoxide.

Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against placing this water segment-pollutant combination on the CWA section 303(d) List.

This conclusion is based on the staff findings that:

1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy.
2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy.
3. Zero of one sample exceeded the guideline for Heptachlor epoxide and this sample size is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating. A minimum of 16 samples is needed to determine if a beneficial use is fully supported using table 3.1.
4. Pursuant to SECTION 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.

Regional Board Staff Decision Recommendation: After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be placed on the section 303(d) list. The readily available data and information is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating.

Line of Evidence (LOE) for Decision ID 66042, Heptachlor epoxide

Region 2

Stevens Creek Reservoir

LOE ID:	93393
Pollutant:	Heptachlor epoxide
LOE Subgroup:	Pollutant-Tissue
Matrix:	Tissue
Fraction:	Fish fillet
Beneficial Use:	Commercial or recreational collection of fish, shellfish, or organisms
Number of Samples:	0
Number of Exceedances:	0
Data and Information Type:	Fish tissue analysis
Data Used to Assess Water Quality:	State Water Board staff assessed SWAMP data for Stevens Creek Reservoir to determine beneficial use support and results are as follows: 0 of 0 samples exceed the criterion for Heptachlor epoxide. Two composites (5 fish per composite) were generated from one species: Common Carp. Details of the compositing protocol can be found in the March 2009 report entitled: "Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Study" (SWAMP, 2009). One composite was not used in the assessment because the laboratory data reporting limit(s) was above the objective and therefore the results could not be quantified with the level of certainty required by the Listing Policy.
Data Reference:	Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Survey. A Report of the Surface Water Ambient Monitoring Program (SWAMP). California State Water Resources Control Board, Sacramento, CA Cruise Report for the Surface Waters Ambient Monitoring Program (SWAMP) Bioaccumulation Screening Study in California Lakes and Reservoirs. Sampling Dates: June 2007- March 2008 Statewide Lakes Sportfish Contamination Study 2007 2008 Contaminants in Fish from California Lakes and Reservoirs, 2007-2008: Summary Report on a Two-Year Screening Survey
SWAMP Data:	SWAMP

Water Quality Objective/Criterion:	Water Quality Control Plan for the San Francisco Bay Basin: Controllable water quality factors shall not cause a detrimental increase in concentrations of toxic substances found in bottom sediments or aquatic life. Effects on aquatic organisms, wildlife, and human health will be considered.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	The modified OEHHA Fish Contaminant Goal for heptachlor epoxide in fish tissue is 0.93 ppb. This screening level assumes an average body weight of 70 kg and a consumption rate of 32 g/day for a 30 year exposure over a 70-year lifetime. This constituent is a carcinogen therefore the risk level is set to one in a million. A cooking reduction factor of 1 is applied for skin-off fillets. (Klasing, S., and R. Brodberg, 2008; OEHHA, 1999)
Guideline Reference:	Development of Fish Contaminant Goals and Advisory Tissue Levels for Common Contaminants in California Sport Fish: Chlordane, DDTs, Dieldrin, Methylmercury, PCBs, Selenium, and Toxaphene Public Health Goal for Heptachlor and Heptachlor Epoxide in Drinking Water
Spatial Representation:	Data for this assessment unit was collected by one monitoring project: (SWB_FishLk)
Temporal Representation:	Data was collected on a single day 7/31/2007.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	Samples were collected, processed, and analyzed in accordance with the methods described in Quality Assurance Project Plan "Screening Study of Bioaccumulation in California Lakes and Reservoirs." (SWAMP, 2008).
QAPP Information Reference(s):	Quality Assurance Project Plan Screening Study of Bioaccumulation in California Lakes and Reservoirs. Moss Landing Marine Labs. Prepared for SWAMP BOG. 49 pages plus appendices and attachments

Line of Evidence (LOE) for Decision ID 66042, Heptachlor epoxide

Region 2

Stevens Creek Reservoir

LOE ID:	93392
Pollutant:	Heptachlor epoxide
LOE Subgroup:	Pollutant-Tissue
Matrix:	Tissue
Fraction:	Fish fillet
Beneficial Use:	Cold Freshwater Habitat
Number of Samples:	1
Number of Exceedances:	0
Data and Information Type:	Fish tissue analysis
Data Used to Assess Water Quality:	State Water Board staff assessed SWAMP data for Stevens Creek Reservoir to determine beneficial use support and results are as follows: 0 of 1 samples exceed the criterion for Heptachlor epoxide. Two composites (5 fish per composite) were generated from one species: Common Carp. Composites were not spatially independent (as defined in the Listing Policy) and so were averaged. Details of the compositing protocol can be found in the March 2009 report entitled: "Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Study" (SWAMP, 2009).
Data Reference:	Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Survey. A Report of the Surface Water Ambient Monitoring Program (SWAMP). California State Water Resources Control Board, Sacramento, CA Cruise Report for the Surface Waters Ambient Monitoring Program (SWAMP) Bioaccumulation Screening Study in California Lakes and Reservoirs. Sampling Dates: June 2007- March 2008 Statewide Lakes Sportfish Contamination Study 2007 2008 Contaminants in Fish from California Lakes and Reservoirs, 2007-2008: Summary Report on a Two-Year Screening Survey
SWAMP Data:	SWAMP

Water Quality Objective/Criterion:	Water Quality Control Plan for the San Francisco Bay Basin: Controllable water quality factors shall not cause a detrimental increase in concentrations of toxic substances found in bottom sediments or aquatic life. Effects on aquatic organisms, wildlife, and human health will be considered.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	National Academy of Science guidelines (NAS 1972) establish a maximum Heptachlor Epoxide concentration of 100 ug/Kg (wet weight) in tissue samples for protection of aquatic life from bioaccumulation of toxic substances.
Guideline Reference:	National Academy of Sciences. Water Quality Criteria 1972. EPA-R3-73-033. Washington, D.C.: U.S. Environmental Protection Agency
Spatial Representation:	Data for this assessment unit was collected by one monitoring project: (SWB_FishLk)
Temporal Representation:	Data was collected on a single day 7/31/2007.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	Samples were collected, processed, and analyzed in accordance with the methods described in Quality Assurance Project Plan "Screening Study of Bioaccumulation in California Lakes and Reservoirs." (SWAMP, 2008).
QAPP Information Reference(s):	Quality Assurance Project Plan Screening Study of Bioaccumulation in California Lakes and Reservoirs. Moss Landing Marine Labs. Prepared for SWAMP BOG. 49 pages plus appendices and attachments

DECISION ID 66043 Region 2	
Stevens Creek Reservoir	
Pollutant:	Hexachlorobenzene/ HCB
Final Listing Decision:	Do Not List on 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision:	New Decision
Revision Status	Revised
Impairment from Pollutant or Pollution:	Pollutant
Regional Board Staff Conclusion:	<p>This pollutant is being considered for placement on the CWA section 303(d) List under section 3.5 of the Listing Policy. Under section 3.5 a single line(s) of evidence are necessary to assess listing status.</p> <p>One lines of evidence are available in the administrative record to assess this pollutant. Zero of the one samples exceed the guideline for Hexachlorobenzene/HCB.</p> <p>Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against placing this water segment-pollutant combination on the CWA section 303(d) List.</p> <p>This conclusion is based on the staff findings that:</p> <ol style="list-style-type: none"> 1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy. 2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy. 3. Zero of one samples exceeded the Hexachlorobenzene/HCB and this sample size is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating. A minimum of 16 samples is needed to determine if a beneficial use is fully supported using table 3.1. 4. Pursuant to SECTION 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.
Regional Board Staff Decision Recommendation:	After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be placed on the section 303(d) list. The readily available data and information is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating.

Line of Evidence (LOE) for Decision ID 66043, Hexachlorobenzene/ HCB	Region 2
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Stevens Creek Reservoir

LOE ID:	93394
Pollutant:	Hexachlorobenzene/ HCB
LOE Subgroup:	Pollutant-Tissue
Matrix:	Tissue
Fraction:	Fish fillet
Beneficial Use:	Commercial or recreational collection of fish, shellfish, or organisms
Number of Samples:	1
Number of Exceedances:	0
Data and Information Type:	Fish tissue analysis
Data Used to Assess Water Quality:	State Water Board staff assessed SWAMP data for Stevens Creek Reservoir to determine beneficial use support and results are as follows: 0 of 1 samples exceed the criterion for Hexachlorobenzene. Two composites (5 fish per composite) were generated from one species: Common Carp. Composites were not spatially independent (as defined in the Listing Policy) and so were averaged. Details of the compositing protocol can be found in the March 2009 report entitled: "Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Study" (SWAMP, 2009).
Data Reference:	Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Survey. A Report of the Surface Water Ambient Monitoring Program (SWAMP). California State Water Resources Control Board, Sacramento, CA Cruise Report for the Surface Waters Ambient Monitoring Program (SWAMP) Bioaccumulation Screening Study in California Lakes and Reservoirs. Sampling Dates: June 2007- March 2008 Statewide Lakes Sportfish Contamination Study 2007 2008 Contaminants in Fish from California Lakes and Reservoirs, 2007-2008: Summary Report on a Two-Year Screening Survey
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	Water Quality Control Plan for the San Francisco Bay Basin: Controllable water quality factors shall not cause a detrimental increase in concentrations of toxic substances found in bottom sediments or aquatic life. Effects on aquatic organisms, wildlife, and human health will be considered.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	The modified OEHHA Fish Contaminant Goal for hexachlorobenzene in fish tissue is 2.8 ppb. This screening level assumes an average body weight of 70 kg and a consumption rate of 32 g/day for a 30 year exposure over a 70-year lifetime. This constituent is a carcinogen therefore the risk level is set to one in a million. A cooking reduction factor of 1 is applied for skin-off fillets. (Klasing, S., and R. Brodberg, 2008; OEHHA, 2005)
Guideline Reference:	Development of Fish Contaminant Goals and Advisory Tissue Levels for Common Contaminants in California Sport Fish: Chlordane, DDTs, Dieldrin, Methylmercury, PCBs, Selenium, and Toxaphene Air Toxics Hotspots Program Risk Assessment Guidelines. Part II Technical Support Document for Describing Available Cancer Potency Values.
Spatial Representation:	Data for this assessment unit was collected by one monitoring project: (SWB_FishLk)
Temporal Representation:	Data was collected on a single day 7/31/2007.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	Samples were collected, processed, and analyzed in accordance with the methods described in Quality Assurance Project Plan "Screening Study of Bioaccumulation in California Lakes and Reservoirs." (SWAMP, 2008).
QAPP Information Reference(s):	Quality Assurance Project Plan Screening Study of Bioaccumulation in California Lakes and Reservoirs. Moss Landing Marine Labs. Prepared for SWAMP BOG. 49 pages plus appendices and attachments

DECISION ID	66044	Region 2
Stevens Creek Reservoir		

Pollutant: Lindane/gamma Hexachlorocyclohexane (gamma-HCH)
Final Listing Decision: Do Not List on 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision: New Decision
Revision Status: Revised
Impairment from Pollutant or Pollution: Pollutant

Regional Board Staff Conclusion: This pollutant is being considered for placement on the CWA section 303(d) List under section 3.5 of the Listing Policy. Under section 3.5 a single line(s) of evidence are necessary to assess listing status.

Two lines of evidence are available in the administrative record to assess this pollutant. Zero of the two samples exceed the guideline for Lindane/gamma Hexachlorocyclohexane (gamma-HCH).

Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against placing this water segment-pollutant combination on the CWA section 303(d) List.

This conclusion is based on the staff findings that:

1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy.
2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy.
3. Zero of two samples exceeded the guideline for Lindane/gamma Hexachlorocyclohexane (gamma-HCH) and this sample size is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating. A minimum of 16 samples is needed to determine if a beneficial use is fully supported using table 3.2.
4. Pursuant to SECTION 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.

Regional Board Staff Decision Recommendation: After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be placed on the section 303(d) list. The readily available data and information is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating.

Line of Evidence (LOE) for Decision ID 66044, Lindane/gamma Hexachlorocyclohexane (gamma-HCH)	Region 2
Stevens Creek Reservoir	

LOE ID: 93397
Pollutant: Lindane/gamma Hexachlorocyclohexane (gamma-HCH)
LOE Subgroup: Pollutant-Tissue
Matrix: Tissue
Fraction: Fish fillet
Beneficial Use: Cold Freshwater Habitat
Number of Samples: 1
Number of Exceedances: 0
Data and Information Type: Fish tissue analysis
Data Used to Assess Water Quality: State Water Board staff assessed SWAMP data for Stevens Creek Reservoir to determine beneficial use support and results are as follows: 0 of 1 samples exceed the criterion for HCH, gamma. Two composites (5 fish per composite) were generated from one species: Common Carp. Composites were not spatially independent (as defined in the Listing Policy) and so were averaged. Details of the compositing protocol can be found in the

Data Reference:	<p>March 2009 report entitled: "Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Study" (SWAMP, 2009). Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Survey. A Report of the Surface Water Ambient Monitoring Program (SWAMP). California State Water Resources Control Board, Sacramento, CA Cruise Report for the Surface Waters Ambient Monitoring Program (SWAMP) Bioaccumulation Screening Study in California Lakes and Reservoirs. Sampling Dates: June 2007- March 2008 Statewide Lakes Sportfish Contamination Study 2007 2008 Contaminants in Fish from California Lakes and Reservoirs, 2007-2008: Summary Report on a Two-Year Screening Survey</p>
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	Water Quality Control Plan for the San Francisco Bay Basin: Controllable water quality factors shall not cause a detrimental increase in concentrations of toxic substances found in bottom sediments or aquatic life. Effects on aquatic organisms, wildlife, and human health will be considered.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	The modified OEHHA Fish Contaminant Goal for lindane in fish tissue is 4.6 ppb. This screening level assumes an average body weight of 70 kg and a consumption rate of 32 g/day for a 30 year exposure over a 70-year lifetime. This constituent is a carcinogen therefore the risk level is set to one in a million. A cooking reduction factor of 1 is applied for skin-off fillets. (Klasing, S., and R. Brodberg, 2008; OEHHA, 2005)
Guideline Reference:	National Academy of Sciences. Water Quality Criteria 1972. EPA-R3-73-033. Washington, D.C.: U.S. Environmental Protection Agency
Spatial Representation:	Data for this assessment unit was collected by one monitoring project: (SWB_FishLk)
Temporal Representation:	Data was collected on a single day 7/31/2007.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	Samples were collected, processed, and analyzed in accordance with the methods described in Quality Assurance Project Plan "Screening Study of Bioaccumulation in California Lakes and Reservoirs." (SWAMP, 2008).
QAPP Information Reference(s):	Quality Assurance Project Plan Screening Study of Bioaccumulation in California Lakes and Reservoirs. Moss Landing Marine Labs. Prepared for SWAMP BOG. 49 pages plus appendices and attachments

Line of Evidence (LOE) for Decision ID 66044, Lindane/gamma Hexachlorocyclohexane (gamma-HCH)

Region 2

Stevens Creek Reservoir

LOE ID:	93396
Pollutant:	Lindane/gamma Hexachlorocyclohexane (gamma-HCH)
LOE Subgroup:	Pollutant-Tissue
Matrix:	Tissue
Fraction:	Fish fillet
Beneficial Use:	Commercial or recreational collection of fish, shellfish, or organisms
Number of Samples:	1
Number of Exceedances:	0
Data and Information Type:	Fish tissue analysis
Data Used to Assess Water Quality:	State Water Board staff assessed SWAMP data for Stevens Creek Reservoir to determine beneficial use support and results are as follows: 0 of 1 samples exceed the criterion for HCH, gamma. Two composites (5 fish per composite) were generated from one species: Common Carp. Composites were not spatially independent (as defined in the Listing Policy) and so were averaged. Details of the compositing protocol can be found in the March 2009 report entitled: "Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Study" (SWAMP, 2009).

Data Reference:	Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Survey. A Report of the Surface Water Ambient Monitoring Program (SWAMP). California State Water Resources Control Board, Sacramento, CA Cruise Report for the Surface Waters Ambient Monitoring Program (SWAMP) Bioaccumulation Screening Study in California Lakes and Reservoirs. Sampling Dates: June 2007- March 2008 Statewide Lakes Sportfish Contamination Study 2007 2008 Contaminants in Fish from California Lakes and Reservoirs, 2007-2008: Summary Report on a Two-Year Screening Survey
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	Water Quality Control Plan for the San Francisco Bay Basin: Controllable water quality factors shall not cause a detrimental increase in concentrations of toxic substances found in bottom sediments or aquatic life. Effects on aquatic organisms, wildlife, and human health will be considered.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	The modified OEHHA Fish Contaminant Goal for lindane in fish tissue is 4.6 ppb. This screening level assumes an average body weight of 70 kg and a consumption rate of 32 g/day for a 30 year exposure over a 70-year lifetime. This constituent is a carcinogen therefore the risk level is set to one in a million. A cooking reduction factor of 1 is applied for skin-off fillets.
Guideline Reference:	Development of Fish Contaminant Goals and Advisory Tissue Levels for Common Contaminants in California Sport Fish: Chlordane, DDTs, Dieldrin, Methylmercury, PCBs, Selenium, and Toxaphene Air Toxics Hotspots Program Risk Assessment Guidelines. Part II Technical Support Document for Describing Available Cancer Potency Values.
Spatial Representation:	Data for this assessment unit was collected by one monitoring project: (SWB_FishLk)
Temporal Representation:	Data was collected on a single day 7/31/2007.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	Samples were collected, processed, and analyzed in accordance with the methods described in Quality Assurance Project Plan "Screening Study of Bioaccumulation in California Lakes and Reservoirs." (SWAMP, 2008).
QAPP Information Reference(s):	Quality Assurance Project Plan Screening Study of Bioaccumulation in California Lakes and Reservoirs. Moss Landing Marine Labs. Prepared for SWAMP BOG. 49 pages plus appendices and attachments

DECISION ID	66045	Region 2
Stevens Creek Reservoir		
Pollutant:	Mirex	
Final Listing Decision:	Do Not List on 303(d) list (TMDL required list)	
Last Listing Cycle's Final Listing Decision:	New Decision	
Revision Status	Revised	
Impairment from Pollutant or Pollution:	Pollutant	
Regional Board Staff Conclusion:	<p>This pollutant is being considered for placement on the CWA section 303(d) List under section 3.5 of the Listing Policy. Under section 3.5 a single line(s) of evidence are necessary to assess listing status.</p> <p>Zero lines of evidence are available in the administrative record to assess this pollutant. Zero of the zero samples exceed the guideline for Mirex.</p> <p>Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against placing this water segment-pollutant combination on the CWA section 303(d) List.</p>	

This conclusion is based on the staff findings that:

1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy.
2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy.
3. Zero of zero samples exceeded the guideline for Mirex and this sample size is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating. A minimum of 16 samples is needed to determine if a beneficial use is fully supported using table 3.2.
4. Pursuant to SECTION 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.

Regional Board Staff Decision Recommendation: After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be placed on the section 303(d) list. The readily available data and information is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating.

Line of Evidence (LOE) for Decision ID 66045, Mirex

Region 2

Stevens Creek Reservoir

LOE ID: 93399

Pollutant: Mirex
LOE Subgroup: Pollutant-Tissue
Matrix: Tissue
Fraction: Fish fillet

Beneficial Use: Commercial or recreational collection of fish, shellfish, or organisms

Number of Samples: 0
Number of Exceedances: 0

Data and Information Type: Fish tissue analysis
Data Used to Assess Water Quality: State Water Board staff assessed SWAMP data for Stevens Creek Reservoir to determine beneficial use support and results are as follows: 0 of 0 samples exceed the criterion for Mirex. Two composites (5 fish per composite) were generated from one species: Common Carp. Details of the compositing protocol can be found in the March 2009 report entitled: "Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Study" (SWAMP, 2009). One composite was not used in the assessment because the laboratory data reporting limit(s) was above the objective and therefore the results could not be quantified with the level of certainty required by the Listing Policy.

Data Reference: [Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Survey. A Report of the Surface Water Ambient Monitoring Program \(SWAMP\). California State Water Resources Control Board, Sacramento, CA](#)
[Cruise Report for the Surface Waters Ambient Monitoring Program \(SWAMP\)](#)
[Bioaccumulation Screening Study in California Lakes and Reservoirs, Sampling Dates: June 2007- March 2008](#)
[Statewide Lakes Sportfish Contamination Study 2007 2008](#)
[Contaminants in Fish from California Lakes and Reservoirs, 2007-2008: Summary Report on a Two-Year Screening Survey](#)

SWAMP Data: SWAMP

Water Quality Objective/Criterion: Water Quality Control Plan for the San Francisco Bay Basin: Controllable water quality factors shall not cause a detrimental increase in concentrations of toxic substances found in bottom sediments or aquatic life. Effects on aquatic organisms, wildlife, and human health will be considered.

Objective/Criterion Reference: [Water Quality Control Plan \(Basin Plan\) San Francisco Bay Basin \(Region 2\)](#)

Evaluation Guideline: The modified OEHHA Fish Contaminant Goal for mirex in fish tissue is 0.28 ppb. This screening level assumes an average body weight of 70 kg and a consumption rate of 32 g/day. A cooking reduction factor of 1 is applied for skin-off fillets. (Klasing, S., and R.

Guideline Reference: [Brodberg, 2008; OEHHA, 1992\)](#)
[Development of Fish Contaminant Goals and Advisory Tissue Levels for Common Contaminants in California Sport Fish: Chlordane, DDTs, Dieldrin, Methylmercury, PCBs, Selenium, and Toxaphene](#)
[Expedited Cancer Potency Values and Proposed Regulatory Levels for Certain Proposition 65 Carcinogens.](#)

Spatial Representation: Data for this assessment unit was collected by one monitoring project: (SWB_FishLk)
Temporal Representation: Data was collected on a single day 7/31/2007.
Environmental Conditions: Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information: Samples were collected, processed, and analyzed in accordance with the methods described in Quality Assurance Project Plan "Screening Study of Bioaccumulation in California Lakes and Reservoirs." (SWAMP, 2008).
QAPP Information Reference(s): [Quality Assurance Project Plan Screening Study of Bioaccumulation in California Lakes and Reservoirs. Moss Landing Marine Labs. Prepared for SWAMP BOG, 49 pages plus appendices and attachments](#)

DECISION ID	66046	Region 2
Stevens Creek Reservoir		

Pollutant: **Selenium**
Final Listing Decision: **Do Not List on 303(d) list (TMDL required list)**
Last Listing Cycle's Final Listing Decision: New Decision
Revision Status Revised
Impairment from Pollutant or Pollution: Pollutant

Regional Board Staff Conclusion: This pollutant is being considered for placement on the CWA section 303(d) List under section 3.5 of the Listing Policy. Under section 3.5 a single line(s) of evidence are necessary to assess listing status.

One lines of evidence are available in the administrative record to assess this pollutant. Zero of the one samples exceed the guideline for Selenium.

Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against placing this water segment-pollutant combination on the CWA section 303(d) List.

This conclusion is based on the staff findings that:

1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy.
2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy.
3. Zero of one samples exceeded the guideline for Selenium and this sample size is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating. A minimum of 16 samples is needed to determine if a beneficial use is fully supported using table 3.1.
4. Pursuant to SECTION 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.

Regional Board Staff Decision Recommendation: After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be placed on the section 303(d) list. The readily available data and information is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating.

Line of Evidence (LOE) for Decision ID 66046, Selenium	Region 2
Stevens Creek Reservoir	

LOE ID: 93407

Pollutant:	Selenium
LOE Subgroup:	Pollutant-Tissue
Matrix:	Tissue
Fraction:	Fish fillet
Beneficial Use:	Commercial or recreational collection of fish, shellfish, or organisms
Number of Samples:	1
Number of Exceedances:	0
Data and Information Type:	Fish tissue analysis
Data Used to Assess Water Quality:	State Water Board staff assessed SWAMP data for Stevens Creek Reservoir to determine beneficial use support and results are as follows: 0 of 1 samples exceed the criterion for Selenium. One composite (5 fish per composite) was generated from one species: Common Carp. Details of the compositing protocol can be found in the March 2009 report entitled: "Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Study" (SWAMP, 2009).
Data Reference:	Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Survey. A Report of the Surface Water Ambient Monitoring Program (SWAMP). California State Water Resources Control Board, Sacramento, CA Cruise Report for the Surface Waters Ambient Monitoring Program (SWAMP) Bioaccumulation Screening Study in California Lakes and Reservoirs, Sampling Dates: June 2007- March 2008 Statewide Lakes Sportfish Contamination Study 2007 2008 Contaminants in Fish from California Lakes and Reservoirs, 2007-2008: Summary Report on a Two-Year Screening Survey
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	Water Quality Control Plan for the San Francisco Bay Basin (2013): Controllable water quality factors shall not cause a detrimental increase in concentrations of toxic substances found in bottom sediments or aquatic life. Effects on aquatic organisms, wildlife, and human health will be considered.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	The OEHHA Fish Contaminant Goal for selenium in fish tissue is 7.4 ppm. This screening level assumes an average body weight of 70 kg and a consumption rate of 32 g/day. A background dietary consumption rate of 0.114 mg/day is applied for this micronutrient. (Klasing, S., and R. Brodberg, 2008)
Guideline Reference:	Development of Fish Contaminant Goals and Advisory Tissue Levels for Common Contaminants in California Sport Fish: Chlordane, DDTs, Dieldrin, Methylmercury, PCBs, Selenium, and Toxaphene
Spatial Representation:	Data for this assessment unit was collected by one monitoring project: (SWB_FishLk)
Temporal Representation:	Data was collected on a single day 7/31/2007.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	Samples were collected, processed, and analyzed in accordance with the methods described in Quality Assurance Project Plan "Screening Study of Bioaccumulation in California Lakes and Reservoirs." (SWAMP, 2008).
QAPP Information Reference(s):	Quality Assurance Project Plan Screening Study of Bioaccumulation in California Lakes and Reservoirs. Moss Landing Marine Labs. Prepared for SWAMP BOG. 49 pages plus appendices and attachments

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Supporting Information

Regional Board 2 - San Francisco Bay Region

Water Body Name: Lake Chabot (Solano Co)
Water Body ID: CAL2065008020020327163146
Water Body Type: Lake & Reservoir

DECISION ID 63766 **Region 2**
Lake Chabot (Solano Co)

Pollutant: Aldrin
Final Listing Decision: Do Not List on 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision: New Decision
Revision Status Revised
Impairment from Pollutant or Pollution: Pollutant

Regional Board Staff Conclusion: This pollutant is being considered for placement on the CWA section 303(d) List under section 3.5 of the Listing Policy. Under section 3.5 a single line of evidence is necessary to assess listing status. Two lines of evidence are available in the administrative record to assess this pollutant. Zero of one samples exceed the guideline.

Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against placing this water segment-pollutant combination on the CWA section 303(d) List.

This conclusion is based on the staff findings that:

1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy.
2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy.
3. Zero of one samples exceed the guideline and this sample size is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating. A minimum of 16 samples is needed to determine if a beneficial use is fully supported using table 3.1.
4. Pursuant to SECTION 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.

Regional Board Staff Decision Recommendation: After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be placed on the section 303(d) list. The readily available data and information is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating.

Line of Evidence (LOE) for Decision ID 63766, Aldrin **Region 2**
Lake Chabot (Solano Co)

LOE ID: 92055
Pollutant: Aldrin
LOE Subgroup: Pollutant-Tissue
Matrix: Tissue
Fraction: Fish fillet
Beneficial Use: Warm Freshwater Habitat
Number of Samples: 1
Number of Exceedances: 0

Data and Information Type:	Fish tissue analysis
Data Used to Assess Water Quality:	State Water Board staff assessed SWAMP data for Lake Chabot (Solano Co) to determine beneficial use support and results are as follows: 0 of 1 samples exceed the criterion for Aldrin. Two composites (5 fish per composite) were generated from one species: Common Carp. Composites were not spatially independent (as defined in the Listing Policy) and so were averaged. Details of the compositing protocol can be found in the March 2009 report entitled: "Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Study" (SWAMP, 2009).
Data Reference:	Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Survey. A Report of the Surface Water Ambient Monitoring Program (SWAMP). California State Water Resources Control Board, Sacramento, CA Cruise Report for the Surface Waters Ambient Monitoring Program (SWAMP) Bioaccumulation Screening Study in California Lakes and Reservoirs, Sampling Dates: June 2007- March 2008 Statewide Lakes Sportfish Contamination Study 2007 2008 Contaminants in Fish from California Lakes and Reservoirs, 2007-2008: Summary Report on a Two-Year Screening Survey
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	Water Quality Control Plan for the San Francisco Bay Basin: Controllable water quality factors shall not cause a detrimental increase in concentrations of toxic substances found in bottom sediments or aquatic life. Effects on aquatic organisms, wildlife, and human health will be considered.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	National Academy of Science guidelines (NAS 1972) establish a maximum Aldrin concentration of 100 ug/Kg (wet weight) in tissue samples for protection of aquatic life from bioaccumulation of toxic substances.
Guideline Reference:	National Academy of Sciences. Water Quality Criteria 1972. EPA-R3-73-033. Washington, D.C.: U.S. Environmental Protection Agency
Spatial Representation:	Data for this assessment unit was collected by one monitoring project: (SWB_FishLk)
Temporal Representation:	Data was collected on a single day 7/30/2007.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	Samples were collected, processed, and analyzed in accordance with the methods described in Quality Assurance Project Plan "Screening Study of Bioaccumulation in California Lakes and Reservoirs." (SWAMP, 2008).
QAPP Information Reference(s):	Quality Assurance Project Plan Screening Study of Bioaccumulation in California Lakes and Reservoirs. Moss Landing Marine Labs. Prepared for SWAMP BOG, 49 pages plus appendices and attachments

**Line of Evidence (LOE) for Decision ID 63766, Aldrin
Lake Chabot (Solano Co)**

Region 2

LOE ID:	92056
Pollutant:	Aldrin
LOE Subgroup:	Pollutant-Tissue
Matrix:	Tissue
Fraction:	Fish fillet
Beneficial Use:	Cold Freshwater Habitat
Number of Samples:	1
Number of Exceedances:	0
Data and Information Type:	Fish tissue analysis
Data Used to Assess Water Quality:	State Water Board staff assessed SWAMP data for Lake Chabot (Solano Co) to determine beneficial use support and results are as follows: 0 of 1 samples exceed the criterion for Aldrin. Two composites (5 fish per composite) were generated from one species: Common

	Carp. Composites were not spatially independent (as defined in the Listing Policy) and so were averaged. Details of the compositing protocol can be found in the March 2009 report entitled: "Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Study" (SWAMP, 2009).
Data Reference:	Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Survey. A Report of the Surface Water Ambient Monitoring Program (SWAMP). California State Water Resources Control Board, Sacramento, CA Cruise Report for the Surface Waters Ambient Monitoring Program (SWAMP) Bioaccumulation Screening Study in California Lakes and Reservoirs, Sampling Dates: June 2007- March 2008 Statewide Lakes Sportfish Contamination Study 2007 2008 Contaminants in Fish from California Lakes and Reservoirs, 2007-2008: Summary Report on a Two-Year Screening Survey
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	Water Quality Control Plan for the San Francisco Bay Basin: Controllable water quality factors shall not cause a detrimental increase in concentrations of toxic substances found in bottom sediments or aquatic life. Effects on aquatic organisms, wildlife, and human health will be considered.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	National Academy of Science guidelines (NAS 1972) establish a maximum Aldrin concentration of 100 ug/Kg (wet weight) in tissue samples for protection of aquatic life from bioaccumulation of toxic substances.
Guideline Reference:	National Academy of Sciences. Water Quality Criteria 1972. EPA-R3-73-033. Washington, D.C.: U.S. Environmental Protection Agency
Spatial Representation:	Data for this assessment unit was collected by one monitoring project: (SWB_FishLk)
Temporal Representation:	Data was collected on a single day 7/30/2007.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	Samples were collected, processed, and analyzed in accordance with the methods described in Quality Assurance Project Plan "Screening Study of Bioaccumulation in California Lakes and Reservoirs." (SWAMP, 2008).
QAPP Information Reference(s):	Quality Assurance Project Plan Screening Study of Bioaccumulation in California Lakes and Reservoirs. Moss Landing Marine Labs. Prepared for SWAMP BOG. 49 pages plus appendices and attachments

DECISION ID	63767	Region 2
Lake Chabot (Solano Co)		
Pollutant:	Chlordane	
Final Listing Decision:	Do Not List on 303(d) list (TMDL required list)	
Last Listing Cycle's Final Listing Decision:	New Decision	
Revision Status	Revised	
Impairment from Pollutant or Pollution:	Pollutant	
Regional Board Staff Conclusion:	<p>This pollutant is being considered for placement on the CWA section 303(d) List under section 3.5 of the Listing Policy. Under section 3.5 a single line of evidence is necessary to assess listing status. Three lines of evidence are available in the administrative record to assess this pollutant. One of one samples exceed the guideline.</p> <p>Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against placing this water segment-pollutant combination on the CWA section 303(d) List.</p> <p>This conclusion is based on the staff findings that:</p> <ol style="list-style-type: none"> 1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy. 2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy. 	

3. One of one samples exceed the guideline and this sample size is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating. A minimum of 16 samples is needed to determine if a beneficial use is fully supported using table 3.1.
4. Pursuant to SECTION 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.

Regional Board Staff Decision Recommendation: After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be placed on the section 303(d) list. The readily available data and information is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating.

**Line of Evidence (LOE) for Decision ID 63767, Chlordane
Lake Chabot (Solano Co)**

Region 2

LOE ID:	92059
Pollutant:	Chlordane
LOE Subgroup:	Pollutant-Tissue
Matrix:	Tissue
Fraction:	Fish fillet
Beneficial Use:	Commercial or recreational collection of fish, shellfish, or organisms
Number of Samples:	1
Number of Exceedances:	1
Data and Information Type:	Fish tissue analysis
Data Used to Assess Water Quality:	State Water Board staff assessed SWAMP data for Lake Chabot (Solano Co) to determine beneficial use support and results are as follows: 1 of 1 samples exceed the criterion for Chlordane, Total. Two composites (5 fish per composite) were generated from one species: Common Carp. Composites were not spatially independent (as defined in the Listing Policy) and so were averaged. Details of the compositing protocol can be found in the March 2009 report entitled: "Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Study" (SWAMP, 2009). Total chlordane was calculated as the sum of the following chlordane isomers: cis- and trans-chlordane, cis- and trans-nonachlor, and oxychlordane.
Data Reference:	Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Survey. A Report of the Surface Water Ambient Monitoring Program (SWAMP). California State Water Resources Control Board, Sacramento, CA Cruise Report for the Surface Waters Ambient Monitoring Program (SWAMP) Bioaccumulation Screening Study in California Lakes and Reservoirs. Sampling Dates: June 2007- March 2008 Statewide Lakes Sportfish Contamination Study 2007 2008 Contaminants in Fish from California Lakes and Reservoirs, 2007-2008: Summary Report on a Two-Year Screening Survey
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	Water Quality Control Plan for the San Francisco Bay Basin: Controllable water quality factors shall not cause a detrimental increase in concentrations of toxic substances found in bottom sediments or aquatic life. Effects on aquatic organisms, wildlife, and human health will be considered.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	The modified OEHHA Fish Contaminant Goal for total chlordane in fish tissue is 3.9 ppb. This screening level assumes an average body weight of 70 kg and a consumption rate of 32 g/day for a 30 year exposure over a 70-year lifetime. This constituent is a carcinogen therefore the risk level is set to one in a million. A cooking reduction factor of 1 is applied for skin-off fillets. (Klasing, S., and R. Brodberg, 2008)
Guideline Reference:	Development of Fish Contaminant Goals and Advisory Tissue Levels for Common Contaminants in California Sport Fish: Chlordane, DDTs, Dieldrin, Methylmercury, PCBs,

[Selenium, and Toxaphene](#)

Spatial Representation: Data for this assessment unit was collected by one monitoring project: (SWB_FishLk)
Temporal Representation: Data was collected on a single day 7/30/2007.
Environmental Conditions: Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information: Samples were collected, processed, and analyzed in accordance with the methods described in Quality Assurance Project Plan "Screening Study of Bioaccumulation in California Lakes and Reservoirs." (SWAMP, 2008).
QAPP Information Reference(s): [Quality Assurance Project Plan Screening Study of Bioaccumulation in California Lakes and Reservoirs. Moss Landing Marine Labs. Prepared for SWAMP BOG. 49 pages plus appendices and attachments](#)

**Line of Evidence (LOE) for Decision ID 63767, Chlordane
Lake Chabot (Solano Co)**

Region 2

LOE ID: 92058

Pollutant: Chlordane
LOE Subgroup: Pollutant-Tissue
Matrix: Tissue
Fraction: Fish fillet

Beneficial Use: Cold Freshwater Habitat

Number of Samples: 1
Number of Exceedances: 0

Data and Information Type: Fish tissue analysis
Data Used to Assess Water Quality: State Water Board staff assessed SWAMP data for Lake Chabot (Solano Co) to determine beneficial use support and results are as follows: 0 of 1 samples exceed the criterion for Chlordane, Total. Two composites (5 fish per composite) were generated from one species: Common Carp. Composites were not spatially independent (as defined in the Listing Policy) and so were averaged. Details of the compositing protocol can be found in the March 2009 report entitled: "Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Study" (SWAMP, 2009). Total chlordane was calculated as the sum of the following chlordane isomers: cis- and trans-chlordane, cis- and trans-nonachlor, and oxychlordane.

Data Reference: [Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Survey. A Report of the Surface Water Ambient Monitoring Program \(SWAMP\). California State Water Resources Control Board, Sacramento, CA](#)
[Cruise Report for the Surface Waters Ambient Monitoring Program \(SWAMP\) Bioaccumulation Screening Study in California Lakes and Reservoirs. Sampling Dates: June 2007- March 2008](#)
[Statewide Lakes Sportfish Contamination Study 2007 2008](#)
[Contaminants in Fish from California Lakes and Reservoirs, 2007-2008: Summary Report on a Two-Year Screening Survey](#)

SWAMP Data: SWAMP

Water Quality Objective/Criterion: Water Quality Control Plan for the San Francisco Bay Basin: Controllable water quality factors shall not cause a detrimental increase in concentrations of toxic substances found in bottom sediments or aquatic life. Effects on aquatic organisms, wildlife, and human health will be considered.

Objective/Criterion Reference: [Water Quality Control Plan \(Basin Plan\) San Francisco Bay Basin \(Region 2\)](#)

Evaluation Guideline: National Academy of Science guidelines (NAS 1972) establish a maximum total Chlordane concentration of 100 ug/Kg (wet weight) in tissue samples for protection of aquatic life from bioaccumulation of toxic substances.

Guideline Reference: [National Academy of Sciences. Water Quality Criteria 1972. EPA-R3-73-033. Washington, D.C.: U.S. Environmental Protection Agency](#)

Spatial Representation: Data for this assessment unit was collected by one monitoring project: (SWB_FishLk)

Temporal Representation:	Data was collected on a single day 7/30/2007.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	Samples were collected, processed, and analyzed in accordance with the methods described in Quality Assurance Project Plan "Screening Study of Bioaccumulation in California Lakes and Reservoirs." (SWAMP, 2008).
QAPP Information Reference(s):	Quality Assurance Project Plan Screening Study of Bioaccumulation in California Lakes and Reservoirs. Moss Landing Marine Labs. Prepared for SWAMP BOG. 49 pages plus appendices and attachments

Line of Evidence (LOE) for Decision ID 63767, Chlordane	Region 2
Lake Chabot (Solano Co)	

LOE ID:	92057
Pollutant:	Chlordane
LOE Subgroup:	Pollutant-Tissue
Matrix:	Tissue
Fraction:	Fish fillet
Beneficial Use:	Warm Freshwater Habitat
Number of Samples:	1
Number of Exceedances:	0
Data and Information Type:	Fish tissue analysis
Data Used to Assess Water Quality:	State Water Board staff assessed SWAMP data for Lake Chabot (Solano Co) to determine beneficial use support and results are as follows: 0 of 1 samples exceed the criterion for Chlordane, Total. Two composites (5 fish per composite) were generated from one species: Common Carp. Composites were not spatially independent (as defined in the Listing Policy) and so were averaged. Details of the compositing protocol can be found in the March 2009 report entitled: "Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Study" (SWAMP, 2009). Total chlordane was calculated as the sum of the following chlordane isomers: cis- and trans-chlordane, cis- and trans-nonachlor, and oxychlordane.
Data Reference:	Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Survey. A Report of the Surface Water Ambient Monitoring Program (SWAMP). California State Water Resources Control Board, Sacramento, CA Cruise Report for the Surface Waters Ambient Monitoring Program (SWAMP) Bioaccumulation Screening Study in California Lakes and Reservoirs. Sampling Dates: June 2007- March 2008 Statewide Lakes Sportfish Contamination Study 2007 2008 Contaminants in Fish from California Lakes and Reservoirs, 2007-2008: Summary Report on a Two-Year Screening Survey
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	Water Quality Control Plan for the San Francisco Bay Basin: Controllable water quality factors shall not cause a detrimental increase in concentrations of toxic substances found in bottom sediments or aquatic life. Effects on aquatic organisms, wildlife, and human health will be considered.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	National Academy of Science guidelines (NAS 1972) establish a maximum total Chlordane concentration of 100 ug/Kg (wet weight) in tissue samples for protection of aquatic life from bioaccumulation of toxic substances.
Guideline Reference:	National Academy of Sciences. Water Quality Criteria 1972. EPA-R3-73-033. Washington, D.C.: U.S. Environmental Protection Agency
Spatial Representation:	Data for this assessment unit was collected by one monitoring project: (SWB_FishLk)
Temporal Representation:	Data was collected on a single day 7/30/2007.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	Samples were collected, processed, and analyzed in accordance with the methods

described in Quality Assurance Project Plan "Screening Study of Bioaccumulation in California Lakes and Reservoirs." (SWAMP, 2008).

QAPP Information Reference(s):

[Quality Assurance Project Plan Screening Study of Bioaccumulation in California Lakes and Reservoirs. Moss Landing Marine Labs. Prepared for SWAMP BOG. 49 pages plus appendices and attachments](#)

DECISION ID	63777	Region 2
Lake Chabot (Solano Co)		

Pollutant:	DDT (Dichlorodiphenyltrichloroethane)
Final Listing Decision:	Do Not List on 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision:	New Decision
Revision Status	Revised
Impairment from Pollutant or Pollution:	Pollutant

Regional Board Staff Conclusion: This pollutant is being considered for placement on the CWA section 303(d) List under section 3.5 of the Listing Policy. Under section 3.5 a single line of evidence is necessary to assess listing status. Three lines of evidence are available in the administrative record to assess this pollutant. Zero of one samples exceed the guideline.

Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against placing this water segment-pollutant combination on the CWA section 303(d) List.

This conclusion is based on the staff findings that:

1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy.
2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy.
3. Zero of one samples exceed the guideline and this sample size is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating. A minimum of 16 samples is needed to determine if a beneficial use is fully supported using table 3.1.
4. Pursuant to SECTION 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.

Regional Board Staff Decision Recommendation: After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be placed on the section 303(d) list. The readily available data and information is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating.

Line of Evidence (LOE) for Decision ID 63777, DDT (Dichlorodiphenyltrichloroethane)	Region 2
Lake Chabot (Solano Co)	

LOE ID:	92030
Pollutant:	Total DDT (sum of 4,4'- and 2,4'- isomers of DDT, DDE, and DDD)
LOE Subgroup:	Pollutant-Tissue
Matrix:	Tissue
Fraction:	Fish fillet
Beneficial Use:	Cold Freshwater Habitat
Number of Samples:	1
Number of Exceedances:	0
Data and Information Type:	Fish tissue analysis
Data Used to Assess Water Quality:	State Water Board staff assessed SWAMP data for Lake Chabot (Solano Co) to determine beneficial use support and results are as follows: 0 of 1 samples exceed the criterion for DDT, Total. Two composites (5 fish per composite) were generated from one species:

Data Reference:	Common Carp. Composites were not spatially independent (as defined in the Listing Policy) and so were averaged. Details of the compositing protocol can be found in the March 2009 report entitled: "Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Study" (SWAMP, 2009). Total DDT was calculated as the sum of 4,4'- and 2,4'- isomers of DDT, DDE, and DDD. Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Survey. A Report of the Surface Water Ambient Monitoring Program (SWAMP). California State Water Resources Control Board, Sacramento, CA Cruise Report for the Surface Waters Ambient Monitoring Program (SWAMP) Bioaccumulation Screening Study in California Lakes and Reservoirs, Sampling Dates: June 2007- March 2008 Statewide Lakes Sportfish Contamination Study 2007 2008 Contaminants in Fish from California Lakes and Reservoirs, 2007-2008: Summary Report on a Two-Year Screening Survey
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	Water Quality Control Plan for the San Francisco Bay Basin: Controllable water quality factors shall not cause a detrimental increase in concentrations of toxic substances found in bottom sediments or aquatic life. Effects on aquatic organisms, wildlife, and human health will be considered.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	National Academy of Science guidelines (NAS 1972) establish a maximum total DDT concentration of 1000 ug/Kg (wet weight) in tissue samples for protection of aquatic life from bioaccumulation of toxic substances.
Guideline Reference:	National Academy of Sciences. Water Quality Criteria 1972. EPA-R3-73-033. Washington, D.C.: U.S. Environmental Protection Agency
Spatial Representation:	Data for this assessment unit was collected by one monitoring project: (SWB_FishLk)
Temporal Representation:	Data was collected on a single day 7/30/2007.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	Samples were collected, processed, and analyzed in accordance with the methods described in Quality Assurance Project Plan "Screening Study of Bioaccumulation in California Lakes and Reservoirs." (SWAMP, 2008).
QAPP Information Reference(s):	Quality Assurance Project Plan Screening Study of Bioaccumulation in California Lakes and Reservoirs. Moss Landing Marine Labs. Prepared for SWAMP BOG. 49 pages plus appendices and attachments

Line of Evidence (LOE) for Decision ID 63777, DDT (Dichlorodiphenyltrichloroethane)
Lake Chabot (Solano Co)

Region 2

LOE ID:	92029
Pollutant:	Total DDT (sum of 4,4'- and 2,4'- isomers of DDT, DDE, and DDD)
LOE Subgroup:	Pollutant-Tissue
Matrix:	Tissue
Fraction:	Fish fillet
Beneficial Use:	Warm Freshwater Habitat
Number of Samples:	1
Number of Exceedances:	0
Data and Information Type:	Fish tissue analysis
Data Used to Assess Water Quality:	State Water Board staff assessed SWAMP data for Lake Chabot (Solano Co) to determine beneficial use support and results are as follows: 0 of 1 samples exceed the criterion for DDT, Total. Two composites (5 fish per composite) were generated from one species: Common Carp. Composites were not spatially independent (as defined in the Listing Policy) and so were averaged. Details of the compositing protocol can be found in the March 2009 report entitled: "Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Study" (SWAMP, 2009). Total

Data Reference:	DDT was calculated as the sum of 4,4'- and 2,4'- isomers of DDT, DDE, and DDD. Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Survey. A Report of the Surface Water Ambient Monitoring Program (SWAMP). California State Water Resources Control Board, Sacramento, CA Cruise Report for the Surface Waters Ambient Monitoring Program (SWAMP) Bioaccumulation Screening Study in California Lakes and Reservoirs. Sampling Dates: June 2007- March 2008 Statewide Lakes Sportfish Contamination Study 2007 2008 Contaminants in Fish from California Lakes and Reservoirs, 2007-2008: Summary Report on a Two-Year Screening Survey
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	Water Quality Control Plan for the San Francisco Bay Basin: Controllable water quality factors shall not cause a detrimental increase in concentrations of toxic substances found in bottom sediments or aquatic life. Effects on aquatic organisms, wildlife, and human health will be considered.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	National Academy of Science guidelines (NAS 1972) establish a maximum total DDT concentration of 1000 ug/Kg (wet weight) in tissue samples for protection of aquatic life from bioaccumulation of toxic substances.
Guideline Reference:	National Academy of Sciences. Water Quality Criteria 1972. EPA-R3-73-033. Washington, D.C.: U.S. Environmental Protection Agency
Spatial Representation:	Data for this assessment unit was collected by one monitoring project: (SWB_FishLk)
Temporal Representation:	Data was collected on a single day 7/30/2007.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	Samples were collected, processed, and analyzed in accordance with the methods described in Quality Assurance Project Plan "Screening Study of Bioaccumulation in California Lakes and Reservoirs." (SWAMP, 2008).
QAPP Information Reference(s):	Quality Assurance Project Plan Screening Study of Bioaccumulation in California Lakes and Reservoirs. Moss Landing Marine Labs. Prepared for SWAMP BOG. 49 pages plus appendices and attachments

Line of Evidence (LOE) for Decision ID 63777, DDT (Dichlorodiphenyltrichloroethane)
Lake Chabot (Solano Co)

Region 2

LOE ID:	92034
Pollutant:	Total DDT (sum of 4,4'- and 2,4'- isomers of DDT, DDE, and DDD)
LOE Subgroup:	Pollutant-Tissue
Matrix:	Tissue
Fraction:	Fish fillet
Beneficial Use:	Commercial or recreational collection of fish, shellfish, or organisms
Number of Samples:	1
Number of Exceedances:	0
Data and Information Type:	Fish tissue analysis
Data Used to Assess Water Quality:	State Water Board staff assessed SWAMP data for Lake Chabot (Solano Co) to determine beneficial use support and results are as follows: 0 of 1 samples exceed the criterion for DDT, Total. Two composites (5 fish per composite) were generated from one species: Common Carp. Composites were not spatially independent (as defined in the Listing Policy) and so were averaged. Details of the compositing protocol can be found in the March 2009 report entitled: "Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Study" (SWAMP, 2009). Total DDT was calculated as the sum of 4,4'- and 2,4'- isomers of DDT, DDE, and DDD.
Data Reference:	Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Survey. A Report of the Surface Water Ambient Monitoring Program (SWAMP). California State Water Resources Control Board, Sacramento, CA

[Cruise Report for the Surface Waters Ambient Monitoring Program \(SWAMP\) Bioaccumulation Screening Study in California Lakes and Reservoirs. Sampling Dates: June 2007- March 2008](#)
[Statewide Lakes Sportfish Contamination Study 2007 2008](#)
[Contaminants in Fish from California Lakes and Reservoirs, 2007-2008: Summary Report on a Two-Year Screening Survey](#)

SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	Water Quality Control Plan for the San Francisco Bay Basin: Controllable water quality factors shall not cause a detrimental increase in concentrations of toxic substances found in bottom sediments or aquatic life. Effects on aquatic organisms, wildlife, and human health will be considered.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	The modified OEHHA Fish Contaminant Goal for total DDT in fish tissue is 15 ppb. This screening level assumes an average body weight of 70 kg and a consumption rate of 32 g/day for a 30 year exposure over a 70-year lifetime. This constituent is a carcinogen therefore the risk level is set to one in a million. A cooking reduction factor of 1 is applied for skin-off fillets. (Klasing, S., and R. Brodberg, 2008)
Guideline Reference:	Development of Fish Contaminant Goals and Advisory Tissue Levels for Common Contaminants in California Sport Fish: Chlordane, DDTs, Dieldrin, Methylmercury, PCBs, Selenium, and Toxaphene
Spatial Representation:	Data for this assessment unit was collected by one monitoring project: (SWB_FishLk)
Temporal Representation:	Data was collected on a single day 7/30/2007.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	Samples were collected, processed, and analyzed in accordance with the methods described in Quality Assurance Project Plan "Screening Study of Bioaccumulation in California Lakes and Reservoirs." (SWAMP, 2008).
QAPP Information Reference(s):	Quality Assurance Project Plan Screening Study of Bioaccumulation in California Lakes and Reservoirs. Moss Landing Marine Labs. Prepared for SWAMP BOG. 49 pages plus appendices and attachments

DECISION ID	63768	Region 2
Lake Chabot (Solano Co)		

Pollutant:	Dieldrin
Final Listing Decision:	Do Not List on 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision:	New Decision
Revision Status	Revised
Impairment from Pollutant or Pollution:	Pollutant

Regional Board Staff Conclusion: This pollutant is being considered for placement on the CWA section 303(d) List under section 3.5 of the Listing Policy. Under section 3.5 a single line of evidence is necessary to assess listing status. Three lines of evidence are available in the administrative record to assess this pollutant. One of one samples exceed the guideline.

Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against placing this water segment-pollutant combination on the CWA section 303(d) List.

This conclusion is based on the staff findings that:

1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy.
2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy.
3. One of one samples exceed the guideline and this sample size is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating. A minimum of 16 samples is needed to determine if a beneficial use is fully supported using table 3.1.
4. Pursuant to SECTION 3.11 of the Listing Policy, no additional data and information are available

indicating that standards are not met.

Regional Board Staff Decision Recommendation: After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be placed on the section 303(d) list. The readily available data and information is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating.

**Line of Evidence (LOE) for Decision ID 63768, Dieldrin
Lake Chabot (Solano Co)**

Region 2

LOE ID:	92060
Pollutant:	Dieldrin
LOE Subgroup:	Pollutant-Tissue
Matrix:	Tissue
Fraction:	Fish fillet
Beneficial Use:	Warm Freshwater Habitat
Number of Samples:	1
Number of Exceedances:	0
Data and Information Type:	Fish tissue analysis
Data Used to Assess Water Quality:	State Water Board staff assessed SWAMP data for Lake Chabot (Solano Co) to determine beneficial use support and results are as follows: 0 of 1 samples exceed the criterion for Dieldrin. Two composites (5 fish per composite) were generated from one species: Common Carp. Composites were not spatially independent (as defined in the Listing Policy) and so were averaged. Details of the compositing protocol can be found in the March 2009 report entitled: "Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Study" (SWAMP, 2009).
Data Reference:	Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Survey. A Report of the Surface Water Ambient Monitoring Program (SWAMP). California State Water Resources Control Board, Sacramento, CA Cruise Report for the Surface Waters Ambient Monitoring Program (SWAMP) Bioaccumulation Screening Study in California Lakes and Reservoirs. Sampling Dates: June 2007- March 2008 Statewide Lakes Sportfish Contamination Study 2007 2008 Contaminants in Fish from California Lakes and Reservoirs, 2007-2008: Summary Report on a Two-Year Screening Survey
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	Water Quality Control Plan for the San Francisco Bay Basin: Controllable water quality factors shall not cause a detrimental increase in concentrations of toxic substances found in bottom sediments or aquatic life. Effects on aquatic organisms, wildlife, and human health will be considered.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	National Academy of Science guidelines (NAS 1972) establish a maximum Dieldrin concentration of 100 ug/Kg (wet weight) in tissue samples for protection of aquatic life from bioaccumulation of toxic substances.
Guideline Reference:	National Academy of Sciences. Water Quality Criteria 1972. EPA-R3-73-033. Washington, D.C.: U.S. Environmental Protection Agency
Spatial Representation:	Data for this assessment unit was collected by one monitoring project: (SWB_FishLk)
Temporal Representation:	Data was collected on a single day 7/30/2007.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	Samples were collected, processed, and analyzed in accordance with the methods described in Quality Assurance Project Plan "Screening Study of Bioaccumulation in California Lakes and Reservoirs." (SWAMP, 2008).
QAPP Information Reference(s):	Quality Assurance Project Plan Screening Study of Bioaccumulation in California Lakes

**Line of Evidence (LOE) for Decision ID 63768, Dieldrin
Lake Chabot (Solano Co)**

Region 2

LOE ID:	92062
Pollutant:	Dieldrin
LOE Subgroup:	Pollutant-Tissue
Matrix:	Tissue
Fraction:	Fish fillet
Beneficial Use:	Commercial or recreational collection of fish, shellfish, or organisms
Number of Samples:	1
Number of Exceedances:	1
Data and Information Type:	Fish tissue analysis
Data Used to Assess Water Quality:	State Water Board staff assessed SWAMP data for Lake Chabot (Solano Co) to determine beneficial use support and results are as follows: 1 of 1 samples exceed the criterion for Dieldrin. Two composites (5 fish per composite) were generated from one species: Common Carp. Composites were not spatially independent (as defined in the Listing Policy) and so were averaged. Details of the compositing protocol can be found in the March 2009 report entitled: "Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Study" (SWAMP, 2009).
Data Reference:	Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Survey. A Report of the Surface Water Ambient Monitoring Program (SWAMP). California State Water Resources Control Board, Sacramento, CA Cruise Report for the Surface Waters Ambient Monitoring Program (SWAMP) Bioaccumulation Screening Study in California Lakes and Reservoirs. Sampling Dates: June 2007- March 2008 Statewide Lakes Sportfish Contamination Study 2007 2008 Contaminants in Fish from California Lakes and Reservoirs, 2007-2008: Summary Report on a Two-Year Screening Survey
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	Water Quality Control Plan for the San Francisco Bay Basin: Controllable water quality factors shall not cause a detrimental increase in concentrations of toxic substances found in bottom sediments or aquatic life. Effects on aquatic organisms, wildlife, and human health will be considered.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	The modified OEHHA Fish Contaminant Goal for dieldrin in fish tissue is 0.32 ppb. This screening level assumes an average body weight of 70 kg and a consumption rate of 32 g/day for a 30 year exposure over a 70-year lifetime. This constituent is a carcinogen therefore the risk level is set to one in a million. A cooking reduction factor of 1 is applied for skin-off fillets. (Klasing, S., and R. Brodberg, 2008)
Guideline Reference:	Development of Fish Contaminant Goals and Advisory Tissue Levels for Common Contaminants in California Sport Fish: Chlordane, DDTs, Dieldrin, Methylmercury, PCBs, Selenium, and Toxaphene
Spatial Representation:	Data for this assessment unit was collected by one monitoring project: (SWB_FishLk)
Temporal Representation:	Data was collected on a single day 7/30/2007.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	Samples were collected, processed, and analyzed in accordance with the methods described in Quality Assurance Project Plan "Screening Study of Bioaccumulation in California Lakes and Reservoirs." (SWAMP, 2008).
QAPP Information Reference(s):	Quality Assurance Project Plan Screening Study of Bioaccumulation in California Lakes and Reservoirs. Moss Landing Marine Labs. Prepared for SWAMP BOG, 49 pages plus appendices and attachments

Lake Chabot (Solano Co)

LOE ID:	92061
Pollutant:	Dieldrin
LOE Subgroup:	Pollutant-Tissue
Matrix:	Tissue
Fraction:	Fish fillet
Beneficial Use:	Cold Freshwater Habitat
Number of Samples:	1
Number of Exceedances:	0
Data and Information Type:	Fish tissue analysis
Data Used to Assess Water Quality:	State Water Board staff assessed SWAMP data for Lake Chabot (Solano Co) to determine beneficial use support and results are as follows: 0 of 1 samples exceed the criterion for Dieldrin. Two composites (5 fish per composite) were generated from one species: Common Carp. Composites were not spatially independent (as defined in the Listing Policy) and so were averaged. Details of the compositing protocol can be found in the March 2009 report entitled: "Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Study" (SWAMP, 2009).
Data Reference:	Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Survey. A Report of the Surface Water Ambient Monitoring Program (SWAMP). California State Water Resources Control Board, Sacramento, CA Cruise Report for the Surface Waters Ambient Monitoring Program (SWAMP) Bioaccumulation Screening Study in California Lakes and Reservoirs, Sampling Dates: June 2007- March 2008 Statewide Lakes Sportfish Contamination Study 2007 2008 Contaminants in Fish from California Lakes and Reservoirs, 2007-2008: Summary Report on a Two-Year Screening Survey
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	Water Quality Control Plan for the San Francisco Bay Basin: Controllable water quality factors shall not cause a detrimental increase in concentrations of toxic substances found in bottom sediments or aquatic life. Effects on aquatic organisms, wildlife, and human health will be considered.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	National Academy of Science guidelines (NAS 1972) establish a maximum Dieldrin concentration of 100 ug/Kg (wet weight) in tissue samples for protection of aquatic life from bioaccumulation of toxic substances.
Guideline Reference:	National Academy of Sciences. Water Quality Criteria 1972. EPA-R3-73-033. Washington, D.C.: U.S. Environmental Protection Agency
Spatial Representation:	Data for this assessment unit was collected by one monitoring project: (SWB_FishLk)
Temporal Representation:	Data was collected on a single day 7/30/2007.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	Samples were collected, processed, and analyzed in accordance with the methods described in Quality Assurance Project Plan "Screening Study of Bioaccumulation in California Lakes and Reservoirs." (SWAMP, 2008).
QAPP Information Reference(s):	Quality Assurance Project Plan Screening Study of Bioaccumulation in California Lakes and Reservoirs. Moss Landing Marine Labs. Prepared for SWAMP BOG. 49 pages plus appendices and attachments

Pollutant:	Endosulfan
Final Listing Decision:	Do Not List on 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision:	New Decision
Revision Status	Revised
Impairment from Pollutant or Pollution:	Pollutant

Regional Board Staff Conclusion: This pollutant is being considered for placement on the CWA section 303(d) List under section 3.5 of the Listing Policy. Under section 3.5 a single line of evidence is necessary to assess listing status. Three lines of evidence are available in the administrative record to assess this pollutant. Zero of one samples exceed the guideline.

Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against placing this water segment-pollutant combination on the CWA section 303(d) List.

This conclusion is based on the staff findings that:

1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy.
2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy.
3. Zero of one samples exceed the guideline and this sample size is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating. A minimum of 16 samples is needed to determine if a beneficial use is fully supported using table 3.1.
4. Pursuant to SECTION 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.

Regional Board Staff Decision Recommendation: After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be placed on the section 303(d) list. The readily available data and information is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating.

Line of Evidence (LOE) for Decision ID 63769, Endosulfan Lake Chabot (Solano Co)

Region 2

LOE ID: 92065

Pollutant:	Endosulfan
LOE Subgroup:	Pollutant-Tissue
Matrix:	Tissue
Fraction:	Fish fillet

Beneficial Use: Commercial or recreational collection of fish, shellfish, or organisms

Number of Samples:	1
Number of Exceedances:	0

Data and Information Type:	Fish tissue analysis
Data Used to Assess Water Quality:	State Water Board staff assessed SWAMP data for Lake Chabot (Solano Co) to determine beneficial use support and results are as follows: 0 of 1 samples exceed the criterion for Endosulfan I. Two composites (5 fish per composite) were generated from one species: Common Carp. Composites were not spatially independent (as defined in the Listing Policy) and so were averaged. Details of the compositing protocol can be found in the March 2009 report entitled: "Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Study" (SWAMP, 2009).

Data Reference: [Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Survey. A Report of the Surface Water Ambient Monitoring Program \(SWAMP\). California State Water Resources Control Board, Sacramento, CA Cruise Report for the Surface Waters Ambient Monitoring Program \(SWAMP\) Bioaccumulation Screening Study in California Lakes and Reservoirs, Sampling Dates: June 2007- March 2008](#)

SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	Water Quality Control Plan for the San Francisco Bay Basin: Controllable water quality factors shall not cause a detrimental increase in concentrations of toxic substances found in bottom sediments or aquatic life. Effects on aquatic organisms, wildlife, and human health will be considered.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	The modified OEHHA Fish Contaminant Goal for endosulfan (I and II) in fish tissue is 13,000 ppb. This screening level assumes an average body weight of 70 kg and a consumption rate of 32 g/day. A cooking reduction factor of 1 is applied for skin-off fillets. (Klasing, S., and R. Brodberg, 2008; USEPA, 2000)
Guideline Reference:	Development of Fish Contaminant Goals and Advisory Tissue Levels for Common Contaminants in California Sport Fish: Chlordane, DDTs, Dieldrin, Methylmercury, PCBs, Selenium, and Toxaphene Guidance for Assessing Chemical Contaminant Data for Use In Fish Advisories Volume 1: Fish Sampling and Analysis
Spatial Representation:	Data for this assessment unit was collected by one monitoring project: (SWB_FishLk)
Temporal Representation:	Data was collected on a single day 7/30/2007.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	Samples were collected, processed, and analyzed in accordance with the methods described in Quality Assurance Project Plan "Screening Study of Bioaccumulation in California Lakes and Reservoirs." (SWAMP, 2008).
QAPP Information Reference(s):	Quality Assurance Project Plan Screening Study of Bioaccumulation in California Lakes and Reservoirs. Moss Landing Marine Labs. Prepared for SWAMP BOG. 49 pages plus appendices and attachments

Line of Evidence (LOE) for Decision ID 63769, Endosulfan
Lake Chabot (Solano Co)

Region 2

LOE ID:	92063
Pollutant:	Endosulfan
LOE Subgroup:	Pollutant-Tissue
Matrix:	Tissue
Fraction:	Fish fillet
Beneficial Use:	Warm Freshwater Habitat
Number of Samples:	1
Number of Exceedances:	0
Data and Information Type:	Fish tissue analysis
Data Used to Assess Water Quality:	State Water Board staff assessed SWAMP data for Lake Chabot (Solano Co) to determine beneficial use support and results are as follows: 0 of 1 samples exceed the criterion for Endosulfan I. Two composites (5 fish per composite) were generated from one species: Common Carp. Composites were not spatially independent (as defined in the Listing Policy) and so were averaged. Details of the compositing protocol can be found in the March 2009 report entitled: "Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Study" (SWAMP, 2009).
Data Reference:	Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Survey. A Report of the Surface Water Ambient Monitoring Program (SWAMP). California State Water Resources Control Board, Sacramento, CA Cruise Report for the Surface Waters Ambient Monitoring Program (SWAMP) Bioaccumulation Screening Study in California Lakes and Reservoirs, Sampling Dates: June 2007- March 2008 Statewide Lakes Sportfish Contamination Study 2007 2008

SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	Water Quality Control Plan for the San Francisco Bay Basin: Controllable water quality factors shall not cause a detrimental increase in concentrations of toxic substances found in bottom sediments or aquatic life. Effects on aquatic organisms, wildlife, and human health will be considered.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	National Academy of Science guidelines (NAS 1972) establish a maximum Endosulfan, Total concentration of 100 ug/Kg (wet weight) in tissue samples for protection of aquatic life from bioaccumulation of toxic substances.
Guideline Reference:	National Academy of Sciences. Water Quality Criteria 1972. EPA-R3-73-033. Washington, D.C.: U.S. Environmental Protection Agency
Spatial Representation:	Data for this assessment unit was collected by one monitoring project: (SWB_FishLk)
Temporal Representation:	Data was collected on a single day 7/30/2007.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	Samples were collected, processed, and analyzed in accordance with the methods described in Quality Assurance Project Plan "Screening Study of Bioaccumulation in California Lakes and Reservoirs." (SWAMP, 2008).
QAPP Information Reference(s):	Quality Assurance Project Plan Screening Study of Bioaccumulation in California Lakes and Reservoirs. Moss Landing Marine Labs. Prepared for SWAMP BOG, 49 pages plus appendices and attachments

Line of Evidence (LOE) for Decision ID 63769, Endosulfan

Region 2

Lake Chabot (Solano Co)

LOE ID:	92064
Pollutant:	Endosulfan
LOE Subgroup:	Pollutant-Tissue
Matrix:	Tissue
Fraction:	Fish fillet
Beneficial Use:	Cold Freshwater Habitat
Number of Samples:	1
Number of Exceedances:	0
Data and Information Type:	Fish tissue analysis
Data Used to Assess Water Quality:	State Water Board staff assessed SWAMP data for Lake Chabot (Solano Co) to determine beneficial use support and results are as follows: 0 of 1 samples exceed the criterion for Endosulfan I. Two composites (5 fish per composite) were generated from one species: Common Carp. Composites were not spatially independent (as defined in the Listing Policy) and so were averaged. Details of the compositing protocol can be found in the March 2009 report entitled: "Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Study" (SWAMP, 2009).
Data Reference:	Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Survey. A Report of the Surface Water Ambient Monitoring Program (SWAMP). California State Water Resources Control Board, Sacramento, CA Cruise Report for the Surface Waters Ambient Monitoring Program (SWAMP) Bioaccumulation Screening Study in California Lakes and Reservoirs. Sampling Dates: June 2007- March 2008 Statewide Lakes Sportfish Contamination Study 2007 2008 Contaminants in Fish from California Lakes and Reservoirs, 2007-2008: Summary Report on a Two-Year Screening Survey

SWAMP Data:	SWAMP
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Water Quality Objective/Criterion:	Water Quality Control Plan for the San Francisco Bay Basin: Controllable water quality factors shall not cause a detrimental increase in concentrations of toxic substances found in bottom sediments or aquatic life. Effects on aquatic organisms, wildlife, and human health will be considered.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	National Academy of Science guidelines (NAS 1972) establish a maximum Endosulfan, Total concentration of 100 ug/Kg (wet weight) in tissue samples for protection of aquatic life from bioaccumulation of toxic substances.
Guideline Reference:	National Academy of Sciences. Water Quality Criteria 1972. EPA-R3-73-033. Washington, D.C.: U.S. Environmental Protection Agency
Spatial Representation:	Data for this assessment unit was collected by one monitoring project: (SWB_FishLk)
Temporal Representation:	Data was collected on a single day 7/30/2007.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	Samples were collected, processed, and analyzed in accordance with the methods described in Quality Assurance Project Plan "Screening Study of Bioaccumulation in California Lakes and Reservoirs." (SWAMP, 2008).
QAPP Information Reference(s):	Quality Assurance Project Plan Screening Study of Bioaccumulation in California Lakes and Reservoirs. Moss Landing Marine Labs. Prepared for SWAMP BOG. 49 pages plus appendices and attachments

DECISION ID	63770	Region 2
Lake Chabot (Solano Co)		

Pollutant:	Endrin
Final Listing Decision:	Do Not List on 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision:	New Decision
Revision Status	Revised
Impairment from Pollutant or Pollution:	Pollutant

Regional Board Staff Conclusion: This pollutant is being considered for placement on the CWA section 303(d) List under section 3.5 of the Listing Policy. Under section 3.5 a single line of evidence is necessary to assess listing status. Three lines of evidence are available in the administrative record to assess this pollutant. Zero of one samples exceed the guideline.

Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against placing this water segment-pollutant combination on the CWA section 303(d) List.

This conclusion is based on the staff findings that:

1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy.
2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy.
3. Zero of one samples exceed the guideline and this sample size is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating. A minimum of 16 samples is needed to determine if a beneficial use is fully supported using table 3.1.
4. Pursuant to SECTION 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.

Regional Board Staff Decision Recommendation: After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be placed on the section 303(d) list. The readily available data and information is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating.

Line of Evidence (LOE) for Decision ID 63770, Endrin	Region 2
Lake Chabot (Solano Co)	

LOE ID:	92068
Pollutant:	Endrin
LOE Subgroup:	Pollutant-Tissue
Matrix:	Tissue
Fraction:	Fish fillet
Beneficial Use:	Commercial or recreational collection of fish, shellfish, or organisms
Number of Samples:	1
Number of Exceedances:	0
Data and Information Type:	Fish tissue analysis
Data Used to Assess Water Quality:	State Water Board staff assessed SWAMP data for Lake Chabot (Solano Co) to determine beneficial use support and results are as follows: 0 of 1 samples exceed the criterion for Endrin. Two composites (5 fish per composite) were generated from one species: Common Carp. Composites were not spatially independent (as defined in the Listing Policy) and so were averaged. Details of the compositing protocol can be found in the March 2009 report entitled: "Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Study" (SWAMP, 2009).
Data Reference:	Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Survey. A Report of the Surface Water Ambient Monitoring Program (SWAMP). California State Water Resources Control Board, Sacramento, CA Cruise Report for the Surface Waters Ambient Monitoring Program (SWAMP) Bioaccumulation Screening Study in California Lakes and Reservoirs. Sampling Dates: June 2007- March 2008 Statewide Lakes Sportfish Contamination Study 2007 2008 Contaminants in Fish from California Lakes and Reservoirs, 2007-2008: Summary Report on a Two-Year Screening Survey
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	Water Quality Control Plan for the San Francisco Bay Basin: Controllable water quality factors shall not cause a detrimental increase in concentrations of toxic substances found in bottom sediments or aquatic life. Effects on aquatic organisms, wildlife, and human health will be considered.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	The modified OEHHA Fish Contaminant Goal for endrin in fish tissue is 660 ppb. This screening level assumes an average body weight of 70 kg and a consumption rate of 32 g/day. A cooking reduction factor of 1 is applied for skin-off fillets. (Klasing, S., and R. Brodberg, 2008; USEPA, 2000)
Guideline Reference:	Development of Fish Contaminant Goals and Advisory Tissue Levels for Common Contaminants in California Sport Fish: Chlordane, DDTs, Dieldrin, Methylmercury, PCBs, Selenium, and Toxaphene Guidance for Assessing Chemical Contaminant Data for Use In Fish Advisories Volume 1: Fish Sampling and Analysis
Spatial Representation:	Data for this assessment unit was collected by one monitoring project: (SWB_FishLk)
Temporal Representation:	Data was collected on a single day 7/30/2007.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	Samples were collected, processed, and analyzed in accordance with the methods described in Quality Assurance Project Plan "Screening Study of Bioaccumulation in California Lakes and Reservoirs." (SWAMP, 2008).
QAPP Information Reference(s):	Quality Assurance Project Plan Screening Study of Bioaccumulation in California Lakes and Reservoirs. Moss Landing Marine Labs. Prepared for SWAMP BOG, 49 pages plus appendices and attachments

Line of Evidence (LOE) for Decision ID 63770, Endrin
Lake Chabot (Solano Co)

Region 2

LOE ID: 92066

Pollutant:	Endrin
LOE Subgroup:	Pollutant-Tissue
Matrix:	Tissue
Fraction:	Fish fillet
Beneficial Use:	Warm Freshwater Habitat
Number of Samples:	1
Number of Exceedances:	0
Data and Information Type:	Fish tissue analysis
Data Used to Assess Water Quality:	State Water Board staff assessed SWAMP data for Lake Chabot (Solano Co) to determine beneficial use support and results are as follows: 0 of 1 samples exceed the criterion for Endrin. Two composites (5 fish per composite) were generated from one species: Common Carp. Composites were not spatially independent (as defined in the Listing Policy) and so were averaged. Details of the compositing protocol can be found in the March 2009 report entitled: "Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Study" (SWAMP, 2009).
Data Reference:	Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Survey. A Report of the Surface Water Ambient Monitoring Program (SWAMP). California State Water Resources Control Board, Sacramento, CA Cruise Report for the Surface Waters Ambient Monitoring Program (SWAMP) Bioaccumulation Screening Study in California Lakes and Reservoirs. Sampling Dates: June 2007- March 2008 Statewide Lakes Sportfish Contamination Study 2007 2008 Contaminants in Fish from California Lakes and Reservoirs, 2007-2008: Summary Report on a Two-Year Screening Survey
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	Water Quality Control Plan for the San Francisco Bay Basin: Controllable water quality factors shall not cause a detrimental increase in concentrations of toxic substances found in bottom sediments or aquatic life. Effects on aquatic organisms, wildlife, and human health will be considered.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	National Academy of Science guidelines (NAS 1972) establish a maximum Endrin concentration of 100 ug/Kg (wet weight) in tissue samples for protection of aquatic life from bioaccumulation of toxic substances.
Guideline Reference:	National Academy of Sciences. Water Quality Criteria 1972. EPA-R3-73-033. Washington, D.C.: U.S. Environmental Protection Agency
Spatial Representation:	Data for this assessment unit was collected by one monitoring project: (SWB_FishLk)
Temporal Representation:	Data was collected on a single day 7/30/2007.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	Samples were collected, processed, and analyzed in accordance with the methods described in Quality Assurance Project Plan "Screening Study of Bioaccumulation in California Lakes and Reservoirs." (SWAMP, 2008).
QAPP Information Reference(s):	Quality Assurance Project Plan Screening Study of Bioaccumulation in California Lakes and Reservoirs. Moss Landing Marine Labs. Prepared for SWAMP BOG. 49 pages plus appendices and attachments

Line of Evidence (LOE) for Decision ID 63770, Endrin
Lake Chabot (Solano Co)

Region 2

LOE ID:	92067
Pollutant:	Endrin
LOE Subgroup:	Pollutant-Tissue
Matrix:	Tissue
Fraction:	Fish fillet

Beneficial Use:	Cold Freshwater Habitat
Number of Samples:	1
Number of Exceedances:	0
Data and Information Type:	Fish tissue analysis
Data Used to Assess Water Quality:	State Water Board staff assessed SWAMP data for Lake Chabot (Solano Co) to determine beneficial use support and results are as follows: 0 of 1 samples exceed the criterion for Endrin. Two composites (5 fish per composite) were generated from one species: Common Carp. Composites were not spatially independent (as defined in the Listing Policy) and so were averaged. Details of the compositing protocol can be found in the March 2009 report entitled: "Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Study" (SWAMP, 2009).
Data Reference:	Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Survey. A Report of the Surface Water Ambient Monitoring Program (SWAMP). California State Water Resources Control Board, Sacramento, CA Cruise Report for the Surface Waters Ambient Monitoring Program (SWAMP) Bioaccumulation Screening Study in California Lakes and Reservoirs. Sampling Dates: June 2007- March 2008 Statewide Lakes Sportfish Contamination Study 2007 2008 Contaminants in Fish from California Lakes and Reservoirs, 2007-2008: Summary Report on a Two-Year Screening Survey
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	Water Quality Control Plan for the San Francisco Bay Basin: Controllable water quality factors shall not cause a detrimental increase in concentrations of toxic substances found in bottom sediments or aquatic life. Effects on aquatic organisms, wildlife, and human health will be considered.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	National Academy of Science guidelines (NAS 1972) establish a maximum Endrin concentration of 100 ug/Kg (wet weight) in tissue samples for protection of aquatic life from bioaccumulation of toxic substances.
Guideline Reference:	National Academy of Sciences. Water Quality Criteria 1972. EPA-R3-73-033. Washington, D.C.: U.S. Environmental Protection Agency
Spatial Representation:	Data for this assessment unit was collected by one monitoring project: (SWB_FishLk)
Temporal Representation:	Data was collected on a single day 7/30/2007.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	Samples were collected, processed, and analyzed in accordance with the methods described in Quality Assurance Project Plan "Screening Study of Bioaccumulation in California Lakes and Reservoirs." (SWAMP, 2008).
QAPP Information Reference(s):	Quality Assurance Project Plan Screening Study of Bioaccumulation in California Lakes and Reservoirs. Moss Landing Marine Labs. Prepared for SWAMP BOG. 49 pages plus appendices and attachments

DECISION ID	63771	Region 2
Lake Chabot (Solano Co)		

Pollutant:	Heptachlor
Final Listing Decision:	Do Not List on 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision:	New Decision
Revision Status	Revised
Impairment from Pollutant or Pollution:	Pollutant

Regional Board Staff Conclusion:	This pollutant is being considered for placement on the CWA section 303(d) List under section 3.5 of the Listing Policy. Under section 3.5 a single line of evidence is necessary to assess listing status.
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Two lines of evidence are available in the administrative record to assess this pollutant. Zero of one samples exceed the guideline.

Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against placing this water segment-pollutant combination on the CWA section 303(d) List.

This conclusion is based on the staff findings that:

1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy.
2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy.
3. Zero of one samples exceed the guideline and this sample size is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating. A minimum of 16 samples is needed to determine if a beneficial use is fully supported using table 3.1.
4. Pursuant to SECTION 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.

Regional Board Staff Decision Recommendation: After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be placed on the section 303(d) list. The readily available data and information is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating.

Line of Evidence (LOE) for Decision ID 63771, Heptachlor

Region 2

Lake Chabot (Solano Co)

LOE ID:	92070
Pollutant:	Heptachlor
LOE Subgroup:	Pollutant-Tissue
Matrix:	Tissue
Fraction:	Fish fillet
Beneficial Use:	Cold Freshwater Habitat
Number of Samples:	1
Number of Exceedances:	0
Data and Information Type:	Fish tissue analysis
Data Used to Assess Water Quality:	State Water Board staff assessed SWAMP data for Lake Chabot (Solano Co) to determine beneficial use support and results are as follows: 0 of 1 samples exceed the criterion for Heptachlor. Two composites (5 fish per composite) were generated from one species: Common Carp. Composites were not spatially independent (as defined in the Listing Policy) and so were averaged. Details of the compositing protocol can be found in the March 2009 report entitled: "Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Study" (SWAMP, 2009).
Data Reference:	Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Survey. A Report of the Surface Water Ambient Monitoring Program (SWAMP). California State Water Resources Control Board, Sacramento, CA Cruise Report for the Surface Waters Ambient Monitoring Program (SWAMP) Bioaccumulation Screening Study in California Lakes and Reservoirs. Sampling Dates: June 2007- March 2008 Statewide Lakes Sportfish Contamination Study 2007 2008 Contaminants in Fish from California Lakes and Reservoirs, 2007-2008: Summary Report on a Two-Year Screening Survey
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	Water Quality Control Plan for the San Francisco Bay Basin: Controllable water quality factors shall not cause a detrimental increase in concentrations of toxic substances found in bottom sediments or aquatic life. Effects on aquatic organisms, wildlife, and human health will be considered.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)

Evaluation Guideline:	National Academy of Science guidelines (NAS 1972) establish a maximum Heptachlor concentration of 100 ug/Kg (wet weight) in tissue samples for protection of aquatic life from bioaccumulation of toxic substances.
Guideline Reference:	National Academy of Sciences. Water Quality Criteria 1972. EPA-R3-73-033. Washington, D.C.: U.S. Environmental Protection Agency
Spatial Representation:	Data for this assessment unit was collected by one monitoring project: (SWB_FishLk)
Temporal Representation:	Data was collected on a single day 7/30/2007.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	Samples were collected, processed, and analyzed in accordance with the methods described in Quality Assurance Project Plan "Screening Study of Bioaccumulation in California Lakes and Reservoirs." (SWAMP, 2008).
QAPP Information Reference(s):	Quality Assurance Project Plan Screening Study of Bioaccumulation in California Lakes and Reservoirs. Moss Landing Marine Labs. Prepared for SWAMP BOG, 49 pages plus appendices and attachments

**Line of Evidence (LOE) for Decision ID 63771, Heptachlor
Lake Chabot (Solano Co)**

Region 2

LOE ID:	92069
Pollutant:	Heptachlor
LOE Subgroup:	Pollutant-Tissue
Matrix:	Tissue
Fraction:	Fish fillet
Beneficial Use:	Warm Freshwater Habitat
Number of Samples:	1
Number of Exceedances:	0
Data and Information Type:	Fish tissue analysis
Data Used to Assess Water Quality:	State Water Board staff assessed SWAMP data for Lake Chabot (Solano Co) to determine beneficial use support and results are as follows: 0 of 1 samples exceed the criterion for Heptachlor. Two composites (5 fish per composite) were generated from one species: Common Carp. Composites were not spatially independent (as defined in the Listing Policy) and so were averaged. Details of the compositing protocol can be found in the March 2009 report entitled: "Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Study" (SWAMP, 2009).
Data Reference:	Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Survey. A Report of the Surface Water Ambient Monitoring Program (SWAMP). California State Water Resources Control Board, Sacramento, CA Cruise Report for the Surface Waters Ambient Monitoring Program (SWAMP) Bioaccumulation Screening Study in California Lakes and Reservoirs. Sampling Dates: June 2007- March 2008 Statewide Lakes Sportfish Contamination Study 2007 2008 Contaminants in Fish from California Lakes and Reservoirs, 2007-2008: Summary Report on a Two-Year Screening Survey
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	Water Quality Control Plan for the San Francisco Bay Basin: Controllable water quality factors shall not cause a detrimental increase in concentrations of toxic substances found in bottom sediments or aquatic life. Effects on aquatic organisms, wildlife, and human health will be considered.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	National Academy of Science guidelines (NAS 1972) establish a maximum Heptachlor concentration of 100 ug/Kg (wet weight) in tissue samples for protection of aquatic life from bioaccumulation of toxic substances.
Guideline Reference:	National Academy of Sciences. Water Quality Criteria 1972. EPA-R3-73-033. Washington,

Spatial Representation: Data for this assessment unit was collected by one monitoring project: (SWB_FishLk)
Temporal Representation: Data was collected on a single day 7/30/2007.
Environmental Conditions: Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information: Samples were collected, processed, and analyzed in accordance with the methods described in Quality Assurance Project Plan "Screening Study of Bioaccumulation in California Lakes and Reservoirs." (SWAMP, 2008).
QAPP Information Reference(s): [Quality Assurance Project Plan Screening Study of Bioaccumulation in California Lakes and Reservoirs. Moss Landing Marine Labs. Prepared for SWAMP BOG. 49 pages plus appendices and attachments](#)

DECISION ID	63772	Region 2
Lake Chabot (Solano Co)		

Pollutant: Heptachlor epoxide
Final Listing Decision: Do Not List on 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision: New Decision
Revision Status: Revised
Impairment from Pollutant or Pollution: Pollutant

Regional Board Staff Conclusion: This pollutant is being considered for placement on the CWA section 303(d) List under section 3.5 of the Listing Policy. Under section 3.5 a single line of evidence is necessary to assess listing status. Three lines of evidence are available in the administrative record to assess this pollutant. Zero of one samples exceed the guideline.

Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against placing this water segment-pollutant combination on the CWA section 303(d) List.

This conclusion is based on the staff findings that:

1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy.
2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy.
3. Zero of one samples exceed the guideline and this sample size is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating. A minimum of 16 samples is needed to determine if a beneficial use is fully supported using table 3.1.
4. Pursuant to SECTION 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.

Regional Board Staff Decision Recommendation: After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be placed on the section 303(d) list. The readily available data and information is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating.

Line of Evidence (LOE) for Decision ID 63772, Heptachlor epoxide	Region 2
Lake Chabot (Solano Co)	

LOE ID: 92013
Pollutant: Heptachlor epoxide
LOE Subgroup: Pollutant-Tissue
Matrix: Tissue
Fraction: Fish fillet
Beneficial Use: Warm Freshwater Habitat
Number of Samples: 1

Number of Exceedances:	0
Data and Information Type:	Fish tissue analysis
Data Used to Assess Water Quality:	State Water Board staff assessed SWAMP data for Lake Chabot (Solano Co) to determine beneficial use support and results are as follows: 0 of 1 samples exceed the criterion for Heptachlor epoxide. Two composites (5 fish per composite) were generated from one species: Common Carp. Composites were not spatially independent (as defined in the Listing Policy) and so were averaged. Details of the compositing protocol can be found in the March 2009 report entitled: "Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Study" (SWAMP, 2009).
Data Reference:	Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Survey. A Report of the Surface Water Ambient Monitoring Program (SWAMP). California State Water Resources Control Board, Sacramento, CA Cruise Report for the Surface Waters Ambient Monitoring Program (SWAMP) Bioaccumulation Screening Study in California Lakes and Reservoirs. Sampling Dates: June 2007- March 2008 Statewide Lakes Sportfish Contamination Study 2007 2008 Contaminants in Fish from California Lakes and Reservoirs, 2007-2008: Summary Report on a Two-Year Screening Survey
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	Water Quality Control Plan for the San Francisco Bay Basin: Controllable water quality factors shall not cause a detrimental increase in concentrations of toxic substances found in bottom sediments or aquatic life. Effects on aquatic organisms, wildlife, and human health will be considered.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	National Academy of Science guidelines (NAS 1972) establish a maximum Heptachlor Epoxide concentration of 100 ug/Kg (wet weight) in tissue samples for protection of aquatic life from bioaccumulation of toxic substances.
Guideline Reference:	National Academy of Sciences. Water Quality Criteria 1972. EPA-R3-73-033. Washington, D.C.: U.S. Environmental Protection Agency
Spatial Representation:	Data for this assessment unit was collected by one monitoring project: (SWB_FishLk)
Temporal Representation:	Data was collected on a single day 7/30/2007.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	Samples were collected, processed, and analyzed in accordance with the methods described in Quality Assurance Project Plan "Screening Study of Bioaccumulation in California Lakes and Reservoirs." (SWAMP, 2008).
QAPP Information Reference(s):	Quality Assurance Project Plan Screening Study of Bioaccumulation in California Lakes and Reservoirs. Moss Landing Marine Labs. Prepared for SWAMP BOG. 49 pages plus appendices and attachments

Line of Evidence (LOE) for Decision ID 63772, Heptachlor epoxide
Lake Chabot (Solano Co)

Region 2

LOE ID:	92015
Pollutant:	Heptachlor epoxide
LOE Subgroup:	Pollutant-Tissue
Matrix:	Tissue
Fraction:	Fish fillet
Beneficial Use:	Commercial or recreational collection of fish, shellfish, or organisms
Number of Samples:	0
Number of Exceedances:	0
Data and Information Type:	Fish tissue analysis
Data Used to Assess Water Quality:	State Water Board staff assessed SWAMP data for Lake Chabot (Solano Co) to determine

beneficial use support and results are as follows: 0 of 0 samples exceed the criterion for Heptachlor epoxide. Two composites (5 fish per composite) were generated from one species: Common Carp. Details of the compositing protocol can be found in the March 2009 report entitled: "Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Study" (SWAMP, 2009). Two composites were not used in the assessment because the laboratory data reporting limit(s) was above the objective and therefore the results could not be quantified with the level of certainty required by the Listing Policy.

Data Reference:	Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Survey. A Report of the Surface Water Ambient Monitoring Program (SWAMP). California State Water Resources Control Board, Sacramento, CA Cruise Report for the Surface Waters Ambient Monitoring Program (SWAMP) Bioaccumulation Screening Study in California Lakes and Reservoirs, Sampling Dates: June 2007- March 2008 Statewide Lakes Sportfish Contamination Study 2007 2008 Contaminants in Fish from California Lakes and Reservoirs, 2007-2008: Summary Report on a Two-Year Screening Survey
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	Water Quality Control Plan for the San Francisco Bay Basin: Controllable water quality factors shall not cause a detrimental increase in concentrations of toxic substances found in bottom sediments or aquatic life. Effects on aquatic organisms, wildlife, and human health will be considered.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	The modified OEHHA Fish Contaminant Goal for heptachlor epoxide in fish tissue is 0.93 ppb. This screening level assumes an average body weight of 70 kg and a consumption rate of 32 g/day for a 30 year exposure over a 70-year lifetime. This constituent is a carcinogen therefore the risk level is set to one in a million. A cooking reduction factor of 1 is applied for skin-off fillets. (Klasing, S., and R. Brodberg, 2008; OEHHA, 1999)
Guideline Reference:	Development of Fish Contaminant Goals and Advisory Tissue Levels for Common Contaminants in California Sport Fish: Chlordane, DDTs, Dieldrin, Methylmercury, PCBs, Selenium, and Toxaphene Public Health Goal for Heptachlor and Heptachlor Epoxide in Drinking Water
Spatial Representation:	Data for this assessment unit was collected by one monitoring project: (SWB_FishLk)
Temporal Representation:	Data was collected on a single day 7/30/2007.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	Samples were collected, processed, and analyzed in accordance with the methods described in Quality Assurance Project Plan "Screening Study of Bioaccumulation in California Lakes and Reservoirs." (SWAMP, 2008).
QAPP Information Reference(s):	Quality Assurance Project Plan Screening Study of Bioaccumulation in California Lakes and Reservoirs. Moss Landing Marine Labs. Prepared for SWAMP BOG, 49 pages plus appendices and attachments

Line of Evidence (LOE) for Decision ID 63772, Heptachlor epoxide
Lake Chabot (Solano Co)

Region 2

LOE ID:	92014
Pollutant:	Heptachlor epoxide
LOE Subgroup:	Pollutant-Tissue
Matrix:	Tissue
Fraction:	Fish fillet
Beneficial Use:	Cold Freshwater Habitat
Number of Samples:	1
Number of Exceedances:	0
Data and Information Type:	Fish tissue analysis

Data Used to Assess Water Quality:	State Water Board staff assessed SWAMP data for Lake Chabot (Solano Co) to determine beneficial use support and results are as follows: 0 of 1 samples exceed the criterion for Heptachlor epoxide. Two composites (5 fish per composite) were generated from one species: Common Carp. Composites were not spatially independent (as defined in the Listing Policy) and so were averaged. Details of the compositing protocol can be found in the March 2009 report entitled: "Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Study" (SWAMP, 2009).
Data Reference:	Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Survey. A Report of the Surface Water Ambient Monitoring Program (SWAMP). California State Water Resources Control Board, Sacramento, CA Cruise Report for the Surface Waters Ambient Monitoring Program (SWAMP) Bioaccumulation Screening Study in California Lakes and Reservoirs, Sampling Dates: June 2007- March 2008 Statewide Lakes Sportfish Contamination Study 2007 2008 Contaminants in Fish from California Lakes and Reservoirs, 2007-2008: Summary Report on a Two-Year Screening Survey
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	Water Quality Control Plan for the San Francisco Bay Basin: Controllable water quality factors shall not cause a detrimental increase in concentrations of toxic substances found in bottom sediments or aquatic life. Effects on aquatic organisms, wildlife, and human health will be considered.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	National Academy of Science guidelines (NAS 1972) establish a maximum Heptachlor Epoxide concentration of 100 ug/Kg (wet weight) in tissue samples for protection of aquatic life from bioaccumulation of toxic substances.
Guideline Reference:	National Academy of Sciences. Water Quality Criteria 1972. EPA-R3-73-033. Washington, D.C.: U.S. Environmental Protection Agency
Spatial Representation:	Data for this assessment unit was collected by one monitoring project: (SWB_FishLk)
Temporal Representation:	Data was collected on a single day 7/30/2007.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	Samples were collected, processed, and analyzed in accordance with the methods described in Quality Assurance Project Plan "Screening Study of Bioaccumulation in California Lakes and Reservoirs." (SWAMP, 2008).
QAPP Information Reference(s):	Quality Assurance Project Plan Screening Study of Bioaccumulation in California Lakes and Reservoirs. Moss Landing Marine Labs. Prepared for SWAMP BOG, 49 pages plus appendices and attachments

DECISION ID	63773	Region 2
Lake Chabot (Solano Co)		
Pollutant:	Hexachlorobenzene/ HCB	
Final Listing Decision:	Do Not List on 303(d) list (TMDL required list)	
Last Listing Cycle's Final Listing Decision:	New Decision	
Revision Status	Revised	
Impairment from Pollutant or Pollution:	Pollutant	
Regional Board Staff Conclusion:	<p>This pollutant is being considered for placement on the CWA section 303(d) List under section 3.5 of the Listing Policy. Under section 3.5 a single line of evidence is necessary to assess listing status. One line of evidence is available in the administrative record to assess this pollutant. One of one samples exceed the guideline.</p> <p>Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against placing this water segment-pollutant combination on the CWA section 303(d) List.</p>	

This conclusion is based on the staff findings that:

1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy.
2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy.
3. One of one samples exceed the guideline and this sample size is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating. A minimum of 16 samples is needed to determine if a beneficial use is fully supported using table 3.1.
4. Pursuant to SECTION 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.

Regional Board Staff Decision Recommendation: After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be placed on the section 303(d) list. The readily available data and information is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating.

Line of Evidence (LOE) for Decision ID 63773, Hexachlorobenzene/ HCB

Region 2

Lake Chabot (Solano Co)

LOE ID:	92016
Pollutant:	Hexachlorobenzene/ HCB
LOE Subgroup:	Pollutant-Tissue
Matrix:	Tissue
Fraction:	Fish fillet
Beneficial Use:	Commercial or recreational collection of fish, shellfish, or organisms
Number of Samples:	1
Number of Exceedances:	1
Data and Information Type:	Fish tissue analysis
Data Used to Assess Water Quality:	State Water Board staff assessed SWAMP data for Lake Chabot (Solano Co) to determine beneficial use support and results are as follows: 1 of 1 samples exceed the criterion for Hexachlorobenzene. Two composites (5 fish per composite) were generated from one species: Common Carp. Composites were not spatially independent (as defined in the Listing Policy) and so were averaged. Details of the compositing protocol can be found in the March 2009 report entitled: "Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Study" (SWAMP, 2009).
Data Reference:	Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Survey. A Report of the Surface Water Ambient Monitoring Program (SWAMP). California State Water Resources Control Board, Sacramento, CA Cruise Report for the Surface Waters Ambient Monitoring Program (SWAMP) Bioaccumulation Screening Study in California Lakes and Reservoirs. Sampling Dates: June 2007- March 2008 Statewide Lakes Sportfish Contamination Study 2007 2008 Contaminants in Fish from California Lakes and Reservoirs, 2007-2008: Summary Report on a Two-Year Screening Survey
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	Water Quality Control Plan for the San Francisco Bay Basin: Controllable water quality factors shall not cause a detrimental increase in concentrations of toxic substances found in bottom sediments or aquatic life. Effects on aquatic organisms, wildlife, and human health will be considered.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	The modified OEHHA Fish Contaminant Goal for hexachlorobenzene in fish tissue is 2.8 ppb. This screening level assumes an average body weight of 70 kg and a consumption rate of 32 g/day for a 30 year exposure over a 70-year lifetime. This constituent is a carcinogen therefore the risk level is set to one in a million. A cooking reduction factor of

Guideline Reference:	1 is applied for skin-off fillets. (Klasing, S., and R. Brodberg, 2008; OEHHA, 2005) Development of Fish Contaminant Goals and Advisory Tissue Levels for Common Contaminants in California Sport Fish: Chlordane, DDTs, Dieldrin, Methylmercury, PCBs, Selenium, and Toxaphene Air Toxics Hotspots Program Risk Assessment Guidelines. Part II Technical Support Document for Describing Available Cancer Potency Values.
Spatial Representation:	Data for this assessment unit was collected by one monitoring project: (SWB_FishLk)
Temporal Representation:	Data was collected on a single day 7/30/2007.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	Samples were collected, processed, and analyzed in accordance with the methods described in Quality Assurance Project Plan "Screening Study of Bioaccumulation in California Lakes and Reservoirs." (SWAMP, 2008).
QAPP Information Reference(s):	Quality Assurance Project Plan Screening Study of Bioaccumulation in California Lakes and Reservoirs. Moss Landing Marine Labs. Prepared for SWAMP BOG, 49 pages plus appendices and attachments

DECISION ID	63774	Region 2
Lake Chabot (Solano Co)		

Pollutant:	Lindane/gamma Hexachlorocyclohexane (gamma-HCH)
Final Listing Decision:	Do Not List on 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision:	New Decision
Revision Status	Revised
Impairment from Pollutant or Pollution:	Pollutant

Regional Board Staff Conclusion: This pollutant is being considered for placement on the CWA section 303(d) List under section 3.5 of the Listing Policy. Under section 3.5 a single line of evidence is necessary to assess listing status. Three lines of evidence are available in the administrative record to assess this pollutant. Zero of one samples exceed the guideline.

Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against placing this water segment-pollutant combination on the CWA section 303(d) List.

This conclusion is based on the staff findings that:

1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy.
2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy.
3. Zero of one samples exceed the guideline and this sample size is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating. A minimum of 16 samples is needed to determine if a beneficial use is fully supported using table 3.1.
4. Pursuant to SECTION 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.

Regional Board Staff Decision Recommendation: After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be placed on the section 303(d) list. The readily available data and information is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating.

Line of Evidence (LOE) for Decision ID 63774, Lindane/gamma Hexachlorocyclohexane (gamma-HCH)	Region 2
Lake Chabot (Solano Co)	

LOE ID:	92017
Pollutant:	Lindane/gamma Hexachlorocyclohexane (gamma-HCH)
LOE Subgroup:	Pollutant-Tissue

Matrix:	Tissue
Fraction:	Fish fillet
Beneficial Use:	Cold Freshwater Habitat
Number of Samples:	1
Number of Exceedances:	0
Data and Information Type:	Fish tissue analysis
Data Used to Assess Water Quality:	State Water Board staff assessed SWAMP data for Lake Chabot (Solano Co) to determine beneficial use support and results are as follows: 0 of 1 samples exceed the criterion for HCH, gamma. Two composites (5 fish per composite) were generated from one species: Common Carp. Composites were not spatially independent (as defined in the Listing Policy) and so were averaged. Details of the compositing protocol can be found in the March 2009 report entitled: "Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Study" (SWAMP, 2009).
Data Reference:	Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Survey. A Report of the Surface Water Ambient Monitoring Program (SWAMP). California State Water Resources Control Board, Sacramento, CA Cruise Report for the Surface Waters Ambient Monitoring Program (SWAMP) Bioaccumulation Screening Study in California Lakes and Reservoirs, Sampling Dates: June 2007- March 2008 Statewide Lakes Sportfish Contamination Study 2007 2008 Contaminants in Fish from California Lakes and Reservoirs, 2007-2008: Summary Report on a Two-Year Screening Survey
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	Water Quality Control Plan for the San Francisco Bay Basin: Controllable water quality factors shall not cause a detrimental increase in concentrations of toxic substances found in bottom sediments or aquatic life. Effects on aquatic organisms, wildlife, and human health will be considered.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	The modified OEHHA Fish Contaminant Goal for lindane in fish tissue is 4.6 ppb. This screening level assumes an average body weight of 70 kg and a consumption rate of 32 g/day for a 30 year exposure over a 70-year lifetime. This constituent is a carcinogen therefore the risk level is set to one in a million. A cooking reduction factor of 1 is applied for skin-off fillets. (Klasing, S., and R. Brodberg, 2008; OEHHA, 2005)
Guideline Reference:	National Academy of Sciences. Water Quality Criteria 1972. EPA-R3-73-033. Washington, D.C.: U.S. Environmental Protection Agency
Spatial Representation:	Data for this assessment unit was collected by one monitoring project: (SWB_FishLk)
Temporal Representation:	Data was collected on a single day 7/30/2007.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	Samples were collected, processed, and analyzed in accordance with the methods described in Quality Assurance Project Plan "Screening Study of Bioaccumulation in California Lakes and Reservoirs." (SWAMP, 2008).
QAPP Information Reference(s):	Quality Assurance Project Plan Screening Study of Bioaccumulation in California Lakes and Reservoirs. Moss Landing Marine Labs. Prepared for SWAMP BOG. 49 pages plus appendices and attachments

Line of Evidence (LOE) for Decision ID 63774, Lindane/gamma Hexachlorocyclohexane (gamma-HCH)
Lake Chabot (Solano Co)

Region 2

LOE ID:	92018
Pollutant:	Lindane/gamma Hexachlorocyclohexane (gamma-HCH)
LOE Subgroup:	Pollutant-Tissue
Matrix:	Tissue
Fraction:	Fish fillet

Beneficial Use:	Warm Freshwater Habitat
Number of Samples:	1
Number of Exceedances:	0
Data and Information Type:	Fish tissue analysis
Data Used to Assess Water Quality:	State Water Board staff assessed SWAMP data for Lake Chabot (Solano Co) to determine beneficial use support and results are as follows: 0 of 1 samples exceed the criterion for HCH, gamma. Two composites (5 fish per composite) were generated from one species: Common Carp. Composites were not spatially independent (as defined in the Listing Policy) and so were averaged. Details of the compositing protocol can be found in the March 2009 report entitled: "Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Study" (SWAMP, 2009).
Data Reference:	Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Survey. A Report of the Surface Water Ambient Monitoring Program (SWAMP). California State Water Resources Control Board, Sacramento, CA Cruise Report for the Surface Waters Ambient Monitoring Program (SWAMP) Bioaccumulation Screening Study in California Lakes and Reservoirs. Sampling Dates: June 2007- March 2008 Statewide Lakes Sportfish Contamination Study 2007 2008 Contaminants in Fish from California Lakes and Reservoirs, 2007-2008: Summary Report on a Two-Year Screening Survey
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	Water Quality Control Plan for the San Francisco Bay Basin: Controllable water quality factors shall not cause a detrimental increase in concentrations of toxic substances found in bottom sediments or aquatic life. Effects on aquatic organisms, wildlife, and human health will be considered.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	The modified OEHHA Fish Contaminant Goal for lindane in fish tissue is 4.6 ppb. This screening level assumes an average body weight of 70 kg and a consumption rate of 32 g/day for a 30 year exposure over a 70-year lifetime. This constituent is a carcinogen therefore the risk level is set to one in a million. A cooking reduction factor of 1 is applied for skin-off fillets. (Klasing, S., and R. Brodberg, 2008; OEHHA, 2005)
Guideline Reference:	National Academy of Sciences. Water Quality Criteria 1972. EPA-R3-73-033. Washington, D.C.: U.S. Environmental Protection Agency
Spatial Representation:	Data for this assessment unit was collected by one monitoring project: (SWB_FishLk)
Temporal Representation:	Data was collected on a single day 7/30/2007.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	Samples were collected, processed, and analyzed in accordance with the methods described in Quality Assurance Project Plan "Screening Study of Bioaccumulation in California Lakes and Reservoirs." (SWAMP, 2008).
QAPP Information Reference(s):	Quality Assurance Project Plan Screening Study of Bioaccumulation in California Lakes and Reservoirs. Moss Landing Marine Labs. Prepared for SWAMP BOG. 49 pages plus appendices and attachments

Line of Evidence (LOE) for Decision ID 63774, Lindane/gamma Hexachlorocyclohexane (gamma-HCH)

Region 2

Lake Chabot (Solano Co)

LOE ID:	92019
Pollutant:	Lindane/gamma Hexachlorocyclohexane (gamma-HCH)
LOE Subgroup:	Pollutant-Tissue
Matrix:	Tissue
Fraction:	Fish fillet
Beneficial Use:	Commercial or recreational collection of fish, shellfish, or organisms

Number of Samples:	1
Number of Exceedances:	0
Data and Information Type:	Fish tissue analysis
Data Used to Assess Water Quality:	State Water Board staff assessed SWAMP data for Lake Chabot (Solano Co) to determine beneficial use support and results are as follows: 0 of 1 samples exceed the criterion for HCH, gamma. Two composites (5 fish per composite) were generated from one species: Common Carp. Composites were not spatially independent (as defined in the Listing Policy) and so were averaged. Details of the compositing protocol can be found in the March 2009 report entitled: "Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Study" (SWAMP, 2009).
Data Reference:	Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Survey. A Report of the Surface Water Ambient Monitoring Program (SWAMP). California State Water Resources Control Board, Sacramento, CA Cruise Report for the Surface Waters Ambient Monitoring Program (SWAMP) Bioaccumulation Screening Study in California Lakes and Reservoirs. Sampling Dates: June 2007- March 2008 Statewide Lakes Sportfish Contamination Study 2007 2008 Contaminants in Fish from California Lakes and Reservoirs, 2007-2008: Summary Report on a Two-Year Screening Survey
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	Water Quality Control Plan for the San Francisco Bay Basin: Controllable water quality factors shall not cause a detrimental increase in concentrations of toxic substances found in bottom sediments or aquatic life. Effects on aquatic organisms, wildlife, and human health will be considered.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	The modified OEHHA Fish Contaminant Goal for lindane in fish tissue is 4.6 ppb. This screening level assumes an average body weight of 70 kg and a consumption rate of 32 g/day for a 30 year exposure over a 70-year lifetime. This constituent is a carcinogen therefore the risk level is set to one in a million. A cooking reduction factor of 1 is applied for skin-off fillets.
Guideline Reference:	Development of Fish Contaminant Goals and Advisory Tissue Levels for Common Contaminants in California Sport Fish: Chlordane, DDTs, Dieldrin, Methylmercury, PCBs, Selenium, and Toxaphene Air Toxics Hotspots Program Risk Assessment Guidelines. Part II Technical Support Document for Describing Available Cancer Potency Values.
Spatial Representation:	Data for this assessment unit was collected by one monitoring project: (SWB_FishLk)
Temporal Representation:	Data was collected on a single day 7/30/2007.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	Samples were collected, processed, and analyzed in accordance with the methods described in Quality Assurance Project Plan "Screening Study of Bioaccumulation in California Lakes and Reservoirs." (SWAMP, 2008).
QAPP Information Reference(s):	Quality Assurance Project Plan Screening Study of Bioaccumulation in California Lakes and Reservoirs. Moss Landing Marine Labs. Prepared for SWAMP BOG. 49 pages plus appendices and attachments

DECISION ID	63775	Region 2
Lake Chabot (Solano Co)		

Pollutant:	Mirex
Final Listing Decision:	Do Not List on 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision:	New Decision
Revision Status	Revised
Impairment from Pollutant or Pollution:	Pollutant

**Regional Board Staff
Conclusion:**

This pollutant is being considered for placement on the CWA section 303(d) List under section 3.5 of the Listing Policy. Under section 3.5 a single line of evidence is necessary to assess listing status. One line of evidence is available in the administrative record to assess this pollutant. Zero of zero samples exceed the guideline.

Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against placing this water segment-pollutant combination on the CWA section 303(d) List.

This conclusion is based on the staff findings that:

1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy.
2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy.
3. Zero of zero samples exceed the guideline and this sample size is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating. A minimum of 16 samples is needed to determine if a beneficial use is fully supported using table 3.1.
4. Pursuant to SECTION 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.

**Regional Board Staff Decision
Recommendation:**

After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be placed on the section 303(d) list. The readily available data and information is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating.

**Line of Evidence (LOE) for Decision ID 63775, Mirex
Lake Chabot (Solano Co)**

Region 2

LOE ID:	92021
Pollutant:	Mirex
LOE Subgroup:	Pollutant-Tissue
Matrix:	Tissue
Fraction:	Fish fillet
Beneficial Use:	Commercial or recreational collection of fish, shellfish, or organisms
Number of Samples:	0
Number of Exceedances:	0
Data and Information Type:	Fish tissue analysis
Data Used to Assess Water Quality:	State Water Board staff assessed SWAMP data for Lake Chabot (Solano Co) to determine beneficial use support and results are as follows: 0 of 0 samples exceed the criterion for Mirex. Two composites (5 fish per composite) were generated from one species: Common Carp. Details of the compositing protocol can be found in the March 2009 report entitled: "Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Study" (SWAMP, 2009). Two composites were not used in the assessment because the laboratory data reporting limit(s) was above the objective and therefore the results could not be quantified with the level of certainty required by the Listing Policy.
Data Reference:	Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Survey. A Report of the Surface Water Ambient Monitoring Program (SWAMP). California State Water Resources Control Board, Sacramento, CA Cruise Report for the Surface Waters Ambient Monitoring Program (SWAMP) Bioaccumulation Screening Study in California Lakes and Reservoirs. Sampling Dates: June 2007- March 2008 Statewide Lakes Sportfish Contamination Study 2007 2008 Contaminants in Fish from California Lakes and Reservoirs, 2007-2008: Summary Report on a Two-Year Screening Survey
SWAMP Data:	SWAMP

Water Quality Objective/Criterion:	Water Quality Control Plan for the San Francisco Bay Basin: Controllable water quality factors shall not cause a detrimental increase in concentrations of toxic substances found in bottom sediments or aquatic life. Effects on aquatic organisms, wildlife, and human health will be considered.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	The modified OEHHA Fish Contaminant Goal for mirex in fish tissue is 0.28 ppb. This screening level assumes an average body weight of 70 kg and a consumption rate of 32 g/day. A cooking reduction factor of 1 is applied for skin-off fillets. (Klasing, S., and R. Brodberg, 2008; OEHHA, 1992)
Guideline Reference:	Development of Fish Contaminant Goals and Advisory Tissue Levels for Common Contaminants in California Sport Fish: Chlordane, DDTs, Dieldrin, Methylmercury, PCBs, Selenium, and Toxaphene Expedited Cancer Potency Values and Proposed Regulatory Levels for Certain Proposition 65 Carcinogens.
Spatial Representation:	Data for this assessment unit was collected by one monitoring project: (SWB_FishLk)
Temporal Representation:	Data was collected on a single day 7/30/2007.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	Samples were collected, processed, and analyzed in accordance with the methods described in Quality Assurance Project Plan "Screening Study of Bioaccumulation in California Lakes and Reservoirs." (SWAMP, 2008).
QAPP Information Reference(s):	Quality Assurance Project Plan Screening Study of Bioaccumulation in California Lakes and Reservoirs. Moss Landing Marine Labs. Prepared for SWAMP BOG. 49 pages plus appendices and attachments

DECISION ID	65490	Region 2
Lake Chabot (Solano Co)		
Pollutant:	PCBs (Polychlorinated biphenyls)	
Final Listing Decision:	Do Not List on 303(d) list (TMDL required list)	
Last Listing Cycle's Final Listing Decision:	New Decision	
Revision Status	Revised	
Impairment from Pollutant or Pollution:	Pollutant	
Regional Board Staff Conclusion:	<p>This pollutant is being considered for placement on the CWA section 303(d) List under section 3.5 of the Listing Policy. Under section 3.5 a single line of evidence is necessary to assess listing status. Three lines of evidence are available in the administrative record to assess this pollutant. One of one samples exceed the OEHHA guideline.</p> <p>Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against placing this water segment-pollutant combination on the CWA section 303(d) List.</p> <p>This conclusion is based on the staff findings that:</p> <ol style="list-style-type: none"> 1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy. 2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy. 3. One of one samples exceed the OEHHA guideline and this sample size is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating. A minimum of 16 samples is needed to determine if a beneficial use is fully supported using table 3.1. 4. Pursuant to SECTION 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met. 	
Regional Board Staff Decision Recommendation:	After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be placed on the section 303(d) list. The readily available data and information is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating.	

Lake Chabot (Solano Co)

LOE ID:	92022
Pollutant:	PCBs (Polychlorinated biphenyls)
LOE Subgroup:	Pollutant-Tissue
Matrix:	Tissue
Fraction:	Fish fillet
Beneficial Use:	Warm Freshwater Habitat
Number of Samples:	1
Number of Exceedances:	0
Data and Information Type:	Fish tissue analysis
Data Used to Assess Water Quality:	State Water Board staff assessed SWAMP data for Lake Chabot (Solano Co) to determine beneficial use support and results are as follows: 0 of 1 samples exceed the criterion for PCB, Total. Two composites (5 fish per composite) were generated from one species: Common Carp. Composites were not spatially independent (as defined in the Listing Policy) and so were averaged. Details of the compositing protocol can be found in the March 2009 report entitled: "Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Study" (SWAMP, 2009). Total PCB was assessed for as follows: PCB aroclors and congeners were summed separately and the sum that yielded the highest value was used for the assessment.
Data Reference:	Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Survey. A Report of the Surface Water Ambient Monitoring Program (SWAMP). California State Water Resources Control Board, Sacramento, CA Cruise Report for the Surface Waters Ambient Monitoring Program (SWAMP) Bioaccumulation Screening Study in California Lakes and Reservoirs. Sampling Dates: June 2007- March 2008 Statewide Lakes Sportfish Contamination Study 2007 2008 Contaminants in Fish from California Lakes and Reservoirs, 2007-2008: Summary Report on a Two-Year Screening Survey
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	Water Quality Control Plan for the San Francisco Bay Basin (2013): Controllable water quality factors shall not cause a detrimental increase in concentrations of toxic substances found in bottom sediments or aquatic life. Effects on aquatic organisms, wildlife, and human health will be considered.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	National Academy of Science guidelines (NAS 1972) establish a maximum total PCB concentration of 500 ug/Kg (wet weight) in tissue samples for protection of aquatic life from bioaccumulation of toxic substances.
Guideline Reference:	National Academy of Sciences. Water Quality Criteria 1972. EPA-R3-73-033. Washington, D.C.: U.S. Environmental Protection Agency
Spatial Representation:	Data for this assessment unit was collected by one monitoring project: (SWB_FishLk)
Temporal Representation:	Data was collected on a single day 7/30/2007.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	Samples were collected, processed, and analyzed in accordance with the methods described in Quality Assurance Project Plan "Screening Study of Bioaccumulation in California Lakes and Reservoirs." (SWAMP, 2008).
QAPP Information Reference(s):	Quality Assurance Project Plan Screening Study of Bioaccumulation in California Lakes and Reservoirs. Moss Landing Marine Labs. Prepared for SWAMP BOG. 49 pages plus appendices and attachments

Lake Chabot (Solano Co)

LOE ID:	92023
Pollutant:	PCBs (Polychlorinated biphenyls)
LOE Subgroup:	Pollutant-Tissue
Matrix:	Tissue
Fraction:	Fish fillet
Beneficial Use:	Cold Freshwater Habitat
Number of Samples:	1
Number of Exceedances:	0
Data and Information Type:	Fish tissue analysis
Data Used to Assess Water Quality:	State Water Board staff assessed SWAMP data for Lake Chabot (Solano Co) to determine beneficial use support and results are as follows: 0 of 1 samples exceed the criterion for PCB, Total. Two composites (5 fish per composite) were generated from one species: Common Carp. Composites were not spatially independent (as defined in the Listing Policy) and so were averaged. Details of the compositing protocol can be found in the March 2009 report entitled: "Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Study" (SWAMP, 2009). Total PCB was assessed for as follows: PCB aroclors and congeners were summed separately and the sum that yielded the highest value was used for the assessment.
Data Reference:	Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Survey. A Report of the Surface Water Ambient Monitoring Program (SWAMP). California State Water Resources Control Board, Sacramento, CA Cruise Report for the Surface Waters Ambient Monitoring Program (SWAMP) Bioaccumulation Screening Study in California Lakes and Reservoirs. Sampling Dates: June 2007- March 2008 Statewide Lakes Sportfish Contamination Study 2007 2008 Contaminants in Fish from California Lakes and Reservoirs, 2007-2008: Summary Report on a Two-Year Screening Survey
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	Water Quality Control Plan for the San Francisco Bay Basin (2013): Controllable water quality factors shall not cause a detrimental increase in concentrations of toxic substances found in bottom sediments or aquatic life. Effects on aquatic organisms, wildlife, and human health will be considered.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	National Academy of Science guidelines (NAS 1972) establish a maximum total PCB concentration of 500 ug/Kg (wet weight) in tissue samples for protection of aquatic life from bioaccumulation of toxic substances.
Guideline Reference:	National Academy of Sciences. Water Quality Criteria 1972. EPA-R3-73-033. Washington, D.C.: U.S. Environmental Protection Agency
Spatial Representation:	Data for this assessment unit was collected by one monitoring project: (SWB_FishLk)
Temporal Representation:	Data was collected on a single day 7/30/2007.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	Samples were collected, processed, and analyzed in accordance with the methods described in Quality Assurance Project Plan "Screening Study of Bioaccumulation in California Lakes and Reservoirs." (SWAMP, 2008).
QAPP Information Reference(s):	Quality Assurance Project Plan Screening Study of Bioaccumulation in California Lakes and Reservoirs. Moss Landing Marine Labs. Prepared for SWAMP BOG. 49 pages plus appendices and attachments

Line of Evidence (LOE) for Decision ID 65490, PCBs (Polychlorinated biphenyls)
Lake Chabot (Solano Co)**Region 2**

LOE ID: 92024

Pollutant:	PCBs (Polychlorinated biphenyls)
LOE Subgroup:	Pollutant-Tissue
Matrix:	Tissue
Fraction:	Fish fillet
Beneficial Use:	Commercial or recreational collection of fish, shellfish, or organisms
Number of Samples:	1
Number of Exceedances:	1
Data and Information Type:	Fish tissue analysis
Data Used to Assess Water Quality:	State Water Board staff assessed SWAMP data for Lake Chabot (Solano Co) to determine beneficial use support and results are as follows: 1 of 1 samples exceed the criterion for PCB, Total. Two composites (5 fish per composite) were generated from one species: Common Carp. Composites were not spatially independent (as defined in the Listing Policy) and so were averaged. Details of the compositing protocol can be found in the March 2009 report entitled: "Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Study" (SWAMP, 2009). Total PCB was assessed for as follows: PCB aroclors and congeners were summed separately and the sum that yielded the highest value was used for the assessment.
Data Reference:	Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Survey. A Report of the Surface Water Ambient Monitoring Program (SWAMP). California State Water Resources Control Board, Sacramento, CA Cruise Report for the Surface Waters Ambient Monitoring Program (SWAMP) Bioaccumulation Screening Study in California Lakes and Reservoirs, Sampling Dates: June 2007- March 2008 Statewide Lakes Sportfish Contamination Study 2007 2008 Contaminants in Fish from California Lakes and Reservoirs, 2007-2008: Summary Report on a Two-Year Screening Survey
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	Water Quality Control Plan for the San Francisco Bay Basin (2013): Controllable water quality factors shall not cause a detrimental increase in concentrations of toxic substances found in bottom sediments or aquatic life. Effects on aquatic organisms, wildlife, and human health will be considered.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	The modified OEHHA Fish Contaminant Goal for polychlorinated biphenyls in fish tissue is 2.6 ppb. This screening level assumes an average body weight of 70 kg and a consumption rate of 32 g/day for a 30 year exposure over a 70-year lifetime. This constituent is a carcinogen therefore the risk level is set to one in a million. A cooking reduction factor of 1 is applied for skin-off fillets. (Klasing, S., and R. Brodberg, 2008)
Guideline Reference:	Development of Fish Contaminant Goals and Advisory Tissue Levels for Common Contaminants in California Sport Fish: Chlordane, DDTs, Dieldrin, Methylmercury, PCBs, Selenium, and Toxaphene
Spatial Representation:	Data for this assessment unit was collected by one monitoring project: (SWB_FishLk)
Temporal Representation:	Data was collected on a single day 7/30/2007.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	Samples were collected, processed, and analyzed in accordance with the methods described in Quality Assurance Project Plan "Screening Study of Bioaccumulation in California Lakes and Reservoirs." (SWAMP, 2008).
QAPP Information Reference(s):	Quality Assurance Project Plan Screening Study of Bioaccumulation in California Lakes and Reservoirs. Moss Landing Marine Labs. Prepared for SWAMP BOG, 49 pages plus appendices and attachments

Pollutant:	Selenium
Final Listing Decision:	Do Not List on 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision:	New Decision
Revision Status	Revised
Impairment from Pollutant or Pollution:	Pollutant

Regional Board Staff Conclusion: This pollutant is being considered for placement on the CWA section 303(d) List under section 3.5 of the Listing Policy. Under section 3.5 a single line of evidence is necessary to assess listing status. One line of evidence is available in the administrative record to assess this pollutant. Zero of one samples exceed the guideline.

Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against placing this water segment-pollutant combination on the CWA section 303(d) List.

This conclusion is based on the staff findings that:

1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy.
2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy.
3. Zero of one samples exceed the guideline and this sample size is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating. A minimum of 16 samples is needed to determine if a beneficial use is fully supported using table 3.1.
4. Pursuant to SECTION 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.

Regional Board Staff Decision Recommendation: After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be placed on the section 303(d) list. The readily available data and information is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating.

Line of Evidence (LOE) for Decision ID 63776, Selenium Lake Chabot (Solano Co)

Region 2

LOE ID: 92028

Pollutant:	Selenium
LOE Subgroup:	Pollutant-Tissue
Matrix:	Tissue
Fraction:	Fish fillet

Beneficial Use: Commercial or recreational collection of fish, shellfish, or organisms

Number of Samples:	1
Number of Exceedances:	0

Data and Information Type:	Fish tissue analysis
Data Used to Assess Water Quality:	State Water Board staff assessed SWAMP data for Lake Chabot (Solano Co) to determine beneficial use support and results are as follows: 0 of 1 samples exceed the criterion for Selenium. Two composites (5 fish per composite) were generated from one species: Common Carp. Composites were not spatially independent (as defined in the Listing Policy) and so were averaged. Details of the compositing protocol can be found in the March 2009 report entitled: "Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Study" (SWAMP, 2009).

Data Reference: [Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Survey. A Report of the Surface Water Ambient Monitoring Program \(SWAMP\). California State Water Resources Control Board, Sacramento, CA](#)
[Cruise Report for the Surface Waters Ambient Monitoring Program \(SWAMP\)](#)
[Bioaccumulation Screening Study in California Lakes and Reservoirs, Sampling Dates: June 2007- March 2008](#)
[Statewide Lakes Sportfish Contamination Study 2007 2008](#)

SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	Water Quality Control Plan for the San Francisco Bay Basin (2013): Controllable water quality factors shall not cause a detrimental increase in concentrations of toxic substances found in bottom sediments or aquatic life. Effects on aquatic organisms, wildlife, and human health will be considered.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	The OEHHA Fish Contaminant Goal for selenium in fish tissue is 7.4 ppm. This screening level assumes an average body weight of 70 kg and a consumption rate of 32 g/day. A background dietary consumption rate of 0.114 mg/day is applied for this micronutrient. (Klasing, S., and R. Brodberg, 2008)
Guideline Reference:	Development of Fish Contaminant Goals and Advisory Tissue Levels for Common Contaminants in California Sport Fish: Chlordane, DDTs, Dieldrin, Methylmercury, PCBs, Selenium, and Toxaphene
Spatial Representation:	Data for this assessment unit was collected by one monitoring project: (SWB_FishLk)
Temporal Representation:	Data was collected on a single day 7/30/2007.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	Samples were collected, processed, and analyzed in accordance with the methods described in Quality Assurance Project Plan "Screening Study of Bioaccumulation in California Lakes and Reservoirs." (SWAMP, 2008).
QAPP Information Reference(s):	Quality Assurance Project Plan Screening Study of Bioaccumulation in California Lakes and Reservoirs. Moss Landing Marine Labs. Prepared for SWAMP BOG, 49 pages plus appendices and attachments

DECISION ID	65489	Region 2
Lake Chabot (Solano Co)		

Pollutant:	Mercury
Final Listing Decision:	List on 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision:	New Decision
Revision Status	Revised
Sources:	Source Unknown
Expected TMDL Completion Date:	2029
Impairment from Pollutant or Pollution:	Pollutant

Regional Board Staff Conclusion:	<p>This pollutant is being considered for placement on the CWA section 303(d) List under section 3.4 of the Listing Policy. Under section 3.4 a single line of evidence is necessary to assess listing status in addition to the presence of a fish consumption advisory for the waterbody.</p> <p>One line of evidence is available in the administrative record to assess this pollutant. One of one samples exceed the OEHHA guideline.</p> <p>Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification in favor of placing this water segment-pollutant combination on the CWA section 303(d) List.</p> <p>Though the samples were collected from a single location on a single day, fish are not static and move throughout a lake and accumulate mercury in tissue over time. Therefore, the idea of spatial and temporal independence (Section 6.1.5 of the Listing Policy) does not apply.</p> <p>This conclusion is based on the staff findings that:</p> <ol style="list-style-type: none"> 1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy. 2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy, except that
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composite samples collected at a single location for a single day were evaluated as a single sample and not averaged.

3. One of one samples exceed the OEHHA guideline and this is less than the required frequency required by Table 3.1 of the Listing Policy.

4. Pursuant to section 3.11 of the Listing Policy, additional data and information are available indicating that standards are not met. The sample exceeding the guideline is constituted by several fish that have independently accumulated enough mercury such that the average of all these fish exceeds the evaluation guideline. Therefore, it is highly likely that if more fish had been caught on another day to form additional composites, these would also exceed the evaluation guideline and, hence, the number of exceedances would exceed the allowable frequency described in section 3.4 of the listing policy.

Regional Board Staff Decision Recommendation: After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should be placed on the section 303(d) list because applicable water quality standards are exceeded and a pollutant contributes to or causes the problem.

**Line of Evidence (LOE) for Decision ID 65489, Mercury
Lake Chabot (Solano Co)**

Region 2

LOE ID:	92020
Pollutant:	Mercury
LOE Subgroup:	Pollutant-Tissue
Matrix:	Tissue
Fraction:	Fish fillet
Beneficial Use:	Commercial or recreational collection of fish, shellfish, or organisms
Number of Samples:	1
Number of Exceedances:	1
Data and Information Type:	Fish tissue analysis
Data Used to Assess Water Quality:	State Water Board staff assessed SWAMP data for Lake Chabot (Solano Co) to determine beneficial use support and results are as follows: 1 of 1 samples exceed the criterion for Mercury. Composites were generated from largemouth bass (11 composites - 1 fish per composite) and common carp (2 composites - 5 fish per composite). Composites were not spatially independent (as defined in the Listing Policy) and so were averaged by species. The 1 sample for largemouth bass exceeded the criterion. Two common carp composites could not be used in the assessment due to total fish lengths that did not fall within lengths noted in the guideline.
Data Reference:	Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Survey. A Report of the Surface Water Ambient Monitoring Program (SWAMP). California State Water Resources Control Board, Sacramento, CA Cruise Report for the Surface Waters Ambient Monitoring Program (SWAMP) Bioaccumulation Screening Study in California Lakes and Reservoirs, Sampling Dates: June 2007- March 2008 Statewide Lakes Sportfish Contamination Study 2007 2008 Contaminants in Fish from California Lakes and Reservoirs, 2007-2008: Summary Report on a Two-Year Screening Survey
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	Water Quality Control Plan for the San Francisco Bay Basin (2013): Controllable water quality factors shall not cause a detrimental increase in concentrations of toxic substances found in bottom sediments or aquatic life. Effects on aquatic organisms, wildlife, and human health will be considered.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	The USEPA 304(a) recommended water quality criterion for concentrations of methylmercury in fish tissue of trophic level 4 fish (150 - 500 mm; fillet wet weight) is 0.2 mg/kg. This assumes a consumption rate of 32 g/day. (USEPA, 2001)

Guideline Reference:	<u>Water Quality Criterion for the Protection of Human Health: Methylmercury. Final. United States Environmental Protection Agency Office of Science and Technology Office of Water. EPA-823-R-01-001. January 2001</u>
Spatial Representation:	Data for this assessment unit was collected by one monitoring project: (SWB_FishLk)
Temporal Representation:	Data was collected on a single day 7/30/2007.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	Samples were collected, processed, and analyzed in accordance with the methods described in Quality Assurance Project Plan "Screening Study of Bioaccumulation in California Lakes and Reservoirs." (SWAMP, 2008).
QAPP Information Reference(s):	<u>Quality Assurance Project Plan Screening Study of Bioaccumulation in California Lakes and Reservoirs. Moss Landing Marine Labs. Prepared for SWAMP BOG. 49 pages plus appendices and attachments</u>

Draft California 2016 Integrated Report (303(d) List/305(b) Report)

Supporting Information

Regional Board 2 - San Francisco Bay Region

Water Body Name: San Pablo Reservoir
Water Body ID: CAL2066001220020129134014
Water Body Type: Lake & Reservoir

DECISION ID 44665 **Region 2**
San Pablo Reservoir

Pollutant: Chlordane
Final Listing Decision: Do Not Delist from 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision: List on 303(d) list (TMDL required list)(2012)
Revision Status Revised
Sources: Source Unknown
Expected TMDL Completion Date: 2019
Impairment from Pollutant or Pollution: Pollutant

Regional Board Staff Conclusion: This pollutant is being considered for removal from the CWA section 303(d) List under section 4.1 of the Listing Policy. Under this section a single line of evidence is necessary to assess listing status.

Four lines of evidence are available in the administrative record to assess pollutant. Six of nine samples exceed the guideline.

Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against removing this water segment-pollutant combination from the CWA section 303(d) List.

This conclusion is based on the staff findings that:

1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy.
2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy.
3. Six of nine samples exceed the guideline and this exceeds the allowable frequency listed in Table 4.1 of the Listing Policy.
4. Pursuant to section 4.11 of the Listing Policy, no additional data and information are available indicating that standards are met.

Regional Board Staff Decision Recommendation: After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be removed from the section 303(d) list because applicable water quality standards for the pollutant are being exceeded.

Line of Evidence (LOE) for Decision ID 44665, Chlordane **Region 2**
San Pablo Reservoir

LOE ID: 93194
Pollutant: Chlordane
LOE Subgroup: Pollutant-Tissue
Matrix: Tissue
Fraction: Fish fillet
Beneficial Use: Cold Freshwater Habitat

Number of Samples:	1
Number of Exceedances:	0
Data and Information Type:	Fish tissue analysis
Data Used to Assess Water Quality:	State Water Board staff assessed SWAMP data for San Pablo Reservoir to determine beneficial use support and results are as follows: 0 of 1 samples exceed the criterion for Chlordane, Total. One composite (5 fish per composite) was generated from one species: Common Carp. Details of the compositing protocol can be found in the March 2009 report entitled: "Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Study" (SWAMP, 2009). Total chlordane was calculated as the sum of the following chlordane isomers: cis- and trans-chlordane, cis- and trans-nonachlor, and oxychlordane.
Data Reference:	Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Survey. A Report of the Surface Water Ambient Monitoring Program (SWAMP). California State Water Resources Control Board, Sacramento, CA Cruise Report for the Surface Waters Ambient Monitoring Program (SWAMP) Bioaccumulation Screening Study in California Lakes and Reservoirs. Sampling Dates: June 2007- March 2008 Statewide Lakes Sportfish Contamination Study 2007 2008 Contaminants in Fish from California Lakes and Reservoirs, 2007-2008: Summary Report on a Two-Year Screening Survey
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	Water Quality Control Plan for the San Francisco Bay Basin: Controllable water quality factors shall not cause a detrimental increase in concentrations of toxic substances found in bottom sediments or aquatic life. Effects on aquatic organisms, wildlife, and human health will be considered.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	National Academy of Science guidelines (NAS 1972) establish a maximum total Chlordane concentration of 100 ug/Kg (wet weight) in tissue samples for protection of aquatic life from bioaccumulation of toxic substances.
Guideline Reference:	National Academy of Sciences. Water Quality Criteria 1972. EPA-R3-73-033. Washington, D.C.: U.S. Environmental Protection Agency
Spatial Representation:	Data for this assessment unit was collected by one monitoring project: (SWB_FishLk)
Temporal Representation:	Data was collected on a single day 7/30/2007.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	Samples were collected, processed, and analyzed in accordance with the methods described in Quality Assurance Project Plan "Screening Study of Bioaccumulation in California Lakes and Reservoirs." (SWAMP, 2008).
QAPP Information Reference(s):	Quality Assurance Project Plan Screening Study of Bioaccumulation in California Lakes and Reservoirs. Moss Landing Marine Labs. Prepared for SWAMP BOG. 49 pages plus appendices and attachments

Line of Evidence (LOE) for Decision ID 44665, Chlordane

Region 2

San Pablo Reservoir

LOE ID:	93195
Pollutant:	Chlordane
LOE Subgroup:	Pollutant-Tissue
Matrix:	Tissue
Fraction:	Fish fillet
Beneficial Use:	Commercial or recreational collection of fish, shellfish, or organisms
Number of Samples:	1
Number of Exceedances:	0
Data and Information Type:	Fish tissue analysis

Data Used to Assess Water Quality:	State Water Board staff assessed SWAMP data for San Pablo Reservoir to determine beneficial use support and results are as follows: 0 of 1 samples exceed the criterion for Chlordane, Total. One composite (5 fish per composite) was generated from one species: Common Carp. Details of the compositing protocol can be found in the March 2009 report entitled: "Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Study" (SWAMP, 2009). Total chlordane was calculated as the sum of the following chlordane isomers: cis- and trans-chlordane, cis- and trans-nonachlor, and oxychlordane.
Data Reference:	Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Survey. A Report of the Surface Water Ambient Monitoring Program (SWAMP). California State Water Resources Control Board, Sacramento, CA Cruise Report for the Surface Waters Ambient Monitoring Program (SWAMP) Bioaccumulation Screening Study in California Lakes and Reservoirs, Sampling Dates: June 2007- March 2008 Statewide Lakes Sportfish Contamination Study 2007 2008 Contaminants in Fish from California Lakes and Reservoirs, 2007-2008: Summary Report on a Two-Year Screening Survey
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	Water Quality Control Plan for the San Francisco Bay Basin: Controllable water quality factors shall not cause a detrimental increase in concentrations of toxic substances found in bottom sediments or aquatic life. Effects on aquatic organisms, wildlife, and human health will be considered.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	The modified OEHHA Fish Contaminant Goal for total chlordane in fish tissue is 3.9 ppb. This screening level assumes an average body weight of 70 kg and a consumption rate of 32 g/day for a 30 year exposure over a 70-year lifetime. This constituent is a carcinogen therefore the risk level is set to one in a million. A cooking reduction factor of 1 is applied for skin-off fillets. (Klasing, S., and R. Brodberg, 2008)
Guideline Reference:	Development of Fish Contaminant Goals and Advisory Tissue Levels for Common Contaminants in California Sport Fish: Chlordane, DDTs, Dieldrin, Methylmercury, PCBs, Selenium, and Toxaphene
Spatial Representation:	Data for this assessment unit was collected by one monitoring project: (SWB_FishLk)
Temporal Representation:	Data was collected on a single day 7/30/2007.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	Samples were collected, processed, and analyzed in accordance with the methods described in Quality Assurance Project Plan "Screening Study of Bioaccumulation in California Lakes and Reservoirs." (SWAMP, 2008).
QAPP Information Reference(s):	Quality Assurance Project Plan Screening Study of Bioaccumulation in California Lakes and Reservoirs. Moss Landing Marine Labs. Prepared for SWAMP BOG. 49 pages plus appendices and attachments

Line of Evidence (LOE) for Decision ID 44665, Chlordane
San Pablo Reservoir

Region 2

LOE ID:	688
Pollutant:	Chlordane
LOE Subgroup:	Pollutant-Tissue
Matrix:	Tissue
Fraction:	Total
Beneficial Use:	Commercial or recreational collection of fish, shellfish, or organisms
Number of Samples:	9
Number of Exceedances:	6
Data and Information Type:	Fish tissue analysis
Data Used to Assess Water Quality:	Six out of 9 samples exceeded. A total of 9 composite samples were collected and

	analyzed from San Pablo Reservoir - 3 black crappie, 3 channel catfish and 3 carp. Three carp and three channel catfish samples exceeded guideline (TSMP, 2002).
Data Reference:	Placeholder reference 2006 303(d)
SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	Many pollutants can accumulate on particles, in sediment, or bioaccumulate in fish and other aquatic organisms. Controllable water quality factors shall not cause a detrimental increase in concentrations of toxic substances found in bottom sediments or aquatic life. Effects on aquatic organisms, wildlife, and human health will be considered.
Objective/Criterion Reference:	Placeholder reference 2006 303(d)
Evaluation Guideline:	Total Chlordane 30.0 ng/g - OEHHA Screening Value (Brodberg & Pollock, 1999).
Guideline Reference:	Placeholder reference 2006 303(d)
Spatial Representation:	One station located in upper half of the reservoir
Temporal Representation:	All samples were collected on 4/17/2000.
Environmental Conditions:	
QAPP Information:	Environmental Chemistry Quality Assurance and Data Report for the Toxic Substances Monitoring Program, 2001-2002. Department of Fish and Game.
QAPP Information Reference(s):	

Line of Evidence (LOE) for Decision ID 44665, Chlordane

Region 2

San Pablo Reservoir

LOE ID:	93193
Pollutant:	Chlordane
LOE Subgroup:	Pollutant-Tissue
Matrix:	Tissue
Fraction:	Fish fillet
Beneficial Use:	Warm Freshwater Habitat
Number of Samples:	1
Number of Exceedances:	0
Data and Information Type:	Fish tissue analysis
Data Used to Assess Water Quality:	State Water Board staff assessed SWAMP data for San Pablo Reservoir to determine beneficial use support and results are as follows: 0 of 1 samples exceed the criterion for Chlordane, Total. One composite (5 fish per composite) was generated from one species: Common Carp. Details of the compositing protocol can be found in the March 2009 report entitled: "Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Study" (SWAMP, 2009). Total chlordane was calculated as the sum of the following chlordane isomers: cis- and trans-chlordane, cis- and trans-nonachlor, and oxychlordane.
Data Reference:	Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Survey. A Report of the Surface Water Ambient Monitoring Program (SWAMP). California State Water Resources Control Board, Sacramento, CA Cruise Report for the Surface Waters Ambient Monitoring Program (SWAMP) Bioaccumulation Screening Study in California Lakes and Reservoirs. Sampling Dates: June 2007- March 2008 Statewide Lakes Sportfish Contamination Study 2007 2008 Contaminants in Fish from California Lakes and Reservoirs, 2007-2008: Summary Report on a Two-Year Screening Survey
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	Water Quality Control Plan for the San Francisco Bay Basin: Controllable water quality factors shall not cause a detrimental increase in concentrations of toxic substances found in bottom sediments or aquatic life. Effects on aquatic organisms, wildlife, and human health will be considered.

Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	National Academy of Science guidelines (NAS 1972) establish a maximum total Chlordane concentration of 100 ug/Kg (wet weight) in tissue samples for protection of aquatic life from bioaccumulation of toxic substances.
Guideline Reference:	National Academy of Sciences. Water Quality Criteria 1972. EPA-R3-73-033. Washington, D.C.: U.S. Environmental Protection Agency
Spatial Representation:	Data for this assessment unit was collected by one monitoring project: (SWB_FishLk)
Temporal Representation:	Data was collected on a single day 7/30/2007.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	Samples were collected, processed, and analyzed in accordance with the methods described in Quality Assurance Project Plan "Screening Study of Bioaccumulation in California Lakes and Reservoirs." (SWAMP, 2008).
QAPP Information Reference(s):	Quality Assurance Project Plan Screening Study of Bioaccumulation in California Lakes and Reservoirs. Moss Landing Marine Labs. Prepared for SWAMP BOG. 49 pages plus appendices and attachments

DECISION ID	33130	Region 2
San Pablo Reservoir		

Pollutant:	Dieldrin
Final Listing Decision:	Do Not Delist from 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision:	List on 303(d) list (TMDL required list)(2012)
Revision Status	Revised
Sources:	Source Unknown
Expected TMDL Completion Date:	2019
Impairment from Pollutant or Pollution:	Pollutant
Regional Board Staff Conclusion:	<p>This pollutant is being considered for removal from the CWA section 303(d) List under section 4.1 of the Listing Policy. Under this section a single line of evidence is necessary to assess listing status.</p> <p>Four lines of evidence are available in the administrative record to assess pollutant. Nine of nine samples exceed the guideline.</p> <p>Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against removing this water segment-pollutant combination from the CWA section 303(d) List.</p> <p>This conclusion is based on the staff findings that:</p> <ol style="list-style-type: none"> 1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy. 2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy. 3. Nine of nine samples exceed the guideline and this exceeds the allowable frequency listed in Table 4.1 of the Listing Policy. 4. Pursuant to section 4.11 of the Listing Policy, no additional data and information are available indicating that standards are met.
Regional Board Staff Decision Recommendation:	After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be removed from the section 303(d) list because applicable water quality standards for the pollutant are being exceeded.

Line of Evidence (LOE) for Decision ID 33130, Dieldrin	Region 2
San Pablo Reservoir	

LOE ID: 93197

Pollutant:	Dieldrin
LOE Subgroup:	Pollutant-Tissue
Matrix:	Tissue
Fraction:	Fish fillet
Beneficial Use:	Cold Freshwater Habitat
Number of Samples:	1
Number of Exceedances:	0
Data and Information Type:	Fish tissue analysis
Data Used to Assess Water Quality:	State Water Board staff assessed SWAMP data for San Pablo Reservoir to determine beneficial use support and results are as follows: 0 of 1 samples exceed the criterion for Dieldrin. One composite (5 fish per composite) was generated from one species: Common Carp. Details of the compositing protocol can be found in the March 2009 report entitled: "Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Study" (SWAMP, 2009).
Data Reference:	Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Survey. A Report of the Surface Water Ambient Monitoring Program (SWAMP). California State Water Resources Control Board, Sacramento, CA Cruise Report for the Surface Waters Ambient Monitoring Program (SWAMP) Bioaccumulation Screening Study in California Lakes and Reservoirs, Sampling Dates: June 2007- March 2008 Statewide Lakes Sportfish Contamination Study 2007 2008 Contaminants in Fish from California Lakes and Reservoirs, 2007-2008: Summary Report on a Two-Year Screening Survey
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	Water Quality Control Plan for the San Francisco Bay Basin: Controllable water quality factors shall not cause a detrimental increase in concentrations of toxic substances found in bottom sediments or aquatic life. Effects on aquatic organisms, wildlife, and human health will be considered.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	National Academy of Science guidelines (NAS 1972) establish a maximum Dieldrin concentration of 100 ug/Kg (wet weight) in tissue samples for protection of aquatic life from bioaccumulation of toxic substances.
Guideline Reference:	National Academy of Sciences. Water Quality Criteria 1972. EPA-R3-73-033. Washington, D.C.: U.S. Environmental Protection Agency
Spatial Representation:	Data for this assessment unit was collected by one monitoring project: (SWB_FishLk)
Temporal Representation:	Data was collected on a single day 7/30/2007.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	Samples were collected, processed, and analyzed in accordance with the methods described in Quality Assurance Project Plan "Screening Study of Bioaccumulation in California Lakes and Reservoirs." (SWAMP, 2008).
QAPP Information Reference(s):	Quality Assurance Project Plan Screening Study of Bioaccumulation in California Lakes and Reservoirs. Moss Landing Marine Labs. Prepared for SWAMP BOG. 49 pages plus appendices and attachments

Line of Evidence (LOE) for Decision ID 33130, Dieldrin

Region 2

San Pablo Reservoir

LOE ID:	93196
Pollutant:	Dieldrin
LOE Subgroup:	Pollutant-Tissue
Matrix:	Tissue
Fraction:	Fish fillet
Beneficial Use:	Warm Freshwater Habitat

Number of Samples:	1
Number of Exceedances:	0
Data and Information Type:	Fish tissue analysis
Data Used to Assess Water Quality:	State Water Board staff assessed SWAMP data for San Pablo Reservoir to determine beneficial use support and results are as follows: 0 of 1 samples exceed the criterion for Dieldrin. One composite (5 fish per composite) was generated from one species: Common Carp. Details of the compositing protocol can be found in the March 2009 report entitled: "Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Study" (SWAMP, 2009).
Data Reference:	Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Survey. A Report of the Surface Water Ambient Monitoring Program (SWAMP). California State Water Resources Control Board, Sacramento, CA Cruise Report for the Surface Waters Ambient Monitoring Program (SWAMP) Bioaccumulation Screening Study in California Lakes and Reservoirs. Sampling Dates: June 2007- March 2008 Statewide Lakes Sportfish Contamination Study 2007 2008 Contaminants in Fish from California Lakes and Reservoirs, 2007-2008: Summary Report on a Two-Year Screening Survey
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	Water Quality Control Plan for the San Francisco Bay Basin: Controllable water quality factors shall not cause a detrimental increase in concentrations of toxic substances found in bottom sediments or aquatic life. Effects on aquatic organisms, wildlife, and human health will be considered.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	National Academy of Science guidelines (NAS 1972) establish a maximum Dieldrin concentration of 100 ug/Kg (wet weight) in tissue samples for protection of aquatic life from bioaccumulation of toxic substances.
Guideline Reference:	National Academy of Sciences. Water Quality Criteria 1972. EPA-R3-73-033. Washington, D.C.: U.S. Environmental Protection Agency
Spatial Representation:	Data for this assessment unit was collected by one monitoring project: (SWB_FishLk)
Temporal Representation:	Data was collected on a single day 7/30/2007.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	Samples were collected, processed, and analyzed in accordance with the methods described in Quality Assurance Project Plan "Screening Study of Bioaccumulation in California Lakes and Reservoirs." (SWAMP, 2008).
QAPP Information Reference(s):	Quality Assurance Project Plan Screening Study of Bioaccumulation in California Lakes and Reservoirs. Moss Landing Marine Labs. Prepared for SWAMP BOG. 49 pages plus appendices and attachments

Line of Evidence (LOE) for Decision ID 33130, Dieldrin

Region 2

San Pablo Reservoir

LOE ID:	690
Pollutant:	Dieldrin
LOE Subgroup:	Pollutant-Tissue
Matrix:	Tissue
Fraction:	Total
Beneficial Use:	Commercial or recreational collection of fish, shellfish, or organisms
Number of Samples:	9
Number of Exceedances:	9
Data and Information Type:	Fish tissue analysis
Data Used to Assess Water Quality:	Nine out of 9 samples exceeded. A total of 9 composite samples were collected and

	analyzed from Lake Chabot: 3 channel catfish, 3 largemouth bass, and 3 carp. All samples exceeded guideline (TSMP, 2002). Placeholder reference 2006 303(d)
Data Reference:	
SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	San Francisco Bay RWQCB Basin Plan: Many pollutants can accumulate on particles, in sediment, or bioaccumulate in fish and other aquatic organisms. Controllable water quality factors shall not cause a detrimental increase in concentrations of toxic substances found in bottom sediments or aquatic life. Effects on aquatic organisms, wildlife, and human health will be considered.
Objective/Criterion Reference:	Placeholder reference 2006 303(d)
Evaluation Guideline:	Dieldrin 2.0 ng/g (OEHHA Screening Value) (Brodberg & Pollock, 1999).
Guideline Reference:	Placeholder reference 2006 303(d)
Spatial Representation:	One station located in upper half of the reservoir.
Temporal Representation:	All samples were collected on 4/17/2000.
Environmental Conditions:	
QAPP Information:	Environmental Chemistry Quality Assurance and Data Report for the Toxic Substances Monitoring Program, 2001-2002. Department of Fish and Game.
QAPP Information Reference(s):	

Line of Evidence (LOE) for Decision ID 33130, Dieldrin

Region 2

San Pablo Reservoir

LOE ID:	93198
Pollutant:	Dieldrin
LOE Subgroup:	Pollutant-Tissue
Matrix:	Tissue
Fraction:	Fish fillet
Beneficial Use:	Commercial or recreational collection of fish, shellfish, or organisms
Number of Samples:	1
Number of Exceedances:	1
Data and Information Type:	Fish tissue analysis
Data Used to Assess Water Quality:	State Water Board staff assessed SWAMP data for San Pablo Reservoir to determine beneficial use support and results are as follows: 1 of 1 samples exceed the criterion for Dieldrin. One composite (5 fish per composite) was generated from one species: Common Carp. Details of the compositing protocol can be found in the March 2009 report entitled: "Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Study" (SWAMP, 2009).
Data Reference:	Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Survey. A Report of the Surface Water Ambient Monitoring Program (SWAMP). California State Water Resources Control Board, Sacramento, CA Cruise Report for the Surface Waters Ambient Monitoring Program (SWAMP) Bioaccumulation Screening Study in California Lakes and Reservoirs. Sampling Dates: June 2007- March 2008 Statewide Lakes Sportfish Contamination Study 2007 2008 Contaminants in Fish from California Lakes and Reservoirs, 2007-2008: Summary Report on a Two-Year Screening Survey
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	Water Quality Control Plan for the San Francisco Bay Basin: Controllable water quality factors shall not cause a detrimental increase in concentrations of toxic substances found in bottom sediments or aquatic life. Effects on aquatic organisms, wildlife, and human health will be considered.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)

Evaluation Guideline:	The modified OEHHA Fish Contaminant Goal for dieldrin in fish tissue is 0.32 ppb. This screening level assumes an average body weight of 70 kg and a consumption rate of 32 g/day for a 30 year exposure over a 70-year lifetime. This constituent is a carcinogen therefore the risk level is set to one in a million. A cooking reduction factor of 1 is applied for skin-off fillets. (Klasing, S., and R. Brodberg, 2008)
Guideline Reference:	Development of Fish Contaminant Goals and Advisory Tissue Levels for Common Contaminants in California Sport Fish: Chlordane, DDTs, Dieldrin, Methylmercury, PCBs, Selenium, and Toxaphene
Spatial Representation:	Data for this assessment unit was collected by one monitoring project: (SWB_FishLk)
Temporal Representation:	Data was collected on a single day 7/30/2007.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	Samples were collected, processed, and analyzed in accordance with the methods described in Quality Assurance Project Plan "Screening Study of Bioaccumulation in California Lakes and Reservoirs." (SWAMP, 2008).
QAPP Information Reference(s):	Quality Assurance Project Plan Screening Study of Bioaccumulation in California Lakes and Reservoirs. Moss Landing Marine Labs. Prepared for SWAMP BOG. 49 pages plus appendices and attachments

DECISION ID	33709	Region 2
San Pablo Reservoir		

Pollutant:	Heptachlor epoxide
Final Listing Decision:	Do Not Delist from 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision:	List on 303(d) list (TMDL required list)(2012)
Revision Status	Revised
Sources:	Source Unknown
Expected TMDL Completion Date:	2019
Impairment from Pollutant or Pollution:	Pollutant
Regional Board Staff Conclusion:	<p>This pollutant is being considered for removal from the CWA section 303(d) List under section 4.1 of the Listing Policy. Under this section a single line of evidence is necessary to assess listing status.</p> <p>Four lines of evidence are available in the administrative record to assess pollutant. Four of nine samples exceed the guideline.</p> <p>Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against removing this water segment-pollutant combination from the CWA section 303(d) List.</p> <p>This conclusion is based on the staff findings that:</p> <ol style="list-style-type: none"> 1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy. 2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy. 3. Four of nine samples exceed the guideline and this exceeds the allowable frequency listed in Table 4.1 of the Listing Policy. 4. Pursuant to section 4.11 of the Listing Policy, no additional data and information are available indicating that standards are met.
Regional Board Staff Decision Recommendation:	After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be removed from the section 303(d) list because applicable water quality standards for the pollutant are being exceeded.

Line of Evidence (LOE) for Decision ID 33709, Heptachlor epoxide	Region 2
San Pablo Reservoir	

LOE ID:	689
Pollutant:	Heptachlor epoxide
LOE Subgroup:	Pollutant-Tissue
Matrix:	Tissue
Fraction:	Total
Beneficial Use:	Commercial or recreational collection of fish, shellfish, or organisms
Number of Samples:	9
Number of Exceedances:	4
Data and Information Type:	Fish tissue analysis
Data Used to Assess Water Quality:	Four out of 9 samples exceeded. A total of 9 composite samples were collected and analyzed from San Pablo Reservoir - 3 black crappie, 3 channel catfish and 3 carp. Two carp and two channel catfish samples exceeded guideline (TSMP, 2002).
Data Reference:	Placeholder reference 2006 303(d)
SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	Many pollutants can accumulate on particles, in sediment, or bioaccumulate in fish and other aquatic organisms. Controllable water quality factors shall not cause a detrimental increase in concentrations of toxic substances found in bottom sediments or aquatic life. Effects on aquatic organisms, wildlife, and human health will be considered.
Objective/Criterion Reference:	Placeholder reference 2006 303(d)
Evaluation Guideline:	Heptachlor Epoxide 4.0 ng/g (OEHHA Screening Value).
Guideline Reference:	Placeholder reference 2006 303(d)
Spatial Representation:	One station located in upper half of the reservoir.
Temporal Representation:	All samples were collected on 4/17/2000.
Environmental Conditions:	
QAPP Information:	Environmental Chemistry Quality Assurance and Data Report for the Toxic Substances Monitoring Program, 2001-2002. Department of Fish and Game.
QAPP Information Reference(s):	

Line of Evidence (LOE) for Decision ID 33709, Heptachlor epoxide

Region 2

San Pablo Reservoir

LOE ID:	93124
Pollutant:	Heptachlor epoxide
LOE Subgroup:	Pollutant-Tissue
Matrix:	Tissue
Fraction:	Fish fillet
Beneficial Use:	Warm Freshwater Habitat
Number of Samples:	1
Number of Exceedances:	0
Data and Information Type:	Fish tissue analysis
Data Used to Assess Water Quality:	State Water Board staff assessed SWAMP data for San Pablo Reservoir to determine beneficial use support and results are as follows: 0 of 1 samples exceed the criterion for Heptachlor epoxide. One composite (5 fish per composite) was generated from one species: Common Carp. Details of the compositing protocol can be found in the March 2009 report entitled: "Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Study" (SWAMP, 2009).
Data Reference:	Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Survey. A Report of the Surface Water Ambient Monitoring Program (SWAMP). California State Water Resources Control Board, Sacramento, CA Cruise Report for the Surface Waters Ambient Monitoring Program (SWAMP)

[Bioaccumulation Screening Study in California Lakes and Reservoirs, Sampling Dates: June 2007- March 2008](#)
[Statewide Lakes Sportfish Contamination Study 2007 2008](#)
[Contaminants in Fish from California Lakes and Reservoirs, 2007-2008: Summary Report on a Two-Year Screening Survey](#)

SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	Water Quality Control Plan for the San Francisco Bay Basin: Controllable water quality factors shall not cause a detrimental increase in concentrations of toxic substances found in bottom sediments or aquatic life. Effects on aquatic organisms, wildlife, and human health will be considered.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	National Academy of Science guidelines (NAS 1972) establish a maximum Heptachlor Epoxide concentration of 100 ug/Kg (wet weight) in tissue samples for protection of aquatic life from bioaccumulation of toxic substances.
Guideline Reference:	National Academy of Sciences. Water Quality Criteria 1972. EPA-R3-73-033. Washington, D.C.: U.S. Environmental Protection Agency
Spatial Representation:	Data for this assessment unit was collected by one monitoring project: (SWB_FishLk)
Temporal Representation:	Data was collected on a single day 7/30/2007.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	Samples were collected, processed, and analyzed in accordance with the methods described in Quality Assurance Project Plan "Screening Study of Bioaccumulation in California Lakes and Reservoirs." (SWAMP, 2008).
QAPP Information Reference(s):	Quality Assurance Project Plan Screening Study of Bioaccumulation in California Lakes and Reservoirs. Moss Landing Marine Labs. Prepared for SWAMP BOG, 49 pages plus appendices and attachments

**Line of Evidence (LOE) for Decision ID 33709, Heptachlor epoxide
San Pablo Reservoir**

Region 2

LOE ID:	93125
Pollutant:	Heptachlor epoxide
LOE Subgroup:	Pollutant-Tissue
Matrix:	Tissue
Fraction:	Fish fillet
Beneficial Use:	Cold Freshwater Habitat
Number of Samples:	1
Number of Exceedances:	0
Data and Information Type:	Fish tissue analysis
Data Used to Assess Water Quality:	State Water Board staff assessed SWAMP data for San Pablo Reservoir to determine beneficial use support and results are as follows: 0 of 1 samples exceed the criterion for Heptachlor epoxide. One composite (5 fish per composite) was generated from one species: Common Carp. Details of the compositing protocol can be found in the March 2009 report entitled: "Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Study" (SWAMP, 2009).
Data Reference:	Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Survey. A Report of the Surface Water Ambient Monitoring Program (SWAMP). California State Water Resources Control Board, Sacramento, CA Cruise Report for the Surface Waters Ambient Monitoring Program (SWAMP) Bioaccumulation Screening Study in California Lakes and Reservoirs, Sampling Dates: June 2007- March 2008 Statewide Lakes Sportfish Contamination Study 2007 2008 Contaminants in Fish from California Lakes and Reservoirs, 2007-2008: Summary Report on a Two-Year Screening Survey

SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	Water Quality Control Plan for the San Francisco Bay Basin: Controllable water quality factors shall not cause a detrimental increase in concentrations of toxic substances found in bottom sediments or aquatic life. Effects on aquatic organisms, wildlife, and human health will be considered.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	National Academy of Science guidelines (NAS 1972) establish a maximum Heptachlor Epoxide concentration of 100 ug/Kg (wet weight) in tissue samples for protection of aquatic life from bioaccumulation of toxic substances.
Guideline Reference:	National Academy of Sciences. Water Quality Criteria 1972. EPA-R3-73-033. Washington, D.C.: U.S. Environmental Protection Agency
Spatial Representation:	Data for this assessment unit was collected by one monitoring project: (SWB_FishLk)
Temporal Representation:	Data was collected on a single day 7/30/2007.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	Samples were collected, processed, and analyzed in accordance with the methods described in Quality Assurance Project Plan "Screening Study of Bioaccumulation in California Lakes and Reservoirs." (SWAMP, 2008).
QAPP Information Reference(s):	Quality Assurance Project Plan Screening Study of Bioaccumulation in California Lakes and Reservoirs. Moss Landing Marine Labs. Prepared for SWAMP BOG. 49 pages plus appendices and attachments

Line of Evidence (LOE) for Decision ID 33709, Heptachlor epoxide

Region 2

San Pablo Reservoir

LOE ID:	93147
Pollutant:	Heptachlor epoxide
LOE Subgroup:	Pollutant-Tissue
Matrix:	Tissue
Fraction:	Fish fillet
Beneficial Use:	Commercial or recreational collection of fish, shellfish, or organisms
Number of Samples:	0
Number of Exceedances:	0
Data and Information Type:	Fish tissue analysis
Data Used to Assess Water Quality:	State Water Board staff assessed SWAMP data for San Pablo Reservoir to determine beneficial use support and results are as follows: 0 of 0 samples exceed the criterion for Heptachlor epoxide. One composite (5 fish per composite) was generated from one species: Common Carp. Details of the compositing protocol can be found in the March 2009 report entitled: "Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Study" (SWAMP, 2009). One composite was not used in the assessment because the laboratory data reporting limit(s) was above the objective and therefore the results could not be quantified with the level of certainty required by the Listing Policy.
Data Reference:	Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Survey. A Report of the Surface Water Ambient Monitoring Program (SWAMP). California State Water Resources Control Board, Sacramento, CA Cruise Report for the Surface Waters Ambient Monitoring Program (SWAMP) Bioaccumulation Screening Study in California Lakes and Reservoirs. Sampling Dates: June 2007- March 2008 Statewide Lakes Sportfish Contamination Study 2007 2008 Contaminants in Fish from California Lakes and Reservoirs, 2007-2008: Summary Report on a Two-Year Screening Survey

SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	Water Quality Control Plan for the San Francisco Bay Basin: Controllable water quality

Objective/Criterion Reference:	factors shall not cause a detrimental increase in concentrations of toxic substances found in bottom sediments or aquatic life. Effects on aquatic organisms, wildlife, and human health will be considered. Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	The modified OEHHA Fish Contaminant Goal for heptachlor epoxide in fish tissue is 0.93 ppb. This screening level assumes an average body weight of 70 kg and a consumption rate of 32 g/day for a 30 year exposure over a 70-year lifetime. This constituent is a carcinogen therefore the risk level is set to one in a million. A cooking reduction factor of 1 is applied for skin-off fillets. (Klasing, S., and R. Brodberg, 2008; OEHHA, 1999)
Guideline Reference:	Development of Fish Contaminant Goals and Advisory Tissue Levels for Common Contaminants in California Sport Fish: Chlordane, DDTs, Dieldrin, Methylmercury, PCBs, Selenium, and Toxaphene Public Health Goal for Heptachlor and Heptachlor Epoxide in Drinking Water
Spatial Representation:	Data for this assessment unit was collected by one monitoring project: (SWB_FishLk)
Temporal Representation:	Data was collected on a single day 7/30/2007.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	Samples were collected, processed, and analyzed in accordance with the methods described in Quality Assurance Project Plan "Screening Study of Bioaccumulation in California Lakes and Reservoirs." (SWAMP, 2008).
QAPP Information Reference(s):	Quality Assurance Project Plan Screening Study of Bioaccumulation in California Lakes and Reservoirs. Moss Landing Marine Labs. Prepared for SWAMP BOG. 49 pages plus appendices and attachments

DECISION ID	32376	Region 2
San Pablo Reservoir		
Pollutant:	Mercury	
Final Listing Decision:	Do Not Delist from 303(d) list (TMDL required list)	
Last Listing Cycle's Final Listing Decision:	Do Not Delist from 303(d) list (TMDL required list)(2012)	
Revision Status	Revised	
Sources:	Source Unknown	
Expected TMDL Completion Date:	2013	
Impairment from Pollutant or Pollution:	Pollutant	
Regional Board Staff Conclusion:	<p>This pollutant is being considered for removal from the CWA section 303(d) List under section 4.1 of the Listing Policy. Under this section a single line of evidence is necessary to assess listing status.</p> <p>Three lines of evidence are available in the administrative record to assess pollutant. Five of twelve samples exceed the guideline.</p> <p>Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against removing this water segment-pollutant combination from the CWA section 303(d) List.</p> <p>This conclusion is based on the staff findings that:</p> <ol style="list-style-type: none"> 1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy. 2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy. 3. Five of twelve samples exceed the guideline and this exceeds the allowable frequency listed in Table 4.1 of the Listing Policy. 4. Pursuant to section 4.11 of the Listing Policy, no additional data and information are available indicating that standards are met. 	
Regional Board Staff Decision Recommendation:	After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be removed from the section 303(d) list because applicable water quality standards for the pollutant are being exceeded.	

Line of Evidence (LOE) for Decision ID 32376, Mercury**Region 2****San Pablo Reservoir**

LOE ID:	687
Pollutant:	Mercury
LOE Subgroup:	Pollutant-Tissue
Matrix:	Tissue
Fraction:	None
Beneficial Use:	Commercial or recreational collection of fish, shellfish, or organisms
Number of Samples:	12
Number of Exceedances:	5
Data and Information Type:	Fish tissue analysis
Data Used to Assess Water Quality:	Five of 12 composite fish-tissue samples exceed the USEPA criteria. All of the fish were trophic Level 4 samples (large mouth bass). There was also a fish advisory issued in February 2000 (TSMP, 2002).
Data Reference:	Placeholder reference 2006 303(d)
SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	Basin Plan: Controllable water quality factors shall not cause a detrimental increase in concentrations of toxic substances found in aquatic life (SFBRWQCB, 1995).
Objective/Criterion Reference:	Placeholder reference 2006 303(d)
Evaluation Guideline:	Interim fish advisory issued Feb. 2000, USEPA screening criterion (0.3 ppm) (USEPA, 2000).
Guideline Reference:	Placeholder reference 2006 303(d)
Spatial Representation:	
Temporal Representation:	Data was collected during 11/97.
Environmental Conditions:	
QAPP Information:	Used California Office of Environmental Health Hazard Assessment and Contra Costa County Health Services data. Data evaluation was based on USEPA guidelines for 305(b) reports, that uses a hierarchy of water quality data levels. Only data of higher overall level of information (Levels 3 and 4) were used to list a water body.
QAPP Information Reference(s):	

Line of Evidence (LOE) for Decision ID 32376, Mercury**Region 2****San Pablo Reservoir**

LOE ID:	93157
Pollutant:	Mercury
LOE Subgroup:	Pollutant-Tissue
Matrix:	Tissue
Fraction:	Fish fillet
Beneficial Use:	Commercial or recreational collection of fish, shellfish, or organisms
Number of Samples:	1
Number of Exceedances:	1
Data and Information Type:	Fish tissue analysis
Data Used to Assess Water Quality:	State Water Board staff assessed SWAMP data for San Pablo Reservoir to determine beneficial use support and results are as follows: 1 of 1 samples exceed the criterion for Mercury. Composites were generated from largemouth bass (11 composites - 1 fish per composite) and common carp (2 composites - 5 fish per composite). Composites were not

spatially independent (as defined in the Listing Policy) and so were averaged by species. The 1 sample for largemouth bass exceeded the criterion. Two common carp composites could not be used in the assessment due to total fish lengths that did not fall within lengths noted in the guideline.

Data Reference:	Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Survey. A Report of the Surface Water Ambient Monitoring Program (SWAMP). California State Water Resources Control Board, Sacramento, CA Cruise Report for the Surface Waters Ambient Monitoring Program (SWAMP) Bioaccumulation Screening Study in California Lakes and Reservoirs. Sampling Dates: June 2007- March 2008 Statewide Lakes Sportfish Contamination Study 2007 2008 Contaminants in Fish from California Lakes and Reservoirs, 2007-2008: Summary Report on a Two-Year Screening Survey
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	Water Quality Control Plan for the San Francisco Bay Basin (2013): Controllable water quality factors shall not cause a detrimental increase in concentrations of toxic substances found in bottom sediments or aquatic life. Effects on aquatic organisms, wildlife, and human health will be considered.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	The USEPA 304(a) recommended water quality criterion for concentrations of methylmercury in fish tissue of trophic level 4 fish (150 - 500 mm; fillet wet weight) is 0.2 mg/kg. This assumes a consumption rate of 32 g/day. (USEPA, 2001)
Guideline Reference:	Water Quality Criterion for the Protection of Human Health: Methylmercury. Final. United States Environmental Protection Agency Office of Science and Technology Office of Water. EPA-823-R-01-001. January 2001
Spatial Representation:	Data for this assessment unit was collected by one monitoring project: (SWB_FishLk)
Temporal Representation:	Data was collected on a single day 7/30/2007.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	Samples were collected, processed, and analyzed in accordance with the methods described in Quality Assurance Project Plan "Screening Study of Bioaccumulation in California Lakes and Reservoirs." (SWAMP, 2008).
QAPP Information Reference(s):	Quality Assurance Project Plan Screening Study of Bioaccumulation in California Lakes and Reservoirs. Moss Landing Marine Labs. Prepared for SWAMP BOG. 49 pages plus appendices and attachments

Line of Evidence (LOE) for Decision ID 32376, Mercury

Region 2

San Pablo Reservoir

LOE ID:	31010
Pollutant:	Mercury
LOE Subgroup:	Pollutant-Tissue
Matrix:	Tissue
Fraction:	Fish fillet
Beneficial Use:	Commercial or recreational collection of fish, shellfish, or organisms
Number of Samples:	13
Number of Exceedances:	3
Data and Information Type:	Fish tissue analysis
Data Used to Assess Water Quality:	Fish were collected for tissue analysis at one location from San Pablo Reservoir. A total of 13 sample composites were generated from two species: Largemouth Bass (11) and Common Carp (2). Details of the compositing protocol can be found in the March 2009 report entitled: "Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Study" (SWAMP, 2009). A total of 3 out of 13 samples exceeded the OHHEA fish tissue screening value for human health.
Data Reference:	Data associated with report entitled: Contaminants in Fish from California Lakes and

[Reservoirs: Technical Report on Year One of a Two-Year Screening Survey. A Report of the Surface Water Ambient Monitoring Program \(SWAMP\). California State Water Resources Control Board, Sacramento, CA](#)
[Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Survey. A Report of the Surface Water Ambient Monitoring Program \(SWAMP\). California State Water Resources Control Board, Sacramento, CA](#)
[Cruise Report for the Surface Waters Ambient Monitoring Program \(SWAMP\) Bioaccumulation Screening Study in California Lakes and Reservoirs. Sampling Dates: June 2007- March 2008](#)

SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	The Basin Plan contains the following objective: Many pollutants can accumulate on particles, in sediment, or bioaccumulate in fish and other aquatic organisms. Controllable water quality factors shall not cause a detrimental increase in concentrations of toxic substances found in bottom sediments or aquatic life. Effects on aquatic organisms, wildlife, and human health will be considered.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) - San Francisco Bay Region (Region 2)
Evaluation Guideline:	Office of Environmental Health Hazard Assessment (OEHHA) Screening Value of 0.3 mg/kg to protect human health when consuming fish (OEHHA, 1999).
Guideline Reference:	Prevalence of Selected Target Chemical Contaminants in Sport Fish From Two California Lakes: Public health designed screening study. Sacramento, CA: Office of Environmental Health Hazard Assessment
Spatial Representation:	Samples were collected from one location in San Pablo Reservoir. As discussed in the Lakes and Reservoirs Report (SWAMP, 2009), individual sample locations consisted of an area within a given waterbody with an approximate one-mile diameter, from which multiple fish tissue samples were collected. The number of sample locations per waterbody was based on the overall size of the waterbody. Specifics of individual sampling locations can be found in the supplemental report entitled "Cruise Report for the Surface Waters Ambient Monitoring Program (SWAMP) Bioaccumulation Screening Study in California Lakes and Reservoirs, Sampling Dates: June 2007- March 2008" (SWAMP, 2008).
Temporal Representation:	Samples were collected on July 30, 2007
Environmental Conditions:	There are no known environmental conditions (e.g., seasonality, land use practices, fire events, storms, etc.) that are related to these data.
QAPP Information:	Samples were collected, processed, and analyzed in accordance with the methods described in "Quality Assurance Project Plan Screening Study of Bioaccumulation in California Lakes and Reservoirs." (SWAMP, 2008).
QAPP Information Reference(s):	Quality Assurance Project Plan Screening Study of Bioaccumulation in California Lakes and Reservoirs. Moss Landing Marine Labs. Prepared for SWAMP BOG. 49 pages plus appendices and attachments

DECISION ID	33131	Region 2
San Pablo Reservoir		
Pollutant:	PCBs (Polychlorinated biphenyls)	
Final Listing Decision:	Do Not Delist from 303(d) list (TMDL required list)	
Last Listing Cycle's Final Listing Decision:	List on 303(d) list (TMDL required list)(2012)	
Revision Status	Revised	
Sources:	Source Unknown	
Expected TMDL Completion Date:	2019	
Impairment from Pollutant or Pollution:	Pollutant	
Regional Board Staff Conclusion:	<p>This pollutant is being considered for removal from the CWA section 303(d) List under section 4.1 of the Listing Policy. Under this section a single line of evidence is necessary to assess listing status.</p> <p>Four lines of evidence are available in the administrative record to assess pollutant. Six of nine</p>	

samples exceed the guideline.

Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against removing this water segment-pollutant combination from the CWA section 303(d) List.

This conclusion is based on the staff findings that:

1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy.
2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy.
3. Six of nine samples exceed the guideline and this exceeds the allowable frequency listed in Table 4.1 of the Listing Policy.
4. Pursuant to section 4.11 of the Listing Policy, no additional data and information are available indicating that standards are met.

Regional Board Staff Decision Recommendation: After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be removed from the section 303(d) list because applicable water quality standards for the pollutant are being exceeded.

Line of Evidence (LOE) for Decision ID 33131, PCBs (Polychlorinated biphenyls)

Region 2

San Pablo Reservoir

LOE ID:	691
Pollutant:	PCBs (Polychlorinated biphenyls)
LOE Subgroup:	Pollutant-Tissue
Matrix:	Tissue
Fraction:	Total
Beneficial Use:	Commercial or recreational collection of fish, shellfish, or organisms
Number of Samples:	9
Number of Exceedances:	6
Data and Information Type:	Fish tissue analysis
Data Used to Assess Water Quality:	Six out of 9 samples exceeded. A total of 9 composite samples were collected and analyzed from San Pablo Reservoir - 3 black crappie, 3 channel catfish and 3 carp. Three carp and three channel catfish samples exceeded guideline (TSMP, 2002).
Data Reference:	Placeholder reference 2006 303(d)
SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	San Francisco Bay RWQCB Basin Plan: Many pollutants can accumulate on particles, in sediment, or bioaccumulate in fish and other aquatic organisms. Controllable water quality factors shall not cause a detrimental increase in concentrations of toxic substances found in bottom sediments or aquatic life. Effects on aquatic organisms, wildlife, and human health will be considered.
Objective/Criterion Reference:	Placeholder reference 2006 303(d)
Evaluation Guideline:	PCB 20.0 ng/g (OEHHA Screening Value) (Brodberg & Pollock, 1999).
Guideline Reference:	Placeholder reference 2006 303(d)
Spatial Representation:	One station located in upper half of the reservoir.
Temporal Representation:	All samples were collected on 4/17/2000.
Environmental Conditions:	
QAPP Information:	Environmental Chemistry Quality Assurance and Data Report for the Toxic Substances Monitoring Program, 2001-2002. Department of Fish and Game.
QAPP Information Reference(s):	

Line of Evidence (LOE) for Decision ID 33131, PCBs (Polychlorinated biphenyls)

Region 2

San Pablo Reservoir

LOE ID:	93170
Pollutant:	PCBs (Polychlorinated biphenyls)
LOE Subgroup:	Pollutant-Tissue
Matrix:	Tissue
Fraction:	Fish fillet
Beneficial Use:	Commercial or recreational collection of fish, shellfish, or organisms
Number of Samples:	1
Number of Exceedances:	1
Data and Information Type:	Fish tissue analysis
Data Used to Assess Water Quality:	State Water Board staff assessed SWAMP data for San Pablo Reservoir to determine beneficial use support and results are as follows: 1 of 1 samples exceed the criterion for PCB, Total. One composite (5 fish per composite) was generated from one species: Common Carp. Details of the compositing protocol can be found in the March 2009 report entitled: "Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Study" (SWAMP, 2009). Total PCB was assessed for as follows: PCB aroclors and congeners were summed separately and the sum that yielded the highest value was used for the assessment.
Data Reference:	Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Survey. A Report of the Surface Water Ambient Monitoring Program (SWAMP). California State Water Resources Control Board, Sacramento, CA Cruise Report for the Surface Waters Ambient Monitoring Program (SWAMP) Bioaccumulation Screening Study in California Lakes and Reservoirs, Sampling Dates: June 2007- March 2008 Statewide Lakes Sportfish Contamination Study 2007 2008 Contaminants in Fish from California Lakes and Reservoirs, 2007-2008: Summary Report on a Two-Year Screening Survey
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	Water Quality Control Plan for the San Francisco Bay Basin (2013): Controllable water quality factors shall not cause a detrimental increase in concentrations of toxic substances found in bottom sediments or aquatic life. Effects on aquatic organisms, wildlife, and human health will be considered.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	The modified OEHHA Fish Contaminant Goal for polychlorinated biphenyls in fish tissue is 2.6 ppb. This screening level assumes an average body weight of 70 kg and a consumption rate of 32 g/day for a 30 year exposure over a 70-year lifetime. This constituent is a carcinogen therefore the risk level is set to one in a million. A cooking reduction factor of 1 is applied for skin-off fillets. (Klasing, S., and R. Brodberg, 2008)
Guideline Reference:	Development of Fish Contaminant Goals and Advisory Tissue Levels for Common Contaminants in California Sport Fish: Chlordane, DDTs, Dieldrin, Methylmercury, PCBs, Selenium, and Toxaphene
Spatial Representation:	Data for this assessment unit was collected by one monitoring project: (SWB_FishLk)
Temporal Representation:	Data was collected on a single day 7/30/2007.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	Samples were collected, processed, and analyzed in accordance with the methods described in Quality Assurance Project Plan "Screening Study of Bioaccumulation in California Lakes and Reservoirs." (SWAMP, 2008).
QAPP Information Reference(s):	Quality Assurance Project Plan Screening Study of Bioaccumulation in California Lakes and Reservoirs. Moss Landing Marine Labs. Prepared for SWAMP BOG, 49 pages plus appendices and attachments

Line of Evidence (LOE) for Decision ID 33131, PCBs (Polychlorinated biphenyls)
San Pablo Reservoir

Region 2

LOE ID:	93164
Pollutant:	PCBs (Polychlorinated biphenyls)
LOE Subgroup:	Pollutant-Tissue
Matrix:	Tissue
Fraction:	Fish fillet
Beneficial Use:	Cold Freshwater Habitat
Number of Samples:	1
Number of Exceedances:	0
Data and Information Type:	Fish tissue analysis
Data Used to Assess Water Quality:	State Water Board staff assessed SWAMP data for San Pablo Reservoir to determine beneficial use support and results are as follows: 0 of 1 samples exceed the criterion for PCB, Total. One composite (5 fish per composite) was generated from one species: Common Carp. Details of the compositing protocol can be found in the March 2009 report entitled: "Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Study" (SWAMP, 2009). Total PCB was assessed for as follows: PCB aroclors and congeners were summed separately and the sum that yielded the highest value was used for the assessment.
Data Reference:	Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Survey. A Report of the Surface Water Ambient Monitoring Program (SWAMP). California State Water Resources Control Board. Sacramento, CA Cruise Report for the Surface Waters Ambient Monitoring Program (SWAMP) Bioaccumulation Screening Study in California Lakes and Reservoirs. Sampling Dates: June 2007- March 2008 Statewide Lakes Sportfish Contamination Study 2007 2008 Contaminants in Fish from California Lakes and Reservoirs, 2007-2008: Summary Report on a Two-Year Screening Survey
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	Water Quality Control Plan for the San Francisco Bay Basin (2013): Controllable water quality factors shall not cause a detrimental increase in concentrations of toxic substances found in bottom sediments or aquatic life. Effects on aquatic organisms, wildlife, and human health will be considered.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	National Academy of Science guidelines (NAS 1972) establish a maximum total PCB concentration of 500 ug/Kg (wet weight) in tissue samples for protection of aquatic life from bioaccumulation of toxic substances.
Guideline Reference:	National Academy of Sciences. Water Quality Criteria 1972. EPA-R3-73-033. Washington, D.C.: U.S. Environmental Protection Agency
Spatial Representation:	Data for this assessment unit was collected by one monitoring project: (SWB_FishLk)
Temporal Representation:	Data was collected on a single day 7/30/2007.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	Samples were collected, processed, and analyzed in accordance with the methods described in Quality Assurance Project Plan "Screening Study of Bioaccumulation in California Lakes and Reservoirs." (SWAMP, 2008).
QAPP Information Reference(s):	Quality Assurance Project Plan Screening Study of Bioaccumulation in California Lakes and Reservoirs. Moss Landing Marine Labs. Prepared for SWAMP BOG. 49 pages plus appendices and attachments

Line of Evidence (LOE) for Decision ID 33131, PCBs (Polychlorinated biphenyls)

Region 2

San Pablo Reservoir

LOE ID:	93163
Pollutant:	PCBs (Polychlorinated biphenyls)
LOE Subgroup:	Pollutant-Tissue

Matrix:	Tissue
Fraction:	Fish fillet
Beneficial Use:	Warm Freshwater Habitat
Number of Samples:	1
Number of Exceedances:	0
Data and Information Type:	Fish tissue analysis
Data Used to Assess Water Quality:	State Water Board staff assessed SWAMP data for San Pablo Reservoir to determine beneficial use support and results are as follows: 0 of 1 samples exceed the criterion for PCB, Total. One composite (5 fish per composite) was generated from one species: Common Carp. Details of the compositing protocol can be found in the March 2009 report entitled: "Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Study" (SWAMP, 2009). Total PCB was assessed for as follows: PCB aroclors and congeners were summed separately and the sum that yielded the highest value was used for the assessment.
Data Reference:	Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Survey. A Report of the Surface Water Ambient Monitoring Program (SWAMP). California State Water Resources Control Board, Sacramento, CA Cruise Report for the Surface Waters Ambient Monitoring Program (SWAMP) Bioaccumulation Screening Study in California Lakes and Reservoirs, Sampling Dates: June 2007- March 2008 Statewide Lakes Sportfish Contamination Study 2007 2008 Contaminants in Fish from California Lakes and Reservoirs, 2007-2008: Summary Report on a Two-Year Screening Survey
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	Water Quality Control Plan for the San Francisco Bay Basin (2013): Controllable water quality factors shall not cause a detrimental increase in concentrations of toxic substances found in bottom sediments or aquatic life. Effects on aquatic organisms, wildlife, and human health will be considered.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	National Academy of Science guidelines (NAS 1972) establish a maximum total PCB concentration of 500 ug/Kg (wet weight) in tissue samples for protection of aquatic life from bioaccumulation of toxic substances.
Guideline Reference:	National Academy of Sciences. Water Quality Criteria 1972. EPA-R3-73-033. Washington, D.C.: U.S. Environmental Protection Agency
Spatial Representation:	Data for this assessment unit was collected by one monitoring project: (SWB_FishLk)
Temporal Representation:	Data was collected on a single day 7/30/2007.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	Samples were collected, processed, and analyzed in accordance with the methods described in Quality Assurance Project Plan "Screening Study of Bioaccumulation in California Lakes and Reservoirs." (SWAMP, 2008).
QAPP Information Reference(s):	Quality Assurance Project Plan Screening Study of Bioaccumulation in California Lakes and Reservoirs. Moss Landing Marine Labs. Prepared for SWAMP BOG. 49 pages plus appendices and attachments

DECISION ID	65030	Region 2
San Pablo Reservoir		

Pollutant:	Aldrin
Final Listing Decision:	Do Not List on 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision:	New Decision
Revision Status	Revised
Impairment from Pollutant or Pollution:	Pollutant

Regional Board Staff Conclusion:

This pollutant is being considered for placement on the CWA section 303(d) List under section 3.5 of the Listing Policy. Under section 3.5 a single line of evidence is necessary to assess listing status. Two lines of evidence are available in the administrative record to assess this pollutant. Zero of one samples exceed the guideline.

Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against placing this water segment-pollutant combination on the CWA section 303(d) List.

This conclusion is based on the staff findings that:

1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy.
2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy.
3. Zero of one samples exceed the guideline and this sample size is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating. A minimum of 16 samples is needed to determine if a beneficial use is fully supported using table 3.1.
4. Pursuant to SECTION 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.

Regional Board Staff Decision Recommendation:

After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be placed on the section 303(d) list. The readily available data and information is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating.

**Line of Evidence (LOE) for Decision ID 65030, Aldrin
San Pablo Reservoir**

Region 2

LOE ID: 93191

Pollutant: Aldrin
LOE Subgroup: Pollutant-Tissue
Matrix: Tissue
Fraction: Fish fillet

Beneficial Use: Warm Freshwater Habitat

Number of Samples: 1
Number of Exceedances: 0

Data and Information Type: Fish tissue analysis
Data Used to Assess Water Quality: State Water Board staff assessed SWAMP data for San Pablo Reservoir to determine beneficial use support and results are as follows: 0 of 1 samples exceed the criterion for Aldrin. One composite (5 fish per composite) was generated from one species: Common Carp. Details of the compositing protocol can be found in the March 2009 report entitled: "Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Study" (SWAMP, 2009).

Data Reference: [Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Survey. A Report of the Surface Water Ambient Monitoring Program \(SWAMP\). California State Water Resources Control Board, Sacramento, CA Cruise Report for the Surface Waters Ambient Monitoring Program \(SWAMP\) Bioaccumulation Screening Study in California Lakes and Reservoirs. Sampling Dates: June 2007- March 2008 Statewide Lakes Sportfish Contamination Study 2007 2008 Contaminants in Fish from California Lakes and Reservoirs, 2007-2008: Summary Report on a Two-Year Screening Survey](#)

SWAMP Data: SWAMP

Water Quality Objective/Criterion: Water Quality Control Plan for the San Francisco Bay Basin: Controllable water quality factors shall not cause a detrimental increase in concentrations of toxic substances found in bottom sediments or aquatic life. Effects on aquatic organisms, wildlife, and human

Objective/Criterion Reference:	health will be considered. Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	National Academy of Science guidelines (NAS 1972) establish a maximum Aldrin concentration of 100 ug/Kg (wet weight) in tissue samples for protection of aquatic life from bioaccumulation of toxic substances.
Guideline Reference:	National Academy of Sciences. Water Quality Criteria 1972. EPA-R3-73-033. Washington, D.C.: U.S. Environmental Protection Agency
Spatial Representation:	Data for this assessment unit was collected by one monitoring project: (SWB_FishLk)
Temporal Representation:	Data was collected on a single day 7/30/2007.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	Samples were collected, processed, and analyzed in accordance with the methods described in Quality Assurance Project Plan "Screening Study of Bioaccumulation in California Lakes and Reservoirs." (SWAMP, 2008).
QAPP Information Reference(s):	Quality Assurance Project Plan Screening Study of Bioaccumulation in California Lakes and Reservoirs. Moss Landing Marine Labs. Prepared for SWAMP BOG. 49 pages plus appendices and attachments

Line of Evidence (LOE) for Decision ID 65030, Aldrin

Region 2

San Pablo Reservoir

LOE ID:	93192
Pollutant:	Aldrin
LOE Subgroup:	Pollutant-Tissue
Matrix:	Tissue
Fraction:	Fish fillet
Beneficial Use:	Cold Freshwater Habitat
Number of Samples:	1
Number of Exceedances:	0
Data and Information Type:	Fish tissue analysis
Data Used to Assess Water Quality:	State Water Board staff assessed SWAMP data for San Pablo Reservoir to determine beneficial use support and results are as follows: 0 of 1 samples exceed the criterion for Aldrin. One composite (5 fish per composite) was generated from one species: Common Carp. Details of the compositing protocol can be found in the March 2009 report entitled: "Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Study" (SWAMP, 2009).
Data Reference:	Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Survey. A Report of the Surface Water Ambient Monitoring Program (SWAMP). California State Water Resources Control Board, Sacramento, CA Cruise Report for the Surface Waters Ambient Monitoring Program (SWAMP) Bioaccumulation Screening Study in California Lakes and Reservoirs, Sampling Dates: June 2007- March 2008 Statewide Lakes Sportfish Contamination Study 2007 2008 Contaminants in Fish from California Lakes and Reservoirs, 2007-2008: Summary Report on a Two-Year Screening Survey
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	Water Quality Control Plan for the San Francisco Bay Basin: Controllable water quality factors shall not cause a detrimental increase in concentrations of toxic substances found in bottom sediments or aquatic life. Effects on aquatic organisms, wildlife, and human health will be considered.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	National Academy of Science guidelines (NAS 1972) establish a maximum Aldrin concentration of 100 ug/Kg (wet weight) in tissue samples for protection of aquatic life from bioaccumulation of toxic substances.

Guideline Reference: [National Academy of Sciences. Water Quality Criteria 1972. EPA-R3-73-033. Washington, D.C.: U.S. Environmental Protection Agency](#)

Spatial Representation: Data for this assessment unit was collected by one monitoring project: (SWB_FishLk)
Temporal Representation: Data was collected on a single day 7/30/2007.
Environmental Conditions: Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information: Samples were collected, processed, and analyzed in accordance with the methods described in Quality Assurance Project Plan "Screening Study of Bioaccumulation in California Lakes and Reservoirs." (SWAMP, 2008).

QAPP Information Reference(s): [Quality Assurance Project Plan Screening Study of Bioaccumulation in California Lakes and Reservoirs. Moss Landing Marine Labs. Prepared for SWAMP BOG. 49 pages plus appendices and attachments](#)

DECISION ID	65038	Region 2
San Pablo Reservoir		

Pollutant: DDT (Dichlorodiphenyltrichloroethane)
Final Listing Decision: Do Not List on 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision: New Decision
Revision Status: Revised
Impairment from Pollutant or Pollution: Pollutant

Regional Board Staff Conclusion: This pollutant is being considered for placement on the CWA section 303(d) List under section 3.5 of the Listing Policy. Under section 3.5 a single line of evidence is necessary to assess listing status. Three lines of evidence are available in the administrative record to assess this pollutant. Zero of one samples exceed the guideline.

Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against placing this water segment-pollutant combination on the CWA section 303(d) List.

This conclusion is based on the staff findings that:

1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy.
2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy.
3. Zero of one samples exceed the guideline and this sample size is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating. A minimum of 16 samples is needed to determine if a beneficial use is fully supported using table 3.1.
4. Pursuant to SECTION 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.

Regional Board Staff Decision Recommendation: After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be placed on the section 303(d) list. The readily available data and information is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating.

Line of Evidence (LOE) for Decision ID 65038, DDT (Dichlorodiphenyltrichloroethane)	Region 2
San Pablo Reservoir	

LOE ID: 93172
Pollutant: Total DDT (sum of 4,4'- and 2,4'- isomers of DDT, DDE, and DDD)
LOE Subgroup: Pollutant-Tissue
Matrix: Tissue
Fraction: Fish fillet
Beneficial Use: Warm Freshwater Habitat

Number of Samples:	1
Number of Exceedances:	0
Data and Information Type:	Fish tissue analysis
Data Used to Assess Water Quality:	State Water Board staff assessed SWAMP data for San Pablo Reservoir to determine beneficial use support and results are as follows: 0 of 1 samples exceed the criterion for DDT, Total. One composite (5 fish per composite) was generated from one species: Common Carp. Details of the compositing protocol can be found in the March 2009 report entitled: "Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Study" (SWAMP, 2009). Total DDT was calculated as the sum of 4,4'- and 2,4'- isomers of DDT, DDE, and DDD.
Data Reference:	Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Survey. A Report of the Surface Water Ambient Monitoring Program (SWAMP). California State Water Resources Control Board, Sacramento, CA Cruise Report for the Surface Waters Ambient Monitoring Program (SWAMP) Bioaccumulation Screening Study in California Lakes and Reservoirs. Sampling Dates: June 2007- March 2008 Statewide Lakes Sportfish Contamination Study 2007 2008 Contaminants in Fish from California Lakes and Reservoirs, 2007-2008: Summary Report on a Two-Year Screening Survey
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	Water Quality Control Plan for the San Francisco Bay Basin: Controllable water quality factors shall not cause a detrimental increase in concentrations of toxic substances found in bottom sediments or aquatic life. Effects on aquatic organisms, wildlife, and human health will be considered.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	National Academy of Science guidelines (NAS 1972) establish a maximum total DDT concentration of 1000 ug/Kg (wet weight) in tissue samples for protection of aquatic life from bioaccumulation of toxic substances.
Guideline Reference:	National Academy of Sciences. Water Quality Criteria 1972. EPA-R3-73-033. Washington, D.C.: U.S. Environmental Protection Agency
Spatial Representation:	Data for this assessment unit was collected by one monitoring project: (SWB_FishLk)
Temporal Representation:	Data was collected on a single day 7/30/2007.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	Samples were collected, processed, and analyzed in accordance with the methods described in Quality Assurance Project Plan "Screening Study of Bioaccumulation in California Lakes and Reservoirs." (SWAMP, 2008).
QAPP Information Reference(s):	Quality Assurance Project Plan Screening Study of Bioaccumulation in California Lakes and Reservoirs. Moss Landing Marine Labs. Prepared for SWAMP BOG. 49 pages plus appendices and attachments

Line of Evidence (LOE) for Decision ID 65038, DDT (Dichlorodiphenyltrichloroethane)

Region 2

San Pablo Reservoir

LOE ID:	93178
Pollutant:	Total DDT (sum of 4,4'- and 2,4'- isomers of DDT, DDE, and DDD)
LOE Subgroup:	Pollutant-Tissue
Matrix:	Tissue
Fraction:	Fish fillet
Beneficial Use:	Commercial or recreational collection of fish, shellfish, or organisms
Number of Samples:	1
Number of Exceedances:	0
Data and Information Type:	Fish tissue analysis
Data Used to Assess Water Quality:	State Water Board staff assessed SWAMP data for San Pablo Reservoir to determine

	beneficial use support and results are as follows: 0 of 1 samples exceed the criterion for DDT, Total. One composite (5 fish per composite) was generated from one species: Common Carp. Details of the compositing protocol can be found in the March 2009 report entitled: "Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Study" (SWAMP, 2009). Total DDT was calculated as the sum of 4,4'- and 2,4'- isomers of DDT, DDE, and DDD.
Data Reference:	Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Survey. A Report of the Surface Water Ambient Monitoring Program (SWAMP). California State Water Resources Control Board, Sacramento, CA Cruise Report for the Surface Waters Ambient Monitoring Program (SWAMP) Bioaccumulation Screening Study in California Lakes and Reservoirs, Sampling Dates: June 2007- March 2008 Statewide Lakes Sportfish Contamination Study 2007 2008 Contaminants in Fish from California Lakes and Reservoirs, 2007-2008: Summary Report on a Two-Year Screening Survey
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	Water Quality Control Plan for the San Francisco Bay Basin: Controllable water quality factors shall not cause a detrimental increase in concentrations of toxic substances found in bottom sediments or aquatic life. Effects on aquatic organisms, wildlife, and human health will be considered.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	The modified OEHHA Fish Contaminant Goal for total DDT in fish tissue is 15 ppb. This screening level assumes an average body weight of 70 kg and a consumption rate of 32 g/day for a 30 year exposure over a 70-year lifetime. This constituent is a carcinogen therefore the risk level is set to one in a million. A cooking reduction factor of 1 is applied for skin-off fillets. (Klasing, S., and R. Brodberg, 2008)
Guideline Reference:	Development of Fish Contaminant Goals and Advisory Tissue Levels for Common Contaminants in California Sport Fish: Chlordane, DDTs, Dieldrin, Methylmercury, PCBs, Selenium, and Toxaphene
Spatial Representation:	Data for this assessment unit was collected by one monitoring project: (SWB_FishLk)
Temporal Representation:	Data was collected on a single day 7/30/2007.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	Samples were collected, processed, and analyzed in accordance with the methods described in Quality Assurance Project Plan "Screening Study of Bioaccumulation in California Lakes and Reservoirs." (SWAMP, 2008).
QAPP Information Reference(s):	Quality Assurance Project Plan Screening Study of Bioaccumulation in California Lakes and Reservoirs. Moss Landing Marine Labs. Prepared for SWAMP BOG, 49 pages plus appendices and attachments

Line of Evidence (LOE) for Decision ID 65038, DDT (Dichlorodiphenyltrichloroethane)
San Pablo Reservoir

Region 2

LOE ID:	93177
Pollutant:	Total DDT (sum of 4,4'- and 2,4'- isomers of DDT, DDE, and DDD)
LOE Subgroup:	Pollutant-Tissue
Matrix:	Tissue
Fraction:	Fish fillet
Beneficial Use:	Cold Freshwater Habitat
Number of Samples:	1
Number of Exceedances:	0
Data and Information Type:	Fish tissue analysis
Data Used to Assess Water Quality:	State Water Board staff assessed SWAMP data for San Pablo Reservoir to determine beneficial use support and results are as follows: 0 of 1 samples exceed the criterion for DDT, Total. One composite (5 fish per composite) was generated from one species:

Data Reference:	<p>Common Carp. Details of the compositing protocol can be found in the March 2009 report entitled: "Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Study" (SWAMP, 2009). Total DDT was calculated as the sum of 4,4'- and 2,4'- isomers of DDT, DDE, and DDD.</p> <p>Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Survey. A Report of the Surface Water Ambient Monitoring Program (SWAMP). California State Water Resources Control Board, Sacramento, CA Cruise Report for the Surface Waters Ambient Monitoring Program (SWAMP) Bioaccumulation Screening Study in California Lakes and Reservoirs. Sampling Dates: June 2007- March 2008 Statewide Lakes Sportfish Contamination Study 2007 2008 Contaminants in Fish from California Lakes and Reservoirs, 2007-2008: Summary Report on a Two-Year Screening Survey</p>
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	Water Quality Control Plan for the San Francisco Bay Basin: Controllable water quality factors shall not cause a detrimental increase in concentrations of toxic substances found in bottom sediments or aquatic life. Effects on aquatic organisms, wildlife, and human health will be considered.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	National Academy of Science guidelines (NAS 1972) establish a maximum total DDT concentration of 1000 ug/Kg (wet weight) in tissue samples for protection of aquatic life from bioaccumulation of toxic substances.
Guideline Reference:	National Academy of Sciences. Water Quality Criteria 1972. EPA-R3-73-033. Washington, D.C.: U.S. Environmental Protection Agency
Spatial Representation:	Data for this assessment unit was collected by one monitoring project: (SWB_FishLk)
Temporal Representation:	Data was collected on a single day 7/30/2007.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	Samples were collected, processed, and analyzed in accordance with the methods described in Quality Assurance Project Plan "Screening Study of Bioaccumulation in California Lakes and Reservoirs." (SWAMP, 2008).
QAPP Information Reference(s):	Quality Assurance Project Plan Screening Study of Bioaccumulation in California Lakes and Reservoirs. Moss Landing Marine Labs. Prepared for SWAMP BOG. 49 pages plus appendices and attachments

DECISION ID	65031	Region 2
San Pablo Reservoir		
Pollutant:	Endosulfan	
Final Listing Decision:	Do Not List on 303(d) list (TMDL required list)	
Last Listing Cycle's Final Listing Decision:	New Decision	
Revision Status	Revised	
Impairment from Pollutant or Pollution:	Pollutant	
Regional Board Staff Conclusion:	<p>This pollutant is being considered for placement on the CWA section 303(d) List under section 3.5 of the Listing Policy. Under section 3.5 a single line of evidence is necessary to assess listing status. Three lines of evidence are available in the administrative record to assess this pollutant. Zero of one samples exceed the guideline.</p> <p>Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against placing this water segment-pollutant combination on the CWA section 303(d) List.</p> <p>This conclusion is based on the staff findings that:</p> <ol style="list-style-type: none"> 1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy. 2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy. 	

3. Zero of one samples exceed the guideline and this sample size is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating. A minimum of 16 samples is needed to determine if a beneficial use is fully supported using table 3.1.
4. Pursuant to SECTION 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.

Regional Board Staff Decision Recommendation: After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be placed on the section 303(d) list. The readily available data and information is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating.

**Line of Evidence (LOE) for Decision ID 65031, Endosulfan
San Pablo Reservoir**

Region 2

LOE ID:	93201
Pollutant:	Endosulfan
LOE Subgroup:	Pollutant-Tissue
Matrix:	Tissue
Fraction:	Fish fillet
Beneficial Use:	Commercial or recreational collection of fish, shellfish, or organisms
Number of Samples:	1
Number of Exceedances:	0
Data and Information Type:	Fish tissue analysis
Data Used to Assess Water Quality:	State Water Board staff assessed SWAMP data for San Pablo Reservoir to determine beneficial use support and results are as follows: 0 of 1 samples exceed the criterion for Endosulfan I. One composite (5 fish per composite) was generated from one species: Common Carp. Details of the compositing protocol can be found in the March 2009 report entitled: "Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Study" (SWAMP, 2009).
Data Reference:	Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Survey. A Report of the Surface Water Ambient Monitoring Program (SWAMP). California State Water Resources Control Board, Sacramento, CA Cruise Report for the Surface Waters Ambient Monitoring Program (SWAMP) Bioaccumulation Screening Study in California Lakes and Reservoirs, Sampling Dates: June 2007- March 2008 Statewide Lakes Sportfish Contamination Study 2007 2008 Contaminants in Fish from California Lakes and Reservoirs, 2007-2008: Summary Report on a Two-Year Screening Survey
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	Water Quality Control Plan for the San Francisco Bay Basin: Controllable water quality factors shall not cause a detrimental increase in concentrations of toxic substances found in bottom sediments or aquatic life. Effects on aquatic organisms, wildlife, and human health will be considered.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	The modified OEHHA Fish Contaminant Goal for endosulfan (I and II) in fish tissue is 13,000 ppb. This screening level assumes an average body weight of 70 kg and a consumption rate of 32 g/day. A cooking reduction factor of 1 is applied for skin-off fillets. (Klasing, S., and R. Brodberg, 2008; USEPA, 2000)
Guideline Reference:	Development of Fish Contaminant Goals and Advisory Tissue Levels for Common Contaminants in California Sport Fish: Chlordane, DDTs, Dieldrin, Methylmercury, PCBs, Selenium, and Toxaphene Guidance for Assessing Chemical Contaminant Data for Use In Fish Advisories Volume 1: Fish Sampling and Analysis

Spatial Representation:	Data for this assessment unit was collected by one monitoring project: (SWB_FishLk)
Temporal Representation:	Data was collected on a single day 7/30/2007.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	Samples were collected, processed, and analyzed in accordance with the methods described in Quality Assurance Project Plan "Screening Study of Bioaccumulation in California Lakes and Reservoirs." (SWAMP, 2008).
QAPP Information Reference(s):	Quality Assurance Project Plan Screening Study of Bioaccumulation in California Lakes and Reservoirs. Moss Landing Marine Labs. Prepared for SWAMP BOG. 49 pages plus appendices and attachments

Line of Evidence (LOE) for Decision ID 65031, Endosulfan

Region 2

San Pablo Reservoir

LOE ID:	93200
Pollutant:	Endosulfan
LOE Subgroup:	Pollutant-Tissue
Matrix:	Tissue
Fraction:	Fish fillet
Beneficial Use:	Cold Freshwater Habitat
Number of Samples:	1
Number of Exceedances:	0
Data and Information Type:	Fish tissue analysis
Data Used to Assess Water Quality:	State Water Board staff assessed SWAMP data for San Pablo Reservoir to determine beneficial use support and results are as follows: 0 of 1 samples exceed the criterion for Endosulfan I. One composite (5 fish per composite) was generated from one species: Common Carp. Details of the compositing protocol can be found in the March 2009 report entitled: "Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Study" (SWAMP, 2009).
Data Reference:	Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Survey. A Report of the Surface Water Ambient Monitoring Program (SWAMP). California State Water Resources Control Board, Sacramento, CA Cruise Report for the Surface Waters Ambient Monitoring Program (SWAMP) Bioaccumulation Screening Study in California Lakes and Reservoirs. Sampling Dates: June 2007- March 2008 Statewide Lakes Sportfish Contamination Study 2007 2008 Contaminants in Fish from California Lakes and Reservoirs, 2007-2008: Summary Report on a Two-Year Screening Survey
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	Water Quality Control Plan for the San Francisco Bay Basin: Controllable water quality factors shall not cause a detrimental increase in concentrations of toxic substances found in bottom sediments or aquatic life. Effects on aquatic organisms, wildlife, and human health will be considered.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	National Academy of Science guidelines (NAS 1972) establish a maximum Endosulfan, Total concentration of 100 ug/Kg (wet weight) in tissue samples for protection of aquatic life from bioaccumulation of toxic substances.
Guideline Reference:	National Academy of Sciences. Water Quality Criteria 1972. EPA-R3-73-033. Washington, D.C.: U.S. Environmental Protection Agency
Spatial Representation:	Data for this assessment unit was collected by one monitoring project: (SWB_FishLk)
Temporal Representation:	Data was collected on a single day 7/30/2007.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	Samples were collected, processed, and analyzed in accordance with the methods described in Quality Assurance Project Plan "Screening Study of Bioaccumulation in California Lakes and Reservoirs." (SWAMP, 2008).

QAPP Information Reference(s): [Quality Assurance Project Plan Screening Study of Bioaccumulation in California Lakes and Reservoirs. Moss Landing Marine Labs. Prepared for SWAMP BOG. 49 pages plus appendices and attachments](#)

Line of Evidence (LOE) for Decision ID 65031, Endosulfan

Region 2

San Pablo Reservoir

LOE ID: 93199

Pollutant: Endosulfan
LOE Subgroup: Pollutant-Tissue
Matrix: Tissue
Fraction: Fish fillet

Beneficial Use: Warm Freshwater Habitat

Number of Samples: 1
Number of Exceedances: 0

Data and Information Type: Fish tissue analysis
Data Used to Assess Water Quality: State Water Board staff assessed SWAMP data for San Pablo Reservoir to determine beneficial use support and results are as follows: 0 of 1 samples exceed the criterion for Endosulfan I. One composite (5 fish per composite) was generated from one species: Common Carp. Details of the compositing protocol can be found in the March 2009 report entitled: "Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Study" (SWAMP, 2009).

Data Reference: [Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Survey. A Report of the Surface Water Ambient Monitoring Program \(SWAMP\). California State Water Resources Control Board, Sacramento, CA](#)
[Cruise Report for the Surface Waters Ambient Monitoring Program \(SWAMP\)](#)
[Bioaccumulation Screening Study in California Lakes and Reservoirs. Sampling Dates: June 2007- March 2008](#)
[Statewide Lakes Sportfish Contamination Study 2007 2008](#)
[Contaminants in Fish from California Lakes and Reservoirs, 2007-2008: Summary Report on a Two-Year Screening Survey](#)

SWAMP Data: SWAMP

Water Quality Objective/Criterion: Water Quality Control Plan for the San Francisco Bay Basin: Controllable water quality factors shall not cause a detrimental increase in concentrations of toxic substances found in bottom sediments or aquatic life. Effects on aquatic organisms, wildlife, and human health will be considered.

Objective/Criterion Reference: [Water Quality Control Plan \(Basin Plan\) San Francisco Bay Basin \(Region 2\)](#)

Evaluation Guideline: National Academy of Science guidelines (NAS 1972) establish a maximum Endosulfan, Total concentration of 100 ug/Kg (wet weight) in tissue samples for protection of aquatic life from bioaccumulation of toxic substances.

Guideline Reference: [National Academy of Sciences. Water Quality Criteria 1972. EPA-R3-73-033. Washington, D.C.: U.S. Environmental Protection Agency](#)

Spatial Representation: Data for this assessment unit was collected by one monitoring project: (SWB_FishLk)
Temporal Representation: Data was collected on a single day 7/30/2007.
Environmental Conditions: Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information: Samples were collected, processed, and analyzed in accordance with the methods described in Quality Assurance Project Plan "Screening Study of Bioaccumulation in California Lakes and Reservoirs." (SWAMP, 2008).

QAPP Information Reference(s): [Quality Assurance Project Plan Screening Study of Bioaccumulation in California Lakes and Reservoirs. Moss Landing Marine Labs. Prepared for SWAMP BOG. 49 pages plus appendices and attachments](#)

DECISION ID

65032

Region 2

San Pablo Reservoir

Pollutant:	Endrin
Final Listing Decision:	Do Not List on 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision:	New Decision
Revision Status	Revised
Impairment from Pollutant or Pollution:	Pollutant

Regional Board Staff Conclusion:

This pollutant is being considered for placement on the CWA section 303(d) List under section 3.5 of the Listing Policy. Under section 3.5 a single line of evidence is necessary to assess listing status. Three lines of evidence are available in the administrative record to assess this pollutant. Zero of one samples exceed the guideline.

Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against placing this water segment-pollutant combination on the CWA section 303(d) List.

This conclusion is based on the staff findings that:

1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy.
2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy.
3. Zero of one samples exceed the guideline and this sample size is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating. A minimum of 16 samples is needed to determine if a beneficial use is fully supported using table 3.1.
4. Pursuant to SECTION 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.

Regional Board Staff Decision Recommendation:

After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be placed on the section 303(d) list. The readily available data and information is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating.

Line of Evidence (LOE) for Decision ID 65032, Endrin

Region 2

San Pablo Reservoir

LOE ID: 93204

Pollutant:	Endrin
LOE Subgroup:	Pollutant-Tissue
Matrix:	Tissue
Fraction:	Fish fillet

Beneficial Use: Commercial or recreational collection of fish, shellfish, or organisms

Number of Samples:	1
Number of Exceedances:	0

Data and Information Type: Fish tissue analysis

Data Used to Assess Water Quality: State Water Board staff assessed SWAMP data for San Pablo Reservoir to determine beneficial use support and results are as follows: 0 of 1 samples exceed the criterion for Endrin. One composite (5 fish per composite) was generated from one species: Common Carp. Details of the compositing protocol can be found in the March 2009 report entitled: "Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Study" (SWAMP, 2009).

Data Reference: [Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Survey. A Report of the Surface Water Ambient Monitoring Program \(SWAMP\). California State Water Resources Control Board, Sacramento, CA Cruise Report for the Surface Waters Ambient Monitoring Program \(SWAMP\) Bioaccumulation Screening Study in California Lakes and Reservoirs. Sampling Dates: June 2007- March 2008](#)

SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	Water Quality Control Plan for the San Francisco Bay Basin: Controllable water quality factors shall not cause a detrimental increase in concentrations of toxic substances found in bottom sediments or aquatic life. Effects on aquatic organisms, wildlife, and human health will be considered.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	The modified OEHHA Fish Contaminant Goal for endrin in fish tissue is 660 ppb. This screening level assumes an average body weight of 70 kg and a consumption rate of 32 g/day. A cooking reduction factor of 1 is applied for skin-off fillets. (Klasing, S., and R. Brodberg, 2008; USEPA, 2000)
Guideline Reference:	Development of Fish Contaminant Goals and Advisory Tissue Levels for Common Contaminants in California Sport Fish: Chlordane, DDTs, Dieldrin, Methylmercury, PCBs, Selenium, and Toxaphene Guidance for Assessing Chemical Contaminant Data for Use In Fish Advisories Volume 1: Fish Sampling and Analysis
Spatial Representation:	Data for this assessment unit was collected by one monitoring project: (SWB_FishLk)
Temporal Representation:	Data was collected on a single day 7/30/2007.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	Samples were collected, processed, and analyzed in accordance with the methods described in Quality Assurance Project Plan "Screening Study of Bioaccumulation in California Lakes and Reservoirs." (SWAMP, 2008).
QAPP Information Reference(s):	Quality Assurance Project Plan Screening Study of Bioaccumulation in California Lakes and Reservoirs. Moss Landing Marine Labs. Prepared for SWAMP BOG, 49 pages plus appendices and attachments

Line of Evidence (LOE) for Decision ID 65032, Endrin	Region 2
San Pablo Reservoir	

LOE ID:	93203
Pollutant:	Endrin
LOE Subgroup:	Pollutant-Tissue
Matrix:	Tissue
Fraction:	Fish fillet
Beneficial Use:	Cold Freshwater Habitat
Number of Samples:	1
Number of Exceedances:	0
Data and Information Type:	Fish tissue analysis
Data Used to Assess Water Quality:	State Water Board staff assessed SWAMP data for San Pablo Reservoir to determine beneficial use support and results are as follows: 0 of 1 samples exceed the criterion for Endrin. One composite (5 fish per composite) was generated from one species: Common Carp. Details of the compositing protocol can be found in the March 2009 report entitled: "Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Study" (SWAMP, 2009).
Data Reference:	Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Survey. A Report of the Surface Water Ambient Monitoring Program (SWAMP). California State Water Resources Control Board, Sacramento, CA Cruise Report for the Surface Waters Ambient Monitoring Program (SWAMP) Bioaccumulation Screening Study in California Lakes and Reservoirs, Sampling Dates: June 2007- March 2008 Statewide Lakes Sportfish Contamination Study 2007 2008 Contaminants in Fish from California Lakes and Reservoirs, 2007-2008: Summary Report

SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	Water Quality Control Plan for the San Francisco Bay Basin: Controllable water quality factors shall not cause a detrimental increase in concentrations of toxic substances found in bottom sediments or aquatic life. Effects on aquatic organisms, wildlife, and human health will be considered.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	National Academy of Science guidelines (NAS 1972) establish a maximum Endrin concentration of 100 ug/Kg (wet weight) in tissue samples for protection of aquatic life from bioaccumulation of toxic substances.
Guideline Reference:	National Academy of Sciences. Water Quality Criteria 1972. EPA-R3-73-033. Washington, D.C.: U.S. Environmental Protection Agency
Spatial Representation:	Data for this assessment unit was collected by one monitoring project: (SWB_FishLk)
Temporal Representation:	Data was collected on a single day 7/30/2007.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	Samples were collected, processed, and analyzed in accordance with the methods described in Quality Assurance Project Plan "Screening Study of Bioaccumulation in California Lakes and Reservoirs." (SWAMP, 2008).
QAPP Information Reference(s):	Quality Assurance Project Plan Screening Study of Bioaccumulation in California Lakes and Reservoirs. Moss Landing Marine Labs. Prepared for SWAMP BOG. 49 pages plus appendices and attachments

Line of Evidence (LOE) for Decision ID 65032, Endrin

Region 2

San Pablo Reservoir

LOE ID:	93202
Pollutant:	Endrin
LOE Subgroup:	Pollutant-Tissue
Matrix:	Tissue
Fraction:	Fish fillet
Beneficial Use:	Warm Freshwater Habitat
Number of Samples:	1
Number of Exceedances:	0
Data and Information Type:	Fish tissue analysis
Data Used to Assess Water Quality:	State Water Board staff assessed SWAMP data for San Pablo Reservoir to determine beneficial use support and results are as follows: 0 of 1 samples exceed the criterion for Endrin. One composite (5 fish per composite) was generated from one species: Common Carp. Details of the compositing protocol can be found in the March 2009 report entitled: "Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Study" (SWAMP, 2009).
Data Reference:	Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Survey. A Report of the Surface Water Ambient Monitoring Program (SWAMP). California State Water Resources Control Board, Sacramento, CA Cruise Report for the Surface Waters Ambient Monitoring Program (SWAMP) Bioaccumulation Screening Study in California Lakes and Reservoirs. Sampling Dates: June 2007- March 2008 Statewide Lakes Sportfish Contamination Study 2007 2008 Contaminants in Fish from California Lakes and Reservoirs, 2007-2008: Summary Report on a Two-Year Screening Survey
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	Water Quality Control Plan for the San Francisco Bay Basin: Controllable water quality factors shall not cause a detrimental increase in concentrations of toxic substances found

Objective/Criterion Reference:	in bottom sediments or aquatic life. Effects on aquatic organisms, wildlife, and human health will be considered. Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	National Academy of Science guidelines (NAS 1972) establish a maximum Endrin concentration of 100 ug/Kg (wet weight) in tissue samples for protection of aquatic life from bioaccumulation of toxic substances.
Guideline Reference:	National Academy of Sciences. Water Quality Criteria 1972. EPA-R3-73-033. Washington, D.C.: U.S. Environmental Protection Agency
Spatial Representation:	Data for this assessment unit was collected by one monitoring project: (SWB_FishLk)
Temporal Representation:	Data was collected on a single day 7/30/2007.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	Samples were collected, processed, and analyzed in accordance with the methods described in Quality Assurance Project Plan "Screening Study of Bioaccumulation in California Lakes and Reservoirs." (SWAMP, 2008).
QAPP Information Reference(s):	Quality Assurance Project Plan Screening Study of Bioaccumulation in California Lakes and Reservoirs. Moss Landing Marine Labs. Prepared for SWAMP BOG. 49 pages plus appendices and attachments

DECISION ID	65033	Region 2
San Pablo Reservoir		
Pollutant:	Heptachlor	
Final Listing Decision:	Do Not List on 303(d) list (TMDL required list)	
Last Listing Cycle's Final Listing Decision:	New Decision	
Revision Status	Revised	
Impairment from Pollutant or Pollution:	Pollutant	
Regional Board Staff Conclusion:	<p>This pollutant is being considered for placement on the CWA section 303(d) List under section 3.5 of the Listing Policy. Under section 3.5 a single line of evidence is necessary to assess listing status. Two lines of evidence are available in the administrative record to assess this pollutant. Zero of one samples exceed the guideline.</p> <p>Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against placing this water segment-pollutant combination on the CWA section 303(d) List.</p> <p>This conclusion is based on the staff findings that:</p> <ol style="list-style-type: none"> 1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy. 2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy. 3. Zero of one samples exceed the guideline and this sample size is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating. A minimum of 16 samples is needed to determine if a beneficial use is fully supported using table 3.1. 4. Pursuant to SECTION 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met. 	
Regional Board Staff Decision Recommendation:	After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be placed on the section 303(d) list. The readily available data and information is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating.	

Line of Evidence (LOE) for Decision ID 65033, Heptachlor	Region 2
San Pablo Reservoir	

LOE ID: 93123

Pollutant:	Heptachlor
LOE Subgroup:	Pollutant-Tissue
Matrix:	Tissue
Fraction:	Fish fillet
Beneficial Use:	Cold Freshwater Habitat
Number of Samples:	1
Number of Exceedances:	0
Data and Information Type:	Fish tissue analysis
Data Used to Assess Water Quality:	State Water Board staff assessed SWAMP data for San Pablo Reservoir to determine beneficial use support and results are as follows: 0 of 1 samples exceed the criterion for Heptachlor. One composite (5 fish per composite) was generated from one species: Common Carp. Details of the compositing protocol can be found in the March 2009 report entitled: "Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Study" (SWAMP, 2009).
Data Reference:	Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Survey. A Report of the Surface Water Ambient Monitoring Program (SWAMP). California State Water Resources Control Board, Sacramento, CA Cruise Report for the Surface Waters Ambient Monitoring Program (SWAMP) Bioaccumulation Screening Study in California Lakes and Reservoirs, Sampling Dates: June 2007- March 2008 Statewide Lakes Sportfish Contamination Study 2007 2008 Contaminants in Fish from California Lakes and Reservoirs, 2007-2008: Summary Report on a Two-Year Screening Survey
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	Water Quality Control Plan for the San Francisco Bay Basin: Controllable water quality factors shall not cause a detrimental increase in concentrations of toxic substances found in bottom sediments or aquatic life. Effects on aquatic organisms, wildlife, and human health will be considered.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	National Academy of Science guidelines (NAS 1972) establish a maximum Heptachlor concentration of 100 ug/Kg (wet weight) in tissue samples for protection of aquatic life from bioaccumulation of toxic substances.
Guideline Reference:	National Academy of Sciences. Water Quality Criteria 1972. EPA-R3-73-033. Washington, D.C.: U.S. Environmental Protection Agency
Spatial Representation:	Data for this assessment unit was collected by one monitoring project: (SWB_FishLk)
Temporal Representation:	Data was collected on a single day 7/30/2007.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	Samples were collected, processed, and analyzed in accordance with the methods described in Quality Assurance Project Plan "Screening Study of Bioaccumulation in California Lakes and Reservoirs." (SWAMP, 2008).
QAPP Information Reference(s):	Quality Assurance Project Plan Screening Study of Bioaccumulation in California Lakes and Reservoirs. Moss Landing Marine Labs. Prepared for SWAMP BOG. 49 pages plus appendices and attachments

Line of Evidence (LOE) for Decision ID 65033, Heptachlor

Region 2

San Pablo Reservoir

LOE ID:	93205
Pollutant:	Heptachlor
LOE Subgroup:	Pollutant-Tissue
Matrix:	Tissue
Fraction:	Fish fillet
Beneficial Use:	Warm Freshwater Habitat

Number of Samples:	1
Number of Exceedances:	0
Data and Information Type:	Fish tissue analysis
Data Used to Assess Water Quality:	State Water Board staff assessed SWAMP data for San Pablo Reservoir to determine beneficial use support and results are as follows: 0 of 1 samples exceed the criterion for Heptachlor. One composite (5 fish per composite) was generated from one species: Common Carp. Details of the compositing protocol can be found in the March 2009 report entitled: "Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Study" (SWAMP, 2009).
Data Reference:	Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Survey. A Report of the Surface Water Ambient Monitoring Program (SWAMP). California State Water Resources Control Board, Sacramento, CA Cruise Report for the Surface Waters Ambient Monitoring Program (SWAMP) Bioaccumulation Screening Study in California Lakes and Reservoirs. Sampling Dates: June 2007- March 2008 Statewide Lakes Sportfish Contamination Study 2007 2008 Contaminants in Fish from California Lakes and Reservoirs, 2007-2008: Summary Report on a Two-Year Screening Survey
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	Water Quality Control Plan for the San Francisco Bay Basin: Controllable water quality factors shall not cause a detrimental increase in concentrations of toxic substances found in bottom sediments or aquatic life. Effects on aquatic organisms, wildlife, and human health will be considered.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	National Academy of Science guidelines (NAS 1972) establish a maximum Heptachlor concentration of 100 ug/Kg (wet weight) in tissue samples for protection of aquatic life from bioaccumulation of toxic substances.
Guideline Reference:	National Academy of Sciences. Water Quality Criteria 1972. EPA-R3-73-033. Washington, D.C.: U.S. Environmental Protection Agency
Spatial Representation:	Data for this assessment unit was collected by one monitoring project: (SWB_FishLk)
Temporal Representation:	Data was collected on a single day 7/30/2007.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	Samples were collected, processed, and analyzed in accordance with the methods described in Quality Assurance Project Plan "Screening Study of Bioaccumulation in California Lakes and Reservoirs." (SWAMP, 2008).
QAPP Information Reference(s):	Quality Assurance Project Plan Screening Study of Bioaccumulation in California Lakes and Reservoirs. Moss Landing Marine Labs. Prepared for SWAMP BOG. 49 pages plus appendices and attachments

DECISION ID	65034	Region 2
San Pablo Reservoir		
Pollutant:	Hexachlorobenzene/ HCB	
Final Listing Decision:	Do Not List on 303(d) list (TMDL required list)	
Last Listing Cycle's Final Listing Decision:	New Decision	
Revision Status	Revised	
Impairment from Pollutant or Pollution:	Pollutant	
Regional Board Staff Conclusion:	This pollutant is being considered for placement on the CWA section 303(d) List under section 3.5 of the Listing Policy. Under section 3.5 a single line of evidence is necessary to assess listing status. One line of evidence is available in the administrative record to assess this pollutant. Zero of one samples exceed the guideline.	

Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against placing this water segment-pollutant combination on the CWA section 303(d) List.

This conclusion is based on the staff findings that:

1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy.
2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy.
3. Zero of one samples exceed the guideline and this sample size is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating. A minimum of 16 samples is needed to determine if a beneficial use is fully supported using table 3.1.
4. Pursuant to SECTION 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.

Regional Board Staff Decision Recommendation: After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be placed on the section 303(d) list. The readily available data and information is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating.

Line of Evidence (LOE) for Decision ID 65034, Hexachlorobenzene/ HCB

Region 2

San Pablo Reservoir

LOE ID:	93148
Pollutant:	Hexachlorobenzene/ HCB
LOE Subgroup:	Pollutant-Tissue
Matrix:	Tissue
Fraction:	Fish fillet
Beneficial Use:	Commercial or recreational collection of fish, shellfish, or organisms
Number of Samples:	1
Number of Exceedances:	0
Data and Information Type:	Fish tissue analysis
Data Used to Assess Water Quality:	State Water Board staff assessed SWAMP data for San Pablo Reservoir to determine beneficial use support and results are as follows: 0 of 1 samples exceed the criterion for Hexachlorobenzene. One composite (5 fish per composite) was generated from one species: Common Carp. Details of the compositing protocol can be found in the March 2009 report entitled: "Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Study" (SWAMP, 2009).
Data Reference:	Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Survey. A Report of the Surface Water Ambient Monitoring Program (SWAMP). California State Water Resources Control Board, Sacramento, CA Cruise Report for the Surface Waters Ambient Monitoring Program (SWAMP) Bioaccumulation Screening Study in California Lakes and Reservoirs, Sampling Dates: June 2007- March 2008 Statewide Lakes Sportfish Contamination Study 2007 2008 Contaminants in Fish from California Lakes and Reservoirs, 2007-2008: Summary Report on a Two-Year Screening Survey
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	Water Quality Control Plan for the San Francisco Bay Basin: Controllable water quality factors shall not cause a detrimental increase in concentrations of toxic substances found in bottom sediments or aquatic life. Effects on aquatic organisms, wildlife, and human health will be considered.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	The modified OEHHA Fish Contaminant Goal for hexachlorobenzene in fish tissue is 2.8 ppb. This screening level assumes an average body weight of 70 kg and a consumption rate of 32 g/day for a 30 year exposure over a 70-year lifetime. This constituent is a

Guideline Reference:

carcinogen therefore the risk level is set to one in a million. A cooking reduction factor of 1 is applied for skin-off fillets. (Klasing, S., and R. Brodberg, 2008; OEHHA, 2005)
[Development of Fish Contaminant Goals and Advisory Tissue Levels for Common Contaminants in California Sport Fish: Chlordane, DDTs, Dieldrin, Methylmercury, PCBs, Selenium, and Toxaphene](#)
[Air Toxics Hotspots Program Risk Assessment Guidelines. Part II Technical Support Document for Describing Available Cancer Potency Values.](#)

Spatial Representation:

Data for this assessment unit was collected by one monitoring project: (SWB_FishLk)

Temporal Representation:

Data was collected on a single day 7/30/2007.

Environmental Conditions:

Staff is not aware of any special conditions that might affect interpretation of the data.

QAPP Information:

Samples were collected, processed, and analyzed in accordance with the methods described in Quality Assurance Project Plan "Screening Study of Bioaccumulation in California Lakes and Reservoirs." (SWAMP, 2008).

QAPP Information Reference(s):

[Quality Assurance Project Plan Screening Study of Bioaccumulation in California Lakes and Reservoirs. Moss Landing Marine Labs. Prepared for SWAMP BOG, 49 pages plus appendices and attachments](#)

DECISION ID	65035	Region 2
San Pablo Reservoir		

Pollutant:	Lindane/gamma Hexachlorocyclohexane (gamma-HCH)
Final Listing Decision:	Do Not List on 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision:	New Decision
Revision Status	Revised
Impairment from Pollutant or Pollution:	Pollutant

Regional Board Staff Conclusion:

This pollutant is being considered for placement on the CWA section 303(d) List under section 3.5 of the Listing Policy. Under section 3.5 a single line of evidence is necessary to assess listing status. Three lines of evidence are available in the administrative record to assess this pollutant. Zero of one samples exceed the guideline.

Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against placing this water segment-pollutant combination on the CWA section 303(d) List.

This conclusion is based on the staff findings that:

1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy.
2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy.
3. Zero of one samples exceed the guideline and this sample size is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating. A minimum of 16 samples is needed to determine if a beneficial use is fully supported using table 3.1.
4. Pursuant to SECTION 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.

Regional Board Staff Decision Recommendation:

After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be placed on the section 303(d) list. The readily available data and information is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating.

Line of Evidence (LOE) for Decision ID 65035, Lindane/gamma Hexachlorocyclohexane (gamma-HCH)
San Pablo Reservoir

Region 2

LOE ID: 93149

Pollutant: Lindane/gamma Hexachlorocyclohexane (gamma-HCH)

LOE Subgroup:	Pollutant-Tissue
Matrix:	Tissue
Fraction:	Fish fillet
Beneficial Use:	Warm Freshwater Habitat
Number of Samples:	1
Number of Exceedances:	0
Data and Information Type:	Fish tissue analysis
Data Used to Assess Water Quality:	State Water Board staff assessed SWAMP data for San Pablo Reservoir to determine beneficial use support and results are as follows: 0 of 1 samples exceed the criterion for HCH, gamma. One composite (5 fish per composite) was generated from one species: Common Carp. Details of the compositing protocol can be found in the March 2009 report entitled: "Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Study" (SWAMP, 2009).
Data Reference:	Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Survey. A Report of the Surface Water Ambient Monitoring Program (SWAMP). California State Water Resources Control Board, Sacramento, CA Cruise Report for the Surface Waters Ambient Monitoring Program (SWAMP) Bioaccumulation Screening Study in California Lakes and Reservoirs, Sampling Dates: June 2007- March 2008 Statewide Lakes Sportfish Contamination Study 2007 2008 Contaminants in Fish from California Lakes and Reservoirs, 2007-2008: Summary Report on a Two-Year Screening Survey
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	Water Quality Control Plan for the San Francisco Bay Basin: Controllable water quality factors shall not cause a detrimental increase in concentrations of toxic substances found in bottom sediments or aquatic life. Effects on aquatic organisms, wildlife, and human health will be considered.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	The modified OEHHA Fish Contaminant Goal for lindane in fish tissue is 4.6 ppb. This screening level assumes an average body weight of 70 kg and a consumption rate of 32 g/day for a 30 year exposure over a 70-year lifetime. This constituent is a carcinogen therefore the risk level is set to one in a million. A cooking reduction factor of 1 is applied for skin-off fillets. (Klasing, S., and R. Brodberg, 2008; OEHHA, 2005)
Guideline Reference:	National Academy of Sciences. Water Quality Criteria 1972. EPA-R3-73-033. Washington, D.C.: U.S. Environmental Protection Agency
Spatial Representation:	Data for this assessment unit was collected by one monitoring project: (SWB_FishLk)
Temporal Representation:	Data was collected on a single day 7/30/2007.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	Samples were collected, processed, and analyzed in accordance with the methods described in Quality Assurance Project Plan "Screening Study of Bioaccumulation in California Lakes and Reservoirs." (SWAMP, 2008).
QAPP Information Reference(s):	Quality Assurance Project Plan Screening Study of Bioaccumulation in California Lakes and Reservoirs. Moss Landing Marine Labs. Prepared for SWAMP BOG. 49 pages plus appendices and attachments

Line of Evidence (LOE) for Decision ID 65035, Lindane/gamma Hexachlorocyclohexane (gamma-HCH)

Region 2

San Pablo Reservoir

LOE ID:	93155
Pollutant:	Lindane/gamma Hexachlorocyclohexane (gamma-HCH)
LOE Subgroup:	Pollutant-Tissue
Matrix:	Tissue
Fraction:	Fish fillet

Beneficial Use:	Commercial or recreational collection of fish, shellfish, or organisms
Number of Samples:	1
Number of Exceedances:	0
Data and Information Type:	Fish tissue analysis
Data Used to Assess Water Quality:	State Water Board staff assessed SWAMP data for San Pablo Reservoir to determine beneficial use support and results are as follows: 0 of 1 samples exceed the criterion for HCH, gamma. One composite (5 fish per composite) was generated from one species: Common Carp. Details of the compositing protocol can be found in the March 2009 report entitled: "Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Study" (SWAMP, 2009).
Data Reference:	Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Survey. A Report of the Surface Water Ambient Monitoring Program (SWAMP). California State Water Resources Control Board, Sacramento, CA Cruise Report for the Surface Waters Ambient Monitoring Program (SWAMP) Bioaccumulation Screening Study in California Lakes and Reservoirs. Sampling Dates: June 2007- March 2008 Statewide Lakes Sportfish Contamination Study 2007 2008 Contaminants in Fish from California Lakes and Reservoirs, 2007-2008: Summary Report on a Two-Year Screening Survey
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	Water Quality Control Plan for the San Francisco Bay Basin: Controllable water quality factors shall not cause a detrimental increase in concentrations of toxic substances found in bottom sediments or aquatic life. Effects on aquatic organisms, wildlife, and human health will be considered.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	The modified OEHHA Fish Contaminant Goal for lindane in fish tissue is 4.6 ppb. This screening level assumes an average body weight of 70 kg and a consumption rate of 32 g/day for a 30 year exposure over a 70-year lifetime. This constituent is a carcinogen therefore the risk level is set to one in a million. A cooking reduction factor of 1 is applied for skin-off fillets.
Guideline Reference:	Development of Fish Contaminant Goals and Advisory Tissue Levels for Common Contaminants in California Sport Fish: Chlordane, DDTs, Dieldrin, Methylmercury, PCBs, Selenium, and Toxaphene Air Toxics Hotspots Program Risk Assessment Guidelines. Part II Technical Support Document for Describing Available Cancer Potency Values.
Spatial Representation:	Data for this assessment unit was collected by one monitoring project: (SWB_FishLk)
Temporal Representation:	Data was collected on a single day 7/30/2007.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	Samples were collected, processed, and analyzed in accordance with the methods described in Quality Assurance Project Plan "Screening Study of Bioaccumulation in California Lakes and Reservoirs." (SWAMP, 2008).
QAPP Information Reference(s):	Quality Assurance Project Plan Screening Study of Bioaccumulation in California Lakes and Reservoirs. Moss Landing Marine Labs. Prepared for SWAMP BOG. 49 pages plus appendices and attachments

Line of Evidence (LOE) for Decision ID 65035, Lindane/gamma Hexachlorocyclohexane (gamma-HCH)

Region 2

San Pablo Reservoir

LOE ID:	93156
Pollutant:	Lindane/gamma Hexachlorocyclohexane (gamma-HCH)
LOE Subgroup:	Pollutant-Tissue
Matrix:	Tissue
Fraction:	Fish fillet

Beneficial Use:	Cold Freshwater Habitat
Number of Samples:	1
Number of Exceedances:	0
Data and Information Type:	Fish tissue analysis
Data Used to Assess Water Quality:	State Water Board staff assessed SWAMP data for San Pablo Reservoir to determine beneficial use support and results are as follows: 0 of 1 samples exceed the criterion for HCH, gamma. One composite (5 fish per composite) was generated from one species: Common Carp. Details of the compositing protocol can be found in the March 2009 report entitled: "Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Study" (SWAMP, 2009).
Data Reference:	Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Survey. A Report of the Surface Water Ambient Monitoring Program (SWAMP). California State Water Resources Control Board, Sacramento, CA Cruise Report for the Surface Waters Ambient Monitoring Program (SWAMP) Bioaccumulation Screening Study in California Lakes and Reservoirs. Sampling Dates: June 2007- March 2008 Statewide Lakes Sportfish Contamination Study 2007 2008 Contaminants in Fish from California Lakes and Reservoirs, 2007-2008: Summary Report on a Two-Year Screening Survey
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	Water Quality Control Plan for the San Francisco Bay Basin: Controllable water quality factors shall not cause a detrimental increase in concentrations of toxic substances found in bottom sediments or aquatic life. Effects on aquatic organisms, wildlife, and human health will be considered.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	The modified OEHHA Fish Contaminant Goal for lindane in fish tissue is 4.6 ppb. This screening level assumes an average body weight of 70 kg and a consumption rate of 32 g/day for a 30 year exposure over a 70-year lifetime. This constituent is a carcinogen therefore the risk level is set to one in a million. A cooking reduction factor of 1 is applied for skin-off fillets. (Klasing, S., and R. Brodberg, 2008; OEHHA, 2005)
Guideline Reference:	National Academy of Sciences. Water Quality Criteria 1972. EPA-R3-73-033. Washington, D.C.: U.S. Environmental Protection Agency
Spatial Representation:	Data for this assessment unit was collected by one monitoring project: (SWB_FishLk)
Temporal Representation:	Data was collected on a single day 7/30/2007.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	Samples were collected, processed, and analyzed in accordance with the methods described in Quality Assurance Project Plan "Screening Study of Bioaccumulation in California Lakes and Reservoirs." (SWAMP, 2008).
QAPP Information Reference(s):	Quality Assurance Project Plan Screening Study of Bioaccumulation in California Lakes and Reservoirs. Moss Landing Marine Labs. Prepared for SWAMP BOG. 49 pages plus appendices and attachments

DECISION ID	65036	Region 2
San Pablo Reservoir		
Pollutant:	Mirex	
Final Listing Decision:	Do Not List on 303(d) list (TMDL required list)	
Last Listing Cycle's Final Listing Decision:	New Decision	
Revision Status	Revised	
Impairment from Pollutant or Pollution:	Pollutant	
Regional Board Staff	This pollutant is being considered for placement on the CWA section 303(d) List under section 3.5 of	

Conclusion:	<p>the Listing Policy. Under section 3.5 a single line of evidence is necessary to assess listing status. One line of evidence is available in the administrative record to assess this pollutant. Zero of zero samples exceed the guideline.</p> <p>Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against placing this water segment-pollutant combination on the CWA section 303(d) List.</p> <p>This conclusion is based on the staff findings that:</p> <ol style="list-style-type: none"> 1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy. 2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy. 3. Zero of zero samples exceed the guideline and this sample size is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating. A minimum of 16 samples is needed to determine if a beneficial use is fully supported using table 3.1. 4. Pursuant to SECTION 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.
Regional Board Staff Decision Recommendation:	After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be placed on the section 303(d) list. The readily available data and information is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating.

Line of Evidence (LOE) for Decision ID 65036, Mirex

Region 2

San Pablo Reservoir

LOE ID:	93162
Pollutant:	Mirex
LOE Subgroup:	Pollutant-Tissue
Matrix:	Tissue
Fraction:	Fish fillet
Beneficial Use:	Commercial or recreational collection of fish, shellfish, or organisms
Number of Samples:	0
Number of Exceedances:	0
Data and Information Type:	Fish tissue analysis
Data Used to Assess Water Quality:	State Water Board staff assessed SWAMP data for San Pablo Reservoir to determine beneficial use support and results are as follows: 0 of 0 samples exceed the criterion for Mirex. One composite (5 fish per composite) was generated from one species: Common Carp. Details of the compositing protocol can be found in the March 2009 report entitled: "Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Study" (SWAMP, 2009). One composite was not used in the assessment because the laboratory data reporting limit(s) was above the objective and therefore the results could not be quantified with the level of certainty required by the Listing Policy.
Data Reference:	Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Survey. A Report of the Surface Water Ambient Monitoring Program (SWAMP). California State Water Resources Control Board, Sacramento, CA Cruise Report for the Surface Waters Ambient Monitoring Program (SWAMP) Bioaccumulation Screening Study in California Lakes and Reservoirs. Sampling Dates: June 2007- March 2008 Statewide Lakes Sportfish Contamination Study 2007 2008 Contaminants in Fish from California Lakes and Reservoirs, 2007-2008: Summary Report on a Two-Year Screening Survey
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	Water Quality Control Plan for the San Francisco Bay Basin: Controllable water quality factors shall not cause a detrimental increase in concentrations of toxic substances found

Objective/Criterion Reference:	in bottom sediments or aquatic life. Effects on aquatic organisms, wildlife, and human health will be considered. Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	The modified OEHHA Fish Contaminant Goal for mirex in fish tissue is 0.28 ppb. This screening level assumes an average body weight of 70 kg and a consumption rate of 32 g/day. A cooking reduction factor of 1 is applied for skin-off fillets. (Klasing, S., and R. Brodberg, 2008; OEHHA, 1992)
Guideline Reference:	Development of Fish Contaminant Goals and Advisory Tissue Levels for Common Contaminants in California Sport Fish: Chlordane, DDTs, Dieldrin, Methylmercury, PCBs, Selenium, and Toxaphene Expedited Cancer Potency Values and Proposed Regulatory Levels for Certain Proposition 65 Carcinogens.
Spatial Representation:	Data for this assessment unit was collected by one monitoring project: (SWB_FishLk)
Temporal Representation:	Data was collected on a single day 7/30/2007.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	Samples were collected, processed, and analyzed in accordance with the methods described in Quality Assurance Project Plan "Screening Study of Bioaccumulation in California Lakes and Reservoirs." (SWAMP, 2008).
QAPP Information Reference(s):	Quality Assurance Project Plan Screening Study of Bioaccumulation in California Lakes and Reservoirs. Moss Landing Marine Labs. Prepared for SWAMP BOG. 49 pages plus appendices and attachments

DECISION ID	65037	Region 2
San Pablo Reservoir		
Pollutant:	Selenium	
Final Listing Decision:	Do Not List on 303(d) list (TMDL required list)	
Last Listing Cycle's Final Listing Decision:	New Decision	
Revision Status	Revised	
Impairment from Pollutant or Pollution:	Pollutant	
Regional Board Staff Conclusion:	<p>This pollutant is being considered for placement on the CWA section 303(d) List under section 3.5 of the Listing Policy. Under section 3.5 a single line of evidence is necessary to assess listing status. One line of evidence is available in the administrative record to assess this pollutant. Zero of one samples exceed the guideline.</p> <p>Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against placing this water segment-pollutant combination on the CWA section 303(d) List.</p> <p>This conclusion is based on the staff findings that:</p> <ol style="list-style-type: none"> 1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy. 2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy. 3. Zero of one samples exceed the guideline and this sample size is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating. A minimum of 16 samples is needed to determine if a beneficial use is fully supported using table 3.1. 4. Pursuant to SECTION 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met. 	
Regional Board Staff Decision Recommendation:	After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be placed on the section 303(d) list. The readily available data and information is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating.	

Line of Evidence (LOE) for Decision ID 65037, Selenium	Region 2
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San Pablo Reservoir

LOE ID:	93171
Pollutant:	Selenium
LOE Subgroup:	Pollutant-Tissue
Matrix:	Tissue
Fraction:	Fish fillet
Beneficial Use:	Commercial or recreational collection of fish, shellfish, or organisms
Number of Samples:	1
Number of Exceedances:	0
Data and Information Type:	Fish tissue analysis
Data Used to Assess Water Quality:	State Water Board staff assessed SWAMP data for San Pablo Reservoir to determine beneficial use support and results are as follows: 0 of 1 samples exceed the criterion for Selenium. One composite (5 fish per composite) was generated from one species: Common Carp. Details of the compositing protocol can be found in the March 2009 report entitled: "Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Study" (SWAMP, 2009).
Data Reference:	Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Survey. A Report of the Surface Water Ambient Monitoring Program (SWAMP). California State Water Resources Control Board, Sacramento, CA Cruise Report for the Surface Waters Ambient Monitoring Program (SWAMP) Bioaccumulation Screening Study in California Lakes and Reservoirs, Sampling Dates: June 2007- March 2008 Statewide Lakes Sportfish Contamination Study 2007 2008 Contaminants in Fish from California Lakes and Reservoirs, 2007-2008: Summary Report on a Two-Year Screening Survey
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	Water Quality Control Plan for the San Francisco Bay Basin (2013): Controllable water quality factors shall not cause a detrimental increase in concentrations of toxic substances found in bottom sediments or aquatic life. Effects on aquatic organisms, wildlife, and human health will be considered.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	The OEHHA Fish Contaminant Goal for selenium in fish tissue is 7.4 ppm. This screening level assumes an average body weight of 70 kg and a consumption rate of 32 g/day. A background dietary consumption rate of 0.114 mg/day is applied for this micronutrient. (Klasing, S., and R. Brodberg, 2008)
Guideline Reference:	Development of Fish Contaminant Goals and Advisory Tissue Levels for Common Contaminants in California Sport Fish: Chlordane, DDTs, Dieldrin, Methylmercury, PCBs, Selenium, and Toxaphene
Spatial Representation:	Data for this assessment unit was collected by one monitoring project: (SWB_FishLk)
Temporal Representation:	Data was collected on a single day 7/30/2007.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	Samples were collected, processed, and analyzed in accordance with the methods described in Quality Assurance Project Plan "Screening Study of Bioaccumulation in California Lakes and Reservoirs." (SWAMP, 2008).
QAPP Information Reference(s):	Quality Assurance Project Plan Screening Study of Bioaccumulation in California Lakes and Reservoirs. Moss Landing Marine Labs. Prepared for SWAMP BOG. 49 pages plus appendices and attachments

DECISION ID

33144

Region 2

San Pablo Reservoir

Pollutant:

Toxaphene

Final Listing Decision:	List on 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision:	List on 303(d) list (TMDL required list)(2012)
Revision Status	Original
Sources:	Source Unknown
Expected TMDL Completion Date:	2019
Impairment from Pollutant or Pollution:	Pollutant

Regional Board Staff Conclusion: This pollutant is being considered for placement on the section 303(d) list under section 3.5 of the Listing Policy. One line of evidence is available in the administrative record to assess this pollutant. Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification in favor of placing this water segment-pollutant combination on the section 303(d) list in the Water Quality Limited Segments category. This conclusion is based on the staff findings that: 1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy. 2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy. 3. Four of the 9 samples exceeded the OEHHHA Screening Value and this exceeds the allowable frequency listed in Table 3.1 of the Listing Policy. 4. Pursuant to section 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.

Regional Board Staff Decision Recommendation: This is a decision previously approved by the State Water Resources Control Board and the USEPA. No new data were assessed by the Regional Board for the current. The decision has not changed.

Line of Evidence (LOE) for Decision ID 33144, Toxaphene

Region 2

San Pablo Reservoir

LOE ID:	692
Pollutant:	Toxaphene
LOE Subgroup:	Pollutant-Tissue
Matrix:	Tissue
Fraction:	Total
Beneficial Use:	Commercial or recreational collection of fish, shellfish, or organisms
Number of Samples:	9
Number of Exceedances:	4
Data and Information Type:	Fish tissue analysis
Data Used to Assess Water Quality:	Four out of 9 samples exceeded. A total of 9 composite samples were collected and analyzed from San Pablo Reservoir: 3 black crappie, 3 channel catfish and 3 carp. Two carp and two channel catfish samples exceeded guideline (TSMP, 2002).
Data Reference:	Placeholder reference 2006 303(d)
SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	San Francisco Bay RWQCB Basin Plan: Many pollutants can accumulate on particles, in sediment, or bioaccumulate in fish and other aquatic organisms. Controllable water quality factors shall not cause a detrimental increase in concentrations of toxic substances found in bottom sediments or aquatic life. Effects on aquatic organisms, wildlife, and human health will be considered.
Objective/Criterion Reference:	Placeholder reference 2006 303(d)
Evaluation Guideline:	Toxaphene 30.0 ng/g (OEHHHA Screening Value) (Brodberg & Pollock, 1999).
Guideline Reference:	Placeholder reference 2006 303(d)
Spatial Representation:	One station located in upper half of the reservoir.
Temporal Representation:	All samples were collected on 4/17/2000.
Environmental Conditions:	
QAPP Information:	Environmental Chemistry Quality Assurance and Data Report for the Toxic Substances

QAPP Information Reference(s):

Monitoring Program, 2001-2002. Department of Fish and Game.

Draft California 2016 Integrated Report (303(d) List/305(b) Report)

Supporting Information

Regional Board 2 - San Francisco Bay Region

Water Body Name: Lake Herman
Water Body ID: CAL2072103019980928163418
Water Body Type: Lake & Reservoir

DECISION ID 34436 **Region 2**
Lake Herman

Pollutant: Mercury
Final Listing Decision: List on 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision: List on 303(d) list (TMDL required list)(2012)
Revision Status Original
Sources: Source Unknown
Expected TMDL Completion Date: 2013
Impairment from Pollutant or Pollution: Pollutant

Regional Board Staff Conclusion: 303(d) listing decisions made prior to 2006 were not held in an assessment database. The Regional Boards will update this decision when new data and information become available and are assessed.

Regional Board Staff Decision Recommendation: This is a decision previously approved by the State Water Resources Control Board and the USEPA. No new data were assessed by the Regional Board for the current. The decision has not changed.

Line of Evidence (LOE) for Decision ID 34436, Mercury **Region 2** **Lake Herman**

LOE ID: 3757

Pollutant: Mercury
LOE Subgroup: Pollutant-Tissue
Matrix: Tissue
Fraction: Not Recorded

Beneficial Use: Commercial or recreational collection of fish, shellfish, or organisms

Number of Samples: 0
Number of Exceedances: 0

Data and Information Type: Not Specified
Data Used to Assess Water Quality: Unspecified--This LOE is a placeholder to support a 303(d) listing decision made prior to 2006.
Data Reference: [Placeholder reference pre-2006 303\(d\)](#)

SWAMP Data: Non-SWAMP

Water Quality Objective/Criterion: Unspecified
Objective/Criterion Reference: [Placeholder reference pre-2006 303\(d\)](#)

Evaluation Guideline: Unspecified
Guideline Reference: [Placeholder reference pre-2006 303\(d\)](#)

Spatial Representation:	Unspecified
Temporal Representation:	Unspecified
Environmental Conditions:	Unspecified
QAPP Information:	Unspecified
QAPP Information Reference(s):	

Draft California 2016 Integrated Report (303(d) List/305(b) Report)

Supporting Information

Regional Board 2 - San Francisco Bay Region

Water Body Name: Lafayette Reservoir
Water Body ID: CAL2073201020050519182313
Water Body Type: Lake & Reservoir

DECISION ID 33200 **Region 2**
Lafayette Reservoir

Pollutant: Mercury
Final Listing Decision: Do Not Delist from 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision: List on 303(d) list (TMDL required list)(2012)
Revision Status Revised
Sources: Source Unknown
Expected TMDL Completion Date: 2013
Impairment from Pollutant or Pollution: Pollutant

Regional Board Staff Conclusion: This pollutant is being considered for removal from the CWA section 303(d) List under section 4.1 of the Listing Policy. Under this section a single line of evidence is necessary to assess listing status.

Two lines of evidence are available in the administrative record to assess pollutant. five of ten samples exceed the criterion.

Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against removing this water segment-pollutant combination from the CWA section 303(d) List.

This conclusion is based on the staff findings that:

1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy.
2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy.
3. Five of ten samples exceeded the criterion and this exceeds the allowable frequency listed in Table 4.1 of the Listing Policy.
4. Pursuant to section 4.11 of the Listing Policy, no additional data and information are available indicating that standards are met.

Regional Board Staff Decision Recommendation: After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be removed from the section 303(d) list because applicable water quality standards for the pollutant are being exceeded.

Line of Evidence (LOE) for Decision ID 33200, Mercury **Region 2**
Lafayette Reservoir

LOE ID: 693
Pollutant: Mercury
LOE Subgroup: Pollutant-Tissue
Matrix: Tissue
Fraction: Total
Beneficial Use: Commercial or recreational collection of fish, shellfish, or organisms

Number of Samples:	10
Number of Exceedances:	5
Data and Information Type:	Fish tissue analysis
Data Used to Assess Water Quality:	Five out of 10 samples exceeded. A total of 10 composite samples were collected and analyzed from Lafayette Reservoir - 3 black crappie, 1 channel catfish, 3 largemouth bass, and 3 goldfish. Three goldfish and two largemouth bass samples exceeded the guideline (TSMP, 2002).
Data Reference:	Placeholder reference 2006 303(d)
SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	San Francisco Bay RWQCB Basin Plan: Many pollutants can accumulate on particles, in sediment, or bioaccumulate in fish and other aquatic organisms. Controllable water quality factors shall not cause a detrimental increase in concentrations of toxic substances found in bottom sediments or aquatic life. Effects on aquatic organisms, wildlife, and human health will be considered.
Objective/Criterion Reference:	Placeholder reference 2006 303(d)
Evaluation Guideline:	0.3 ug/g Hg - OEHA Screening Value (Interim Health Advisory for Hg and PCB, Contra Costa County) (Brodberg and Pollock, 1999).
Guideline Reference:	Placeholder reference 2006 303(d)
Spatial Representation:	One station located on the lake.
Temporal Representation:	All samples were collected on 9/9/2002.
Environmental Conditions:	
QAPP Information:	Environmental Chemistry Quality Assurance and Data Report for the Toxic Substances Monitoring Program, 2001-2002. Department of Fish and Game.
QAPP Information Reference(s):	

Line of Evidence (LOE) for Decision ID 33200, Mercury

Region 2

Lafayette Reservoir

LOE ID:	92027
Pollutant:	Mercury
LOE Subgroup:	Pollutant-Tissue
Matrix:	Tissue
Fraction:	Fish fillet
Beneficial Use:	Commercial or recreational collection of fish, shellfish, or organisms
Number of Samples:	1
Number of Exceedances:	1
Data and Information Type:	Fish tissue analysis
Data Used to Assess Water Quality:	State Water Board staff assessed SWAMP data for Lafayette Reservoir to determine beneficial use support and results are as follows: 1 of 1 samples exceed the criterion for Mercury. Composites were generated from largemouth bass (11 composites - 1 fish per composite) and channel catfish (2 composites - 5 fish per composite). Composites were not spatially independent (as defined in the Listing Policy) and so were averaged by species. The 1 sample for largemouth bass exceeded the criterion. Two channel catfish composites could not be used in the assessment due to total fish lengths that did not fall within lengths noted in the guideline.
Data Reference:	Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Survey. A Report of the Surface Water Ambient Monitoring Program (SWAMP). California State Water Resources Control Board, Sacramento, CA Statewide Lakes Sportfish Contamination Study 2007 2008 Contaminants in Fish from California Lakes and Reservoirs, 2007-2008: Summary Report on a Two-Year Screening Survey Cruise report for the Surface Water Ambient Monitoring Program (SWAMP) bioaccumulation screening study in California lakes and reservoirs year two (FY 07-08).

[Sampling dates: April 2008 - November 2008.](#)

SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	Water Quality Control Plan for the San Francisco Bay Basin (2013): Controllable water quality factors shall not cause a detrimental increase in concentrations of toxic substances found in bottom sediments or aquatic life. Effects on aquatic organisms, wildlife, and human health will be considered.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	The USEPA 304(a) recommended water quality criterion for concentrations of methylmercury in fish tissue of trophic level 4 fish (150 - 500 mm; fillet wet weight) is 0.2 mg/kg. This assumes a consumption rate of 32 g/day. (USEPA, 2001)
Guideline Reference:	Water Quality Criterion for the Protection of Human Health: Methylmercury. Final. United States Environmental Protection Agency Office of Science and Technology Office of Water. EPA-823-R-01-001. January 2001
Spatial Representation:	Data for this assessment unit was collected by one monitoring project: (SWB_FishLk)
Temporal Representation:	Data was collected on a single day 6/19/2008.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	Samples were collected, processed, and analyzed in accordance with the methods described in Quality Assurance Project Plan "Screening Study of Bioaccumulation in California Lakes and Reservoirs." (SWAMP, 2008).
QAPP Information Reference(s):	Quality Assurance Project Plan Screening Study of Bioaccumulation in California Lakes and Reservoirs. Moss Landing Marine Labs. Prepared for SWAMP BOG. 49 pages plus appendices and attachments

DECISION ID	33201	Region 2
Lafayette Reservoir		

Pollutant:	PCBs (Polychlorinated biphenyls)
Final Listing Decision:	Do Not Delist from 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision:	List on 303(d) list (TMDL required list)(2012)
Revision Status	Revised
Sources:	Source Unknown
Expected TMDL Completion Date:	2019
Impairment from Pollutant or Pollution:	Pollutant
Regional Board Staff Conclusion:	<p>This pollutant is being considered for removal from the CWA section 303(d) List under section 4.1 of the Listing Policy. Under this section a single line of evidence is necessary to assess listing status.</p> <p>Four lines of evidence are available in the administrative record to assess pollutant. Two of three samples exceed the guideline.</p> <p>Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against removing this water segment-pollutant combination from the CWA section 303(d) List.</p> <p>This conclusion is based on the staff findings that:</p> <ol style="list-style-type: none">1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy.2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy.3. Two of three samples exceeded the guideline and this exceeds the allowable frequency listed in Table 4.1 of the Listing Policy.4. Pursuant to section 4.11 of the Listing Policy, no additional data and information are available indicating that standards are met.
Regional Board Staff Decision Recommendation:	After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be removed from the section 303(d) list because applicable water

quality standards for the pollutant are being exceeded.

Line of Evidence (LOE) for Decision ID 33201, PCBs (Polychlorinated biphenyls)

Region 2

Lafayette Reservoir

LOE ID:	694
Pollutant:	PCBs (Polychlorinated biphenyls)
LOE Subgroup:	Pollutant-Tissue
Matrix:	Tissue
Fraction:	Total
Beneficial Use:	Commercial or recreational collection of fish, shellfish, or organisms
Number of Samples:	3
Number of Exceedances:	2
Data and Information Type:	Fish tissue analysis
Data Used to Assess Water Quality:	Two out of 3 samples exceeded. A total of 3 composite samples were collected and analyzed from Lafayette Reservoir - 1 each: channel catfish, goldfish, and largemouth bass. Channel catfish and goldfish samples exceeded guideline (TSMP, 2002).
Data Reference:	Placeholder reference 2006 303(d)
SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	San Francisco Bay RWQCB Basin Plan: Many pollutants can accumulate on particles, in sediment, or bioaccumulate in fish and other aquatic organisms. Controllable water quality factors shall not cause a detrimental increase in concentrations of toxic substances found in bottom sediments or aquatic life. Effects on aquatic organisms, wildlife, and human health will be considered.
Objective/Criterion Reference:	Placeholder reference 2006 303(d)
Evaluation Guideline:	20.0 ng/g PCB - OEHHA Screening Value (Interim Health Advisory for Hg and PCB, Contra Costa County) (Brodberg and Pollock, 1999).
Guideline Reference:	Placeholder reference 2006 303(d)
Spatial Representation:	One station located on the lake.
Temporal Representation:	All samples were collected on 9/9/2002.
Environmental Conditions:	
QAPP Information:	Environmental Chemical Quality Assurance and Data Report for the Toxic Substances Monitoring Program. 2001-2002. Department of Fish and Game.
QAPP Information Reference(s):	

Line of Evidence (LOE) for Decision ID 33201, PCBs (Polychlorinated biphenyls)

Region 2

Lafayette Reservoir

LOE ID:	92032
Pollutant:	PCBs (Polychlorinated biphenyls)
LOE Subgroup:	Pollutant-Tissue
Matrix:	Tissue
Fraction:	Fish fillet
Beneficial Use:	Cold Freshwater Habitat
Number of Samples:	1
Number of Exceedances:	0
Data and Information Type:	Fish tissue analysis
Data Used to Assess Water Quality:	State Water Board staff assessed SWAMP data for Lafayette Reservoir to determine

	beneficial use support and results are as follows: 0 of 1 samples exceed the criterion for PCB, Total. One composite (5 fish per composite) was generated from one species: Channel Catfish. Details of the compositing protocol can be found in the March 2009 report entitled: "Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Study" (SWAMP, 2009). Total PCB was assessed for as follows: PCB aroclors and congeners were summed separately and the sum that yielded the highest value was used for the assessment.
Data Reference:	Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Survey. A Report of the Surface Water Ambient Monitoring Program (SWAMP). California State Water Resources Control Board, Sacramento, CA Statewide Lakes Sportfish Contamination Study 2007 2008 Contaminants in Fish from California Lakes and Reservoirs, 2007-2008: Summary Report on a Two-Year Screening Survey Cruise report for the Surface Water Ambient Monitoring Program (SWAMP) bioaccumulation screening study in California lakes and reservoirs year two (FY 07-08). Sampling dates: April 2008 - November 2008.
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	Water Quality Control Plan for the San Francisco Bay Basin (2013): Controllable water quality factors shall not cause a detrimental increase in concentrations of toxic substances found in bottom sediments or aquatic life. Effects on aquatic organisms, wildlife, and human health will be considered.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	National Academy of Science guidelines (NAS 1972) establish a maximum total PCB concentration of 500 ug/Kg (wet weight) in tissue samples for protection of aquatic life from bioaccumulation of toxic substances.
Guideline Reference:	National Academy of Sciences. Water Quality Criteria 1972. EPA-R3-73-033. Washington, D.C.: U.S. Environmental Protection Agency
Spatial Representation:	Data for this assessment unit was collected by one monitoring project: (SWB_FishLk)
Temporal Representation:	Data was collected on a single day 6/19/2008.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	Samples were collected, processed, and analyzed in accordance with the methods described in Quality Assurance Project Plan "Screening Study of Bioaccumulation in California Lakes and Reservoirs." (SWAMP, 2008).
QAPP Information Reference(s):	Quality Assurance Project Plan Screening Study of Bioaccumulation in California Lakes and Reservoirs. Moss Landing Marine Labs. Prepared for SWAMP BOG, 49 pages plus appendices and attachments

Line of Evidence (LOE) for Decision ID 33201, PCBs (Polychlorinated biphenyls)

Region 2

Lafayette Reservoir

LOE ID:	92033
Pollutant:	PCBs (Polychlorinated biphenyls)
LOE Subgroup:	Pollutant-Tissue
Matrix:	Tissue
Fraction:	Fish fillet
Beneficial Use:	Warm Freshwater Habitat
Number of Samples:	1
Number of Exceedances:	0
Data and Information Type:	Fish tissue analysis
Data Used to Assess Water Quality:	State Water Board staff assessed SWAMP data for Lafayette Reservoir to determine beneficial use support and results are as follows: 0 of 1 samples exceed the criterion for PCB, Total. One composite (5 fish per composite) was generated from one species: Channel Catfish. Details of the compositing protocol can be found in the March 2009 report entitled: "Contaminants in Fish from California Lakes and Reservoirs: Technical

Data Reference:	Report on Year One of a Two-Year Screening Study" (SWAMP, 2009). Total PCB was assessed for as follows: PCB aroclors and congeners were summed separately and the sum that yielded the highest value was used for the assessment. Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Survey. A Report of the Surface Water Ambient Monitoring Program (SWAMP). California State Water Resources Control Board, Sacramento, CA Statewide Lakes Sportfish Contamination Study 2007 2008 Contaminants in Fish from California Lakes and Reservoirs, 2007-2008: Summary Report on a Two-Year Screening Survey Cruise report for the Surface Water Ambient Monitoring Program (SWAMP) bioaccumulation screening study in California lakes and reservoirs year two (FY 07-08). Sampling dates: April 2008 - November 2008.
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	Water Quality Control Plan for the San Francisco Bay Basin (2013): Controllable water quality factors shall not cause a detrimental increase in concentrations of toxic substances found in bottom sediments or aquatic life. Effects on aquatic organisms, wildlife, and human health will be considered.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	National Academy of Science guidelines (NAS 1972) establish a maximum total PCB concentration of 500 ug/Kg (wet weight) in tissue samples for protection of aquatic life from bioaccumulation of toxic substances.
Guideline Reference:	National Academy of Sciences. Water Quality Criteria 1972. EPA-R3-73-033. Washington, D.C.: U.S. Environmental Protection Agency
Spatial Representation:	Data for this assessment unit was collected by one monitoring project: (SWB_FishLk)
Temporal Representation:	Data was collected on a single day 6/19/2008.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	Samples were collected, processed, and analyzed in accordance with the methods described in Quality Assurance Project Plan "Screening Study of Bioaccumulation in California Lakes and Reservoirs." (SWAMP, 2008).
QAPP Information Reference(s):	Quality Assurance Project Plan Screening Study of Bioaccumulation in California Lakes and Reservoirs. Moss Landing Marine Labs. Prepared for SWAMP BOG. 49 pages plus appendices and attachments

Line of Evidence (LOE) for Decision ID 33201, PCBs (Polychlorinated biphenyls)

Region 2

Lafayette Reservoir

LOE ID:	92037
Pollutant:	PCBs (Polychlorinated biphenyls)
LOE Subgroup:	Pollutant-Tissue
Matrix:	Tissue
Fraction:	Fish fillet
Beneficial Use:	Commercial or recreational collection of fish, shellfish, or organisms
Number of Samples:	1
Number of Exceedances:	1
Data and Information Type:	Fish tissue analysis
Data Used to Assess Water Quality:	State Water Board staff assessed SWAMP data for Lafayette Reservoir to determine beneficial use support and results are as follows: 1 of 1 samples exceed the criterion for PCB, Total. One composite (5 fish per composite) was generated from one species: Channel Catfish. Details of the compositing protocol can be found in the March 2009 report entitled: "Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Study" (SWAMP, 2009). Total PCB was assessed for as follows: PCB aroclors and congeners were summed separately and the sum that yielded the highest value was used for the assessment.
Data Reference:	Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year

[One of a Two-Year Screening Survey. A Report of the Surface Water Ambient Monitoring Program \(SWAMP\). California State Water Resources Control Board, Sacramento, CA Statewide Lakes Sportfish Contamination Study 2007 2008](#)
[Contaminants in Fish from California Lakes and Reservoirs, 2007-2008: Summary Report on a Two-Year Screening Survey](#)
[Cruise report for the Surface Water Ambient Monitoring Program \(SWAMP\) bioaccumulation screening study in California lakes and reservoirs year two \(FY 07-08\). Sampling dates: April 2008 - November 2008.](#)

SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	Water Quality Control Plan for the San Francisco Bay Basin (2013): Controllable water quality factors shall not cause a detrimental increase in concentrations of toxic substances found in bottom sediments or aquatic life. Effects on aquatic organisms, wildlife, and human health will be considered.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	The modified OEHHA Fish Contaminant Goal for polychlorinated biphenyls in fish tissue is 2.6 ppb. This screening level assumes an average body weight of 70 kg and a consumption rate of 32 g/day for a 30 year exposure over a 70-year lifetime. This constituent is a carcinogen therefore the risk level is set to one in a million. A cooking reduction factor of 1 is applied for skin-off fillets. (Klasing, S., and R. Brodberg, 2008)
Guideline Reference:	Development of Fish Contaminant Goals and Advisory Tissue Levels for Common Contaminants in California Sport Fish: Chlordane, DDTs, Dieldrin, Methylmercury, PCBs, Selenium, and Toxaphene
Spatial Representation:	Data for this assessment unit was collected by one monitoring project: (SWB_FishLk)
Temporal Representation:	Data was collected on a single day 6/19/2008.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	Samples were collected, processed, and analyzed in accordance with the methods described in Quality Assurance Project Plan "Screening Study of Bioaccumulation in California Lakes and Reservoirs." (SWAMP, 2008).
QAPP Information Reference(s):	Quality Assurance Project Plan Screening Study of Bioaccumulation in California Lakes and Reservoirs. Moss Landing Marine Labs. Prepared for SWAMP BOG. 49 pages plus appendices and attachments

DECISION ID	64918	Region 2
Lafayette Reservoir		

Pollutant:	Aldrin
Final Listing Decision:	Do Not List on 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision:	New Decision
Revision Status	Revised
Impairment from Pollutant or Pollution:	Pollutant
Regional Board Staff Conclusion:	<p>This pollutant is being considered for placement on the CWA section 303(d) List under section 3.5 of the Listing Policy. Under section 3.5 a single line of evidence is necessary to assess listing status. Two lines of evidence are available in the administrative record to assess this pollutant. Zero of one samples exceed the OEHHA guideline.</p> <p>Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against placing this water segment-pollutant combination on the CWA section 303(d) List.</p> <p>This conclusion is based on the staff findings that:</p> <ol style="list-style-type: none"> 1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy. 2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy. 3. Zero of one samples exceed the OEHHA guideline and this sample size is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support

rating. A minimum of 16 samples is needed to determine if a beneficial use is fully supported using table 3.1.

4. Pursuant to SECTION 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.

Regional Board Staff Decision Recommendation: After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be placed on the section 303(d) list. The readily available data and information is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating.

**Line of Evidence (LOE) for Decision ID 64918, Aldrin
Lafayette Reservoir**

Region 2

LOE ID:	91932
Pollutant:	Aldrin
LOE Subgroup:	Pollutant-Tissue
Matrix:	Tissue
Fraction:	Fish fillet
Beneficial Use:	Warm Freshwater Habitat
Number of Samples:	1
Number of Exceedances:	0
Data and Information Type:	Fish tissue analysis
Data Used to Assess Water Quality:	State Water Board staff assessed SWAMP data for Lafayette Reservoir to determine beneficial use support and results are as follows: 0 of 1 samples exceed the criterion for Aldrin. One composite (5 fish per composite) was generated from one species: Channel Catfish. Details of the compositing protocol can be found in the March 2009 report entitled: "Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Study" (SWAMP, 2009).
Data Reference:	Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Survey. A Report of the Surface Water Ambient Monitoring Program (SWAMP). California State Water Resources Control Board, Sacramento, CA Statewide Lakes Sportfish Contamination Study 2007 2008 Contaminants in Fish from California Lakes and Reservoirs, 2007-2008: Summary Report on a Two-Year Screening Survey Cruise report for the Surface Water Ambient Monitoring Program (SWAMP) bioaccumulation screening study in California lakes and reservoirs year two (FY 07-08). Sampling dates: April 2008 - November 2008.
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	Water Quality Control Plan for the San Francisco Bay Basin: Controllable water quality factors shall not cause a detrimental increase in concentrations of toxic substances found in bottom sediments or aquatic life. Effects on aquatic organisms, wildlife, and human health will be considered.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	National Academy of Science guidelines (NAS 1972) establish a maximum Aldrin concentration of 100 ug/Kg (wet weight) in tissue samples for protection of aquatic life from bioaccumulation of toxic substances.
Guideline Reference:	National Academy of Sciences. Water Quality Criteria 1972. EPA-R3-73-033. Washington, D.C.: U.S. Environmental Protection Agency
Spatial Representation:	Data for this assessment unit was collected by one monitoring project: (SWB_FishLk)
Temporal Representation:	Data was collected on a single day 6/19/2008.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	Samples were collected, processed, and analyzed in accordance with the methods described in Quality Assurance Project Plan "Screening Study of Bioaccumulation in

QAPP Information Reference(s):	California Lakes and Reservoirs." (SWAMP, 2008). Quality Assurance Project Plan Screening Study of Bioaccumulation in California Lakes and Reservoirs. Moss Landing Marine Labs. Prepared for SWAMP BOG. 49 pages plus appendices and attachments
Line of Evidence (LOE) for Decision ID 64918, Aldrin	
Lafayette Reservoir	
LOE ID:	91933
Pollutant:	Aldrin
LOE Subgroup:	Pollutant-Tissue
Matrix:	Tissue
Fraction:	Fish fillet
Beneficial Use:	Cold Freshwater Habitat
Number of Samples:	1
Number of Exceedances:	0
Data and Information Type:	Fish tissue analysis
Data Used to Assess Water Quality:	State Water Board staff assessed SWAMP data for Lafayette Reservoir to determine beneficial use support and results are as follows: 0 of 1 samples exceed the criterion for Aldrin. One composite (5 fish per composite) was generated from one species: Channel Catfish. Details of the compositing protocol can be found in the March 2009 report entitled: "Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Study" (SWAMP, 2009).
Data Reference:	Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Survey. A Report of the Surface Water Ambient Monitoring Program (SWAMP). California State Water Resources Control Board, Sacramento, CA Statewide Lakes Sportfish Contamination Study 2007 2008 Contaminants in Fish from California Lakes and Reservoirs, 2007-2008: Summary Report on a Two-Year Screening Survey Cruise report for the Surface Water Ambient Monitoring Program (SWAMP) bioaccumulation screening study in California lakes and reservoirs year two (FY 07-08). Sampling dates: April 2008 - November 2008.
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	Water Quality Control Plan for the San Francisco Bay Basin: Controllable water quality factors shall not cause a detrimental increase in concentrations of toxic substances found in bottom sediments or aquatic life. Effects on aquatic organisms, wildlife, and human health will be considered.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	National Academy of Science guidelines (NAS 1972) establish a maximum Aldrin concentration of 100 ug/Kg (wet weight) in tissue samples for protection of aquatic life from bioaccumulation of toxic substances.
Guideline Reference:	National Academy of Sciences. Water Quality Criteria 1972. EPA-R3-73-033. Washington, D.C.: U.S. Environmental Protection Agency
Spatial Representation:	Data for this assessment unit was collected by one monitoring project: (SWB_FishLk)
Temporal Representation:	Data was collected on a single day 6/19/2008.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	Samples were collected, processed, and analyzed in accordance with the methods described in Quality Assurance Project Plan "Screening Study of Bioaccumulation in California Lakes and Reservoirs." (SWAMP, 2008).
QAPP Information Reference(s):	Quality Assurance Project Plan Screening Study of Bioaccumulation in California Lakes and Reservoirs. Moss Landing Marine Labs. Prepared for SWAMP BOG. 49 pages plus appendices and attachments

Pollutant:	Chlordane
Final Listing Decision:	Do Not List on 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision:	New Decision
Revision Status	Revised
Impairment from Pollutant or Pollution:	Pollutant

Regional Board Staff Conclusion: This pollutant is being considered for placement on the CWA section 303(d) List under section 3.5 of the Listing Policy. Under section 3.5 a single line of evidence is necessary to assess listing status. Three lines of evidence are available in the administrative record to assess this pollutant. Zero of one samples exceed the OEHHHA guideline.

Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against placing this water segment-pollutant combination on the CWA section 303(d) List.

This conclusion is based on the staff findings that:

1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy.
2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy.
3. Zero of one samples exceed the OEHHHA guideline and this sample size is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating. A minimum of 16 samples is needed to determine if a beneficial use is fully supported using table 3.1.
4. Pursuant to SECTION 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.

Regional Board Staff Decision Recommendation: After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be placed on the section 303(d) list. The readily available data and information is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating.

Line of Evidence (LOE) for Decision ID 64919, Chlordane	Region 2
Lafayette Reservoir	

LOE ID:	91934
Pollutant:	Chlordane
LOE Subgroup:	Pollutant-Tissue
Matrix:	Tissue
Fraction:	Fish fillet
Beneficial Use:	Warm Freshwater Habitat
Number of Samples:	1
Number of Exceedances:	0
Data and Information Type:	Fish tissue analysis
Data Used to Assess Water Quality:	State Water Board staff assessed SWAMP data for Lafayette Reservoir to determine beneficial use support and results are as follows: 0 of 1 samples exceed the criterion for Chlordane, Total. One composite (5 fish per composite) was generated from one species: Channel Catfish. Details of the compositing protocol can be found in the March 2009 report entitled: "Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Study" (SWAMP, 2009). Total chlordane was calculated as the sum of the following chlordane isomers: cis- and trans-chlordane, cis- and trans-nonachlor, and oxychlordane.
Data Reference:	Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year

[One of a Two-Year Screening Survey. A Report of the Surface Water Ambient Monitoring Program \(SWAMP\). California State Water Resources Control Board, Sacramento, CA Statewide Lakes Sportfish Contamination Study 2007 2008](#)
[Contaminants in Fish from California Lakes and Reservoirs, 2007-2008: Summary Report on a Two-Year Screening Survey](#)
[Cruise report for the Surface Water Ambient Monitoring Program \(SWAMP\) bioaccumulation screening study in California lakes and reservoirs year two \(FY 07-08\). Sampling dates: April 2008 - November 2008.](#)

SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	Water Quality Control Plan for the San Francisco Bay Basin: Controllable water quality factors shall not cause a detrimental increase in concentrations of toxic substances found in bottom sediments or aquatic life. Effects on aquatic organisms, wildlife, and human health will be considered.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	National Academy of Science guidelines (NAS 1972) establish a maximum total Chlordane concentration of 100 ug/Kg (wet weight) in tissue samples for protection of aquatic life from bioaccumulation of toxic substances.
Guideline Reference:	National Academy of Sciences. Water Quality Criteria 1972. EPA-R3-73-033. Washington, D.C.: U.S. Environmental Protection Agency
Spatial Representation:	Data for this assessment unit was collected by one monitoring project: (SWB_FishLk)
Temporal Representation:	Data was collected on a single day 6/19/2008.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	Samples were collected, processed, and analyzed in accordance with the methods described in Quality Assurance Project Plan "Screening Study of Bioaccumulation in California Lakes and Reservoirs." (SWAMP, 2008).
QAPP Information Reference(s):	Quality Assurance Project Plan Screening Study of Bioaccumulation in California Lakes and Reservoirs. Moss Landing Marine Labs. Prepared for SWAMP BOG. 49 pages plus appendices and attachments

Line of Evidence (LOE) for Decision ID 64919, Chlordane
Lafayette Reservoir

Region 2

LOE ID:	91935
Pollutant:	Chlordane
LOE Subgroup:	Pollutant-Tissue
Matrix:	Tissue
Fraction:	Fish fillet
Beneficial Use:	Cold Freshwater Habitat
Number of Samples:	1
Number of Exceedances:	0
Data and Information Type:	Fish tissue analysis
Data Used to Assess Water Quality:	State Water Board staff assessed SWAMP data for Lafayette Reservoir to determine beneficial use support and results are as follows: 0 of 1 samples exceed the criterion for Chlordane, Total. One composite (5 fish per composite) was generated from one species: Channel Catfish. Details of the compositing protocol can be found in the March 2009 report entitled: "Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Study" (SWAMP, 2009). Total chlordane was calculated as the sum of the following chlordane isomers: cis- and trans-chlordane, cis- and trans-nonachlor, and oxychlordane.
Data Reference:	Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Survey. A Report of the Surface Water Ambient Monitoring Program (SWAMP). California State Water Resources Control Board, Sacramento, CA Statewide Lakes Sportfish Contamination Study 2007 2008 Contaminants in Fish from California Lakes and Reservoirs, 2007-2008: Summary Report

[on a Two-Year Screening Survey](#)
[Cruise report for the Surface Water Ambient Monitoring Program \(SWAMP\)](#)
[bioaccumulation screening study in California lakes and reservoirs year two \(FY 07-08\).](#)
[Sampling dates: April 2008 - November 2008.](#)

SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	Water Quality Control Plan for the San Francisco Bay Basin: Controllable water quality factors shall not cause a detrimental increase in concentrations of toxic substances found in bottom sediments or aquatic life. Effects on aquatic organisms, wildlife, and human health will be considered.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	National Academy of Science guidelines (NAS 1972) establish a maximum total Chlordane concentration of 100 ug/Kg (wet weight) in tissue samples for protection of aquatic life from bioaccumulation of toxic substances.
Guideline Reference:	National Academy of Sciences. Water Quality Criteria 1972. EPA-R3-73-033. Washington, D.C.: U.S. Environmental Protection Agency
Spatial Representation:	Data for this assessment unit was collected by one monitoring project: (SWB_FishLk)
Temporal Representation:	Data was collected on a single day 6/19/2008.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	Samples were collected, processed, and analyzed in accordance with the methods described in Quality Assurance Project Plan "Screening Study of Bioaccumulation in California Lakes and Reservoirs." (SWAMP, 2008).
QAPP Information Reference(s):	Quality Assurance Project Plan Screening Study of Bioaccumulation in California Lakes and Reservoirs. Moss Landing Marine Labs. Prepared for SWAMP BOG, 49 pages plus appendices and attachments

Line of Evidence (LOE) for Decision ID 64919, Chlordane

Region 2

Lafayette Reservoir

LOE ID:	91936
Pollutant:	Chlordane
LOE Subgroup:	Pollutant-Tissue
Matrix:	Tissue
Fraction:	Fish fillet
Beneficial Use:	Commercial or recreational collection of fish, shellfish, or organisms
Number of Samples:	1
Number of Exceedances:	0
Data and Information Type:	Fish tissue analysis
Data Used to Assess Water Quality:	State Water Board staff assessed SWAMP data for Lafayette Reservoir to determine beneficial use support and results are as follows: 0 of 1 samples exceed the criterion for Chlordane, Total. One composite (5 fish per composite) was generated from one species: Channel Catfish. Details of the compositing protocol can be found in the March 2009 report entitled: "Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Study" (SWAMP, 2009). Total chlordane was calculated as the sum of the following chlordane isomers: cis- and trans-chlordane, cis- and trans-nonachlor, and oxychlordane.
Data Reference:	Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Survey. A Report of the Surface Water Ambient Monitoring Program (SWAMP). California State Water Resources Control Board, Sacramento, CA Statewide Lakes Sportfish Contamination Study 2007 2008 Contaminants in Fish from California Lakes and Reservoirs, 2007-2008: Summary Report on a Two-Year Screening Survey Cruise report for the Surface Water Ambient Monitoring Program (SWAMP) bioaccumulation screening study in California lakes and reservoirs year two (FY 07-08). Sampling dates: April 2008 - November 2008.

SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	Water Quality Control Plan for the San Francisco Bay Basin: Controllable water quality factors shall not cause a detrimental increase in concentrations of toxic substances found in bottom sediments or aquatic life. Effects on aquatic organisms, wildlife, and human health will be considered.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	The modified OEHHA Fish Contaminant Goal for total chlordane in fish tissue is 3.9 ppb. This screening level assumes an average body weight of 70 kg and a consumption rate of 32 g/day for a 30 year exposure over a 70-year lifetime. This constituent is a carcinogen therefore the risk level is set to one in a million. A cooking reduction factor of 1 is applied for skin-off fillets. (Klasing, S., and R. Brodberg, 2008)
Guideline Reference:	Development of Fish Contaminant Goals and Advisory Tissue Levels for Common Contaminants in California Sport Fish: Chlordane, DDTs, Dieldrin, Methylmercury, PCBs, Selenium, and Toxaphene
Spatial Representation:	Data for this assessment unit was collected by one monitoring project: (SWB_FishLk)
Temporal Representation:	Data was collected on a single day 6/19/2008.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	Samples were collected, processed, and analyzed in accordance with the methods described in Quality Assurance Project Plan "Screening Study of Bioaccumulation in California Lakes and Reservoirs." (SWAMP, 2008).
QAPP Information Reference(s):	Quality Assurance Project Plan Screening Study of Bioaccumulation in California Lakes and Reservoirs. Moss Landing Marine Labs. Prepared for SWAMP BOG, 49 pages plus appendices and attachments

DECISION ID	64940	Region 2
Lafayette Reservoir		
Pollutant:	DDT (Dichlorodiphenyltrichloroethane)	
Final Listing Decision:	Do Not List on 303(d) list (TMDL required list)	
Last Listing Cycle's Final Listing Decision:	New Decision	
Revision Status	Revised	
Impairment from Pollutant or Pollution:	Pollutant	
Regional Board Staff Conclusion:	<p>This pollutant is being considered for placement on the CWA section 303(d) List under section 3.5 of the Listing Policy. Under section 3.5 a single line of evidence is necessary to assess listing status. Three lines of evidence are available in the administrative record to assess this pollutant. Zero of one samples exceed the OEHHA guideline.</p> <p>Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against placing this water segment-pollutant combination on the CWA section 303(d) List.</p> <p>This conclusion is based on the staff findings that:</p> <ol style="list-style-type: none"> 1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy. 2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy. 3. Zero of one samples exceed the OEHHA guideline and this sample size is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating. A minimum of 16 samples is needed to determine if a beneficial use is fully supported using table 3.1. 4. Pursuant to SECTION 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met. 	
Regional Board Staff Decision Recommendation:	After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be placed on the section 303(d) list. The readily available data and information is insufficient to determine, with the power and confidence of the Listing Policy, the	

Line of Evidence (LOE) for Decision ID 64940, DDT (Dichlorodiphenyltrichloroethane)**Region 2****Lafayette Reservoir**

LOE ID:	92039
Pollutant:	Total DDT (sum of 4,4'- and 2,4'- isomers of DDT, DDE, and DDD)
LOE Subgroup:	Pollutant-Tissue
Matrix:	Tissue
Fraction:	Fish fillet
Beneficial Use:	Warm Freshwater Habitat
Number of Samples:	1
Number of Exceedances:	0
Data and Information Type:	Fish tissue analysis
Data Used to Assess Water Quality:	State Water Board staff assessed SWAMP data for Lafayette Reservoir to determine beneficial use support and results are as follows: 0 of 1 samples exceed the criterion for DDT, Total. One composite (5 fish per composite) was generated from one species: Channel Catfish. Details of the compositing protocol can be found in the March 2009 report entitled: "Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Study" (SWAMP, 2009). Total DDT was calculated as the sum of 4,4'- and 2,4'- isomers of DDT, DDE, and DDD.
Data Reference:	Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Survey. A Report of the Surface Water Ambient Monitoring Program (SWAMP). California State Water Resources Control Board, Sacramento, CA Statewide Lakes Sportfish Contamination Study 2007 2008 Contaminants in Fish from California Lakes and Reservoirs, 2007-2008: Summary Report on a Two-Year Screening Survey Cruise report for the Surface Water Ambient Monitoring Program (SWAMP) bioaccumulation screening study in California lakes and reservoirs year two (FY 07-08). Sampling dates: April 2008 - November 2008.
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	Water Quality Control Plan for the San Francisco Bay Basin: Controllable water quality factors shall not cause a detrimental increase in concentrations of toxic substances found in bottom sediments or aquatic life. Effects on aquatic organisms, wildlife, and human health will be considered.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	National Academy of Science guidelines (NAS 1972) establish a maximum total DDT concentration of 1000 ug/Kg (wet weight) in tissue samples for protection of aquatic life from bioaccumulation of toxic substances.
Guideline Reference:	National Academy of Sciences. Water Quality Criteria 1972. EPA-R3-73-033. Washington, D.C.: U.S. Environmental Protection Agency
Spatial Representation:	Data for this assessment unit was collected by one monitoring project: (SWB_FishLk)
Temporal Representation:	Data was collected on a single day 6/19/2008.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	Samples were collected, processed, and analyzed in accordance with the methods described in Quality Assurance Project Plan "Screening Study of Bioaccumulation in California Lakes and Reservoirs." (SWAMP, 2008).
QAPP Information Reference(s):	Quality Assurance Project Plan Screening Study of Bioaccumulation in California Lakes and Reservoirs. Moss Landing Marine Labs. Prepared for SWAMP BOG, 49 pages plus appendices and attachments

Line of Evidence (LOE) for Decision ID 64940, DDT (Dichlorodiphenyltrichloroethane)**Region 2**

Lafayette Reservoir

LOE ID:	92041
Pollutant:	Total DDT (sum of 4,4'- and 2,4'- isomers of DDT, DDE, and DDD)
LOE Subgroup:	Pollutant-Tissue
Matrix:	Tissue
Fraction:	Fish fillet
Beneficial Use:	Cold Freshwater Habitat
Number of Samples:	1
Number of Exceedances:	0
Data and Information Type:	Fish tissue analysis
Data Used to Assess Water Quality:	State Water Board staff assessed SWAMP data for Lafayette Reservoir to determine beneficial use support and results are as follows: 0 of 1 samples exceed the criterion for DDT, Total. One composite (5 fish per composite) was generated from one species: Channel Catfish. Details of the compositing protocol can be found in the March 2009 report entitled: "Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Study" (SWAMP, 2009). Total DDT was calculated as the sum of 4,4'- and 2,4'- isomers of DDT, DDE, and DDD.
Data Reference:	Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Survey. A Report of the Surface Water Ambient Monitoring Program (SWAMP). California State Water Resources Control Board, Sacramento, CA Statewide Lakes Sportfish Contamination Study 2007 2008 Contaminants in Fish from California Lakes and Reservoirs, 2007-2008: Summary Report on a Two-Year Screening Survey Cruise report for the Surface Water Ambient Monitoring Program (SWAMP) bioaccumulation screening study in California lakes and reservoirs year two (FY 07-08). Sampling dates: April 2008 - November 2008.
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	Water Quality Control Plan for the San Francisco Bay Basin: Controllable water quality factors shall not cause a detrimental increase in concentrations of toxic substances found in bottom sediments or aquatic life. Effects on aquatic organisms, wildlife, and human health will be considered.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	National Academy of Science guidelines (NAS 1972) establish a maximum total DDT concentration of 1000 ug/Kg (wet weight) in tissue samples for protection of aquatic life from bioaccumulation of toxic substances.
Guideline Reference:	National Academy of Sciences. Water Quality Criteria 1972. EPA-R3-73-033. Washington, D.C.: U.S. Environmental Protection Agency
Spatial Representation:	Data for this assessment unit was collected by one monitoring project: (SWB_FishLk)
Temporal Representation:	Data was collected on a single day 6/19/2008.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	Samples were collected, processed, and analyzed in accordance with the methods described in Quality Assurance Project Plan "Screening Study of Bioaccumulation in California Lakes and Reservoirs." (SWAMP, 2008).
QAPP Information Reference(s):	Quality Assurance Project Plan Screening Study of Bioaccumulation in California Lakes and Reservoirs. Moss Landing Marine Labs. Prepared for SWAMP BOG. 49 pages plus appendices and attachments

Line of Evidence (LOE) for Decision ID 64940, DDT (Dichlorodiphenyltrichloroethane)

Region 2

Lafayette Reservoir

LOE ID:	92042
Pollutant:	Total DDT (sum of 4,4'- and 2,4'- isomers of DDT, DDE, and DDD)

LOE Subgroup:	Pollutant-Tissue
Matrix:	Tissue
Fraction:	Fish fillet
Beneficial Use:	Commercial or recreational collection of fish, shellfish, or organisms
Number of Samples:	1
Number of Exceedances:	0
Data and Information Type:	Fish tissue analysis
Data Used to Assess Water Quality:	State Water Board staff assessed SWAMP data for Lafayette Reservoir to determine beneficial use support and results are as follows: 0 of 1 samples exceed the criterion for DDT, Total. One composite (5 fish per composite) was generated from one species: Channel Catfish. Details of the compositing protocol can be found in the March 2009 report entitled: "Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Study" (SWAMP, 2009). Total DDT was calculated as the sum of 4,4'- and 2,4'- isomers of DDT, DDE, and DDD.
Data Reference:	Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Survey. A Report of the Surface Water Ambient Monitoring Program (SWAMP). California State Water Resources Control Board, Sacramento, CA Statewide Lakes Sportfish Contamination Study 2007 2008 Contaminants in Fish from California Lakes and Reservoirs, 2007-2008: Summary Report on a Two-Year Screening Survey Cruise report for the Surface Water Ambient Monitoring Program (SWAMP) bioaccumulation screening study in California lakes and reservoirs year two (FY 07-08). Sampling dates: April 2008 - November 2008.
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	Water Quality Control Plan for the San Francisco Bay Basin: Controllable water quality factors shall not cause a detrimental increase in concentrations of toxic substances found in bottom sediments or aquatic life. Effects on aquatic organisms, wildlife, and human health will be considered.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	The modified OEHHA Fish Contaminant Goal for total DDT in fish tissue is 15 ppb. This screening level assumes an average body weight of 70 kg and a consumption rate of 32 g/day for a 30 year exposure over a 70-year lifetime. This constituent is a carcinogen therefore the risk level is set to one in a million. A cooking reduction factor of 1 is applied for skin-off fillets. (Klasing, S., and R. Brodberg, 2008)
Guideline Reference:	Development of Fish Contaminant Goals and Advisory Tissue Levels for Common Contaminants in California Sport Fish: Chlordane, DDTs, Dieldrin, Methylmercury, PCBs, Selenium, and Toxaphene
Spatial Representation:	Data for this assessment unit was collected by one monitoring project: (SWB_FishLk)
Temporal Representation:	Data was collected on a single day 6/19/2008.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	Samples were collected, processed, and analyzed in accordance with the methods described in Quality Assurance Project Plan "Screening Study of Bioaccumulation in California Lakes and Reservoirs." (SWAMP, 2008).
QAPP Information Reference(s):	Quality Assurance Project Plan Screening Study of Bioaccumulation in California Lakes and Reservoirs. Moss Landing Marine Labs. Prepared for SWAMP BOG. 49 pages plus appendices and attachments

DECISION ID	64920	Region 2
Lafayette Reservoir		

Pollutant:	Dieldrin
Final Listing Decision:	Do Not List on 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision:	New Decision

Revision Status
Impairment from Pollutant or
Pollution:

Revised
Pollutant

Regional Board Staff
Conclusion:

This pollutant is being considered for placement on the CWA section 303(d) List under section 3.5 of the Listing Policy. Under section 3.5 a single line of evidence is necessary to assess listing status. Three lines of evidence are available in the administrative record to assess this pollutant. Zero of one samples exceed the OEHHHA guideline.

Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against placing this water segment-pollutant combination on the CWA section 303(d) List.

This conclusion is based on the staff findings that:

1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy.
2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy.
3. Zero of one samples exceed the OEHHHA guideline and this sample size is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating. A minimum of 16 samples is needed to determine if a beneficial use is fully supported using table 3.1.
4. Pursuant to SECTION 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.

Regional Board Staff Decision
Recommendation:

After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be placed on the section 303(d) list. The readily available data and information is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating.

Line of Evidence (LOE) for Decision ID 64920, Dieldrin
Lafayette Reservoir

Region 2

LOE ID: 91937

Pollutant: Dieldrin
LOE Subgroup: Pollutant-Tissue
Matrix: Tissue
Fraction: Fish fillet

Beneficial Use: Warm Freshwater Habitat

Number of Samples: 1
Number of Exceedances: 0

Data and Information Type: Fish tissue analysis
Data Used to Assess Water Quality: State Water Board staff assessed SWAMP data for Lafayette Reservoir to determine beneficial use support and results are as follows: 0 of 1 samples exceed the criterion for Dieldrin. One composite (5 fish per composite) was generated from one species: Channel Catfish. Details of the compositing protocol can be found in the March 2009 report entitled: "Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Study" (SWAMP, 2009).

Data Reference: [Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Survey. A Report of the Surface Water Ambient Monitoring Program \(SWAMP\). California State Water Resources Control Board, Sacramento, CA Statewide Lakes Sportfish Contamination Study 2007 2008](#)
[Contaminants in Fish from California Lakes and Reservoirs, 2007-2008: Summary Report on a Two-Year Screening Survey](#)
[Cruise report for the Surface Water Ambient Monitoring Program \(SWAMP\) bioaccumulation screening study in California lakes and reservoirs year two \(FY 07-08\). Sampling dates: April 2008 - November 2008.](#)

SWAMP Data: SWAMP

Water Quality Objective/Criterion:	Water Quality Control Plan for the San Francisco Bay Basin: Controllable water quality factors shall not cause a detrimental increase in concentrations of toxic substances found in bottom sediments or aquatic life. Effects on aquatic organisms, wildlife, and human health will be considered.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	National Academy of Science guidelines (NAS 1972) establish a maximum Dieldrin concentration of 100 ug/Kg (wet weight) in tissue samples for protection of aquatic life from bioaccumulation of toxic substances.
Guideline Reference:	National Academy of Sciences. Water Quality Criteria 1972. EPA-R3-73-033. Washington, D.C.: U.S. Environmental Protection Agency
Spatial Representation:	Data for this assessment unit was collected by one monitoring project: (SWB_FishLk)
Temporal Representation:	Data was collected on a single day 6/19/2008.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	Samples were collected, processed, and analyzed in accordance with the methods described in Quality Assurance Project Plan "Screening Study of Bioaccumulation in California Lakes and Reservoirs." (SWAMP, 2008).
QAPP Information Reference(s):	Quality Assurance Project Plan Screening Study of Bioaccumulation in California Lakes and Reservoirs. Moss Landing Marine Labs. Prepared for SWAMP BOG. 49 pages plus appendices and attachments

Line of Evidence (LOE) for Decision ID 64920, Dieldrin

Region 2

Lafayette Reservoir

LOE ID:	91917
Pollutant:	Dieldrin
LOE Subgroup:	Pollutant-Tissue
Matrix:	Tissue
Fraction:	Fish fillet
Beneficial Use:	Cold Freshwater Habitat
Number of Samples:	1
Number of Exceedances:	0
Data and Information Type:	Fish tissue analysis
Data Used to Assess Water Quality:	State Water Board staff assessed SWAMP data for Lafayette Reservoir to determine beneficial use support and results are as follows: 0 of 1 samples exceed the criterion for Dieldrin. One composite (5 fish per composite) was generated from one species: Channel Catfish. Details of the compositing protocol can be found in the March 2009 report entitled: "Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Study" (SWAMP, 2009).
Data Reference:	Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Survey. A Report of the Surface Water Ambient Monitoring Program (SWAMP). California State Water Resources Control Board, Sacramento, CA Statewide Lakes Sportfish Contamination Study 2007 2008 Contaminants in Fish from California Lakes and Reservoirs, 2007-2008: Summary Report on a Two-Year Screening Survey Cruise report for the Surface Water Ambient Monitoring Program (SWAMP) bioaccumulation screening study in California lakes and reservoirs year two (FY 07-08). Sampling dates: April 2008 - November 2008.
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	Water Quality Control Plan for the San Francisco Bay Basin: Controllable water quality factors shall not cause a detrimental increase in concentrations of toxic substances found in bottom sediments or aquatic life. Effects on aquatic organisms, wildlife, and human health will be considered.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)

Evaluation Guideline:	National Academy of Science guidelines (NAS 1972) establish a maximum Dieldrin concentration of 100 ug/Kg (wet weight) in tissue samples for protection of aquatic life from bioaccumulation of toxic substances.
Guideline Reference:	National Academy of Sciences. Water Quality Criteria 1972. EPA-R3-73-033. Washington, D.C.: U.S. Environmental Protection Agency
Spatial Representation:	Data for this assessment unit was collected by one monitoring project: (SWB_FishLk)
Temporal Representation:	Data was collected on a single day 6/19/2008.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	Samples were collected, processed, and analyzed in accordance with the methods described in Quality Assurance Project Plan "Screening Study of Bioaccumulation in California Lakes and Reservoirs." (SWAMP, 2008).
QAPP Information Reference(s):	Quality Assurance Project Plan Screening Study of Bioaccumulation in California Lakes and Reservoirs. Moss Landing Marine Labs. Prepared for SWAMP BOG, 49 pages plus appendices and attachments

**Line of Evidence (LOE) for Decision ID 64920, Dieldrin
Lafayette Reservoir**

Region 2

LOE ID:	91918
Pollutant:	Dieldrin
LOE Subgroup:	Pollutant-Tissue
Matrix:	Tissue
Fraction:	Fish fillet
Beneficial Use:	Commercial or recreational collection of fish, shellfish, or organisms
Number of Samples:	0
Number of Exceedances:	0
Data and Information Type:	Fish tissue analysis
Data Used to Assess Water Quality:	State Water Board staff assessed SWAMP data for Lafayette Reservoir to determine beneficial use support and results are as follows: 0 of 0 samples exceed the criterion for Dieldrin. One composite (5 fish per composite) was generated from one species: Channel Catfish. Details of the compositing protocol can be found in the March 2009 report entitled: "Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Study" (SWAMP, 2009). One composite was not used in the assessment because the laboratory data reporting limit(s) was above the objective and therefore the results could not be quantified with the level of certainty required by the Listing Policy.
Data Reference:	Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Survey. A Report of the Surface Water Ambient Monitoring Program (SWAMP). California State Water Resources Control Board, Sacramento, CA Statewide Lakes Sportfish Contamination Study 2007 2008 Contaminants in Fish from California Lakes and Reservoirs, 2007-2008: Summary Report on a Two-Year Screening Survey Cruise report for the Surface Water Ambient Monitoring Program (SWAMP) bioaccumulation screening study in California lakes and reservoirs year two (FY 07-08). Sampling dates: April 2008 - November 2008.
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	Water Quality Control Plan for the San Francisco Bay Basin: Controllable water quality factors shall not cause a detrimental increase in concentrations of toxic substances found in bottom sediments or aquatic life. Effects on aquatic organisms, wildlife, and human health will be considered.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	The modified OEHHA Fish Contaminant Goal for dieldrin in fish tissue is 0.32 ppb. This screening level assumes an average body weight of 70 kg and a consumption rate of 32

g/day for a 30 year exposure over a 70-year lifetime. This constituent is a carcinogen therefore the risk level is set to one in a million. A cooking reduction factor of 1 is applied for skin-off fillets. (Klasing, S., and R. Brodberg, 2008)

Guideline Reference:

[Development of Fish Contaminant Goals and Advisory Tissue Levels for Common Contaminants in California Sport Fish: Chlordane, DDTs, Dieldrin, Methylmercury, PCBs, Selenium, and Toxaphene](#)

Spatial Representation:

Data for this assessment unit was collected by one monitoring project: (SWB_FishLk)

Temporal Representation:

Data was collected on a single day 6/19/2008.

Environmental Conditions:

Staff is not aware of any special conditions that might affect interpretation of the data.

QAPP Information:

Samples were collected, processed, and analyzed in accordance with the methods described in Quality Assurance Project Plan "Screening Study of Bioaccumulation in California Lakes and Reservoirs." (SWAMP, 2008).

QAPP Information Reference(s):

[Quality Assurance Project Plan Screening Study of Bioaccumulation in California Lakes and Reservoirs. Moss Landing Marine Labs. Prepared for SWAMP BOG, 49 pages plus appendices and attachments](#)

DECISION ID	64921	Region 2
Lafayette Reservoir		

Pollutant:	Endosulfan
Final Listing Decision:	Do Not List on 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision:	New Decision
Revision Status	Revised
Impairment from Pollutant or Pollution:	Pollutant

Regional Board Staff Conclusion:

This pollutant is being considered for placement on the CWA section 303(d) List under section 3.5 of the Listing Policy. Under section 3.5 a single line of evidence is necessary to assess listing status. Three lines of evidence are available in the administrative record to assess this pollutant. Zero of one samples exceed the OEHHHA guideline.

Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against placing this water segment-pollutant combination on the CWA section 303(d) List.

This conclusion is based on the staff findings that:

1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy.
2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy.
3. Zero of one samples exceed the OEHHHA guideline and this sample size is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating. A minimum of 16 samples is needed to determine if a beneficial use is fully supported using table 3.1.
4. Pursuant to SECTION 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.

Regional Board Staff Decision Recommendation:

After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be placed on the section 303(d) list. The readily available data and information is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating.

Line of Evidence (LOE) for Decision ID 64921, Endosulfan	Region 2
Lafayette Reservoir	

LOE ID:	91919
Pollutant:	Endosulfan
LOE Subgroup:	Pollutant-Tissue

Matrix:	Tissue
Fraction:	Fish fillet
Beneficial Use:	Warm Freshwater Habitat
Number of Samples:	1
Number of Exceedances:	0
Data and Information Type:	Fish tissue analysis
Data Used to Assess Water Quality:	State Water Board staff assessed SWAMP data for Lafayette Reservoir to determine beneficial use support and results are as follows: 0 of 1 samples exceed the criterion for Endosulfan I. One composite (5 fish per composite) was generated from one species: Channel Catfish. Details of the compositing protocol can be found in the March 2009 report entitled: "Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Study" (SWAMP, 2009).
Data Reference:	Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Survey. A Report of the Surface Water Ambient Monitoring Program (SWAMP). California State Water Resources Control Board, Sacramento, CA Statewide Lakes Sportfish Contamination Study 2007 2008 Contaminants in Fish from California Lakes and Reservoirs, 2007-2008: Summary Report on a Two-Year Screening Survey Cruise report for the Surface Water Ambient Monitoring Program (SWAMP) bioaccumulation screening study in California lakes and reservoirs year two (FY 07-08). Sampling dates: April 2008 - November 2008.
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	Water Quality Control Plan for the San Francisco Bay Basin: Controllable water quality factors shall not cause a detrimental increase in concentrations of toxic substances found in bottom sediments or aquatic life. Effects on aquatic organisms, wildlife, and human health will be considered.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	National Academy of Science guidelines (NAS 1972) establish a maximum Endosulfan, Total concentration of 100 ug/Kg (wet weight) in tissue samples for protection of aquatic life from bioaccumulation of toxic substances.
Guideline Reference:	National Academy of Sciences. Water Quality Criteria 1972. EPA-R3-73-033. Washington, D.C.: U.S. Environmental Protection Agency
Spatial Representation:	Data for this assessment unit was collected by one monitoring project: (SWB_FishLk)
Temporal Representation:	Data was collected on a single day 6/19/2008.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	Samples were collected, processed, and analyzed in accordance with the methods described in Quality Assurance Project Plan "Screening Study of Bioaccumulation in California Lakes and Reservoirs." (SWAMP, 2008).
QAPP Information Reference(s):	Quality Assurance Project Plan Screening Study of Bioaccumulation in California Lakes and Reservoirs. Moss Landing Marine Labs. Prepared for SWAMP BOG. 49 pages plus appendices and attachments

Line of Evidence (LOE) for Decision ID 64921, Endosulfan

Region 2

Lafayette Reservoir

LOE ID:	91920
Pollutant:	Endosulfan
LOE Subgroup:	Pollutant-Tissue
Matrix:	Tissue
Fraction:	Fish fillet
Beneficial Use:	Cold Freshwater Habitat
Number of Samples:	1

Number of Exceedances:	0
Data and Information Type:	Fish tissue analysis
Data Used to Assess Water Quality:	State Water Board staff assessed SWAMP data for Lafayette Reservoir to determine beneficial use support and results are as follows: 0 of 1 samples exceed the criterion for Endosulfan I. One composite (5 fish per composite) was generated from one species: Channel Catfish. Details of the compositing protocol can be found in the March 2009 report entitled: "Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Study" (SWAMP, 2009).
Data Reference:	Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Survey. A Report of the Surface Water Ambient Monitoring Program (SWAMP). California State Water Resources Control Board, Sacramento, CA Statewide Lakes Sportfish Contamination Study 2007 2008 Contaminants in Fish from California Lakes and Reservoirs, 2007-2008: Summary Report on a Two-Year Screening Survey Cruise report for the Surface Water Ambient Monitoring Program (SWAMP) bioaccumulation screening study in California lakes and reservoirs year two (FY 07-08). Sampling dates: April 2008 - November 2008.
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	Water Quality Control Plan for the San Francisco Bay Basin: Controllable water quality factors shall not cause a detrimental increase in concentrations of toxic substances found in bottom sediments or aquatic life. Effects on aquatic organisms, wildlife, and human health will be considered.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	National Academy of Science guidelines (NAS 1972) establish a maximum Endosulfan, Total concentration of 100 ug/Kg (wet weight) in tissue samples for protection of aquatic life from bioaccumulation of toxic substances.
Guideline Reference:	National Academy of Sciences. Water Quality Criteria 1972. EPA-R3-73-033. Washington, D.C.: U.S. Environmental Protection Agency
Spatial Representation:	Data for this assessment unit was collected by one monitoring project: (SWB_FishLk)
Temporal Representation:	Data was collected on a single day 6/19/2008.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	Samples were collected, processed, and analyzed in accordance with the methods described in Quality Assurance Project Plan "Screening Study of Bioaccumulation in California Lakes and Reservoirs." (SWAMP, 2008).
QAPP Information Reference(s):	Quality Assurance Project Plan Screening Study of Bioaccumulation in California Lakes and Reservoirs. Moss Landing Marine Labs. Prepared for SWAMP BOG, 49 pages plus appendices and attachments

Line of Evidence (LOE) for Decision ID 64921, Endosulfan
Lafayette Reservoir

Region 2

LOE ID:	91921
Pollutant:	Endosulfan
LOE Subgroup:	Pollutant-Tissue
Matrix:	Tissue
Fraction:	Fish fillet
Beneficial Use:	Commercial or recreational collection of fish, shellfish, or organisms
Number of Samples:	1
Number of Exceedances:	0
Data and Information Type:	Fish tissue analysis
Data Used to Assess Water Quality:	State Water Board staff assessed SWAMP data for Lafayette Reservoir to determine beneficial use support and results are as follows: 0 of 1 samples exceed the criterion for Endosulfan I. One composite (5 fish per composite) was generated from one species:

Data Reference:	<p>Channel Catfish. Details of the compositing protocol can be found in the March 2009 report entitled: "Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Study" (SWAMP, 2009).</p> <p>Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Survey. A Report of the Surface Water Ambient Monitoring Program (SWAMP). California State Water Resources Control Board, Sacramento, CA Statewide Lakes Sportfish Contamination Study 2007 2008</p> <p>Contaminants in Fish from California Lakes and Reservoirs, 2007-2008: Summary Report on a Two-Year Screening Survey</p> <p>Cruise report for the Surface Water Ambient Monitoring Program (SWAMP) bioaccumulation screening study in California lakes and reservoirs year two (FY 07-08). Sampling dates: April 2008 - November 2008.</p>
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	Water Quality Control Plan for the San Francisco Bay Basin: Controllable water quality factors shall not cause a detrimental increase in concentrations of toxic substances found in bottom sediments or aquatic life. Effects on aquatic organisms, wildlife, and human health will be considered.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	The modified OEHHA Fish Contaminant Goal for endosulfan (I and II) in fish tissue is 13,000 ppb. This screening level assumes an average body weight of 70 kg and a consumption rate of 32 g/day. A cooking reduction factor of 1 is applied for skin-off fillets. (Klasing, S., and R. Brodberg, 2008; USEPA, 2000)
Guideline Reference:	<p>Development of Fish Contaminant Goals and Advisory Tissue Levels for Common Contaminants in California Sport Fish: Chlordane, DDTs, Dieldrin, Methylmercury, PCBs, Selenium, and Toxaphene</p> <p>Guidance for Assessing Chemical Contaminant Data for Use In Fish Advisories Volume 1: Fish Sampling and Analysis</p>
Spatial Representation:	Data for this assessment unit was collected by one monitoring project: (SWB_FishLk)
Temporal Representation:	Data was collected on a single day 6/19/2008.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	Samples were collected, processed, and analyzed in accordance with the methods described in Quality Assurance Project Plan "Screening Study of Bioaccumulation in California Lakes and Reservoirs." (SWAMP, 2008).
QAPP Information Reference(s):	Quality Assurance Project Plan Screening Study of Bioaccumulation in California Lakes and Reservoirs. Moss Landing Marine Labs. Prepared for SWAMP BOG, 49 pages plus appendices and attachments

DECISION ID 64922 Region 2	
Lafayette Reservoir	
Pollutant: Final Listing Decision: Last Listing Cycle's Final Listing Decision: Revision Status Impairment from Pollutant or Pollution:	Endrin Do Not List on 303(d) list (TMDL required list) New Decision Revised Pollutant
Regional Board Staff Conclusion:	<p>This pollutant is being considered for placement on the CWA section 303(d) List under section 3.5 of the Listing Policy. Under section 3.5 a single line of evidence is necessary to assess listing status. Three lines of evidence are available in the administrative record to assess this pollutant. Zero of one samples exceed the OEHHA guideline.</p> <p>Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against placing this water segment-pollutant combination on the CWA section 303(d) List.</p>

This conclusion is based on the staff findings that:

1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy.
2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy.
3. Zero of one samples exceed the OEHHA guideline and this sample size is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating. A minimum of 16 samples is needed to determine if a beneficial use is fully supported using table 3.1.
4. Pursuant to SECTION 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.

Regional Board Staff Decision Recommendation: After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be placed on the section 303(d) list. The readily available data and information is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating.

Line of Evidence (LOE) for Decision ID 64922, Endrin

Region 2

Lafayette Reservoir

LOE ID:	91922
Pollutant:	Endrin
LOE Subgroup:	Pollutant-Tissue
Matrix:	Tissue
Fraction:	Fish fillet
Beneficial Use:	Warm Freshwater Habitat
Number of Samples:	1
Number of Exceedances:	0
Data and Information Type:	Fish tissue analysis
Data Used to Assess Water Quality:	State Water Board staff assessed SWAMP data for Lafayette Reservoir to determine beneficial use support and results are as follows: 0 of 1 samples exceed the criterion for Endrin. One composite (5 fish per composite) was generated from one species: Channel Catfish. Details of the compositing protocol can be found in the March 2009 report entitled: "Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Study" (SWAMP, 2009).
Data Reference:	Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Survey. A Report of the Surface Water Ambient Monitoring Program (SWAMP). California State Water Resources Control Board, Sacramento, CA Statewide Lakes Sportfish Contamination Study 2007 2008 Contaminants in Fish from California Lakes and Reservoirs, 2007-2008: Summary Report on a Two-Year Screening Survey Cruise report for the Surface Water Ambient Monitoring Program (SWAMP) bioaccumulation screening study in California lakes and reservoirs year two (FY 07-08). Sampling dates: April 2008 - November 2008.
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	Water Quality Control Plan for the San Francisco Bay Basin: Controllable water quality factors shall not cause a detrimental increase in concentrations of toxic substances found in bottom sediments or aquatic life. Effects on aquatic organisms, wildlife, and human health will be considered.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	National Academy of Science guidelines (NAS 1972) establish a maximum Endrin concentration of 100 ug/Kg (wet weight) in tissue samples for protection of aquatic life from bioaccumulation of toxic substances.
Guideline Reference:	National Academy of Sciences. Water Quality Criteria 1972. EPA-R3-73-033. Washington, D.C.: U.S. Environmental Protection Agency

Spatial Representation:	Data for this assessment unit was collected by one monitoring project: (SWB_FishLk)
Temporal Representation:	Data was collected on a single day 6/19/2008.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	Samples were collected, processed, and analyzed in accordance with the methods described in Quality Assurance Project Plan "Screening Study of Bioaccumulation in California Lakes and Reservoirs." (SWAMP, 2008).
QAPP Information Reference(s):	Quality Assurance Project Plan Screening Study of Bioaccumulation in California Lakes and Reservoirs. Moss Landing Marine Labs. Prepared for SWAMP BOG. 49 pages plus appendices and attachments

Line of Evidence (LOE) for Decision ID 64922, Endrin

Region 2

Lafayette Reservoir

LOE ID:	91924
Pollutant:	Endrin
LOE Subgroup:	Pollutant-Tissue
Matrix:	Tissue
Fraction:	Fish fillet
Beneficial Use:	Commercial or recreational collection of fish, shellfish, or organisms
Number of Samples:	1
Number of Exceedances:	0
Data and Information Type:	Fish tissue analysis
Data Used to Assess Water Quality:	State Water Board staff assessed SWAMP data for Lafayette Reservoir to determine beneficial use support and results are as follows: 0 of 1 samples exceed the criterion for Endrin. One composite (5 fish per composite) was generated from one species: Channel Catfish. Details of the compositing protocol can be found in the March 2009 report entitled: "Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Study" (SWAMP, 2009).
Data Reference:	Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Survey. A Report of the Surface Water Ambient Monitoring Program (SWAMP). California State Water Resources Control Board, Sacramento, CA Statewide Lakes Sportfish Contamination Study 2007 2008 Contaminants in Fish from California Lakes and Reservoirs, 2007-2008: Summary Report on a Two-Year Screening Survey Cruise report for the Surface Water Ambient Monitoring Program (SWAMP) bioaccumulation screening study in California lakes and reservoirs year two (FY 07-08). Sampling dates: April 2008 - November 2008.
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	Water Quality Control Plan for the San Francisco Bay Basin: Controllable water quality factors shall not cause a detrimental increase in concentrations of toxic substances found in bottom sediments or aquatic life. Effects on aquatic organisms, wildlife, and human health will be considered.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	The modified OEHHA Fish Contaminant Goal for endrin in fish tissue is 660 ppb. This screening level assumes an average body weight of 70 kg and a consumption rate of 32 g/day. A cooking reduction factor of 1 is applied for skin-off fillets. (Klasing, S., and R. Brodberg, 2008; USEPA, 2000)
Guideline Reference:	Development of Fish Contaminant Goals and Advisory Tissue Levels for Common Contaminants in California Sport Fish: Chlordane, DDTs, Dieldrin, Methylmercury, PCBs, Selenium, and Toxaphene Guidance for Assessing Chemical Contaminant Data for Use In Fish Advisories Volume 1: Fish Sampling and Analysis
Spatial Representation:	Data for this assessment unit was collected by one monitoring project: (SWB_FishLk)
Temporal Representation:	Data was collected on a single day 6/19/2008.

Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	Samples were collected, processed, and analyzed in accordance with the methods described in Quality Assurance Project Plan "Screening Study of Bioaccumulation in California Lakes and Reservoirs." (SWAMP, 2008).
QAPP Information Reference(s):	Quality Assurance Project Plan Screening Study of Bioaccumulation in California Lakes and Reservoirs. Moss Landing Marine Labs. Prepared for SWAMP BOG. 49 pages plus appendices and attachments

Line of Evidence (LOE) for Decision ID 64922, Endrin
Lafayette Reservoir

Region 2

LOE ID:	91923
Pollutant:	Endrin
LOE Subgroup:	Pollutant-Tissue
Matrix:	Tissue
Fraction:	Fish fillet
Beneficial Use:	Cold Freshwater Habitat
Number of Samples:	1
Number of Exceedances:	0
Data and Information Type:	Fish tissue analysis
Data Used to Assess Water Quality:	State Water Board staff assessed SWAMP data for Lafayette Reservoir to determine beneficial use support and results are as follows: 0 of 1 samples exceed the criterion for Endrin. One composite (5 fish per composite) was generated from one species: Channel Catfish. Details of the compositing protocol can be found in the March 2009 report entitled: "Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Study" (SWAMP, 2009).
Data Reference:	Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Survey. A Report of the Surface Water Ambient Monitoring Program (SWAMP). California State Water Resources Control Board, Sacramento, CA Statewide Lakes Sportfish Contamination Study 2007 2008 Contaminants in Fish from California Lakes and Reservoirs, 2007-2008: Summary Report on a Two-Year Screening Survey Cruise report for the Surface Water Ambient Monitoring Program (SWAMP) bioaccumulation screening study in California lakes and reservoirs year two (FY 07-08). Sampling dates: April 2008 - November 2008.
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	Water Quality Control Plan for the San Francisco Bay Basin: Controllable water quality factors shall not cause a detrimental increase in concentrations of toxic substances found in bottom sediments or aquatic life. Effects on aquatic organisms, wildlife, and human health will be considered.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	National Academy of Science guidelines (NAS 1972) establish a maximum Endrin concentration of 100 ug/Kg (wet weight) in tissue samples for protection of aquatic life from bioaccumulation of toxic substances.
Guideline Reference:	National Academy of Sciences. Water Quality Criteria 1972. EPA-R3-73-033. Washington, D.C.: U.S. Environmental Protection Agency
Spatial Representation:	Data for this assessment unit was collected by one monitoring project: (SWB_FishLk)
Temporal Representation:	Data was collected on a single day 6/19/2008.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	Samples were collected, processed, and analyzed in accordance with the methods described in Quality Assurance Project Plan "Screening Study of Bioaccumulation in California Lakes and Reservoirs." (SWAMP, 2008).
QAPP Information Reference(s):	Quality Assurance Project Plan Screening Study of Bioaccumulation in California Lakes and Reservoirs. Moss Landing Marine Labs. Prepared for SWAMP BOG. 49 pages plus

DECISION ID	64928	Region 2
Lafayette Reservoir		

Pollutant: Heptachlor
Final Listing Decision: Do Not List on 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision: New Decision
Revision Status: Revised
Impairment from Pollutant or Pollution: Pollutant

Regional Board Staff Conclusion: This pollutant is being considered for placement on the CWA section 303(d) List under section 3.5 of the Listing Policy. Under section 3.5 a single line of evidence is necessary to assess listing status. Two lines of evidence are available in the administrative record to assess this pollutant. Zero of one samples exceed the OEHHA guideline.

Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against placing this water segment-pollutant combination on the CWA section 303(d) List.

This conclusion is based on the staff findings that:

1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy.
2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy.
3. Zero of one samples exceed the OEHHA guideline and this sample size is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating. A minimum of 16 samples is needed to determine if a beneficial use is fully supported using table 3.1.
4. Pursuant to SECTION 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.

Regional Board Staff Decision Recommendation: After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be placed on the section 303(d) list. The readily available data and information is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating.

Line of Evidence (LOE) for Decision ID 64928, Heptachlor	Region 2
Lafayette Reservoir	

LOE ID: 91925

Pollutant: Heptachlor
LOE Subgroup: Pollutant-Tissue
Matrix: Tissue
Fraction: Fish fillet

Beneficial Use: Warm Freshwater Habitat

Number of Samples: 1
Number of Exceedances: 0

Data and Information Type: Fish tissue analysis
Data Used to Assess Water Quality: State Water Board staff assessed SWAMP data for Lafayette Reservoir to determine beneficial use support and results are as follows: 0 of 1 samples exceed the criterion for Heptachlor. One composite (5 fish per composite) was generated from one species: Channel Catfish. Details of the compositing protocol can be found in the March 2009 report entitled: "Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Study" (SWAMP, 2009).

Data Reference:	Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Survey. A Report of the Surface Water Ambient Monitoring Program (SWAMP). California State Water Resources Control Board, Sacramento, CA Statewide Lakes Sportfish Contamination Study 2007 2008 Contaminants in Fish from California Lakes and Reservoirs, 2007-2008: Summary Report on a Two-Year Screening Survey Cruise report for the Surface Water Ambient Monitoring Program (SWAMP) bioaccumulation screening study in California lakes and reservoirs year two (FY 07-08). Sampling dates: April 2008 - November 2008.
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	Water Quality Control Plan for the San Francisco Bay Basin: Controllable water quality factors shall not cause a detrimental increase in concentrations of toxic substances found in bottom sediments or aquatic life. Effects on aquatic organisms, wildlife, and human health will be considered.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	National Academy of Science guidelines (NAS 1972) establish a maximum Heptachlor concentration of 100 ug/Kg (wet weight) in tissue samples for protection of aquatic life from bioaccumulation of toxic substances.
Guideline Reference:	National Academy of Sciences. Water Quality Criteria 1972. EPA-R3-73-033. Washington, D.C.: U.S. Environmental Protection Agency
Spatial Representation:	Data for this assessment unit was collected by one monitoring project: (SWB_FishLk)
Temporal Representation:	Data was collected on a single day 6/19/2008.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	Samples were collected, processed, and analyzed in accordance with the methods described in Quality Assurance Project Plan "Screening Study of Bioaccumulation in California Lakes and Reservoirs." (SWAMP, 2008).
QAPP Information Reference(s):	Quality Assurance Project Plan Screening Study of Bioaccumulation in California Lakes and Reservoirs. Moss Landing Marine Labs. Prepared for SWAMP BOG. 49 pages plus appendices and attachments

**Line of Evidence (LOE) for Decision ID 64928, Heptachlor
Lafayette Reservoir**

Region 2

LOE ID:	91926
Pollutant:	Heptachlor
LOE Subgroup:	Pollutant-Tissue
Matrix:	Tissue
Fraction:	Fish fillet
Beneficial Use:	Cold Freshwater Habitat
Number of Samples:	1
Number of Exceedances:	0
Data and Information Type:	Fish tissue analysis
Data Used to Assess Water Quality:	State Water Board staff assessed SWAMP data for Lafayette Reservoir to determine beneficial use support and results are as follows: 0 of 1 samples exceed the criterion for Heptachlor. One composite (5 fish per composite) was generated from one species: Channel Catfish. Details of the compositing protocol can be found in the March 2009 report entitled: "Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Study" (SWAMP, 2009).
Data Reference:	Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Survey. A Report of the Surface Water Ambient Monitoring Program (SWAMP). California State Water Resources Control Board, Sacramento, CA Statewide Lakes Sportfish Contamination Study 2007 2008 Contaminants in Fish from California Lakes and Reservoirs, 2007-2008: Summary Report on a Two-Year Screening Survey

[Cruise report for the Surface Water Ambient Monitoring Program \(SWAMP\) bioaccumulation screening study in California lakes and reservoirs year two \(FY 07-08\). Sampling dates: April 2008 - November 2008.](#)

SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	Water Quality Control Plan for the San Francisco Bay Basin: Controllable water quality factors shall not cause a detrimental increase in concentrations of toxic substances found in bottom sediments or aquatic life. Effects on aquatic organisms, wildlife, and human health will be considered.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	National Academy of Science guidelines (NAS 1972) establish a maximum Heptachlor concentration of 100 ug/Kg (wet weight) in tissue samples for protection of aquatic life from bioaccumulation of toxic substances.
Guideline Reference:	National Academy of Sciences. Water Quality Criteria 1972. EPA-R3-73-033. Washington, D.C.: U.S. Environmental Protection Agency
Spatial Representation:	Data for this assessment unit was collected by one monitoring project: (SWB_FishLk)
Temporal Representation:	Data was collected on a single day 6/19/2008.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	Samples were collected, processed, and analyzed in accordance with the methods described in Quality Assurance Project Plan "Screening Study of Bioaccumulation in California Lakes and Reservoirs." (SWAMP, 2008).
QAPP Information Reference(s):	Quality Assurance Project Plan Screening Study of Bioaccumulation in California Lakes and Reservoirs. Moss Landing Marine Labs. Prepared for SWAMP BOG, 49 pages plus appendices and attachments

DECISION ID	64929	Region 2
Lafayette Reservoir		

Pollutant:	Heptachlor epoxide
Final Listing Decision:	Do Not List on 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision:	New Decision
Revision Status	Revised
Impairment from Pollutant or Pollution:	Pollutant

Regional Board Staff Conclusion: This pollutant is being considered for placement on the CWA section 303(d) List under section 3.5 of the Listing Policy. Under section 3.5 a single line of evidence is necessary to assess listing status. Three lines of evidence are available in the administrative record to assess this pollutant. Zero of one samples exceed the OEHHHA guideline.

Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against placing this water segment-pollutant combination on the CWA section 303(d) List.

This conclusion is based on the staff findings that:

1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy.
2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy.
3. Zero of one samples exceed the OEHHHA guideline and this sample size is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating. A minimum of 16 samples is needed to determine if a beneficial use is fully supported using table 3.1.
4. Pursuant to SECTION 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.

Regional Board Staff Decision Recommendation: After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be placed on the section 303(d) list. The readily available data and information is insufficient to determine, with the power and confidence of the Listing Policy, the

Line of Evidence (LOE) for Decision ID 64929, Heptachlor epoxide**Region 2****Lafayette Reservoir**

LOE ID:	91929
Pollutant:	Heptachlor epoxide
LOE Subgroup:	Pollutant-Tissue
Matrix:	Tissue
Fraction:	Fish fillet
Beneficial Use:	Commercial or recreational collection of fish, shellfish, or organisms
Number of Samples:	0
Number of Exceedances:	0
Data and Information Type:	Fish tissue analysis
Data Used to Assess Water Quality:	State Water Board staff assessed SWAMP data for Lafayette Reservoir to determine beneficial use support and results are as follows: 0 of 0 samples exceed the criterion for Heptachlor epoxide. One composite (5 fish per composite) was generated from one species: Channel Catfish. Details of the compositing protocol can be found in the March 2009 report entitled: "Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Study" (SWAMP, 2009). One composite was not used in the assessment because the laboratory data reporting limit(s) was above the objective and therefore the results could not be quantified with the level of certainty required by the Listing Policy.
Data Reference:	Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Survey. A Report of the Surface Water Ambient Monitoring Program (SWAMP). California State Water Resources Control Board, Sacramento, CA Statewide Lakes Sportfish Contamination Study 2007 2008 Contaminants in Fish from California Lakes and Reservoirs, 2007-2008: Summary Report on a Two-Year Screening Survey Cruise report for the Surface Water Ambient Monitoring Program (SWAMP) bioaccumulation screening study in California lakes and reservoirs year two (FY 07-08). Sampling dates: April 2008 - November 2008.
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	Water Quality Control Plan for the San Francisco Bay Basin: Controllable water quality factors shall not cause a detrimental increase in concentrations of toxic substances found in bottom sediments or aquatic life. Effects on aquatic organisms, wildlife, and human health will be considered.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	The modified OEHHA Fish Contaminant Goal for heptachlor epoxide in fish tissue is 0.93 ppb. This screening level assumes an average body weight of 70 kg and a consumption rate of 32 g/day for a 30 year exposure over a 70-year lifetime. This constituent is a carcinogen therefore the risk level is set to one in a million. A cooking reduction factor of 1 is applied for skin-off fillets. (Klasing, S., and R. Brodberg, 2008; OEHHA, 1999)
Guideline Reference:	Development of Fish Contaminant Goals and Advisory Tissue Levels for Common Contaminants in California Sport Fish: Chlordane, DDTs, Dieldrin, Methylmercury, PCBs, Selenium, and Toxaphene Public Health Goal for Heptachlor and Heptachlor Epoxide in Drinking Water
Spatial Representation:	Data for this assessment unit was collected by one monitoring project: (SWB_FishLk)
Temporal Representation:	Data was collected on a single day 6/19/2008.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	Samples were collected, processed, and analyzed in accordance with the methods described in Quality Assurance Project Plan "Screening Study of Bioaccumulation in California Lakes and Reservoirs." (SWAMP, 2008).

QAPP Information Reference(s): [Quality Assurance Project Plan Screening Study of Bioaccumulation in California Lakes and Reservoirs. Moss Landing Marine Labs. Prepared for SWAMP BOG. 49 pages plus appendices and attachments](#)

**Line of Evidence (LOE) for Decision ID 64929, Heptachlor epoxide
Lafayette Reservoir**

Region 2

LOE ID: 91928

Pollutant: Heptachlor epoxide
LOE Subgroup: Pollutant-Tissue
Matrix: Tissue
Fraction: Fish fillet

Beneficial Use: Cold Freshwater Habitat

Number of Samples: 1
Number of Exceedances: 0

Data and Information Type: Fish tissue analysis
Data Used to Assess Water Quality: State Water Board staff assessed SWAMP data for Lafayette Reservoir to determine beneficial use support and results are as follows: 0 of 1 samples exceed the criterion for Heptachlor epoxide. One composite (5 fish per composite) was generated from one species: Channel Catfish. Details of the compositing protocol can be found in the March 2009 report entitled: "Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Study" (SWAMP, 2009).

Data Reference: [Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Survey. A Report of the Surface Water Ambient Monitoring Program \(SWAMP\). California State Water Resources Control Board, Sacramento, CA Statewide Lakes Sportfish Contamination Study 2007 2008](#)
[Contaminants in Fish from California Lakes and Reservoirs, 2007-2008: Summary Report on a Two-Year Screening Survey](#)
[Cruise report for the Surface Water Ambient Monitoring Program \(SWAMP\) bioaccumulation screening study in California lakes and reservoirs year two \(FY 07-08\). Sampling dates: April 2008 - November 2008.](#)

SWAMP Data: SWAMP

Water Quality Objective/Criterion: Water Quality Control Plan for the San Francisco Bay Basin: Controllable water quality factors shall not cause a detrimental increase in concentrations of toxic substances found in bottom sediments or aquatic life. Effects on aquatic organisms, wildlife, and human health will be considered.

Objective/Criterion Reference: [Water Quality Control Plan \(Basin Plan\) San Francisco Bay Basin \(Region 2\)](#)

Evaluation Guideline: National Academy of Science guidelines (NAS 1972) establish a maximum Heptachlor Epoxide concentration of 100 ug/Kg (wet weight) in tissue samples for protection of aquatic life from bioaccumulation of toxic substances.

Guideline Reference: [National Academy of Sciences. Water Quality Criteria 1972. EPA-R3-73-033. Washington, D.C.: U.S. Environmental Protection Agency](#)

Spatial Representation: Data for this assessment unit was collected by one monitoring project: (SWB_FishLk)
Temporal Representation: Data was collected on a single day 6/19/2008.
Environmental Conditions: Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information: Samples were collected, processed, and analyzed in accordance with the methods described in Quality Assurance Project Plan "Screening Study of Bioaccumulation in California Lakes and Reservoirs." (SWAMP, 2008).

QAPP Information Reference(s): [Quality Assurance Project Plan Screening Study of Bioaccumulation in California Lakes and Reservoirs. Moss Landing Marine Labs. Prepared for SWAMP BOG. 49 pages plus appendices and attachments](#)

Line of Evidence (LOE) for Decision ID 64929, Heptachlor epoxide

Region 2

Lafayette Reservoir

LOE ID:	91927
Pollutant:	Heptachlor epoxide
LOE Subgroup:	Pollutant-Tissue
Matrix:	Tissue
Fraction:	Fish fillet
Beneficial Use:	Warm Freshwater Habitat
Number of Samples:	1
Number of Exceedances:	0
Data and Information Type:	Fish tissue analysis
Data Used to Assess Water Quality:	State Water Board staff assessed SWAMP data for Lafayette Reservoir to determine beneficial use support and results are as follows: 0 of 1 samples exceed the criterion for Heptachlor epoxide. One composite (5 fish per composite) was generated from one species: Channel Catfish. Details of the compositing protocol can be found in the March 2009 report entitled: "Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Study" (SWAMP, 2009).
Data Reference:	Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Survey. A Report of the Surface Water Ambient Monitoring Program (SWAMP). California State Water Resources Control Board, Sacramento, CA Statewide Lakes Sportfish Contamination Study 2007 2008 Contaminants in Fish from California Lakes and Reservoirs, 2007-2008: Summary Report on a Two-Year Screening Survey Cruise report for the Surface Water Ambient Monitoring Program (SWAMP) bioaccumulation screening study in California lakes and reservoirs year two (FY 07-08). Sampling dates: April 2008 - November 2008.
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	Water Quality Control Plan for the San Francisco Bay Basin: Controllable water quality factors shall not cause a detrimental increase in concentrations of toxic substances found in bottom sediments or aquatic life. Effects on aquatic organisms, wildlife, and human health will be considered.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	National Academy of Science guidelines (NAS 1972) establish a maximum Heptachlor Epoxide concentration of 100 ug/Kg (wet weight) in tissue samples for protection of aquatic life from bioaccumulation of toxic substances.
Guideline Reference:	National Academy of Sciences. Water Quality Criteria 1972. EPA-R3-73-033. Washington, D.C.: U.S. Environmental Protection Agency
Spatial Representation:	Data for this assessment unit was collected by one monitoring project: (SWB_FishLk)
Temporal Representation:	Data was collected on a single day 6/19/2008.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	Samples were collected, processed, and analyzed in accordance with the methods described in Quality Assurance Project Plan "Screening Study of Bioaccumulation in California Lakes and Reservoirs." (SWAMP, 2008).
QAPP Information Reference(s):	Quality Assurance Project Plan Screening Study of Bioaccumulation in California Lakes and Reservoirs. Moss Landing Marine Labs. Prepared for SWAMP BOG. 49 pages plus appendices and attachments

DECISION ID

64930

Region 2

Lafayette Reservoir

Pollutant:	Hexachlorobenzene/ HCB
Final Listing Decision:	Do Not List on 303(d) list (TMDL required list)
Last Listing Cycle's Final	New Decision

Listing Decision:
Revision Status Revised
Impairment from Pollutant or Pollution: Pollutant

Regional Board Staff Conclusion: This pollutant is being considered for placement on the CWA section 303(d) List under section 3.5 of the Listing Policy. Under section 3.5 a single line of evidence is necessary to assess listing status. One line of evidence is available in the administrative record to assess this pollutant. Zero of one samples exceed the OEHHHA guideline.

Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against placing this water segment-pollutant combination on the CWA section 303(d) List.

This conclusion is based on the staff findings that:

1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy.
2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy.
3. Zero of one samples exceed the OEHHHA guideline and this sample size is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating. A minimum of 16 samples is needed to determine if a beneficial use is fully supported using table 3.1.
4. Pursuant to SECTION 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.

Regional Board Staff Decision Recommendation: After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be placed on the section 303(d) list. The readily available data and information is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating.

**Line of Evidence (LOE) for Decision ID 64930, Hexachlorobenzene/ HCB
Lafayette Reservoir**

Region 2

LOE ID: 91930

Pollutant: Hexachlorobenzene/ HCB
LOE Subgroup: Pollutant-Tissue
Matrix: Tissue
Fraction: Fish fillet

Beneficial Use: Commercial or recreational collection of fish, shellfish, or organisms

Number of Samples: 1
Number of Exceedances: 0

Data and Information Type: Fish tissue analysis
Data Used to Assess Water Quality: State Water Board staff assessed SWAMP data for Lafayette Reservoir to determine beneficial use support and results are as follows: 0 of 1 samples exceed the criterion for Hexachlorobenzene. One composite (5 fish per composite) was generated from one species: Channel Catfish. Details of the compositing protocol can be found in the March 2009 report entitled: "Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Study" (SWAMP, 2009).
Data Reference: [Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Survey. A Report of the Surface Water Ambient Monitoring Program \(SWAMP\). California State Water Resources Control Board, Sacramento, CA Statewide Lakes Sportfish Contamination Study 2007 2008](#)
[Contaminants in Fish from California Lakes and Reservoirs, 2007-2008: Summary Report on a Two-Year Screening Survey](#)
[Cruise report for the Surface Water Ambient Monitoring Program \(SWAMP\) bioaccumulation screening study in California lakes and reservoirs year two \(FY 07-08\). Sampling dates: April 2008 - November 2008.](#)

SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	Water Quality Control Plan for the San Francisco Bay Basin: Controllable water quality factors shall not cause a detrimental increase in concentrations of toxic substances found in bottom sediments or aquatic life. Effects on aquatic organisms, wildlife, and human health will be considered.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	The modified OEHHA Fish Contaminant Goal for hexachlorobenzene in fish tissue is 2.8 ppb. This screening level assumes an average body weight of 70 kg and a consumption rate of 32 g/day for a 30 year exposure over a 70-year lifetime. This constituent is a carcinogen therefore the risk level is set to one in a million. A cooking reduction factor of 1 is applied for skin-off fillets. (Klasing, S., and R. Brodberg, 2008; OEHHA, 2005)
Guideline Reference:	Development of Fish Contaminant Goals and Advisory Tissue Levels for Common Contaminants in California Sport Fish: Chlordane, DDTs, Dieldrin, Methylmercury, PCBs, Selenium, and Toxaphene Air Toxics Hotspots Program Risk Assessment Guidelines. Part II Technical Support Document for Describing Available Cancer Potency Values.
Spatial Representation:	Data for this assessment unit was collected by one monitoring project: (SWB_FishLk)
Temporal Representation:	Data was collected on a single day 6/19/2008.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	Samples were collected, processed, and analyzed in accordance with the methods described in Quality Assurance Project Plan "Screening Study of Bioaccumulation in California Lakes and Reservoirs." (SWAMP, 2008).
QAPP Information Reference(s):	Quality Assurance Project Plan Screening Study of Bioaccumulation in California Lakes and Reservoirs. Moss Landing Marine Labs. Prepared for SWAMP BOG, 49 pages plus appendices and attachments

DECISION ID 64937 Region 2	
Lafayette Reservoir	
Pollutant:	Lindane/gamma Hexachlorocyclohexane (gamma-HCH)
Final Listing Decision:	Do Not List on 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision:	New Decision
Revision Status	Revised
Impairment from Pollutant or Pollution:	Pollutant
Regional Board Staff Conclusion:	<p>This pollutant is being considered for placement on the CWA section 303(d) List under section 3.5 of the Listing Policy. Under section 3.5 a single line of evidence is necessary to assess listing status. Three lines of evidence are available in the administrative record to assess this pollutant. Zero of one samples exceed the OEHHA guideline.</p> <p>Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against placing this water segment-pollutant combination on the CWA section 303(d) List.</p> <p>This conclusion is based on the staff findings that:</p> <ol style="list-style-type: none"> 1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy. 2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy. 3. Zero of one samples exceed the OEHHA guideline and this sample size is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating. A minimum of 16 samples is needed to determine if a beneficial use is fully supported using table 3.1. 4. Pursuant to SECTION 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.
Regional Board Staff Decision Recommendation:	After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be placed on the section 303(d) list. The readily available data and

information is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating.

Line of Evidence (LOE) for Decision ID 64937, Lindane/gamma Hexachlorocyclohexane (gamma-HCH)

Region 2

Lafayette Reservoir

LOE ID:	91931
Pollutant:	Lindane/gamma Hexachlorocyclohexane (gamma-HCH)
LOE Subgroup:	Pollutant-Tissue
Matrix:	Tissue
Fraction:	Fish fillet
Beneficial Use:	Cold Freshwater Habitat
Number of Samples:	1
Number of Exceedances:	0
Data and Information Type:	Fish tissue analysis
Data Used to Assess Water Quality:	State Water Board staff assessed SWAMP data for Lafayette Reservoir to determine beneficial use support and results are as follows: 0 of 1 samples exceed the criterion for HCH, gamma. One composite (5 fish per composite) was generated from one species: Channel Catfish. Details of the compositing protocol can be found in the March 2009 report entitled: "Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Study" (SWAMP, 2009).
Data Reference:	Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Survey. A Report of the Surface Water Ambient Monitoring Program (SWAMP). California State Water Resources Control Board, Sacramento, CA Statewide Lakes Sportfish Contamination Study 2007 2008 Contaminants in Fish from California Lakes and Reservoirs, 2007-2008: Summary Report on a Two-Year Screening Survey Cruise report for the Surface Water Ambient Monitoring Program (SWAMP) bioaccumulation screening study in California lakes and reservoirs year two (FY 07-08). Sampling dates: April 2008 - November 2008.
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	Water Quality Control Plan for the San Francisco Bay Basin: Controllable water quality factors shall not cause a detrimental increase in concentrations of toxic substances found in bottom sediments or aquatic life. Effects on aquatic organisms, wildlife, and human health will be considered.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	The modified OEHHA Fish Contaminant Goal for lindane in fish tissue is 4.6 ppb. This screening level assumes an average body weight of 70 kg and a consumption rate of 32 g/day for a 30 year exposure over a 70-year lifetime. This constituent is a carcinogen therefore the risk level is set to one in a million. A cooking reduction factor of 1 is applied for skin-off fillets. (Klasing, S., and R. Brodberg, 2008; OEHHA, 2005)
Guideline Reference:	National Academy of Sciences. Water Quality Criteria 1972. EPA-R3-73-033. Washington, D.C.: U.S. Environmental Protection Agency
Spatial Representation:	Data for this assessment unit was collected by one monitoring project: (SWB_FishLk)
Temporal Representation:	Data was collected on a single day 6/19/2008.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	Samples were collected, processed, and analyzed in accordance with the methods described in Quality Assurance Project Plan "Screening Study of Bioaccumulation in California Lakes and Reservoirs." (SWAMP, 2008).
QAPP Information Reference(s):	Quality Assurance Project Plan Screening Study of Bioaccumulation in California Lakes and Reservoirs. Moss Landing Marine Labs. Prepared for SWAMP BOG, 49 pages plus appendices and attachments

Lafayette Reservoir

LOE ID:	92026
Pollutant:	Lindane/gamma Hexachlorocyclohexane (gamma-HCH)
LOE Subgroup:	Pollutant-Tissue
Matrix:	Tissue
Fraction:	Fish fillet
Beneficial Use:	Commercial or recreational collection of fish, shellfish, or organisms
Number of Samples:	1
Number of Exceedances:	0
Data and Information Type:	Fish tissue analysis
Data Used to Assess Water Quality:	State Water Board staff assessed SWAMP data for Lafayette Reservoir to determine beneficial use support and results are as follows: 0 of 1 samples exceed the criterion for HCH, gamma. One composite (5 fish per composite) was generated from one species: Channel Catfish. Details of the compositing protocol can be found in the March 2009 report entitled: "Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Study" (SWAMP, 2009).
Data Reference:	Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Survey. A Report of the Surface Water Ambient Monitoring Program (SWAMP). California State Water Resources Control Board, Sacramento, CA Statewide Lakes Sportfish Contamination Study 2007 2008 Contaminants in Fish from California Lakes and Reservoirs, 2007-2008: Summary Report on a Two-Year Screening Survey Cruise report for the Surface Water Ambient Monitoring Program (SWAMP) bioaccumulation screening study in California lakes and reservoirs year two (FY 07-08). Sampling dates: April 2008 - November 2008.
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	Water Quality Control Plan for the San Francisco Bay Basin: Controllable water quality factors shall not cause a detrimental increase in concentrations of toxic substances found in bottom sediments or aquatic life. Effects on aquatic organisms, wildlife, and human health will be considered.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	The modified OEHHA Fish Contaminant Goal for lindane in fish tissue is 4.6 ppb. This screening level assumes an average body weight of 70 kg and a consumption rate of 32 g/day for a 30 year exposure over a 70-year lifetime. This constituent is a carcinogen therefore the risk level is set to one in a million. A cooking reduction factor of 1 is applied for skin-off fillets.
Guideline Reference:	Development of Fish Contaminant Goals and Advisory Tissue Levels for Common Contaminants in California Sport Fish: Chlordane, DDTs, Dieldrin, Methylmercury, PCBs, Selenium, and Toxaphene Air Toxics Hotspots Program Risk Assessment Guidelines. Part II Technical Support Document for Describing Available Cancer Potency Values.
Spatial Representation:	Data for this assessment unit was collected by one monitoring project: (SWB_FishLk)
Temporal Representation:	Data was collected on a single day 6/19/2008.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	Samples were collected, processed, and analyzed in accordance with the methods described in Quality Assurance Project Plan "Screening Study of Bioaccumulation in California Lakes and Reservoirs." (SWAMP, 2008).
QAPP Information Reference(s):	Quality Assurance Project Plan Screening Study of Bioaccumulation in California Lakes and Reservoirs. Moss Landing Marine Labs. Prepared for SWAMP BOG, 49 pages plus appendices and attachments

Line of Evidence (LOE) for Decision ID 64937, Lindane/gamma Hexachlorocyclohexane (gamma-HCH)

Region 2

Lafayette Reservoir

LOE ID:	92025
Pollutant:	Lindane/gamma Hexachlorocyclohexane (gamma-HCH)
LOE Subgroup:	Pollutant-Tissue
Matrix:	Tissue
Fraction:	Fish fillet
Beneficial Use:	Warm Freshwater Habitat
Number of Samples:	1
Number of Exceedances:	0
Data and Information Type:	Fish tissue analysis
Data Used to Assess Water Quality:	State Water Board staff assessed SWAMP data for Lafayette Reservoir to determine beneficial use support and results are as follows: 0 of 1 samples exceed the criterion for HCH, gamma. One composite (5 fish per composite) was generated from one species: Channel Catfish. Details of the compositing protocol can be found in the March 2009 report entitled: "Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Study" (SWAMP, 2009).
Data Reference:	Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Survey. A Report of the Surface Water Ambient Monitoring Program (SWAMP). California State Water Resources Control Board, Sacramento, CA Statewide Lakes Sportfish Contamination Study 2007 2008 Contaminants in Fish from California Lakes and Reservoirs, 2007-2008: Summary Report on a Two-Year Screening Survey Cruise report for the Surface Water Ambient Monitoring Program (SWAMP) bioaccumulation screening study in California lakes and reservoirs year two (FY 07-08). Sampling dates: April 2008 - November 2008.
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	Water Quality Control Plan for the San Francisco Bay Basin: Controllable water quality factors shall not cause a detrimental increase in concentrations of toxic substances found in bottom sediments or aquatic life. Effects on aquatic organisms, wildlife, and human health will be considered.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	The modified OEHHA Fish Contaminant Goal for lindane in fish tissue is 4.6 ppb. This screening level assumes an average body weight of 70 kg and a consumption rate of 32 g/day for a 30 year exposure over a 70-year lifetime. This constituent is a carcinogen therefore the risk level is set to one in a million. A cooking reduction factor of 1 is applied for skin-off fillets. (Klasing, S., and R. Brodberg, 2008; OEHHA, 2005)
Guideline Reference:	National Academy of Sciences. Water Quality Criteria 1972. EPA-R3-73-033. Washington, D.C.: U.S. Environmental Protection Agency
Spatial Representation:	Data for this assessment unit was collected by one monitoring project: (SWB_FishLk)
Temporal Representation:	Data was collected on a single day 6/19/2008.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	Samples were collected, processed, and analyzed in accordance with the methods described in Quality Assurance Project Plan "Screening Study of Bioaccumulation in California Lakes and Reservoirs." (SWAMP, 2008).
QAPP Information Reference(s):	Quality Assurance Project Plan Screening Study of Bioaccumulation in California Lakes and Reservoirs. Moss Landing Marine Labs. Prepared for SWAMP BOG, 49 pages plus appendices and attachments

DECISION ID

64938

Region 2

Lafayette Reservoir

Pollutant: Mirex
Final Listing Decision: Do Not List on 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision: New Decision
Revision Status: Revised
Impairment from Pollutant or Pollution: Pollutant

Regional Board Staff Conclusion:

This pollutant is being considered for placement on the CWA section 303(d) List under section 3.5 of the Listing Policy. Under section 3.5 a single line of evidence is necessary to assess listing status. One line of evidence is available in the administrative record to assess this pollutant. Zero of zero samples exceed the OEHHHA guideline.

Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against placing this water segment-pollutant combination on the CWA section 303(d) List.

This conclusion is based on the staff findings that:

1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy.
2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy.
3. Zero of zero samples exceed the OEHHHA guideline and this sample size is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating. A minimum of 16 samples is needed to determine if a beneficial use is fully supported using table 3.1.
4. Pursuant to SECTION 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.

Regional Board Staff Decision Recommendation: After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be placed on the section 303(d) list. The readily available data and information is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating.

Line of Evidence (LOE) for Decision ID 64938, Mirex

Region 2

Lafayette Reservoir

LOE ID: 92031

Pollutant: Mirex
LOE Subgroup: Pollutant-Tissue
Matrix: Tissue
Fraction: Fish fillet

Beneficial Use: Commercial or recreational collection of fish, shellfish, or organisms

Number of Samples: 0
Number of Exceedances: 0

Data and Information Type: Fish tissue analysis
Data Used to Assess Water Quality: State Water Board staff assessed SWAMP data for Lafayette Reservoir to determine beneficial use support and results are as follows: 0 of 0 samples exceed the criterion for Mirex. One composite (5 fish per composite) was generated from one species: Channel Catfish. Details of the compositing protocol can be found in the March 2009 report entitled: "Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Study" (SWAMP, 2009). One composite was not used in the assessment because the laboratory data reporting limit(s) was above the objective and therefore the results could not be quantified with the level of certainty required by the Listing Policy.

Data Reference: [Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Survey. A Report of the Surface Water Ambient Monitoring](#)

[Program \(SWAMP\). California State Water Resources Control Board, Sacramento, CA Statewide Lakes Sportfish Contamination Study 2007 2008](#)
[Contaminants in Fish from California Lakes and Reservoirs, 2007-2008: Summary Report on a Two-Year Screening Survey](#)
[Cruise report for the Surface Water Ambient Monitoring Program \(SWAMP\) bioaccumulation screening study in California lakes and reservoirs year two \(FY 07-08\). Sampling dates: April 2008 - November 2008.](#)

SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	Water Quality Control Plan for the San Francisco Bay Basin: Controllable water quality factors shall not cause a detrimental increase in concentrations of toxic substances found in bottom sediments or aquatic life. Effects on aquatic organisms, wildlife, and human health will be considered.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	The modified OEHHA Fish Contaminant Goal for mirex in fish tissue is 0.28 ppb. This screening level assumes an average body weight of 70 kg and a consumption rate of 32 g/day. A cooking reduction factor of 1 is applied for skin-off fillets. (Klasing, S., and R. Brodberg, 2008; OEHHA, 1992)
Guideline Reference:	Development of Fish Contaminant Goals and Advisory Tissue Levels for Common Contaminants in California Sport Fish: Chlordane, DDTs, Dieldrin, Methylmercury, PCBs, Selenium, and Toxaphene Expedited Cancer Potency Values and Proposed Regulatory Levels for Certain Proposition 65 Carcinogens.
Spatial Representation:	Data for this assessment unit was collected by one monitoring project: (SWB_FishLk)
Temporal Representation:	Data was collected on a single day 6/19/2008.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	Samples were collected, processed, and analyzed in accordance with the methods described in Quality Assurance Project Plan "Screening Study of Bioaccumulation in California Lakes and Reservoirs." (SWAMP, 2008).
QAPP Information Reference(s):	Quality Assurance Project Plan Screening Study of Bioaccumulation in California Lakes and Reservoirs. Moss Landing Marine Labs. Prepared for SWAMP BOG. 49 pages plus appendices and attachments

DECISION ID	64939	Region 2
Lafayette Reservoir		

Pollutant:	Selenium
Final Listing Decision:	Do Not List on 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision:	New Decision
Revision Status	Revised
Impairment from Pollutant or Pollution:	Pollutant
Regional Board Staff Conclusion:	<p>This pollutant is being considered for placement on the CWA section 303(d) List under section 3.5 of the Listing Policy. Under section 3.5 a single line of evidence is necessary to assess listing status. One line of evidence is available in the administrative record to assess this pollutant. Zero of one samples exceed the OEHHA guideline.</p> <p>Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against placing this water segment-pollutant combination on the CWA section 303(d) List.</p> <p>This conclusion is based on the staff findings that:</p> <ol style="list-style-type: none"> 1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy. 2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy. 3. Zero of one samples exceed the OEHHA guideline and this sample size is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support

rating. A minimum of 16 samples is needed to determine if a beneficial use is fully supported using table 3.1.

4. Pursuant to SECTION 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.

Regional Board Staff Decision Recommendation: After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be placed on the section 303(d) list. The readily available data and information is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating.

**Line of Evidence (LOE) for Decision ID 64939, Selenium
Lafayette Reservoir**

Region 2

LOE ID:	92038
Pollutant:	Selenium
LOE Subgroup:	Pollutant-Tissue
Matrix:	Tissue
Fraction:	Fish fillet
Beneficial Use:	Commercial or recreational collection of fish, shellfish, or organisms
Number of Samples:	1
Number of Exceedances:	0
Data and Information Type:	Fish tissue analysis
Data Used to Assess Water Quality:	State Water Board staff assessed SWAMP data for Lafayette Reservoir to determine beneficial use support and results are as follows: 0 of 1 samples exceed the criterion for Selenium. One composite (5 fish per composite) was generated from one species: Channel Catfish. Details of the compositing protocol can be found in the March 2009 report entitled: "Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Study" (SWAMP, 2009).
Data Reference:	Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Survey. A Report of the Surface Water Ambient Monitoring Program (SWAMP). California State Water Resources Control Board, Sacramento, CA Statewide Lakes Sportfish Contamination Study 2007 2008 Contaminants in Fish from California Lakes and Reservoirs, 2007-2008: Summary Report on a Two-Year Screening Survey Cruise report for the Surface Water Ambient Monitoring Program (SWAMP) bioaccumulation screening study in California lakes and reservoirs year two (FY 07-08). Sampling dates: April 2008 - November 2008.
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	Water Quality Control Plan for the San Francisco Bay Basin (2013): Controllable water quality factors shall not cause a detrimental increase in concentrations of toxic substances found in bottom sediments or aquatic life. Effects on aquatic organisms, wildlife, and human health will be considered.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	The OEHHA Fish Contaminant Goal for selenium in fish tissue is 7.4 ppm. This screening level assumes an average body weight of 70 kg and a consumption rate of 32 g/day. A background dietary consumption rate of 0.114 mg/day is applied for this micronutrient. (Klasing, S., and R. Brodberg, 2008)
Guideline Reference:	Development of Fish Contaminant Goals and Advisory Tissue Levels for Common Contaminants in California Sport Fish: Chlordane, DDTs, Dieldrin, Methylmercury, PCBs, Selenium, and Toxaphene
Spatial Representation:	Data for this assessment unit was collected by one monitoring project: (SWB_FishLk)
Temporal Representation:	Data was collected on a single day 6/19/2008.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.

QAPP Information:

Samples were collected, processed, and analyzed in accordance with the methods described in Quality Assurance Project Plan "Screening Study of Bioaccumulation in California Lakes and Reservoirs." (SWAMP, 2008).

QAPP Information Reference(s):

[Quality Assurance Project Plan Screening Study of Bioaccumulation in California Lakes and Reservoirs. Moss Landing Marine Labs. Prepared for SWAMP BOG. 49 pages plus appendices and attachments](#)

Draft California 2016 Integrated Report (303(d) List/305(b) Report)

Supporting Information

Regional Board 2 - San Francisco Bay Region

Water Body Name: Walker Creek
Water Body ID: CAR2011201319980928173807
Water Body Type: River & Stream

DECISION ID 32772 **Region 2**
Walker Creek

Pollutant: Mercury
Final Listing Decision: Do Not Delist from 303(d) list (being addressed with USEPA approved TMDL)
Last Listing Cycle's Final Listing Decision: List on 303(d) list (being addressed by USEPA approved TMDL)(2012)
Revision Status Revised
Sources: Mine Tailings
TMDL Name: Walker Creek Mercury
TMDL Project Code: 69
Date TMDL Approved by USEPA: 09/29/2008
Impairment from Pollutant or Pollution: Pollutant

Regional Board Staff Conclusion: This pollutant is being considered for removal on the CWA section 303(d) List under sections 2.2 and 4.1 of the Listing Policy. Under section 4.1 of the Policy, a minimum of one line of evidence is needed to assess listing status.

Three lines of evidence are available in the administrative record to assess this pollutant.

Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against removing this water segment-pollutant combination from the CWA section 303(d) List. There is sufficient justification to place it in the Being Addressed portion of the CWA 303(d) List because a TMDL has been completed and approved by RWQCB and USEPA, and is expected to result in attainment of the standard.

This conclusion is based on the staff findings that:

1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy.
2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy.
3. One of one samples exceeded the evaluation guideline and these exceed the allowable frequency listed in Table 4.1 of the Listing Policy.
4. The Walker Creek Mercury TMDL was approved by USEPA on 9/29/2008.
5. Pursuant to section 4.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.

Regional Board Staff Decision Recommendation: After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be removed from the section 303(d) list because applicable water quality standards for the pollutant are being exceeded.

Line of Evidence (LOE) for Decision ID 32772, Mercury **Region 2**
Walker Creek

LOE ID: 93477
Pollutant: Mercury
LOE Subgroup: Pollutant-Sediment

Matrix:	Sediment
Fraction:	Total
Beneficial Use:	Cold Freshwater Habitat
Number of Samples:	1
Number of Exceedances:	1
Data and Information Type:	PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality:	Water Board staff assessed SWAMP data for Walker Creek to determine beneficial use support and results are as follows: 1 of 1 samples exceed the criterion for Mercury.
Data Reference:	Statewide Stream Pollution Trends Study 2008
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	San Francisco Bay Basin Water Quality Control Plan 2007: All waters shall be maintained free of toxic substances in concentrations which are toxic to, or which produce detrimental physiological responses in, human, plant, animal, or aquatic life.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	In freshwater sediments the probable effect concentration (predictive of sediment toxicity for sediment-dwelling organisms) for mercury is 1.06 mg/Kg dry weight (MacDonald et al. 2000).
Guideline Reference:	Development and evaluation of consensus-based sediment quality guidelines for freshwater ecosystems. Environmental Contamination and Toxicology. 39: 20-31
Spatial Representation:	Data for this line of evidence for Walker Creek was collected at 1 monitoring site [Walker Creek Ranch station (201WLK160)]
Temporal Representation:	Data was collected on a single day 6/18/2008.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	SWAMP data collected before September 2008 followed the QAMP (2002), however there may have been overlap in QA with SWAMP QAPP (2008).
QAPP Information Reference(s):	Quality Assurance Management Plan for the State of California's Surface Water Ambient Monitoring Program. Sacramento, CA. State Water Resources Control Board. SWAMP. December 2002 (1st version) Surface Water Ambient Monitoring Program Quality Assurance Program Plan

Line of Evidence (LOE) for Decision ID 32772, Mercury

Region 2

Walker Creek

LOE ID:	93476
Pollutant:	Mercury
LOE Subgroup:	Pollutant-Sediment
Matrix:	Sediment
Fraction:	Total
Beneficial Use:	Warm Freshwater Habitat
Number of Samples:	1
Number of Exceedances:	1
Data and Information Type:	PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality:	Water Board staff assessed SWAMP data for Walker Creek to determine beneficial use support and results are as follows: 1 of 1 samples exceed the criterion for Mercury.
Data Reference:	Statewide Stream Pollution Trends Study 2008
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	San Francisco Bay Basin Water Quality Control Plan 2007: All waters shall be maintained free of toxic substances in concentrations which are toxic to, or which produce detrimental physiological responses in, human, plant, animal, or aquatic life.

Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	In freshwater sediments the probable effect concentration (predictive of sediment toxicity for sediment-dwelling organisms) for mercury is 1.06 mg/Kg dry weight (MacDonald et al. 2000).
Guideline Reference:	Development and evaluation of consensus-based sediment quality guidelines for freshwater ecosystems. Environmental Contamination and Toxicology. 39: 20-31
Spatial Representation:	Data for this line of evidence for Walker Creek was collected at 1 monitoring site [Walker Creek Ranch station (201WLK160)]
Temporal Representation:	Data was collected on a single day 6/18/2008.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	SWAMP data collected before September 2008 followed the QAMP (2002), however there may have been overlap in QA with SWAMP QAPP (2008).
QAPP Information Reference(s):	Quality Assurance Management Plan for the State of California's Surface Water Ambient Monitoring Program. Sacramento, CA. State Water Resources Control Board. SWAMP. December 2002 (1st version) Surface Water Ambient Monitoring Program Quality Assurance Program Plan

Line of Evidence (LOE) for Decision ID 32772, Mercury

Region 2

Walker Creek

LOE ID:	3714
Pollutant:	Mercury
LOE Subgroup:	Pollutant-Tissue
Matrix:	Tissue
Fraction:	Not Recorded
Beneficial Use:	Commercial or recreational collection of fish, shellfish, or organisms
Number of Samples:	0
Number of Exceedances:	0
Data and Information Type:	Not Specified
Data Used to Assess Water Quality:	Unspecified--This LOE is a placeholder to support a 303(d) listing decision made prior to 2006.
Data Reference:	Placeholder reference pre-2006 303(d)
SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	Unspecified
Objective/Criterion Reference:	Placeholder reference pre-2006 303(d)
Evaluation Guideline:	Unspecified
Guideline Reference:	Placeholder reference pre-2006 303(d)
Spatial Representation:	Unspecified
Temporal Representation:	Unspecified
Environmental Conditions:	Unspecified
QAPP Information:	Unspecified
QAPP Information Reference(s):	

DECISION ID

66356

Region 2

Walker Creek

Pollutant:	Arsenic
Final Listing Decision:	Do Not List on 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision:	New Decision

Revision Status
Impairment from Pollutant or
Pollution:

Revised
Pollutant

Regional Board Staff
Conclusion:

This pollutant is being considered for placement on the CWA section 303(d) List under section 3.6 of the Listing Policy. Under section 3.6 at least two lines of evidence are necessary to assess listing status for pollutants sediment, and pollutant concentrations in sediment must be associated with sediment toxicity to justify adding that pollutant to the CWA section 303(d) List.

Two lines of evidence are available in the administrative record to assess this pollutant. Zero of one samples exceed the guideline.

Based on the readily available data and information, the weight of evidence indicates that there is insufficient justification for placing this water segment-pollutant combination on the CWA section 303(d) List.

This conclusion is based on the staff findings that:

1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy.
2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy.
3. Zero of one samples exceed the guideline and this sample size is insufficient to determine beneficial use support, with the power and confidence of the Listing Policy. There is an associated sediment toxicity data as required by Section 3.6 of the Listing Policy, but these data are not attached to this decision because the sediment chemistry data are insufficient.
4. Pursuant to section 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.

Regional Board Staff Decision
Recommendation:

After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be placed on the section 303(d) list. The readily available data and information is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating.

Line of Evidence (LOE) for Decision ID 66356, Arsenic
Walker Creek

Region 2

LOE ID: 93542

Pollutant: Arsenic
LOE Subgroup: Pollutant-Sediment
Matrix: Sediment
Fraction: Total

Beneficial Use: Cold Freshwater Habitat

Number of Samples: 1
Number of Exceedances: 0

Data and Information Type: PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality: Water Board staff assessed SWAMP data for Walker Creek to determine beneficial use support and results are as follows: 0 of 1 samples exceed the criterion for Arsenic.

Data Reference: [Statewide Stream Pollution Trends Study 2008](#)

SWAMP Data: SWAMP

Water Quality Objective/Criterion: San Francisco Bay Basin Water Quality Control Plan 2007: All waters shall be maintained free of toxic substances in concentrations which are toxic to, or which produce detrimental physiological responses in, human, plant, animal, or aquatic life.

Objective/Criterion Reference: [Water Quality Control Plan \(Basin Plan\) San Francisco Bay Basin \(Region 2\)](#)

Evaluation Guideline: In freshwater sediments the probable effect concentration (predictive of sediment toxicity for sediment-dwelling organisms) for arsenic is 33 mg/Kg dry weight (MacDonald et al. 2000).

Guideline Reference: [Development and evaluation of consensus-based sediment quality guidelines for](#)

Spatial Representation:	Data for this line of evidence for Walker Creek was collected at 1 monitoring site [Walker Creek Ranch station (201WLK160)]
Temporal Representation:	Data was collected on a single day 6/18/2008.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	SWAMP data collected before September 2008 followed the QAMP (2002), however there may have been overlap in QA with SWAMP QAPP (2008).
QAPP Information Reference(s):	Quality Assurance Management Plan for the State of California's Surface Water Ambient Monitoring Program. Sacramento, CA. State Water Resources Control Board. SWAMP. December 2002 (1st version) Surface Water Ambient Monitoring Program Quality Assurance Program Plan

Line of Evidence (LOE) for Decision ID 66356, Arsenic

Region 2

Walker Creek

LOE ID:	93541
Pollutant:	Arsenic
LOE Subgroup:	Pollutant-Sediment
Matrix:	Sediment
Fraction:	Total
Beneficial Use:	Warm Freshwater Habitat
Number of Samples:	1
Number of Exceedances:	0
Data and Information Type:	PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality:	Water Board staff assessed SWAMP data for Walker Creek to determine beneficial use support and results are as follows: 0 of 1 samples exceed the criterion for Arsenic.
Data Reference:	Statewide Stream Pollution Trends Study 2008
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	San Francisco Bay Basin Water Quality Control Plan 2007: All waters shall be maintained free of toxic substances in concentrations which are toxic to, or which produce detrimental physiological responses in, human, plant, animal, or aquatic life.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	In freshwater sediments the probable effect concentration (predictive of sediment toxicity for sediment-dwelling organisms) for arsenic is 33 mg/Kg dry weight (MacDonald et al. 2000).
Guideline Reference:	Development and evaluation of consensus-based sediment quality guidelines for freshwater ecosystems. Environmental Contamination and Toxicology. 39: 20-31
Spatial Representation:	Data for this line of evidence for Walker Creek was collected at 1 monitoring site [Walker Creek Ranch station (201WLK160)]
Temporal Representation:	Data was collected on a single day 6/18/2008.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	SWAMP data collected before September 2008 followed the QAMP (2002), however there may have been overlap in QA with SWAMP QAPP (2008).
QAPP Information Reference(s):	Quality Assurance Management Plan for the State of California's Surface Water Ambient Monitoring Program. Sacramento, CA. State Water Resources Control Board. SWAMP. December 2002 (1st version) Surface Water Ambient Monitoring Program Quality Assurance Program Plan

DECISION ID

66839

Region 2

Walker Creek

Pollutant:	Bifenthrin
Final Listing Decision:	Do Not List on 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision:	New Decision
Revision Status	Revised
Impairment from Pollutant or Pollution:	Pollutant

Regional Board Staff Conclusion:

This pollutant is being considered for placement on the CWA section 303(d) List under section 3.6 of the Listing Policy. Under section 3.6 at least two lines of evidence are necessary to assess listing status for pollutants in sediment, and pollutant concentrations in sediment must be associated with sediment toxicity to justify adding that pollutant to the CWA section 303(d) List.

Two lines of evidence are available in the administrative record to assess this pollutant. Zero of one samples exceed the guideline. Sediment toxicity data are not associated with this decision because they are not relevant to this decision because there is insufficient information based on sediment chemistry.

Based on the readily available data and information, the weight of evidence indicates that there is insufficient justification for placing this water segment-pollutant combination on the CWA section 303(d) List.

This conclusion is based on the staff findings that:

1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy.
2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy.
3. Zero of one samples exceed the guideline and this sample size is insufficient to determine beneficial use support, with the power and confidence of the Listing Policy. A minimum of 16 samples is needed to determine if a beneficial use is fully supported using table 3.1. Sediment toxicity data are not associated with this decision because the sediment chemistry data are insufficient.
4. Pursuant to section 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.

Regional Board Staff Decision Recommendation:

After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be placed on the section 303(d) list. The readily available data and information is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating.

Line of Evidence (LOE) for Decision ID 66839, Bifenthrin

Region 2

Walker Creek

LOE ID: 93543

Pollutant:	Bifenthrin
LOE Subgroup:	Pollutant-Sediment
Matrix:	Sediment
Fraction:	Total

Beneficial Use: Warm Freshwater Habitat

Number of Samples:	1
Number of Exceedances:	0

Data and Information Type:	PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality:	Water Board staff assessed SWAMP data for Walker Creek to determine beneficial use support and results are as follows: 0 of 1 samples exceed the criterion for Bifenthrin.

Data Reference:	Statewide Stream Pollution Trends Study 2008
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SWAMP Data:	SWAMP
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Water Quality Objective/Criterion:	San Francisco Bay Basin Water Quality Control Plan 2007: All waters shall be maintained
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Objective/Criterion Reference:	free of toxic substances in concentrations which are toxic to, or which produce detrimental physiological responses in, human, plant, animal, or aquatic life. Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	The evaluation guideline for bifenthrin is the median lethal concentration (LC50) of 0.43 ug/g and is normalized by the percentage of organic carbon in the sediment sample. The LC50 0.43 ug/g is the geometric mean of LC50 values for bifenthrin from Amweg et al. (2005) and Amweg and Weston (2007).
Guideline Reference:	Use and Toxicity of Pyrethroid Pesticides in the Central Valley, California, USA. Environmental Toxicology and Chemistry, 24:966-972, with erratum 24:No. 5 Whole-sediment toxicity identification evaluation tools for pyrethroid insecticides: I. piperonyl butoxide addition. Environ. Toxicol. Chem. 26:2389-2396.
Spatial Representation:	Data for this line of evidence for Walker Creek was collected at 1 monitoring site [Walker Creek Ranch station (201WLK160)]
Temporal Representation:	Data was collected on a single day 6/18/2008.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	SWAMP data collected before September 2008 followed the QAMP (2002), however there may have been overlap in QA with SWAMP QAPP (2008).
QAPP Information Reference(s):	Quality Assurance Management Plan for the State of California's Surface Water Ambient Monitoring Program. Sacramento, CA. State Water Resources Control Board. SWAMP. December 2002 (1st version) Surface Water Ambient Monitoring Program Quality Assurance Program Plan

Line of Evidence (LOE) for Decision ID 66839, Bifenthrin Walker Creek

Region 2

LOE ID:	93551
Pollutant:	Bifenthrin
LOE Subgroup:	Pollutant-Sediment
Matrix:	Sediment
Fraction:	Total
Beneficial Use:	Cold Freshwater Habitat
Number of Samples:	1
Number of Exceedances:	0
Data and Information Type:	PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality:	Water Board staff assessed SWAMP data for Walker Creek to determine beneficial use support and results are as follows: 0 of 1 samples exceed the criterion for Bifenthrin.
Data Reference:	Statewide Stream Pollution Trends Study 2008
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	San Francisco Bay Basin Water Quality Control Plan 2007: All waters shall be maintained free of toxic substances in concentrations which are toxic to, or which produce detrimental physiological responses in, human, plant, animal, or aquatic life.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	The evaluation guideline for bifenthrin is the median lethal concentration (LC50) of 0.43 ug/g and is normalized by the percentage of organic carbon in the sediment sample. The LC50 0.43 ug/g is the geometric mean of LC50 values for bifenthrin from Amweg et al. (2005) and Amweg and Weston (2007).
Guideline Reference:	Use and Toxicity of Pyrethroid Pesticides in the Central Valley, California, USA. Environmental Toxicology and Chemistry, 24:966-972, with erratum 24:No. 5 Whole-sediment toxicity identification evaluation tools for pyrethroid insecticides: I. piperonyl butoxide addition. Environ. Toxicol. Chem. 26:2389-2396.
Spatial Representation:	Data for this line of evidence for Walker Creek was collected at 1 monitoring site [Walker Creek Ranch station (201WLK160)]

Temporal Representation:	Data was collected on a single day 6/18/2008.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	SWAMP data collected before September 2008 followed the QAMP (2002), however there may have been overlap in QA with SWAMP QAPP (2008).
QAPP Information Reference(s):	Quality Assurance Management Plan for the State of California's Surface Water Ambient Monitoring Program. Sacramento, CA. State Water Resources Control Board. SWAMP. December 2002 (1st version). Surface Water Ambient Monitoring Program Quality Assurance Program Plan

DECISION ID	66848	Region 2
Walker Creek		

Pollutant:	Cadmium
Final Listing Decision:	Do Not List on 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision:	New Decision
Revision Status	Revised
Impairment from Pollutant or Pollution:	Pollutant

Regional Board Staff Conclusion: This pollutant is being considered for placement on the CWA section 303(d) List under section 3.6 of the Listing Policy. Under section 3.6 at least two lines of evidence are necessary to assess listing status for pollutants in sediment, and pollutant concentrations in sediment must be associated with sediment toxicity to justify adding that pollutant to the CWA section 303(d) List.

Two lines of evidence are available in the administrative record to assess this pollutant. Zero of one samples exceed the guideline. Sediment toxicity data are not associated with this decision because they are not relevant to this decision because there is insufficient information based on sediment chemistry.

Based on the readily available data and information, the weight of evidence indicates that there is insufficient justification for placing this water segment-pollutant combination on the CWA section 303(d) List.

This conclusion is based on the staff findings that:

1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy.
2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy.
3. Zero of one samples exceed the guideline and this sample size is insufficient to determine beneficial use support, with the power and confidence of the Listing Policy. A minimum of 16 samples is needed to determine if a beneficial use is fully supported using table 3.1. Sediment toxicity data are not associated with this decision because the sediment chemistry data are insufficient.
4. Pursuant to section 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.

Regional Board Staff Decision Recommendation: After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be placed on the section 303(d) list. The readily available data and information is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating.

Line of Evidence (LOE) for Decision ID 66848, Cadmium		Region 2
Walker Creek		

LOE ID:	93553
Pollutant:	Cadmium
LOE Subgroup:	Pollutant-Sediment
Matrix:	Sediment
Fraction:	Total

Beneficial Use:	Cold Freshwater Habitat
Number of Samples:	1
Number of Exceedances:	0
Data and Information Type:	PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality:	Water Board staff assessed SWAMP data for Walker Creek to determine beneficial use support and results are as follows: 0 of 1 samples exceed the criterion for Cadmium.
Data Reference:	Statewide Stream Pollution Trends Study 2008
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	San Francisco Bay Basin Water Quality Control Plan 2007: All waters shall be maintained free of toxic substances in concentrations which are toxic to, or which produce detrimental physiological responses in, human, plant, animal, or aquatic life.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	In freshwater sediments the probable effect concentration (predictive of sediment toxicity for sediment-dwelling organisms) for cadmium is 4.98 mg/Kg dry weight (MacDonald et al. 2000).
Guideline Reference:	Development and evaluation of consensus-based sediment quality guidelines for freshwater ecosystems. Environmental Contamination and Toxicology. 39: 20-31
Spatial Representation:	Data for this line of evidence for Walker Creek was collected at 1 monitoring site [Walker Creek Ranch station (201WLK160)]
Temporal Representation:	Data was collected on a single day 6/18/2008.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	SWAMP data collected before September 2008 followed the QAMP (2002), however there may have been overlap in QA with SWAMP QAPP (2008).
QAPP Information Reference(s):	Quality Assurance Management Plan for the State of California's Surface Water Ambient Monitoring Program. Sacramento, CA. State Water Resources Control Board. SWAMP. December 2002 (1st version) Surface Water Ambient Monitoring Program Quality Assurance Program Plan

Line of Evidence (LOE) for Decision ID 66848, Cadmium

Region 2

Walker Creek

LOE ID:	93552
Pollutant:	Cadmium
LOE Subgroup:	Pollutant-Sediment
Matrix:	Sediment
Fraction:	Total
Beneficial Use:	Warm Freshwater Habitat
Number of Samples:	1
Number of Exceedances:	0
Data and Information Type:	PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality:	Water Board staff assessed SWAMP data for Walker Creek to determine beneficial use support and results are as follows: 0 of 1 samples exceed the criterion for Cadmium.
Data Reference:	Statewide Stream Pollution Trends Study 2008
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	San Francisco Bay Basin Water Quality Control Plan 2007: All waters shall be maintained free of toxic substances in concentrations which are toxic to, or which produce detrimental physiological responses in, human, plant, animal, or aquatic life.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)

Evaluation Guideline:	In freshwater sediments the probable effect concentration (predictive of sediment toxicity for sediment-dwelling organisms) for cadmium is 4.98 mg/Kg dry weight (MacDonald et al. 2000).
Guideline Reference:	Development and evaluation of consensus-based sediment quality guidelines for freshwater ecosystems. Environmental Contamination and Toxicology. 39: 20-31
Spatial Representation:	Data for this line of evidence for Walker Creek was collected at 1 monitoring site [Walker Creek Ranch station (201WLK160)]
Temporal Representation:	Data was collected on a single day 6/18/2008.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	SWAMP data collected before September 2008 followed the QAMP (2002), however there may have been overlap in QA with SWAMP QAPP (2008).
QAPP Information Reference(s):	Quality Assurance Management Plan for the State of California's Surface Water Ambient Monitoring Program. Sacramento, CA. State Water Resources Control Board. SWAMP. December 2002 (1st version) Surface Water Ambient Monitoring Program Quality Assurance Program Plan

DECISION ID	66849	Region 2
Walker Creek		

Pollutant:	Chlordane
Final Listing Decision:	Do Not List on 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision:	New Decision
Revision Status	Revised
Impairment from Pollutant or Pollution:	Pollutant

Regional Board Staff Conclusion: This pollutant is being considered for placement on the CWA section 303(d) List under section 3.6 of the Listing Policy. Under section 3.6 at least two lines of evidence are necessary to assess listing status for pollutants in sediment, and pollutant concentrations in sediment must be associated with sediment toxicity to justify adding that pollutant to the CWA section 303(d) List.

One line of evidence is available in the administrative record to assess this pollutant. Zero of one samples exceed the guideline. Sediment toxicity data are not associated with this decision because they are not relevant to this decision because there is insufficient information based on sediment chemistry.

Based on the readily available data and information, the weight of evidence indicates that there is insufficient justification for placing this water segment-pollutant combination on the CWA section 303(d) List.

This conclusion is based on the staff findings that:

1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy.
2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy.
3. Zero of one samples exceed the guideline and this sample size is insufficient to determine beneficial use support, with the power and confidence of the Listing Policy. A minimum of 16 samples is needed to determine if a beneficial use is fully supported using table 3.1. Sediment toxicity data are not associated with this decision because the sediment chemistry data are insufficient.
4. Pursuant to section 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.

Regional Board Staff Decision Recommendation: After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be placed on the section 303(d) list. The readily available data and information is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating.

Line of Evidence (LOE) for Decision ID 66849, Chlordane	Region 2
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Walker Creek

LOE ID:	90716
Pollutant:	Chlordane
LOE Subgroup:	Pollutant-Sediment
Matrix:	Sediment
Fraction:	Total
Beneficial Use:	Cold Freshwater Habitat
Number of Samples:	1
Number of Exceedances:	0
Data and Information Type:	PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality:	Zero of 1 samples collected exceeded the criteria for chlordane concentration (Sum of trans-Chlordane, cis-Chlordane, cis-Nonachlor, trans-Nonachlor, and Oxychlordane).
Data Reference:	Statewide Stream Pollution Trends Study 2008
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	All waters shall be maintained free of toxic substances in concentrations that are lethal to or that produce other detrimental responses in aquatic organisms. Waters shall not contain substances in concentrations that result in the deposition of material that causes nuisance or adversely affects beneficial uses. (Water Quality Control Plan for the San Francisco Bay Basin).
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) - San Francisco Bay Region (Region 2)
Evaluation Guideline:	The Probable Effect Concentration for Chlordane in freshwater sediments is 17.6 ug/kg(MacDonald et al. 2000).
Guideline Reference:	Development and evaluation of consensus-based sediment quality guidelines for freshwater ecosystems. Environmental Contamination and Toxicology. 39: 20-31
Spatial Representation:	Data were collected at the following station 201WLK160 (Walker Creek Ranch).
Temporal Representation:	The samples were collected on 6/18/2008.
Environmental Conditions:	
QAPP Information:	The SWAMP QAPP (2008) was followed.
QAPP Information Reference(s):	Surface Water Ambient Monitoring Program Quality Assurance Program Plan

DECISION ID	66850	Region 2
Walker Creek		

Pollutant:	Chlorpyrifos
Final Listing Decision:	Do Not List on 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision:	New Decision
Revision Status	Revised
Impairment from Pollutant or Pollution:	Pollutant
Regional Board Staff Conclusion:	<p>This pollutant is being considered for placement on the CWA section 303(d) List under section 3.6 of the Listing Policy. Under section 3.6 at least two lines of evidence are necessary to assess listing status for pollutants in sediment, and pollutant concentrations in sediment must be associated with sediment toxicity to justify adding that pollutant to the CWA section 303(d) List.</p> <p>Two lines of evidence are available in the administrative record to assess this pollutant. Zero of one samples exceed the guideline. Sediment toxicity data are not associated with this decision because they are not relevant to this decision because there is insufficient information based on sediment chemistry.</p> <p>Based on the readily available data and information, the weight of evidence indicates that there is</p>

insufficient justification for placing this water segment-pollutant combination on the CWA section 303(d) List.

This conclusion is based on the staff findings that:

1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy.
2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy.
3. Zero of one samples exceed the guideline and this sample size is insufficient to determine beneficial use support, with the power and confidence of the Listing Policy. A minimum of 16 samples is needed to determine if a beneficial use is fully supported using table 3.1. Sediment toxicity data are not associated with this decision because the sediment chemistry data are insufficient.
4. Pursuant to section 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.

Regional Board Staff Decision Recommendation: After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be placed on the section 303(d) list. The readily available data and information is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating.

**Line of Evidence (LOE) for Decision ID 66850, Chlorpyrifos
Walker Creek**

Region 2

LOE ID:	93554
Pollutant:	Chlorpyrifos
LOE Subgroup:	Pollutant-Sediment
Matrix:	Sediment
Fraction:	Total
Beneficial Use:	Warm Freshwater Habitat
Number of Samples:	1
Number of Exceedances:	0
Data and Information Type:	PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality:	Water Board staff assessed SWAMP data for Walker Creek to determine beneficial use support and results are as follows: 0 of 1 samples exceed the criterion for Chlorpyrifos.
Data Reference:	Statewide Stream Pollution Trends Study 2008
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	San Francisco Bay Basin Water Quality Control Plan 2007: All waters shall be maintained free of toxic substances in concentrations which are toxic to, or which produce detrimental physiological responses in, human, plant, animal, or aquatic life.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	The evaluation guideline for chlorpyrifos is the median lethal concentration (LC50) of 1.77 ug/g and is normalized by the percentage of organic carbon in the sediment sample (Amweg and Weston, 2007).
Guideline Reference:	Whole-sediment toxicity identification evaluation tools for pyrethroid insecticides: I. piperonyl butoxide addition. Environ. Toxicol. Chem. 26:2389-2396.
Spatial Representation:	Data for this line of evidence for Walker Creek was collected at 1 monitoring site [Walker Creek Ranch station (201WLK160)]
Temporal Representation:	Data was collected on a single day 6/18/2008.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	SWAMP data collected before September 2008 followed the QAMP (2002), however there may have been overlap in QA with SWAMP QAPP (2008).
QAPP Information Reference(s):	Quality Assurance Management Plan for the State of California's Surface Water Ambient Monitoring Program. Sacramento, CA. State Water Resources Control Board. SWAMP. December 2002 (1st version)

Line of Evidence (LOE) for Decision ID 66850, Chlorpyrifos

Region 2

Walker Creek

LOE ID:	93555
Pollutant:	Chlorpyrifos
LOE Subgroup:	Pollutant-Sediment
Matrix:	Sediment
Fraction:	Total
Beneficial Use:	Cold Freshwater Habitat
Number of Samples:	1
Number of Exceedances:	0
Data and Information Type:	PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality:	Water Board staff assessed SWAMP data for Walker Creek to determine beneficial use support and results are as follows: 0 of 1 samples exceed the criterion for Chlorpyrifos.
Data Reference:	Statewide Stream Pollution Trends Study 2008
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	San Francisco Bay Basin Water Quality Control Plan 2007: All waters shall be maintained free of toxic substances in concentrations which are toxic to, or which produce detrimental physiological responses in, human, plant, animal, or aquatic life.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	The evaluation guideline for chlorpyrifos is the median lethal concentration (LC50) of 1.77 ug/g and is normalized by the percentage of organic carbon in the sediment sample (Amweg and Weston, 2007).
Guideline Reference:	Whole-sediment toxicity identification evaluation tools for pyrethroid insecticides: I. piperonyl butoxide addition. Environ. Toxicol. Chem. 26:2389-2396.
Spatial Representation:	Data for this line of evidence for Walker Creek was collected at 1 monitoring site [Walker Creek Ranch station (201WLK160)]
Temporal Representation:	Data was collected on a single day 6/18/2008.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	SWAMP data collected before September 2008 followed the QAMP (2002), however there may have been overlap in QA with SWAMP QAPP (2008).
QAPP Information Reference(s):	Quality Assurance Management Plan for the State of California's Surface Water Ambient Monitoring Program. Sacramento, CA. State Water Resources Control Board. SWAMP. December 2002 (1st version). Surface Water Ambient Monitoring Program Quality Assurance Program Plan

DECISION ID

43776

Region 2

Walker Creek

Pollutant:	Chromium
Final Listing Decision:	Do Not List on 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision:	Do Not List on 303(d) list (TMDL required list)(2012)
Revision Status	Revised
Impairment from Pollutant or Pollution:	Pollutant
Regional Board Staff Conclusion:	This pollutant is being considered for placement on the CWA section 303(d) List under section 3.6 of the Listing Policy. Under section 3.6 at least two lines of evidence are necessary to assess listing status for pollutants in sediment, and pollutant concentrations in sediment must be associated with

sediment toxicity to justify adding that pollutant to the CWA section 303(d) List.

Three lines of evidence are available in the administrative record to assess this pollutant. Zero of one samples exceed the guideline. Sediment toxicity data are not associated with this decision because they are not relevant to this decision because there is insufficient information based on sediment chemistry.

Based on the readily available data and information, the weight of evidence indicates that there is insufficient justification for placing this water segment-pollutant combination on the CWA section 303(d) List.

This conclusion is based on the staff findings that:

1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy.
2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy.
3. Zero of one samples exceed the guideline and this sample size is insufficient to determine beneficial use support, with the power and confidence of the Listing Policy. A minimum of 16 samples is needed to determine if a beneficial use is fully supported using table 3.1. Sediment toxicity data are not associated with this decision because the sediment chemistry data are insufficient.
4. Pursuant to section 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.

Regional Board Staff Decision Recommendation: After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be placed on the section 303(d) list. The readily available data and information is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating.

**Line of Evidence (LOE) for Decision ID 43776, Chromium
Walker Creek**

Region 2

LOE ID:	28770
Pollutant:	Chromium (total)
LOE Subgroup:	Pollutant-Sediment
Matrix:	Sediment
Fraction:	Total
Beneficial Use:	Cold Freshwater Habitat
Number of Samples:	1
Number of Exceedances:	1
Data and Information Type:	PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality:	Chromium exceeded the PEC (sediment quality guidelines) with a sample value of 114 mg/kg in one sediment sample collected in October 2001.
Data Reference:	Water Quality Monitoring and Bioassessment in Nine San Francisco Bay Region Watersheds: Walker Creek, Lagunitas Creek, San Leandro Creek, Wildcat Creek/San Pablo Creek, Suisun Creek, Arroyo Las Positas, Pescadero Creek/Butano Creek, San Gregorio Creek, and Stevens Creek/Permanente Creek, Oakland, CA: Surface Water Ambient Monitoring Program, San Francisco Bay Regional Water Quality Control Board
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	All waters shall be maintained free of toxic substances that are lethal to or that produce other detrimental responses in aquatic organisms.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) - San Francisco Bay Region (Region 2)
Evaluation Guideline:	Sediment Quality Guidelines (MacDonald et al., 2000): PEC (probable effect concentration) chromium - 111 mg/kg dw.
Guideline Reference:	Development and evaluation of consensus-based sediment quality guidelines for freshwater ecosystems, Environmental Contamination and Toxicology, 39: 20-31

Spatial Representation:	One sediment sample was collected at a "watershed integrator" site located close to the mouth of Walker Creek.
Temporal Representation:	Sediment sample was collected in October of 2001.
Environmental Conditions:	
QAPP Information:	All samples were collected and analyzed using procedures comparable with the SWAMP Quality Assurance Management Plan (SWRCB, 2002).
QAPP Information Reference(s):	

Line of Evidence (LOE) for Decision ID 43776, Chromium
Walker Creek

Region 2

LOE ID:	93565
Pollutant:	Chromium
LOE Subgroup:	Pollutant-Sediment
Matrix:	Sediment
Fraction:	Total
Beneficial Use:	Warm Freshwater Habitat
Number of Samples:	1
Number of Exceedances:	1
Data and Information Type:	PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality:	Water Board staff assessed SWAMP data for Walker Creek to determine beneficial use support and results are as follows: 1 of 1 samples exceed the criterion for Chromium.
Data Reference:	Statewide Stream Pollution Trends Study 2008
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	San Francisco Bay Basin Water Quality Control Plan 2007: All waters shall be maintained free of toxic substances in concentrations which are toxic to, or which produce detrimental physiological responses in, human, plant, animal, or aquatic life.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	In freshwater sediments the probable effect concentration (predictive of sediment toxicity for sediment-dwelling organisms) for chromium is 111 mg/Kg dry weight (MacDonald et al. 2000).
Guideline Reference:	Development and evaluation of consensus-based sediment quality guidelines for freshwater ecosystems. Environmental Contamination and Toxicology. 39: 20-31
Spatial Representation:	Data for this line of evidence for Walker Creek was collected at 1 monitoring site [Walker Creek Ranch station (201WLK160)]
Temporal Representation:	Data was collected on a single day 6/18/2008.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	SWAMP data collected before September 2008 followed the QAMP (2002), however there may have been overlap in QA with SWAMP QAPP (2008).
QAPP Information Reference(s):	Quality Assurance Management Plan for the State of California's Surface Water Ambient Monitoring Program. Sacramento, CA. State Water Resources Control Board. SWAMP. December 2002 (1st version) Surface Water Ambient Monitoring Program Quality Assurance Program Plan

Line of Evidence (LOE) for Decision ID 43776, Chromium
Walker Creek

Region 2

LOE ID:	93566
Pollutant:	Chromium
LOE Subgroup:	Pollutant-Sediment
Matrix:	Sediment

Fraction:	Total
Beneficial Use:	Cold Freshwater Habitat
Number of Samples:	1
Number of Exceedances:	1
Data and Information Type:	PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality:	Water Board staff assessed SWAMP data for Walker Creek to determine beneficial use support and results are as follows: 1 of 1 samples exceed the criterion for Chromium.
Data Reference:	Statewide Stream Pollution Trends Study 2008
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	San Francisco Bay Basin Water Quality Control Plan 2007: All waters shall be maintained free of toxic substances in concentrations which are toxic to, or which produce detrimental physiological responses in, human, plant, animal, or aquatic life.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	In freshwater sediments the probable effect concentration (predictive of sediment toxicity for sediment-dwelling organisms) for chromium is 111 mg/Kg dry weight (MacDonald et al. 2000).
Guideline Reference:	Development and evaluation of consensus-based sediment quality guidelines for freshwater ecosystems. Environmental Contamination and Toxicology. 39: 20-31
Spatial Representation:	Data for this line of evidence for Walker Creek was collected at 1 monitoring site [Walker Creek Ranch station (201WLK160)]
Temporal Representation:	Data was collected on a single day 6/18/2008.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	SWAMP data collected before September 2008 followed the QAMP (2002), however there may have been overlap in QA with SWAMP QAPP (2008).
QAPP Information Reference(s):	Quality Assurance Management Plan for the State of California's Surface Water Ambient Monitoring Program. Sacramento, CA. State Water Resources Control Board. SWAMP. December 2002 (1st version) Surface Water Ambient Monitoring Program Quality Assurance Program Plan

DECISION ID	66851	Region 2
Walker Creek		

Pollutant:	Copper
Final Listing Decision:	Do Not List on 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision:	New Decision
Revision Status	Revised
Impairment from Pollutant or Pollution:	Pollutant
Regional Board Staff Conclusion:	<p>This pollutant is being considered for placement on the CWA section 303(d) List under section 3.6 of the Listing Policy. Under section 3.6 at least two lines of evidence are necessary to assess listing status for pollutants in sediment, and pollutant concentrations in sediment must be associated with sediment toxicity to justify adding that pollutant to the CWA section 303(d) List.</p> <p>Two lines of evidence are available in the administrative record to assess this pollutant. Zero of one samples exceed the guideline. Sediment toxicity data are not associated with this decision because they are not relevant to this decision because there is insufficient information based on sediment chemistry.</p> <p>Based on the readily available data and information, the weight of evidence indicates that there is insufficient justification for placing this water segment-pollutant combination on the CWA section 303(d) List.</p>

This conclusion is based on the staff findings that:

1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy.
2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy.
3. Zero of one samples exceed the guideline and this sample size is insufficient to determine beneficial use support, with the power and confidence of the Listing Policy. A minimum of 16 samples is needed to determine if a beneficial use is fully supported using table 3.1. Sediment toxicity data are not associated with this decision because the sediment chemistry data are insufficient.
4. Pursuant to section 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.

Regional Board Staff Decision Recommendation: After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be placed on the section 303(d) list. The readily available data and information is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating.

**Line of Evidence (LOE) for Decision ID 66851, Copper
Walker Creek**

Region 2

LOE ID:	93568
Pollutant:	Copper
LOE Subgroup:	Pollutant-Sediment
Matrix:	Sediment
Fraction:	Total
Beneficial Use:	Cold Freshwater Habitat
Number of Samples:	1
Number of Exceedances:	0
Data and Information Type:	PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality:	Water Board staff assessed SWAMP data for Walker Creek to determine beneficial use support and results are as follows: 0 of 1 samples exceed the criterion for Copper.
Data Reference:	Statewide Stream Pollution Trends Study 2008
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	San Francisco Bay Basin Water Quality Control Plan 2007: All waters shall be maintained free of toxic substances in concentrations which are toxic to, or which produce detrimental physiological responses in, human, plant, animal, or aquatic life.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	In freshwater sediments the probable effect concentration (predictive of sediment toxicity for sediment-dwelling organisms) for copper is 149 mg/Kg dry weight (MacDonald et al. 2000).
Guideline Reference:	Development and evaluation of consensus-based sediment quality guidelines for freshwater ecosystems. Environmental Contamination and Toxicology. 39: 20-31
Spatial Representation:	Data for this line of evidence for Walker Creek was collected at 1 monitoring site [Walker Creek Ranch station (201WLK160)]
Temporal Representation:	Data was collected on a single day 6/18/2008.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	SWAMP data collected before September 2008 followed the QAMP (2002), however there may have been overlap in QA with SWAMP QAPP (2008).
QAPP Information Reference(s):	Quality Assurance Management Plan for the State of California's Surface Water Ambient Monitoring Program. Sacramento, CA. State Water Resources Control Board. SWAMP. December 2002 (1st version) Surface Water Ambient Monitoring Program Quality Assurance Program Plan

Line of Evidence (LOE) for Decision ID 66851, Copper

Region 2

Walker Creek

LOE ID:	93567
Pollutant:	Copper
LOE Subgroup:	Pollutant-Sediment
Matrix:	Sediment
Fraction:	Total
Beneficial Use:	Warm Freshwater Habitat
Number of Samples:	1
Number of Exceedances:	0
Data and Information Type:	PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality:	Water Board staff assessed SWAMP data for Walker Creek to determine beneficial use support and results are as follows: 0 of 1 samples exceed the criterion for Copper.
Data Reference:	Statewide Stream Pollution Trends Study 2008
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	San Francisco Bay Basin Water Quality Control Plan 2007: All waters shall be maintained free of toxic substances in concentrations which are toxic to, or which produce detrimental physiological responses in, human, plant, animal, or aquatic life.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	In freshwater sediments the probable effect concentration (predictive of sediment toxicity for sediment-dwelling organisms) for copper is 149 mg/Kg dry weight (MacDonald et al. 2000).
Guideline Reference:	Development and evaluation of consensus-based sediment quality guidelines for freshwater ecosystems. Environmental Contamination and Toxicology. 39: 20-31
Spatial Representation:	Data for this line of evidence for Walker Creek was collected at 1 monitoring site [Walker Creek Ranch station (201WLK160)]
Temporal Representation:	Data was collected on a single day 6/18/2008.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	SWAMP data collected before September 2008 followed the QAMP (2002), however there may have been overlap in QA with SWAMP QAPP (2008).
QAPP Information Reference(s):	Quality Assurance Management Plan for the State of California's Surface Water Ambient Monitoring Program. Sacramento, CA. State Water Resources Control Board. SWAMP. December 2002 (1st version) Surface Water Ambient Monitoring Program Quality Assurance Program Plan

DECISION ID**66852****Region 2****Walker Creek**

Pollutant:	Cyfluthrin
Final Listing Decision:	Do Not List on 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision:	New Decision
Revision Status	Revised
Impairment from Pollutant or Pollution:	Pollutant

Regional Board Staff Conclusion:

This pollutant is being considered for placement on the CWA section 303(d) List under section 3.6 of the Listing Policy. Under section 3.6 at least two lines of evidence are necessary to assess listing status for pollutants in sediment, and pollutant concentrations in sediment must be associated with sediment toxicity to justify adding that pollutant to the CWA section 303(d) List.

Two lines of evidence are available in the administrative record to assess this pollutant. Zero of one samples exceed the guideline. Sediment toxicity data are not associated with this decision because

they are not relevant to this decision because there is insufficient information based on sediment chemistry.

Based on the readily available data and information, the weight of evidence indicates that there is insufficient justification for placing this water segment-pollutant combination on the CWA section 303(d) List.

This conclusion is based on the staff findings that:

1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy.
2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy.
3. Zero of one samples exceed the guideline and this sample size is insufficient to determine beneficial use support, with the power and confidence of the Listing Policy. A minimum of 16 samples is needed to determine if a beneficial use is fully supported using table 3.1. Sediment toxicity data are not associated with this decision because the sediment chemistry data are insufficient.
4. Pursuant to section 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.

Regional Board Staff Decision Recommendation: After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be placed on the section 303(d) list. The readily available data and information is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating.

**Line of Evidence (LOE) for Decision ID 66852, Cyfluthrin
Walker Creek**

Region 2

LOE ID:	93569
Pollutant:	Cyfluthrin
LOE Subgroup:	Pollutant-Sediment
Matrix:	Sediment
Fraction:	Total
Beneficial Use:	Warm Freshwater Habitat
Number of Samples:	1
Number of Exceedances:	0
Data and Information Type:	PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality:	Water Board staff assessed SWAMP data for Walker Creek to determine beneficial use support and results are as follows: 0 of 1 samples exceed the criterion for Cyfluthrin, total.
Data Reference:	Statewide Stream Pollution Trends Study 2008
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	San Francisco Bay Basin Water Quality Control Plan 2007: All waters shall be maintained free of toxic substances in concentrations which are toxic to, or which produce detrimental physiological responses in, human, plant, animal, or aquatic life.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	The evaluation guideline for cyfluthrin is the median lethal concentration (LC50) of 1.1 ug/g and is normalized by the percentage of organic carbon in the sediment sample. The LC50 1.1 ug/g is the geometric mean of LC50 values for cyfluthrin from Amweg et al. (2005).
Guideline Reference:	Use and Toxicity of Pyrethroid Pesticides in the Central Valley, California, USA. Environmental Toxicology and Chemistry, 24:966-972, with erratum 24:No. 5
Spatial Representation:	Data for this line of evidence for Walker Creek was collected at 1 monitoring site [Walker Creek Ranch station (201WLK160)]
Temporal Representation:	Data was collected on a single day 6/18/2008.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.

QAPP Information: SWAMP data collected before September 2008 followed the QAMP (2002), however there may have been overlap in QA with SWAMP QAPP (2008).

QAPP Information Reference(s): [Quality Assurance Management Plan for the State of California's Surface Water Ambient Monitoring Program. Sacramento, CA. State Water Resources Control Board. SWAMP. December 2002 \(1st version\)](#)
[Surface Water Ambient Monitoring Program Quality Assurance Program Plan](#)

Line of Evidence (LOE) for Decision ID 66852, Cyfluthrin	Region 2
Walker Creek	

LOE ID: 93578

Pollutant: Cyfluthrin
 LOE Subgroup: Pollutant-Sediment
 Matrix: Sediment
 Fraction: Total

Beneficial Use: Cold Freshwater Habitat

Number of Samples: 1
 Number of Exceedances: 0

Data and Information Type: PHYSICAL/CHEMICAL MONITORING
 Data Used to Assess Water Quality: Water Board staff assessed SWAMP data for Walker Creek to determine beneficial use support and results are as follows: 0 of 1 samples exceed the criterion for Cyfluthrin, total.

Data Reference: [Statewide Stream Pollution Trends Study 2008](#)

SWAMP Data: SWAMP

Water Quality Objective/Criterion: San Francisco Bay Basin Water Quality Control Plan 2007: All waters shall be maintained free of toxic substances in concentrations which are toxic to, or which produce detrimental physiological responses in, human, plant, animal, or aquatic life.

Objective/Criterion Reference: [Water Quality Control Plan \(Basin Plan\) San Francisco Bay Basin \(Region 2\)](#)

Evaluation Guideline: The evaluation guideline for cyfluthrin is the median lethal concentration (LC50) of 1.1 ug/g and is normalized by the percentage of organic carbon in the sediment sample. The LC50 1.1 ug/g is the geometric mean of LC50 values for cyfluthrin from Amweg et al. (2005).

Guideline Reference: [Use and Toxicity of Pyrethroid Pesticides in the Central Valley, California, USA. Environmental Toxicology and Chemistry, 24:966-972, with erratum 24:No. 5](#)

Spatial Representation: Data for this line of evidence for Walker Creek was collected at 1 monitoring site [Walker Creek Ranch station (201WLK160)]

Temporal Representation: Data was collected on a single day 6/18/2008.

Environmental Conditions: Staff is not aware of any special conditions that might affect interpretation of the data.

QAPP Information: SWAMP data collected before September 2008 followed the QAMP (2002), however there may have been overlap in QA with SWAMP QAPP (2008).

QAPP Information Reference(s): [Quality Assurance Management Plan for the State of California's Surface Water Ambient Monitoring Program. Sacramento, CA. State Water Resources Control Board. SWAMP. December 2002 \(1st version\)](#)
[Surface Water Ambient Monitoring Program Quality Assurance Program Plan](#)

DECISION ID	66853	Region 2
Walker Creek		

Pollutant: Cyhalothrin, Lambda
Final Listing Decision: Do Not List on 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision: New Decision
Revision Status Revised

Impairment from Pollutant or Pollution: Pollutant

Regional Board Staff Conclusion:

This pollutant is being considered for placement on the CWA section 303(d) List under section 3.6 of the Listing Policy. Under section 3.6 at least two lines of evidence are necessary to assess listing status for pollutants in sediment, and pollutant concentrations in sediment must be associated with sediment toxicity to justify adding that pollutant to the CWA section 303(d) List.

Two lines of evidence are available in the administrative record to assess this pollutant. Zero of one samples exceed the guideline. Sediment toxicity data are not associated with this decision because they are not relevant to this decision because there is insufficient information based on sediment chemistry.

Based on the readily available data and information, the weight of evidence indicates that there is insufficient justification for placing this water segment-pollutant combination on the CWA section 303(d) List.

This conclusion is based on the staff findings that:

1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy.
2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy.
3. Zero of one samples exceed the guideline and this sample size is insufficient to determine beneficial use support, with the power and confidence of the Listing Policy. A minimum of 16 samples is needed to determine if a beneficial use is fully supported using table 3.1. Sediment toxicity data are not associated with this decision because the sediment chemistry data are insufficient.
4. Pursuant to section 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.

Regional Board Staff Decision Recommendation:

After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be placed on the section 303(d) list. The readily available data and information is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating.

Line of Evidence (LOE) for Decision ID 66853, Cyhalothrin, Lambda Walker Creek

Region 2

LOE ID:	93580
Pollutant:	Cyhalothrin, Lambda
LOE Subgroup:	Pollutant-Sediment
Matrix:	Sediment
Fraction:	Total
Beneficial Use:	Cold Freshwater Habitat
Number of Samples:	1
Number of Exceedances:	0
Data and Information Type:	PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality:	Water Board staff assessed SWAMP data for Walker Creek to determine beneficial use support and results are as follows: 0 of 1 samples exceed the criterion for Cyhalothrin, lambda, total.
Data Reference:	Statewide Stream Pollution Trends Study 2008
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	San Francisco Bay Basin Water Quality Control Plan 2007: All waters shall be maintained free of toxic substances in concentrations which are toxic to, or which produce detrimental physiological responses in, human, plant, animal, or aquatic life.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)

Evaluation Guideline:	The evaluation guideline for lambda-cyhalothrin is the median lethal concentration (LC50) of 0.44 ug/g and is normalized by the percentage of organic carbon in the sediment sample. The LC50 0.44 ug/g is the geometric mean of LC50 values for lambda-cyhalothrin from Amweg et al. (2005).
Guideline Reference:	Use and Toxicity of Pyrethroid Pesticides in the Central Valley, California, USA. Environmental Toxicology and Chemistry, 24:966-972, with erratum 24:No. 5
Spatial Representation:	Data for this line of evidence for Walker Creek was collected at 1 monitoring site [Walker Creek Ranch station (201WLK160)]
Temporal Representation:	Data was collected on a single day 6/18/2008.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	SWAMP data collected before September 2008 followed the QAMP (2002), however there may have been overlap in QA with SWAMP QAPP (2008).
QAPP Information Reference(s):	Quality Assurance Management Plan for the State of California's Surface Water Ambient Monitoring Program. Sacramento, CA. State Water Resources Control Board. SWAMP. December 2002 (1st version) Surface Water Ambient Monitoring Program Quality Assurance Program Plan

Line of Evidence (LOE) for Decision ID 66853, Cyhalothrin, Lambda

Region 2

Walker Creek

LOE ID:	93579
Pollutant:	Cyhalothrin, Lambda
LOE Subgroup:	Pollutant-Sediment
Matrix:	Sediment
Fraction:	Total
Beneficial Use:	Warm Freshwater Habitat
Number of Samples:	1
Number of Exceedances:	0
Data and Information Type:	PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality:	Water Board staff assessed SWAMP data for Walker Creek to determine beneficial use support and results are as follows: 0 of 1 samples exceed the criterion for Cyhalothrin, lambda, total.
Data Reference:	Statewide Stream Pollution Trends Study 2008
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	San Francisco Bay Basin Water Quality Control Plan 2007: All waters shall be maintained free of toxic substances in concentrations which are toxic to, or which produce detrimental physiological responses in, human, plant, animal, or aquatic life.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	The evaluation guideline for lambda-cyhalothrin is the median lethal concentration (LC50) of 0.44 ug/g and is normalized by the percentage of organic carbon in the sediment sample. The LC50 0.44 ug/g is the geometric mean of LC50 values for lambda-cyhalothrin from Amweg et al. (2005).
Guideline Reference:	Use and Toxicity of Pyrethroid Pesticides in the Central Valley, California, USA. Environmental Toxicology and Chemistry, 24:966-972, with erratum 24:No. 5
Spatial Representation:	Data for this line of evidence for Walker Creek was collected at 1 monitoring site [Walker Creek Ranch station (201WLK160)]
Temporal Representation:	Data was collected on a single day 6/18/2008.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	SWAMP data collected before September 2008 followed the QAMP (2002), however there may have been overlap in QA with SWAMP QAPP (2008).
QAPP Information Reference(s):	Quality Assurance Management Plan for the State of California's Surface Water Ambient Monitoring Program. Sacramento, CA. State Water Resources Control Board. SWAMP. December 2002 (1st version)

DECISION ID	66854	Region 2
Walker Creek		

Pollutant: Cypermethrin
Final Listing Decision: Do Not List on 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision: New Decision
Revision Status: Revised
Impairment from Pollutant or Pollution: Pollutant

Regional Board Staff Conclusion: This pollutant is being considered for placement on the CWA section 303(d) List under section 3.6 of the Listing Policy. Under section 3.6 at least two lines of evidence are necessary to assess listing status for pollutants in sediment, and pollutant concentrations in sediment must be associated with sediment toxicity to justify adding that pollutant to the CWA section 303(d) List.

Two lines of evidence are available in the administrative record to assess this pollutant. Zero of one samples exceed the guideline. Sediment toxicity data are not associated with this decision because they are not relevant to this decision because there is insufficient information based on sediment chemistry.

Based on the readily available data and information, the weight of evidence indicates that there is insufficient justification for placing this water segment-pollutant combination on the CWA section 303(d) List.

This conclusion is based on the staff findings that:

1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy.
2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy.
3. Zero of one samples exceed the guideline and this sample size is insufficient to determine beneficial use support, with the power and confidence of the Listing Policy. A minimum of 16 samples is needed to determine if a beneficial use is fully supported using table 3.1. Sediment toxicity data are not associated with this decision because the sediment chemistry data are insufficient.
4. Pursuant to section 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.

Regional Board Staff Decision Recommendation: After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be placed on the section 303(d) list. The readily available data and information is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating.

Line of Evidence (LOE) for Decision ID 66854, Cypermethrin	Region 2
Walker Creek	

LOE ID: 93582
Pollutant: Cypermethrin
LOE Subgroup: Pollutant-Sediment
Matrix: Sediment
Fraction: Total
Beneficial Use: Cold Freshwater Habitat
Number of Samples: 1
Number of Exceedances: 0
Data and Information Type: PHYSICAL/CHEMICAL MONITORING

Data Used to Assess Water Quality:	Water Board staff assessed SWAMP data for Walker Creek to determine beneficial use support and results are as follows: 0 of 1 samples exceed the criterion for Cypermethrin, total.
Data Reference:	Statewide Stream Pollution Trends Study 2008
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	San Francisco Bay Basin Water Quality Control Plan 2007: All waters shall be maintained free of toxic substances in concentrations which are toxic to, or which produce detrimental physiological responses in, human, plant, animal, or aquatic life.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	The evaluation guideline for cypermethrin is the median lethal concentration (LC50) of 0.3 ug/g and is normalized by the percentage of organic carbon in the sediment sample. The LC50 0.3 ug/g is the geometric mean of LC50 values for cypermethrin from Maund et al. (2002).
Guideline Reference:	Partitioning, bioavailability, and toxicity of the pyrethroid insecticide cypermethrin in sediments. Environmental Toxicology and Chemistry 21:9-15
Spatial Representation:	Data for this line of evidence for Walker Creek was collected at 1 monitoring site [Walker Creek Ranch station (201WLK160)]
Temporal Representation:	Data was collected on a single day 6/18/2008.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	SWAMP data collected before September 2008 followed the QAMP (2002), however there may have been overlap in QA with SWAMP QAPP (2008).
QAPP Information Reference(s):	Quality Assurance Management Plan for the State of California's Surface Water Ambient Monitoring Program. Sacramento, CA. State Water Resources Control Board. SWAMP. December 2002 (1st version) Surface Water Ambient Monitoring Program Quality Assurance Program Plan

**Line of Evidence (LOE) for Decision ID 66854, Cypermethrin
Walker Creek**

Region 2

LOE ID:	93581
Pollutant:	Cypermethrin
LOE Subgroup:	Pollutant-Sediment
Matrix:	Sediment
Fraction:	Total
Beneficial Use:	Warm Freshwater Habitat
Number of Samples:	1
Number of Exceedances:	0
Data and Information Type:	PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality:	Water Board staff assessed SWAMP data for Walker Creek to determine beneficial use support and results are as follows: 0 of 1 samples exceed the criterion for Cypermethrin, total.
Data Reference:	Statewide Stream Pollution Trends Study 2008
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	San Francisco Bay Basin Water Quality Control Plan 2007: All waters shall be maintained free of toxic substances in concentrations which are toxic to, or which produce detrimental physiological responses in, human, plant, animal, or aquatic life.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	The evaluation guideline for cypermethrin is the median lethal concentration (LC50) of 0.3 ug/g and is normalized by the percentage of organic carbon in the sediment sample. The LC50 0.3 ug/g is the geometric mean of LC50 values for cypermethrin from Maund et al. (2002).

Guideline Reference:	Partitioning, bioavailability, and toxicity of the pyrethroid insecticide cypermethrin in sediments. Environmental Toxicology and Chemistry 21:9-15
Spatial Representation:	Data for this line of evidence for Walker Creek was collected at 1 monitoring site [Walker Creek Ranch station (201WLK160)]
Temporal Representation:	Data was collected on a single day 6/18/2008.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	SWAMP data collected before September 2008 followed the QAMP (2002), however there may have been overlap in QA with SWAMP QAPP (2008).
QAPP Information Reference(s):	Quality Assurance Management Plan for the State of California's Surface Water Ambient Monitoring Program. Sacramento, CA. State Water Resources Control Board. SWAMP. December 2002 (1st version). Surface Water Ambient Monitoring Program Quality Assurance Program Plan

DECISION ID	66855	Region 2
Walker Creek		

Pollutant:	DDD (Dichlorodiphenyldichloroethane)
Final Listing Decision:	Do Not List on 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision:	New Decision
Revision Status	Revised
Impairment from Pollutant or Pollution:	Pollutant

Regional Board Staff Conclusion:	<p>This pollutant is being considered for placement on the CWA section 303(d) List under section 3.6 of the Listing Policy. Under section 3.6 at least two lines of evidence are necessary to assess listing status for pollutants in sediment, and pollutant concentrations in sediment must be associated with sediment toxicity to justify adding that pollutant to the CWA section 303(d) List.</p>
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Two lines of evidence are available in the administrative record to assess this pollutant. Zero of one samples exceed the guideline. Sediment toxicity data are not associated with this decision because they are not relevant to this decision because there is insufficient information based on sediment chemistry.

Based on the readily available data and information, the weight of evidence indicates that there is insufficient justification for placing this water segment-pollutant combination on the CWA section 303(d) List.

This conclusion is based on the staff findings that:

1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy.
2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy.
3. Zero of one samples exceed the guideline and this sample size is insufficient to determine beneficial use support, with the power and confidence of the Listing Policy. A minimum of 16 samples is needed to determine if a beneficial use is fully supported using table 3.1. Sediment toxicity data are not associated with this decision because the sediment chemistry data are insufficient.
4. Pursuant to section 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.

Regional Board Staff Decision Recommendation:	After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be placed on the section 303(d) list. The readily available data and information is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating.
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Line of Evidence (LOE) for Decision ID 66855, DDD (Dichlorodiphenyldichloroethane)	Region 2
Walker Creek	

LOE ID:	93591
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Pollutant:	DDD (Dichlorodiphenyldichloroethane)
LOE Subgroup:	Pollutant-Sediment
Matrix:	Sediment
Fraction:	Total
Beneficial Use:	Warm Freshwater Habitat
Number of Samples:	1
Number of Exceedances:	0
Data and Information Type:	PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality:	Water Board staff assessed SWAMP data for Walker Creek to determine beneficial use support and results are as follows: 0 of 1 samples exceed the criterion for DDD.
Data Reference:	Statewide Stream Pollution Trends Study 2008
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	San Francisco Bay Basin Water Quality Control Plan 2007: All waters shall be maintained free of toxic substances in concentrations which are toxic to, or which produce detrimental physiological responses in, human, plant, animal, or aquatic life.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	In freshwater sediments the probable effect concentration (predictive of sediment toxicity for sediment-dwelling organisms) for sum of DDD is 28.0 ug/Kg dry weight (MacDonald et al. 2000).
Guideline Reference:	Development and evaluation of consensus-based sediment quality guidelines for freshwater ecosystems. Environmental Contamination and Toxicology. 39: 20-31
Spatial Representation:	Data for this line of evidence for Walker Creek was collected at 1 monitoring site [Walker Creek Ranch station (201WLK160)]
Temporal Representation:	Data was collected on a single day 6/18/2008.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	SWAMP data collected before September 2008 followed the QAMP (2002), however there may have been overlap in QA with SWAMP QAPP (2008).
QAPP Information Reference(s):	Quality Assurance Management Plan for the State of California's Surface Water Ambient Monitoring Program. Sacramento, CA. State Water Resources Control Board. SWAMP. December 2002 (1st version). Surface Water Ambient Monitoring Program Quality Assurance Program Plan

Line of Evidence (LOE) for Decision ID 66855, DDD (Dichlorodiphenyldichloroethane)
Walker Creek

Region 2

LOE ID:	93592
Pollutant:	DDD (Dichlorodiphenyldichloroethane)
LOE Subgroup:	Pollutant-Sediment
Matrix:	Sediment
Fraction:	Total
Beneficial Use:	Cold Freshwater Habitat
Number of Samples:	1
Number of Exceedances:	0
Data and Information Type:	PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality:	Water Board staff assessed SWAMP data for Walker Creek to determine beneficial use support and results are as follows: 0 of 1 samples exceed the criterion for DDD.
Data Reference:	Statewide Stream Pollution Trends Study 2008
SWAMP Data:	SWAMP

Water Quality Objective/Criterion:	San Francisco Bay Basin Water Quality Control Plan 2007: All waters shall be maintained free of toxic substances in concentrations which are toxic to, or which produce detrimental physiological responses in, human, plant, animal, or aquatic life.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	In freshwater sediments the probable effect concentration (predictive of sediment toxicity for sediment-dwelling organisms) for sum of DDD is 28.0 ug/Kg dry weight (MacDonald et al. 2000).
Guideline Reference:	Development and evaluation of consensus-based sediment quality guidelines for freshwater ecosystems. Environmental Contamination and Toxicology. 39: 20-31
Spatial Representation:	Data for this line of evidence for Walker Creek was collected at 1 monitoring site [Walker Creek Ranch station (201WLK160)]
Temporal Representation:	Data was collected on a single day 6/18/2008.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	SWAMP data collected before September 2008 followed the QAMP (2002), however there may have been overlap in QA with SWAMP QAPP (2008).
QAPP Information Reference(s):	Quality Assurance Management Plan for the State of California's Surface Water Ambient Monitoring Program. Sacramento, CA. State Water Resources Control Board. SWAMP. December 2002 (1st version) Surface Water Ambient Monitoring Program Quality Assurance Program Plan

DECISION ID	66856	Region 2
Walker Creek		

Pollutant:	DDE (Dichlorodiphenyldichloroethylene)
Final Listing Decision:	Do Not List on 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision:	New Decision
Revision Status	Revised
Impairment from Pollutant or Pollution:	Pollutant

Regional Board Staff Conclusion: This pollutant is being considered for placement on the CWA section 303(d) List under section 3.6 of the Listing Policy. Under section 3.6 at least two lines of evidence are necessary to assess listing status for pollutants in sediment, and pollutant concentrations in sediment must be associated with sediment toxicity to justify adding that pollutant to the CWA section 303(d) List.

Two lines of evidence are available in the administrative record to assess this pollutant. Zero of one samples exceed the guideline. Sediment toxicity data are not associated with this decision because they are not relevant to this decision because there is insufficient information based on sediment chemistry.

Based on the readily available data and information, the weight of evidence indicates that there is insufficient justification for placing this water segment-pollutant combination on the CWA section 303(d) List.

This conclusion is based on the staff findings that:

1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy.
2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy.
3. Zero of one samples exceed the guideline and this sample size is insufficient to determine beneficial use support, with the power and confidence of the Listing Policy. A minimum of 16 samples is needed to determine if a beneficial use is fully supported using table 3.1. Sediment toxicity data are not associated with this decision because the sediment chemistry data are insufficient.
4. Pursuant to section 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.

Regional Board Staff Decision Recommendation: After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be placed on the section 303(d) list. The readily available data and information is insufficient to determine, with the power and confidence of the Listing Policy, the

Line of Evidence (LOE) for Decision ID 66856, DDE (Dichlorodiphenyldichloroethylene)**Region 2****Walker Creek**

LOE ID:	93593
Pollutant:	DDE (Dichlorodiphenyldichloroethylene)
LOE Subgroup:	Pollutant-Sediment
Matrix:	Sediment
Fraction:	Total
Beneficial Use:	Warm Freshwater Habitat
Number of Samples:	1
Number of Exceedances:	0
Data and Information Type:	PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality:	Water Board staff assessed SWAMP data for Walker Creek to determine beneficial use support and results are as follows: 0 of 1 samples exceed the criterion for DDE.
Data Reference:	Statewide Stream Pollution Trends Study 2008
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	San Francisco Bay Basin Water Quality Control Plan 2007: All waters shall be maintained free of toxic substances in concentrations which are toxic to, or which produce detrimental physiological responses in, human, plant, animal, or aquatic life.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	In freshwater sediments the probable effect concentration (predictive of sediment toxicity for sediment-dwelling organisms) for sum of DDE is 31.3 ug/Kg dry weight (MacDonald et al. 2000).
Guideline Reference:	Development and evaluation of consensus-based sediment quality guidelines for freshwater ecosystems. Environmental Contamination and Toxicology. 39: 20-31
Spatial Representation:	Data for this line of evidence for Walker Creek was collected at 1 monitoring site [Walker Creek Ranch station (201WLK160)]
Temporal Representation:	Data was collected on a single day 6/18/2008.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	SWAMP data collected before September 2008 followed the QAMP (2002), however there may have been overlap in QA with SWAMP QAPP (2008).
QAPP Information Reference(s):	Quality Assurance Management Plan for the State of California's Surface Water Ambient Monitoring Program. Sacramento, CA. State Water Resources Control Board. SWAMP. December 2002 (1st version). Surface Water Ambient Monitoring Program Quality Assurance Program Plan

Line of Evidence (LOE) for Decision ID 66856, DDE (Dichlorodiphenyldichloroethylene)**Region 2****Walker Creek**

LOE ID:	93594
Pollutant:	DDE (Dichlorodiphenyldichloroethylene)
LOE Subgroup:	Pollutant-Sediment
Matrix:	Sediment
Fraction:	Total
Beneficial Use:	Cold Freshwater Habitat
Number of Samples:	1
Number of Exceedances:	0

Data and Information Type:	PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality:	Water Board staff assessed SWAMP data for Walker Creek to determine beneficial use support and results are as follows: 0 of 1 samples exceed the criterion for DDE.
Data Reference:	Statewide Stream Pollution Trends Study 2008
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	San Francisco Bay Basin Water Quality Control Plan 2007: All waters shall be maintained free of toxic substances in concentrations which are toxic to, or which produce detrimental physiological responses in, human, plant, animal, or aquatic life.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	In freshwater sediments the probable effect concentration (predictive of sediment toxicity for sediment-dwelling organisms) for sum of DDE is 31.3 ug/Kg dry weight (MacDonald et al. 2000).
Guideline Reference:	Development and evaluation of consensus-based sediment quality guidelines for freshwater ecosystems. Environmental Contamination and Toxicology. 39: 20-31
Spatial Representation:	Data for this line of evidence for Walker Creek was collected at 1 monitoring site [Walker Creek Ranch station (201WLK160)]
Temporal Representation:	Data was collected on a single day 6/18/2008.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	SWAMP data collected before September 2008 followed the QAMP (2002), however there may have been overlap in QA with SWAMP QAPP (2008).
QAPP Information Reference(s):	Quality Assurance Management Plan for the State of California's Surface Water Ambient Monitoring Program. Sacramento, CA. State Water Resources Control Board. SWAMP. December 2002 (1st version) Surface Water Ambient Monitoring Program Quality Assurance Program Plan

DECISION ID	66857	Region 2
Walker Creek		

Pollutant:	DDT (Dichlorodiphenyltrichloroethane)
Final Listing Decision:	Do Not List on 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision:	New Decision
Revision Status	Revised
Impairment from Pollutant or Pollution:	Pollutant
Regional Board Staff Conclusion:	<p>This pollutant is being considered for placement on the CWA section 303(d) List under section 3.6 of the Listing Policy. Under section 3.6 at least two lines of evidence are necessary to assess listing status for pollutants in sediment, and pollutant concentrations in sediment must be associated with sediment toxicity to justify adding that pollutant to the CWA section 303(d) List.</p> <p>Four lines of evidence are available in the administrative record to assess this pollutant. Zero of one samples exceed the guideline. Sediment toxicity data are not associated with this decision because they are not relevant to this decision because there is insufficient information based on sediment chemistry.</p> <p>Based on the readily available data and information, the weight of evidence indicates that there is insufficient justification for placing this water segment-pollutant combination on the CWA section 303(d) List.</p> <p>This conclusion is based on the staff findings that:</p> <ol style="list-style-type: none"> 1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy. 2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy. 3. Zero of one samples exceed the guideline and this sample size is insufficient to determine beneficial use support, with the power and confidence of the Listing Policy. A minimum of 16 samples is needed to determine if a beneficial use is fully supported using table 3.1.

Sediment toxicity data are not associated with this decision because the sediment chemistry data are insufficient.

4. Pursuant to section 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.

Regional Board Staff Decision Recommendation: After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be placed on the section 303(d) list. The readily available data and information is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating.

Line of Evidence (LOE) for Decision ID 66857, DDT (Dichlorodiphenyltrichloroethane)

Region 2

Walker Creek

LOE ID: 93501

Pollutant: Total DDT (sum of 4,4'- and 2,4'- isomers of DDT, DDE, and DDD)
LOE Subgroup: Pollutant-Sediment
Matrix: Sediment
Fraction: Total

Beneficial Use: Cold Freshwater Habitat

Number of Samples: 1
Number of Exceedances: 0

Data and Information Type: PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality: Water Board staff assessed SWAMP data for Walker Creek to determine beneficial use support and results are as follows: 0 of 1 samples exceed the criterion for DDT, Total.
Data Reference: [Statewide Stream Pollution Trends Study 2008](#)

SWAMP Data: SWAMP

Water Quality Objective/Criterion: San Francisco Bay Basin Water Quality Control Plan 2007: All waters shall be maintained free of toxic substances in concentrations which are toxic to, or which produce detrimental physiological responses in, human, plant, animal, or aquatic life.
Objective/Criterion Reference: [Water Quality Control Plan \(Basin Plan\) San Francisco Bay Basin \(Region 2\)](#)

Evaluation Guideline: In freshwater sediments the probable effect concentration (predictive of sediment toxicity for sediment-dwelling organisms) for total DDTs is 572 ug/Kg dry weight (MacDonald et al. 2000).
Guideline Reference: [Development and evaluation of consensus-based sediment quality guidelines for freshwater ecosystems. Environmental Contamination and Toxicology. 39: 20-31](#)

Spatial Representation: Data for this line of evidence for Walker Creek was collected at 1 monitoring site [Walker Creek Ranch station (201WLK160)]

Temporal Representation: Data was collected on a single day 6/18/2008.

Environmental Conditions: Staff is not aware of any special conditions that might affect interpretation of the data.

QAPP Information: SWAMP data collected before September 2008 followed the QAMP (2002), however there may have been overlap in QA with SWAMP QAPP (2008).
QAPP Information Reference(s): [Quality Assurance Management Plan for the State of California's Surface Water Ambient Monitoring Program. Sacramento, CA. State Water Resources Control Board. SWAMP. December 2002 \(1st version\)](#)
[Surface Water Ambient Monitoring Program Quality Assurance Program Plan](#)

Line of Evidence (LOE) for Decision ID 66857, DDT (Dichlorodiphenyltrichloroethane)

Region 2

Walker Creek

LOE ID: 93605

Pollutant: DDT (Dichlorodiphenyltrichloroethane)

LOE Subgroup:	Pollutant-Sediment
Matrix:	Sediment
Fraction:	Total
Beneficial Use:	Cold Freshwater Habitat
Number of Samples:	1
Number of Exceedances:	0
Data and Information Type:	PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality:	Water Board staff assessed SWAMP data for Walker Creek to determine beneficial use support and results are as follows: 0 of 1 samples exceed the criterion for DDT.
Data Reference:	Statewide Stream Pollution Trends Study 2008
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	San Francisco Bay Basin Water Quality Control Plan 2007: All waters shall be maintained free of toxic substances in concentrations which are toxic to, or which produce detrimental physiological responses in, human, plant, animal, or aquatic life.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	In freshwater sediments the probable effect concentration (predictive of sediment toxicity for sediment-dwelling organisms) for sum of DDT is 62.9 ug/Kg dry weight (MacDonald et al. 2000).
Guideline Reference:	Development and evaluation of consensus-based sediment quality guidelines for freshwater ecosystems. Environmental Contamination and Toxicology. 39: 20-31
Spatial Representation:	Data for this line of evidence for Walker Creek was collected at 1 monitoring site [Walker Creek Ranch station (201WLK160)]
Temporal Representation:	Data was collected on a single day 6/18/2008.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	SWAMP data collected before September 2008 followed the QAMP (2002), however there may have been overlap in QA with SWAMP QAPP (2008).
QAPP Information Reference(s):	Quality Assurance Management Plan for the State of California's Surface Water Ambient Monitoring Program. Sacramento, CA. State Water Resources Control Board. SWAMP. December 2002 (1st version) Surface Water Ambient Monitoring Program Quality Assurance Program Plan

Line of Evidence (LOE) for Decision ID 66857, DDT (Dichlorodiphenyltrichloroethane)

Region 2

Walker Creek

LOE ID:	93595
Pollutant:	DDT (Dichlorodiphenyltrichloroethane)
LOE Subgroup:	Pollutant-Sediment
Matrix:	Sediment
Fraction:	Total
Beneficial Use:	Warm Freshwater Habitat
Number of Samples:	1
Number of Exceedances:	0
Data and Information Type:	PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality:	Water Board staff assessed SWAMP data for Walker Creek to determine beneficial use support and results are as follows: 0 of 1 samples exceed the criterion for DDT.
Data Reference:	Statewide Stream Pollution Trends Study 2008
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	San Francisco Bay Basin Water Quality Control Plan 2007: All waters shall be maintained free of toxic substances in concentrations which are toxic to, or which produce detrimental

Objective/Criterion Reference:	physiological responses in, human, plant, animal, or aquatic life. Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	In freshwater sediments the probable effect concentration (predictive of sediment toxicity for sediment-dwelling organisms) for sum of DDT is 62.9 ug/Kg dry weight (MacDonald et al. 2000).
Guideline Reference:	Development and evaluation of consensus-based sediment quality guidelines for freshwater ecosystems. Environmental Contamination and Toxicology. 39: 20-31
Spatial Representation:	Data for this line of evidence for Walker Creek was collected at 1 monitoring site [Walker Creek Ranch station (201WLK160)]
Temporal Representation:	Data was collected on a single day 6/18/2008.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	SWAMP data collected before September 2008 followed the QAMP (2002), however there may have been overlap in QA with SWAMP QAPP (2008).
QAPP Information Reference(s):	Quality Assurance Management Plan for the State of California's Surface Water Ambient Monitoring Program. Sacramento, CA. State Water Resources Control Board. SWAMP. December 2002 (1st version) Surface Water Ambient Monitoring Program Quality Assurance Program Plan

Line of Evidence (LOE) for Decision ID 66857, DDT (Dichlorodiphenyltrichloroethane)

Region 2

Walker Creek

LOE ID:	93500
Pollutant:	Total DDT (sum of 4,4'- and 2,4'- isomers of DDT, DDE, and DDD)
LOE Subgroup:	Pollutant-Sediment
Matrix:	Sediment
Fraction:	Total
Beneficial Use:	Warm Freshwater Habitat
Number of Samples:	1
Number of Exceedances:	0
Data and Information Type:	PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality:	Water Board staff assessed SWAMP data for Walker Creek to determine beneficial use support and results are as follows: 0 of 1 samples exceed the criterion for DDT, Total.
Data Reference:	Statewide Stream Pollution Trends Study 2008
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	San Francisco Bay Basin Water Quality Control Plan 2007: All waters shall be maintained free of toxic substances in concentrations which are toxic to, or which produce detrimental physiological responses in, human, plant, animal, or aquatic life.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	In freshwater sediments the probable effect concentration (predictive of sediment toxicity for sediment-dwelling organisms) for total DDTs is 572 ug/Kg dry weight (MacDonald et al. 2000).
Guideline Reference:	Development and evaluation of consensus-based sediment quality guidelines for freshwater ecosystems. Environmental Contamination and Toxicology. 39: 20-31
Spatial Representation:	Data for this line of evidence for Walker Creek was collected at 1 monitoring site [Walker Creek Ranch station (201WLK160)]
Temporal Representation:	Data was collected on a single day 6/18/2008.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	SWAMP data collected before September 2008 followed the QAMP (2002), however there may have been overlap in QA with SWAMP QAPP (2008).
QAPP Information Reference(s):	Quality Assurance Management Plan for the State of California's Surface Water Ambient Monitoring Program. Sacramento, CA. State Water Resources Control Board. SWAMP. December 2002 (1st version)

DECISION ID	66858	Region 2
Walker Creek		

Pollutant: Deltamethrin
Final Listing Decision: Do Not List on 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision: New Decision
Revision Status: Revised
Impairment from Pollutant or Pollution: Pollutant

Regional Board Staff Conclusion: This pollutant is being considered for placement on the CWA section 303(d) List under section 3.6 of the Listing Policy. Under section 3.6 at least two lines of evidence are necessary to assess listing status for pollutants in sediment, and pollutant concentrations in sediment must be associated with sediment toxicity to justify adding that pollutant to the CWA section 303(d) List.

Two lines of evidence are available in the administrative record to assess this pollutant. Zero of one samples exceed the guideline. Sediment toxicity data are not associated with this decision because they are not relevant to this decision because there is insufficient information based on sediment chemistry.

Based on the readily available data and information, the weight of evidence indicates that there is insufficient justification for placing this water segment-pollutant combination on the CWA section 303(d) List.

This conclusion is based on the staff findings that:

1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy.
2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy.
3. Zero of one samples exceed the guideline and this sample size is insufficient to determine beneficial use support, with the power and confidence of the Listing Policy. A minimum of 16 samples is needed to determine if a beneficial use is fully supported using table 3.1. Sediment toxicity data are not associated with this decision because the sediment chemistry data are insufficient.
4. Pursuant to section 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.

Regional Board Staff Decision Recommendation: After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be placed on the section 303(d) list. The readily available data and information is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating.

Line of Evidence (LOE) for Decision ID 66858, Deltamethrin	Region 2
Walker Creek	

LOE ID: 93606
Pollutant: Deltamethrin
LOE Subgroup: Pollutant-Sediment
Matrix: Sediment
Fraction: Total
Beneficial Use: Warm Freshwater Habitat
Number of Samples: 1
Number of Exceedances: 0
Data and Information Type: PHYSICAL/CHEMICAL MONITORING

Data Used to Assess Water Quality:	Water Board staff assessed SWAMP data for Walker Creek to determine beneficial use support and results are as follows: 0 of 1 samples exceed the criterion for Deltamethrin.
Data Reference:	Statewide Stream Pollution Trends Study 2008
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	San Francisco Bay Basin Water Quality Control Plan 2007: All waters shall be maintained free of toxic substances in concentrations which are toxic to, or which produce detrimental physiological responses in, human, plant, animal, or aquatic life.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	The evaluation guideline for deltamethrin is the median lethal concentration (LC50) of 0.79 ug/g and is normalized by the percentage of organic carbon in the sediment sample. The LC50 0.79 ug/g is the geometric mean of LC50 values for deltamethrin from Amweg et al. (2005).
Guideline Reference:	Use and Toxicity of Pyrethroid Pesticides in the Central Valley, California, USA. Environmental Toxicology and Chemistry, 24:966-972, with erratum 24:No. 5
Spatial Representation:	Data for this line of evidence for Walker Creek was collected at 1 monitoring site [Walker Creek Ranch station (201WLK160)]
Temporal Representation:	Data was collected on a single day 6/18/2008.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	SWAMP data collected before September 2008 followed the QAMP (2002), however there may have been overlap in QA with SWAMP QAPP (2008).
QAPP Information Reference(s):	Quality Assurance Management Plan for the State of California's Surface Water Ambient Monitoring Program. Sacramento, CA. State Water Resources Control Board. SWAMP. December 2002 (1st version). Surface Water Ambient Monitoring Program Quality Assurance Program Plan

Line of Evidence (LOE) for Decision ID 66858, Deltamethrin

Region 2

Walker Creek

LOE ID:	93607
Pollutant:	Deltamethrin
LOE Subgroup:	Pollutant-Sediment
Matrix:	Sediment
Fraction:	Total
Beneficial Use:	Cold Freshwater Habitat
Number of Samples:	1
Number of Exceedances:	0
Data and Information Type:	PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality:	Water Board staff assessed SWAMP data for Walker Creek to determine beneficial use support and results are as follows: 0 of 1 samples exceed the criterion for Deltamethrin.
Data Reference:	Statewide Stream Pollution Trends Study 2008
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	San Francisco Bay Basin Water Quality Control Plan 2007: All waters shall be maintained free of toxic substances in concentrations which are toxic to, or which produce detrimental physiological responses in, human, plant, animal, or aquatic life.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	The evaluation guideline for deltamethrin is the median lethal concentration (LC50) of 0.79 ug/g and is normalized by the percentage of organic carbon in the sediment sample. The LC50 0.79 ug/g is the geometric mean of LC50 values for deltamethrin from Amweg et al. (2005).
Guideline Reference:	Use and Toxicity of Pyrethroid Pesticides in the Central Valley, California, USA. Environmental Toxicology and Chemistry, 24:966-972, with erratum 24:No. 5

Spatial Representation:	Data for this line of evidence for Walker Creek was collected at 1 monitoring site [Walker Creek Ranch station (201WLK160)]
Temporal Representation:	Data was collected on a single day 6/18/2008.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	SWAMP data collected before September 2008 followed the QAMP (2002), however there may have been overlap in QA with SWAMP QAPP (2008).
QAPP Information Reference(s):	Quality Assurance Management Plan for the State of California's Surface Water Ambient Monitoring Program. Sacramento, CA. State Water Resources Control Board. SWAMP. December 2002 (1st version). Surface Water Ambient Monitoring Program Quality Assurance Program Plan

DECISION ID	66859	Region 2
Walker Creek		

Pollutant:	Diazinon
Final Listing Decision:	Do Not List on 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision:	New Decision
Revision Status	Revised
Impairment from Pollutant or Pollution:	Pollutant

Regional Board Staff Conclusion: This pollutant is being considered for placement on the CWA section 303(d) List under section 3.6 of the Listing Policy. Under section 3.6 at least two lines of evidence are necessary to assess listing status for pollutants in sediment, and pollutant concentrations in sediment must be associated with sediment toxicity to justify adding that pollutant to the CWA section 303(d) List.

Two lines of evidence are available in the administrative record to assess this pollutant. Zero of one samples exceed the guideline. Sediment toxicity data are not associated with this decision because they are not relevant to this decision because there is insufficient information based on sediment chemistry.

Based on the readily available data and information, the weight of evidence indicates that there is insufficient justification for placing this water segment-pollutant combination on the CWA section 303(d) List.

This conclusion is based on the staff findings that:

1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy.
2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy.
3. Zero of one samples exceed the guideline and this sample size is insufficient to determine beneficial use support, with the power and confidence of the Listing Policy. A minimum of 16 samples is needed to determine if a beneficial use is fully supported using table 3.1. Sediment toxicity data are not associated with this decision because the sediment chemistry data are insufficient.
4. Pursuant to section 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.

Regional Board Staff Decision Recommendation: After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be placed on the section 303(d) list. The readily available data and information is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating.

Line of Evidence (LOE) for Decision ID 66859, Diazinon	Region 2
Walker Creek	

LOE ID:	93608
Pollutant:	Diazinon

LOE Subgroup:	Pollutant-Sediment
Matrix:	Sediment
Fraction:	Total
Beneficial Use:	Warm Freshwater Habitat
Number of Samples:	1
Number of Exceedances:	0
Data and Information Type:	PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality:	Water Board staff assessed SWAMP data for Walker Creek to determine beneficial use support and results are as follows: 0 of 1 samples exceed the criterion for Diazinon.
Data Reference:	Statewide Stream Pollution Trends Study 2008
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	San Francisco Bay Basin Water Quality Control Plan 2007: All waters shall be maintained free of toxic substances in concentrations which are toxic to, or which produce detrimental physiological responses in, human, plant, animal, or aquatic life.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	The evaluation guideline for diazinon is the median lethal concentration (LC50) of 11 ug/g and is normalized by the percentage of organic carbon in the sediment sample. The LC50 11 ug/g is the geometric mean of LC50 values for diazinon from Ding et al. (2011).
Guideline Reference:	Toxicity of Sediment-Associated Pesticides to Chironomus dilutus and Hyalella azteca. Arch. Environ. Contam. Toxicol. 61:83?92.
Spatial Representation:	Data for this line of evidence for Walker Creek was collected at 1 monitoring site [Walker Creek Ranch station (201WLK160)]
Temporal Representation:	Data was collected on a single day 6/18/2008.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	SWAMP data collected before September 2008 followed the QAMP (2002), however there may have been overlap in QA with SWAMP QAPP (2008).
QAPP Information Reference(s):	Quality Assurance Management Plan for the State of California's Surface Water Ambient Monitoring Program. Sacramento, CA. State Water Resources Control Board. SWAMP. December 2002 (1st version). Surface Water Ambient Monitoring Program Quality Assurance Program Plan

Line of Evidence (LOE) for Decision ID 66859, Diazinon

Region 2

Walker Creek

LOE ID:	93609
Pollutant:	Diazinon
LOE Subgroup:	Pollutant-Sediment
Matrix:	Sediment
Fraction:	Total
Beneficial Use:	Cold Freshwater Habitat
Number of Samples:	1
Number of Exceedances:	0
Data and Information Type:	PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality:	Water Board staff assessed SWAMP data for Walker Creek to determine beneficial use support and results are as follows: 0 of 1 samples exceed the criterion for Diazinon.
Data Reference:	Statewide Stream Pollution Trends Study 2008
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	San Francisco Bay Basin Water Quality Control Plan 2007: All waters shall be maintained free of toxic substances in concentrations which are toxic to, or which produce detrimental

Objective/Criterion Reference:	physiological responses in, human, plant, animal, or aquatic life. Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	The evaluation guideline for diazinon is the median lethal concentration (LC50) of 11 ug/g and is normalized by the percentage of organic carbon in the sediment sample. The LC50 11 ug/g is the geometric mean of LC50 values for diazinon from Ding et al. (2011).
Guideline Reference:	Toxicity of Sediment-Associated Pesticides to Chironomus dilutus and Hyalella azteca. Arch. Environ. Contam. Toxicol. 61:83?92.
Spatial Representation:	Data for this line of evidence for Walker Creek was collected at 1 monitoring site [Walker Creek Ranch station (201WLK160)]
Temporal Representation:	Data was collected on a single day 6/18/2008.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	SWAMP data collected before September 2008 followed the QAMP (2002), however there may have been overlap in QA with SWAMP QAPP (2008).
QAPP Information Reference(s):	Quality Assurance Management Plan for the State of California's Surface Water Ambient Monitoring Program. Sacramento, CA. State Water Resources Control Board. SWAMP. December 2002 (1st version) Surface Water Ambient Monitoring Program Quality Assurance Program Plan

DECISION ID	66860	Region 2
Walker Creek		
Pollutant: Final Listing Decision: Last Listing Cycle's Final Listing Decision: Revision Status Impairment from Pollutant or Pollution:	Dieldrin Do Not List on 303(d) list (TMDL required list) New Decision Revised Pollutant	
Regional Board Staff Conclusion:	<p>This pollutant is being considered for placement on the CWA section 303(d) List under section 3.6 of the Listing Policy. Under section 3.6 at least two lines of evidence are necessary to assess listing status for pollutants in sediment, and pollutant concentrations in sediment must be associated with sediment toxicity to justify adding that pollutant to the CWA section 303(d) List.</p> <p>Two lines of evidence are available in the administrative record to assess this pollutant. Zero of one samples exceed the guideline. Sediment toxicity data are not associated with this decision because they are not relevant to this decision because there is insufficient information based on sediment chemistry.</p> <p>Based on the readily available data and information, the weight of evidence indicates that there is insufficient justification for placing this water segment-pollutant combination on the CWA section 303(d) List.</p> <p>This conclusion is based on the staff findings that:</p> <ol style="list-style-type: none"> 1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy. 2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy. 3. Zero of one samples exceed the guideline and this sample size is insufficient to determine beneficial use support, with the power and confidence of the Listing Policy. A minimum of 16 samples is needed to determine if a beneficial use is fully supported using table 3.1. Sediment toxicity data are not associated with this decision because the sediment chemistry data are insufficient. 4. Pursuant to section 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met. 	
Regional Board Staff Decision Recommendation:	After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be placed on the section 303(d) list. The readily available data and information is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating.	

Line of Evidence (LOE) for Decision ID 66860, Dieldrin**Region 2****Walker Creek**

LOE ID:	93455
Pollutant:	Dieldrin
LOE Subgroup:	Pollutant-Sediment
Matrix:	Sediment
Fraction:	Total
Beneficial Use:	Cold Freshwater Habitat
Number of Samples:	1
Number of Exceedances:	0
Data and Information Type:	PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality:	Water Board staff assessed SWAMP data for Walker Creek to determine beneficial use support and results are as follows: 0 of 1 samples exceed the criterion for Dieldrin.
Data Reference:	Statewide Stream Pollution Trends Study 2008
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	San Francisco Bay Basin Water Quality Control Plan 2007: All waters shall be maintained free of toxic substances in concentrations which are toxic to, or which produce detrimental physiological responses in, human, plant, animal, or aquatic life.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	In freshwater sediments the probable effect concentration (predictive of sediment toxicity for sediment-dwelling organisms) for dieldrin is 61.8 ug/Kg dry weight (MacDonald et al. 2000).
Guideline Reference:	Development and evaluation of consensus-based sediment quality guidelines for freshwater ecosystems. Environmental Contamination and Toxicology. 39: 20-31
Spatial Representation:	Data for this line of evidence for Walker Creek was collected at 1 monitoring site [Walker Creek Ranch station (201WLK160)]
Temporal Representation:	Data was collected on a single day 6/18/2008.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	SWAMP data collected before September 2008 followed the QAMP (2002), however there may have been overlap in QA with SWAMP QAPP (2008).
QAPP Information Reference(s):	Quality Assurance Management Plan for the State of California's Surface Water Ambient Monitoring Program. Sacramento, CA. State Water Resources Control Board. SWAMP. December 2002 (1st version) Surface Water Ambient Monitoring Program Quality Assurance Program Plan

Line of Evidence (LOE) for Decision ID 66860, Dieldrin**Region 2****Walker Creek**

LOE ID:	93454
Pollutant:	Dieldrin
LOE Subgroup:	Pollutant-Sediment
Matrix:	Sediment
Fraction:	Total
Beneficial Use:	Warm Freshwater Habitat
Number of Samples:	1
Number of Exceedances:	0
Data and Information Type:	PHYSICAL/CHEMICAL MONITORING

Data Used to Assess Water Quality:	Water Board staff assessed SWAMP data for Walker Creek to determine beneficial use support and results are as follows: 0 of 1 samples exceed the criterion for Dieldrin.
Data Reference:	Statewide Stream Pollution Trends Study 2008
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	San Francisco Bay Basin Water Quality Control Plan 2007: All waters shall be maintained free of toxic substances in concentrations which are toxic to, or which produce detrimental physiological responses in, human, plant, animal, or aquatic life.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	In freshwater sediments the probable effect concentration (predictive of sediment toxicity for sediment-dwelling organisms) for dieldrin is 61.8 ug/Kg dry weight (MacDonald et al. 2000).
Guideline Reference:	Development and evaluation of consensus-based sediment quality guidelines for freshwater ecosystems. Environmental Contamination and Toxicology. 39: 20-31
Spatial Representation:	Data for this line of evidence for Walker Creek was collected at 1 monitoring site [Walker Creek Ranch station (201WLK160)]
Temporal Representation:	Data was collected on a single day 6/18/2008.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	SWAMP data collected before September 2008 followed the QAMP (2002), however there may have been overlap in QA with SWAMP QAPP (2008).
QAPP Information Reference(s):	Quality Assurance Management Plan for the State of California's Surface Water Ambient Monitoring Program. Sacramento, CA. State Water Resources Control Board. SWAMP. December 2002 (1st version) Surface Water Ambient Monitoring Program Quality Assurance Program Plan

DECISION ID	66861	Region 2
Walker Creek		

Pollutant:	Endrin
Final Listing Decision:	Do Not List on 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision:	New Decision
Revision Status	Revised
Impairment from Pollutant or Pollution:	Pollutant
Regional Board Staff Conclusion:	<p>This pollutant is being considered for placement on the CWA section 303(d) List under section 3.6 of the Listing Policy. Under section 3.6 at least two lines of evidence are necessary to assess listing status for pollutants in sediment, and pollutant concentrations in sediment must be associated with sediment toxicity to justify adding that pollutant to the CWA section 303(d) List.</p> <p>Two lines of evidence are available in the administrative record to assess this pollutant. Zero of one samples exceed the guideline. Sediment toxicity data are not associated with this decision because they are not relevant to this decision because there is insufficient information based on sediment chemistry.</p> <p>Based on the readily available data and information, the weight of evidence indicates that there is insufficient justification for placing this water segment-pollutant combination on the CWA section 303(d) List.</p> <p>This conclusion is based on the staff findings that:</p> <ol style="list-style-type: none"> 1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy. 2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy. 3. Zero of one samples exceed the guideline and this sample size is insufficient to determine beneficial use support, with the power and confidence of the Listing Policy. A minimum of 16 samples is needed to determine if a beneficial use is fully supported using table 3.1. Sediment toxicity data are not associated with this decision because the sediment chemistry data are insufficient.

4. Pursuant to section 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.

Regional Board Staff Decision Recommendation: After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be placed on the section 303(d) list. The readily available data and information is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating.

Line of Evidence (LOE) for Decision ID 66861, Endrin

Region 2

Walker Creek

LOE ID: 93457

Pollutant: Endrin
LOE Subgroup: Pollutant-Sediment
Matrix: Sediment
Fraction: Total

Beneficial Use: Cold Freshwater Habitat

Number of Samples: 1
Number of Exceedances: 0

Data and Information Type: PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality: Water Board staff assessed SWAMP data for Walker Creek to determine beneficial use support and results are as follows: 0 of 1 samples exceed the criterion for Endrin.
Data Reference: [Statewide Stream Pollution Trends Study 2008](#)

SWAMP Data: SWAMP

Water Quality Objective/Criterion: San Francisco Bay Basin Water Quality Control Plan 2007: All waters shall be maintained free of toxic substances in concentrations which are toxic to, or which produce detrimental physiological responses in, human, plant, animal, or aquatic life.
Objective/Criterion Reference: [Water Quality Control Plan \(Basin Plan\) San Francisco Bay Basin \(Region 2\)](#)

Evaluation Guideline: In freshwater sediments the probable effect concentration (predictive of sediment toxicity for sediment-dwelling organisms) for endrin is 207 ug/Kg dry weight (MacDonald et al. 2000).
Guideline Reference: [Development and evaluation of consensus-based sediment quality guidelines for freshwater ecosystems. Environmental Contamination and Toxicology. 39: 20-31](#)

Spatial Representation: Data for this line of evidence for Walker Creek was collected at 1 monitoring site [Walker Creek Ranch station (201WLK160)]

Temporal Representation: Data was collected on a single day 6/18/2008.

Environmental Conditions: Staff is not aware of any special conditions that might affect interpretation of the data.

QAPP Information: SWAMP data collected before September 2008 followed the QAMP (2002), however there may have been overlap in QA with SWAMP QAPP (2008).
QAPP Information Reference(s): [Quality Assurance Management Plan for the State of California's Surface Water Ambient Monitoring Program. Sacramento, CA. State Water Resources Control Board. SWAMP. December 2002 \(1st version\)](#)
[Surface Water Ambient Monitoring Program Quality Assurance Program Plan](#)

Line of Evidence (LOE) for Decision ID 66861, Endrin

Region 2

Walker Creek

LOE ID: 93456

Pollutant: Endrin
LOE Subgroup: Pollutant-Sediment
Matrix: Sediment

Fraction:	Total
Beneficial Use:	Warm Freshwater Habitat
Number of Samples:	1
Number of Exceedances:	0
Data and Information Type:	PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality:	Water Board staff assessed SWAMP data for Walker Creek to determine beneficial use support and results are as follows: 0 of 1 samples exceed the criterion for Endrin.
Data Reference:	Statewide Stream Pollution Trends Study 2008
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	San Francisco Bay Basin Water Quality Control Plan 2007: All waters shall be maintained free of toxic substances in concentrations which are toxic to, or which produce detrimental physiological responses in, human, plant, animal, or aquatic life.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	In freshwater sediments the probable effect concentration (predictive of sediment toxicity for sediment-dwelling organisms) for endrin is 207 ug/Kg dry weight (MacDonald et al. 2000).
Guideline Reference:	Development and evaluation of consensus-based sediment quality guidelines for freshwater ecosystems. Environmental Contamination and Toxicology. 39: 20-31
Spatial Representation:	Data for this line of evidence for Walker Creek was collected at 1 monitoring site [Walker Creek Ranch station (201WLK160)]
Temporal Representation:	Data was collected on a single day 6/18/2008.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	SWAMP data collected before September 2008 followed the QAMP (2002), however there may have been overlap in QA with SWAMP QAPP (2008).
QAPP Information Reference(s):	Quality Assurance Management Plan for the State of California's Surface Water Ambient Monitoring Program. Sacramento, CA. State Water Resources Control Board. SWAMP. December 2002 (1st version) Surface Water Ambient Monitoring Program Quality Assurance Program Plan

DECISION ID	66862	Region 2
Walker Creek		

Pollutant:	Esfenvalerate/Fenvalerate
Final Listing Decision:	Do Not List on 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision:	New Decision
Revision Status	Revised
Impairment from Pollutant or Pollution:	Pollutant
Regional Board Staff Conclusion:	<p>This pollutant is being considered for placement on the CWA section 303(d) List under section 3.6 of the Listing Policy. Under section 3.6 at least two lines of evidence are necessary to assess listing status for pollutants in sediment, and pollutant concentrations in sediment must be associated with sediment toxicity to justify adding that pollutant to the CWA section 303(d) List.</p> <p>Two lines of evidence are available in the administrative record to assess this pollutant. Zero of one samples exceed the guideline. Sediment toxicity data are not associated with this decision because they are not relevant to this decision because there is insufficient information based on sediment chemistry.</p> <p>Based on the readily available data and information, the weight of evidence indicates that there is insufficient justification for placing this water segment-pollutant combination on the CWA section 303(d) List.</p>

This conclusion is based on the staff findings that:

1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy.
2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy.
3. Zero of one samples exceed the guideline and this sample size is insufficient to determine beneficial use support, with the power and confidence of the Listing Policy. A minimum of 16 samples is needed to determine if a beneficial use is fully supported using table 3.1. Sediment toxicity data are not associated with this decision because the sediment chemistry data are insufficient.
4. Pursuant to section 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.

Regional Board Staff Decision Recommendation: After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be placed on the section 303(d) list. The readily available data and information is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating.

**Line of Evidence (LOE) for Decision ID 66862, Esfenvalerate/Fenvalerate
Walker Creek**

Region 2

LOE ID:	93462
Pollutant:	Esfenvalerate/Fenvalerate
LOE Subgroup:	Pollutant-Sediment
Matrix:	Sediment
Fraction:	Total
Beneficial Use:	Cold Freshwater Habitat
Number of Samples:	1
Number of Exceedances:	0
Data and Information Type:	PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality:	Water Board staff assessed SWAMP data for Walker Creek to determine beneficial use support and results are as follows: 0 of 1 samples exceed the criterion for Esfenvalerate/Fenvalerate, total.
Data Reference:	Statewide Stream Pollution Trends Study 2008
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	San Francisco Bay Basin Water Quality Control Plan 2007: All waters shall be maintained free of toxic substances in concentrations which are toxic to, or which produce detrimental physiological responses in, human, plant, animal, or aquatic life.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	The evaluation guideline for esfenvalerate/fenvalerate is the median lethal concentration (LC50) of 1.5 ug/g and is normalized by the percentage of organic carbon in the sediment sample. The LC50 1.5 ug/g is the geometric mean of LC50 values for esfenvalerate/fenvalerate from Amweg et al. (2005).
Guideline Reference:	Use and Toxicity of Pyrethroid Pesticides in the Central Valley, California, USA. Environmental Toxicology and Chemistry, 24:966-972, with erratum 24:No. 5
Spatial Representation:	Data for this line of evidence for Walker Creek was collected at 1 monitoring site [Walker Creek Ranch station (201WLK160)]
Temporal Representation:	Data was collected on a single day 6/18/2008.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	SWAMP data collected before September 2008 followed the QAMP (2002), however there may have been overlap in QA with SWAMP QAPP (2008).
QAPP Information Reference(s):	Quality Assurance Management Plan for the State of California's Surface Water Ambient Monitoring Program. Sacramento, CA. State Water Resources Control Board. SWAMP. December 2002 (1st version). Surface Water Ambient Monitoring Program Quality Assurance Program Plan

Walker Creek

LOE ID:	93458
Pollutant:	Esfenvalerate/Fenvalerate
LOE Subgroup:	Pollutant-Sediment
Matrix:	Sediment
Fraction:	Total
Beneficial Use:	Warm Freshwater Habitat
Number of Samples:	1
Number of Exceedances:	0
Data and Information Type:	PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality:	Water Board staff assessed SWAMP data for Walker Creek to determine beneficial use support and results are as follows: 0 of 1 samples exceed the criterion for Esfenvalerate/Fenvalerate, total.
Data Reference:	Statewide Stream Pollution Trends Study 2008
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	San Francisco Bay Basin Water Quality Control Plan 2007: All waters shall be maintained free of toxic substances in concentrations which are toxic to, or which produce detrimental physiological responses in, human, plant, animal, or aquatic life.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	The evaluation guideline for esfenvalerate/fenvalerate is the median lethal concentration (LC50) of 1.5 ug/g and is normalized by the percentage of organic carbon in the sediment sample. The LC50 1.5 ug/g is the geometric mean of LC50 values for esfenvalerate/fenvalerate from Amweg et al. (2005).
Guideline Reference:	Use and Toxicity of Pyrethroid Pesticides in the Central Valley, California, USA. Environmental Toxicology and Chemistry, 24:966-972, with erratum 24:No. 5
Spatial Representation:	Data for this line of evidence for Walker Creek was collected at 1 monitoring site [Walker Creek Ranch station (201WLK160)]
Temporal Representation:	Data was collected on a single day 6/18/2008.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	SWAMP data collected before September 2008 followed the QAMP (2002), however there may have been overlap in QA with SWAMP QAPP (2008).
QAPP Information Reference(s):	Quality Assurance Management Plan for the State of California's Surface Water Ambient Monitoring Program. Sacramento, CA. State Water Resources Control Board. SWAMP. December 2002 (1st version). Surface Water Ambient Monitoring Program Quality Assurance Program Plan

DECISION ID

66863

Region 2

Walker Creek

Pollutant:	Fenpropathrin
Final Listing Decision:	Do Not List on 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision:	New Decision
Revision Status	Revised
Impairment from Pollutant or Pollution:	Pollutant
Regional Board Staff Conclusion:	This pollutant is being considered for placement on the CWA section 303(d) List under section 3.6 of the Listing Policy. Under section 3.6 at least two lines of evidence are necessary to assess listing

status for pollutants in sediment, and pollutant concentrations in sediment must be associated with sediment toxicity to justify adding that pollutant to the CWA section 303(d) List.

Two lines of evidence are available in the administrative record to assess this pollutant. Zero of one samples exceed the guideline. Sediment toxicity data are not associated with this decision because they are not relevant to this decision because there is insufficient information based on sediment chemistry.

Based on the readily available data and information, the weight of evidence indicates that there is insufficient justification for placing this water segment-pollutant combination on the CWA section 303(d) List.

This conclusion is based on the staff findings that:

1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy.
2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy.
3. Zero of one samples exceed the guideline and this sample size is insufficient to determine beneficial use support, with the power and confidence of the Listing Policy. A minimum of 16 samples is needed to determine if a beneficial use is fully supported using table 3.1. Sediment toxicity data are not associated with this decision because the sediment chemistry data are insufficient.
4. Pursuant to section 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.

Regional Board Staff Decision Recommendation: After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be placed on the section 303(d) list. The readily available data and information is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating.

Line of Evidence (LOE) for Decision ID 66863, Fenpropathrin

Region 2

Walker Creek

LOE ID:	93464
Pollutant:	Fenpropathrin
LOE Subgroup:	Pollutant-Sediment
Matrix:	Sediment
Fraction:	Total
Beneficial Use:	Cold Freshwater Habitat
Number of Samples:	1
Number of Exceedances:	0
Data and Information Type:	PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality:	Water Board staff assessed SWAMP data for Walker Creek to determine beneficial use support and results are as follows: 0 of 1 samples exceed the criterion for Fenpropathrin.
Data Reference:	Statewide Stream Pollution Trends Study 2008
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	San Francisco Bay Basin Water Quality Control Plan 2007: All waters shall be maintained free of toxic substances in concentrations which are toxic to, or which produce detrimental physiological responses in, human, plant, animal, or aquatic life.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	The evaluation guideline for fenpropathrin is the median lethal concentration (LC50) of 1 ug/g and is normalized by the percentage of organic carbon in the sediment sample. The LC50 1 ug/g is the geometric mean of LC50 values for fenpropathrin from Ding et al. (2011).
Guideline Reference:	Toxicity of Sediment-Associated Pesticides to Chironomus dilutus and Hyalella azteca. Arch. Environ. Contam. Toxicol. 61:83?92.

Spatial Representation:	Data for this line of evidence for Walker Creek was collected at 1 monitoring site [Walker Creek Ranch station (201WLK160)]
Temporal Representation:	Data was collected on a single day 6/18/2008.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	SWAMP data collected before September 2008 followed the QAMP (2002), however there may have been overlap in QA with SWAMP QAPP (2008).
QAPP Information Reference(s):	Quality Assurance Management Plan for the State of California's Surface Water Ambient Monitoring Program. Sacramento, CA. State Water Resources Control Board. SWAMP. December 2002 (1st version). Surface Water Ambient Monitoring Program Quality Assurance Program Plan

Line of Evidence (LOE) for Decision ID 66863, Fenprothrin
Walker Creek

Region 2

LOE ID:	93463
Pollutant:	Fenprothrin
LOE Subgroup:	Pollutant-Sediment
Matrix:	Sediment
Fraction:	Total
Beneficial Use:	Warm Freshwater Habitat
Number of Samples:	1
Number of Exceedances:	0
Data and Information Type:	PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality:	Water Board staff assessed SWAMP data for Walker Creek to determine beneficial use support and results are as follows: 0 of 1 samples exceed the criterion for Fenprothrin.
Data Reference:	Statewide Stream Pollution Trends Study 2008
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	San Francisco Bay Basin Water Quality Control Plan 2007: All waters shall be maintained free of toxic substances in concentrations which are toxic to, or which produce detrimental physiological responses in, human, plant, animal, or aquatic life.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	The evaluation guideline for fenprothrin is the median lethal concentration (LC50) of 1 ug/g and is normalized by the percentage of organic carbon in the sediment sample. The LC50 1 ug/g is the geometric mean of LC50 values for fenprothrin from Ding et al. (2011).
Guideline Reference:	Toxicity of Sediment-Associated Pesticides to Chironomus dilutus and Hyalella azteca. Arch. Environ. Contam. Toxicol. 61:83?92.
Spatial Representation:	Data for this line of evidence for Walker Creek was collected at 1 monitoring site [Walker Creek Ranch station (201WLK160)]
Temporal Representation:	Data was collected on a single day 6/18/2008.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	SWAMP data collected before September 2008 followed the QAMP (2002), however there may have been overlap in QA with SWAMP QAPP (2008).
QAPP Information Reference(s):	Quality Assurance Management Plan for the State of California's Surface Water Ambient Monitoring Program. Sacramento, CA. State Water Resources Control Board. SWAMP. December 2002 (1st version). Surface Water Ambient Monitoring Program Quality Assurance Program Plan

DECISION ID 66864
Walker Creek

Region 2

Pollutant:	Lead
Final Listing Decision:	Do Not List on 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision:	New Decision
Revision Status	Revised
Impairment from Pollutant or Pollution:	Pollutant

Regional Board Staff Conclusion:

This pollutant is being considered for placement on the CWA section 303(d) List under section 3.6 of the Listing Policy. Under section 3.6 at least two lines of evidence are necessary to assess listing status for pollutants in sediment, and pollutant concentrations in sediment must be associated with sediment toxicity to justify adding that pollutant to the CWA section 303(d) List.

Two lines of evidence are available in the administrative record to assess this pollutant. Zero of one samples exceed the guideline. Sediment toxicity data are not associated with this decision because they are not relevant to this decision because there is insufficient information based on sediment chemistry.

Based on the readily available data and information, the weight of evidence indicates that there is insufficient justification for placing this water segment-pollutant combination on the CWA section 303(d) List.

This conclusion is based on the staff findings that:

1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy.
2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy.
3. Zero of one samples exceed the guideline and this sample size is insufficient to determine beneficial use support, with the power and confidence of the Listing Policy. A minimum of 16 samples is needed to determine if a beneficial use is fully supported using table 3.1. Sediment toxicity data are not associated with this decision because the sediment chemistry data are insufficient.
4. Pursuant to section 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.

Regional Board Staff Decision Recommendation:

After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be placed on the section 303(d) list. The readily available data and information is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating.

Line of Evidence (LOE) for Decision ID 66864, Lead Walker Creek

Region 2

LOE ID:	93465
Pollutant:	Lead
LOE Subgroup:	Pollutant-Sediment
Matrix:	Sediment
Fraction:	Total
Beneficial Use:	Warm Freshwater Habitat
Number of Samples:	1
Number of Exceedances:	0
Data and Information Type:	PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality:	Water Board staff assessed SWAMP data for Walker Creek to determine beneficial use support and results are as follows: 0 of 1 samples exceed the criterion for Lead.
Data Reference:	Statewide Stream Pollution Trends Study 2008
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	San Francisco Bay Basin Water Quality Control Plan 2007: All waters shall be maintained

Objective/Criterion Reference:	free of toxic substances in concentrations which are toxic to, or which produce detrimental physiological responses in, human, plant, animal, or aquatic life. Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	In freshwater sediments the probable effect concentration (predictive of sediment toxicity for sediment-dwelling organisms) for lead is 128 mg/Kg dry weight (MacDonald et al. 2000).
Guideline Reference:	Development and evaluation of consensus-based sediment quality guidelines for freshwater ecosystems. Environmental Contamination and Toxicology. 39: 20-31
Spatial Representation:	Data for this line of evidence for Walker Creek was collected at 1 monitoring site [Walker Creek Ranch station (201WLK160)]
Temporal Representation:	Data was collected on a single day 6/18/2008.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	SWAMP data collected before September 2008 followed the QAMP (2002), however there may have been overlap in QA with SWAMP QAPP (2008).
QAPP Information Reference(s):	Quality Assurance Management Plan for the State of California's Surface Water Ambient Monitoring Program. Sacramento, CA. State Water Resources Control Board. SWAMP. December 2002 (1st version) Surface Water Ambient Monitoring Program Quality Assurance Program Plan

Line of Evidence (LOE) for Decision ID 66864, Lead

Region 2

Walker Creek

LOE ID:	93466
Pollutant:	Lead
LOE Subgroup:	Pollutant-Sediment
Matrix:	Sediment
Fraction:	Total
Beneficial Use:	Cold Freshwater Habitat
Number of Samples:	1
Number of Exceedances:	0
Data and Information Type:	PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality:	Water Board staff assessed SWAMP data for Walker Creek to determine beneficial use support and results are as follows: 0 of 1 samples exceed the criterion for Lead.
Data Reference:	Statewide Stream Pollution Trends Study 2008
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	San Francisco Bay Basin Water Quality Control Plan 2007: All waters shall be maintained free of toxic substances in concentrations which are toxic to, or which produce detrimental physiological responses in, human, plant, animal, or aquatic life.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	In freshwater sediments the probable effect concentration (predictive of sediment toxicity for sediment-dwelling organisms) for lead is 128 mg/Kg dry weight (MacDonald et al. 2000).
Guideline Reference:	Development and evaluation of consensus-based sediment quality guidelines for freshwater ecosystems. Environmental Contamination and Toxicology. 39: 20-31
Spatial Representation:	Data for this line of evidence for Walker Creek was collected at 1 monitoring site [Walker Creek Ranch station (201WLK160)]
Temporal Representation:	Data was collected on a single day 6/18/2008.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	SWAMP data collected before September 2008 followed the QAMP (2002), however there may have been overlap in QA with SWAMP QAPP (2008).
QAPP Information Reference(s):	Quality Assurance Management Plan for the State of California's Surface Water Ambient Monitoring Program. Sacramento, CA. State Water Resources Control Board. SWAMP.

DECISION ID	66865	Region 2
Walker Creek		

Pollutant: Lindane/gamma Hexachlorocyclohexane (gamma-HCH)

Final Listing Decision: Do Not List on 303(d) list (TMDL required list)

Last Listing Cycle's Final Listing Decision: New Decision

Revision Status: Revised

Impairment from Pollutant or Pollution: Pollutant

Regional Board Staff Conclusion: This pollutant is being considered for placement on the CWA section 303(d) List under section 3.6 of the Listing Policy. Under section 3.6 at least two lines of evidence are necessary to assess listing status for pollutants in sediment, and pollutant concentrations in sediment must be associated with sediment toxicity to justify adding that pollutant to the CWA section 303(d) List.

Two lines of evidence are available in the administrative record to assess this pollutant. Zero of one samples exceed the guideline. Sediment toxicity data are not associated with this decision because they are not relevant to this decision because there is insufficient information based on sediment chemistry.

Based on the readily available data and information, the weight of evidence indicates that there is insufficient justification for placing this water segment-pollutant combination on the CWA section 303(d) List.

This conclusion is based on the staff findings that:

1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy.
2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy.
3. Zero of one samples exceed the guideline and this sample size is insufficient to determine beneficial use support, with the power and confidence of the Listing Policy. A minimum of 16 samples is needed to determine if a beneficial use is fully supported using table 3.1. Sediment toxicity data are not associated with this decision because the sediment chemistry data are insufficient.
4. Pursuant to section 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.

Regional Board Staff Decision Recommendation: After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be placed on the section 303(d) list. The readily available data and information is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating.

Line of Evidence (LOE) for Decision ID 66865, Lindane/gamma Hexachlorocyclohexane (gamma-HCH)

Region 2

Walker Creek

LOE ID: 93474

Pollutant: Lindane/gamma Hexachlorocyclohexane (gamma-HCH)

LOE Subgroup: Pollutant-Sediment

Matrix: Sediment

Fraction: Total

Beneficial Use: Warm Freshwater Habitat

Number of Samples: 1

Number of Exceedances: 0

Data and Information Type:	PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality:	Water Board staff assessed SWAMP data for Walker Creek to determine beneficial use support and results are as follows: 0 of 1 samples exceed the criterion for HCH, gamma.
Data Reference:	Statewide Stream Pollution Trends Study 2008
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	San Francisco Bay Basin Water Quality Control Plan 2007: All waters shall be maintained free of toxic substances in concentrations which are toxic to, or which produce detrimental physiological responses in, human, plant, animal, or aquatic life.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	In freshwater sediments the probable effect concentration (predictive of sediment toxicity for sediment-dwelling organisms) for Lindane (gamma-HCH) is 4.99 ug/Kg dry weight (MacDonald et al. 2000).
Guideline Reference:	Development and evaluation of consensus-based sediment quality guidelines for freshwater ecosystems. Environmental Contamination and Toxicology. 39: 20-31
Spatial Representation:	Data for this line of evidence for Walker Creek was collected at 1 monitoring site [Walker Creek Ranch station (201WLK160)]
Temporal Representation:	Data was collected on a single day 6/18/2008.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	SWAMP data collected before September 2008 followed the QAMP (2002), however there may have been overlap in QA with SWAMP QAPP (2008).
QAPP Information Reference(s):	Quality Assurance Management Plan for the State of California's Surface Water Ambient Monitoring Program. Sacramento, CA. State Water Resources Control Board. SWAMP. December 2002 (1st version) Surface Water Ambient Monitoring Program Quality Assurance Program Plan

Line of Evidence (LOE) for Decision ID 66865, Lindane/gamma Hexachlorocyclohexane (gamma-HCH)

Region 2

Walker Creek

LOE ID:	93475
Pollutant:	Lindane/gamma Hexachlorocyclohexane (gamma-HCH)
LOE Subgroup:	Pollutant-Sediment
Matrix:	Sediment
Fraction:	Total
Beneficial Use:	Cold Freshwater Habitat
Number of Samples:	1
Number of Exceedances:	0
Data and Information Type:	PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality:	Water Board staff assessed SWAMP data for Walker Creek to determine beneficial use support and results are as follows: 0 of 1 samples exceed the criterion for HCH, gamma.
Data Reference:	Statewide Stream Pollution Trends Study 2008
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	San Francisco Bay Basin Water Quality Control Plan 2007: All waters shall be maintained free of toxic substances in concentrations which are toxic to, or which produce detrimental physiological responses in, human, plant, animal, or aquatic life.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	In freshwater sediments the probable effect concentration (predictive of sediment toxicity for sediment-dwelling organisms) for Lindane (gamma-HCH) is 4.99 ug/Kg dry weight (MacDonald et al. 2000).
Guideline Reference:	Development and evaluation of consensus-based sediment quality guidelines for

Spatial Representation:	Data for this line of evidence for Walker Creek was collected at 1 monitoring site [Walker Creek Ranch station (201WLK160)]
Temporal Representation:	Data was collected on a single day 6/18/2008.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	SWAMP data collected before September 2008 followed the QAMP (2002), however there may have been overlap in QA with SWAMP QAPP (2008).
QAPP Information Reference(s):	Quality Assurance Management Plan for the State of California's Surface Water Ambient Monitoring Program. Sacramento, CA. State Water Resources Control Board. SWAMP. December 2002 (1st version) Surface Water Ambient Monitoring Program Quality Assurance Program Plan

DECISION ID	66866	Region 2
Walker Creek		

Pollutant:	Methyl Parathion
Final Listing Decision:	Do Not List on 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision:	New Decision
Revision Status	Revised
Impairment from Pollutant or Pollution:	Pollutant
Regional Board Staff Conclusion:	<p>This pollutant is being considered for placement on the CWA section 303(d) List under section 3.6 of the Listing Policy. Under section 3.6 at least two lines of evidence are necessary to assess listing status for pollutants in sediment, and pollutant concentrations in sediment must be associated with sediment toxicity to justify adding that pollutant to the CWA section 303(d) List.</p> <p>Two lines of evidence are available in the administrative record to assess this pollutant. Zero of one samples exceed the guideline. Sediment toxicity data are not associated with this decision because they are not relevant to this decision because there is insufficient information based on sediment chemistry.</p> <p>Based on the readily available data and information, the weight of evidence indicates that there is insufficient justification for placing this water segment-pollutant combination on the CWA section 303(d) List.</p> <p>This conclusion is based on the staff findings that:</p> <ol style="list-style-type: none">1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy.2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy.3. Zero of one samples exceed the guideline and this sample size is insufficient to determine beneficial use support, with the power and confidence of the Listing Policy. A minimum of 16 samples is needed to determine if a beneficial use is fully supported using table 3.1. Sediment toxicity data are not associated with this decision because the sediment chemistry data are insufficient.4. Pursuant to section 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.
Regional Board Staff Decision Recommendation:	After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be placed on the section 303(d) list. The readily available data and information is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating.

Line of Evidence (LOE) for Decision ID 66866, Methyl Parathion	Region 2
Walker Creek	

LOE ID: 93478

Pollutant:	Methyl Parathion
LOE Subgroup:	Pollutant-Sediment
Matrix:	Sediment
Fraction:	Total
Beneficial Use:	Warm Freshwater Habitat
Number of Samples:	1
Number of Exceedances:	0
Data and Information Type:	PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality:	Water Board staff assessed SWAMP data for Walker Creek to determine beneficial use support and results are as follows: 0 of 1 samples exceed the criterion for Parathion, Methyl.
Data Reference:	Statewide Stream Pollution Trends Study 2008
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	San Francisco Bay Basin Water Quality Control Plan 2007: All waters shall be maintained free of toxic substances in concentrations which are toxic to, or which produce detrimental physiological responses in, human, plant, animal, or aquatic life.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	The evaluation guideline for methyl parathion is the median lethal concentration (LC50) of 6 ug/g and is normalized by the percentage of organic carbon in the sediment sample. The LC50 6 ug/g is the geometric mean of LC50 values for methyl parathion from Ding et al. (2011).
Guideline Reference:	Toxicity of Sediment-Associated Pesticides to Chironomus dilutus and Hyalella azteca. Arch. Environ. Contam. Toxicol. 61:83?92.
Spatial Representation:	Data for this line of evidence for Walker Creek was collected at 1 monitoring site [Walker Creek Ranch station (201WLK160)]
Temporal Representation:	Data was collected on a single day 6/18/2008.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	SWAMP data collected before September 2008 followed the QAMP (2002), however there may have been overlap in QA with SWAMP QAPP (2008).
QAPP Information Reference(s):	Quality Assurance Management Plan for the State of California's Surface Water Ambient Monitoring Program. Sacramento, CA. State Water Resources Control Board. SWAMP. December 2002 (1st version). Surface Water Ambient Monitoring Program Quality Assurance Program Plan

Line of Evidence (LOE) for Decision ID 66866, Methyl Parathion
Walker Creek

Region 2

LOE ID:	93487
Pollutant:	Methyl Parathion
LOE Subgroup:	Pollutant-Sediment
Matrix:	Sediment
Fraction:	Total
Beneficial Use:	Cold Freshwater Habitat
Number of Samples:	1
Number of Exceedances:	0
Data and Information Type:	PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality:	Water Board staff assessed SWAMP data for Walker Creek to determine beneficial use support and results are as follows: 0 of 1 samples exceed the criterion for Parathion, Methyl.
Data Reference:	Statewide Stream Pollution Trends Study 2008

SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	San Francisco Bay Basin Water Quality Control Plan 2007: All waters shall be maintained free of toxic substances in concentrations which are toxic to, or which produce detrimental physiological responses in, human, plant, animal, or aquatic life.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	The evaluation guideline for methyl parathion is the median lethal concentration (LC50) of 6 ug/g and is normalized by the percentage of organic carbon in the sediment sample. The LC50 6 ug/g is the geometric mean of LC50 values for methyl parathion from Ding et al. (2011).
Guideline Reference:	Toxicity of Sediment-Associated Pesticides to Chironomus dilutus and Hyalella azteca. Arch. Environ. Contam. Toxicol. 61:83?92.
Spatial Representation:	Data for this line of evidence for Walker Creek was collected at 1 monitoring site [Walker Creek Ranch station (201WLK160)]
Temporal Representation:	Data was collected on a single day 6/18/2008.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	SWAMP data collected before September 2008 followed the QAMP (2002), however there may have been overlap in QA with SWAMP QAPP (2008).
QAPP Information Reference(s):	Quality Assurance Management Plan for the State of California's Surface Water Ambient Monitoring Program. Sacramento, CA. State Water Resources Control Board. SWAMP. December 2002 (1st version) Surface Water Ambient Monitoring Program Quality Assurance Program Plan

DECISION ID	43785	Region 2
Walker Creek		

Pollutant:	Nickel
Final Listing Decision:	Do Not List on 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision:	Do Not List on 303(d) list (TMDL required list)(2012)
Revision Status	Revised
Impairment from Pollutant or Pollution:	Pollutant
Regional Board Staff Conclusion:	<p>This pollutant is being considered for placement on the CWA section 303(d) List under section 3.6 of the Listing Policy. Under section 3.6 at least two lines of evidence are necessary to assess listing status for pollutants sediment, and pollutant concentrations in sediment must be associated with sediment toxicity to justify adding that pollutant to the CWA section 303(d) List.</p> <p>Five lines of evidence are available in the administrative record to assess this pollutant. Two of two samples exceed the guideline. Zero of two samples exhibited sediment toxicity.</p> <p>Based on the readily available data and information, the weight of evidence indicates that there is insufficient justification for placing this water segment-pollutant combination on the CWA section 303(d) List.</p> <p>This conclusion is based on the staff findings that:</p> <ol style="list-style-type: none"> 1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy. 2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy. 3. Two of two samples exceed the guideline and this sample size is sufficient to determine beneficial use support, with the power and confidence of the Listing Policy. There is not an associated sediment toxicity data as required by Section 3.6 of the Listing Policy. 4. Pursuant to section 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.
Regional Board Staff Decision Recommendation:	After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be placed on the section 303(d) list. The readily available data and information is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating.

Line of Evidence (LOE) for Decision ID 43785, Nickel**Region 2****Walker Creek**

LOE ID:	93488
Pollutant:	Nickel
LOE Subgroup:	Pollutant-Sediment
Matrix:	Sediment
Fraction:	Total
Beneficial Use:	Warm Freshwater Habitat
Number of Samples:	1
Number of Exceedances:	1
Data and Information Type:	PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality:	Water Board staff assessed SWAMP data for Walker Creek to determine beneficial use support and results are as follows: 1 of 1 samples exceed the criterion for Nickel.
Data Reference:	Statewide Stream Pollution Trends Study 2008
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	San Francisco Bay Basin Water Quality Control Plan 2007: All waters shall be maintained free of toxic substances in concentrations which are toxic to, or which produce detrimental physiological responses in, human, plant, animal, or aquatic life.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	In freshwater sediments the probable effect concentration (predictive of sediment toxicity for sediment-dwelling organisms) for nickel is 48.6 mg/Kg dry weight (MacDonald et al. 2000).
Guideline Reference:	Development and evaluation of consensus-based sediment quality guidelines for freshwater ecosystems. Environmental Contamination and Toxicology. 39: 20-31
Spatial Representation:	Data for this line of evidence for Walker Creek was collected at 1 monitoring site [Walker Creek Ranch station (201WLK160)]
Temporal Representation:	Data was collected on a single day 6/18/2008.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	SWAMP data collected before September 2008 followed the QAMP (2002), however there may have been overlap in QA with SWAMP QAPP (2008).
QAPP Information Reference(s):	Quality Assurance Management Plan for the State of California's Surface Water Ambient Monitoring Program. Sacramento, CA. State Water Resources Control Board. SWAMP. December 2002 (1st version) Surface Water Ambient Monitoring Program Quality Assurance Program Plan

Line of Evidence (LOE) for Decision ID 43785, Nickel**Region 2****Walker Creek**

LOE ID:	28835
Pollutant:	Sediment Toxicity
LOE Subgroup:	Pollutant-Sediment
Matrix:	Sediment
Fraction:	None
Beneficial Use:	Cold Freshwater Habitat
Number of Samples:	1
Number of Exceedances:	0

Data and Information Type:	Toxicity testing of sediments
Data Used to Assess Water Quality:	Data used to evaluate sediment toxicity comprise one sediment sample collected by the SWAMP in 2001. No toxicity or adverse effects were exhibited for <i>Hyallela azteca</i> .
Data Reference:	Water Quality Monitoring and Bioassessment in Nine San Francisco Bay Region Watersheds: Walker Creek, Lagunitas Creek, San Leandro Creek, Wildcat Creek/San Pablo Creek, Suisun Creek, Arroyo Las Positas, Pescadero Creek/Butano Creek, San Gregorio Creek, and Stevens Creek/Permanente Creek. Oakland, CA: Surface Water Ambient Monitoring Program, San Francisco Bay Regional Water Quality Control Board
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	All waters shall be maintained free of toxic substances that are lethal to or that produce other detrimental responses in aquatic organisms. There shall be no chronic toxicity in ambient waters. Chronic toxicity is a detrimental biological effect on growth rate, reproduction, fertilization success, larval development, population abundance, community composition, or any other relevant measure of the health of an organism, population, or community.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) - San Francisco Bay Region (Region 2)
Evaluation Guideline:	Sediment toxicity was evaluated according to the SWAMP methodology. Sample toxicity was determined by comparing mean organism response in samples and in negative controls. Statistical evaluation ($\alpha = 0.05$) and a default threshold of 80% of the control value were used to establish whether the sediment exhibited significant toxicity adversely impacting aquatic organisms.
Guideline Reference:	Revised approach to toxicity test acceptability criteria using a statistical performance assessment. Environmental Toxicology and Chemistry, vol. 16, No. 6, pp 1322?1329
Spatial Representation:	One sediment sample was collected at a "watershed integrator" site located close to the mouth of Walker Creek.
Temporal Representation:	Sample was collected in 2001.
Environmental Conditions:	
QAPP Information:	Samples were collected and analyzed using procedures comparable with the SWAMP Quality Assurance Management Plan (SWRCB 2002).
QAPP Information Reference(s):	Quality Assurance Management Plan for the State of California's Surface Water Ambient Monitoring Program. Sacramento, CA. State Water Resources Control Board. SWAMP. December 2002 (1st version)

Line of Evidence (LOE) for Decision ID 43785, Nickel

Region 2

Walker Creek

LOE ID:	93489
Pollutant:	Nickel
LOE Subgroup:	Pollutant-Sediment
Matrix:	Sediment
Fraction:	Total
Beneficial Use:	Cold Freshwater Habitat
Number of Samples:	1
Number of Exceedances:	1
Data and Information Type:	PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality:	Water Board staff assessed SWAMP data for Walker Creek to determine beneficial use support and results are as follows: 1 of 1 samples exceed the criterion for Nickel.
Data Reference:	Statewide Stream Pollution Trends Study 2008
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	San Francisco Bay Basin Water Quality Control Plan 2007: All waters shall be maintained free of toxic substances in concentrations which are toxic to, or which produce detrimental physiological responses in, human, plant, animal, or aquatic life.

Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	In freshwater sediments the probable effect concentration (predictive of sediment toxicity for sediment-dwelling organisms) for nickel is 48.6 mg/Kg dry weight (MacDonald et al. 2000).
Guideline Reference:	Development and evaluation of consensus-based sediment quality guidelines for freshwater ecosystems. Environmental Contamination and Toxicology. 39: 20-31
Spatial Representation:	Data for this line of evidence for Walker Creek was collected at 1 monitoring site [Walker Creek Ranch station (201WLK160)]
Temporal Representation:	Data was collected on a single day 6/18/2008.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	SWAMP data collected before September 2008 followed the QAMP (2002), however there may have been overlap in QA with SWAMP QAPP (2008).
QAPP Information Reference(s):	Quality Assurance Management Plan for the State of California's Surface Water Ambient Monitoring Program. Sacramento, CA. State Water Resources Control Board. SWAMP. December 2002 (1st version) Surface Water Ambient Monitoring Program Quality Assurance Program Plan

Line of Evidence (LOE) for Decision ID 43785, Nickel

Region 2

Walker Creek

LOE ID:	28769
Pollutant:	Nickel
LOE Subgroup:	Pollutant-Sediment
Matrix:	Sediment
Fraction:	Total
Beneficial Use:	Cold Freshwater Habitat
Number of Samples:	1
Number of Exceedances:	1
Data and Information Type:	PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality:	Nickel exceeded the PEC (sediment quality guidelines) with a sample value of 73.7 mg/kg in one sediment sample collected in October 2001.
Data Reference:	Water Quality Monitoring and Bioassessment in Nine San Francisco Bay Region Watersheds: Walker Creek, Lagunitas Creek, San Leandro Creek, Wildcat Creek/San Pablo Creek, Suisun Creek, Arroyo Las Positas, Pescadero Creek/Butano Creek, San Gregorio Creek, and Stevens Creek/Permanente Creek. Oakland, CA: Surface Water Ambient Monitoring Program, San Francisco Bay Regional Water Quality Control Board
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	All waters shall be maintained free of toxic substances that are lethal to or that produce other detrimental responses in aquatic organisms.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) - San Francisco Bay Region (Region 2)
Evaluation Guideline:	Sediment Quality Guidelines (MacDonald et al., 2000): PEC (threshold effect concentration) nickel - 48.6 mg/kg dw.
Guideline Reference:	Development and evaluation of consensus-based sediment quality guidelines for freshwater ecosystems. Environmental Contamination and Toxicology. 39: 20-31
Spatial Representation:	One sediment sample was collected at a "watershed integrator" site located close to the mouth of Walker Creek.
Temporal Representation:	Sediment sample was collected in October of 2001.
Environmental Conditions:	
QAPP Information:	All samples were collected and analyzed using procedures comparable with the SWAMP Quality Assurance Management Plan (SWRCB, 2002).
QAPP Information Reference(s):	

Walker Creek

LOE ID:	93502
Pollutant:	Toxicity
LOE Subgroup:	Toxicity
Matrix:	Sediment
Fraction:	None
Beneficial Use:	Cold Freshwater Habitat
Number of Samples:	1
Number of Exceedances:	0
Data and Information Type:	TOXICITY TESTING
Data Used to Assess Water Quality:	One sample was collected to evaluate sediment toxicity. The sample did not exhibit significant toxicity. The toxicity test included survival and growth of <i>Hyalella azteca</i> . One sample can have multiple toxicity test results but will be counted only once. One sample is defined as being collected on the same day at the same location with the same lab sample id (if provided).
Data Reference:	Statewide Stream Pollution Trends Study 2008
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	All waters shall be maintained free of toxic substances in concentrations that are toxic to, or that produce detrimental physiological responses in, human, plant, animal, or aquatic life. Region 2 Basin Plan.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) - San Francisco Bay Region (Region 2)
Evaluation Guideline:	Toxicity is defined as a statistically significant effect in the sample exposure compared to the control using EPA-recommended hypothesis testing. . For SWAMP data exceedances are counted with the significant effect code SL. SL is defined as the result being significant compared to the negative control based on a statistical test, less than stated the alpha level, AND less than the evaluation threshold.
Guideline Reference:	Methods for Measuring the Toxicity and Bioaccumulation of Sediment-associated Contaminants with Freshwater Invertebrates, Second Edition. U.S. Environmental Protection Agency Office of Research and Development, Duluth, MI . U.S. Environmental Protection Agency Office of Water, Washington, DC EPA-600/R-99/064
Spatial Representation:	The sample was collected at station 201WLK160.
Temporal Representation:	The sample was collected in June 2008.
Environmental Conditions:	
QAPP Information:	All data was collected following the Standard Operating Procedures and Data Quality Objectives outlined in the SWAMP QAMP, (Puckett, 2002). QA data are included in submission.
QAPP Information Reference(s):	

DECISION ID

66867

Region 2

Walker Creek

Pollutant:	PCBs (Polychlorinated biphenyls)
Final Listing Decision:	Do Not List on 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision:	New Decision
Revision Status	Revised
Impairment from Pollutant or Pollution:	Pollutant
Regional Board Staff	This pollutant is being considered for placement on the CWA section 303(d) List under section 3.6 of

Conclusion:

the Listing Policy. Under section 3.6 at least two lines of evidence are necessary to assess listing status for pollutants in sediment, and pollutant concentrations in sediment must be associated with sediment toxicity to justify adding that pollutant to the CWA section 303(d) List.

One line of evidence is available in the administrative record to assess this pollutant. Zero of one samples exceed the guideline. Sediment toxicity data are not associated with this decision because they are not relevant to this decision because there is insufficient information based on sediment chemistry.

Based on the readily available data and information, the weight of evidence indicates that there is insufficient justification for placing this water segment-pollutant combination on the CWA section 303(d) List.

This conclusion is based on the staff findings that:

1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy.
2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy.
3. Zero of one samples exceed the guideline and this sample size is insufficient to determine beneficial use support, with the power and confidence of the Listing Policy. A minimum of 16 samples is needed to determine if a beneficial use is fully supported using table 3.1. Sediment toxicity data are not associated with this decision because the sediment chemistry data are insufficient.
4. Pursuant to section 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.

Regional Board Staff Decision Recommendation:

After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be placed on the section 303(d) list. The readily available data and information is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating.

Line of Evidence (LOE) for Decision ID 66867, PCBs (Polychlorinated biphenyls)**Region 2****Walker Creek**

LOE ID:	90580
Pollutant:	PCBs (Polychlorinated biphenyls)
LOE Subgroup:	Pollutant-Sediment
Matrix:	Sediment
Fraction:	Total
Beneficial Use:	Cold Freshwater Habitat
Number of Samples:	1
Number of Exceedances:	0
Data and Information Type:	PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality:	Zero of 1 sample collected for Total PCBs exceeded the evaluation guideline.
Data Reference:	Statewide Stream Pollution Trends Study 2008
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	Waters shall not contain substances in concentrations that result in the deposition of material that causes nuisance or adversely affects beneficial uses (Water Quality Control Plan for the San Francisco Bay Region).
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) - San Francisco Bay Region (Region 2)
Evaluation Guideline:	In freshwater sediments the probable effect concentration (predictive of sediment toxicity) for total PCB is 676 ug/Kg dry weight (MacDonald et al. 2000).
Guideline Reference:	Development and evaluation of consensus-based sediment quality guidelines for freshwater ecosystems. Environmental Contamination and Toxicology. 39: 20-31
Spatial Representation:	Data were collected at the following station 201WLK160 (Walker Creek Ranch).

Temporal Representation:	The samples were collected on 6/18/2008.
Environmental Conditions:	
QAPP Information:	The SWAMP QAPP (2008) was followed.
QAPP Information Reference(s):	Surface Water Ambient Monitoring Program Quality Assurance Program Plan

DECISION ID	66868	Region 2
Walker Creek		

Pollutant:	Permethrin
Final Listing Decision:	Do Not List on 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision:	New Decision
Revision Status	Revised
Impairment from Pollutant or Pollution:	Pollutant

Regional Board Staff Conclusion: This pollutant is being considered for placement on the CWA section 303(d) List under section 3.6 of the Listing Policy. Under section 3.6 at least two lines of evidence are necessary to assess listing status for pollutants in sediment, and pollutant concentrations in sediment must be associated with sediment toxicity to justify adding that pollutant to the CWA section 303(d) List.

Two lines of evidence are available in the administrative record to assess this pollutant. Zero of one samples exceed the guideline. Sediment toxicity data are not associated with this decision because they are not relevant to this decision because there is insufficient information based on sediment chemistry.

Based on the readily available data and information, the weight of evidence indicates that there is insufficient justification for placing this water segment-pollutant combination on the CWA section 303(d) List.

This conclusion is based on the staff findings that:

1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy.
2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy.
3. Zero of one samples exceed the guideline and this sample size is insufficient to determine beneficial use support, with the power and confidence of the Listing Policy. A minimum of 16 samples is needed to determine if a beneficial use is fully supported using table 3.1. Sediment toxicity data are not associated with this decision because the sediment chemistry data are insufficient.
4. Pursuant to section 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.

Regional Board Staff Decision Recommendation: After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be placed on the section 303(d) list. The readily available data and information is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating.

Line of Evidence (LOE) for Decision ID 66868, Permethrin	Region 2
Walker Creek	

LOE ID:	93490
Pollutant:	Permethrin, total
LOE Subgroup:	Pollutant-Sediment
Matrix:	Sediment
Fraction:	Total
Beneficial Use:	Warm Freshwater Habitat
Number of Samples:	1

Number of Exceedances:	0
Data and Information Type:	PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality:	Water Board staff assessed SWAMP data for Walker Creek to determine beneficial use support and results are as follows: 0 of 1 samples exceed the criterion for Permethrin, Total.
Data Reference:	Statewide Stream Pollution Trends Study 2008
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	San Francisco Bay Basin Water Quality Control Plan 2007: All waters shall be maintained free of toxic substances in concentrations which are toxic to, or which produce detrimental physiological responses in, human, plant, animal, or aquatic life.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	The evaluation guideline for permethrin is the median lethal concentration (LC50) of 8.9 ug/g and is normalized by the percentage of organic carbon in the sediment sample. The LC50 8.9 ug/g is the geometric mean of LC50 values for permethrin from Amweg et al. (2005).
Guideline Reference:	Use and Toxicity of Pyrethroid Pesticides in the Central Valley, California, USA. Environmental Toxicology and Chemistry, 24:966-972, with erratum 24:No. 5
Spatial Representation:	Data for this line of evidence for Walker Creek was collected at 1 monitoring site [Walker Creek Ranch station (201WLK160)]
Temporal Representation:	Data was collected on a single day 6/18/2008.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	SWAMP data collected before September 2008 followed the QAMP (2002), however there may have been overlap in QA with SWAMP QAPP (2008).
QAPP Information Reference(s):	Quality Assurance Management Plan for the State of California's Surface Water Ambient Monitoring Program. Sacramento, CA. State Water Resources Control Board. SWAMP. December 2002 (1st version) Surface Water Ambient Monitoring Program Quality Assurance Program Plan

Line of Evidence (LOE) for Decision ID 66868, Permethrin

Region 2

Walker Creek

LOE ID:	93491
Pollutant:	Permethrin, total
LOE Subgroup:	Pollutant-Sediment
Matrix:	Sediment
Fraction:	Total
Beneficial Use:	Cold Freshwater Habitat
Number of Samples:	1
Number of Exceedances:	0
Data and Information Type:	PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality:	Water Board staff assessed SWAMP data for Walker Creek to determine beneficial use support and results are as follows: 0 of 1 samples exceed the criterion for Permethrin, Total.
Data Reference:	Statewide Stream Pollution Trends Study 2008
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	San Francisco Bay Basin Water Quality Control Plan 2007: All waters shall be maintained free of toxic substances in concentrations which are toxic to, or which produce detrimental physiological responses in, human, plant, animal, or aquatic life.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	The evaluation guideline for permethrin is the median lethal concentration (LC50) of 8.9

ug/g and is normalized by the percentage of organic carbon in the sediment sample. The LC50 8.9 ug/g is the geometric mean of LC50 values for permethrin from Amweg et al. (2005).

Guideline Reference:

[Use and Toxicity of Pyrethroid Pesticides in the Central Valley, California, USA. Environmental Toxicology and Chemistry, 24:966-972, with erratum 24:No. 5](#)

Spatial Representation:

Data for this line of evidence for Walker Creek was collected at 1 monitoring site [Walker Creek Ranch station (201WLK160)]

Temporal Representation:

Data was collected on a single day 6/18/2008.

Environmental Conditions:

Staff is not aware of any special conditions that might affect interpretation of the data.

QAPP Information:

SWAMP data collected before September 2008 followed the QAMP (2002), however there may have been overlap in QA with SWAMP QAPP (2008).

QAPP Information Reference(s):

[Quality Assurance Management Plan for the State of California's Surface Water Ambient Monitoring Program, Sacramento, CA, State Water Resources Control Board, SWAMP, December 2002 \(1st version\)](#)
[Surface Water Ambient Monitoring Program Quality Assurance Program Plan](#)

DECISION ID

66870

Region 2

Walker Creek

Pollutant:

Zinc

Final Listing Decision:

Do Not List on 303(d) list (TMDL required list)

Last Listing Cycle's Final

New Decision

Listing Decision:

Revision Status

Revised

Impairment from Pollutant or

Pollutant

Pollution:

Regional Board Staff

Conclusion:

This pollutant is being considered for placement on the CWA section 303(d) List under section 3.6 of the Listing Policy. Under section 3.6 at least two lines of evidence are necessary to assess listing status for pollutants in sediment, and pollutant concentrations in sediment must be associated with sediment toxicity to justify adding that pollutant to the CWA section 303(d) List.

Two lines of evidence are available in the administrative record to assess this pollutant. Zero of one samples exceed the guideline. Sediment toxicity data are not associated with this decision because they are not relevant to this decision because there is insufficient information based on sediment chemistry.

Based on the readily available data and information, the weight of evidence indicates that there is insufficient justification for placing this water segment-pollutant combination on the CWA section 303(d) List.

This conclusion is based on the staff findings that:

1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy.
2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy.
3. Zero of one samples exceed the guideline and this sample size is insufficient to determine beneficial use support, with the power and confidence of the Listing Policy. A minimum of 16 samples is needed to determine if a beneficial use is fully supported using table 3.1. Sediment toxicity data are not associated with this decision because the sediment chemistry data are insufficient.
4. Pursuant to section 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.

Regional Board Staff Decision

Recommendation:

After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be placed on the section 303(d) list. The readily available data and information is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating.

Line of Evidence (LOE) for Decision ID 66870, Zinc

Region 2

Walker Creek

LOE ID:	93504
Pollutant:	Zinc
LOE Subgroup:	Pollutant-Sediment
Matrix:	Sediment
Fraction:	Total
Beneficial Use:	Cold Freshwater Habitat
Number of Samples:	1
Number of Exceedances:	0
Data and Information Type:	PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality:	Water Board staff assessed SWAMP data for Walker Creek to determine beneficial use support and results are as follows: 0 of 1 samples exceed the criterion for Zinc.
Data Reference:	Statewide Stream Pollution Trends Study 2008
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	San Francisco Bay Basin Water Quality Control Plan 2007: All waters shall be maintained free of toxic substances in concentrations which are toxic to, or which produce detrimental physiological responses in, human, plant, animal, or aquatic life.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	In freshwater sediments the probable effect concentration (predictive of sediment toxicity for sediment-dwelling organisms) for zinc is 459 mg/Kg dry weight (MacDonald et al. 2000).
Guideline Reference:	Development and evaluation of consensus-based sediment quality guidelines for freshwater ecosystems. Environmental Contamination and Toxicology. 39: 20-31
Spatial Representation:	Data for this line of evidence for Walker Creek was collected at 1 monitoring site [Walker Creek Ranch station (201WLK160)]
Temporal Representation:	Data was collected on a single day 6/18/2008.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	SWAMP data collected before September 2008 followed the QAMP (2002), however there may have been overlap in QA with SWAMP QAPP (2008).
QAPP Information Reference(s):	Quality Assurance Management Plan for the State of California's Surface Water Ambient Monitoring Program. Sacramento, CA. State Water Resources Control Board. SWAMP. December 2002 (1st version) Surface Water Ambient Monitoring Program Quality Assurance Program Plan

Line of Evidence (LOE) for Decision ID 66870, Zinc

Region 2

Walker Creek

LOE ID:	93503
Pollutant:	Zinc
LOE Subgroup:	Pollutant-Sediment
Matrix:	Sediment
Fraction:	Total
Beneficial Use:	Warm Freshwater Habitat
Number of Samples:	1
Number of Exceedances:	0
Data and Information Type:	PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality:	Water Board staff assessed SWAMP data for Walker Creek to determine beneficial use support and results are as follows: 0 of 1 samples exceed the criterion for Zinc.
Data Reference:	Statewide Stream Pollution Trends Study 2008

SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	San Francisco Bay Basin Water Quality Control Plan 2007: All waters shall be maintained free of toxic substances in concentrations which are toxic to, or which produce detrimental physiological responses in, human, plant, animal, or aquatic life.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	In freshwater sediments the probable effect concentration (predictive of sediment toxicity for sediment-dwelling organisms) for zinc is 459 mg/Kg dry weight (MacDonald et al. 2000).
Guideline Reference:	Development and evaluation of consensus-based sediment quality guidelines for freshwater ecosystems. Environmental Contamination and Toxicology. 39: 20-31
Spatial Representation:	Data for this line of evidence for Walker Creek was collected at 1 monitoring site [Walker Creek Ranch station (201WLK160)]
Temporal Representation:	Data was collected on a single day 6/18/2008.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	SWAMP data collected before September 2008 followed the QAMP (2002), however there may have been overlap in QA with SWAMP QAPP (2008).
QAPP Information Reference(s):	Quality Assurance Management Plan for the State of California's Surface Water Ambient Monitoring Program. Sacramento, CA. State Water Resources Control Board. SWAMP. December 2002 (1st version) Surface Water Ambient Monitoring Program Quality Assurance Program Plan

DECISION ID	43738	Region 2
Walker Creek		

Pollutant:	Alkalinity as CaCO3
Final Listing Decision:	Do Not List on 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision:	Do Not List on 303(d) list (TMDL required list)(2012)
Revision Status	Original
Impairment from Pollutant or Pollution:	Pollutant
Regional Board Staff Conclusion:	This pollutant is being considered for placement on the section 303(d) list under section 3.2 of the Listing Policy. Under section 3.2 a single line of evidence is necessary to assess listing status. One line of evidence is available in the administrative record to assess this pollutant. None of the samples exceed the water quality objective. Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against placing this water segment-pollutant combination on the section 303(d) list in the Water Quality Limited Segments category. This conclusion is based on the staff findings that: 1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy. 2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy. 3. None of ten samples exceeded the water quality objective and this does not exceed the allowable frequency listed in Table 3.2 of the Listing Policy. 4. Pursuant to section 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.
Regional Board Staff Decision Recommendation:	This is a decision previously approved by the State Water Resources Control Board and the USEPA. No new data were assessed by the Regional Board for the current. The decision has not changed.

Line of Evidence (LOE) for Decision ID 43738, Alkalinity as CaCO3	Region 2
Walker Creek	

LOE ID:	29283
Pollutant:	Alkalinity as CaCO3
LOE Subgroup:	Pollutant-Water

Matrix:	Water
Fraction:	None
Beneficial Use:	Cold Freshwater Habitat
Number of Samples:	10
Number of Exceedances:	0
Data and Information Type:	PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality:	Ten water column samples were assessed. None of the samples exceeded the objectives.
Data Reference:	Water Quality Monitoring and Bioassessment in Nine San Francisco Bay Region Watersheds: Walker Creek, Lagunitas Creek, San Leandro Creek, Wildcat Creek/San Pablo Creek, Suisun Creek, Arroyo Las Positas, Pescadero Creek/Butano Creek, San Gregorio Creek, and Stevens Creek/Permanente Creek, Oakland, CA: Surface Water Ambient Monitoring Program, San Francisco Bay Regional Water Quality Control Board
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	Surface waters shall not contain concentrations of chemical constituents in amounts that adversely affect any designated beneficial use.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) - San Francisco Bay Region (Region 2)
Evaluation Guideline:	National Recommendations for Water Quality Criteria, Gold Book, USEPA,1986. Alakalinity standard at 20000 ug/L (chronic).
Guideline Reference:	Quality Criteria for Water 1986, United States Environmental Protection Agency, Office of Water, Regulations and Standards, Washington D.C. EPA 440/5-86-001.
Spatial Representation:	Samples were taken from four monitoring locations (201WLK030, 201WLK090, 201WLK100, and 201WLK140).
Temporal Representation:	Samples were taken from dry, spring and wet seasons.
Environmental Conditions:	
QAPP Information:	The QA/QC was in compliance with SWAMP's Quality Assurance Management Plan (QAMP).
QAPP Information Reference(s):	Quality Assurance Management Plan for the State of California's Surface Water Ambient Monitoring Program, Sacramento, CA, State Water Resources Control Board, SWAMP, December 2002 (1st version)

DECISION ID	44097	Region 2
Walker Creek		
Pollutant:	Ammonia (Unionized) Nitrogen, ammonia (Total Ammonia)	
Final Listing Decision:	Do Not List on 303(d) list (TMDL required list)	
Last Listing Cycle's Final Listing Decision:	Do Not List on 303(d) list (TMDL required list)(2012)	
Revision Status	Original	
Impairment from Pollutant or Pollution:	Pollutant	
Regional Board Staff Conclusion:	<p>This pollutant is being considered for placement on the section 303(d) list under section 3.2 of the Listing Policy. Under section 3.2 a single line of evidence is necessary to assess listing status. One line of evidence is available in the administrative record to assess this pollutant. None of the samples exceed the water quality objective. Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against placing this water segment-pollutant combination on the section 303(d) list in the Water Quality Limited Segments category. This conclusion is based on the staff findings that: 1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy. 2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy. 3. None of ten samples exceeded the water quality objective and this does not exceed the allowable frequency listed in Table 3.2 of the Listing Policy. 4. Pursuant to section 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.</p>	

Regional Board Staff Decision Recommendation: This is a decision previously approved by the State Water Resources Control Board and the USEPA. No new data were assessed by the Regional Board for the current. The decision has not changed.

Line of Evidence (LOE) for Decision ID 44097, Multiple Pollutants

Region 2

Walker Creek

LOE ID: 28054

Pollutant: Ammonia (Unionized) | Nitrogen, ammonia (Total Ammonia)

LOE Subgroup: Pollutant-Water

Matrix: Water

Fraction: None

Beneficial Use: Cold Freshwater Habitat

Number of Samples: 10

Number of Exceedances: 0

Data and Information Type: PHYSICAL/CHEMICAL MONITORING

Data Used to Assess Water Quality: Ten water samples were assessed for total ammonia and un-ionized ammonia. None of them exceeded the evaluation criteria.

Data Reference: [Water Quality Monitoring and Bioassessment in Nine San Francisco Bay Region Watersheds: Walker Creek, Lagunitas Creek, San Leandro Creek, Wildcat Creek/San Pablo Creek, Suisun Creek, Arroyo Las Positas, Pescadero Creek/Butano Creek, San Gregorio Creek, and Stevens Creek/Permanente Creek. Oakland, CA: Surface Water Ambient Monitoring Program, San Francisco Bay Regional Water Quality Control Board](#)

SWAMP Data: SWAMP

Water Quality Objective/Criterion: All waters shall be maintained free of toxic substances in concentrations that produce detrimental physiological responses in human, plant, animal, or aquatic life.

Objective/Criterion Reference: [The discharge of wastes shall not cause receiving water to contain concentrations of un-ionized ammonia in excess of 0.025mg/l annual median. Water Quality Control Plan \(Basin Plan\) - San Francisco Bay Region \(Region 2\)](#)

Evaluation Guideline: For Total Ammonia: EPA's Lifetime Health advisory level for total ammonia is 30.0 mg/L as stated on page 8 of the 2006 edition of the drinking water standards and health advisories. This Advisory Level is defined as "the concentration of a chemical in drinking water that is not expected to cause any adverse noncarcinogenic effects for up to ten days of exposure."

Guideline Reference: [2006 edition of the drinking water standards and health advisories. EPA 822-R-03-013](#)

Spatial Representation: Four monitoring locations (WLK030, WLK090, WLK100, and WLK140) were sampled for ammonia.

Temporal Representation: Samples were collected from three seasons: dry, spring and wet.

Environmental Conditions:

QAPP Information: The QA was in compliance with SWAMP Quality Assurance Management Plan.

QAPP Information Reference(s):

DECISION ID

44352

Region 2

Walker Creek

Pollutant: Anthracene | Benzo(a)anthracene | Benzo(a)pyrene (3,4-Benzopyrene -7-d) | Chlordane | Chrysene (C1-C4) | DDD (Dichlorodiphenyldichloroethane) | DDE (Dichlorodiphenyldichloroethylene) | DDT (Dichlorodiphenyltrichloroethane) | Dieldrin | Endrin | Fluoranthene | Fluorene | Heptachlor epoxide | Lindane/gamma Hexachlorocyclohexane (gamma-HCH) | Naphthalene | PAHs (Polycyclic Aromatic Hydrocarbons) | PCBs (Polychlorinated biphenyls) | Phenanthrene | Pyrene

Final Listing Decision:	Do Not List on 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision:	Do Not List on 303(d) list (TMDL required list)(2012)
Revision Status	Original
Impairment from Pollutant or Pollution:	Pollutant

Regional Board Staff Conclusion: These pollutants are being considered for placement on the section 303(d) list under section 3.1 of the Listing Policy. Under this section a single line of evidence is necessary to assess listing status. One line of evidence is available in the administrative record to assess this pollutant. Zero samples exceed the water quality objective. Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against placing this water segment-pollutant combination on the section 303(d) list in the Water Quality Limited Segments category. This conclusion is based on the staff findings that: 1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy. 2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy. 3. Zero of one sample exceeded the water quality objective, but this sample size is insufficient to determine with the power and confidence of the Listing Policy if standards are not met. A minimum of two samples are needed for application of table 3.1. 4. Pursuant to section 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.

Regional Board Staff Decision Recommendation: This is a decision previously approved by the State Water Resources Control Board and the USEPA. No new data were assessed by the Regional Board for the current. The decision has not changed.

Line of Evidence (LOE) for Decision ID 44352, Multiple Pollutants

Region 2

Walker Creek

LOE ID:	28514
Pollutant:	Anthracene Benzo(a)anthracene Benzo(a)pyrene (3,4-Benzopyrene -7-d) Chlordane Chrysene (C1-C4) DDD (Dichlorodiphenyldichloroethane) DDE (Dichlorodiphenyldichloroethylene) DDT (Dichlorodiphenyltrichloroethane) Dieldrin Endrin Fluoranthene Fluorene Heptachlor epoxide Lindane/gamma Hexachlorocyclohexane (gamma-HCH) Naphthalene PAHs (Polycyclic Aromatic Hydrocarbons) PCBs (Polychlorinated biphenyls) Phenanthrene Pyrene
LOE Subgroup:	Pollutant-Sediment
Matrix:	Sediment
Fraction:	None
Beneficial Use:	Cold Freshwater Habitat
Number of Samples:	1
Number of Exceedances:	0
Data and Information Type:	PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality:	Concentrations of anthracene, fluorene, naphthalene, phenanthrene, benz(a)anthracene, benzo(a)pyrene, chrysene, fluoranthrene, pyrene, PAH (total), PCB (total), chlordane, dieldrin, DDD/DDE/DDT, endrin, heptachlor epoxide, and HCH, gamma in one sediment sample collected in spring 2005 did not exceed the sediment quality guidelines.
Data Reference:	Water Quality Monitoring and Bioassessment in Nine San Francisco Bay Region Watersheds: Walker Creek, Lagunitas Creek, San Leandro Creek, Wildcat Creek/San Pablo Creek, Suisun Creek, Arroyo Las Positas, Pescadero Creek/Butano Creek, San Gregorio Creek, and Stevens Creek/Permanente Creek. Oakland, CA: Surface Water Ambient Monitoring Program, San Francisco Bay Regional Water Quality Control Board
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	All waters shall be maintained free of toxic substances that are lethal to or that produce other detrimental responses in aquatic organisms.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) - San Francisco Bay Region (Region 2)

Evaluation Guideline:	Sediment Quality Guidelines (MacDonald et al., 2000): PEC (probable effect concentration) Anthracene - 845 ug/kg; Fluorene - 536 ug/kg; Naphthalene - 561 ug/kg; Phenanthrene - 1170 ug/kg; Benz(a)anthracene - 1050 ug/kg; Benzo(a)pyrene - 1450 ug/kg; Chrysene - 1290 ug/kg; Fluoranthene - 2230 ug/kg; Pyrene - 1520 ug/kg; PAH (total) - 22800 ug/kg; PCB (total) - 676 ug/kg; Chlordane - 17.6 ug/kg; Dieldrin - 61.8 ug/kg; DDD (sum op + pp) - 28 ug/kg; DDE (sum op + pp) - 31.3 ug/kg; DDT (sum op + pp) - 62.9 ug/kg; DDT (total) - 572 ug/kg; Endrin - 207 ug/kg; Heptachlor epoxide - 16 ug/kg; HCH, gamma - 4.99 ug/kg.
Guideline Reference:	Development and evaluation of consensus-based sediment quality guidelines for freshwater ecosystems. Environmental Contamination and Toxicology. 39: 20-31
Spatial Representation:	One sediment sample was collected from "watershed integrator" site on Walker Creek.
Temporal Representation:	Sediment sample was collected in October of 2001.
Environmental Conditions:	
QAPP Information:	All samples were collected and analyzed using procedures comparable with the SWAMP Quality Assurance Management Plan (SWRCB, 2002).
QAPP Information Reference(s):	

DECISION ID	44353	Region 2
Walker Creek		

Pollutant:	Arsenic Cadmium Copper Lead Mercury Zinc
Final Listing Decision:	Do Not List on 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision:	Do Not List on 303(d) list (TMDL required list)(2012)
Revision Status	Original
Impairment from Pollutant or Pollution:	Pollutant

Regional Board Staff Conclusion:	These pollutants are being considered for placement on the section 303(d) list under section 3.1 of the Listing Policy. Under this section a single line of evidence is necessary to assess listing status. One line of evidence is available in the administrative record to assess these pollutants. Zero samples exceed the water quality objective. Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against placing this water segment-pollutant combination on the section 303(d) list in the Water Quality Limited Segments category. This conclusion is based on the staff findings that: 1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy. 2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy. 3. Zero of one sample exceeded the water quality objective, but this sample size is insufficient to determine with the power and confidence of the Listing Policy if standards are not met. A minimum of two samples are needed for application of table 3.1. 4. Pursuant to section 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.
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Regional Board Staff Decision Recommendation:	This is a decision previously approved by the State Water Resources Control Board and the USEPA. No new data were assessed by the Regional Board for the current. The decision has not changed.
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Line of Evidence (LOE) for Decision ID 44353, Multiple Pollutants	Region 2
Walker Creek	

LOE ID:	28662
Pollutant:	Arsenic Cadmium Copper Lead Mercury Zinc
LOE Subgroup:	Pollutant-Sediment
Matrix:	Sediment
Fraction:	Total
Beneficial Use:	Cold Freshwater Habitat
Number of Samples:	1

Number of Exceedances:	0
Data and Information Type:	PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality:	Concentrations of arsenic, cadmium, copper, lead, mercury and zinc in one sediment sample collected in October 2001 did not exceed the sediment quality guidelines.
Data Reference:	Water Quality Monitoring and Bioassessment in Nine San Francisco Bay Region Watersheds: Walker Creek, Lagunitas Creek, San Leandro Creek, Wildcat Creek/San Pablo Creek, Suisun Creek, Arroyo Las Positas, Pescadero Creek/Butano Creek, San Gregorio Creek, and Stevens Creek/Permanente Creek. Oakland, CA: Surface Water Ambient Monitoring Program, San Francisco Bay Regional Water Quality Control Board
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	All waters shall be maintained free of toxic substances that are lethal to or that produce other detrimental responses in aquatic organisms.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) - San Francisco Bay Region (Region 2)
Evaluation Guideline:	Sediment Quality Guidelines (MacDonald et al., 2000): PEC (probable effect concentration) arsenic - 33 mg/kg dw; cadmium - 4.98 mg/kg dw; chromium - 111 mg/kg dw; copper - 149 mg/kg dw; lead - 128 mg/kg dw; mercury - 1.06 mg/kg dw; nickel - 48.6 mg/kg dw; zinc - 459 mg/kg dw.
Guideline Reference:	Development and evaluation of consensus-based sediment quality guidelines for freshwater ecosystems. Environmental Contamination and Toxicology. 39: 20-31
Spatial Representation:	One sediment sample was collected at a "watershed integrator" site located close to the mouth of Walker Creek.
Temporal Representation:	Sediment sample was collected in October of 2001.
Environmental Conditions:	
QAPP Information:	All samples were collected and analyzed using procedures comparable with the SWAMP Quality Assurance Management Plan (SWRCB, 2002).
QAPP Information Reference(s):	

DECISION ID	43977	Region 2
Walker Creek		
Pollutant:	Oxygen, Dissolved	
Final Listing Decision:	Do Not List on 303(d) list (TMDL required list)	
Last Listing Cycle's Final Listing Decision:	Do Not List on 303(d) list (TMDL required list)(2012)	
Revision Status	Original	
Impairment from Pollutant or Pollution:	Pollutant	
Regional Board Staff Conclusion:	This pollutant is being considered for placement on the section 303(d) list under section 3.2 of the Listing Policy. Under section 3.2 a single line of evidence is necessary to assess listing status. Two lines of evidence are available in the administrative record to assess this pollutant. None of the samples exceed the water quality objective. Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against placing this water segment-pollutant combination on the section 303(d) list in the Water Quality Limited Segments category. This conclusion is based on the staff findings that: 1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy. 2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy. 3. None of nine samples exceeded the water quality objective and this does not exceed the allowable frequency listed in Table 3.2 of the Listing Policy. 4. Pursuant to section 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.	
Regional Board Staff Decision Recommendation:	This is a decision previously approved by the State Water Resources Control Board and the USEPA. No new data were assessed by the Regional Board for the current. The decision has not changed.	
Line of Evidence (LOE) for Decision ID 43977, Oxygen, Dissolved		Region 2

Walker Creek

LOE ID:	29013
Pollutant:	Oxygen, Dissolved
LOE Subgroup:	Pollutant-Water
Matrix:	Water
Fraction:	None
Beneficial Use:	Cold Freshwater Habitat
Number of Samples:	9
Number of Exceedances:	0
Data and Information Type:	PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality:	Comprehensive water quality assessment was conducted at Walker Creek watershed as part of SWAMP assessment in 2002. Continuous field monitoring of temperature, dissolved oxygen, pH, and specific conductance to determine temporal variability in basic water quality at two or three locations. The 7-day average minimum concentration of dissolved oxygen was computed for 5 out of 9 deployments. The values ranged from 8.08 to 10.75 mg/L and did not fall below the 7.0 mg/L minimum. The length of monitoring in the remaining 4 deployments was shorter than 7 days.
Data Reference:	Water Quality Monitoring and Bioassessment in Nine San Francisco Bay Region Watersheds: Walker Creek, Lagunitas Creek, San Leandro Creek, Wildcat Creek/San Pablo Creek, Suisun Creek, Arroyo Las Positas, Pescadero Creek/Butano Creek, San Gregorio Creek, and Stevens Creek/Permanente Creek. Oakland, CA: Surface Water Ambient Monitoring Program, San Francisco Bay Regional Water Quality Control Board
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	The numeric water quality objective for dissolved oxygen is 7.0 mg/L minimum for waters designated as cold water habitat. The median dissolved oxygen concentration for any three consecutive months shall not be less than 80 percent of the dissolved oxygen content at saturation.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) - San Francisco Bay Region (Region 2)
Evaluation Guideline:	
Guideline Reference:	
Spatial Representation:	Dissolved oxygen was measured at two to four sites throughout the watershed.
Temporal Representation:	At all locations the SWAMP performed continuous monitoring of dissolved oxygen at 15 minute intervals lasting 5 to 14 days during spring, two dry seasons, and winter wet season throughout 2002.
Environmental Conditions:	
QAPP Information:	All samples were collected and analyzed using procedures comparable with the SWAMP Quality Assurance Management Plan (SWRCB 2002).
QAPP Information Reference(s):	Quality Assurance Management Plan for the State of California's Surface Water Ambient Monitoring Program, Sacramento, CA. State Water Resources Control Board. SWAMP. December 2002 (1st version)

Line of Evidence (LOE) for Decision ID 43977, Oxygen, Dissolved Walker Creek

Region 2

LOE ID:	29012
Pollutant:	Oxygen, Dissolved
LOE Subgroup:	Pollutant-Water
Matrix:	Water
Fraction:	None
Beneficial Use:	Warm Freshwater Habitat

Number of Samples:	9
Number of Exceedances:	0
Data and Information Type:	PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality:	Comprehensive water quality assessment was conducted at Walker Creek watershed as part of SWAMP assessment in 2002. Continuous field monitoring of temperature, dissolved oxygen, pH, and specific conductance to determine temporal variability in basic water quality at two or three locations. The 7-day average minimum concentration of dissolved oxygen was computed for 5 out of 9 deployments. The values ranged from 8.08 to 10.75 mg/L and did not fall below the 5.0 mg/L minimum. The length of monitoring in the remaining 4 deployments was shorter than 7 days.
Data Reference:	Water Quality Monitoring and Bioassessment in Nine San Francisco Bay Region Watersheds: Walker Creek, Lagunitas Creek, San Leandro Creek, Wildcat Creek/San Pablo Creek, Suisun Creek, Arroyo Las Positas, Pescadero Creek/Butano Creek, San Gregorio Creek, and Stevens Creek/Permanente Creek, Oakland, CA: Surface Water Ambient Monitoring Program, San Francisco Bay Regional Water Quality Control Board
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	The numeric water quality objective for dissolved oxygen is 5.0 mg/L minimum for waters designated as warm water habitat. The median dissolved oxygen concentration for any three consecutive months shall not be less than 80 percent of the dissolved oxygen content at saturation.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) - San Francisco Bay Region (Region 2)
Evaluation Guideline:	
Guideline Reference:	
Spatial Representation:	Dissolved oxygen was measured at two or three sites per season located throughout the Walker Creek watershed.
Temporal Representation:	At all locations the SWAMP performed continuous monitoring of dissolved oxygen at 15 minute intervals lasting 5 to 14 days during spring, two dry seasons, and winter wet season throughout 2002.
Environmental Conditions:	
QAPP Information:	All samples were collected and analyzed using procedures comparable with the SWAMP Quality Assurance Management Plan (SWRCB 2002).
QAPP Information Reference(s):	Quality Assurance Management Plan for the State of California's Surface Water Ambient Monitoring Program, Sacramento, CA, State Water Resources Control Board, SWAMP, December 2002 (1st version)

DECISION ID	36416	Region 2
Walker Creek		
Pollutant:	Temperature, water	
Final Listing Decision:	Do Not List on 303(d) list (TMDL required list)	
Last Listing Cycle's Final Listing Decision:	Do Not List on 303(d) list (TMDL required list)(2012)	
Revision Status	Original	
Impairment from Pollutant or Pollution:	Pollutant	
Regional Board Staff Conclusion:	One line of evidence are available in the administrative record to assess this water body. Based on the readily available data for this water body, the weight of evidence indicates that there is sufficient justification against placing this water segment-pollutant combination on the section 303(d) list in the Water Quality Limited Segments category. This conclusion is based on the staff findings that: 1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy. 2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy. 3. Temperature measurements at 7 continuous deployments exceeded the applicable water quality objectives for waters designated as cold water habitat on only two occasions and this does not exceed the allowable frequency listed in Table 3.2 of the Listing Policy. 4. Pursuant to section 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.	

Regional Board Staff Decision Recommendation: This is a decision previously approved by the State Water Resources Control Board and the USEPA. No new data were assessed by the Regional Board for the current. The decision has not changed.

**Line of Evidence (LOE) for Decision ID 36416, Temperature, water
Walker Creek**

Region 2

LOE ID: 8768

Pollutant: Temperature, water
LOE Subgroup: Pollutant-Water
Matrix: Water
Fraction: None

Beneficial Use: Cold Freshwater Habitat

Number of Samples: 7
Number of Exceedances: 2

Data and Information Type: PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality: Water quality assessment was conducted at the Walker Creek Creek watershed as part of SWAMP study in Winter 2001, and Spring 2002. Continuous field monitoring at 15 minute increments of temperature, dissolved oxygen, pH and specific conductance was conducted to determine temporal variability in basic water quality at 5 locations.

The 14.8 °C criterion for coho salmon was exceeded in 2 out of 7 continuous temperature deployments during the dry summer season at the downstream reach of the creek. The 17 °C criterion for steelhead was never exceeded.

Data Reference: [Water Quality Monitoring and Bioassessment in Nine San Francisco Bay Region Watersheds: Walker Creek, Lagunitas Creek, San Leandro Creek, Wildcat Creek/San Pablo Creek, Suisun Creek, Arroyo Las Positas, Pescadero Creek/Butano Creek, San Gregorio Creek, and Stevens Creek/Permanente Creek, Oakland, CA: Surface Water Ambient Monitoring Program, San Francisco Bay Regional Water Quality Control Board Data collected by the Surface Water Ambient Monitoring Program, San Francisco Bay Regional Water Quality Control Board. Years 4 and 5 Assessment](#)

SWAMP Data: SWAMP

Water Quality Objective/Criterion: Temperature objectives for enclosed bays and estuaries are specified in the "Water Quality Control Plan for Control of Temperature in the Coastal and Interstate Waters and Enclosed Bays of California" including any revisions to the plan. In addition, the following temperature objectives apply to surface waters: The natural receiving water temperature of intrastate waters shall not be altered unless it can be demonstrated to the satisfaction of the Regional Water Board that such alteration in temperature does not adversely affect beneficial uses.
The temperature of any cold or warm freshwater habitat shall not be increased by more than 5°F (2.8°C) above natural receiving water temperature.

Objective/Criterion Reference: [Water Quality Control Plan \(Basin Plan\) - San Francisco Bay Region \(Region 2\)](#)

Evaluation Guideline: Sullivan et al. (2000) reviewed a wide range of studies incorporating information from laboratory-based research, field observations, and risk assessment approaches and developed criteria for assessing temperature risk to aquatic life. The 7-day mean temperature (maximum value of the 7-day moving average of the daily mean temperature) of 14.8°C was established as the upper threshold criterion for coho salmon and 17.0°C for steelhead trout. The risk assessment approach used by Sullivan et al. (2000) suggests that temperatures exceeding the above thresholds will cause 10% reduction in average growth compared to optimal conditions.

Guideline Reference: [An Analysis of the Effects of Temperature on Salmonids of the Pacific Northwest with Implications for Selecting Temperature Criteria](#)

Spatial Representation: There were 5 locations on Walker Creek ranging from lower to upper watershed regions.

Temporal Representation:	Continuous deployments with 15 minute increment sampling in Winter 2001 and Spring 2002.
Environmental Conditions:	The Walker Creek watershed has a drainage area of 73 square miles, mostly in northwestern Marin County, with a small portion in Sonoma County. Significant tributaries to Walker Creek include Keys Creek (also known as Keyes), which flows through the gentle hills east of Tomales, joining Walker Creek near Tomales Bay; Chileno Creek, which flows through Chileno Valley; and, in the upper watershed, Salmon Creek and Arroyo Sausal Creek, which flow through Hicks Valley. Frink and Verde Canyons each support ephemeral streams that join Walker Creek upstream from Chileno Creek. Soulajule Reservoir impounds the 15 square mile drainage of Arroyo Sausal.
QAPP Information:	All samples were collected and analyzed using procedures comparable with the SWAMP Quality Assurance Management Plan (SWRCB 2002).
QAPP Information Reference(s):	Quality Assurance Management Plan for the State of California's Surface Water Ambient Monitoring Program. Sacramento, CA. State Water Resources Control Board. SWAMP. December 2002 (1st version)

DECISION ID	43784	Region 2
Walker Creek		

Pollutant:	Toxicity
Final Listing Decision:	Do Not List on 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision:	Do Not List on 303(d) list (TMDL required list)(2012)
Revision Status	Original
Impairment from Pollutant or Pollution:	Pollutant

Regional Board Staff Conclusion:	This pollutant is being considered for placement on the section 303(d) list under section 3.6 of the Listing Policy. Under this section a single line of evidence is necessary to assess listing status. One line of evidence is available in the administrative record to assess this pollutant. Zero samples exceed the water quality objective. Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against placing this water segment-pollutant combination on the section 303(d) list in the Water Quality Limited Segments category. This conclusion is based on the staff findings that: 1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy. 2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy. 3. Zero of one sample exceeded the water quality objective, but this sample size is insufficient to determine with the power and confidence of the Listing Policy if standards are not met. A minimum of two samples are needed for application of table 3.1. 4. Pursuant to section 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.
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Regional Board Staff Decision Recommendation:	This is a decision previously approved by the State Water Resources Control Board and the USEPA. No new data were assessed by the Regional Board for the current. The decision has not changed.
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Line of Evidence (LOE) for Decision ID 43784, Toxicity	Region 2
Walker Creek	

LOE ID:	28835
Pollutant:	Sediment Toxicity
LOE Subgroup:	Pollutant-Sediment
Matrix:	Sediment
Fraction:	None
Beneficial Use:	Cold Freshwater Habitat

Number of Samples:	1
Number of Exceedances:	0
Data and Information Type:	Toxicity testing of sediments
Data Used to Assess Water Quality:	Data used to evaluate sediment toxicity comprise one sediment sample collected by the SWAMP in 2001. No toxicity or adverse effects were exhibited for <i>Hyalella azteca</i> .
Data Reference:	Water Quality Monitoring and Bioassessment in Nine San Francisco Bay Region Watersheds: Walker Creek, Lagunitas Creek, San Leandro Creek, Wildcat Creek/San Pablo Creek, Suisun Creek, Arroyo Las Positas, Pescadero Creek/Butano Creek, San Gregorio Creek, and Stevens Creek/Permanente Creek, Oakland, CA: Surface Water Ambient Monitoring Program, San Francisco Bay Regional Water Quality Control Board
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	All waters shall be maintained free of toxic substances that are lethal to or that produce other detrimental responses in aquatic organisms. There shall be no chronic toxicity in ambient waters. Chronic toxicity is a detrimental biological effect on growth rate, reproduction, fertilization success, larval development, population abundance, community composition, or any other relevant measure of the health of an organism, population, or community.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) - San Francisco Bay Region (Region 2)
Evaluation Guideline:	Sediment toxicity was evaluated according to the SWAMP methodology. Sample toxicity was determined by comparing mean organism response in samples and in negative controls. Statistical evaluation ($\alpha = 0.05$) and a default threshold of 80% of the control value were used to establish whether the sediment exhibited significant toxicity adversely impacting aquatic organisms.
Guideline Reference:	Revised approach to toxicity test acceptability criteria using a statistical performance assessment. Environmental Toxicology and Chemistry, vol. 16, No. 6, pp 1322?1329
Spatial Representation:	One sediment sample was collected at a "watershed integrator" site located close to the mouth of Walker Creek.
Temporal Representation:	Sample was collected in 2001.
Environmental Conditions:	
QAPP Information:	Samples were collected and analyzed using procedures comparable with the SWAMP Quality Assurance Management Plan (SWRCB 2002).
QAPP Information Reference(s):	Quality Assurance Management Plan for the State of California's Surface Water Ambient Monitoring Program, Sacramento, CA, State Water Resources Control Board, SWAMP, December 2002 (1st version)

DECISION ID	43887	Region 2
Walker Creek		
Pollutant:	pH	
Final Listing Decision:	Do Not List on 303(d) list (TMDL required list)	
Last Listing Cycle's Final Listing Decision:	Do Not List on 303(d) list (TMDL required list)(2012)	
Revision Status	Original	
Impairment from Pollutant or Pollution:	Pollutant	
Regional Board Staff Conclusion:	This pollutant is being considered for placement on the section 303(d) list under section 3.2 of the Listing Policy. Under section 3.2 a single line of evidence is necessary to assess listing status. One line of evidence is available in the administrative record to assess this pollutant. Two of the samples exceed the water quality objective. Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against placing this water segment-pollutant combination on the section 303(d) list in the Water Quality Limited Segments category. This conclusion is based on the staff findings that: 1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy. 2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy. 3. Two of eleven samples exceeded the water quality objective and this does not exceed the allowable frequency listed in Table 3.2 of the Listing Policy. 4. Pursuant to	

section 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.

Regional Board Staff Decision Recommendation: This is a decision previously approved by the State Water Resources Control Board and the USEPA. No new data were assessed by the Regional Board for the current. The decision has not changed.

Line of Evidence (LOE) for Decision ID 43887, pH

Region 2

Walker Creek

LOE ID: 29008

Pollutant: pH
LOE Subgroup: Pollutant-Water
Matrix: Water
Fraction: None

Beneficial Use: Cold Freshwater Habitat

Number of Samples: 11
Number of Exceedances: 2

Data and Information Type: PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality: Water quality assessment was conducted at the Walker Creek watershed as part of SWAMP study in 2002. Continuous field monitoring at 15 minute increments of temperature, dissolved oxygen, pH and specific conductance was conducted to determine temporal variability in basic water quality at between two and four sites. Continuous monitoring sondes were deployed 11 times at 2 to 4 monitoring locations during wet, spring and two dry seasons. The pH ranged from 6.63 to 9.07. The pH exceeded the threshold of 8.5 in two out of 11 deployments.

Data Reference: [Water Quality Monitoring and Bioassessment in Nine San Francisco Bay Region Watersheds: Walker Creek, Lagunitas Creek, San Leandro Creek, Wildcat Creek/San Pablo Creek, Suisun Creek, Arroyo Las Positas, Pescadero Creek/Butano Creek, San Gregorio Creek, and Stevens Creek/Permanente Creek, Oakland, CA: Surface Water Ambient Monitoring Program, San Francisco Bay Regional Water Quality Control Board](#)

SWAMP Data: SWAMP

Water Quality Objective/Criterion: The pH shall not be depressed below 6.5 nor raised above 8.5. This encompasses the pH range usually found in waters within the basin. Controllable water quality factors shall not cause changes greater than 0.5 units in normal ambient pH levels.

Objective/Criterion Reference: [Water Quality Control Plan \(Basin Plan\) - San Francisco Bay Region \(Region 2\)](#)

Evaluation Guideline:
Guideline Reference:

Spatial Representation: pH was measured at between two and four sites located throughout the Walker Creek watershed.

Temporal Representation: In 2002 the SWAMP Program performed continuous monitoring of pH at 15 minute intervals for periods of 5 to 14 days in each of four times: winter (2 sites), spring (3 sites), and two summer dry season (2 and 4 sites).

Environmental Conditions:
QAPP Information: All samples were collected and analyzed using procedures comparable with the SWAMP Quality Assurance Management Plan (SWRCB, 2002).

QAPP Information Reference(s): [Quality Assurance Management Plan for the State of California's Surface Water Ambient Monitoring Program, Sacramento, CA, State Water Resources Control Board, SWAMP, December 2002 \(1st version\)](#)

DECISION ID 32786

Region 2

Walker Creek

Pollutant:	Nutrients
Final Listing Decision:	List on 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision:	List on 303(d) list (TMDL required list)(2012)
Revision Status	Original
Sources:	Source Unknown
Expected TMDL Completion Date:	2022
Impairment from Pollutant or Pollution:	Pollutant

Regional Board Staff Conclusion: 303(d) listing decisions made prior to 2006 were not held in an assessment database. The Regional Boards will update this decision when new data and information become available and are assessed.

Regional Board Staff Decision Recommendation: This is a decision previously approved by the State Water Resources Control Board and the USEPA. No new data were assessed by the Regional Board for the current. The decision has not changed.

Line of Evidence (LOE) for Decision ID 32786, Nutrients

Region 2

Walker Creek

LOE ID:	3715
Pollutant:	Nutrients
LOE Subgroup:	Pollutant-Water
Matrix:	Water
Fraction:	Not Recorded
Beneficial Use:	Warm Freshwater Habitat
Number of Samples:	0
Number of Exceedances:	0
Data and Information Type:	Not Specified
Data Used to Assess Water Quality:	Unspecified--This LOE is a placeholder to support a 303(d) listing decision made prior to 2006.
Data Reference:	Placeholder reference pre-2006 303(d)
SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	Unspecified
Objective/Criterion Reference:	Placeholder reference pre-2006 303(d)
Evaluation Guideline:	Unspecified
Guideline Reference:	Placeholder reference pre-2006 303(d)
Spatial Representation:	Unspecified
Temporal Representation:	Unspecified
Environmental Conditions:	Unspecified
QAPP Information:	Unspecified
QAPP Information Reference(s):	

DECISION ID 32787

Region 2

Walker Creek

Pollutant:	Sedimentation/Siltation
Final Listing Decision:	List on 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision:	List on 303(d) list (TMDL required list)(2012)

Revision Status	Original
Sources:	Source Unknown
Expected TMDL Completion Date:	2013
Impairment from Pollutant or Pollution:	Pollutant

Regional Board Staff Conclusion:	303(d) listing decisions made prior to 2006 were not held in an assessment database. The Regional Boards will update this decision when new data and information become available and are assessed.
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Regional Board Staff Decision Recommendation:	This is a decision previously approved by the State Water Resources Control Board and the USEPA. No new data were assessed by the Regional Board for the current. The decision has not changed.
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Line of Evidence (LOE) for Decision ID 32787, Sedimentation/Siltation

Region 2

Walker Creek

LOE ID:	3716
Pollutant:	Sedimentation/Siltation
LOE Subgroup:	Pollutant-Water
Matrix:	Water
Fraction:	Not Recorded
Beneficial Use:	Cold Freshwater Habitat
Number of Samples:	0
Number of Exceedances:	0
Data and Information Type:	Not Specified
Data Used to Assess Water Quality:	Unspecified--This LOE is a placeholder to support a 303(d) listing decision made prior to 2006.
Data Reference:	Placeholder reference pre-2006 303(d)
SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	
Objective/Criterion Reference:	
Evaluation Guideline:	
Guideline Reference:	
Spatial Representation:	Unspecified
Temporal Representation:	Unspecified
Environmental Conditions:	Unspecified
QAPP Information:	Unspecified
QAPP Information Reference(s):	

DECISION ID	34552
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Region 2

Walker Creek

Pollutant:	Pathogens
Final Listing Decision:	List on 303(d) list (being addressed by USEPA approved TMDL)
Last Listing Cycle's Final Listing Decision:	List on 303(d) list (being addressed by USEPA approved TMDL)(2012)
Revision Status	Original
Sources:	Source Unknown
TMDL Name:	Tomales Bay Pathogens
TMDL Project Code:	10
Date TMDL Approved by	01/10/2007

USEPA:
Impairment from Pollutant or Pollution: Pollutant

Regional Board Staff Conclusion: USEPA placed this waterbody-pollutant combination on the section 303(d) list (being addressed by USEPA approved TMDL) because the USEPA approved Tomales Bay Pathogen TMDL included this water body segment. The Tomales Bay Pathogen TMDL was approved by USEPA on 1/10/07.

Regional Board Staff Decision Recommendation: This is a decision previously approved by the State Water Resources Control Board and the USEPA. No new data were assessed by the Regional Board for the current. The decision has not changed.

Line of Evidence (LOE) for Decision ID 34552, Pathogens

Region 2

Walker Creek

LOE ID: 1766

Pollutant: Pathogens

LOE Subgroup: Narrative Description Data

Matrix: -N/A

Fraction: None

Beneficial Use: Shellfish Harvesting

Number of Samples: 0

Number of Exceedances: 0

Data and Information Type: Not Specified

Data Used to Assess Water Quality: In the USEPA final decision for the 2006 303(d) list added a Walker Creek-pathogens listing because the USEPA approved Tomales Bay TMDL includes Walker Creek. This is a placeholder LOE for this USEPA addition to the 303(d) list.

Data Reference: [Placeholder reference 2006 303\(d\)](#)

SWAMP Data: Non-SWAMP

Water Quality Objective/Criterion:
Objective/Criterion Reference:

Evaluation Guideline:
Guideline Reference:

Spatial Representation:

Temporal Representation:

Environmental Conditions:

QAPP Information: QA Info Missing

QAPP Information Reference(s):

Draft California 2016 Integrated Report (303(d) List/305(b) Report)

Supporting Information

Regional Board 2 - San Francisco Bay Region

Water Body Name: Lagunitas Creek
Water Body ID: CAR2011302019980928162224
Water Body Type: River & Stream

DECISION ID 34435 **Region 2**
Lagunitas Creek

Pollutant: Sedimentation/Siltation
Final Listing Decision: Do Not Delist from 303(d) list (being addressed with USEPA approved TMDL)
Last Listing Cycle's Final Listing Decision: List on 303(d) list (TMDL required list)(2012)
Revision Status Revised
Sources: Source Unknown
TMDL Name: Lagunitas Creek Sediment
TMDL Project Code: 71
Date TMDL Approved by USEPA: 03/11/2016
Impairment from Pollutant or Pollution: Pollutant

Regional Board Staff Conclusion: 303(d) listing decisions made prior to 2006 were not held in an assessment database. The Regional Boards will update this decision when new data and information become available and are assessed.

Regional Board Staff Decision Recommendation: This is a decision previously approved by the State Water Resources Control Board and the USEPA. No new data were assessed by the Regional Board for the current. The decision has not changed.

Line of Evidence (LOE) for Decision ID 34435, Sedimentation/Siltation **Region 2** **Lagunitas Creek**

LOE ID: 3756
Pollutant: Sedimentation/Siltation
LOE Subgroup: Pollutant-Water
Matrix: Water
Fraction: Not Recorded
Beneficial Use: Cold Freshwater Habitat
Number of Samples: 0
Number of Exceedances: 0
Data and Information Type: Not Specified
Data Used to Assess Water Quality: Unspecified--This LOE is a placeholder to support a 303(d) listing decision made prior to 2006.
Data Reference: [Placeholder reference pre-2006 303\(d\)](#)
SWAMP Data: Non-SWAMP
Water Quality Objective/Criterion: Unspecified
Objective/Criterion Reference: [Placeholder reference pre-2006 303\(d\)](#)
Evaluation Guideline: Unspecified

Guideline Reference: [Placeholder reference pre-2006 303\(d\)](#)

Spatial Representation: Unspecified
Temporal Representation: Unspecified
Environmental Conditions: Unspecified
QAPP Information: Unspecified
QAPP Information Reference(s):

DECISION ID	64944	Region 2
Lagunitas Creek		

Pollutant: **Arsenic**
Final Listing Decision: **Do Not List on 303(d) list (TMDL required list)**
Last Listing Cycle's Final Listing Decision: New Decision
Revision Status Revised
Impairment from Pollutant or Pollution: Pollutant

Regional Board Staff Conclusion: This pollutant is being considered for placement on the CWA section 303(d) List under section 3.6 of the Listing Policy. Under section 3.6 at least two lines of evidence are necessary to assess listing status for pollutants sediment, and pollutant concentrations in sediment must be associated with sediment toxicity to justify adding that pollutant to the CWA section 303(d) List.

Two lines of evidence are available in the administrative record to assess this pollutant. Zero of one samples exceed the guideline. Sediment toxicity data are not associated with this decision because they are not relevant to this decision because there is insufficient information based on sediment chemistry.

Based on the readily available data and information, the weight of evidence indicates that there is insufficient justification for placing this water segment-pollutant combination on the CWA section 303(d) List.

This conclusion is based on the staff findings that:

1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy.
2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy.
3. Zero of one samples exceed the guideline and this sample size is insufficient to determine beneficial use support, with the power and confidence of the Listing Policy. A minimum of 16 samples is needed to determine if a beneficial use is fully supported using table 3.1. Sediment toxicity data are not associated with this decision because the sediment chemistry data are insufficient.
4. Pursuant to section 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.

Regional Board Staff Decision Recommendation: After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be placed on the section 303(d) list. The readily available data and information is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating.

Line of Evidence (LOE) for Decision ID 64944, Arsenic	Region 2
Lagunitas Creek	

LOE ID: 91954
Pollutant: Arsenic
LOE Subgroup: Pollutant-Sediment
Matrix: Sediment
Fraction: Total

Beneficial Use:	Cold Freshwater Habitat
Number of Samples:	1
Number of Exceedances:	0
Data and Information Type:	PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality:	Water Board staff assessed SWAMP data for Lagunitas Creek to determine beneficial use support and results are as follows: 0 of 1 samples exceed the criterion for Arsenic.
Data Reference:	Statewide Stream Pollution Trends Study 2008
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	San Francisco Bay Basin Water Quality Control Plan 2007: All waters shall be maintained free of toxic substances in concentrations which are toxic to, or which produce detrimental physiological responses in, human, plant, animal, or aquatic life.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	In freshwater sediments the probable effect concentration (predictive of sediment toxicity for sediment-dwelling organisms) for arsenic is 33 mg/Kg dry weight (MacDonald et al. 2000).
Guideline Reference:	Development and evaluation of consensus-based sediment quality guidelines for freshwater ecosystems. Environmental Contamination and Toxicology. 39: 20-31
Spatial Representation:	Data for this line of evidence for Lagunitas Creek was collected at 1 monitoring site [Lagunitas Creek @ Coast Guard Station station (201LAG125)]
Temporal Representation:	Data was collected on a single day 8/13/2008.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	SWAMP data collected before September 2008 followed the QAMP (2002), however there may have been overlap in QA with SWAMP QAPP (2008).
QAPP Information Reference(s):	Quality Assurance Management Plan for the State of California's Surface Water Ambient Monitoring Program. Sacramento, CA. State Water Resources Control Board. SWAMP. December 2002 (1st version) Surface Water Ambient Monitoring Program Quality Assurance Program Plan

**Line of Evidence (LOE) for Decision ID 64944, Arsenic
Lagunitas Creek**

Region 2

LOE ID:	91950
Pollutant:	Arsenic
LOE Subgroup:	Pollutant-Sediment
Matrix:	Sediment
Fraction:	Total
Beneficial Use:	Warm Freshwater Habitat
Number of Samples:	1
Number of Exceedances:	0
Data and Information Type:	PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality:	Water Board staff assessed SWAMP data for Lagunitas Creek to determine beneficial use support and results are as follows: 0 of 1 samples exceed the criterion for Arsenic.
Data Reference:	Statewide Stream Pollution Trends Study 2008
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	San Francisco Bay Basin Water Quality Control Plan 2007: All waters shall be maintained free of toxic substances in concentrations which are toxic to, or which produce detrimental physiological responses in, human, plant, animal, or aquatic life.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	In freshwater sediments the probable effect concentration (predictive of sediment toxicity

Guideline Reference:	for sediment-dwelling organisms) for arsenic is 33 mg/Kg dry weight (MacDonald et al. 2000). Development and evaluation of consensus-based sediment quality guidelines for freshwater ecosystems. Environmental Contamination and Toxicology. 39: 20-31
Spatial Representation:	Data for this line of evidence for Lagunitas Creek was collected at 1 monitoring site [Lagunitas Creek @ Coast Guard Station station (201LAG125)]
Temporal Representation:	Data was collected on a single day 8/13/2008.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	SWAMP data collected before September 2008 followed the QAMP (2002), however there may have been overlap in QA with SWAMP QAPP (2008).
QAPP Information Reference(s):	Quality Assurance Management Plan for the State of California's Surface Water Ambient Monitoring Program. Sacramento, CA. State Water Resources Control Board. SWAMP. December 2002 (1st version). Surface Water Ambient Monitoring Program Quality Assurance Program Plan

DECISION ID 64945		Region 2
Lagunitas Creek		
Pollutant:	Bifenthrin	
Final Listing Decision:	Do Not List on 303(d) list (TMDL required list)	
Last Listing Cycle's Final Listing Decision:	New Decision	
Revision Status	Revised	
Impairment from Pollutant or Pollution:	Pollutant	
Regional Board Staff Conclusion:	<p>This pollutant is being considered for placement on the CWA section 303(d) List under section 3.6 of the Listing Policy. Under section 3.6 at least two lines of evidence are necessary to assess listing status for pollutants sediment, and pollutant concentrations in sediment must be associated with sediment toxicity to justify adding that pollutant to the CWA section 303(d) List.</p> <p>Two lines of evidence are available in the administrative record to assess this pollutant. Zero of one samples exceed the guideline. Sediment toxicity data are not associated with this decision because they are not relevant to this decision because there is insufficient information based on sediment chemistry.</p> <p>Based on the readily available data and information, the weight of evidence indicates that there is insufficient justification for placing this water segment-pollutant combination on the CWA section 303(d) List.</p> <p>This conclusion is based on the staff findings that:</p> <ol style="list-style-type: none"> 1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy. 2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy. 3. Zero of one samples exceed the guideline and this sample size is insufficient to determine beneficial use support, with the power and confidence of the Listing Policy. A minimum of 16 samples is needed to determine if a beneficial use is fully supported using table 3.1. Sediment toxicity data are not associated with this decision because the sediment chemistry data are insufficient. 4. Pursuant to section 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met. 	
Regional Board Staff Decision Recommendation:	After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be placed on the section 303(d) list. The readily available data and information is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating.	

Line of Evidence (LOE) for Decision ID 64945, Bifenthrin		Region 2
Lagunitas Creek		

LOE ID:	91956
Pollutant:	Bifenthrin
LOE Subgroup:	Pollutant-Sediment
Matrix:	Sediment
Fraction:	Total
Beneficial Use:	Cold Freshwater Habitat
Number of Samples:	1
Number of Exceedances:	0
Data and Information Type:	PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality:	Water Board staff assessed SWAMP data for Lagunitas Creek to determine beneficial use support and results are as follows: 0 of 1 samples exceed the criterion for Bifenthrin.
Data Reference:	Statewide Stream Pollution Trends Study 2008
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	San Francisco Bay Basin Water Quality Control Plan 2007: All waters shall be maintained free of toxic substances in concentrations which are toxic to, or which produce detrimental physiological responses in, human, plant, animal, or aquatic life.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	The evaluation guideline for bifenthrin is the median lethal concentration (LC50) of 0.43 ug/g and is normalized by the percentage of organic carbon in the sediment sample. The LC50 0.43 ug/g is the geometric mean of LC50 values for bifenthrin from Amweg et al. (2005) and Amweg and Weston (2007).
Guideline Reference:	Use and Toxicity of Pyrethroid Pesticides in the Central Valley, California, USA. Environmental Toxicology and Chemistry, 24:966-972, with erratum 24:No. 5 Whole-sediment toxicity identification evaluation tools for pyrethroid insecticides: I. piperonyl butoxide addition. Environ. Toxicol. Chem. 26:2389-2396.
Spatial Representation:	Data for this line of evidence for Lagunitas Creek was collected at 1 monitoring site [Lagunitas Creek @ Coast Guard Station station (201LAG125)]
Temporal Representation:	Data was collected on a single day 8/13/2008.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	SWAMP data collected before September 2008 followed the QAMP (2002), however there may have been overlap in QA with SWAMP QAPP (2008).
QAPP Information Reference(s):	Quality Assurance Management Plan for the State of California's Surface Water Ambient Monitoring Program. Sacramento, CA. State Water Resources Control Board. SWAMP. December 2002 (1st version) Surface Water Ambient Monitoring Program Quality Assurance Program Plan

Line of Evidence (LOE) for Decision ID 64945, Bifenthrin
Lagunitas Creek

Region 2

LOE ID:	91955
Pollutant:	Bifenthrin
LOE Subgroup:	Pollutant-Sediment
Matrix:	Sediment
Fraction:	Total
Beneficial Use:	Warm Freshwater Habitat
Number of Samples:	1
Number of Exceedances:	0
Data and Information Type:	PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality:	Water Board staff assessed SWAMP data for Lagunitas Creek to determine beneficial use

Data Reference:	support and results are as follows: 0 of 1 samples exceed the criterion for Bifenthrin. Statewide Stream Pollution Trends Study 2008
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	San Francisco Bay Basin Water Quality Control Plan 2007: All waters shall be maintained free of toxic substances in concentrations which are toxic to, or which produce detrimental physiological responses in, human, plant, animal, or aquatic life.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	The evaluation guideline for bifenthrin is the median lethal concentration (LC50) of 0.43 ug/g and is normalized by the percentage of organic carbon in the sediment sample. The LC50 0.43 ug/g is the geometric mean of LC50 values for bifenthrin from Amweg et al. (2005) and Amweg and Weston (2007).
Guideline Reference:	Use and Toxicity of Pyrethroid Pesticides in the Central Valley, California, USA. Environmental Toxicology and Chemistry, 24:966-972, with erratum 24:No. 5 Whole-sediment toxicity identification evaluation tools for pyrethroid insecticides: I. piperonyl butoxide addition. Environ. Toxicol. Chem. 26:2389-2396.
Spatial Representation:	Data for this line of evidence for Lagunitas Creek was collected at 1 monitoring site [Lagunitas Creek @ Coast Guard Station station (201LAG125)]
Temporal Representation:	Data was collected on a single day 8/13/2008.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	SWAMP data collected before September 2008 followed the QAMP (2002), however there may have been overlap in QA with SWAMP QAPP (2008).
QAPP Information Reference(s):	Quality Assurance Management Plan for the State of California's Surface Water Ambient Monitoring Program. Sacramento, CA. State Water Resources Control Board. SWAMP. December 2002 (1st version) Surface Water Ambient Monitoring Program Quality Assurance Program Plan

DECISION ID	44148	Region 2
Lagunitas Creek		
Pollutant:	Cadmium	
Final Listing Decision:	Do Not List on 303(d) list (TMDL required list)	
Last Listing Cycle's Final Listing Decision:	Do Not List on 303(d) list (TMDL required list)(2012)	
Revision Status	Revised	
Impairment from Pollutant or Pollution:	Pollutant	
Regional Board Staff Conclusion:	<p>This pollutant is being considered for placement on the CWA section 303(d) List under section 3.1 of the Listing Policy. Under section 3.1 a single line of evidence is necessary to assess listing status.</p> <p>Three lines of evidence are available in the administrative record to assess this pollutant. Zero of five samples exceed the objective.</p> <p>Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against placing this water segment-pollutant combination on the CWA section 303(d) List.</p> <p>This conclusion is based on the staff findings that:</p> <ol style="list-style-type: none"> 1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy. 2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy. 3. Zero of five samples exceeded the objective and this sample size is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating. A minimum of 16 samples is needed to determine if a beneficial use is fully supported using table 3.1. 4. Pursuant to SECTION 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met. 	
Regional Board Staff Decision	After review of the available data and information, RWQCB staff concludes that the water body-	

Recommendation: pollutant combination should not be placed on the section 303(d) list. The readily available data and information is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating.

**Line of Evidence (LOE) for Decision ID 44148, Cadmium
Lagunitas Creek**

Region 2

LOE ID: 91958

Pollutant: Cadmium
LOE Subgroup: Pollutant-Sediment
Matrix: Sediment
Fraction: Total

Beneficial Use: Cold Freshwater Habitat

Number of Samples: 1
Number of Exceedances: 0

Data and Information Type: PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality: Water Board staff assessed SWAMP data for Lagunitas Creek to determine beneficial use support and results are as follows: 0 of 1 samples exceed the criterion for Cadmium.
Data Reference: [Statewide Stream Pollution Trends Study 2008](#)

SWAMP Data: SWAMP

Water Quality Objective/Criterion: San Francisco Bay Basin Water Quality Control Plan 2007: All waters shall be maintained free of toxic substances in concentrations which are toxic to, or which produce detrimental physiological responses in, human, plant, animal, or aquatic life.
Objective/Criterion Reference: [Water Quality Control Plan \(Basin Plan\) San Francisco Bay Basin \(Region 2\)](#)

Evaluation Guideline: In freshwater sediments the probable effect concentration (predictive of sediment toxicity for sediment-dwelling organisms) for cadmium is 4.98 mg/Kg dry weight (MacDonald et al. 2000).
Guideline Reference: [Development and evaluation of consensus-based sediment quality guidelines for freshwater ecosystems. Environmental Contamination and Toxicology. 39: 20-31](#)

Spatial Representation: Data for this line of evidence for Lagunitas Creek was collected at 1 monitoring site [Lagunitas Creek @ Coast Guard Station station (201LAG125)]
Temporal Representation: Data was collected on a single day 8/13/2008.
Environmental Conditions: Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information: SWAMP data collected before September 2008 followed the QAMP (2002), however there may have been overlap in QA with SWAMP QAPP (2008).
QAPP Information Reference(s): [Quality Assurance Management Plan for the State of California's Surface Water Ambient Monitoring Program. Sacramento, CA. State Water Resources Control Board. SWAMP. December 2002 \(1st version\).](#)
[Surface Water Ambient Monitoring Program Quality Assurance Program Plan](#)

**Line of Evidence (LOE) for Decision ID 44148, Cadmium
Lagunitas Creek**

Region 2

LOE ID: 30328

Pollutant: Cadmium
LOE Subgroup: Pollutant-Water
Matrix: Water
Fraction: None

Beneficial Use: Cold Freshwater Habitat

Number of Samples:	5
Number of Exceedances:	0
Data and Information Type:	PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality:	Five water samples were assessed. The concentration of cadmium in all five samples did not exceed the water quality objectives.
Data Reference:	Water Quality Monitoring and Bioassessment in Nine San Francisco Bay Region Watersheds: Walker Creek, Lagunitas Creek, San Leandro Creek, Wildcat Creek/San Pablo Creek, Suisun Creek, Arroyo Las Positas, Pescadero Creek/Butano Creek, San Gregorio Creek, and Stevens Creek/Permanente Creek, Oakland, CA: Surface Water Ambient Monitoring Program, San Francisco Bay Regional Water Quality Control Board
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	The Basin Plan states that the objective is expressed by formulas where $H = \ln$ (hardness) as CaCO_3 in mg/l: The four-day average objective for cadmium is $e^{(0.7852H - 3.490)}$. This is 1.1 ug/l at a hardness of 100mg/l as CaCO_3 . The one hour objective is $e^{(1.128H - 3.828)}$. This is 3.9ug/l at a hardness of 100mg/l as CaCO_3 .
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) - San Francisco Bay Region (Region 2)
Evaluation Guideline:	
Guideline Reference:	
Spatial Representation:	The samples were collected at three monitoring locations: two sites on Lagunitas Creek (LAG040, LAG130) and one site on San Geronimo Creek (LAG270).
Temporal Representation:	The samples were collected in two seasons: Spring and Dry of 2001.
Environmental Conditions:	
QAPP Information:	All samples were collected and analyzed using procedures comparable with the SWAMP Quality Assurance Management Plan (SWRCB, 2002).
QAPP Information Reference(s):	

Line of Evidence (LOE) for Decision ID 44148, Cadmium Lagunitas Creek

Region 2

LOE ID:	91957
Pollutant:	Cadmium
LOE Subgroup:	Pollutant-Sediment
Matrix:	Sediment
Fraction:	Total
Beneficial Use:	Warm Freshwater Habitat
Number of Samples:	1
Number of Exceedances:	0
Data and Information Type:	PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality:	Water Board staff assessed SWAMP data for Lagunitas Creek to determine beneficial use support and results are as follows: 0 of 1 samples exceed the criterion for Cadmium.
Data Reference:	Statewide Stream Pollution Trends Study 2008
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	San Francisco Bay Basin Water Quality Control Plan 2007: All waters shall be maintained free of toxic substances in concentrations which are toxic to, or which produce detrimental physiological responses in, human, plant, animal, or aquatic life.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	In freshwater sediments the probable effect concentration (predictive of sediment toxicity for sediment-dwelling organisms) for cadmium is 4.98 mg/Kg dry weight (MacDonald et al. 2000).
Guideline Reference:	Development and evaluation of consensus-based sediment quality guidelines for

Spatial Representation: Data for this line of evidence for Lagunitas Creek was collected at 1 monitoring site [Lagunitas Creek @ Coast Guard Station station (201LAG125)]

Temporal Representation: Data was collected on a single day 8/13/2008.

Environmental Conditions: Staff is not aware of any special conditions that might affect interpretation of the data.

QAPP Information: SWAMP data collected before September 2008 followed the QAMP (2002), however there may have been overlap in QA with SWAMP QAPP (2008).

QAPP Information Reference(s): [Quality Assurance Management Plan for the State of California's Surface Water Ambient Monitoring Program. Sacramento, CA. State Water Resources Control Board. SWAMP. December 2002 \(1st version\)](#)
[Surface Water Ambient Monitoring Program Quality Assurance Program Plan](#)

DECISION ID	64946	Region 2
Lagunitas Creek		

Pollutant: Chlordane

Final Listing Decision: Do Not List on 303(d) list (TMDL required list)

Last Listing Cycle's Final Listing Decision: New Decision

Revision Status: Revised

Impairment from Pollutant or Pollution: Pollutant

Regional Board Staff Conclusion: This pollutant is being considered for placement on the CWA section 303(d) List under section 3.6 of the Listing Policy. Under section 3.6 at least two lines of evidence are necessary to assess listing status for pollutants sediment, and pollutant concentrations in sediment must be associated with sediment toxicity to justify adding that pollutant to the CWA section 303(d) List.

One line of evidence is available in the administrative record to assess this pollutant. Zero of one samples exceed the guideline. Sediment toxicity data are not associated with this decision because they are not relevant to this decision because there is insufficient information based on sediment chemistry.

Based on the readily available data and information, the weight of evidence indicates that there is insufficient justification for placing this water segment-pollutant combination on the CWA section 303(d) List.

This conclusion is based on the staff findings that:

1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy.
2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy.
3. Zero of one samples exceed the guideline and this sample size is insufficient to determine beneficial use support, with the power and confidence of the Listing Policy. A minimum of 16 samples is needed to determine if a beneficial use is fully supported using table 3.1. Sediment toxicity data are not associated with this decision because the sediment chemistry data are insufficient.
4. Pursuant to section 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.

Regional Board Staff Decision Recommendation: After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be placed on the section 303(d) list. The readily available data and information is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating.

Line of Evidence (LOE) for Decision ID 64946, Chlordane	Region 2
Lagunitas Creek	

LOE ID: 90717

Pollutant:	Chlordane
LOE Subgroup:	Pollutant-Sediment
Matrix:	Sediment
Fraction:	Total
Beneficial Use:	Cold Freshwater Habitat
Number of Samples:	1
Number of Exceedances:	0
Data and Information Type:	PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality:	Zero of 1 samples collected exceeded the criteria for chlordane concentration (Sum of trans-Chlordane, cis-Chlordane, cis-Nonachlor, trans-Nonachlor, and Oxychlordane).
Data Reference:	Statewide Stream Pollution Trends Study 2008
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	All waters shall be maintained free of toxic substances in concentrations that are lethal to or that produce other detrimental responses in aquatic organisms. Waters shall not contain substances in concentrations that result in the deposition of material that causes nuisance or adversely affects beneficial uses. (Water Quality Control Plan for the San Francisco Bay Basin).
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) - San Francisco Bay Region (Region 2)
Evaluation Guideline:	The Probable Effect Concentration for Chlordane in freshwater sediments is 17.6 ug/kg(MacDonald et al. 2000).
Guideline Reference:	Development and evaluation of consensus-based sediment quality guidelines for freshwater ecosystems. Environmental Contamination and Toxicology. 39: 20-31
Spatial Representation:	Data were collected at the following station 201LAG125 (Lagunitas Creek @ Coast Guard Station).
Temporal Representation:	The samples were collected on 8/13/2008.
Environmental Conditions:	
QAPP Information:	The SWAMP QAPP (2008) was followed.
QAPP Information Reference(s):	Surface Water Ambient Monitoring Program Quality Assurance Program Plan

DECISION ID	64947	Region 2
Lagunitas Creek		

Pollutant:	Chlorpyrifos
Final Listing Decision:	Do Not List on 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision:	New Decision
Revision Status	Revised
Impairment from Pollutant or Pollution:	Pollutant
Regional Board Staff Conclusion:	<p>This pollutant is being considered for placement on the CWA section 303(d) List under section 3.6 of the Listing Policy. Under section 3.6 at least two lines of evidence are necessary to assess listing status for pollutants sediment, and pollutant concentrations in sediment must be associated with sediment toxicity to justify adding that pollutant to the CWA section 303(d) List.</p> <p>Two lines of evidence are available in the administrative record to assess this pollutant. Zero of one samples exceed the guideline. Sediment toxicity data are not associated with this decision because they are not relevant to this decision because there is insufficient information based on sediment chemistry.</p> <p>Based on the readily available data and information, the weight of evidence indicates that there is insufficient justification for placing this water segment-pollutant combination on the CWA section 303(d) List.</p>

This conclusion is based on the staff findings that:

1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy.
2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy.
3. Zero of one samples exceed the guideline and this sample size is insufficient to determine beneficial use support, with the power and confidence of the Listing Policy. A minimum of 16 samples is needed to determine if a beneficial use is fully supported using table 3.1. Sediment toxicity data are not associated with this decision because the sediment chemistry data are insufficient.
4. Pursuant to section 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.

Regional Board Staff Decision Recommendation: After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be placed on the section 303(d) list. The readily available data and information is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating.

**Line of Evidence (LOE) for Decision ID 64947, Chlorpyrifos
Lagunitas Creek**

Region 2

LOE ID:	91960
Pollutant:	Chlorpyrifos
LOE Subgroup:	Pollutant-Sediment
Matrix:	Sediment
Fraction:	Total
Beneficial Use:	Cold Freshwater Habitat
Number of Samples:	1
Number of Exceedances:	0
Data and Information Type:	PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality:	Water Board staff assessed SWAMP data for Lagunitas Creek to determine beneficial use support and results are as follows: 0 of 1 samples exceed the criterion for Chlorpyrifos.
Data Reference:	Statewide Stream Pollution Trends Study 2008
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	San Francisco Bay Basin Water Quality Control Plan 2007: All waters shall be maintained free of toxic substances in concentrations which are toxic to, or which produce detrimental physiological responses in, human, plant, animal, or aquatic life.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	The evaluation guideline for chlorpyrifos is the median lethal concentration (LC50) of 1.77 ug/g and is normalized by the percentage of organic carbon in the sediment sample (Amweg and Weston, 2007).
Guideline Reference:	Whole-sediment toxicity identification evaluation tools for pyrethroid insecticides: I. piperonyl butoxide addition. Environ. Toxicol. Chem. 26:2389-2396.
Spatial Representation:	Data for this line of evidence for Lagunitas Creek was collected at 1 monitoring site [Lagunitas Creek @ Coast Guard Station station (201LAG125)]
Temporal Representation:	Data was collected on a single day 8/13/2008.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	SWAMP data collected before September 2008 followed the QAMP (2002), however there may have been overlap in QA with SWAMP QAPP (2008).
QAPP Information Reference(s):	Quality Assurance Management Plan for the State of California's Surface Water Ambient Monitoring Program. Sacramento, CA. State Water Resources Control Board. SWAMP. December 2002 (1st version). Surface Water Ambient Monitoring Program Quality Assurance Program Plan

Line of Evidence (LOE) for Decision ID 64947, Chlorpyrifos

Region 2

Lagunitas Creek

LOE ID:	91959
Pollutant:	Chlorpyrifos
LOE Subgroup:	Pollutant-Sediment
Matrix:	Sediment
Fraction:	Total
Beneficial Use:	Warm Freshwater Habitat
Number of Samples:	1
Number of Exceedances:	0
Data and Information Type:	PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality:	Water Board staff assessed SWAMP data for Lagunitas Creek to determine beneficial use support and results are as follows: 0 of 1 samples exceed the criterion for Chlorpyrifos.
Data Reference:	Statewide Stream Pollution Trends Study 2008
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	San Francisco Bay Basin Water Quality Control Plan 2007: All waters shall be maintained free of toxic substances in concentrations which are toxic to, or which produce detrimental physiological responses in, human, plant, animal, or aquatic life.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	The evaluation guideline for chlorpyrifos is the median lethal concentration (LC50) of 1.77 ug/g and is normalized by the percentage of organic carbon in the sediment sample (Amweg and Weston, 2007).
Guideline Reference:	Whole-sediment toxicity identification evaluation tools for pyrethroid insecticides: I. piperonyl butoxide addition. Environ. Toxicol. Chem. 26:2389-2396.
Spatial Representation:	Data for this line of evidence for Lagunitas Creek was collected at 1 monitoring site [Lagunitas Creek @ Coast Guard Station station (201LAG125)]
Temporal Representation:	Data was collected on a single day 8/13/2008.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	SWAMP data collected before September 2008 followed the QAMP (2002), however there may have been overlap in QA with SWAMP QAPP (2008).
QAPP Information Reference(s):	Quality Assurance Management Plan for the State of California's Surface Water Ambient Monitoring Program. Sacramento, CA. State Water Resources Control Board. SWAMP. December 2002 (1st version) Surface Water Ambient Monitoring Program Quality Assurance Program Plan

DECISION ID	64948	Region 2
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Lagunitas Creek

Pollutant:	Chromium
Final Listing Decision:	Do Not List on 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision:	New Decision
Revision Status	Revised
Impairment from Pollutant or Pollution:	Pollutant

Regional Board Staff Conclusion:	<p>This pollutant is being considered for placement on the CWA section 303(d) List under section 3.6 of the Listing Policy. Under section 3.6 at least two lines of evidence are necessary to assess listing status for pollutants sediment, and pollutant concentrations in sediment must be associated with sediment toxicity to justify adding that pollutant to the CWA section 303(d) List.</p> <p>Three lines of evidence are available in the administrative record to assess this pollutant. Two of two samples exceed the guideline. Sediment toxicity data are not associated with this decision because</p>
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they are not relevant to this decision because there is insufficient information based on sediment chemistry.

Based on the readily available data and information, the weight of evidence indicates that there is insufficient justification for placing this water segment-pollutant combination on the CWA section 303(d) List.

This conclusion is based on the staff findings that:

1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy.
2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy.
3. Two of two samples exceed the guideline and this sample size is insufficient to determine beneficial use support, with the power and confidence of the Listing Policy. A minimum of 16 samples is needed to determine if a beneficial use is fully supported using table 3.1. Sediment toxicity data are not associated with this decision because the sediment chemistry data are insufficient.
4. Pursuant to section 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.

Regional Board Staff Decision Recommendation: After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be placed on the section 303(d) list. The readily available data and information is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating.

**Line of Evidence (LOE) for Decision ID 64948, Chromium
Lagunitas Creek**

Region 2

LOE ID:	91961
Pollutant:	Chromium
LOE Subgroup:	Pollutant-Sediment
Matrix:	Sediment
Fraction:	Total
Beneficial Use:	Warm Freshwater Habitat
Number of Samples:	1
Number of Exceedances:	1
Data and Information Type:	PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality:	Water Board staff assessed SWAMP data for Lagunitas Creek to determine beneficial use support and results are as follows: 1 of 1 samples exceed the criterion for Chromium.
Data Reference:	Statewide Stream Pollution Trends Study 2008
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	San Francisco Bay Basin Water Quality Control Plan 2007: All waters shall be maintained free of toxic substances in concentrations which are toxic to, or which produce detrimental physiological responses in, human, plant, animal, or aquatic life.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	In freshwater sediments the probable effect concentration (predictive of sediment toxicity for sediment-dwelling organisms) for chromium is 111 mg/Kg dry weight (MacDonald et al. 2000).
Guideline Reference:	Development and evaluation of consensus-based sediment quality guidelines for freshwater ecosystems. Environmental Contamination and Toxicology. 39: 20-31
Spatial Representation:	Data for this line of evidence for Lagunitas Creek was collected at 1 monitoring site [Lagunitas Creek @ Coast Guard Station station (201LAG125)]
Temporal Representation:	Data was collected on a single day 8/13/2008.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	SWAMP data collected before September 2008 followed the QAMP (2002), however there

QAPP Information Reference(s): may have been overlap in QA with SWAMP QAPP (2008).
[Quality Assurance Management Plan for the State of California's Surface Water Ambient Monitoring Program. Sacramento, CA. State Water Resources Control Board. SWAMP. December 2002 \(1st version\)](#)
[Surface Water Ambient Monitoring Program Quality Assurance Program Plan](#)

Line of Evidence (LOE) for Decision ID 64948, Chromium
Lagunitas Creek

Region 2

LOE ID: 91962

Pollutant: Chromium
LOE Subgroup: Pollutant-Sediment
Matrix: Sediment
Fraction: Total

Beneficial Use: Cold Freshwater Habitat

Number of Samples: 1
Number of Exceedances: 1

Data and Information Type: PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality: Water Board staff assessed SWAMP data for Lagunitas Creek to determine beneficial use support and results are as follows: 1 of 1 samples exceed the criterion for Chromium.
Data Reference: [Statewide Stream Pollution Trends Study 2008](#)

SWAMP Data: SWAMP

Water Quality Objective/Criterion: San Francisco Bay Basin Water Quality Control Plan 2007: All waters shall be maintained free of toxic substances in concentrations which are toxic to, or which produce detrimental physiological responses in, human, plant, animal, or aquatic life.
Objective/Criterion Reference: [Water Quality Control Plan \(Basin Plan\) San Francisco Bay Basin \(Region 2\)](#)

Evaluation Guideline: In freshwater sediments the probable effect concentration (predictive of sediment toxicity for sediment-dwelling organisms) for chromium is 111 mg/Kg dry weight (MacDonald et al. 2000).
Guideline Reference: [Development and evaluation of consensus-based sediment quality guidelines for freshwater ecosystems. Environmental Contamination and Toxicology. 39: 20-31](#)

Spatial Representation: Data for this line of evidence for Lagunitas Creek was collected at 1 monitoring site [Lagunitas Creek @ Coast Guard Station station (201LAG125)]
Temporal Representation: Data was collected on a single day 8/13/2008.
Environmental Conditions: Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information: SWAMP data collected before September 2008 followed the QAMP (2002), however there may have been overlap in QA with SWAMP QAPP (2008).
QAPP Information Reference(s): [Quality Assurance Management Plan for the State of California's Surface Water Ambient Monitoring Program. Sacramento, CA. State Water Resources Control Board. SWAMP. December 2002 \(1st version\)](#)
[Surface Water Ambient Monitoring Program Quality Assurance Program Plan](#)

Line of Evidence (LOE) for Decision ID 64948, Chromium
Lagunitas Creek

Region 2

LOE ID: 28763

Pollutant: Chromium (total)
LOE Subgroup: Pollutant-Sediment
Matrix: Sediment
Fraction: Total

Beneficial Use: Cold Freshwater Habitat

Number of Samples:	1
Number of Exceedances:	1
Data and Information Type:	PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality:	Chromium exceeded the PEC with a sample concentration of 192 mg/kg dw in one sediment sample collected in June of 2002 (sediment quality guidelines).
Data Reference:	Water Quality Monitoring and Bioassessment in Nine San Francisco Bay Region Watersheds: Walker Creek, Lagunitas Creek, San Leandro Creek, Wildcat Creek/San Pablo Creek, Suisun Creek, Arroyo Las Positas, Pescadero Creek/Butano Creek, San Gregorio Creek, and Stevens Creek/Permanente Creek. Oakland, CA: Surface Water Ambient Monitoring Program, San Francisco Bay Regional Water Quality Control Board
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	All waters shall be maintained free of toxic substances that are lethal to or that produce other detrimental responses in aquatic organisms.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) - San Francisco Bay Region (Region 2)
Evaluation Guideline:	Sediment Quality Guidelines (MacDonald et al., 2000): PEC (probable effect concentration) for chromium - 111 mg/kg dw.
Guideline Reference:	Development and evaluation of consensus-based sediment quality guidelines for freshwater ecosystems. Environmental Contamination and Toxicology. 39: 20-31
Spatial Representation:	One sediment sample was collected at a "watershed integrator" site located close to the mouth of Lagunitas Creek.
Temporal Representation:	Sediment sample was collected in June of 2002.
Environmental Conditions:	
QAPP Information:	All samples were collected and analyzed using procedures comparable with the SWAMP Quality Assurance Management Plan (SWRCB, 2002).
QAPP Information Reference(s):	

DECISION ID	64949	Region 2
Lagunitas Creek		

Pollutant:	Copper
Final Listing Decision:	Do Not List on 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision:	New Decision
Revision Status	Revised
Impairment from Pollutant or Pollution:	Pollutant

Regional Board Staff Conclusion:

This pollutant is being considered for placement on the CWA section 303(d) List under section 3.6 of the Listing Policy. Under section 3.6 at least two lines of evidence are necessary to assess listing status for pollutants sediment, and pollutant concentrations in sediment must be associated with sediment toxicity to justify adding that pollutant to the CWA section 303(d) List.

Two lines of evidence are available in the administrative record to assess this pollutant. Zero of one samples exceed the guideline. Sediment toxicity data are not associated with this decision because they are not relevant to this decision because there is insufficient information based on sediment chemistry.

Based on the readily available data and information, the weight of evidence indicates that there is insufficient justification for placing this water segment-pollutant combination on the CWA section 303(d) List.

This conclusion is based on the staff findings that:

1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy.
2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy.
3. Zero of one samples exceed the guideline and this sample size is insufficient to determine

beneficial use support, with the power and confidence of the Listing Policy. A minimum of 16 samples is needed to determine if a beneficial use is fully supported using table 3.1.

Sediment toxicity data are not associated with this decision because the sediment chemistry data are insufficient.

4. Pursuant to section 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.

Regional Board Staff Decision Recommendation: After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be placed on the section 303(d) list. The readily available data and information is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating.

**Line of Evidence (LOE) for Decision ID 64949, Copper
Lagunitas Creek**

Region 2

LOE ID:	91963
Pollutant:	Copper
LOE Subgroup:	Pollutant-Sediment
Matrix:	Sediment
Fraction:	Total
Beneficial Use:	Warm Freshwater Habitat
Number of Samples:	1
Number of Exceedances:	0
Data and Information Type:	PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality:	Water Board staff assessed SWAMP data for Lagunitas Creek to determine beneficial use support and results are as follows: 0 of 1 samples exceed the criterion for Copper.
Data Reference:	Statewide Stream Pollution Trends Study 2008
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	San Francisco Bay Basin Water Quality Control Plan 2007: All waters shall be maintained free of toxic substances in concentrations which are toxic to, or which produce detrimental physiological responses in, human, plant, animal, or aquatic life.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	In freshwater sediments the probable effect concentration (predictive of sediment toxicity for sediment-dwelling organisms) for copper is 149 mg/Kg dry weight (MacDonald et al. 2000).
Guideline Reference:	Development and evaluation of consensus-based sediment quality guidelines for freshwater ecosystems. Environmental Contamination and Toxicology. 39: 20-31
Spatial Representation:	Data for this line of evidence for Lagunitas Creek was collected at 1 monitoring site [Lagunitas Creek @ Coast Guard Station station (201LAG125)]
Temporal Representation:	Data was collected on a single day 8/13/2008.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	SWAMP data collected before September 2008 followed the QAMP (2002), however there may have been overlap in QA with SWAMP QAPP (2008).
QAPP Information Reference(s):	Quality Assurance Management Plan for the State of California's Surface Water Ambient Monitoring Program. Sacramento, CA. State Water Resources Control Board. SWAMP. December 2002 (1st version) Surface Water Ambient Monitoring Program Quality Assurance Program Plan

**Line of Evidence (LOE) for Decision ID 64949, Copper
Lagunitas Creek**

Region 2

LOE ID:	91964
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Pollutant:	Copper
LOE Subgroup:	Pollutant-Sediment
Matrix:	Sediment
Fraction:	Total
Beneficial Use:	Cold Freshwater Habitat
Number of Samples:	1
Number of Exceedances:	0
Data and Information Type:	PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality:	Water Board staff assessed SWAMP data for Lagunitas Creek to determine beneficial use support and results are as follows: 0 of 1 samples exceed the criterion for Copper.
Data Reference:	Statewide Stream Pollution Trends Study 2008
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	San Francisco Bay Basin Water Quality Control Plan 2007: All waters shall be maintained free of toxic substances in concentrations which are toxic to, or which produce detrimental physiological responses in, human, plant, animal, or aquatic life.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	In freshwater sediments the probable effect concentration (predictive of sediment toxicity for sediment-dwelling organisms) for copper is 149 mg/Kg dry weight (MacDonald et al. 2000).
Guideline Reference:	Development and evaluation of consensus-based sediment quality guidelines for freshwater ecosystems. Environmental Contamination and Toxicology. 39: 20-31
Spatial Representation:	Data for this line of evidence for Lagunitas Creek was collected at 1 monitoring site [Lagunitas Creek @ Coast Guard Station station (201LAG125)]
Temporal Representation:	Data was collected on a single day 8/13/2008.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	SWAMP data collected before September 2008 followed the QAMP (2002), however there may have been overlap in QA with SWAMP QAPP (2008).
QAPP Information Reference(s):	Quality Assurance Management Plan for the State of California's Surface Water Ambient Monitoring Program. Sacramento, CA. State Water Resources Control Board. SWAMP. December 2002 (1st version). Surface Water Ambient Monitoring Program Quality Assurance Program Plan

DECISION ID	64950	Region 2
Lagunitas Creek		

Pollutant: Final Listing Decision: Last Listing Cycle's Final Listing Decision: Revision Status Impairment from Pollutant or Pollution:	Cyfluthrin Do Not List on 303(d) list (TMDL required list) New Decision Revised Pollutant
Regional Board Staff Conclusion:	<p>This pollutant is being considered for placement on the CWA section 303(d) List under section 3.6 of the Listing Policy. Under section 3.6 at least two lines of evidence are necessary to assess listing status for pollutants sediment, and pollutant concentrations in sediment must be associated with sediment toxicity to justify adding that pollutant to the CWA section 303(d) List.</p> <p>Two lines of evidence are available in the administrative record to assess this pollutant. Zero of one samples exceed the guideline. Sediment toxicity data are not associated with this decision because they are not relevant to this decision because there is insufficient information based on sediment chemistry.</p>

Based on the readily available data and information, the weight of evidence indicates that there is insufficient justification for placing this water segment-pollutant combination on the CWA section 303(d) List.

This conclusion is based on the staff findings that:

1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy.
2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy.
3. Zero of one samples exceed the guideline and this sample size is insufficient to determine beneficial use support, with the power and confidence of the Listing Policy. A minimum of 16 samples is needed to determine if a beneficial use is fully supported using table 3.1. Sediment toxicity data are not associated with this decision because the sediment chemistry data are insufficient.
4. Pursuant to section 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.

Regional Board Staff Decision Recommendation: After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be placed on the section 303(d) list. The readily available data and information is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating.

**Line of Evidence (LOE) for Decision ID 64950, Cyfluthrin
Lagunitas Creek**

Region 2

LOE ID:	91966
Pollutant:	Cyfluthrin
LOE Subgroup:	Pollutant-Sediment
Matrix:	Sediment
Fraction:	Total
Beneficial Use:	Cold Freshwater Habitat
Number of Samples:	1
Number of Exceedances:	0
Data and Information Type:	PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality:	Water Board staff assessed SWAMP data for Lagunitas Creek to determine beneficial use support and results are as follows: 0 of 1 samples exceed the criterion for Cyfluthrin, total.
Data Reference:	Statewide Stream Pollution Trends Study 2008
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	San Francisco Bay Basin Water Quality Control Plan 2007: All waters shall be maintained free of toxic substances in concentrations which are toxic to, or which produce detrimental physiological responses in, human, plant, animal, or aquatic life.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	The evaluation guideline for cyfluthrin is the median lethal concentration (LC50) of 1.1 ug/g and is normalized by the percentage of organic carbon in the sediment sample. The LC50 1.1 ug/g is the geometric mean of LC50 values for cyfluthrin from Amweg et al. (2005).
Guideline Reference:	Use and Toxicity of Pyrethroid Pesticides in the Central Valley, California, USA. Environmental Toxicology and Chemistry, 24:966-972, with erratum 24:No. 5
Spatial Representation:	Data for this line of evidence for Lagunitas Creek was collected at 1 monitoring site [Lagunitas Creek @ Coast Guard Station station (201LAG125)]
Temporal Representation:	Data was collected on a single day 8/13/2008.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	SWAMP data collected before September 2008 followed the QAMP (2002), however there may have been overlap in QA with SWAMP QAPP (2008).
QAPP Information Reference(s):	Quality Assurance Management Plan for the State of California's Surface Water Ambient

Line of Evidence (LOE) for Decision ID 64950, Cyfluthrin
Lagunitas Creek

Region 2

LOE ID:	91965
Pollutant:	Cyfluthrin
LOE Subgroup:	Pollutant-Sediment
Matrix:	Sediment
Fraction:	Total
Beneficial Use:	Warm Freshwater Habitat
Number of Samples:	1
Number of Exceedances:	0
Data and Information Type:	PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality:	Water Board staff assessed SWAMP data for Lagunitas Creek to determine beneficial use support and results are as follows: 0 of 1 samples exceed the criterion for Cyfluthrin, total.
Data Reference:	Statewide Stream Pollution Trends Study 2008
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	San Francisco Bay Basin Water Quality Control Plan 2007: All waters shall be maintained free of toxic substances in concentrations which are toxic to, or which produce detrimental physiological responses in, human, plant, animal, or aquatic life.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	The evaluation guideline for cyfluthrin is the median lethal concentration (LC50) of 1.1 ug/g and is normalized by the percentage of organic carbon in the sediment sample. The LC50 1.1 ug/g is the geometric mean of LC50 values for cyfluthrin from Amweg et al. (2005).
Guideline Reference:	Use and Toxicity of Pyrethroid Pesticides in the Central Valley, California, USA. Environmental Toxicology and Chemistry, 24:966-972, with erratum 24:No. 5
Spatial Representation:	Data for this line of evidence for Lagunitas Creek was collected at 1 monitoring site [Lagunitas Creek @ Coast Guard Station station (201LAG125)]
Temporal Representation:	Data was collected on a single day 8/13/2008.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	SWAMP data collected before September 2008 followed the QAMP (2002), however there may have been overlap in QA with SWAMP QAPP (2008).
QAPP Information Reference(s):	Quality Assurance Management Plan for the State of California's Surface Water Ambient Monitoring Program. Sacramento, CA. State Water Resources Control Board. SWAMP. December 2002 (1st version) Surface Water Ambient Monitoring Program Quality Assurance Program Plan

DECISION ID 64951
Lagunitas Creek

Region 2

Pollutant:	Cyhalothrin, Lambda
Final Listing Decision:	Do Not List on 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision:	New Decision
Revision Status	Revised
Impairment from Pollutant or Pollution:	Pollutant

**Regional Board Staff
Conclusion:**

This pollutant is being considered for placement on the CWA section 303(d) List under section 3.6 of the Listing Policy. Under section 3.6 at least two lines of evidence are necessary to assess listing status for pollutants sediment, and pollutant concentrations in sediment must be associated with sediment toxicity to justify adding that pollutant to the CWA section 303(d) List.

Two lines of evidence are available in the administrative record to assess this pollutant. One of one samples exceed the guideline. Sediment toxicity data are not associated with this decision because they are not relevant to this decision because there is insufficient information based on sediment chemistry.

Based on the readily available data and information, the weight of evidence indicates that there is insufficient justification for placing this water segment-pollutant combination on the CWA section 303(d) List.

This conclusion is based on the staff findings that:

1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy.
2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy.
3. One of one samples exceed the guideline and this sample size is insufficient to determine beneficial use support, with the power and confidence of the Listing Policy. A minimum of 16 samples is needed to determine if a beneficial use is fully supported using table 3.1. Sediment toxicity data are not associated with this decision because the sediment chemistry data are insufficient.
4. Pursuant to section 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.

**Regional Board Staff Decision
Recommendation:**

After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be placed on the section 303(d) list. The readily available data and information is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating.

**Line of Evidence (LOE) for Decision ID 64951, Cyhalothrin, Lambda
Lagunitas Creek**

Region 2

LOE ID:	91968
Pollutant:	Cyhalothrin, Lambda
LOE Subgroup:	Pollutant-Sediment
Matrix:	Sediment
Fraction:	Total
Beneficial Use:	Cold Freshwater Habitat
Number of Samples:	1
Number of Exceedances:	1
Data and Information Type:	PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality:	Water Board staff assessed SWAMP data for Lagunitas Creek to determine beneficial use support and results are as follows: 1 of 1 samples exceed the criterion for Cyhalothrin, lambda, total.
Data Reference:	Statewide Stream Pollution Trends Study 2008
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	San Francisco Bay Basin Water Quality Control Plan 2007: All waters shall be maintained free of toxic substances in concentrations which are toxic to, or which produce detrimental physiological responses in, human, plant, animal, or aquatic life.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	The evaluation guideline for lambda-cyhalothrin is the median lethal concentration (LC50) of 0.44 ug/g and is normalized by the percentage of organic carbon in the sediment sample. The LC50 0.44 ug/g is the geometric mean of LC50 values for lambda-

Guideline Reference:	cyhalothrin from Amweg et al. (2005). Use and Toxicity of Pyrethroid Pesticides in the Central Valley, California, USA. Environmental Toxicology and Chemistry, 24:966-972, with erratum 24:No. 5
Spatial Representation:	Data for this line of evidence for Lagunitas Creek was collected at 1 monitoring site [Lagunitas Creek @ Coast Guard Station station (201LAG125)]
Temporal Representation:	Data was collected on a single day 8/13/2008.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	SWAMP data collected before September 2008 followed the QAMP (2002), however there may have been overlap in QA with SWAMP QAPP (2008).
QAPP Information Reference(s):	Quality Assurance Management Plan for the State of California's Surface Water Ambient Monitoring Program. Sacramento, CA. State Water Resources Control Board. SWAMP. December 2002 (1st version). Surface Water Ambient Monitoring Program Quality Assurance Program Plan

**Line of Evidence (LOE) for Decision ID 64951, Cyhalothrin, Lambda
Lagunitas Creek**

Region 2

LOE ID:	91967
Pollutant:	Cyhalothrin, Lambda
LOE Subgroup:	Pollutant-Sediment
Matrix:	Sediment
Fraction:	Total
Beneficial Use:	Warm Freshwater Habitat
Number of Samples:	1
Number of Exceedances:	1
Data and Information Type:	PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality:	Water Board staff assessed SWAMP data for Lagunitas Creek to determine beneficial use support and results are as follows: 1 of 1 samples exceed the criterion for Cyhalothrin, lambda, total.
Data Reference:	Statewide Stream Pollution Trends Study 2008
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	San Francisco Bay Basin Water Quality Control Plan 2007: All waters shall be maintained free of toxic substances in concentrations which are toxic to, or which produce detrimental physiological responses in, human, plant, animal, or aquatic life.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	The evaluation guideline for lambda-cyhalothrin is the median lethal concentration (LC50) of 0.44 ug/g and is normalized by the percentage of organic carbon in the sediment sample. The LC50 0.44 ug/g is the geometric mean of LC50 values for lambda-cyhalothrin from Amweg et al. (2005).
Guideline Reference:	Use and Toxicity of Pyrethroid Pesticides in the Central Valley, California, USA. Environmental Toxicology and Chemistry, 24:966-972, with erratum 24:No. 5
Spatial Representation:	Data for this line of evidence for Lagunitas Creek was collected at 1 monitoring site [Lagunitas Creek @ Coast Guard Station station (201LAG125)]
Temporal Representation:	Data was collected on a single day 8/13/2008.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	SWAMP data collected before September 2008 followed the QAMP (2002), however there may have been overlap in QA with SWAMP QAPP (2008).
QAPP Information Reference(s):	Quality Assurance Management Plan for the State of California's Surface Water Ambient Monitoring Program. Sacramento, CA. State Water Resources Control Board. SWAMP. December 2002 (1st version). Surface Water Ambient Monitoring Program Quality Assurance Program Plan

Pollutant:	Cypermethrin
Final Listing Decision:	Do Not List on 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision:	New Decision
Revision Status	Revised
Impairment from Pollutant or Pollution:	Pollutant

Regional Board Staff Conclusion:	<p>This pollutant is being considered for placement on the CWA section 303(d) List under section 3.6 of the Listing Policy. Under section 3.6 at least two lines of evidence are necessary to assess listing status for pollutants sediment, and pollutant concentrations in sediment must be associated with sediment toxicity to justify adding that pollutant to the CWA section 303(d) List.</p> <p>Two lines of evidence are available in the administrative record to assess this pollutant. Zero of one samples exceed the guideline. Sediment toxicity data are not associated with this decision because they are not relevant to this decision because there is insufficient information based on sediment chemistry.</p> <p>Based on the readily available data and information, the weight of evidence indicates that there is insufficient justification for placing this water segment-pollutant combination on the CWA section 303(d) List.</p> <p>This conclusion is based on the staff findings that:</p> <ol style="list-style-type: none"> 1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy. 2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy. 3. Zero of one samples exceed the guideline and this sample size is insufficient to determine beneficial use support, with the power and confidence of the Listing Policy. A minimum of 16 samples is needed to determine if a beneficial use is fully supported using table 3.1. Sediment toxicity data are not associated with this decision because the sediment chemistry data are insufficient. 4. Pursuant to section 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.
Regional Board Staff Decision Recommendation:	<p>After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be placed on the section 303(d) list. The readily available data and information is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating.</p>

Line of Evidence (LOE) for Decision ID 64953, Cypermethrin	Region 2
Lagunitas Creek	

LOE ID:	91969
Pollutant:	Cypermethrin
LOE Subgroup:	Pollutant-Sediment
Matrix:	Sediment
Fraction:	Total
Beneficial Use:	Warm Freshwater Habitat
Number of Samples:	1
Number of Exceedances:	0
Data and Information Type:	PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality:	Water Board staff assessed SWAMP data for Lagunitas Creek to determine beneficial use support and results are as follows: 0 of 1 samples exceed the criterion for Cypermethrin, total.

Data Reference:	Statewide Stream Pollution Trends Study 2008
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	San Francisco Bay Basin Water Quality Control Plan 2007: All waters shall be maintained free of toxic substances in concentrations which are toxic to, or which produce detrimental physiological responses in, human, plant, animal, or aquatic life.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	The evaluation guideline for cypermethrin is the median lethal concentration (LC50) of 0.3 ug/g and is normalized by the percentage of organic carbon in the sediment sample. The LC50 0.3 ug/g is the geometric mean of LC50 values for cypermethrin from Maund et al. (2002).
Guideline Reference:	Partitioning, bioavailability, and toxicity of the pyrethroid insecticide cypermethrin in sediments. Environmental Toxicology and Chemistry 21:9-15
Spatial Representation:	Data for this line of evidence for Lagunitas Creek was collected at 1 monitoring site [Lagunitas Creek @ Coast Guard Station station (201LAG125)]
Temporal Representation:	Data was collected on a single day 8/13/2008.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	SWAMP data collected before September 2008 followed the QAMP (2002), however there may have been overlap in QA with SWAMP QAPP (2008).
QAPP Information Reference(s):	Quality Assurance Management Plan for the State of California's Surface Water Ambient Monitoring Program. Sacramento, CA. State Water Resources Control Board. SWAMP. December 2002 (1st version) Surface Water Ambient Monitoring Program Quality Assurance Program Plan

Line of Evidence (LOE) for Decision ID 64953, Cypermethrin

Region 2

Lagunitas Creek

LOE ID:	91970
Pollutant:	Cypermethrin
LOE Subgroup:	Pollutant-Sediment
Matrix:	Sediment
Fraction:	Total
Beneficial Use:	Cold Freshwater Habitat
Number of Samples:	1
Number of Exceedances:	0
Data and Information Type:	PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality:	Water Board staff assessed SWAMP data for Lagunitas Creek to determine beneficial use support and results are as follows: 0 of 1 samples exceed the criterion for Cypermethrin, total.
Data Reference:	Statewide Stream Pollution Trends Study 2008
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	San Francisco Bay Basin Water Quality Control Plan 2007: All waters shall be maintained free of toxic substances in concentrations which are toxic to, or which produce detrimental physiological responses in, human, plant, animal, or aquatic life.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	The evaluation guideline for cypermethrin is the median lethal concentration (LC50) of 0.3 ug/g and is normalized by the percentage of organic carbon in the sediment sample. The LC50 0.3 ug/g is the geometric mean of LC50 values for cypermethrin from Maund et al. (2002).
Guideline Reference:	Partitioning, bioavailability, and toxicity of the pyrethroid insecticide cypermethrin in sediments. Environmental Toxicology and Chemistry 21:9-15

Spatial Representation:	Data for this line of evidence for Lagunitas Creek was collected at 1 monitoring site [Lagunitas Creek @ Coast Guard Station station (201LAG125)]
Temporal Representation:	Data was collected on a single day 8/13/2008.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	SWAMP data collected before September 2008 followed the QAMP (2002), however there may have been overlap in QA with SWAMP QAPP (2008).
QAPP Information Reference(s):	Quality Assurance Management Plan for the State of California's Surface Water Ambient Monitoring Program. Sacramento, CA. State Water Resources Control Board. SWAMP. December 2002 (1st version). Surface Water Ambient Monitoring Program Quality Assurance Program Plan

DECISION ID	64954	Region 2
Lagunitas Creek		

Pollutant: Final Listing Decision: Last Listing Cycle's Final Listing Decision: Revision Status Impairment from Pollutant or Pollution:	DDD (Dichlorodiphenyldichloroethane) Do Not List on 303(d) list (TMDL required list) New Decision Revised Pollutant
Regional Board Staff Conclusion:	<p>This pollutant is being considered for placement on the CWA section 303(d) List under section 3.6 of the Listing Policy. Under section 3.6 at least two lines of evidence are necessary to assess listing status for pollutants sediment, and pollutant concentrations in sediment must be associated with sediment toxicity to justify adding that pollutant to the CWA section 303(d) List.</p> <p>Two lines of evidence are available in the administrative record to assess this pollutant. Zero of one samples exceed the guideline. Sediment toxicity data are not associated with this decision because they are not relevant to this decision because there is insufficient information based on sediment chemistry.</p> <p>Based on the readily available data and information, the weight of evidence indicates that there is insufficient justification for placing this water segment-pollutant combination on the CWA section 303(d) List.</p> <p>This conclusion is based on the staff findings that:</p> <ol style="list-style-type: none"> 1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy. 2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy. 3. Zero of one samples exceed the guideline and this sample size is insufficient to determine beneficial use support, with the power and confidence of the Listing Policy. A minimum of 16 samples is needed to determine if a beneficial use is fully supported using table 3.1. Sediment toxicity data are not associated with this decision because the sediment chemistry data are insufficient. 4. Pursuant to section 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.
Regional Board Staff Decision Recommendation:	<p>After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be placed on the section 303(d) list. The readily available data and information is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating.</p>

Line of Evidence (LOE) for Decision ID 64954, DDD (Dichlorodiphenyldichloroethane)		Region 2
Lagunitas Creek		

LOE ID:	91971
Pollutant:	DDD (Dichlorodiphenyldichloroethane)
LOE Subgroup:	Pollutant-Sediment

Matrix:	Sediment
Fraction:	Total
Beneficial Use:	Warm Freshwater Habitat
Number of Samples:	1
Number of Exceedances:	0
Data and Information Type:	PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality:	Water Board staff assessed SWAMP data for Lagunitas Creek to determine beneficial use support and results are as follows: 0 of 1 samples exceed the criterion for DDD.
Data Reference:	Statewide Stream Pollution Trends Study 2008
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	San Francisco Bay Basin Water Quality Control Plan 2007: All waters shall be maintained free of toxic substances in concentrations which are toxic to, or which produce detrimental physiological responses in, human, plant, animal, or aquatic life.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	In freshwater sediments the probable effect concentration (predictive of sediment toxicity for sediment-dwelling organisms) for sum of DDD is 28.0 ug/Kg dry weight (MacDonald et al. 2000).
Guideline Reference:	Development and evaluation of consensus-based sediment quality guidelines for freshwater ecosystems. Environmental Contamination and Toxicology. 39: 20-31
Spatial Representation:	Data for this line of evidence for Lagunitas Creek was collected at 1 monitoring site [Lagunitas Creek @ Coast Guard Station station (201LAG125)]
Temporal Representation:	Data was collected on a single day 8/13/2008.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	SWAMP data collected before September 2008 followed the QAMP (2002), however there may have been overlap in QA with SWAMP QAPP (2008).
QAPP Information Reference(s):	Quality Assurance Management Plan for the State of California's Surface Water Ambient Monitoring Program. Sacramento, CA. State Water Resources Control Board. SWAMP. December 2002 (1st version) Surface Water Ambient Monitoring Program Quality Assurance Program Plan

Line of Evidence (LOE) for Decision ID 64954, DDD (Dichlorodiphenyldichloroethane)
Lagunitas Creek

Region 2

LOE ID:	91972
Pollutant:	DDD (Dichlorodiphenyldichloroethane)
LOE Subgroup:	Pollutant-Sediment
Matrix:	Sediment
Fraction:	Total
Beneficial Use:	Cold Freshwater Habitat
Number of Samples:	1
Number of Exceedances:	0
Data and Information Type:	PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality:	Water Board staff assessed SWAMP data for Lagunitas Creek to determine beneficial use support and results are as follows: 0 of 1 samples exceed the criterion for DDD.
Data Reference:	Statewide Stream Pollution Trends Study 2008
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	San Francisco Bay Basin Water Quality Control Plan 2007: All waters shall be maintained free of toxic substances in concentrations which are toxic to, or which produce detrimental physiological responses in, human, plant, animal, or aquatic life.

Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	In freshwater sediments the probable effect concentration (predictive of sediment toxicity for sediment-dwelling organisms) for sum of DDD is 28.0 ug/Kg dry weight (MacDonald et al. 2000).
Guideline Reference:	Development and evaluation of consensus-based sediment quality guidelines for freshwater ecosystems. Environmental Contamination and Toxicology. 39: 20-31
Spatial Representation:	Data for this line of evidence for Lagunitas Creek was collected at 1 monitoring site [Lagunitas Creek @ Coast Guard Station station (201LAG125)]
Temporal Representation:	Data was collected on a single day 8/13/2008.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	SWAMP data collected before September 2008 followed the QAMP (2002), however there may have been overlap in QA with SWAMP QAPP (2008).
QAPP Information Reference(s):	Quality Assurance Management Plan for the State of California's Surface Water Ambient Monitoring Program. Sacramento, CA. State Water Resources Control Board. SWAMP. December 2002 (1st version) Surface Water Ambient Monitoring Program Quality Assurance Program Plan

DECISION ID	64960	Region 2
Lagunitas Creek		
Pollutant: Final Listing Decision: Last Listing Cycle's Final Listing Decision: Revision Status Impairment from Pollutant or Pollution:	DDE (Dichlorodiphenyldichloroethylene) Do Not List on 303(d) list (TMDL required list) New Decision Revised Pollutant	
Regional Board Staff Conclusion:	<p>This pollutant is being considered for placement on the CWA section 303(d) List under section 3.6 of the Listing Policy. Under section 3.6 at least two lines of evidence are necessary to assess listing status for pollutants sediment, and pollutant concentrations in sediment must be associated with sediment toxicity to justify adding that pollutant to the CWA section 303(d) List.</p> <p>Two lines of evidence are available in the administrative record to assess this pollutant. Zero of one samples exceed the guideline. Sediment toxicity data are not associated with this decision because they are not relevant to this decision because there is insufficient information based on sediment chemistry.</p> <p>Based on the readily available data and information, the weight of evidence indicates that there is insufficient justification for placing this water segment-pollutant combination on the CWA section 303(d) List.</p> <p>This conclusion is based on the staff findings that:</p> <ol style="list-style-type: none"> 1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy. 2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy. 3. Zero of one samples exceed the guideline and this sample size is insufficient to determine beneficial use support, with the power and confidence of the Listing Policy. A minimum of 16 samples is needed to determine if a beneficial use is fully supported using table 3.1. Sediment toxicity data are not associated with this decision because the sediment chemistry data are insufficient. 4. Pursuant to section 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met. 	
Regional Board Staff Decision Recommendation:	After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be placed on the section 303(d) list. The readily available data and information is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating.	

Line of Evidence (LOE) for Decision ID 64960, DDE (Dichlorodiphenyldichloroethylene)**Region 2****Lagunitas Creek**

LOE ID:	91974
Pollutant:	DDE (Dichlorodiphenyldichloroethylene)
LOE Subgroup:	Pollutant-Sediment
Matrix:	Sediment
Fraction:	Total
Beneficial Use:	Cold Freshwater Habitat
Number of Samples:	1
Number of Exceedances:	0
Data and Information Type:	PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality:	Water Board staff assessed SWAMP data for Lagunitas Creek to determine beneficial use support and results are as follows: 0 of 1 samples exceed the criterion for DDE.
Data Reference:	Statewide Stream Pollution Trends Study 2008
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	San Francisco Bay Basin Water Quality Control Plan 2007: All waters shall be maintained free of toxic substances in concentrations which are toxic to, or which produce detrimental physiological responses in, human, plant, animal, or aquatic life.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	In freshwater sediments the probable effect concentration (predictive of sediment toxicity for sediment-dwelling organisms) for sum of DDE is 31.3 ug/Kg dry weight (MacDonald et al. 2000).
Guideline Reference:	Development and evaluation of consensus-based sediment quality guidelines for freshwater ecosystems. Environmental Contamination and Toxicology. 39: 20-31
Spatial Representation:	Data for this line of evidence for Lagunitas Creek was collected at 1 monitoring site [Lagunitas Creek @ Coast Guard Station station (201LAG125)]
Temporal Representation:	Data was collected on a single day 8/13/2008.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	SWAMP data collected before September 2008 followed the QAMP (2002), however there may have been overlap in QA with SWAMP QAPP (2008).
QAPP Information Reference(s):	Quality Assurance Management Plan for the State of California's Surface Water Ambient Monitoring Program. Sacramento, CA. State Water Resources Control Board. SWAMP. December 2002 (1st version). Surface Water Ambient Monitoring Program Quality Assurance Program Plan

Line of Evidence (LOE) for Decision ID 64960, DDE (Dichlorodiphenyldichloroethylene)**Region 2****Lagunitas Creek**

LOE ID:	91973
Pollutant:	DDE (Dichlorodiphenyldichloroethylene)
LOE Subgroup:	Pollutant-Sediment
Matrix:	Sediment
Fraction:	Total
Beneficial Use:	Warm Freshwater Habitat
Number of Samples:	1
Number of Exceedances:	0
Data and Information Type:	PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality:	Water Board staff assessed SWAMP data for Lagunitas Creek to determine beneficial use

Data Reference:	support and results are as follows: 0 of 1 samples exceed the criterion for DDE. Statewide Stream Pollution Trends Study 2008
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	San Francisco Bay Basin Water Quality Control Plan 2007: All waters shall be maintained free of toxic substances in concentrations which are toxic to, or which produce detrimental physiological responses in, human, plant, animal, or aquatic life.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	In freshwater sediments the probable effect concentration (predictive of sediment toxicity for sediment-dwelling organisms) for sum of DDE is 31.3 ug/Kg dry weight (MacDonald et al. 2000).
Guideline Reference:	Development and evaluation of consensus-based sediment quality guidelines for freshwater ecosystems. Environmental Contamination and Toxicology. 39: 20-31
Spatial Representation:	Data for this line of evidence for Lagunitas Creek was collected at 1 monitoring site [Lagunitas Creek @ Coast Guard Station station (201LAG125)]
Temporal Representation:	Data was collected on a single day 8/13/2008.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	SWAMP data collected before September 2008 followed the QAMP (2002), however there may have been overlap in QA with SWAMP QAPP (2008).
QAPP Information Reference(s):	Quality Assurance Management Plan for the State of California's Surface Water Ambient Monitoring Program. Sacramento, CA. State Water Resources Control Board. SWAMP. December 2002 (1st version) Surface Water Ambient Monitoring Program Quality Assurance Program Plan

DECISION ID	64961	Region 2
Lagunitas Creek		

Pollutant:	DDT (Dichlorodiphenyltrichloroethane)
Final Listing Decision:	Do Not List on 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision:	New Decision
Revision Status	Revised
Impairment from Pollutant or Pollution:	Pollutant

Regional Board Staff Conclusion:	This pollutant is being considered for placement on the CWA section 303(d) List under section 3.6 of the Listing Policy. Under section 3.6 at least two lines of evidence are necessary to assess listing status for pollutants sediment, and pollutant concentrations in sediment must be associated with sediment toxicity to justify adding that pollutant to the CWA section 303(d) List.
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Four lines of evidence are available in the administrative record to assess this pollutant. Zero of one samples exceed the guideline. Sediment toxicity data are not associated with this decision because they are not relevant to this decision because there is insufficient information based on sediment chemistry.

Based on the readily available data and information, the weight of evidence indicates that there is insufficient justification for placing this water segment-pollutant combination on the CWA section 303(d) List.

This conclusion is based on the staff findings that:

1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy.
2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy.
3. Zero of one samples exceed the guideline and this sample size is insufficient to determine beneficial use support, with the power and confidence of the Listing Policy. A minimum of 16 samples is needed to determine if a beneficial use is fully supported using table 3.1. Sediment toxicity data are not associated with this decision because the sediment chemistry data are insufficient.
4. Pursuant to section 3.11 of the Listing Policy, no additional data and information are available

indicating that standards are not met.

Regional Board Staff Decision Recommendation: After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be placed on the section 303(d) list. The readily available data and information is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating.

Line of Evidence (LOE) for Decision ID 64961, DDT (Dichlorodiphenyltrichloroethane)
Lagunitas Creek

Region 2

LOE ID: 91976

Pollutant: DDT (Dichlorodiphenyltrichloroethane)
LOE Subgroup: Pollutant-Sediment
Matrix: Sediment
Fraction: Total

Beneficial Use: Cold Freshwater Habitat

Number of Samples: 1
Number of Exceedances: 0

Data and Information Type: PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality: Water Board staff assessed SWAMP data for Lagunitas Creek to determine beneficial use support and results are as follows: 0 of 1 samples exceed the criterion for DDT.
Data Reference: [Statewide Stream Pollution Trends Study 2008](#)

SWAMP Data: SWAMP

Water Quality Objective/Criterion: San Francisco Bay Basin Water Quality Control Plan 2007: All waters shall be maintained free of toxic substances in concentrations which are toxic to, or which produce detrimental physiological responses in, human, plant, animal, or aquatic life.
Objective/Criterion Reference: [Water Quality Control Plan \(Basin Plan\) San Francisco Bay Basin \(Region 2\)](#)

Evaluation Guideline: In freshwater sediments the probable effect concentration (predictive of sediment toxicity for sediment-dwelling organisms) for sum of DDT is 62.9 ug/Kg dry weight (MacDonald et al. 2000).
Guideline Reference: [Development and evaluation of consensus-based sediment quality guidelines for freshwater ecosystems. Environmental Contamination and Toxicology. 39: 20-31](#)

Spatial Representation: Data for this line of evidence for Lagunitas Creek was collected at 1 monitoring site [Lagunitas Creek @ Coast Guard Station station (201LAG125)]
Temporal Representation: Data was collected on a single day 8/13/2008.
Environmental Conditions: Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information: SWAMP data collected before September 2008 followed the QAMP (2002), however there may have been overlap in QA with SWAMP QAPP (2008).
QAPP Information Reference(s): [Quality Assurance Management Plan for the State of California's Surface Water Ambient Monitoring Program. Sacramento, CA. State Water Resources Control Board. SWAMP. December 2002 \(1st version\)](#)
[Surface Water Ambient Monitoring Program Quality Assurance Program Plan](#)

Line of Evidence (LOE) for Decision ID 64961, DDT (Dichlorodiphenyltrichloroethane)
Lagunitas Creek

Region 2

LOE ID: 92003

Pollutant: Total DDT (sum of 4,4'- and 2,4'- isomers of DDT, DDE, and DDD)
LOE Subgroup: Pollutant-Sediment
Matrix: Sediment
Fraction: Total

Beneficial Use:	Warm Freshwater Habitat
Number of Samples:	1
Number of Exceedances:	0
Data and Information Type:	PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality:	Water Board staff assessed SWAMP data for Lagunitas Creek to determine beneficial use support and results are as follows: 0 of 1 samples exceed the criterion for DDT, Total.
Data Reference:	Statewide Stream Pollution Trends Study 2008
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	San Francisco Bay Basin Water Quality Control Plan 2007: All waters shall be maintained free of toxic substances in concentrations which are toxic to, or which produce detrimental physiological responses in, human, plant, animal, or aquatic life.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	In freshwater sediments the probable effect concentration (predictive of sediment toxicity for sediment-dwelling organisms) for total DDTs is 572 ug/Kg dry weight (MacDonald et al. 2000).
Guideline Reference:	Development and evaluation of consensus-based sediment quality guidelines for freshwater ecosystems. Environmental Contamination and Toxicology. 39: 20-31
Spatial Representation:	Data for this line of evidence for Lagunitas Creek was collected at 1 monitoring site [Lagunitas Creek @ Coast Guard Station station (201LAG125)]
Temporal Representation:	Data was collected on a single day 8/13/2008.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	SWAMP data collected before September 2008 followed the QAMP (2002), however there may have been overlap in QA with SWAMP QAPP (2008).
QAPP Information Reference(s):	Quality Assurance Management Plan for the State of California's Surface Water Ambient Monitoring Program. Sacramento, CA. State Water Resources Control Board. SWAMP. December 2002 (1st version) Surface Water Ambient Monitoring Program Quality Assurance Program Plan

Line of Evidence (LOE) for Decision ID 64961, DDT (Dichlorodiphenyltrichloroethane)
Lagunitas Creek

Region 2

LOE ID:	92004
Pollutant:	Total DDT (sum of 4,4'- and 2,4'- isomers of DDT, DDE, and DDD)
LOE Subgroup:	Pollutant-Sediment
Matrix:	Sediment
Fraction:	Total
Beneficial Use:	Cold Freshwater Habitat
Number of Samples:	1
Number of Exceedances:	0
Data and Information Type:	PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality:	Water Board staff assessed SWAMP data for Lagunitas Creek to determine beneficial use support and results are as follows: 0 of 1 samples exceed the criterion for DDT, Total.
Data Reference:	Statewide Stream Pollution Trends Study 2008
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	San Francisco Bay Basin Water Quality Control Plan 2007: All waters shall be maintained free of toxic substances in concentrations which are toxic to, or which produce detrimental physiological responses in, human, plant, animal, or aquatic life.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)

Evaluation Guideline:	In freshwater sediments the probable effect concentration (predictive of sediment toxicity for sediment-dwelling organisms) for total DDTs is 572 ug/Kg dry weight (MacDonald et al. 2000).
Guideline Reference:	Development and evaluation of consensus-based sediment quality guidelines for freshwater ecosystems. Environmental Contamination and Toxicology. 39: 20-31
Spatial Representation:	Data for this line of evidence for Lagunitas Creek was collected at 1 monitoring site [Lagunitas Creek @ Coast Guard Station station (201LAG125)]
Temporal Representation:	Data was collected on a single day 8/13/2008.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	SWAMP data collected before September 2008 followed the QAMP (2002), however there may have been overlap in QA with SWAMP QAPP (2008).
QAPP Information Reference(s):	Quality Assurance Management Plan for the State of California's Surface Water Ambient Monitoring Program. Sacramento, CA. State Water Resources Control Board. SWAMP. December 2002 (1st version) Surface Water Ambient Monitoring Program Quality Assurance Program Plan

Line of Evidence (LOE) for Decision ID 64961, DDT (Dichlorodiphenyltrichloroethane)
Lagunitas Creek

Region 2

LOE ID:	91975
Pollutant:	DDT (Dichlorodiphenyltrichloroethane)
LOE Subgroup:	Pollutant-Sediment
Matrix:	Sediment
Fraction:	Total
Beneficial Use:	Warm Freshwater Habitat
Number of Samples:	1
Number of Exceedances:	0
Data and Information Type:	PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality:	Water Board staff assessed SWAMP data for Lagunitas Creek to determine beneficial use support and results are as follows: 0 of 1 samples exceed the criterion for DDT.
Data Reference:	Statewide Stream Pollution Trends Study 2008
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	San Francisco Bay Basin Water Quality Control Plan 2007: All waters shall be maintained free of toxic substances in concentrations which are toxic to, or which produce detrimental physiological responses in, human, plant, animal, or aquatic life.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	In freshwater sediments the probable effect concentration (predictive of sediment toxicity for sediment-dwelling organisms) for sum of DDT is 62.9 ug/Kg dry weight (MacDonald et al. 2000).
Guideline Reference:	Development and evaluation of consensus-based sediment quality guidelines for freshwater ecosystems. Environmental Contamination and Toxicology. 39: 20-31
Spatial Representation:	Data for this line of evidence for Lagunitas Creek was collected at 1 monitoring site [Lagunitas Creek @ Coast Guard Station station (201LAG125)]
Temporal Representation:	Data was collected on a single day 8/13/2008.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	SWAMP data collected before September 2008 followed the QAMP (2002), however there may have been overlap in QA with SWAMP QAPP (2008).
QAPP Information Reference(s):	Quality Assurance Management Plan for the State of California's Surface Water Ambient Monitoring Program. Sacramento, CA. State Water Resources Control Board. SWAMP. December 2002 (1st version) Surface Water Ambient Monitoring Program Quality Assurance Program Plan

Pollutant:	Deltamethrin
Final Listing Decision:	Do Not List on 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision:	New Decision
Revision Status	Revised
Impairment from Pollutant or Pollution:	Pollutant

Regional Board Staff Conclusion:	<p>This pollutant is being considered for placement on the CWA section 303(d) List under section 3.6 of the Listing Policy. Under section 3.6 at least two lines of evidence are necessary to assess listing status for pollutants sediment, and pollutant concentrations in sediment must be associated with sediment toxicity to justify adding that pollutant to the CWA section 303(d) List.</p> <p>Two lines of evidence are available in the administrative record to assess this pollutant. Zero of one samples exceed the guideline. Sediment toxicity data are not associated with this decision because they are not relevant to this decision because there is insufficient information based on sediment chemistry.</p> <p>Based on the readily available data and information, the weight of evidence indicates that there is insufficient justification for placing this water segment-pollutant combination on the CWA section 303(d) List.</p> <p>This conclusion is based on the staff findings that:</p> <ol style="list-style-type: none"> 1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy. 2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy. 3. Zero of one samples exceed the guideline and this sample size is insufficient to determine beneficial use support, with the power and confidence of the Listing Policy. A minimum of 16 samples is needed to determine if a beneficial use is fully supported using table 3.1. Sediment toxicity data are not associated with this decision because the sediment chemistry data are insufficient. 4. Pursuant to section 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.
Regional Board Staff Decision Recommendation:	<p>After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be placed on the section 303(d) list. The readily available data and information is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating.</p>

Line of Evidence (LOE) for Decision ID 64962, Deltamethrin	Region 2
Lagunitas Creek	

LOE ID:	91977
Pollutant:	Deltamethrin
LOE Subgroup:	Pollutant-Sediment
Matrix:	Sediment
Fraction:	Total
Beneficial Use:	Warm Freshwater Habitat
Number of Samples:	1
Number of Exceedances:	0
Data and Information Type:	PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality:	Water Board staff assessed SWAMP data for Lagunitas Creek to determine beneficial use support and results are as follows: 0 of 1 samples exceed the criterion for Deltamethrin.
Data Reference:	Statewide Stream Pollution Trends Study 2008

SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	San Francisco Bay Basin Water Quality Control Plan 2007: All waters shall be maintained free of toxic substances in concentrations which are toxic to, or which produce detrimental physiological responses in, human, plant, animal, or aquatic life.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	The evaluation guideline for deltamethrin is the median lethal concentration (LC50) of 0.79 ug/g and is normalized by the percentage of organic carbon in the sediment sample. The LC50 0.79 ug/g is the geometric mean of LC50 values for deltamethrin from Amweg et al. (2005).
Guideline Reference:	Use and Toxicity of Pyrethroid Pesticides in the Central Valley, California, USA. Environmental Toxicology and Chemistry, 24:966-972, with erratum 24:No. 5
Spatial Representation:	Data for this line of evidence for Lagunitas Creek was collected at 1 monitoring site [Lagunitas Creek @ Coast Guard Station station (201LAG125)]
Temporal Representation:	Data was collected on a single day 8/13/2008.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	SWAMP data collected before September 2008 followed the QAMP (2002), however there may have been overlap in QA with SWAMP QAPP (2008).
QAPP Information Reference(s):	Quality Assurance Management Plan for the State of California's Surface Water Ambient Monitoring Program. Sacramento, CA. State Water Resources Control Board. SWAMP. December 2002 (1st version) Surface Water Ambient Monitoring Program Quality Assurance Program Plan

Line of Evidence (LOE) for Decision ID 64962, Deltamethrin

Region 2

Lagunitas Creek

LOE ID:	91978
Pollutant:	Deltamethrin
LOE Subgroup:	Pollutant-Sediment
Matrix:	Sediment
Fraction:	Total
Beneficial Use:	Cold Freshwater Habitat
Number of Samples:	1
Number of Exceedances:	0
Data and Information Type:	PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality:	Water Board staff assessed SWAMP data for Lagunitas Creek to determine beneficial use support and results are as follows: 0 of 1 samples exceed the criterion for Deltamethrin.
Data Reference:	Statewide Stream Pollution Trends Study 2008
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	San Francisco Bay Basin Water Quality Control Plan 2007: All waters shall be maintained free of toxic substances in concentrations which are toxic to, or which produce detrimental physiological responses in, human, plant, animal, or aquatic life.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	The evaluation guideline for deltamethrin is the median lethal concentration (LC50) of 0.79 ug/g and is normalized by the percentage of organic carbon in the sediment sample. The LC50 0.79 ug/g is the geometric mean of LC50 values for deltamethrin from Amweg et al. (2005).
Guideline Reference:	Use and Toxicity of Pyrethroid Pesticides in the Central Valley, California, USA. Environmental Toxicology and Chemistry, 24:966-972, with erratum 24:No. 5
Spatial Representation:	Data for this line of evidence for Lagunitas Creek was collected at 1 monitoring site [Lagunitas Creek @ Coast Guard Station station (201LAG125)]

Temporal Representation:	Data was collected on a single day 8/13/2008.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	SWAMP data collected before September 2008 followed the QAMP (2002), however there may have been overlap in QA with SWAMP QAPP (2008).
QAPP Information Reference(s):	Quality Assurance Management Plan for the State of California's Surface Water Ambient Monitoring Program. Sacramento, CA. State Water Resources Control Board. SWAMP. December 2002 (1st version). Surface Water Ambient Monitoring Program Quality Assurance Program Plan

DECISION ID	64963	Region 2
Lagunitas Creek		

Pollutant:	Diazinon
Final Listing Decision:	Do Not List on 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision:	New Decision
Revision Status	Revised
Impairment from Pollutant or Pollution:	Pollutant

Regional Board Staff Conclusion: This pollutant is being considered for placement on the CWA section 303(d) List under section 3.6 of the Listing Policy. Under section 3.6 at least two lines of evidence are necessary to assess listing status for pollutants sediment, and pollutant concentrations in sediment must be associated with sediment toxicity to justify adding that pollutant to the CWA section 303(d) List.

Two lines of evidence are available in the administrative record to assess this pollutant. Zero of one samples exceed the guideline. Sediment toxicity data are not associated with this decision because they are not relevant to this decision because there is insufficient information based on sediment chemistry.

Based on the readily available data and information, the weight of evidence indicates that there is insufficient justification for placing this water segment-pollutant combination on the CWA section 303(d) List.

This conclusion is based on the staff findings that:

1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy.
2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy.
3. Zero of one samples exceed the guideline and this sample size is insufficient to determine beneficial use support, with the power and confidence of the Listing Policy. A minimum of 16 samples is needed to determine if a beneficial use is fully supported using table 3.1. Sediment toxicity data are not associated with this decision because the sediment chemistry data are insufficient.
4. Pursuant to section 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.

Regional Board Staff Decision Recommendation: After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be placed on the section 303(d) list. The readily available data and information is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating.

Line of Evidence (LOE) for Decision ID 64963, Diazinon		Region 2
Lagunitas Creek		

LOE ID:	91980
Pollutant:	Diazinon
LOE Subgroup:	Pollutant-Sediment
Matrix:	Sediment
Fraction:	Total

Beneficial Use:	Cold Freshwater Habitat
Number of Samples:	1
Number of Exceedances:	0
Data and Information Type:	PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality:	Water Board staff assessed SWAMP data for Lagunitas Creek to determine beneficial use support and results are as follows: 0 of 1 samples exceed the criterion for Diazinon.
Data Reference:	Statewide Stream Pollution Trends Study 2008
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	San Francisco Bay Basin Water Quality Control Plan 2007: All waters shall be maintained free of toxic substances in concentrations which are toxic to, or which produce detrimental physiological responses in, human, plant, animal, or aquatic life.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	The evaluation guideline for diazinon is the median lethal concentration (LC50) of 11 ug/g and is normalized by the percentage of organic carbon in the sediment sample. The LC50 11 ug/g is the geometric mean of LC50 values for diazinon from Ding et al. (2011).
Guideline Reference:	Toxicity of Sediment-Associated Pesticides to Chironomus dilutus and Hyalella azteca. Arch. Environ. Contam. Toxicol. 61:83?92.
Spatial Representation:	Data for this line of evidence for Lagunitas Creek was collected at 1 monitoring site [Lagunitas Creek @ Coast Guard Station station (201LAG125)]
Temporal Representation:	Data was collected on a single day 8/13/2008.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	SWAMP data collected before September 2008 followed the QAMP (2002), however there may have been overlap in QA with SWAMP QAPP (2008).
QAPP Information Reference(s):	Quality Assurance Management Plan for the State of California's Surface Water Ambient Monitoring Program. Sacramento, CA. State Water Resources Control Board. SWAMP. December 2002 (1st version) Surface Water Ambient Monitoring Program Quality Assurance Program Plan

Line of Evidence (LOE) for Decision ID 64963, Diazinon

Region 2

Lagunitas Creek

LOE ID:	91979
Pollutant:	Diazinon
LOE Subgroup:	Pollutant-Sediment
Matrix:	Sediment
Fraction:	Total
Beneficial Use:	Warm Freshwater Habitat
Number of Samples:	1
Number of Exceedances:	0
Data and Information Type:	PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality:	Water Board staff assessed SWAMP data for Lagunitas Creek to determine beneficial use support and results are as follows: 0 of 1 samples exceed the criterion for Diazinon.
Data Reference:	Statewide Stream Pollution Trends Study 2008
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	San Francisco Bay Basin Water Quality Control Plan 2007: All waters shall be maintained free of toxic substances in concentrations which are toxic to, or which produce detrimental physiological responses in, human, plant, animal, or aquatic life.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)

Evaluation Guideline:	The evaluation guideline for diazinon is the median lethal concentration (LC50) of 11 ug/g and is normalized by the percentage of organic carbon in the sediment sample. The LC50 11 ug/g is the geometric mean of LC50 values for diazinon from Ding et al. (2011).
Guideline Reference:	Toxicity of Sediment-Associated Pesticides to Chironomus dilutus and Hyalella azteca. Arch. Environ. Contam. Toxicol. 61:83?92.
Spatial Representation:	Data for this line of evidence for Lagunitas Creek was collected at 1 monitoring site [Lagunitas Creek @ Coast Guard Station station (201LAG125)]
Temporal Representation:	Data was collected on a single day 8/13/2008.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	SWAMP data collected before September 2008 followed the QAMP (2002), however there may have been overlap in QA with SWAMP QAPP (2008).
QAPP Information Reference(s):	Quality Assurance Management Plan for the State of California's Surface Water Ambient Monitoring Program. Sacramento, CA. State Water Resources Control Board. SWAMP. December 2002 (1st version) Surface Water Ambient Monitoring Program Quality Assurance Program Plan

DECISION ID	64965	Region 2
Lagunitas Creek		

Pollutant:	Dieldrin
Final Listing Decision:	Do Not List on 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision:	New Decision
Revision Status	Revised
Impairment from Pollutant or Pollution:	Pollutant

Regional Board Staff Conclusion: This pollutant is being considered for placement on the CWA section 303(d) List under section 3.6 of the Listing Policy. Under section 3.6 at least two lines of evidence are necessary to assess listing status for pollutants sediment, and pollutant concentrations in sediment must be associated with sediment toxicity to justify adding that pollutant to the CWA section 303(d) List.

Two lines of evidence are available in the administrative record to assess this pollutant. Zero of one samples exceed the guideline. Sediment toxicity data are not associated with this decision because they are not relevant to this decision because there is insufficient information based on sediment chemistry.

Based on the readily available data and information, the weight of evidence indicates that there is insufficient justification for placing this water segment-pollutant combination on the CWA section 303(d) List.

This conclusion is based on the staff findings that:

1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy.
2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy.
3. Zero of one samples exceed the guideline and this sample size is insufficient to determine beneficial use support, with the power and confidence of the Listing Policy. A minimum of 16 samples is needed to determine if a beneficial use is fully supported using table 3.1. Sediment toxicity data are not associated with this decision because the sediment chemistry data are insufficient.
4. Pursuant to section 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.

Regional Board Staff Decision Recommendation: After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be placed on the section 303(d) list. The readily available data and information is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating.

Line of Evidence (LOE) for Decision ID 64965, Dieldrin	Region 2
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Lagunitas Creek

LOE ID:	91981
Pollutant:	Dieldrin
LOE Subgroup:	Pollutant-Sediment
Matrix:	Sediment
Fraction:	Total
Beneficial Use:	Warm Freshwater Habitat
Number of Samples:	1
Number of Exceedances:	0
Data and Information Type:	PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality:	Water Board staff assessed SWAMP data for Lagunitas Creek to determine beneficial use support and results are as follows: 0 of 1 samples exceed the criterion for Dieldrin.
Data Reference:	Statewide Stream Pollution Trends Study 2008
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	San Francisco Bay Basin Water Quality Control Plan 2007: All waters shall be maintained free of toxic substances in concentrations which are toxic to, or which produce detrimental physiological responses in, human, plant, animal, or aquatic life.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	In freshwater sediments the probable effect concentration (predictive of sediment toxicity for sediment-dwelling organisms) for dieldrin is 61.8 ug/Kg dry weight (MacDonald et al. 2000).
Guideline Reference:	Development and evaluation of consensus-based sediment quality guidelines for freshwater ecosystems. Environmental Contamination and Toxicology. 39: 20-31
Spatial Representation:	Data for this line of evidence for Lagunitas Creek was collected at 1 monitoring site [Lagunitas Creek @ Coast Guard Station station (201LAG125)]
Temporal Representation:	Data was collected on a single day 8/13/2008.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	SWAMP data collected before September 2008 followed the QAMP (2002), however there may have been overlap in QA with SWAMP QAPP (2008).
QAPP Information Reference(s):	Quality Assurance Management Plan for the State of California's Surface Water Ambient Monitoring Program. Sacramento, CA. State Water Resources Control Board. SWAMP. December 2002 (1st version) Surface Water Ambient Monitoring Program Quality Assurance Program Plan

Line of Evidence (LOE) for Decision ID 64965, Dieldrin

Region 2

Lagunitas Creek

LOE ID:	91982
Pollutant:	Dieldrin
LOE Subgroup:	Pollutant-Sediment
Matrix:	Sediment
Fraction:	Total
Beneficial Use:	Cold Freshwater Habitat
Number of Samples:	1
Number of Exceedances:	0
Data and Information Type:	PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality:	Water Board staff assessed SWAMP data for Lagunitas Creek to determine beneficial use support and results are as follows: 0 of 1 samples exceed the criterion for Dieldrin.
Data Reference:	Statewide Stream Pollution Trends Study 2008

SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	San Francisco Bay Basin Water Quality Control Plan 2007: All waters shall be maintained free of toxic substances in concentrations which are toxic to, or which produce detrimental physiological responses in, human, plant, animal, or aquatic life.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	In freshwater sediments the probable effect concentration (predictive of sediment toxicity for sediment-dwelling organisms) for dieldrin is 61.8 ug/Kg dry weight (MacDonald et al. 2000).
Guideline Reference:	Development and evaluation of consensus-based sediment quality guidelines for freshwater ecosystems. Environmental Contamination and Toxicology. 39: 20-31
Spatial Representation:	Data for this line of evidence for Lagunitas Creek was collected at 1 monitoring site [Lagunitas Creek @ Coast Guard Station station (201LAG125)]
Temporal Representation:	Data was collected on a single day 8/13/2008.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	SWAMP data collected before September 2008 followed the QAMP (2002), however there may have been overlap in QA with SWAMP QAPP (2008).
QAPP Information Reference(s):	Quality Assurance Management Plan for the State of California's Surface Water Ambient Monitoring Program. Sacramento, CA. State Water Resources Control Board. SWAMP. December 2002 (1st version) Surface Water Ambient Monitoring Program Quality Assurance Program Plan

DECISION ID	64966	Region 2
Lagunitas Creek		

Pollutant:	Endrin
Final Listing Decision:	Do Not List on 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision:	New Decision
Revision Status	Revised
Impairment from Pollutant or Pollution:	Pollutant
Regional Board Staff Conclusion:	<p>This pollutant is being considered for placement on the CWA section 303(d) List under section 3.6 of the Listing Policy. Under section 3.6 at least two lines of evidence are necessary to assess listing status for pollutants sediment, and pollutant concentrations in sediment must be associated with sediment toxicity to justify adding that pollutant to the CWA section 303(d) List.</p> <p>Two lines of evidence are available in the administrative record to assess this pollutant. Zero of one samples exceed the guideline. Sediment toxicity data are not associated with this decision because they are not relevant to this decision because there is insufficient information based on sediment chemistry.</p> <p>Based on the readily available data and information, the weight of evidence indicates that there is insufficient justification for placing this water segment-pollutant combination on the CWA section 303(d) List.</p> <p>This conclusion is based on the staff findings that:</p> <ol style="list-style-type: none"> 1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy. 2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy. 3. Zero of one samples exceed the guideline and this sample size is insufficient to determine beneficial use support, with the power and confidence of the Listing Policy. A minimum of 16 samples is needed to determine if a beneficial use is fully supported using table 3.1. Sediment toxicity data are not associated with this decision because the sediment chemistry data are insufficient. 4. Pursuant to section 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.

Regional Board Staff Decision Recommendation: After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be placed on the section 303(d) list. The readily available data and information is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating.

**Line of Evidence (LOE) for Decision ID 64966, Endrin
Lagunitas Creek**

Region 2

LOE ID: 91984

Pollutant: Endrin
LOE Subgroup: Pollutant-Sediment
Matrix: Sediment
Fraction: Total

Beneficial Use: Cold Freshwater Habitat

Number of Samples: 1
Number of Exceedances: 0

Data and Information Type: PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality: Water Board staff assessed SWAMP data for Lagunitas Creek to determine beneficial use support and results are as follows: 0 of 1 samples exceed the criterion for Endrin.
Data Reference: [Statewide Stream Pollution Trends Study 2008](#)

SWAMP Data: SWAMP

Water Quality Objective/Criterion: San Francisco Bay Basin Water Quality Control Plan 2007: All waters shall be maintained free of toxic substances in concentrations which are toxic to, or which produce detrimental physiological responses in, human, plant, animal, or aquatic life.
Objective/Criterion Reference: [Water Quality Control Plan \(Basin Plan\) San Francisco Bay Basin \(Region 2\)](#)

Evaluation Guideline: In freshwater sediments the probable effect concentration (predictive of sediment toxicity for sediment-dwelling organisms) for endrin is 207 ug/Kg dry weight (MacDonald et al. 2000).
Guideline Reference: [Development and evaluation of consensus-based sediment quality guidelines for freshwater ecosystems. Environmental Contamination and Toxicology. 39: 20-31](#)

Spatial Representation: Data for this line of evidence for Lagunitas Creek was collected at 1 monitoring site [Lagunitas Creek @ Coast Guard Station station (201LAG125)]
Temporal Representation: Data was collected on a single day 8/13/2008.
Environmental Conditions: Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information: SWAMP data collected before September 2008 followed the QAMP (2002), however there may have been overlap in QA with SWAMP QAPP (2008).
QAPP Information Reference(s): [Quality Assurance Management Plan for the State of California's Surface Water Ambient Monitoring Program. Sacramento, CA. State Water Resources Control Board. SWAMP. December 2002 \(1st version\)](#)
[Surface Water Ambient Monitoring Program Quality Assurance Program Plan](#)

**Line of Evidence (LOE) for Decision ID 64966, Endrin
Lagunitas Creek**

Region 2

LOE ID: 91983

Pollutant: Endrin
LOE Subgroup: Pollutant-Sediment
Matrix: Sediment
Fraction: Total

Beneficial Use: Warm Freshwater Habitat

Number of Samples:	1
Number of Exceedances:	0
Data and Information Type:	PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality:	Water Board staff assessed SWAMP data for Lagunitas Creek to determine beneficial use support and results are as follows: 0 of 1 samples exceed the criterion for Endrin.
Data Reference:	Statewide Stream Pollution Trends Study 2008
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	San Francisco Bay Basin Water Quality Control Plan 2007: All waters shall be maintained free of toxic substances in concentrations which are toxic to, or which produce detrimental physiological responses in, human, plant, animal, or aquatic life.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	In freshwater sediments the probable effect concentration (predictive of sediment toxicity for sediment-dwelling organisms) for endrin is 207 ug/Kg dry weight (MacDonald et al. 2000).
Guideline Reference:	Development and evaluation of consensus-based sediment quality guidelines for freshwater ecosystems. Environmental Contamination and Toxicology. 39: 20-31
Spatial Representation:	Data for this line of evidence for Lagunitas Creek was collected at 1 monitoring site [Lagunitas Creek @ Coast Guard Station (201LAG125)]
Temporal Representation:	Data was collected on a single day 8/13/2008.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	SWAMP data collected before September 2008 followed the QAMP (2002), however there may have been overlap in QA with SWAMP QAPP (2008).
QAPP Information Reference(s):	Quality Assurance Management Plan for the State of California's Surface Water Ambient Monitoring Program. Sacramento, CA. State Water Resources Control Board. SWAMP. December 2002 (1st version) Surface Water Ambient Monitoring Program Quality Assurance Program Plan

DECISION ID	64968	Region 2
Lagunitas Creek		

Pollutant:	Esfenvalerate/Fenvalerate
Final Listing Decision:	Do Not List on 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision:	New Decision
Revision Status	Revised
Impairment from Pollutant or Pollution:	Pollutant

Regional Board Staff Conclusion:	<p>This pollutant is being considered for placement on the CWA section 303(d) List under section 3.6 of the Listing Policy. Under section 3.6 at least two lines of evidence are necessary to assess listing status for pollutants sediment, and pollutant concentrations in sediment must be associated with sediment toxicity to justify adding that pollutant to the CWA section 303(d) List.</p> <p>Two lines of evidence are available in the administrative record to assess this pollutant. Zero of one samples exceed the guideline. Sediment toxicity data are not associated with this decision because they are not relevant to this decision because there is insufficient information based on sediment chemistry.</p> <p>Based on the readily available data and information, the weight of evidence indicates that there is insufficient justification for placing this water segment-pollutant combination on the CWA section 303(d) List.</p> <p>This conclusion is based on the staff findings that:</p> <ol style="list-style-type: none"> 1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy. 2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy.
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3. Zero of one samples exceed the guideline and this sample size is insufficient to determine beneficial use support, with the power and confidence of the Listing Policy. A minimum of 16 samples is needed to determine if a beneficial use is fully supported using table 3.1. Sediment toxicity data are not associated with this decision because the sediment chemistry data are insufficient.
4. Pursuant to section 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.

Regional Board Staff Decision Recommendation: After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be placed on the section 303(d) list. The readily available data and information is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating.

**Line of Evidence (LOE) for Decision ID 64968, Esfenvalerate/Fenvalerate
Lagunitas Creek**

Region 2

LOE ID:	91986
Pollutant:	Esfenvalerate/Fenvalerate
LOE Subgroup:	Pollutant-Sediment
Matrix:	Sediment
Fraction:	Total
Beneficial Use:	Cold Freshwater Habitat
Number of Samples:	1
Number of Exceedances:	0
Data and Information Type:	PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality:	Water Board staff assessed SWAMP data for Lagunitas Creek to determine beneficial use support and results are as follows: 0 of 1 samples exceed the criterion for Esfenvalerate/Fenvalerate, total.
Data Reference:	Statewide Stream Pollution Trends Study 2008
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	San Francisco Bay Basin Water Quality Control Plan 2007: All waters shall be maintained free of toxic substances in concentrations which are toxic to, or which produce detrimental physiological responses in, human, plant, animal, or aquatic life.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	The evaluation guideline for esfenvalerate/fenvalerate is the median lethal concentration (LC50) of 1.5 ug/g and is normalized by the percentage of organic carbon in the sediment sample. The LC50 1.5 ug/g is the geometric mean of LC50 values for esfenvalerate/fenvalerate from Amweg et al. (2005).
Guideline Reference:	Use and Toxicity of Pyrethroid Pesticides in the Central Valley, California, USA. Environmental Toxicology and Chemistry, 24:966-972, with erratum 24:No. 5
Spatial Representation:	Data for this line of evidence for Lagunitas Creek was collected at 1 monitoring site [Lagunitas Creek @ Coast Guard Station station (201LAG125)]
Temporal Representation:	Data was collected on a single day 8/13/2008.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	SWAMP data collected before September 2008 followed the QAMP (2002), however there may have been overlap in QA with SWAMP QAPP (2008).
QAPP Information Reference(s):	Quality Assurance Management Plan for the State of California's Surface Water Ambient Monitoring Program, Sacramento, CA. State Water Resources Control Board. SWAMP. December 2002 (1st version) Surface Water Ambient Monitoring Program Quality Assurance Program Plan

Line of Evidence (LOE) for Decision ID 64968, Esfenvalerate/Fenvalerate

Region 2

Lagunitas Creek

LOE ID:	91985
Pollutant:	Esfenvalerate/Fenvalerate
LOE Subgroup:	Pollutant-Sediment
Matrix:	Sediment
Fraction:	Total
Beneficial Use:	Warm Freshwater Habitat
Number of Samples:	1
Number of Exceedances:	0
Data and Information Type:	PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality:	Water Board staff assessed SWAMP data for Lagunitas Creek to determine beneficial use support and results are as follows: 0 of 1 samples exceed the criterion for Esfenvalerate/Fenvalerate, total.
Data Reference:	Statewide Stream Pollution Trends Study 2008
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	San Francisco Bay Basin Water Quality Control Plan 2007: All waters shall be maintained free of toxic substances in concentrations which are toxic to, or which produce detrimental physiological responses in, human, plant, animal, or aquatic life.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	The evaluation guideline for esfenvalerate/fenvalerate is the median lethal concentration (LC50) of 1.5 ug/g and is normalized by the percentage of organic carbon in the sediment sample. The LC50 1.5 ug/g is the geometric mean of LC50 values for esfenvalerate/fenvalerate from Amweg et al. (2005).
Guideline Reference:	Use and Toxicity of Pyrethroid Pesticides in the Central Valley, California, USA. Environmental Toxicology and Chemistry, 24:966-972. with erratum 24:No. 5
Spatial Representation:	Data for this line of evidence for Lagunitas Creek was collected at 1 monitoring site [Lagunitas Creek @ Coast Guard Station station (201LAG125)]
Temporal Representation:	Data was collected on a single day 8/13/2008.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	SWAMP data collected before September 2008 followed the QAMP (2002), however there may have been overlap in QA with SWAMP QAPP (2008).
QAPP Information Reference(s):	Quality Assurance Management Plan for the State of California's Surface Water Ambient Monitoring Program. Sacramento, CA. State Water Resources Control Board. SWAMP. December 2002 (1st version). Surface Water Ambient Monitoring Program Quality Assurance Program Plan

DECISION ID	64969	Region 2
Lagunitas Creek		
Pollutant:	Fenpropathrin	
Final Listing Decision:	Do Not List on 303(d) list (TMDL required list)	
Last Listing Cycle's Final Listing Decision:	New Decision	
Revision Status	Revised	
Impairment from Pollutant or Pollution:	Pollutant	
Regional Board Staff Conclusion:	This pollutant is being considered for placement on the CWA section 303(d) List under section 3.6 of the Listing Policy. Under section 3.6 at least two lines of evidence are necessary to assess listing status for pollutants sediment, and pollutant concentrations in sediment must be associated with sediment toxicity to justify adding that pollutant to the CWA section 303(d) List.	

Two lines of evidence are available in the administrative record to assess this pollutant. Zero of one samples exceed the guideline. Sediment toxicity data are not associated with this decision because they are not relevant to this decision because there is insufficient information based on sediment chemistry.

Based on the readily available data and information, the weight of evidence indicates that there is insufficient justification for placing this water segment-pollutant combination on the CWA section 303(d) List.

This conclusion is based on the staff findings that:

1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy.
2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy.
3. Zero of one samples exceed the guideline and this sample size is insufficient to determine beneficial use support, with the power and confidence of the Listing Policy. A minimum of 16 samples is needed to determine if a beneficial use is fully supported using table 3.1. Sediment toxicity data are not associated with this decision because the sediment chemistry data are insufficient.
4. Pursuant to section 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.

Regional Board Staff Decision Recommendation: After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be placed on the section 303(d) list. The readily available data and information is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating.

Line of Evidence (LOE) for Decision ID 64969, Fenpropathrin Lagunitas Creek

Region 2

LOE ID:	91987
Pollutant:	Fenpropathrin
LOE Subgroup:	Pollutant-Sediment
Matrix:	Sediment
Fraction:	Total
Beneficial Use:	Warm Freshwater Habitat
Number of Samples:	1
Number of Exceedances:	0
Data and Information Type:	PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality:	Water Board staff assessed SWAMP data for Lagunitas Creek to determine beneficial use support and results are as follows: 0 of 1 samples exceed the criterion for Fenpropathrin.
Data Reference:	Statewide Stream Pollution Trends Study 2008
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	San Francisco Bay Basin Water Quality Control Plan 2007: All waters shall be maintained free of toxic substances in concentrations which are toxic to, or which produce detrimental physiological responses in, human, plant, animal, or aquatic life.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	The evaluation guideline for fenpropathrin is the median lethal concentration (LC50) of 1 ug/g and is normalized by the percentage of organic carbon in the sediment sample. The LC50 1 ug/g is the geometric mean of LC50 values for fenpropathrin from Ding et al. (2011).
Guideline Reference:	Toxicity of Sediment-Associated Pesticides to Chironomus dilutus and Hyalella azteca. Arch. Environ. Contam. Toxicol. 61:83?92.
Spatial Representation:	Data for this line of evidence for Lagunitas Creek was collected at 1 monitoring site [Lagunitas Creek @ Coast Guard Station station (201LAG125)]

Temporal Representation:	Data was collected on a single day 8/13/2008.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	SWAMP data collected before September 2008 followed the QAMP (2002), however there may have been overlap in QA with SWAMP QAPP (2008).
QAPP Information Reference(s):	Quality Assurance Management Plan for the State of California's Surface Water Ambient Monitoring Program. Sacramento, CA. State Water Resources Control Board. SWAMP. December 2002 (1st version) Surface Water Ambient Monitoring Program Quality Assurance Program Plan

Line of Evidence (LOE) for Decision ID 64969, Fenpropathrin

Region 2

Lagunitas Creek

LOE ID:	91988
Pollutant:	Fenpropathrin
LOE Subgroup:	Pollutant-Sediment
Matrix:	Sediment
Fraction:	Total
Beneficial Use:	Cold Freshwater Habitat
Number of Samples:	1
Number of Exceedances:	0
Data and Information Type:	PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality:	Water Board staff assessed SWAMP data for Lagunitas Creek to determine beneficial use support and results are as follows: 0 of 1 samples exceed the criterion for Fenpropathrin.
Data Reference:	Statewide Stream Pollution Trends Study 2008
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	San Francisco Bay Basin Water Quality Control Plan 2007: All waters shall be maintained free of toxic substances in concentrations which are toxic to, or which produce detrimental physiological responses in, human, plant, animal, or aquatic life.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	The evaluation guideline for fenpropathrin is the median lethal concentration (LC50) of 1 ug/g and is normalized by the percentage of organic carbon in the sediment sample. The LC50 1 ug/g is the geometric mean of LC50 values for fenpropathrin from Ding et al. (2011).
Guideline Reference:	Toxicity of Sediment-Associated Pesticides to Chironomus dilutus and Hyalella azteca. Arch. Environ. Contam. Toxicol. 61:83?92.
Spatial Representation:	Data for this line of evidence for Lagunitas Creek was collected at 1 monitoring site [Lagunitas Creek @ Coast Guard Station station (201LAG125)]
Temporal Representation:	Data was collected on a single day 8/13/2008.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	SWAMP data collected before September 2008 followed the QAMP (2002), however there may have been overlap in QA with SWAMP QAPP (2008).
QAPP Information Reference(s):	Quality Assurance Management Plan for the State of California's Surface Water Ambient Monitoring Program. Sacramento, CA. State Water Resources Control Board. SWAMP. December 2002 (1st version) Surface Water Ambient Monitoring Program Quality Assurance Program Plan

DECISION ID

64971

Region 2

Lagunitas Creek

Pollutant:	Lead
Final Listing Decision:	Do Not List on 303(d) list (TMDL required list)
Last Listing Cycle's Final	New Decision

Listing Decision:**Revision Status**

Revised

Impairment from Pollutant or Pollution:

Pollutant

Regional Board Staff**Conclusion:**

This pollutant is being considered for placement on the CWA section 303(d) List under section 3.6 of the Listing Policy. Under section 3.6 at least two lines of evidence are necessary to assess listing status for pollutants sediment, and pollutant concentrations in sediment must be associated with sediment toxicity to justify adding that pollutant to the CWA section 303(d) List.

Two lines of evidence are available in the administrative record to assess this pollutant. Zero of one samples exceed the guideline. Sediment toxicity data are not associated with this decision because they are not relevant to this decision because there is insufficient information based on sediment chemistry.

Based on the readily available data and information, the weight of evidence indicates that there is insufficient justification for placing this water segment-pollutant combination on the CWA section 303(d) List.

This conclusion is based on the staff findings that:

1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy.
2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy.
3. Zero of one samples exceed the guideline and this sample size is insufficient to determine beneficial use support, with the power and confidence of the Listing Policy. A minimum of 16 samples is needed to determine if a beneficial use is fully supported using table 3.1. Sediment toxicity data are not associated with this decision because the sediment chemistry data are insufficient.
4. Pursuant to section 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.

Regional Board Staff Decision**Recommendation:**

After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be placed on the section 303(d) list. The readily available data and information is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating.

**Line of Evidence (LOE) for Decision ID 64971, Lead
Lagunitas Creek****Region 2**

LOE ID: 91990

Pollutant: Lead
LOE Subgroup: Pollutant-Sediment
Matrix: Sediment
Fraction: Total

Beneficial Use: Cold Freshwater Habitat

Number of Samples: 1
Number of Exceedances: 0

Data and Information Type: PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality: Water Board staff assessed SWAMP data for Lagunitas Creek to determine beneficial use support and results are as follows: 0 of 1 samples exceed the criterion for Lead.
Data Reference: [Statewide Stream Pollution Trends Study 2008](#)

SWAMP Data: SWAMP

Water Quality Objective/Criterion: San Francisco Bay Basin Water Quality Control Plan 2007: All waters shall be maintained free of toxic substances in concentrations which are toxic to, or which produce detrimental physiological responses in, human, plant, animal, or aquatic life.

Objective/Criterion Reference: [Water Quality Control Plan \(Basin Plan\) San Francisco Bay Basin \(Region 2\)](#)

Evaluation Guideline:	In freshwater sediments the probable effect concentration (predictive of sediment toxicity for sediment-dwelling organisms) for lead is 128 mg/Kg dry weight (MacDonald et al. 2000).
Guideline Reference:	Development and evaluation of consensus-based sediment quality guidelines for freshwater ecosystems. Environmental Contamination and Toxicology. 39: 20-31
Spatial Representation:	Data for this line of evidence for Lagunitas Creek was collected at 1 monitoring site [Lagunitas Creek @ Coast Guard Station station (201LAG125)]
Temporal Representation:	Data was collected on a single day 8/13/2008.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	SWAMP data collected before September 2008 followed the QAMP (2002), however there may have been overlap in QA with SWAMP QAPP (2008).
QAPP Information Reference(s):	Quality Assurance Management Plan for the State of California's Surface Water Ambient Monitoring Program. Sacramento, CA. State Water Resources Control Board. SWAMP. December 2002 (1st version) Surface Water Ambient Monitoring Program Quality Assurance Program Plan

**Line of Evidence (LOE) for Decision ID 64971, Lead
Lagunitas Creek**

Region 2

LOE ID:	91989
Pollutant:	Lead
LOE Subgroup:	Pollutant-Sediment
Matrix:	Sediment
Fraction:	Total
Beneficial Use:	Warm Freshwater Habitat
Number of Samples:	1
Number of Exceedances:	0
Data and Information Type:	PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality:	Water Board staff assessed SWAMP data for Lagunitas Creek to determine beneficial use support and results are as follows: 0 of 1 samples exceed the criterion for Lead.
Data Reference:	Statewide Stream Pollution Trends Study 2008
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	San Francisco Bay Basin Water Quality Control Plan 2007: All waters shall be maintained free of toxic substances in concentrations which are toxic to, or which produce detrimental physiological responses in, human, plant, animal, or aquatic life.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	In freshwater sediments the probable effect concentration (predictive of sediment toxicity for sediment-dwelling organisms) for lead is 128 mg/Kg dry weight (MacDonald et al. 2000).
Guideline Reference:	Development and evaluation of consensus-based sediment quality guidelines for freshwater ecosystems. Environmental Contamination and Toxicology. 39: 20-31
Spatial Representation:	Data for this line of evidence for Lagunitas Creek was collected at 1 monitoring site [Lagunitas Creek @ Coast Guard Station station (201LAG125)]
Temporal Representation:	Data was collected on a single day 8/13/2008.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	SWAMP data collected before September 2008 followed the QAMP (2002), however there may have been overlap in QA with SWAMP QAPP (2008).
QAPP Information Reference(s):	Quality Assurance Management Plan for the State of California's Surface Water Ambient Monitoring Program. Sacramento, CA. State Water Resources Control Board. SWAMP. December 2002 (1st version) Surface Water Ambient Monitoring Program Quality Assurance Program Plan

Pollutant:	Lindane/gamma Hexachlorocyclohexane (gamma-HCH)
Final Listing Decision:	Do Not List on 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision:	New Decision
Revision Status	Revised
Impairment from Pollutant or Pollution:	Pollutant
Regional Board Staff Conclusion:	<p>This pollutant is being considered for placement on the CWA section 303(d) List under section 3.6 of the Listing Policy. Under section 3.6 at least two lines of evidence are necessary to assess listing status for pollutants sediment, and pollutant concentrations in sediment must be associated with sediment toxicity to justify adding that pollutant to the CWA section 303(d) List.</p> <p>Two lines of evidence are available in the administrative record to assess this pollutant. Zero of one samples exceed the guideline. Sediment toxicity data are not associated with this decision because they are not relevant to this decision because there is insufficient information based on sediment chemistry.</p> <p>Based on the readily available data and information, the weight of evidence indicates that there is insufficient justification for placing this water segment-pollutant combination on the CWA section 303(d) List.</p> <p>This conclusion is based on the staff findings that:</p> <ol style="list-style-type: none"> 1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy. 2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy. 3. Zero of one samples exceed the guideline and this sample size is insufficient to determine beneficial use support, with the power and confidence of the Listing Policy. A minimum of 16 samples is needed to determine if a beneficial use is fully supported using table 3.1. Sediment toxicity data are not associated with this decision because the sediment chemistry data are insufficient. 4. Pursuant to section 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.
Regional Board Staff Decision Recommendation:	After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be placed on the section 303(d) list. The readily available data and information is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating.

Line of Evidence (LOE) for Decision ID 64972, Lindane/gamma Hexachlorocyclohexane (gamma-HCH)	Region 2
Lagunitas Creek	

LOE ID:	91992
Pollutant:	Lindane/gamma Hexachlorocyclohexane (gamma-HCH)
LOE Subgroup:	Pollutant-Sediment
Matrix:	Sediment
Fraction:	Total
Beneficial Use:	Cold Freshwater Habitat
Number of Samples:	1
Number of Exceedances:	0
Data and Information Type:	PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality:	Water Board staff assessed SWAMP data for Lagunitas Creek to determine beneficial use

Data Reference:	support and results are as follows: 0 of 1 samples exceed the criterion for HCH, gamma. Statewide Stream Pollution Trends Study 2008
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	San Francisco Bay Basin Water Quality Control Plan 2007: All waters shall be maintained free of toxic substances in concentrations which are toxic to, or which produce detrimental physiological responses in, human, plant, animal, or aquatic life.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	In freshwater sediments the probable effect concentration (predictive of sediment toxicity for sediment-dwelling organisms) for Lindane (gamma-HCH) is 4.99 ug/Kg dry weight (MacDonald et al. 2000).
Guideline Reference:	Development and evaluation of consensus-based sediment quality guidelines for freshwater ecosystems. Environmental Contamination and Toxicology. 39: 20-31
Spatial Representation:	Data for this line of evidence for Lagunitas Creek was collected at 1 monitoring site [Lagunitas Creek @ Coast Guard Station station (201LAG125)]
Temporal Representation:	Data was collected on a single day 8/13/2008.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	SWAMP data collected before September 2008 followed the QAMP (2002), however there may have been overlap in QA with SWAMP QAPP (2008).
QAPP Information Reference(s):	Quality Assurance Management Plan for the State of California's Surface Water Ambient Monitoring Program. Sacramento, CA. State Water Resources Control Board. SWAMP. December 2002 (1st version) Surface Water Ambient Monitoring Program Quality Assurance Program Plan

Line of Evidence (LOE) for Decision ID 64972, Lindane/gamma Hexachlorocyclohexane (gamma-HCH)

Region 2

Lagunitas Creek

LOE ID:	91991
Pollutant:	Lindane/gamma Hexachlorocyclohexane (gamma-HCH)
LOE Subgroup:	Pollutant-Sediment
Matrix:	Sediment
Fraction:	Total
Beneficial Use:	Warm Freshwater Habitat
Number of Samples:	1
Number of Exceedances:	0
Data and Information Type:	PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality:	Water Board staff assessed SWAMP data for Lagunitas Creek to determine beneficial use support and results are as follows: 0 of 1 samples exceed the criterion for HCH, gamma.
Data Reference:	Statewide Stream Pollution Trends Study 2008
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	San Francisco Bay Basin Water Quality Control Plan 2007: All waters shall be maintained free of toxic substances in concentrations which are toxic to, or which produce detrimental physiological responses in, human, plant, animal, or aquatic life.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	In freshwater sediments the probable effect concentration (predictive of sediment toxicity for sediment-dwelling organisms) for Lindane (gamma-HCH) is 4.99 ug/Kg dry weight (MacDonald et al. 2000).
Guideline Reference:	Development and evaluation of consensus-based sediment quality guidelines for freshwater ecosystems. Environmental Contamination and Toxicology. 39: 20-31
Spatial Representation:	Data for this line of evidence for Lagunitas Creek was collected at 1 monitoring site [

Temporal Representation:	Lagunitas Creek @ Coast Guard Station station (201LAG125)]
Environmental Conditions:	Data was collected on a single day 8/13/2008.
QAPP Information:	Staff is not aware of any special conditions that might affect interpretation of the data. SWAMP data collected before September 2008 followed the QAMP (2002), however there may have been overlap in QA with SWAMP QAPP (2008).
QAPP Information Reference(s):	Quality Assurance Management Plan for the State of California's Surface Water Ambient Monitoring Program. Sacramento, CA. State Water Resources Control Board. SWAMP. December 2002 (1st version). Surface Water Ambient Monitoring Program Quality Assurance Program Plan

DECISION ID	64973	Region 2
Lagunitas Creek		

Pollutant:	Mercury
Final Listing Decision:	Do Not List on 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision:	New Decision
Revision Status	Revised
Impairment from Pollutant or Pollution:	Pollutant

Regional Board Staff Conclusion: This pollutant is being considered for placement on the CWA section 303(d) List under section 3.6 of the Listing Policy. Under section 3.6 at least two lines of evidence are necessary to assess listing status for pollutants sediment, and pollutant concentrations in sediment must be associated with sediment toxicity to justify adding that pollutant to the CWA section 303(d) List.

Two lines of evidence are available in the administrative record to assess this pollutant. Zero of one samples exceed the guideline. Sediment toxicity data are not associated with this decision because they are not relevant to this decision because there is insufficient information based on sediment chemistry.

Based on the readily available data and information, the weight of evidence indicates that there is insufficient justification for placing this water segment-pollutant combination on the CWA section 303(d) List.

This conclusion is based on the staff findings that:

1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy.
2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy.
3. Zero of one samples exceed the guideline and this sample size is insufficient to determine beneficial use support, with the power and confidence of the Listing Policy. A minimum of 16 samples is needed to determine if a beneficial use is fully supported using table 3.1. Sediment toxicity data are not associated with this decision because the sediment chemistry data are insufficient.
4. Pursuant to section 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.

Regional Board Staff Decision Recommendation: After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be placed on the section 303(d) list. The readily available data and information is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating.

Line of Evidence (LOE) for Decision ID 64973, Mercury	Region 2
Lagunitas Creek	

LOE ID:	91994
Pollutant:	Mercury
LOE Subgroup:	Pollutant-Sediment
Matrix:	Sediment

Fraction:	Total
Beneficial Use:	Cold Freshwater Habitat
Number of Samples:	1
Number of Exceedances:	0
Data and Information Type:	PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality:	Water Board staff assessed SWAMP data for Lagunitas Creek to determine beneficial use support and results are as follows: 0 of 1 samples exceed the criterion for Mercury.
Data Reference:	Statewide Stream Pollution Trends Study 2008
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	San Francisco Bay Basin Water Quality Control Plan 2007: All waters shall be maintained free of toxic substances in concentrations which are toxic to, or which produce detrimental physiological responses in, human, plant, animal, or aquatic life.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	In freshwater sediments the probable effect concentration (predictive of sediment toxicity for sediment-dwelling organisms) for mercury is 1.06 mg/Kg dry weight (MacDonald et al. 2000).
Guideline Reference:	Development and evaluation of consensus-based sediment quality guidelines for freshwater ecosystems. Environmental Contamination and Toxicology. 39: 20-31
Spatial Representation:	Data for this line of evidence for Lagunitas Creek was collected at 1 monitoring site [Lagunitas Creek @ Coast Guard Station station (201LAG125)]
Temporal Representation:	Data was collected on a single day 8/13/2008.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	SWAMP data collected before September 2008 followed the QAMP (2002), however there may have been overlap in QA with SWAMP QAPP (2008).
QAPP Information Reference(s):	Quality Assurance Management Plan for the State of California's Surface Water Ambient Monitoring Program. Sacramento, CA. State Water Resources Control Board. SWAMP. December 2002 (1st version) Surface Water Ambient Monitoring Program Quality Assurance Program Plan

Line of Evidence (LOE) for Decision ID 64973, Mercury
Lagunitas Creek

Region 2

LOE ID:	91993
Pollutant:	Mercury
LOE Subgroup:	Pollutant-Sediment
Matrix:	Sediment
Fraction:	Total
Beneficial Use:	Warm Freshwater Habitat
Number of Samples:	1
Number of Exceedances:	0
Data and Information Type:	PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality:	Water Board staff assessed SWAMP data for Lagunitas Creek to determine beneficial use support and results are as follows: 0 of 1 samples exceed the criterion for Mercury.
Data Reference:	Statewide Stream Pollution Trends Study 2008
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	San Francisco Bay Basin Water Quality Control Plan 2007: All waters shall be maintained free of toxic substances in concentrations which are toxic to, or which produce detrimental physiological responses in, human, plant, animal, or aquatic life.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)

Evaluation Guideline:	In freshwater sediments the probable effect concentration (predictive of sediment toxicity for sediment-dwelling organisms) for mercury is 1.06 mg/Kg dry weight (MacDonald et al. 2000).
Guideline Reference:	Development and evaluation of consensus-based sediment quality guidelines for freshwater ecosystems. Environmental Contamination and Toxicology. 39: 20-31
Spatial Representation:	Data for this line of evidence for Lagunitas Creek was collected at 1 monitoring site [Lagunitas Creek @ Coast Guard Station station (201LAG125)]
Temporal Representation:	Data was collected on a single day 8/13/2008.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	SWAMP data collected before September 2008 followed the QAMP (2002), however there may have been overlap in QA with SWAMP QAPP (2008).
QAPP Information Reference(s):	Quality Assurance Management Plan for the State of California's Surface Water Ambient Monitoring Program. Sacramento, CA. State Water Resources Control Board. SWAMP. December 2002 (1st version) Surface Water Ambient Monitoring Program Quality Assurance Program Plan

DECISION ID	64974	Region 2
Lagunitas Creek		

Pollutant:	Methyl Parathion
Final Listing Decision:	Do Not List on 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision:	New Decision
Revision Status	Revised
Impairment from Pollutant or Pollution:	Pollutant

Regional Board Staff Conclusion: This pollutant is being considered for placement on the CWA section 303(d) List under section 3.6 of the Listing Policy. Under section 3.6 at least two lines of evidence are necessary to assess listing status for pollutants sediment, and pollutant concentrations in sediment must be associated with sediment toxicity to justify adding that pollutant to the CWA section 303(d) List.

Two lines of evidence are available in the administrative record to assess this pollutant. Zero of one samples exceed the guideline. Sediment toxicity data are not associated with this decision because they are not relevant to this decision because there is insufficient information based on sediment chemistry.

Based on the readily available data and information, the weight of evidence indicates that there is insufficient justification for placing this water segment-pollutant combination on the CWA section 303(d) List.

This conclusion is based on the staff findings that:

1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy.
2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy.
3. Zero of one samples exceed the guideline and this sample size is insufficient to determine beneficial use support, with the power and confidence of the Listing Policy. A minimum of 16 samples is needed to determine if a beneficial use is fully supported using table 3.1. Sediment toxicity data are not associated with this decision because the sediment chemistry data are insufficient.
4. Pursuant to section 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.

Regional Board Staff Decision Recommendation:	After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be placed on the section 303(d) list. The readily available data and information is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating.
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Line of Evidence (LOE) for Decision ID 64974, Methyl Parathion	Region 2
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Lagunitas Creek

LOE ID:	91996
Pollutant:	Methyl Parathion
LOE Subgroup:	Pollutant-Sediment
Matrix:	Sediment
Fraction:	Total
Beneficial Use:	Cold Freshwater Habitat
Number of Samples:	1
Number of Exceedances:	0
Data and Information Type:	PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality:	Water Board staff assessed SWAMP data for Lagunitas Creek to determine beneficial use support and results are as follows: 0 of 1 samples exceed the criterion for Parathion, Methyl.
Data Reference:	Statewide Stream Pollution Trends Study 2008
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	San Francisco Bay Basin Water Quality Control Plan 2007: All waters shall be maintained free of toxic substances in concentrations which are toxic to, or which produce detrimental physiological responses in, human, plant, animal, or aquatic life.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	The evaluation guideline for methyl parathion is the median lethal concentration (LC50) of 6 ug/g and is normalized by the percentage of organic carbon in the sediment sample. The LC50 6 ug/g is the geometric mean of LC50 values for methyl parathion from Ding et al. (2011).
Guideline Reference:	Toxicity of Sediment-Associated Pesticides to Chironomus dilutus and Hyalella azteca. Arch. Environ. Contam. Toxicol. 61:83?92.
Spatial Representation:	Data for this line of evidence for Lagunitas Creek was collected at 1 monitoring site [Lagunitas Creek @ Coast Guard Station station (201LAG125)]
Temporal Representation:	Data was collected on a single day 8/13/2008.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	SWAMP data collected before September 2008 followed the QAMP (2002), however there may have been overlap in QA with SWAMP QAPP (2008).
QAPP Information Reference(s):	Quality Assurance Management Plan for the State of California's Surface Water Ambient Monitoring Program. Sacramento, CA. State Water Resources Control Board. SWAMP. December 2002 (1st version) Surface Water Ambient Monitoring Program Quality Assurance Program Plan

Line of Evidence (LOE) for Decision ID 64974, Methyl Parathion Lagunitas Creek

Region 2

LOE ID:	91995
Pollutant:	Methyl Parathion
LOE Subgroup:	Pollutant-Sediment
Matrix:	Sediment
Fraction:	Total
Beneficial Use:	Warm Freshwater Habitat
Number of Samples:	1
Number of Exceedances:	0
Data and Information Type:	PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality:	Water Board staff assessed SWAMP data for Lagunitas Creek to determine beneficial use

	support and results are as follows: 0 of 1 samples exceed the criterion for Parathion, Methyl.
Data Reference:	Statewide Stream Pollution Trends Study 2008
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	San Francisco Bay Basin Water Quality Control Plan 2007: All waters shall be maintained free of toxic substances in concentrations which are toxic to, or which produce detrimental physiological responses in, human, plant, animal, or aquatic life.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	The evaluation guideline for methyl parathion is the median lethal concentration (LC50) of 6 ug/g and is normalized by the percentage of organic carbon in the sediment sample. The LC50 6 ug/g is the geometric mean of LC50 values for methyl parathion from Ding et al. (2011).
Guideline Reference:	Toxicity of Sediment-Associated Pesticides to Chironomus dilutus and Hyalella azteca. Arch. Environ. Contam. Toxicol. 61:83?92.
Spatial Representation:	Data for this line of evidence for Lagunitas Creek was collected at 1 monitoring site [Lagunitas Creek @ Coast Guard Station station (201LAG125)]
Temporal Representation:	Data was collected on a single day 8/13/2008.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	SWAMP data collected before September 2008 followed the QAMP (2002), however there may have been overlap in QA with SWAMP QAPP (2008).
QAPP Information Reference(s):	Quality Assurance Management Plan for the State of California's Surface Water Ambient Monitoring Program. Sacramento, CA. State Water Resources Control Board. SWAMP. December 2002 (1st version). Surface Water Ambient Monitoring Program Quality Assurance Program Plan

DECISION ID	64975	Region 2
Lagunitas Creek		
Pollutant:	Nickel	
Final Listing Decision:	Do Not List on 303(d) list (TMDL required list)	
Last Listing Cycle's Final Listing Decision:	New Decision	
Revision Status	Revised	
Impairment from Pollutant or Pollution:	Pollutant	
Regional Board Staff Conclusion:	<p>This pollutant is being considered for placement on the CWA section 303(d) List under section 3.6 of the Listing Policy. Under section 3.6 at least two lines of evidence are necessary to assess listing status for pollutants sediment, and pollutant concentrations in sediment must be associated with sediment toxicity to justify adding that pollutant to the CWA section 303(d) List.</p> <p>Two lines of evidence are available in the administrative record to assess this pollutant. Zero of one samples exceed the guideline. Sediment toxicity data are not associated with this decision because they are not relevant to this decision because there is insufficient information based on sediment chemistry.</p> <p>Based on the readily available data and information, the weight of evidence indicates that there is insufficient justification for placing this water segment-pollutant combination on the CWA section 303(d) List.</p> <p>This conclusion is based on the staff findings that:</p> <ol style="list-style-type: none"> 1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy. 2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy. 3. Zero of one samples exceed the guideline and this sample size is insufficient to determine beneficial use support, with the power and confidence of the Listing Policy. A minimum of 16 samples is needed to determine if a beneficial use is fully supported using table 3.1. <p>Sediment toxicity data are not associated with this decision because the sediment chemistry data are</p>	

insufficient.

4. Pursuant to section 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.

Regional Board Staff Decision Recommendation: After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be placed on the section 303(d) list. The readily available data and information is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating.

Line of Evidence (LOE) for Decision ID 64975, Nickel

Region 2

Lagunitas Creek

LOE ID: 91997

Pollutant: Nickel
LOE Subgroup: Pollutant-Sediment
Matrix: Sediment
Fraction: Total

Beneficial Use: Warm Freshwater Habitat

Number of Samples: 1
Number of Exceedances: 1

Data and Information Type: PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality: Water Board staff assessed SWAMP data for Lagunitas Creek to determine beneficial use support and results are as follows: 1 of 1 samples exceed the criterion for Nickel.

Data Reference: [Statewide Stream Pollution Trends Study 2008](#)

SWAMP Data: SWAMP

Water Quality Objective/Criterion: San Francisco Bay Basin Water Quality Control Plan 2007: All waters shall be maintained free of toxic substances in concentrations which are toxic to, or which produce detrimental physiological responses in, human, plant, animal, or aquatic life.

Objective/Criterion Reference: [Water Quality Control Plan \(Basin Plan\) San Francisco Bay Basin \(Region 2\)](#)

Evaluation Guideline: In freshwater sediments the probable effect concentration (predictive of sediment toxicity for sediment-dwelling organisms) for nickel is 48.6 mg/Kg dry weight (MacDonald et al. 2000).

Guideline Reference: [Development and evaluation of consensus-based sediment quality guidelines for freshwater ecosystems. Environmental Contamination and Toxicology. 39: 20-31](#)

Spatial Representation: Data for this line of evidence for Lagunitas Creek was collected at 1 monitoring site [Lagunitas Creek @ Coast Guard Station station (201LAG125)]

Temporal Representation: Data was collected on a single day 8/13/2008.

Environmental Conditions: Staff is not aware of any special conditions that might affect interpretation of the data.

QAPP Information: SWAMP data collected before September 2008 followed the QAMP (2002), however there may have been overlap in QA with SWAMP QAPP (2008).

QAPP Information Reference(s): [Quality Assurance Management Plan for the State of California's Surface Water Ambient Monitoring Program. Sacramento, CA. State Water Resources Control Board. SWAMP. December 2002 \(1st version\)](#)
[Surface Water Ambient Monitoring Program Quality Assurance Program Plan](#)

Line of Evidence (LOE) for Decision ID 64975, Nickel

Region 2

Lagunitas Creek

LOE ID: 91998

Pollutant: Nickel
LOE Subgroup: Pollutant-Sediment

Matrix:	Sediment
Fraction:	Total
Beneficial Use:	Cold Freshwater Habitat
Number of Samples:	1
Number of Exceedances:	1
Data and Information Type:	PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality:	Water Board staff assessed SWAMP data for Lagunitas Creek to determine beneficial use support and results are as follows: 1 of 1 samples exceed the criterion for Nickel.
Data Reference:	Statewide Stream Pollution Trends Study 2008
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	San Francisco Bay Basin Water Quality Control Plan 2007: All waters shall be maintained free of toxic substances in concentrations which are toxic to, or which produce detrimental physiological responses in, human, plant, animal, or aquatic life.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	In freshwater sediments the probable effect concentration (predictive of sediment toxicity for sediment-dwelling organisms) for nickel is 48.6 mg/Kg dry weight (MacDonald et al. 2000).
Guideline Reference:	Development and evaluation of consensus-based sediment quality guidelines for freshwater ecosystems. Environmental Contamination and Toxicology. 39: 20-31
Spatial Representation:	Data for this line of evidence for Lagunitas Creek was collected at 1 monitoring site [Lagunitas Creek @ Coast Guard Station station (201LAG125)]
Temporal Representation:	Data was collected on a single day 8/13/2008.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	SWAMP data collected before September 2008 followed the QAMP (2002), however there may have been overlap in QA with SWAMP QAPP (2008).
QAPP Information Reference(s):	Quality Assurance Management Plan for the State of California's Surface Water Ambient Monitoring Program. Sacramento, CA. State Water Resources Control Board. SWAMP. December 2002 (1st version) Surface Water Ambient Monitoring Program Quality Assurance Program Plan

DECISION ID	64977	Region 2
Lagunitas Creek		
Pollutant:	PCBs (Polychlorinated biphenyls)	
Final Listing Decision:	Do Not List on 303(d) list (TMDL required list)	
Last Listing Cycle's Final Listing Decision:	New Decision	
Revision Status	Revised	
Impairment from Pollutant or Pollution:	Pollutant	
Regional Board Staff Conclusion:	<p>This pollutant is being considered for placement on the CWA section 303(d) List under section 3.6 of the Listing Policy. Under section 3.6 at least two lines of evidence are necessary to assess listing status for pollutants sediment, and pollutant concentrations in sediment must be associated with sediment toxicity to justify adding that pollutant to the CWA section 303(d) List.</p> <p>One line of evidence is available in the administrative record to assess this pollutant. Zero of one samples exceed the guideline. Sediment toxicity data are not associated with this decision because they are not relevant to this decision because there is insufficient information based on sediment chemistry.</p> <p>Based on the readily available data and information, the weight of evidence indicates that there is insufficient justification for placing this water segment-pollutant combination on the CWA section 303(d) List.</p>	

This conclusion is based on the staff findings that:

1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy.
2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy.
3. Zero of one samples exceed the guideline and this sample size is insufficient to determine beneficial use support, with the power and confidence of the Listing Policy. A minimum of 16 samples is needed to determine if a beneficial use is fully supported using table 3.1. Sediment toxicity data are not associated with this decision because the sediment chemistry data are insufficient.
4. Pursuant to section 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.

Regional Board Staff Decision Recommendation: After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be placed on the section 303(d) list. The readily available data and information is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating.

Line of Evidence (LOE) for Decision ID 64977, PCBs (Polychlorinated biphenyls)
Lagunitas Creek

Region 2

LOE ID:	90579
Pollutant:	PCBs (Polychlorinated biphenyls)
LOE Subgroup:	Pollutant-Sediment
Matrix:	Sediment
Fraction:	Total
Beneficial Use:	Cold Freshwater Habitat
Number of Samples:	1
Number of Exceedances:	0
Data and Information Type:	PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality:	Zero of 1 sample collected for Total PCBs exceeded the evaluation guideline.
Data Reference:	Statewide Stream Pollution Trends Study 2008
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	Waters shall not contain substances in concentrations that result in the deposition of material that causes nuisance or adversely affects beneficial uses (Water Quality Control Plan for the San Francisco Bay Region).
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) - San Francisco Bay Region (Region 2)
Evaluation Guideline:	In freshwater sediments the probable effect concentration (predictive of sediment toxicity) for total PCB is 676 ug/Kg dry weight (MacDonald et al. 2000).
Guideline Reference:	Development and evaluation of consensus-based sediment quality guidelines for freshwater ecosystems. Environmental Contamination and Toxicology. 39: 20-31
Spatial Representation:	Data were collected at the following station 201LAG125 (Lagunitas Creek @ Coast Guard Station).
Temporal Representation:	The samples were collected on 8/13/2008.
Environmental Conditions:	
QAPP Information:	The SWAMP QAPP (2008) was followed.
QAPP Information Reference(s):	Surface Water Ambient Monitoring Program Quality Assurance Program Plan

DECISION ID 64976
Lagunitas Creek

Region 2

Pollutant: Permethrin

Final Listing Decision:	Do Not List on 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision:	New Decision
Revision Status	Revised
Impairment from Pollutant or Pollution:	Pollutant

Regional Board Staff Conclusion:

This pollutant is being considered for placement on the CWA section 303(d) List under section 3.6 of the Listing Policy. Under section 3.6 at least two lines of evidence are necessary to assess listing status for pollutants sediment, and pollutant concentrations in sediment must be associated with sediment toxicity to justify adding that pollutant to the CWA section 303(d) List.

Two lines of evidence are available in the administrative record to assess this pollutant. Zero of one samples exceed the guideline. Sediment toxicity data are not associated with this decision because they are not relevant to this decision because there is insufficient information based on sediment chemistry.

Based on the readily available data and information, the weight of evidence indicates that there is insufficient justification for placing this water segment-pollutant combination on the CWA section 303(d) List.

This conclusion is based on the staff findings that:

1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy.
2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy.
3. Zero of one samples exceed the guideline and this sample size is insufficient to determine beneficial use support, with the power and confidence of the Listing Policy. A minimum of 16 samples is needed to determine if a beneficial use is fully supported using table 3.1. Sediment toxicity data are not associated with this decision because the sediment chemistry data are insufficient.
4. Pursuant to section 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.

Regional Board Staff Decision Recommendation:

After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be placed on the section 303(d) list. The readily available data and information is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating.

Line of Evidence (LOE) for Decision ID 64976, Permethrin Lagunitas Creek

Region 2

LOE ID:	92002
Pollutant:	Permethrin, total
LOE Subgroup:	Pollutant-Sediment
Matrix:	Sediment
Fraction:	Total
Beneficial Use:	Cold Freshwater Habitat
Number of Samples:	1
Number of Exceedances:	0
Data and Information Type:	PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality:	Water Board staff assessed SWAMP data for Lagunitas Creek to determine beneficial use support and results are as follows: 0 of 1 samples exceed the criterion for Permethrin, Total.
Data Reference:	Statewide Stream Pollution Trends Study 2008
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	San Francisco Bay Basin Water Quality Control Plan 2007: All waters shall be maintained

Objective/Criterion Reference:	free of toxic substances in concentrations which are toxic to, or which produce detrimental physiological responses in, human, plant, animal, or aquatic life. Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	The evaluation guideline for permethrin is the median lethal concentration (LC50) of 8.9 ug/g and is normalized by the percentage of organic carbon in the sediment sample. The LC50 8.9 ug/g is the geometric mean of LC50 values for permethrin from Amweg et al. (2005).
Guideline Reference:	Use and Toxicity of Pyrethroid Pesticides in the Central Valley, California, USA. Environmental Toxicology and Chemistry, 24:966-972, with erratum 24:No. 5
Spatial Representation:	Data for this line of evidence for Lagunitas Creek was collected at 1 monitoring site [Lagunitas Creek @ Coast Guard Station station (201LAG125)]
Temporal Representation:	Data was collected on a single day 8/13/2008.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	SWAMP data collected before September 2008 followed the QAMP (2002), however there may have been overlap in QA with SWAMP QAPP (2008).
QAPP Information Reference(s):	Quality Assurance Management Plan for the State of California's Surface Water Ambient Monitoring Program. Sacramento, CA. State Water Resources Control Board. SWAMP. December 2002 (1st version) Surface Water Ambient Monitoring Program Quality Assurance Program Plan

Line of Evidence (LOE) for Decision ID 64976, Permethrin

Region 2

Lagunitas Creek

LOE ID:	92001
Pollutant:	Permethrin, total
LOE Subgroup:	Pollutant-Sediment
Matrix:	Sediment
Fraction:	Total
Beneficial Use:	Warm Freshwater Habitat
Number of Samples:	1
Number of Exceedances:	0
Data and Information Type:	PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality:	Water Board staff assessed SWAMP data for Lagunitas Creek to determine beneficial use support and results are as follows: 0 of 1 samples exceed the criterion for Permethrin, Total.
Data Reference:	Statewide Stream Pollution Trends Study 2008
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	San Francisco Bay Basin Water Quality Control Plan 2007: All waters shall be maintained free of toxic substances in concentrations which are toxic to, or which produce detrimental physiological responses in, human, plant, animal, or aquatic life.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	The evaluation guideline for permethrin is the median lethal concentration (LC50) of 8.9 ug/g and is normalized by the percentage of organic carbon in the sediment sample. The LC50 8.9 ug/g is the geometric mean of LC50 values for permethrin from Amweg et al. (2005).
Guideline Reference:	Use and Toxicity of Pyrethroid Pesticides in the Central Valley, California, USA. Environmental Toxicology and Chemistry, 24:966-972, with erratum 24:No. 5
Spatial Representation:	Data for this line of evidence for Lagunitas Creek was collected at 1 monitoring site [Lagunitas Creek @ Coast Guard Station station (201LAG125)]
Temporal Representation:	Data was collected on a single day 8/13/2008.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	SWAMP data collected before September 2008 followed the QAMP (2002), however there

QAPP Information Reference(s):

may have been overlap in QA with SWAMP QAPP (2008).

[Quality Assurance Management Plan for the State of California's Surface Water Ambient Monitoring Program. Sacramento, CA. State Water Resources Control Board. SWAMP. December 2002 \(1st version\)](#)
[Surface Water Ambient Monitoring Program Quality Assurance Program Plan](#)

DECISION ID	43948	Region 2
Lagunitas Creek		

Pollutant:	Toxicity
Final Listing Decision:	Do Not List on 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision:	Do Not List on 303(d) list (TMDL required list)(2012)
Revision Status	Revised
Impairment from Pollutant or Pollution:	Pollutant

Regional Board Staff Conclusion: This pollutant is being considered for placement on the CWA section 303(d) List under section 3.1 of the Listing Policy. Under section 3.1 at least one line(s) of evidence are necessary to assess listing status.

Three lines of evidence are available in the administrative record to assess this pollutant. Zero of five samples exceed the guideline.

Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against placing this water segment-pollutant combination on the CWA section 303(d) List.

This conclusion is based on the staff findings that:

1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy.
2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy.
3. Zero of five samples exceed the guideline, and this sample size is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating. A minimum of sixteen samples is needed to determine if a beneficial use is fully supported using table 3.1.
4. Pursuant to Section 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.

Regional Board Staff Decision Recommendation: After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be placed on the section 303(d) list. The readily available data and information is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating.

Line of Evidence (LOE) for Decision ID 43948, Toxicity	Region 2
Lagunitas Creek	

LOE ID:	28824
Pollutant:	Toxicity
LOE Subgroup:	Pollutant-Water
Matrix:	Water
Fraction:	None
Beneficial Use:	Cold Freshwater Habitat
Number of Samples:	5
Number of Exceedances:	0
Data and Information Type:	TOXICITY TESTING

Data Used to Assess Water Quality:	Five samples were collected in 2001 to evaluate water toxicity at three monitoring locations within the Lagunitas Creek watershed. The toxicity tests included survival and reproduction of Ceriodaphnia, survival and growth of fathead minnow, and growth of Selenastrum. None of the samples exceeded the toxicity objectives.
Data Reference:	Water Quality Monitoring and Bioassessment in Nine San Francisco Bay Region Watersheds: Walker Creek, Lagunitas Creek, San Leandro Creek, Wildcat Creek/San Pablo Creek, Suisun Creek, Arroyo Las Positas, Pescadero Creek/Butano Creek, San Gregorio Creek, and Stevens Creek/Permanente Creek. Oakland, CA: Surface Water Ambient Monitoring Program, San Francisco Bay Regional Water Quality Control Board
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	All waters shall be maintained free of toxic substances that are lethal to or that produce other detrimental responses in aquatic organisms. There shall be no chronic toxicity in ambient waters. Chronic toxicity is a detrimental biological effect on growth rate, reproduction, fertilization success, larval development, population abundance, community composition, or any other relevant measure of the health of an organism, population, or community.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) - San Francisco Bay Region (Region 2)
Evaluation Guideline:	Water toxicity was evaluated according to the SWAMP methodology. The U.S.EPA whole effluent toxicity protocol (U.S.EPA 1994) was used to test the effect of water samples on three freshwater test organisms. Statistical evaluation ($\alpha = 0.05$) and a default threshold of 80% of the control value were used to establish whether water exhibited significant toxicity adversely impacting aquatic organisms.
Guideline Reference:	Revised approach to toxicity test acceptability criteria using a statistical performance assessment. Environmental Toxicology and Chemistry, vol. 16, No. 6, pp 1322?1329 Short-Term Methods for Estimating the Chronic Toxicity of Effluents and Receiving Waters to Freshwater Organisms. EPA/600/4-91/002. Third Edition. July 1994
Spatial Representation:	Data were collected at two sampling locations - LAG130 (Gallagher's Ranch), and LAG270 (Creamery Gulch) on one or two occasions, representative of all of Lagunitas Creek and just upstream from the confluence of Lagunitas and Olema Creeks.
Temporal Representation:	SWAMP samples were collected during dry (2 sites) and spring seasons (1 site) of 2001.
Environmental Conditions:	
QAPP Information:	All samples were collected and analyzed using procedures comparable with the SWAMP Quality Assurance Management Plan (SWRCB, 2002).
QAPP Information Reference(s):	Quality Assurance Management Plan for the State of California's Surface Water Ambient Monitoring Program, Sacramento, CA. State Water Resources Control Board. SWAMP. December 2002 (1st version)

Line of Evidence (LOE) for Decision ID 43948, Toxicity
Lagunitas Creek

Region 2

LOE ID:	28833
Pollutant:	Sediment Toxicity
LOE Subgroup:	Pollutant-Sediment
Matrix:	Sediment
Fraction:	None
Beneficial Use:	Cold Freshwater Habitat
Number of Samples:	1
Number of Exceedances:	0
Data and Information Type:	Toxicity testing of sediments
Data Used to Assess Water Quality:	Data used to evaluate sediment toxicity comprise one sediment sample collected by the SWAMP in 2001. No toxicity or adverse affects were exhibited for Hyallela azteca.
Data Reference:	Water Quality Monitoring and Bioassessment in Nine San Francisco Bay Region Watersheds: Walker Creek, Lagunitas Creek, San Leandro Creek, Wildcat Creek/San Pablo Creek, Suisun Creek, Arroyo Las Positas, Pescadero Creek/Butano Creek, San

SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	All waters shall be maintained free of toxic substances that are lethal to or that produce other detrimental responses in aquatic organisms. There shall be no chronic toxicity in ambient waters. Chronic toxicity is a detrimental biological effect on growth rate, reproduction, fertilization success, larval development, population abundance, community composition, or any other relevant measure of the health of an organism, population, or community.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) - San Francisco Bay Region (Region 2)
Evaluation Guideline:	Sediment toxicity was evaluated according to the SWAMP methodology. Sample toxicity was determined by comparing mean organism response in samples and in negative controls. Statistical evaluation ($\alpha = 0.05$) and a default threshold of 80% of the control value were used to establish whether the sediment exhibited significant toxicity adversely impacting aquatic organisms.
Guideline Reference:	Revised approach to toxicity test acceptability criteria using a statistical performance assessment. Environmental Toxicology and Chemistry, vol. 16, No. 6, pp 1322?1329
Spatial Representation:	One sediment sample was collected at a "watershed integrator" site located close to the mouth of Lagunitas Creek watershed (at Green Bridge, Highway 1).
Temporal Representation:	Sample was collected in 2001.
Environmental Conditions:	
QAPP Information:	Samples were collected and analyzed using procedures comparable with the SWAMP Quality Assurance Management Plan (SWRCB 2002).
QAPP Information Reference(s):	Quality Assurance Management Plan for the State of California's Surface Water Ambient Monitoring Program, Sacramento, CA, State Water Resources Control Board, SWAMP, December 2002 (1st version)

**Line of Evidence (LOE) for Decision ID 43948, Toxicity
Lagunitas Creek**

Region 2

LOE ID:	90506
Pollutant:	Toxicity
LOE Subgroup:	Toxicity
Matrix:	Sediment
Fraction:	None
Beneficial Use:	Cold Freshwater Habitat
Number of Samples:	1
Number of Exceedances:	0
Data and Information Type:	TOXICITY TESTING
Data Used to Assess Water Quality:	One sample was collected to evaluate sediment toxicity. The sample did not exhibit significant toxicity. The toxicity test included survival and growth of <i>Hyalomma azteca</i> . One sample can have multiple toxicity test results but will be counted only once. One sample is defined as being collected on the same day at the same location with the same lab sample id (if provided).
Data Reference:	Statewide Stream Pollution Trends Study 2008
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	All waters shall be maintained free of toxic substances in concentrations that are toxic to, or that produce detrimental physiological responses in, human, plant, animal, or aquatic life. Region 2 Basin Plan.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) - San Francisco Bay Region (Region 2)
Evaluation Guideline:	Toxicity is defined as a statistically significant effect in the sample exposure compared to

the control using EPA-recommended hypothesis testing. For SWAMP data exceedances are counted with the significant effect code SL. SL is defined as the result being significant compared to the negative control based on a statistical test, less than stated the alpha level, AND less than the evaluation threshold.

Guideline Reference:

[Methods for Measuring the Toxicity and Bioaccumulation of Sediment-associated Contaminants with Freshwater Invertebrates, Second Edition. U.S. Environmental Protection Agency Office of Research and Development, Duluth, MI , U.S. Environmental Protection Agency Office of Water, Washington, DC EPA-600/R-99/064](#)

Spatial Representation:

The sample was collected at station 201LAG125.

Temporal Representation:

The sample was collected in August 2008.

Environmental Conditions:

QAPP Information:

All data was collected following the Standard Operating Procedures and Data Quality Objectives outlined in the SWAMP QAMP, (Puckett, 2002). QA data are included in submission.

QAPP Information Reference(s):

[Surface Water Ambient Monitoring Program Quality Assurance Program Plan](#)

DECISION ID	64979	Region 2
Lagunitas Creek		

Pollutant:	Zinc
Final Listing Decision:	Do Not List on 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision:	New Decision
Revision Status	Revised
Impairment from Pollutant or Pollution:	Pollutant

Regional Board Staff Conclusion:

This pollutant is being considered for placement on the CWA section 303(d) List under section 3.6 of the Listing Policy. Under section 3.6 at least two lines of evidence are necessary to assess listing status for pollutants sediment, and pollutant concentrations in sediment must be associated with sediment toxicity to justify adding that pollutant to the CWA section 303(d) List.

Two lines of evidence are available in the administrative record to assess this pollutant. Zero of one samples exceed the guideline. Sediment toxicity data are not associated with this decision because they are not relevant to this decision because there is insufficient information based on sediment chemistry.

Based on the readily available data and information, the weight of evidence indicates that there is insufficient justification for placing this water segment-pollutant combination on the CWA section 303(d) List.

This conclusion is based on the staff findings that:

1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy.
2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy.
3. Zero of one samples exceed the guideline and this sample size is insufficient to determine beneficial use support, with the power and confidence of the Listing Policy. A minimum of 16 samples is needed to determine if a beneficial use is fully supported using table 3.1. Sediment toxicity data are not associated with this decision because the sediment chemistry data are insufficient.
4. Pursuant to section 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.

Regional Board Staff Decision Recommendation:

After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be placed on the section 303(d) list. The readily available data and information is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating.

Line of Evidence (LOE) for Decision ID 64979, Zinc	Region 2
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Lagunitas Creek

LOE ID:	92009
Pollutant:	Zinc
LOE Subgroup:	Pollutant-Sediment
Matrix:	Sediment
Fraction:	Total
Beneficial Use:	Warm Freshwater Habitat
Number of Samples:	1
Number of Exceedances:	0
Data and Information Type:	PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality:	Water Board staff assessed SWAMP data for Lagunitas Creek to determine beneficial use support and results are as follows: 0 of 1 samples exceed the criterion for Zinc.
Data Reference:	Statewide Stream Pollution Trends Study 2008
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	San Francisco Bay Basin Water Quality Control Plan 2007: All waters shall be maintained free of toxic substances in concentrations which are toxic to, or which produce detrimental physiological responses in, human, plant, animal, or aquatic life.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	In freshwater sediments the probable effect concentration (predictive of sediment toxicity for sediment-dwelling organisms) for zinc is 459 mg/Kg dry weight (MacDonald et al. 2000).
Guideline Reference:	Development and evaluation of consensus-based sediment quality guidelines for freshwater ecosystems. Environmental Contamination and Toxicology. 39: 20-31
Spatial Representation:	Data for this line of evidence for Lagunitas Creek was collected at 1 monitoring site [Lagunitas Creek @ Coast Guard Station station (201LAG125)]
Temporal Representation:	Data was collected on a single day 8/13/2008.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	SWAMP data collected before September 2008 followed the QAMP (2002), however there may have been overlap in QA with SWAMP QAPP (2008).
QAPP Information Reference(s):	Quality Assurance Management Plan for the State of California's Surface Water Ambient Monitoring Program. Sacramento, CA. State Water Resources Control Board. SWAMP. December 2002 (1st version) Surface Water Ambient Monitoring Program Quality Assurance Program Plan

Line of Evidence (LOE) for Decision ID 64979, Zinc

Region 2

Lagunitas Creek

LOE ID:	92005
Pollutant:	Zinc
LOE Subgroup:	Pollutant-Sediment
Matrix:	Sediment
Fraction:	Total
Beneficial Use:	Cold Freshwater Habitat
Number of Samples:	1
Number of Exceedances:	0
Data and Information Type:	PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality:	Water Board staff assessed SWAMP data for Lagunitas Creek to determine beneficial use support and results are as follows: 0 of 1 samples exceed the criterion for Zinc.
Data Reference:	Statewide Stream Pollution Trends Study 2008

SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	San Francisco Bay Basin Water Quality Control Plan 2007: All waters shall be maintained free of toxic substances in concentrations which are toxic to, or which produce detrimental physiological responses in, human, plant, animal, or aquatic life.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	In freshwater sediments the probable effect concentration (predictive of sediment toxicity for sediment-dwelling organisms) for zinc is 459 mg/Kg dry weight (MacDonald et al. 2000).
Guideline Reference:	Development and evaluation of consensus-based sediment quality guidelines for freshwater ecosystems. Environmental Contamination and Toxicology. 39: 20-31
Spatial Representation:	Data for this line of evidence for Lagunitas Creek was collected at 1 monitoring site [Lagunitas Creek @ Coast Guard Station station (201LAG125)]
Temporal Representation:	Data was collected on a single day 8/13/2008.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	SWAMP data collected before September 2008 followed the QAMP (2002), however there may have been overlap in QA with SWAMP QAPP (2008).
QAPP Information Reference(s):	Quality Assurance Management Plan for the State of California's Surface Water Ambient Monitoring Program. Sacramento, CA. State Water Resources Control Board. SWAMP. December 2002 (1st version) Surface Water Ambient Monitoring Program Quality Assurance Program Plan

DECISION ID	43437	Region 2
Lagunitas Creek		

Pollutant:	2-Methylnaphthalene Acenaphthene Acenaphthylene Aldrin Anthracene Atrazine Azinphos-methyl (Guthion) Benzo(a)anthracene Benzo(a)pyrene (3,4-Benzopyrene -7-d) Benzo[b]fluoranthene Benzo[g,h,i]perylene Benzo[k]fluoranthene Biphenyl Chlordane Chlorpyrifos Chrysene (C1-C4) Dibenz[a,h]anthracene Fluoranthene Fluorene Indeno[1,2,3-cd]pyrene Naphthalene PAHs (Polycyclic Aromatic Hydrocarbons) PCBs (Polychlorinated biphenyls) Phenanthrene Pyrene
Final Listing Decision:	Do Not List on 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision:	Do Not List on 303(d) list (TMDL required list)(2012)
Revision Status	Original
Impairment from Pollutant or Pollution:	Pollutant
Regional Board Staff Conclusion:	These pollutants are being considered for placement on the section 303(d) list under section 3.1 of the Listing Policy. Under section 3.1 a single line of evidence is necessary to assess listing status. One line of evidence is available in the administrative record to assess this pollutant. None of the samples exceed the water quality objective. Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against placing this water segment-pollutant combination on the section 303(d) list in the Water Quality Limited Segments category. This conclusion is based on the staff findings that: 1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy. 2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy. 3. None of four samples exceeded the water quality objective and this does not exceed the allowable frequency listed in Table 3.1 of the Listing Policy. 4. Pursuant to section 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.
Regional Board Staff Decision Recommendation:	This is a decision previously approved by the State Water Resources Control Board and the USEPA. No new data were assessed by the Regional Board for the current. The decision has not changed.

Line of Evidence (LOE) for Decision ID 43437, Multiple Pollutants	Region 2
Lagunitas Creek	

LOE ID:	28092
Pollutant:	2-Methylnaphthalene Acenaphthene Acenaphthylene Aldrin Anthracene Atrazine Azinphos-methyl (Guthion) Benzo(a)anthracene Benzo(a)pyrene (3,4-Benzopyrene -7-d) Benzo[b]fluoranthene Benzo[g,h,i]perylene Benzo[k]fluoranthene Biphenyl Chlordane Chlorpyrifos Chrysene (C1-C4) Dibenz[a,h]anthracene Fluoranthene Fluorene Indeno[1,2,3-cd]pyrene Naphthalene PAHs (Polycyclic Aromatic Hydrocarbons) PCBs (Polychlorinated biphenyls) Phenanthrene Pyrene
LOE Subgroup:	Pollutant-Water
Matrix:	Water
Fraction:	None
Beneficial Use:	Cold Freshwater Habitat
Number of Samples:	4
Number of Exceedances:	0
Data and Information Type:	PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality:	The four samples were taken at Lagunitas Creek in three locations during the dry and spring seasons. Location 201LAG130 had one sample taken during the dry and spring seasons for a total of two samples. There was one sample taken at 201LAG270 during the dry season and 201LAG040 during the spring season. All samples did not exceed water quality guidelines.
Data Reference:	Water Quality Monitoring and Bioassessment in Nine San Francisco Bay Region Watersheds: Walker Creek, Lagunitas Creek, San Leandro Creek, Wildcat Creek/San Pablo Creek, Suisun Creek, Arroyo Las Positas, Pescadero Creek/Butano Creek, San Gregorio Creek, and Stevens Creek/Permanente Creek. Oakland, CA: Surface Water Ambient Monitoring Program, San Francisco Bay Regional Water Quality Control Board
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	The 24-hour average aquatic life protection objective for total PAHs is retained from the 1995 Basin Plan and the threshold value is 15 ug/L. Source: U.S. EPA 1980.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) - San Francisco Bay Region (Region 2)
Evaluation Guideline:	
Guideline Reference:	
Spatial Representation:	Samples were collected at 3 sites: 201LAG130, 201LAG270 and 201LAG040.
Temporal Representation:	Out of the four samples taken, two of the samples were taken in the spring season and two in the dry season during the 2001-2002.
Environmental Conditions:	Samples were not taken during storm events. LAG130 was near the mouth above the town of Point Reyes Station. The San Geronimo Creek watershed (LAG270) was the most densely developed portion of the Lagunitas Creek basin. LAG040 site was on Olema Creek.
QAPP Information:	In compliance w/ SWAMP Quality Assurance Management Plan.
QAPP Information Reference(s):	

DECISION ID	44455	Region 2
Lagunitas Creek		

Pollutant:	Ammonia (Unionized) Nitrogen, ammonia (Total Ammonia)
Final Listing Decision:	Do Not List on 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision:	Do Not List on 303(d) list (TMDL required list)(2012)
Revision Status	Original
Impairment from Pollutant or Pollution:	Pollutant

Regional Board Staff	These pollutants are being considered for placement on the section 303(d) list under section 3.2 of
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Conclusion: the Listing Policy. Under section 3.2 a single line of evidence is necessary to assess listing status. One line of evidence is available in the administrative record to assess this pollutant. None of the samples exceed the water quality objective. Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against placing this water segment-pollutant combination on the section 303(d) list in the Water Quality Limited Segments category. This conclusion is based on the staff findings that: 1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy. 2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy. 3. None of twenty three samples exceeded the water quality objective and this does not exceed the allowable frequency listed in Table 3.2 of the Listing Policy. 4. Pursuant to section 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.

Regional Board Staff Decision Recommendation: This is a decision previously approved by the State Water Resources Control Board and the USEPA. No new data were assessed by the Regional Board for the current. The decision has not changed.

Line of Evidence (LOE) for Decision ID 44455, Multiple Pollutants

Region 2

Lagunitas Creek

LOE ID: 28058

Pollutant: Ammonia (Unionized) | Nitrogen, ammonia (Total Ammonia)

LOE Subgroup: Pollutant-Water

Matrix: Water

Fraction: None

Beneficial Use: Cold Freshwater Habitat

Number of Samples: 23

Number of Exceedances: 0

Data and Information Type: PHYSICAL/CHEMICAL MONITORING

Data Used to Assess Water Quality: Twenty-three water samples were assessed for total ammonia and un-ionized ammonia. None of them exceeded the evaluation criteria.

Data Reference: [Water Quality Monitoring and Bioassessment in Nine San Francisco Bay Region Watersheds: Walker Creek, Lagunitas Creek, San Leandro Creek, Wildcat Creek/San Pablo Creek, Suisun Creek, Arroyo Las Positas, Pescadero Creek/Butano Creek, San Gregorio Creek, and Stevens Creek/Permanente Creek, Oakland, CA: Surface Water Ambient Monitoring Program, San Francisco Bay Regional Water Quality Control Board](#)

SWAMP Data: SWAMP

Water Quality Objective/Criterion: The San Francisco Bay Regional Water Quality Board Basin Plan stated that the discharge of wastes shall not cause receiving water to contain concentrations of un-ionized ammonia in excess of 0.025mg/l annual median.

Objective/Criterion Reference: For Total Ammonia: EPA's Lifetime Health advisory level for total ammonia is 30.0 mg/L as stated on page 8 of the 2006 edition of the drinking water standards and health advisories. This Advisory Level is defined as "the concentration of a chemical in drinking water that is not expected to cause any adverse noncarcinogenic effects for up to ten days of exposure." [2006 edition of the drinking water standards and health advisories. EPA 822-R-03-013 Water Quality Control Plan \(Basin Plan\) - San Francisco Bay Region \(Region 2\)](#)

Evaluation Guideline: Guideline Reference:

Spatial Representation: Samples were collected from eight monitoring locations (201LAG040, 201LAG130, 201LAG150, 201LAG160, 201LAG190, 201LAG210, 201LAG270, and 201LAG320) spread throughout the Lagunitas Creek watershed.

Temporal Representation: Samples were collected during three seasons: dry, spring and wet of 2001.

Environmental Conditions:

DECISION ID 43946		Region 2
Lagunitas Creek		
Pollutant:	Anthracene Benzo(a)anthracene Benzo(a)pyrene (3,4-Benzopyrene -7-d) Chlordane Chrysene (C1-C4) DDD (Dichlorodiphenyldichloroethane) DDE (Dichlorodiphenyldichloroethylene) DDT (Dichlorodiphenyltrichloroethane) Dieldrin Endrin Fluoranthene Fluorene Heptachlor epoxide Lindane/gamma Hexachlorocyclohexane (gamma-HCH) Naphthalene PAHs (Polycyclic Aromatic Hydrocarbons) PCBs (Polychlorinated biphenyls) Phenanthrene Pyrene	
Final Listing Decision:	Do Not List on 303(d) list (TMDL required list)	
Last Listing Cycle's Final Listing Decision:	Do Not List on 303(d) list (TMDL required list)(2012)	
Revision Status	Original	
Impairment from Pollutant or Pollution:	Pollutant	
Regional Board Staff Conclusion:	These pollutants are being considered for placement on the section 303(d) list under section 3.1 of the Listing Policy. Under section 3.1 a single line of evidence is necessary to assess listing status. One line of evidence is available in the administrative record to assess this pollutant. None of the samples exceed the water quality objective. Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against placing this water segment-pollutant combination on the section 303(d) list in the Water Quality Limited Segments category. This conclusion is based on the staff findings that: 1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy. 2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy. 3. None of two samples exceeded the water quality objective and this does not exceed the allowable frequency listed in Table 3.1 of the Listing Policy. 4. Pursuant to section 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.	
Regional Board Staff Decision Recommendation:	This is a decision previously approved by the State Water Resources Control Board and the USEPA. No new data were assessed by the Regional Board for the current. The decision has not changed.	

Line of Evidence (LOE) for Decision ID 43946, Multiple Pollutants		Region 2
Lagunitas Creek		
LOE ID:	28504	
Pollutant:	Anthracene Benzo(a)anthracene Benzo(a)pyrene (3,4-Benzopyrene -7-d) Chlordane Chrysene (C1-C4) DDD (Dichlorodiphenyldichloroethane) DDE (Dichlorodiphenyldichloroethylene) DDT (Dichlorodiphenyltrichloroethane) Dieldrin Endrin Fluoranthene Fluorene Heptachlor epoxide Lindane/gamma Hexachlorocyclohexane (gamma-HCH) Naphthalene PAHs (Polycyclic Aromatic Hydrocarbons) PCBs (Polychlorinated biphenyls) Phenanthrene Pyrene	
LOE Subgroup:	Pollutant-Sediment	
Matrix:	Sediment	
Fraction:	None	
Beneficial Use:	Cold Freshwater Habitat	
Number of Samples:	2	
Number of Exceedances:	0	
Data and Information Type:	PHYSICAL/CHEMICAL MONITORING	
Data Used to Assess Water Quality:	Concentrations of anthracene, fluorene, naphthalene, phenanthrene, benz(a)anthracene, benzo(a)pyrene, chrysene, fluoranthrene, pyrene, PAH (total), PCB (total), chlordane, dieldrin, DDD/DDE/DDT, endrin, heptachlor epoxide, and HCH, gamma in one sediment	

Data Reference:	sample collected in spring 2005 did not exceed the sediment quality guidelines. Water Quality Monitoring and Bioassessment in Nine San Francisco Bay Region Watersheds: Walker Creek, Lagunitas Creek, San Leandro Creek, Wildcat Creek/San Pablo Creek, Suisun Creek, Arroyo Las Positas, Pescadero Creek/Butano Creek, San Gregorio Creek, and Stevens Creek/Permanente Creek. Oakland, CA: Surface Water Ambient Monitoring Program, San Francisco Bay Regional Water Quality Control Board
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	All waters shall be maintained free of toxic substances that are lethal to or that produce other detrimental responses in aquatic organisms.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) - San Francisco Bay Region (Region 2)
Evaluation Guideline:	Sediment Quality Guidelines (MacDonald et al., 2000): PEC (probable effect concentration) Anthracene - 845 ug/kg; Fluorene - 536 ug/kg; Naphthalene - 561 ug/kg; Phenanthrene -1170 ug/kg; Benz(a)anthracene - 1050 ug/kg; Benzo(a)pyrene - 1450 ug/kg; Chrysene - 1290 ug/kg; Fluoranthene - 2230 ug/kg; Pyrene - 1520 ug/kg; PAH (total) - 22800 ug/kg; PCB (total) - 676 ug/kg; Chlordane - 17.6 ug/kg; Dieldrin - 61.8 ug/kg; DDD (sum op + pp) - 28 ug/kg; DDE (sum op + pp) - 31.3 ug/kg; DDT (sum op + pp) - 62.9 ug/kg; DDT (total) - 572 ug/kg; Endrin - 207 ug/kg; Heptachlor epoxide - 16 ug/kg; HCH, gamma - 4.99 ug/kg.
Guideline Reference:	Development and evaluation of consensus-based sediment quality guidelines for freshwater ecosystems. Environmental Contamination and Toxicology. 39: 20-31
Spatial Representation:	Two sediment samples were collected: one at Green Bridge on Lagunita Creek at Hwy 1, and one at Creamery Gulch on San Geronimo Creek, both during the dry season.
Temporal Representation:	Sediment sample for Creamery Gulch was collected October 2001, and for Green Bridge in June 2002.
Environmental Conditions:	
QAPP Information:	All samples were collected and analyzed using procedures comparable with the SWAMP Quality Assurance Management Plan (SWRCB, 2002).
QAPP Information Reference(s):	

DECISION ID	44386	Region 2
Lagunitas Creek		
Pollutant:	Arsenic Cadmium Copper Lead Mercury Nickel Zinc	
Final Listing Decision:	Do Not List on 303(d) list (TMDL required list)	
Last Listing Cycle's Final Listing Decision:	Do Not List on 303(d) list (TMDL required list)(2012)	
Revision Status	Original	
Impairment from Pollutant or Pollution:	Pollutant	
Regional Board Staff Conclusion:	<p>These pollutants are being considered for placement on the section 303(d) list under section 3.1 of the Listing Policy. Under this section a single line of evidence is necessary to assess listing status. One line of evidence is available in the administrative record to assess this pollutant. Zero samples exceed the water quality objective. Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against placing this water segment-pollutant combination on the section 303(d) list in the Water Quality Limited Segments category. This conclusion is based on the staff findings that: 1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy. 2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy. 3. Zero of one sample exceeded the water quality objective, but this sample size is insufficient to determine with the power and confidence of the Listing Policy if standards are not met. A minimum of two samples are needed for application of table 3.1. 4. Pursuant to section 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.</p>	
Regional Board Staff Decision Recommendation:	This is a decision previously approved by the State Water Resources Control Board and the USEPA. No new data were assessed by the Regional Board for the current. The decision has not changed.	

Line of Evidence (LOE) for Decision ID 44386, Multiple Pollutants**Region 2****Lagunitas Creek**

LOE ID:	28643
Pollutant:	Arsenic Cadmium Copper Lead Mercury Nickel Zinc
LOE Subgroup:	Pollutant-Sediment
Matrix:	Sediment
Fraction:	Total
Beneficial Use:	Cold Freshwater Habitat
Number of Samples:	1
Number of Exceedances:	0
Data and Information Type:	PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality:	Concentrations of arsenic, cadmium, copper, lead, mercury, nickel and zinc in one sediment sample collected in June of 2002 did not exceed the sediment quality guidelines.
Data Reference:	Water Quality Monitoring and Bioassessment in Nine San Francisco Bay Region Watersheds: Walker Creek, Lagunitas Creek, San Leandro Creek, Wildcat Creek/San Pablo Creek, Suisun Creek, Arroyo Las Positas, Pescadero Creek/Butano Creek, San Gregorio Creek, and Stevens Creek/Permanente Creek. Oakland, CA: Surface Water Ambient Monitoring Program. San Francisco Bay Regional Water Quality Control Board
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	All waters shall be maintained free of toxic substances that are lethal to or that produce other detrimental responses in aquatic organisms.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) - San Francisco Bay Region (Region 2)
Evaluation Guideline:	Sediment Quality Guidelines (MacDonald et al., 2000): PEC (probable effect concentration) arsenic - 33 mg/kg dw; cadmium - 4.98 mg/kg dw; chromium - 111 mg/kg dw; copper - 149 mg/kg dw; lead - 128 mg/kg dw; mercury - 1.06 mg/kg dw; nickel - 48.6 mg/kg dw; zinc - 459 mg/kg dw.
Guideline Reference:	Development and evaluation of consensus-based sediment quality guidelines for freshwater ecosystems. Environmental Contamination and Toxicology. 39: 20-31
Spatial Representation:	One sediment sample was collected at a "watershed integrator" site located close to the mouth of Lagunitas Creek.
Temporal Representation:	Sediment sample was collected in June of 2002.
Environmental Conditions:	
QAPP Information:	All samples were collected and analyzed using procedures comparable with the SWAMP Quality Assurance Management Plan (SWRCB, 2002).
QAPP Information Reference(s):	

DECISION ID**43947****Region 2****Lagunitas Creek**

Pollutant:	Arsenic Chromium (total) Copper Lead Nickel Silver Zinc
Final Listing Decision:	Do Not List on 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision:	Do Not List on 303(d) list (TMDL required list)(2012)
Revision Status	Original
Impairment from Pollutant or Pollution:	Pollutant
Regional Board Staff Conclusion:	These pollutants are being considered for placement on the section 303(d) list under section 3.1 of the Listing Policy. Under section 3.1 a single line of evidence is necessary to assess listing status. One line of evidence is available in the administrative record to assess this pollutant. None of the

samples exceed the water quality objective. Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against placing this water segment-pollutant combination on the section 303(d) list in the Water Quality Limited Segments category. This conclusion is based on the staff findings that: 1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy. 2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy. 3. None of four samples exceeded the water quality objective and this does not exceed the allowable frequency listed in Table 3.1 of the Listing Policy. 4. Pursuant to section 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.

Regional Board Staff Decision Recommendation: This is a decision previously approved by the State Water Resources Control Board and the USEPA. No new data were assessed by the Regional Board for the current. The decision has not changed.

**Line of Evidence (LOE) for Decision ID 43947, Multiple Pollutants
Lagunitas Creek**

Region 2

LOE ID:	28844
Pollutant:	Arsenic Chromium (total) Copper Lead Nickel Silver Zinc
LOE Subgroup:	Pollutant-Water
Matrix:	Water
Fraction:	Dissolved
Beneficial Use:	Cold Freshwater Habitat
Number of Samples:	4
Number of Exceedances:	0
Data and Information Type:	PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality:	The Lagunitas Creek watershed was monitored as part of SWAMP assessment. None of the four samples exceeded the water quality objectives for arsenic, chromium VI, copper, lead, nickel, silver and zinc. Concentrations of total dissolved chromium were well below the objective for chromium VI.
Data Reference:	Water Quality Monitoring and Bioassessment in Nine San Francisco Bay Region Watersheds: Walker Creek, Lagunitas Creek, San Leandro Creek, Wildcat Creek/San Pablo Creek, Suisun Creek, Arroyo Las Positas, Pescadero Creek/Butano Creek, San Gregorio Creek, and Stevens Creek/Permanente Creek. Oakland, CA: Surface Water Ambient Monitoring Program, San Francisco Bay Regional Water Quality Control Board
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	All waters shall be maintained free of toxic substances that are lethal to or that produce other detrimental responses in aquatic organisms. Table 3-4 in the Basin Plan (2007) lists freshwater water quality objectives for toxic pollutants: arsenic- 150 ug/L, chromium VI- 11 ug/L, copper - 9.0 ug/L, lead - 2.5 ug/L; nickel - 52 ug/L, silver - 3.4 ug/L and zinc - 120 ug/L.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) - San Francisco Bay Region (Region 2)
Evaluation Guideline:	
Guideline Reference:	
Spatial Representation:	Data were collected at two or three sampling locations on Lagunitas Creek - LAG130 (Gallagher's Ranch), and LAG270 (Creamery Gulch).
Temporal Representation:	Samples were collected during spring (3 sites), and dry (2 sites) seasons of the 2001-2002 sampling season.
Environmental Conditions:	
QAPP Information:	All samples were collected and analyzed using procedures comparable with the SWAMP Quality Assurance Management Plan (SWRCB, 2002).
QAPP Information Reference(s):	Quality Assurance Management Plan for the State of California's Surface Water Ambient Monitoring Program. Sacramento, CA. State Water Resources Control Board. SWAMP. December 2002 (1st version)

DECISION ID	43487	Region 2
Lagunitas Creek		

Pollutant:	Chlorpyrifos Dacthal Diazinon Disulfoton Endosulfan Lindane/gamma Hexachlorocyclohexane (gamma-HCH) Methyl Parathion PCBs (Polychlorinated biphenyls) Thiobencarb/Bolero
Final Listing Decision:	Do Not List on 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision:	Do Not List on 303(d) list (TMDL required list)(2012)
Revision Status	Original
Impairment from Pollutant or Pollution:	Pollutant
Regional Board Staff Conclusion:	These pollutants are being considered for placement on the section 303(d) list under section 3.1 of the Listing Policy. Under section 3.1 a single line of evidence is necessary to assess listing status. One line of evidence is available in the administrative record to assess this pollutant. None of the samples exceed the water quality objective. Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against placing this water segment-pollutant combination on the section 303(d) list in the Water Quality Limited Segments category. This conclusion is based on the staff findings that: 1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy. 2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy. 3. None of four samples exceeded the water quality objective and this does not exceed the allowable frequency listed in Table 3.1 of the Listing Policy. 4. Pursuant to section 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.
Regional Board Staff Decision Recommendation:	This is a decision previously approved by the State Water Resources Control Board and the USEPA. No new data were assessed by the Regional Board for the current. The decision has not changed.

Line of Evidence (LOE) for Decision ID 43487, Multiple Pollutants	Region 2
Lagunitas Creek	

LOE ID:	28982
Pollutant:	Chlorpyrifos Dacthal Diazinon Disulfoton Endosulfan Lindane/gamma Hexachlorocyclohexane (gamma-HCH) Methyl Parathion PCBs (Polychlorinated biphenyls) Thiobencarb/Bolero
LOE Subgroup:	Pollutant-Water
Matrix:	Water
Fraction:	None
Beneficial Use:	Cold Freshwater Habitat
Number of Samples:	4
Number of Exceedances:	0
Data and Information Type:	PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality:	The Lagunitas Creek watershed was monitored as part of SWAMP assessment. None of the three samples exceeded the water quality objectives for PCBs, Chlorpyrifos, Dacthal, diazinon, disulfoton, endosulfan, Lindane/gamma Hexachlorocyclohexane (gamma-HCH), methyl parathion, thiobencarb.
Data Reference:	Water Quality Monitoring and Bioassessment in Nine San Francisco Bay Region Watersheds: Walker Creek, Lagunitas Creek, San Leandro Creek, Wildcat Creek/San Pablo Creek, Suisun Creek, Arroyo Las Positas, Pescadero Creek/Butano Creek, San Gregorio Creek, and Stevens Creek/Permanente Creek. Oakland, CA: Surface Water Ambient Monitoring Program, San Francisco Bay Regional Water Quality Control Board Data collected by the Surface Water Ambient Monitoring Program, San Francisco Bay Regional Water Quality Control Board. Years 4 and 5 Assessment

SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	All waters shall be maintained free of toxic substances that are lethal to or that produce other detrimental responses in aquatic organisms. There shall be no chronic toxicity in ambient waters. Chronic toxicity is a detrimental biological effect on growth rate, reproduction, fertilization success, larval development, population abundance, community composition, or any other relevant measure of the health of an organism, population, or community. Diazinon water quality objective, 0.1 ug/L (acute)
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) - San Francisco Bay Region (Region 2)
Evaluation Guideline:	PCBs - 0.014 ug/L freshwater continuous Concentration; Chlorpyrifos - 0.015 ug/L (chronic); Dacthal (DCPA) - 14300 ug/L (acute); Disulfoton (Disyston) - 0.05 ug/L (acute); Endosulfan - 0.056 ug/L (chronic)/0.22 ug/L (acute); HCH, gamma-(gamma BHC, Lindane) - 0.95 ug/L (acute); methyl parathion - 0.08 ug/L (acute); Thiobencarb - 3.1 ug/L (acute).
Guideline Reference:	National recommended water quality criteria: 2002. EPA-822-R-02-047 Washington, D.C. USEPA
Spatial Representation:	Data were collected at three sampling locations: LAG040 (Olema Low), LAG130 (Gallagher's Ranch), and LAG270 (Creamery Gulch) in the Lagunitas Creek.
Temporal Representation:	Samples were collected at two locations during spring and dry seasons of the 2001 - 2002 sampling season.
Environmental Conditions:	
QAPP Information:	All samples were collected and analyzed using procedures comparable with the SWAMP Quality Assurance Management Plan (SWRCB, 2002).
QAPP Information Reference(s):	Quality Assurance Management Plan for the State of California's Surface Water Ambient Monitoring Program. Sacramento, CA. State Water Resources Control Board. SWAMP. December 2002 (1st version)

DECISION ID	43438	Region 2
Lagunitas Creek		

Pollutant:	Oxygen, Dissolved
Final Listing Decision:	Do Not List on 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision:	Do Not List on 303(d) list (TMDL required list)(2012)
Revision Status	Original
Impairment from Pollutant or Pollution:	Pollutant
Regional Board Staff Conclusion:	This pollutant is being considered for placement on the section 303(d) list under section 3.2 of the Listing Policy. Under section 3.2 a single line of evidence is necessary to assess listing status. One line of evidence is available in the administrative record to assess this pollutant. One of the samples exceed the water quality objective. Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against placing this water segment-pollutant combination on the section 303(d) list in the Water Quality Limited Segments category. This conclusion is based on the staff findings that: 1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy. 2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy. 3. One of thirteen samples exceeded the water quality objective and this does not exceed the allowable frequency listed in Table 3.2 of the Listing Policy. 4. Pursuant to section 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.
Regional Board Staff Decision Recommendation:	This is a decision previously approved by the State Water Resources Control Board and the USEPA. No new data were assessed by the Regional Board for the current. The decision has not changed.

Line of Evidence (LOE) for Decision ID 43438, Oxygen, Dissolved	Region 2
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Lagunitas Creek

LOE ID:	29001
Pollutant:	Oxygen, Dissolved
LOE Subgroup:	Pollutant-Water
Matrix:	Water
Fraction:	None
Beneficial Use:	Cold Freshwater Habitat
Number of Samples:	13
Number of Exceedances:	1
Data and Information Type:	PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality:	Comprehensive water quality assessment was conducted at Lagunitas Creek watershed as part of SWAMP assessment in 2002. Continuous field monitoring of temperature, dissolved oxygen, pH, and specific conductance to determine temporal variability in basic water quality at three, four, or five locations. The 7 day average minimum concentration of dissolved oxygen ranged from 1.5 to 10.75 mg/L, with one sample dropping below the 7.0 mg/L minimum concentration.
Data Reference:	Water Quality Monitoring and Bioassessment in Nine San Francisco Bay Region Watersheds: Walker Creek, Lagunitas Creek, San Leandro Creek, Wildcat Creek/San Pablo Creek, Suisun Creek, Arroyo Las Positas, Pescadero Creek/Butano Creek, San Gregorio Creek, and Stevens Creek/Permanente Creek. Oakland, CA: Surface Water Ambient Monitoring Program, San Francisco Bay Regional Water Quality Control Board
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	The numeric water quality objective for dissolved oxygen is 7.0 mg/L minimum for waters designated as cold water habitat. The median dissolved oxygen concentration for any three consecutive months shall not be less than 80 percent of the dissolved oxygen content at saturation.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) - San Francisco Bay Region (Region 2)
Evaluation Guideline:	
Guideline Reference:	
Spatial Representation:	Dissolved oxygen was measured at three or five sites located in the Lagunitas Creek watershed.
Temporal Representation:	At all locations the SWAMP performed continuous monitoring of dissolved oxygen at 15 minute intervals lasting 6-16 days during spring, summer dry seasons, and winter wet season throughout 2002.
Environmental Conditions:	
QAPP Information:	All samples were collected and analyzed using procedures comparable with the SWAMP Quality Assurance Management Plan (SWRCB 2002).
QAPP Information Reference(s):	Quality Assurance Management Plan for the State of California's Surface Water Ambient Monitoring Program. Sacramento, CA. State Water Resources Control Board. SWAMP. December 2002 (1st version)

DECISION ID	43449	Region 2
Lagunitas Creek		

Pollutant:	Temperature, water
Final Listing Decision:	Do Not List on 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision:	Do Not List on 303(d) list (TMDL required list)(2012)
Revision Status	Original
Impairment from Pollutant or Pollution:	Pollutant

**Regional Board Staff
Conclusion:**

This pollutant is being considered for placement on the section 303(d) list under section 3.2 of the Listing Policy. Under section 3.2 a single line of evidence is necessary to assess listing status. One line of evidence is available in the administrative record to assess this pollutant. None of the samples exceed the water quality objective. Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against placing this water segment-pollutant combination on the section 303(d) list in the Water Quality Limited Segments category. This conclusion is based on the staff findings that: 1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy. 2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy. 3. None of thirteen samples exceeded the water quality objective and this does not exceed the allowable frequency listed in Table 3.2 of the Listing Policy. 4. Pursuant to section 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.

**Regional Board Staff Decision
Recommendation:**

This is a decision previously approved by the State Water Resources Control Board and the USEPA. No new data were assessed by the Regional Board for the current. The decision has not changed.

**Line of Evidence (LOE) for Decision ID 43449, Temperature, water
Lagunitas Creek**

Region 2

LOE ID: 28999

Pollutant: Temperature, water
LOE Subgroup: Pollutant-Water
Matrix: Water
Fraction: None

Beneficial Use: Cold Freshwater Habitat

Number of Samples: 13
Number of Exceedances: 0

Data and Information Type: PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality: Water quality assessment was conducted at the Lagunitas Creek watershed as part of SWAMP study in 2002. Continuous field monitoring at 15 minute increments of temperature, dissolved oxygen, pH and specific conductance was conducted to determine temporal variability in basic water quality at three locations. Continuous monitoring sondes were deployed 13 times at 3 or 5 monitoring locations during wet, spring and dry seasons. The measured temperatures ranged from 4.07oC to 19.98oC and varied with season and location. The 7-day mean temperature threshold for steelhead of 17oC was not exceeded and the maximum value of a 7-day moving average of the daily mean temperature ranged from 6.9oC during January/February 2002 measurements to 16.5oC in August 2002.

Data Reference: [Water Quality Monitoring and Bioassessment in Nine San Francisco Bay Region Watersheds: Walker Creek, Lagunitas Creek, San Leandro Creek, Wildcat Creek/San Pablo Creek, Suisun Creek, Arroyo Las Positas, Pescadero Creek/Butano Creek, San Gregorio Creek, and Stevens Creek/Permanente Creek. Oakland, CA: Surface Water Ambient Monitoring Program, San Francisco Bay Regional Water Quality Control Board](#)

SWAMP Data: SWAMP

Water Quality Objective/Criterion: Temperature objectives for enclosed bays and estuaries are specified in the "Water Quality Control Plan for Control of Temperature in the Coastal and Interstate Waters and Enclosed Bays of California" including any revisions to the plan. In addition, the following temperature objectives apply to surface waters: The natural receiving water temperature of intrastate waters shall not be altered unless it can be demonstrated to the satisfaction of the Regional Board that such an alteration does not adversely affect beneficial uses. The temperature of any cold or warm freshwater habitat shall not be increased by more than 5°F (2.8°C) above natural receiving water temperature.

Objective/Criterion Reference: [Water Quality Control Plan \(Basin Plan\) - San Francisco Bay Region \(Region 2\)](#)

Evaluation Guideline: Sullivan et al. (2000) reviewed a wide range of studies incorporating information from

laboratory-based research, field observations, and risk assessment approaches and developed criteria for assessing temperature risk to aquatic life. The 7-day mean temperature (maximum value of a 7-day moving average of the daily mean temperature) of 14.8°C was established as the upper threshold criterion for coho salmon and 17.0°C for steelhead trout. The risk assessment approach used by Sullivan et al. (2000) suggest that temperatures exceeding the above thresholds will cause a 10% reduction in average growth compared to optimal conditions.

Guideline Reference:	An Analysis of the Effects of Temperature on Salmonids of the Pacific Northwest with Implications for Selecting Temperature Criteria
Spatial Representation:	Temperature was measured at three or five sites located in the Lagunitas Creek watershed that are representative of the entire creek length.
Temporal Representation:	In 2002 the SWAMP Program performed continuous monitoring of temperature at 15 minute intervals for periods of 1-2 weeks in each of three different seasons: winter (3 sites), spring (5 sites), and summer dry seasons (5 sites).
Environmental Conditions:	
QAPP Information:	All samples were collected and analyzed using procedures comparable with the SWAMP Quality Assurance Management Plan (SWRCB 2002).
QAPP Information Reference(s):	Quality Assurance Management Plan for the State of California's Surface Water Ambient Monitoring Program. Sacramento, CA. State Water Resources Control Board. SWAMP. December 2002 (1st version)

DECISION ID	43949	Region 2
Lagunitas Creek		

Pollutant:	pH
Final Listing Decision:	Do Not List on 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision:	Do Not List on 303(d) list (TMDL required list)(2012)
Revision Status	Original
Impairment from Pollutant or Pollution:	Pollutant

Regional Board Staff Conclusion:	This pollutant is being considered for placement on the section 303(d) list under section 3.2 of the Listing Policy. Under section 3.2 a single line of evidence is necessary to assess listing status. One line of evidence is available in the administrative record to assess this pollutant. None of the samples exceed the water quality objective. Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against placing this water segment-pollutant combination on the section 303(d) list in the Water Quality Limited Segments category. This conclusion is based on the staff findings that: 1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy. 2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy. 3. None of thirteen samples exceeded the water quality objective and this does not exceed the allowable frequency listed in Table 3.2 of the Listing Policy. 4. Pursuant to section 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.
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Regional Board Staff Decision Recommendation:	This is a decision previously approved by the State Water Resources Control Board and the USEPA. No new data were assessed by the Regional Board for the current. The decision has not changed.
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Line of Evidence (LOE) for Decision ID 43949, pH	Region 2
Lagunitas Creek	

LOE ID:	28988
Pollutant:	pH
LOE Subgroup:	Pollutant-Water
Matrix:	Water
Fraction:	None

Beneficial Use:	Cold Freshwater Habitat
Number of Samples:	13
Number of Exceedances:	0
Data and Information Type:	PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality:	Water quality assessment was conducted at the Lagunitas Creek watershed as part of SWAMP study in 2001-2002. Continuous field monitoring at 15 minute increments of temperature, dissolved oxygen, pH and specific conductance was conducted to determine temporal variability in basic water quality at three locations. Continuous monitoring sondes were deployed 13 times at 3 or 5 monitoring locations during wet, spring and dry seasons. The pH ranged from 6.66 to 8.15. The pH neither exceeded or dropped below the appropriate water quality thresholds during sampling season in 2002.
Data Reference:	Water Quality Monitoring and Bioassessment in Nine San Francisco Bay Region Watersheds: Walker Creek, Lagunitas Creek, San Leandro Creek, Wildcat Creek/San Pablo Creek, Suisun Creek, Arroyo Las Positas, Pescadero Creek/Butano Creek, San Gregorio Creek, and Stevens Creek/Permanente Creek. Oakland, CA: Surface Water Ambient Monitoring Program, San Francisco Bay Regional Water Quality Control Board
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	The pH shall not be depressed below 6.5 nor raised above 8.5. This encompasses the pH range usually found in waters within the basin. Controllable water quality factors shall not cause changes greater than 0.5 units in normal ambient pH levels.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) - San Francisco Bay Region (Region 2)
Evaluation Guideline:	
Guideline Reference:	
Spatial Representation:	pH was measured at three to five sites located on the mainstream of Lagunitas Creek that are representative of the entire creek length.
Temporal Representation:	In 2002 the SWAMP Program performed continuous monitoring of pH at 15 minute intervals for periods of 1-2 weeks in each of three different seasons: winter (3 sites), spring (5 sites), and summer dry season (5 sites).
Environmental Conditions:	
QAPP Information:	All samples were collected and analyzed using procedures comparable with the SWAMP Quality Assurance Management Plan (SWRCB, 2002).
QAPP Information Reference(s):	Quality Assurance Management Plan for the State of California's Surface Water Ambient Monitoring Program, Sacramento, CA. State Water Resources Control Board. SWAMP. December 2002 (1st version)

DECISION ID	34434	Region 2
Lagunitas Creek		
Pollutant:	Nutrients	
Final Listing Decision:	List on 303(d) list (TMDL required list)	
Last Listing Cycle's Final Listing Decision:	List on 303(d) list (TMDL required list)(2012)	
Revision Status	Original	
Sources:	Source Unknown	
Expected TMDL Completion Date:	2022	
Impairment from Pollutant or Pollution:	Pollutant	
Regional Board Staff Conclusion:	303(d) listing decisions made prior to 2006 were not held in an assessment database. The Regional Boards will update this decision when new data and information become available and are assessed.	
Regional Board Staff Decision Recommendation:	This is a decision previously approved by the State Water Resources Control Board and the USEPA. No new data were assessed by the Regional Board for the current. The decision has not changed.	

Line of Evidence (LOE) for Decision ID 34434, Nutrients**Region 2****Lagunitas Creek**

LOE ID:	3755
Pollutant:	Nutrients
LOE Subgroup:	Pollutant-Water
Matrix:	Water
Fraction:	Not Recorded
Beneficial Use:	Warm Freshwater Habitat
Number of Samples:	0
Number of Exceedances:	0
Data and Information Type:	Not Specified
Data Used to Assess Water Quality:	Unspecified--This LOE is a placeholder to support a 303(d) listing decision made prior to 2006.
Data Reference:	Placeholder reference pre-2006 303(d)
SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	Unspecified
Objective/Criterion Reference:	Placeholder reference pre-2006 303(d)
Evaluation Guideline:	Unspecified
Guideline Reference:	Placeholder reference pre-2006 303(d)
Spatial Representation:	Unspecified
Temporal Representation:	Unspecified
Environmental Conditions:	Unspecified
QAPP Information:	Unspecified
QAPP Information Reference(s):	

DECISION ID**35064****Region 2****Lagunitas Creek**

Pollutant:	Pathogens
Final Listing Decision:	List on 303(d) list (being addressed by USEPA approved TMDL)
Last Listing Cycle's Final Listing Decision:	List on 303(d) list (being addressed by USEPA approved TMDL)(2012)
Revision Status	Original
Sources:	Source Unknown
TMDL Name:	Tomales Bay Pathogens
TMDL Project Code:	10
Date TMDL Approved by USEPA:	01/10/2007
Impairment from Pollutant or Pollution:	Pollutant

Regional Board Staff Conclusion:	This pollutant is being considered for listing under section 2.2 of the Listing Policy. Under this section of the Policy, a minimum of one line of evidence is needed to assess listing status. A TMDL has been developed and approved by USEPA and an approved implementation plan is expected to result in attainment of the standard. The Tomales Bay Pathogens TMDL was approved by RWQCB in September 2005 and subsequently approved by USEPA 1/10/07. Based on the readily available information, the weight of evidence indicates that there is sufficient justification in favor of placing this water segment-pollutant combination in the Water Quality Limited Segments Being Addressed portion of the section 303(d) list.
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Regional Board Staff Decision Recommendation: This is a decision previously approved by the State Water Resources Control Board and the USEPA. No new data were assessed by the Regional Board for the current. The decision has not changed.

**Line of Evidence (LOE) for Decision ID 35064, Pathogens
Lagunitas Creek**

Region 2

LOE ID:	1767
Pollutant:	Pathogens
LOE Subgroup:	Pollutant-Water
Matrix:	Water
Fraction:	None
Beneficial Use:	Water Contact Recreation
Number of Samples:	0
Number of Exceedances:	0
Data and Information Type:	Not Specified
Data Used to Assess Water Quality:	Unspecified--This LOE is a placeholder to support a 303(d) listing decision prior to 2006
Data Reference:	Placeholder reference 2006 303(d)
SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	
Objective/Criterion Reference:	
Evaluation Guideline:	
Guideline Reference:	
Spatial Representation:	
Temporal Representation:	
Environmental Conditions:	
QAPP Information:	QA Info Missing
QAPP Information Reference(s):	

Draft California 2016 Integrated Report (303(d) List/305(b) Report)

Supporting Information

Regional Board 2 - San Francisco Bay Region

Water Body Name: Olema Creek
Water Body ID: CAR2011303020070615132740
Water Body Type: River & Stream

DECISION ID	44181	Region 2
Olema Creek		

Pollutant: Anthracene | Benzo(a)anthracene | Benzo(a)pyrene (3,4-Benzopyrene -7-d) | Chlordane (sediment) | Chrysene (C1-C4) | DDD (Dichlorodiphenyldichloroethane) | DDE (Dichlorodiphenyldichloroethylene) | DDT (Dichlorodiphenyltrichloroethane) | DDT (sediment) | Dieldrin (sediment) | Endrin | Fluoranthene | Fluorene | Heptachlor epoxide | Lindane/gamma Hexachlorocyclohexane (gamma-HCH) | Naphthalene | PAHs (Polycyclic Aromatic Hydrocarbons) (sediment) | PCBs (Polychlorinated biphenyls) (sediment) | Phenanthrene | Pyrene

Final Listing Decision: Do Not List on 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision: Do Not List on 303(d) list (TMDL required list)(2012)
Revision Status Original
Impairment from Pollutant or Pollution: Pollutant

Regional Board Staff Conclusion: These pollutants are being considered for placement on the section 303(d) list under section 3.1 of the Listing Policy. Under this section a single line of evidence is necessary to assess listing status. One line of evidence is available in the administrative record to assess these pollutants. Zero samples exceed the water quality objective. Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against placing this water segment-pollutant combination on the section 303(d) list in the Water Quality Limited Segments category. This conclusion is based on the staff findings that: 1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy. 2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy. 3. Zero of one sample exceeded the water quality objective, but this sample size is insufficient to determine with the power and confidence of the Listing Policy if standards are not met. A minimum of two samples are needed for application of table 3.1. 4. Pursuant to section 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.

Regional Board Staff Decision Recommendation: This is a decision previously approved by the State Water Resources Control Board and the USEPA. No new data were assessed by the Regional Board for the current. The decision has not changed.

Line of Evidence (LOE) for Decision ID 44181, Multiple Pollutants	Region 2
Olema Creek	

LOE ID: 28505

Pollutant: Anthracene | Benzo(a)anthracene | Benzo(a)pyrene (3,4-Benzopyrene -7-d) | Chlordane (sediment) | Chrysene (C1-C4) | DDD (Dichlorodiphenyldichloroethane) | DDE (Dichlorodiphenyldichloroethylene) | DDT (Dichlorodiphenyltrichloroethane) | DDT (sediment) | Dieldrin (sediment) | Endrin | Fluoranthene | Fluorene | Heptachlor epoxide | Lindane/gamma Hexachlorocyclohexane (gamma-HCH) | Naphthalene | PAHs (Polycyclic Aromatic Hydrocarbons) (sediment) | PCBs (Polychlorinated biphenyls) (sediment) | Phenanthrene | Pyrene

LOE Subgroup: Pollutant-Sediment
Matrix: Sediment

Fraction:	None
Beneficial Use:	Warm Freshwater Habitat
Number of Samples:	1
Number of Exceedances:	0
Data and Information Type:	PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality:	Concentrations of anthracene, fluorene, naphthalene, phenanthrene, benz(a)anthracene, benzo(a)pyrene, chrysene, fluoranthrene, pyrene, PAH (total), PCB (total), chlordane, dieldrin, DDD/DDE/DDT, endrin, heptachlor epoxide, and HCH, gamma in one sediment sample collected in spring 2002 did not exceed the sediment quality guidelines.
Data Reference:	Water Quality Monitoring and Bioassessment in Nine San Francisco Bay Region Watersheds: Walker Creek, Lagunitas Creek, San Leandro Creek, Wildcat Creek/San Pablo Creek, Suisun Creek, Arroyo Las Positas, Pescadero Creek/Butano Creek, San Gregorio Creek, and Stevens Creek/Permanente Creek, Oakland, CA: Surface Water Ambient Monitoring Program, San Francisco Bay Regional Water Quality Control Board
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	All waters shall be maintained free of toxic substances that are lethal to or that produce other detrimental responses in aquatic organisms.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) - San Francisco Bay Region (Region 2)
Evaluation Guideline:	Sediment Quality Guidelines (MacDonald et al., 2000): PEC (probable effect concentration) Anthracene - 845 ug/kg; Fluorene - 536 ug/kg; Naphthalene - 561 ug/kg; Phenanthrene - 1170 ug/kg; Benz(a)anthracene - 1050 ug/kg; Benzo(a)pyrene - 1450 ug/kg; Chrysene - 1290 ug/kg; Fluoranthene - 2230 ug/kg; Pyrene - 1520 ug/kg; PAH (total) - 22800 ug/kg; PCB (total) - 676 ug/kg; Chlordane - 17.6 ug/kg; Dieldrin - 61.8 ug/kg; DDD (sum op + pp) - 28 ug/kg; DDE (sum op + pp) - 31.3 ug/kg; DDT (sum op + pp) - 62.9 ug/kg; DDT (total) - 572 ug/kg; Endrin - 207 ug/kg; Heptachlor epoxide - 16 ug/kg; HCH, gamma - 4.99 ug/kg.
Guideline Reference:	Development and evaluation of consensus-based sediment quality guidelines for freshwater ecosystems. Environmental Contamination and Toxicology. 39: 20-31
Spatial Representation:	One sediment sample was collected at a "watershed integrator" site located close to the mouth of Olema Creek.
Temporal Representation:	Sediment sample was collected in spring 2002.
Environmental Conditions:	
QAPP Information:	All samples were collected and analyzed using procedures comparable with the SWAMP Quality Assurance Management Plan (SWRCB, 2002).
QAPP Information Reference(s):	

DECISION ID	43827	Region 2
Olema Creek		
Pollutant:	Arsenic Chromium (total) Copper Lead Nickel Silver Zinc	
Final Listing Decision:	Do Not List on 303(d) list (TMDL required list)	
Last Listing Cycle's Final Listing Decision:	Do Not List on 303(d) list (TMDL required list)(2012)	
Revision Status	Original	
Impairment from Pollutant or Pollution:	Pollutant	
Regional Board Staff Conclusion:	<p>These pollutants are being considered for placement on the section 303(d) list under section 3.1 of the Listing Policy. Under this section a single line of evidence is necessary to assess listing status. One line of evidence is available in the administrative record to assess these pollutants. Zero samples exceed the water quality objective. Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against placing this water segment-pollutant combination on the section 303(d) list in the Water Quality Limited Segments category. This conclusion is based on the staff findings that: 1. The data used satisfies the data quality</p>	

requirements of section 6.1.4 of the Policy. 2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy. 3. Zero of one sample exceeded the water quality objective, but this sample size is insufficient to determine with the power and confidence of the Listing Policy if standards are not met. A minimum of two samples are needed for application of table 3.1. 4. Pursuant to section 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.

Regional Board Staff Decision Recommendation: This is a decision previously approved by the State Water Resources Control Board and the USEPA. No new data were assessed by the Regional Board for the current. The decision has not changed.

Line of Evidence (LOE) for Decision ID 43827, Multiple Pollutants

Region 2

Olema Creek

LOE ID:	30335
Pollutant:	Arsenic Chromium (total) Copper Lead Nickel Silver Zinc
LOE Subgroup:	Pollutant-Water
Matrix:	Water
Fraction:	Dissolved
Beneficial Use:	Warm Freshwater Habitat
Number of Samples:	1
Number of Exceedances:	0
Data and Information Type:	PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality:	The Lagunitas Creek watershed was monitored as part of SWAMP assessment. None of the three samples exceeded the water quality objectives for arsenic, chromium VI, copper, lead, nickel, silver and zinc. Concentrations of total dissolved chromium were well below the objective for chromium VI.
Data Reference:	Water Quality Monitoring and Bioassessment in Nine San Francisco Bay Region Watersheds: Walker Creek, Lagunitas Creek, San Leandro Creek, Wildcat Creek/San Pablo Creek, Suisun Creek, Arroyo Las Positas, Pescadero Creek/Butano Creek, San Gregorio Creek, and Stevens Creek/Permanente Creek. Oakland, CA: Surface Water Ambient Monitoring Program, San Francisco Bay Regional Water Quality Control Board
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	All waters shall be maintained free of toxic substances that are lethal to or that produce other detrimental responses in aquatic organisms. Table 3-4 in the Basin Plan (2007) lists freshwater water quality objectives for toxic pollutants: arsenic- 150 ug/L, chromium VI- 11 ug/L, copper - 9.0 ug/L, lead - 2.5 ug/L; nickel - 52 ug/L, silver - 3.4 ug/L and zinc - 120 ug/L.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) - San Francisco Bay Region (Region 2)
Evaluation Guideline:	
Guideline Reference:	
Spatial Representation:	Data were collected at one sampling location on Lagunitas Creek - LAG040 (Olema Low).
Temporal Representation:	Sample was collected during the spring season of the 2001-2002 sampling season.
Environmental Conditions:	
QAPP Information:	All samples were collected and analyzed using procedures comparable with the SWAMP Quality Assurance Management Plan (SWRCB, 2002).
QAPP Information Reference(s):	Quality Assurance Management Plan for the State of California's Surface Water Ambient Monitoring Program. Sacramento, CA. State Water Resources Control Board. SWAMP. December 2002 (1st version)

DECISION ID

43828

Region 2

Olema Creek

Pollutant: Chlorpyrifos | Dacthal | Diazinon | Disulfoton | Endosulfan | Lindane/gamma Hexachlorocyclohexane (gamma-HCH) | Methyl Parathion | PCBs (Polychlorinated biphenyls) | Thiobencarb/Bolero

Final Listing Decision: Do Not List on 303(d) list (TMDL required list)

Last Listing Cycle's Final Listing Decision: Do Not List on 303(d) list (TMDL required list)(2012)

Revision Status Original

Impairment from Pollutant or Pollution: Pollutant

Regional Board Staff Conclusion: These pollutants are being considered for placement on the section 303(d) list under section 3.1 of the Listing Policy. Under this section a single line of evidence is necessary to assess listing status. One line of evidence is available in the administrative record to assess these pollutants. Zero samples exceed the water quality objective. Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against placing this water segment-pollutant combination on the section 303(d) list in the Water Quality Limited Segments category. This conclusion is based on the staff findings that: 1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy. 2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy. 3. Zero of one sample exceeded the water quality objective, but this sample size is insufficient to determine with the power and confidence of the Listing Policy if standards are not met. A minimum of two samples are needed for application of table 3.1. 4. Pursuant to section 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.

Regional Board Staff Decision Recommendation: This is a decision previously approved by the State Water Resources Control Board and the USEPA. No new data were assessed by the Regional Board for the current. The decision has not changed.

Line of Evidence (LOE) for Decision ID 43828, Multiple Pollutants

Region 2

Olema Creek

LOE ID: 28992

Pollutant: Chlorpyrifos | Dacthal | Diazinon | Disulfoton | Endosulfan | Lindane/gamma Hexachlorocyclohexane (gamma-HCH) | Methyl Parathion | PCBs (Polychlorinated biphenyls) | Thiobencarb/Bolero

LOE Subgroup: Pollutant-Water

Matrix: Water

Fraction: None

Beneficial Use: Warm Freshwater Habitat

Number of Samples: 1

Number of Exceedances: 0

Data and Information Type: PHYSICAL/CHEMICAL MONITORING

Data Used to Assess Water Quality: The Olema Creek watershed was monitored as part of SWAMP assessment. The sample did not exceed the water quality objectives for PCBs, Chlorpyrifos, Dacthal, diazinon, disulfoton, endosulfan, Lindane/gamma Hexachlorocyclohexane (gamma-HCH), methyl parathion, thiobencarb.

Data Reference: [Water Quality Monitoring and Bioassessment in Nine San Francisco Bay Region Watersheds: Walker Creek, Lagunitas Creek, San Leandro Creek, Wildcat Creek/San Pablo Creek, Suisun Creek, Arroyo Las Positas, Pescadero Creek/Butano Creek, San Gregorio Creek, and Stevens Creek/Permanente Creek. Oakland, CA: Surface Water Ambient Monitoring Program, San Francisco Bay Regional Water Quality Control Board Data collected by the Surface Water Ambient Monitoring Program, San Francisco Bay Regional Water Quality Control Board. Years 4 and 5 Assessment](#)

SWAMP Data: SWAMP

Water Quality Objective/Criterion: All waters shall be maintained free of toxic substances that are lethal to or that produce

other detrimental responses in aquatic organisms.

There shall be no chronic toxicity in ambient waters. Chronic toxicity is a detrimental biological effect on growth rate, reproduction, fertilization success, larval development, population abundance, community composition, or any other relevant measure of the health of an organism, population, or community.

Diazinon water quality objective, 0.1 ug/L (acute)

Objective/Criterion Reference:

[Water Quality Control Plan \(Basin Plan\) - San Francisco Bay Region \(Region 2\)](#)

Evaluation Guideline:

PCBs - 0.014 ug/L freshwater continuous Concentration; Chlorpyrifos - 0.015 ug/L (chronic); Dacthal (DCPA) - 14300 ug/L (acute); Disulfoton (Disyston) - 0.05 ug/L (acute); Endosulfan - 0.056 ug/L (chronic)/0.22 ug/L (acute); HCH, gamma-(gamma BHC, Lindane) - 0.95 ug/L (acute); methyl parathion - 0.08 ug/L (acute); Thiobencarb - 3.1 ug/L (acute).

Guideline Reference:

[National recommended water quality criteria: 2002. EPA-822-R-02-047 Washington, D.C. USEPA](#)

Spatial Representation:

Data were collected at one sampling location: LAG040 (Olema Low) in Olema Creek.

Temporal Representation:

One sample was collected at one location (as part of the larger Lagunitas Creek watershed) in spring of the 2001 - 2002 sampling season.

Environmental Conditions:

QAPP Information:

All samples were collected and analyzed using procedures comparable with the SWAMP Quality Assurance Management Plan (SWRCB, 2002).

QAPP Information Reference(s):

[Quality Assurance Management Plan for the State of California's Surface Water Ambient Monitoring Program. Sacramento, CA. State Water Resources Control Board. SWAMP. December 2002 \(1st version\)](#)

DECISION ID	44630	Region 2
Olema Creek		

Pollutant:	Oxygen, Dissolved
Final Listing Decision:	Do Not List on 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision:	Do Not List on 303(d) list (TMDL required list)(2012)
Revision Status	Original
Impairment from Pollutant or Pollution:	Pollutant

Regional Board Staff Conclusion:	This pollutant is being considered for placement on the section 303(d) list under section 3.2 of the Listing Policy. Under section 3.2 a single line of evidence is necessary to assess listing status. One line(s) of evidence are available in the administrative record to assess this pollutant. None of the samples exceed the water quality objective. Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against placing this water segment-pollutant combination on the section 303(d) list in the Water Quality Limited Segments category. This conclusion is based on the staff findings that: 1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy. 2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy. 3. None of the samples exceeded the dissolved oxygen objectives and this does not exceed the allowable frequency listed in Table 3.2 of the Listing Policy. 4. Pursuant to section 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met
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Regional Board Staff Decision Recommendation:	This is a decision previously approved by the State Water Resources Control Board and the USEPA. No new data were assessed by the Regional Board for the current. The decision has not changed.
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Line of Evidence (LOE) for Decision ID 44630, Oxygen, Dissolved	Region 2
Olema Creek	

LOE ID:	29265
Pollutant:	Oxygen, Dissolved

LOE Subgroup:	Pollutant-Water
Matrix:	Water
Fraction:	None
Beneficial Use:	Cold Freshwater Habitat
Number of Samples:	4
Number of Exceedances:	0
Data and Information Type:	PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality:	Water quality assessment was conducted at Lagunitas Creek watershed to characterize Olema Creek as part of SWAMP assessment in 2002. Continuous field monitoring of temperature, dissolved oxygen, pH, and specific conductance to determine temporal variability in basic water quality at two locations. The 7 day average minimum concentration of dissolved oxygen ranged from 7.01 to 9.71 mg/L. None of the samples exceeded the water quality objectives.
Data Reference:	Water Quality Monitoring and Bioassessment in Nine San Francisco Bay Region Watersheds: Walker Creek, Lagunitas Creek, San Leandro Creek, Wildcat Creek/San Pablo Creek, Suisun Creek, Arroyo Las Positas, Pescadero Creek/Butano Creek, San Gregorio Creek, and Stevens Creek/Permanente Creek. Oakland, CA: Surface Water Ambient Monitoring Program, San Francisco Bay Regional Water Quality Control Board
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	The numeric water quality objective for dissolved oxygen is 7.0 mg/L minimum for waters designated as cold water habitat. The median dissolved oxygen concentration for any three consecutive months shall not be less than 80 percent of the dissolved oxygen content at saturation.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) - San Francisco Bay Region (Region 2)
Evaluation Guideline:	
Guideline Reference:	
Spatial Representation:	Dissolved oxygen was measured at two sites located on the mainstem of Olema Creek that are representative of the entire creek length.
Temporal Representation:	At all locations the SWAMP performed continuous monitoring of dissolved oxygen at 15 minute intervals lasting 6-16 days during spring and summer seasons of 2002.
Environmental Conditions:	
QAPP Information:	All samples were collected and analyzed using procedures comparable with the SWAMP Quality Assurance Management Plan (SWRCB 2002).
QAPP Information Reference(s):	Quality Assurance Management Plan for the State of California's Surface Water Ambient Monitoring Program. Sacramento, CA. State Water Resources Control Board. SWAMP. December 2002 (1st version)

DECISION ID	44038	Region 2
Olema Creek		
Pollutant:	Temperature, water	
Final Listing Decision:	Do Not List on 303(d) list (TMDL required list)	
Last Listing Cycle's Final Listing Decision:	Do Not List on 303(d) list (TMDL required list)(2012)	
Revision Status	Original	
Impairment from Pollutant or Pollution:	Pollutant	
Regional Board Staff Conclusion:	This pollutant is being considered for placement on the section 303(d) list under section 3.2 of the Listing Policy. Under this section a single line of evidence is necessary to assess listing status. One line of evidence is available in the administrative record to assess this pollutant. None of the samples exceed the water quality objective. Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against placing this water segment-pollutant combination on the section 303(d) list in the Water Quality Limited Segments category. This	

conclusion is based on the staff findings that: 1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy. 2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy. 3. Zero of four samples exceeded the water quality objective, but this sample size is insufficient to determine with the power and confidence of the Listing Policy if standards are not met. A minimum of five samples is needed for application of table 3.2. 4. Pursuant to section 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.

Regional Board Staff Decision Recommendation: This is a decision previously approved by the State Water Resources Control Board and the USEPA. No new data were assessed by the Regional Board for the current. The decision has not changed.

Line of Evidence (LOE) for Decision ID 44038, Temperature, water

Region 2

Olema Creek

LOE ID:	29036
Pollutant:	Temperature, water
LOE Subgroup:	Pollutant-Water
Matrix:	Water
Fraction:	None
Beneficial Use:	Cold Freshwater Habitat
Number of Samples:	4
Number of Exceedances:	0
Data and Information Type:	PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality:	Water quality assessment was conducted at the Olema Creek as part of the Lagunitas Creek watershed as part of SWAMP study in 2001-2002. Continuous field monitoring at 15 minute increments of temperature, dissolved oxygen, pH and specific conductance was conducted to determine temporal variability in basic water quality at two locations in Olema Creek. Continuous monitoring sondes were deployed 4 times at 2 monitoring location during spring and dry seasons. The measured temperatures ranged from 9.26oC to 19.98°C and varied with season and location. The 7-day mean temperature ranged from 11.9 to 16.5oC and did not exceed the 17oC threshold for steelhead .
Data Reference:	Water Quality Monitoring and Bioassessment in Nine San Francisco Bay Region Watersheds: Walker Creek, Lagunitas Creek, San Leandro Creek, Wildcat Creek/San Pablo Creek, Suisun Creek, Arroyo Las Positas, Pescadero Creek/Butano Creek, San Gregorio Creek, and Stevens Creek/Permanente Creek. Oakland, CA: Surface Water Ambient Monitoring Program, San Francisco Bay Regional Water Quality Control Board
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	Temperature objectives for enclosed bays and estuaries are specified in the "Water Quality Control Plan for Control of Temperature in the Coastal and Interstate Waters and Enclosed Bays of California" including any revisions to the plan. In addition, the following temperature objectives apply to surface waters: The natural receiving water temperature of intrastate waters shall not be altered unless it can be demonstrated to the satisfaction of the Regional Board that such an alteration does not adversely affect beneficial uses. The temperature of any cold or warm freshwater habitat shall not be increased by more than 5°F (2.8°C) above natural receiving water temperature.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) - San Francisco Bay Region (Region 2)
Evaluation Guideline:	Sullivan et al. (2000) reviewed a wide range of studies incorporating information from laboratory-based research, field observations, and risk assessment approaches and developed criteria for assessing temperature risk to aquatic life. The 7-day mean temperature (maximum value of a 7-day moving average of the daily mean temperature) of 14.8°C was established as the upper threshold criterion for coho salmon and 17.0°C for steelhead trout. The risk assessment approach used by Sullivan et al. (2000)suggest that temperatures exceeding the above thresholds will cause a 10% reduction in average growth compared to optimal conditions.

Guideline Reference: [An Analysis of the Effects of Temperature on Salmonids of the Pacific Northwest with Implications for Selecting Temperature Criteria](#)

Spatial Representation: Temperature was measured at two sites located on the mainstream of Olema Creek.

Temporal Representation: In 2002 the SWAMP Program performed continuous monitoring of temperature at 15 minute intervals for periods of 1-2 weeks at three to five locations in four different seasons: winter, spring, and two summer dry seasons.

Environmental Conditions:

QAPP Information: All samples were collected and analyzed using procedures comparable with the SWAMP Quality Assurance Management Plan (SWRCB, 2002).

QAPP Information Reference(s): [Quality Assurance Management Plan for the State of California's Surface Water Ambient Monitoring Program. Sacramento, CA. State Water Resources Control Board. SWAMP. December 2002 \(1st version\)](#)

DECISION ID	43831	Region 2
Olema Creek		

Pollutant:	Toxicity
Final Listing Decision:	Do Not List on 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision:	Do Not List on 303(d) list (TMDL required list)(2012)
Revision Status	Original
Impairment from Pollutant or Pollution:	Pollutant
Regional Board Staff Conclusion:	These pollutants are being considered for placement on the section 303(d) list under section 3.1 of the Listing Policy. Under this section a single line of evidence is necessary to assess listing status. One line of evidence is available in the administrative record to assess these pollutants. Zero samples exceed the water quality objective. Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against placing this water segment-pollutant combination on the section 303(d) list in the Water Quality Limited Segments category. This conclusion is based on the staff findings that: 1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy. 2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy. 3. Zero of one sample exceeded the water quality objective, but this sample size is insufficient to determine with the power and confidence of the Listing Policy if standards are not met. A minimum of two samples are needed for application of table 3.1. 4. Pursuant to section 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.
Regional Board Staff Decision Recommendation:	This is a decision previously approved by the State Water Resources Control Board and the USEPA. No new data were assessed by the Regional Board for the current. The decision has not changed.

Line of Evidence (LOE) for Decision ID 43831, Toxicity	Region 2
Olema Creek	

LOE ID:	28825
Pollutant:	Toxicity
LOE Subgroup:	Pollutant-Water
Matrix:	Water
Fraction:	None
Beneficial Use:	Warm Freshwater Habitat
Number of Samples:	1
Number of Exceedances:	0
Data and Information Type:	TOXICITY TESTING
Data Used to Assess Water Quality:	Water toxicity sampling for Olema Creek was included in the sampling for Lagunitas

Creek. One sample was collected in 2001 to evaluate water toxicity in Olema Creek. The toxicity tests included survival and reproduction of Ceriodaphnia, survival and growth of fathead minnow, and growth of Selenastrum. No significant toxicity was observed in this sample.

Data Reference:

[Water Quality Monitoring and Bioassessment in Nine San Francisco Bay Region Watersheds: Walker Creek, Lagunitas Creek, San Leandro Creek, Wildcat Creek/San Pablo Creek, Suisun Creek, Arroyo Las Positas, Pescadero Creek/Butano Creek, San Gregorio Creek, and Stevens Creek/Permanente Creek. Oakland, CA: Surface Water Ambient Monitoring Program, San Francisco Bay Regional Water Quality Control Board](#)

SWAMP Data:

SWAMP

Water Quality Objective/Criterion:

All waters shall be maintained free of toxic substances that are lethal to or that produce other detrimental responses in aquatic organisms.

There shall be no chronic toxicity in ambient waters. Chronic toxicity is a detrimental biological effect on growth rate, reproduction, fertilization success, larval development, population abundance, community composition, or any other relevant measure of the health of an organism, population, or community.

Objective/Criterion Reference:

[Water Quality Control Plan \(Basin Plan\) - San Francisco Bay Region \(Region 2\)](#)

Evaluation Guideline:

Water toxicity was evaluated according to the SWAMP methodology. The U.S.EPA whole effluent toxicity protocol (U.S.EPA 1994) was used to test the effect of water samples on three freshwater test organisms. Statistical evaluation ($\alpha = 0.05$) and a default threshold of 80% of the control value were used to establish whether water exhibited significant toxicity adversely impacting aquatic organisms.

Guideline Reference:

[Revised approach to toxicity test acceptability criteria using a statistical performance assessment. Environmental Toxicology and Chemistry, vol. 16, No. 6, pp 1322?1329 Short-Term Methods for Estimating the Chronic Toxicity of Effluents and Receiving Waters to Freshwater Organisms. EPA/600/4-91/002. Third Edition. July 1994](#)

Spatial Representation:

Toxicity tests were conducted on water sample from lower Olema Creek (LAG040).

Temporal Representation:

Toxicity testing was conducted in 2001.

Environmental Conditions:

QAPP Information:

All samples were collected and analyzed using procedures comparable with the SWAMP Quality Assurance Management Plan (SWRCB, 2002).

QAPP Information Reference(s):

[Quality Assurance Management Plan for the State of California's Surface Water Ambient Monitoring Program. Sacramento, CA. State Water Resources Control Board. SWAMP. December 2002 \(1st version\)](#)

DECISION ID

44046

Region 2

Olema Creek

Pollutant:

pH

Final Listing Decision:

Do Not List on 303(d) list (TMDL required list)

Last Listing Cycle's Final

Do Not List on 303(d) list (TMDL required list)(2012)

Listing Decision:

Revision Status

Original

Impairment from Pollutant or

Pollutant

Pollution:

Regional Board Staff

Conclusion:

This pollutant is being considered for placement on the section 303(d) list under section 3.2 of the Listing Policy. Under this section a single line of evidence is necessary to assess listing status. One line of evidence is available in the administrative record to assess this pollutant. None of the samples exceed the water quality objective. Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against placing this water segment-pollutant combination on the section 303(d) list in the Water Quality Limited Segments category. This conclusion is based on the staff findings that: 1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy. 2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy. 3. Zero of four samples exceeded the water quality objective, but this sample size is insufficient to determine with the power and confidence of the Listing Policy if standards are not met. A minimum of five samples is needed for application of table 3.2. 4. Pursuant

to section 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.

Regional Board Staff Decision Recommendation: This is a decision previously approved by the State Water Resources Control Board and the USEPA. No new data were assessed by the Regional Board for the current. The decision has not changed.

Line of Evidence (LOE) for Decision ID 44046, pH

Region 2

Olema Creek

LOE ID: 29037

Pollutant: pH
LOE Subgroup: Pollutant-Water
Matrix: Water
Fraction: None

Beneficial Use: Warm Freshwater Habitat

Number of Samples: 4
Number of Exceedances: 0

Data and Information Type: PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality: Water quality assessment was conducted at the Olema Creek as part of the Lagunitas Creek watershed as part of SWAMP study in 2001-2002. Continuous field monitoring of temperature, dissolved oxygen, pH, and specific conductance to determine temporal variability in basic water quality at two locations in Olema Creek. Continuous monitoring sondes were deployed 4 times at 2 monitoring location during spring and dry seasons. The pH ranged from 6.6 to 7.9 and varied with season. The pH did not exceed the maximum or drop below the minimum recommended value for any deployment.

Data Reference: [Water Quality Monitoring and Bioassessment in Nine San Francisco Bay Region Watersheds: Walker Creek, Lagunitas Creek, San Leandro Creek, Wildcat Creek/San Pablo Creek, Suisun Creek, Arroyo Las Positas, Pescadero Creek/Butano Creek, San Gregorio Creek, and Stevens Creek/Permanente Creek, Oakland, CA: Surface Water Ambient Monitoring Program, San Francisco Bay Regional Water Quality Control Board](#)

SWAMP Data: SWAMP

Water Quality Objective/Criterion: The pH shall not be depressed below 6.5 nor raised above 8.5. This encompasses the pH range usually found in waters within the basin. Controllable water quality factors shall not cause changes greater than 0.5 units in normal ambient pH levels.

Objective/Criterion Reference: [Water Quality Control Plan \(Basin Plan\) - San Francisco Bay Region \(Region 2\)](#)

Evaluation Guideline:
Guideline Reference:

Spatial Representation: pH was measured at two sites located on the mainstem of Olema Creek.
Temporal Representation: In 2002 the SWAMP Program performed continuous monitoring of temperature at 15 minute intervals for periods of 1-2 weeks at two locations, and in two different seasons: spring wet (May), and summer dry (August).

Environmental Conditions:
QAPP Information: All samples were collected and analyzed using procedures comparable with the SWAMP Quality Assurance Management Plan (SWRCB 2002).

QAPP Information Reference(s): [Quality Assurance Management Plan for the State of California's Surface Water Ambient Monitoring Program, Sacramento, CA, State Water Resources Control Board, SWAMP, December 2002 \(1st version\)](#)

DECISION ID 34694

Region 2

Olema Creek

Pollutant:	Pathogens
Final Listing Decision:	List on 303(d) list (being addressed by USEPA approved TMDL)
Last Listing Cycle's Final Listing Decision:	List on 303(d) list (being addressed by USEPA approved TMDL)(2012)
Revision Status	Original
Sources:	Source Unknown
TMDL Name:	Tomales Bay Pathogens
TMDL Project Code:	10
Date TMDL Approved by USEPA:	01/10/2007
Impairment from Pollutant or Pollution:	Pollutant

Regional Board Staff Conclusion: This pollutant is being considered for for listing under section 2.2 of the Listing Policy. Under this section of the Policy, a minimum of one line of evidence is needed to assess listing status. On February 8, 2007, the Basin Plan for the San Francisco Bay region was amended to incorporate a TMDL for pathogens in Tomales Bay, and an implementation plan to achieve the TMDL. The amendment was adopted by the Regional Water Board on September 21, 2005, and has been approved by the State Water Resources Control Board, the state Office of Administrative Law, and the federal Environmental Protection Agency. The Tomales Bay Pathogen TMDL and implementation plan was approved by USEPA on 1/10/2007 and it includes Olema Creek (USEPA, 2007). Based on the readily available information, the weight of evidence indicates that there is sufficient justification in favor of placing this Water segment-pollutant combination in the Water Quality Limited Segments Being Addressed portion of the section 303(d) list.

Regional Board Staff Decision Recommendation: This is a decision previously approved by the State Water Resources Control Board and the USEPA. No new data were assessed by the Regional Board for the current. The decision has not changed.

Line of Evidence (LOE) for Decision ID 34694, Pathogens		Region 2
Olema Creek		
LOE ID:	1768	
Pollutant:	Pathogens	
LOE Subgroup:	Narrative Description Data	
Matrix:	-N/A	
Fraction:	None	
Beneficial Use:	Warm Freshwater Habitat	
Number of Samples:		
Number of Exceedances:		
Data and Information Type:	Not Specified	
Data Used to Assess Water Quality:	This is a placeholder LOE for a USEPA addition to the 2006 303(d) list. The Tomales Bay Pathogen TMDL and implementation plan was approved by USEPA on 1/10/2007 and it includes Olema Creek	
Data Reference:	Placeholder reference 2006 303(d)	
SWAMP Data:	Non-SWAMP	
Water Quality Objective/Criterion:		
Objective/Criterion Reference:		
Evaluation Guideline:		
Guideline Reference:		
Spatial Representation:		
Temporal Representation:		
Environmental Conditions:		
QAPP Information:	QA Info Missing	

QAPP Information Reference(s):

Draft California 2016 Integrated Report (303(d) List/305(b) Report)

Supporting Information

Regional Board 2 - San Francisco Bay Region

Water Body Name: San Pedro Creek
Water Body ID: CAR2022101120010905120841
Water Body Type: River & Stream

DECISION ID 32377 **Region 2**
San Pedro Creek

Pollutant: Indicator Bacteria
Final Listing Decision: Do Not Delist from 303(d) list (being addressed with USEPA approved TMDL)
Last Listing Cycle's Final Listing Decision: Do Not Delist from 303(d) list (TMDL required list)(2012)
Revision Status Revised
Sources: Source Unknown
TMDL Name: San Mateo Coast Pathogens (Pacifica Beaches and San Pedro Creek)
TMDL Project Code: 781
Date TMDL Approved by USEPA: 08/01/2013
Impairment from Pollutant or Pollution: Pollutant

Regional Board Staff Conclusion: This pollutant is being considered for removal from the section 303(d) list under section 4.3 of the Listing Policy. Under section 4.3 a single line of evidence is necessary to assess delisting status. One line of evidence is available in the administrative record to assess this pollutant. A large number of samples exceed the water quality objective. Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against removing this water segment-pollutant combination from the section 303(d) list. This conclusion is based on the staff findings that: 1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy. 2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy. 3. Most of the samples exceeded the total and fecal water quality objectives and this exceeds the allowable frequency listed in Table 4.2 of the Listing Policy. 4. Pursuant to section 4.11 of the Listing Policy, no additional data and information are available indicating that standards are met.

Regional Board Staff Decision Recommendation: This is a decision previously approved by the State Water Resources Control Board and the USEPA. No new data were assessed by the Regional Board for the current. The decision has not changed.

Line of Evidence (LOE) for Decision ID 32377, Indicator Bacteria **Region 2** **San Pedro Creek**

LOE ID: 1769
Pollutant: Coliform Bacteria
LOE Subgroup: Pollutant-Water
Matrix: Water
Fraction: Total
Beneficial Use: Water Contact Recreation
Number of Samples: 6
Number of Exceedances: 6
Data and Information Type: PATHOGEN MONITORING
Data Used to Assess Water Quality: Ninety-nine samples for total coliform, 6 samples for fecal coliform, for Basin Plan data

set. 41 samples for total coliform, 23 samples for fecal coliform for Ocean Plan data set. Basin Plan objectives violated in 13% samples for total coliform, 98% samples for total coliform median, and 100% violated for samples of fecal coliform geomean and fecal coliform in dry weather months (SWRCB, 2003).

Ocean Plan objectives violated in 90% of the samples for total coliform, 96% of samples for fecal coliform geomean, and 100% fecal coliform in dry weather months. E. coli data show 67% samples for total coliform maximum designated beach violated the Basin Plan Objectives. Basin Plan objectives violated in 63% samples for E. coli maximum moderately-used beach, violated in 57% samples for maximum lightly-used beach and violated in 57% samples for maximum infrequently-used beach, in dry weather months.

Data Reference:

[Placeholder reference 2006 303\(d\)](#)

SWAMP Data:

Non-SWAMP

Water Quality Objective/Criterion:

Basin Plan objectives (SFBRWQCB, 1995)

Fecal coliform

Log mean <200 MPN/100ml 90th percentile <400 MPN/100ml

Total coliform

Log mean <240 MPN/100ml

90th percentile >10,000 MPN/100ml

Ocean Plan Objectives (SWRCB, 2001)

Samples of water from each sampling station shall have a density of total coliform organisms less than 1,000 per 100 ml (10 per ml); provided that not more than 20 percent of the samples at any sampling station, in any 30-day period, may exceed 1,000 per 100 ml (10 per ml), and provided further that no single sample when verified by a repeat sample taken within 48 hours shall exceed 10,000 per 100 ml (100 per ml).

Objective/Criterion Reference:

[Placeholder reference 2006 303\(d\)](#)

Evaluation Guideline:

Guideline Reference:

Spatial Representation:

Data was collected at 15 sampling sites.

Temporal Representation:

Data was collected, from 5/26/98-8/14/00, and 4/24/00-11/13/00.

Environmental Conditions:

QAPP Information:

San Mateo County Environmental Health Dept. Beach Monitoring/Surfrider data/lab QA/QC used. USEPA Region IX Laboratory data used. Data evaluation was based on USEPA guidelines for 305(b) reports, that uses a hierarchy of water quality data levels. Only data of higher overall level of information (Levels 3 and 4) were used to list a water body.

QAPP Information Reference(s):

Draft California 2016 Integrated Report (303(d) List/305(b) Report)

Supporting Information

Regional Board 2 - San Francisco Bay Region

Water Body Name: San Vicente Creek
Water Body ID: CAR2022101220010905121128
Water Body Type: River & Stream

DECISION ID 32793 **Region 2**
San Vicente Creek

Pollutant: Indicator Bacteria
Final Listing Decision: Do Not Delist from 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision: Do Not Delist from 303(d) list (TMDL required list)(2012)
Revision Status Original
Sources: Source Unknown
Expected TMDL Completion Date: 2019
Impairment from Pollutant or Pollution: Pollutant

Regional Board Staff Conclusion: This pollutant is being considered for removal from the section 303(d) list under section 4.3 of the Listing Policy. Under section 4.3 a single line of evidence is necessary to assess delisting status. One line of evidence is available in the administrative record to assess this pollutant. A large number of samples exceed the water quality objective. Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against removing this water segment-pollutant combination from the section 303(d) list. This conclusion is based on the staff findings that: 1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy. 2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy. 3. All samples exceeded the fecal and total coliform water quality objectives and this exceeds the allowable frequency listed in Table 4.2 of the Listing Policy. 4. Pursuant to section 4.11 of the Listing Policy, no additional data and information are available indicating that standards are met.

Regional Board Staff Decision Recommendation: This is a decision previously approved by the State Water Resources Control Board and the USEPA. No new data were assessed by the Regional Board for the current. The decision has not changed.

Line of Evidence (LOE) for Decision ID 32793, Indicator Bacteria **Region 2**
San Vicente Creek

LOE ID: 1770
Pollutant: Coliform Bacteria
LOE Subgroup: Pollutant-Water
Matrix: Water
Fraction: Dissolved
Beneficial Use: Water Contact Recreation
Number of Samples: 38
Number of Exceedances: 38
Data and Information Type: Not Specified
Data Used to Assess Water Quality: Thirty-eight samples for total coliform, 22 samples for fecal coliform, and 6 samples for E. coli. E. coli data show 100% violations of the Basin Plan Objectives for total coliform maximum at all beaches in dry-weather months. Basin Plan violated in 3% of samples for

total coliform maximum, 100% samples violated for total coliform median, 100% samples violated for fecal coliform geomean and 100% samples violated for fecal coliform (REC-1). Basin Plan objectives violated in 32% of samples for fecal coliform mean, and 23% violated samples for fecal coliform (REC-2) in dry-weather months (SWRCB, 2003).

Data Reference: [Placeholder reference 2006 303\(d\)](#)

SWAMP Data: Non-SWAMP

Water Quality Objective/Criterion: Basin Plan objectives (SFBRWQCB, 1995)
Fecal coliform
Log mean <200 MPN/100ml
90th percentile <400 MPN/100ml
Total coliform
Log mean <240 MPN/100ml
90th percentile >10,000 MPN/100ml

Objective/Criterion Reference: [Placeholder reference 2006 303\(d\)](#)

Evaluation Guideline:

Guideline Reference:

Spatial Representation: Data was spatially collected.

Temporal Representation: Data was collected from 10/6/98-9/26/00.

Environmental Conditions:

QAPP Information: San Mateo County Environmental Health Department. Beach Monitoring, Surfrider data/lab QA/QC used. Data evaluation was based on USEPA guidelines for 305(b) reports, that uses a hierarchy of water quality data levels. Only data of higher overall level of information (Levels 3 and 4) were used to list a water body.

QAPP Information Reference(s):

Draft California 2016 Integrated Report (303(d) List/305(b) Report)

Supporting Information

Regional Board 2 - San Francisco Bay Region

Water Body Name: San Gregorio Creek
Water Body ID: CAR2023001419980929144335
Water Body Type: River & Stream

DECISION ID 32375 **Region 2**
San Gregorio Creek

Pollutant: Indicator Bacteria
Final Listing Decision: Do Not Delist from 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision: Do Not Delist from 303(d) list (TMDL required list)(2012)
Revision Status Original
Sources: Source Unknown
Expected TMDL Completion Date: 2019
Impairment from Pollutant or Pollution: Pollutant

Regional Board Staff Conclusion: This pollutant is being considered for removal from the section 303(d) list under section 4.3 of the Listing Policy. Under section 4.3 a single line of evidence is necessary to assess delisting status. One line of evidence is available in the administrative record to assess this pollutant. A large number of samples exceed the water quality objective. Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against removing this water segment-pollutant combination from the section 303(d) list. This conclusion is based on the staff findings that: 1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy. 2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy. 3. High percentages of samples exceeded the total and fecal coliform water quality objectives and this exceeds the allowable frequency listed in Table 4.2 of the Listing Policy. 4. Pursuant to section 4.11 of the Listing Policy, no additional data and information are available indicating that standards are met.

Regional Board Staff Decision Recommendation: This is a decision previously approved by the State Water Resources Control Board and the USEPA. No new data were assessed by the Regional Board for the current. The decision has not changed.

Line of Evidence (LOE) for Decision ID 32375, Indicator Bacteria **Region 2** **San Gregorio Creek**

LOE ID: 1771
Pollutant: Coliform Bacteria
LOE Subgroup: Pollutant-Water
Matrix: Water
Fraction: None
Beneficial Use: Water Contact Recreation
Number of Samples: 0
Number of Exceedances: 0
Data and Information Type: PATHOGEN MONITORING
Data Used to Assess Water Quality: Fifty-six samples for total coliform, 23 samples for fecal coliform, 22 samples for E. coli. Basin Plan objectives violated in 2% samples for total coliform maximum. Objectives

violated in 73% samples for total coliform median. Basin Plan objectives violated in 26% samples for fecal coliform geomean. Objectives violated in 43% samples for fecal coliform in dry-weather months. E. coli data show 45% samples for total coliform maximum designated beach violated the Basin Plan Objectives. Basin Plan objectives violated in 45% samples for E. coli maximum moderately-used beach, violated in 18% samples for maximum lightly-used beach and violated in 45% samples for maximum infrequently-used beach, in dry weather months (SWRCB, 2003).

Data Reference: [Placeholder reference 2006 303\(d\)](#)

SWAMP Data: Non-SWAMP

Water Quality Objective/Criterion: Basin Plan objectives (SFBRWQCB, 1995)
Fecal coliform
Log mean <200 MPN/100ml
90th percentile <400 MPN/100ml
Total coliform
Log mean <240 MPN/100ml
90th percentile >10,000 MPN/100ml

Objective/Criterion Reference: [Placeholder reference 2006 303\(d\)](#)

Evaluation Guideline:

Guideline Reference:

Spatial Representation: Data was spatially collected.

Temporal Representation: Data was collected from 9/28/98-10/31/00.

Environmental Conditions:

QAPP Information: San Mateo County Environmental Health Dept. Beach Monitoring, Surfrider data/lab QA/QC used. Data evaluation was based on USEPA guidelines for 305(b) reports, that uses a hierarchy of water quality data levels. Only data of higher overall level of information (Levels 3 and 4) were used to list a water body.

QAPP Information Reference(s):

DECISION ID	44213	Region 2
San Gregorio Creek		

Pollutant:	Ammonia (Unionized) Nitrogen, ammonia (Total Ammonia)
Final Listing Decision:	Do Not List on 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision:	Do Not List on 303(d) list (TMDL required list)(2012)
Revision Status	Original
Impairment from Pollutant or Pollution:	Pollutant

Regional Board Staff Conclusion: These pollutants are being considered for placement on the section 303(d) list under section 3.2 of the Listing Policy. Under section 3.2 a single line of evidence is necessary to assess listing status. One line of evidence is available in the administrative record to assess this pollutant. None of the samples exceed the water quality objective. Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against placing this water segment-pollutant combination on the section 303(d) list in the Water Quality Limited Segments category. This conclusion is based on the staff findings that: 1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy. 2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy. 3. Zero of twelve samples exceeded the water quality objective and this does not exceed the allowable frequency listed in Table 3.2 of the Listing Policy. 4. Pursuant to section 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.

Regional Board Staff Decision Recommendation: This is a decision previously approved by the State Water Resources Control Board and the USEPA. No new data were assessed by the Regional Board for the current. The decision has not changed.

Line of Evidence (LOE) for Decision ID 44213, Multiple Pollutants	Region 2
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San Gregorio Creek

LOE ID:	28068
Pollutant:	Ammonia (Unionized) Nitrogen, ammonia (Total Ammonia)
LOE Subgroup:	Pollutant-Water
Matrix:	Water
Fraction:	None
Beneficial Use:	Cold Freshwater Habitat
Number of Samples:	12
Number of Exceedances:	0
Data and Information Type:	PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality:	SWAMP collected twelve water samples that were analyzed for ammonia and un-ionized ammonia. None of them exceeded the evaluation criteria.
Data Reference:	Water Quality Monitoring and Bioassessment in Nine San Francisco Bay Region Watersheds: Walker Creek, Lagunitas Creek, San Leandro Creek, Wildcat Creek/San Pablo Creek, Suisun Creek, Arroyo Las Positas, Pescadero Creek/Butano Creek, San Gregorio Creek, and Stevens Creek/Permanente Creek. Oakland, CA: Surface Water Ambient Monitoring Program, San Francisco Bay Regional Water Quality Control Board
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	The San Francisco Bay Regional Water Quality Board Basin Plan states all waters shall be maintained free of toxic substances in concentrations that produce detrimental physiological responses in human, plant, animal, or aquatic life. This objective applies regardless of whether the toxicity is caused by a single substance or the interactive effect of multiple substances.
Objective/Criterion Reference:	The San Francisco Bay Regional Water Quality Board Basin Plan stated that the discharge of wastes shall not cause receiving water to contain concentrations of un-ionized ammonia in excess of 0.025mg/l annual median. Water Quality Control Plan (Basin Plan) - San Francisco Bay Region (Region 2)
Evaluation Guideline:	For Total Ammonia: EPA's Lifetime Health advisory level for total ammonia is 30.0 mg/L as stated on page 8 of the 2006 edition of the drinking water standards and health advisories. This Advisory Level is defined as "the concentration of a chemical in drinking water that is not expected to cause any adverse noncarcinogenic effects for up to ten days of exposure."
Guideline Reference:	2006 edition of the drinking water standards and health advisories. EPA 822-R-03-013
Spatial Representation:	Water samples were collected from four monitoring sites. Two sites (SGR010 and SGR040) represent the mainstem of San Gregorio Creek. SGR080 is located at the confluence with La Honda Ck and SGR090 at the confluence with Alpine Creek.
Temporal Representation:	Samples were collected during dry, spring and wet seasons of 2002.
Environmental Conditions:	
QAPP Information:	The QA was in compliance with SWAMP Quality Assurance Management Plan.
QAPP Information Reference(s):	

DECISION ID	44134	Region 2
San Gregorio Creek		

Pollutant:	Cadmium
Final Listing Decision:	Do Not List on 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision:	Do Not List on 303(d) list (TMDL required list)(2012)
Revision Status	Original
Impairment from Pollutant or Pollution:	Pollutant

Regional Board Staff Conclusion:

This pollutant is being considered for placement on the section 303(d) list under section 3.1 of the Listing Policy. Under section 3.1 a single line of evidence is necessary to assess listing status. One line of evidence is available in the administrative record to assess this pollutant. None of the samples exceed the water quality objective. Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against placing this water segment-pollutant combination on the section 303(d) list in the Water Quality Limited Segments category. This conclusion is based on the staff findings that: 1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy. 2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy. 3. Zero of six samples exceeded the water quality objective and this does not exceed the allowable frequency listed in Table 3.1 of the Listing Policy. 4. Pursuant to section 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.

Regional Board Staff Decision Recommendation:

This is a decision previously approved by the State Water Resources Control Board and the USEPA. No new data were assessed by the Regional Board for the current. The decision has not changed.

**Line of Evidence (LOE) for Decision ID 44134, Cadmium
San Gregorio Creek**

Region 2

LOE ID:	27988
Pollutant:	Cadmium
LOE Subgroup:	Pollutant-Water
Matrix:	Water
Fraction:	None
Beneficial Use:	Cold Freshwater Habitat
Number of Samples:	6
Number of Exceedances:	0
Data and Information Type:	PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality:	SWAMP collected six water samples from two locations in San Gregorio Creek. Cadmium concentrations were below the water quality objectives in all 6 samples.
Data Reference:	Water Quality Monitoring and Bioassessment in Nine San Francisco Bay Region Watersheds: Walker Creek, Lagunitas Creek, San Leandro Creek, Wildcat Creek/San Pablo Creek, Suisun Creek, Arroyo Las Positas, Pescadero Creek/Butano Creek, San Gregorio Creek, and Stevens Creek/Permanente Creek, Oakland, CA: Surface Water Ambient Monitoring Program, San Francisco Bay Regional Water Quality Control Board
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	The objective in the Basin Plan is expressed by formulas where $H = \ln$ (hardness) as CaCO_3 in mg/l: The four-day average objective for cadmium is $e^{(0.7852H - 3.490)}$. This is 1.1 ug/l at a hardness of 100mg/l as CaCO_3 . The one hour objective is $e^{(1.128H - 3.828)}$. This is 3.9ug/l at a hardness of 100mg/l as CaCO_3 .
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) - San Francisco Bay Region (Region 2)
Evaluation Guideline:	
Guideline Reference:	
Spatial Representation:	The samples were collected from two monitoring locations (SGR010 and SGR080).
Temporal Representation:	The samples were collected during wet spring and dry seasons of 2002.
Environmental Conditions:	
QAPP Information:	The QA/QC procedure was in compliance with Surface Water Ambient Monitoring Program's (SWAMP) Quality Assurance Management Plan (QAMP).
QAPP Information Reference(s):	

DECISION ID

44176

Region 2

San Gregorio Creek

Pollutant: Copper | Lead | Nickel | Silver | Zinc
Final Listing Decision: Do Not List on 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision: Do Not List on 303(d) list (TMDL required list)(2012)
Revision Status: Original
Impairment from Pollutant or Pollution: Pollutant

Regional Board Staff Conclusion: These pollutants are being considered for placement on the section 303(d) list under section 3.1 of the Listing Policy. Under section 3.1 a single line of evidence is necessary to assess listing status. One line of evidence is available in the administrative record to assess this pollutant. None of the samples exceed the water quality objective. Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against placing this water segment-pollutant combination on the section 303(d) list in the Water Quality Limited Segments category. This conclusion is based on the staff findings that: 1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy. 2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy. 3. One of six samples exceeded the water quality objective and this does not exceed the allowable frequency listed in Table 3.1 of the Listing Policy. 4. Pursuant to section 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.

Regional Board Staff Decision Recommendation: This is a decision previously approved by the State Water Resources Control Board and the USEPA. No new data were assessed by the Regional Board for the current. The decision has not changed.

Line of Evidence (LOE) for Decision ID 44176, Multiple Pollutants

Region 2

San Gregorio Creek

LOE ID: 27935

Pollutant: Copper | Lead | Nickel | Silver | Zinc
LOE Subgroup: Pollutant-Water
Matrix: Water
Fraction: None

Beneficial Use: Cold Freshwater Habitat

Number of Samples: 6
Number of Exceedances: 0

Data and Information Type: PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality: San Gregorio Creek was monitored as part of SWAMP assessment. None of the six samples exceeded the water quality objectives for copper, lead, nickel, silver and zinc.
Data Reference: [Water Quality Monitoring and Bioassessment in Nine San Francisco Bay Region Watersheds: Walker Creek, Lagunitas Creek, San Leandro Creek, Wildcat Creek/San Pablo Creek, Suisun Creek, Arroyo Las Positas, Pescadero Creek/Butano Creek, San Gregorio Creek, and Stevens Creek/Permanente Creek. Oakland, CA: Surface Water Ambient Monitoring Program, San Francisco Bay Regional Water Quality Control Board](#)

SWAMP Data: SWAMP

Water Quality Objective/Criterion: Table 3-4 in the Basin Plan (2007) lists freshwater water quality objectives for toxic pollutants: copper - 9.0 ug/L, lead - 2.5 ug/L; nickel - 52 ug/L, silver - 3.4 ug/L and zinc - 120 ug/L.
Objective/Criterion Reference: [Water Quality Control Plan \(Basin Plan\) - San Francisco Bay Region \(Region 2\)](#)

Evaluation Guideline: [Water Quality Monitoring and Bioassessment in Nine San Francisco Bay Region Watersheds: Walker Creek, Lagunitas Creek, San Leandro Creek, Wildcat Creek/San Pablo Creek, Suisun Creek, Arroyo Las Positas, Pescadero Creek/Butano Creek, San](#)

Spatial Representation: The samples were collected from two monitoring sites: SGR010 the most downstream location, and SGR080 at the mid section of San Gregorio Creek.

Temporal Representation: The samples were collected from three different seasons, dry, wet and spring of 2002.

Environmental Conditions:

QAPP Information: The Quality Control is is conducted in accordance with SWAMP's Quality Management Plan of 2002.

QAPP Information Reference(s):

DECISION ID	34544	Region 2
San Gregorio Creek		

Pollutant: Sedimentation/Siltation

Final Listing Decision: List on 303(d) list (TMDL required list)

Last Listing Cycle's Final Listing Decision: List on 303(d) list (TMDL required list)(2012)

Revision Status Original

Sources: Source Unknown

Expected TMDL Completion Date: 2013

Impairment from Pollutant or Pollution: Pollutant

Regional Board Staff Conclusion: 303(d) listing decisions made prior to 2006 were not held in an assessment database. The Regional Boards will update this decision when new data and information become available and are assessed.

Regional Board Staff Decision Recommendation: This is a decision previously approved by the State Water Resources Control Board and the USEPA. No new data were assessed by the Regional Board for the current. The decision has not changed.

Line of Evidence (LOE) for Decision ID 34544, Sedimentation/Siltation	Region 2
San Gregorio Creek	

LOE ID: 3853

Pollutant: Sedimentation/Siltation

LOE Subgroup: Pollutant-Water

Matrix: Water

Fraction: Not Recorded

Beneficial Use: Cold Freshwater Habitat

Number of Samples: 0

Number of Exceedances: 0

Data and Information Type: Not Specified

Data Used to Assess Water Quality: Unspecified--This LOE is a placeholder to support a 303(d) listing decision made prior to 2006.

Data Reference: [Placeholder reference pre-2006 303\(d\)](#)

SWAMP Data: Non-SWAMP

Water Quality Objective/Criterion: Unspecified

Objective/Criterion Reference: [Placeholder reference pre-2006 303\(d\)](#)

Evaluation Guideline: Unspecified

Guideline Reference: [Placeholder reference pre-2006 303\(d\)](#)

Spatial Representation:	Unspecified
Temporal Representation:	Unspecified
Environmental Conditions:	Unspecified
QAPP Information:	Unspecified
QAPP Information Reference(s):	

Draft California 2016 Integrated Report (303(d) List/305(b) Report)

Supporting Information

Regional Board 2 - San Francisco Bay Region

Water Body Name: Pescadero Creek
Water Body ID: CAR2024001319980929143113
Water Body Type: River & Stream

DECISION ID 66297 **Region 2**
Pescadero Creek

Pollutant: Alkalinity as CaCO₃
Final Listing Decision: Do Not List on 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision: New Decision
Revision Status Revised
Impairment from Pollutant or Pollution: Pollutant

Regional Board Staff Conclusion: This pollutant is being considered for placement on the CWA section 303(d) List under section 3.2 of the Listing Policy. Under section 3.2 a single line(s) of evidence are necessary to assess listing status.

One lines of evidence are available in the administrative record to assess this pollutant. Zero out of Zero samples exceed the guideline for Alkalinity as CaCO₃.

Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against placing this water segment-pollutant combination on the CWA section 303(d) List.

This conclusion is based on the staff findings that:

1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy.
2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy.
3. Zero out of Zero samples exceed the guideline for Alkalinity as CaCO₃ and this sample size is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating. A minimum of 26 samples is needed to determine if a beneficial use is fully supported using table 3.2.
4. Pursuant to SECTION 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.

Regional Board Staff Decision Recommendation: After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be placed on the section 303(d) list. The readily available data and information is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating.

Line of Evidence (LOE) for Decision ID 66297, Alkalinity as CaCO₃ **Region 2**
Pescadero Creek

LOE ID: 92600
Pollutant: Alkalinity as CaCO₃
LOE Subgroup: Pollutant-Water
Matrix: Water
Fraction: Total
Beneficial Use: Cold Freshwater Habitat

Number of Samples:	0
Number of Exceedances:	0
Data and Information Type:	PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality:	State Water Board staff assessed SWAMP data for Pescadero Creek to determine beneficial use support and results are as follows: 0 of 0 samples exceed the criterion for Alkalinity as CaCO ₃ . Three sample results were not used in the assessment because the laboratory data reporting limit(s) was above the objective and therefore the results could not be quantified with the level of certainty required by the Listing Policy.
Data Reference:	RWB2 Reference Study Monitoring 2008
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	Surface waters shall not contain concentrations of chemical constituents in amounts that adversely affect any designated beneficial use.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	The Alkalinity as CaCO ₃ criteria for the protection of freshwater aquatic life is 20000 ug/L (National Recommended Water Quality Criteria, 2009).
Guideline Reference:	National Recommended Water Quality Criteria. United States Environmental Protection Agency. Office of Water. Office of Science and Technology
Spatial Representation:	Data for this line of evidence for Pescadero Creek was collected at 1 monitoring site [Pescadero approx 150 m upstream of Towne Fire Road crossing - 202PES162]
Temporal Representation:	Data was collected over the time period 5/1/2008-9/10/2008.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	The SWAMP QAPP (2008) was followed.
QAPP Information Reference(s):	Surface Water Ambient Monitoring Program Quality Assurance Program Plan

DECISION ID	66300	Region 2
Pescadero Creek		

Pollutant:	Ammonia (Unionized)
Final Listing Decision:	Do Not List on 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision:	New Decision
Revision Status	Revised
Impairment from Pollutant or Pollution:	Pollutant
Regional Board Staff Conclusion:	<p>This pollutant is being considered for placement on the CWA section 303(d) List under section 4.2 of the Listing Policy. Under section 4.2 a single line(s) of evidence are necessary to assess listing status.</p> <p>Two lines of evidence are available in the administrative record to assess this pollutant. Zero of the two samples exceed the objective for Ammonia (Unionized).</p> <p>Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against placing this water segment-pollutant combination on the CWA section 303(d) List.</p> <p>This conclusion is based on the staff findings that:</p> <ol style="list-style-type: none"> 1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy. 2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy. 3. Zero of the two samples exceeded the objective for Ammonia (Unionized) and this sample size is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating. A minimum of 4.2 samples is needed to determine if a beneficial use is fully supported using table 4.1. 4. Pursuant to SECTION 4.11 of the Listing Policy, no additional data and information are available

indicating that standards are not met.

Regional Board Staff Decision Recommendation: After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be placed on the section 303(d) list. The readily available data and information is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating.

Line of Evidence (LOE) for Decision ID 66300, Ammonia (Unionized)

Region 2

Pescadero Creek

LOE ID: 92601

Pollutant: Ammonia (Unionized)
LOE Subgroup: Pollutant-Water
Matrix: Water
Fraction: Total

Beneficial Use: Fish Spawning

Number of Samples: 2
Number of Exceedances: 0

Data and Information Type: PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality: 0 of 2 samples exceed the Annual Median for Un-ionized Ammonia (as N). Un-ionized ammonia (as N) was calculated from Total Ammonia (as N) from monthly samples reported in the data. The Annual Median of these Un-ionized ammonia (as N) values was then established and compared to the Annual Median for Un-ionized Ammonia (as N) at 0.025 mg/L in the RB2 Basin Plan. The data was reported as non-detects and as underneath the quantitation limit. These non-detects and values under the quantitation limit are less than or equal to the water quality standard, the value will be considered as meeting the water quality standard, objective, criterion, or evaluation guideline.

Data Reference: [RWB2 Reference Study Monitoring 2008](#)

SWAMP Data: SWAMP

Water Quality Objective/Criterion: Water Quality Control Plan, San Francisco Bay Region (SFBRWQCB 2011): All waters shall be maintained free of toxic substances in concentrations that are toxic to, or that produce detrimental physiological responses in human, plant, animal, or aquatic life.

Objective/Criterion Reference: [Water Quality Control Plan \(Basin Plan\) San Francisco Bay Basin \(Region 2\)](#)

Evaluation Guideline:
Guideline Reference:

Spatial Representation: Samples were collected at 202PES162 (Pescadero approx 150 m upstream of Towne Fire Road crossing).

Temporal Representation: Samples collected on 5/15/2008, 6/18/2008, 9/10/2008, 10/9/2008, 12/11/2008 and 2/10/2009.

Environmental Conditions:
QAPP Information: SWAMP QAPP (2008) was followed.
QAPP Information Reference(s): [Surface Water Ambient Monitoring Program Quality Assurance Program Plan](#)

DECISION ID

66301

Region 2

Pescadero Creek

Pollutant: Nitrate/Nitrite (Nitrite + Nitrate as N)
Final Listing Decision: Do Not List on 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision: New Decision
Revision Status: Revised

Impairment from Pollutant or Pollution: Pollutant

Regional Board Staff Conclusion:

This pollutant is being considered for placement on the CWA section 303(d) List under section 3.1 of the Listing Policy. Under section 3.1 a single line(s) of evidence are necessary to assess listing status.

One lines of evidence are available in the administrative record to assess this pollutant. Zero of the Six samples exceed the objective for Nitrate/Nitrite (Nitrite + Nitrate as N).

Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against placing this water segment-pollutant combination on the CWA section 303(d) List.

This conclusion is based on the staff findings that:

1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy.
2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy.
3. Zero of the Six samples exceeded the objective for Nitrate/Nitrite (Nitrite + Nitrate as N) and this sample size is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating. A minimum of 16 samples is needed to determine if a beneficial use is fully supported using table 3.1.
4. Pursuant to SECTION 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.

Regional Board Staff Decision Recommendation:

After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be placed on the section 303(d) list. The readily available data and information is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating.

Line of Evidence (LOE) for Decision ID 66301, Nitrate/Nitrite (Nitrite + Nitrate as N)

Region 2

Pescadero Creek

LOE ID:	92608
Pollutant:	Nitrate/Nitrite (Nitrite + Nitrate as N)
LOE Subgroup:	Pollutant-Water
Matrix:	Water
Fraction:	None
Beneficial Use:	Municipal & Domestic Supply
Number of Samples:	6
Number of Exceedances:	0
Data and Information Type:	PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality:	State Water Board staff assessed SWAMP data for Pescadero Creek to determine beneficial use support and results are as follows: 0 of 6 samples exceed the criterion for Nitrate/Nitrite as N.
Data Reference:	RWB2 Reference Study Monitoring 2008
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	The California Maximum Contaminant Level for nitrate + nitrite (as N) that is incorporated by reference in the Water Quality Control Plan, San Francisco Bay Region is 10.0 mg/L (Water Quality Control Plan, San Francisco Bay Region).
Objective/Criterion Reference:	Maximum Contaminant Levels for organic and inorganic chemicals. CCR
Evaluation Guideline:	
Guideline Reference:	
Spatial Representation:	Data for this line of evidence for Pescadero Creek was collected at 1 monitoring site [

Temporal Representation:	Pescadero approx 150 m upstream of Towne Fire Road crossing - 202PES162]
Environmental Conditions:	Data was collected over the time period 5/15/2008-2/10/2009.
QAPP Information:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information Reference(s):	The SWAMP QAPP (2008) was followed. Surface Water Ambient Monitoring Program Quality Assurance Program Plan

DECISION ID	66333	Region 2
Pescadero Creek		

Pollutant:	Nitrogen, ammonia (Total Ammonia)
Final Listing Decision:	Do Not List on 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision:	New Decision
Revision Status	Revised
Impairment from Pollutant or Pollution:	Pollutant

Regional Board Staff Conclusion: This pollutant is being considered for placement on the CWA section 303(d) List under section 3.2 of the Listing Policy. Under section 3.2 a single line(s) of evidence are necessary to assess listing status.

Two lines of evidence are available in the administrative record to assess this pollutant. Zero of the 12 samples exceed the objective for Nitrogen, ammonia (Total Ammonia).

Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against placing this water segment-pollutant combination on the CWA section 303(d) List.

This conclusion is based on the staff findings that:

1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy.
2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy.
3. Zero of 12 samples exceeded the objective for Nitrogen, ammonia (Total Ammonia) and this sample size is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating. A minimum of 26 samples is needed to determine if a beneficial use is fully supported using table 3.2.
4. Pursuant to SECTION 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.

Regional Board Staff Decision Recommendation:	After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be placed on the section 303(d) list. The readily available data and information is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating.
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Line of Evidence (LOE) for Decision ID 66333, Nitrogen, ammonia (Total Ammonia)	Region 2
Pescadero Creek	

LOE ID:	92603
Pollutant:	Nitrogen, ammonia (Total Ammonia)
LOE Subgroup:	Pollutant-Water
Matrix:	Water
Fraction:	Total
Beneficial Use:	Cold Freshwater Habitat
Number of Samples:	6
Number of Exceedances:	0
Data and Information Type:	PHYSICAL/CHEMICAL MONITORING

Data Used to Assess Water Quality:	State Water Board staff assessed SWAMP data for Pescadero Creek to determine beneficial use support and results are as follows: 0 of 6 samples exceed the criterion for Ammonia as N, Total.
Data Reference:	RWB2 Reference Study Monitoring 2008
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	Surface waters shall not contain concentrations of chemical constituents in amounts that adversely affect any designated beneficial use.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	Aquatic Life Ambient Water Quality Criteria for Ammonia ? Freshwater (USEPA 2013): the 30-day rolling average concentration (criterion continuous concentration or CCC) of total ammonia nitrogen(in mg TAN/L) in freshwater are not to be exceeded more than once every three years on average. The CCC values are based on pH and temperature. The CCC formula is found on page 46 and the table of CCC values is on page 49.
Guideline Reference:	Aquatic Life Ambient Water Quality Criteria for Ammonia - Freshwater 2013
Spatial Representation:	Data for this line of evidence for Pescadero Creek was collected at 1 monitoring site [Pescadero approx 150 m upstream of Towne Fire Road crossing - 202PES162]
Temporal Representation:	Data was collected over the time period 5/15/2008-2/10/2009.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	The SWAMP QAPP (2008) was followed.
QAPP Information Reference(s):	Surface Water Ambient Monitoring Program Quality Assurance Program Plan

Line of Evidence (LOE) for Decision ID 66333, Nitrogen, ammonia (Total Ammonia)

Region 2

Pescadero Creek

LOE ID:	92604
Pollutant:	Nitrogen, ammonia (Total Ammonia)
LOE Subgroup:	Pollutant-Water
Matrix:	Water
Fraction:	Total
Beneficial Use:	Municipal & Domestic Supply
Number of Samples:	6
Number of Exceedances:	0
Data and Information Type:	PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality:	State Water Board staff assessed SWAMP data for Pescadero Creek to determine beneficial use support and results are as follows: 0 of 6 samples exceed the criterion for Ammonia as N, Total.
Data Reference:	RWB2 Reference Study Monitoring 2008
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	Surface waters shall not contain concentrations of chemical constituents in amounts that adversely affect any designated beneficial use.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	USEPA's Lifetime Health advisory level for total ammonia is 30.0 mg/L as stated on page 8 of the 2011 edition of the drinking water standards and health advisories. (EPA EPA 820-R-11-002, 2011).
Guideline Reference:	2011 Edition of the Drinking Water Standards and Health Advisories
Spatial Representation:	Data for this line of evidence for Pescadero Creek was collected at 1 monitoring site [Pescadero approx 150 m upstream of Towne Fire Road crossing - 202PES162]
Temporal Representation:	Data was collected over the time period 5/15/2008-2/10/2009.

Environmental Conditions:
QAPP Information:
QAPP Information Reference(s):

Staff is not aware of any special conditions that might affect interpretation of the data.
The SWAMP QAPP (2008) was followed.
[Surface Water Ambient Monitoring Program Quality Assurance Program Plan](#)

DECISION ID	32471	Region 2
Pescadero Creek		

Pollutant: Oxygen, Dissolved
Final Listing Decision: Do Not List on 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision: Do Not List on 303(d) list (TMDL required list)(2012)
Revision Status Revised
Impairment from Pollutant or Pollution: Pollutant

Regional Board Staff Conclusion: This pollutant is being considered for placement on the CWA section 303(d) List under section 3.2 of the Listing Policy. Under section 3.2, one line(s) of evidence are necessary to assess listing status.

Two lines of evidence are available in the administrative record to assess this pollutant. Zero of fifteen samples exceed the objective.

Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against placing this water segment-pollutant combination on the CWA section 303(d) List.

This conclusion is based on the staff findings that:

1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy.
2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy.
3. Zero of fifteen samples exceeded the objective and this sample size is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating. A minimum of twenty-six samples is needed to determine if a beneficial use is fully supported using table 3.2.
4. Pursuant to section 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.

Regional Board Staff Decision Recommendation: After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be placed on the section 303(d) list. The readily available data and information is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating.

Line of Evidence (LOE) for Decision ID 32471, Oxygen, Dissolved	Region 2
Pescadero Creek	

LOE ID: 1774

Pollutant: Oxygen, Dissolved
LOE Subgroup: Pollutant-Water
Matrix: Water
Fraction: Dissolved

Beneficial Use: Cold Freshwater Habitat

Number of Samples: 8
Number of Exceedances: 0

Data and Information Type: Not Specified
Data Used to Assess Water Quality: None of the 8 data values exceed the water quality objective. Smallest = 7.69, largest 9.32 (mg/l). Average = 8.61 (mg/l) (Environmental Science Associates, 2003).
Data Reference: [Placeholder reference 2006 303\(d\)](#)

SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	Basin Plan: For nontidal waters, the following objectives shall apply (SFBRWQCB, 1995): Waters designated as: Cold water habitat. 7.0 mg/l minimum Warm water habitat. 5.0 mg/l minimum
Objective/Criterion Reference:	Placeholder reference 2006 303(d)
Evaluation Guideline:	
Guideline Reference:	
Spatial Representation:	Eight sample sites along the Creek and its immediate tributaries.
Temporal Representation:	ESA (Environmental Science Associates) survey made in summer, August 21 to September 24, 2003.
Environmental Conditions:	
QAPP Information:	Methodology discussed in ESA 2004 report.
QAPP Information Reference(s):	

Line of Evidence (LOE) for Decision ID 32471, Oxygen, Dissolved	Region 2
Pescadero Creek	

LOE ID:	92610
Pollutant:	Oxygen, Dissolved
LOE Subgroup:	Pollutant-Water
Matrix:	Water
Fraction:	Dissolved
Beneficial Use:	Cold Freshwater Habitat
Number of Samples:	7
Number of Exceedances:	0
Data and Information Type:	PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality:	Zero of the 7 samples collected exceeded the objective.
Data Reference:	RWB2 Reference Study Monitoring 2008
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	The minimum dissolved oxygen content of non-tidal water bodies designated as Cold water habitat is 7.0 mg/L.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	
Guideline Reference:	
Spatial Representation:	Samples were collected from the Pescadero approx 150 m upstream of Towne Fire Road crossing station (202PES162).
Temporal Representation:	Samples were collected on the following dates: 5/1/2008 5/15/2008 6/18/2008 9/10/2008 10/9/2008 12/11/2008 2/10/2009
Environmental Conditions:	
QAPP Information:	The SWAMP QAPP (2008) was followed.
QAPP Information Reference(s):	

DECISION ID	66402	Region 2
Pescadero Creek		

Pollutant:	Specific Conductivity
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Final Listing Decision:
Last Listing Cycle's Final Listing Decision:
Revision Status
Impairment from Pollutant or Pollution:

Do Not List on 303(d) list (TMDL required list)
New Decision

Revised
Pollutant

Regional Board Staff Conclusion:

This pollutant is being considered for placement on the CWA section 303(d) List under section 3.2 of the Listing Policy. Under section 3.2 a single line(s) of evidence are necessary to assess listing status.

One lines of evidence are available in the administrative record to assess this pollutant. Zero out of seven samples exceed the objective for Specific Conductivity.

Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against placing this water segment-pollutant combination on the CWA section 303(d) List.

This conclusion is based on the staff findings that:

1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy.
2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy.
3. Zero out of seven samples exceed the objective for Specific Conductivity and this sample size is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating. A minimum of 26 samples is needed to determine if a beneficial use is fully supported using table 3.2.
4. Pursuant to SECTION 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.

Regional Board Staff Decision Recommendation:

After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be placed on the section 303(d) list. The readily available data and information is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating.

Line of Evidence (LOE) for Decision ID 66402, Specific Conductivity
Pescadero Creek

Region 2

LOE ID:	92617
Pollutant:	Specific Conductivity
LOE Subgroup:	Pollutant-Water
Matrix:	Water
Fraction:	None
Beneficial Use:	Municipal & Domestic Supply
Number of Samples:	7
Number of Exceedances:	0
Data and Information Type:	PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality:	State Water Board staff assessed SWAMP data for Pescadero Creek to determine beneficial use support and results are as follows: 0 of 7 samples exceed the criterion for Conductivity(Us).
Data Reference:	RWB2 Reference Study Monitoring 2008
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	The California Secondary MCL for Specific Conductance is 900 us/cm (Water Quality Control Plan, San Francisco Bay Region).
Objective/Criterion Reference:	Secondary Maximum Contaminant Levels and Compliance. CCR title 22 section 64449.
Evaluation Guideline:	

Guideline Reference:

Spatial Representation: Data for this line of evidence for Pescadero Creek was collected at 1 monitoring site [Pescadero approx 150 m upstream of Towne Fire Road crossing - 202PES162]

Temporal Representation: Data was collected over the time period 5/1/2008-2/10/2009.

Environmental Conditions: Staff is not aware of any special conditions that might affect interpretation of the data.

QAPP Information: The SWAMP QAPP (2008) was followed.

QAPP Information Reference(s): [Surface Water Ambient Monitoring Program Quality Assurance Program Plan](#)

DECISION ID	66403	Region 2
Pescadero Creek		

Pollutant: Temperature, water

Final Listing Decision: Do Not List on 303(d) list (TMDL required list)

Last Listing Cycle's Final Listing Decision: New Decision

Revision Status: Revised

Impairment from Pollutant or Pollution: Pollutant

Regional Board Staff Conclusion:

This pollutant is being considered for placement on the CWA section 303(d) List under section 3.2 of the Listing Policy. Under section 3.2 a single line(s) of evidence are necessary to assess listing status.

One lines of evidence are available in the administrative record to assess this pollutant. Zero out of seven samples exceed the guideline for temperature.

Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against placing this water segment-pollutant combination on the CWA section 303(d) List.

This conclusion is based on the staff findings that:

1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy.
2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy.
3. Zero out of seven samples exceed the guideline for temperature and this sample size is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating. A minimum of 26 samples is needed to determine if a beneficial use is fully supported using table 3.2.
4. Pursuant to SECTION 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.

Regional Board Staff Decision Recommendation: After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be placed on the section 303(d) list. The readily available data and information is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating.

Line of Evidence (LOE) for Decision ID 66403, Temperature, water	Region 2
Pescadero Creek	

LOE ID: 92618

Pollutant: Temperature, water

LOE Subgroup: Pollutant-Water

Matrix: Water

Fraction: None

Beneficial Use: Cold Freshwater Habitat

Number of Samples: 7

Number of Exceedances:	0
Data and Information Type:	PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality:	State Water Board staff assessed SWAMP data for Pescadero Creek to determine beneficial use support and results are as follows: 0 of 7 samples exceed the criterion for Water Temperature.
Data Reference:	RWB2 Reference Study Monitoring 2008
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	The natural receiving water temperature of inland surface waters shall not be altered unless it can be demonstrated to the satisfaction of the Regional Board that such alteration in temperature does not adversely affect beneficial uses. (Water Quality Control Plan, San Francisco Bay Basin, Chapter III Water Quality Objectives.)
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	Inland Fishes of California (Moyle 1976) states that for rainbow trout the optimum range for growth and completion of most life stages is 13-21 degrees C (page 129).
Guideline Reference:	Inland Fishes of California
Spatial Representation:	Data for this line of evidence for Pescadero Creek was collected at 1 monitoring site [Pescadero approx 150 m upstream of Towne Fire Road crossing - 202PES162]
Temporal Representation:	Data was collected over the time period 5/1/2008-2/10/2009.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	The SWAMP QAPP (2008) was followed.
QAPP Information Reference(s):	Surface Water Ambient Monitoring Program Quality Assurance Program Plan

DECISION ID	32472	Region 2
Pescadero Creek		

Pollutant:	pH
Final Listing Decision:	Do Not List on 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision:	Do Not List on 303(d) list (TMDL required list)(2012)
Revision Status	Revised
Impairment from Pollutant or Pollution:	Pollutant
Regional Board Staff Conclusion:	<p>This pollutant is being considered for placement on the CWA section 303(d) List under section 3.2 of the Listing Policy. Under section 3.2 at least one line(s) of evidence is necessary to assess listing status.</p> <p>Six lines of evidence are available in the administrative record to assess this pollutant. One of twenty two samples exceed the objective.</p> <p>Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against placing this water segment-pollutant combination on the CWA section 303(d) List.</p> <p>This conclusion is based on the staff findings that:</p> <ol style="list-style-type: none"> 1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy. 2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy. 3. One of twenty-two samples exceed the objective and this sample size is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating. A minimum of twenty-six samples is needed to determine if a beneficial use is fully supported using table 3.2. 4. Pursuant to Section 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.
Regional Board Staff Decision Recommendation:	After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be placed on the section 303(d) list. The readily available data and

information is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating.

Line of Evidence (LOE) for Decision ID 32472, pH

Region 2

Pescadero Creek

LOE ID: 92613

Pollutant: pH
LOE Subgroup: Pollutant-Water
Matrix: Water
Fraction: None

Beneficial Use: Cold Freshwater Habitat

Number of Samples: 7
Number of Exceedances: 0

Data and Information Type: PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality: State Water Board staff assessed SWAMP data for Pescadero Creek to determine beneficial use support and results are as follows: 0 of 7 samples exceed the criterion for pH.

Data Reference: [RWB2 Reference Study Monitoring 2008](#)

SWAMP Data: SWAMP

Water Quality Objective/Criterion: The Water Quality Control Plan for the San Francisco Bay Region's water quality objective for all surface waters states the following: The pH shall not be depressed below 6.5 nor raised above 8.5. This encompasses the pH range usually found in waters within the basin. Controllable water quality factors shall not cause changes greater than 0.5 units in normal ambient pH levels.

Objective/Criterion Reference: [Water Quality Control Plan \(Basin Plan\) San Francisco Bay Basin \(Region 2\)](#)

Evaluation Guideline:
Guideline Reference:

Spatial Representation: Data for this line of evidence for Pescadero Creek was collected at 1 monitoring site [Pescadero approx 150 m upstream of Towne Fire Road crossing - 202PES162]

Temporal Representation: Data was collected over the time period 5/1/2008-2/10/2009.

Environmental Conditions: Staff is not aware of any special conditions that might affect interpretation of the data.

QAPP Information: The SWAMP QAPP (2008) was followed.

QAPP Information Reference(s): [Surface Water Ambient Monitoring Program Quality Assurance Program Plan](#)

Line of Evidence (LOE) for Decision ID 32472, pH

Region 2

Pescadero Creek

LOE ID: 92616

Pollutant: pH
LOE Subgroup: Pollutant-Water
Matrix: Water
Fraction: None

Beneficial Use: Cold Freshwater Habitat

Number of Samples: 7
Number of Exceedances: 0

Data and Information Type: PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality: 0 of 7 samples exceed the water quality objective.

Data Reference:	RWB2 Reference Study Monitoring 2008
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	Water Quality Control Plan, San Francisco Bay Region (SFBRWQCB 2011): In inland surface waters the pH shall not be depressed below 6.5 nor raised above 8.5.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	
Guideline Reference:	
Spatial Representation:	Samples were collected at 202PES162 (Pescadero approx 150 m upstream of Towne Fire Road crossing).
Temporal Representation:	Samples collected on 5/1/2008, 5/15/2008, 6/18/2008, 9/10/2008, 10/9/2008, 12/11/2008 and 2/10/2009.
Environmental Conditions:	
QAPP Information:	SWAMP QAPP (2008) was followed.
QAPP Information Reference(s):	Surface Water Ambient Monitoring Program Quality Assurance Program Plan

Line of Evidence (LOE) for Decision ID 32472, pH

Region 2

Pescadero Creek

LOE ID:	92611
Pollutant:	pH
LOE Subgroup:	Pollutant-Water
Matrix:	Water
Fraction:	None
Beneficial Use:	Warm Freshwater Habitat
Number of Samples:	7
Number of Exceedances:	0
Data and Information Type:	PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality:	State Water Board staff assessed SWAMP data for Pescadero Creek to determine beneficial use support and results are as follows: 0 of 7 samples exceed the criterion for pH.
Data Reference:	RWB2 Reference Study Monitoring 2008
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	The Water Quality Control Plan for the San Francisco Bay Region's water quality objective for all surface waters states the following: The pH shall not be depressed below 6.5 nor raised above 8.5. This encompasses the pH range usually found in waters within the basin. Controllable water quality factors shall not cause changes greater than 0.5 units in normal ambient pH levels.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	
Guideline Reference:	
Spatial Representation:	Data for this line of evidence for Pescadero Creek was collected at 1 monitoring site [Pescadero approx 150 m upstream of Towne Fire Road crossing - 202PES162]
Temporal Representation:	Data was collected over the time period 5/1/2008-2/10/2009.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	The SWAMP QAPP (2008) was followed.
QAPP Information Reference(s):	Surface Water Ambient Monitoring Program Quality Assurance Program Plan

Line of Evidence (LOE) for Decision ID 32472, pH

Region 2

Pescadero Creek

LOE ID:	92612
Pollutant:	pH
LOE Subgroup:	Pollutant-Water
Matrix:	Water
Fraction:	None
Beneficial Use:	Municipal & Domestic Supply
Number of Samples:	7
Number of Exceedances:	0
Data and Information Type:	PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality:	State Water Board staff assessed SWAMP data for Pescadero Creek to determine beneficial use support and results are as follows: 0 of 7 samples exceed the criterion for pH.
Data Reference:	RWB2 Reference Study Monitoring 2008
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	The Water Quality Control Plan for the San Francisco Bay Region's water quality objective for all surface waters states the following: The pH shall not be depressed below 6.5 nor raised above 8.5. This encompasses the pH range usually found in waters within the basin. Controllable water quality factors shall not cause changes greater than 0.5 units in normal ambient pH levels.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	
Guideline Reference:	
Spatial Representation:	Data for this line of evidence for Pescadero Creek was collected at 1 monitoring site [Pescadero approx 150 m upstream of Towne Fire Road crossing - 202PES162]
Temporal Representation:	Data was collected over the time period 5/1/2008-2/10/2009.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	The SWAMP QAPP (2008) was followed.
QAPP Information Reference(s):	Surface Water Ambient Monitoring Program Quality Assurance Program Plan

Line of Evidence (LOE) for Decision ID 32472, pH

Region 2

Pescadero Creek

LOE ID:	92615
Pollutant:	pH
LOE Subgroup:	Pollutant-Water
Matrix:	Water
Fraction:	None
Beneficial Use:	Agricultural Supply
Number of Samples:	7
Number of Exceedances:	0
Data and Information Type:	PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality:	State Water Board staff assessed SWAMP data for Pescadero Creek to determine beneficial use support and results are as follows: 0 of 7 samples exceed the criterion for pH.
Data Reference:	RWB2 Reference Study Monitoring 2008
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	Water Quality Control Plan, San Francisco Bay Basin, Chapter III Water Quality

Objectives, Section 3.3.22 Constituents of Concern for Municipal and Agricultural Water Supplies states: At a minimum, surface waters designated for use as agricultural supply (AGR) shall not contain concentrations of constituents in excess of the levels specified in Table 3-6. The limit for pH ranges from 4.5-9.0.

Objective/Criterion Reference:

[Water Quality Control Plan \(Basin Plan\) San Francisco Bay Basin \(Region 2\)](#)

Evaluation Guideline:

Guideline Reference:

Spatial Representation:

Data for this line of evidence for Pescadero Creek was collected at 1 monitoring site [Pescadero approx 150 m upstream of Towne Fire Road crossing - 202PES162]

Temporal Representation:

Data was collected over the time period 5/1/2008-2/10/2009.

Environmental Conditions:

Staff is not aware of any special conditions that might affect interpretation of the data.

QAPP Information:

The SWAMP QAPP (2008) was followed.

QAPP Information Reference(s):

[Surface Water Ambient Monitoring Program Quality Assurance Program Plan](#)

Line of Evidence (LOE) for Decision ID 32472, pH

Region 2

Pescadero Creek

LOE ID: 1775

Pollutant: pH
LOE Subgroup: Pollutant-Water
Matrix: Water
Fraction: None

Beneficial Use: Cold Freshwater Habitat

Number of Samples: 8

Number of Exceedances: 1

Data and Information Type: PHYSICAL/CHEMICAL MONITORING

Data Used to Assess Water Quality: One of 8 data values exceed the water quality objective (Environmental Science Associates, 2004).

Data Reference: [Placeholder reference 2006 303\(d\)](#)

SWAMP Data: Non-SWAMP

Water Quality Objective/Criterion: Basin Plan: The pH shall not be depressed below 6.5 nor raised above 8.5. This encompasses the pH range usually found in waters within the basin. Controllable water quality factors shall not cause changes greater than 0.5 units in normal ambient pH levels (SFBRWQC, 1995).

Objective/Criterion Reference: [Placeholder reference 2006 303\(d\)](#)

Evaluation Guideline:

Guideline Reference:

Spatial Representation:

Eight sample sites along the Creek and its immediate tributaries. Fourteen total Pescadero and Butano SWAMP program sites were used (ESA, 2004).

Temporal Representation:

ESA (Environmental Science Associates) survey made in summer, August 21 to September 24, 2003.

Environmental Conditions:

QAPP Information:

Methodology discussed in ESA 2004 report.

QAPP Information Reference(s):

DECISION ID 32976

Region 2

Pescadero Creek

Pollutant: Sedimentation/Siltation

Final Listing Decision: Do Not Delist from 303(d) list (TMDL required list)

Last Listing Cycle's Final Listing Decision:	Do Not Delist from 303(d) list (TMDL required list)(2012)
Revision Status	Original
Sources:	Source Unknown
Expected TMDL Completion Date:	2016
Impairment from Pollutant or Pollution:	Pollutant

Regional Board Staff Conclusion: This pollutant is being considered for delisting under sections 4.9 and 4.11 of the Listing Policy. Six lines of evidence are available in the administrative record to assess this pollutant. The original listing was based on a recommendation to list by the Department of Fish and Game. According to available data, the water body has optimal or suboptimal habitat to support salmonids and a generally good insect community even though sedimentation from past practices will continue for some time. Summer measurements of turbidity did not exceed evaluation guidelines for the protection of salmonids. There is limited habitat for Coho because of the lack of deep pools, spawning gravels, and large woody debris. Based on the readily available data and information, the weight of evidence indicates that there is insufficient justification in favor of removing this water segment-pollutant combination from the section 303(d) list in the Water Quality Limited Segments category. This conclusion is based on the staff findings that: 1. The biological assessments used comply with the requirements of the Listing Policy section 6.1.5.8. 2. The data used satisfies the data quality requirements of section 6.1.4 of the Policy. 3. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy. 4. Even though most of the samples indicate optimal or suboptimal fish habitat and the benthic bioassessments indicate most of the samples have good or excellent ratings, there is still potential impacts on coho related to suitable spawning habitat. If California Department of Fish and Game and the National Marine Fisheries Service find that for this water body fish populations are not impacted, the State Water Board supports removing this water body and pollutant from the list. 5. Pursuant to section 4.11 of the Listing Policy, no additional data and information are available indicating that standards are met.

Regional Board Staff Decision Recommendation: This is a decision previously approved by the State Water Resources Control Board and the USEPA. No new data were assessed by the Regional Board for the current. The decision has not changed.

Line of Evidence (LOE) for Decision ID 32976, Sedimentation/Siltation Pescadero Creek

Region 2

LOE ID:	1773
Pollutant:	Turbidity
LOE Subgroup:	Pollutant-Water
Matrix:	Water
Fraction:	None
Beneficial Use:	Non-Contact Recreation
Number of Samples:	8
Number of Exceedances:	1
Data and Information Type:	PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality:	One of 8 data values exceed the secondary MCL for turbidity. Smallest = 1.24, largest = 5.28 (NTU). Average = 2.74 (NTU). Comparison to the "changes in turbidity" objective cannot be made because background information is not available. None of the measurements exceed the 25 NTU evaluation guideline (Environmental Science Associates, 2004).
Data Reference:	Placeholder reference 2006 303(d)
SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	Basin Plan: Waters shall be free of changes in turbidity that cause nuisance or adversely affect beneficial uses. Increases from normal background light penetration or turbidity relatable to waste discharge shall not be greater than 10 percent in areas where natural

Objective/Criterion Reference:	turbidity is greater than 50 NTU (SFBRWQCB, 1995). Placeholder reference 2006 303(d)
Evaluation Guideline:	The WQOs address conditions both in the water column (sediment and turbidity narratives). Published sedimentation thresholds can be used as appropriate interpretive evaluation guidelines. The evaluation guideline used to determine turbidity exceedance is from published-peer reviewed paper, "The Effects of Chronic Turbidity on Density and Growth of Steelheads and Coho Salmon", John W Sigler, et.al.1984. The guideline is as follows, "In our studies, as little as 25 NTUs (nephelometric turbidity units) of turbidity caused a reduction in fish growth." Sigler also discusses the result of turbidities in the 25-50 NTU range reduced growth and caused more newly emerged salmonids to emigrate from laboratory streams than did clear water (Sigler et al., 1984). Bisson and Bilby (1982) reported that juvenile coho salmon avoided water with turbidities that exceeded 70 NTU. Berg and Northcote (1985, as cited in Meehan 1991) reported that feeding and territorial behavior of juvenile coho salmon were disrupted by short-term exposures (2.5-4.5 days) to turbid water with up to 60 NTU.
Guideline Reference:	Placeholder reference 2006 303(d)
Spatial Representation:	Eight sample sites along the Creek and its immediate tributaries (14 total Pescadero and Butano SWAMP program sites were used).
Temporal Representation:	ESA (Environmental Science Associates) survey made in summer, August 21 to September 24, 2003.
Environmental Conditions:	
QAPP Information:	Methodology discussed in ESA 2004 report.
QAPP Information Reference(s):	

Line of Evidence (LOE) for Decision ID 32976, Sedimentation/Siltation

Region 2

Pescadero Creek

LOE ID:	1772
Pollutant:	Turbidity
LOE Subgroup:	Narrative Description Data
Matrix:	-N/A
Fraction:	None
Beneficial Use:	Cold Freshwater Habitat
Number of Samples:	0
Number of Exceedances:	0
Data and Information Type:	Not Specified
Data Used to Assess Water Quality:	<p>Graphs of "Maximum Annual Flood Peaks Greater than Bankfull as a Ratio to the Mean Annual Flood" and "Maximum Annual Flood Peaks Greater than Bankfull as a Ratio to the Mean Annual Flood" appear to show that flooding continues to be periodic and occasional (e.g., Pages 4-5, 4-6).</p> <p>Sediment Source Investigation (e.g., Analysis of aerial photos).</p> <p>"Erosional features associated with land management account for by far the greatest sediment delivery volumes from the watershed." (Page 6-48).</p> <p>"The sandstone and mixed lithology HGUs that underlie much of the forested area of the watershed may continue to produce relatively large quantities of sediment for some time." (Page 6-49).</p> <p>"While erosion and sediment delivery resulting from past management will likely continue for some time, there should be an overall decrease in sediment delivery to stream channels as land use practices continue to improve and as degraded lands recover both naturally and through proactive treatments." (Pages 6-49, 6-50).1. Analysis of the flood record on Pescadero Creek (1951 through 2001). 2. Analysis of changes in streambed elevation at the gauging station (1951 through 2001).</p>

Data Reference:	Placeholder reference 2006 303(d)
SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	<p>Basin Plan: The suspended sediment load and suspended sediment discharge rate of surface waters shall not be altered in such a manner as to cause nuisance or adversely affect beneficial uses (SFBRWQCB, 1995).</p> <p>Turbidity Objective: "Waters shall be free of changes in turbidity that cause nuisance or adversely affect beneficial uses. Increases from normal background light penetration or turbidity relatable to waste discharge shall not be greater than 10 percent in areas where natural turbidity is greater than 50 NTU."</p>
Objective/Criterion Reference:	Placeholder reference 2006 303(d)
Evaluation Guideline:	
Guideline Reference:	
Spatial Representation:	Single USGS gauging station, "Pescadero Creek," located at a bridge on Pescadero Road, 3.0 miles east of the town of Pescadero and 5.3 miles upstream of the mouth of Pescadero Creek.
Temporal Representation:	Series of annual maximum instantaneous flood peaks (annual flood series) for the 1952 through the 2001 water years.
Environmental Conditions:	Harvest practices employed by timber companies active in the watershed over the last twenty years are less intensive, and are far more sensitive to issues of erosion and water quality. Farmers and ranchers in the watershed have been working with the Natural Resources Conservation Service and the Farm Bureau to prevent erosion and improve both water quality protection measures and road maintenance practices in cultivated, rangeland and forest settings. In addition, the area of protected lands continues to increase with the acquisition of ranch and timberlands for parks and open space. Such acquisitions generally terminate intensive management of these lands, and the various parks and open space agencies have shown strong interest in addressing ongoing and potentially controllable erosion problems.
QAPP Information:	Good for USGS sampling program (USGS, 2002). Less good for aerial survey (e.g., "The results of this survey may have been influenced by lack of access to private lands." [Page 6-48]).
QAPP Information Reference(s):	

Line of Evidence (LOE) for Decision ID 32976, Sedimentation/Siltation
Pescadero Creek

Region 2

LOE ID:	1779
Pollutant:	Habitat Assessment (Streams)
LOE Subgroup:	Testimonial Evidence
Matrix:	-N/A
Fraction:	None
Beneficial Use:	Cold Freshwater Habitat
Number of Samples:	
Number of Exceedances:	
Data and Information Type:	Not Specified
Data Used to Assess Water Quality:	<p>From the RWQCB: (1) There is little suitable habitat at present within the creek for coho salmon, and primary hypothesized limiting factors (for coho) are lack of good cover and deep pools, the second factor of which is in part related to an abundant total and fine sediment supply;</p> <p>(2) Coho salmon are state listed as endangered south of the Golden Gate, and federally listed as threatened. Two-of-three brood years are believed to be extinct within Pescadero and Butano Creeks, and the third brood year appears to have a tenuous presence.</p> <p>(3) Although the steelhead trout run in both creeks does not appear to be immediately threatened by local extinction, run-size is substantially reduced from historical values by a</p>

variety of limiting factors including a lack of large woody debris and substantial increase in total and fine sediment supply.

Data Reference: [Placeholder reference 2006 303\(d\)](#)

SWAMP Data: Non-SWAMP

Water Quality Objective/Criterion:
Objective/Criterion Reference:

Evaluation Guideline:
Guideline Reference:

Spatial Representation:
Temporal Representation:
Environmental Conditions:

QAPP Information: QA Info Missing
QAPP Information Reference(s):

Line of Evidence (LOE) for Decision ID 32976, Sedimentation/Siltation

Region 2

Pescadero Creek

LOE ID: 1778

Pollutant: Sedimentation/Siltation
LOE Subgroup: Pollutant-Sediment
Matrix: Not Specified
Fraction:

Beneficial Use: Cold Freshwater Habitat

Number of Samples: 0
Number of Exceedances: 0

Data and Information Type: Not Specified
Data Used to Assess Water Quality: From the RWQCB: More than 80 percent of the estimated total sediment delivery to the channel network during the past two decades is associated with human land use activities. Much of this sediment is controllable (gullies associated with historical hillside agriculture, active and abandoned rural earth-surfaced roads, etc.).

Data Reference: [Placeholder reference 2006 303\(d\)](#)

SWAMP Data: Non-SWAMP

Water Quality Objective/Criterion: Basin Plan: The suspended sediment load and suspended sediment discharge rate of surface waters shall not be altered in such a manner as to cause nuisance or adversely affect beneficial uses.

Objective/Criterion Reference: Waters shall not contain substances in concentrations that result in the deposition of material that cause nuisance or adversely affect beneficial uses.

Objective/Criterion Reference: [Placeholder reference 2006 303\(d\)](#)

Evaluation Guideline:
Guideline Reference:

Spatial Representation:
Temporal Representation:
Environmental Conditions:

QAPP Information: QA Info Missing
QAPP Information Reference(s):

Line of Evidence (LOE) for Decision ID 32976, Sedimentation/Siltation

Region 2

Pescadero Creek

LOE ID:	1777
Pollutant:	Sedimentation/Siltation
LOE Subgroup:	Testimonial Evidence
Matrix:	Not Specified
Fraction:	
Beneficial Use:	Cold Freshwater Habitat
Number of Samples:	0
Number of Exceedances:	0
Data and Information Type:	Not Specified
Data Used to Assess Water Quality:	In 1998 a letter was sent to RWQCB staff from the California Department of Fish and Game requesting that several waters be added to the section 303(d) list because of the threats to Coho salmon and steelhead. The letter states: "...The Federal listing of both Coho salmon and steelhead as threatened species confirms the grave condition of these economically and intrinsically valuable fish populations. ...If these species are to survive, we must act now to improve aquatic habitat where it is most critical, namely in major rivers tributary to the Bay and ocean." The letter goes on to identify siltation as a problem in Pescadero and Butano Creeks. No data are provided or analyzed to support the conclusion that siltation is a water quality problem.
Data Reference:	Placeholder reference 2006 303(d)
SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	Basin Plan: The suspended sediment load and suspended sediment discharge rate of surface waters shall not be altered in such a manner as to cause nuisance or adversely affect beneficial uses (SFBRWQCB, 1995).
Objective/Criterion Reference:	Placeholder reference 2006 303(d)
Evaluation Guideline:	
Guideline Reference:	
Spatial Representation:	
Temporal Representation:	
Environmental Conditions:	
QAPP Information:	QA Info Missing
QAPP Information Reference(s):	

Line of Evidence (LOE) for Decision ID 32976, Sedimentation/Siltation

Region 2

Pescadero Creek

LOE ID:	1776
Pollutant:	Benthic-Macroinvertebrate Bioassessments
LOE Subgroup:	Population/Community Degradation
Matrix:	-N/A
Fraction:	None
Beneficial Use:	Cold Freshwater Habitat
Number of Samples:	18
Number of Exceedances:	3
Data and Information Type:	Benthic macroinvertebrate surveys
Data Used to Assess Water Quality:	Metric values from 18 sample sites for taxonomic richness, dominant taxon, members of three major benthic invertebrate families, a sensitive taxa index, the Shannon Diversity

index, and tolerance value were scored and the 132 scores (6 scores for each sample site) summed to derive total scores for each site. Total scores were then used to assign "poor", "fair", "good", or "excellent" condition grades to each site along the Creek (SWAMP, 2004). Total sample site scores ranged from 10 to 28. The average score was 20.4, which is equivalent to a "good" rating. One site was rated "poor". Two sites were rated "fair". Eight sites were "good" and seven sites were "excellent".

Data Reference: [Placeholder reference 2006 303\(d\)](#)

SWAMP Data: SWAMP

Water Quality Objective/Criterion: Basin Plan: All waters shall be maintained free of toxic substances in concentrations that are lethal to or that produce significant alterations in population or community ecology or receiving water biota (SFBRWQCB, 1995).

Objective/Criterion Reference: [Placeholder reference 2006 303\(d\)](#)

Evaluation Guideline: Bioassessment guidelines from the following publication were used: California Department of Fish and Game (CDFG), 1999

Guideline Reference: [Placeholder reference 2006 303\(d\)](#)

Spatial Representation: Eighteen sample sites along the Creek and its immediate tributaries. Fourteen total Pescadero and Butano SWAMP program sites were used (ESA, 2004).

Temporal Representation: SWAMP assessment made in April 2002.

DFG assessments made in 1995.

ESA (Environmental Science Associates) survey made in summer (August 21 to September 24) 2003.

Environmental Conditions: April 2002 SWAMP data is not directly comparable to summer 2003 data. Habitat conditions in summer 2003 were evaluated at each site.

QAPP Information: California Stream Bioassessment Protocols (CDFG 1999) used (in 2002 and 2003 surveys). SWAMP QAPP was used.

QAPP Information Reference(s):

Line of Evidence (LOE) for Decision ID 32976, Sedimentation/Siltation

Region 2

Pescadero Creek

LOE ID: 1780

Pollutant: Habitat Assessment (Streams)
LOE Subgroup: Population/Community Degradation
Matrix: Water
Fraction: None

Beneficial Use: Cold Freshwater Habitat

Number of Samples: 0

Number of Exceedances: 0

Data and Information Type: HABITAT ASSESSMENT

Data Used to Assess Water Quality: Assessments of physical habitat quality, biotic conditions, pool habitat quality, and water quality in the Pescadero-Butano watershed revealed the following overall fisheries habitat conditions currently present in the watershed: (1) Accessible salmonid habitat is fairly abundant throughout the watershed, (2) salmonid habitat quality is higher in the mid and upper Pescadero Creek watershed and lower in the Butano Creek watershed as well as the low gradient reaches of Pescadero Creek, (3) pool habitat is fairly abundant but of limited depth and suboptimal cover, (4) water quality throughout both watersheds is generally adequate for salmonids and other aquatic organisms.

The primary limiting factors with regards to salmonid habitat, based on the sampled reaches, are generally shallow pool depths, limited amounts and frequency of large woody debris, and relatively high levels of fine sediments. These limiting factors are likely to be of greater significance to coho salmon than steelhead. Coho in particular require deep pools with low water velocities and adequate cover for survival and growth while steelhead are more adapted to occupying and foraging in the faster and shallower areas of stream

channels. Thus, current habitat conditions in the watershed favor steelhead over coho salmon.

Data Reference: [Placeholder reference 2006 303\(d\)](#)

SWAMP Data: Non-SWAMP

Water Quality Objective/Criterion: All waters shall remain free of toxic substances in concentrations that are lethal to or that produce significant alterations in population or community ecology or receiving water biota (SFBRWQCB, 1995).

Objective/Criterion Reference: [Placeholder reference 2006 303\(d\)](#)

Evaluation Guideline:

Guideline Reference:

Spatial Representation: Eighteen sites along the creek and in small tributaries.

Temporal Representation: Data and information collected in 2002 and 2003.

Environmental Conditions:

QAPP Information:

SWAMP quality assurance and comparable ESA methods.

QAPP Information Reference(s):

DECISION ID	44215	Region 2
Pescadero Creek		

Pollutant: Ammonia (Unionized) | Nitrogen, ammonia (Total Ammonia)

Final Listing Decision: Do Not List on 303(d) list (TMDL required list)

Last Listing Cycle's Final Listing Decision: Do Not List on 303(d) list (TMDL required list)(2012)

Revision Status Original

Impairment from Pollutant or Pollution: Pollutant

Regional Board Staff

Conclusion: These pollutants are being considered for placement on the section 303(d) list under section 3.2 of the Listing Policy. Under section 3.2 a single line of evidence is necessary to assess listing status. One line of evidence is available in the administrative record to assess this pollutant. None of the samples exceed the water quality objective. Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against placing this water segment-pollutant combination on the section 303(d) list in the Water Quality Limited Segments category. This conclusion is based on the staff findings that: 1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy. 2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy. 3. Zero of nine samples exceeded the water quality objective and this does not exceed the allowable frequency listed in Table 3.2 of the Listing Policy. 4. Pursuant to section 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.

Regional Board Staff Decision Recommendation: This is a decision previously approved by the State Water Resources Control Board and the USEPA. No new data were assessed by the Regional Board for the current. The decision has not changed.

Line of Evidence (LOE) for Decision ID 44215, Multiple Pollutants	Region 2
Pescadero Creek	

LOE ID: 28067

Pollutant: Ammonia (Unionized) | Nitrogen, ammonia (Total Ammonia)

LOE Subgroup: Pollutant-Water

Matrix: Water

Fraction: None

Beneficial Use: Cold Freshwater Habitat

Number of Samples:	9
Number of Exceedances:	0
Data and Information Type:	PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality:	Nine water samples were collected in Pescadero Creek watershed and analyzed for total ammonia and un-ionized ammonia. None of them exceeded the evaluation criteria.
Data Reference:	Water Quality Monitoring and Bioassessment in Nine San Francisco Bay Region Watersheds: Walker Creek, Lagunitas Creek, San Leandro Creek, Wildcat Creek/San Pablo Creek, Suisun Creek, Arroyo Las Positas, Pescadero Creek/Butano Creek, San Gregorio Creek, and Stevens Creek/Permanente Creek. Oakland, CA: Surface Water Ambient Monitoring Program, San Francisco Bay Regional Water Quality Control Board
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	All waters shall be maintained free of toxic substances in concentrations that produce detrimental physiological responses in human, plant, animal, or aquatic life. This objective applies regardless of whether the toxicity is caused by a single substance or the interactive effect of multiple substances.
Objective/Criterion Reference:	The San Francisco Bay Regional Water Quality Board Basin Plan stated that the discharge of wastes shall not cause receiving water to contain concentrations of un-ionized ammonia in excess of 0.025mg/l annual median. Water Quality Control Plan (Basin Plan) - San Francisco Bay Region (Region 2)
Evaluation Guideline:	For Total Ammonia: EPA's Lifetime Health advisory level for total ammonia is 30.0 mg/L as stated on page 8 of the 2006 edition of the drinking water standards and health advisories. This Advisory Level is defined as "the concentration of a chemical in drinking water that is not expected to cause any adverse noncarcinogenic effects for up to ten days of exposure."
Guideline Reference:	2006 edition of the drinking water standards and health advisories. EPA 822-R-03-013
Spatial Representation:	Samples were collected from three monitoring locations (PES070, PES140 and PES190) representative of the entire creek.
Temporal Representation:	Samples were collected during three seasons: dry, spring and wet season of 2002.
Environmental Conditions:	
QAPP Information:	The QA was in compliance with SWAMP Quality Assurance Management Plan.
QAPP Information Reference(s):	

DECISION ID	44216	Region 2
Pescadero Creek		
Pollutant:	Cadmium	
Final Listing Decision:	Do Not List on 303(d) list (TMDL required list)	
Last Listing Cycle's Final Listing Decision:	Do Not List on 303(d) list (TMDL required list)(2012)	
Revision Status	Original	
Impairment from Pollutant or Pollution:	Pollutant	
Regional Board Staff Conclusion:	<p>This pollutant is being considered for placement on the section 303(d) list under section 3.1 of the Listing Policy. Under section 3.1 a single line of evidence is necessary to assess listing status. One line of evidence is available in the administrative record to assess this pollutant. None of the samples exceed the water quality objective. Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against placing this water segment-pollutant combination on the section 303(d) list in the Water Quality Limited Segments category. This conclusion is based on the staff findings that: 1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy. 2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy. 3. Zero of six samples exceeded the water quality objective and this does not exceed the allowable frequency listed in Table 3.1 of the Listing Policy. 4. Pursuant to section 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.</p>	

Regional Board Staff Decision Recommendation: This is a decision previously approved by the State Water Resources Control Board and the USEPA. No new data were assessed by the Regional Board for the current. The decision has not changed.

**Line of Evidence (LOE) for Decision ID 44216, Cadmium
Pescadero Creek**

Region 2

LOE ID: 27987

Pollutant: Cadmium
LOE Subgroup: Pollutant-Water
Matrix: Water
Fraction: None

Beneficial Use: Cold Freshwater Habitat

Number of Samples: 6
Number of Exceedances: 0

Data and Information Type: PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality: SWAMP program collected six water samples from two locations in Pescadero Creek. Cadmium concentrations did not exceed the water quality objectives.
Data Reference: [Water Quality Monitoring and Bioassessment in Nine San Francisco Bay Region Watersheds: Walker Creek, Lagunitas Creek, San Leandro Creek, Wildcat Creek/San Pablo Creek, Suisun Creek, Arroyo Las Positas, Pescadero Creek/Butano Creek, San Gregorio Creek, and Stevens Creek/Permanente Creek. Oakland, CA: Surface Water Ambient Monitoring Program, San Francisco Bay Regional Water Quality Control Board](#)

SWAMP Data: SWAMP

Water Quality Objective/Criterion: The objective in the Basin Plan is expressed by formulas where $H = \ln(\text{hardness})$ as CaCO_3 in mg/l : The four-day average objective for cadmium is $e^{(0.7852H - 3.490)}$. This is 1.1 $\mu\text{g/l}$ at a hardness of 100 mg/l as CaCO_3 . The one hour objective is $e^{(1.128H - 3.828)}$. This is 3.9 $\mu\text{g/l}$ at a hardness of 100 mg/l as CaCO_3 .
Objective/Criterion Reference: [Water Quality Control Plan \(Basin Plan\) - San Francisco Bay Region \(Region 2\)](#)

Evaluation Guideline:
Guideline Reference:

Spatial Representation: The samples were collected from two monitoring locations PES050 and PES070 in the most downstream portion of the creek.

Temporal Representation: The samples were collected in three seasons: spring, wet and dry season of 2002.

Environmental Conditions:

QAPP Information: The QA/QC procedure was in compliance with Surface Water Ambient Monitoring Program's (SWAMP) Quality Assurance Management Plan (QAMP).

QAPP Information Reference(s):

**DECISION ID 44359
Pescadero Creek**

Region 2

Pollutant: Copper | Lead | Nickel | Silver | Zinc
Final Listing Decision: Do Not List on 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision: Do Not List on 303(d) list (TMDL required list)(2012)
Revision Status: Original
Impairment from Pollutant or Pollution: Pollutant

Regional Board Staff These pollutants are being considered for placement on the section 303(d) list under section 3.1 of

Conclusion: the Listing Policy. Under section 3.1 a single line of evidence is necessary to assess listing status. One line of evidence is available in the administrative record to assess this pollutant. None of the samples exceed the water quality objective. Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against placing this water segment-pollutant combination on the section 303(d) list in the Water Quality Limited Segments category. This conclusion is based on the staff findings that: 1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy. 2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy. 3. Zero of six samples exceeded the water quality objective and this does not exceed the allowable frequency listed in Table 3.1 of the Listing Policy. 4. Pursuant to section 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.

Regional Board Staff Decision Recommendation: This is a decision previously approved by the State Water Resources Control Board and the USEPA. No new data were assessed by the Regional Board for the current. The decision has not changed.

Line of Evidence (LOE) for Decision ID 44359, Multiple Pollutants

Region 2

Pescadero Creek

LOE ID: 27934

Pollutant: Copper | Lead | Nickel | Silver | Zinc
LOE Subgroup: Pollutant-Water
Matrix: Water
Fraction: None

Beneficial Use: Cold Freshwater Habitat

Number of Samples: 6
Number of Exceedances: 0

Data and Information Type: PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality: The Pescadero Creek watershed was monitored as part of SWAMP assessment. None of the six samples exceeded the water quality objectives for copper, lead, nickel, silver and zinc.

Data Reference: [Water Quality Monitoring and Bioassessment in Nine San Francisco Bay Region Watersheds: Walker Creek, Lagunitas Creek, San Leandro Creek, Wildcat Creek/San Pablo Creek, Suisun Creek, Arroyo Las Positas, Pescadero Creek/Butano Creek, San Gregorio Creek, and Stevens Creek/Permanente Creek. Oakland, CA: Surface Water Ambient Monitoring Program, San Francisco Bay Regional Water Quality Control Board](#)

SWAMP Data: SWAMP

Water Quality Objective/Criterion: Table 3-4 in the Basin Plan (2007) lists freshwater water quality objectives for toxic pollutants: copper - 9.0 ug/L, lead - 2.5 ug/L; nickel - 52 ug/L, silver - 3.4 ug/L and zinc - 120 ug/L.

Objective/Criterion Reference: [Water Quality Control Plan \(Basin Plan\) - San Francisco Bay Region \(Region 2\)](#)

Evaluation Guideline:
Guideline Reference: [Water Quality Monitoring and Bioassessment in Nine San Francisco Bay Region Watersheds: Walker Creek, Lagunitas Creek, San Leandro Creek, Wildcat Creek/San Pablo Creek, Suisun Creek, Arroyo Las Positas, Pescadero Creek/Butano Creek, San Gregorio Creek, and Stevens Creek/Permanente Creek. Oakland, CA: Surface Water Ambient Monitoring Program, San Francisco Bay Regional Water Quality Control Board](#)

Spatial Representation: The samples were collected from two monitoring locations PES050 and PES070 in the most downstream portion of the creek.

Temporal Representation: The samples were collected from three different seasons: dry, wet and spring season of 2002

Environmental Conditions:
QAPP Information: The Quality Control is is conducted in accordance with SWAMP's Quality Management Plan of 2002.

DECISION ID	32447	Region 2
Pescadero Creek		

Pollutant:	Turbidity
Final Listing Decision:	Do Not List on 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision:	Do Not List on 303(d) list (TMDL required list)(2012)
Revision Status	Original
Impairment from Pollutant or Pollution:	Pollutant

Regional Board Staff Conclusion:	This pollutant is being considered for placement on the section 303(d) list under section 3.1 of the Listing Policy. Under section 3.1 a single line of evidence is necessary to assess listing status. Two lines of evidence are available in the administrative record to assess this pollutant. One sample exceeds the water quality objective. Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against placing this water segment-pollutant combination on the section 303(d) list in the Water Quality Limited Segments category. This conclusion is based on the staff findings that: 1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy. 2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy. 3. One of 8 samples exceeded the secondary MCL and this does not exceed the allowable frequency listed in Table 3.1 of the Listing Policy. 4. Pursuant to section 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.
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Regional Board Staff Decision Recommendation:	This is a decision previously approved by the State Water Resources Control Board and the USEPA. No new data were assessed by the Regional Board for the current. The decision has not changed.
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Line of Evidence (LOE) for Decision ID 32447, Turbidity	Region 2
Pescadero Creek	

LOE ID:	1773
Pollutant:	Turbidity
LOE Subgroup:	Pollutant-Water
Matrix:	Water
Fraction:	None
Beneficial Use:	Non-Contact Recreation
Number of Samples:	8
Number of Exceedances:	1
Data and Information Type:	PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality:	One of 8 data values exceed the secondary MCL for turbidity. Smallest = 1.24, largest = 5.28 (NTU). Average = 2.74 (NTU). Comparison to the "changes in turbidity" objective cannot be made because background information is not available. None of the measurements exceed the 25 NTU evaluation guideline (Environmental Science Associates, 2004).
Data Reference:	Placeholder reference 2006 303(d)
SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	Basin Plan: Waters shall be free of changes in turbidity that cause nuisance or adversely affect beneficial uses. Increases from normal background light penetration or turbidity relatable to waste discharge shall not be greater than 10 percent in areas where natural turbidity is greater than 50 NTU (SFBWQCB, 1995).
Objective/Criterion Reference:	Placeholder reference 2006 303(d)

Evaluation Guideline:	The WQOs address conditions both in the water column (sediment and turbidity narratives). Published sedimentation thresholds can be used as appropriate interpretive evaluation guidelines. The evaluation guideline used to determine turbidity exceedance is from published-peer reviewed paper, "The Effects of Chronic Turbidity on Density and Growth of Steelheads and Coho Salmon", John W Sigler, et.al.1984. The guideline is as follows, "In our studies, as little as 25 NTUs (nephelometric turbidity units) of turbidity caused a reduction in fish growth." Sigler also discusses the result of turbidities in the 25-50 NTU range reduced growth and caused more newly emerged salmonids to emigrate from laboratory streams than did clear water (Sigler et al., 1984). Bisson and Bilby (1982) reported that juvenile coho salmon avoided water with turbidities that exceeded 70 NTU. Berg and Northcote (1985, as cited in Meehan 1991) reported that feeding and territorial behavior of juvenile coho salmon were disrupted by short-term exposures (2.5-4.5 days) to turbid water with up to 60 NTU.
Guideline Reference:	Placeholder reference 2006 303(d)
Spatial Representation:	Eight sample sites along the Creek and its immediate tributaries (14 total Pescadero and Butano SWAMP program sites were used).
Temporal Representation:	ESA (Environmental Science Associates) survey made in summer, August 21 to September 24, 2003.
Environmental Conditions:	
QAPP Information:	Methodology discussed in ESA 2004 report.
QAPP Information Reference(s):	

Line of Evidence (LOE) for Decision ID 32447, Turbidity

Region 2

Pescadero Creek

LOE ID:	1772
Pollutant:	Turbidity
LOE Subgroup:	Narrative Description Data
Matrix:	-N/A
Fraction:	None
Beneficial Use:	Cold Freshwater Habitat
Number of Samples:	0
Number of Exceedances:	0
Data and Information Type:	Not Specified
Data Used to Assess Water Quality:	<p>Graphs of "Maximum Annual Flood Peaks Greater than Bankfull as a Ratio to the Mean Annual Flood" and "Maximum Annual Flood Peaks Greater than Bankfull as a Ratio to the Mean Annual Flood" appear to show that flooding continues to be periodic and occasional (e.g., Pages 4-5, 4-6).</p> <p>Sediment Source Investigation (e.g., Analysis of aerial photos).</p> <p>"Erosional features associated with land management account for by far the greatest sediment delivery volumes from the watershed." (Page 6-48).</p> <p>"The sandstone and mixed lithology HGUs that underlie much of the forested area of the watershed may continue to produce relatively large quantities of sediment for some time." (Page 6-49).</p> <p>"While erosion and sediment delivery resulting from past management will likely continue for some time, there should be an overall decrease in sediment delivery to stream channels as land use practices continue to improve and as degraded lands recover both naturally and through proactive treatments." (Pages 6-49, 6-50).1. Analysis of the flood record on Pescadero Creek (1951 through 2001).</p> <p>2. Analysis of changes in streambed elevation at the gauging station (1951 through 2001).</p>
Data Reference:	Placeholder reference 2006 303(d)

SWAMP Data:

Non-SWAMP

Water Quality Objective/Criterion:

Basin Plan: The suspended sediment load and suspended sediment discharge rate of surface waters shall not be altered in such a manner as to cause nuisance or adversely affect beneficial uses (SFBRWQCB, 1995).

Turbidity Objective: "Waters shall be free of changes in turbidity that cause nuisance or adversely affect beneficial uses. Increases from normal background light penetration or turbidity relatable to waste discharge shall not be greater than 10 percent in areas where natural turbidity is greater than 50 NTU."

Objective/Criterion Reference:

[Placeholder reference 2006 303\(d\)](#)

Evaluation Guideline:

Guideline Reference:

Spatial Representation:

Single USGS gauging station, "Pescadero Creek," located at a bridge on Pescadero Road, 3.0 miles east of the town of Pescadero and 5.3 miles upstream of the mouth of Pescadero Creek.

Temporal Representation:

Series of annual maximum instantaneous flood peaks (annual flood series) for the 1952 through the 2001 water years.

Environmental Conditions:

Harvest practices employed by timber companies active in the watershed over the last twenty years are less intensive, and are far more sensitive to issues of erosion and water quality. Farmers and ranchers in the watershed have been working with the Natural Resources Conservation Service and the Farm Bureau to prevent erosion and improve both water quality protection measures and road maintenance practices in cultivated, rangeland and forest settings. In addition, the area of protected lands continues to increase with the acquisition of ranch and timberlands for parks and open space. Such acquisitions generally terminate intensive management of these lands, and the various parks and open space agencies have shown strong interest in addressing ongoing and potentially controllable erosion problems.

QAPP Information:

Good for USGS sampling program (USGS, 2002). Less good for aerial survey (e.g., "The results of this survey may have been influenced by lack of access to private lands." [Page 6-48]).

QAPP Information Reference(s):

Draft California 2016 Integrated Report (303(d) List/305(b) Report)

Supporting Information

Regional Board 2 - San Francisco Bay Region

Water Body Name: Pomponio Creek
Water Body ID: CAR2024002020010905115819
Water Body Type: River & Stream

DECISION ID 44745 **Region 2**
Pomponio Creek

Pollutant: Indicator Bacteria
Final Listing Decision: List on 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision: List on 303(d) list (TMDL required list)(2012)
Revision Status Original
Sources: Source Unknown
Expected TMDL Completion Date: 2019
Impairment from Pollutant or Pollution: Pollutant

Regional Board Staff Conclusion: 303(d) listing decisions made prior to 2006 were not held in an assessment database. The Regional Boards will update this decision when new data and information become available and are assessed.

Regional Board Staff Decision Recommendation: This is a decision previously approved by the State Water Resources Control Board and the USEPA. No new data were assessed by the Regional Board for the current. The decision has not changed.

Line of Evidence (LOE) for Decision ID 44745, Indicator Bacteria **Region 2**
Pomponio Creek

LOE ID: 3801
Pollutant: Coliform Bacteria
LOE Subgroup: Pollutant-Water
Matrix: Water
Fraction: Not Recorded
Beneficial Use: Water Contact Recreation
Number of Samples: 0
Number of Exceedances: 0
Data and Information Type: Not Specified
Data Used to Assess Water Quality: Unspecified--This LOE is a placeholder to support a 303(d) listing decision made prior to 2006.
Data Reference: [Placeholder reference pre-2006 303\(d\)](#)
SWAMP Data: Non-SWAMP
Water Quality Objective/Criterion:
Objective/Criterion Reference:
Evaluation Guideline:
Guideline Reference:

Spatial Representation:	Unspecified
Temporal Representation:	Unspecified
Environmental Conditions:	Unspecified
QAPP Information:	Unspecified
QAPP Information Reference(s):	

Draft California 2016 Integrated Report (303(d) List/305(b) Report)

Supporting Information

Regional Board 2 - San Francisco Bay Region

Water Body Name: Butano Creek
Water Body ID: CAR2024003020000413112319
Water Body Type: River & Stream

DECISION ID 32469 **Region 2**
Butano Creek

Pollutant: Sedimentation/Siltation
Final Listing Decision: Do Not Delist from 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision: Do Not Delist from 303(d) list (TMDL required list)(2012)
Revision Status Original
Sources: Source Unknown
Expected TMDL Completion Date: 2013
Impairment from Pollutant or Pollution: Pollutant

Regional Board Staff Conclusion: This pollutant is being considered for delisting under sections 4.9 and 4.11 of the Listing Policy. Six lines of evidence are available in the administrative record to assess this pollutant. Based on section 4.9, the measurements of benthic community and fish habitat indicate that biological resources are likely not impacted. Only one site was rated marginal for fish habitat and only one sample was rated poor for benthic community. Even though sedimentation continues, its effects are being reduced. Summer measurements of turbidity do not exceed guidelines for the protections of salmonids. There is limited habitat for Coho because of the lack of deep pools, spawning gravels, and large woody debris. Based on the readily available data and information, the weight of evidence indicates that there is insufficient justification in favor of removing this water segment-pollutant combination from the section 303(d) list in the Water Quality Limited Segments category. This conclusion is based on the staff findings that: 1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy. 2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy. 3. Even though only one fish habitat sample was found to be marginal and one benthic community sample was found to be poor, there are still potential impacts on Coho related to lack of suitable spawning habitat. 4. Pursuant to section 4.11 of the Listing Policy, no additional data and information are available indicating that standards are met.

Regional Board Staff Decision Recommendation: This is a decision previously approved by the State Water Resources Control Board and the USEPA. No new data were assessed by the Regional Board for the current. The decision has not changed.

Line of Evidence (LOE) for Decision ID 32469, Sedimentation/Siltation **Region 2**
Butano Creek

LOE ID: 1785
Pollutant: Sedimentation/Siltation
LOE Subgroup: Testimonial Evidence
Matrix: Not Specified
Fraction:
Beneficial Use: Cold Freshwater Habitat
Number of Samples: 0
Number of Exceedances: 0

Data and Information Type:	Not Specified
Data Used to Assess Water Quality:	In 1998 a letter was sent to RWQCB staff from the California Department of Fish and Game requesting that several waters be added to the section 303(d) list because of the threats to Coho salmon and steelhead. The letter states: "...The Federal listing of both Coho salmon and steelhead as threatened species confirms the grave condition of these economically and intrinsically valuable fish populations. ...If these species are to survive, we must act now to improve aquatic habitat where it is most critical, namely in major rivers tributary to the Bay and ocean." The letter goes on to identify siltation as a problem in Pescadero and Butano Creeks. No data are provided or analyzed to support the conclusion that siltation is a water quality problem.
Data Reference:	Placeholder reference 2006 303(d)
SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	Basin Plan: The suspended sediment load and suspended sediment discharge rate of surface waters shall not be altered in such a manner as to cause nuisance or adversely affect beneficial uses (SFBRWQCB, 1995).
Objective/Criterion Reference:	Placeholder reference 2006 303(d)
Evaluation Guideline:	
Guideline Reference:	
Spatial Representation:	
Temporal Representation:	
Environmental Conditions:	
QAPP Information:	QA Info Missing
QAPP Information Reference(s):	

Line of Evidence (LOE) for Decision ID 32469, Sedimentation/Siltation

Region 2

Butano Creek

LOE ID:	1786
Pollutant:	Sedimentation/Siltation
LOE Subgroup:	Pollutant-Sediment
Matrix:	Not Specified
Fraction:	
Beneficial Use:	Cold Freshwater Habitat
Number of Samples:	0
Number of Exceedances:	0
Data and Information Type:	Not Specified
Data Used to Assess Water Quality:	From the RWQCB: More than 80 percent of the estimated total sediment delivery to the channel network during the past two decades is associated with human land use activities. Much of this sediment is controllable (gullies associated with historical hillside agriculture, active and abandoned rural earth-surfaced roads, etc.).
Data Reference:	Placeholder reference 2006 303(d)
SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	Basin Plan: The suspended sediment load and suspended sediment discharge rate of surface waters shall not be altered in such a manner as to cause nuisance or adversely affect beneficial uses. Waters shall not contain substances in concentrations that result in the deposition of material that cause nuisance or adversely affect beneficial uses.

Objective/Criterion Reference: [Placeholder reference 2006 303\(d\)](#)

Evaluation Guideline:

Guideline Reference:

Spatial Representation:

Temporal Representation:

Environmental Conditions:

QAPP Information:

QA Info Missing

QAPP Information Reference(s):

Line of Evidence (LOE) for Decision ID 32469, Sedimentation/Siltation

Region 2

Butano Creek

LOE ID: 1784

Pollutant: Benthic-Macroinvertebrate Bioassessments

LOE Subgroup: Population/Community Degradation

Matrix: Sediment

Fraction: Total

Beneficial Use: Cold Freshwater Habitat

Number of Samples: 4

Number of Exceedances:

Data and Information Type: Not Specified

Data Used to Assess Water Quality: Metric values from 4 sample sites for taxonomic richness, dominant taxon, members of three major benthic invertebrate families, a sensitive taxa index, the Shannon Diversity index, and tolerance value were scored and the 132 scores (6 scores for each sample site) summed to derive total scores for each site. Total scores were then used to assign "poor", "fair", "good", or "excellent" condition grades to each site along the Creek (Environmental Science Associates, 2004).

Total sample site scores ranged from 6 to 22. The average score was 16, which is equivalent to a "fair" rating. One site was rated "poor." Three sites were rated "good". There were no "fair" or "excellent" rated sites.

Data Reference: [Placeholder reference 2006 303\(d\)](#)

SWAMP Data: Non-SWAMP

Water Quality Objective/Criterion: The suspended sediment load and suspended sediment discharge rate of surface waters shall not be altered in such a manner as to cause nuisance or adversely affect beneficial uses (SFBRWQCB, 1995).

Objective/Criterion Reference: [Placeholder reference 2006 303\(d\)](#)

Evaluation Guideline: Bioassessment protocols from the following publication were used (California Department of Fish and Game, 1999).

Guideline Reference: [Placeholder reference 2006 303\(d\)](#)

Spatial Representation: Four sample sites along the Creek (14 total Pescadero and Butano SWAMP program sites were used).

Temporal Representation: SWAMP assessment made in April 2002.

DFG assessments made in 1995.

ESA (Environmental Science Associates) survey made in summer (August 21 to September 24) 2003.

Environmental Conditions: April 2002 SWAMP data is not directly comparable to summer 2003 data. Habitat conditions in summer 2003 were evaluated at each site.

QAPP Information: California Stream Bioassessment Protocols (CDFG 1999) used (in 2002 and 2003 surveys).

QAPP Information Reference(s):

Line of Evidence (LOE) for Decision ID 32469, Sedimentation/Siltation**Region 2****Butano Creek**

LOE ID: 1787

Pollutant: Habitat Assessment (Streams)

LOE Subgroup: Testimonial Evidence

Matrix: Not Specified

Fraction: None

Beneficial Use: Cold Freshwater Habitat

Number of Samples:

Number of Exceedances:

Data and Information Type: Not Specified

Data Used to Assess Water Quality: From the RWQCB: (1) There is little suitable habitat at present within the creek for coho salmon, and primary hypothesized limiting factors (for coho) are lack of good cover and deep pools, the second factor of which is in part related to an abundant total and fine sediment supply;

(2) Coho salmon are state listed as endangered south of the Golden Gate, and federally listed as threatened. Two-of-three brood years are believed to be extinct within Pescadero and Butano Creeks, and the third brood year appears to have a tenuous presence.

(3) Although the steelhead trout run in both creeks does not appear to be immediately threatened by local extinction, run-size is substantially reduced from historical values by a variety of limiting factors including a lack of large woody debris and substantial increase in total and fine sediment supply.

Data Reference: [Placeholder reference 2006 303\(d\)](#)

SWAMP Data: Non-SWAMP

Water Quality Objective/Criterion:

Objective/Criterion Reference:

Evaluation Guideline:

Guideline Reference:

Spatial Representation:

Temporal Representation:

Environmental Conditions:

QAPP Information: QA Info Missing

QAPP Information Reference(s):

Line of Evidence (LOE) for Decision ID 32469, Sedimentation/Siltation**Region 2****Butano Creek**

LOE ID: 1788

Pollutant: Habitat Assessment (Streams)

LOE Subgroup: Population/Community Degradation

Matrix: -N/A

Fraction: None

Beneficial Use: Cold Freshwater Habitat

Number of Samples:

Number of Exceedances:

Data and Information Type: HABITAT ASSESSMENT

Data Used to Assess Water Quality: One of 4 fish habitat assessments was considered poor habitat quality.

Assessments of physical habitat quality, biotic conditions, pool habitat quality, and water quality in the Pescadero-Butano watershed revealed the following overall fisheries habitat conditions currently present in the watershed: (1) Accessible salmonid habitat is fairly abundant throughout the watershed, (2) salmonid habitat quality is higher in the mid and upper Pescadero Creek watershed and lower in the Butano Creek watershed as well as the low gradient reaches of Pescadero Creek, (3) pool habitat is fairly abundant but of limited depth and suboptimal cover, (4) water quality throughout both watersheds is generally adequate for salmonids and other aquatic organisms.

The primary limiting factors with regards to salmonid habitat, based on the sampled reaches, are generally shallow pool depths, limited amounts and frequency of large woody debris, and relatively high levels of fine sediments. These limiting factors are likely to be of greater significance to coho salmon than steelhead. Coho in particular require deep pools with low water velocities and adequate cover for survival and growth while steelhead are more adapted to occupying and foraging in the faster and shallower areas of stream channels. Thus, current habitat conditions in the watershed favor steelhead over coho salmon (SWAMP, 2004).

Data Reference: [Placeholder reference 2006 303\(d\)](#)

SWAMP Data: SWAMP

Water Quality Objective/Criterion: Basin Plan: The suspended sediment load and suspended sediment discharge rate of surface waters shall not be altered in such a manner as to cause nuisance or adversely affect beneficial uses

Objective/Criterion Reference: [Placeholder reference 2006 303\(d\)](#)

Evaluation Guideline:

Guideline Reference:

Spatial Representation: Four stations.

Temporal Representation: Samples collected in 2002 and 2003.

Environmental Conditions:

QAPP Information: SWAMP and DFG quality assurance.

QAPP Information Reference(s):

Line of Evidence (LOE) for Decision ID 32469, Sedimentation/Siltation

Region 2

Butano Creek

LOE ID: 1783

Pollutant: Turbidity
LOE Subgroup: Pollutant-Water
Matrix: Water
Fraction: None

Beneficial Use: Cold Freshwater Habitat

Number of Samples: 3
Number of Exceedances: 0

Data and Information Type: PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality: Zero of 3 samples exceeded the standard (Environmental Science Associates, 2004).
Data Reference: [Placeholder reference 2006 303\(d\)](#)

SWAMP Data: Non-SWAMP

Water Quality Objective/Criterion: Basin Plan: Waters shall be free of changes in turbidity that cause nuisance or adversely affect beneficial uses. Increases from normal background light penetration or turbidity relatable to waste discharge shall not be greater than 10 percent in areas where natural turbidity is greater than 50 NTU). The suspended sediment load and suspended sediment discharge rate of surface waters shall not cause nuisance or adversely affect beneficial uses (SFBRWQCB, 1999).

Objective/Criterion Reference:	Placeholder reference 2006 303(d)
Evaluation Guideline:	Turbidity can be used to estimate the effects of sedimentation. Published sedimentation thresholds can be used. The evaluation guideline that has been selected to determine turbidity exceedance is from published-peer reviewed paper, "The Effects of Chronic Turbidity on Density and Growth of Steelheads and Coho Salmon" (Sigler, et.al.,1984). The guideline is as follows, "In our studies, as little as 25 NTUs (nephelometric turbidity units) of turbidity caused a reduction in fish growth." Sigler also discusses the result of turbidities in the 25-50 NTU range reduced growth and caused more newly emerged salmonids to emigrate from laboratory streams than did clear water. Studies indicate that juvenile coho salmon avoided water with turbidities that exceeded 70 NTU (Bilson and Bilby, 1982). Other research reported that feeding and territorial behavior of juvenile coho salmon were disrupted by short-term exposures (2.5-4.5 days) to turbid water with up to 60 NTU (Meehan, 1991).
Guideline Reference:	Placeholder reference 2006 303(d)
Spatial Representation:	Three sample sites along Creek.
Temporal Representation:	ESA (Environmental Science Associates) survey made in summer (August 21 to September 24, 2003).
Environmental Conditions:	
QAPP Information:	California Stream Bioassessment Protocols (CDFG 1999) (for supplemental information) used.
QAPP Information Reference(s):	

DECISION ID	43533	Region 2
Butano Creek		

Pollutant:	Ammonia (Unionized) Nitrogen, ammonia (Total Ammonia)
Final Listing Decision:	Do Not List on 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision:	Do Not List on 303(d) list (TMDL required list)(2012)
Revision Status	Original
Impairment from Pollutant or Pollution:	Pollutant
Regional Board Staff Conclusion:	This pollutant is being considered for placement on the section 303(d) list under section 3.1 of the Listing Policy. Under section 3.1 a single line of evidence is necessary to assess listing status. One line of evidence is available in the administrative record to assess this pollutant. None of the samples exceed the water quality objective. Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against placing this water segment-pollutant combination on the section 303(d) list in the Water Quality Limited Segments category. This conclusion is based on the staff findings that: 1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy. 2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy. 3. None of six samples exceeded the water quality objectives and water quality guidelines and this does not exceed the allowable frequency listed in Table 3.1 of the Listing Policy. 4. Pursuant to section 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.
Regional Board Staff Decision Recommendation:	This is a decision previously approved by the State Water Resources Control Board and the USEPA. No new data were assessed by the Regional Board for the current. The decision has not changed.

Line of Evidence (LOE) for Decision ID 43533, Multiple Pollutants	Region 2
Butano Creek	

LOE ID:	28066
Pollutant:	Ammonia (Unionized) Nitrogen, ammonia (Total Ammonia)
LOE Subgroup:	Pollutant-Water
Matrix:	Water

Fraction:	None
Beneficial Use:	Cold Freshwater Habitat
Number of Samples:	6
Number of Exceedances:	0
Data and Information Type:	PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality:	Six water samples were assessed for total ammonia and un-ionized ammonia. None of them exceeded the evaluation criteria.
Data Reference:	Water Quality Monitoring and Bioassessment in Nine San Francisco Bay Region Watersheds: Walker Creek, Lagunitas Creek, San Leandro Creek, Wildcat Creek/San Pablo Creek, Suisun Creek, Arroyo Las Positas, Pescadero Creek/Butano Creek, San Gregorio Creek, and Stevens Creek/Permanente Creek, Oakland, CA: Surface Water Ambient Monitoring Program, San Francisco Bay Regional Water Quality Control Board
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	The Basin Plan states that the discharge of wastes shall not cause receiving water to contain concentrations of un-ionized ammonia in excess of 0.025 mg/L annual median. For Total Ammonia: EPA's Lifetime Health advisory level for total ammonia is 30.0 mg/L as stated on page 8 of the 2006 edition of the drinking water standards and health advisories. This Advisory Level is defined as "the concentration of a chemical in drinking water that is not expected to cause any adverse noncarcinogenic effects for up to ten days of exposure."
Objective/Criterion Reference:	2006 edition of the drinking water standards and health advisories. EPA 822-R-03-013 Water Quality Control Plan (Basin Plan) - San Francisco Bay Region (Region 2)
Evaluation Guideline:	
Guideline Reference:	
Spatial Representation:	Six samples from two monitoring locations (BUT010 and BUT020) were assessed.
Temporal Representation:	Samples were collected from three seasons, dry, spring and wet seasons during the 2002 sampling year.
Environmental Conditions:	
QAPP Information:	The QA was in compliance with SWAMP Quality Assurance Management Plan.
QAPP Information Reference(s):	

DECISION ID	43741	Region 2
Butano Creek		
Pollutant:	Anthracene Benzo(a)anthracene Benzo(a)pyrene (3,4-Benzopyrene -7-d) Chlordane Chrysene (C1-C4) DDD (Dichlorodiphenyldichloroethane) DDE (Dichlorodiphenyldichloroethylene) DDT (Dichlorodiphenyltrichloroethane) Dieldrin Endrin Fluoranthene Fluorene Heptachlor epoxide Lindane/gamma Hexachlorocyclohexane (gamma-HCH) Naphthalene PAHs (Polycyclic Aromatic Hydrocarbons) PCBs (Polychlorinated biphenyls) Phenanthrene Pyrene	
Final Listing Decision:	Do Not List on 303(d) list (TMDL required list)	
Last Listing Cycle's Final Listing Decision:	Do Not List on 303(d) list (TMDL required list)(2012)	
Revision Status	Original	
Impairment from Pollutant or Pollution:	Pollutant	
Regional Board Staff Conclusion:	This pollutant is being considered for placement on the section 303(d) list under section 3.1 of the Listing Policy. Under section 3.1 a single line of evidence is necessary to assess listing status. One line of evidence is available in the administrative record to assess this pollutant. None of the samples exceed the water quality objective. Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against placing this water segment-pollutant combination on the section 303(d) list in the Water Quality Limited Segments category. This	

conclusion is based on the staff findings that: 1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy. 2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy. 3. The single sample did not exceed the water quality guidelines and this sample size is insufficient to determine with the power and confidence of the Listing Policy if standards are not met. A minimum of two samples is needed for application of table 3.1. 4. Pursuant to SECTION 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.

Regional Board Staff Decision Recommendation: This is a decision previously approved by the State Water Resources Control Board and the USEPA. No new data were assessed by the Regional Board for the current. The decision has not changed.

Line of Evidence (LOE) for Decision ID 43741, Multiple Pollutants

Region 2

Butano Creek

LOE ID:	28497
Pollutant:	Anthracene Benzo(a)anthracene Benzo(a)pyrene (3,4-Benzopyrene -7-d) Chlordane Chrysene (C1-C4) DDD (Dichlorodiphenyldichloroethane) DDE (Dichlorodiphenyldichloroethylene) DDT (Dichlorodiphenyltrichloroethane) Dieldrin Endrin Fluoranthene Fluorene Heptachlor epoxide Lindane/gamma Hexachlorocyclohexane (gamma-HCH) Naphthalene PAHs (Polycyclic Aromatic Hydrocarbons) PCBs (Polychlorinated biphenyls) Phenanthrene Pyrene
LOE Subgroup:	Pollutant-Sediment
Matrix:	Sediment
Fraction:	None
Beneficial Use:	Cold Freshwater Habitat
Number of Samples:	1
Number of Exceedances:	0
Data and Information Type:	PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality:	Concentrations of anthracene, fluorene, naphthalene, phenanthrene, benz(a)anthracene, benzo(a)pyrene, chrysene, fluoranthene, pyrene, PAH (total), PCB (total), chlordane, dieldrin, DDD/DDE/DDT, endrin, heptachlor epoxide, and HCH, gamma in one sediment sample collected in spring 2005 did not exceed the sediment quality guidelines.
Data Reference:	Water Quality Monitoring and Bioassessment in Nine San Francisco Bay Region Watersheds: Walker Creek, Lagunitas Creek, San Leandro Creek, Wildcat Creek/San Pablo Creek, Suisun Creek, Arroyo Las Positas, Pescadero Creek/Butano Creek, San Gregorio Creek, and Stevens Creek/Permanente Creek. Oakland, CA: Surface Water Ambient Monitoring Program, San Francisco Bay Regional Water Quality Control Board
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	All waters shall be maintained free of toxic substances that are lethal to or that produce other detrimental responses in aquatic organisms.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) - San Francisco Bay Region (Region 2)
Evaluation Guideline:	Sediment Quality Guidelines (MacDonald et al., 2000): PEC (probable effect concentration) Anthracene - 845 ug/kg; Fluorene - 536 ug/kg; Naphthalene - 561 ug/kg; Phenanthrene -1170 ug/kg; Benz(a)anthracene - 1050 ug/kg; Benzo(a)pyrene - 1450 ug/kg; Chrysene - 1290 ug/kg; Fluoranthene - 2230 ug/kg; Pyrene - 1520 ug/kg; PAH (total) - 22800 ug/kg; PCB (total) - 676 ug/kg; Chlordane - 17.6 ug/kg; Dieldrin - 61.8 ug/kg; DDD (sum op + pp) - 28 ug/kg; DDE (sum op + pp) - 31.3 ug/kg; DDT (sum op + pp) - 62.9 ug/kg; DDT (total) - 572 ug/kg; Endrin - 207 ug/kg; Heptachlor epoxide - 16 ug/kg; HCH, gamma - 4.99 ug/kg.
Guideline Reference:	Development and evaluation of consensus-based sediment quality guidelines for freshwater ecosystems. Environmental Contamination and Toxicology. 39: 20-31
Spatial Representation:	One sediment sample was collected at a "watershed integrator" site located close to the mouth of Butano Creek.

Temporal Representation:	Sediment sample was collected in June 2002.
Environmental Conditions:	
QAPP Information:	All samples were collected and analyzed using procedures comparable with the SWAMP Quality Assurance Management Plan (SWRCB, 2002).
QAPP Information Reference(s):	

DECISION ID	43421	Region 2
Butano Creek		

Pollutant:	Arsenic Cadmium Chromium (total) Copper Lead Mercury Nickel Zinc
Final Listing Decision:	Do Not List on 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision:	Do Not List on 303(d) list (TMDL required list)(2012)
Revision Status	Original
Impairment from Pollutant or Pollution:	Pollutant

Regional Board Staff Conclusion: This pollutant is being considered for placement on the section 303(d) list under section 3.1 of the Listing Policy. Under section 3.1 one line of evidence is necessary to assess listing status. One line of evidence is available in the administrative record to assess this pollutant. None of the samples exceed the water quality objective. Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against placing this water segment-pollutant combination on the section 303(d) list in the Water Quality Limited Segments category. This conclusion is based on the staff findings that: 1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy. 2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy. 3. The single sample did not exceed the sediment quality guidelines and this sample size is insufficient to determine with the power and confidence of the Listing Policy if standards are not met. A minimum of two samples is needed for application of table 3.1. 4. Pursuant to SECTION 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.

Regional Board Staff Decision Recommendation: This is a decision previously approved by the State Water Resources Control Board and the USEPA. No new data were assessed by the Regional Board for the current. The decision has not changed.

Line of Evidence (LOE) for Decision ID 43421, Multiple Pollutants	Region 2
Butano Creek	

LOE ID:	28632
Pollutant:	Arsenic Cadmium Chromium (total) Copper Lead Mercury Nickel Zinc
LOE Subgroup:	Pollutant-Sediment
Matrix:	Sediment
Fraction:	Total
Beneficial Use:	Cold Freshwater Habitat
Number of Samples:	1
Number of Exceedances:	0
Data and Information Type:	PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality:	Concentrations of arsenic, cadmium, chromium, copper, lead, mercury, nickel and zinc in one sediment sample collected in June 2002 did not exceed the sediment quality guidelines.
Data Reference:	Water Quality Monitoring and Bioassessment in Nine San Francisco Bay Region Watersheds: Walker Creek, Lagunitas Creek, San Leandro Creek, Wildcat Creek/San Pablo Creek, Suisun Creek, Arroyo Las Positas, Pescadero Creek/Butano Creek, San Gregorio Creek, and Stevens Creek/Permanente Creek. Oakland, CA: Surface Water Ambient Monitoring Program, San Francisco Bay Regional Water Quality Control Board

SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	All waters shall be maintained free of toxic substances that are lethal to or that produce other detrimental responses in aquatic organisms.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) - San Francisco Bay Region (Region 2)
Evaluation Guideline:	Sediment Quality Guidelines (MacDonald et al., 2000): PEC (probable effect concentration) arsenic - 33 mg/kg dw; cadmium - 4.98 mg/kg dw; chromium - 111 mg/kg dw; copper - 149 mg/kg dw; lead - 128 mg/kg dw; mercury - 1.06 mg/kg dw; nickel - 48.6 mg/kg dw; zinc - 459 mg/kg dw.
Guideline Reference:	Development and evaluation of consensus-based sediment quality guidelines for freshwater ecosystems. Environmental Contamination and Toxicology. 39: 20-31
Spatial Representation:	One sediment sample was collected at a "watershed integrator" site located close to the mouth of Butano Creek.
Temporal Representation:	Sediment sample was collected in June 2002.
Environmental Conditions:	
QAPP Information:	All samples were collected and analyzed using procedures comparable with the SWAMP Quality Assurance Management Plan (SWRCB, 2002).
QAPP Information Reference(s):	

DECISION ID	43422	Region 2
Butano Creek		

Pollutant:	Arsenic Chromium (total) Copper Lead Nickel Silver Zinc
Final Listing Decision:	Do Not List on 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision:	Do Not List on 303(d) list (TMDL required list)(2012)
Revision Status	Original
Impairment from Pollutant or Pollution:	Pollutant

Regional Board Staff Conclusion:	This pollutant is being considered for placement on the section 303(d) list under section 3.1 of the Listing Policy. Under section 3.1 a single line of evidence is necessary to assess listing status. One lines of evidence are available in the administrative record to assess this pollutant. None of the samples exceed the water quality objective. Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against placing this water segment-pollutant combination on the section 303(d) list in the Water Quality Limited Segments category. This conclusion is based on the staff findings that: 1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy. 2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy. 3. None of three samples exceeded the water quality guideline and this does not exceed the allowable frequency listed in Table 3.1 of the Listing Policy. 4. Pursuant to section 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.
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Regional Board Staff Decision Recommendation:	This is a decision previously approved by the State Water Resources Control Board and the USEPA. No new data were assessed by the Regional Board for the current. The decision has not changed.
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Line of Evidence (LOE) for Decision ID 43422, Multiple Pollutants	Region 2
Butano Creek	

LOE ID:	28842
Pollutant:	Arsenic Chromium (total) Copper Lead Nickel Silver Zinc
LOE Subgroup:	Pollutant-Water
Matrix:	Water
Fraction:	Dissolved
Beneficial Use:	Cold Freshwater Habitat

Number of Samples:	3
Number of Exceedances:	0
Data and Information Type:	PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality:	The Butano Creek watershed was monitored as part of SWAMP assessment. None of the three samples exceeded the water quality objectives for arsenic, chromium VI, copper, lead, nickel, silver and zinc. Concentrations of total dissolved chromium were well below the objective for chromium VI.
Data Reference:	Water Quality Monitoring and Bioassessment in Nine San Francisco Bay Region Watersheds: Walker Creek, Lagunitas Creek, San Leandro Creek, Wildcat Creek/San Pablo Creek, Suisun Creek, Arroyo Las Positas, Pescadero Creek/Butano Creek, San Gregorio Creek, and Stevens Creek/Permanente Creek, Oakland, CA: Surface Water Ambient Monitoring Program, San Francisco Bay Regional Water Quality Control Board
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	All waters shall be maintained free of toxic substances that are lethal to or that produce other detrimental responses in aquatic organisms. Table 3-4 in the Basin Plan (2007) lists freshwater water quality objectives for toxic pollutants: arsenic- 150 ug/L, chromium VI- 11 ug/L, copper - 9.0 ug/L, lead - 2.5 ug/L; nickel - 52 ug/L, silver-3.4 ug/L and zinc - 120 ug/L.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) - San Francisco Bay Region (Region 2)
Evaluation Guideline:	
Guideline Reference:	
Spatial Representation:	Data were collected at one sampling location (BUT010) on Butano Creek (Bean Hollow).
Temporal Representation:	Samples were collected during wet, spring, and dry seasons of the 2001-2002 sampling season.
Environmental Conditions:	
QAPP Information:	All samples were collected and analyzed using procedures comparable with the SWAMP Quality Assurance Management Plan (SWRCB, 2002).
QAPP Information Reference(s):	Quality Assurance Management Plan for the State of California's Surface Water Ambient Monitoring Program, Sacramento, CA. State Water Resources Control Board. SWAMP. December 2002 (1st version)

DECISION ID	43545	Region 2
Butano Creek		
Pollutant:	Cadmium	
Final Listing Decision:	Do Not List on 303(d) list (TMDL required list)	
Last Listing Cycle's Final Listing Decision:	Do Not List on 303(d) list (TMDL required list)(2012)	
Revision Status	Original	
Impairment from Pollutant or Pollution:	Pollutant	
Regional Board Staff Conclusion:	<p>This pollutant is being considered for placement on the section 303(d) list under section 3.1 of the Listing Policy. Under section 3.1 a single line of evidence is necessary to assess listing status. One line of evidence is available in the administrative record to assess this pollutant. None of the samples exceed the water quality objective. Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against placing this water segment-pollutant combination on the section 303(d) list in the Water Quality Limited Segments category. This conclusion is based on the staff findings that: 1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy. 2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy. 3. None of three samples exceeded the water quality guidelines and this does not exceed the allowable frequency listed in Table 3.1 of the Listing Policy. 4. Pursuant to section 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.</p>	

Regional Board Staff Decision Recommendation: This is a decision previously approved by the State Water Resources Control Board and the USEPA. No new data were assessed by the Regional Board for the current. The decision has not changed.

**Line of Evidence (LOE) for Decision ID 43545, Cadmium
Butano Creek**

Region 2

LOE ID: 27986

Pollutant: Cadmium
LOE Subgroup: Pollutant-Water
Matrix: Water
Fraction: None

Beneficial Use: Cold Freshwater Habitat

Number of Samples: 3
Number of Exceedances: 0

Data and Information Type: PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality: Three water samples were assessed. The detected cadmium level for the three samples was less than the acute and chronic evaluation criteria.
Data Reference: [Water Quality Monitoring and Bioassessment in Nine San Francisco Bay Region Watersheds: Walker Creek, Lagunitas Creek, San Leandro Creek, Wildcat Creek/San Pablo Creek, Suisun Creek, Arroyo Las Positas, Pescadero Creek/Butano Creek, San Gregorio Creek, and Stevens Creek/Permanente Creek. Oakland, CA: Surface Water Ambient Monitoring Program, San Francisco Bay Regional Water Quality Control Board](#)

SWAMP Data: SWAMP

Water Quality Objective/Criterion: The San Francisco Bay Regional Water Quality Board Basin Plan states the objective is expressed by formulas where $H = \ln(\text{hardness})$ as CaCO_3 in mg/l : The four-day average objective for cadmium is $e(\exp 0.7852H - 3.490)$. This is 1.1 ug/l at a hardness of 100 mg/l as CaCO_3 . The one hour objective is $e(\exp 1.128H - 3.828)$. This is 3.9 ug/l at a hardness of 100 mg/l as CaCO_3 .
Objective/Criterion Reference: [Water Quality Control Plan \(Basin Plan\) - San Francisco Bay Region \(Region 2\)](#)

Evaluation Guideline:
Guideline Reference:

Spatial Representation: The samples were collected from one monitoring location (201BUT010).
Temporal Representation: The samples were collected in three seasons: spring, wet and dry.
Environmental Conditions:
QAPP Information: The QA/QC procedure was in compliance with Surface Water Ambient Monitoring Program's (SWAMP) Quality Assurance Management Plan (QAMP).
QAPP Information Reference(s):

**DECISION ID 43150
Butano Creek**

Region 2

Pollutant: Chlorpyrifos | Dacthal | Diazinon | Disulfoton | Endosulfan | Lindane/gamma Hexachlorocyclohexane (gamma-HCH) | Methyl Parathion | PCBs (Polychlorinated biphenyls) | Thiobencarb/Bolero

Final Listing Decision: Do Not List on 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision: Do Not List on 303(d) list (TMDL required list)(2012)

Revision Status: Original
Impairment from Pollutant or Pollution: Pollutant

**Regional Board Staff
Conclusion:**

This pollutant is being considered for placement on the section 303(d) list under section 3.1 of the Listing Policy. Under section 3.1 a single line of evidence is necessary to assess listing status. One line of evidence is available in the administrative record to assess this pollutant. None of the samples exceed the water quality objective. Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against placing this water segment-pollutant combination on the section 303(d) list in the Water Quality Limited Segments category. This conclusion is based on the staff findings that: 1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy. 2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy. 3. None of three samples exceeded the water quality guidelines and this does not exceed the allowable frequency listed in Table 3.1 of the Listing Policy. 4. Pursuant to section 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.

This pollutant is being considered for placement on the section 303(d) list under section 3.1 of the Listing Policy. Under section 3.1 a single line of evidence is necessary to assess listing status. One line of evidence is available in the administrative record to assess this pollutant. None of the samples exceed the water quality objective. Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against placing this water segment-pollutant combination on the section 303(d) list in the Water Quality Limited Segments category. This conclusion is based on the staff findings that: 1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy. 2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy. 3. None of three samples exceeded the water quality guidelines and this does not exceed the allowable frequency listed in Table 3.1 of the Listing Policy. 4. Pursuant to section 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.

**Regional Board Staff Decision
Recommendation:**

This is a decision previously approved by the State Water Resources Control Board and the USEPA. No new data were assessed by the Regional Board for the current. The decision has not changed.

Line of Evidence (LOE) for Decision ID 43150, Multiple Pollutants

Region 2

Butano Creek

LOE ID:	28980
Pollutant:	Chlorpyrifos Dacthal Diazinon Disulfoton Endosulfan Lindane/gamma Hexachlorocyclohexane (gamma-HCH) Methyl Parathion PCBs (Polychlorinated biphenyls) Thiobencarb/Bolero
LOE Subgroup:	Pollutant-Water
Matrix:	Water
Fraction:	None
Beneficial Use:	Cold Freshwater Habitat
Number of Samples:	3
Number of Exceedances:	0
Data and Information Type:	PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality:	The Butano Creek watershed was monitored as part of SWAMP assessment. None of the three samples exceeded the water quality objectives for PCBs, Chlorpyrifos, Dacthal, diazinon, disulfoton, endosulfan, Lindane/gamma Hexachlorocyclohexane (gamma-HCH), methyl parathion, thiobencarb.
Data Reference:	Water Quality Monitoring and Bioassessment in Nine San Francisco Bay Region Watersheds: Walker Creek, Lagunitas Creek, San Leandro Creek, Wildcat Creek/San Pablo Creek, Suisun Creek, Arroyo Las Positas, Pescadero Creek/Butano Creek, San Gregorio Creek, and Stevens Creek/Permanente Creek. Oakland, CA: Surface Water Ambient Monitoring Program. San Francisco Bay Regional Water Quality Control Board Data collected by the Surface Water Ambient Monitoring Program. San Francisco Bay Regional Water Quality Control Board. Years 4 and 5 Assessment
SWAMP Data:	SWAMP

Water Quality Objective/Criterion:	All waters shall be maintained free of toxic substances that are lethal to or that produce other detrimental responses in aquatic organisms. There shall be no chronic toxicity in ambient waters. Chronic toxicity is a detrimental biological effect on growth rate, reproduction, fertilization success, larval development, population abundance, community composition, or any other relevant measure of the health of an organism, population, or community. Diazinon water quality objective, 0.1 ug/L (acute)
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) - San Francisco Bay Region (Region 2)
Evaluation Guideline:	PCBs - 0.014 ug/L freshwater continuous Concentration; Chlorpyrifos - 0.015 ug/L (chronic); Dacthal (DCPA) - 14300 ug/L (acute); Disulfoton (Disyston) - 0.05 ug/L (acute); Endosulfan - 0.056 ug/L (chronic)/0.22 ug/L (acute); HCH, gamma-(gamma BHC, Lindane) - 0.95 ug/L (acute); methyl parathion - 0.08 ug/L (acute); Thiobencarb - 3.1 ug/L (acute).
Guideline Reference:	National recommended water quality criteria: 2002. EPA-822-R-02-047 Washington, D.C. USEPA
Spatial Representation:	Data were collected at one sampling location (BUT010) in the Butano Creek.
Temporal Representation:	Samples were collected during wet, spring, and dry seasons of the 2001 - 2002 sampling season.
Environmental Conditions:	
QAPP Information:	All samples were collected and analyzed using procedures comparable with the SWAMP Quality Assurance Management Plan (SWRCB, 2002).
QAPP Information Reference(s):	Quality Assurance Management Plan for the State of California's Surface Water Ambient Monitoring Program. Sacramento, CA. State Water Resources Control Board. SWAMP. December 2002 (1st version)

DECISION ID 43211 Region 2	
Butano Creek	
Pollutant:	Copper Lead Nickel Silver Zinc
Final Listing Decision:	Do Not List on 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision:	Do Not List on 303(d) list (TMDL required list)(2012)
Revision Status	Original
Impairment from Pollutant or Pollution:	Pollutant
Regional Board Staff Conclusion:	This pollutant is being considered for placement on the section 303(d) list under section 3.1 of the Listing Policy. Under section 3.1 a single line of evidence is necessary to assess listing status. One line of evidence is available in the administrative record to assess these pollutants. None of the samples exceed the water quality objective. Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against placing this water segment-pollutant combination on the section 303(d) list in the Water Quality Limited Segments category. This conclusion is based on the staff findings that: 1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy. 2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy. 3. None of the fifteen samples exceeded the water quality guidelines and this does not exceed the allowable frequency listed in Table 3.1 of the Listing Policy. 4. Pursuant to section 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.
Regional Board Staff Decision Recommendation:	This is a decision previously approved by the State Water Resources Control Board and the USEPA. No new data were assessed by the Regional Board for the current. The decision has not changed.

Line of Evidence (LOE) for Decision ID 43211, Multiple Pollutants Region 2	
Butano Creek	
LOE ID:	27929

Pollutant:	Copper Lead Nickel Silver Zinc
LOE Subgroup:	Pollutant-Water
Matrix:	Water
Fraction:	None
Beneficial Use:	Cold Freshwater Habitat
Number of Samples:	3
Number of Exceedances:	0
Data and Information Type:	PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality:	Three water samples collected from Butano Creek were assessed. Of those three samples there were no exceedances.
Data Reference:	Water Quality Monitoring and Bioassessment in Nine San Francisco Bay Region Watersheds: Walker Creek, Lagunitas Creek, San Leandro Creek, Wildcat Creek/San Pablo Creek, Suisun Creek, Arroyo Las Positas, Pescadero Creek/Butano Creek, San Gregorio Creek, and Stevens Creek/Permanente Creek. Oakland, CA: Surface Water Ambient Monitoring Program, San Francisco Bay Regional Water Quality Control Board
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	The Basin Plan lists water quality objectives for copper, lead, nickel, silver and zinc. Chronic objectives: Cu - 9.0ug/l, Pb - 2.5 ug/l, Ni - 52 ug/l, Zn - 120 ug/l. Acute objective: Ag - 3.4 ug/l.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) - San Francisco Bay Region (Region 2)
Evaluation Guideline:	
Guideline Reference:	Water Quality Monitoring and Bioassessment in Nine San Francisco Bay Region Watersheds: Walker Creek, Lagunitas Creek, San Leandro Creek, Wildcat Creek/San Pablo Creek, Suisun Creek, Arroyo Las Positas, Pescadero Creek/Butano Creek, San Gregorio Creek, and Stevens Creek/Permanente Creek. Oakland, CA: Surface Water Ambient Monitoring Program, San Francisco Bay Regional Water Quality Control Board
Spatial Representation:	One monitoring location (202BUT010) was sampled in Butano Creek.
Temporal Representation:	The samples were collected from three different seasons, dry, wet and spring.
Environmental Conditions:	
QAPP Information:	The Quality Control is is conducted in accordance with SWAMP's Quality Management Plan of 2002.
QAPP Information Reference(s):	

DECISION ID	32479	Region 2
Butano Creek		
Pollutant:	Oxygen, Dissolved	
Final Listing Decision:	Do Not List on 303(d) list (TMDL required list)	
Last Listing Cycle's Final Listing Decision:	Do Not List on 303(d) list (TMDL required list)(2012)	
Revision Status	Original	
Impairment from Pollutant or Pollution:	Pollution	
Regional Board Staff Conclusion:	<p>This pollutant is being considered for placement on the section 303(d) list under section 3.2 of the Listing Policy. Under section 3.2 a single line of evidence is necessary to assess listing status. One line of evidence is available in the administrative record to assess this pollutant. None of the samples exceed the water quality objective. Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against placing this water segment-pollutant combination on the section 303(d) list in the Water Quality Limited Segments category. This conclusion is based on the staff findings that: 1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy. 2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy. 3. None of 3 samples exceeded the dissolved oxygen water quality objective and this does not exceed the allowable frequency listed in Table 3.2 of the Listing Policy.</p>	

4. Pursuant to section 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.

Regional Board Staff Decision Recommendation: This is a decision previously approved by the State Water Resources Control Board and the USEPA. No new data were assessed by the Regional Board for the current. The decision has not changed.

Line of Evidence (LOE) for Decision ID 32479, Oxygen, Dissolved

Region 2

Butano Creek

LOE ID: 1781

Pollutant: Oxygen, Dissolved
LOE Subgroup: Pollutant-Water
Matrix: Water
Fraction: None

Beneficial Use: Fish Spawning

Number of Samples:
Number of Exceedances:

Data and Information Type: Not Specified
Data Used to Assess Water Quality: Three readings: 9.36, 7.85, 8.87 (mg/l). Average = 8.69 mg/l. (Environmental Science Associates, 2004).
Data Reference: [Placeholder reference 2006 303\(d\)](#)

SWAMP Data: Non-SWAMP

Water Quality Objective/Criterion: Basin Plan: Waters designated as (SFBRWQCB, 1995):

Cold water habitat 7.0 mg/l minimum
Warm water habitat 5.0 mg/l minimum
Objective/Criterion Reference: [Placeholder reference 2006 303\(d\)](#)

Evaluation Guideline:
Guideline Reference:

Spatial Representation: Three sites along Creek.
Temporal Representation: ESA (Environmental Science Associates) survey made in summer (August 21 to September 24, 2003).

Environmental Conditions:
QAPP Information: California Stream Bioassessment Protocols (CDFG, 1999) used.
QAPP Information Reference(s):

Line of Evidence (LOE) for Decision ID 32479, Oxygen, Dissolved

Region 2

Butano Creek

LOE ID: 29081

Pollutant: Oxygen, Dissolved
LOE Subgroup: Pollutant-Water
Matrix: Water
Fraction: None

Beneficial Use: Warm Freshwater Habitat

Number of Samples: 4
Number of Exceedances: 0

Data and Information Type: PHYSICAL/CHEMICAL MONITORING

Data Used to Assess Water Quality:	Water quality assessment was conducted at Butano Creek watershed as part of SWAMP assessment in 2002 and 2003. Continuous field monitoring of temperature, dissolved oxygen, pH, and specific conductance to determine temporal variability in basic water quality at one or two locations. The 7 day average minimum concentration of dissolved oxygen ranged from 6.99 to 10.87 mg/L and varied with season.
Data Reference:	Water Quality Monitoring and Bioassessment in Nine San Francisco Bay Region Watersheds: Walker Creek, Lagunitas Creek, San Leandro Creek, Wildcat Creek/San Pablo Creek, Suisun Creek, Arroyo Las Positas, Pescadero Creek/Butano Creek, San Gregorio Creek, and Stevens Creek/Permanente Creek. Oakland, CA: Surface Water Ambient Monitoring Program, San Francisco Bay Regional Water Quality Control Board
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	The numeric water quality objective for dissolved oxygen is 5.0 mg/L minimum for waters designated as warm water habitat. The median dissolved oxygen concentration for any three consecutive months shall not be less than 80 percent of the dissolved oxygen content at saturation.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) - San Francisco Bay Region (Region 2)
Evaluation Guideline:	
Guideline Reference:	
Spatial Representation:	Dissolved oxygen was measured at three and are representative of the entire creek length.
Temporal Representation:	At all locations the SWAMP performed continuous monitoring of dissolved oxygen at 15 minute intervals lasting 7-15 days during late summer (October 2002) winter wet season (February 2003) and spring (June 2003).
Environmental Conditions:	
QAPP Information:	All samples were collected and analyzed using procedures comparable with the SWAMP Quality Assurance Management Plan (SWRCB 2002).
QAPP Information Reference(s):	

DECISION ID	43111	Region 2
Butano Creek		
Pollutant:	Temperature, water	
Final Listing Decision:	Do Not List on 303(d) list (TMDL required list)	
Last Listing Cycle's Final Listing Decision:	Do Not List on 303(d) list (TMDL required list)(2012)	
Revision Status	Original	
Impairment from Pollutant or Pollution:	Pollutant	
Regional Board Staff Conclusion:	<p>This pollutant is being considered for placement on the section 303(d) list under section 3.2 of the Listing Policy. Under section 3.2 a single line of evidence is necessary to assess listing status. One line of evidence is available in the administrative record to assess this pollutant. None of the samples exceed the water quality objective. Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against placing this water segment-pollutant combination on the section 303(d) list in the Water Quality Limited Segments category. This conclusion is based on the staff findings that: 1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy. 2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy. 3. None of six samples exceeded the water quality objective and this does not exceed the allowable frequency listed in Table 3.2 of the Listing Policy. 4. Pursuant to section 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.</p>	
Regional Board Staff Decision Recommendation:	<p>This is a decision previously approved by the State Water Resources Control Board and the USEPA. No new data were assessed by the Regional Board for the current. The decision has not changed.</p>	
Line of Evidence (LOE) for Decision ID 43111, Temperature, water		Region 2

Butano Creek

LOE ID:	28997
Pollutant:	Temperature, water
LOE Subgroup:	Pollutant-Water
Matrix:	Water
Fraction:	None
Beneficial Use:	Cold Freshwater Habitat
Number of Samples:	6
Number of Exceedances:	0
Data and Information Type:	PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality:	Water quality assessment was conducted at the Butano Creek watershed as part of SWAMP study in 2001-2002. Continuous field monitoring at 15 minute increments of temperature, dissolved oxygen, pH and specific conductance was conducted to determine temporal variability in basic water quality at two locations. Continuous monitoring sondes were deployed 6 times at 2 monitoring locations during wet, spring and dry seasons. The measured temperatures ranged from 8.17°C to 16.52°C and varied with season and location. The 7-day mean temperature threshold for steelhead was not exceeded in any deployments during the monitoring season. Temperature threshold not exceeded (14.8°C) for coho either.
Data Reference:	Water Quality Monitoring and Bioassessment in Nine San Francisco Bay Region Watersheds: Walker Creek, Lagunitas Creek, San Leandro Creek, Wildcat Creek/San Pablo Creek, Suisun Creek, Arroyo Las Positas, Pescadero Creek/Butano Creek, San Gregorio Creek, and Stevens Creek/Permanente Creek. Oakland, CA: Surface Water Ambient Monitoring Program, San Francisco Bay Regional Water Quality Control Board
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	Temperature objectives for enclosed bays and estuaries are specified in the "Water Quality Control Plan for Control of Temperature in the Coastal and Interstate Waters and Enclosed Bays of California" including any revisions to the plan. In addition, the following temperature objectives apply to surface waters: The natural receiving water temperature of intrastate waters shall not be altered unless it can be demonstrated to the satisfaction of the Regional Board that such an alteration does not adversely affect beneficial uses. The temperature of any cold or warm freshwater habitat shall not be increased by more than 5°F (2.8°C) above natural receiving water temperature.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) - San Francisco Bay Region (Region 2)
Evaluation Guideline:	Sullivan et al. (2000) reviewed a wide range of studies incorporating information from laboratory-based research, field observations, and risk assessment approaches and developed criteria for assessing temperature risk to aquatic life. The 7-day mean temperature (maximum value of a 7-day moving average of the daily mean temperature) of 14.8°C was established as the upper threshold criterion for coho salmon and 17.0°C for steelhead trout. The risk assessment approach used by Sullivan et al. (2000) suggest that temperatures exceeding the above thresholds will cause a 10% reduction in average growth compared to optimal conditions.
Guideline Reference:	An Analysis of the Effects of Temperature on Salmonids of the Pacific Northwest with Implications for Selecting Temperature Criteria
Spatial Representation:	Temperature was measured at two sites located on the mainstream of Butano Creek that are representative of the entire creek length.
Temporal Representation:	In 2002 the SWAMP Program performed continuous monitoring of temperature at 15 minute intervals for periods of 1-2 weeks at each location in each of three different seasons: winter, spring, and summer dry season.
Environmental Conditions:	
QAPP Information:	All samples were collected and analyzed using procedures comparable with the SWAMP Quality Assurance Management Plan (SWRCB, 2002).
QAPP Information Reference(s):	Quality Assurance Management Plan for the State of California's Surface Water Ambient

DECISION ID	43149	Region 2
Butano Creek		

Pollutant:	Toxicity
Final Listing Decision:	Do Not List on 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision:	Do Not List on 303(d) list (TMDL required list)(2012)
Revision Status	Original
Impairment from Pollutant or Pollution:	Pollutant

Regional Board Staff Conclusion: This pollutant is being considered for placement on the section 303(d) list under section 3.1 of the Listing Policy. Under section 3.1 a single line of evidence is necessary to assess listing status. One line of evidence is available in the administrative record to assess this pollutant. None of the samples exceed the water quality objective. Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against placing this water segment-pollutant combination on the section 303(d) list in the Water Quality Limited Segments category. This conclusion is based on the staff findings that: 1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy. 2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy. 3. None of three samples exceeded the water quality objective and this does not exceed the allowable frequency listed in Table 3.1 of the Listing Policy. 4. Pursuant to section 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.

Regional Board Staff Decision Recommendation: This is a decision previously approved by the State Water Resources Control Board and the USEPA. No new data were assessed by the Regional Board for the current. The decision has not changed.

Line of Evidence (LOE) for Decision ID 43149, Toxicity	Region 2
Butano Creek	

LOE ID:	28822
Pollutant:	Toxicity
LOE Subgroup:	Pollutant-Water
Matrix:	Water
Fraction:	None
Beneficial Use:	Cold Freshwater Habitat
Number of Samples:	3
Number of Exceedances:	0
Data and Information Type:	TOXICITY TESTING
Data Used to Assess Water Quality:	Three samples were collected in 2001 to evaluate water toxicity at one monitoring location near the mouth of Butano Creek. The toxicity tests included survival and reproduction of Ceriodaphnia, survival and growth of fathead minnow, and growth of Selenastrum. No water toxicity was detected.
Data Reference:	Water Quality Monitoring and Bioassessment in Nine San Francisco Bay Region Watersheds: Walker Creek, Lagunitas Creek, San Leandro Creek, Wildcat Creek/San Pablo Creek, Suisun Creek, Arroyo Las Positas, Pescadero Creek/Butano Creek, San Gregorio Creek, and Stevens Creek/Permanente Creek, Oakland, CA: Surface Water Ambient Monitoring Program, San Francisco Bay Regional Water Quality Control Board
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	All waters shall be maintained free of toxic substances that are lethal to or that produce

Objective/Criterion Reference:	<p>other detrimental responses in aquatic organisms.</p> <p>There shall be no chronic toxicity in ambient waters. Chronic toxicity is a detrimental biological effect on growth rate, reproduction, fertilization success, larval development, population abundance, community composition, or any other relevant measure of the health of an organism, population, or community.</p> <p>Water Quality Control Plan (Basin Plan) - San Francisco Bay Region (Region 2)</p>
Evaluation Guideline:	<p>Water toxicity was evaluated according to the SWAMP methodology. The U.S.EPA whole effluent toxicity protocol (U.S.EPA 1994) was used to test the effect of water samples on three freshwater test organisms. Statistical evaluation (alpha = 0.05) and a default threshold of 80% of the control value were used to establish whether water exhibited significant toxicity adversely impacting aquatic organisms.</p>
Guideline Reference:	<p>Revised approach to toxicity test acceptability criteria using a statistical performance assessment. Environmental Toxicology and Chemistry, vol. 16, No. 6, pp 1322?1329</p> <p>Short-Term Methods for Estimating the Chronic Toxicity of Effluents and Receiving Waters to Freshwater Organisms. EPA/600/4-91/002. Third Edition. July 1994</p>
Spatial Representation:	<p>Data were collected at one sampling location, BUT010, (Bean Hollow) on three (3) occasions, representative of the lower reach of the creek.</p>
Temporal Representation:	<p>SWAMP samples were collected during winter wet season, spring season, and dry season of 2001.</p>
Environmental Conditions:	
QAPP Information:	<p>All samples were collected and analyzed using procedures comparable with the SWAMP Quality Assurance Management Plan (SWRCB, 2002).</p>
QAPP Information Reference(s):	<p>Quality Assurance Management Plan for the State of California's Surface Water Ambient Monitoring Program. Sacramento, CA. State Water Resources Control Board. SWAMP. December 2002 (1st version)</p>

Line of Evidence (LOE) for Decision ID 43149, Toxicity
Butano Creek

Region 2

LOE ID:	28996
Pollutant:	Sediment Toxicity
LOE Subgroup:	Pollutant-Sediment
Matrix:	Sediment
Fraction:	None
Beneficial Use:	Cold Freshwater Habitat
Number of Samples:	1
Number of Exceedances:	0
Data and Information Type:	Toxicity testing of sediments
Data Used to Assess Water Quality:	<p>Data used to evaluate sediment toxicity comprise one sediment sample collected by the SWAMP in 2001. No toxicity or adverse affects for survival were exhibited for Hyallela azteca.</p>
Data Reference:	<p>Water Quality Monitoring and Bioassessment in Nine San Francisco Bay Region Watersheds: Walker Creek, Lagunitas Creek, San Leandro Creek, Wildcat Creek/San Pablo Creek, Suisun Creek, Arroyo Las Positas, Pescadero Creek/Butano Creek, San Gregorio Creek, and Stevens Creek/Permanente Creek. Oakland, CA: Surface Water Ambient Monitoring Program, San Francisco Bay Regional Water Quality Control Board</p>
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	<p>All waters shall be maintained free of toxic substances that are lethal to or that produce other detrimental responses in aquatic organisms.</p> <p>There shall be no chronic toxicity in ambient waters. Chronic toxicity is a detrimental biological effect on growth rate, reproduction, fertilization success, larval development, population abundance, community composition, or any other relevant measure of the health of an organism, population, or community.</p>
Objective/Criterion Reference:	<p>Water Quality Control Plan (Basin Plan) - San Francisco Bay Region (Region 2)</p>

Evaluation Guideline:	Sediment toxicity was evaluated according to the SWAMP methodology. Sample toxicity was determined by comparing mean organism response in samples and in negative controls. Statistical evaluation ($\alpha = 0.05$) and a default threshold of 80% of the control value were used to establish whether the sediment exhibited significant toxicity adversely impacting aquatic organisms.
Guideline Reference:	Revised approach to toxicity test acceptability criteria using a statistical performance assessment. Environmental Toxicology and Chemistry, vol. 16, No. 6, pp 1322?1329
Spatial Representation:	One sediment sample was collected at a "watershed integrator" site located close to the mouth of Butano Creek at Bean Hollow.
Temporal Representation:	Sample was collected in 2001.
Environmental Conditions:	
QAPP Information:	Samples were collected and analyzed using procedures comparable with the SWAMP Quality Assurance Management Plan (SWRCB 2002).
QAPP Information Reference(s):	Quality Assurance Management Plan for the State of California's Surface Water Ambient Monitoring Program. Sacramento, CA. State Water Resources Control Board. SWAMP. December 2002 (1st version)

DECISION ID	32482	Region 2
Butano Creek		

Pollutant:	Turbidity
Final Listing Decision:	Do Not List on 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision:	Do Not List on 303(d) list (TMDL required list)(2012)
Revision Status	Original
Impairment from Pollutant or Pollution:	Pollutant

Regional Board Staff Conclusion:	This pollutant is being considered for delisting under sections 4.9 and 4.11 of the Listing Policy. Six lines of evidence are available in the administrative record to assess this pollutant. Based on section 4.9, the measurements of benthic community and fish habitat indicate that biological resources are likely not impacted. Only one site was rated marginal for fish habitat and only one sample was rated poor for benthic community. Even though sedimentation continues, its effects are being reduced. Summer measurements of turbidity do not exceed guidelines for the protections of salmonids. There is limited habitat for Coho because of the lack of deep pools, spawning gravels, and large woody debris. Based on the readily available data and information, the weight of evidence indicates that there is insufficient justification in favor of removing this water segment-pollutant combination from the section 303(d) list in the Water Quality Limited Segments category. This conclusion is based on the staff findings that: 1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy. 2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy. 3. Even though only one fish habitat sample was found to be marginal and one benthic community sample was found to be poor, there are still potential impacts on Coho related to lack of suitable spawning habitat. 4. Pursuant to section 4.11 of the Listing Policy, no additional data and information are available indicating that standards are met.
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Regional Board Staff Decision Recommendation:	This is a decision previously approved by the State Water Resources Control Board and the USEPA. No new data were assessed by the Regional Board for the current. The decision has not changed.
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Line of Evidence (LOE) for Decision ID 32482, Turbidity	Region 2
Butano Creek	

LOE ID:	1783
Pollutant:	Turbidity
LOE Subgroup:	Pollutant-Water
Matrix:	Water
Fraction:	None

Beneficial Use:	Cold Freshwater Habitat
Number of Samples:	3
Number of Exceedances:	0
Data and Information Type:	PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality:	Zero of 3 samples exceeded the standard (Environmental Science Associates, 2004).
Data Reference:	Placeholder reference 2006 303(d)
SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	Basin Plan: Waters shall be free of changes in turbidity that cause nuisance or adversely affect beneficial uses. Increases from normal background light penetration or turbidity relatable to waste discharge shall not be greater than 10 percent in areas where natural turbidity is greater than 50 NTU). The suspended sediment load and suspended sediment discharge rate of surface waters shall not cause nuisance or adversely affect beneficial uses (SFBRWQCB, 1999).
Objective/Criterion Reference:	Placeholder reference 2006 303(d)
Evaluation Guideline:	Turbidity can be used to estimate the effects of sedimentation. Published sedimentation thresholds can be used. The evaluation guideline that has been selected to determine turbidity exceedance is from published-peer reviewed paper, "The Effects of Chronic Turbidity on Density and Growth of Steelheads and Coho Salmon" (Sigler, et.al.,1984). The guideline is as follows, "In our studies, as little as 25 NTUs (nephelometric turbidity units) of turbidity caused a reduction in fish growth." Sigler also discusses the result of turbidities in the 25-50 NTU range reduced growth and caused more newly emerged salmonids to emigrate from laboratory streams than did clear water. Studies indicate that juvenile coho salmon avoided water with turbidities that exceeded 70 NTU (Bilson and Bilby, 1982). Other research reported that feeding and territorial behavior of juvenile coho salmon were disrupted by short-term exposures (2.5-4.5 days) to turbid water with up to 60 NTU (Meehan, 1991).
Guideline Reference:	Placeholder reference 2006 303(d)
Spatial Representation:	Three sample sites along Creek.
Temporal Representation:	ESA (Environmental Science Associates) survey made in summer (August 21 to September 24, 2003).
Environmental Conditions:	
QAPP Information:	California Stream Bioassessment Protocols (CDFG 1999) (for supplemental information) used.
QAPP Information Reference(s):	

DECISION ID	32481	Region 2
Butano Creek		
Pollutant:	pH	
Final Listing Decision:	Do Not List on 303(d) list (TMDL required list)	
Last Listing Cycle's Final Listing Decision:	Do Not List on 303(d) list (TMDL required list)(2012)	
Revision Status	Original	
Impairment from Pollutant or Pollution:	Pollutant	
Regional Board Staff Conclusion:	This pollutant is being considered for placement on the section 303(d) list under section 3.2 of the Listing Policy. Under section 3.2 a single line of evidence is necessary to assess listing status. One line of evidence is available in the administrative record to assess this pollutant. One sample exceeds the water quality objective. Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against placing this water segment-pollutant combination on the section 303(d) list in the Water Quality Limited Segments category. This conclusion is based on the staff findings that: 1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy. 2. The data used satisfies the data quantity requirements	

of section 6.1.5 of the Policy. 3. One of 3 samples exceeded the pH water quality objective and this does not exceed the allowable frequency listed in Table 3.2 of the Listing Policy. 4. Pursuant to section 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.

Regional Board Staff Decision Recommendation: This is a decision previously approved by the State Water Resources Control Board and the USEPA. No new data were assessed by the Regional Board for the current. The decision has not changed.

Line of Evidence (LOE) for Decision ID 32481, pH

Region 2

Butano Creek

LOE ID:	1782
Pollutant:	pH
LOE Subgroup:	Pollutant-Water
Matrix:	Water
Fraction:	None
Beneficial Use:	Cold Freshwater Habitat
Number of Samples:	3
Number of Exceedances:	1
Data and Information Type:	Not Specified
Data Used to Assess Water Quality:	Three data values: 8.6, 7.6, 8.2. Average = 8.1.(Environmental Science Associates, 2004).
Data Reference:	Placeholder reference 2006 303(d)
SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	Basin Plan Objective: The pH shall not be depressed below 6.5 nor raised above 8.5. This encompasses the pH range usually found in waters within the basin. Controllable water quality factors shall not cause changes greater than 0.5 units in normal ambient pH levels.
Objective/Criterion Reference:	Placeholder reference 2006 303(d)
Evaluation Guideline:	
Guideline Reference:	
Spatial Representation:	Three sample sites along Creek.
Temporal Representation:	ESA (Environmental Science Associates) survey made in summer (August 21 to September 24, 2003).
Environmental Conditions:	
QAPP Information:	California Stream Bioassessment Protocols (CDFG, 1999); (for supplemental information) used.
QAPP Information Reference(s):	

Draft California 2016 Integrated Report (303(d) List/305(b) Report)

Supporting Information

Regional Board 2 - San Francisco Bay Region

Water Body Name: Corte Madera Creek
Water Body ID: CAR2032001119990218112526
Water Body Type: River & Stream

DECISION ID 34646 **Region 2**
Corte Madera Creek

Pollutant: Diazinon
Final Listing Decision: Do Not Delist from 303(d) list (being addressed with USEPA approved TMDL)
Last Listing Cycle's Final Listing Decision: List on 303(d) list (being addressed by USEPA approved TMDL)(2012)
Revision Status Revised
Sources: Other
TMDL Name: San Francisco Bay Urban Creeks Diazinon
TMDL Project Code: 9
Date TMDL Approved by USEPA: 05/21/2007
Impairment from Pollutant or Pollution: Pollutant

Regional Board Staff Conclusion: This pollutant is being considered for removal on the CWA section 303(d) List under sections 2.2 and 4.1 of the Listing Policy. Under 4.1 of the Policy, a minimum of one line of evidence is needed to assess listing status.

Three lines of evidence are available in the administrative record to assess this pollutant.

Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against removing this water segment-pollutant combination from the CWA section 303(d) List. There is sufficient justification to place it in the Being Addressed portion of the CWA 303(d) List because a TMDL has been completed and approved by RWQCB and USEPA, and is expected to result in attainment of the standard.

This conclusion is based on the staff findings that:

1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy.
2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy.
3. Zero of one samples exceeded the evaluation guideline, but there are not enough samples to allow for de-listing according to Table 4.1 of the Listing Policy.
4. The Diazinon and Pesticide-related toxicity in urban creeks TMDL was approved by USEPA on 5/21/2007.
5. Pursuant to section 4.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.

Regional Board Staff Decision Recommendation: After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be removed from the section 303(d) list because applicable water quality standards for the pollutant are being exceeded.

Line of Evidence (LOE) for Decision ID 34646, Diazinon **Region 2**
Corte Madera Creek

LOE ID: 1789

Pollutant: Diazinon

LOE Subgroup:	Pollutant-Water
Matrix:	Water
Fraction:	None
Beneficial Use:	Cold Freshwater Habitat
Number of Samples:	0
Number of Exceedances:	0
Data and Information Type:	Not Specified
Data Used to Assess Water Quality:	Unspecified---This LOE is a placeholder to support a 303(d) listing decision made prior to 2006.
Data Reference:	Placeholder reference 2006 303(d)
SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	
Objective/Criterion Reference:	
Evaluation Guideline:	
Guideline Reference:	
Spatial Representation:	
Temporal Representation:	
Environmental Conditions:	
QAPP Information:	QA Info Missing
QAPP Information Reference(s):	

Line of Evidence (LOE) for Decision ID 34646, Diazinon

Region 2

Corte Madera Creek

LOE ID:	91391
Pollutant:	Diazinon
LOE Subgroup:	Pollutant-Sediment
Matrix:	Sediment
Fraction:	Total
Beneficial Use:	Warm Freshwater Habitat
Number of Samples:	1
Number of Exceedances:	0
Data and Information Type:	PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality:	Water Board staff assessed SWAMP data for Corte Madera Creek to determine beneficial use support and results are as follows: 0 of 1 samples exceed the criterion for Diazinon.
Data Reference:	Statewide Project Urban Pyrethroid Status Monitoring
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	San Francisco Bay Basin Water Quality Control Plan 2007: All waters shall be maintained free of toxic substances in concentrations which are toxic to, or which produce detrimental physiological responses in, human, plant, animal, or aquatic life.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	There is no diazinon evaluation guideline specific to "sediment, interstitial water" (pore water). The following evaluation guideline was used to evaluate an exceedance in water quality standards: the freshwater chronic value for diazinon is 0.1 ug/L, expressed as a continuous concentration (Finlayson, 2004).?
Guideline Reference:	Toxicity of Sediment-Associated Pesticides to Chironomus dilutus and Hyalella azteca. Arch. Environ. Contam. Toxicol. 61:83?92.

Spatial Representation:	Data for this line of evidence for Corte Madera Creek was collected at 1 monitoring site [Corte Madera Ck @ Sir Francis Drake station (203SUP040).]
Temporal Representation:	Data was collected on a single day 12/28/2006.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	The SWAMP QAPP (2008) was followed.
QAPP Information Reference(s):	Quality Assurance Management Plan for the State of California's Surface Water Ambient Monitoring Program. Sacramento, CA. State Water Resources Control Board. SWAMP. December 2002 (1st version).

Line of Evidence (LOE) for Decision ID 34646, Diazinon

Region 2

Corte Madera Creek

LOE ID:	91390
Pollutant:	Diazinon
LOE Subgroup:	Pollutant-Sediment
Matrix:	Sediment
Fraction:	Total
Beneficial Use:	Cold Freshwater Habitat
Number of Samples:	1
Number of Exceedances:	0
Data and Information Type:	PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality:	Water Board staff assessed SWAMP data for Corte Madera Creek to determine beneficial use support and results are as follows: 0 of 1 samples exceed the criterion for Diazinon.
Data Reference:	Statewide Project Urban Pyrethroid Status Monitoring
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	San Francisco Bay Basin Water Quality Control Plan 2007: All waters shall be maintained free of toxic substances in concentrations which are toxic to, or which produce detrimental physiological responses in, human, plant, animal, or aquatic life.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	There is no diazinon evaluation guideline specific to "sediment, interstitial water" (pore water). The following evaluation guideline was used to evaluate an exceedance in water quality standards: the freshwater chronic value for diazinon is 0.1 ug/L, expressed as a continuous concentration (Finlayson, 2004).?
Guideline Reference:	Toxicity of Sediment-Associated Pesticides to Chironomus dilutus and Hyalella azteca. Arch. Environ. Contam. Toxicol. 61:83?92.
Spatial Representation:	Data for this line of evidence for Corte Madera Creek was collected at 1 monitoring site [Corte Madera Ck @ Sir Francis Drake station (203SUP040).]
Temporal Representation:	Data was collected on a single day 12/28/2006.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	The SWAMP QAPP (2008) was followed.
QAPP Information Reference(s):	Quality Assurance Management Plan for the State of California's Surface Water Ambient Monitoring Program. Sacramento, CA. State Water Resources Control Board. SWAMP. December 2002 (1st version).

DECISION ID

61786

Region 2

Corte Madera Creek

Pollutant:	Bifenthrin
Final Listing Decision:	Do Not List on 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision:	New Decision
Revision Status	Revised

Impairment from Pollutant or Pollution:

Pollutant

Regional Board Staff Conclusion:

This pollutant is being considered for placement on the CWA section 303(d) List under section 3.6 of the Listing Policy.

Under section 3.6 at least two lines of evidence are necessary to assess listing status for pollutants sediment, and pollutant concentrations in sediment must be associated with sediment toxicity to justify adding that pollutant to the CWA section 303(d) List.

Two lines of evidence are available in the administrative record to assess this pollutant. Zero of one samples exceed the guideline.

Sediment toxicity data are not associated with this decision because they are not relevant to this decision because there is insufficient information based on sediment chemistry.

Based on the readily available data and information, the weight of evidence indicates that there is insufficient justification for placing this water segment-pollutant combination on the CWA section 303(d) List.

This conclusion is based on the staff findings that:

1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy.
2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy.
3. Zero of one samples exceed the guideline and this sample size is insufficient to determine beneficial use support, with the power and confidence of the Listing Policy. A minimum of 16 samples is needed to determine if a beneficial use is fully supported using table 3.1. Sediment toxicity data are not associated with this decision because the sediment chemistry data are insufficient.
4. Pursuant to section 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.

Regional Board Staff Decision Recommendation:

After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be placed on the section 303(d) list. The readily available data and information is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating.

Line of Evidence (LOE) for Decision ID 61786, Bifenthrin

Region 2

Corte Madera Creek

LOE ID: 91372

Pollutant: Bifenthrin
LOE Subgroup: Pollutant-Sediment
Matrix: Sediment
Fraction: Total

Beneficial Use: Warm Freshwater Habitat

Number of Samples: 1
Number of Exceedances: 0

Data and Information Type: PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality: Water Board staff assessed SWAMP data for Corte Madera Creek to determine beneficial use support and results are as follows: 0 of 1 samples exceed the criterion for Bifenthrin.
Data Reference: [Statewide Project Urban Pyrethroid Status Monitoring](#)

SWAMP Data: SWAMP

Water Quality Objective/Criterion: San Francisco Bay Basin Water Quality Control Plan 2007: All waters shall be maintained free of toxic substances in concentrations which are toxic to, or which produce detrimental physiological responses in, human, plant, animal, or aquatic life.

Objective/Criterion Reference: [Water Quality Control Plan \(Basin Plan\) San Francisco Bay Basin \(Region 2\)](#)

Evaluation Guideline:	The evaluation guideline for bifenthrin is the median lethal concentration (LC50) of 0.43 ug/g and is normalized by the percentage of organic carbon in the sediment sample. The LC50 0.43 ug/g is the geometric mean of LC50 values for bifenthrin from Amweg et al. (2005) and Amweg and Weston (2007).
Guideline Reference:	Use and Toxicity of Pyrethroid Pesticides in the Central Valley, California, USA. Environmental Toxicology and Chemistry, 24:966-972, with erratum 24:No. 5 Whole-sediment toxicity identification evaluation tools for pyrethroid insecticides: I. piperonyl butoxide addition. Environ. Toxicol. Chem. 26:2389-2396.
Spatial Representation:	Data for this line of evidence for Corte Madera Creek was collected at 1 monitoring site [Corte Madera Ck @ Sir Francis Drake station (203SUP040).]
Temporal Representation:	Data was collected on a single day 12/28/2006.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	The SWAMP QAPP (2008) was followed.
QAPP Information Reference(s):	Quality Assurance Management Plan for the State of California's Surface Water Ambient Monitoring Program. Sacramento, CA. State Water Resources Control Board. SWAMP. December 2002 (1st version)

Line of Evidence (LOE) for Decision ID 61786, Bifenthrin

Region 2

Corte Madera Creek

LOE ID:	91373
Pollutant:	Bifenthrin
LOE Subgroup:	Pollutant-Sediment
Matrix:	Sediment
Fraction:	Total
Beneficial Use:	Cold Freshwater Habitat
Number of Samples:	1
Number of Exceedances:	0
Data and Information Type:	PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality:	Water Board staff assessed SWAMP data for Corte Madera Creek to determine beneficial use support and results are as follows: 0 of 1 samples exceed the criterion for Bifenthrin.
Data Reference:	Statewide Project Urban Pyrethroid Status Monitoring
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	San Francisco Bay Basin Water Quality Control Plan 2007: All waters shall be maintained free of toxic substances in concentrations which are toxic to, or which produce detrimental physiological responses in, human, plant, animal, or aquatic life.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	The evaluation guideline for bifenthrin is the median lethal concentration (LC50) of 0.43 ug/g and is normalized by the percentage of organic carbon in the sediment sample. The LC50 0.43 ug/g is the geometric mean of LC50 values for bifenthrin from Amweg et al. (2005) and Amweg and Weston (2007).
Guideline Reference:	Use and Toxicity of Pyrethroid Pesticides in the Central Valley, California, USA. Environmental Toxicology and Chemistry, 24:966-972, with erratum 24:No. 5 Whole-sediment toxicity identification evaluation tools for pyrethroid insecticides: I. piperonyl butoxide addition. Environ. Toxicol. Chem. 26:2389-2396.
Spatial Representation:	Data for this line of evidence for Corte Madera Creek was collected at 1 monitoring site [Corte Madera Ck @ Sir Francis Drake station (203SUP040).]
Temporal Representation:	Data was collected on a single day 12/28/2006.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	The SWAMP QAPP (2008) was followed.
QAPP Information Reference(s):	Quality Assurance Management Plan for the State of California's Surface Water Ambient Monitoring Program. Sacramento, CA. State Water Resources Control Board. SWAMP.

DECISION ID	61812	Region 2
Corte Madera Creek		

Pollutant: Chlordane
Final Listing Decision: Do Not List on 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision: New Decision
Revision Status: Revised
Impairment from Pollutant or Pollution: Pollutant

Regional Board Staff Conclusion: This pollutant is being considered for placement on the CWA section 303(d) List under section 3.6 of the Listing Policy.
 Under section 3.6 at least two lines of evidence are necessary to assess listing status for pollutants sediment, and pollutant concentrations in sediment must be associated with sediment toxicity to justify adding that pollutant to the CWA section 303(d) List.

One line of evidence is available in the administrative record to assess this pollutant. Zero of one samples exceed the guideline.

Sediment toxicity data are not associated with this decision because they are not relevant to this decision because there is insufficient information based on sediment chemistry.

Based on the readily available data and information, the weight of evidence indicates that there is insufficient justification for placing this water segment-pollutant combination on the CWA section 303(d) List.

This conclusion is based on the staff findings that:

1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy.
2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy.
3. Zero of one samples exceed the guideline and this sample size is insufficient to determine beneficial use support, with the power and confidence of the Listing Policy. A minimum of 16 samples is needed to determine if a beneficial use is fully supported using table 3.1. Sediment toxicity data are not associated with this decision because the sediment chemistry data are insufficient.
4. Pursuant to section 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.

Regional Board Staff Decision Recommendation: After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be placed on the section 303(d) list. The readily available data and information is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating.

Line of Evidence (LOE) for Decision ID 61812, Chlordane	Region 2
Corte Madera Creek	

LOE ID: 90721
Pollutant: Chlordane
LOE Subgroup: Pollutant-Sediment
Matrix: Sediment
Fraction: Total
Beneficial Use: Cold Freshwater Habitat
Number of Samples: 1
Number of Exceedances: 0

Data and Information Type:	PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality:	Zero of 1 samples collected exceeded the criteria for chlordane concentration (Sum of trans-Chlordane, cis-Chlordane, cis-Nonachlor, trans-Nonachlor, and Oxychlordane).
Data Reference:	Statewide Project Urban Pyrethroid Status Monitoring
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	All waters shall be maintained free of toxic substances in concentrations that are lethal to or that produce other detrimental responses in aquatic organisms. Waters shall not contain substances in concentrations that result in the deposition of material that causes nuisance or adversely affects beneficial uses. (Water Quality Control Plan for the San Francisco Bay Basin).
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) - San Francisco Bay Region (Region 2)
Evaluation Guideline:	The Probable Effect Concentration for Chlordane in freshwater sediments is 17.6 ug/kg(MacDonald et al. 2000).
Guideline Reference:	Development and evaluation of consensus-based sediment quality guidelines for freshwater ecosystems. Environmental Contamination and Toxicology. 39: 20-31
Spatial Representation:	Data were collected at the following station 203SUP040 (Corte Madera Ck @ Sir Francis Drake).
Temporal Representation:	The samples were collected on 12/28/2006.
Environmental Conditions:	
QAPP Information:	The SWAMP QAPP (2006) was followed.
QAPP Information Reference(s):	Surface Water Ambient Monitoring Program Quality Assurance Program Plan

DECISION ID	61815	Region 2
Corte Madera Creek		

Pollutant:	Chlorpyrifos
Final Listing Decision:	Do Not List on 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision:	New Decision
Revision Status	Revised
Impairment from Pollutant or Pollution:	Pollutant
Regional Board Staff Conclusion:	<p>This pollutant is being considered for placement on the CWA section 303(d) List under section 3.6 of the Listing Policy.</p> <p>Under section 3.6 at least two lines of evidence are necessary to assess listing status for pollutants sediment, and pollutant concentrations in sediment must be associated with sediment toxicity to justify adding that pollutant to the CWA section 303(d) List.</p> <p>Two lines of evidence are available in the administrative record to assess this pollutant. Zero of one samples exceed the guideline.</p> <p>Sediment toxicity data are not associated with this decision because they are not relevant to this decision because there is insufficient information based on sediment chemistry.</p> <p>Based on the readily available data and information, the weight of evidence indicates that there is insufficient justification for placing this water segment-pollutant combination on the CWA section 303(d) List.</p> <p>This conclusion is based on the staff findings that:</p> <ol style="list-style-type: none"> 1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy. 2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy. 3. Zero of one samples exceed the guideline and this sample size is insufficient to determine beneficial use support, with the power and confidence of the Listing Policy. A minimum of 16 samples is needed to determine if a beneficial use is fully supported using table 3.1. <p>Sediment toxicity data are not associated with this decision because the sediment chemistry data are</p>

insufficient.

4. Pursuant to section 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.

Regional Board Staff Decision Recommendation: After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be placed on the section 303(d) list. The readily available data and information is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating.

Line of Evidence (LOE) for Decision ID 61815, Chlorpyrifos

Region 2

Corte Madera Creek

LOE ID: 91374

Pollutant: Chlorpyrifos
LOE Subgroup: Pollutant-Sediment
Matrix: Sediment
Fraction: Total

Beneficial Use: Warm Freshwater Habitat

Number of Samples: 0
Number of Exceedances: 0

Data and Information Type: PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality: One of one sample result was not used in the assessment because the sample was non-detect and the laboratory data method detection limit was above the guideline and therefore the results could not be quantified with the level of certainty required by the Listing Policy.

Data Reference: [Statewide Project Urban Pyrethroid Status Monitoring](#)

SWAMP Data: SWAMP

Water Quality Objective/Criterion: San Francisco Bay Basin Water Quality Control Plan 2007: All waters shall be maintained free of toxic substances in concentrations which are toxic to, or which produce detrimental physiological responses in, human, plant, animal, or aquatic life.

Objective/Criterion Reference: [Water Quality Control Plan \(Basin Plan\) San Francisco Bay Basin \(Region 2\)](#)

Evaluation Guideline: There is no chlorpyrifos evaluation guideline specific to "sediment, interstitial water" (pore water). The following evaluation guideline was used to evaluate an exceedance in water quality standards: the freshwater criterion continuous concentration to protect aquatic organisms is 0.015 ug/L (Siepmann and Finlayson 2000, with minor corrections to significant figures as described in Beaulaurier et al., 2005).?

Guideline Reference: [Water quality criteria for diazinon and chlorpyrifos. Administrative Report 00-3. Rancho Cordova, CA: Pesticide Investigations Unit, Office of Spills and Response. CA Department of Fish and Game \(with minor corrections to significant figures as described in Beaulaurier et al., 2005\).](#)

Spatial Representation: Data for this line of evidence for Corte Madera Creek was collected at 1 monitoring site [Corte Madera Ck @ Sir Francis Drake station (203SUP040).]

Temporal Representation: Data was collected on a single day 12/28/2006.

Environmental Conditions: Staff is not aware of any special conditions that might affect interpretation of the data.

QAPP Information: The SWAMP QAPP (2008) was followed.

QAPP Information Reference(s): [Quality Assurance Management Plan for the State of California's Surface Water Ambient Monitoring Program. Sacramento, CA. State Water Resources Control Board. SWAMP. December 2002 \(1st version\).](#)

Line of Evidence (LOE) for Decision ID 61815, Chlorpyrifos

Region 2

Corte Madera Creek

LOE ID:	91375
Pollutant:	Chlorpyrifos
LOE Subgroup:	Pollutant-Sediment
Matrix:	Sediment
Fraction:	Total
Beneficial Use:	Cold Freshwater Habitat
Number of Samples:	0
Number of Exceedances:	0
Data and Information Type:	PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality:	One of one sample result was not used in the assessment because the sample was non-detect and the laboratory data method detection limit was above the guideline and therefore the results could not be quantified with the level of certainty required by the Listing Policy.
Data Reference:	Statewide Project Urban Pyrethroid Status Monitoring
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	San Francisco Bay Basin Water Quality Control Plan 2007: All waters shall be maintained free of toxic substances in concentrations which are toxic to, or which produce detrimental physiological responses in, human, plant, animal, or aquatic life.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	There is no chlorpyrifos evaluation guideline specific to "sediment, interstitial water" (pore water). The following evaluation guideline was used to evaluate an exceedance in water quality standards: the freshwater criterion continuous concentration to protect aquatic organisms is 0.015 ug/L (Siepmann and Finlayson 2000, with minor corrections to significant figures as described in Beaulaurier et al., 2005).?
Guideline Reference:	Water quality criteria for diazinon and chlorpyrifos. Administrative Report 00-3. Rancho Cordova, CA: Pesticide Investigations Unit, Office of Spills and Response. CA Department of Fish and Game (with minor corrections to significant figures as described in Beaulaurier et al., 2005).
Spatial Representation:	Data for this line of evidence for Corte Madera Creek was collected at 1 monitoring site [Corte Madera Ck @ Sir Francis Drake station (203SUP040).]
Temporal Representation:	Data was collected on a single day 12/28/2006.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	The SWAMP QAPP (2008) was followed.
QAPP Information Reference(s):	Quality Assurance Management Plan for the State of California's Surface Water Ambient Monitoring Program. Sacramento, CA. State Water Resources Control Board. SWAMP. December 2002 (1st version)

DECISION ID	61816	Region 2
Corte Madera Creek		
Pollutant:	Cyfluthrin	
Final Listing Decision:	Do Not List on 303(d) list (TMDL required list)	
Last Listing Cycle's Final Listing Decision:	New Decision	
Revision Status	Revised	
Impairment from Pollutant or Pollution:	Pollutant	
Regional Board Staff Conclusion:	<p>This pollutant is being considered for placement on the CWA section 303(d) List under section 3.6 of the Listing Policy.</p> <p>Under section 3.6 at least two lines of evidence are necessary to assess listing status for pollutants sediment, and pollutant concentrations in sediment must be associated with sediment toxicity to justify adding that pollutant</p>	

to the CWA section 303(d) List.

Two lines of evidence are available in the administrative record to assess this pollutant. Zero of one samples exceed the guideline.

Sediment toxicity data are not associated with this decision because they are not relevant to this decision because there is insufficient information based on sediment chemistry.

Based on the readily available data and information, the weight of evidence indicates that there is insufficient justification for placing this water segment-pollutant combination on the CWA section 303(d) List.

This conclusion is based on the staff findings that:

1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy.
2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy.
3. Zero of one samples exceed the guideline and this sample size is insufficient to determine beneficial use support, with the power and confidence of the Listing Policy. A minimum of 16 samples is needed to determine if a beneficial use is fully supported using table 3.1. Sediment toxicity data are not associated with this decision because the sediment chemistry data are insufficient.
4. Pursuant to section 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.

Regional Board Staff Decision Recommendation: After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be placed on the section 303(d) list. The readily available data and information is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating.

Line of Evidence (LOE) for Decision ID 61816, Cyfluthrin

Region 2

Corte Madera Creek

LOE ID:	91376
Pollutant:	Cyfluthrin
LOE Subgroup:	Pollutant-Sediment
Matrix:	Sediment
Fraction:	Total
Beneficial Use:	Warm Freshwater Habitat
Number of Samples:	1
Number of Exceedances:	0
Data and Information Type:	PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality:	Water Board staff assessed SWAMP data for Corte Madera Creek to determine beneficial use support and results are as follows: 0 of 1 samples exceed the criterion for Cyfluthrin, total.
Data Reference:	Statewide Project Urban Pyrethroid Status Monitoring
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	San Francisco Bay Basin Water Quality Control Plan 2007: All waters shall be maintained free of toxic substances in concentrations which are toxic to, or which produce detrimental physiological responses in, human, plant, animal, or aquatic life.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	The evaluation guideline for cyfluthrin is the median lethal concentration (LC50) of 1.1 ug/g and is normalized by the percentage of organic carbon in the sediment sample. The LC50 1.1 ug/g is the geometric mean of LC50 values for cyfluthrin from Amweg et al. (2005).
Guideline Reference:	Use and Toxicity of Pyrethroid Pesticides in the Central Valley, California, USA. Environmental Toxicology and Chemistry, 24:966-972, with erratum 24:No. 5

Spatial Representation:	Data for this line of evidence for Corte Madera Creek was collected at 1 monitoring site [Corte Madera Ck @ Sir Francis Drake station (203SUP040).]
Temporal Representation:	Data was collected on a single day 12/28/2006.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	The SWAMP QAPP (2008) was followed.
QAPP Information Reference(s):	Quality Assurance Management Plan for the State of California's Surface Water Ambient Monitoring Program. Sacramento, CA. State Water Resources Control Board. SWAMP. December 2002 (1st version).

Line of Evidence (LOE) for Decision ID 61816, Cyfluthrin

Region 2

Corte Madera Creek

LOE ID:	91377
Pollutant:	Cyfluthrin
LOE Subgroup:	Pollutant-Sediment
Matrix:	Sediment
Fraction:	Total
Beneficial Use:	Cold Freshwater Habitat
Number of Samples:	1
Number of Exceedances:	0
Data and Information Type:	PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality:	Water Board staff assessed SWAMP data for Corte Madera Creek to determine beneficial use support and results are as follows: 0 of 1 samples exceed the criterion for Cyfluthrin, total.
Data Reference:	Statewide Project Urban Pyrethroid Status Monitoring
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	San Francisco Bay Basin Water Quality Control Plan 2007: All waters shall be maintained free of toxic substances in concentrations which are toxic to, or which produce detrimental physiological responses in, human, plant, animal, or aquatic life.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	The evaluation guideline for cyfluthrin is the median lethal concentration (LC50) of 1.1 ug/g and is normalized by the percentage of organic carbon in the sediment sample. The LC50 1.1 ug/g is the geometric mean of LC50 values for cyfluthrin from Amweg et al. (2005).
Guideline Reference:	Use and Toxicity of Pyrethroid Pesticides in the Central Valley, California, USA. Environmental Toxicology and Chemistry, 24:966-972, with erratum 24:No. 5
Spatial Representation:	Data for this line of evidence for Corte Madera Creek was collected at 1 monitoring site [Corte Madera Ck @ Sir Francis Drake station (203SUP040).]
Temporal Representation:	Data was collected on a single day 12/28/2006.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	The SWAMP QAPP (2008) was followed.
QAPP Information Reference(s):	Quality Assurance Management Plan for the State of California's Surface Water Ambient Monitoring Program. Sacramento, CA. State Water Resources Control Board. SWAMP. December 2002 (1st version).

DECISION ID

61817

Region 2

Corte Madera Creek

Pollutant:	Cyhalothrin, Lambda
Final Listing Decision:	Do Not List on 303(d) list (TMDL required list)
Last Listing Cycle's Final	New Decision

Listing Decision:	
Revision Status	Revised
Impairment from Pollutant or Pollution:	Pollutant
Regional Board Staff Conclusion:	<p>This pollutant is being considered for placement on the CWA section 303(d) List under section 3.6 of the Listing Policy.</p> <p>Under section 3.6 at least two lines of evidence are necessary to assess listing status for pollutants sediment, and pollutant concentrations in sediment must be associated with sediment toxicity to justify adding that pollutant to the CWA section 303(d) List.</p> <p>Two lines of evidence are available in the administrative record to assess this pollutant. Zero of one samples exceed the guideline.</p> <p>Sediment toxicity data are not associated with this decision because they are not relevant to this decision because there is insufficient information based on sediment chemistry.</p> <p>Based on the readily available data and information, the weight of evidence indicates that there is insufficient justification for placing this water segment-pollutant combination on the CWA section 303(d) List.</p> <p>This conclusion is based on the staff findings that:</p> <ol style="list-style-type: none"> 1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy. 2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy. 3. Zero of one samples exceed the guideline and this sample size is insufficient to determine beneficial use support, with the power and confidence of the Listing Policy. A minimum of 16 samples is needed to determine if a beneficial use is fully supported using table 3.1. <p>Sediment toxicity data are not associated with this decision because the sediment chemistry data are insufficient.</p> <ol style="list-style-type: none"> 4. Pursuant to section 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.
Regional Board Staff Decision Recommendation:	After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be placed on the section 303(d) list. The readily available data and information is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating.

Line of Evidence (LOE) for Decision ID 61817, Cyhalothrin, Lambda
Corte Madera Creek

Region 2

LOE ID:	91379
Pollutant:	Cyhalothrin, Lambda
LOE Subgroup:	Pollutant-Sediment
Matrix:	Sediment
Fraction:	Total
Beneficial Use:	Cold Freshwater Habitat
Number of Samples:	1
Number of Exceedances:	0
Data and Information Type:	PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality:	Water Board staff assessed SWAMP data for Corte Madera Creek to determine beneficial use support and results are as follows: 0 of 1 samples exceed the criterion for Cyhalothrin, lambda, total.
Data Reference:	Statewide Project Urban Pyrethroid Status Monitoring
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	San Francisco Bay Basin Water Quality Control Plan 2007: All waters shall be maintained

Objective/Criterion Reference:	free of toxic substances in concentrations which are toxic to, or which produce detrimental physiological responses in, human, plant, animal, or aquatic life. Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	The evaluation guideline for lambda-cyhalothrin is the median lethal concentration (LC50) of 0.44 ug/g and is normalized by the percentage of organic carbon in the sediment sample. The LC50 0.44 ug/g is the geometric mean of LC50 values for lambda-cyhalothrin from Amweg et al. (2005).
Guideline Reference:	Use and Toxicity of Pyrethroid Pesticides in the Central Valley, California, USA. Environmental Toxicology and Chemistry, 24:966-972, with erratum 24:No. 5
Spatial Representation:	Data for this line of evidence for Corte Madera Creek was collected at 1 monitoring site [Corte Madera Ck @ Sir Francis Drake station (203SUP040).]
Temporal Representation:	Data was collected on a single day 12/28/2006.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	The SWAMP QAPP (2008) was followed.
QAPP Information Reference(s):	Quality Assurance Management Plan for the State of California's Surface Water Ambient Monitoring Program. Sacramento, CA. State Water Resources Control Board. SWAMP. December 2002 (1st version)

Line of Evidence (LOE) for Decision ID 61817, Cyhalothrin, Lambda
Corte Madera Creek

Region 2

LOE ID:	91378
Pollutant:	Cyhalothrin, Lambda
LOE Subgroup:	Pollutant-Sediment
Matrix:	Sediment
Fraction:	Total
Beneficial Use:	Warm Freshwater Habitat
Number of Samples:	1
Number of Exceedances:	0
Data and Information Type:	PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality:	Water Board staff assessed SWAMP data for Corte Madera Creek to determine beneficial use support and results are as follows: 0 of 1 samples exceed the criterion for Cyhalothrin, lambda, total.
Data Reference:	Statewide Project Urban Pyrethroid Status Monitoring
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	San Francisco Bay Basin Water Quality Control Plan 2007: All waters shall be maintained free of toxic substances in concentrations which are toxic to, or which produce detrimental physiological responses in, human, plant, animal, or aquatic life.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	The evaluation guideline for lambda-cyhalothrin is the median lethal concentration (LC50) of 0.44 ug/g and is normalized by the percentage of organic carbon in the sediment sample. The LC50 0.44 ug/g is the geometric mean of LC50 values for lambda-cyhalothrin from Amweg et al. (2005).
Guideline Reference:	Use and Toxicity of Pyrethroid Pesticides in the Central Valley, California, USA. Environmental Toxicology and Chemistry, 24:966-972, with erratum 24:No. 5
Spatial Representation:	Data for this line of evidence for Corte Madera Creek was collected at 1 monitoring site [Corte Madera Ck @ Sir Francis Drake station (203SUP040).]
Temporal Representation:	Data was collected on a single day 12/28/2006.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	The SWAMP QAPP (2008) was followed.
QAPP Information Reference(s):	Quality Assurance Management Plan for the State of California's Surface Water Ambient Monitoring Program. Sacramento, CA. State Water Resources Control Board. SWAMP.

DECISION ID	61818	Region 2
Corte Madera Creek		

Pollutant: Cypermethrin
Final Listing Decision: Do Not List on 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision: New Decision
Revision Status: Revised
Impairment from Pollutant or Pollution: Pollutant

Regional Board Staff Conclusion: This pollutant is being considered for placement on the CWA section 303(d) List under section 3.6 of the Listing Policy.
 Under section 3.6 at least two lines of evidence are necessary to assess listing status for pollutants sediment, and pollutant concentrations in sediment must be associated with sediment toxicity to justify adding that pollutant to the CWA section 303(d) List.

 Two lines of evidence are available in the administrative record to assess this pollutant. Zero of one samples exceed the guideline.
 Sediment toxicity data are not associated with this decision because they are not relevant to this decision because there is insufficient information based on sediment chemistry.

 Based on the readily available data and information, the weight of evidence indicates that there is insufficient justification for placing this water segment-pollutant combination on the CWA section 303(d) List.

 This conclusion is based on the staff findings that:
 1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy.
 2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy.
 3. Zero of one samples exceed the guideline and this sample size is insufficient to determine beneficial use support, with the power and confidence of the Listing Policy. A minimum of 16 samples is needed to determine if a beneficial use is fully supported using table 3.1.
 Sediment toxicity data are not associated with this decision because the sediment chemistry data are insufficient.
 4. Pursuant to section 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.

Regional Board Staff Decision Recommendation: After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be placed on the section 303(d) list. The readily available data and information is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating.

Line of Evidence (LOE) for Decision ID 61818, Cypermethrin	Region 2
Corte Madera Creek	

LOE ID: 91381

Pollutant: Cypermethrin
LOE Subgroup: Pollutant-Sediment
Matrix: Sediment
Fraction: Total

Beneficial Use: Cold Freshwater Habitat

Number of Samples: 1
Number of Exceedances: 0

Data and Information Type:	PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality:	Water Board staff assessed SWAMP data for Corte Madera Creek to determine beneficial use support and results are as follows: 0 of 1 samples exceed the criterion for Cypermethrin, total.
Data Reference:	Statewide Project Urban Pyrethroid Status Monitoring
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	San Francisco Bay Basin Water Quality Control Plan 2007: All waters shall be maintained free of toxic substances in concentrations which are toxic to, or which produce detrimental physiological responses in, human, plant, animal, or aquatic life.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	The evaluation guideline for cypermethrin is the median lethal concentration (LC50) of 0.3 ug/g and is normalized by the percentage of organic carbon in the sediment sample. The LC50 0.3 ug/g is the geometric mean of LC50 values for cypermethrin from Maund et al. (2002).
Guideline Reference:	Partitioning, bioavailability, and toxicity of the pyrethroid insecticide cypermethrin in sediments. Environmental Toxicology and Chemistry 21:9-15
Spatial Representation:	Data for this line of evidence for Corte Madera Creek was collected at 1 monitoring site [Corte Madera Ck @ Sir Francis Drake station (203SUP040).]
Temporal Representation:	Data was collected on a single day 12/28/2006.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	The SWAMP QAPP (2008) was followed.
QAPP Information Reference(s):	Quality Assurance Management Plan for the State of California's Surface Water Ambient Monitoring Program. Sacramento, CA. State Water Resources Control Board. SWAMP. December 2002 (1st version)

Line of Evidence (LOE) for Decision ID 61818, Cypermethrin
Corte Madera Creek

Region 2

LOE ID:	91380
Pollutant:	Cypermethrin
LOE Subgroup:	Pollutant-Sediment
Matrix:	Sediment
Fraction:	Total
Beneficial Use:	Warm Freshwater Habitat
Number of Samples:	1
Number of Exceedances:	0
Data and Information Type:	PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality:	Water Board staff assessed SWAMP data for Corte Madera Creek to determine beneficial use support and results are as follows: 0 of 1 samples exceed the criterion for Cypermethrin, total.
Data Reference:	Statewide Project Urban Pyrethroid Status Monitoring
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	San Francisco Bay Basin Water Quality Control Plan 2007: All waters shall be maintained free of toxic substances in concentrations which are toxic to, or which produce detrimental physiological responses in, human, plant, animal, or aquatic life.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	The evaluation guideline for cypermethrin is the median lethal concentration (LC50) of 0.3 ug/g and is normalized by the percentage of organic carbon in the sediment sample. The LC50 0.3 ug/g is the geometric mean of LC50 values for cypermethrin from Maund et al. (2002).

Guideline Reference: [Partitioning, bioavailability, and toxicity of the pyrethroid insecticide cypermethrin in sediments. Environmental Toxicology and Chemistry 21:9-15](#)

Spatial Representation: Data for this line of evidence for Corte Madera Creek was collected at 1 monitoring site [Corte Madera Ck @ Sir Francis Drake station (203SUP040).]

Temporal Representation: Data was collected on a single day 12/28/2006.

Environmental Conditions: Staff is not aware of any special conditions that might affect interpretation of the data.

QAPP Information: The SWAMP QAPP (2008) was followed.

QAPP Information Reference(s): [Quality Assurance Management Plan for the State of California's Surface Water Ambient Monitoring Program, Sacramento, CA, State Water Resources Control Board, SWAMP, December 2002 \(1st version\)](#)

DECISION ID	61841	Region 2
Corte Madera Creek		

Pollutant:	DDD (Dichlorodiphenyldichloroethane)
Final Listing Decision:	Do Not List on 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision:	New Decision
Revision Status	Revised
Impairment from Pollutant or Pollution:	Pollutant
Regional Board Staff Conclusion:	<p>This pollutant is being considered for placement on the CWA section 303(d) List under section 3.6 of the Listing Policy.</p> <p>Under section 3.6 at least two lines of evidence are necessary to assess listing status for pollutants sediment, and pollutant concentrations in sediment must be associated with sediment toxicity to justify adding that pollutant to the CWA section 303(d) List.</p> <p>Two lines of evidence are available in the administrative record to assess this pollutant. Zero of one samples exceed the guideline.</p> <p>Sediment toxicity data are not associated with this decision because they are not relevant to this decision because there is insufficient information based on sediment chemistry.</p> <p>Based on the readily available data and information, the weight of evidence indicates that there is insufficient justification for placing this water segment-pollutant combination on the CWA section 303(d) List.</p> <p>This conclusion is based on the staff findings that:</p> <ol style="list-style-type: none"> 1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy. 2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy. 3. Zero of one samples exceed the guideline and this sample size is insufficient to determine beneficial use support, with the power and confidence of the Listing Policy. A minimum of 16 samples is needed to determine if a beneficial use is fully supported using table 3.1. 4. Pursuant to section 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.
Regional Board Staff Decision Recommendation:	After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be placed on the section 303(d) list. The readily available data and information is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating.

Line of Evidence (LOE) for Decision ID 61841, DDD (Dichlorodiphenyldichloroethane)	Region 2
Corte Madera Creek	

LOE ID: 91382

Pollutant:	DDD (Dichlorodiphenyldichloroethane)
LOE Subgroup:	Pollutant-Sediment
Matrix:	Sediment
Fraction:	Total
Beneficial Use:	Warm Freshwater Habitat
Number of Samples:	1
Number of Exceedances:	0
Data and Information Type:	PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality:	Water Board staff assessed SWAMP data for Corte Madera Creek to determine beneficial use support and results are as follows: 0 of 1 samples exceed the criterion for DDD.
Data Reference:	Statewide Project Urban Pyrethroid Status Monitoring
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	San Francisco Bay Basin Water Quality Control Plan 2007: All waters shall be maintained free of toxic substances in concentrations which are toxic to, or which produce detrimental physiological responses in, human, plant, animal, or aquatic life.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	In freshwater sediments the probable effect concentration (predictive of sediment toxicity for sediment-dwelling organisms) for sum of DDD is 28.0 ug/Kg dry weight (MacDonald et al. 2000).
Guideline Reference:	Development and evaluation of consensus-based sediment quality guidelines for freshwater ecosystems. Environmental Contamination and Toxicology. 39: 20-31
Spatial Representation:	Data for this line of evidence for Corte Madera Creek was collected at 1 monitoring site [Corte Madera Ck @ Sir Francis Drake station (203SUP040).]
Temporal Representation:	Data was collected on a single day 12/28/2006.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	The SWAMP QAPP (2008) was followed.
QAPP Information Reference(s):	Quality Assurance Management Plan for the State of California's Surface Water Ambient Monitoring Program. Sacramento, CA. State Water Resources Control Board. SWAMP. December 2002 (1st version)

Line of Evidence (LOE) for Decision ID 61841, DDD (Dichlorodiphenyldichloroethane)

Region 2

Corte Madera Creek

LOE ID:	91383
Pollutant:	DDD (Dichlorodiphenyldichloroethane)
LOE Subgroup:	Pollutant-Sediment
Matrix:	Sediment
Fraction:	Total
Beneficial Use:	Cold Freshwater Habitat
Number of Samples:	1
Number of Exceedances:	0
Data and Information Type:	PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality:	Water Board staff assessed SWAMP data for Corte Madera Creek to determine beneficial use support and results are as follows: 0 of 1 samples exceed the criterion for DDD.
Data Reference:	Statewide Project Urban Pyrethroid Status Monitoring
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	San Francisco Bay Basin Water Quality Control Plan 2007: All waters shall be maintained free of toxic substances in concentrations which are toxic to, or which produce detrimental

Objective/Criterion Reference:	physiological responses in, human, plant, animal, or aquatic life. Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	In freshwater sediments the probable effect concentration (predictive of sediment toxicity for sediment-dwelling organisms) for sum of DDD is 28.0 ug/Kg dry weight (MacDonald et al. 2000).
Guideline Reference:	Development and evaluation of consensus-based sediment quality guidelines for freshwater ecosystems. Environmental Contamination and Toxicology. 39: 20-31
Spatial Representation:	Data for this line of evidence for Corte Madera Creek was collected at 1 monitoring site [Corte Madera Ck @ Sir Francis Drake station (203SUP040).]
Temporal Representation:	Data was collected on a single day 12/28/2006.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	The SWAMP QAPP (2008) was followed.
QAPP Information Reference(s):	Quality Assurance Management Plan for the State of California's Surface Water Ambient Monitoring Program. Sacramento, CA. State Water Resources Control Board. SWAMP. December 2002 (1st version)

DECISION ID	61842	Region 2
Corte Madera Creek		
Pollutant:	DDE (Dichlorodiphenyldichloroethylene)	
Final Listing Decision:	Do Not List on 303(d) list (TMDL required list)	
Last Listing Cycle's Final Listing Decision:	New Decision	
Revision Status	Revised	
Impairment from Pollutant or Pollution:	Pollutant	
Regional Board Staff Conclusion:	<p>This pollutant is being considered for placement on the CWA section 303(d) List under section 3.6 of the Listing Policy.</p> <p>Under section 3.6 at least two lines of evidence are necessary to assess listing status for pollutants sediment, and pollutant concentrations in sediment must be associated with sediment toxicity to justify adding that pollutant to the CWA section 303(d) List.</p> <p>Two lines of evidence are available in the administrative record to assess this pollutant. Zero of one samples exceed the guideline.</p> <p>Sediment toxicity data are not associated with this decision because they are not relevant to this decision because there is insufficient information based on sediment chemistry.</p> <p>Based on the readily available data and information, the weight of evidence indicates that there is insufficient justification for placing this water segment-pollutant combination on the CWA section 303(d) List.</p> <p>This conclusion is based on the staff findings that:</p> <ol style="list-style-type: none"> 1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy. 2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy. 3. Zero of one samples exceed the guideline and this sample size is insufficient to determine beneficial use support, with the power and confidence of the Listing Policy. A minimum of 16 samples is needed to determine if a beneficial use is fully supported using table 3.1. <p>Sediment toxicity data are not associated with this decision because the sediment chemistry data are insufficient.</p> <ol style="list-style-type: none"> 4. Pursuant to section 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met. 	
Regional Board Staff Decision Recommendation:	After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be placed on the section 303(d) list. The readily available data and information is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating.	

Line of Evidence (LOE) for Decision ID 61842, DDE (Dichlorodiphenyldichloroethylene)**Region 2****Corte Madera Creek**

LOE ID:	91385
Pollutant:	DDE (Dichlorodiphenyldichloroethylene)
LOE Subgroup:	Pollutant-Sediment
Matrix:	Sediment
Fraction:	Total
Beneficial Use:	Cold Freshwater Habitat
Number of Samples:	1
Number of Exceedances:	0
Data and Information Type:	PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality:	Water Board staff assessed SWAMP data for Corte Madera Creek to determine beneficial use support and results are as follows: 0 of 1 samples exceed the criterion for DDE.
Data Reference:	Statewide Project Urban Pyrethroid Status Monitoring
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	San Francisco Bay Basin Water Quality Control Plan 2007: All waters shall be maintained free of toxic substances in concentrations which are toxic to, or which produce detrimental physiological responses in, human, plant, animal, or aquatic life.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	In freshwater sediments the probable effect concentration (predictive of sediment toxicity for sediment-dwelling organisms) for sum of DDE is 31.3 ug/Kg dry weight (MacDonald et al. 2000).
Guideline Reference:	Development and evaluation of consensus-based sediment quality guidelines for freshwater ecosystems. Environmental Contamination and Toxicology. 39: 20-31
Spatial Representation:	Data for this line of evidence for Corte Madera Creek was collected at 1 monitoring site [Corte Madera Ck @ Sir Francis Drake station (203SUP040).]
Temporal Representation:	Data was collected on a single day 12/28/2006.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	The SWAMP QAPP (2008) was followed.
QAPP Information Reference(s):	Quality Assurance Management Plan for the State of California's Surface Water Ambient Monitoring Program. Sacramento, CA. State Water Resources Control Board. SWAMP. December 2002 (1st version)

Line of Evidence (LOE) for Decision ID 61842, DDE (Dichlorodiphenyldichloroethylene)**Region 2****Corte Madera Creek**

LOE ID:	91384
Pollutant:	DDE (Dichlorodiphenyldichloroethylene)
LOE Subgroup:	Pollutant-Sediment
Matrix:	Sediment
Fraction:	Total
Beneficial Use:	Warm Freshwater Habitat
Number of Samples:	1
Number of Exceedances:	0
Data and Information Type:	PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality:	Water Board staff assessed SWAMP data for Corte Madera Creek to determine beneficial use support and results are as follows: 0 of 1 samples exceed the criterion for DDE.

Data Reference: [Statewide Project Urban Pyrethroid Status Monitoring](#)

SWAMP Data: SWAMP

Water Quality Objective/Criterion: San Francisco Bay Basin Water Quality Control Plan 2007: All waters shall be maintained free of toxic substances in concentrations which are toxic to, or which produce detrimental physiological responses in, human, plant, animal, or aquatic life.

Objective/Criterion Reference: [Water Quality Control Plan \(Basin Plan\) San Francisco Bay Basin \(Region 2\)](#)

Evaluation Guideline: In freshwater sediments the probable effect concentration (predictive of sediment toxicity for sediment-dwelling organisms) for sum of DDE is 31.3 ug/Kg dry weight (MacDonald et al. 2000).

Guideline Reference: [Development and evaluation of consensus-based sediment quality guidelines for freshwater ecosystems. Environmental Contamination and Toxicology. 39: 20-31](#)

Spatial Representation: Data for this line of evidence for Corte Madera Creek was collected at 1 monitoring site [Corte Madera Ck @ Sir Francis Drake station (203SUP040).]

Temporal Representation: Data was collected on a single day 12/28/2006.

Environmental Conditions: Staff is not aware of any special conditions that might affect interpretation of the data.

QAPP Information: The SWAMP QAPP (2008) was followed.

QAPP Information Reference(s): [Quality Assurance Management Plan for the State of California's Surface Water Ambient Monitoring Program. Sacramento, CA. State Water Resources Control Board. SWAMP. December 2002 \(1st version\)](#)

DECISION ID	61843	Region 2
Corte Madera Creek		

Pollutant: DDT (Dichlorodiphenyltrichloroethane)

Final Listing Decision: Do Not List on 303(d) list (TMDL required list)

Last Listing Cycle's Final Listing Decision: New Decision

Revision Status Revised

Impairment from Pollutant or Pollution: Pollutant

Regional Board Staff Conclusion:

This pollutant is being considered for placement on the CWA section 303(d) List under section 3.6 of the Listing Policy.

Under section 3.6 at least two lines of evidence are necessary to assess listing status for pollutants sediment, and pollutant concentrations in sediment must be associated with sediment toxicity to justify adding that pollutant to the CWA section 303(d) List.

Four lines of evidence are available in the administrative record to assess this pollutant. Zero of one samples exceed the guideline.

Sediment toxicity data are not associated with this decision because they are not relevant to this decision because there is insufficient information based on sediment chemistry.

Based on the readily available data and information, the weight of evidence indicates that there is insufficient justification for placing this water segment-pollutant combination on the CWA section 303(d) List.

This conclusion is based on the staff findings that:

1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy.
2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy.
3. Zero of one samples exceed the guideline and this sample size is insufficient to determine beneficial use support, with the power and confidence of the Listing Policy. A minimum of 16 samples is needed to determine if a beneficial use is fully supported using table 3.1. Sediment toxicity data are not associated with this decision because the sediment chemistry data are insufficient.
4. Pursuant to section 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.

Regional Board Staff Decision Recommendation: After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be placed on the section 303(d) list. The readily available data and information is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating.

Line of Evidence (LOE) for Decision ID 61843, DDT (Dichlorodiphenyltrichloroethane)

Region 2

Corte Madera Creek

LOE ID: 91387

Pollutant: DDT (Dichlorodiphenyltrichloroethane)
LOE Subgroup: Pollutant-Sediment
Matrix: Sediment
Fraction: Total

Beneficial Use: Cold Freshwater Habitat

Number of Samples: 1
Number of Exceedances: 0

Data and Information Type: PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality: Water Board staff assessed SWAMP data for Corte Madera Creek to determine beneficial use support and results are as follows: 0 of 1 samples exceed the criterion for DDT.
Data Reference: [Statewide Project Urban Pyrethroid Status Monitoring](#)

SWAMP Data: SWAMP

Water Quality Objective/Criterion: San Francisco Bay Basin Water Quality Control Plan 2007: All waters shall be maintained free of toxic substances in concentrations which are toxic to, or which produce detrimental physiological responses in, human, plant, animal, or aquatic life.
Objective/Criterion Reference: [Water Quality Control Plan \(Basin Plan\) San Francisco Bay Basin \(Region 2\)](#)

Evaluation Guideline: In freshwater sediments the probable effect concentration (predictive of sediment toxicity for sediment-dwelling organisms) for sum of DDT is 62.9 ug/Kg dry weight (MacDonald et al. 2000).
Guideline Reference: [Development and evaluation of consensus-based sediment quality guidelines for freshwater ecosystems. Environmental Contamination and Toxicology. 39: 20-31](#)

Spatial Representation: Data for this line of evidence for Corte Madera Creek was collected at 1 monitoring site [Corte Madera Ck @ Sir Francis Drake station (203SUP040).]
Temporal Representation: Data was collected on a single day 12/28/2006.
Environmental Conditions: Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information: The SWAMP QAPP (2008) was followed.
QAPP Information Reference(s): [Quality Assurance Management Plan for the State of California's Surface Water Ambient Monitoring Program. Sacramento, CA. State Water Resources Control Board. SWAMP. December 2002 \(1st version\)](#)

Line of Evidence (LOE) for Decision ID 61843, DDT (Dichlorodiphenyltrichloroethane)

Region 2

Corte Madera Creek

LOE ID: 91386

Pollutant: DDT (Dichlorodiphenyltrichloroethane)
LOE Subgroup: Pollutant-Sediment
Matrix: Sediment
Fraction: Total

Beneficial Use: Warm Freshwater Habitat

Number of Samples:	1
Number of Exceedances:	0
Data and Information Type:	PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality:	Water Board staff assessed SWAMP data for Corte Madera Creek to determine beneficial use support and results are as follows: 0 of 1 samples exceed the criterion for DDT.
Data Reference:	Statewide Project Urban Pyrethroid Status Monitoring
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	San Francisco Bay Basin Water Quality Control Plan 2007: All waters shall be maintained free of toxic substances in concentrations which are toxic to, or which produce detrimental physiological responses in, human, plant, animal, or aquatic life.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	In freshwater sediments the probable effect concentration (predictive of sediment toxicity for sediment-dwelling organisms) for sum of DDT is 62.9 ug/Kg dry weight (MacDonald et al. 2000).
Guideline Reference:	Development and evaluation of consensus-based sediment quality guidelines for freshwater ecosystems. Environmental Contamination and Toxicology. 39: 20-31
Spatial Representation:	Data for this line of evidence for Corte Madera Creek was collected at 1 monitoring site [Corte Madera Ck @ Sir Francis Drake station (203SUP040).]
Temporal Representation:	Data was collected on a single day 12/28/2006.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	The SWAMP QAPP (2008) was followed.
QAPP Information Reference(s):	Quality Assurance Management Plan for the State of California's Surface Water Ambient Monitoring Program. Sacramento, CA. State Water Resources Control Board. SWAMP. December 2002 (1st version)

Line of Evidence (LOE) for Decision ID 61843, DDT (Dichlorodiphenyltrichloroethane)

Region 2

Corte Madera Creek

LOE ID:	91364
Pollutant:	Total DDT (sum of 4,4'- and 2,4'- isomers of DDT, DDE, and DDD)
LOE Subgroup:	Pollutant-Sediment
Matrix:	Sediment
Fraction:	Total
Beneficial Use:	Cold Freshwater Habitat
Number of Samples:	1
Number of Exceedances:	0
Data and Information Type:	PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality:	Water Board staff assessed SWAMP data for Corte Madera Creek to determine beneficial use support and results are as follows: 0 of 1 samples exceed the criterion for DDT, Total.
Data Reference:	Statewide Project Urban Pyrethroid Status Monitoring
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	San Francisco Bay Basin Water Quality Control Plan 2007: All waters shall be maintained free of toxic substances in concentrations which are toxic to, or which produce detrimental physiological responses in, human, plant, animal, or aquatic life.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	In freshwater sediments the probable effect concentration (predictive of sediment toxicity for sediment-dwelling organisms) for total DDTs is 572 ug/Kg dry weight (MacDonald et al. 2000).
Guideline Reference:	Development and evaluation of consensus-based sediment quality guidelines for freshwater ecosystems. Environmental Contamination and Toxicology. 39: 20-31

Spatial Representation:	Data for this line of evidence for Corte Madera Creek was collected at 1 monitoring site [Corte Madera Ck @ Sir Francis Drake station (203SUP040).]
Temporal Representation:	Data was collected on a single day 12/28/2006.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	The SWAMP QAPP (2008) was followed.
QAPP Information Reference(s):	Quality Assurance Management Plan for the State of California's Surface Water Ambient Monitoring Program. Sacramento, CA. State Water Resources Control Board. SWAMP. December 2002 (1st version).

Line of Evidence (LOE) for Decision ID 61843, DDT (Dichlorodiphenyltrichloroethane)	Region 2
Corte Madera Creek	

LOE ID:	91363
Pollutant:	Total DDT (sum of 4,4'- and 2,4'- isomers of DDT, DDE, and DDD)
LOE Subgroup:	Pollutant-Sediment
Matrix:	Sediment
Fraction:	Total
Beneficial Use:	Warm Freshwater Habitat
Number of Samples:	1
Number of Exceedances:	0
Data and Information Type:	PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality:	Water Board staff assessed SWAMP data for Corte Madera Creek to determine beneficial use support and results are as follows: 0 of 1 samples exceed the criterion for DDT, Total.
Data Reference:	Statewide Project Urban Pyrethroid Status Monitoring
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	San Francisco Bay Basin Water Quality Control Plan 2007: All waters shall be maintained free of toxic substances in concentrations which are toxic to, or which produce detrimental physiological responses in, human, plant, animal, or aquatic life.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	In freshwater sediments the probable effect concentration (predictive of sediment toxicity for sediment-dwelling organisms) for total DDTs is 572 ug/Kg dry weight (MacDonald et al. 2000).
Guideline Reference:	Development and evaluation of consensus-based sediment quality guidelines for freshwater ecosystems. Environmental Contamination and Toxicology. 39: 20-31
Spatial Representation:	Data for this line of evidence for Corte Madera Creek was collected at 1 monitoring site [Corte Madera Ck @ Sir Francis Drake station (203SUP040).]
Temporal Representation:	Data was collected on a single day 12/28/2006.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	The SWAMP QAPP (2008) was followed.
QAPP Information Reference(s):	Quality Assurance Management Plan for the State of California's Surface Water Ambient Monitoring Program. Sacramento, CA. State Water Resources Control Board. SWAMP. December 2002 (1st version).

DECISION ID	61844	Region 2
Corte Madera Creek		

Pollutant:	Deltamethrin
Final Listing Decision:	Do Not List on 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision:	New Decision
Revision Status	Revised

Impairment from Pollutant or Pollution: Pollutant

Regional Board Staff Conclusion:

This pollutant is being considered for placement on the CWA section 303(d) List under section 3.6 of the Listing Policy.

Under section 3.6 at least two lines of evidence are necessary to assess listing status for pollutants sediment, and pollutant concentrations in sediment must be associated with sediment toxicity to justify adding that pollutant to the CWA section 303(d) List.

Two lines of evidence are available in the administrative record to assess this pollutant. Zero of one samples exceed the guideline.

Sediment toxicity data are not associated with this decision because they are not relevant to this decision because there is insufficient information based on sediment chemistry.

Based on the readily available data and information, the weight of evidence indicates that there is insufficient justification for placing this water segment-pollutant combination on the CWA section 303(d) List.

This conclusion is based on the staff findings that:

1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy.
2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy.
3. Zero of one samples exceed the guideline and this sample size is insufficient to determine beneficial use support, with the power and confidence of the Listing Policy. A minimum of 16 samples is needed to determine if a beneficial use is fully supported using table 3.1. Sediment toxicity data are not associated with this decision because the sediment chemistry data are insufficient.
4. Pursuant to section 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.

Regional Board Staff Decision Recommendation:

After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be placed on the section 303(d) list. The readily available data and information is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating.

**Line of Evidence (LOE) for Decision ID 61844, Deltamethrin
Corte Madera Creek**

Region 2

LOE ID: 91388

Pollutant: Deltamethrin
LOE Subgroup: Pollutant-Sediment
Matrix: Sediment
Fraction: Total

Beneficial Use: Warm Freshwater Habitat

Number of Samples: 1
Number of Exceedances: 0

Data and Information Type: PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality: Water Board staff assessed SWAMP data for Corte Madera Creek to determine beneficial use support and results are as follows: 0 of 1 samples exceed the criterion for Deltamethrin.

Data Reference: [Statewide Project Urban Pyrethroid Status Monitoring](#)

SWAMP Data: SWAMP

Water Quality Objective/Criterion: San Francisco Bay Basin Water Quality Control Plan 2007: All waters shall be maintained free of toxic substances in concentrations which are toxic to, or which produce detrimental physiological responses in, human, plant, animal, or aquatic life.

Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	The evaluation guideline for deltamethrin is the median lethal concentration (LC50) of 0.79 ug/g and is normalized by the percentage of organic carbon in the sediment sample. The LC50 0.79 ug/g is the geometric mean of LC50 values for deltamethrin from Amweg et al. (2005).
Guideline Reference:	Use and Toxicity of Pyrethroid Pesticides in the Central Valley, California, USA. Environmental Toxicology and Chemistry, 24:966-972, with erratum 24:No. 5
Spatial Representation:	Data for this line of evidence for Corte Madera Creek was collected at 1 monitoring site [Corte Madera Ck @ Sir Francis Drake station (203SUP040).]
Temporal Representation:	Data was collected on a single day 12/28/2006.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	The SWAMP QAPP (2008) was followed.
QAPP Information Reference(s):	Quality Assurance Management Plan for the State of California's Surface Water Ambient Monitoring Program. Sacramento, CA. State Water Resources Control Board. SWAMP. December 2002 (1st version)

Line of Evidence (LOE) for Decision ID 61844, Deltamethrin

Region 2

Corte Madera Creek

LOE ID:	91389
Pollutant:	Deltamethrin
LOE Subgroup:	Pollutant-Sediment
Matrix:	Sediment
Fraction:	Total
Beneficial Use:	Cold Freshwater Habitat
Number of Samples:	1
Number of Exceedances:	0
Data and Information Type:	PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality:	Water Board staff assessed SWAMP data for Corte Madera Creek to determine beneficial use support and results are as follows: 0 of 1 samples exceed the criterion for Deltamethrin.
Data Reference:	Statewide Project Urban Pyrethroid Status Monitoring
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	San Francisco Bay Basin Water Quality Control Plan 2007: All waters shall be maintained free of toxic substances in concentrations which are toxic to, or which produce detrimental physiological responses in, human, plant, animal, or aquatic life.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	The evaluation guideline for deltamethrin is the median lethal concentration (LC50) of 0.79 ug/g and is normalized by the percentage of organic carbon in the sediment sample. The LC50 0.79 ug/g is the geometric mean of LC50 values for deltamethrin from Amweg et al. (2005).
Guideline Reference:	Use and Toxicity of Pyrethroid Pesticides in the Central Valley, California, USA. Environmental Toxicology and Chemistry, 24:966-972, with erratum 24:No. 5
Spatial Representation:	Data for this line of evidence for Corte Madera Creek was collected at 1 monitoring site [Corte Madera Ck @ Sir Francis Drake station (203SUP040).]
Temporal Representation:	Data was collected on a single day 12/28/2006.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	The SWAMP QAPP (2008) was followed.
QAPP Information Reference(s):	Quality Assurance Management Plan for the State of California's Surface Water Ambient Monitoring Program. Sacramento, CA. State Water Resources Control Board. SWAMP. December 2002 (1st version)

DECISION ID	61845	Region 2
Corte Madera Creek		

Pollutant: Dieldrin
Final Listing Decision: Do Not List on 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision: New Decision
Revision Status: Revised
Impairment from Pollutant or Pollution: Pollutant

Regional Board Staff Conclusion: This pollutant is being considered for placement on the CWA section 303(d) List under section 3.6 of the Listing Policy.
 Under section 3.6 at least two lines of evidence are necessary to assess listing status for pollutants sediment, and pollutant concentrations in sediment must be associated with sediment toxicity to justify adding that pollutant to the CWA section 303(d) List.

Two lines of evidence are available in the administrative record to assess this pollutant. Zero of one samples exceed the guideline.

Sediment toxicity data are not associated with this decision because they are not relevant to this decision because there is insufficient information based on sediment chemistry.

Based on the readily available data and information, the weight of evidence indicates that there is insufficient justification for placing this water segment-pollutant combination on the CWA section 303(d) List.

This conclusion is based on the staff findings that:

1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy.
2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy.
3. Zero of one samples exceed the guideline and this sample size is insufficient to determine beneficial use support, with the power and confidence of the Listing Policy. A minimum of 16 samples is needed to determine if a beneficial use is fully supported using table 3.1.
Sediment toxicity data are not associated with this decision because the sediment chemistry data are insufficient.
4. Pursuant to section 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.

Regional Board Staff Decision Recommendation: After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be placed on the section 303(d) list. The readily available data and information is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating.

Line of Evidence (LOE) for Decision ID 61845, Dieldrin	Region 2
Corte Madera Creek	

LOE ID: 91392
Pollutant: Dieldrin
LOE Subgroup: Pollutant-Sediment
Matrix: Sediment
Fraction: Total
Beneficial Use: Warm Freshwater Habitat
Number of Samples: 1
Number of Exceedances: 0
Data and Information Type: PHYSICAL/CHEMICAL MONITORING

Data Used to Assess Water Quality:	Water Board staff assessed SWAMP data for Corte Madera Creek to determine beneficial use support and results are as follows: 0 of 1 samples exceed the criterion for Dieldrin.
Data Reference:	Statewide Project Urban Pyrethroid Status Monitoring
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	San Francisco Bay Basin Water Quality Control Plan 2007: All waters shall be maintained free of toxic substances in concentrations which are toxic to, or which produce detrimental physiological responses in, human, plant, animal, or aquatic life.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	In freshwater sediments the probable effect concentration (predictive of sediment toxicity for sediment-dwelling organisms) for dieldrin is 61.8 ug/Kg dry weight (MacDonald et al. 2000).
Guideline Reference:	Development and evaluation of consensus-based sediment quality guidelines for freshwater ecosystems. Environmental Contamination and Toxicology. 39: 20-31
Spatial Representation:	Data for this line of evidence for Corte Madera Creek was collected at 1 monitoring site [Corte Madera Ck @ Sir Francis Drake station (203SUP040).]
Temporal Representation:	Data was collected on a single day 12/28/2006.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	The SWAMP QAPP (2008) was followed.
QAPP Information Reference(s):	Quality Assurance Management Plan for the State of California's Surface Water Ambient Monitoring Program. Sacramento, CA. State Water Resources Control Board. SWAMP. December 2002 (1st version)

Line of Evidence (LOE) for Decision ID 61845, Dieldrin

Region 2

Corte Madera Creek

LOE ID:	91393
Pollutant:	Dieldrin
LOE Subgroup:	Pollutant-Sediment
Matrix:	Sediment
Fraction:	Total
Beneficial Use:	Cold Freshwater Habitat
Number of Samples:	1
Number of Exceedances:	0
Data and Information Type:	PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality:	Water Board staff assessed SWAMP data for Corte Madera Creek to determine beneficial use support and results are as follows: 0 of 1 samples exceed the criterion for Dieldrin.
Data Reference:	Statewide Project Urban Pyrethroid Status Monitoring
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	San Francisco Bay Basin Water Quality Control Plan 2007: All waters shall be maintained free of toxic substances in concentrations which are toxic to, or which produce detrimental physiological responses in, human, plant, animal, or aquatic life.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	In freshwater sediments the probable effect concentration (predictive of sediment toxicity for sediment-dwelling organisms) for dieldrin is 61.8 ug/Kg dry weight (MacDonald et al. 2000).
Guideline Reference:	Development and evaluation of consensus-based sediment quality guidelines for freshwater ecosystems. Environmental Contamination and Toxicology. 39: 20-31
Spatial Representation:	Data for this line of evidence for Corte Madera Creek was collected at 1 monitoring site [Corte Madera Ck @ Sir Francis Drake station (203SUP040).]
Temporal Representation:	Data was collected on a single day 12/28/2006.

Environmental Conditions:
QAPP Information:
QAPP Information Reference(s):

Staff is not aware of any special conditions that might affect interpretation of the data.
The SWAMP QAPP (2008) was followed.
[Quality Assurance Management Plan for the State of California's Surface Water Ambient Monitoring Program. Sacramento, CA. State Water Resources Control Board. SWAMP. December 2002 \(1st version\)](#)

DECISION ID	61846	Region 2
Corte Madera Creek		

Pollutant:	Endrin
Final Listing Decision:	Do Not List on 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision:	New Decision
Revision Status	Revised
Impairment from Pollutant or Pollution:	Pollutant

Regional Board Staff Conclusion: This pollutant is being considered for placement on the CWA section 303(d) List under section 3.6 of the Listing Policy.

Under section 3.6 at least two lines of evidence are necessary to assess listing status for pollutants sediment, and pollutant concentrations in sediment must be associated with sediment toxicity to justify adding that pollutant to the CWA section 303(d) List.

Two lines of evidence are available in the administrative record to assess this pollutant. Zero of one samples exceed the guideline.

Sediment toxicity data are not associated with this decision because they are not relevant to this decision because there is insufficient information based on sediment chemistry.

Based on the readily available data and information, the weight of evidence indicates that there is insufficient justification for placing this water segment-pollutant combination on the CWA section 303(d) List.

This conclusion is based on the staff findings that:

1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy.
2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy.
3. Zero of one samples exceed the guideline and this sample size is insufficient to determine beneficial use support, with the power and confidence of the Listing Policy. A minimum of 16 samples is needed to determine if a beneficial use is fully supported using table 3.1. Sediment toxicity data are not associated with this decision because the sediment chemistry data are insufficient.
4. Pursuant to section 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.

Regional Board Staff Decision Recommendation: After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be placed on the section 303(d) list. The readily available data and information is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating.

Line of Evidence (LOE) for Decision ID 61846, Endrin	Region 2
Corte Madera Creek	

LOE ID:	91394
Pollutant:	Endrin
LOE Subgroup:	Pollutant-Sediment
Matrix:	Sediment
Fraction:	Total

Beneficial Use:	Warm Freshwater Habitat
Number of Samples:	1
Number of Exceedances:	0
Data and Information Type:	PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality:	Water Board staff assessed SWAMP data for Corte Madera Creek to determine beneficial use support and results are as follows: 0 of 1 samples exceed the criterion for Endrin.
Data Reference:	Statewide Project Urban Pyrethroid Status Monitoring
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	San Francisco Bay Basin Water Quality Control Plan 2007: All waters shall be maintained free of toxic substances in concentrations which are toxic to, or which produce detrimental physiological responses in, human, plant, animal, or aquatic life.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	In freshwater sediments the probable effect concentration (predictive of sediment toxicity for sediment-dwelling organisms) for endrin is 207 ug/Kg dry weight (MacDonald et al. 2000).
Guideline Reference:	Development and evaluation of consensus-based sediment quality guidelines for freshwater ecosystems. Environmental Contamination and Toxicology. 39: 20-31
Spatial Representation:	Data for this line of evidence for Corte Madera Creek was collected at 1 monitoring site [Corte Madera Ck @ Sir Francis Drake station (203SUP040).]
Temporal Representation:	Data was collected on a single day 12/28/2006.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	The SWAMP QAPP (2008) was followed.
QAPP Information Reference(s):	Quality Assurance Management Plan for the State of California's Surface Water Ambient Monitoring Program. Sacramento, CA. State Water Resources Control Board. SWAMP. December 2002 (1st version)

Line of Evidence (LOE) for Decision ID 61846, Endrin

Region 2

Corte Madera Creek

LOE ID:	91395
Pollutant:	Endrin
LOE Subgroup:	Pollutant-Sediment
Matrix:	Sediment
Fraction:	Total
Beneficial Use:	Cold Freshwater Habitat
Number of Samples:	1
Number of Exceedances:	0
Data and Information Type:	PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality:	Water Board staff assessed SWAMP data for Corte Madera Creek to determine beneficial use support and results are as follows: 0 of 1 samples exceed the criterion for Endrin.
Data Reference:	Statewide Project Urban Pyrethroid Status Monitoring
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	San Francisco Bay Basin Water Quality Control Plan 2007: All waters shall be maintained free of toxic substances in concentrations which are toxic to, or which produce detrimental physiological responses in, human, plant, animal, or aquatic life.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	In freshwater sediments the probable effect concentration (predictive of sediment toxicity for sediment-dwelling organisms) for endrin is 207 ug/Kg dry weight (MacDonald et al. 2000).

Guideline Reference:	Development and evaluation of consensus-based sediment quality guidelines for freshwater ecosystems. Environmental Contamination and Toxicology. 39: 20-31
Spatial Representation:	Data for this line of evidence for Corte Madera Creek was collected at 1 monitoring site [Corte Madera Ck @ Sir Francis Drake station (203SUP040).]
Temporal Representation:	Data was collected on a single day 12/28/2006.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	The SWAMP QAPP (2008) was followed.
QAPP Information Reference(s):	Quality Assurance Management Plan for the State of California's Surface Water Ambient Monitoring Program. Sacramento, CA. State Water Resources Control Board. SWAMP. December 2002 (1st version)

DECISION ID	61847	Region 2
Corte Madera Creek		

Pollutant:	Esfenvalerate/Fenvalerate
Final Listing Decision:	Do Not List on 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision:	New Decision
Revision Status	Revised
Impairment from Pollutant or Pollution:	Pollutant
Regional Board Staff Conclusion:	<p>This pollutant is being considered for placement on the CWA section 303(d) List under section 3.6 of the Listing Policy.</p> <p>Under section 3.6 at least two lines of evidence are necessary to assess listing status for pollutants sediment, and pollutant concentrations in sediment must be associated with sediment toxicity to justify adding that pollutant to the CWA section 303(d) List.</p> <p>Two lines of evidence are available in the administrative record to assess this pollutant. Zero of one samples exceed the guideline.</p> <p>Sediment toxicity data are not associated with this decision because they are not relevant to this decision because there is insufficient information based on sediment chemistry.</p> <p>Based on the readily available data and information, the weight of evidence indicates that there is insufficient justification for placing this water segment-pollutant combination on the CWA section 303(d) List.</p> <p>This conclusion is based on the staff findings that:</p> <ol style="list-style-type: none"> 1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy. 2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy. 3. Zero of one samples exceed the guideline and this sample size is insufficient to determine beneficial use support, with the power and confidence of the Listing Policy. A minimum of 16 samples is needed to determine if a beneficial use is fully supported using table 3.1. <p>Sediment toxicity data are not associated with this decision because the sediment chemistry data are insufficient.</p> <ol style="list-style-type: none"> 4. Pursuant to section 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.
Regional Board Staff Decision Recommendation:	After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be placed on the section 303(d) list. The readily available data and information is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating.

Line of Evidence (LOE) for Decision ID 61847, Esfenvalerate/Fenvalerate	Region 2
Corte Madera Creek	

LOE ID: 91396

Pollutant:	Esfenvalerate/Fenvalerate
LOE Subgroup:	Pollutant-Sediment
Matrix:	Sediment
Fraction:	Total
Beneficial Use:	Warm Freshwater Habitat
Number of Samples:	1
Number of Exceedances:	0
Data and Information Type:	PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality:	Water Board staff assessed SWAMP data for Corte Madera Creek to determine beneficial use support and results are as follows: 0 of 1 samples exceed the criterion for Esfenvalerate/Fenvalerate, total.
Data Reference:	Statewide Project Urban Pyrethroid Status Monitoring
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	San Francisco Bay Basin Water Quality Control Plan 2007: All waters shall be maintained free of toxic substances in concentrations which are toxic to, or which produce detrimental physiological responses in, human, plant, animal, or aquatic life.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	The evaluation guideline for esfenvalerate/fenvalerate is the median lethal concentration (LC50) of 1.5 ug/g and is normalized by the percentage of organic carbon in the sediment sample. The LC50 1.5 ug/g is the geometric mean of LC50 values for esfenvalerate/fenvalerate from Amweg et al. (2005).
Guideline Reference:	Use and Toxicity of Pyrethroid Pesticides in the Central Valley, California, USA. Environmental Toxicology and Chemistry, 24:966-972, with erratum 24:No. 5
Spatial Representation:	Data for this line of evidence for Corte Madera Creek was collected at 1 monitoring site [Corte Madera Ck @ Sir Francis Drake station (203SUP040).]
Temporal Representation:	Data was collected on a single day 12/28/2006.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	The SWAMP QAPP (2008) was followed.
QAPP Information Reference(s):	Quality Assurance Management Plan for the State of California's Surface Water Ambient Monitoring Program. Sacramento, CA. State Water Resources Control Board. SWAMP. December 2002 (1st version)

**Line of Evidence (LOE) for Decision ID 61847, Esfenvalerate/Fenvalerate
Corte Madera Creek**

Region 2

LOE ID:	91350
Pollutant:	Esfenvalerate/Fenvalerate
LOE Subgroup:	Pollutant-Sediment
Matrix:	Sediment
Fraction:	Total
Beneficial Use:	Cold Freshwater Habitat
Number of Samples:	1
Number of Exceedances:	0
Data and Information Type:	PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality:	Water Board staff assessed SWAMP data for Corte Madera Creek to determine beneficial use support and results are as follows: 0 of 1 samples exceed the criterion for Esfenvalerate/Fenvalerate, total.
Data Reference:	Statewide Project Urban Pyrethroid Status Monitoring
SWAMP Data:	SWAMP

Water Quality Objective/Criterion:	San Francisco Bay Basin Water Quality Control Plan 2007: All waters shall be maintained free of toxic substances in concentrations which are toxic to, or which produce detrimental physiological responses in, human, plant, animal, or aquatic life.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	The evaluation guideline for esfenvalerate/fenvalerate is the median lethal concentration (LC50) of 1.5 ug/g and is normalized by the percentage of organic carbon in the sediment sample. The LC50 1.5 ug/g is the geometric mean of LC50 values for esfenvalerate/fenvalerate from Amweg et al. (2005).
Guideline Reference:	Use and Toxicity of Pyrethroid Pesticides in the Central Valley, California, USA. Environmental Toxicology and Chemistry, 24:966-972, with erratum 24:No. 5
Spatial Representation:	Data for this line of evidence for Corte Madera Creek was collected at 1 monitoring site [Corte Madera Ck @ Sir Francis Drake station (203SUP040).]
Temporal Representation:	Data was collected on a single day 12/28/2006.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	The SWAMP QAPP (2008) was followed.
QAPP Information Reference(s):	Quality Assurance Management Plan for the State of California's Surface Water Ambient Monitoring Program. Sacramento, CA. State Water Resources Control Board. SWAMP. December 2002 (1st version)

DECISION ID	61848	Region 2
Corte Madera Creek		
Pollutant:	Fenpropathrin	
Final Listing Decision:	Do Not List on 303(d) list (TMDL required list)	
Last Listing Cycle's Final Listing Decision:	New Decision	
Revision Status	Revised	
Impairment from Pollutant or Pollution:	Pollutant	
Regional Board Staff Conclusion:	<p>This pollutant is being considered for placement on the CWA section 303(d) List under section 3.6 of the Listing Policy.</p> <p>Under section 3.6 at least two lines of evidence are necessary to assess listing status for pollutants sediment, and pollutant concentrations in sediment must be associated with sediment toxicity to justify adding that pollutant to the CWA section 303(d) List.</p> <p>Two lines of evidence are available in the administrative record to assess this pollutant. Zero of one samples exceed the guideline.</p> <p>Sediment toxicity data are not associated with this decision because they are not relevant to this decision because there is insufficient information based on sediment chemistry.</p> <p>Based on the readily available data and information, the weight of evidence indicates that there is insufficient justification for placing this water segment-pollutant combination on the CWA section 303(d) List.</p> <p>This conclusion is based on the staff findings that:</p> <ol style="list-style-type: none"> 1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy. 2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy. 3. Zero of one samples exceed the guideline and this sample size is insufficient to determine beneficial use support, with the power and confidence of the Listing Policy. A minimum of 16 samples is needed to determine if a beneficial use is fully supported using table 3.1. <p>Sediment toxicity data are not associated with this decision because the sediment chemistry data are insufficient.</p> <ol style="list-style-type: none"> 4. Pursuant to section 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met. 	
Regional Board Staff Decision	After review of the available data and information, RWQCB staff concludes that the water body-	

Recommendation: pollutant combination should not be placed on the section 303(d) list. The readily available data and information is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating.

**Line of Evidence (LOE) for Decision ID 61848, Fenpropathrin
Corte Madera Creek**

Region 2

LOE ID: 91352

Pollutant: Fenpropathrin
LOE Subgroup: Pollutant-Sediment
Matrix: Sediment
Fraction: Total

Beneficial Use: Cold Freshwater Habitat

Number of Samples: 1
Number of Exceedances: 0

Data and Information Type: PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality: Water Board staff assessed SWAMP data for Corte Madera Creek to determine beneficial use support and results are as follows: 0 of 1 samples exceed the criterion for Fenpropathrin.

Data Reference: [Statewide Project Urban Pyrethroid Status Monitoring](#)

SWAMP Data: SWAMP

Water Quality Objective/Criterion: San Francisco Bay Basin Water Quality Control Plan 2007: All waters shall be maintained free of toxic substances in concentrations which are toxic to, or which produce detrimental physiological responses in, human, plant, animal, or aquatic life.

Objective/Criterion Reference: [Water Quality Control Plan \(Basin Plan\) San Francisco Bay Basin \(Region 2\)](#)

Evaluation Guideline: The evaluation guideline for fenpropathrin is the median lethal concentration (LC50) of 1 ug/g and is normalized by the percentage of organic carbon in the sediment sample. The LC50 1 ug/g is the geometric mean of LC50 values for fenpropathrin from Ding et al. (2011).

Guideline Reference: [Toxicity of Sediment-Associated Pesticides to Chironomus dilutus and Hyalella azteca. Arch. Environ. Contam. Toxicol. 61:83-92.](#)

Spatial Representation: Data for this line of evidence for Corte Madera Creek was collected at 1 monitoring site [Corte Madera Ck @ Sir Francis Drake station (203SUP040).]

Temporal Representation: Data was collected on a single day 12/28/2006.

Environmental Conditions: Staff is not aware of any special conditions that might affect interpretation of the data.

QAPP Information: The SWAMP QAPP (2008) was followed.

QAPP Information Reference(s): [Quality Assurance Management Plan for the State of California's Surface Water Ambient Monitoring Program. Sacramento, CA. State Water Resources Control Board. SWAMP. December 2002 \(1st version\).](#)

**Line of Evidence (LOE) for Decision ID 61848, Fenpropathrin
Corte Madera Creek**

Region 2

LOE ID: 91351

Pollutant: Fenpropathrin
LOE Subgroup: Pollutant-Sediment
Matrix: Sediment
Fraction: Total

Beneficial Use: Warm Freshwater Habitat

Number of Samples:	1
Number of Exceedances:	0
Data and Information Type:	PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality:	Water Board staff assessed SWAMP data for Corte Madera Creek to determine beneficial use support and results are as follows: 0 of 1 samples exceed the criterion for Fenprothrin.
Data Reference:	Statewide Project Urban Pyrethroid Status Monitoring
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	San Francisco Bay Basin Water Quality Control Plan 2007: All waters shall be maintained free of toxic substances in concentrations which are toxic to, or which produce detrimental physiological responses in, human, plant, animal, or aquatic life.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	The evaluation guideline for fenprothrin is the median lethal concentration (LC50) of 1 ug/g and is normalized by the percentage of organic carbon in the sediment sample. The LC50 1 ug/g is the geometric mean of LC50 values for fenprothrin from Ding et al. (2011).
Guideline Reference:	Toxicity of Sediment-Associated Pesticides to Chironomus dilutus and Hyalella azteca. Arch. Environ. Contam. Toxicol. 61:83-92.
Spatial Representation:	Data for this line of evidence for Corte Madera Creek was collected at 1 monitoring site [Corte Madera Ck @ Sir Francis Drake station (203SUP040).]
Temporal Representation:	Data was collected on a single day 12/28/2006.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	The SWAMP QAPP (2008) was followed.
QAPP Information Reference(s):	Quality Assurance Management Plan for the State of California's Surface Water Ambient Monitoring Program. Sacramento, CA. State Water Resources Control Board. SWAMP. December 2002 (1st version)

DECISION ID	61851	Region 2
Corte Madera Creek		
Pollutant:	Fipronil	
Final Listing Decision:	Do Not List on 303(d) list (TMDL required list)	
Last Listing Cycle's Final Listing Decision:	New Decision	
Revision Status	Revised	
Impairment from Pollutant or Pollution:	Pollutant	
Regional Board Staff Conclusion:	<p>This pollutant is being considered for placement on the CWA section 303(d) List under section 3.6 of the Listing Policy.</p> <p>Under section 3.6 at least two lines of evidence are necessary to assess listing status for pollutants sediment, and pollutant concentrations in sediment must be associated with sediment toxicity to justify adding that pollutant to the CWA section 303(d) List.</p> <p>Two lines of evidence are available in the administrative record to assess this pollutant. Zero of one samples exceed the guideline.</p> <p>Sediment toxicity data are not associated with this decision because they are not relevant to this decision because there is insufficient information based on sediment chemistry.</p> <p>Based on the readily available data and information, the weight of evidence indicates that there is insufficient justification for placing this water segment-pollutant combination on the CWA section 303(d) List.</p> <p>This conclusion is based on the staff findings that:</p> <ol style="list-style-type: none"> 1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy. 	

2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy.
3. Zero of one samples exceed the guideline and this sample size is insufficient to determine beneficial use support, with the power and confidence of the Listing Policy. A minimum of 16 samples is needed to determine if a beneficial use is fully supported using table 3.1. Sediment toxicity data are not associated with this decision because the sediment chemistry data are insufficient.
4. Pursuant to section 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.

Regional Board Staff Decision Recommendation: After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be placed on the section 303(d) list. The readily available data and information is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating.

Line of Evidence (LOE) for Decision ID 61851, Fipronil

Region 2

Corte Madera Creek

LOE ID:	91353
Pollutant:	Fipronil
LOE Subgroup:	Pollutant-Sediment
Matrix:	Sediment
Fraction:	Total
Beneficial Use:	Warm Freshwater Habitat
Number of Samples:	0
Number of Exceedances:	0
Data and Information Type:	PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality:	One of one sample result was not used in the assessment because the laboratory data was non-detect and staff determined that the organic carbon normalized method detection limit was above the guideline and therefore the results could not be quantified with the level of certainty required by the Listing Policy.
Data Reference:	Statewide Project Urban Pyrethroid Status Monitoring
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	San Francisco Bay Basin Water Quality Control Plan 2007: All waters shall be maintained free of toxic substances in concentrations which are toxic to, or which produce detrimental physiological responses in, human, plant, animal, or aquatic life.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	The evaluation guideline for fipronil is the median lethal concentration (LC50) of 0.13 ug/g and is normalized by the percentage of organic carbon in the sediment sample (Maul et al. 2008).
Guideline Reference:	Effect of sediment-associated pyrethroids, fipronil, and metabolites on Chironomus tentans growth rate, body mass, condition index, immobilization, and survival. Environ. Toxicol. Chem. 27(12):2582-2590.
Spatial Representation:	Data for this line of evidence for Corte Madera Creek was collected at 1 monitoring site [Corte Madera Ck @ Sir Francis Drake station (203SUP040).]
Temporal Representation:	Data was collected on a single day 12/28/2006.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	The SWAMP QAPP (2008) was followed.
QAPP Information Reference(s):	Quality Assurance Management Plan for the State of California's Surface Water Ambient Monitoring Program. Sacramento, CA. State Water Resources Control Board. SWAMP. December 2002 (1st version)

Line of Evidence (LOE) for Decision ID 61851, Fipronil

Region 2

Corte Madera Creek

LOE ID:	91354
Pollutant:	Fipronil
LOE Subgroup:	Pollutant-Sediment
Matrix:	Sediment
Fraction:	Total
Beneficial Use:	Cold Freshwater Habitat
Number of Samples:	0
Number of Exceedances:	0
Data and Information Type:	PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality:	One of one sample result was not used in the assessment because the laboratory data was non-detect and staff determined that the organic carbon normalized method detection limit was above the guideline and therefore the results could not be quantified with the level of certainty required by the Listing Policy.
Data Reference:	Statewide Project Urban Pyrethroid Status Monitoring
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	San Francisco Bay Basin Water Quality Control Plan 2007: All waters shall be maintained free of toxic substances in concentrations which are toxic to, or which produce detrimental physiological responses in, human, plant, animal, or aquatic life.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	The evaluation guideline for fipronil is the median lethal concentration (LC50) of 0.13 ug/g and is normalized by the percentage of organic carbon in the sediment sample (Maul et al. 2008).
Guideline Reference:	Effect of sediment-associated pyrethroids, fipronil, and metabolites on Chironomus tentans growth rate, body mass, condition index, immobilization, and survival. Environ. Toxicol. Chem. 27(12):2582-2590.
Spatial Representation:	Data for this line of evidence for Corte Madera Creek was collected at 1 monitoring site [Corte Madera Ck @ Sir Francis Drake station (203SUP040).]
Temporal Representation:	Data was collected on a single day 12/28/2006.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	The SWAMP QAPP (2008) was followed.
QAPP Information Reference(s):	Quality Assurance Management Plan for the State of California's Surface Water Ambient Monitoring Program. Sacramento, CA. State Water Resources Control Board. SWAMP. December 2002 (1st version).

DECISION ID	61852	Region 2
Corte Madera Creek		
Pollutant:	Fipronil Sulfide	
Final Listing Decision:	Do Not List on 303(d) list (TMDL required list)	
Last Listing Cycle's Final Listing Decision:	New Decision	
Revision Status	Revised	
Impairment from Pollutant or Pollution:	Pollutant	
Regional Board Staff Conclusion:	This pollutant is being considered for placement on the CWA section 303(d) List under section 3.6 of the Listing Policy. Under section 3.6 at least two lines of evidence are necessary to assess listing status for pollutants sediment, and pollutant concentrations in sediment must be associated with sediment toxicity to justify adding that pollutant to the CWA section 303(d) List.	

Two lines of evidence are available in the administrative record to assess this pollutant. Zero of zero samples exceed the guideline. Data were non-detect.

Sediment toxicity data are not associated with this decision because they are not relevant to this decision because there is insufficient information based on sediment chemistry.

Based on the readily available data and information, the weight of evidence indicates that there is insufficient justification for placing this water segment-pollutant combination on the CWA section 303(d) List.

This conclusion is based on the staff findings that:

1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy.
2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy.
3. Zero of zero samples (data were non-detect) exceed the guideline and this sample size is insufficient to determine beneficial use support, with the power and confidence of the Listing Policy. A minimum of 16 samples is needed to determine if a beneficial use is fully supported using table 3.1. Sediment toxicity data are not associated with this decision because the sediment chemistry data are insufficient.
4. Pursuant to section 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.

Regional Board Staff Decision Recommendation: After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be placed on the section 303(d) list. The readily available data and information is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating.

Line of Evidence (LOE) for Decision ID 61852, Fipronil Sulfide

Region 2

Corte Madera Creek

LOE ID:	91356
Pollutant:	Fipronil Sulfide
LOE Subgroup:	Pollutant-Sediment
Matrix:	Sediment
Fraction:	Total
Beneficial Use:	Cold Freshwater Habitat
Number of Samples:	0
Number of Exceedances:	0
Data and Information Type:	PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality:	One of one sample result was not used in the assessment because the laboratory data was non-detect and staff determined that the organic carbon normalized method detection limit was above the guideline and therefore the results could not be quantified with the level of certainty required by the Listing Policy.
Data Reference:	Statewide Project Urban Pyrethroid Status Monitoring
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	San Francisco Bay Basin Water Quality Control Plan 2007: All waters shall be maintained free of toxic substances in concentrations which are toxic to, or which produce detrimental physiological responses in, human, plant, animal, or aquatic life.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	The evaluation guideline for fipronil sulfide is the median lethal concentration (LC50) of 0.16 ug/g and is normalized by the percentage of organic carbon in the sediment sample (Maul et al. 2008).
Guideline Reference:	Effect of sediment-associated pyrethroids, fipronil, and metabolites on Chironomus tentans growth rate, body mass, condition index, immobilization, and survival. Environ. Toxicol. Chem. 27(12):2582-2590.

Spatial Representation:	Data for this line of evidence for Corte Madera Creek was collected at 1 monitoring site [Corte Madera Ck @ Sir Francis Drake station (203SUP040).]
Temporal Representation:	Data was collected on a single day 12/28/2006.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	The SWAMP QAPP (2008) was followed.
QAPP Information Reference(s):	Quality Assurance Management Plan for the State of California's Surface Water Ambient Monitoring Program. Sacramento, CA. State Water Resources Control Board. SWAMP. December 2002 (1st version).

Line of Evidence (LOE) for Decision ID 61852, Fipronil Sulfide

Region 2

Corte Madera Creek

LOE ID:	91355
Pollutant:	Fipronil Sulfide
LOE Subgroup:	Pollutant-Sediment
Matrix:	Sediment
Fraction:	Total
Beneficial Use:	Warm Freshwater Habitat
Number of Samples:	0
Number of Exceedances:	0
Data and Information Type:	PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality:	One of one sample result was not used in the assessment because the laboratory data was non-detect and staff determined that the organic carbon normalized method detection limit was above the guideline and therefore the results could not be quantified with the level of certainty required by the Listing Policy.
Data Reference:	Statewide Project Urban Pyrethroid Status Monitoring
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	San Francisco Bay Basin Water Quality Control Plan 2007: All waters shall be maintained free of toxic substances in concentrations which are toxic to, or which produce detrimental physiological responses in, human, plant, animal, or aquatic life.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	The evaluation guideline for fipronil sulfide is the median lethal concentration (LC50) of 0.16 ug/g and is normalized by the percentage of organic carbon in the sediment sample (Maul et al. 2008).
Guideline Reference:	Effect of sediment-associated pyrethroids, fipronil, and metabolites on Chironomus tentans growth rate, body mass, condition index, immobilization, and survival. Environ. Toxicol. Chem. 27(12):2582-2590.
Spatial Representation:	Data for this line of evidence for Corte Madera Creek was collected at 1 monitoring site [Corte Madera Ck @ Sir Francis Drake station (203SUP040).]
Temporal Representation:	Data was collected on a single day 12/28/2006.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	The SWAMP QAPP (2008) was followed.
QAPP Information Reference(s):	Quality Assurance Management Plan for the State of California's Surface Water Ambient Monitoring Program. Sacramento, CA. State Water Resources Control Board. SWAMP. December 2002 (1st version).

DECISION ID 61853

Region 2

Corte Madera Creek

Pollutant:	Fipronil Sulfone
Final Listing Decision:	Do Not List on 303(d) list (TMDL required list)

Last Listing Cycle's Final Listing Decision: Revision Status Impairment from Pollutant or Pollution:

New Decision

Revised

Pollutant

Regional Board Staff Conclusion:

This pollutant is being considered for placement on the CWA section 303(d) List under section 3.6 of the Listing Policy.

Under section 3.6 at least two lines of evidence are necessary to assess listing status for pollutants sediment, and pollutant concentrations in sediment must be associated with sediment toxicity to justify adding that pollutant to the CWA section 303(d) List.

Two lines of evidence are available in the administrative record to assess this pollutant. Zero of zero samples exceed the guideline. One sample collected was non-detect.

Sediment toxicity data are not associated with this decision because they are not relevant to this decision because there is insufficient information based on sediment chemistry.

Based on the readily available data and information, the weight of evidence indicates that there is insufficient justification for placing this water segment-pollutant combination on the CWA section 303(d) List.

This conclusion is based on the staff findings that:

1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy.
2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy.
3. Zero of zero samples exceed the guideline and this sample size is insufficient to determine beneficial use support, with the power and confidence of the Listing Policy. A minimum of 16 samples is needed to determine if a beneficial use is fully supported using table 3.1. Sediment toxicity data are not associated with this decision because the sediment chemistry data are insufficient.
4. Pursuant to section 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.

Regional Board Staff Decision Recommendation:

After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be placed on the section 303(d) list. The readily available data and information is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating.

Line of Evidence (LOE) for Decision ID 61853, Fipronil Sulfone

Region 2

Corte Madera Creek

LOE ID: 91357

Pollutant: Fipronil Sulfone
LOE Subgroup: Pollutant-Sediment
Matrix: Sediment
Fraction: Total

Beneficial Use: Warm Freshwater Habitat

Number of Samples: 0
Number of Exceedances: 0

Data and Information Type: PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality: One of one sample result was not used in the assessment because the laboratory data was non-detect and staff determined that the organic carbon normalized method detection limit was above the guideline and therefore the results could not be quantified with the level of certainty required by the Listing Policy.

Data Reference: [Statewide Project Urban Pyrethroid Status Monitoring](#)

SWAMP Data: SWAMP

Water Quality Objective/Criterion:	San Francisco Bay Basin Water Quality Control Plan 2007: All waters shall be maintained free of toxic substances in concentrations which are toxic to, or which produce detrimental physiological responses in, human, plant, animal, or aquatic life.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	The evaluation guideline for fipronil sulfone is the median lethal concentration (LC50) of 0.12 ug/g and is normalized by the percentage of organic carbon in the sediment sample (Maul et al. 2008).
Guideline Reference:	Effect of sediment-associated pyrethroids, fipronil, and metabolites on Chironomus tentans growth rate, body mass, condition index, immobilization, and survival. Environ. Toxicol. Chem. 27(12):2582-2590.
Spatial Representation:	Data for this line of evidence for Corte Madera Creek was collected at 1 monitoring site [Corte Madera Ck @ Sir Francis Drake station (203SUP040).]
Temporal Representation:	Data was collected on a single day 12/28/2006.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	The SWAMP QAPP (2008) was followed.
QAPP Information Reference(s):	Quality Assurance Management Plan for the State of California's Surface Water Ambient Monitoring Program. Sacramento, CA. State Water Resources Control Board. SWAMP. December 2002 (1st version)

Line of Evidence (LOE) for Decision ID 61853, Fipronil Sulfone

Region 2

Corte Madera Creek

LOE ID:	91358
Pollutant:	Fipronil Sulfone
LOE Subgroup:	Pollutant-Sediment
Matrix:	Sediment
Fraction:	Total
Beneficial Use:	Cold Freshwater Habitat
Number of Samples:	0
Number of Exceedances:	0
Data and Information Type:	PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality:	One of one sample result was not used in the assessment because the laboratory data was non-detect and staff determined that the organic carbon normalized method detection limit was above the guideline and therefore the results could not be quantified with the level of certainty required by the Listing Policy.
Data Reference:	Statewide Project Urban Pyrethroid Status Monitoring
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	San Francisco Bay Basin Water Quality Control Plan 2007: All waters shall be maintained free of toxic substances in concentrations which are toxic to, or which produce detrimental physiological responses in, human, plant, animal, or aquatic life.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	The evaluation guideline for fipronil sulfone is the median lethal concentration (LC50) of 0.12 ug/g and is normalized by the percentage of organic carbon in the sediment sample (Maul et al. 2008).
Guideline Reference:	Effect of sediment-associated pyrethroids, fipronil, and metabolites on Chironomus tentans growth rate, body mass, condition index, immobilization, and survival. Environ. Toxicol. Chem. 27(12):2582-2590.
Spatial Representation:	Data for this line of evidence for Corte Madera Creek was collected at 1 monitoring site [Corte Madera Ck @ Sir Francis Drake station (203SUP040).]
Temporal Representation:	Data was collected on a single day 12/28/2006.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.

QAPP Information:
QAPP Information Reference(s):

The SWAMP QAPP (2008) was followed.
[Quality Assurance Management Plan for the State of California's Surface Water Ambient Monitoring Program. Sacramento, CA. State Water Resources Control Board. SWAMP. December 2002 \(1st version\).](#)

DECISION ID	61854	Region 2
Corte Madera Creek		

Pollutant: Lindane/gamma Hexachlorocyclohexane (gamma-HCH)
Final Listing Decision: Do Not List on 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision: New Decision
Revision Status: Revised
Impairment from Pollutant or Pollution: Pollutant

Regional Board Staff Conclusion: This pollutant is being considered for placement on the CWA section 303(d) List under section 3.6 of the Listing Policy.
Under section 3.6 at least two lines of evidence are necessary to assess listing status for pollutants sediment, and pollutant concentrations in sediment must be associated with sediment toxicity to justify adding that pollutant to the CWA section 303(d) List.

Two lines of evidence are available in the administrative record to assess this pollutant. Zero of one samples exceed the guideline.
Sediment toxicity data are not associated with this decision because they are not relevant to this decision because there is insufficient information based on sediment chemistry.

Based on the readily available data and information, the weight of evidence indicates that there is insufficient justification for placing this water segment-pollutant combination on the CWA section 303(d) List.

This conclusion is based on the staff findings that:

1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy.
2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy.
3. Zero of one samples exceed the guideline and this sample size is insufficient to determine beneficial use support, with the power and confidence of the Listing Policy. A minimum of 16 samples is needed to determine if a beneficial use is fully supported using table 3.1. Sediment toxicity data are not associated with this decision because the sediment chemistry data are insufficient.
4. Pursuant to section 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.

Regional Board Staff Decision Recommendation: After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be placed on the section 303(d) list. The readily available data and information is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating.

Line of Evidence (LOE) for Decision ID 61854, Lindane/gamma Hexachlorocyclohexane (gamma-HCH)	Region 2
Corte Madera Creek	

LOE ID: 91360
Pollutant: Lindane/gamma Hexachlorocyclohexane (gamma-HCH)
LOE Subgroup: Pollutant-Sediment
Matrix: Sediment
Fraction: Total

Beneficial Use:	Cold Freshwater Habitat
Number of Samples:	1
Number of Exceedances:	0
Data and Information Type:	PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality:	Water Board staff assessed SWAMP data for Corte Madera Creek to determine beneficial use support and results are as follows: 0 of 1 samples exceed the criterion for HCH, gamma.
Data Reference:	Statewide Project Urban Pyrethroid Status Monitoring
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	San Francisco Bay Basin Water Quality Control Plan 2007: All waters shall be maintained free of toxic substances in concentrations which are toxic to, or which produce detrimental physiological responses in, human, plant, animal, or aquatic life.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	In freshwater sediments the probable effect concentration (predictive of sediment toxicity for sediment-dwelling organisms) for Lindane (gamma-HCH) is 4.99 ug/Kg dry weight (MacDonald et al. 2000).
Guideline Reference:	Development and evaluation of consensus-based sediment quality guidelines for freshwater ecosystems. Environmental Contamination and Toxicology. 39: 20-31
Spatial Representation:	Data for this line of evidence for Corte Madera Creek was collected at 1 monitoring site [Corte Madera Ck @ Sir Francis Drake station (203SUP040).]
Temporal Representation:	Data was collected on a single day 12/28/2006.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	The SWAMP QAPP (2008) was followed.
QAPP Information Reference(s):	Quality Assurance Management Plan for the State of California's Surface Water Ambient Monitoring Program. Sacramento, CA. State Water Resources Control Board. SWAMP. December 2002 (1st version)

Line of Evidence (LOE) for Decision ID 61854, Lindane/gamma Hexachlorocyclohexane (gamma-HCH)

Region 2

Corte Madera Creek

LOE ID:	91359
Pollutant:	Lindane/gamma Hexachlorocyclohexane (gamma-HCH)
LOE Subgroup:	Pollutant-Sediment
Matrix:	Sediment
Fraction:	Total
Beneficial Use:	Warm Freshwater Habitat
Number of Samples:	1
Number of Exceedances:	0
Data and Information Type:	PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality:	Water Board staff assessed SWAMP data for Corte Madera Creek to determine beneficial use support and results are as follows: 0 of 1 samples exceed the criterion for HCH, gamma.
Data Reference:	Statewide Project Urban Pyrethroid Status Monitoring
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	San Francisco Bay Basin Water Quality Control Plan 2007: All waters shall be maintained free of toxic substances in concentrations which are toxic to, or which produce detrimental physiological responses in, human, plant, animal, or aquatic life.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)

Evaluation Guideline:	In freshwater sediments the probable effect concentration (predictive of sediment toxicity for sediment-dwelling organisms) for Lindane (gamma-HCH) is 4.99 ug/Kg dry weight (MacDonald et al. 2000).
Guideline Reference:	Development and evaluation of consensus-based sediment quality guidelines for freshwater ecosystems. Environmental Contamination and Toxicology. 39: 20-31
Spatial Representation:	Data for this line of evidence for Corte Madera Creek was collected at 1 monitoring site [Corte Madera Ck @ Sir Francis Drake station (203SUP040).]
Temporal Representation:	Data was collected on a single day 12/28/2006.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	The SWAMP QAPP (2008) was followed.
QAPP Information Reference(s):	Quality Assurance Management Plan for the State of California's Surface Water Ambient Monitoring Program. Sacramento, CA. State Water Resources Control Board. SWAMP. December 2002 (1st version)

DECISION ID	61857	Region 2
Corte Madera Creek		

Pollutant:	Permethrin
Final Listing Decision:	Do Not List on 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision:	New Decision
Revision Status	Revised
Impairment from Pollutant or Pollution:	Pollutant

Regional Board Staff Conclusion:	<p>This pollutant is being considered for placement on the CWA section 303(d) List under section 3.6 of the Listing Policy.</p> <p>Under section 3.6 at least two lines of evidence are necessary to assess listing status for pollutants sediment, and pollutant concentrations in sediment must be associated with sediment toxicity to justify adding that pollutant to the CWA section 303(d) List.</p> <p>Two lines of evidence are available in the administrative record to assess this pollutant. Zero of one samples exceed the guideline.</p> <p>Sediment toxicity data are not associated with this decision because they are not relevant to this decision because there is insufficient information based on sediment chemistry.</p> <p>Based on the readily available data and information, the weight of evidence indicates that there is insufficient justification for placing this water segment-pollutant combination on the CWA section 303(d) List.</p> <p>This conclusion is based on the staff findings that:</p> <ol style="list-style-type: none"> 1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy. 2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy. 3. Zero of one samples exceed the guideline and this sample size is insufficient to determine beneficial use support, with the power and confidence of the Listing Policy. A minimum of 16 samples is needed to determine if a beneficial use is fully supported using table 3.1. <p>Sediment toxicity data are not associated with this decision because the sediment chemistry data are insufficient.</p> <ol style="list-style-type: none"> 4. Pursuant to section 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.
Regional Board Staff Decision Recommendation:	After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be placed on the section 303(d) list. The readily available data and information is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating.

Line of Evidence (LOE) for Decision ID 61857, Permethrin	Region 2
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Corte Madera Creek

LOE ID:	91361
Pollutant:	Permethrin, total
LOE Subgroup:	Pollutant-Sediment
Matrix:	Sediment
Fraction:	Total
Beneficial Use:	Warm Freshwater Habitat
Number of Samples:	1
Number of Exceedances:	0
Data and Information Type:	PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality:	Water Board staff assessed SWAMP data for Corte Madera Creek to determine beneficial use support and results are as follows: 0 of 1 samples exceed the criterion for Permethrin, Total.
Data Reference:	Statewide Project Urban Pyrethroid Status Monitoring
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	San Francisco Bay Basin Water Quality Control Plan 2007: All waters shall be maintained free of toxic substances in concentrations which are toxic to, or which produce detrimental physiological responses in, human, plant, animal, or aquatic life.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	The evaluation guideline for permethrin is the median lethal concentration (LC50) of 8.9 ug/g and is normalized by the percentage of organic carbon in the sediment sample. The LC50 8.9 ug/g is the geometric mean of LC50 values for permethrin from Amweg et al. (2005).
Guideline Reference:	Use and Toxicity of Pyrethroid Pesticides in the Central Valley, California, USA. Environmental Toxicology and Chemistry, 24:966-972. with erratum 24:No. 5
Spatial Representation:	Data for this line of evidence for Corte Madera Creek was collected at 1 monitoring site [Corte Madera Ck @ Sir Francis Drake station (203SUP040).]
Temporal Representation:	Data was collected on a single day 12/28/2006.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	The SWAMP QAPP (2008) was followed.
QAPP Information Reference(s):	Quality Assurance Management Plan for the State of California's Surface Water Ambient Monitoring Program. Sacramento, CA. State Water Resources Control Board. SWAMP. December 2002 (1st version).

Line of Evidence (LOE) for Decision ID 61857, Permethrin**Region 2****Corte Madera Creek**

LOE ID:	91362
Pollutant:	Permethrin, total
LOE Subgroup:	Pollutant-Sediment
Matrix:	Sediment
Fraction:	Total
Beneficial Use:	Cold Freshwater Habitat
Number of Samples:	1
Number of Exceedances:	0
Data and Information Type:	PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality:	Water Board staff assessed SWAMP data for Corte Madera Creek to determine beneficial use support and results are as follows: 0 of 1 samples exceed the criterion for Permethrin, Total.

Data Reference:	Statewide Project Urban Pyrethroid Status Monitoring
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	San Francisco Bay Basin Water Quality Control Plan 2007: All waters shall be maintained free of toxic substances in concentrations which are toxic to, or which produce detrimental physiological responses in, human, plant, animal, or aquatic life.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	The evaluation guideline for permethrin is the median lethal concentration (LC50) of 8.9 ug/g and is normalized by the percentage of organic carbon in the sediment sample. The LC50 8.9 ug/g is the geometric mean of LC50 values for permethrin from Amweg et al. (2005).
Guideline Reference:	Use and Toxicity of Pyrethroid Pesticides in the Central Valley, California, USA. Environmental Toxicology and Chemistry, 24:966-972, with erratum 24:No. 5
Spatial Representation:	Data for this line of evidence for Corte Madera Creek was collected at 1 monitoring site [Corte Madera Ck @ Sir Francis Drake station (203SUP040).]
Temporal Representation:	Data was collected on a single day 12/28/2006.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	The SWAMP QAPP (2008) was followed.
QAPP Information Reference(s):	Quality Assurance Management Plan for the State of California's Surface Water Ambient Monitoring Program. Sacramento, CA. State Water Resources Control Board. SWAMP. December 2002 (1st version)

DECISION ID	61859	Region 2
Corte Madera Creek		

Pollutant:	Toxicity
Final Listing Decision:	Do Not List on 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision:	New Decision
Revision Status	Revised
Impairment from Pollutant or Pollution:	Pollutant
Regional Board Staff Conclusion:	<p>This pollutant is being considered for placement on the CWA section 303(d) List under section 3.6 of the Listing Policy.</p> <p>Under section 3.6 at one line of evidence is necessary to assess listing status for sediment toxicity to justify adding the waterbody to the CWA section 303(d) List.</p> <p>One line of evidence is available in the administrative record to assess this pollutant. One of one samples exceed the guideline for sediment toxicity.</p> <p>Based on the readily available data and information, the weight of evidence indicates that there is insufficient justification for placing this water segment-pollutant combination on the CWA section 303(d) List.</p> <p>This conclusion is based on the staff findings that:</p> <ol style="list-style-type: none"> 1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy. 2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy. 3. One of one samples exceed the sediment toxicity guideline and this sample size is insufficient to determine beneficial use support, with the power and confidence of the Listing Policy. A minimum of 16 samples is needed to determine if a beneficial use is fully supported using table 3.1. Sediment toxicity data are not associated with this decision because the sediment chemistry data are insufficient. 4. Pursuant to section 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.
Regional Board Staff Decision	After review of the available data and information, RWQCB staff concludes that the water body-

Recommendation: pollutant combination should not be placed on the section 303(d) list. The readily available data and information is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating.

Line of Evidence (LOE) for Decision ID 61859, Toxicity

Region 2

Corte Madera Creek

LOE ID:	90511
Pollutant:	Toxicity
LOE Subgroup:	Toxicity
Matrix:	Sediment
Fraction:	None
Beneficial Use:	Cold Freshwater Habitat
Number of Samples:	1
Number of Exceedances:	1
Data and Information Type:	TOXICITY TESTING
Data Used to Assess Water Quality:	One sample was collected to evaluate sediment toxicity. The sample exhibited significant toxicity. The toxicity test included survival and growth of <i>Hyalella azteca</i> . One sample can have multiple toxicity test results but will be counted only once. One sample is defined as being collected on the same day at the same location with the same lab sample id (if provided).
Data Reference:	Statewide Project Urban Pyrethroid Status Monitoring
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	All waters shall be maintained free of toxic substances in concentrations that are toxic to, or that produce detrimental physiological responses in, human, plant, animal, or aquatic life. Region 2 Basin Plan.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) - San Francisco Bay Region (Region 2)
Evaluation Guideline:	Toxicity is defined as a statistically significant effect in the sample exposure compared to the control using EPA-recommended hypothesis testing. For SWAMP data exceedances are counted with the significant effect code SL. SL is defined as the result being significant compared to the negative control based on a statistical test, less than stated the alpha level, AND less than the evaluation threshold.
Guideline Reference:	Methods for Measuring the Toxicity and Bioaccumulation of Sediment-associated Contaminants with Freshwater Invertebrates, Second Edition. U.S. Environmental Protection Agency Office of Research and Development, Duluth, MI, U.S. Environmental Protection Agency Office of Water, Washington, DC EPA-600/R-99/064
Spatial Representation:	The sample was collected at station 203SUP040.
Temporal Representation:	The sample was collected in December 2006.
Environmental Conditions:	
QAPP Information:	All data was collected following the Standard Operating Procedures and Data Quality Objectives outlined in the SWAMP QAMP, (Puckett, 2002). QA data are included in submission.
QAPP Information Reference(s):	Surface Water Ambient Monitoring Program Quality Assurance Program Plan

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Supporting Information

Regional Board 2 - San Francisco Bay Region

Water Body Name: San Rafael Creek
Water Body ID: CAR2032001220000413114045
Water Body Type: River & Stream

DECISION ID 34194 **Region 2**
San Rafael Creek

Pollutant: Diazinon
Final Listing Decision: List on 303(d) list (being addressed by USEPA approved TMDL)
Last Listing Cycle's Final Listing Decision: List on 303(d) list (being addressed by USEPA approved TMDL)(2012)
Revision Status Original
Sources: Source Unknown
TMDL Name: San Francisco Bay Urban Creeks Diazinon
TMDL Project Code: 9
Date TMDL Approved by USEPA: 05/16/2007
Impairment from Pollutant or Pollution: Pollutant

Regional Board Staff Conclusion: 303(d) listing decisions made prior to 2006 were not held in an assessment database. The Regional Boards will update this decision when new data and information become available and are assessed. The USEPA final decision on the 2006 303(d) list was to move this listing to the being addressed by a USEPA approved TMDL portion of the 303(d) list, because the San Francisco Bay Urban Creeks Diazinon TMDL was approved by USEPA on 5/16/07 (USEPA, 2007).

Regional Board Staff Decision Recommendation: This is a decision previously approved by the State Water Resources Control Board and the USEPA. No new data were assessed by the Regional Board for the current. The decision has not changed.

Line of Evidence (LOE) for Decision ID 34194, Diazinon **Region 2**
San Rafael Creek

LOE ID: 1790
Pollutant: Diazinon
LOE Subgroup: Pollutant-Water
Matrix: Water
Fraction: None
Beneficial Use: Cold Freshwater Habitat
Number of Samples: 0
Number of Exceedances: 0
Data and Information Type: Not Specified
Data Used to Assess Water Quality: Unspecified--This LOE is a placeholder to support a 303(d) listing decision made prior to 2006.
Data Reference: [Placeholder reference 2006 303\(d\)](#)
SWAMP Data: Non-SWAMP
Water Quality Objective/Criterion:

Objective/Criterion Reference:

Evaluation Guideline:
Guideline Reference:

Spatial Representation:
Temporal Representation:
Environmental Conditions:

QAPP Information: QA Info Missing
QAPP Information Reference(s):

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Supporting Information

Regional Board 2 - San Francisco Bay Region

Water Body Name: Coyote Creek (Marin County)
Water Body ID: CAR2032002019990219110049
Water Body Type: River & Stream

DECISION ID 34155 **Region 2**
Coyote Creek (Marin County)

Pollutant: Diazinon
Final Listing Decision: List on 303(d) list (being addressed by USEPA approved TMDL)
Last Listing Cycle's Final Listing Decision: List on 303(d) list (being addressed by USEPA approved TMDL)(2012)
Revision Status Original
Sources: Agriculture
TMDL Name: San Francisco Bay Urban Creeks Diazinon
TMDL Project Code: 9
Date TMDL Approved by USEPA: 05/16/2007
Impairment from Pollutant or Pollution: Pollutant

Regional Board Staff Conclusion: 303(d) listing decisions made prior to 2006 were not held in an assessment database. The Regional Boards will update this decision when new data and information become available and are assessed. The USEPA final decision on the 2006 303(d) list was to move this listing to the being addressed by a USEPA approved TMDL portion of the 303(d) list, because the San Francisco Bay Urban Creeks Diazinon TMDL was approved by USEPA on 5/16/07 (USEPA, 2007).

Regional Board Staff Decision Recommendation: This is a decision previously approved by the State Water Resources Control Board and the USEPA. No new data were assessed by the Regional Board for the current. The decision has not changed.

Line of Evidence (LOE) for Decision ID 34155, Diazinon **Region 2**

Coyote Creek (Marin County)

LOE ID: 1791
Pollutant: Diazinon
LOE Subgroup: Pollutant-Water
Matrix: Water
Fraction: None
Beneficial Use: Cold Freshwater Habitat
Number of Samples: 0
Number of Exceedances: 0
Data and Information Type: Not Specified
Data Used to Assess Water Quality: Unspecified---This LOE is a placeholder to support a 303(d) listing decision made prior to 2006.
Data Reference: [Placeholder reference 2006 303\(d\)](#)
SWAMP Data: Non-SWAMP
Water Quality Objective/Criterion:

Objective/Criterion Reference:

Evaluation Guideline:

Guideline Reference:

Spatial Representation:

Temporal Representation:

Environmental Conditions:

QAPP Information:

QA Info Missing

QAPP Information Reference(s):

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Supporting Information

Regional Board 2 - San Francisco Bay Region

Water Body Name: Arroyo Corte Madera Del Presidio
Water Body ID: CAR2032002020000413134900
Water Body Type: River & Stream

DECISION ID 35115 **Region 2**
Arroyo Corte Madera Del Presidio

Pollutant: Diazinon
Final Listing Decision: List on 303(d) list (being addressed by USEPA approved TMDL)
Last Listing Cycle's Final Listing Decision: List on 303(d) list (being addressed by USEPA approved TMDL)(2012)
Revision Status Original
Sources: Urban Runoff/Storm Sewers
TMDL Name: San Francisco Bay Urban Creeks Diazinon
TMDL Project Code: 9
Date TMDL Approved by USEPA: 05/16/2007
Impairment from Pollutant or Pollution: Pollutant

Regional Board Staff Conclusion: 303(d) listing decisions made prior to 2006 were not held in an assessment database. The Regional Boards will update this decision when new data and information become available and are assessed. The USEPA final decision on the 2006 303(d) list was to move this listing to the being addressed by a USEPA approved TMDL portion of the 303(d) list, because the San Francisco Bay Urban Creeks Diazinon TMDL was approved by USEPA on 5/16/07 (USEPA, 2007).

Regional Board Staff Decision Recommendation: This is a decision previously approved by the State Water Resources Control Board and the USEPA. No new data were assessed by the Regional Board for the current. The decision has not changed.

Line of Evidence (LOE) for Decision ID 35115, Diazinon **Region 2**
Arroyo Corte Madera Del Presidio

LOE ID: 1792
Pollutant: Diazinon
LOE Subgroup: Pollutant-Water
Matrix: Water
Fraction: None
Beneficial Use: Cold Freshwater Habitat
Number of Samples: 0
Number of Exceedances: 0
Data and Information Type: Not Specified
Data Used to Assess Water Quality: Unspecified---This LOE is a placeholder to support a 303(d) listing decision made prior to 2006.
Data Reference: [Placeholder reference 2006 303\(d\)](#)
SWAMP Data: Non-SWAMP
Water Quality Objective/Criterion:

Objective/Criterion Reference:

Evaluation Guideline:

Guideline Reference:

Spatial Representation:

Temporal Representation:

Environmental Conditions:

QAPP Information:

QA Info Missing

QAPP Information Reference(s):

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Supporting Information

Regional Board 2 - San Francisco Bay Region

Water Body Name: San Leandro Creek, Upper
Water Body ID: CAR2042001119990218140111
Water Body Type: River & Stream

DECISION ID 44214 **Region 2**
San Leandro Creek, Upper

Pollutant: Alkalinity as CaCO₃
Final Listing Decision: Do Not List on 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision: Do Not List on 303(d) list (TMDL required list)(2012)
Revision Status Original
Impairment from Pollutant or Pollution: Pollutant

Regional Board Staff Conclusion: This pollutant is being considered for placement on the section 303(d) list under section 3.2 of the Listing Policy. Under section 3.2 a single line of evidence is necessary to assess listing status. One line of evidence is available in the administrative record to assess this pollutant. None of the samples exceed the water quality objective. Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against placing this water segment-pollutant combination on the section 303(d) list in the Water Quality Limited Segments category. This conclusion is based on the staff findings that: 1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy. 2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy. 3. Zero of nine samples exceeded the water quality objective and this does not exceed the allowable frequency listed in Table 3.2 of the Listing Policy. 4. Pursuant to section 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.

Regional Board Staff Decision Recommendation: This is a decision previously approved by the State Water Resources Control Board and the USEPA. No new data were assessed by the Regional Board for the current. The decision has not changed.

Line of Evidence (LOE) for Decision ID 44214, Alkalinity as CaCO₃ **Region 2**
San Leandro Creek, Upper

LOE ID: 28187
Pollutant: Alkalinity as CaCO₃
LOE Subgroup: Pollutant-Water
Matrix: Water
Fraction: None
Beneficial Use: Cold Freshwater Habitat
Number of Samples: 9
Number of Exceedances: 0
Data and Information Type: PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality: SWAMP collected 9 water samples from San Leandro Creek, Upper. None of the samples exceeded the objectives.
Data Reference: [Water Quality Monitoring and Bioassessment in Nine San Francisco Bay Region Watersheds: Walker Creek, Lagunitas Creek, San Leandro Creek, Wildcat Creek/San Pablo Creek, Suisun Creek, Arroyo Las Positas, Pescadero Creek/Butano Creek, San](#)

SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	Surface waters shall not contain concentrations of chemical constituents in amounts that adversely affect any designated beneficial use.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) - San Francisco Bay Region (Region 2)
Evaluation Guideline:	National Recommendations for Water Quality Criteria, Gold Book, USEPA,1986. Alakalinity standard at 20000 ug/L (chronic).
Guideline Reference:	Quality Criteria for Water 1986, United States Environmental Protection Agency, Office of Water, Regulations and Standards, Washington D.C. EPA 440/5-86-001.
Spatial Representation:	Samples were taken from three monitoring locations in the upper part of the creek: SLE190, SLE210 and SLE230.
Temporal Representation:	Samples were taken during dry, spring and wet seasons in the 2001 - 2002 monitoring period.
Environmental Conditions:	
QAPP Information:	The QA/QC was in compliance with SWAMP's Quality Assurance Management Plan (QAMP).
QAPP Information Reference(s):	Quality Assurance Management Plan for the State of California's Surface Water Ambient Monitoring Program, Sacramento, CA, State Water Resources Control Board, SWAMP, December 2002 (1st version)

DECISION ID	43489	Region 2
San Leandro Creek, Upper		

Pollutant:	Ammonia (Unionized) Nitrogen, ammonia (Total Ammonia)
Final Listing Decision:	Do Not List on 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision:	Do Not List on 303(d) list (TMDL required list)(2012)
Revision Status	Original
Impairment from Pollutant or Pollution:	Pollutant
Regional Board Staff Conclusion:	These pollutants are being considered for placement on the section 303(d) list under section 3.2 of the Listing Policy. Under section 3.2 a single line of evidence is necessary to assess listing status. One line of evidence is available in the administrative record to assess this pollutant. None of the samples exceed the water quality objective. Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against placing this water segment-pollutant combination on the section 303(d) list in the Water Quality Limited Segments category. This conclusion is based on the staff findings that: 1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy. 2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy. 3. Zero of nine samples exceeded the water quality objective and this does not exceed the allowable frequency listed in Table 3.2 of the Listing Policy. 4. Pursuant to section 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.
Regional Board Staff Decision Recommendation:	This is a decision previously approved by the State Water Resources Control Board and the USEPA. No new data were assessed by the Regional Board for the current. The decision has not changed.

Line of Evidence (LOE) for Decision ID 43489, Multiple Pollutants	Region 2
San Leandro Creek, Upper	

LOE ID:	28060
Pollutant:	Ammonia (Unionized) Nitrogen, ammonia (Total Ammonia)
LOE Subgroup:	Pollutant-Water

Matrix:	Water
Fraction:	None
Beneficial Use:	Cold Freshwater Habitat
Number of Samples:	9
Number of Exceedances:	0
Data and Information Type:	PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality:	Nine water samples were assessed for total ammonia and un-ionized ammonia. None of them exceeded the evaluation guidelines.
Data Reference:	Water Quality Monitoring and Bioassessment in Nine San Francisco Bay Region Watersheds: Walker Creek, Lagunitas Creek, San Leandro Creek, Wildcat Creek/San Pablo Creek, Suisun Creek, Arroyo Las Positas, Pescadero Creek/Butano Creek, San Gregorio Creek, and Stevens Creek/Permanente Creek, Oakland, CA: Surface Water Ambient Monitoring Program, San Francisco Bay Regional Water Quality Control Board
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	The San Francisco Bay Basin Plan states that all waters shall be maintained free of toxic substances in concentrations that produce detrimental physiological responses in human, plant, animal, or aquatic life. This objective applies regardless of whether the toxicity is caused by a single substance or the interactive effect of multiple substances.
Objective/Criterion Reference:	The discharge of wastes shall not cause receiving water to contain concentrations of un-ionized ammonia in excess of 0.025mg/l annual median. Water Quality Control Plan (Basin Plan) - San Francisco Bay Region (Region 2)
Evaluation Guideline:	For Total Ammonia: EPA's Lifetime Health advisory level for total ammonia is 30.0 mg/L as stated on page 8 of the 2006 edition of the drinking water standards and health advisories. This Advisory Level is defined as "the concentration of a chemical in drinking water that is not expected to cause any adverse noncarcinogenic effects for up to ten days of exposure."
Guideline Reference:	2006 edition of the drinking water standards and health advisories. EPA 822-R-03-013
Spatial Representation:	Samples were collected at three monitoring locations (SLE190, SLE210 and SLE230) in the upper portion of the watershed.
Temporal Representation:	Samples were collected during dry, spring and wet seasons in 2001-2002 sampling season.
Environmental Conditions:	
QAPP Information:	The QA was in compliance with SWAMP Quality Assurance Management Plan.
QAPP Information Reference(s):	

DECISION ID	44172	Region 2
San Leandro Creek, Upper		
Pollutant:	Cadmium	
Final Listing Decision:	Do Not List on 303(d) list (TMDL required list)	
Last Listing Cycle's Final Listing Decision:	Do Not List on 303(d) list (TMDL required list)(2012)	
Revision Status	Original	
Impairment from Pollutant or Pollution:	Pollutant	
Regional Board Staff Conclusion:	This pollutant is being considered for placement on the section 303(d) list under section 3.1 of the Listing Policy. Under section 3.1 a single line of evidence is necessary to assess listing status. One line of evidence is available in the administrative record to assess this pollutant. None of the samples exceed the water quality objective. Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against placing this water segment-pollutant combination on the section 303(d) list in the Water Quality Limited Segments category. This conclusion is based on the staff findings that: 1. The data used satisfies the data quality	

requirements of section 6.1.4 of the Policy. 2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy. 3. Zero of two samples exceeded the water quality objective and this does not exceed the allowable frequency listed in Table 3.1 of the Listing Policy. 4. Pursuant to section 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.

Regional Board Staff Decision Recommendation: This is a decision previously approved by the State Water Resources Control Board and the USEPA. No new data were assessed by the Regional Board for the current. The decision has not changed.

Line of Evidence (LOE) for Decision ID 44172, Cadmium

Region 2

San Leandro Creek, Upper

LOE ID: 27990

Pollutant: Cadmium
LOE Subgroup: Pollutant-Water
Matrix: Water
Fraction: None

Beneficial Use: Cold Freshwater Habitat

Number of Samples: 2
Number of Exceedances: 0

Data and Information Type: PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality: Two water samples were assessed for the presence of cadmium. Both samples were non detect and did not exceed the water quality objectives.

Data Reference: [Water Quality Monitoring and Bioassessment in Nine San Francisco Bay Region Watersheds: Walker Creek, Lagunitas Creek, San Leandro Creek, Wildcat Creek/San Pablo Creek, Suisun Creek, Arroyo Las Positas, Pescadero Creek/Butano Creek, San Gregorio Creek, and Stevens Creek/Permanente Creek. Oakland, CA: Surface Water Ambient Monitoring Program, San Francisco Bay Regional Water Quality Control Board](#)

SWAMP Data: SWAMP

Water Quality Objective/Criterion: The Basin Plan states the objective is expressed by formulas where $H = \ln(\text{hardness})$ as CaCO_3 in mg/l : The four-day average objective for cadmium is $e^{(0.7852H - 3.490)}$. This is 1.1 $\mu\text{g/l}$ at a hardness of 100 mg/l as CaCO_3 . The one hour objective is $e^{(1.128H - 3.828)}$. This is 3.9 $\mu\text{g/l}$ at a hardness of 100 mg/l as CaCO_3 .

Objective/Criterion Reference: [Water Quality Control Plan \(Basin Plan\) - San Francisco Bay Region \(Region 2\)](#)

Evaluation Guideline:
Guideline Reference:

Spatial Representation: Samples were collected from one monitoring site (SLE230) in Kaiser Creek draining to the Upper San Leandro Reservoir.

Temporal Representation: The samples were collected during spring and dry season of the 2001-2002 sampling period.

Environmental Conditions:
QAPP Information: The QA/QC procedure was in compliance with Surface Water Ambient Monitoring Program's (SWAMP) Quality Assurance Management Plan (QAMP).

QAPP Information Reference(s):

DECISION ID

44173

Region 2

San Leandro Creek, Upper

Pollutant: Copper | Lead | Nickel | Silver | Zinc
Final Listing Decision: Do Not List on 303(d) list (TMDL required list)
Last Listing Cycle's Final Do Not List on 303(d) list (TMDL required list)(2012)

Listing Decision:
Revision Status Original
Impairment from Pollutant or Pollution: Pollutant

Regional Board Staff Conclusion: These pollutants are being considered for placement on the section 303(d) list under section 3.1 of the Listing Policy. Under section 3.1 a single line of evidence is necessary to assess listing status. One line of evidence is available in the administrative record to assess this pollutant. None of the samples exceed the water quality objective. Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against placing this water segment-pollutant combination on the section 303(d) list in the Water Quality Limited Segments category. This conclusion is based on the staff findings that: 1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy. 2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy. 3. Zero of two samples exceeded the water quality objective and this does not exceed the allowable frequency listed in Table 3.1 of the Listing Policy. 4. Pursuant to section 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.

Regional Board Staff Decision Recommendation: This is a decision previously approved by the State Water Resources Control Board and the USEPA. No new data were assessed by the Regional Board for the current. The decision has not changed.

Line of Evidence (LOE) for Decision ID 44173, Multiple Pollutants

Region 2

San Leandro Creek, Upper

LOE ID: 27973

Pollutant: Copper | Lead | Nickel | Silver | Zinc
LOE Subgroup: Pollutant-Water
Matrix: Water
Fraction: None

Beneficial Use: Cold Freshwater Habitat

Number of Samples: 2
Number of Exceedances: 0

Data and Information Type: PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality: Two water samples collected from San Leandro Creek watershed were assessed. None of the samples exceeded the water quality objectives.

Data Reference: [Water Quality Monitoring and Bioassessment in Nine San Francisco Bay Region Watersheds: Walker Creek, Lagunitas Creek, San Leandro Creek, Wildcat Creek/San Pablo Creek, Suisun Creek, Arroyo Las Positas, Pescadero Creek/Butano Creek, San Gregorio Creek, and Stevens Creek/Permanente Creek. Oakland, CA: Surface Water Ambient Monitoring Program, San Francisco Bay Regional Water Quality Control Board](#)

SWAMP Data: SWAMP

Water Quality Objective/Criterion: All waters shall be maintained free of toxic substances that are lethal to or that produce other detrimental responses in aquatic organisms.
Table 3-4 in the Basin Plan (2007) lists freshwater water quality objectives for toxic pollutants: copper - 9.0 ug/L, lead - 2.5 ug/L; nickel - 52 ug/L, silver-3.4 ug/L and zinc - 120 ug/L.

Objective/Criterion Reference: [Water Quality Control Plan \(Basin Plan\) - San Francisco Bay Region \(Region 2\)](#)

Evaluation Guideline:
Guideline Reference: [Water Quality Monitoring and Bioassessment in Nine San Francisco Bay Region Watersheds: Walker Creek, Lagunitas Creek, San Leandro Creek, Wildcat Creek/San Pablo Creek, Suisun Creek, Arroyo Las Positas, Pescadero Creek/Butano Creek, San Gregorio Creek, and Stevens Creek/Permanente Creek. Oakland, CA: Surface Water Ambient Monitoring Program, San Francisco Bay Regional Water Quality Control Board](#)

Spatial Representation:	One monitoring site (SLE230) was sampled. The site is located in Kaiser Creek draining to the Upper San Leandro Reservoir.
Temporal Representation:	The samples were collected during dry and spring season of the 2001-2002 sampling period.
Environmental Conditions:	
QAPP Information:	The Quality Control is is conducted in accordance with SWAMP's Quality Management Plan of 2002.
QAPP Information Reference(s):	

Draft California 2016 Integrated Report (303(d) List/305(b) Report)

Supporting Information

Regional Board 2 - San Francisco Bay Region

Water Body Name: San Leandro Creek, Lower
Water Body ID: CAR2042001219990218140451
Water Body Type: River & Stream

DECISION ID 34255 **Region 2**
San Leandro Creek, Lower

Pollutant: Diazinon
Final Listing Decision: Do Not Delist from 303(d) list (being addressed with USEPA approved TMDL)
Last Listing Cycle's Final Listing Decision: List on 303(d) list (being addressed by USEPA approved TMDL)(2012)
Revision Status Revised
Sources: Urban Runoff/Storm Sewers
TMDL Name: San Francisco Bay Urban Creeks Diazinon
TMDL Project Code: 9
Date TMDL Approved by USEPA: 05/21/2007
Impairment from Pollutant or Pollution: Pollutant

Regional Board Staff Conclusion: This pollutant is being considered for removal on the CWA section 303(d) List under sections 2.2 and 4.1 of the Listing Policy. Under section 4.1 of the Policy, a minimum of one line of evidence is needed to assess listing status.

Three lines of evidence are available in the administrative record to assess this pollutant.

Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against removing this water segment-pollutant combination from the CWA section 303(d) List. There is sufficient justification to place it in the Being Addressed portion of the CWA 303(d) List because a TMDL has been completed and approved by RWQCB and USEPA, and is expected to result in attainment of the standard.

This conclusion is based on the staff findings that:

1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy.
2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy.
3. Zero of one samples exceeded the guideline, but the number of samples is not sufficient to de-list according to allowable frequency listed in Table 4.1 of the Listing Policy. A minimum number of 28 samples is needed to determine that a toxicant can be de-listed.
4. The Diazinon and pesticide-related toxicity in urban creeks TMDL was approved by USEPA on 5/21/2007
5. Pursuant to section 4.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.

Regional Board Staff Decision Recommendation: After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be removed from the section 303(d) list because applicable water quality standards for the pollutant are being exceeded.

Line of Evidence (LOE) for Decision ID 34255, Diazinon **Region 2**
San Leandro Creek, Lower

LOE ID: 1793

Pollutant:	Diazinon
LOE Subgroup:	Pollutant-Water
Matrix:	Water
Fraction:	None
Beneficial Use:	Cold Freshwater Habitat
Number of Samples:	0
Number of Exceedances:	0
Data and Information Type:	Not Specified
Data Used to Assess Water Quality:	Unspecified--This LOE is a placeholder to support a 303(d) listing decision made prior to 2006.
Data Reference:	Placeholder reference 2006 303(d)
SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	
Objective/Criterion Reference:	
Evaluation Guideline:	
Guideline Reference:	
Spatial Representation:	
Temporal Representation:	
Environmental Conditions:	
QAPP Information:	QA Info Missing
QAPP Information Reference(s):	

Line of Evidence (LOE) for Decision ID 34255, Diazinon

Region 2

San Leandro Creek, Lower

LOE ID:	93015
Pollutant:	Diazinon
LOE Subgroup:	Pollutant-Sediment
Matrix:	Sediment
Fraction:	Total
Beneficial Use:	Warm Freshwater Habitat
Number of Samples:	1
Number of Exceedances:	0
Data and Information Type:	PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality:	Water Board staff assessed SWAMP data for San Leandro Creek, Lower to determine beneficial use support and results are as follows: 0 of 1 samples exceed the criterion for Diazinon.
Data Reference:	Statewide Stream Pollution Trends Study 2008
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	San Francisco Bay Basin Water Quality Control Plan 2007: All waters shall be maintained free of toxic substances in concentrations which are toxic to, or which produce detrimental physiological responses in, human, plant, animal, or aquatic life.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	The evaluation guideline for diazinon is the median lethal concentration (LC50) of 11 ug/g and is normalized by the percentage of organic carbon in the sediment sample. The LC50 11 ug/g is the geometric mean of LC50 values for diazinon from Ding et al. (2011).
Guideline Reference:	Toxicity of Sediment-Associated Pesticides to Chironomus dilutus and Hyalella azteca. Arch. Environ. Contam. Toxicol. 61:83?92.

Spatial Representation:	Data for this line of evidence for San Leandro Creek, Lower was collected at 1 monitoring site [San Leandro Creek at Empire Road station (204SLE030)]
Temporal Representation:	Data was collected on a single day 6/17/2008.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	SWAMP data collected before September 2008 followed the QAMP (2002), however there may have been overlap in QA with SWAMP QAPP (2008).
QAPP Information Reference(s):	Quality Assurance Management Plan for the State of California's Surface Water Ambient Monitoring Program. Sacramento, CA. State Water Resources Control Board. SWAMP. December 2002 (1st version). Surface Water Ambient Monitoring Program Quality Assurance Program Plan

Line of Evidence (LOE) for Decision ID 34255, Diazinon
San Leandro Creek, Lower

Region 2

LOE ID:	93016
Pollutant:	Diazinon
LOE Subgroup:	Pollutant-Sediment
Matrix:	Sediment
Fraction:	Total
Beneficial Use:	Cold Freshwater Habitat
Number of Samples:	1
Number of Exceedances:	0
Data and Information Type:	PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality:	Water Board staff assessed SWAMP data for San Leandro Creek, Lower to determine beneficial use support and results are as follows: 0 of 1 samples exceed the criterion for Diazinon.
Data Reference:	Statewide Stream Pollution Trends Study 2008
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	San Francisco Bay Basin Water Quality Control Plan 2007: All waters shall be maintained free of toxic substances in concentrations which are toxic to, or which produce detrimental physiological responses in, human, plant, animal, or aquatic life.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	The evaluation guideline for diazinon is the median lethal concentration (LC50) of 11 ug/g and is normalized by the percentage of organic carbon in the sediment sample. The LC50 11 ug/g is the geometric mean of LC50 values for diazinon from Ding et al. (2011).
Guideline Reference:	Toxicity of Sediment-Associated Pesticides to Chironomus dilutus and Hyalella azteca. Arch. Environ. Contam. Toxicol. 61:83?92.
Spatial Representation:	Data for this line of evidence for San Leandro Creek, Lower was collected at 1 monitoring site [San Leandro Creek at Empire Road station (204SLE030)]
Temporal Representation:	Data was collected on a single day 6/17/2008.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	SWAMP data collected before September 2008 followed the QAMP (2002), however there may have been overlap in QA with SWAMP QAPP (2008).
QAPP Information Reference(s):	Quality Assurance Management Plan for the State of California's Surface Water Ambient Monitoring Program. Sacramento, CA. State Water Resources Control Board. SWAMP. December 2002 (1st version). Surface Water Ambient Monitoring Program Quality Assurance Program Plan

DECISION ID **34767**
San Leandro Creek, Lower

Region 2

Pollutant:	Trash
Final Listing Decision:	Do Not Delist from 303(d) list (being addressed with action other than TMDL)
Last Listing Cycle's Final Listing Decision:	List on 303(d) list (TMDL required list)(2012)
Revision Status	Revised
Sources:	Source Unknown
Expected Attainment Date:	2029
Implementation Action Other than TMDL:	This trash listing will be addressed by implementing the trash control provisions of the Water Quality Control Plan for Inland Surface Waters, Enclosed Bays, and Estuaries of California through the NPDES MS4 permit applicable to this waterbody.
Impairment from Pollutant or Pollution:	Pollutant
Regional Board Staff Conclusion:	<p>This pollutant is being considered for removal from the CWA section 303(d) List under section 4.11 of the Listing Policy. Under this section a single line of evidence is necessary to assess listing status.</p> <p>Four lines of evidence are available in the administrative record to assess pollutant. Eighteen of the twenty samples exceed the evaluation guideline.</p> <p>Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against removing this water segment-pollutant combination from the CWA section 303(d) List.</p> <p>This conclusion is based on the staff findings that:</p> <ol style="list-style-type: none"> 1. Four lines of evidence are available in the administrative record to assess this pollutant. All lines of evidence involve inspection of photographic evidence by Regional Water Board staff trained to conduct the Rapid Trash Assessment (RTA) methodology. The staff inspected these photos and applied the RTA methodology to develop Category 1 (Level of Trash) and Category 3 (Threat to Aquatic Life) scores for each photograph. Based on the readily available photographic evidence for this waterbody, the weight of evidence indicates that there is sufficient justification available in favor of leaving this water segment-pollutant combination on the section 303(d) list in the Water Quality Limited Segments category. 2. Applying the Rapid Trash Assessment methodology to the photographic evidence suggests that this waterbody had level of trash parameter scores in the poor category (indicating impairment of non-contact water recreational beneficial uses). 3. This waterbody also had threat to aquatic life parameter scores in the poor category (indicating threat to Wildlife Habitat beneficial uses) in more than one location or on more than one date. 4. This waterbody is considered impaired by trash because there were exceedances of the evaluation guidelines (poor condition category for the trash assessment metrics) in more than one location or on more than one date. 5. Nine of nine samples collected exceeded the evaluation guideline for threat to wildlife habitat. 6. Pursuant to section 4.11 of the Listing Policy, no additional data and information are available indicating that standards are met. 7. The data used satisfy the data quality requirements of section 6.1.4 of the Policy. 8. The data used satisfy the data quantity requirements of section 6.1.5 of the Policy. 9. This trash listing will be addressed by implementing the trash control provisions of the Water Quality Control Plan for Inland Surface Waters, Enclosed Bays, and Estuaries of California through the NPDES MS4 permit applicable to this waterbody.
Regional Board Staff Decision Recommendation:	After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be removed from the section 303(d) list because applicable water quality standards for the pollutant are being exceeded.

Line of Evidence (LOE) for Decision ID 34767, Trash

Region 2

San Leandro Creek, Lower

LOE ID: 93080

Pollutant:	Trash
LOE Subgroup:	Pollutant-Nuisance
Matrix:	Not Specified
Fraction:	None
Beneficial Use:	Non-Contact Recreation
Number of Samples:	1
Number of Exceedances:	1
Data and Information Type:	Occurrence of conditions judged to cause impairment
Data Used to Assess Water Quality:	Data available consist of photographic evidence of trash and interpretation of these photos by an experienced trash assessment specialist. Each photograph was analyzed to establish the RTA score for the level of trash and threat to aquatic life parameters, which relate to impairment of REC2 and WILD, respectively. Only those photos clear enough to establish these RTA scores were relied on for the listing determination. These results are available for photos taken on 3/17/07 on Lower San Leandro Creek at 98th Avenue Bridge. This waterbody had level of trash parameter scores in the poor category (indicating impairment of non-contact water recreational beneficial uses).
Data Reference:	Photos of trash in various San Francisco Bay water bodies, Mar. 2007-Mar. 2008
SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	The Basin Plan prohibits discharge of Rubbish, refuse, bark, sawdust, or other solid wastes into surface waters or at any place where they would contact or where they would be eventually transported to surface waters, including flood plain areas. The Basin Plan has a narrative objective for floating material, Waters shall not contain floating material, including solids, liquids, foams, and scum, in concentrations that cause nuisance or adversely affect beneficial uses. The Basin Plan has a narrative objective for settleable material, Waters shall not contain substances in concentrations that result in the deposition of material that cause nuisance or adversely affect beneficial uses.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	If the Rapid Trash Assessment (RTA) Parameter 1 (Level of Trash) is in the poor condition category (scores 0-5), REC2 is not supported. This level of trash distracts the eye on first glance, making the site unsuitable for recreation. The RTA defines poor condition for this parameter as follows, trash distracts the eye on first glance. Stream, bank surfaces, and immediate riparian zone contain substantial levels of litter and debris (>100 pieces). Evidence of site being used frequently by people: many cans, bottles, and food wrappers, blankets, clothing. State Water Board staff trained in the RTA inspected the available photographic evidence and applied the assessment method to determine the Level of Trash score. If the RTA Parameter 3 (Threat to Aquatic Life) is in the poor condition category (scores 0-5), then WILD is not supported. This level of trash is a large amount (>50 pieces) of transportable, persistent, buoyant litter that is detrimental to aquatic life. The RTA defines poor condition for this parameter as follows, large amount (>50 pieces) of transportable, persistent, buoyant litter such as: hard or soft plastics, balloons, Styrofoam, cigarette butts; toxic items such as batteries, lighters, or spray cans; large clumps of yard waste or dumped leaf litter; or large amount (>50 pieces) of settleable glass or metal. State Water Board staff trained in the RTA inspected the available photographic evidence and applied the assessment method to determine the Threat to Aquatic Life score.
Guideline Reference:	A Rapid Trash Assessment Method Applied to Waters of the San Francisco Bay Region:Trash Measurement in Streams
Spatial Representation:	Photographic evidence was analyzed using the RTA methodology for this waterbody on 3/17/07 at 98th Avenue Bridge.
Temporal Representation:	Photos taken at 98th Avenue Bridge on San Leandro Creek on 3/17/07.
Environmental Conditions:	
QAPP Information:	Assessments of the photographic evidence using the RTA were performed by a State Water Board staff person. Assessments based on photographic evidence were only conducted when sufficient reach-scale and close-up photos were available for a site on a specific date. Photos used for the evaluation needed to be numerous enough and clear enough to document the level of trash at the site in a similar way as the assessor would

experience during an actual site visit in the field. For example, at a minimum, one reach-scale photograph (showing at least a 100 linear foot section of the waterbody) and two close-up photographs (of representative trash deposits) were required.

QAPP Information Reference(s):

Line of Evidence (LOE) for Decision ID 34767, Trash
San Leandro Creek, Lower

Region 2

LOE ID:	93003
Pollutant:	Trash
LOE Subgroup:	Pollutant-Nuisance
Matrix:	Not Specified
Fraction:	Not Recorded
Beneficial Use:	Wildlife Habitat
Number of Samples:	1
Number of Exceedances:	1
Data and Information Type:	Occurrence of conditions judged to cause impairment
Data Used to Assess Water Quality:	Data available consist of photographic evidence of trash and interpretation of these photos by an experienced trash assessment specialist. Each photograph was analyzed to establish the RTA score for the level of trash and threat to aquatic life parameters, which relate to impairment of REC2 and WILD, respectively. Only those photos clear enough to establish these RTA scores were relied on for the listing determination. These results are available for photos taken on 3/17/07 at 98th Avenue Bridge. This waterbody had threat to aquatic life parameter scores in the poor category (indicating threat to Wildlife Habitat beneficial uses).
Data Reference:	Photos of trash in various San Francisco Bay water bodies, Mar. 2007-Mar. 2008
SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	The Basin Plan prohibits discharge of Rubbish, refuse, bark, sawdust, or other solid wastes into surface waters or at any place where they would contact or where they would be eventually transported to surface waters, including flood plain areas. The Basin Plan has a narrative objective for floating material, Waters shall not contain floating material, including solids, liquids, foams, and scum, in concentrations that cause nuisance or adversely affect beneficial uses. The Basin Plan has a narrative objective for settleable material, Waters shall not contain substances in concentrations that result in the deposition of material that cause nuisance or adversely affect beneficial uses.
Objective/Criterion Reference:	Guidance for Assessing Chemical Contaminant Data for Use In Fish Advisories Volume 1: Fish Sampling and Analysis
Evaluation Guideline:	If the Rapid Trash Assessment (RTA) Parameter 1 (Level of Trash) is in the poor condition category (scores 0-5), REC2 is not supported. This level of trash distracts the eye on first glance, making the site unsuitable for recreation. The RTA defines poor condition for this parameter as follows, trash distracts the eye on first glance. Stream, bank surfaces, and immediate riparian zone contain substantial levels of litter and debris (>100 pieces). Evidence of site being used frequently by people: many cans, bottles, and food wrappers, blankets, clothing. State Water Board staff trained in the RTA inspected the available photographic evidence and applied the assessment method to determine the Level of Trash score. If the RTA Parameter 3 (Threat to Aquatic Life) is in the poor condition category (scores 0-5), then WILD is not supported. This level of trash is a large amount (>50 pieces) of transportable, persistent, buoyant litter that is detrimental to aquatic life. The RTA defines poor condition for this parameter as follows, large amount (>50 pieces) of transportable, persistent, buoyant litter such as: hard or soft plastics, balloons, Styrofoam, cigarette butts; toxic items such as batteries, lighters, or spray cans; large clumps of yard waste or dumped leaf litter; or large amount (>50 pieces) of settleable glass or metal. State Water Board staff trained in the RTA inspected the available photographic evidence and applied the assessment method to determine the Threat to Aquatic Life score.

Guideline Reference:	A Rapid Trash Assessment Method Applied to Waters of the San Francisco Bay Region: Trash Measurement in Streams
Spatial Representation:	All photos were taken at 98th Avenue Bridge on 3/17/07.
Temporal Representation:	All photos were taken at 98th Avenue Bridge on 3/17/07.
Environmental Conditions:	
QAPP Information:	Assessments of the photographic evidence using the RTA were performed by a State Water Board staff person. Assessments based on photographic evidence were only conducted when sufficient reach-scale and close-up photos were available for a site on a specific date. Photos used for the evaluation needed to be numerous enough and clear enough to document the level of trash at the site in a similar way as the assessor would experience during an actual site visit in the field. For example, at a minimum, one reach-scale photograph (showing at least a 100 linear foot section of the waterbody) and two close-up photographs (of representative trash deposits) were required.

QAPP Information Reference(s):

Line of Evidence (LOE) for Decision ID 34767, Trash

Region 2

San Leandro Creek, Lower

LOE ID:	5667
Pollutant:	Trash
LOE Subgroup:	Pollutant-Nuisance
Matrix:	Not Specified
Fraction:	None
Beneficial Use:	Wildlife Habitat
Number of Samples:	9
Number of Exceedances:	9
Data and Information Type:	Occurrence of conditions judged to cause impairment
Data Used to Assess Water Quality:	Data available consist of photographic evidence of trash and interpretation of these photos by an experienced trash assessment specialist. Each photograph was analyzed to establish the RTA score for the level of trash and threat to aquatic life parameters, which relate to impairment of REC2 and WILD, respectively. Only those photos clear enough to establish these RTA scores were relied on for the listing determination. These results are available for the following dates and locations on Lower San Leandro Creek: 98th Ave. on 4/11/2001, 12/20/2002, 12/10/2003, 12/16/2004, 12/26/2004, 1/5/2005, 1/11/2006, and 2/23/2007 Hegenberger Road on 4/11/2001, and 2/23/2007 Leet Drive on 12/10/2003, and 1/11/2006
Data Reference:	This waterbody had threat to aquatic life parameter scores in the poor category (indicating threat to Wildlife Habitat beneficial uses) at three different locations on six different dates. Report from Roger James and Larry Kolb containing Trash Photos submitted for consideration in 2008 303(d) listing process Assessment by Matt Cover of Trash Photos (submitted to Region 2 in response to 2008 Data Solicitation) Archive of Trash Photos for Lower San Leandro Creek submitted for 2008 303(d) list consideration
SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	The Basin Plan prohibits discharge of Rubbish, refuse, bark, sawdust, or other solid wastes into surface waters or at any place where they would contact or where they would be eventually transported to surface waters, including flood plain areas. The Basin Plan has a narrative objective for floating material, Waters shall not contain floating material, including solids, liquids, foams, and scum, in concentrations that cause nuisance or adversely affect beneficial uses.

Objective/Criterion Reference:	<p>The Basin Plan has a narrative objective for settleable material, Waters shall not contain substances in concentrations that result in the deposition of material that cause nuisance or adversely affect beneficial uses.</p> <p>Water Quality Control Plan (Basin Plan) - San Francisco Bay Region (Region 2)</p>
Evaluation Guideline:	<p>If the Rapid Trash Assessment (RTA) Parameter 1 (Level of Trash) is in the poor condition category (scores 0-5), REC2 is not supported. This level of trash distracts the eye on first glance, making the site unsuitable for recreation. The RTA defines poor condition for this parameter as follows, trash distracts the eye on first glance. Stream, bank surfaces, and immediate riparian zone contain substantial levels of litter and debris (>100 pieces). Evidence of site being used frequently by people: many cans, bottles, and food wrappers, blankets, clothing. Regional Water Board staff trained in the RTA inspected the available photographic evidence and applied the assessment method to determine the Level of Trash score.</p> <p>If the RTA Parameter 3 (Threat to Aquatic Life) is in the poor condition category (scores 0-5), then WILD is not supported. This level of trash is a large amount (>50 pieces) of transportable, persistent, buoyant litter that is detrimental to aquatic life. The RTA defines poor condition for this parameter as follows, large amount (>50 pieces) of transportable, persistent, buoyant litter such as: hard or soft plastics, balloons, Styrofoam, cigarette butts; toxic items such as batteries, lighters, or spray cans; large clumps of yard waste or dumped leaf litter; or large amount (>50 pieces) of settleable glass or metal. Regional Water Board staff trained in the RTA inspected the available photographic evidence and applied the assessment method to determine the Threat to Aquatic Life score.</p>
Guideline Reference:	<p>A Rapid Trash Assessment Method Applied to Waters of the San Francisco Bay Region:Trash Measurement in Streams</p>
Spatial Representation:	Photographic evidence was analyzed using the RTA methodology for this waterbody for three different locations spanning dates from 2001 through 2007.
Temporal Representation:	Photographic evidence was collected for this waterbody on six separate dates from 2001 through 2007.
Environmental Conditions:	
QAPP Information:	<p>Assessments of the photographic evidence using the RTA were performed by Regional Water Board staff person who was a co-author of the Rapid Trash Assessment methodology.</p> <p>Assessments based on photographic evidence were only conducted when sufficient reach-scale and close-up photos were available for a site on a specific date. Photos used for the evaluation needed to be numerous enough and clear enough to document the level of trash at the site in a similar way as the assessor would experience during an actual site visit in the field. For example, at a minimum, one reach-scale photograph (showing at least a 100 linear foot section of the waterbody) and two close-up photographs (of representative trash deposits) were required.</p>
QAPP Information Reference(s):	

Line of Evidence (LOE) for Decision ID 34767, Trash
San Leandro Creek, Lower

Region 2

LOE ID:	5668
Pollutant:	Trash
LOE Subgroup:	Pollutant-Nuisance
Matrix:	Not Specified
Fraction:	None
Beneficial Use:	Non-Contact Recreation
Number of Samples:	9
Number of Exceedances:	7
Data and Information Type:	Occurrence of conditions judged to cause impairment
Data Used to Assess Water Quality:	Data available consist of photographic evidence of trash and interpretation of these photos

by an experienced trash assessment specialist. Each photograph was analyzed to establish the RTA score for the level of trash and threat to aquatic life parameters, which relate to impairment of REC2 and WILD, respectively. Only those photos clear enough to establish these RTA scores were relied on for the listing determination. These results are available for the following dates and locations on Lower San Leandro Creek:
98th Ave. on 4/11/2001, 12/20/2002, 12/10/2003, 12/16/2004, 12/26/2004, 1/5/2005, 1/11/2006, and 2/23/2007
Hegenberger Road on 4/11/2001, and 2/23/2007
Leet Drive on 12/10/2003, and 1/11/2006

This waterbody had level of trash parameter scores in the poor category (indicating impairment of non-contact water recreational beneficial uses) at three locations on four different dates.

Data Reference:

[Report from Roger James and Larry Kolb containing Trash Photos submitted for consideration in 2008 303\(d\) listing process](#)
[Assessment by Matt Cover of Trash Photos \(submitted to Region 2 in response to 2008 Data Solicitation\)](#)
[Archive of Trash Photos for Lower San Leandro Creek submitted for 2008 303\(d\) list consideration](#)

SWAMP Data:

Non-SWAMP

Water Quality Objective/Criterion:

The Basin Plan prohibits discharge of Rubbish, refuse, bark, sawdust, or other solid wastes into surface waters or at any place where they would contact or where they would be eventually transported to surface waters, including flood plain areas.

The Basin Plan has a narrative objective for floating material, Waters shall not contain floating material, including solids, liquids, foams, and scum, in concentrations that cause nuisance or adversely affect beneficial uses.

The Basin Plan has a narrative objective for settleable material, Waters shall not contain substances in concentrations that result in the deposition of material that cause nuisance or adversely affect beneficial uses.

Objective/Criterion Reference:

[Water Quality Control Plan \(Basin Plan\) - San Francisco Bay Region \(Region 2\)](#)

Evaluation Guideline:

If the Rapid Trash Assessment (RTA) Parameter 1 (Level of Trash) is in the poor condition category (scores 0-5), REC2 is not supported. This level of trash distracts the eye on first glance, making the site unsuitable for recreation. The RTA defines poor condition for this parameter as follows, trash distracts the eye on first glance. Stream, bank surfaces, and immediate riparian zone contain substantial levels of litter and debris (>100 pieces). Evidence of site being used frequently by people: many cans, bottles, and food wrappers, blankets, clothing. Regional Water Board staff trained in the RTA inspected the available photographic evidence and applied the assessment method to determine the Level of Trash score.

If the RTA Parameter 3 (Threat to Aquatic Life) is in the poor condition category (scores 0-5), then WILD is not supported. This level of trash is a large amount (>50 pieces) of transportable, persistent, buoyant litter that is detrimental to aquatic life. The RTA defines poor condition for this parameter as follows, large amount (>50 pieces) of transportable, persistent, buoyant litter such as: hard or soft plastics, balloons, Styrofoam, cigarette butts; toxic items such as batteries, lighters, or spray cans; large clumps of yard waste or dumped leaf litter; or large amount (>50 pieces) of settleable glass or metal. Regional Water Board staff trained in the RTA inspected the available photographic evidence and applied the assessment method to determine the Threat to Aquatic Life score.

Guideline Reference:

[A Rapid Trash Assessment Method Applied to Waters of the San Francisco Bay Region: Trash Measurement in Streams](#)

Spatial Representation:

Photographic evidence was analyzed using the RTA methodology for this waterbody for three different locations spanning dates from 2001 through 2007.

Temporal Representation:

Photographic evidence was collected for this waterbody on six separate dates from 2001 through 2007.

Environmental Conditions:

QAPP Information:

Assessments of the photographic evidence using the RTA were performed by Regional

Water Board staff person who was a co-author of the Rapid Trash Assessment methodology.

Assessments based on photographic evidence were only conducted when sufficient reach-scale and close-up photos were available for a site on a specific date. Photos used for the evaluation needed to be numerous enough and clear enough to document the level of trash at the site in a similar way as the assessor would experience during an actual site visit in the field. For example, at a minimum, one reach-scale photograph (showing at least a 100 linear foot section of the waterbody) and two close-up photographs (of representative trash deposits) were required.

QAPP Information Reference(s):

DECISION ID	44043	Region 2
San Leandro Creek, Lower		

Pollutant:	Alkalinity as CaCO₃
Final Listing Decision:	Do Not List on 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision:	Do Not List on 303(d) list (TMDL required list)(2012)
Revision Status	Revised
Impairment from Pollutant or Pollution:	Pollutant

Regional Board Staff Conclusion: This pollutant is being considered for placement on the CWA section 303(d) List under section 3.1 of the Listing Policy. Under section 3.1 a single line of evidence is necessary to assess listing status.

Three lines of evidence are available in the administrative record to assess this pollutant. Zero of four samples exceed the guideline.

Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against placing this water segment-pollutant combination on the CWA section 303(d) List.

This conclusion is based on the staff findings that:

1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy.
2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy.
3. Zero of four samples exceed the guideline and this sample size is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating. A minimum of 16 samples is needed to determine if a beneficial use is fully supported using table 3.1.
4. Pursuant to SECTION 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.

Regional Board Staff Decision Recommendation: After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be placed on the section 303(d) list. The readily available data and information is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating.

Line of Evidence (LOE) for Decision ID 44043, Alkalinity as CaCO₃	Region 2
San Leandro Creek, Lower	

LOE ID:	29286
Pollutant:	Alkalinity as CaCO ₃
LOE Subgroup:	Pollutant-Water
Matrix:	Water
Fraction:	None
Beneficial Use:	Cold Freshwater Habitat

Number of Samples:	3
Number of Exceedances:	0
Data and Information Type:	PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality:	Three water column samples were assessed. None of the samples exceeded the objectives.
Data Reference:	Water Quality Monitoring and Bioassessment in Nine San Francisco Bay Region Watersheds: Walker Creek, Lagunitas Creek, San Leandro Creek, Wildcat Creek/San Pablo Creek, Suisun Creek, Arroyo Las Positas, Pescadero Creek/Butano Creek, San Gregorio Creek, and Stevens Creek/Permanente Creek, Oakland, CA: Surface Water Ambient Monitoring Program, San Francisco Bay Regional Water Quality Control Board
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	Surface waters shall not contain concentrations of chemical constituents in amounts that adversely affect any designated beneficial use.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) - San Francisco Bay Region (Region 2)
Evaluation Guideline:	National Recommendations for Water Quality Criteria, Gold Book, USEPA,1986. Alkalinity standard at 20000 ug/L (chronic).
Guideline Reference:	Quality Criteria for Water 1986. United States Environmental Protection Agency. Office of Water. Regulations and Standards. Washington D.C. EPA 440/5-86-001.
Spatial Representation:	Three samples were taken from one monitoring location at the lower portion of the creek (SLE030).
Temporal Representation:	The samples were taken from dry, spring and wet seasons in the years 2001 and 2002.
Environmental Conditions:	
QAPP Information:	The QA/QC was in compliance with SWAMP's Quality Assurance Management Plan (QAMP).
QAPP Information Reference(s):	Quality Assurance Management Plan for the State of California's Surface Water Ambient Monitoring Program. Sacramento, CA. State Water Resources Control Board. SWAMP. December 2002 (1st version)

Line of Evidence (LOE) for Decision ID 44043, Alkalinity as CaCO₃

Region 2

San Leandro Creek, Lower

LOE ID:	93042
Pollutant:	Alkalinity as CaCO ₃
LOE Subgroup:	Pollutant-Water
Matrix:	Water
Fraction:	None
Beneficial Use:	Cold Freshwater Habitat
Number of Samples:	1
Number of Exceedances:	0
Data and Information Type:	PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality:	State Water Board staff assessed SWAMP data for San Leandro Creek, Lower to determine beneficial use support and results are as follows: 0 of 1 samples exceed the criterion for Alkalinity as CaCO ₃ .
Data Reference:	Statewide Perennial Streams Assessment 2008
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	Surface waters shall not contain concentrations of chemical constituents in amounts that adversely affect any designated beneficial use.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	The Alkalinity as CaCO ₃ criteria for the protection of freshwater aquatic life is 20000 ug/L

Guideline Reference: (National Recommended Water Quality Criteria, 2009).
[National Recommended Water Quality Criteria. United States Environmental Protection Agency. Office of Water. Office of Science and Technology](#)

Spatial Representation: Data for this line of evidence for San Leandro Creek, Lower was collected at 1 monitoring site [San Leandro Creek - 204PS0038]

Temporal Representation: Data was collected on a single day 6/19/2008.

Environmental Conditions: Staff is not aware of any special conditions that might affect interpretation of the data.

QAPP Information: The SWAMP QAPP (2008) was followed.

QAPP Information Reference(s): [Surface Water Ambient Monitoring Program Quality Assurance Program Plan](#)

Line of Evidence (LOE) for Decision ID 44043, Alkalinity as CaCO3

Region 2

San Leandro Creek, Lower

LOE ID: 93041

Pollutant: Alkalinity as CaCO3

LOE Subgroup: Pollutant-Water

Matrix: Water

Fraction: Total

Beneficial Use: Warm Freshwater Habitat

Number of Samples: 1

Number of Exceedances: 0

Data and Information Type: PHYSICAL/CHEMICAL MONITORING

Data Used to Assess Water Quality: State Water Board staff assessed SWAMP data for San Leandro Creek, Lower to determine beneficial use support and results are as follows: 0 of 1 samples exceed the criterion for Alkalinity as CaCO3.

Data Reference: [Statewide Perennial Streams Assessment 2008](#)

SWAMP Data: SWAMP

Water Quality Objective/Criterion: Surface?waters?shall?not?contain?concentrations?of?chemical?constituents?in? amounts?that? adversely?affect?any?designated?beneficial?use.

Objective/Criterion Reference: [Water Quality Control Plan \(Basin Plan\) San Francisco Bay Basin \(Region 2\)](#)

Evaluation Guideline: The Alkalinity as CaCO3 criteria for the protection of freshwater aquatic life is 20000 ug/L (National Recommended Water Quality Criteria, 2009).

Guideline Reference: [National Recommended Water Quality Criteria. United States Environmental Protection Agency. Office of Water. Office of Science and Technology](#)

Spatial Representation: Data for this line of evidence for San Leandro Creek, Lower was collected at 1 monitoring site [San Leandro Creek - 204PS0038]

Temporal Representation: Data was collected on a single day 6/19/2008.

Environmental Conditions: Staff is not aware of any special conditions that might affect interpretation of the data.

QAPP Information: The SWAMP QAPP (2008) was followed.

QAPP Information Reference(s): [Surface Water Ambient Monitoring Program Quality Assurance Program Plan](#)

DECISION ID

66121

Region 2

San Leandro Creek, Lower

Pollutant: Ammonia (Unionized)

Final Listing Decision: Do Not List on 303(d) list (TMDL required list)

Last Listing Cycle's Final Listing Decision: New Decision

Revision Status: Revised

Impairment from Pollutant or Pollutant

Pollution:**Regional Board Staff Conclusion:**

This pollutant is being considered for placement on the CWA section 303(d) List under section 3.1 of the Listing Policy. Under section 3.1 one line of evidence is necessary to assess listing status. One line of evidence is available in the administrative record to assess this pollutant. Zero of the one samples exceed the Objective.

Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against placing this water segment-pollutant combination on the CWA section 303(d) List. This conclusion is based on the staff findings that:

1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy.
2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy.
3. Zero of the one samples exceeded the Objective and this sample size is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating. A minimum of 16 samples is needed to determine if a beneficial use is fully supported using table 3.1.
4. Pursuant to 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.

Regional Board Staff Decision Recommendation:

After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be placed on the section 303(d) list. The readily available data and information is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating.

Line of Evidence (LOE) for Decision ID 66121, Ammonia (Unionized)**Region 2****San Leandro Creek, Lower**

LOE ID:	93045
Pollutant:	Nitrogen, ammonia (Total Ammonia)
LOE Subgroup:	Pollutant-Water
Matrix:	Water
Fraction:	Total
Beneficial Use:	Cold Freshwater Habitat
Number of Samples:	1
Number of Exceedances:	0
Data and Information Type:	PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality:	State Water Board staff assessed SWAMP data for San Leandro Creek, Lower to determine beneficial use support and results are as follows: 0 of 1 samples exceed the criterion for Ammonia as N, Total.
Data Reference:	Statewide Perennial Streams Assessment 2008
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	Surface?waters?shall?not?contain?concentrations?of?chemical?constituents?in?amounts?that?adversely?affect?any?designated?beneficial?use.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	Aquatic Life Ambient Water Quality Criteria for Ammonia ? Freshwater (USEPA 2013): the 30-day rolling average concentration (criterion continuous concentration or CCC) of total ammonia nitrogen(in mg TAN/L) in freshwater are not to be exceeded more than once every three years on average. The CCC values are based on pH and temperature. The CCC formula is found on page 46 and the table of CCC values is on page 49.
Guideline Reference:	Aquatic Life Ambient Water Quality Criteria for Ammonia - Freshwater 2013
Spatial Representation:	Data for this line of evidence for San Leandro Creek, Lower was collected at 1 monitoring site [San Leandro Creek - 204PS0038]

Temporal Representation:	Data was collected on a single day 6/19/2008.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	The SWAMP QAPP (2008) was followed.
QAPP Information Reference(s):	Surface Water Ambient Monitoring Program Quality Assurance Program Plan

Line of Evidence (LOE) for Decision ID 66121, Ammonia (Unionized)

Region 2

San Leandro Creek, Lower

LOE ID:	93043
Pollutant:	Ammonia (Unionized)
LOE Subgroup:	Pollutant-Water
Matrix:	Water
Fraction:	Total
Beneficial Use:	Fish Spawning
Number of Samples:	1
Number of Exceedances:	0
Data and Information Type:	PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality:	0 of 1 samples exceed the Maximum for the Lower Bay at 0.4 mg/L Un-ionized Ammonia (as N). Un-ionized ammonia (as N) was calculated from Total Ammonia (as N) from monthly samples reported in the data.
Data Reference:	Statewide Perennial Streams Assessment 2008
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	Water Quality Control Plan, San Francisco Bay Region (SFBRWQCB 2011): All waters shall be maintained free of toxic substances in concentrations that are toxic to, or that produce detrimental physiological responses in human, plant, animal, or aquatic life.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	
Guideline Reference:	
Spatial Representation:	Samples were collected at 204PS0038 (San Leandro Creek).
Temporal Representation:	Samples collected on 6/19/2008.
Environmental Conditions:	
QAPP Information:	SWAMP QAPP (2008) was followed.
QAPP Information Reference(s):	Surface Water Ambient Monitoring Program Quality Assurance Program Plan

DECISION ID

65690

Region 2

San Leandro Creek, Lower

Pollutant:	Anthracene
Final Listing Decision:	Do Not List on 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision:	New Decision
Revision Status	Revised
Impairment from Pollutant or Pollution:	Pollutant

Regional Board Staff Conclusion:

This pollutant is being considered for placement on the CWA section 303(d) List under section 3.6 of the Listing Policy. Under section 3.6 at least two lines of evidence are necessary to assess listing status for pollutants sediment, and pollutant concentrations in sediment must be associated with sediment toxicity to justify adding that pollutant to the CWA section 303(d) List.

One line of evidence is available in the administrative record to assess this pollutant. Zero of the One samples exceed the evaluation guideline.

Based on the readily available data and information, the weight of evidence indicates that there is insufficient justification for placing this water segment-pollutant combination on the CWA section 303(d) List.

This conclusion is based on the staff findings that:

1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy.
2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy.
3. Zero of the one samples exceed the Evaluation Guideline and this sample size is insufficient to determine beneficial use support, with the power and confidence of the Listing Policy. There [is/is not] an associated sediment toxicity data as required by Section 3.6 of the Listing Policy.
4. Pursuant to section 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.

Regional Board Staff Decision Recommendation: After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be removed from the section 303(d) list because applicable water quality standards for the pollutant are being exceeded.

**Line of Evidence (LOE) for Decision ID 65690, Anthracene
San Leandro Creek, Lower**

Region 2

LOE ID:	93052
Pollutant:	Anthracene
LOE Subgroup:	Pollutant-Sediment
Matrix:	Sediment
Fraction:	Total
Beneficial Use:	Cold Freshwater Habitat
Number of Samples:	1
Number of Exceedances:	0
Data and Information Type:	PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality:	Water Board staff assessed SWAMP data for San Leandro Creek, Lower to determine beneficial use support and results are as follows: 0 of 1 samples exceed the criterion for Anthracene.
Data Reference:	Statewide Stream Pollution Trends Study 2008
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	San Francisco Bay Basin Water Quality Control Plan 2007: All waters shall be maintained free of toxic substances in concentrations which are toxic to, or which produce detrimental physiological responses in, human, plant, animal, or aquatic life.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	In freshwater sediments the probable effect concentration (predictive of sediment toxicity for sediment-dwelling organisms) for anthracene is 845 ug/Kg dry weight (MacDonald et al. 2000).
Guideline Reference:	Development and evaluation of consensus-based sediment quality guidelines for freshwater ecosystems. Environmental Contamination and Toxicology. 39: 20-31
Spatial Representation:	Data for this line of evidence for San Leandro Creek, Lower was collected at 1 monitoring site [San Leandro Creek at Empire Road station (204SLE030)]
Temporal Representation:	Data was collected on a single day 6/17/2008.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	SWAMP data collected before September 2008 followed the QAMP (2002), however there may have been overlap in QA with SWAMP QAPP (2008).
QAPP Information Reference(s):	Quality Assurance Management Plan for the State of California's Surface Water Ambient Monitoring Program. Sacramento, CA. State Water Resources Control Board. SWAMP. December 2002 (1st version)

DECISION ID	65944	Region 2
San Leandro Creek, Lower		

Pollutant: Arsenic
Final Listing Decision: Do Not List on 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision: New Decision
Revision Status: Revised
Impairment from Pollutant or Pollution: Pollutant

Regional Board Staff Conclusion: This pollutant is being considered for placement on the CWA section 303(d) List under section 3.6 of the Listing Policy. Under section 3.6 at least two lines of evidence are necessary to assess listing status for pollutants sediment, and pollutant concentrations in sediment must be associated with sediment toxicity to justify adding that pollutant to the CWA section 303(d) List.

One lines of evidence are available in the administrative record to assess this pollutant. Zero of the One samples exceed the GUIDELINE.

Based on the readily available data and information, the weight of evidence indicates that there is INSUFFICIENT justification FOR placing this water segment-pollutant combination on the CWA section 303(d) List.

This conclusion is based on the staff findings that:

1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy.
2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy.
3. Zero of the one samples exceed the [OBJECTIVE, GUIDELINE, CRITERIA] and this sample size is insufficient to determine beneficial use support, with the power and confidence of the Listing Policy. There is not an associated sediment toxicity data as required by Section 3.6 of the Listing Policy.
4. Pursuant to section 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.

Regional Board Staff Decision Recommendation:

Line of Evidence (LOE) for Decision ID 65944, Arsenic	Region 2
San Leandro Creek, Lower	

LOE ID: 93054
Pollutant: Arsenic
LOE Subgroup: Pollutant-Sediment
Matrix: Sediment
Fraction: Total
Beneficial Use: Cold Freshwater Habitat
Number of Samples: 1
Number of Exceedances: 0
Data and Information Type: PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality: Water Board staff assessed SWAMP data for San Leandro Creek, Lower to determine beneficial use support and results are as follows: 0 of 1 samples exceed the criterion for Arsenic.
Data Reference: [Statewide Stream Pollution Trends Study 2008](#)
SWAMP Data: SWAMP

Water Quality Objective/Criterion:	San Francisco Bay Basin Water Quality Control Plan 2007: All waters shall be maintained free of toxic substances in concentrations which are toxic to, or which produce detrimental physiological responses in, human, plant, animal, or aquatic life.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	In freshwater sediments the probable effect concentration (predictive of sediment toxicity for sediment-dwelling organisms) for arsenic is 33 mg/Kg dry weight (MacDonald et al. 2000).
Guideline Reference:	Development and evaluation of consensus-based sediment quality guidelines for freshwater ecosystems. Environmental Contamination and Toxicology. 39: 20-31
Spatial Representation:	Data for this line of evidence for San Leandro Creek, Lower was collected at 1 monitoring site [San Leandro Creek at Empire Road station (204SLE030)]
Temporal Representation:	Data was collected on a single day 6/17/2008.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	SWAMP data collected before September 2008 followed the QAMP (2002), however there may have been overlap in QA with SWAMP QAPP (2008).
QAPP Information Reference(s):	Quality Assurance Management Plan for the State of California's Surface Water Ambient Monitoring Program. Sacramento, CA. State Water Resources Control Board. SWAMP. December 2002 (1st version) Surface Water Ambient Monitoring Program Quality Assurance Program Plan

DECISION ID	65953	Region 2
San Leandro Creek, Lower		

Pollutant:	Benzo(a)anthracene
Final Listing Decision:	Do Not List on 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision:	New Decision
Revision Status	Revised
Impairment from Pollutant or Pollution:	Pollutant

Regional Board Staff Conclusion:	This pollutant is being considered for placement on the CWA section 303(d) List under section 3.6 of the Listing Policy. Under section 3.6 at least two lines of evidence are necessary to assess listing status for pollutants sediment, and pollutant concentrations in sediment must be associated with sediment toxicity to justify adding that pollutant to the CWA section 303(d) List.
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One line of evidence are available in the administrative record to assess this pollutant. Zero of the one samples exceed the GUIDELINE. Zero of one samples exhibited sediment toxicity.

Based on the readily available data and information, the weight of evidence indicates that there is INSUFFICIENT justification FOR placing this water segment-pollutant combination on the CWA section 303(d) List.

This conclusion is based on the staff findings that:

1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy.
2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy.
3. Zero of the one samples exceed the GUIDELINE and this sample size is INSUFFICIENT to determine beneficial use support, with the power and confidence of the Listing Policy. There is not an associated sediment toxicity data as required by Section 3.6 of the Listing Policy.
4. Pursuant to section 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.

Regional Board Staff Decision Recommendation:	After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be placed on the section 303(d) list because applicable water quality standards are not being exceeded.
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Line of Evidence (LOE) for Decision ID 65953, Benzo(a)anthracene	Region 2
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San Leandro Creek, Lower

LOE ID:	93056
Pollutant:	Benzo(a)anthracene
LOE Subgroup:	Pollutant-Sediment
Matrix:	Sediment
Fraction:	Total
Beneficial Use:	Cold Freshwater Habitat
Number of Samples:	1
Number of Exceedances:	0
Data and Information Type:	PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality:	Water Board staff assessed SWAMP data for San Leandro Creek, Lower to determine beneficial use support and results are as follows: 0 of 1 samples exceed the criterion for Benzo(a)anthracene.
Data Reference:	Statewide Stream Pollution Trends Study 2008
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	San Francisco Bay Basin Water Quality Control Plan 2007: All waters shall be maintained free of toxic substances in concentrations which are toxic to, or which produce detrimental physiological responses in, human, plant, animal, or aquatic life.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	In freshwater sediments the probable effect concentration (predictive of sediment toxicity for sediment-dwelling organisms) for Benzo(a)anthracene is 1050 ug/Kg dry weight (MacDonald et al. 2000).
Guideline Reference:	Development and evaluation of consensus-based sediment quality guidelines for freshwater ecosystems. Environmental Contamination and Toxicology. 39: 20-31
Spatial Representation:	Data for this line of evidence for San Leandro Creek, Lower was collected at 1 monitoring site [San Leandro Creek at Empire Road station (204SLE030)]
Temporal Representation:	Data was collected on a single day 6/17/2008.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	SWAMP data collected before September 2008 followed the QAMP (2002), however there may have been overlap in QA with SWAMP QAPP (2008).
QAPP Information Reference(s):	Quality Assurance Management Plan for the State of California's Surface Water Ambient Monitoring Program. Sacramento, CA. State Water Resources Control Board. SWAMP. December 2002 (1st version) Surface Water Ambient Monitoring Program Quality Assurance Program Plan

DECISION ID	65954	Region 2
San Leandro Creek, Lower		

Pollutant:	Benzo(a)pyrene (3,4-Benzopyrene -7-d)
Final Listing Decision:	Do Not List on 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision:	New Decision
Revision Status	Revised
Impairment from Pollutant or Pollution:	Pollutant

Regional Board Staff Conclusion: This pollutant is being considered for placement on the CWA section 303(d) List under section 3.6 of the Listing Policy. Under section 3.6 at least two lines of evidence are necessary to assess listing status for pollutants sediment, and pollutant concentrations in sediment must be associated with sediment toxicity to justify adding that pollutant to the CWA section 303(d) List.

One line of evidence are available in the administrative record to assess this pollutant. Zero of the

one samples exceed the GUIDELINE. Zero of one samples exhibited sediment toxicity.

Based on the readily available data and information, the weight of evidence indicates that there is INSUFFICIENT justification FOR placing this water segment-pollutant combination on the CWA section 303(d) List.

This conclusion is based on the staff findings that:

1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy.
2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy.
3. Zero of the one samples exceed the GUIDELINE and this sample size is INSUFFICIENT to determine beneficial use support, with the power and confidence of the Listing Policy. There is not an associated sediment toxicity data as required by Section 3.6 of the Listing Policy.
4. Pursuant to section 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.

Regional Board Staff Decision Recommendation: After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be placed on the section 303(d) list because applicable water quality standards are not being exceeded.

**Line of Evidence (LOE) for Decision ID 65954, Benzo(a)pyrene (3,4-Benzopyrene -7-d)
San Leandro Creek, Lower**

Region 2

LOE ID:	93063
Pollutant:	Benzo(a)pyrene (3,4-Benzopyrene -7-d)
LOE Subgroup:	Pollutant-Sediment
Matrix:	Sediment
Fraction:	Total
Beneficial Use:	Cold Freshwater Habitat
Number of Samples:	1
Number of Exceedances:	0
Data and Information Type:	PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality:	Water Board staff assessed SWAMP data for San Leandro Creek, Lower to determine beneficial use support and results are as follows: 0 of 1 samples exceed the criterion for Benzo(a)pyrene.
Data Reference:	Statewide Stream Pollution Trends Study 2008
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	San Francisco Bay Basin Water Quality Control Plan 2007: All waters shall be maintained free of toxic substances in concentrations which are toxic to, or which produce detrimental physiological responses in, human, plant, animal, or aquatic life.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	In freshwater sediments the probable effects level (predictive of sediment toxicity for sediment-dwelling organisms) for Benzo(a)Pyrene is 1450 ug/Kg dry weight (Macdonald et al. 2000)
Guideline Reference:	Development and evaluation of consensus-based sediment quality guidelines for freshwater ecosystems. Environmental Contamination and Toxicology. 39: 20-31
Spatial Representation:	Data for this line of evidence for San Leandro Creek, Lower was collected at 1 monitoring site [San Leandro Creek at Empire Road station (204SLE030)]
Temporal Representation:	Data was collected on a single day 6/17/2008.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	SWAMP data collected before September 2008 followed the QAMP (2002), however there may have been overlap in QA with SWAMP QAPP (2008).
QAPP Information Reference(s):	Quality Assurance Management Plan for the State of California's Surface Water Ambient Monitoring Program. Sacramento, CA. State Water Resources Control Board. SWAMP.

DECISION ID	65955	Region 2
San Leandro Creek, Lower		

Pollutant:	Bifenthrin
Final Listing Decision:	Do Not List on 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision:	New Decision
Revision Status	Revised
Impairment from Pollutant or Pollution:	Pollutant

Regional Board Staff Conclusion: This pollutant is being considered for placement on the CWA section 303(d) List under section 3.6 of the Listing Policy. Under section 3.6 at least two lines of evidence are necessary to assess listing status for pollutants sediment, and pollutant concentrations in sediment must be associated with sediment toxicity to justify adding that pollutant to the CWA section 303(d) List.

One line of evidence are available in the administrative record to assess this pollutant. Zero of the one samples exceed the GUIDELINE. Zero of one samples exhibited sediment toxicity.

Based on the readily available data and information, the weight of evidence indicates that there is INSUFFICIENT justification FOR placing this water segment-pollutant combination on the CWA section 303(d) List.

This conclusion is based on the staff findings that:

1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy.
2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy.
3. Zero of the one samples exceed the GUIDELINE and this sample size is INSUFFICIENT to determine beneficial use support, with the power and confidence of the Listing Policy. There is not an associated sediment toxicity data as required by Section 3.6 of the Listing Policy.
4. Pursuant to section 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.

Regional Board Staff Decision Recommendation: After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be placed on the section 303(d) list. The readily available data and information is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating.

Line of Evidence (LOE) for Decision ID 65955, Bifenthrin	Region 2
San Leandro Creek, Lower	

LOE ID:	93065
Pollutant:	Bifenthrin
LOE Subgroup:	Pollutant-Sediment
Matrix:	Sediment
Fraction:	Total
Beneficial Use:	Cold Freshwater Habitat
Number of Samples:	1
Number of Exceedances:	0
Data and Information Type:	PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality:	Water Board staff assessed SWAMP data for San Leandro Creek, Lower to determine beneficial use support and results are as follows: 0 of 1 samples exceed the criterion for Bifenthrin.

Data Reference:	Statewide Stream Pollution Trends Study 2008
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	San Francisco Bay Basin Water Quality Control Plan 2007: All waters shall be maintained free of toxic substances in concentrations which are toxic to, or which produce detrimental physiological responses in, human, plant, animal, or aquatic life.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	The evaluation guideline for bifenthrin is the median lethal concentration (LC50) of 0.43 ug/g and is normalized by the percentage of organic carbon in the sediment sample. The LC50 0.43 ug/g is the geometric mean of LC50 values for bifenthrin from Amweg et al. (2005) and Amweg and Weston (2007).
Guideline Reference:	Use and Toxicity of Pyrethroid Pesticides in the Central Valley, California, USA. Environmental Toxicology and Chemistry, 24:966-972, with erratum 24:No. 5 Whole-sediment toxicity identification evaluation tools for pyrethroid insecticides: I. piperonyl butoxide addition. Environ. Toxicol. Chem. 26:2389-2396.
Spatial Representation:	Data for this line of evidence for San Leandro Creek, Lower was collected at 1 monitoring site [San Leandro Creek at Empire Road station (204SLE030)]
Temporal Representation:	Data was collected on a single day 6/17/2008.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	SWAMP data collected before September 2008 followed the QAMP (2002), however there may have been overlap in QA with SWAMP QAPP (2008).
QAPP Information Reference(s):	Quality Assurance Management Plan for the State of California's Surface Water Ambient Monitoring Program. Sacramento, CA. State Water Resources Control Board. SWAMP. December 2002 (1st version). Surface Water Ambient Monitoring Program Quality Assurance Program Plan

DECISION ID 43929		Region 2
San Leandro Creek, Lower		
Pollutant:	Cadmium	
Final Listing Decision:	Do Not List on 303(d) list (TMDL required list)	
Last Listing Cycle's Final Listing Decision:	Do Not List on 303(d) list (TMDL required list)(2012)	
Revision Status	Revised	
Impairment from Pollutant or Pollution:	Pollutant	
Regional Board Staff Conclusion:	<p>This pollutant is being considered for placement on the CWA section 303(d) List under section 3.1 of the Listing Policy. Under section 3.1 a single line of evidence is necessary to assess listing status. Three lines of evidence are available in the administrative record to assess this pollutant. Zero of two samples exceed the guideline.</p> <p>Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against placing this water segment-pollutant combination on the CWA section 303(d) List.</p> <p>This conclusion is based on the staff findings that:</p> <ol style="list-style-type: none"> 1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy. 2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy. 3. Zero of two samples exceed the guideline and this sample size is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating. A minimum of 16 samples is needed to determine if a beneficial use is fully supported using table 3.1. 4. Pursuant to SECTION 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met. 	
Regional Board Staff Decision Recommendation:	After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be placed on the section 303(d) list. The readily available data and information is insufficient to determine, with the power and confidence of the Listing Policy, the	

Line of Evidence (LOE) for Decision ID 43929, Cadmium**Region 2****San Leandro Creek, Lower**

LOE ID:	93066
Pollutant:	Cadmium
LOE Subgroup:	Pollutant-Sediment
Matrix:	Sediment
Fraction:	Total
Beneficial Use:	Warm Freshwater Habitat
Number of Samples:	1
Number of Exceedances:	0
Data and Information Type:	PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality:	Water Board staff assessed SWAMP data for San Leandro Creek, Lower to determine beneficial use support and results are as follows: 0 of 1 samples exceed the criterion for Cadmium.
Data Reference:	Statewide Stream Pollution Trends Study 2008
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	San Francisco Bay Basin Water Quality Control Plan 2007: All waters shall be maintained free of toxic substances in concentrations which are toxic to, or which produce detrimental physiological responses in, human, plant, animal, or aquatic life.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	In freshwater sediments the probable effect concentration (predictive of sediment toxicity for sediment-dwelling organisms) for cadmium is 4.98 mg/Kg dry weight (MacDonald et al. 2000).
Guideline Reference:	Development and evaluation of consensus-based sediment quality guidelines for freshwater ecosystems. Environmental Contamination and Toxicology. 39: 20-31
Spatial Representation:	Data for this line of evidence for San Leandro Creek, Lower was collected at 1 monitoring site [San Leandro Creek at Empire Road station (204SLE030)]
Temporal Representation:	Data was collected on a single day 6/17/2008.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	SWAMP data collected before September 2008 followed the QAMP (2002), however there may have been overlap in QA with SWAMP QAPP (2008).
QAPP Information Reference(s):	Quality Assurance Management Plan for the State of California's Surface Water Ambient Monitoring Program. Sacramento, CA. State Water Resources Control Board. SWAMP. December 2002 (1st version) Surface Water Ambient Monitoring Program Quality Assurance Program Plan

Line of Evidence (LOE) for Decision ID 43929, Cadmium**Region 2****San Leandro Creek, Lower**

LOE ID:	93073
Pollutant:	Cadmium
LOE Subgroup:	Pollutant-Sediment
Matrix:	Sediment
Fraction:	Total
Beneficial Use:	Cold Freshwater Habitat
Number of Samples:	1

Number of Exceedances:	0
Data and Information Type:	PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality:	Water Board staff assessed SWAMP data for San Leandro Creek, Lower to determine beneficial use support and results are as follows: 0 of 1 samples exceed the criterion for Cadmium.
Data Reference:	Statewide Stream Pollution Trends Study 2008
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	San Francisco Bay Basin Water Quality Control Plan 2007: All waters shall be maintained free of toxic substances in concentrations which are toxic to, or which produce detrimental physiological responses in, human, plant, animal, or aquatic life.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	In freshwater sediments the probable effect concentration (predictive of sediment toxicity for sediment-dwelling organisms) for cadmium is 4.98 mg/Kg dry weight (MacDonald et al. 2000).
Guideline Reference:	Development and evaluation of consensus-based sediment quality guidelines for freshwater ecosystems. Environmental Contamination and Toxicology. 39: 20-31
Spatial Representation:	Data for this line of evidence for San Leandro Creek, Lower was collected at 1 monitoring site [San Leandro Creek at Empire Road station (204SLE030)]
Temporal Representation:	Data was collected on a single day 6/17/2008.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	SWAMP data collected before September 2008 followed the QAMP (2002), however there may have been overlap in QA with SWAMP QAPP (2008).
QAPP Information Reference(s):	Quality Assurance Management Plan for the State of California's Surface Water Ambient Monitoring Program. Sacramento, CA. State Water Resources Control Board. SWAMP. December 2002 (1st version) Surface Water Ambient Monitoring Program Quality Assurance Program Plan

Line of Evidence (LOE) for Decision ID 43929, Cadmium

Region 2

San Leandro Creek, Lower

LOE ID:	27989
Pollutant:	Cadmium
LOE Subgroup:	Pollutant-Water
Matrix:	Water
Fraction:	None
Beneficial Use:	Cold Freshwater Habitat
Number of Samples:	2
Number of Exceedances:	0
Data and Information Type:	PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality:	Lower San Leandro Creek was monitored as part of SWAMP assessment. None of the two samples exceeded the water quality objectives cadmium.
Data Reference:	Water Quality Monitoring and Bioassessment in Nine San Francisco Bay Region Watersheds: Walker Creek, Lagunitas Creek, San Leandro Creek, Wildcat Creek/San Pablo Creek, Suisun Creek, Arroyo Las Positas, Pescadero Creek/Butano Creek, San Gregorio Creek, and Stevens Creek/Permanente Creek. Oakland, CA: Surface Water Ambient Monitoring Program, San Francisco Bay Regional Water Quality Control Board
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	The objective in the Basin Plan is expressed by formulas where $H = \ln$ (hardness) as CaCO_3 in mg/l : The four-day average objective for cadmium is $e^{(0.7852H - 3.490)}$. This is 1.1 ug/l at a hardness of 100 mg/l as CaCO_3 . The one hour objective is $e^{(1.128H - 3.828)}$. This is 3.9 ug/l at a hardness of 100 mg/l as CaCO_3 .

Objective/Criterion Reference: [Water Quality Control Plan \(Basin Plan\) - San Francisco Bay Region \(Region 2\)](#)

Evaluation Guideline:
Guideline Reference:

Spatial Representation: The samples were collected at one monitoring site (SLE030) from the most downstream location in the creek.

Temporal Representation: The samples were collected in two seasons: Spring and Dry.

Environmental Conditions:

QAPP Information: The QA/QC procedure was in compliance with Surface Water Ambient Monitoring Program's (SWAMP) Quality Assurance Management Plan (QAMP).

QAPP Information Reference(s):

DECISION ID	65956	Region 2
San Leandro Creek, Lower		

Pollutant: Chlordane
Final Listing Decision: Do Not List on 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision: New Decision
Revision Status: Revised
Impairment from Pollutant or Pollution: Pollutant

Regional Board Staff Conclusion:

This pollutant is being considered for placement on the CWA section 303(d) List under section 3.6 of the Listing Policy. Under section 3.6 at least two lines of evidence are necessary to assess listing status for pollutants sediment, and pollutant concentrations in sediment must be associated with sediment toxicity to justify adding that pollutant to the CWA section 303(d) List.

One line of evidence are available in the administrative record to assess this pollutant. One of the one samples exceed the GUIDELINE. One of one samples exhibited sediment toxicity.

Based on the readily available data and information, the weight of evidence indicates that there is INSUFFICIENT justification FOR placing this water segment-pollutant combination on the CWA section 303(d) List.

This conclusion is based on the staff findings that:

1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy.
2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy.
3. One of the one samples exceed the GUIDELINE and this sample size is INSUFFICIENT to determine beneficial use support, with the power and confidence of the Listing Policy. There is not an associated sediment toxicity data as required by Section 3.6 of the Listing Policy.
4. Pursuant to section 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.

Regional Board Staff Decision Recommendation: After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be placed on the section 303(d) list. The readily available data and information is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating.

Line of Evidence (LOE) for Decision ID 65956, Chlordane	Region 2
San Leandro Creek, Lower	

LOE ID: 90715

Pollutant: Chlordane
 LOE Subgroup: Pollutant-Sediment
 Matrix: Sediment
 Fraction: Total

Beneficial Use:	Cold Freshwater Habitat
Number of Samples:	1
Number of Exceedances:	1
Data and Information Type:	PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality:	1 of 1 samples collected exceeded the criteria for chlordane concentration (Sum of trans-Chlordane, cis-Chlordane, cis-Nonachlor, trans-Nonachlor, and Oxychlordane).
Data Reference:	Statewide Stream Pollution Trends Study 2008
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	All waters shall be maintained free of toxic substances in concentrations that are lethal to or that produce other detrimental responses in aquatic organisms. Waters shall not contain substances in concentrations that result in the deposition of material that causes nuisance or adversely affects beneficial uses. (Water Quality Control Plan for the San Francisco Bay Basin).
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) - San Francisco Bay Region (Region 2)
Evaluation Guideline:	The Probable Effect Concentration for Chlordane in freshwater sediments is 17.6 ug/kg(MacDonald et al. 2000).
Guideline Reference:	Development and evaluation of consensus-based sediment quality guidelines for freshwater ecosystems. Environmental Contamination and Toxicology. 39: 20-31
Spatial Representation:	Data were collected at the following station 204SLE030 (San Leandro Creek at Empire Road).
Temporal Representation:	The samples were collected on 6/17/2008.
Environmental Conditions:	
QAPP Information:	The SWAMP QAPP (2008) was followed.
QAPP Information Reference(s):	Surface Water Ambient Monitoring Program Quality Assurance Program Plan

DECISION ID	65957	Region 2
San Leandro Creek, Lower		

Pollutant:	Chloride
Final Listing Decision:	Do Not List on 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision:	New Decision
Revision Status	Revised
Impairment from Pollutant or Pollution:	Pollutant

Regional Board Staff Conclusion: This pollutant is being considered for placement on the CWA section 303(d) List under section 3.2 of the Listing Policy. Under section 3.2 a one line of evidence is necessary to assess listing status. One line of evidence is available in the administrative record to assess this pollutant. Zero of the one samples exceed the GUIDELINE.

Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against placing this water segment-pollutant combination on the CWA section 303(d) List. This conclusion is based on the staff findings that:

1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy.
2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy.
3. Zero of one samples exceeded the GUIDELINE and this sample size is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating. A minimum of 26 samples is needed to determine if a beneficial use is fully supported using table 3.2.
4. Pursuant to 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.

Regional Board Staff Decision Recommendation: After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be placed on the section 303(d) list. The readily available data and

information is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating.

Line of Evidence (LOE) for Decision ID 65957, Chloride

Region 2

San Leandro Creek, Lower

LOE ID: 93074

Pollutant: Chloride
LOE Subgroup: Pollutant-Water
Matrix: Water
Fraction: Not Recorded

Beneficial Use: Municipal & Domestic Supply

Number of Samples: 1
Number of Exceedances: 0

Data and Information Type: PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality: The sample collected did not exceed the evaluation guideline.
Data Reference: [Statewide Perennial Streams Assessment 2008](#)

SWAMP Data: SWAMP

Water Quality Objective/Criterion: Per the Basin Plan (NCRWQCB 2011): Waters shall not contain taste- or odor-producing substances in concentrations that impart undesirable tastes or odors to fish flesh or other edible products of aquatic origin, or that cause nuisance or adversely affect beneficial uses.

Objective/Criterion Reference: [Water Quality Control Plan \(Basin Plan\) San Francisco Bay Basin \(Region 2\)](#)

Evaluation Guideline: Per 22 CCR 64449: The recommended Secondary Maximum Contaminant Level for chloride is 250 mg/L.

Guideline Reference: [Title 22, Division 4, Chapter 15, Sections 64400 et seq. California Code of Regulations](#)

Spatial Representation: Samples were collected from the San Leandro Creek station (204PS0038).
Temporal Representation: One sample was collected on 6/19/2008.
Environmental Conditions:
QAPP Information: SWAMP QAPP
QAPP Information Reference(s):

DECISION ID

66004

Region 2

San Leandro Creek, Lower

Pollutant: Chlorpyrifos
Final Listing Decision: Do Not List on 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision: New Decision
Revision Status: Revised
Impairment from Pollutant or Pollution: Pollutant

Regional Board Staff Conclusion:

This pollutant is being considered for placement on the CWA section 303(d) List under section 3.6 of the Listing Policy. Under section 3.6 at least two lines of evidence are necessary to assess listing status for pollutants sediment, and pollutant concentrations in sediment must be associated with sediment toxicity to justify adding that pollutant to the CWA section 303(d) List.

One line of evidence is available in the administrative record to assess this pollutant. Zero of the one samples exceed the GUIDELINE. Zero of one samples exhibited sediment toxicity.

Based on the readily available data and information, the weight of evidence indicates that there is INSUFFICIENT justification FOR placing this water segment-pollutant combination on the CWA section 303(d) List.

This conclusion is based on the staff findings that:

1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy.
2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy.
3. Zero of the one samples exceed the GUIDELINE and this sample size is INSUFFICIENT to determine beneficial use support, with the power and confidence of the Listing Policy. There is not an associated sediment toxicity data as required by Section 3.6 of the Listing Policy.
4. Pursuant to section 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.

Regional Board Staff Decision Recommendation: After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be placed on the section 303(d) list. The readily available data and information is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating.

**Line of Evidence (LOE) for Decision ID 66004, Chlorpyrifos
San Leandro Creek, Lower**

Region 2

LOE ID:	93076
Pollutant:	Chlorpyrifos
LOE Subgroup:	Pollutant-Sediment
Matrix:	Sediment
Fraction:	Total
Beneficial Use:	Cold Freshwater Habitat
Number of Samples:	1
Number of Exceedances:	0
Data and Information Type:	PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality:	Water Board staff assessed SWAMP data for San Leandro Creek, Lower to determine beneficial use support and results are as follows: 0 of 1 samples exceed the criterion for Chlorpyrifos.
Data Reference:	Statewide Stream Pollution Trends Study 2008
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	San Francisco Bay Basin Water Quality Control Plan 2007: All waters shall be maintained free of toxic substances in concentrations which are toxic to, or which produce detrimental physiological responses in, human, plant, animal, or aquatic life.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	The evaluation guideline for chlorpyrifos is the median lethal concentration (LC50) of 1.77 ug/g and is normalized by the percentage of organic carbon in the sediment sample (Amweg and Weston, 2007).
Guideline Reference:	Whole-sediment toxicity identification evaluation tools for pyrethroid insecticides: I. piperonyl butoxide addition. Environ. Toxicol. Chem. 26:2389-2396.
Spatial Representation:	Data for this line of evidence for San Leandro Creek, Lower was collected at 1 monitoring site [San Leandro Creek at Empire Road station (204SLE030)]
Temporal Representation:	Data was collected on a single day 6/17/2008.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	SWAMP data collected before September 2008 followed the QAMP (2002), however there may have been overlap in QA with SWAMP QAPP (2008).
QAPP Information Reference(s):	Quality Assurance Management Plan for the State of California's Surface Water Ambient Monitoring Program. Sacramento, CA. State Water Resources Control Board. SWAMP. December 2002 (1st version).

DECISION ID	34421	Region 2
San Leandro Creek, Lower		

Pollutant: Chromium
Final Listing Decision: Do Not List on 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision: Do Not List on 303(d) list (TMDL required list)(2012)
Revision Status: Revised
Impairment from Pollutant or Pollution: Pollutant

Regional Board Staff Conclusion: This pollutant is being considered for placement on the CWA section 303(d) List under section 3.6 of the Listing Policy. Under section 3.6 at least two lines of evidence are necessary to assess listing status for pollutants sediment, and pollutant concentrations in sediment must be associated with sediment toxicity to justify adding that pollutant to the CWA section 303(d) List.

One line of evidence are available in the administrative record to assess this pollutant. One of the one samples exceed the GUIDELINE. One of one samples exhibited sediment toxicity.

Based on the readily available data and information, the weight of evidence indicates that there is INSUFFICIENT justification FOR placing this water segment-pollutant combination on the CWA section 303(d) List.

This conclusion is based on the staff findings that:

1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy.
2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy.
3. One of the one samples exceed the GUIDELINE and this sample size is INSUFFICIENT to determine beneficial use support, with the power and confidence of the Listing Policy. There is not an associated sediment toxicity data as required by Section 3.6 of the Listing Policy.
4. Pursuant to section 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.

Regional Board Staff Decision Recommendation: This is a decision previously approved by the State Water Resources Control Board and the USEPA. No new data were assessed by the Regional Board for the current. The decision has not changed.

Line of Evidence (LOE) for Decision ID 34421, Chromium	Region 2
San Leandro Creek, Lower	

LOE ID: 93077
Pollutant: Chromium
LOE Subgroup: Pollutant-Sediment
Matrix: Sediment
Fraction: Total
Beneficial Use: Warm Freshwater Habitat
Number of Samples: 1
Number of Exceedances: 1
Data and Information Type: PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality: Water Board staff assessed SWAMP data for San Leandro Creek, Lower to determine beneficial use support and results are as follows: 1 of 1 samples exceed the criterion for Chromium.
Data Reference: [Statewide Stream Pollution Trends Study 2008](#)
SWAMP Data: SWAMP

Water Quality Objective/Criterion:	San Francisco Bay Basin Water Quality Control Plan 2007: All waters shall be maintained free of toxic substances in concentrations which are toxic to, or which produce detrimental physiological responses in, human, plant, animal, or aquatic life.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	In freshwater sediments the probable effect concentration (predictive of sediment toxicity for sediment-dwelling organisms) for chromium is 111 mg/Kg dry weight (MacDonald et al. 2000).
Guideline Reference:	Development and evaluation of consensus-based sediment quality guidelines for freshwater ecosystems. Environmental Contamination and Toxicology. 39: 20-31
Spatial Representation:	Data for this line of evidence for San Leandro Creek, Lower was collected at 1 monitoring site [San Leandro Creek at Empire Road station (204SLE030)]
Temporal Representation:	Data was collected on a single day 6/17/2008.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	SWAMP data collected before September 2008 followed the QAMP (2002), however there may have been overlap in QA with SWAMP QAPP (2008).
QAPP Information Reference(s):	Quality Assurance Management Plan for the State of California's Surface Water Ambient Monitoring Program. Sacramento, CA. State Water Resources Control Board. SWAMP. December 2002 (1st version) Surface Water Ambient Monitoring Program Quality Assurance Program Plan

Line of Evidence (LOE) for Decision ID 34421, Chromium

Region 2

San Leandro Creek, Lower

LOE ID:	4792
Pollutant:	Chromium (total)
LOE Subgroup:	Pollutant-Water
Matrix:	Water
Fraction:	Dissolved
Beneficial Use:	Warm Freshwater Habitat
Aquatic Life Use:	Wildlife Habitat
Number of Samples:	2
Number of Exceedances:	0
Data and Information Type:	PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality:	Water quality assessment was conducted at the confluence of the Lower San Leandro Creek watershed as part of SWAMP assessment. Two samples collected during 2001 monitoring showed concentrations of total dissolved chromium from 14.5 to more than 30 ?g/L. Dissolved chromium levels for these samples were at least an order of magnitude higher than at all other sites that were monitored and the site received an overall poor bioassessment score. The dissolved chromium concentrations were compared to the chromium III chronic criterion as chromium III occurs naturally in the environment and it is the most common form of chromium in waters around the Bay. Chromium concentrations in these samples are below the NTR objective for chromium III.
Data Reference:	Water Quality Monitoring and Bioassessment in Nine San Francisco Bay Region Watersheds: Walker Creek, Lagunitas Creek, San Leandro Creek, Wildcat Creek/San Pablo Creek, Suisun Creek, Arroyo Las Positas, Pescadero Creek/Butano Creek, San Gregorio Creek, and Stevens Creek/Permanente Creek. Oakland, CA: Surface Water Ambient Monitoring Program, San Francisco Bay Regional Water Quality Control Board
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	NTR Chromium III criterion for continuous concentration (chronic objective) in water for the protection of aquatic life is 180.0?g/L. The criterion is linked and applicable in streams with waters that support warm water ecosystems, including preservation or enhancement

Objective/Criterion Reference:	of aquatic habitats, vegetation, fish, or wildlife, including invertebrates. Water Quality Control Plan (Basin Plan) - San Francisco Bay Region (Region 2)
Evaluation Guideline:	
Guideline Reference:	
Spatial Representation:	Data were collected at a sampling location at the bottom of the watershed.
Temporal Representation:	Samples were collected during spring and dry season of 2001.
Environmental Conditions:	Data are representative of a channelized creek flowing through residential and urban industrial areas that predominate in the Lower San Leandro Creek watershed. Lake Chabot forms a strong hydrologic divide between this part of the watershed and the upper portion of San Leandro Creek and delineates land uses and beneficial uses within the watershed.
QAPP Information:	SWAMP Quality Assurance Management Plan (SWRCB 2002).
QAPP Information Reference(s):	Quality Assurance Management Plan for the State of California's Surface Water Ambient Monitoring Program. Sacramento, CA. State Water Resources Control Board. SWAMP. December 2002 (1st version)

DECISION ID	65960	Region 2
San Leandro Creek, Lower		

Pollutant:	Chrysene (C1-C4)
Final Listing Decision:	Do Not List on 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision:	New Decision
Revision Status	Revised
Impairment from Pollutant or Pollution:	Pollutant

Regional Board Staff Conclusion:	<p>This pollutant is being considered for placement on the CWA section 303(d) List under section 3.6 of the Listing Policy. Under section 3.6 at least two lines of evidence are necessary to assess listing status for pollutants sediment, and pollutant concentrations in sediment must be associated with sediment toxicity to justify adding that pollutant to the CWA section 303(d) List.</p> <p>One line of evidence are available in the administrative record to assess this pollutant. Zero of the one samples exceed the GUIDELINE. Zero of one samples exhibited sediment toxicity.</p> <p>Based on the readily available data and information, the weight of evidence indicates that there is INSUFFICIENT justification FOR placing this water segment-pollutant combination on the CWA section 303(d) List.</p> <p>This conclusion is based on the staff findings that:</p> <ol style="list-style-type: none"> 1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy. 2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy. 3. Zero of the one samples exceed the GUIDELINE and this sample size is INSUFFICIENT to determine beneficial use support, with the power and confidence of the Listing Policy. There is not an associated sediment toxicity data as required by Section 3.6 of the Listing Policy. 4. Pursuant to section 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.
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Regional Board Staff Decision Recommendation:	After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be placed on the section 303(d) list. The readily available data and information is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating.
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Line of Evidence (LOE) for Decision ID 65960, Chrysene (C1-C4)	Region 2
San Leandro Creek, Lower	

LOE ID:	93083
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Pollutant:	Chrysene (C1-C4)
LOE Subgroup:	Pollutant-Sediment
Matrix:	Sediment
Fraction:	Total
Beneficial Use:	Cold Freshwater Habitat
Number of Samples:	1
Number of Exceedances:	0
Data and Information Type:	PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality:	Water Board staff assessed SWAMP data for San Leandro Creek, Lower to determine beneficial use support and results are as follows: 0 of 1 samples exceed the criterion for Chrysene.
Data Reference:	Statewide Stream Pollution Trends Study 2008
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	San Francisco Bay Basin Water Quality Control Plan 2007: All waters shall be maintained free of toxic substances in concentrations which are toxic to, or which produce detrimental physiological responses in, human, plant, animal, or aquatic life.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	In freshwater sediments the probable effects level (predictive of sediment toxicity for sediment-dwelling organisms) for Chrysene is 1290 ug/Kg dry weight (Macdonald et al. 2000)
Guideline Reference:	Development and evaluation of consensus-based sediment quality guidelines for freshwater ecosystems. Environmental Contamination and Toxicology. 39: 20-31
Spatial Representation:	Data for this line of evidence for San Leandro Creek, Lower was collected at 1 monitoring site [San Leandro Creek at Empire Road station (204SLE030)]
Temporal Representation:	Data was collected on a single day 6/17/2008.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	SWAMP data collected before September 2008 followed the QAMP (2002), however there may have been overlap in QA with SWAMP QAPP (2008).
QAPP Information Reference(s):	Quality Assurance Management Plan for the State of California's Surface Water Ambient Monitoring Program. Sacramento, CA. State Water Resources Control Board. SWAMP. December 2002 (1st version). Surface Water Ambient Monitoring Program Quality Assurance Program Plan

DECISION ID	65961	Region 2
San Leandro Creek, Lower		

Pollutant:	Copper
Final Listing Decision:	Do Not List on 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision:	New Decision
Revision Status	Revised
Impairment from Pollutant or Pollution:	Pollutant
Regional Board Staff Conclusion:	<p>This pollutant is being considered for placement on the CWA section 303(d) List under section 3.6 of the Listing Policy. Under section 3.6 at least two lines of evidence are necessary to assess listing status for pollutants sediment, and pollutant concentrations in sediment must be associated with sediment toxicity to justify adding that pollutant to the CWA section 303(d) List.</p> <p>One line of evidence are available in the administrative record to assess this pollutant. Zero of the one samples exceed the GUIDELINE. Zero of one samples exhibited sediment toxicity.</p> <p>Based on the readily available data and information, the weight of evidence indicates that there is</p>

INSUFFICIENT justification FOR placing this water segment-pollutant combination on the CWA section 303(d) List.

This conclusion is based on the staff findings that:

1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy.
2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy.
3. Zero of the one samples exceed the GUIDELINE and this sample size is INSUFFICIENT to determine beneficial use support, with the power and confidence of the Listing Policy. There is not an associated sediment toxicity data as required by Section 3.6 of the Listing Policy.
4. Pursuant to section 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.

Regional Board Staff Decision Recommendation: After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be placed on the section 303(d) list. The readily available data and information is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating.

**Line of Evidence (LOE) for Decision ID 65961, Copper
San Leandro Creek, Lower**

Region 2

LOE ID:	93085
Pollutant:	Copper
LOE Subgroup:	Pollutant-Sediment
Matrix:	Sediment
Fraction:	Total
Beneficial Use:	Cold Freshwater Habitat
Number of Samples:	1
Number of Exceedances:	0
Data and Information Type:	PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality:	Water Board staff assessed SWAMP data for San Leandro Creek, Lower to determine beneficial use support and results are as follows: 0 of 1 samples exceed the criterion for Copper.
Data Reference:	Statewide Stream Pollution Trends Study 2008
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	San Francisco Bay Basin Water Quality Control Plan 2007: All waters shall be maintained free of toxic substances in concentrations which are toxic to, or which produce detrimental physiological responses in, human, plant, animal, or aquatic life.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	In freshwater sediments the probable effect concentration (predictive of sediment toxicity for sediment-dwelling organisms) for copper is 149 mg/Kg dry weight (MacDonald et al. 2000).
Guideline Reference:	Development and evaluation of consensus-based sediment quality guidelines for freshwater ecosystems. Environmental Contamination and Toxicology. 39: 20-31
Spatial Representation:	Data for this line of evidence for San Leandro Creek, Lower was collected at 1 monitoring site [San Leandro Creek at Empire Road station (204SLE030)]
Temporal Representation:	Data was collected on a single day 6/17/2008.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	SWAMP data collected before September 2008 followed the QAMP (2002), however there may have been overlap in QA with SWAMP QAPP (2008).
QAPP Information Reference(s):	Quality Assurance Management Plan for the State of California's Surface Water Ambient Monitoring Program. Sacramento, CA. State Water Resources Control Board. SWAMP. December 2002 (1st version). Surface Water Ambient Monitoring Program Quality Assurance Program Plan

DECISION ID	65962	Region 2
San Leandro Creek, Lower		

Pollutant:	Cyfluthrin
Final Listing Decision:	Do Not List on 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision:	New Decision
Revision Status	Revised
Impairment from Pollutant or Pollution:	Pollutant

Regional Board Staff Conclusion:	<p>This pollutant is being considered for placement on the CWA section 303(d) List under section 3.6 of the Listing Policy. Under section 3.6 at least two lines of evidence are necessary to assess listing status for pollutants sediment, and pollutant concentrations in sediment must be associated with sediment toxicity to justify adding that pollutant to the CWA section 303(d) List.</p> <p>One line of evidence are available in the administrative record to assess this pollutant. Zero of the one samples exceed the GUIDELINE. Zero of one samples exhibited sediment toxicity.</p> <p>Based on the readily available data and information, the weight of evidence indicates that there is INSUFFICIENT justification FOR placing this water segment-pollutant combination on the CWA section 303(d) List.</p> <p>This conclusion is based on the staff findings that:</p> <ol style="list-style-type: none"> 1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy. 2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy. 3. Zero of the one samples exceed the GUIDELINE and this sample size is INSUFFICIENT to determine beneficial use support, with the power and confidence of the Listing Policy. There is not an associated sediment toxicity data as required by Section 3.6 of the Listing Policy. 4. Pursuant to section 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.
Regional Board Staff Decision Recommendation:	<p>After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be placed on the section 303(d) list. The readily available data and information is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating.</p>

Line of Evidence (LOE) for Decision ID 65962, Cyfluthrin	Region 2
San Leandro Creek, Lower	

LOE ID:	92999
Pollutant:	Cyfluthrin
LOE Subgroup:	Pollutant-Sediment
Matrix:	Sediment
Fraction:	Total
Beneficial Use:	Cold Freshwater Habitat
Number of Samples:	1
Number of Exceedances:	0
Data and Information Type:	PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality:	Water Board staff assessed SWAMP data for San Leandro Creek, Lower to determine beneficial use support and results are as follows: 0 of 1 samples exceed the criterion for Cyfluthrin, total.
Data Reference:	Statewide Stream Pollution Trends Study 2008

SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	San Francisco Bay Basin Water Quality Control Plan 2007: All waters shall be maintained free of toxic substances in concentrations which are toxic to, or which produce detrimental physiological responses in, human, plant, animal, or aquatic life.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	The evaluation guideline for cyfluthrin is the median lethal concentration (LC50) of 1.1 ug/g and is normalized by the percentage of organic carbon in the sediment sample. The LC50 1.1 ug/g is the geometric mean of LC50 values for cyfluthrin from Amweg et al. (2005).
Guideline Reference:	Use and Toxicity of Pyrethroid Pesticides in the Central Valley, California, USA. Environmental Toxicology and Chemistry, 24:966-972, with erratum 24:No. 5
Spatial Representation:	Data for this line of evidence for San Leandro Creek, Lower was collected at 1 monitoring site [San Leandro Creek at Empire Road station (204SLE030)]
Temporal Representation:	Data was collected on a single day 6/17/2008.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	SWAMP data collected before September 2008 followed the QAMP (2002), however there may have been overlap in QA with SWAMP QAPP (2008).
QAPP Information Reference(s):	Quality Assurance Management Plan for the State of California's Surface Water Ambient Monitoring Program. Sacramento, CA. State Water Resources Control Board. SWAMP. December 2002 (1st version) Surface Water Ambient Monitoring Program Quality Assurance Program Plan

DECISION ID	65963	Region 2
San Leandro Creek, Lower		

Pollutant:	Cyhalothrin, Lambda
Final Listing Decision:	Do Not List on 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision:	New Decision
Revision Status	Revised
Impairment from Pollutant or Pollution:	Pollutant
Regional Board Staff Conclusion:	<p>This pollutant is being considered for placement on the CWA section 303(d) List under section 3.6 of the Listing Policy. Under section 3.6 at least two lines of evidence are necessary to assess listing status for pollutants sediment, and pollutant concentrations in sediment must be associated with sediment toxicity to justify adding that pollutant to the CWA section 303(d) List.</p> <p>One line of evidence are available in the administrative record to assess this pollutant. Zero of the one samples exceed the GUIDELINE. Zero of one samples exhibited sediment toxicity.</p> <p>Based on the readily available data and information, the weight of evidence indicates that there is INSUFFICIENT justification FOR placing this water segment-pollutant combination on the CWA section 303(d) List.</p> <p>This conclusion is based on the staff findings that:</p> <ol style="list-style-type: none"> 1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy. 2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy. 3. Zero of the one samples exceed the GUIDELINE and this sample size is INSUFFICIENT to determine beneficial use support, with the power and confidence of the Listing Policy. There is not an associated sediment toxicity data as required by Section 3.6 of the Listing Policy. 4. Pursuant to section 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.
Regional Board Staff Decision Recommendation:	After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be placed on the section 303(d) list. The readily available data and information is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating.

Line of Evidence (LOE) for Decision ID 65963, Cyhalothrin, Lambda**Region 2****San Leandro Creek, Lower**

LOE ID:	93001
Pollutant:	Cyhalothrin, Lambda
LOE Subgroup:	Pollutant-Sediment
Matrix:	Sediment
Fraction:	Total
Beneficial Use:	Cold Freshwater Habitat
Number of Samples:	1
Number of Exceedances:	0
Data and Information Type:	PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality:	Water Board staff assessed SWAMP data for San Leandro Creek, Lower to determine beneficial use support and results are as follows: 0 of 1 samples exceed the criterion for Cyhalothrin, lambda, total.
Data Reference:	Statewide Stream Pollution Trends Study 2008
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	San Francisco Bay Basin Water Quality Control Plan 2007: All waters shall be maintained free of toxic substances in concentrations which are toxic to, or which produce detrimental physiological responses in, human, plant, animal, or aquatic life.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	The evaluation guideline for lambda-cyhalothrin is the median lethal concentration (LC50) of 0.44 ug/g and is normalized by the percentage of organic carbon in the sediment sample. The LC50 0.44 ug/g is the geometric mean of LC50 values for lambda-cyhalothrin from Amweg et al. (2005).
Guideline Reference:	Use and Toxicity of Pyrethroid Pesticides in the Central Valley, California, USA. Environmental Toxicology and Chemistry, 24:966-972, with erratum 24:No. 5
Spatial Representation:	Data for this line of evidence for San Leandro Creek, Lower was collected at 1 monitoring site [San Leandro Creek at Empire Road station (204SLE030)]
Temporal Representation:	Data was collected on a single day 6/17/2008.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	SWAMP data collected before September 2008 followed the QAMP (2002), however there may have been overlap in QA with SWAMP QAPP (2008).
QAPP Information Reference(s):	Quality Assurance Management Plan for the State of California's Surface Water Ambient Monitoring Program, Sacramento, CA. State Water Resources Control Board. SWAMP. December 2002 (1st version) Surface Water Ambient Monitoring Program Quality Assurance Program Plan

DECISION ID**65964****Region 2****San Leandro Creek, Lower**

Pollutant:	Cypermethrin
Final Listing Decision:	Do Not List on 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision:	New Decision
Revision Status	Revised
Impairment from Pollutant or Pollution:	Pollutant

Regional Board Staff

This pollutant is being considered for placement on the CWA section 303(d) List under section 3.6 of

Conclusion:

the Listing Policy. Under section 3.6 at least two lines of evidence are necessary to assess listing status for pollutants sediment, and pollutant concentrations in sediment must be associated with sediment toxicity to justify adding that pollutant to the CWA section 303(d) List.

One line of evidence are available in the administrative record to assess this pollutant. Zero of the one samples exceed the GUIDELINE. Zero of one samples exhibited sediment toxicity.

Based on the readily available data and information, the weight of evidence indicates that there is INSUFFICIENT justification FOR placing this water segment-pollutant combination on the CWA section 303(d) List.

This conclusion is based on the staff findings that:

1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy.
2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy.
3. Zero of the one samples exceed the GUIDELINE and this sample size is INSUFFICIENT to determine beneficial use support, with the power and confidence of the Listing Policy. There is not an associated sediment toxicity data as required by Section 3.6 of the Listing Policy.
4. Pursuant to section 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.

Regional Board Staff Decision Recommendation:

After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be placed on the section 303(d) list. The readily available data and information is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating.

**Line of Evidence (LOE) for Decision ID 65964, Cypermethrin
San Leandro Creek, Lower****Region 2**

LOE ID:	93006
Pollutant:	Cypermethrin
LOE Subgroup:	Pollutant-Sediment
Matrix:	Sediment
Fraction:	Total
Beneficial Use:	Cold Freshwater Habitat
Number of Samples:	1
Number of Exceedances:	0
Data and Information Type:	PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality:	Water Board staff assessed SWAMP data for San Leandro Creek, Lower to determine beneficial use support and results are as follows: 0 of 1 samples exceed the criterion for Cypermethrin, total.
Data Reference:	Statewide Stream Pollution Trends Study 2008
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	San Francisco Bay Basin Water Quality Control Plan 2007: All waters shall be maintained free of toxic substances in concentrations which are toxic to, or which produce detrimental physiological responses in, human, plant, animal, or aquatic life.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	The evaluation guideline for cypermethrin is the median lethal concentration (LC50) of 0.3 ug/g and is normalized by the percentage of organic carbon in the sediment sample. The LC50 0.3 ug/g is the geometric mean of LC50 values for cypermethrin from Maund et al. (2002).
Guideline Reference:	Partitioning, bioavailability, and toxicity of the pyrethroid insecticide cypermethrin in sediments. Environmental Toxicology and Chemistry 21:9-15
Spatial Representation:	Data for this line of evidence for San Leandro Creek, Lower was collected at 1 monitoring

Temporal Representation:	site [San Leandro Creek at Empire Road station (204SLE030)]
Environmental Conditions:	Data was collected on a single day 6/17/2008.
QAPP Information:	Staff is not aware of any special conditions that might affect interpretation of the data. SWAMP data collected before September 2008 followed the QAMP (2002), however there may have been overlap in QA with SWAMP QAPP (2008).
QAPP Information Reference(s):	Quality Assurance Management Plan for the State of California's Surface Water Ambient Monitoring Program. Sacramento, CA. State Water Resources Control Board. SWAMP. December 2002 (1st version). Surface Water Ambient Monitoring Program Quality Assurance Program Plan

DECISION ID	65973	Region 2
San Leandro Creek, Lower		

Pollutant:	DDD (Dichlorodiphenyldichloroethane)
Final Listing Decision:	Do Not List on 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision:	New Decision
Revision Status	Revised
Impairment from Pollutant or Pollution:	Pollutant

Regional Board Staff Conclusion: This pollutant is being considered for placement on the CWA section 303(d) List under section 3.6 of the Listing Policy. Under section 3.6 at least two lines of evidence are necessary to assess listing status for pollutants sediment, and pollutant concentrations in sediment must be associated with sediment toxicity to justify adding that pollutant to the CWA section 303(d) List.

One line of evidence is available in the administrative record to assess this pollutant. One of the one samples exceed the GUIDELINE. One of one samples exhibited sediment toxicity.

Based on the readily available data and information, the weight of evidence indicates that there is INSUFFICIENT justification FOR placing this water segment-pollutant combination on the CWA section 303(d) List.

This conclusion is based on the staff findings that:

1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy.
2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy.
3. One of the one samples exceed the GUIDELINE and this sample size is INSUFFICIENT to determine beneficial use support, with the power and confidence of the Listing Policy. There is not an associated sediment toxicity data as required by Section 3.6 of the Listing Policy.
4. Pursuant to section 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.

Regional Board Staff Decision Recommendation:	After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be placed on the section 303(d) list. The readily available data and information is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating.
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Line of Evidence (LOE) for Decision ID 65973, DDD (Dichlorodiphenyldichloroethane)		Region 2
San Leandro Creek, Lower		

LOE ID:	93008
Pollutant:	DDD (Dichlorodiphenyldichloroethane)
LOE Subgroup:	Pollutant-Sediment
Matrix:	Sediment
Fraction:	Total
Beneficial Use:	Cold Freshwater Habitat

Number of Samples:	1
Number of Exceedances:	1
Data and Information Type:	PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality:	Water Board staff assessed SWAMP data for San Leandro Creek, Lower to determine beneficial use support and results are as follows: 1 of 1 samples exceed the criterion for DDD.
Data Reference:	Statewide Stream Pollution Trends Study 2008
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	San Francisco Bay Basin Water Quality Control Plan 2007: All waters shall be maintained free of toxic substances in concentrations which are toxic to, or which produce detrimental physiological responses in, human, plant, animal, or aquatic life.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	In freshwater sediments the probable effect concentration (predictive of sediment toxicity for sediment-dwelling organisms) for sum of DDD is 28.0 ug/Kg dry weight (MacDonald et al. 2000).
Guideline Reference:	Development and evaluation of consensus-based sediment quality guidelines for freshwater ecosystems. Environmental Contamination and Toxicology. 39: 20-31
Spatial Representation:	Data for this line of evidence for San Leandro Creek, Lower was collected at 1 monitoring site [San Leandro Creek at Empire Road station (204SLE030)]
Temporal Representation:	Data was collected on a single day 6/17/2008.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	SWAMP data collected before September 2008 followed the QAMP (2002), however there may have been overlap in QA with SWAMP QAPP (2008).
QAPP Information Reference(s):	Quality Assurance Management Plan for the State of California's Surface Water Ambient Monitoring Program. Sacramento, CA. State Water Resources Control Board. SWAMP. December 2002 (1st version) Surface Water Ambient Monitoring Program Quality Assurance Program Plan

DECISION ID	65974	Region 2
San Leandro Creek, Lower		

Pollutant:	DDE (Dichlorodiphenyldichloroethylene)
Final Listing Decision:	Do Not List on 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision:	New Decision
Revision Status	Revised
Impairment from Pollutant or Pollution:	Pollutant

Regional Board Staff Conclusion:	<p>This pollutant is being considered for placement on the CWA section 303(d) List under section 3.6 of the Listing Policy. Under section 3.6 at least two lines of evidence are necessary to assess listing status for pollutants sediment, and pollutant concentrations in sediment must be associated with sediment toxicity to justify adding that pollutant to the CWA section 303(d) List.</p> <p>One line of evidence is available in the administrative record to assess this pollutant. Zero of the one samples exceed the GUIDELINE. Zero of one samples exhibited sediment toxicity.</p> <p>Based on the readily available data and information, the weight of evidence indicates that there is INSUFFICIENT justification FOR placing this water segment-pollutant combination on the CWA section 303(d) List.</p> <p>This conclusion is based on the staff findings that:</p> <ol style="list-style-type: none"> 1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy. 2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy. 3. Zero of the one samples exceed the GUIDELINE and this sample size is INSUFFICIENT to determine beneficial use support, with the power and confidence of the Listing Policy. There is not an
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associated sediment toxicity data as required by Section 3.6 of the Listing Policy.
4. Pursuant to section 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.

Regional Board Staff Decision Recommendation: After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be placed on the section 303(d) list. The readily available data and information is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating.

Line of Evidence (LOE) for Decision ID 65974, DDE (Dichlorodiphenyldichloroethylene)

Region 2

San Leandro Creek, Lower

LOE ID: 93010

Pollutant: DDE (Dichlorodiphenyldichloroethylene)
LOE Subgroup: Pollutant-Sediment
Matrix: Sediment
Fraction: Total

Beneficial Use: Cold Freshwater Habitat

Number of Samples: 1
Number of Exceedances: 0

Data and Information Type: PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality: Water Board staff assessed SWAMP data for San Leandro Creek, Lower to determine beneficial use support and results are as follows: 0 of 1 samples exceed the criterion for DDE.

Data Reference: [Statewide Stream Pollution Trends Study 2008](#)

SWAMP Data: SWAMP

Water Quality Objective/Criterion: San Francisco Bay Basin Water Quality Control Plan 2007: All waters shall be maintained free of toxic substances in concentrations which are toxic to, or which produce detrimental physiological responses in, human, plant, animal, or aquatic life.

Objective/Criterion Reference: [Water Quality Control Plan \(Basin Plan\) San Francisco Bay Basin \(Region 2\)](#)

Evaluation Guideline: In freshwater sediments the probable effect concentration (predictive of sediment toxicity for sediment-dwelling organisms) for sum of DDE is 31.3 ug/Kg dry weight (MacDonald et al. 2000).

Guideline Reference: [Development and evaluation of consensus-based sediment quality guidelines for freshwater ecosystems. Environmental Contamination and Toxicology. 39: 20-31](#)

Spatial Representation: Data for this line of evidence for San Leandro Creek, Lower was collected at 1 monitoring site [San Leandro Creek at Empire Road station (204SLE030)]

Temporal Representation: Data was collected on a single day 6/17/2008.

Environmental Conditions: Staff is not aware of any special conditions that might affect interpretation of the data.

QAPP Information: SWAMP data collected before September 2008 followed the QAMP (2002), however there may have been overlap in QA with SWAMP QAPP (2008).

QAPP Information Reference(s): [Quality Assurance Management Plan for the State of California's Surface Water Ambient Monitoring Program. Sacramento, CA. State Water Resources Control Board. SWAMP. December 2002 \(1st version\)](#)
[Surface Water Ambient Monitoring Program Quality Assurance Program Plan](#)

DECISION ID 65975

Region 2

San Leandro Creek, Lower

Pollutant: DDT (Dichlorodiphenyltrichloroethane)
Final Listing Decision: Do Not List on 303(d) list (TMDL required list)

**Last Listing Cycle's Final Listing Decision:
Revision Status
Impairment from Pollutant or Pollution:**

New Decision

Revised
Pollutant

Regional Board Staff Conclusion:

This pollutant is being considered for placement on the CWA section 303(d) List under section 3.6 of the Listing Policy. Under section 3.6 at least two lines of evidence are necessary to assess listing status for pollutants sediment, and pollutant concentrations in sediment must be associated with sediment toxicity to justify adding that pollutant to the CWA section 303(d) List.

Two lines of evidence are available in the administrative record to assess this pollutant. Zero of the one samples exceed the GUIDELINE. Zero of one samples exhibited sediment toxicity.

Based on the readily available data and information, the weight of evidence indicates that there is INSUFFICIENT justification FOR placing this water segment-pollutant combination on the CWA section 303(d) List.

This conclusion is based on the staff findings that:

1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy.
2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy.
3. Zero of the one samples exceed the GUIDELINE and this sample size is INSUFFICIENT to determine beneficial use support, with the power and confidence of the Listing Policy. There is not an associated sediment toxicity data as required by Section 3.6 of the Listing Policy.
4. Pursuant to section 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.

Regional Board Staff Decision Recommendation:

After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be placed on the section 303(d) list. The readily available data and information is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating.

**Line of Evidence (LOE) for Decision ID 65975, DDT (Dichlorodiphenyltrichloroethane)
San Leandro Creek, Lower**

Region 2

LOE ID:	93012
Pollutant:	DDT (Dichlorodiphenyltrichloroethane)
LOE Subgroup:	Pollutant-Sediment
Matrix:	Sediment
Fraction:	Total
Beneficial Use:	Cold Freshwater Habitat
Number of Samples:	1
Number of Exceedances:	0
Data and Information Type:	PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality:	Water Board staff assessed SWAMP data for San Leandro Creek, Lower to determine beneficial use support and results are as follows: 0 of 1 samples exceed the criterion for DDT.
Data Reference:	Statewide Stream Pollution Trends Study 2008
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	San Francisco Bay Basin Water Quality Control Plan 2007: All waters shall be maintained free of toxic substances in concentrations which are toxic to, or which produce detrimental physiological responses in, human, plant, animal, or aquatic life.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	In freshwater sediments the probable effect concentration (predictive of sediment toxicity

	for sediment-dwelling organisms) for sum of DDT is 62.9 ug/Kg dry weight (MacDonald et al. 2000).
Guideline Reference:	Development and evaluation of consensus-based sediment quality guidelines for freshwater ecosystems. Environmental Contamination and Toxicology. 39: 20-31
Spatial Representation:	Data for this line of evidence for San Leandro Creek, Lower was collected at 1 monitoring site [San Leandro Creek at Empire Road station (204SLE030)]
Temporal Representation:	Data was collected on a single day 6/17/2008.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	SWAMP data collected before September 2008 followed the QAMP (2002), however there may have been overlap in QA with SWAMP QAPP (2008).
QAPP Information Reference(s):	Quality Assurance Management Plan for the State of California's Surface Water Ambient Monitoring Program. Sacramento, CA. State Water Resources Control Board. SWAMP. December 2002 (1st version). Surface Water Ambient Monitoring Program Quality Assurance Program Plan

Line of Evidence (LOE) for Decision ID 65975, DDT (Dichlorodiphenyltrichloroethane)

Region 2

San Leandro Creek, Lower

LOE ID:	93078
Pollutant:	Total DDT (sum of 4,4'- and 2,4'- isomers of DDT, DDE, and DDD)
LOE Subgroup:	Pollutant-Sediment
Matrix:	Sediment
Fraction:	Total
Beneficial Use:	Cold Freshwater Habitat
Number of Samples:	1
Number of Exceedances:	0
Data and Information Type:	PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality:	Water Board staff assessed SWAMP data for San Leandro Creek, Lower to determine beneficial use support and results are as follows: 0 of 1 samples exceed the criterion for DDT, Total.
Data Reference:	Statewide Stream Pollution Trends Study 2008
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	San Francisco Bay Basin Water Quality Control Plan 2007: All waters shall be maintained free of toxic substances in concentrations which are toxic to, or which produce detrimental physiological responses in, human, plant, animal, or aquatic life.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	In freshwater sediments the probable effect concentration (predictive of sediment toxicity for sediment-dwelling organisms) for total DDTs is 572 ug/Kg dry weight (MacDonald et al. 2000).
Guideline Reference:	Development and evaluation of consensus-based sediment quality guidelines for freshwater ecosystems. Environmental Contamination and Toxicology. 39: 20-31
Spatial Representation:	Data for this line of evidence for San Leandro Creek, Lower was collected at 1 monitoring site [San Leandro Creek at Empire Road station (204SLE030)]
Temporal Representation:	Data was collected on a single day 6/17/2008.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	SWAMP data collected before September 2008 followed the QAMP (2002), however there may have been overlap in QA with SWAMP QAPP (2008).
QAPP Information Reference(s):	Quality Assurance Management Plan for the State of California's Surface Water Ambient Monitoring Program. Sacramento, CA. State Water Resources Control Board. SWAMP. December 2002 (1st version). Surface Water Ambient Monitoring Program Quality Assurance Program Plan

Pollutant:	Deltamethrin
Final Listing Decision:	Do Not List on 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision:	New Decision
Revision Status	Revised
Impairment from Pollutant or Pollution:	Pollutant

Regional Board Staff Conclusion:

This pollutant is being considered for placement on the CWA section 303(d) List under section 3.6 of the Listing Policy. Under section 3.6 at least two lines of evidence are necessary to assess listing status for pollutants sediment, and pollutant concentrations in sediment must be associated with sediment toxicity to justify adding that pollutant to the CWA section 303(d) List.

One line of evidence is available in the administrative record to assess this pollutant. Zero of the one samples exceed the GUIDELINE. Zero of one samples exhibited sediment toxicity.

Based on the readily available data and information, the weight of evidence indicates that there is INSUFFICIENT justification FOR placing this water segment-pollutant combination on the CWA section 303(d) List.

This conclusion is based on the staff findings that:

1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy.
2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy.
3. Zero of the one samples exceed the GUIDELINE and this sample size is INSUFFICIENT to determine beneficial use support, with the power and confidence of the Listing Policy. There is not an associated sediment toxicity data as required by Section 3.6 of the Listing Policy.
4. Pursuant to section 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.

Regional Board Staff Decision Recommendation: After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be placed on the section 303(d) list. The readily available data and information is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating.

Line of Evidence (LOE) for Decision ID 65976, Deltamethrin	Region 2
San Leandro Creek, Lower	

LOE ID:	93014
Pollutant:	Deltamethrin
LOE Subgroup:	Pollutant-Sediment
Matrix:	Sediment
Fraction:	Total
Beneficial Use:	Cold Freshwater Habitat
Number of Samples:	1
Number of Exceedances:	0
Data and Information Type:	PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality:	Water Board staff assessed SWAMP data for San Leandro Creek, Lower to determine beneficial use support and results are as follows: 0 of 1 samples exceed the criterion for Deltamethrin.
Data Reference:	Statewide Stream Pollution Trends Study 2008
SWAMP Data:	SWAMP

Water Quality Objective/Criterion:	San Francisco Bay Basin Water Quality Control Plan 2007: All waters shall be maintained free of toxic substances in concentrations which are toxic to, or which produce detrimental physiological responses in, human, plant, animal, or aquatic life.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	The evaluation guideline for deltamethrin is the median lethal concentration (LC50) of 0.79 ug/g and is normalized by the percentage of organic carbon in the sediment sample. The LC50 0.79 ug/g is the geometric mean of LC50 values for deltamethrin from Amweg et al. (2005).
Guideline Reference:	Use and Toxicity of Pyrethroid Pesticides in the Central Valley, California, USA. Environmental Toxicology and Chemistry, 24:966-972, with erratum 24:No. 5
Spatial Representation:	Data for this line of evidence for San Leandro Creek, Lower was collected at 1 monitoring site [San Leandro Creek at Empire Road station (204SLE030)]
Temporal Representation:	Data was collected on a single day 6/17/2008.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	SWAMP data collected before September 2008 followed the QAMP (2002), however there may have been overlap in QA with SWAMP QAPP (2008).
QAPP Information Reference(s):	Quality Assurance Management Plan for the State of California's Surface Water Ambient Monitoring Program. Sacramento, CA. State Water Resources Control Board. SWAMP. December 2002 (1st version) Surface Water Ambient Monitoring Program Quality Assurance Program Plan

DECISION ID	65977	Region 2
San Leandro Creek, Lower		

Pollutant:	Dieldrin
Final Listing Decision:	Do Not List on 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision:	New Decision
Revision Status	Revised
Impairment from Pollutant or Pollution:	Pollutant

Regional Board Staff Conclusion: This pollutant is being considered for placement on the CWA section 303(d) List under section 3.6 of the Listing Policy. Under section 3.6 at least two lines of evidence are necessary to assess listing status for pollutants sediment, and pollutant concentrations in sediment must be associated with sediment toxicity to justify adding that pollutant to the CWA section 303(d) List.

One line of evidence is available in the administrative record to assess this pollutant. Zero of the one samples exceed the GUIDELINE. Zero of one samples exhibited sediment toxicity.

Based on the readily available data and information, the weight of evidence indicates that there is INSUFFICIENT justification FOR placing this water segment-pollutant combination on the CWA section 303(d) List.

This conclusion is based on the staff findings that:

1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy.
2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy.
3. Zero of the one samples exceed the GUIDELINE and this sample size is INSUFFICIENT to determine beneficial use support, with the power and confidence of the Listing Policy. There is not an associated sediment toxicity data as required by Section 3.6 of the Listing Policy.
4. Pursuant to section 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.

Regional Board Staff Decision Recommendation: After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be placed on the section 303(d) list. The readily available data and information is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating.

San Leandro Creek, Lower

LOE ID:	93018
Pollutant:	Dieldrin
LOE Subgroup:	Pollutant-Sediment
Matrix:	Sediment
Fraction:	Total
Beneficial Use:	Cold Freshwater Habitat
Number of Samples:	1
Number of Exceedances:	0
Data and Information Type:	PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality:	Water Board staff assessed SWAMP data for San Leandro Creek, Lower to determine beneficial use support and results are as follows: 0 of 1 samples exceed the criterion for Dieldrin.
Data Reference:	Statewide Stream Pollution Trends Study 2008
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	San Francisco Bay Basin Water Quality Control Plan 2007: All waters shall be maintained free of toxic substances in concentrations which are toxic to, or which produce detrimental physiological responses in, human, plant, animal, or aquatic life.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	In freshwater sediments the probable effect concentration (predictive of sediment toxicity for sediment-dwelling organisms) for dieldrin is 61.8 ug/Kg dry weight (MacDonald et al. 2000).
Guideline Reference:	Development and evaluation of consensus-based sediment quality guidelines for freshwater ecosystems. Environmental Contamination and Toxicology. 39: 20-31
Spatial Representation:	Data for this line of evidence for San Leandro Creek, Lower was collected at 1 monitoring site [San Leandro Creek at Empire Road station (204SLE030)]
Temporal Representation:	Data was collected on a single day 6/17/2008.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	SWAMP data collected before September 2008 followed the QAMP (2002), however there may have been overlap in QA with SWAMP QAPP (2008).
QAPP Information Reference(s):	Quality Assurance Management Plan for the State of California's Surface Water Ambient Monitoring Program. Sacramento, CA. State Water Resources Control Board. SWAMP. December 2002 (1st version) Surface Water Ambient Monitoring Program Quality Assurance Program Plan

DECISION ID

65978

Region 2

San Leandro Creek, Lower

Pollutant:	Endrin
Final Listing Decision:	Do Not List on 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision:	New Decision
Revision Status	Revised
Impairment from Pollutant or Pollution:	Pollutant
Regional Board Staff Conclusion:	This pollutant is being considered for placement on the CWA section 303(d) List under section 3.6 of the Listing Policy. Under section 3.6 at least two lines of evidence are necessary to assess listing status for pollutants sediment, and pollutant concentrations in sediment must be associated with sediment toxicity to justify adding that pollutant to the CWA section 303(d) List.

One line of evidence is available in the administrative record to assess this pollutant. Zero of the one samples exceed the GUIDELINE. Zero of one samples exhibited sediment toxicity.

Based on the readily available data and information, the weight of evidence indicates that there is INSUFFICIENT justification FOR placing this water segment-pollutant combination on the CWA section 303(d) List.

This conclusion is based on the staff findings that:

1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy.
2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy.
3. Zero of the one samples exceed the GUIDELINE and this sample size is INSUFFICIENT to determine beneficial use support, with the power and confidence of the Listing Policy. There is not an associated sediment toxicity data as required by Section 3.6 of the Listing Policy.
4. Pursuant to section 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.

Regional Board Staff Decision Recommendation: After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be placed on the section 303(d) list. The readily available data and information is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating.

Line of Evidence (LOE) for Decision ID 65978, Endrin

Region 2

San Leandro Creek, Lower

LOE ID:	93020
Pollutant:	Endrin
LOE Subgroup:	Pollutant-Sediment
Matrix:	Sediment
Fraction:	Total
Beneficial Use:	Cold Freshwater Habitat
Number of Samples:	1
Number of Exceedances:	0
Data and Information Type:	PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality:	Water Board staff assessed SWAMP data for San Leandro Creek, Lower to determine beneficial use support and results are as follows: 0 of 1 samples exceed the criterion for Endrin.
Data Reference:	Statewide Stream Pollution Trends Study 2008
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	San Francisco Bay Basin Water Quality Control Plan 2007: All waters shall be maintained free of toxic substances in concentrations which are toxic to, or which produce detrimental physiological responses in, human, plant, animal, or aquatic life.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	In freshwater sediments the probable effect concentration (predictive of sediment toxicity for sediment-dwelling organisms) for endrin is 207 ug/Kg dry weight (MacDonald et al. 2000).
Guideline Reference:	Development and evaluation of consensus-based sediment quality guidelines for freshwater ecosystems. Environmental Contamination and Toxicology. 39: 20-31
Spatial Representation:	Data for this line of evidence for San Leandro Creek, Lower was collected at 1 monitoring site [San Leandro Creek at Empire Road station (204SLE030)]
Temporal Representation:	Data was collected on a single day 6/17/2008.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	SWAMP data collected before September 2008 followed the QAMP (2002), however there

QAPP Information Reference(s):

may have been overlap in QA with SWAMP QAPP (2008).

[Quality Assurance Management Plan for the State of California's Surface Water Ambient Monitoring Program. Sacramento, CA. State Water Resources Control Board. SWAMP. December 2002 \(1st version\)](#)
[Surface Water Ambient Monitoring Program Quality Assurance Program Plan](#)

DECISION ID	65979	Region 2
San Leandro Creek, Lower		

Pollutant:	Esfenvalerate/Fenvalerate
Final Listing Decision:	Do Not List on 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision:	New Decision
Revision Status	Revised
Impairment from Pollutant or Pollution:	Pollutant

Regional Board Staff Conclusion: This pollutant is being considered for placement on the CWA section 303(d) List under section 3.6 of the Listing Policy. Under section 3.6 at least two lines of evidence are necessary to assess listing status for pollutants sediment, and pollutant concentrations in sediment must be associated with sediment toxicity to justify adding that pollutant to the CWA section 303(d) List.

One line of evidence is available in the administrative record to assess this pollutant. Zero of the one samples exceed the GUIDELINE. Zero of one samples exhibited sediment toxicity.

Based on the readily available data and information, the weight of evidence indicates that there is INSUFFICIENT justification FOR placing this water segment-pollutant combination on the CWA section 303(d) List.

This conclusion is based on the staff findings that:

1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy.
2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy.
3. Zero of the one samples exceed the GUIDELINE and this sample size is INSUFFICIENT to determine beneficial use support, with the power and confidence of the Listing Policy. There is not an associated sediment toxicity data as required by Section 3.6 of the Listing Policy.
4. Pursuant to section 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.

Regional Board Staff Decision Recommendation:	After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be placed on the section 303(d) list. The readily available data and information is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating.
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Line of Evidence (LOE) for Decision ID 65979, Esfenvalerate/Fenvalerate	Region 2
San Leandro Creek, Lower	

LOE ID:	93022
Pollutant:	Esfenvalerate/Fenvalerate
LOE Subgroup:	Pollutant-Sediment
Matrix:	Sediment
Fraction:	Total
Beneficial Use:	Cold Freshwater Habitat
Number of Samples:	1
Number of Exceedances:	0
Data and Information Type:	PHYSICAL/CHEMICAL MONITORING

Data Used to Assess Water Quality:	Water Board staff assessed SWAMP data for San Leandro Creek, Lower to determine beneficial use support and results are as follows: 0 of 1 samples exceed the criterion for Esfenvalerate/Fenvalerate, total.
Data Reference:	Statewide Stream Pollution Trends Study 2008
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	San Francisco Bay Basin Water Quality Control Plan 2007: All waters shall be maintained free of toxic substances in concentrations which are toxic to, or which produce detrimental physiological responses in, human, plant, animal, or aquatic life.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	The evaluation guideline for esfenvalerate/fenvalerate is the median lethal concentration (LC50) of 1.5 ug/g and is normalized by the percentage of organic carbon in the sediment sample. The LC50 1.5 ug/g is the geometric mean of LC50 values for esfenvalerate/fenvalerate from Amweg et al. (2005).
Guideline Reference:	Use and Toxicity of Pyrethroid Pesticides in the Central Valley, California, USA. Environmental Toxicology and Chemistry, 24:966-972, with erratum 24:No. 5
Spatial Representation:	Data for this line of evidence for San Leandro Creek, Lower was collected at 1 monitoring site [San Leandro Creek at Empire Road station (204SLE030)]
Temporal Representation:	Data was collected on a single day 6/17/2008.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	SWAMP data collected before September 2008 followed the QAMP (2002), however there may have been overlap in QA with SWAMP QAPP (2008).
QAPP Information Reference(s):	Quality Assurance Management Plan for the State of California's Surface Water Ambient Monitoring Program. Sacramento, CA. State Water Resources Control Board. SWAMP. December 2002 (1st version) Surface Water Ambient Monitoring Program Quality Assurance Program Plan

DECISION ID	65985	Region 2
San Leandro Creek, Lower		

Pollutant:	Fenpropathrin
Final Listing Decision:	Do Not List on 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision:	New Decision
Revision Status	Revised
Impairment from Pollutant or Pollution:	Pollutant

Regional Board Staff Conclusion:	<p>This pollutant is being considered for placement on the CWA section 303(d) List under section 3.6 of the Listing Policy. Under section 3.6 at least two lines of evidence are necessary to assess listing status for pollutants sediment, and pollutant concentrations in sediment must be associated with sediment toxicity to justify adding that pollutant to the CWA section 303(d) List.</p> <p>One line of evidence is available in the administrative record to assess this pollutant. Zero of the one samples exceed the GUIDELINE. Zero of one samples exhibited sediment toxicity.</p> <p>Based on the readily available data and information, the weight of evidence indicates that there is INSUFFICIENT justification FOR placing this water segment-pollutant combination on the CWA section 303(d) List.</p> <p>This conclusion is based on the staff findings that:</p> <ol style="list-style-type: none"> 1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy. 2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy. 3. Zero of the one samples exceed the GUIDELINE and this sample size is INSUFFICIENT to determine beneficial use support, with the power and confidence of the Listing Policy. There is not an associated sediment toxicity data as required by Section 3.6 of the Listing Policy. 4. Pursuant to section 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.
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Regional Board Staff Decision Recommendation: After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be placed on the section 303(d) list. The readily available data and information is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating.

**Line of Evidence (LOE) for Decision ID 65985, Fenpropathrin
San Leandro Creek, Lower**

Region 2

LOE ID: 93024

Pollutant: Fenpropathrin
LOE Subgroup: Pollutant-Sediment
Matrix: Sediment
Fraction: Total

Beneficial Use: Cold Freshwater Habitat

Number of Samples: 1
Number of Exceedances: 0

Data and Information Type: PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality: Water Board staff assessed SWAMP data for San Leandro Creek, Lower to determine beneficial use support and results are as follows: 0 of 1 samples exceed the criterion for Fenpropathrin.

Data Reference: [Statewide Stream Pollution Trends Study 2008](#)

SWAMP Data: SWAMP

Water Quality Objective/Criterion: San Francisco Bay Basin Water Quality Control Plan 2007: All waters shall be maintained free of toxic substances in concentrations which are toxic to, or which produce detrimental physiological responses in, human, plant, animal, or aquatic life.

Objective/Criterion Reference: [Water Quality Control Plan \(Basin Plan\) San Francisco Bay Basin \(Region 2\)](#)

Evaluation Guideline: The evaluation guideline for fenpropathrin is the median lethal concentration (LC50) of 1 ug/g and is normalized by the percentage of organic carbon in the sediment sample. The LC50 1 ug/g is the geometric mean of LC50 values for fenpropathrin from Ding et al. (2011).

Guideline Reference: [Toxicity of Sediment-Associated Pesticides to Chironomus dilutus and Hyalella azteca. Arch. Environ. Contam. Toxicol. 61:83?92.](#)

Spatial Representation: Data for this line of evidence for San Leandro Creek, Lower was collected at 1 monitoring site [San Leandro Creek at Empire Road station (204SLE030)]

Temporal Representation: Data was collected on a single day 6/17/2008.

Environmental Conditions: Staff is not aware of any special conditions that might affect interpretation of the data.

QAPP Information: SWAMP data collected before September 2008 followed the QAMP (2002), however there may have been overlap in QA with SWAMP QAPP (2008).

QAPP Information Reference(s): [Quality Assurance Management Plan for the State of California's Surface Water Ambient Monitoring Program. Sacramento, CA. State Water Resources Control Board. SWAMP. December 2002 \(1st version\)](#)
[Surface Water Ambient Monitoring Program Quality Assurance Program Plan](#)

**DECISION ID 65988
San Leandro Creek, Lower**

Region 2

Pollutant: Fluoranthene
Final Listing Decision: Do Not List on 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision: New Decision

Revision Status
Impairment from Pollutant or
Pollution:

Revised
Pollutant

Regional Board Staff
Conclusion:

This pollutant is being considered for placement on the CWA section 303(d) List under section 3.6 of the Listing Policy. Under section 3.6 at least two lines of evidence are necessary to assess listing status for pollutants sediment, and pollutant concentrations in sediment must be associated with sediment toxicity to justify adding that pollutant to the CWA section 303(d) List.

One line of evidence is available in the administrative record to assess this pollutant. Zero of the one samples exceed the GUIDELINE. Zero of one samples exhibited sediment toxicity.

Based on the readily available data and information, the weight of evidence indicates that there is INSUFFICIENT justification FOR placing this water segment-pollutant combination on the CWA section 303(d) List.

This conclusion is based on the staff findings that:

1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy.
2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy.
3. Zero of the one samples exceed the GUIDELINE and this sample size is INSUFFICIENT to determine beneficial use support, with the power and confidence of the Listing Policy. There is not an associated sediment toxicity data as required by Section 3.6 of the Listing Policy.
4. Pursuant to section 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.

Regional Board Staff Decision
Recommendation:

After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be placed on the section 303(d) list. The readily available data and information is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating.

Line of Evidence (LOE) for Decision ID 65988, Fluoranthene
San Leandro Creek, Lower

Region 2

LOE ID:	93026
Pollutant:	Fluoranthene
LOE Subgroup:	Pollutant-Sediment
Matrix:	Sediment
Fraction:	Total
Beneficial Use:	Cold Freshwater Habitat
Number of Samples:	1
Number of Exceedances:	0
Data and Information Type:	PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality:	Water Board staff assessed SWAMP data for San Leandro Creek, Lower to determine beneficial use support and results are as follows: 0 of 1 samples exceed the criterion for Fluoranthene.
Data Reference:	Statewide Stream Pollution Trends Study 2008
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	San Francisco Bay Basin Water Quality Control Plan 2007: All waters shall be maintained free of toxic substances in concentrations which are toxic to, or which produce detrimental physiological responses in, human, plant, animal, or aquatic life.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	In freshwater sediments the probable effects level (predictive of sediment toxicity for sediment-dwelling organisms) for Fluoranthene is 2,230 ug/Kg dry weight (Macdonald et al. 2000)

Guideline Reference:	Development and evaluation of consensus-based sediment quality guidelines for freshwater ecosystems. Environmental Contamination and Toxicology. 39: 20-31
Spatial Representation:	Data for this line of evidence for San Leandro Creek, Lower was collected at 1 monitoring site [San Leandro Creek at Empire Road station (204SLE030)]
Temporal Representation:	Data was collected on a single day 6/17/2008.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	SWAMP data collected before September 2008 followed the QAMP (2002), however there may have been overlap in QA with SWAMP QAPP (2008).
QAPP Information Reference(s):	Quality Assurance Management Plan for the State of California's Surface Water Ambient Monitoring Program. Sacramento, CA. State Water Resources Control Board. SWAMP. December 2002 (1st version). Surface Water Ambient Monitoring Program Quality Assurance Program Plan

DECISION ID	65989	Region 2
San Leandro Creek, Lower		

Pollutant:	Fluorene
Final Listing Decision:	Do Not List on 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision:	New Decision
Revision Status	Revised
Impairment from Pollutant or Pollution:	Pollutant
Regional Board Staff Conclusion:	<p>This pollutant is being considered for placement on the CWA section 303(d) List under section 3.6 of the Listing Policy. Under section 3.6 at least two lines of evidence are necessary to assess listing status for pollutants sediment, and pollutant concentrations in sediment must be associated with sediment toxicity to justify adding that pollutant to the CWA section 303(d) List.</p> <p>One line of evidence is available in the administrative record to assess this pollutant. Zero of the one samples exceed the GUIDELINE. Zero of one samples exhibited sediment toxicity.</p> <p>Based on the readily available data and information, the weight of evidence indicates that there is INSUFFICIENT justification FOR placing this water segment-pollutant combination on the CWA section 303(d) List.</p> <p>This conclusion is based on the staff findings that:</p> <ol style="list-style-type: none"> 1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy. 2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy. 3. Zero of the one samples exceed the GUIDELINE and this sample size is INSUFFICIENT to determine beneficial use support, with the power and confidence of the Listing Policy. There is not an associated sediment toxicity data as required by Section 3.6 of the Listing Policy. 4. Pursuant to section 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.
Regional Board Staff Decision Recommendation:	After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be placed on the section 303(d) list. The readily available data and information is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating.

Line of Evidence (LOE) for Decision ID 65989, Fluorene	Region 2
San Leandro Creek, Lower	

LOE ID:	93028
Pollutant:	Fluorene
LOE Subgroup:	Pollutant-Sediment
Matrix:	Sediment

Fraction:	Total
Beneficial Use:	Cold Freshwater Habitat
Number of Samples:	1
Number of Exceedances:	0
Data and Information Type:	PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality:	Water Board staff assessed SWAMP data for San Leandro Creek, Lower to determine beneficial use support and results are as follows: 0 of 1 samples exceed the criterion for Fluorene.
Data Reference:	Statewide Stream Pollution Trends Study 2008
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	San Francisco Bay Basin Water Quality Control Plan 2007: All waters shall be maintained free of toxic substances in concentrations which are toxic to, or which produce detrimental physiological responses in, human, plant, animal, or aquatic life.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	In freshwater sediments the probable effect concentration (predictive of sediment toxicity for sediment-dwelling organisms) for fluorene is 536 ug/Kg dry weight (MacDonald et al. 2000).
Guideline Reference:	Development and evaluation of consensus-based sediment quality guidelines for freshwater ecosystems. Environmental Contamination and Toxicology. 39: 20-31
Spatial Representation:	Data for this line of evidence for San Leandro Creek, Lower was collected at 1 monitoring site [San Leandro Creek at Empire Road station (204SLE030)]
Temporal Representation:	Data was collected on a single day 6/17/2008.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	SWAMP data collected before September 2008 followed the QAMP (2002), however there may have been overlap in QA with SWAMP QAPP (2008).
QAPP Information Reference(s):	Quality Assurance Management Plan for the State of California's Surface Water Ambient Monitoring Program. Sacramento, CA. State Water Resources Control Board. SWAMP. December 2002 (1st version) Surface Water Ambient Monitoring Program Quality Assurance Program Plan

DECISION ID	43566	Region 2
San Leandro Creek, Lower		

Pollutant:	Lead
Final Listing Decision:	Do Not List on 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision:	Do Not List on 303(d) list (TMDL required list)(2012)
Revision Status	Revised
Impairment from Pollutant or Pollution:	Pollutant
Regional Board Staff Conclusion:	<p>This pollutant is being considered for placement on the CWA section 303(d) List under section 3.1 of the Listing Policy. Under section 3.1 at least a single line of evidence is necessary to assess listing status.</p> <p>Three lines of evidence are available in the administrative record to assess this pollutant. One of one samples exceed the guideline.</p> <p>Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against placing this water segment-pollutant combination on the CWA section 303(d) List.</p> <p>This conclusion is based on the staff findings that:</p> <ol style="list-style-type: none"> 1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy.

2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy.
3. One of one samples exceed the guideline and this sample size is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating. A minimum of 16 samples is needed to determine if a beneficial use is fully supported using table 3.1.
4. Pursuant to Section 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.

Regional Board Staff Decision Recommendation: After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be placed on the section 303(d) list. The readily available data and information is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating.

**Line of Evidence (LOE) for Decision ID 43566, Lead
San Leandro Creek, Lower**

Region 2

LOE ID:	93030
Pollutant:	Lead
LOE Subgroup:	Pollutant-Sediment
Matrix:	Sediment
Fraction:	Total
Beneficial Use:	Cold Freshwater Habitat
Number of Samples:	1
Number of Exceedances:	0
Data and Information Type:	PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality:	Water Board staff assessed SWAMP data for San Leandro Creek, Lower to determine beneficial use support and results are as follows: 0 of 1 samples exceed the criterion for Lead.
Data Reference:	Statewide Stream Pollution Trends Study 2008
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	San Francisco Bay Basin Water Quality Control Plan 2007: All waters shall be maintained free of toxic substances in concentrations which are toxic to, or which produce detrimental physiological responses in, human, plant, animal, or aquatic life.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	In freshwater sediments the probable effect concentration (predictive of sediment toxicity for sediment-dwelling organisms) for lead is 128 mg/Kg dry weight (MacDonald et al. 2000).
Guideline Reference:	Development and evaluation of consensus-based sediment quality guidelines for freshwater ecosystems. Environmental Contamination and Toxicology. 39: 20-31
Spatial Representation:	Data for this line of evidence for San Leandro Creek, Lower was collected at 1 monitoring site [San Leandro Creek at Empire Road station (204SLE030)]
Temporal Representation:	Data was collected on a single day 6/17/2008.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	SWAMP data collected before September 2008 followed the QAMP (2002), however there may have been overlap in QA with SWAMP QAPP (2008).
QAPP Information Reference(s):	Quality Assurance Management Plan for the State of California's Surface Water Ambient Monitoring Program. Sacramento, CA. State Water Resources Control Board. SWAMP. December 2002 (1st version) Surface Water Ambient Monitoring Program Quality Assurance Program Plan

**Line of Evidence (LOE) for Decision ID 43566, Lead
San Leandro Creek, Lower**

Region 2

LOE ID:	93029
Pollutant:	Lead
LOE Subgroup:	Pollutant-Sediment
Matrix:	Sediment
Fraction:	Total
Beneficial Use:	Warm Freshwater Habitat
Number of Samples:	1
Number of Exceedances:	0
Data and Information Type:	PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality:	Water Board staff assessed SWAMP data for San Leandro Creek, Lower to determine beneficial use support and results are as follows: 0 of 1 samples exceed the criterion for Lead.
Data Reference:	Statewide Stream Pollution Trends Study 2008
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	San Francisco Bay Basin Water Quality Control Plan 2007: All waters shall be maintained free of toxic substances in concentrations which are toxic to, or which produce detrimental physiological responses in, human, plant, animal, or aquatic life.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	In freshwater sediments the probable effect concentration (predictive of sediment toxicity for sediment-dwelling organisms) for lead is 128 mg/Kg dry weight (MacDonald et al. 2000).
Guideline Reference:	Development and evaluation of consensus-based sediment quality guidelines for freshwater ecosystems. Environmental Contamination and Toxicology. 39: 20-31
Spatial Representation:	Data for this line of evidence for San Leandro Creek, Lower was collected at 1 monitoring site [San Leandro Creek at Empire Road station (204SLE030)]
Temporal Representation:	Data was collected on a single day 6/17/2008.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	SWAMP data collected before September 2008 followed the QAMP (2002), however there may have been overlap in QA with SWAMP QAPP (2008).
QAPP Information Reference(s):	Quality Assurance Management Plan for the State of California's Surface Water Ambient Monitoring Program. Sacramento, CA. State Water Resources Control Board. SWAMP. December 2002 (1st version). Surface Water Ambient Monitoring Program Quality Assurance Program Plan

**Line of Evidence (LOE) for Decision ID 43566, Lead
San Leandro Creek, Lower**

Region 2

LOE ID:	28765
Pollutant:	Lead
LOE Subgroup:	Pollutant-Sediment
Matrix:	Sediment
Fraction:	Total
Beneficial Use:	Cold Freshwater Habitat
Number of Samples:	1
Number of Exceedances:	1
Data and Information Type:	PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality:	Lead in one sediment sample collected in fall 2001 exceeded the PEC level at a sample concentration of 130 mg/kg dw.
Data Reference:	Water Quality Monitoring and Bioassessment in Nine San Francisco Bay Region Watersheds: Walker Creek, Lagunitas Creek, San Leandro Creek, Wildcat Creek/San

SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	All waters shall be maintained free of toxic substances that are lethal to or that produce other detrimental responses in aquatic organisms.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) - San Francisco Bay Region (Region 2)
Evaluation Guideline:	Sediment Quality Guidelines (MacDonald et al., 2000): PEC (probable effect concentration) lead - 128 mg/kg dw.
Guideline Reference:	Development and evaluation of consensus-based sediment quality guidelines for freshwater ecosystems, Environmental Contamination and Toxicology, 39: 20-31
Spatial Representation:	One sediment sample was collected from the most downstream site in San Leandro Creek at Empire Road.
Temporal Representation:	Sediment sample was collected in September of 2001.
Environmental Conditions:	
QAPP Information:	All samples were collected and analyzed using procedures comparable with the SWAMP Quality Assurance Management Plan (SWRCB, 2002).
QAPP Information Reference(s):	

DECISION ID	65991	Region 2
San Leandro Creek, Lower		

Pollutant:	Lindane/gamma Hexachlorocyclohexane (gamma-HCH)
Final Listing Decision:	Do Not List on 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision:	New Decision
Revision Status	Revised
Impairment from Pollutant or Pollution:	Pollutant

Regional Board Staff Conclusion:	<p>This pollutant is being considered for placement on the CWA section 303(d) List under section 3.6 of the Listing Policy. Under section 3.6 at least two lines of evidence are necessary to assess listing status for pollutants sediment, and pollutant concentrations in sediment must be associated with sediment toxicity to justify adding that pollutant to the CWA section 303(d) List.</p> <p>One line of evidence is available in the administrative record to assess this pollutant. Zero of the one samples exceed the GUIDELINE. Zero of one samples exhibited sediment toxicity.</p> <p>Based on the readily available data and information, the weight of evidence indicates that there is INSUFFICIENT justification FOR placing this water segment-pollutant combination on the CWA section 303(d) List.</p> <p>This conclusion is based on the staff findings that:</p> <ol style="list-style-type: none"> 1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy. 2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy. 3. Zero of the one samples exceed the GUIDELINE and this sample size is INSUFFICIENT to determine beneficial use support, with the power and confidence of the Listing Policy. There is not an associated sediment toxicity data as required by Section 3.6 of the Listing Policy. 4. Pursuant to section 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.
Regional Board Staff Decision Recommendation:	After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be placed on the section 303(d) list. The readily available data and information is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating.

Line of Evidence (LOE) for Decision ID 65991, Lindane/gamma Hexachlorocyclohexane (gamma-HCH)

Region 2

San Leandro Creek, Lower

LOE ID:	93032
Pollutant:	Lindane/gamma Hexachlorocyclohexane (gamma-HCH)
LOE Subgroup:	Pollutant-Sediment
Matrix:	Sediment
Fraction:	Total
Beneficial Use:	Cold Freshwater Habitat
Number of Samples:	1
Number of Exceedances:	0
Data and Information Type:	PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality:	Water Board staff assessed SWAMP data for San Leandro Creek, Lower to determine beneficial use support and results are as follows: 0 of 1 samples exceed the criterion for HCH, gamma.
Data Reference:	Statewide Stream Pollution Trends Study 2008
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	San Francisco Bay Basin Water Quality Control Plan 2007: All waters shall be maintained free of toxic substances in concentrations which are toxic to, or which produce detrimental physiological responses in, human, plant, animal, or aquatic life.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	In freshwater sediments the probable effect concentration (predictive of sediment toxicity for sediment-dwelling organisms) for Lindane (gamma-HCH) is 4.99 ug/Kg dry weight (MacDonald et al. 2000).
Guideline Reference:	Development and evaluation of consensus-based sediment quality guidelines for freshwater ecosystems. Environmental Contamination and Toxicology. 39: 20-31
Spatial Representation:	Data for this line of evidence for San Leandro Creek, Lower was collected at 1 monitoring site [San Leandro Creek at Empire Road station (204SLE030)]
Temporal Representation:	Data was collected on a single day 6/17/2008.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	SWAMP data collected before September 2008 followed the QAMP (2002), however there may have been overlap in QA with SWAMP QAPP (2008).
QAPP Information Reference(s):	Quality Assurance Management Plan for the State of California's Surface Water Ambient Monitoring Program. Sacramento, CA. State Water Resources Control Board. SWAMP. December 2002 (1st version) Surface Water Ambient Monitoring Program Quality Assurance Program Plan

DECISION ID

65992

Region 2

San Leandro Creek, Lower

Pollutant:	Mercury
Final Listing Decision:	Do Not List on 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision:	New Decision
Revision Status	Revised
Impairment from Pollutant or Pollution:	Pollutant

Regional Board Staff Conclusion:

This pollutant is being considered for placement on the CWA section 303(d) List under section 3.6 of the Listing Policy. Under section 3.6 at least two lines of evidence are necessary to assess listing status for pollutants sediment, and pollutant concentrations in sediment must be associated with

sediment toxicity to justify adding that pollutant to the CWA section 303(d) List.

One line of evidence is available in the administrative record to assess this pollutant. Zero of the one samples exceed the GUIDELINE. Zero of one samples exhibited sediment toxicity.

Based on the readily available data and information, the weight of evidence indicates that there is INSUFFICIENT justification FOR placing this water segment-pollutant combination on the CWA section 303(d) List.

This conclusion is based on the staff findings that:

1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy.
2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy.
3. Zero of the one samples exceed the GUIDELINE and this sample size is INSUFFICIENT to determine beneficial use support, with the power and confidence of the Listing Policy. There is not an associated sediment toxicity data as required by Section 3.6 of the Listing Policy.
4. Pursuant to section 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.

Regional Board Staff Decision Recommendation: After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be placed on the section 303(d) list. The readily available data and information is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating.

**Line of Evidence (LOE) for Decision ID 65992, Mercury
San Leandro Creek, Lower**

Region 2

LOE ID:	93034
Pollutant:	Mercury
LOE Subgroup:	Pollutant-Sediment
Matrix:	Sediment
Fraction:	Total
Beneficial Use:	Cold Freshwater Habitat
Number of Samples:	1
Number of Exceedances:	0
Data and Information Type:	PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality:	Water Board staff assessed SWAMP data for San Leandro Creek, Lower to determine beneficial use support and results are as follows: 0 of 1 samples exceed the criterion for Mercury.
Data Reference:	Statewide Stream Pollution Trends Study 2008
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	San Francisco Bay Basin Water Quality Control Plan 2007: All waters shall be maintained free of toxic substances in concentrations which are toxic to, or which produce detrimental physiological responses in, human, plant, animal, or aquatic life.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	In freshwater sediments the probable effect concentration (predictive of sediment toxicity for sediment-dwelling organisms) for mercury is 1.06 mg/Kg dry weight (MacDonald et al. 2000).
Guideline Reference:	Development and evaluation of consensus-based sediment quality guidelines for freshwater ecosystems. Environmental Contamination and Toxicology. 39: 20-31
Spatial Representation:	Data for this line of evidence for San Leandro Creek, Lower was collected at 1 monitoring site [San Leandro Creek at Empire Road station (204SLE030)]
Temporal Representation:	Data was collected on a single day 6/17/2008.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.

QAPP Information: SWAMP data collected before September 2008 followed the QAMP (2002), however there may have been overlap in QA with SWAMP QAPP (2008).

QAPP Information Reference(s): [Quality Assurance Management Plan for the State of California's Surface Water Ambient Monitoring Program. Sacramento, CA. State Water Resources Control Board. SWAMP. December 2002 \(1st version\)](#)
[Surface Water Ambient Monitoring Program Quality Assurance Program Plan](#)

DECISION ID	65993	Region 2
San Leandro Creek, Lower		

Pollutant: Methyl Parathion
Final Listing Decision: Do Not List on 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision: New Decision
Revision Status: Revised
Impairment from Pollutant or Pollution: Pollutant

Regional Board Staff Conclusion: This pollutant is being considered for placement on the CWA section 303(d) List under section 3.6 of the Listing Policy. Under section 3.6 at least two lines of evidence are necessary to assess listing status for pollutants sediment, and pollutant concentrations in sediment must be associated with sediment toxicity to justify adding that pollutant to the CWA section 303(d) List.

One line of evidence is available in the administrative record to assess this pollutant. Zero of the one samples exceed the GUIDELINE. Zero of one samples exhibited sediment toxicity.

Based on the readily available data and information, the weight of evidence indicates that there is INSUFFICIENT justification FOR placing this water segment-pollutant combination on the CWA section 303(d) List.

This conclusion is based on the staff findings that:

1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy.
2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy.
3. Zero of the one samples exceed the GUIDELINE and this sample size is INSUFFICIENT to determine beneficial use support, with the power and confidence of the Listing Policy. There is not an associated sediment toxicity data as required by Section 3.6 of the Listing Policy.
4. Pursuant to section 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.

Regional Board Staff Decision Recommendation: After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be placed on the section 303(d) list. The readily available data and information is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating.

Line of Evidence (LOE) for Decision ID 65993, Methyl Parathion	Region 2
San Leandro Creek, Lower	

LOE ID: 93036

Pollutant: Methyl Parathion
LOE Subgroup: Pollutant-Sediment
Matrix: Sediment
Fraction: Total

Beneficial Use: Cold Freshwater Habitat

Number of Samples: 1
Number of Exceedances: 0

Data and Information Type:	PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality:	Water Board staff assessed SWAMP data for San Leandro Creek, Lower to determine beneficial use support and results are as follows: 0 of 1 samples exceed the criterion for Parathion, Methyl.
Data Reference:	Statewide Stream Pollution Trends Study 2008
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	San Francisco Bay Basin Water Quality Control Plan 2007: All waters shall be maintained free of toxic substances in concentrations which are toxic to, or which produce detrimental physiological responses in, human, plant, animal, or aquatic life.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	The evaluation guideline for methyl parathion is the median lethal concentration (LC50) of 6 ug/g and is normalized by the percentage of organic carbon in the sediment sample. The LC50 6 ug/g is the geometric mean of LC50 values for methyl parathion from Ding et al. (2011).
Guideline Reference:	Toxicity of Sediment-Associated Pesticides to Chironomus dilutus and Hyalella azteca. Arch. Environ. Contam. Toxicol. 61:83-92.
Spatial Representation:	Data for this line of evidence for San Leandro Creek, Lower was collected at 1 monitoring site [San Leandro Creek at Empire Road station (204SLE030)]
Temporal Representation:	Data was collected on a single day 6/17/2008.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	SWAMP data collected before September 2008 followed the QAMP (2002), however there may have been overlap in QA with SWAMP QAPP (2008).
QAPP Information Reference(s):	Quality Assurance Management Plan for the State of California's Surface Water Ambient Monitoring Program. Sacramento, CA. State Water Resources Control Board. SWAMP. December 2002 (1st version) Surface Water Ambient Monitoring Program Quality Assurance Program Plan

DECISION ID	65994	Region 2
San Leandro Creek, Lower		

Pollutant:	Naphthalene
Final Listing Decision:	Do Not List on 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision:	New Decision
Revision Status	Revised
Impairment from Pollutant or Pollution:	Pollutant

Regional Board Staff Conclusion:	<p>This pollutant is being considered for placement on the CWA section 303(d) List under section 3.6 of the Listing Policy. Under section 3.6 at least two lines of evidence are necessary to assess listing status for pollutants sediment, and pollutant concentrations in sediment must be associated with sediment toxicity to justify adding that pollutant to the CWA section 303(d) List.</p> <p>One line of evidence is available in the administrative record to assess this pollutant. Zero of the one samples exceed the GUIDELINE. Zero of one samples exhibited sediment toxicity.</p> <p>Based on the readily available data and information, the weight of evidence indicates that there is INSUFFICIENT justification FOR placing this water segment-pollutant combination on the CWA section 303(d) List.</p> <p>This conclusion is based on the staff findings that:</p> <ol style="list-style-type: none"> 1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy. 2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy. 3. Zero of the one samples exceed the GUIDELINE and this sample size is INSUFFICIENT to determine beneficial use support, with the power and confidence of the Listing Policy. There is not an associated sediment toxicity data as required by Section 3.6 of the Listing Policy. 4. Pursuant to section 3.11 of the Listing Policy, no additional data and information are available
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indicating that standards are not met.

Regional Board Staff Decision Recommendation: After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be placed on the section 303(d) list. The readily available data and information is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating.

**Line of Evidence (LOE) for Decision ID 65994, Naphthalene
San Leandro Creek, Lower**

Region 2

LOE ID: 93038

Pollutant: Naphthalene
LOE Subgroup: Pollutant-Sediment
Matrix: Sediment
Fraction: Total

Beneficial Use: Cold Freshwater Habitat

Number of Samples: 1
Number of Exceedances: 0

Data and Information Type: PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality: Water Board staff assessed SWAMP data for San Leandro Creek, Lower to determine beneficial use support and results are as follows: 0 of 1 samples exceed the criterion for Naphthalene.

Data Reference: [Statewide Stream Pollution Trends Study 2008](#)

SWAMP Data: SWAMP

Water Quality Objective/Criterion: San Francisco Bay Basin Water Quality Control Plan 2007: All waters shall be maintained free of toxic substances in concentrations which are toxic to, or which produce detrimental physiological responses in, human, plant, animal, or aquatic life.

Objective/Criterion Reference: [Water Quality Control Plan \(Basin Plan\) San Francisco Bay Basin \(Region 2\)](#)

Evaluation Guideline: In freshwater sediments the probable effect concentration (predictive of sediment toxicity for sediment-dwelling organisms) for naphthalene is 561 ug/Kg dry weight (MacDonald et al. 2000).

Guideline Reference: [Development and evaluation of consensus-based sediment quality guidelines for freshwater ecosystems. Environmental Contamination and Toxicology. 39: 20-31](#)

Spatial Representation: Data for this line of evidence for San Leandro Creek, Lower was collected at 1 monitoring site [San Leandro Creek at Empire Road station (204SLE030)]

Temporal Representation: Data was collected on a single day 6/17/2008.

Environmental Conditions: Staff is not aware of any special conditions that might affect interpretation of the data.

QAPP Information: SWAMP data collected before September 2008 followed the QAMP (2002), however there may have been overlap in QA with SWAMP QAPP (2008).

QAPP Information Reference(s): [Quality Assurance Management Plan for the State of California's Surface Water Ambient Monitoring Program. Sacramento, CA. State Water Resources Control Board. SWAMP. December 2002 \(1st version\)](#)
[Surface Water Ambient Monitoring Program Quality Assurance Program Plan](#)

**DECISION ID 43567
San Leandro Creek, Lower**

Region 2

Pollutant: Nickel
Final Listing Decision: Do Not List on 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision: Do Not List on 303(d) list (TMDL required list)(2012)

Revision Status
Impairment from Pollutant or
Pollution:

Revised
Pollutant

Regional Board Staff
Conclusion:

This pollutant is being considered for placement on the CWA section 303(d) List under section 3.1 of the Listing Policy. Under section 3.1 a single line of evidence is necessary to assess listing status.

Three lines of evidence are available in the administrative record to assess this pollutant. One of one samples exceed the guideline.

Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against placing this water segment-pollutant combination on the CWA section 303(d) List.

This conclusion is based on the staff findings that:

1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy.
2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy.
3. One of one samples exceeded the guideline and this sample size is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating. A minimum of 16 samples is needed to determine if a beneficial use is fully supported using table 3.1.
4. Pursuant to SECTION 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.

Regional Board Staff Decision
Recommendation:

After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be placed on the section 303(d) list. The readily available data and information is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating.

Line of Evidence (LOE) for Decision ID 43567, Nickel

Region 2

San Leandro Creek, Lower

LOE ID: 28764

Pollutant: Nickel
LOE Subgroup: Pollutant-Sediment
Matrix: Sediment
Fraction: Total

Beneficial Use: Cold Freshwater Habitat

Number of Samples: 1
Number of Exceedances: 1

Data and Information Type: PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality: Nickel in one sediment sample collected in fall 2001 exceeded the PEC levels at a sample concentration of 74 mg/kg dw.

Data Reference: [Water Quality Monitoring and Bioassessment in Nine San Francisco Bay Region Watersheds: Walker Creek, Lagunitas Creek, San Leandro Creek, Wildcat Creek/San Pablo Creek, Suisun Creek, Arroyo Las Positas, Pescadero Creek/Butano Creek, San Gregorio Creek, and Stevens Creek/Permanente Creek, Oakland, CA: Surface Water Ambient Monitoring Program, San Francisco Bay Regional Water Quality Control Board](#)

SWAMP Data: SWAMP

Water Quality Objective/Criterion: All waters shall be maintained free of toxic substances that are lethal to or that produce other detrimental responses in aquatic organisms.

Objective/Criterion Reference: [Water Quality Control Plan \(Basin Plan\) - San Francisco Bay Region \(Region 2\)](#)

Evaluation Guideline: Sediment Quality Guidelines (MacDonald et al., 2000): PEC (probable effect concentration) nickel - 48.6 mg/kg dw.

Guideline Reference: [Development and evaluation of consensus-based sediment quality guidelines for](#)

Spatial Representation: One sediment sample was collected from the most downstream site in San Leandro Creek at Empire Road.

Temporal Representation: Sediment sample was collected in September of 2001.

Environmental Conditions:

QAPP Information: All samples were collected and analyzed using procedures comparable with the SWAMP Quality Assurance Management Plan (SWRCB, 2002).

QAPP Information Reference(s):

Line of Evidence (LOE) for Decision ID 43567, Nickel

Region 2

San Leandro Creek, Lower

LOE ID: 93040

Pollutant: Nickel

LOE Subgroup: Pollutant-Sediment

Matrix: Sediment

Fraction: Total

Beneficial Use: Cold Freshwater Habitat

Number of Samples: 1

Number of Exceedances: 0

Data and Information Type: PHYSICAL/CHEMICAL MONITORING

Data Used to Assess Water Quality: Water Board staff assessed SWAMP data for San Leandro Creek, Lower to determine beneficial use support and results are as follows: 0 of 1 samples exceed the criterion for Nickel.

Data Reference: [Statewide Stream Pollution Trends Study 2008](#)

SWAMP Data: SWAMP

Water Quality Objective/Criterion: San Francisco Bay Basin Water Quality Control Plan 2007: All waters shall be maintained free of toxic substances in concentrations which are toxic to, or which produce detrimental physiological responses in, human, plant, animal, or aquatic life.

Objective/Criterion Reference: [Water Quality Control Plan \(Basin Plan\) San Francisco Bay Basin \(Region 2\)](#)

Evaluation Guideline: In freshwater sediments the probable effect concentration (predictive of sediment toxicity for sediment-dwelling organisms) for nickel is 48.6 mg/Kg dry weight (MacDonald et al. 2000).

Guideline Reference: [Development and evaluation of consensus-based sediment quality guidelines for freshwater ecosystems. Environmental Contamination and Toxicology. 39: 20-31](#)

Spatial Representation: Data for this line of evidence for San Leandro Creek, Lower was collected at 1 monitoring site [San Leandro Creek at Empire Road station (204SLE030)]

Temporal Representation: Data was collected on a single day 6/17/2008.

Environmental Conditions: Staff is not aware of any special conditions that might affect interpretation of the data.

QAPP Information: SWAMP data collected before September 2008 followed the QAMP (2002), however there may have been overlap in QA with SWAMP QAPP (2008).

QAPP Information Reference(s): [Quality Assurance Management Plan for the State of California's Surface Water Ambient Monitoring Program. Sacramento, CA. State Water Resources Control Board. SWAMP. December 2002 \(1st version\)](#)
[Surface Water Ambient Monitoring Program Quality Assurance Program Plan](#)

Line of Evidence (LOE) for Decision ID 43567, Nickel

Region 2

San Leandro Creek, Lower

LOE ID: 93039

Pollutant: Nickel

LOE Subgroup:	Pollutant-Sediment
Matrix:	Sediment
Fraction:	Total
Beneficial Use:	Warm Freshwater Habitat
Number of Samples:	1
Number of Exceedances:	0
Data and Information Type:	PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality:	Water Board staff assessed SWAMP data for San Leandro Creek, Lower to determine beneficial use support and results are as follows: 0 of 1 samples exceed the criterion for Nickel.
Data Reference:	Statewide Stream Pollution Trends Study 2008
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	San Francisco Bay Basin Water Quality Control Plan 2007: All waters shall be maintained free of toxic substances in concentrations which are toxic to, or which produce detrimental physiological responses in, human, plant, animal, or aquatic life.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	In freshwater sediments the probable effect concentration (predictive of sediment toxicity for sediment-dwelling organisms) for nickel is 48.6 mg/Kg dry weight (MacDonald et al. 2000).
Guideline Reference:	Development and evaluation of consensus-based sediment quality guidelines for freshwater ecosystems. Environmental Contamination and Toxicology. 39: 20-31
Spatial Representation:	Data for this line of evidence for San Leandro Creek, Lower was collected at 1 monitoring site [San Leandro Creek at Empire Road station (204SLE030)]
Temporal Representation:	Data was collected on a single day 6/17/2008.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	SWAMP data collected before September 2008 followed the QAMP (2002), however there may have been overlap in QA with SWAMP QAPP (2008).
QAPP Information Reference(s):	Quality Assurance Management Plan for the State of California's Surface Water Ambient Monitoring Program. Sacramento, CA. State Water Resources Control Board. SWAMP. December 2002 (1st version). Surface Water Ambient Monitoring Program Quality Assurance Program Plan

DECISION ID	44040	Region 2
San Leandro Creek, Lower		

Pollutant:	Oxygen, Dissolved
Final Listing Decision:	Do Not List on 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision:	Do Not List on 303(d) list (TMDL required list)(2012)
Revision Status	Revised
Impairment from Pollutant or Pollution:	Pollutant
Regional Board Staff Conclusion:	<p>This pollutant is being considered for placement on the CWA section 303(d) List under section 3.1 of the Listing Policy. Under section 3.1 a single line of evidence is necessary to assess listing status.</p> <p>Five lines of evidence are available in the administrative record to assess this pollutant. One of four samples exceed the objective.</p> <p>Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against placing this water segment-pollutant combination on the CWA section 303(d) List.</p> <p>This conclusion is based on the staff findings that:</p>

1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy.
2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy.
3. One of four samples exceeded the objective and this sample size is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating. A minimum of 16 samples is needed to determine if a beneficial use is fully supported using table 3.1.
4. Pursuant to SECTION 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.

Regional Board Staff Decision Recommendation: After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be placed on the section 303(d) list. The readily available data and information is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating.

**Line of Evidence (LOE) for Decision ID 44040, Oxygen, Dissolved
San Leandro Creek, Lower**

Region 2

LOE ID: 93047

Pollutant: Oxygen, Dissolved
LOE Subgroup: Pollutant-Water
Matrix: Water
Fraction: Dissolved

Beneficial Use: Warm Freshwater Habitat

Number of Samples: 1
Number of Exceedances: 0

Data and Information Type: PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality: State Water Board staff assessed SWAMP data for San Leandro Creek, Lower to determine beneficial use support and results are as follows: 0 of 1 samples exceed the criterion for Oxygen, Dissolved.

Data Reference: [Statewide Perennial Streams Assessment 2008](#)

SWAMP Data: SWAMP

Water Quality Objective/Criterion: Dissolved oxygen objectives for waters designated as warm water habitat shall be of a 5.0 mg/l minimum. (Water Quality Control Plan, San Francisco Bay Basin, Chapter III Water Quality Objectives.)

Objective/Criterion Reference: [Water Quality Control Plan \(Basin Plan\) San Francisco Bay Basin \(Region 2\)](#)

Evaluation Guideline:
Guideline Reference:

Spatial Representation: Data for this line of evidence for San Leandro Creek, Lower was collected at 1 monitoring site [San Leandro Creek - 204PS0038]

Temporal Representation: Data was collected on a single day 6/19/2008.

Environmental Conditions: Staff is not aware of any special conditions that might affect interpretation of the data.

QAPP Information: The SWAMP QAPP (2008) was followed.

QAPP Information Reference(s): [Surface Water Ambient Monitoring Program Quality Assurance Program Plan](#)

**Line of Evidence (LOE) for Decision ID 44040, Oxygen, Dissolved
San Leandro Creek, Lower**

Region 2

LOE ID: 93048

Pollutant: Oxygen, Dissolved
LOE Subgroup: Pollutant-Water
Matrix: Water
Fraction: Dissolved

Beneficial Use:	Cold Freshwater Habitat
Number of Samples:	1
Number of Exceedances:	0
Data and Information Type:	PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality:	State Water Board staff assessed SWAMP data for San Leandro Creek, Lower to determine beneficial use support and results are as follows: 0 of 1 samples exceed the criterion for Oxygen, Dissolved.
Data Reference:	Statewide Perennial Streams Assessment 2008
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	Dissolved oxygen objectives for waters designated as cold water habitat shall be of a 7.0 mg/l minimum. (Water Quality Control Plan, San Francisco Bay Basin, Chapter III Water Quality Objectives.)
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	
Guideline Reference:	
Spatial Representation:	Data for this line of evidence for San Leandro Creek, Lower was collected at 1 monitoring site [San Leandro Creek - 204PS0038]
Temporal Representation:	Data was collected on a single day 6/19/2008.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	The SWAMP QAPP (2008) was followed.
QAPP Information Reference(s):	Surface Water Ambient Monitoring Program Quality Assurance Program Plan

Line of Evidence (LOE) for Decision ID 44040, Oxygen, Dissolved

Region 2

San Leandro Creek, Lower

LOE ID:	90746
Pollutant:	Oxygen, Dissolved
LOE Subgroup:	Pollutant-Water
Matrix:	Water
Fraction:	Dissolved
Beneficial Use:	Cold Freshwater Habitat
Number of Samples:	1
Number of Exceedances:	0
Data and Information Type:	PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality:	Numeric data generated from 1 minimum sample of Dissolved Oxygen concentrations had no exceedence.
Data Reference:	Statewide Perennial Streams Assessment 2008
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	Table 3.3.5 of the San Francisco Bay Basin Plan states the dissolved oxygen content of surface waters with the Cold Freshwater Habitat beneficial use shall not exceed 7.0 mg/L.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	
Guideline Reference:	
Spatial Representation:	The sample was collected from the 204PS0038 station.
Temporal Representation:	One sample was collected on 6/19/2008.
Environmental Conditions:	
QAPP Information:	SWAMP QAPP

**Line of Evidence (LOE) for Decision ID 44040, Oxygen, Dissolved
San Leandro Creek, Lower**

Region 2

LOE ID:	28570
Pollutant:	Oxygen, Dissolved
LOE Subgroup:	Pollutant-Water
Matrix:	Water
Fraction:	None
Beneficial Use:	Cold Freshwater Habitat
Number of Samples:	4
Number of Exceedances:	1
Data and Information Type:	PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality:	Comprehensive water quality assessment was conducted at San Leandro Creek watershed as part of SWAMP assessment in 2002. Continuous field monitoring of temperature, dissolved oxygen, pH, and specific conductance to determine temporal variability in basic water quality at three locations (one location per season). The 7 day average minimum concentration was computed for 2 samples only. Two other deployments were shorter than 7 days, which did not allow to estimate the 7-day average minimum concentration. The 7-day average concentrations in two samples were 2.48 and 7.77 mg/L. DO was below the water quality objective of 7 mg/L in one sample.
Data Reference:	Water Quality Monitoring and Bioassessment in Nine San Francisco Bay Region Watersheds: Walker Creek, Lagunitas Creek, San Leandro Creek, Wildcat Creek/San Pablo Creek, Suisun Creek, Arroyo Las Positas, Pescadero Creek/Butano Creek, San Gregorio Creek, and Stevens Creek/Permanente Creek. Oakland, CA: Surface Water Ambient Monitoring Program, San Francisco Bay Regional Water Quality Control Board
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	The numeric water quality objective for dissolved oxygen is 7.0 mg/L minimum for waters designated as cold water habitat. The median dissolved oxygen concentration for any three consecutive months shall not be less than 80 percent of the dissolved oxygen content at saturation.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) - San Francisco Bay Region (Region 2)
Evaluation Guideline:	
Guideline Reference:	
Spatial Representation:	Dissolved oxygen was measured at four sites located on the mainstem of San Leandro Creek below Lake Chabot.
Temporal Representation:	At all locations the SWAMP performed continuous monitoring of dissolved oxygen at 15 minute intervals lasting 6 to 16 days. SLE050 - February 2002 winter wet season; SLE050 - April 2002 spring wet season; SLE070 - May 2002 summer dry season and SLE090 - October 2002 fall dry season.
Environmental Conditions:	
QAPP Information:	All samples were collected and analyzed using procedures comparable with the SWAMP Quality Assurance Management Plan (SWRCB 2002).
QAPP Information Reference(s):	Quality Assurance Management Plan for the State of California's Surface Water Ambient Monitoring Program. Sacramento, CA. State Water Resources Control Board. SWAMP. December 2002 (1st version)

**Line of Evidence (LOE) for Decision ID 44040, Oxygen, Dissolved
San Leandro Creek, Lower**

Region 2

LOE ID: 29000

Pollutant:	Oxygen, Dissolved
LOE Subgroup:	Pollutant-Water
Matrix:	Water
Fraction:	None
Beneficial Use:	Warm Freshwater Habitat
Number of Samples:	4
Number of Exceedances:	1
Data and Information Type:	PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality:	Comprehensive water quality assessment was conducted at San Leandro Creek watershed as part of SWAMP assessment in 2002. Continuous field monitoring of temperature, dissolved oxygen, pH, and specific conductance to determine temporal variability in basic water quality at at three locations (one location per season). The 7 day average minimum concentration was computed for 2 deployments only. Two other deployments were shorter than 7 days, which did not allow to estimate the 7-day average minimum concentration. The 7-day average concentrations in two samples were 2.48 and 7.77 mg/L. DO was below the water quality objective of 5 mg/L in one sample.
Data Reference:	Water Quality Monitoring and Bioassessment in Nine San Francisco Bay Region Watersheds: Walker Creek, Lagunitas Creek, San Leandro Creek, Wildcat Creek/San Pablo Creek, Suisun Creek, Arroyo Las Positas, Pescadero Creek/Butano Creek, San Gregorio Creek, and Stevens Creek/Permanente Creek. Oakland, CA: Surface Water Ambient Monitoring Program. San Francisco Bay Regional Water Quality Control Board
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	The numeric water quality objective for dissolved oxygen is 5.0 mg/L minimum for waters designated as warm water habitat. The median dissolved oxygen concentration for any three consecutive months shall not be less than 80 percent of the dissolved oxygen content at saturation.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) - San Francisco Bay Region (Region 2)
Evaluation Guideline:	
Guideline Reference:	
Spatial Representation:	Dissolved oxygen was measured at four sites located on the mainstem of San Leandro Creek below Lake Chabot.
Temporal Representation:	At all locations the SWAMP performed continuous monitoring of dissolved oxygen at 15 minute intervals lasting 6 to 16 days. SLE050 - February 2002 winter wet season; SLE050 - April 2002 spring wet season; SLE070 - May 2002 summer dry season and SLE090 - October 2002 fall dry season.
Environmental Conditions:	
QAPP Information:	All samples were collected and analyzed using procedures comparable with the SWAMP Quality Assurance Management Plan (SWRCB 2002).
QAPP Information Reference(s):	Quality Assurance Management Plan for the State of California's Surface Water Ambient Monitoring Program. Sacramento, CA. State Water Resources Control Board. SWAMP. December 2002 (1st version)

DECISION ID	65996	Region 2
San Leandro Creek, Lower		
Pollutant:	PAHs (Polycyclic Aromatic Hydrocarbons)	
Final Listing Decision:	Do Not List on 303(d) list (TMDL required list)	
Last Listing Cycle's Final Listing Decision:	New Decision	
Revision Status	Revised	
Impairment from Pollutant or Pollution:	Pollutant	
Regional Board Staff	This pollutant is being considered for placement on the CWA section 303(d) List under section 3.6 of	

Conclusion:

the Listing Policy. Under section 3.6 at least two lines of evidence are necessary to assess listing status for pollutants sediment, and pollutant concentrations in sediment must be associated with sediment toxicity to justify adding that pollutant to the CWA section 303(d) List.

One line of evidence is available in the administrative record to assess this pollutant. Zero of the one samples exceed the GUIDELINE. Zero of one samples exhibited sediment toxicity.

Based on the readily available data and information, the weight of evidence indicates that there is INSUFFICIENT justification FOR placing this water segment-pollutant combination on the CWA section 303(d) List.

This conclusion is based on the staff findings that:

1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy.
2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy.
3. Zero of the one samples exceed the GUIDELINE and this sample size is INSUFFICIENT to determine beneficial use support, with the power and confidence of the Listing Policy. There is not an associated sediment toxicity data as required by Section 3.6 of the Listing Policy.
4. Pursuant to section 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.

Regional Board Staff Decision Recommendation:

After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be placed on the section 303(d) list. The readily available data and information is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating.

Line of Evidence (LOE) for Decision ID 65996, PAHs (Polycyclic Aromatic Hydrocarbons)**Region 2****San Leandro Creek, Lower**

LOE ID:	93050
Pollutant:	PAHs (Polycyclic Aromatic Hydrocarbons)
LOE Subgroup:	Pollutant-Sediment
Matrix:	Sediment
Fraction:	Total
Beneficial Use:	Cold Freshwater Habitat
Number of Samples:	1
Number of Exceedances:	0
Data and Information Type:	PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality:	Water Board staff assessed SWAMP data for San Leandro Creek, Lower to determine beneficial use support and results are as follows: 0 of 1 samples exceed the criterion for PAHs (Polycyclic Aromatic Hydrocarbons).
Data Reference:	Statewide Stream Pollution Trends Study 2008
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	San Francisco Bay Basin Water Quality Control Plan 2007: All waters shall be maintained free of toxic substances in concentrations which are toxic to, or which produce detrimental physiological responses in, human, plant, animal, or aquatic life.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	In freshwater sediments the probable effects level (predictive of sediment toxicity for sediment-dwelling organisms) for PAH, Total is 22,800 ug/Kg dry weight (Macdonald et al. 2000)
Guideline Reference:	Development and evaluation of consensus-based sediment quality guidelines for freshwater ecosystems. Environmental Contamination and Toxicology. 39: 20-31
Spatial Representation:	Data for this line of evidence for San Leandro Creek, Lower was collected at 1 monitoring site [San Leandro Creek at Empire Road station (204SLE030)]

Temporal Representation:	Data was collected on a single day 6/17/2008.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	SWAMP data collected before September 2008 followed the QAMP (2002), however there may have been overlap in QA with SWAMP QAPP (2008).
QAPP Information Reference(s):	Quality Assurance Management Plan for the State of California's Surface Water Ambient Monitoring Program. Sacramento, CA. State Water Resources Control Board. SWAMP. December 2002 (1st version). Surface Water Ambient Monitoring Program Quality Assurance Program Plan

DECISION ID	65998	Region 2
San Leandro Creek, Lower		

Pollutant:	PCBs (Polychlorinated biphenyls)
Final Listing Decision:	Do Not List on 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision:	New Decision
Revision Status	Revised
Impairment from Pollutant or Pollution:	Pollutant

Regional Board Staff Conclusion: This pollutant is being considered for placement on the CWA section 303(d) List under section 3.6 of the Listing Policy. Under section 3.6 at least two lines of evidence are necessary to assess listing status for pollutants sediment, and pollutant concentrations in sediment must be associated with sediment toxicity to justify adding that pollutant to the CWA section 303(d) List.

One line of evidence is available in the administrative record to assess this pollutant. Zero of the one samples exceed the GUIDELINE. Zero of one samples exhibited sediment toxicity.

Based on the readily available data and information, the weight of evidence indicates that there is INSUFFICIENT justification FOR placing this water segment-pollutant combination on the CWA section 303(d) List.

This conclusion is based on the staff findings that:

1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy.
2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy.
3. Zero of the one samples exceed the GUIDELINE and this sample size is INSUFFICIENT to determine beneficial use support, with the power and confidence of the Listing Policy. There is not an associated sediment toxicity data as required by Section 3.6 of the Listing Policy.
4. Pursuant to section 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.

Regional Board Staff Decision Recommendation:	After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be placed on the section 303(d) list. The readily available data and information is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating.
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Line of Evidence (LOE) for Decision ID 65998, PCBs (Polychlorinated biphenyls)		Region 2
San Leandro Creek, Lower		

LOE ID:	90581
Pollutant:	PCBs (Polychlorinated biphenyls)
LOE Subgroup:	Pollutant-Sediment
Matrix:	Sediment
Fraction:	Total
Beneficial Use:	Cold Freshwater Habitat
Number of Samples:	1

Number of Exceedances:	0
Data and Information Type:	PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality:	Zero of 1 sample collected for Total PCBs exceeded the evaluation guideline.
Data Reference:	Statewide Stream Pollution Trends Study 2008
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	Waters shall not contain substances in concentrations that result in the deposition of material that causes nuisance or adversely affects beneficial uses (Water Quality Control Plan for the San Francisco Bay Region).
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) - San Francisco Bay Region (Region 2)
Evaluation Guideline:	In freshwater sediments the probable effect concentration (predictive of sediment toxicity) for total PCB is 676 ug/Kg dry weight (MacDonald et al. 2000).
Guideline Reference:	Development and evaluation of consensus-based sediment quality guidelines for freshwater ecosystems. Environmental Contamination and Toxicology. 39: 20-31
Spatial Representation:	Data were collected at the following station 204SLE030 (San Leandro Creek at Empire Road).
Temporal Representation:	The samples were collected on 6/17/2008.
Environmental Conditions:	
QAPP Information:	The SWAMP QAPP (2008) was followed.
QAPP Information Reference(s):	Surface Water Ambient Monitoring Program Quality Assurance Program Plan

DECISION ID	65999	Region 2
San Leandro Creek, Lower		

Pollutant:	Permethrin
Final Listing Decision:	Do Not List on 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision:	New Decision
Revision Status	Revised
Impairment from Pollutant or Pollution:	Pollutant

Regional Board Staff Conclusion: This pollutant is being considered for placement on the CWA section 303(d) List under section 3.6 of the Listing Policy. Under section 3.6 at least two lines of evidence are necessary to assess listing status for pollutants sediment, and pollutant concentrations in sediment must be associated with sediment toxicity to justify adding that pollutant to the CWA section 303(d) List.

One line of evidence is available in the administrative record to assess this pollutant. Zero of the one samples exceed the GUIDELINE. Zero of one samples exhibited sediment toxicity.

Based on the readily available data and information, the weight of evidence indicates that there is INSUFFICIENT justification FOR placing this water segment-pollutant combination on the CWA section 303(d) List.

This conclusion is based on the staff findings that:

1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy.
2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy.
3. Zero of the one samples exceed the GUIDELINE and this sample size is INSUFFICIENT to determine beneficial use support, with the power and confidence of the Listing Policy. There is not an associated sediment toxicity data as required by Section 3.6 of the Listing Policy.
4. Pursuant to section 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.

Regional Board Staff Decision Recommendation:	After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be placed on the section 303(d) list. The readily available data and information is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating.
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Line of Evidence (LOE) for Decision ID 65999, Permethrin**Region 2****San Leandro Creek, Lower**

LOE ID:	93057
Pollutant:	Permethrin, total
LOE Subgroup:	Pollutant-Sediment
Matrix:	Sediment
Fraction:	Total
Beneficial Use:	Cold Freshwater Habitat
Number of Samples:	1
Number of Exceedances:	0
Data and Information Type:	PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality:	Water Board staff assessed SWAMP data for San Leandro Creek, Lower to determine beneficial use support and results are as follows: 0 of 1 samples exceed the criterion for Permethrin, Total.
Data Reference:	Statewide Stream Pollution Trends Study 2008
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	San Francisco Bay Basin Water Quality Control Plan 2007: All waters shall be maintained free of toxic substances in concentrations which are toxic to, or which produce detrimental physiological responses in, human, plant, animal, or aquatic life.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	The evaluation guideline for permethrin is the median lethal concentration (LC50) of 8.9 ug/g and is normalized by the percentage of organic carbon in the sediment sample. The LC50 8.9 ug/g is the geometric mean of LC50 values for permethrin from Amweg et al. (2005).
Guideline Reference:	Use and Toxicity of Pyrethroid Pesticides in the Central Valley, California, USA. Environmental Toxicology and Chemistry, 24:966-972, with erratum 24:No. 5
Spatial Representation:	Data for this line of evidence for San Leandro Creek, Lower was collected at 1 monitoring site [San Leandro Creek at Empire Road station (204SLE030)]
Temporal Representation:	Data was collected on a single day 6/17/2008.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	SWAMP data collected before September 2008 followed the QAMP (2002), however there may have been overlap in QA with SWAMP QAPP (2008).
QAPP Information Reference(s):	Quality Assurance Management Plan for the State of California's Surface Water Ambient Monitoring Program, Sacramento, CA. State Water Resources Control Board. SWAMP. December 2002 (1st version) Surface Water Ambient Monitoring Program Quality Assurance Program Plan

DECISION ID**66000****Region 2****San Leandro Creek, Lower**

Pollutant:	Phenanthrene
Final Listing Decision:	Do Not List on 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision:	New Decision
Revision Status	Revised
Impairment from Pollutant or Pollution:	Pollutant

Regional Board Staff

This pollutant is being considered for placement on the CWA section 303(d) List under section 3.6 of

Conclusion:	<p>the Listing Policy. Under section 3.6 at least two lines of evidence are necessary to assess listing status for pollutants sediment, and pollutant concentrations in sediment must be associated with sediment toxicity to justify adding that pollutant to the CWA section 303(d) List.</p> <p>One line of evidence is available in the administrative record to assess this pollutant. Zero of the one samples exceed the GUIDELINE. Zero of one samples exhibited sediment toxicity.</p> <p>Based on the readily available data and information, the weight of evidence indicates that there is INSUFFICIENT justification FOR placing this water segment-pollutant combination on the CWA section 303(d) List.</p> <p>This conclusion is based on the staff findings that:</p> <ol style="list-style-type: none"> 1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy. 2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy. 3. Zero of the one samples exceed the GUIDELINE and this sample size is INSUFFICIENT to determine beneficial use support, with the power and confidence of the Listing Policy. There is not an associated sediment toxicity data as required by Section 3.6 of the Listing Policy. 4. Pursuant to section 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.
Regional Board Staff Decision Recommendation:	After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be placed on the section 303(d) list. The readily available data and information is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating.

Line of Evidence (LOE) for Decision ID 66000, Phenanthrene
San Leandro Creek, Lower

Region 2

LOE ID:	93061
Pollutant:	Phenanthrene
LOE Subgroup:	Pollutant-Sediment
Matrix:	Sediment
Fraction:	Total
Beneficial Use:	Cold Freshwater Habitat
Number of Samples:	1
Number of Exceedances:	0
Data and Information Type:	PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality:	Water Board staff assessed SWAMP data for San Leandro Creek, Lower to determine beneficial use support and results are as follows: 0 of 1 samples exceed the criterion for Phenanthrene.
Data Reference:	Statewide Stream Pollution Trends Study 2008
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	San Francisco Bay Basin Water Quality Control Plan 2007: All waters shall be maintained free of toxic substances in concentrations which are toxic to, or which produce detrimental physiological responses in, human, plant, animal, or aquatic life.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	In freshwater sediments the probable effects level (predictive of sediment toxicity for sediment-dwelling organisms) for Phenanthrene is 1170 ug/Kg dry weight (Macdonald et al. 2000)
Guideline Reference:	Development and evaluation of consensus-based sediment quality guidelines for freshwater ecosystems. Environmental Contamination and Toxicology. 39: 20-31
Spatial Representation:	Data for this line of evidence for San Leandro Creek, Lower was collected at 1 monitoring site [San Leandro Creek at Empire Road station (204SLE030)]

Temporal Representation:	Data was collected on a single day 6/17/2008.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	SWAMP data collected before September 2008 followed the QAMP (2002), however there may have been overlap in QA with SWAMP QAPP (2008).
QAPP Information Reference(s):	Quality Assurance Management Plan for the State of California's Surface Water Ambient Monitoring Program. Sacramento, CA. State Water Resources Control Board. SWAMP. December 2002 (1st version). Surface Water Ambient Monitoring Program Quality Assurance Program Plan

DECISION ID	66001	Region 2
San Leandro Creek, Lower		

Pollutant:	Pyrene
Final Listing Decision:	Do Not List on 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision:	New Decision
Revision Status	Revised
Impairment from Pollutant or Pollution:	Pollutant

Regional Board Staff Conclusion: This pollutant is being considered for placement on the CWA section 303(d) List under section 3.6 of the Listing Policy. Under section 3.6 at least two lines of evidence are necessary to assess listing status for pollutants sediment, and pollutant concentrations in sediment must be associated with sediment toxicity to justify adding that pollutant to the CWA section 303(d) List.

One line of evidence is available in the administrative record to assess this pollutant. Zero of the one samples exceed the GUIDELINE. Zero of one samples exhibited sediment toxicity.

Based on the readily available data and information, the weight of evidence indicates that there is INSUFFICIENT justification FOR placing this water segment-pollutant combination on the CWA section 303(d) List.

This conclusion is based on the staff findings that:

1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy.
2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy.
3. Zero of the one samples exceed the GUIDELINE and this sample size is INSUFFICIENT to determine beneficial use support, with the power and confidence of the Listing Policy. There is not an associated sediment toxicity data as required by Section 3.6 of the Listing Policy.
4. Pursuant to section 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.

Regional Board Staff Recommendation:	After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be placed on the section 303(d) list. The readily available data and information is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating.
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Line of Evidence (LOE) for Decision ID 66001, Pyrene	Region 2
San Leandro Creek, Lower	

LOE ID:	93068
Pollutant:	Pyrene
LOE Subgroup:	Pollutant-Sediment
Matrix:	Sediment
Fraction:	Total
Beneficial Use:	Cold Freshwater Habitat
Number of Samples:	1

Number of Exceedances:	0
Data and Information Type:	PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality:	Water Board staff assessed SWAMP data for San Leandro Creek, Lower to determine beneficial use support and results are as follows: 0 of 1 samples exceed the criterion for Pyrene.
Data Reference:	Statewide Stream Pollution Trends Study 2008
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	San Francisco Bay Basin Water Quality Control Plan 2007: All waters shall be maintained free of toxic substances in concentrations which are toxic to, or which produce detrimental physiological responses in, human, plant, animal, or aquatic life.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	In freshwater sediments the probable effects level (predictive of sediment toxicity for sediment-dwelling organisms) for Pyrene is 1520 ug/Kg dry weight (Macdonald et al. 2000)
Guideline Reference:	Development and evaluation of consensus-based sediment quality guidelines for freshwater ecosystems. Environmental Contamination and Toxicology. 39: 20-31
Spatial Representation:	Data for this line of evidence for San Leandro Creek, Lower was collected at 1 monitoring site [San Leandro Creek at Empire Road station (204SLE030)]
Temporal Representation:	Data was collected on a single day 6/17/2008.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	SWAMP data collected before September 2008 followed the QAMP (2002), however there may have been overlap in QA with SWAMP QAPP (2008).
QAPP Information Reference(s):	Quality Assurance Management Plan for the State of California's Surface Water Ambient Monitoring Program. Sacramento, CA. State Water Resources Control Board. SWAMP. December 2002 (1st version) Surface Water Ambient Monitoring Program Quality Assurance Program Plan

DECISION ID	66257	Region 2
San Leandro Creek, Lower		

Pollutant:	Sulfates
Final Listing Decision:	Do Not List on 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision:	New Decision
Revision Status	Revised
Impairment from Pollutant or Pollution:	Pollutant

Regional Board Staff Conclusion:	<p>This pollutant is being considered for placement on the CWA section 303(d) List under section 3.2 of the Listing Policy. Under section 3.2 a single line of evidence are necessary to assess listing status.</p> <p>One line of evidence is available in the administrative record to assess this pollutant.</p> <p>Zero of the one samples exceed the OBJECTIVE.</p> <p>Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against placing this water segment-pollutant combination on the CWA section 303(d) List.</p> <p>This conclusion is based on the staff findings that:</p> <ol style="list-style-type: none"> 1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy. 2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy. 3. Zero of the one samples exceed the OBJECTIVE and this sample size is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating. A minimum of 26 samples is needed to determine if a beneficial use is fully supported using table 3.2. 4. Pursuant to SECTION 3.11 of the Listing Policy, no additional data and information are available
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indicating that standards are not met.

Regional Board Staff Decision Recommendation: After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be placed on the section 303(d) list. The readily available data and information is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating.

Line of Evidence (LOE) for Decision ID 66257, Sulfates

Region 2

San Leandro Creek, Lower

LOE ID: 93069

Pollutant: Sulfates
LOE Subgroup: Pollutant-Water
Matrix: Water
Fraction: Not Recorded

Beneficial Use: Municipal & Domestic Supply

Number of Samples: 1
Number of Exceedances: 0

Data and Information Type: PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality: The sample collected did not exceed the evaluation guideline.
Data Reference: [Statewide Perennial Streams Assessment 2008](#)

SWAMP Data: SWAMP

Water Quality Objective/Criterion: Per the Basin Plan (NCRWQCB 2011): Waters shall not contain taste- or odor-producing substances in concentrations that impart undesirable tastes or odors to fish flesh or other edible products of aquatic origin, or that cause nuisance or adversely affect beneficial uses.

Objective/Criterion Reference: [Water Quality Control Plan \(Basin Plan\) San Francisco Bay Basin \(Region 2\)](#)

Evaluation Guideline: Per 22 CCR 64449: The recommended Secondary Maximum Contaminant Level for Sulfate is 250 mg/L.

Guideline Reference: [Title 22, Division 4, Chapter 15, Sections 64400 et seq. California Code of Regulations](#)

Spatial Representation: One sample was collected from the San Leandro Creek station (204PS0038).
Temporal Representation: One sample was collected on 6/19/2008.
Environmental Conditions:
QAPP Information: SWAMP QAPP
QAPP Information Reference(s):

DECISION ID

66259

Region 2

San Leandro Creek, Lower

Pollutant: Temperature, water
Final Listing Decision: Do Not List on 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision: New Decision
Revision Status: Revised
Impairment from Pollutant or Pollution: Pollutant

Regional Board Staff Conclusion: This pollutant is being considered for placement on the CWA section 303(d) List under section 3.2 of the Listing Policy. Under section 3.2 a single line of evidence are necessary to assess listing status.

Two lines of evidence are available in the administrative record to assess this pollutant.

Zero of the one samples exceed the Moyle GUIDELINE for Cold Freshwater Habitat.
Zero of the one samples exceed the Carter GUIDELINE for Cold Freshwater Habitat.

Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against placing this water segment-pollutant combination on the CWA section 303(d) List.

This conclusion is based on the staff findings that:

1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy.
2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy.
3. Zero of the one samples exceed the Moyle GUIDELINE for Cold Freshwater Habitat and zero of the one samples exceed the Carter GUIDELINE for Cold Freshwater Habitat and this sample size is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating. A minimum of 26 samples is needed to determine if a beneficial use is fully supported using table 3.2.
4. Pursuant to SECTION 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.

Regional Board Staff Decision Recommendation: After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be placed on the section 303(d) list. The readily available data and information is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating.

**Line of Evidence (LOE) for Decision ID 66259, Temperature, water
San Leandro Creek, Lower**

Region 2

LOE ID:	93070
Pollutant:	Temperature, water
LOE Subgroup:	Pollutant-Water
Matrix:	Water
Fraction:	None
Beneficial Use:	Cold Freshwater Habitat
Number of Samples:	1
Number of Exceedances:	0
Data and Information Type:	PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality:	State Water Board staff assessed SWAMP data for San Leandro Creek, Lower to determine beneficial use support and results are as follows: 0 of 1 samples exceed the criterion for Water Temperature.
Data Reference:	Statewide Perennial Streams Assessment 2008
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	The natural receiving water temperature of inland surface waters shall not be altered unless it can be demonstrated to the satisfaction of the Regional Board that such alteration in temperature does not adversely affect beneficial uses. (Water Quality Control Plan, San Francisco Bay Basin, Chapter III Water Quality Objectives.)
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	Inland Fishes of California (Moyle 1976) states that for rainbow trout the optimum range for growth and completion of most life stages is 13-21 degrees C (page 129).
Guideline Reference:	Inland Fishes of California
Spatial Representation:	Data for this line of evidence for San Leandro Creek, Lower was collected at 1 monitoring site [San Leandro Creek - 204PS0038]
Temporal Representation:	Data was collected on a single day 6/19/2008.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.

QAPP Information: The SWAMP QAPP (2008) was followed.
QAPP Information Reference(s): [Surface Water Ambient Monitoring Program Quality Assurance Program Plan](#)

Line of Evidence (LOE) for Decision ID 66259, Temperature, water
San Leandro Creek, Lower

Region 2

LOE ID: 93071

Pollutant: Temperature, water
LOE Subgroup: Pollutant-Water
Matrix: Water
Fraction: None

Beneficial Use: Cold Freshwater Habitat

Number of Samples: 1
Number of Exceedances: 0

Data and Information Type: PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality: The grab sample collected did not exceed the evaluation guideline.
Data Reference: [Statewide Perennial Streams Assessment 2008](#)

SWAMP Data: SWAMP

Water Quality Objective/Criterion: Water Quality Control Plan, San Francisco Bay Region: The natural receiving water temperature of inland surface waters shall not be altered unless it can be demonstrated to the satisfaction of the Regional Board that such alteration in temperature does not adversely affect beneficial uses.

Objective/Criterion Reference: [Water Quality Control Plan \(Basin Plan\) San Francisco Bay Basin \(Region 2\)](#)

Evaluation Guideline: According to Carter (2008) the lethal threshold for juvenile steelhead growth & rearing is 24 degrees Celsius (C).

Guideline Reference: [Effects of Temperature, Dissolved Oxygen/Total Dissolved Gas, Ammonia, and pH on Salmonids. Implications for California's North Coast TMDLs. California Regional Water Quality Control Board, North Coast Region](#)

Spatial Representation: One grab sample was collected from San Leandro Creek station (204PS0038).
Temporal Representation: One grab sample was collected on 6/19/2008.

Environmental Conditions:
QAPP Information: The SWAMP QAPP was followed.
QAPP Information Reference(s):

DECISION ID 43383

Region 2

San Leandro Creek, Lower

Pollutant: Toxicity
Final Listing Decision: Do Not List on 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision: Do Not List on 303(d) list (TMDL required list)(2012)
Revision Status Revised
Impairment from Pollutant or Pollution: Pollutant

Regional Board Staff Conclusion: This pollutant is being considered for placement on the CWA section 303(d) List under section 3.1 of the Listing Policy. Under section 3.1 a single line of evidence are necessary to assess listing status.

Two lines of evidence are available in the administrative record to assess this pollutant. One of the two samples exceed the guideline.

Based on the readily available data and information, the weight of evidence indicates that there is

sufficient justification against placing this water segment-pollutant combination on the CWA section 303(d) List.

This conclusion is based on the staff findings that:

1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy.
2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy.
3. One of the two samples exceed the guideline and this sample size is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating. A minimum of sixteen samples is needed to determine if a beneficial use is fully supported using table 3.1.
4. Pursuant to [SECTION 3.11/4.11] of the Listing Policy, no additional data and information are available indicating that standards are not met.

Regional Board Staff Decision Recommendation: After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be placed on the section 303(d) list because applicable water quality standards are not being exceeded.

Line of Evidence (LOE) for Decision ID 43383, Toxicity

Region 2

San Leandro Creek, Lower

LOE ID:	29028
Pollutant:	Toxicity
LOE Subgroup:	Pollutant-Water
Matrix:	Water
Fraction:	None
Beneficial Use:	Cold Freshwater Habitat
Number of Samples:	2
Number of Exceedances:	1
Data and Information Type:	TOXICITY TESTING
Data Used to Assess Water Quality:	Two samples were collected in 2001-2002 sampling season to evaluate water toxicity at one location in San Leandro Creek Lower. The toxicity tests included survival and reproduction of Ceriodaphnia, survival and growth of fathead minnow, and growth of Selenastrum. One of the two samples demonstrated adverse impacts to Ceriodaphnia reproduction with 63 percent of control.
Data Reference:	Water Quality Monitoring and Bioassessment in Nine San Francisco Bay Region Watersheds: Walker Creek, Lagunitas Creek, San Leandro Creek, Wildcat Creek/San Pablo Creek, Suisun Creek, Arroyo Las Positas, Pescadero Creek/Butano Creek, San Gregorio Creek, and Stevens Creek/Permanente Creek, Oakland, CA: Surface Water Ambient Monitoring Program, San Francisco Bay Regional Water Quality Control Board
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	All waters shall be maintained free of toxic substances that are lethal to or that produce other detrimental responses in aquatic organisms. There shall be no chronic toxicity in ambient waters. Chronic toxicity is a detrimental biological effect on growth rate, reproduction, fertilization success, larval development, population abundance, community composition, or any other relevant measure of the health of an organism, population, or community.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) - San Francisco Bay Region (Region 2)
Evaluation Guideline:	Water toxicity was evaluated according to the SWAMP methodology. The U.S.EPA whole effluent toxicity protocol (U.S.EPA 1994) was used to test the effect of water samples on three freshwater test organisms. Statistical evaluation (alpha = 0.05) and a default threshold of 80% of the control value were used to establish whether water exhibited significant toxicity adversely impacting aquatic organisms.
Guideline Reference:	Revised approach to toxicity test acceptability criteria using a statistical performance

[assessment. Environmental Toxicology and Chemistry, vol. 16, No. 6, pp 1322?1329 Short-Term Methods for Estimating the Chronic Toxicity of Effluents and Receiving Waters to Freshwater Organisms. EPA/600/4-91/002. Third Edition. July 1994](#)

Spatial Representation: Data were collected at one sampling location - SLE030 (Empire Rd), in the most downstream portion of the creek

Temporal Representation: SWAMP samples were collected during dry and spring seasons of the 2001-2002 sampling season.

Environmental Conditions:

QAPP Information: All samples were collected and analyzed using procedures comparable with the SWAMP Quality Assurance Management Plan (SWRCB, 2002).

QAPP Information Reference(s): [Quality Assurance Management Plan for the State of California's Surface Water Ambient Monitoring Program. Sacramento, CA. State Water Resources Control Board. SWAMP. December 2002 \(1st version\).](#)

Line of Evidence (LOE) for Decision ID 43383, Toxicity

Region 2

San Leandro Creek, Lower

LOE ID: 28868

Pollutant: Sediment Toxicity

LOE Subgroup: Pollutant-Sediment

Matrix: Sediment

Fraction: None

Beneficial Use: Cold Freshwater Habitat

Number of Samples: 1

Number of Exceedances: 1

Data and Information Type: TOXICITY TESTING

Data Used to Assess Water Quality: Data used to evaluate sediment toxicity comprise one sediment sample collected by the SWAMP in spring 2005. This sample displayed statistically significant toxicity during the Hyalella azteca test. Hyalella azteca growth was only 0% of the control, there was 0% survival.

Data Reference: [Water Quality Monitoring and Bioassessment in Nine San Francisco Bay Region Watersheds: Walker Creek, Lagunitas Creek, San Leandro Creek, Wildcat Creek/San Pablo Creek, Suisun Creek, Arroyo Las Positas, Pescadero Creek/Butano Creek, San Gregorio Creek, and Stevens Creek/Permanente Creek. Oakland, CA: Surface Water Ambient Monitoring Program. San Francisco Bay Regional Water Quality Control Board](#)

SWAMP Data: SWAMP

Water Quality Objective/Criterion: All waters shall be maintained free of toxic substances that are lethal to or that produce other detrimental responses in aquatic organisms.

There shall be no chronic toxicity in ambient waters. Chronic toxicity is a detrimental biological effect on growth rate, reproduction, fertilization success, larval development, population abundance, community composition, or any other relevant measure of the health of an organism, population, or community.

Objective/Criterion Reference: [Water Quality Control Plan \(Basin Plan\) - San Francisco Bay Region \(Region 2\)](#)

Evaluation Guideline: Sediment toxicity was evaluated according to the SWAMP methodology. Sample toxicity was determined by comparing mean organism response in samples and in negative controls. Statistical evaluation ($\alpha = 0.05$) and a default threshold of 80% of the control value were used to establish whether the sediment exhibited significant toxicity adversely impacting aquatic organisms.

Guideline Reference: [Revised approach to toxicity test acceptability criteria using a statistical performance assessment. Environmental Toxicology and Chemistry, vol. 16, No. 6, pp 1322?1329](#)

Spatial Representation: Data were collected at one sampling location at the lower part of San Leandro Creek.

Temporal Representation: A sample was collected in Spring season 2001.

Environmental Conditions:
QAPP Information: All samples were collected and analyzed using procedures comparable with the SWAMP Quality Assurance Management Plan (SWRCB, 2002).
QAPP Information Reference(s): [Quality Assurance Management Plan for the State of California's Surface Water Ambient Monitoring Program. Sacramento, CA. State Water Resources Control Board. SWAMP. December 2002 \(1st version\)](#)

Line of Evidence (LOE) for Decision ID 43383, Toxicity

Region 2

San Leandro Creek, Lower

LOE ID: 93079

Pollutant: Toxicity
LOE Subgroup: Toxicity
Matrix: Sediment
Fraction: None

Beneficial Use: Cold Freshwater Habitat

Number of Samples: 1
Number of Exceedances: 1

Data and Information Type: TOXICITY TESTING
Data Used to Assess Water Quality: One sample was collected to evaluate sediment toxicity. The sample exhibited significant toxicity. The toxicity test included survival and growth of *Hyalella azteca*. One sample can have multiple toxicity test results but will be counted only once. One sample is defined as being collected on the same day at the same location with the same lab sample id (if provided).

Data Reference: [Statewide Stream Pollution Trends Study 2008](#)

SWAMP Data: SWAMP

Water Quality Objective/Criterion: All waters shall be maintained free of toxic substances in concentrations that are toxic to, or that produce detrimental physiological responses in, human, plant, animal, or aquatic life. Region 2 Basin Plan.

Objective/Criterion Reference: [Water Quality Control Plan \(Basin Plan\) - San Francisco Bay Region \(Region 2\)](#)

Evaluation Guideline: Toxicity is defined as a statistically significant effect in the sample exposure compared to the control using EPA-recommended hypothesis testing. . For SWAMP data exceedances are counted with the significant effect code SL. SL is defined as the result being significant compared to the negative control based on a statistical test, less than stated the alpha level, AND less than the evaluation threshold.

Guideline Reference: [Methods for Measuring the Toxicity and Bioaccumulation of Sediment-associated Contaminants with Freshwater Invertebrates. Second Edition. U.S. Environmental Protection Agency Office of Research and Development, Duluth, MI, U.S. Environmental Protection Agency Office of Water, Washington, DC EPA-600/R-99/064](#)

Spatial Representation: The sample was collected at station 204SLE030.
Temporal Representation: The sample was collected in June 2008.

Environmental Conditions:
QAPP Information: All data was collected following the Standard Operating Procedures and Data Quality Objectives outlined in the SWAMP QAMP, (Puckett, 2002). QA data are included in submission.

QAPP Information Reference(s):

DECISION ID 66003

Region 2

San Leandro Creek, Lower

Pollutant: Zinc
Final Listing Decision: Do Not List on 303(d) list (TMDL required list)

Last Listing Cycle's Final Listing Decision: Revision Status Impairment from Pollutant or Pollution:

New Decision

Revised
Pollutant

Regional Board Staff Conclusion:

This pollutant is being considered for placement on the CWA section 303(d) List under section 3.6 of the Listing Policy. Under section 3.6 at least two lines of evidence are necessary to assess listing status for pollutants sediment, and pollutant concentrations in sediment must be associated with sediment toxicity to justify adding that pollutant to the CWA section 303(d) List.

One line of evidence is available in the administrative record to assess this pollutant. One of the one samples exceed the GUIDELINE. One of one samples exhibited sediment toxicity.

Based on the readily available data and information, the weight of evidence indicates that there is INSUFFICIENT justification FOR placing this water segment-pollutant combination on the CWA section 303(d) List.

This conclusion is based on the staff findings that:

1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy.
2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy.
3. One of the one samples exceed the GUIDELINE and this sample size is INSUFFICIENT to determine beneficial use support, with the power and confidence of the Listing Policy. There is not an associated sediment toxicity data as required by Section 3.6 of the Listing Policy.
4. Pursuant to section 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.

Regional Board Staff Decision Recommendation:

After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be placed on the section 303(d) list. The readily available data and information is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating.

**Line of Evidence (LOE) for Decision ID 66003, Zinc
San Leandro Creek, Lower**

Region 2

LOE ID:	93005
Pollutant:	Zinc
LOE Subgroup:	Pollutant-Sediment
Matrix:	Sediment
Fraction:	Total
Beneficial Use:	Cold Freshwater Habitat
Number of Samples:	1
Number of Exceedances:	1
Data and Information Type:	PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality:	Water Board staff assessed SWAMP data for San Leandro Creek, Lower to determine beneficial use support and results are as follows: 1 of 1 samples exceed the criterion for Zinc.
Data Reference:	Statewide Stream Pollution Trends Study 2008
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	San Francisco Bay Basin Water Quality Control Plan 2007: All waters shall be maintained free of toxic substances in concentrations which are toxic to, or which produce detrimental physiological responses in, human, plant, animal, or aquatic life.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	In freshwater sediments the probable effect concentration (predictive of sediment toxicity

Guideline Reference:	for sediment-dwelling organisms) for zinc is 459 mg/Kg dry weight (MacDonald et al. 2000). Development and evaluation of consensus-based sediment quality guidelines for freshwater ecosystems. Environmental Contamination and Toxicology. 39: 20-31
Spatial Representation:	Data for this line of evidence for San Leandro Creek, Lower was collected at 1 monitoring site [San Leandro Creek at Empire Road station (204SLE030)]
Temporal Representation:	Data was collected on a single day 6/17/2008.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	SWAMP data collected before September 2008 followed the QAMP (2002), however there may have been overlap in QA with SWAMP QAPP (2008).
QAPP Information Reference(s):	Quality Assurance Management Plan for the State of California's Surface Water Ambient Monitoring Program. Sacramento, CA. State Water Resources Control Board. SWAMP. December 2002 (1st version). Surface Water Ambient Monitoring Program Quality Assurance Program Plan

DECISION ID 66255 Region 2	
San Leandro Creek, Lower	
Pollutant:	pH
Final Listing Decision:	Do Not List on 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision:	New Decision
Revision Status	Revised
Impairment from Pollutant or Pollution:	Pollutant
Regional Board Staff Conclusion:	<p>This pollutant is being considered for placement on the CWA section 303(d) List under section 3.2 of the Listing Policy. Under section 3.2 a single line of evidence are necessary to assess listing status.</p> <p>One line of evidence are available in the administrative record to assess this pollutant.</p> <p>Zero of the one samples exceed the OBJECTIVE for the protection of Cold Freshwater Habitat.</p> <p>Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against placing this water segment-pollutant combination on the CWA section 303(d) List.</p> <p>This conclusion is based on the staff findings that:</p> <ol style="list-style-type: none"> 1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy. 2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy. 3. Zero of the one samples exceed the OBJECTIVE for the protection of Cold Freshwater Habitat, and this sample size is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating. A minimum of 26 samples is needed to determine if a beneficial use is fully supported using table 3.2. 4. Pursuant to SECTION 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.
Regional Board Staff Decision Recommendation:	After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be placed on the section 303(d) list. The readily available data and information is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating.

Line of Evidence (LOE) for Decision ID 66255, pH Region 2	
San Leandro Creek, Lower	
LOE ID:	93059
Pollutant:	pH

LOE Subgroup:	Pollutant-Water
Matrix:	Water
Fraction:	None
Beneficial Use:	Cold Freshwater Habitat
Number of Samples:	1
Number of Exceedances:	0
Data and Information Type:	PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality:	State Water Board staff assessed SWAMP data for San Leandro Creek, Lower to determine beneficial use support and results are as follows: 0 of 1 samples exceed the criterion for pH.
Data Reference:	Statewide Perennial Streams Assessment 2008
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	The Water Quality Control Plan for the San Francisco Bay Region's water quality objective for all surface waters states the following: The pH shall not be depressed below 6.5 nor raised above 8.5. This encompasses the pH range usually found in waters within the basin. Controllable water quality factors shall not cause changes greater than 0.5 units in normal ambient pH levels.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	
Guideline Reference:	
Spatial Representation:	Data for this line of evidence for San Leandro Creek, Lower was collected at 1 monitoring site [San Leandro Creek - 204PS0038]
Temporal Representation:	Data was collected on a single day 6/19/2008.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	The SWAMP QAPP (2008) was followed.
QAPP Information Reference(s):	Surface Water Ambient Monitoring Program Quality Assurance Program Plan

DECISION ID	43565	Region 2
San Leandro Creek, Lower		

Pollutant:	Ammonia (Unionized) Nitrogen, ammonia (Total Ammonia)
Final Listing Decision:	Do Not List on 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision:	Do Not List on 303(d) list (TMDL required list)(2012)
Revision Status	Original
Impairment from Pollutant or Pollution:	Pollutant
Regional Board Staff Conclusion:	This pollutant is being considered for placement on the section 303(d) list under section 3.1 of the Listing Policy. Under section 3.1 a single line of evidence is necessary to assess listing status. One line of evidence is available in the administrative record to assess this pollutant. None of the samples exceed the water quality objective. Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against placing this water segment-pollutant combination on the section 303(d) list in the Water Quality Limited Segments category. This conclusion is based on the staff findings that: 1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy. 2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy. 3. None of the three samples exceeded the water quality objectives and water quality guidelines and this does not exceed the allowable frequency listed in Table 3.1 of the Listing Policy. 4. Pursuant to section 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.
Regional Board Staff Decision Recommendation:	This is a decision previously approved by the State Water Resources Control Board and the USEPA. No new data were assessed by the Regional Board for the current. The decision has not changed.

San Leandro Creek, Lower

LOE ID:	28059
Pollutant:	Ammonia (Unionized) Nitrogen, ammonia (Total Ammonia)
LOE Subgroup:	Pollutant-Water
Matrix:	Water
Fraction:	None
Beneficial Use:	Cold Freshwater Habitat
Number of Samples:	3
Number of Exceedances:	0
Data and Information Type:	PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality:	SWAMP collected three water samples that were analyzed for ammonia and un-ionized ammonia. None of them exceeded the evaluation criteria.
Data Reference:	Water Quality Monitoring and Bioassessment in Nine San Francisco Bay Region Watersheds: Walker Creek, Lagunitas Creek, San Leandro Creek, Wildcat Creek/San Pablo Creek, Suisun Creek, Arroyo Las Positas, Pescadero Creek/Butano Creek, San Gregorio Creek, and Stevens Creek/Permanente Creek. Oakland, CA: Surface Water Ambient Monitoring Program, San Francisco Bay Regional Water Quality Control Board
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	The San Francisco Bay Regional Water Quality Board Basin Plan states that all waters shall be maintained free of toxic substances in concentrations that produce detrimental physiological responses in human, plant, animal, or aquatic life. This objective applies regardless of whether the toxicity is caused by a single substance or the interactive effect of multiple substances.
Objective/Criterion Reference:	The San Francisco Bay Regional Water Quality Board Basin Plan stated that the discharge of wastes shall not cause receiving water to contain concentrations of un-ionized ammonia in excess of 0.025mg/l annual median. Water Quality Control Plan (Basin Plan) - San Francisco Bay Region (Region 2)
Evaluation Guideline:	For Total Ammonia: EPA's Lifetime Health advisory level for total ammonia is 30.0 mg/L as stated on page 8 of the 2006 edition of the drinking water standards and health advisories. This Advisory Level is defined as "the concentration of a chemical in drinking water that is not expected to cause any adverse noncarcinogenic effects for up to ten days of exposure."
Guideline Reference:	2006 edition of the drinking water standards and health advisories. EPA 822-R-03-013
Spatial Representation:	Samples were taken from one monitoring location at the lower portion of the creek (SLE030).
Temporal Representation:	The samples were taken from dry, spring and wet seasons in the years 2001 and 2002.
Environmental Conditions:	
QAPP Information:	The QA was in compliance with SWAMP Quality Assurance Management Plan.
QAPP Information Reference(s):	

DECISION ID 43864

Region 2

San Leandro Creek, Lower

Pollutant:	Anthracene Benzo(a)anthracene Benzo(a)pyrene (3,4-Benzopyrene -7-d) Chlordane Chrysene (C1-C4) DDD (Dichlorodiphenyldichloroethane) DDE (Dichlorodiphenyldichloroethylene) DDT (Dichlorodiphenyltrichloroethane) Dieldrin Endrin Fluoranthene Fluorene Heptachlor epoxide Lindane/gamma Hexachlorocyclohexane (gamma-HCH) Naphthalene PAHs (Polycyclic Aromatic Hydrocarbons) PCBs
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Final Listing Decision: (Polychlorinated biphenyls) | Phenanthrene | Pyrene
Last Listing Cycle's Final Listing Decision: Do Not List on 303(d) list (TMDL required list)
Revision Status: Do Not List on 303(d) list (TMDL required list)(2012)
Impairment from Pollutant or Pollution: Original
Pollutant

Regional Board Staff Conclusion: These pollutants are being considered for placement on the section 303(d) list under section 3.1 of the Listing Policy. Under this section a single line of evidence is necessary to assess listing status. One line of evidence is available in the administrative record to assess these pollutants. Zero samples exceed the water quality objective. Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against placing this water segment-pollutant combination on the section 303(d) list in the Water Quality Limited Segments category. This conclusion is based on the staff findings that: 1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy. 2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy. 3. Zero of one sample exceed the water quality objective, but this sample size is insufficient to determine with the power and confidence of the Listing Policy if standards are not met. A minimum of two samples are needed for application of table 3.1. 4. Pursuant to section 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.

Regional Board Staff Decision Recommendation: This is a decision previously approved by the State Water Resources Control Board and the USEPA. No new data were assessed by the Regional Board for the current. The decision has not changed.

Line of Evidence (LOE) for Decision ID 43864, Multiple Pollutants

Region 2

San Leandro Creek, Lower

LOE ID: 28508
Pollutant: Anthracene | Benzo(a)anthracene | Benzo(a)pyrene (3,4-Benzopyrene -7-d) | Chlordane | Chrysene (C1-C4) | DDD (Dichlorodiphenyldichloroethane) | DDE (Dichlorodiphenyldichloroethylene) | DDT (Dichlorodiphenyltrichloroethane) | Dieldrin | Endrin | Fluoranthene | Fluorene | Heptachlor epoxide | Lindane/gamma Hexachlorocyclohexane (gamma-HCH) | Naphthalene | PAHs (Polycyclic Aromatic Hydrocarbons) | PCBs (Polychlorinated biphenyls) | Phenanthrene | Pyrene
LOE Subgroup: Pollutant-Sediment
Matrix: Sediment
Fraction: None
Beneficial Use: Cold Freshwater Habitat
Number of Samples: 1
Number of Exceedances: 0
Data and Information Type: PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality: Concentrations of anthracene, fluorene, naphthalene, phenanthrene, benz(a)anthracene, benzo(a)pyrene, chrysene, fluoranthene, pyrene, PAH (total), PCB (total), chlordane, dieldrin, DDD/DDE/DDT, endrin, heptachlor epoxide, and HCH, gamma in one sediment sample collected in spring 2005 did not exceed the sediment quality guidelines.
Data Reference: [Water Quality Monitoring and Bioassessment in Nine San Francisco Bay Region Watersheds: Walker Creek, Lagunitas Creek, San Leandro Creek, Wildcat Creek/San Pablo Creek, Suisun Creek, Arroyo Las Positas, Pescadero Creek/Butano Creek, San Gregorio Creek, and Stevens Creek/Permanente Creek. Oakland, CA: Surface Water Ambient Monitoring Program. San Francisco Bay Regional Water Quality Control Board](#)
SWAMP Data: SWAMP
Water Quality Objective/Criterion: All waters shall be maintained free of toxic substances that are lethal to or that produce other detrimental responses in aquatic organisms.
Objective/Criterion Reference: [Water Quality Control Plan \(Basin Plan\) - San Francisco Bay Region \(Region 2\)](#)

Evaluation Guideline:	Sediment Quality Guidelines (MacDonald et al., 2000): PEC (probable effect concentration) Anthracene - 845 ug/kg; Fluorene - 536 ug/kg; Naphthalene - 561 ug/kg; Phenanthrene - 1170 ug/kg; Benz(a)anthracene - 1050 ug/kg; Benzo(a)pyrene - 1450 ug/kg; Chrysene - 1290 ug/kg; Fluoranthene - 2230 ug/kg; Pyrene - 1520 ug/kg; PAH (total) - 22800 ug/kg; PCB (total) - 676 ug/kg; Chlordane - 17.6 ug/kg; Dieldrin - 61.8 ug/kg; DDD (sum op + pp) - 28 ug/kg; DDE (sum op + pp) - 31.3 ug/kg; DDT (sum op + pp) - 62.9 ug/kg; DDT (total) - 572 ug/kg; Endrin - 207 ug/kg; Heptachlor epoxide - 16 ug/kg; HCH, gamma - 4.99 ug/kg.
Guideline Reference:	Development and evaluation of consensus-based sediment quality guidelines for freshwater ecosystems. Environmental Contamination and Toxicology. 39: 20-31
Spatial Representation:	One sediment sample was collected at the most downstream site in the watershed, Lower San Leandro Creek at Empire Road (SLE030).
Temporal Representation:	Sediment sample was collected in September of 2001.
Environmental Conditions:	
QAPP Information:	All samples were collected and analyzed using procedures comparable with the SWAMP Quality Assurance Management Plan (SWRCB, 2002).
QAPP Information Reference(s):	

DECISION ID	43865	Region 2
San Leandro Creek, Lower		

Pollutant:	Arsenic Cadmium Copper Mercury Zinc
Final Listing Decision:	Do Not List on 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision:	Do Not List on 303(d) list (TMDL required list)(2012)
Revision Status	Original
Impairment from Pollutant or Pollution:	Pollutant

Regional Board Staff Conclusion:	These pollutants are being considered for placement on the section 303(d) list under section 3.1 of the Listing Policy. Under this section a single line of evidence is necessary to assess listing status. One line of evidence is available in the administrative record to assess these pollutants. Zero samples exceed the water quality objective. Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against placing this water segment-pollutant combination on the section 303(d) list in the Water Quality Limited Segments category. This conclusion is based on the staff findings that: 1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy. 2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy. 3. Zero of one sample exceed the water quality objective, but this sample size is insufficient to determine with the power and confidence of the Listing Policy if standards are not met. A minimum of two samples are needed for application of table 3.1. 4. Pursuant to section 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.
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Regional Board Staff Decision Recommendation:	This is a decision previously approved by the State Water Resources Control Board and the USEPA. No new data were assessed by the Regional Board for the current. The decision has not changed.
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Line of Evidence (LOE) for Decision ID 43865, Multiple Pollutants	Region 2
San Leandro Creek, Lower	

LOE ID:	28541
Pollutant:	Arsenic Cadmium Copper Mercury Zinc
LOE Subgroup:	Pollutant-Sediment
Matrix:	Sediment
Fraction:	Total
Beneficial Use:	Cold Freshwater Habitat

Number of Samples:	1
Number of Exceedances:	0
Data and Information Type:	PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality:	Concentrations of arsenic, cadmium, copper, mercury and zinc in one sediment sample collected in fall 2001 did not exceed the sediment quality guidelines.
Data Reference:	Water Quality Monitoring and Bioassessment in Nine San Francisco Bay Region Watersheds: Walker Creek, Lagunitas Creek, San Leandro Creek, Wildcat Creek/San Pablo Creek, Suisun Creek, Arroyo Las Positas, Pescadero Creek/Butano Creek, San Gregorio Creek, and Stevens Creek/Permanente Creek. Oakland, CA: Surface Water Ambient Monitoring Program, San Francisco Bay Regional Water Quality Control Board
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	All waters shall be maintained free of toxic substances that are lethal to or that produce other detrimental responses in aquatic organisms.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) - San Francisco Bay Region (Region 2)
Evaluation Guideline:	Sediment Quality Guidelines (MacDonald et al., 2000): PEC (probable effect concentration) arsenic - 33 mg/kg dw; cadmium - 4.98 mg/kg dw; copper - 149 mg/kg dw; mercury - 1.06 mg/kg dw; zinc - 459 mg/kg dw.
Guideline Reference:	Development and evaluation of consensus-based sediment quality guidelines for freshwater ecosystems. Environmental Contamination and Toxicology. 39: 20-31
Spatial Representation:	One sediment sample was collected from the most downstream site in San Leandro Creek at Empire Road (SLE030).
Temporal Representation:	Sediment sample was collected in September of 2001.
Environmental Conditions:	
QAPP Information:	All samples were collected and analyzed using procedures comparable with the SWAMP Quality Assurance Management Plan (SWRCB, 2002).
QAPP Information Reference(s):	

DECISION ID	43206	Region 2
San Leandro Creek, Lower		
Pollutant:	Arsenic Chromium (total) Copper Lead Nickel Silver Zinc	
Final Listing Decision:	Do Not List on 303(d) list (TMDL required list)	
Last Listing Cycle's Final Listing Decision:	Do Not List on 303(d) list (TMDL required list)(2012)	
Revision Status	Original	
Impairment from Pollutant or Pollution:	Pollutant	
Regional Board Staff Conclusion:	<p>These pollutants are being considered for placement on the section 303(d) list under section 3.1 of the Listing Policy. Under section 3.1 a single line of evidence is necessary to assess listing status. One line of evidence is available in the administrative record to assess this pollutant. None of the samples exceed the water quality objective. Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against placing this water segment-pollutant combination on the section 303(d) list in the Water Quality Limited Segments category. This conclusion is based on the staff findings that: 1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy. 2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy. 3. None of two samples exceeded the water quality objective and this does not exceed the allowable frequency listed in Table 3.1 of the Listing Policy. 4. Pursuant to section 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.</p>	
Regional Board Staff Decision Recommendation:	<p>This is a decision previously approved by the State Water Resources Control Board and the USEPA. No new data were assessed by the Regional Board for the current. The decision has not changed.</p>	

San Leandro Creek, Lower

LOE ID:	28850
Pollutant:	Arsenic Chromium (total) Copper Lead Nickel Silver Zinc
LOE Subgroup:	Pollutant-Water
Matrix:	Water
Fraction:	Dissolved
Beneficial Use:	Cold Freshwater Habitat
Number of Samples:	2
Number of Exceedances:	0
Data and Information Type:	PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality:	The San Leandro Creek watershed was monitored as part of SWAMP assessment. None of the three samples exceeded the water quality objectives for arsenic, chromium VI, copper, lead, nickel, silver and zinc. Concentrations of total dissolved chromium were well below the objective for chromium VI.
Data Reference:	Water Quality Monitoring and Bioassessment in Nine San Francisco Bay Region Watersheds: Walker Creek, Lagunitas Creek, San Leandro Creek, Wildcat Creek/San Pablo Creek, Suisun Creek, Arroyo Las Positas, Pescadero Creek/Butano Creek, San Gregorio Creek, and Stevens Creek/Permanente Creek. Oakland, CA: Surface Water Ambient Monitoring Program, San Francisco Bay Regional Water Quality Control Board
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	All waters shall be maintained free of toxic substances that are lethal to or that produce other detrimental responses in aquatic organisms. Table 3-4 in the Basin Plan (2007) lists freshwater water quality objectives for toxic pollutants: arsenic- 150 ug/L, chromium VI - 11 ug/L, copper - 9.0 ug/L, lead - 2.5 ug/L; nickel - 52 ug/L, silver-3.4 ug/L and zinc - 120 ug/L.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) - San Francisco Bay Region (Region 2)
Evaluation Guideline:	
Guideline Reference:	
Spatial Representation:	Data were collected at one sampling location on San Leandro Creek - SLE030 (Empire Road) in the most downstream portion of the creek.
Temporal Representation:	Samples were collected during spring and dry seasons of the 2001-2002 sampling season.
Environmental Conditions:	
QAPP Information:	All samples were collected and analyzed using procedures comparable with the SWAMP Quality Assurance Management Plan (SWRCB, 2002).
QAPP Information Reference(s):	Quality Assurance Management Plan for the State of California's Surface Water Ambient Monitoring Program. Sacramento, CA. State Water Resources Control Board. SWAMP. December 2002 (1st version)

DECISION ID

43367

Region 2

San Leandro Creek, Lower

Pollutant:	Chlorpyrifos Dacthal Diazinon Disulfoton Endosulfan Lindane/gamma Hexachlorocyclohexane (gamma-HCH) Methyl Parathion PCBs (Polychlorinated biphenyls) Thiobencarb/Bolero
Final Listing Decision:	Do Not List on 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision:	Do Not List on 303(d) list (TMDL required list)(2012)
Revision Status	Original

Impairment from Pollutant or Pollution: Pollutant

Regional Board Staff Conclusion:

These pollutants are being considered for placement on the section 303(d) list under section 3.1 of the Listing Policy. Under section 3.1 a single line of evidence is necessary to assess listing status. One line of evidence is available in the administrative record to assess this pollutant. None of the samples exceed the water quality objective. Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against placing this water segment-pollutant combination on the section 303(d) list in the Water Quality Limited Segments category. This conclusion is based on the staff findings that: 1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy. 2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy. 3. None of two samples exceeded the water quality objective and this does not exceed the allowable frequency listed in Table 3.1 of the Listing Policy. 4. Pursuant to section 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.

Regional Board Staff Decision Recommendation:

This is a decision previously approved by the State Water Resources Control Board and the USEPA. No new data were assessed by the Regional Board for the current. The decision has not changed.

Line of Evidence (LOE) for Decision ID 43367, Multiple Pollutants

Region 2

San Leandro Creek, Lower

LOE ID:	29003
Pollutant:	Chlorpyrifos Dacthal Diazinon Disulfoton Endosulfan Lindane/gamma Hexachlorocyclohexane (gamma-HCH) Methyl Parathion PCBs (Polychlorinated biphenyls) Thiobencarb/Bolero
LOE Subgroup:	Pollutant-Water
Matrix:	Water
Fraction:	None
Beneficial Use:	Warm Freshwater Habitat
Number of Samples:	2
Number of Exceedances:	0
Data and Information Type:	PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality:	The San Leandro Creek watershed was monitored as part of SWAMP assessment. Neither of the samples exceeded the water quality objectives for Chlorpyrifos, Dacthal, diazinon, disulfoton, endosulfan, Lindane/gamma Hexachlorocyclohexane (gamma-HCH), methyl parathion, thiobencarb.
Data Reference:	Water Quality Monitoring and Bioassessment in Nine San Francisco Bay Region Watersheds: Walker Creek, Lagunitas Creek, San Leandro Creek, Wildcat Creek/San Pablo Creek, Suisun Creek, Arroyo Las Positas, Pescadero Creek/Butano Creek, San Gregorio Creek, and Stevens Creek/Permanente Creek. Oakland, CA: Surface Water Ambient Monitoring Program, San Francisco Bay Regional Water Quality Control Board Data collected by the Surface Water Ambient Monitoring Program, San Francisco Bay Regional Water Quality Control Board. Years 4 and 5 Assessment
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	All waters shall be maintained free of toxic substances that are lethal to or that produce other detrimental responses in aquatic organisms. There shall be no chronic toxicity in ambient waters. Chronic toxicity is a detrimental biological effect on growth rate, reproduction, fertilization success, larval development, population abundance, community composition, or any other relevant measure of the health of an organism, population, or community. Diazinon water quality objective, 0.1 ug/L (acute)
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) - San Francisco Bay Region (Region 2)
Evaluation Guideline:	PCBs - 0.014 ug/L freshwater continuous Concentration; Chlorpyrifos - 0.015 ug/L

Guideline Reference:	(chronic); Dacthal (DCPA) - 14300 ug/L (acute); Disulfoton (Disyston) - 0.05 ug/L (acute); Endosulfan - 0.056 ug/L (chronic)/0.22 ug/L (acute); HCH, gamma-(gamma BHC, Lindane) - 0.95 ug/L (acute); methyl parathion - 0.08 ug/L (acute); Thiobencarb - 3.1 ug/L (acute). National recommended water quality criteria: 2002. EPA-822-R-02-047 Washington, D.C. USEPA
Spatial Representation:	Data were collected at one sampling location (SLE030) in the San Leandro Creek.
Temporal Representation:	Samples were collected during wet, spring, and dry seasons of the 2001 - 2002 sampling season.
Environmental Conditions:	
QAPP Information:	All samples were collected and analyzed using procedures comparable with the SWAMP Quality Assurance Management Plan (SWRCB, 2002).
QAPP Information Reference(s):	Quality Assurance Management Plan for the State of California's Surface Water Ambient Monitoring Program. Sacramento, CA. State Water Resources Control Board. SWAMP. December 2002 (1st version)

DECISION ID	44102	Region 2
San Leandro Creek, Lower		

Pollutant:	Escherichia coli (E. coli)
Final Listing Decision:	Do Not List on 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision:	Do Not List on 303(d) list (TMDL required list)(2012)
Revision Status	Original
Impairment from Pollutant or Pollution:	Pollutant

Regional Board Staff Conclusion:	This pollutant is being considered for placement on the section 303(d) list under section 3.3 of the Listing Policy. Under section 3.3 a single line of evidence is necessary to assess listing status. One line of evidence is available in the administrative record to assess this pollutant. One out of two samples exceed the water quality objective. Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against placing this water segment-pollutant combination on the section 303(d) list in the Water Quality Limited Segments category. This conclusion is based on the staff findings that: 1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy. 2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy. 3. One of two samples exceeded the number of Escherichia coli (E. Coli) counts and this does not exceed the allowable frequency listed in Table 3.2 and the sample size is insufficient to determine with the power and confidence of the Listing Policy if standards are not met. 4. Pursuant to section 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.
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Regional Board Staff Decision Recommendation:	This is a decision previously approved by the State Water Resources Control Board and the USEPA. No new data were assessed by the Regional Board for the current. The decision has not changed.
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Line of Evidence (LOE) for Decision ID 44102, Escherichia coli (E. coli)	Region 2
San Leandro Creek, Lower	

LOE ID:	29019
Pollutant:	Escherichia coli (E. coli)
LOE Subgroup:	Pollutant-Water
Matrix:	Water
Fraction:	None
Beneficial Use:	Water Contact Recreation
Number of Samples:	2
Number of Exceedances:	1

Data and Information Type:	PATHOGEN MONITORING
Data Used to Assess Water Quality:	Samples were collected as part of SWAMP sampling in the summer of 2001 at 7-day intervals at two locations and the geometric mean of the samples calculated over a five week interval. The geometric mean for one of the two samples (SLE070) was 696 MPN/100ML and exceeded the US EPA criteria. *Note- MPN is most probable number.
Data Reference:	Water Quality Monitoring and Bioassessment in Nine San Francisco Bay Region Watersheds: Walker Creek, Lagunitas Creek, San Leandro Creek, Wildcat Creek/San Pablo Creek, Suisun Creek, Arroyo Las Positas, Pescadero Creek/Butano Creek, San Gregorio Creek, and Stevens Creek/Permanente Creek. Oakland, CA: Surface Water Ambient Monitoring Program, San Francisco Bay Regional Water Quality Control Board
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	<p>Uses of water for recreational activities involving body contact with water where ingestion of water is reasonably possible. These uses include, but are not limited to, swimming, wading, water-skiing, skin and scuba diving, surfing, whitewater activities, fishing, and uses of natural hot springs.</p> <p>Water contact implies a risk of waterborne disease transmission and involves human health; accordingly, criteria required to protect this use are more stringent than those for more casual water-oriented recreation.</p> <p>U.S. EPA water quality criteria for water contact recreation based on the frequency of use a particular area receives - 1986: the E. coli criterion is not to exceed 126 organisms/100 mL. The value is expressed as a 7-day geometric mean based on five or more samples per 30?day period; designated beach (max) 235 MPN/100 mL.</p>
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) - San Francisco Bay Region (Region 2) Ambient Water Quality Criteria for Bacteria - 1986. EPA440/5-84-002
Evaluation Guideline:	
Guideline Reference:	
Spatial Representation:	Samples were collected at SLE070 (Root Park), SLE090 (Chabot City Park).
Temporal Representation:	The SLE070 and SLE090 sites were tested on 8/07/01,8/14/01, 8/21/01, 8/28/01, 9/04/01.
Environmental Conditions:	
QAPP Information:	All samples were collected and analyzed using procedures comparable with the SWAMP Quality Assurance Management Plan (SWRCB, 2002).
QAPP Information Reference(s):	Quality Assurance Management Plan for the State of California's Surface Water Ambient Monitoring Program. Sacramento, CA. State Water Resources Control Board. SWAMP. December 2002 (1st version)

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Supporting Information

Regional Board 2 - San Francisco Bay Region

Water Body Name: San Lorenzo Creek
Water Body ID: CAR2042002319990218140753
Water Body Type: River & Stream

DECISION ID 34724 **Region 2**
San Lorenzo Creek

Pollutant: Diazinon
Final Listing Decision: List on 303(d) list (being addressed by USEPA approved TMDL)
Last Listing Cycle's Final Listing Decision: List on 303(d) list (being addressed by USEPA approved TMDL)(2012)
Revision Status Original
Sources: Source Unknown
TMDL Name: San Francisco Bay Urban Creeks Diazinon
TMDL Project Code: 9
Date TMDL Approved by USEPA: 05/16/2007
Impairment from Pollutant or Pollution: Pollutant

Regional Board Staff Conclusion: 303(d) listing decisions made prior to 2006 were not held in an assessment database. The Regional Boards will update this decision when new data and information become available and are assessed. The USEPA final decision on the 2006 303(d) list was to move this listing to the being addressed by a USEPA approved TMDL portion of the 303(d) list, because the San Francisco Bay Urban Creeks Diazinon TMDL was approved by USEPA on 5/16/07 (USEPA, 2007).

Regional Board Staff Decision Recommendation: This is a decision previously approved by the State Water Resources Control Board and the USEPA. No new data were assessed by the Regional Board for the current. The decision has not changed.

Line of Evidence (LOE) for Decision ID 34724, Diazinon **Region 2**
San Lorenzo Creek

LOE ID: 1794
Pollutant: Diazinon
LOE Subgroup: Pollutant-Water
Matrix: Water
Fraction: None
Beneficial Use: Cold Freshwater Habitat
Number of Samples: 0
Number of Exceedances: 0
Data and Information Type: Not Specified
Data Used to Assess Water Quality: Unspecified--This LOE is a placeholder to support a 303(d) listing decision made prior to 2006.
Data Reference: [Placeholder reference 2006 303\(d\)](#)
SWAMP Data: Non-SWAMP
Water Quality Objective/Criterion:

Objective/Criterion Reference:

Evaluation Guideline:
Guideline Reference:

Spatial Representation:
Temporal Representation:
Environmental Conditions:

QAPP Information: QA Info Missing
QAPP Information Reference(s):

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Supporting Information

Regional Board 2 - San Francisco Bay Region

Water Body Name: Arroyo Del Valle
Water Body ID: CAR2043002319990218135233
Water Body Type: River & Stream

DECISION ID 34733 **Region 2**
Arroyo Del Valle

Pollutant: Diazinon
Final Listing Decision: List on 303(d) list (being addressed by USEPA approved TMDL)
Last Listing Cycle's Final Listing Decision: List on 303(d) list (being addressed by USEPA approved TMDL)(2012)
Revision Status Original
Sources: Source Unknown
TMDL Name: San Francisco Bay Urban Creeks Diazinon
TMDL Project Code: 9
Date TMDL Approved by USEPA: 05/16/2007
Impairment from Pollutant or Pollution: Pollutant

Regional Board Staff Conclusion: 303(d) listing decisions made prior to 2006 were not held in an assessment database. The Regional Boards will update this decision when new data and information become available and are assessed. The USEPA final decision on the 2006 303(d) list was to move this listing to the being addressed by a USEPA approved TMDL portion of the 303(d) list, because the San Francisco Bay Urban Creeks Diazinon TMDL was approved by USEPA on 5/16/07 (USEPA, 2007).

Regional Board Staff Decision Recommendation: This is a decision previously approved by the State Water Resources Control Board and the USEPA. No new data were assessed by the Regional Board for the current. The decision has not changed.

Line of Evidence (LOE) for Decision ID 34733, Diazinon **Region 2**
Arroyo Del Valle

LOE ID: 1795
Pollutant: Diazinon
LOE Subgroup: Pollutant-Water
Matrix: Water
Fraction: None
Beneficial Use: Cold Freshwater Habitat
Number of Samples: 0
Number of Exceedances: 0
Data and Information Type: Not Specified
Data Used to Assess Water Quality: Unspecified---This LOE is a placeholder to support a 303(d) listing decision made prior to 2006.
Data Reference: [Placeholder reference 2006 303\(d\)](#)
SWAMP Data: Non-SWAMP
Water Quality Objective/Criterion:

Objective/Criterion Reference:

Evaluation Guideline:
Guideline Reference:

Spatial Representation:
Temporal Representation:
Environmental Conditions:

QAPP Information: QA Info Missing
QAPP Information Reference(s):

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Supporting Information

Regional Board 2 - San Francisco Bay Region

Water Body Name: Alameda Creek
Water Body ID: CAR2043005119990218134634
Water Body Type: River & Stream

DECISION ID	35114	Region 2
Alameda Creek		

Pollutant: Diazinon
Final Listing Decision: Do Not Delist from 303(d) list (being addressed with USEPA approved TMDL)
Last Listing Cycle's Final Listing Decision: List on 303(d) list (being addressed by USEPA approved TMDL)(2012)
Revision Status Revised
Sources: Other Urban Runoff | Surface Runoff
TMDL Name: San Francisco Bay Urban Creeks Diazinon
TMDL Project Code: 9
Date TMDL Approved by USEPA: 05/21/2007
Impairment from Pollutant or Pollution: Pollutant

Regional Board Staff Conclusion: This pollutant is being considered for removal on the CWA section 303(d) List under sections 2.2 and 4.1 of the Listing Policy.

Three lines of evidence are available in the administrative record to assess this pollutant.

Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against removing this water segment-pollutant combination from the CWA section 303(d) List. There is sufficient justification to place it in the Being Addressed portion of the CWA 303(d) List because a TMDL has been completed and approved by RWQCB and USEPA, and is expected to result in attainment of the standard.

This conclusion is based on the staff findings that:

1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy.
2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy.
3. A product ban for urban uses of diazinon in 1999 which has caused dramatic reduction in use.
4. Zero of one recent samples (since the ban) exceeded the evaluation guideline.
5. However, there are not a sufficient number of samples to de-list this waterbody according to Table 4.1 of the Listing Policy.
6. The Pesticides in Urban Creeks TMDL was approved by USEPA on 5/21/2007.
7. Pursuant to section 4.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.

Regional Board Staff Decision Recommendation: After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be removed from the section 303(d) list because applicable water quality standards for the pollutant are being exceeded.

Line of Evidence (LOE) for Decision ID 35114, Diazinon	Region 2
Alameda Creek	

LOE ID: 1796

Pollutant: Diazinon

LOE Subgroup:	Pollutant-Water
Matrix:	Water
Fraction:	None
Beneficial Use:	Cold Freshwater Habitat
Number of Samples:	0
Number of Exceedances:	0
Data and Information Type:	Not Specified
Data Used to Assess Water Quality:	Unspecified--This LOE is a placeholder to support a 303(d) listing decision made prior to 2006.
Data Reference:	Placeholder reference 2006 303(d)
SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	
Objective/Criterion Reference:	
Evaluation Guideline:	
Guideline Reference:	
Spatial Representation:	
Temporal Representation:	
Environmental Conditions:	
QAPP Information:	QA Info Missing
QAPP Information Reference(s):	

Line of Evidence (LOE) for Decision ID 35114, Diazinon

Region 2

Alameda Creek

LOE ID:	90953
Pollutant:	Diazinon
LOE Subgroup:	Pollutant-Sediment
Matrix:	Sediment
Fraction:	Total
Beneficial Use:	Cold Freshwater Habitat
Number of Samples:	1
Number of Exceedances:	0
Data and Information Type:	PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality:	Water Board staff assessed SWAMP data for Alameda Creek to determine beneficial use support and results are as follows: 0 of 1 samples exceed the criterion for Diazinon.
Data Reference:	Statewide Stream Pollution Trends Study 2008
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	San Francisco Bay Basin Water Quality Control Plan 2007: All waters shall be maintained free of toxic substances in concentrations which are toxic to, or which produce detrimental physiological responses in, human, plant, animal, or aquatic life.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	The evaluation guideline for diazinon is the median lethal concentration (LC50) of 11 ug/g and is normalized by the percentage of organic carbon in the sediment sample. The LC50 11 ug/g is the geometric mean of LC50 values for diazinon from Ding et al. (2011).
Guideline Reference:	Toxicity of Sediment-Associated Pesticides to Chironomus dilutus and Hyalella azteca. Arch. Environ. Contam. Toxicol. 61:83?92.
Spatial Representation:	Data for this line of evidence for Alameda Creek was collected at 1 monitoring site [

Temporal Representation:	Alameda Creek E of Alvarado Blvd station (204ALA020)]
Environmental Conditions:	Data was collected on a single day 6/17/2008.
QAPP Information:	Staff is not aware of any special conditions that might affect interpretation of the data.
	SWAMP data collected before September 2008 followed the QAMP (2002), however there may have been overlap in QA with SWAMP QAPP (2008).
QAPP Information Reference(s):	Quality Assurance Management Plan for the State of California's Surface Water Ambient Monitoring Program. Sacramento, CA. State Water Resources Control Board. SWAMP. December 2002 (1st version). Surface Water Ambient Monitoring Program Quality Assurance Program Plan

Line of Evidence (LOE) for Decision ID 35114, Diazinon

Region 2

Alameda Creek

LOE ID:	90952
Pollutant:	Diazinon
LOE Subgroup:	Pollutant-Sediment
Matrix:	Sediment
Fraction:	Total
Beneficial Use:	Warm Freshwater Habitat
Number of Samples:	1
Number of Exceedances:	0
Data and Information Type:	PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality:	Water Board staff assessed SWAMP data for Alameda Creek to determine beneficial use support and results are as follows: 0 of 1 samples exceed the criterion for Diazinon.
Data Reference:	Statewide Stream Pollution Trends Study 2008
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	San Francisco Bay Basin Water Quality Control Plan 2007: All waters shall be maintained free of toxic substances in concentrations which are toxic to, or which produce detrimental physiological responses in, human, plant, animal, or aquatic life.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	The evaluation guideline for diazinon is the median lethal concentration (LC50) of 11 ug/g and is normalized by the percentage of organic carbon in the sediment sample. The LC50 11 ug/g is the geometric mean of LC50 values for diazinon from Ding et al. (2011).
Guideline Reference:	Toxicity of Sediment-Associated Pesticides to Chironomus dilutus and Hyalella azteca. Arch. Environ. Contam. Toxicol. 61:83?92.
Spatial Representation:	Data for this line of evidence for Alameda Creek was collected at 1 monitoring site [Alameda Creek E of Alvarado Blvd station (204ALA020)]
Temporal Representation:	Data was collected on a single day 6/17/2008.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	SWAMP data collected before September 2008 followed the QAMP (2002), however there may have been overlap in QA with SWAMP QAPP (2008).
QAPP Information Reference(s):	Quality Assurance Management Plan for the State of California's Surface Water Ambient Monitoring Program. Sacramento, CA. State Water Resources Control Board. SWAMP. December 2002 (1st version). Surface Water Ambient Monitoring Program Quality Assurance Program Plan

DECISION ID

61048

Region 2

Alameda Creek

Pollutant:	Anthracene
Final Listing Decision:	Do Not List on 303(d) list (TMDL required list)
Last Listing Cycle's Final	New Decision

**Listing Decision:
Revision Status
Impairment from Pollutant or
Pollution:**

Revised
Pollutant

**Regional Board Staff
Conclusion:**

This pollutant is being considered for placement on the CWA section 303(d) List under section 3.6 of the Listing Policy.

Under section 3.6 at least two lines of evidence are necessary to assess listing status for pollutants sediment, and pollutant concentrations in sediment must be associated with sediment toxicity to justify adding that pollutant to the CWA section 303(d) List.

One line of evidence is available in the administrative record to assess this pollutant. Zero of one samples exceed the guideline.

Sediment toxicity data are available but not relevant because there is not enough information based on sediment chemistry.

Based on the readily available data and information, the weight of evidence indicates that there is insufficient justification for placing this water segment-pollutant combination on the CWA section 303(d) List.

This conclusion is based on the staff findings that:

1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy.
2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy.
3. Zero of one samples exceed the objective and this sample size is insufficient to determine beneficial use support, with the power and confidence of the Listing Policy. There is an associated sediment toxicity data as required by Section 3.6 of the Listing Policy, but these data are not attached to this decision because the sediment chemistry data are insufficient.
4. Pursuant to section 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.

**Regional Board Staff Decision
Recommendation:**

After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be placed on the section 303(d) list. The readily available data and information is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating.

Line of Evidence (LOE) for Decision ID 61048, Anthracene

Region 2

Alameda Creek

LOE ID: 90908

Pollutant: Anthracene
LOE Subgroup: Pollutant-Sediment
Matrix: Sediment
Fraction: Total

Beneficial Use: Warm Freshwater Habitat

Number of Samples: 1
Number of Exceedances: 0

Data and Information Type: PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality: Water Board staff assessed SWAMP data for Alameda Creek to determine beneficial use support and results are as follows: 0 of 1 samples exceed the criterion for Anthracene.

Data Reference: [Statewide Stream Pollution Trends Study 2008](#)

SWAMP Data: SWAMP

Water Quality Objective/Criterion: San Francisco Bay Basin Water Quality Control Plan 2007: All waters shall be maintained free of toxic substances in concentrations which are toxic to, or which produce detrimental physiological responses in, human, plant, animal, or aquatic life.

Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	In freshwater sediments the probable effect concentration (predictive of sediment toxicity for sediment-dwelling organisms) for anthracene is 845 ug/Kg dry weight (MacDonald et al. 2000).
Guideline Reference:	Development and evaluation of consensus-based sediment quality guidelines for freshwater ecosystems. Environmental Contamination and Toxicology. 39: 20-31
Spatial Representation:	Data for this line of evidence for Alameda Creek was collected at 1 monitoring site [Alameda Creek E of Alvarado Blvd station (204ALA020)]
Temporal Representation:	Data was collected on a single day 6/17/2008.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	SWAMP data collected before September 2008 followed the QAMP (2002), however there may have been overlap in QA with SWAMP QAPP (2008).
QAPP Information Reference(s):	Quality Assurance Management Plan for the State of California's Surface Water Ambient Monitoring Program. Sacramento, CA. State Water Resources Control Board. SWAMP. December 2002 (1st version) Surface Water Ambient Monitoring Program Quality Assurance Program Plan

Line of Evidence (LOE) for Decision ID 61048, Anthracene

Region 2

Alameda Creek

LOE ID:	90909
Pollutant:	Anthracene
LOE Subgroup:	Pollutant-Sediment
Matrix:	Sediment
Fraction:	Total
Beneficial Use:	Cold Freshwater Habitat
Number of Samples:	1
Number of Exceedances:	0
Data and Information Type:	PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality:	Water Board staff assessed SWAMP data for Alameda Creek to determine beneficial use support and results are as follows: 0 of 1 samples exceed the criterion for Anthracene.
Data Reference:	Statewide Stream Pollution Trends Study 2008
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	San Francisco Bay Basin Water Quality Control Plan 2007: All waters shall be maintained free of toxic substances in concentrations which are toxic to, or which produce detrimental physiological responses in, human, plant, animal, or aquatic life.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	In freshwater sediments the probable effect concentration (predictive of sediment toxicity for sediment-dwelling organisms) for anthracene is 845 ug/Kg dry weight (MacDonald et al. 2000).
Guideline Reference:	Development and evaluation of consensus-based sediment quality guidelines for freshwater ecosystems. Environmental Contamination and Toxicology. 39: 20-31
Spatial Representation:	Data for this line of evidence for Alameda Creek was collected at 1 monitoring site [Alameda Creek E of Alvarado Blvd station (204ALA020)]
Temporal Representation:	Data was collected on a single day 6/17/2008.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	SWAMP data collected before September 2008 followed the QAMP (2002), however there may have been overlap in QA with SWAMP QAPP (2008).
QAPP Information Reference(s):	Quality Assurance Management Plan for the State of California's Surface Water Ambient Monitoring Program. Sacramento, CA. State Water Resources Control Board. SWAMP. December 2002 (1st version) Surface Water Ambient Monitoring Program Quality Assurance Program Plan

DECISION ID	61049	Region 2
Alameda Creek		

Pollutant: Arsenic
Final Listing Decision: Do Not List on 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision: New Decision
Revision Status: Revised
Impairment from Pollutant or Pollution: Pollutant

Regional Board Staff Conclusion: This pollutant is being considered for placement on the CWA section 303(d) List under section 3.1 of the Listing Policy. Under section 3.1 a single line of evidence is necessary to assess listing status. Two lines of evidence are available in the administrative record to assess this pollutant. Zero of one samples exceed the guideline.

Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against placing this water segment-pollutant combination on the CWA section 303(d) List.

This conclusion is based on the staff findings that:

1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy.
2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy.
3. Zero of one samples exceed the guideline and this sample size is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating. A minimum of 16 samples is needed to determine if a beneficial use is fully supported using table 3.1.
4. Pursuant to SECTION 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.

Regional Board Staff Decision Recommendation: After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be placed on the section 303(d) list. The readily available data and information is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating.

Line of Evidence (LOE) for Decision ID 61049, Arsenic	Region 2
Alameda Creek	

LOE ID: 90911
Pollutant: Arsenic
LOE Subgroup: Pollutant-Sediment
Matrix: Sediment
Fraction: Total
Beneficial Use: Cold Freshwater Habitat
Number of Samples: 1
Number of Exceedances: 0
Data and Information Type: PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality: Water Board staff assessed SWAMP data for Alameda Creek to determine beneficial use support and results are as follows: 0 of 1 samples exceed the criterion for Arsenic.
Data Reference: [Statewide Stream Pollution Trends Study 2008](#)
SWAMP Data: SWAMP
Water Quality Objective/Criterion: San Francisco Bay Basin Water Quality Control Plan 2007: All waters shall be maintained free of toxic substances in concentrations which are toxic to, or which produce detrimental

Objective/Criterion Reference:	physiological responses in, human, plant, animal, or aquatic life. Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	In freshwater sediments the probable effect concentration (predictive of sediment toxicity for sediment-dwelling organisms) for arsenic is 33 mg/Kg dry weight (MacDonald et al. 2000).
Guideline Reference:	Development and evaluation of consensus-based sediment quality guidelines for freshwater ecosystems. Environmental Contamination and Toxicology. 39: 20-31
Spatial Representation:	Data for this line of evidence for Alameda Creek was collected at 1 monitoring site [Alameda Creek E of Alvarado Blvd station (204ALA020)]
Temporal Representation:	Data was collected on a single day 6/17/2008.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	SWAMP data collected before September 2008 followed the QAMP (2002), however there may have been overlap in QA with SWAMP QAPP (2008).
QAPP Information Reference(s):	Quality Assurance Management Plan for the State of California's Surface Water Ambient Monitoring Program. Sacramento, CA. State Water Resources Control Board. SWAMP. December 2002 (1st version) Surface Water Ambient Monitoring Program Quality Assurance Program Plan

Line of Evidence (LOE) for Decision ID 61049, Arsenic

Region 2

Alameda Creek

LOE ID:	90910
Pollutant:	Arsenic
LOE Subgroup:	Pollutant-Sediment
Matrix:	Sediment
Fraction:	Total
Beneficial Use:	Warm Freshwater Habitat
Number of Samples:	1
Number of Exceedances:	0
Data and Information Type:	PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality:	Water Board staff assessed SWAMP data for Alameda Creek to determine beneficial use support and results are as follows: 0 of 1 samples exceed the criterion for Arsenic.
Data Reference:	Statewide Stream Pollution Trends Study 2008
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	San Francisco Bay Basin Water Quality Control Plan 2007: All waters shall be maintained free of toxic substances in concentrations which are toxic to, or which produce detrimental physiological responses in, human, plant, animal, or aquatic life.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	In freshwater sediments the probable effect concentration (predictive of sediment toxicity for sediment-dwelling organisms) for arsenic is 33 mg/Kg dry weight (MacDonald et al. 2000).
Guideline Reference:	Development and evaluation of consensus-based sediment quality guidelines for freshwater ecosystems. Environmental Contamination and Toxicology. 39: 20-31
Spatial Representation:	Data for this line of evidence for Alameda Creek was collected at 1 monitoring site [Alameda Creek E of Alvarado Blvd station (204ALA020)]
Temporal Representation:	Data was collected on a single day 6/17/2008.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	SWAMP data collected before September 2008 followed the QAMP (2002), however there may have been overlap in QA with SWAMP QAPP (2008).
QAPP Information Reference(s):	Quality Assurance Management Plan for the State of California's Surface Water Ambient Monitoring Program. Sacramento, CA. State Water Resources Control Board. SWAMP. December 2002 (1st version)

DECISION ID	61050	Region 2
Alameda Creek		

Pollutant: Benzo(a)anthracene
Final Listing Decision: Do Not List on 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision: New Decision
Revision Status: Revised
Impairment from Pollutant or Pollution: Pollutant

Regional Board Staff Conclusion: This pollutant is being considered for placement on the CWA section 303(d) List under section 3.1 of the Listing Policy. Under section 3.1 a single line of evidence is necessary to assess listing status. Two lines of evidence are available in the administrative record to assess this pollutant. Zero of one samples exceed the guideline.

Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against placing this water segment-pollutant combination on the CWA section 303(d) List.

This conclusion is based on the staff findings that:

1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy.
2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy.
3. Zero of one samples exceed the guideline and this sample size is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating. A minimum of 16 samples is needed to determine if a beneficial use is fully supported using table 3.1.
4. Pursuant to SECTION 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.

Regional Board Staff Decision Recommendation: After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be placed on the section 303(d) list. The readily available data and information is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating.

Line of Evidence (LOE) for Decision ID 61050, Benzo(a)anthracene	Region 2
Alameda Creek	

LOE ID: 90912
Pollutant: Benzo(a)anthracene
LOE Subgroup: Pollutant-Sediment
Matrix: Sediment
Fraction: Total
Beneficial Use: Warm Freshwater Habitat
Number of Samples: 1
Number of Exceedances: 0
Data and Information Type: PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality: Water Board staff assessed SWAMP data for Alameda Creek to determine beneficial use support and results are as follows: 0 of 1 samples exceed the criterion for Benzo(a)anthracene.
Data Reference: [Statewide Stream Pollution Trends Study 2008](#)
SWAMP Data: SWAMP

Water Quality Objective/Criterion:	San Francisco Bay Basin Water Quality Control Plan 2007: All waters shall be maintained free of toxic substances in concentrations which are toxic to, or which produce detrimental physiological responses in, human, plant, animal, or aquatic life.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	In freshwater sediments the probable effect concentration (predictive of sediment toxicity for sediment-dwelling organisms) for Benzo(a)anthracene is 1050 ug/Kg dry weight (MacDonald et al. 2000).
Guideline Reference:	Development and evaluation of consensus-based sediment quality guidelines for freshwater ecosystems. Environmental Contamination and Toxicology. 39: 20-31
Spatial Representation:	Data for this line of evidence for Alameda Creek was collected at 1 monitoring site [Alameda Creek E of Alvarado Blvd station (204ALA020)]
Temporal Representation:	Data was collected on a single day 6/17/2008.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	SWAMP data collected before September 2008 followed the QAMP (2002), however there may have been overlap in QA with SWAMP QAPP (2008).
QAPP Information Reference(s):	Quality Assurance Management Plan for the State of California's Surface Water Ambient Monitoring Program. Sacramento, CA. State Water Resources Control Board. SWAMP. December 2002 (1st version) Surface Water Ambient Monitoring Program Quality Assurance Program Plan

Line of Evidence (LOE) for Decision ID 61050, Benzo(a)anthracene

Region 2

Alameda Creek

LOE ID:	90913
Pollutant:	Benzo(a)anthracene
LOE Subgroup:	Pollutant-Sediment
Matrix:	Sediment
Fraction:	Total
Beneficial Use:	Cold Freshwater Habitat
Number of Samples:	1
Number of Exceedances:	0
Data and Information Type:	PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality:	Water Board staff assessed SWAMP data for Alameda Creek to determine beneficial use support and results are as follows: 0 of 1 samples exceed the criterion for Benzo(a)anthracene.
Data Reference:	Statewide Stream Pollution Trends Study 2008
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	San Francisco Bay Basin Water Quality Control Plan 2007: All waters shall be maintained free of toxic substances in concentrations which are toxic to, or which produce detrimental physiological responses in, human, plant, animal, or aquatic life.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	In freshwater sediments the probable effect concentration (predictive of sediment toxicity for sediment-dwelling organisms) for Benzo(a)anthracene is 1050 ug/Kg dry weight (MacDonald et al. 2000).
Guideline Reference:	Development and evaluation of consensus-based sediment quality guidelines for freshwater ecosystems. Environmental Contamination and Toxicology. 39: 20-31
Spatial Representation:	Data for this line of evidence for Alameda Creek was collected at 1 monitoring site [Alameda Creek E of Alvarado Blvd station (204ALA020)]
Temporal Representation:	Data was collected on a single day 6/17/2008.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	SWAMP data collected before September 2008 followed the QAMP (2002), however there may have been overlap in QA with SWAMP QAPP (2008).

DECISION ID	61051	Region 2
Alameda Creek		

Pollutant: Benzo(a)pyrene (3,4-Benzopyrene -7-d)
Final Listing Decision: Do Not List on 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision: New Decision
Revision Status: Revised
Impairment from Pollutant or Pollution: Pollutant

Regional Board Staff Conclusion: This pollutant is being considered for placement on the CWA section 303(d) List under section 3.1 of the Listing Policy. Under section 3.1 a single line of evidence is necessary to assess listing status. Two lines of evidence are available in the administrative record to assess this pollutant. Zero of one samples exceed the guideline.

Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against placing this water segment-pollutant combination on the CWA section 303(d) List.

This conclusion is based on the staff findings that:

1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy.
2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy.
3. Zero of one samples exceed the guideline and this sample size is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating. A minimum of 16 samples is needed to determine if a beneficial use is fully supported using table 3.1.
4. Pursuant to SECTION 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.

Regional Board Staff Decision Recommendation: After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be placed on the section 303(d) list. The readily available data and information is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating.

Line of Evidence (LOE) for Decision ID 61051, Benzo(a)pyrene (3,4-Benzopyrene -7-d)	Region 2
Alameda Creek	

LOE ID: 90914

Pollutant: Benzo(a)pyrene (3,4-Benzopyrene -7-d)
LOE Subgroup: Pollutant-Sediment
Matrix: Sediment
Fraction: Total

Beneficial Use: Warm Freshwater Habitat

Number of Samples: 1
Number of Exceedances: 0

Data and Information Type: PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality: Water Board staff assessed SWAMP data for Alameda Creek to determine beneficial use support and results are as follows: 0 of 1 samples exceed the criterion for Benzo(a)pyrene.

Data Reference: [Statewide Stream Pollution Trends Study 2008](#)

SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	San Francisco Bay Basin Water Quality Control Plan 2007: All waters shall be maintained free of toxic substances in concentrations which are toxic to, or which produce detrimental physiological responses in, human, plant, animal, or aquatic life.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	In freshwater sediments the probable effects level (predictive of sediment toxicity for sediment-dwelling organisms) for Benzo(a)Pyrene is 1450 ug/Kg dry weight (Macdonald et al. 2000)
Guideline Reference:	Development and evaluation of consensus-based sediment quality guidelines for freshwater ecosystems. Environmental Contamination and Toxicology. 39: 20-31
Spatial Representation:	Data for this line of evidence for Alameda Creek was collected at 1 monitoring site [Alameda Creek E of Alvarado Blvd station (204ALA020)]
Temporal Representation:	Data was collected on a single day 6/17/2008.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	SWAMP data collected before September 2008 followed the QAMP (2002), however there may have been overlap in QA with SWAMP QAPP (2008).
QAPP Information Reference(s):	Quality Assurance Management Plan for the State of California's Surface Water Ambient Monitoring Program. Sacramento, CA. State Water Resources Control Board. SWAMP. December 2002 (1st version) Surface Water Ambient Monitoring Program Quality Assurance Program Plan

Line of Evidence (LOE) for Decision ID 61051, Benzo(a)pyrene (3,4-Benzopyrene -7-d)

Region 2

Alameda Creek

LOE ID:	90925
Pollutant:	Benzo(a)pyrene (3,4-Benzopyrene -7-d)
LOE Subgroup:	Pollutant-Sediment
Matrix:	Sediment
Fraction:	Total
Beneficial Use:	Cold Freshwater Habitat
Number of Samples:	1
Number of Exceedances:	0
Data and Information Type:	PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality:	Water Board staff assessed SWAMP data for Alameda Creek to determine beneficial use support and results are as follows: 0 of 1 samples exceed the criterion for Benzo(a)pyrene.
Data Reference:	Statewide Stream Pollution Trends Study 2008
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	San Francisco Bay Basin Water Quality Control Plan 2007: All waters shall be maintained free of toxic substances in concentrations which are toxic to, or which produce detrimental physiological responses in, human, plant, animal, or aquatic life.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	In freshwater sediments the probable effects level (predictive of sediment toxicity for sediment-dwelling organisms) for Benzo(a)Pyrene is 1450 ug/Kg dry weight (Macdonald et al. 2000)
Guideline Reference:	Development and evaluation of consensus-based sediment quality guidelines for freshwater ecosystems. Environmental Contamination and Toxicology. 39: 20-31
Spatial Representation:	Data for this line of evidence for Alameda Creek was collected at 1 monitoring site [Alameda Creek E of Alvarado Blvd station (204ALA020)]
Temporal Representation:	Data was collected on a single day 6/17/2008.

Environmental Conditions: Staff is not aware of any special conditions that might affect interpretation of the data.

QAPP Information: SWAMP data collected before September 2008 followed the QAMP (2002), however there may have been overlap in QA with SWAMP QAPP (2008).

QAPP Information Reference(s): [Quality Assurance Management Plan for the State of California's Surface Water Ambient Monitoring Program. Sacramento, CA. State Water Resources Control Board. SWAMP. December 2002 \(1st version\)](#)
[Surface Water Ambient Monitoring Program Quality Assurance Program Plan](#)

DECISION ID	61052	Region 2
Alameda Creek		

Pollutant: Bifenthrin

Final Listing Decision: Do Not List on 303(d) list (TMDL required list)

Last Listing Cycle's Final Listing Decision: New Decision

Revision Status: Revised

Impairment from Pollutant or Pollution: Pollutant

Regional Board Staff Conclusion: This pollutant is being considered for placement on the CWA section 303(d) List under section 3.1 of the Listing Policy. Under section 3.1 a single line of evidence is necessary to assess listing status. Two lines of evidence are available in the administrative record to assess this pollutant. Zero of one samples exceed the guideline.

Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against placing this water segment-pollutant combination on the CWA section 303(d) List.

This conclusion is based on the staff findings that:

1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy.
2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy.
3. Zero of one samples exceed the guideline and this sample size is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating. A minimum of 16 samples is needed to determine if a beneficial use is fully supported using table 3.1.
4. Pursuant to SECTION 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.

Regional Board Staff Decision Recommendation: After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be placed on the section 303(d) list. The readily available data and information is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating.

Line of Evidence (LOE) for Decision ID 61052, Bifenthrin	Region 2
Alameda Creek	

LOE ID: 90926

Pollutant: Bifenthrin

LOE Subgroup: Pollutant-Sediment

Matrix: Sediment

Fraction: Total

Beneficial Use: Warm Freshwater Habitat

Number of Samples: 1

Number of Exceedances: 0

Data and Information Type: PHYSICAL/CHEMICAL MONITORING

Data Used to Assess Water Quality: Water Board staff assessed SWAMP data for Alameda Creek to determine beneficial use

Data Reference:	support and results are as follows: 0 of 1 samples exceed the criterion for Bifenthrin. Statewide Stream Pollution Trends Study 2008
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	San Francisco Bay Basin Water Quality Control Plan 2007: All waters shall be maintained free of toxic substances in concentrations which are toxic to, or which produce detrimental physiological responses in, human, plant, animal, or aquatic life.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	The evaluation guideline for bifenthrin is the median lethal concentration (LC50) of 0.43 ug/g and is normalized by the percentage of organic carbon in the sediment sample. The LC50 0.43 ug/g is the geometric mean of LC50 values for bifenthrin from Amweg et al. (2005) and Amweg and Weston (2007).
Guideline Reference:	Use and Toxicity of Pyrethroid Pesticides in the Central Valley, California, USA. Environmental Toxicology and Chemistry, 24:966-972, with erratum 24:No. 5 Whole-sediment toxicity identification evaluation tools for pyrethroid insecticides: I. piperonyl butoxide addition. Environ. Toxicol. Chem. 26:2389-2396.
Spatial Representation:	Data for this line of evidence for Alameda Creek was collected at 1 monitoring site [Alameda Creek E of Alvarado Blvd station (204ALA020)]
Temporal Representation:	Data was collected on a single day 6/17/2008.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	SWAMP data collected before September 2008 followed the QAMP (2002), however there may have been overlap in QA with SWAMP QAPP (2008).
QAPP Information Reference(s):	Quality Assurance Management Plan for the State of California's Surface Water Ambient Monitoring Program. Sacramento, CA. State Water Resources Control Board. SWAMP. December 2002 (1st version) Surface Water Ambient Monitoring Program Quality Assurance Program Plan

Line of Evidence (LOE) for Decision ID 61052, Bifenthrin

Region 2

Alameda Creek

LOE ID:	90927
Pollutant:	Bifenthrin
LOE Subgroup:	Pollutant-Sediment
Matrix:	Sediment
Fraction:	Total
Beneficial Use:	Cold Freshwater Habitat
Number of Samples:	1
Number of Exceedances:	0
Data and Information Type:	PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality:	Water Board staff assessed SWAMP data for Alameda Creek to determine beneficial use support and results are as follows: 0 of 1 samples exceed the criterion for Bifenthrin.
Data Reference:	Statewide Stream Pollution Trends Study 2008
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	San Francisco Bay Basin Water Quality Control Plan 2007: All waters shall be maintained free of toxic substances in concentrations which are toxic to, or which produce detrimental physiological responses in, human, plant, animal, or aquatic life.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	The evaluation guideline for bifenthrin is the median lethal concentration (LC50) of 0.43 ug/g and is normalized by the percentage of organic carbon in the sediment sample. The LC50 0.43 ug/g is the geometric mean of LC50 values for bifenthrin from Amweg et al. (2005) and Amweg and Weston (2007).
Guideline Reference:	Use and Toxicity of Pyrethroid Pesticides in the Central Valley, California, USA.

[Environmental Toxicology and Chemistry, 24:966-972, with erratum 24:No. 5](#)
[Whole-sediment toxicity identification evaluation tools for pyrethroid insecticides: I. piperonyl butoxide addition. Environ. Toxicol. Chem. 26:2389-2396.](#)

Spatial Representation: Data for this line of evidence for Alameda Creek was collected at 1 monitoring site [Alameda Creek E of Alvarado Blvd station (204ALA020)]

Temporal Representation: Data was collected on a single day 6/17/2008.

Environmental Conditions: Staff is not aware of any special conditions that might affect interpretation of the data.

QAPP Information: SWAMP data collected before September 2008 followed the QAMP (2002), however there may have been overlap in QA with SWAMP QAPP (2008).

QAPP Information Reference(s): [Quality Assurance Management Plan for the State of California's Surface Water Ambient Monitoring Program. Sacramento, CA. State Water Resources Control Board. SWAMP. December 2002 \(1st version\).](#)
[Surface Water Ambient Monitoring Program Quality Assurance Program Plan](#)

DECISION ID 61054		Region 2
Alameda Creek		
Pollutant:	Chlordane	
Final Listing Decision:	Do Not List on 303(d) list (TMDL required list)	
Last Listing Cycle's Final Listing Decision:	New Decision	
Revision Status	Revised	
Impairment from Pollutant or Pollution:	Pollutant	
Regional Board Staff Conclusion:	<p>This pollutant is being considered for placement on the CWA section 303(d) List under section 3.1 of the Listing Policy. Under section 3.1 a single line of evidence is necessary to assess listing status. One line of evidence is available in the administrative record to assess this pollutant. Zero of one samples exceed the guideline.</p> <p>Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against placing this water segment-pollutant combination on the CWA section 303(d) List.</p> <p>This conclusion is based on the staff findings that:</p> <ol style="list-style-type: none"> 1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy. 2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy. 3. Zero of one samples exceed the guideline and this sample size is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating. A minimum of 16 samples is needed to determine if a beneficial use is fully supported using table 3.1. 4. Pursuant to SECTION 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met. 	
Regional Board Staff Decision Recommendation:	After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be placed on the section 303(d) list. The readily available data and information is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating.	

Line of Evidence (LOE) for Decision ID 61054, Chlordane		Region 2
Alameda Creek		
LOE ID:	90718	
Pollutant:	Chlordane	
LOE Subgroup:	Pollutant-Sediment	
Matrix:	Sediment	
Fraction:	Total	

Beneficial Use:	Cold Freshwater Habitat
Number of Samples:	1
Number of Exceedances:	0
Data and Information Type:	PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality:	Zero of 1 samples collected exceeded the criteria for chlordane concentration (Sum of trans-Chlordane, cis-Chlordane, cis-Nonachlor, trans-Nonachlor, and Oxychlordane).
Data Reference:	Statewide Stream Pollution Trends Study 2008
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	All waters shall be maintained free of toxic substances in concentrations that are lethal to or that produce other detrimental responses in aquatic organisms. Waters shall not contain substances in concentrations that result in the deposition of material that causes nuisance or adversely affects beneficial uses. (Water Quality Control Plan for the San Francisco Bay Basin).
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) - San Francisco Bay Region (Region 2)
Evaluation Guideline:	The Probable Effect Concentration for Chlordane in freshwater sediments is 17.6 ug/kg(MacDonald et al. 2000).
Guideline Reference:	Development and evaluation of consensus-based sediment quality guidelines for freshwater ecosystems. Environmental Contamination and Toxicology. 39: 20-31
Spatial Representation:	Data were collected at the following station 204ALA020 (Alameda Creek E. of Alvarado Blvd).
Temporal Representation:	The samples were collected on 6/17/2008.
Environmental Conditions:	
QAPP Information:	The SWAMP QAPP (2008) was followed.
QAPP Information Reference(s):	Surface Water Ambient Monitoring Program Quality Assurance Program Plan

DECISION ID	61055	Region 2
Alameda Creek		

Pollutant:	Chlorpyrifos
Final Listing Decision:	Do Not List on 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision:	New Decision
Revision Status	Revised
Impairment from Pollutant or Pollution:	Pollutant
Regional Board Staff Conclusion:	<p>This pollutant is being considered for placement on the CWA section 303(d) List under section 3.1 of the Listing Policy. Under section 3.1 a single line of evidence is necessary to assess listing status. Two lines of evidence are available in the administrative record to assess this pollutant. Zero of one samples exceed the guideline.</p> <p>Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against placing this water segment-pollutant combination on the CWA section 303(d) List.</p> <p>This conclusion is based on the staff findings that:</p> <ol style="list-style-type: none"> 1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy. 2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy. 3. Zero of one samples exceed the guideline and this sample size is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating. A minimum of 16 samples is needed to determine if a beneficial use is fully supported using table 3.1. 4. Pursuant to SECTION 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.
Regional Board Staff Decision	After review of the available data and information, RWQCB staff concludes that the water body-

Recommendation: pollutant combination should not be placed on the section 303(d) list. The readily available data and information is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating.

Line of Evidence (LOE) for Decision ID 61055, Chlorpyrifos

Region 2

Alameda Creek

LOE ID: 90915

Pollutant: Chlorpyrifos
LOE Subgroup: Pollutant-Sediment
Matrix: Sediment
Fraction: Total

Beneficial Use: Warm Freshwater Habitat

Number of Samples: 1
Number of Exceedances: 0

Data and Information Type: PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality: Water Board staff assessed SWAMP data for Alameda Creek to determine beneficial use support and results are as follows: 0 of 1 samples exceed the criterion for Chlorpyrifos.
Data Reference: [Statewide Stream Pollution Trends Study 2008](#)

SWAMP Data: SWAMP

Water Quality Objective/Criterion: San Francisco Bay Basin Water Quality Control Plan 2007: All waters shall be maintained free of toxic substances in concentrations which are toxic to, or which produce detrimental physiological responses in, human, plant, animal, or aquatic life.
Objective/Criterion Reference: [Water Quality Control Plan \(Basin Plan\) San Francisco Bay Basin \(Region 2\)](#)

Evaluation Guideline: The evaluation guideline for chlorpyrifos is the median lethal concentration (LC50) of 1.77 ug/g and is normalized by the percentage of organic carbon in the sediment sample (Amweg and Weston, 2007).
Guideline Reference: [Whole-sediment toxicity identification evaluation tools for pyrethroid insecticides: I. piperonyl butoxide addition. Environ. Toxicol. Chem. 26:2389-2396.](#)

Spatial Representation: Data for this line of evidence for Alameda Creek was collected at 1 monitoring site [Alameda Creek E of Alvarado Blvd station (204ALA020)]
Temporal Representation: Data was collected on a single day 6/17/2008.
Environmental Conditions: Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information: SWAMP data collected before September 2008 followed the QAMP (2002), however there may have been overlap in QA with SWAMP QAPP (2008).
QAPP Information Reference(s): [Quality Assurance Management Plan for the State of California's Surface Water Ambient Monitoring Program. Sacramento, CA. State Water Resources Control Board. SWAMP. December 2002 \(1st version\).](#)
[Surface Water Ambient Monitoring Program Quality Assurance Program Plan](#)

Line of Evidence (LOE) for Decision ID 61055, Chlorpyrifos

Region 2

Alameda Creek

LOE ID: 90916

Pollutant: Chlorpyrifos
LOE Subgroup: Pollutant-Sediment
Matrix: Sediment
Fraction: Total

Beneficial Use: Cold Freshwater Habitat

Number of Samples:	1
Number of Exceedances:	0
Data and Information Type:	PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality:	Water Board staff assessed SWAMP data for Alameda Creek to determine beneficial use support and results are as follows: 0 of 1 samples exceed the criterion for Chlorpyrifos.
Data Reference:	Statewide Stream Pollution Trends Study 2008
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	San Francisco Bay Basin Water Quality Control Plan 2007: All waters shall be maintained free of toxic substances in concentrations which are toxic to, or which produce detrimental physiological responses in, human, plant, animal, or aquatic life.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	The evaluation guideline for chlorpyrifos is the median lethal concentration (LC50) of 1.77 ug/g and is normalized by the percentage of organic carbon in the sediment sample (Amweg and Weston, 2007).
Guideline Reference:	Whole-sediment toxicity identification evaluation tools for pyrethroid insecticides: I. piperonyl butoxide addition. Environ. Toxicol. Chem. 26:2389-2396.
Spatial Representation:	Data for this line of evidence for Alameda Creek was collected at 1 monitoring site [Alameda Creek E of Alvarado Blvd station (204ALA020)]
Temporal Representation:	Data was collected on a single day 6/17/2008.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	SWAMP data collected before September 2008 followed the QAMP (2002), however there may have been overlap in QA with SWAMP QAPP (2008).
QAPP Information Reference(s):	Quality Assurance Management Plan for the State of California's Surface Water Ambient Monitoring Program. Sacramento, CA. State Water Resources Control Board. SWAMP. December 2002 (1st version) Surface Water Ambient Monitoring Program Quality Assurance Program Plan

DECISION ID	61056	Region 2
Alameda Creek		

Pollutant:	Chromium
Final Listing Decision:	Do Not List on 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision:	New Decision
Revision Status	Revised
Impairment from Pollutant or Pollution:	Pollutant

Regional Board Staff Conclusion:	<p>This pollutant is being considered for placement on the CWA section 303(d) List under section 3.1 of the Listing Policy. Under section 3.1 a single line of evidence is necessary to assess listing status. Two lines of evidence are available in the administrative record to assess this pollutant. One of one samples exceed the guideline.</p> <p>Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against placing this water segment-pollutant combination on the CWA section 303(d) List.</p> <p>This conclusion is based on the staff findings that:</p> <ol style="list-style-type: none"> 1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy. 2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy. 3. One of one samples exceed the guideline and this sample size is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating. A minimum of 16 samples is needed to determine if a beneficial use is fully supported using table 3.1. 4. Pursuant to SECTION 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.
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Regional Board Staff Decision Recommendation: After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be placed on the section 303(d) list. The readily available data and information is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating.

Line of Evidence (LOE) for Decision ID 61056, Chromium
Alameda Creek

Region 2

LOE ID: 90917

Pollutant: Chromium
LOE Subgroup: Pollutant-Sediment
Matrix: Sediment
Fraction: Total

Beneficial Use: Warm Freshwater Habitat

Number of Samples: 1
Number of Exceedances: 1

Data and Information Type: PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality: Water Board staff assessed SWAMP data for Alameda Creek to determine beneficial use support and results are as follows: 1 of 1 samples exceed the criterion for Chromium.
Data Reference: [Statewide Stream Pollution Trends Study 2008](#)

SWAMP Data: SWAMP

Water Quality Objective/Criterion: San Francisco Bay Basin Water Quality Control Plan 2007: All waters shall be maintained free of toxic substances in concentrations which are toxic to, or which produce detrimental physiological responses in, human, plant, animal, or aquatic life.
Objective/Criterion Reference: [Water Quality Control Plan \(Basin Plan\) San Francisco Bay Basin \(Region 2\)](#)

Evaluation Guideline: In freshwater sediments the probable effect concentration (predictive of sediment toxicity for sediment-dwelling organisms) for chromium is 111 mg/Kg dry weight (MacDonald et al. 2000).
Guideline Reference: [Development and evaluation of consensus-based sediment quality guidelines for freshwater ecosystems. Environmental Contamination and Toxicology. 39: 20-31](#)

Spatial Representation: Data for this line of evidence for Alameda Creek was collected at 1 monitoring site [Alameda Creek E of Alvarado Blvd station (204ALA020)]
Temporal Representation: Data was collected on a single day 6/17/2008.
Environmental Conditions: Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information: SWAMP data collected before September 2008 followed the QAMP (2002), however there may have been overlap in QA with SWAMP QAPP (2008).
QAPP Information Reference(s): [Quality Assurance Management Plan for the State of California's Surface Water Ambient Monitoring Program. Sacramento, CA. State Water Resources Control Board. SWAMP. December 2002 \(1st version\)](#)
[Surface Water Ambient Monitoring Program Quality Assurance Program Plan](#)

Line of Evidence (LOE) for Decision ID 61056, Chromium
Alameda Creek

Region 2

LOE ID: 90918

Pollutant: Chromium
LOE Subgroup: Pollutant-Sediment
Matrix: Sediment
Fraction: Total

Beneficial Use: Cold Freshwater Habitat

Number of Samples:	1
Number of Exceedances:	1
Data and Information Type:	PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality:	Water Board staff assessed SWAMP data for Alameda Creek to determine beneficial use support and results are as follows: 1 of 1 samples exceed the criterion for Chromium.
Data Reference:	Statewide Stream Pollution Trends Study 2008
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	San Francisco Bay Basin Water Quality Control Plan 2007: All waters shall be maintained free of toxic substances in concentrations which are toxic to, or which produce detrimental physiological responses in, human, plant, animal, or aquatic life.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	In freshwater sediments the probable effect concentration (predictive of sediment toxicity for sediment-dwelling organisms) for chromium is 111 mg/Kg dry weight (MacDonald et al. 2000).
Guideline Reference:	Development and evaluation of consensus-based sediment quality guidelines for freshwater ecosystems. Environmental Contamination and Toxicology. 39: 20-31
Spatial Representation:	Data for this line of evidence for Alameda Creek was collected at 1 monitoring site [Alameda Creek E of Alvarado Blvd station (204ALA020)]
Temporal Representation:	Data was collected on a single day 6/17/2008.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	SWAMP data collected before September 2008 followed the QAMP (2002), however there may have been overlap in QA with SWAMP QAPP (2008).
QAPP Information Reference(s):	Quality Assurance Management Plan for the State of California's Surface Water Ambient Monitoring Program. Sacramento, CA. State Water Resources Control Board. SWAMP. December 2002 (1st version) Surface Water Ambient Monitoring Program Quality Assurance Program Plan

DECISION ID	61057	Region 2
Alameda Creek		

Pollutant:	Chrysene (C1-C4)
Final Listing Decision:	Do Not List on 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision:	New Decision
Revision Status	Revised
Impairment from Pollutant or Pollution:	Pollutant

Regional Board Staff Conclusion: This pollutant is being considered for placement on the CWA section 303(d) List under section 3.1 of the Listing Policy. Under section 3.1 a single line of evidence is necessary to assess listing status. Two lines of evidence are available in the administrative record to assess this pollutant. Zero of one samples exceed the guideline.

Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against placing this water segment-pollutant combination on the CWA section 303(d) List.

This conclusion is based on the staff findings that:

1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy.
2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy.
3. Zero of one samples exceed the guideline and this sample size is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating. A minimum of 16 samples is needed to determine if a beneficial use is fully supported using table 3.1.
4. Pursuant to SECTION 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.

Regional Board Staff Decision Recommendation: After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be placed on the section 303(d) list. The readily available data and information is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating.

Line of Evidence (LOE) for Decision ID 61057, Chrysene (C1-C4)

Region 2

Alameda Creek

LOE ID: 90919

Pollutant: Chrysene (C1-C4)
LOE Subgroup: Pollutant-Sediment
Matrix: Sediment
Fraction: Total

Beneficial Use: Warm Freshwater Habitat

Number of Samples: 1
Number of Exceedances: 0

Data and Information Type: PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality: Water Board staff assessed SWAMP data for Alameda Creek to determine beneficial use support and results are as follows: 0 of 1 samples exceed the criterion for Chrysene.
Data Reference: [Statewide Stream Pollution Trends Study 2008](#)

SWAMP Data: SWAMP

Water Quality Objective/Criterion: San Francisco Bay Basin Water Quality Control Plan 2007: All waters shall be maintained free of toxic substances in concentrations which are toxic to, or which produce detrimental physiological responses in, human, plant, animal, or aquatic life.
Objective/Criterion Reference: [Water Quality Control Plan \(Basin Plan\) San Francisco Bay Basin \(Region 2\)](#)

Evaluation Guideline: In freshwater sediments the probable effects level (predictive of sediment toxicity for sediment-dwelling organisms) for Chrysene is 1290 ug/Kg dry weight (Macdonald et al. 2000)
Guideline Reference: [Development and evaluation of consensus-based sediment quality guidelines for freshwater ecosystems. Environmental Contamination and Toxicology. 39: 20-31](#)

Spatial Representation: Data for this line of evidence for Alameda Creek was collected at 1 monitoring site [Alameda Creek E of Alvarado Blvd station (204ALA020)]

Temporal Representation: Data was collected on a single day 6/17/2008.

Environmental Conditions: Staff is not aware of any special conditions that might affect interpretation of the data.

QAPP Information: SWAMP data collected before September 2008 followed the QAMP (2002), however there may have been overlap in QA with SWAMP QAPP (2008).
QAPP Information Reference(s): [Quality Assurance Management Plan for the State of California's Surface Water Ambient Monitoring Program. Sacramento, CA. State Water Resources Control Board. SWAMP. December 2002 \(1st version\)](#)
[Surface Water Ambient Monitoring Program Quality Assurance Program Plan](#)

Line of Evidence (LOE) for Decision ID 61057, Chrysene (C1-C4)

Region 2

Alameda Creek

LOE ID: 90920

Pollutant: Chrysene (C1-C4)
LOE Subgroup: Pollutant-Sediment
Matrix: Sediment
Fraction: Total

Beneficial Use:	Cold Freshwater Habitat
Number of Samples:	1
Number of Exceedances:	0
Data and Information Type:	PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality:	Water Board staff assessed SWAMP data for Alameda Creek to determine beneficial use support and results are as follows: 0 of 1 samples exceed the criterion for Chrysene.
Data Reference:	Statewide Stream Pollution Trends Study 2008
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	San Francisco Bay Basin Water Quality Control Plan 2007: All waters shall be maintained free of toxic substances in concentrations which are toxic to, or which produce detrimental physiological responses in, human, plant, animal, or aquatic life.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	In freshwater sediments the probable effects level (predictive of sediment toxicity for sediment-dwelling organisms) for Chrysene is 1290 ug/Kg dry weight (Macdonald et al. 2000)
Guideline Reference:	Development and evaluation of consensus-based sediment quality guidelines for freshwater ecosystems. Environmental Contamination and Toxicology. 39: 20-31
Spatial Representation:	Data for this line of evidence for Alameda Creek was collected at 1 monitoring site [Alameda Creek E of Alvarado Blvd station (204ALA020)]
Temporal Representation:	Data was collected on a single day 6/17/2008.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	SWAMP data collected before September 2008 followed the QAMP (2002), however there may have been overlap in QA with SWAMP QAPP (2008).
QAPP Information Reference(s):	Quality Assurance Management Plan for the State of California's Surface Water Ambient Monitoring Program. Sacramento, CA. State Water Resources Control Board. SWAMP. December 2002 (1st version) Surface Water Ambient Monitoring Program Quality Assurance Program Plan

DECISION ID	61118	Region 2
Alameda Creek		

Pollutant:	Copper
Final Listing Decision:	Do Not List on 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision:	New Decision
Revision Status	Revised
Impairment from Pollutant or Pollution:	Pollutant
Regional Board Staff Conclusion:	<p>This pollutant is being considered for placement on the CWA section 303(d) List under section 3.1 of the Listing Policy. Under section 3.1 a single line of evidence is necessary to assess listing status. Two lines of evidence are available in the administrative record to assess this pollutant. Zero of one samples exceed the guideline.</p> <p>Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against placing this water segment-pollutant combination on the CWA section 303(d) List.</p> <p>This conclusion is based on the staff findings that:</p> <ol style="list-style-type: none"> 1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy. 2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy. 3. Zero of one samples exceed the guideline and this sample size is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating. A minimum of 16 samples is needed to determine if a beneficial use is fully supported using table 3.1. 4. Pursuant to SECTION 3.11 of the Listing Policy, no additional data and information are available

indicating that standards are not met.

Regional Board Staff Decision Recommendation: After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be placed on the section 303(d) list. The readily available data and information is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating.

Line of Evidence (LOE) for Decision ID 61118, Copper

Region 2

Alameda Creek

LOE ID: 90921

Pollutant: Copper
LOE Subgroup: Pollutant-Sediment
Matrix: Sediment
Fraction: Total

Beneficial Use: Warm Freshwater Habitat

Number of Samples: 1
Number of Exceedances: 0

Data and Information Type: PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality: Water Board staff assessed SWAMP data for Alameda Creek to determine beneficial use support and results are as follows: 0 of 1 samples exceed the criterion for Copper.

Data Reference: [Statewide Stream Pollution Trends Study 2008](#)

SWAMP Data: SWAMP

Water Quality Objective/Criterion: San Francisco Bay Basin Water Quality Control Plan 2007: All waters shall be maintained free of toxic substances in concentrations which are toxic to, or which produce detrimental physiological responses in, human, plant, animal, or aquatic life.

Objective/Criterion Reference: [Water Quality Control Plan \(Basin Plan\) San Francisco Bay Basin \(Region 2\)](#)

Evaluation Guideline: In freshwater sediments the probable effect concentration (predictive of sediment toxicity for sediment-dwelling organisms) for copper is 149 mg/Kg dry weight (MacDonald et al. 2000).

Guideline Reference: [Development and evaluation of consensus-based sediment quality guidelines for freshwater ecosystems. Environmental Contamination and Toxicology. 39: 20-31](#)

Spatial Representation: Data for this line of evidence for Alameda Creek was collected at 1 monitoring site [Alameda Creek E of Alvarado Blvd station (204ALA020)]

Temporal Representation: Data was collected on a single day 6/17/2008.

Environmental Conditions: Staff is not aware of any special conditions that might affect interpretation of the data.

QAPP Information: SWAMP data collected before September 2008 followed the QAMP (2002), however there may have been overlap in QA with SWAMP QAPP (2008).

QAPP Information Reference(s): [Quality Assurance Management Plan for the State of California's Surface Water Ambient Monitoring Program. Sacramento, CA. State Water Resources Control Board. SWAMP. December 2002 \(1st version\)](#)
[Surface Water Ambient Monitoring Program Quality Assurance Program Plan](#)

Line of Evidence (LOE) for Decision ID 61118, Copper

Region 2

Alameda Creek

LOE ID: 90922

Pollutant: Copper
LOE Subgroup: Pollutant-Sediment
Matrix: Sediment
Fraction: Total

Beneficial Use:	Cold Freshwater Habitat
Number of Samples:	1
Number of Exceedances:	0
Data and Information Type:	PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality:	Water Board staff assessed SWAMP data for Alameda Creek to determine beneficial use support and results are as follows: 0 of 1 samples exceed the criterion for Copper.
Data Reference:	Statewide Stream Pollution Trends Study 2008
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	San Francisco Bay Basin Water Quality Control Plan 2007: All waters shall be maintained free of toxic substances in concentrations which are toxic to, or which produce detrimental physiological responses in, human, plant, animal, or aquatic life.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	In freshwater sediments the probable effect concentration (predictive of sediment toxicity for sediment-dwelling organisms) for copper is 149 mg/Kg dry weight (MacDonald et al. 2000).
Guideline Reference:	Development and evaluation of consensus-based sediment quality guidelines for freshwater ecosystems. Environmental Contamination and Toxicology. 39: 20-31
Spatial Representation:	Data for this line of evidence for Alameda Creek was collected at 1 monitoring site [Alameda Creek E of Alvarado Blvd station (204ALA020)]
Temporal Representation:	Data was collected on a single day 6/17/2008.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	SWAMP data collected before September 2008 followed the QAMP (2002), however there may have been overlap in QA with SWAMP QAPP (2008).
QAPP Information Reference(s):	Quality Assurance Management Plan for the State of California's Surface Water Ambient Monitoring Program. Sacramento, CA. State Water Resources Control Board. SWAMP. December 2002 (1st version) Surface Water Ambient Monitoring Program Quality Assurance Program Plan

DECISION ID	61119	Region 2
Alameda Creek		
Pollutant:	Cyfluthrin	
Final Listing Decision:	Do Not List on 303(d) list (TMDL required list)	
Last Listing Cycle's Final Listing Decision:	New Decision	
Revision Status	Revised	
Impairment from Pollutant or Pollution:	Pollutant	
Regional Board Staff Conclusion:	<p>This pollutant is being considered for placement on the CWA section 303(d) List under section 3.1 of the Listing Policy. Under section 3.1 a single line of evidence is necessary to assess listing status. Two lines of evidence are available in the administrative record to assess this pollutant. Zero of one samples exceed the guideline.</p> <p>Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against placing this water segment-pollutant combination on the CWA section 303(d) List.</p> <p>This conclusion is based on the staff findings that:</p> <ol style="list-style-type: none"> 1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy. 2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy. 3. Zero of one samples exceed the guideline and this sample size is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating. A minimum of 16 samples is needed to determine if a beneficial use is fully supported using table 3.1. 	

4. Pursuant to SECTION 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.

Regional Board Staff Decision Recommendation: After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be placed on the section 303(d) list. The readily available data and information is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating.

Line of Evidence (LOE) for Decision ID 61119, Cyfluthrin

Region 2

Alameda Creek

LOE ID: 90923

Pollutant: Cyfluthrin
LOE Subgroup: Pollutant-Sediment
Matrix: Sediment
Fraction: Total

Beneficial Use: Warm Freshwater Habitat

Number of Samples: 1
Number of Exceedances: 0

Data and Information Type: PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality: Water Board staff assessed SWAMP data for Alameda Creek to determine beneficial use support and results are as follows: 0 of 1 samples exceed the criterion for Cyfluthrin, total.

Data Reference: [Statewide Stream Pollution Trends Study 2008](#)

SWAMP Data: SWAMP

Water Quality Objective/Criterion: San Francisco Bay Basin Water Quality Control Plan 2007: All waters shall be maintained free of toxic substances in concentrations which are toxic to, or which produce detrimental physiological responses in, human, plant, animal, or aquatic life.

Objective/Criterion Reference: [Water Quality Control Plan \(Basin Plan\) San Francisco Bay Basin \(Region 2\)](#)

Evaluation Guideline: The evaluation guideline for cyfluthrin is the median lethal concentration (LC50) of 1.1 ug/g and is normalized by the percentage of organic carbon in the sediment sample. The LC50 1.1 ug/g is the geometric mean of LC50 values for cyfluthrin from Amweg et al. (2005).

Guideline Reference: [Use and Toxicity of Pyrethroid Pesticides in the Central Valley, California, USA. Environmental Toxicology and Chemistry, 24:966-972, with erratum 24:No. 5](#)

Spatial Representation: Data for this line of evidence for Alameda Creek was collected at 1 monitoring site [Alameda Creek E of Alvarado Blvd station (204ALA020)]

Temporal Representation: Data was collected on a single day 6/17/2008.

Environmental Conditions: Staff is not aware of any special conditions that might affect interpretation of the data.

QAPP Information: SWAMP data collected before September 2008 followed the QAMP (2002), however there may have been overlap in QA with SWAMP QAPP (2008).

QAPP Information Reference(s): [Quality Assurance Management Plan for the State of California's Surface Water Ambient Monitoring Program. Sacramento, CA. State Water Resources Control Board. SWAMP. December 2002 \(1st version\)](#)
[Surface Water Ambient Monitoring Program Quality Assurance Program Plan](#)

Line of Evidence (LOE) for Decision ID 61119, Cyfluthrin

Region 2

Alameda Creek

LOE ID: 90924

Pollutant: Cyfluthrin
LOE Subgroup: Pollutant-Sediment

Matrix:	Sediment
Fraction:	Total
Beneficial Use:	Cold Freshwater Habitat
Number of Samples:	1
Number of Exceedances:	0
Data and Information Type:	PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality:	Water Board staff assessed SWAMP data for Alameda Creek to determine beneficial use support and results are as follows: 0 of 1 samples exceed the criterion for Cyfluthrin, total.
Data Reference:	Statewide Stream Pollution Trends Study 2008
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	San Francisco Bay Basin Water Quality Control Plan 2007: All waters shall be maintained free of toxic substances in concentrations which are toxic to, or which produce detrimental physiological responses in, human, plant, animal, or aquatic life.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	The evaluation guideline for cyfluthrin is the median lethal concentration (LC50) of 1.1 ug/g and is normalized by the percentage of organic carbon in the sediment sample. The LC50 1.1 ug/g is the geometric mean of LC50 values for cyfluthrin from Amweg et al. (2005).
Guideline Reference:	Use and Toxicity of Pyrethroid Pesticides in the Central Valley, California, USA. Environmental Toxicology and Chemistry, 24:966-972, with erratum 24:No. 5
Spatial Representation:	Data for this line of evidence for Alameda Creek was collected at 1 monitoring site [Alameda Creek E of Alvarado Blvd station (204ALA020)]
Temporal Representation:	Data was collected on a single day 6/17/2008.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	SWAMP data collected before September 2008 followed the QAMP (2002), however there may have been overlap in QA with SWAMP QAPP (2008).
QAPP Information Reference(s):	Quality Assurance Management Plan for the State of California's Surface Water Ambient Monitoring Program. Sacramento, CA. State Water Resources Control Board. SWAMP. December 2002 (1st version) Surface Water Ambient Monitoring Program Quality Assurance Program Plan

DECISION ID	61120	Region 2
Alameda Creek		

Pollutant:	Cyhalothrin, Lambda
Final Listing Decision:	Do Not List on 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision:	New Decision
Revision Status	Revised
Impairment from Pollutant or Pollution:	Pollutant
Regional Board Staff Conclusion:	<p>This pollutant is being considered for placement on the CWA section 303(d) List under section 3.1 of the Listing Policy. Under section 3.1 a single line of evidence is necessary to assess listing status. Two lines of evidence are available in the administrative record to assess this pollutant. Zero of one samples exceed the guideline.</p> <p>Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against placing this water segment-pollutant combination on the CWA section 303(d) List.</p> <p>This conclusion is based on the staff findings that:</p> <ol style="list-style-type: none"> 1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy. 2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy.

3. Zero of one samples exceed the guideline and this sample size is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating. A minimum of 16 samples is needed to determine if a beneficial use is fully supported using table 3.1.
4. Pursuant to SECTION 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.

Regional Board Staff Decision Recommendation: After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be placed on the section 303(d) list. The readily available data and information is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating.

**Line of Evidence (LOE) for Decision ID 61120, Cyhalothrin, Lambda
Alameda Creek**

Region 2

LOE ID:	90940
Pollutant:	Cyhalothrin, Lambda
LOE Subgroup:	Pollutant-Sediment
Matrix:	Sediment
Fraction:	Total
Beneficial Use:	Warm Freshwater Habitat
Number of Samples:	1
Number of Exceedances:	0
Data and Information Type:	PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality:	Water Board staff assessed SWAMP data for Alameda Creek to determine beneficial use support and results are as follows: 0 of 1 samples exceed the criterion for Cyhalothrin, lambda, total.
Data Reference:	Statewide Stream Pollution Trends Study 2008
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	San Francisco Bay Basin Water Quality Control Plan 2007: All waters shall be maintained free of toxic substances in concentrations which are toxic to, or which produce detrimental physiological responses in, human, plant, animal, or aquatic life.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	The evaluation guideline for lambda-cyhalothrin is the median lethal concentration (LC50) of 0.44 ug/g and is normalized by the percentage of organic carbon in the sediment sample. The LC50 0.44 ug/g is the geometric mean of LC50 values for lambda-cyhalothrin from Amweg et al. (2005).
Guideline Reference:	Use and Toxicity of Pyrethroid Pesticides in the Central Valley, California, USA. Environmental Toxicology and Chemistry, 24:966-972, with erratum 24:No. 5
Spatial Representation:	Data for this line of evidence for Alameda Creek was collected at 1 monitoring site [Alameda Creek E of Alvarado Blvd station (204ALA020)]
Temporal Representation:	Data was collected on a single day 6/17/2008.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	SWAMP data collected before September 2008 followed the QAMP (2002), however there may have been overlap in QA with SWAMP QAPP (2008).
QAPP Information Reference(s):	Quality Assurance Management Plan for the State of California's Surface Water Ambient Monitoring Program. Sacramento, CA. State Water Resources Control Board. SWAMP. December 2002 (1st version). Surface Water Ambient Monitoring Program Quality Assurance Program Plan

**Line of Evidence (LOE) for Decision ID 61120, Cyhalothrin, Lambda
Alameda Creek**

Region 2

LOE ID:	90941
Pollutant:	Cyhalothrin, Lambda
LOE Subgroup:	Pollutant-Sediment
Matrix:	Sediment
Fraction:	Total
Beneficial Use:	Cold Freshwater Habitat
Number of Samples:	1
Number of Exceedances:	0
Data and Information Type:	PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality:	Water Board staff assessed SWAMP data for Alameda Creek to determine beneficial use support and results are as follows: 0 of 1 samples exceed the criterion for Cyhalothrin, lambda, total.
Data Reference:	Statewide Stream Pollution Trends Study 2008
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	San Francisco Bay Basin Water Quality Control Plan 2007: All waters shall be maintained free of toxic substances in concentrations which are toxic to, or which produce detrimental physiological responses in, human, plant, animal, or aquatic life.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	The evaluation guideline for lambda-cyhalothrin is the median lethal concentration (LC50) of 0.44 ug/g and is normalized by the percentage of organic carbon in the sediment sample. The LC50 0.44 ug/g is the geometric mean of LC50 values for lambda-cyhalothrin from Amweg et al. (2005).
Guideline Reference:	Use and Toxicity of Pyrethroid Pesticides in the Central Valley, California, USA. Environmental Toxicology and Chemistry, 24:966-972, with erratum 24:No. 5
Spatial Representation:	Data for this line of evidence for Alameda Creek was collected at 1 monitoring site [Alameda Creek E of Alvarado Blvd station (204ALA020)]
Temporal Representation:	Data was collected on a single day 6/17/2008.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	SWAMP data collected before September 2008 followed the QAMP (2002), however there may have been overlap in QA with SWAMP QAPP (2008).
QAPP Information Reference(s):	Quality Assurance Management Plan for the State of California's Surface Water Ambient Monitoring Program. Sacramento, CA. State Water Resources Control Board. SWAMP. December 2002 (1st version). Surface Water Ambient Monitoring Program Quality Assurance Program Plan

DECISION ID	61121	Region 2
Alameda Creek		
Pollutant:	Cypermethrin	
Final Listing Decision:	Do Not List on 303(d) list (TMDL required list)	
Last Listing Cycle's Final Listing Decision:	New Decision	
Revision Status	Revised	
Impairment from Pollutant or Pollution:	Pollutant	
Regional Board Staff Conclusion:	<p>This pollutant is being considered for placement on the CWA section 303(d) List under section 3.1 of the Listing Policy. Under section 3.1 a single line of evidence is necessary to assess listing status. Two lines of evidence are available in the administrative record to assess this pollutant. Zero of one samples exceed the guideline.</p> <p>Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against placing this water segment-pollutant combination on the CWA section</p>	

303(d) List.

This conclusion is based on the staff findings that:

1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy.
2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy.
3. Zero of one samples exceed the guideline and this sample size is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating. A minimum of 16 samples is needed to determine if a beneficial use is fully supported using table 3.1.
4. Pursuant to SECTION 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.

Regional Board Staff Decision Recommendation: After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be placed on the section 303(d) list. The readily available data and information is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating.

**Line of Evidence (LOE) for Decision ID 61121, Cypermethrin
Alameda Creek**

Region 2

LOE ID:	90943
Pollutant:	Cypermethrin
LOE Subgroup:	Pollutant-Sediment
Matrix:	Sediment
Fraction:	Total
Beneficial Use:	Cold Freshwater Habitat
Number of Samples:	1
Number of Exceedances:	0
Data and Information Type:	PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality:	Water Board staff assessed SWAMP data for Alameda Creek to determine beneficial use support and results are as follows: 0 of 1 samples exceed the criterion for Cypermethrin, total.
Data Reference:	Statewide Stream Pollution Trends Study 2008
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	San Francisco Bay Basin Water Quality Control Plan 2007: All waters shall be maintained free of toxic substances in concentrations which are toxic to, or which produce detrimental physiological responses in, human, plant, animal, or aquatic life.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	The evaluation guideline for cypermethrin is the median lethal concentration (LC50) of 0.3 ug/g and is normalized by the percentage of organic carbon in the sediment sample. The LC50 0.3 ug/g is the geometric mean of LC50 values for cypermethrin from Maund et al. (2002).
Guideline Reference:	Partitioning, bioavailability, and toxicity of the pyrethroid insecticide cypermethrin in sediments. Environmental Toxicology and Chemistry 21:9-15
Spatial Representation:	Data for this line of evidence for Alameda Creek was collected at 1 monitoring site [Alameda Creek E of Alvarado Blvd station (204ALA020)]
Temporal Representation:	Data was collected on a single day 6/17/2008.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	SWAMP data collected before September 2008 followed the QAMP (2002), however there may have been overlap in QA with SWAMP QAPP (2008).
QAPP Information Reference(s):	Quality Assurance Management Plan for the State of California's Surface Water Ambient Monitoring Program. Sacramento, CA. State Water Resources Control Board. SWAMP. December 2002 (1st version). Surface Water Ambient Monitoring Program Quality Assurance Program Plan

Alameda Creek

LOE ID:	90942
Pollutant:	Cypermethrin
LOE Subgroup:	Pollutant-Sediment
Matrix:	Sediment
Fraction:	Total
Beneficial Use:	Warm Freshwater Habitat
Number of Samples:	1
Number of Exceedances:	0
Data and Information Type:	PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality:	Water Board staff assessed SWAMP data for Alameda Creek to determine beneficial use support and results are as follows: 0 of 1 samples exceed the criterion for Cypermethrin, total.
Data Reference:	Statewide Stream Pollution Trends Study 2008
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	San Francisco Bay Basin Water Quality Control Plan 2007: All waters shall be maintained free of toxic substances in concentrations which are toxic to, or which produce detrimental physiological responses in, human, plant, animal, or aquatic life.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	The evaluation guideline for cypermethrin is the median lethal concentration (LC50) of 0.3 ug/g and is normalized by the percentage of organic carbon in the sediment sample. The LC50 0.3 ug/g is the geometric mean of LC50 values for cypermethrin from Maund et al. (2002).
Guideline Reference:	Partitioning, bioavailability, and toxicity of the pyrethroid insecticide cypermethrin in sediments. Environmental Toxicology and Chemistry 21:9-15
Spatial Representation:	Data for this line of evidence for Alameda Creek was collected at 1 monitoring site [Alameda Creek E of Alvarado Blvd station (204ALA020)]
Temporal Representation:	Data was collected on a single day 6/17/2008.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	SWAMP data collected before September 2008 followed the QAMP (2002), however there may have been overlap in QA with SWAMP QAPP (2008).
QAPP Information Reference(s):	Quality Assurance Management Plan for the State of California's Surface Water Ambient Monitoring Program. Sacramento, CA. State Water Resources Control Board. SWAMP. December 2002 (1st version) Surface Water Ambient Monitoring Program Quality Assurance Program Plan

DECISION ID

61122

Region 2

Alameda Creek

Pollutant:	DDD (Dichlorodiphenyldichloroethane)
Final Listing Decision:	Do Not List on 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision:	New Decision
Revision Status	Revised
Impairment from Pollutant or Pollution:	Pollutant
Regional Board Staff Conclusion:	This pollutant is being considered for placement on the CWA section 303(d) List under section 3.1 of the Listing Policy. Under section 3.1 a single line of evidence is necessary to assess listing status.

Two lines of evidence are available in the administrative record to assess this pollutant. Zero of one samples exceed the guideline.

Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against placing this water segment-pollutant combination on the CWA section 303(d) List.

This conclusion is based on the staff findings that:

1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy.
2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy.
3. Zero of one samples exceed the guideline and this sample size is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating. A minimum of 16 samples is needed to determine if a beneficial use is fully supported using table 3.1.
4. Pursuant to SECTION 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.

Regional Board Staff Decision Recommendation: After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be placed on the section 303(d) list. The readily available data and information is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating.

Line of Evidence (LOE) for Decision ID 61122, DDD (Dichlorodiphenyldichloroethane)

Region 2

Alameda Creek

LOE ID:	90944
Pollutant:	DDD (Dichlorodiphenyldichloroethane)
LOE Subgroup:	Pollutant-Sediment
Matrix:	Sediment
Fraction:	Total
Beneficial Use:	Warm Freshwater Habitat
Number of Samples:	1
Number of Exceedances:	0
Data and Information Type:	PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality:	Water Board staff assessed SWAMP data for Alameda Creek to determine beneficial use support and results are as follows: 0 of 1 samples exceed the criterion for DDD.
Data Reference:	Statewide Stream Pollution Trends Study 2008
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	San Francisco Bay Basin Water Quality Control Plan 2007: All waters shall be maintained free of toxic substances in concentrations which are toxic to, or which produce detrimental physiological responses in, human, plant, animal, or aquatic life.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	In freshwater sediments the probable effect concentration (predictive of sediment toxicity for sediment-dwelling organisms) for sum of DDD is 28.0 ug/Kg dry weight (MacDonald et al. 2000).
Guideline Reference:	Development and evaluation of consensus-based sediment quality guidelines for freshwater ecosystems. Environmental Contamination and Toxicology. 39: 20-31
Spatial Representation:	Data for this line of evidence for Alameda Creek was collected at 1 monitoring site [Alameda Creek E of Alvarado Blvd station (204ALA020)]
Temporal Representation:	Data was collected on a single day 6/17/2008.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	SWAMP data collected before September 2008 followed the QAMP (2002), however there may have been overlap in QA with SWAMP QAPP (2008).
QAPP Information Reference(s):	Quality Assurance Management Plan for the State of California's Surface Water Ambient

Line of Evidence (LOE) for Decision ID 61122, DDD (Dichlorodiphenyldichloroethane)

Region 2

Alameda Creek

LOE ID:	90945
Pollutant:	DDD (Dichlorodiphenyldichloroethane)
LOE Subgroup:	Pollutant-Sediment
Matrix:	Sediment
Fraction:	Total
Beneficial Use:	Cold Freshwater Habitat
Number of Samples:	1
Number of Exceedances:	0
Data and Information Type:	PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality:	Water Board staff assessed SWAMP data for Alameda Creek to determine beneficial use support and results are as follows: 0 of 1 samples exceed the criterion for DDD.
Data Reference:	Statewide Stream Pollution Trends Study 2008
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	San Francisco Bay Basin Water Quality Control Plan 2007: All waters shall be maintained free of toxic substances in concentrations which are toxic to, or which produce detrimental physiological responses in, human, plant, animal, or aquatic life.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	In freshwater sediments the probable effect concentration (predictive of sediment toxicity for sediment-dwelling organisms) for sum of DDD is 28.0 ug/Kg dry weight (MacDonald et al. 2000).
Guideline Reference:	Development and evaluation of consensus-based sediment quality guidelines for freshwater ecosystems. Environmental Contamination and Toxicology. 39: 20-31
Spatial Representation:	Data for this line of evidence for Alameda Creek was collected at 1 monitoring site [Alameda Creek E of Alvarado Blvd station (204ALA020)]
Temporal Representation:	Data was collected on a single day 6/17/2008.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	SWAMP data collected before September 2008 followed the QAMP (2002), however there may have been overlap in QA with SWAMP QAPP (2008).
QAPP Information Reference(s):	Quality Assurance Management Plan for the State of California's Surface Water Ambient Monitoring Program. Sacramento, CA. State Water Resources Control Board. SWAMP. December 2002 (1st version) Surface Water Ambient Monitoring Program Quality Assurance Program Plan

DECISION ID

61123

Region 2

Alameda Creek

Pollutant:	DDE (Dichlorodiphenyldichloroethylene)
Final Listing Decision:	Do Not List on 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision:	New Decision
Revision Status	Revised
Impairment from Pollutant or Pollution:	Pollutant

Regional Board Staff

This pollutant is being considered for placement on the CWA section 303(d) List under section 3.1 of

Conclusion: the Listing Policy. Under section 3.1 a single line of evidence is necessary to assess listing status. Two lines of evidence are available in the administrative record to assess this pollutant. Zero of one samples exceed the guideline.

Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against placing this water segment-pollutant combination on the CWA section 303(d) List.

This conclusion is based on the staff findings that:

1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy.
2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy.
3. Zero of one samples exceed the guideline and this sample size is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating. A minimum of 16 samples is needed to determine if a beneficial use is fully supported using table 3.1.
4. Pursuant to SECTION 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.

Regional Board Staff Decision Recommendation: After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be placed on the section 303(d) list. The readily available data and information is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating.

Line of Evidence (LOE) for Decision ID 61123, DDE (Dichlorodiphenyldichloroethylene)

Region 2

Alameda Creek

LOE ID:	90946
Pollutant:	DDE (Dichlorodiphenyldichloroethylene)
LOE Subgroup:	Pollutant-Sediment
Matrix:	Sediment
Fraction:	Total
Beneficial Use:	Warm Freshwater Habitat
Number of Samples:	1
Number of Exceedances:	0
Data and Information Type:	PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality:	Water Board staff assessed SWAMP data for Alameda Creek to determine beneficial use support and results are as follows: 0 of 1 samples exceed the criterion for DDE.
Data Reference:	Statewide Stream Pollution Trends Study 2008
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	San Francisco Bay Basin Water Quality Control Plan 2007: All waters shall be maintained free of toxic substances in concentrations which are toxic to, or which produce detrimental physiological responses in, human, plant, animal, or aquatic life.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	In freshwater sediments the probable effect concentration (predictive of sediment toxicity for sediment-dwelling organisms) for sum of DDE is 31.3 ug/Kg dry weight (MacDonald et al. 2000).
Guideline Reference:	Development and evaluation of consensus-based sediment quality guidelines for freshwater ecosystems. Environmental Contamination and Toxicology. 39: 20-31
Spatial Representation:	Data for this line of evidence for Alameda Creek was collected at 1 monitoring site [Alameda Creek E of Alvarado Blvd station (204ALA020)]
Temporal Representation:	Data was collected on a single day 6/17/2008.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	SWAMP data collected before September 2008 followed the QAMP (2002), however there may have been overlap in QA with SWAMP QAPP (2008).

QAPP Information Reference(s): [Quality Assurance Management Plan for the State of California's Surface Water Ambient Monitoring Program. Sacramento, CA. State Water Resources Control Board. SWAMP. December 2002 \(1st version\)](#)
[Surface Water Ambient Monitoring Program Quality Assurance Program Plan](#)

Line of Evidence (LOE) for Decision ID 61123, DDE (Dichlorodiphenyldichloroethylene)

Region 2

Alameda Creek

LOE ID: 90947

Pollutant: DDE (Dichlorodiphenyldichloroethylene)
LOE Subgroup: Pollutant-Sediment
Matrix: Sediment
Fraction: Total

Beneficial Use: Cold Freshwater Habitat

Number of Samples: 1
Number of Exceedances: 0

Data and Information Type: PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality: Water Board staff assessed SWAMP data for Alameda Creek to determine beneficial use support and results are as follows: 0 of 1 samples exceed the criterion for DDE.
Data Reference: [Statewide Stream Pollution Trends Study 2008](#)

SWAMP Data: SWAMP

Water Quality Objective/Criterion: San Francisco Bay Basin Water Quality Control Plan 2007: All waters shall be maintained free of toxic substances in concentrations which are toxic to, or which produce detrimental physiological responses in, human, plant, animal, or aquatic life.
Objective/Criterion Reference: [Water Quality Control Plan \(Basin Plan\) San Francisco Bay Basin \(Region 2\)](#)

Evaluation Guideline: In freshwater sediments the probable effect concentration (predictive of sediment toxicity for sediment-dwelling organisms) for sum of DDE is 31.3 ug/Kg dry weight (MacDonald et al. 2000).
Guideline Reference: [Development and evaluation of consensus-based sediment quality guidelines for freshwater ecosystems. Environmental Contamination and Toxicology. 39: 20-31](#)

Spatial Representation: Data for this line of evidence for Alameda Creek was collected at 1 monitoring site [Alameda Creek E of Alvarado Blvd station (204ALA020)]
Temporal Representation: Data was collected on a single day 6/17/2008.
Environmental Conditions: Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information: SWAMP data collected before September 2008 followed the QAMP (2002), however there may have been overlap in QA with SWAMP QAPP (2008).
QAPP Information Reference(s): [Quality Assurance Management Plan for the State of California's Surface Water Ambient Monitoring Program. Sacramento, CA. State Water Resources Control Board. SWAMP. December 2002 \(1st version\)](#)
[Surface Water Ambient Monitoring Program Quality Assurance Program Plan](#)

DECISION ID 61124

Region 2

Alameda Creek

Pollutant: DDT (Dichlorodiphenyltrichloroethane)
Final Listing Decision: Do Not List on 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision: New Decision
Revision Status: Revised
Impairment from Pollutant or Pollution: Pollutant

Regional Board Staff Conclusion:

This pollutant is being considered for placement on the CWA section 303(d) List under section 3.1 of the Listing Policy. Under section 3.1 a single line of evidence is necessary to assess listing status. Four lines of evidence are available in the administrative record to assess this pollutant. Zero of one samples exceed the guideline.

Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against placing this water segment-pollutant combination on the CWA section 303(d) List.

This conclusion is based on the staff findings that:

1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy.
2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy.
3. Zero of one samples exceed the guideline and this sample size is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating. A minimum of 16 samples is needed to determine if a beneficial use is fully supported using table 3.1.
4. Pursuant to SECTION 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.

Regional Board Staff Decision Recommendation:

After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be placed on the section 303(d) list. The readily available data and information is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating.

**Line of Evidence (LOE) for Decision ID 61124, DDT (Dichlorodiphenyltrichloroethane)
Alameda Creek**

Region 2

LOE ID:	90994
Pollutant:	Total DDT (sum of 4,4'- and 2,4'- isomers of DDT, DDE, and DDD)
LOE Subgroup:	Pollutant-Sediment
Matrix:	Sediment
Fraction:	Total
Beneficial Use:	Warm Freshwater Habitat
Number of Samples:	1
Number of Exceedances:	0
Data and Information Type:	PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality:	Water Board staff assessed SWAMP data for Alameda Creek to determine beneficial use support and results are as follows: 0 of 1 samples exceed the criterion for DDT, Total.
Data Reference:	Statewide Stream Pollution Trends Study 2008
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	San Francisco Bay Basin Water Quality Control Plan 2007: All waters shall be maintained free of toxic substances in concentrations which are toxic to, or which produce detrimental physiological responses in, human, plant, animal, or aquatic life.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	In freshwater sediments the probable effect concentration (predictive of sediment toxicity for sediment-dwelling organisms) for total DDTs is 572 ug/Kg dry weight (MacDonald et al. 2000).
Guideline Reference:	Development and evaluation of consensus-based sediment quality guidelines for freshwater ecosystems. Environmental Contamination and Toxicology. 39: 20-31
Spatial Representation:	Data for this line of evidence for Alameda Creek was collected at 1 monitoring site [Alameda Creek E of Alvarado Blvd station (204ALA020)]
Temporal Representation:	Data was collected on a single day 6/17/2008.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	SWAMP data collected before September 2008 followed the QAMP (2002), however there

QAPP Information Reference(s): may have been overlap in QA with SWAMP QAPP (2008).
[Quality Assurance Management Plan for the State of California's Surface Water Ambient Monitoring Program. Sacramento, CA. State Water Resources Control Board. SWAMP. December 2002 \(1st version\)](#)
[Surface Water Ambient Monitoring Program Quality Assurance Program Plan](#)

Line of Evidence (LOE) for Decision ID 61124, DDT (Dichlorodiphenyltrichloroethane)

Region 2

Alameda Creek

LOE ID: 90995

Pollutant: Total DDT (sum of 4,4'- and 2,4'- isomers of DDT, DDE, and DDD)
LOE Subgroup: Pollutant-Sediment
Matrix: Sediment
Fraction: Total

Beneficial Use: Cold Freshwater Habitat

Number of Samples: 1
Number of Exceedances: 0

Data and Information Type: PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality: Water Board staff assessed SWAMP data for Alameda Creek to determine beneficial use support and results are as follows: 0 of 1 samples exceed the criterion for DDT, Total.
Data Reference: [Statewide Stream Pollution Trends Study 2008](#)

SWAMP Data: SWAMP

Water Quality Objective/Criterion: San Francisco Bay Basin Water Quality Control Plan 2007: All waters shall be maintained free of toxic substances in concentrations which are toxic to, or which produce detrimental physiological responses in, human, plant, animal, or aquatic life.
Objective/Criterion Reference: [Water Quality Control Plan \(Basin Plan\) San Francisco Bay Basin \(Region 2\)](#)

Evaluation Guideline: In freshwater sediments the probable effect concentration (predictive of sediment toxicity for sediment-dwelling organisms) for total DDTs is 572 ug/Kg dry weight (MacDonald et al. 2000).
Guideline Reference: [Development and evaluation of consensus-based sediment quality guidelines for freshwater ecosystems. Environmental Contamination and Toxicology. 39: 20-31](#)

Spatial Representation: Data for this line of evidence for Alameda Creek was collected at 1 monitoring site [Alameda Creek E of Alvarado Blvd station (204ALA020)]
Temporal Representation: Data was collected on a single day 6/17/2008.
Environmental Conditions: Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information: SWAMP data collected before September 2008 followed the QAMP (2002), however there may have been overlap in QA with SWAMP QAPP (2008).
QAPP Information Reference(s): [Quality Assurance Management Plan for the State of California's Surface Water Ambient Monitoring Program. Sacramento, CA. State Water Resources Control Board. SWAMP. December 2002 \(1st version\)](#)
[Surface Water Ambient Monitoring Program Quality Assurance Program Plan](#)

Line of Evidence (LOE) for Decision ID 61124, DDT (Dichlorodiphenyltrichloroethane)

Region 2

Alameda Creek

LOE ID: 90948

Pollutant: DDT (Dichlorodiphenyltrichloroethane)
LOE Subgroup: Pollutant-Sediment
Matrix: Sediment
Fraction: Total

Beneficial Use: Warm Freshwater Habitat

Number of Samples:	1
Number of Exceedances:	0
Data and Information Type:	PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality:	Water Board staff assessed SWAMP data for Alameda Creek to determine beneficial use support and results are as follows: 0 of 1 samples exceed the criterion for DDT.
Data Reference:	Statewide Stream Pollution Trends Study 2008
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	San Francisco Bay Basin Water Quality Control Plan 2007: All waters shall be maintained free of toxic substances in concentrations which are toxic to, or which produce detrimental physiological responses in, human, plant, animal, or aquatic life.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	In freshwater sediments the probable effect concentration (predictive of sediment toxicity for sediment-dwelling organisms) for sum of DDT is 62.9 ug/Kg dry weight (MacDonald et al. 2000).
Guideline Reference:	Development and evaluation of consensus-based sediment quality guidelines for freshwater ecosystems. Environmental Contamination and Toxicology. 39: 20-31
Spatial Representation:	Data for this line of evidence for Alameda Creek was collected at 1 monitoring site [Alameda Creek E of Alvarado Blvd station (204ALA020)]
Temporal Representation:	Data was collected on a single day 6/17/2008.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	SWAMP data collected before September 2008 followed the QAMP (2002), however there may have been overlap in QA with SWAMP QAPP (2008).
QAPP Information Reference(s):	Quality Assurance Management Plan for the State of California's Surface Water Ambient Monitoring Program. Sacramento, CA. State Water Resources Control Board. SWAMP. December 2002 (1st version) Surface Water Ambient Monitoring Program Quality Assurance Program Plan

Line of Evidence (LOE) for Decision ID 61124, DDT (Dichlorodiphenyltrichloroethane)

Region 2

Alameda Creek

LOE ID:	90949
Pollutant:	DDT (Dichlorodiphenyltrichloroethane)
LOE Subgroup:	Pollutant-Sediment
Matrix:	Sediment
Fraction:	Total
Beneficial Use:	Cold Freshwater Habitat
Number of Samples:	1
Number of Exceedances:	0
Data and Information Type:	PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality:	Water Board staff assessed SWAMP data for Alameda Creek to determine beneficial use support and results are as follows: 0 of 1 samples exceed the criterion for DDT.
Data Reference:	Statewide Stream Pollution Trends Study 2008
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	San Francisco Bay Basin Water Quality Control Plan 2007: All waters shall be maintained free of toxic substances in concentrations which are toxic to, or which produce detrimental physiological responses in, human, plant, animal, or aquatic life.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	In freshwater sediments the probable effect concentration (predictive of sediment toxicity for sediment-dwelling organisms) for sum of DDT is 62.9 ug/Kg dry weight (MacDonald et

Guideline Reference:	al. 2000). Development and evaluation of consensus-based sediment quality guidelines for freshwater ecosystems. Environmental Contamination and Toxicology. 39: 20-31
Spatial Representation:	Data for this line of evidence for Alameda Creek was collected at 1 monitoring site [Alameda Creek E of Alvarado Blvd station (204ALA020)]
Temporal Representation:	Data was collected on a single day 6/17/2008.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	SWAMP data collected before September 2008 followed the QAMP (2002), however there may have been overlap in QA with SWAMP QAPP (2008).
QAPP Information Reference(s):	Quality Assurance Management Plan for the State of California's Surface Water Ambient Monitoring Program. Sacramento, CA. State Water Resources Control Board. SWAMP. December 2002 (1st version). Surface Water Ambient Monitoring Program Quality Assurance Program Plan

DECISION ID	61125	Region 2
Alameda Creek		

Pollutant:	Deltamethrin
Final Listing Decision:	Do Not List on 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision:	New Decision
Revision Status	Revised
Impairment from Pollutant or Pollution:	Pollutant
Regional Board Staff Conclusion:	<p>This pollutant is being considered for placement on the CWA section 303(d) List under section 3.1 of the Listing Policy. Under section 3.1 a single line of evidence is necessary to assess listing status. Two lines of evidence are available in the administrative record to assess this pollutant. Zero of one samples exceed the guideline.</p> <p>Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against placing this water segment-pollutant combination on the CWA section 303(d) List.</p> <p>This conclusion is based on the staff findings that:</p> <ol style="list-style-type: none"> 1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy. 2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy. 3. Zero of one samples exceed the guideline and this sample size is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating. A minimum of 16 samples is needed to determine if a beneficial use is fully supported using table 3.1. 4. Pursuant to SECTION 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.
Regional Board Staff Decision Recommendation:	After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be placed on the section 303(d) list. The readily available data and information is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating.

Line of Evidence (LOE) for Decision ID 61125, Deltamethrin	Region 2
Alameda Creek	

LOE ID:	90950
Pollutant:	Deltamethrin
LOE Subgroup:	Pollutant-Sediment
Matrix:	Sediment
Fraction:	Total

Beneficial Use:	Warm Freshwater Habitat
Number of Samples:	1
Number of Exceedances:	0
Data and Information Type:	PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality:	Water Board staff assessed SWAMP data for Alameda Creek to determine beneficial use support and results are as follows: 0 of 1 samples exceed the criterion for Deltamethrin.
Data Reference:	Statewide Stream Pollution Trends Study 2008
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	San Francisco Bay Basin Water Quality Control Plan 2007: All waters shall be maintained free of toxic substances in concentrations which are toxic to, or which produce detrimental physiological responses in, human, plant, animal, or aquatic life.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	The evaluation guideline for deltamethrin is the median lethal concentration (LC50) of 0.79 ug/g and is normalized by the percentage of organic carbon in the sediment sample. The LC50 0.79 ug/g is the geometric mean of LC50 values for deltamethrin from Amweg et al. (2005).
Guideline Reference:	Use and Toxicity of Pyrethroid Pesticides in the Central Valley, California, USA. Environmental Toxicology and Chemistry, 24:966-972, with erratum 24:No. 5
Spatial Representation:	Data for this line of evidence for Alameda Creek was collected at 1 monitoring site [Alameda Creek E of Alvarado Blvd station (204ALA020)]
Temporal Representation:	Data was collected on a single day 6/17/2008.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	SWAMP data collected before September 2008 followed the QAMP (2002), however there may have been overlap in QA with SWAMP QAPP (2008).
QAPP Information Reference(s):	Quality Assurance Management Plan for the State of California's Surface Water Ambient Monitoring Program. Sacramento, CA. State Water Resources Control Board. SWAMP. December 2002 (1st version) Surface Water Ambient Monitoring Program Quality Assurance Program Plan

Line of Evidence (LOE) for Decision ID 61125, Deltamethrin

Region 2

Alameda Creek

LOE ID:	90951
Pollutant:	Deltamethrin
LOE Subgroup:	Pollutant-Sediment
Matrix:	Sediment
Fraction:	Total
Beneficial Use:	Cold Freshwater Habitat
Number of Samples:	1
Number of Exceedances:	0
Data and Information Type:	PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality:	Water Board staff assessed SWAMP data for Alameda Creek to determine beneficial use support and results are as follows: 0 of 1 samples exceed the criterion for Deltamethrin.
Data Reference:	Statewide Stream Pollution Trends Study 2008
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	San Francisco Bay Basin Water Quality Control Plan 2007: All waters shall be maintained free of toxic substances in concentrations which are toxic to, or which produce detrimental physiological responses in, human, plant, animal, or aquatic life.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)

Evaluation Guideline:	The evaluation guideline for deltamethrin is the median lethal concentration (LC50) of 0.79 ug/g and is normalized by the percentage of organic carbon in the sediment sample. The LC50 0.79 ug/g is the geometric mean of LC50 values for deltamethrin from Amweg et al. (2005).
Guideline Reference:	Use and Toxicity of Pyrethroid Pesticides in the Central Valley, California, USA. Environmental Toxicology and Chemistry, 24:966-972, with erratum 24:No. 5
Spatial Representation:	Data for this line of evidence for Alameda Creek was collected at 1 monitoring site [Alameda Creek E of Alvarado Blvd station (204ALA020)]
Temporal Representation:	Data was collected on a single day 6/17/2008.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	SWAMP data collected before September 2008 followed the QAMP (2002), however there may have been overlap in QA with SWAMP QAPP (2008).
QAPP Information Reference(s):	Quality Assurance Management Plan for the State of California's Surface Water Ambient Monitoring Program. Sacramento, CA. State Water Resources Control Board. SWAMP. December 2002 (1st version) Surface Water Ambient Monitoring Program Quality Assurance Program Plan

DECISION ID 61126 Region 2	
Alameda Creek	
Pollutant: Final Listing Decision: Last Listing Cycle's Final Listing Decision: Revision Status Impairment from Pollutant or Pollution:	Dieldrin Do Not List on 303(d) list (TMDL required list) New Decision Revised Pollutant
Regional Board Staff Conclusion:	<p>This pollutant is being considered for placement on the CWA section 303(d) List under section 3.1 of the Listing Policy. Under section 3.1 a single line of evidence is necessary to assess listing status. Two lines of evidence are available in the administrative record to assess this pollutant. Zero of one samples exceed the guideline.</p> <p>Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against placing this water segment-pollutant combination on the CWA section 303(d) List.</p> <p>This conclusion is based on the staff findings that:</p> <ol style="list-style-type: none"> 1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy. 2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy. 3. Zero of one samples exceed the guideline and this sample size is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating. A minimum of 16 samples is needed to determine if a beneficial use is fully supported using table 3.1. 4. Pursuant to SECTION 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.
Regional Board Staff Decision Recommendation:	After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be placed on the section 303(d) list. The readily available data and information is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating.

Line of Evidence (LOE) for Decision ID 61126, Dieldrin Region 2	
Alameda Creek	
LOE ID:	90954
Pollutant:	Dieldrin
LOE Subgroup:	Pollutant-Sediment

Matrix:	Sediment
Fraction:	Total
Beneficial Use:	Warm Freshwater Habitat
Number of Samples:	1
Number of Exceedances:	0
Data and Information Type:	PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality:	Water Board staff assessed SWAMP data for Alameda Creek to determine beneficial use support and results are as follows: 0 of 1 samples exceed the criterion for Dieldrin.
Data Reference:	Statewide Stream Pollution Trends Study 2008
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	San Francisco Bay Basin Water Quality Control Plan 2007: All waters shall be maintained free of toxic substances in concentrations which are toxic to, or which produce detrimental physiological responses in, human, plant, animal, or aquatic life.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	In freshwater sediments the probable effect concentration (predictive of sediment toxicity for sediment-dwelling organisms) for dieldrin is 61.8 ug/Kg dry weight (MacDonald et al. 2000).
Guideline Reference:	Development and evaluation of consensus-based sediment quality guidelines for freshwater ecosystems. Environmental Contamination and Toxicology. 39: 20-31
Spatial Representation:	Data for this line of evidence for Alameda Creek was collected at 1 monitoring site [Alameda Creek E of Alvarado Blvd station (204ALA020)]
Temporal Representation:	Data was collected on a single day 6/17/2008.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	SWAMP data collected before September 2008 followed the QAMP (2002), however there may have been overlap in QA with SWAMP QAPP (2008).
QAPP Information Reference(s):	Quality Assurance Management Plan for the State of California's Surface Water Ambient Monitoring Program. Sacramento, CA. State Water Resources Control Board. SWAMP. December 2002 (1st version) Surface Water Ambient Monitoring Program Quality Assurance Program Plan

Line of Evidence (LOE) for Decision ID 61126, Dieldrin

Region 2

Alameda Creek

LOE ID:	90955
Pollutant:	Dieldrin
LOE Subgroup:	Pollutant-Sediment
Matrix:	Sediment
Fraction:	Total
Beneficial Use:	Cold Freshwater Habitat
Number of Samples:	1
Number of Exceedances:	0
Data and Information Type:	PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality:	Water Board staff assessed SWAMP data for Alameda Creek to determine beneficial use support and results are as follows: 0 of 1 samples exceed the criterion for Dieldrin.
Data Reference:	Statewide Stream Pollution Trends Study 2008
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	San Francisco Bay Basin Water Quality Control Plan 2007: All waters shall be maintained free of toxic substances in concentrations which are toxic to, or which produce detrimental physiological responses in, human, plant, animal, or aquatic life.

Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	In freshwater sediments the probable effect concentration (predictive of sediment toxicity for sediment-dwelling organisms) for dieldrin is 61.8 ug/Kg dry weight (MacDonald et al. 2000).
Guideline Reference:	Development and evaluation of consensus-based sediment quality guidelines for freshwater ecosystems. Environmental Contamination and Toxicology. 39: 20-31
Spatial Representation:	Data for this line of evidence for Alameda Creek was collected at 1 monitoring site [Alameda Creek E of Alvarado Blvd station (204ALA020)]
Temporal Representation:	Data was collected on a single day 6/17/2008.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	SWAMP data collected before September 2008 followed the QAMP (2002), however there may have been overlap in QA with SWAMP QAPP (2008).
QAPP Information Reference(s):	Quality Assurance Management Plan for the State of California's Surface Water Ambient Monitoring Program. Sacramento, CA. State Water Resources Control Board. SWAMP. December 2002 (1st version) Surface Water Ambient Monitoring Program Quality Assurance Program Plan

DECISION ID	61127	Region 2
Alameda Creek		

Pollutant:	Endrin
Final Listing Decision:	Do Not List on 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision:	New Decision
Revision Status	Revised
Impairment from Pollutant or Pollution:	Pollutant
Regional Board Staff Conclusion:	<p>This pollutant is being considered for placement on the CWA section 303(d) List under section 3.1 of the Listing Policy. Under section 3.1 a single line of evidence is necessary to assess listing status. Two lines of evidence are available in the administrative record to assess this pollutant. Zero of one samples exceed the guideline.</p> <p>Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against placing this water segment-pollutant combination on the CWA section 303(d) List.</p> <p>This conclusion is based on the staff findings that:</p> <ol style="list-style-type: none"> 1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy. 2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy. 3. Zero of one samples exceed the guideline and this sample size is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating. A minimum of 16 samples is needed to determine if a beneficial use is fully supported using table 3.1. 4. Pursuant to SECTION 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.
Regional Board Staff Decision Recommendation:	After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be placed on the section 303(d) list. The readily available data and information is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating.

Line of Evidence (LOE) for Decision ID 61127, Endrin	Region 2
Alameda Creek	

LOE ID:	90956
Pollutant:	Endrin

LOE Subgroup:	Pollutant-Sediment
Matrix:	Sediment
Fraction:	Total
Beneficial Use:	Warm Freshwater Habitat
Number of Samples:	1
Number of Exceedances:	0
Data and Information Type:	PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality:	Water Board staff assessed SWAMP data for Alameda Creek to determine beneficial use support and results are as follows: 0 of 1 samples exceed the criterion for Endrin.
Data Reference:	Statewide Stream Pollution Trends Study 2008
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	San Francisco Bay Basin Water Quality Control Plan 2007: All waters shall be maintained free of toxic substances in concentrations which are toxic to, or which produce detrimental physiological responses in, human, plant, animal, or aquatic life.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	In freshwater sediments the probable effect concentration (predictive of sediment toxicity for sediment-dwelling organisms) for endrin is 207 ug/Kg dry weight (MacDonald et al. 2000).
Guideline Reference:	Development and evaluation of consensus-based sediment quality guidelines for freshwater ecosystems. Environmental Contamination and Toxicology. 39: 20-31
Spatial Representation:	Data for this line of evidence for Alameda Creek was collected at 1 monitoring site [Alameda Creek E of Alvarado Blvd station (204ALA020)]
Temporal Representation:	Data was collected on a single day 6/17/2008.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	SWAMP data collected before September 2008 followed the QAMP (2002), however there may have been overlap in QA with SWAMP QAPP (2008).
QAPP Information Reference(s):	Quality Assurance Management Plan for the State of California's Surface Water Ambient Monitoring Program. Sacramento, CA. State Water Resources Control Board. SWAMP. December 2002 (1st version) Surface Water Ambient Monitoring Program Quality Assurance Program Plan

Line of Evidence (LOE) for Decision ID 61127, Endrin

Region 2

Alameda Creek

LOE ID:	90957
Pollutant:	Endrin
LOE Subgroup:	Pollutant-Sediment
Matrix:	Sediment
Fraction:	Total
Beneficial Use:	Cold Freshwater Habitat
Number of Samples:	1
Number of Exceedances:	0
Data and Information Type:	PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality:	Water Board staff assessed SWAMP data for Alameda Creek to determine beneficial use support and results are as follows: 0 of 1 samples exceed the criterion for Endrin.
Data Reference:	Statewide Stream Pollution Trends Study 2008
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	San Francisco Bay Basin Water Quality Control Plan 2007: All waters shall be maintained free of toxic substances in concentrations which are toxic to, or which produce detrimental

Objective/Criterion Reference:	physiological responses in, human, plant, animal, or aquatic life. Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	In freshwater sediments the probable effect concentration (predictive of sediment toxicity for sediment-dwelling organisms) for endrin is 207 ug/Kg dry weight (MacDonald et al. 2000).
Guideline Reference:	Development and evaluation of consensus-based sediment quality guidelines for freshwater ecosystems. Environmental Contamination and Toxicology. 39: 20-31
Spatial Representation:	Data for this line of evidence for Alameda Creek was collected at 1 monitoring site [Alameda Creek E of Alvarado Blvd station (204ALA020)]
Temporal Representation:	Data was collected on a single day 6/17/2008.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	SWAMP data collected before September 2008 followed the QAMP (2002), however there may have been overlap in QA with SWAMP QAPP (2008).
QAPP Information Reference(s):	Quality Assurance Management Plan for the State of California's Surface Water Ambient Monitoring Program. Sacramento, CA. State Water Resources Control Board. SWAMP. December 2002 (1st version) Surface Water Ambient Monitoring Program Quality Assurance Program Plan

DECISION ID 61128 Region 2	
Alameda Creek	
Pollutant:	Esfenvalerate/Fenvalerate
Final Listing Decision:	Do Not List on 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision:	New Decision
Revision Status	Revised
Impairment from Pollutant or Pollution:	Pollutant
Regional Board Staff Conclusion:	<p>This pollutant is being considered for placement on the CWA section 303(d) List under section 3.1 of the Listing Policy. Under section 3.1 a single line of evidence is necessary to assess listing status. Two lines of evidence are available in the administrative record to assess this pollutant. Zero of one samples exceed the guideline.</p> <p>Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against placing this water segment-pollutant combination on the CWA section 303(d) List.</p> <p>This conclusion is based on the staff findings that:</p> <ol style="list-style-type: none"> 1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy. 2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy. 3. Zero of one samples exceed the guideline and this sample size is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating. A minimum of 16 samples is needed to determine if a beneficial use is fully supported using table 3.1. 4. Pursuant to SECTION 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.
Regional Board Staff Decision Recommendation:	After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be placed on the section 303(d) list. The readily available data and information is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating.

Line of Evidence (LOE) for Decision ID 61128, Esfenvalerate/Fenvalerate Region 2	
Alameda Creek	

LOE ID: 90958

Pollutant:	Esfenvalerate/Fenvalerate
LOE Subgroup:	Pollutant-Sediment
Matrix:	Sediment
Fraction:	Total
Beneficial Use:	Warm Freshwater Habitat
Number of Samples:	1
Number of Exceedances:	0
Data and Information Type:	PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality:	Water Board staff assessed SWAMP data for Alameda Creek to determine beneficial use support and results are as follows: 0 of 1 samples exceed the criterion for Esfenvalerate/Fenvalerate, total.
Data Reference:	Statewide Stream Pollution Trends Study 2008
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	San Francisco Bay Basin Water Quality Control Plan 2007: All waters shall be maintained free of toxic substances in concentrations which are toxic to, or which produce detrimental physiological responses in, human, plant, animal, or aquatic life.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	The evaluation guideline for esfenvalerate/fenvalerate is the median lethal concentration (LC50) of 1.5 ug/g and is normalized by the percentage of organic carbon in the sediment sample. The LC50 1.5 ug/g is the geometric mean of LC50 values for esfenvalerate/fenvalerate from Amweg et al. (2005).
Guideline Reference:	Use and Toxicity of Pyrethroid Pesticides in the Central Valley, California, USA. Environmental Toxicology and Chemistry, 24:966-972, with erratum 24:No. 5
Spatial Representation:	Data for this line of evidence for Alameda Creek was collected at 1 monitoring site [Alameda Creek E of Alvarado Blvd station (204ALA020)]
Temporal Representation:	Data was collected on a single day 6/17/2008.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	SWAMP data collected before September 2008 followed the QAMP (2002), however there may have been overlap in QA with SWAMP QAPP (2008).
QAPP Information Reference(s):	Quality Assurance Management Plan for the State of California's Surface Water Ambient Monitoring Program. Sacramento, CA. State Water Resources Control Board. SWAMP. December 2002 (1st version). Surface Water Ambient Monitoring Program Quality Assurance Program Plan

Line of Evidence (LOE) for Decision ID 61128, Esfenvalerate/Fenvalerate
Alameda Creek

Region 2

LOE ID:	90959
Pollutant:	Esfenvalerate/Fenvalerate
LOE Subgroup:	Pollutant-Sediment
Matrix:	Sediment
Fraction:	Total
Beneficial Use:	Cold Freshwater Habitat
Number of Samples:	1
Number of Exceedances:	0
Data and Information Type:	PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality:	Water Board staff assessed SWAMP data for Alameda Creek to determine beneficial use support and results are as follows: 0 of 1 samples exceed the criterion for Esfenvalerate/Fenvalerate, total.
Data Reference:	Statewide Stream Pollution Trends Study 2008

SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	San Francisco Bay Basin Water Quality Control Plan 2007: All waters shall be maintained free of toxic substances in concentrations which are toxic to, or which produce detrimental physiological responses in, human, plant, animal, or aquatic life.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	The evaluation guideline for esfenvalerate/fenvalerate is the median lethal concentration (LC50) of 1.5 ug/g and is normalized by the percentage of organic carbon in the sediment sample. The LC50 1.5 ug/g is the geometric mean of LC50 values for esfenvalerate/fenvalerate from Amweg et al. (2005).
Guideline Reference:	Use and Toxicity of Pyrethroid Pesticides in the Central Valley, California, USA. Environmental Toxicology and Chemistry, 24:966-972, with erratum 24:No. 5
Spatial Representation:	Data for this line of evidence for Alameda Creek was collected at 1 monitoring site [Alameda Creek E of Alvarado Blvd station (204ALA020)]
Temporal Representation:	Data was collected on a single day 6/17/2008.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	SWAMP data collected before September 2008 followed the QAMP (2002), however there may have been overlap in QA with SWAMP QAPP (2008).
QAPP Information Reference(s):	Quality Assurance Management Plan for the State of California's Surface Water Ambient Monitoring Program. Sacramento, CA. State Water Resources Control Board. SWAMP. December 2002 (1st version) Surface Water Ambient Monitoring Program Quality Assurance Program Plan

DECISION ID	61129	Region 2
Alameda Creek		

Pollutant:	Fenpropathrin
Final Listing Decision:	Do Not List on 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision:	New Decision
Revision Status	Revised
Impairment from Pollutant or Pollution:	Pollutant
Regional Board Staff Conclusion:	<p>This pollutant is being considered for placement on the CWA section 303(d) List under section 3.1 of the Listing Policy. Under section 3.1 a single line of evidence is necessary to assess listing status. Two lines of evidence are available in the administrative record to assess this pollutant. Zero of one samples exceed the guideline.</p> <p>Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against placing this water segment-pollutant combination on the CWA section 303(d) List.</p> <p>This conclusion is based on the staff findings that:</p> <ol style="list-style-type: none"> 1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy. 2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy. 3. Zero of one samples exceed the guideline and this sample size is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating. A minimum of 16 samples is needed to determine if a beneficial use is fully supported using table 3.1. 4. Pursuant to SECTION 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.
Regional Board Staff Decision Recommendation:	After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be placed on the section 303(d) list. The readily available data and information is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating.

Line of Evidence (LOE) for Decision ID 61129, Fenpropathrin	Region 2
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Alameda Creek

LOE ID:	90960
Pollutant:	Fenpropathrin
LOE Subgroup:	Pollutant-Sediment
Matrix:	Sediment
Fraction:	Total
Beneficial Use:	Warm Freshwater Habitat
Number of Samples:	1
Number of Exceedances:	0
Data and Information Type:	PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality:	Water Board staff assessed SWAMP data for Alameda Creek to determine beneficial use support and results are as follows: 0 of 1 samples exceed the criterion for Fenpropathrin.
Data Reference:	Statewide Stream Pollution Trends Study 2008
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	San Francisco Bay Basin Water Quality Control Plan 2007: All waters shall be maintained free of toxic substances in concentrations which are toxic to, or which produce detrimental physiological responses in, human, plant, animal, or aquatic life.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	The evaluation guideline for fenpropathrin is the median lethal concentration (LC50) of 1 ug/g and is normalized by the percentage of organic carbon in the sediment sample. The LC50 1 ug/g is the geometric mean of LC50 values for fenpropathrin from Ding et al. (2011).
Guideline Reference:	Toxicity of Sediment-Associated Pesticides to Chironomus dilutus and Hyalella azteca. Arch. Environ. Contam. Toxicol. 61:83?92.
Spatial Representation:	Data for this line of evidence for Alameda Creek was collected at 1 monitoring site [Alameda Creek E of Alvarado Blvd station (204ALA020)]
Temporal Representation:	Data was collected on a single day 6/17/2008.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	SWAMP data collected before September 2008 followed the QAMP (2002), however there may have been overlap in QA with SWAMP QAPP (2008).
QAPP Information Reference(s):	Quality Assurance Management Plan for the State of California's Surface Water Ambient Monitoring Program. Sacramento, CA. State Water Resources Control Board. SWAMP. December 2002 (1st version) Surface Water Ambient Monitoring Program Quality Assurance Program Plan

Line of Evidence (LOE) for Decision ID 61129, Fenpropathrin**Region 2****Alameda Creek**

LOE ID:	90961
Pollutant:	Fenpropathrin
LOE Subgroup:	Pollutant-Sediment
Matrix:	Sediment
Fraction:	Total
Beneficial Use:	Cold Freshwater Habitat
Number of Samples:	1
Number of Exceedances:	0
Data and Information Type:	PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality:	Water Board staff assessed SWAMP data for Alameda Creek to determine beneficial use support and results are as follows: 0 of 1 samples exceed the criterion for Fenpropathrin.

Data Reference:	Statewide Stream Pollution Trends Study 2008
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	San Francisco Bay Basin Water Quality Control Plan 2007: All waters shall be maintained free of toxic substances in concentrations which are toxic to, or which produce detrimental physiological responses in, human, plant, animal, or aquatic life.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	The evaluation guideline for fenpropathrin is the median lethal concentration (LC50) of 1 ug/g and is normalized by the percentage of organic carbon in the sediment sample. The LC50 1 ug/g is the geometric mean of LC50 values for fenpropathrin from Ding et al. (2011).
Guideline Reference:	Toxicity of Sediment-Associated Pesticides to Chironomus dilutus and Hyalella azteca. Arch. Environ. Contam. Toxicol. 61:83?92.
Spatial Representation:	Data for this line of evidence for Alameda Creek was collected at 1 monitoring site [Alameda Creek E of Alvarado Blvd station (204ALA020)]
Temporal Representation:	Data was collected on a single day 6/17/2008.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	SWAMP data collected before September 2008 followed the QAMP (2002), however there may have been overlap in QA with SWAMP QAPP (2008).
QAPP Information Reference(s):	Quality Assurance Management Plan for the State of California's Surface Water Ambient Monitoring Program. Sacramento, CA. State Water Resources Control Board. SWAMP. December 2002 (1st version) Surface Water Ambient Monitoring Program Quality Assurance Program Plan

DECISION ID	61130	Region 2
Alameda Creek		
Pollutant:	Fluoranthene	
Final Listing Decision:	Do Not List on 303(d) list (TMDL required list)	
Last Listing Cycle's Final Listing Decision:	New Decision	
Revision Status	Revised	
Impairment from Pollutant or Pollution:	Pollutant	
Regional Board Staff Conclusion:	<p>This pollutant is being considered for placement on the CWA section 303(d) List under section 3.1 of the Listing Policy. Under section 3.1 a single line of evidence is necessary to assess listing status. Two lines of evidence are available in the administrative record to assess this pollutant. Zero of one samples exceed the guideline.</p> <p>Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against placing this water segment-pollutant combination on the CWA section 303(d) List.</p> <p>This conclusion is based on the staff findings that:</p> <ol style="list-style-type: none"> 1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy. 2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy. 3. Zero of one samples exceed the guideline and this sample size is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating. A minimum of 16 samples is needed to determine if a beneficial use is fully supported using table 3.1. 4. Pursuant to SECTION 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met. 	
Regional Board Staff Decision Recommendation:	After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be placed on the section 303(d) list. The readily available data and information is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating.	

Line of Evidence (LOE) for Decision ID 61130, Fluoranthene**Region 2****Alameda Creek**

LOE ID:	90962
Pollutant:	Fluoranthene
LOE Subgroup:	Pollutant-Sediment
Matrix:	Sediment
Fraction:	Total
Beneficial Use:	Warm Freshwater Habitat
Number of Samples:	1
Number of Exceedances:	0
Data and Information Type:	PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality:	Water Board staff assessed SWAMP data for Alameda Creek to determine beneficial use support and results are as follows: 0 of 1 samples exceed the criterion for Fluoranthene.
Data Reference:	Statewide Stream Pollution Trends Study 2008
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	San Francisco Bay Basin Water Quality Control Plan 2007: All waters shall be maintained free of toxic substances in concentrations which are toxic to, or which produce detrimental physiological responses in, human, plant, animal, or aquatic life.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	In freshwater sediments the probable effects level (predictive of sediment toxicity for sediment-dwelling organisms) for Fluoranthene is 2,230 ug/Kg dry weight (Macdonald et al. 2000)
Guideline Reference:	Development and evaluation of consensus-based sediment quality guidelines for freshwater ecosystems. Environmental Contamination and Toxicology. 39: 20-31
Spatial Representation:	Data for this line of evidence for Alameda Creek was collected at 1 monitoring site [Alameda Creek E of Alvarado Blvd station (204ALA020)]
Temporal Representation:	Data was collected on a single day 6/17/2008.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	SWAMP data collected before September 2008 followed the QAMP (2002), however there may have been overlap in QA with SWAMP QAPP (2008).
QAPP Information Reference(s):	Quality Assurance Management Plan for the State of California's Surface Water Ambient Monitoring Program. Sacramento, CA. State Water Resources Control Board. SWAMP. December 2002 (1st version) Surface Water Ambient Monitoring Program Quality Assurance Program Plan

Line of Evidence (LOE) for Decision ID 61130, Fluoranthene**Region 2****Alameda Creek**

LOE ID:	90963
Pollutant:	Fluoranthene
LOE Subgroup:	Pollutant-Sediment
Matrix:	Sediment
Fraction:	Total
Beneficial Use:	Cold Freshwater Habitat
Number of Samples:	1
Number of Exceedances:	0
Data and Information Type:	PHYSICAL/CHEMICAL MONITORING

Data Used to Assess Water Quality:	Water Board staff assessed SWAMP data for Alameda Creek to determine beneficial use support and results are as follows: 0 of 1 samples exceed the criterion for Fluoranthene.
Data Reference:	Statewide Stream Pollution Trends Study 2008
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	San Francisco Bay Basin Water Quality Control Plan 2007: All waters shall be maintained free of toxic substances in concentrations which are toxic to, or which produce detrimental physiological responses in, human, plant, animal, or aquatic life.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	In freshwater sediments the probable effects level (predictive of sediment toxicity for sediment-dwelling organisms) for Fluoranthene is 2,230 ug/Kg dry weight (Macdonald et al. 2000)
Guideline Reference:	Development and evaluation of consensus-based sediment quality guidelines for freshwater ecosystems. Environmental Contamination and Toxicology. 39: 20-31
Spatial Representation:	Data for this line of evidence for Alameda Creek was collected at 1 monitoring site [Alameda Creek E of Alvarado Blvd station (204ALA020)]
Temporal Representation:	Data was collected on a single day 6/17/2008.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	SWAMP data collected before September 2008 followed the QAMP (2002), however there may have been overlap in QA with SWAMP QAPP (2008).
QAPP Information Reference(s):	Quality Assurance Management Plan for the State of California's Surface Water Ambient Monitoring Program. Sacramento, CA. State Water Resources Control Board. SWAMP. December 2002 (1st version) Surface Water Ambient Monitoring Program Quality Assurance Program Plan

DECISION ID	61131	Region 2
Alameda Creek		
Pollutant:	Fluorene	
Final Listing Decision:	Do Not List on 303(d) list (TMDL required list)	
Last Listing Cycle's Final Listing Decision:	New Decision	
Revision Status	Revised	
Impairment from Pollutant or Pollution:	Pollutant	
Regional Board Staff Conclusion:	<p>This pollutant is being considered for placement on the CWA section 303(d) List under section 3.1 of the Listing Policy. Under section 3.1 a single line of evidence is necessary to assess listing status. Two lines of evidence are available in the administrative record to assess this pollutant. Zero of one samples exceed the guideline.</p> <p>Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against placing this water segment-pollutant combination on the CWA section 303(d) List.</p> <p>This conclusion is based on the staff findings that:</p> <ol style="list-style-type: none"> 1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy. 2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy. 3. Zero of one samples exceed the guideline and this sample size is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating. A minimum of 16 samples is needed to determine if a beneficial use is fully supported using table 3.1. 4. Pursuant to SECTION 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met. 	
Regional Board Staff Decision Recommendation:	After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be placed on the section 303(d) list. The readily available data and information is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating.	

Line of Evidence (LOE) for Decision ID 61131, Fluorene**Region 2****Alameda Creek**

LOE ID:	90965
Pollutant:	Fluorene
LOE Subgroup:	Pollutant-Sediment
Matrix:	Sediment
Fraction:	Total
Beneficial Use:	Cold Freshwater Habitat
Number of Samples:	1
Number of Exceedances:	0
Data and Information Type:	PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality:	Water Board staff assessed SWAMP data for Alameda Creek to determine beneficial use support and results are as follows: 0 of 1 samples exceed the criterion for Fluorene.
Data Reference:	Statewide Stream Pollution Trends Study 2008
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	San Francisco Bay Basin Water Quality Control Plan 2007: All waters shall be maintained free of toxic substances in concentrations which are toxic to, or which produce detrimental physiological responses in, human, plant, animal, or aquatic life.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	In freshwater sediments the probable effect concentration (predictive of sediment toxicity for sediment-dwelling organisms) for fluorene is 536 ug/Kg dry weight (MacDonald et al. 2000).
Guideline Reference:	Development and evaluation of consensus-based sediment quality guidelines for freshwater ecosystems. Environmental Contamination and Toxicology. 39: 20-31
Spatial Representation:	Data for this line of evidence for Alameda Creek was collected at 1 monitoring site [Alameda Creek E of Alvarado Blvd station (204ALA020)]
Temporal Representation:	Data was collected on a single day 6/17/2008.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	SWAMP data collected before September 2008 followed the QAMP (2002), however there may have been overlap in QA with SWAMP QAPP (2008).
QAPP Information Reference(s):	Quality Assurance Management Plan for the State of California's Surface Water Ambient Monitoring Program. Sacramento, CA. State Water Resources Control Board. SWAMP. December 2002 (1st version) Surface Water Ambient Monitoring Program Quality Assurance Program Plan

Line of Evidence (LOE) for Decision ID 61131, Fluorene**Region 2****Alameda Creek**

LOE ID:	90964
Pollutant:	Fluorene
LOE Subgroup:	Pollutant-Sediment
Matrix:	Sediment
Fraction:	Total
Beneficial Use:	Warm Freshwater Habitat
Number of Samples:	1
Number of Exceedances:	0

Data and Information Type:	PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality:	Water Board staff assessed SWAMP data for Alameda Creek to determine beneficial use support and results are as follows: 0 of 1 samples exceed the criterion for Fluorene.
Data Reference:	Statewide Stream Pollution Trends Study 2008
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	San Francisco Bay Basin Water Quality Control Plan 2007: All waters shall be maintained free of toxic substances in concentrations which are toxic to, or which produce detrimental physiological responses in, human, plant, animal, or aquatic life.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	In freshwater sediments the probable effect concentration (predictive of sediment toxicity for sediment-dwelling organisms) for fluorene is 536 ug/Kg dry weight (MacDonald et al. 2000).
Guideline Reference:	Development and evaluation of consensus-based sediment quality guidelines for freshwater ecosystems. Environmental Contamination and Toxicology. 39: 20-31
Spatial Representation:	Data for this line of evidence for Alameda Creek was collected at 1 monitoring site [Alameda Creek E of Alvarado Blvd station (204ALA020)]
Temporal Representation:	Data was collected on a single day 6/17/2008.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	SWAMP data collected before September 2008 followed the QAMP (2002), however there may have been overlap in QA with SWAMP QAPP (2008).
QAPP Information Reference(s):	Quality Assurance Management Plan for the State of California's Surface Water Ambient Monitoring Program. Sacramento, CA. State Water Resources Control Board. SWAMP. December 2002 (1st version). Surface Water Ambient Monitoring Program Quality Assurance Program Plan

DECISION ID	61132	Region 2
Alameda Creek		

Pollutant:	Lead
Final Listing Decision:	Do Not List on 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision:	New Decision
Revision Status	Revised
Impairment from Pollutant or Pollution:	Pollutant

Regional Board Staff Conclusion: This pollutant is being considered for placement on the CWA section 303(d) List under section 3.1 of the Listing Policy. Under section 3.1 a single line of evidence is necessary to assess listing status. Two lines of evidence are available in the administrative record to assess this pollutant. Zero of one samples exceed the guideline.

Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against placing this water segment-pollutant combination on the CWA section 303(d) List.

This conclusion is based on the staff findings that:

1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy.
2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy.
3. Zero of one samples exceed the guideline and this sample size is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating. A minimum of 16 samples is needed to determine if a beneficial use is fully supported using table 3.1.
4. Pursuant to SECTION 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.

Regional Board Staff Decision Recommendation: After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be placed on the section 303(d) list. The readily available data and information is insufficient to determine, with the power and confidence of the Listing Policy, the

Line of Evidence (LOE) for Decision ID 61132, Lead**Region 2****Alameda Creek**

LOE ID:	90967
Pollutant:	Lead
LOE Subgroup:	Pollutant-Sediment
Matrix:	Sediment
Fraction:	Total
Beneficial Use:	Cold Freshwater Habitat
Number of Samples:	1
Number of Exceedances:	0
Data and Information Type:	PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality:	Water Board staff assessed SWAMP data for Alameda Creek to determine beneficial use support and results are as follows: 0 of 1 samples exceed the criterion for Lead.
Data Reference:	Statewide Stream Pollution Trends Study 2008
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	San Francisco Bay Basin Water Quality Control Plan 2007: All waters shall be maintained free of toxic substances in concentrations which are toxic to, or which produce detrimental physiological responses in, human, plant, animal, or aquatic life.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	In freshwater sediments the probable effect concentration (predictive of sediment toxicity for sediment-dwelling organisms) for lead is 128 mg/Kg dry weight (MacDonald et al. 2000).
Guideline Reference:	Development and evaluation of consensus-based sediment quality guidelines for freshwater ecosystems. Environmental Contamination and Toxicology. 39: 20-31
Spatial Representation:	Data for this line of evidence for Alameda Creek was collected at 1 monitoring site [Alameda Creek E of Alvarado Blvd station (204ALA020)]
Temporal Representation:	Data was collected on a single day 6/17/2008.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	SWAMP data collected before September 2008 followed the QAMP (2002), however there may have been overlap in QA with SWAMP QAPP (2008).
QAPP Information Reference(s):	Quality Assurance Management Plan for the State of California's Surface Water Ambient Monitoring Program. Sacramento, CA. State Water Resources Control Board. SWAMP. December 2002 (1st version). Surface Water Ambient Monitoring Program Quality Assurance Program Plan

Line of Evidence (LOE) for Decision ID 61132, Lead**Region 2****Alameda Creek**

LOE ID:	90966
Pollutant:	Lead
LOE Subgroup:	Pollutant-Sediment
Matrix:	Sediment
Fraction:	Total
Beneficial Use:	Warm Freshwater Habitat
Number of Samples:	1
Number of Exceedances:	0

Data and Information Type:	PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality:	Water Board staff assessed SWAMP data for Alameda Creek to determine beneficial use support and results are as follows: 0 of 1 samples exceed the criterion for Lead.
Data Reference:	Statewide Stream Pollution Trends Study 2008
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	San Francisco Bay Basin Water Quality Control Plan 2007: All waters shall be maintained free of toxic substances in concentrations which are toxic to, or which produce detrimental physiological responses in, human, plant, animal, or aquatic life.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	In freshwater sediments the probable effect concentration (predictive of sediment toxicity for sediment-dwelling organisms) for lead is 128 mg/Kg dry weight (MacDonald et al. 2000).
Guideline Reference:	Development and evaluation of consensus-based sediment quality guidelines for freshwater ecosystems. Environmental Contamination and Toxicology. 39: 20-31
Spatial Representation:	Data for this line of evidence for Alameda Creek was collected at 1 monitoring site [Alameda Creek E of Alvarado Blvd station (204ALA020)]
Temporal Representation:	Data was collected on a single day 6/17/2008.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	SWAMP data collected before September 2008 followed the QAMP (2002), however there may have been overlap in QA with SWAMP QAPP (2008).
QAPP Information Reference(s):	Quality Assurance Management Plan for the State of California's Surface Water Ambient Monitoring Program. Sacramento, CA. State Water Resources Control Board. SWAMP. December 2002 (1st version) Surface Water Ambient Monitoring Program Quality Assurance Program Plan

DECISION ID	61133	Region 2
Alameda Creek		

Pollutant:	Lindane/gamma Hexachlorocyclohexane (gamma-HCH)
Final Listing Decision:	Do Not List on 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision:	New Decision
Revision Status	Revised
Impairment from Pollutant or Pollution:	Pollutant

Regional Board Staff Conclusion: This pollutant is being considered for placement on the CWA section 303(d) List under section 3.1 of the Listing Policy. Under section 3.1 a single line of evidence is necessary to assess listing status. Two lines of evidence are available in the administrative record to assess this pollutant. Zero of one samples exceed the guideline.

Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against placing this water segment-pollutant combination on the CWA section 303(d) List.

This conclusion is based on the staff findings that:

1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy.
2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy.
3. Zero of one samples exceed the guideline and this sample size is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating. A minimum of 16 samples is needed to determine if a beneficial use is fully supported using table 3.1.
4. Pursuant to SECTION 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.

Regional Board Staff Decision Recommendation: After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be placed on the section 303(d) list. The readily available data and

information is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating.

Line of Evidence (LOE) for Decision ID 61133, Lindane/gamma Hexachlorocyclohexane (gamma-HCH)

Region 2

Alameda Creek

LOE ID:	90968
Pollutant:	Lindane/gamma Hexachlorocyclohexane (gamma-HCH)
LOE Subgroup:	Pollutant-Sediment
Matrix:	Sediment
Fraction:	Total
Beneficial Use:	Warm Freshwater Habitat
Number of Samples:	1
Number of Exceedances:	0
Data and Information Type:	PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality:	Water Board staff assessed SWAMP data for Alameda Creek to determine beneficial use support and results are as follows: 0 of 1 samples exceed the criterion for HCH, gamma.
Data Reference:	Statewide Stream Pollution Trends Study 2008
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	San Francisco Bay Basin Water Quality Control Plan 2007: All waters shall be maintained free of toxic substances in concentrations which are toxic to, or which produce detrimental physiological responses in, human, plant, animal, or aquatic life.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	In freshwater sediments the probable effect concentration (predictive of sediment toxicity for sediment-dwelling organisms) for Lindane (gamma-HCH) is 4.99 ug/Kg dry weight (MacDonald et al. 2000).
Guideline Reference:	Development and evaluation of consensus-based sediment quality guidelines for freshwater ecosystems. Environmental Contamination and Toxicology. 39: 20-31
Spatial Representation:	Data for this line of evidence for Alameda Creek was collected at 1 monitoring site [Alameda Creek E of Alvarado Blvd station (204ALA020)]
Temporal Representation:	Data was collected on a single day 6/17/2008.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	SWAMP data collected before September 2008 followed the QAMP (2002), however there may have been overlap in QA with SWAMP QAPP (2008).
QAPP Information Reference(s):	Quality Assurance Management Plan for the State of California's Surface Water Ambient Monitoring Program. Sacramento, CA. State Water Resources Control Board. SWAMP. December 2002 (1st version). Surface Water Ambient Monitoring Program Quality Assurance Program Plan

Line of Evidence (LOE) for Decision ID 61133, Lindane/gamma Hexachlorocyclohexane (gamma-HCH)

Region 2

Alameda Creek

LOE ID:	90969
Pollutant:	Lindane/gamma Hexachlorocyclohexane (gamma-HCH)
LOE Subgroup:	Pollutant-Sediment
Matrix:	Sediment
Fraction:	Total
Beneficial Use:	Cold Freshwater Habitat

Number of Samples:	1
Number of Exceedances:	0
Data and Information Type:	PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality:	Water Board staff assessed SWAMP data for Alameda Creek to determine beneficial use support and results are as follows: 0 of 1 samples exceed the criterion for HCH, gamma.
Data Reference:	Statewide Stream Pollution Trends Study 2008
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	San Francisco Bay Basin Water Quality Control Plan 2007: All waters shall be maintained free of toxic substances in concentrations which are toxic to, or which produce detrimental physiological responses in, human, plant, animal, or aquatic life.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	In freshwater sediments the probable effect concentration (predictive of sediment toxicity for sediment-dwelling organisms) for Lindane (gamma-HCH) is 4.99 ug/Kg dry weight (MacDonald et al. 2000).
Guideline Reference:	Development and evaluation of consensus-based sediment quality guidelines for freshwater ecosystems. Environmental Contamination and Toxicology. 39: 20-31
Spatial Representation:	Data for this line of evidence for Alameda Creek was collected at 1 monitoring site [Alameda Creek E of Alvarado Blvd station (204ALA020)]
Temporal Representation:	Data was collected on a single day 6/17/2008.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	SWAMP data collected before September 2008 followed the QAMP (2002), however there may have been overlap in QA with SWAMP QAPP (2008).
QAPP Information Reference(s):	Quality Assurance Management Plan for the State of California's Surface Water Ambient Monitoring Program. Sacramento, CA. State Water Resources Control Board. SWAMP. December 2002 (1st version) Surface Water Ambient Monitoring Program Quality Assurance Program Plan

DECISION ID	61134	Region 2
Alameda Creek		

Pollutant:	Mercury
Final Listing Decision:	Do Not List on 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision:	New Decision
Revision Status	Revised
Impairment from Pollutant or Pollution:	Pollutant

Regional Board Staff Conclusion: This pollutant is being considered for placement on the CWA section 303(d) List under section 3.1 of the Listing Policy. Under section 3.1 a single line of evidence is necessary to assess listing status. Two lines of evidence are available in the administrative record to assess this pollutant. Zero of one samples exceed the guideline.

Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against placing this water segment-pollutant combination on the CWA section 303(d) List.

This conclusion is based on the staff findings that:

1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy.
2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy.
3. Zero of one samples exceed the guideline and this sample size is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating. A minimum of 16 samples is needed to determine if a beneficial use is fully supported using table 3.1.
4. Pursuant to SECTION 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.

Regional Board Staff Decision Recommendation: After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be placed on the section 303(d) list. The readily available data and information is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating.

Line of Evidence (LOE) for Decision ID 61134, Mercury

Region 2

Alameda Creek

LOE ID: 90930

Pollutant: Mercury
LOE Subgroup: Pollutant-Sediment
Matrix: Sediment
Fraction: Total

Beneficial Use: Warm Freshwater Habitat

Number of Samples: 1
Number of Exceedances: 0

Data and Information Type: PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality: Water Board staff assessed SWAMP data for Alameda Creek to determine beneficial use support and results are as follows: 0 of 1 samples exceed the criterion for Mercury.
Data Reference: [Statewide Stream Pollution Trends Study 2008](#)

SWAMP Data: SWAMP

Water Quality Objective/Criterion: San Francisco Bay Basin Water Quality Control Plan 2007: All waters shall be maintained free of toxic substances in concentrations which are toxic to, or which produce detrimental physiological responses in, human, plant, animal, or aquatic life.
Objective/Criterion Reference: [Water Quality Control Plan \(Basin Plan\) San Francisco Bay Basin \(Region 2\)](#)

Evaluation Guideline: In freshwater sediments the probable effect concentration (predictive of sediment toxicity for sediment-dwelling organisms) for mercury is 1.06 mg/Kg dry weight (MacDonald et al. 2000).
Guideline Reference: [Development and evaluation of consensus-based sediment quality guidelines for freshwater ecosystems. Environmental Contamination and Toxicology. 39: 20-31](#)

Spatial Representation: Data for this line of evidence for Alameda Creek was collected at 1 monitoring site [Alameda Creek E of Alvarado Blvd station (204ALA020)]

Temporal Representation: Data was collected on a single day 6/17/2008.

Environmental Conditions: Staff is not aware of any special conditions that might affect interpretation of the data.

QAPP Information: SWAMP data collected before September 2008 followed the QAMP (2002), however there may have been overlap in QA with SWAMP QAPP (2008).
QAPP Information Reference(s): [Quality Assurance Management Plan for the State of California's Surface Water Ambient Monitoring Program. Sacramento, CA. State Water Resources Control Board. SWAMP. December 2002 \(1st version\)](#)
[Surface Water Ambient Monitoring Program Quality Assurance Program Plan](#)

Line of Evidence (LOE) for Decision ID 61134, Mercury

Region 2

Alameda Creek

LOE ID: 90931

Pollutant: Mercury
LOE Subgroup: Pollutant-Sediment
Matrix: Sediment
Fraction: Total

Beneficial Use:	Cold Freshwater Habitat
Number of Samples:	1
Number of Exceedances:	0
Data and Information Type:	PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality:	Water Board staff assessed SWAMP data for Alameda Creek to determine beneficial use support and results are as follows: 0 of 1 samples exceed the criterion for Mercury.
Data Reference:	Statewide Stream Pollution Trends Study 2008
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	San Francisco Bay Basin Water Quality Control Plan 2007: All waters shall be maintained free of toxic substances in concentrations which are toxic to, or which produce detrimental physiological responses in, human, plant, animal, or aquatic life.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	In freshwater sediments the probable effect concentration (predictive of sediment toxicity for sediment-dwelling organisms) for mercury is 1.06 mg/Kg dry weight (MacDonald et al. 2000).
Guideline Reference:	Development and evaluation of consensus-based sediment quality guidelines for freshwater ecosystems. Environmental Contamination and Toxicology. 39: 20-31
Spatial Representation:	Data for this line of evidence for Alameda Creek was collected at 1 monitoring site [Alameda Creek E of Alvarado Blvd station (204ALA020)]
Temporal Representation:	Data was collected on a single day 6/17/2008.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	SWAMP data collected before September 2008 followed the QAMP (2002), however there may have been overlap in QA with SWAMP QAPP (2008).
QAPP Information Reference(s):	Quality Assurance Management Plan for the State of California's Surface Water Ambient Monitoring Program. Sacramento, CA. State Water Resources Control Board. SWAMP. December 2002 (1st version) Surface Water Ambient Monitoring Program Quality Assurance Program Plan

DECISION ID	61135	Region 2
Alameda Creek		

Pollutant:	Methyl Parathion
Final Listing Decision:	Do Not List on 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision:	New Decision
Revision Status	Revised
Impairment from Pollutant or Pollution:	Pollutant
Regional Board Staff Conclusion:	<p>This pollutant is being considered for placement on the CWA section 303(d) List under section 3.1 of the Listing Policy. Under section 3.1 a single line of evidence is necessary to assess listing status. Two lines of evidence are available in the administrative record to assess this pollutant. Zero of one samples exceed the guideline.</p> <p>Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against placing this water segment-pollutant combination on the CWA section 303(d) List.</p> <p>This conclusion is based on the staff findings that:</p> <ol style="list-style-type: none"> 1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy. 2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy. 3. Zero of one samples exceed the guideline and this sample size is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating. A minimum of 16 samples is needed to determine if a beneficial use is fully supported using table 3.1. 4. Pursuant to SECTION 3.11 of the Listing Policy, no additional data and information are available

indicating that standards are not met.

Regional Board Staff Decision Recommendation: After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be placed on the section 303(d) list. The readily available data and information is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating.

Line of Evidence (LOE) for Decision ID 61135, Methyl Parathion

Region 2

Alameda Creek

LOE ID: 90932

Pollutant: Methyl Parathion
LOE Subgroup: Pollutant-Sediment
Matrix: Sediment
Fraction: Total

Beneficial Use: Warm Freshwater Habitat

Number of Samples: 1
Number of Exceedances: 0

Data and Information Type: PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality: Water Board staff assessed SWAMP data for Alameda Creek to determine beneficial use support and results are as follows: 0 of 1 samples exceed the criterion for Parathion, Methyl.

Data Reference: [Statewide Stream Pollution Trends Study 2008](#)

SWAMP Data: SWAMP

Water Quality Objective/Criterion: San Francisco Bay Basin Water Quality Control Plan 2007: All waters shall be maintained free of toxic substances in concentrations which are toxic to, or which produce detrimental physiological responses in, human, plant, animal, or aquatic life.

Objective/Criterion Reference: [Water Quality Control Plan \(Basin Plan\) San Francisco Bay Basin \(Region 2\)](#)

Evaluation Guideline: The evaluation guideline for methyl parathion is the median lethal concentration (LC50) of 6 ug/g and is normalized by the percentage of organic carbon in the sediment sample. The LC50 6 ug/g is the geometric mean of LC50 values for methyl parathion from Ding et al. (2011).

Guideline Reference: [Toxicity of Sediment-Associated Pesticides to Chironomus dilutus and Hyalella azteca. Arch. Environ. Contam. Toxicol. 61:83?92.](#)

Spatial Representation: Data for this line of evidence for Alameda Creek was collected at 1 monitoring site [Alameda Creek E of Alvarado Blvd station (204ALA020)]

Temporal Representation: Data was collected on a single day 6/17/2008.

Environmental Conditions: Staff is not aware of any special conditions that might affect interpretation of the data.

QAPP Information: SWAMP data collected before September 2008 followed the QAMP (2002), however there may have been overlap in QA with SWAMP QAPP (2008).

QAPP Information Reference(s): [Quality Assurance Management Plan for the State of California's Surface Water Ambient Monitoring Program. Sacramento, CA. State Water Resources Control Board. SWAMP. December 2002 \(1st version\)](#)
[Surface Water Ambient Monitoring Program Quality Assurance Program Plan](#)

Line of Evidence (LOE) for Decision ID 61135, Methyl Parathion

Region 2

Alameda Creek

LOE ID: 90933

Pollutant: Methyl Parathion
LOE Subgroup: Pollutant-Sediment

Matrix:	Sediment
Fraction:	Total
Beneficial Use:	Cold Freshwater Habitat
Number of Samples:	1
Number of Exceedances:	0
Data and Information Type:	PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality:	Water Board staff assessed SWAMP data for Alameda Creek to determine beneficial use support and results are as follows: 0 of 1 samples exceed the criterion for Parathion, Methyl.
Data Reference:	Statewide Stream Pollution Trends Study 2008
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	San Francisco Bay Basin Water Quality Control Plan 2007: All waters shall be maintained free of toxic substances in concentrations which are toxic to, or which produce detrimental physiological responses in, human, plant, animal, or aquatic life.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	The evaluation guideline for methyl parathion is the median lethal concentration (LC50) of 6 ug/g and is normalized by the percentage of organic carbon in the sediment sample. The LC50 6 ug/g is the geometric mean of LC50 values for methyl parathion from Ding et al. (2011).
Guideline Reference:	Toxicity of Sediment-Associated Pesticides to Chironomus dilutus and Hyalella azteca. Arch. Environ. Contam. Toxicol. 61:83?92.
Spatial Representation:	Data for this line of evidence for Alameda Creek was collected at 1 monitoring site [Alameda Creek E of Alvarado Blvd station (204ALA020)]
Temporal Representation:	Data was collected on a single day 6/17/2008.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	SWAMP data collected before September 2008 followed the QAMP (2002), however there may have been overlap in QA with SWAMP QAPP (2008).
QAPP Information Reference(s):	Quality Assurance Management Plan for the State of California's Surface Water Ambient Monitoring Program. Sacramento, CA. State Water Resources Control Board. SWAMP. December 2002 (1st version). Surface Water Ambient Monitoring Program Quality Assurance Program Plan

DECISION ID	61136	Region 2
Alameda Creek		

Pollutant:	Naphthalene
Final Listing Decision:	Do Not List on 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision:	New Decision
Revision Status	Revised
Impairment from Pollutant or Pollution:	Pollutant
Regional Board Staff Conclusion:	<p>This pollutant is being considered for placement on the CWA section 303(d) List under section 3.1 of the Listing Policy. Under section 3.1 a single line of evidence is necessary to assess listing status. Two lines of evidence are available in the administrative record to assess this pollutant. Zero of one samples exceed the guideline.</p> <p>Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against placing this water segment-pollutant combination on the CWA section 303(d) List.</p> <p>This conclusion is based on the staff findings that:</p> <ol style="list-style-type: none"> 1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy.

2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy.
3. Zero of one samples exceed the guideline and this sample size is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating. A minimum of 16 samples is needed to determine if a beneficial use is fully supported using table 3.1.
4. Pursuant to SECTION 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.

Regional Board Staff Decision Recommendation: After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be placed on the section 303(d) list. The readily available data and information is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating.

Line of Evidence (LOE) for Decision ID 61136, Naphthalene

Region 2

Alameda Creek

LOE ID:	90935
Pollutant:	Naphthalene
LOE Subgroup:	Pollutant-Sediment
Matrix:	Sediment
Fraction:	Total
Beneficial Use:	Cold Freshwater Habitat
Number of Samples:	1
Number of Exceedances:	0
Data and Information Type:	PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality:	Water Board staff assessed SWAMP data for Alameda Creek to determine beneficial use support and results are as follows: 0 of 1 samples exceed the criterion for Naphthalene.
Data Reference:	Statewide Stream Pollution Trends Study 2008
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	San Francisco Bay Basin Water Quality Control Plan 2007: All waters shall be maintained free of toxic substances in concentrations which are toxic to, or which produce detrimental physiological responses in, human, plant, animal, or aquatic life.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	In freshwater sediments the probable effect concentration (predictive of sediment toxicity for sediment-dwelling organisms) for naphthalene is 561 ug/Kg dry weight (MacDonald et al. 2000).
Guideline Reference:	Development and evaluation of consensus-based sediment quality guidelines for freshwater ecosystems. Environmental Contamination and Toxicology. 39: 20-31
Spatial Representation:	Data for this line of evidence for Alameda Creek was collected at 1 monitoring site [Alameda Creek E of Alvarado Blvd station (204ALA020)]
Temporal Representation:	Data was collected on a single day 6/17/2008.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	SWAMP data collected before September 2008 followed the QAMP (2002), however there may have been overlap in QA with SWAMP QAPP (2008).
QAPP Information Reference(s):	Quality Assurance Management Plan for the State of California's Surface Water Ambient Monitoring Program. Sacramento, CA. State Water Resources Control Board. SWAMP. December 2002 (1st version) Surface Water Ambient Monitoring Program Quality Assurance Program Plan

Line of Evidence (LOE) for Decision ID 61136, Naphthalene

Region 2

Alameda Creek

LOE ID: 90934

Pollutant:	Naphthalene
LOE Subgroup:	Pollutant-Sediment
Matrix:	Sediment
Fraction:	Total
Beneficial Use:	Warm Freshwater Habitat
Number of Samples:	1
Number of Exceedances:	0
Data and Information Type:	PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality:	Water Board staff assessed SWAMP data for Alameda Creek to determine beneficial use support and results are as follows: 0 of 1 samples exceed the criterion for Naphthalene.
Data Reference:	Statewide Stream Pollution Trends Study 2008
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	San Francisco Bay Basin Water Quality Control Plan 2007: All waters shall be maintained free of toxic substances in concentrations which are toxic to, or which produce detrimental physiological responses in, human, plant, animal, or aquatic life.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	In freshwater sediments the probable effect concentration (predictive of sediment toxicity for sediment-dwelling organisms) for naphthalene is 561 ug/Kg dry weight (MacDonald et al. 2000).
Guideline Reference:	Development and evaluation of consensus-based sediment quality guidelines for freshwater ecosystems. Environmental Contamination and Toxicology. 39: 20-31
Spatial Representation:	Data for this line of evidence for Alameda Creek was collected at 1 monitoring site [Alameda Creek E of Alvarado Blvd station (204ALA020)]
Temporal Representation:	Data was collected on a single day 6/17/2008.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	SWAMP data collected before September 2008 followed the QAMP (2002), however there may have been overlap in QA with SWAMP QAPP (2008).
QAPP Information Reference(s):	Quality Assurance Management Plan for the State of California's Surface Water Ambient Monitoring Program. Sacramento, CA. State Water Resources Control Board. SWAMP. December 2002 (1st version). Surface Water Ambient Monitoring Program Quality Assurance Program Plan

DECISION ID	61137	Region 2
Alameda Creek		

Pollutant:	Nickel
Final Listing Decision:	Do Not List on 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision:	New Decision
Revision Status	Revised
Impairment from Pollutant or Pollution:	Pollutant
Regional Board Staff Conclusion:	<p>This pollutant is being considered for placement on the CWA section 303(d) List under section 3.1 of the Listing Policy. Under section 3.1 a single line of evidence is necessary to assess listing status. Two lines of evidence are available in the administrative record to assess this pollutant. One of one samples exceed the guideline.</p> <p>Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against placing this water segment-pollutant combination on the CWA section 303(d) List.</p> <p>This conclusion is based on the staff findings that:</p>

1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy.
2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy.
3. One of one samples exceed the guideline and this sample size is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating. A minimum of 16 samples is needed to determine if a beneficial use is fully supported using table 3.1.
4. Pursuant to SECTION 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.

Regional Board Staff Decision Recommendation: After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be placed on the section 303(d) list. The readily available data and information is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating.

Line of Evidence (LOE) for Decision ID 61137, Nickel

Region 2

Alameda Creek

LOE ID:	90936
Pollutant:	Nickel
LOE Subgroup:	Pollutant-Sediment
Matrix:	Sediment
Fraction:	Total
Beneficial Use:	Warm Freshwater Habitat
Number of Samples:	1
Number of Exceedances:	1
Data and Information Type:	PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality:	Water Board staff assessed SWAMP data for Alameda Creek to determine beneficial use support and results are as follows: 1 of 1 samples exceed the criterion for Nickel.
Data Reference:	Statewide Stream Pollution Trends Study 2008
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	San Francisco Bay Basin Water Quality Control Plan 2007: All waters shall be maintained free of toxic substances in concentrations which are toxic to, or which produce detrimental physiological responses in, human, plant, animal, or aquatic life.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	In freshwater sediments the probable effect concentration (predictive of sediment toxicity for sediment-dwelling organisms) for nickel is 48.6 mg/Kg dry weight (MacDonald et al. 2000).
Guideline Reference:	Development and evaluation of consensus-based sediment quality guidelines for freshwater ecosystems. Environmental Contamination and Toxicology. 39: 20-31
Spatial Representation:	Data for this line of evidence for Alameda Creek was collected at 1 monitoring site [Alameda Creek E of Alvarado Blvd station (204ALA020)]
Temporal Representation:	Data was collected on a single day 6/17/2008.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	SWAMP data collected before September 2008 followed the QAMP (2002), however there may have been overlap in QA with SWAMP QAPP (2008).
QAPP Information Reference(s):	Quality Assurance Management Plan for the State of California's Surface Water Ambient Monitoring Program. Sacramento, CA. State Water Resources Control Board. SWAMP. December 2002 (1st version) Surface Water Ambient Monitoring Program Quality Assurance Program Plan

Line of Evidence (LOE) for Decision ID 61137, Nickel

Region 2

Alameda Creek

LOE ID:	90937
Pollutant:	Nickel
LOE Subgroup:	Pollutant-Sediment
Matrix:	Sediment
Fraction:	Total
Beneficial Use:	Cold Freshwater Habitat
Number of Samples:	1
Number of Exceedances:	1
Data and Information Type:	PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality:	Water Board staff assessed SWAMP data for Alameda Creek to determine beneficial use support and results are as follows: 1 of 1 samples exceed the criterion for Nickel.
Data Reference:	Statewide Stream Pollution Trends Study 2008
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	San Francisco Bay Basin Water Quality Control Plan 2007: All waters shall be maintained free of toxic substances in concentrations which are toxic to, or which produce detrimental physiological responses in, human, plant, animal, or aquatic life.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	In freshwater sediments the probable effect concentration (predictive of sediment toxicity for sediment-dwelling organisms) for nickel is 48.6 mg/Kg dry weight (MacDonald et al. 2000).
Guideline Reference:	Development and evaluation of consensus-based sediment quality guidelines for freshwater ecosystems. Environmental Contamination and Toxicology. 39: 20-31
Spatial Representation:	Data for this line of evidence for Alameda Creek was collected at 1 monitoring site [Alameda Creek E of Alvarado Blvd station (204ALA020)]
Temporal Representation:	Data was collected on a single day 6/17/2008.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	SWAMP data collected before September 2008 followed the QAMP (2002), however there may have been overlap in QA with SWAMP QAPP (2008).
QAPP Information Reference(s):	Quality Assurance Management Plan for the State of California's Surface Water Ambient Monitoring Program. Sacramento, CA. State Water Resources Control Board. SWAMP. December 2002 (1st version). Surface Water Ambient Monitoring Program Quality Assurance Program Plan

DECISION ID	61138	Region 2
Alameda Creek		
Pollutant:	PAHs (Polycyclic Aromatic Hydrocarbons)	
Final Listing Decision:	Do Not List on 303(d) list (TMDL required list)	
Last Listing Cycle's Final Listing Decision:	New Decision	
Revision Status	Revised	
Impairment from Pollutant or Pollution:	Pollutant	
Regional Board Staff Conclusion:	<p>This pollutant is being considered for placement on the CWA section 303(d) List under section 3.1 of the Listing Policy. Under section 3.1 a single line of evidence is necessary to assess listing status. Two lines of evidence are available in the administrative record to assess this pollutant. Zero of one samples exceed the guideline.</p> <p>Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against placing this water segment-pollutant combination on the CWA section 303(d) List.</p>	

This conclusion is based on the staff findings that:

1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy.
2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy.
3. Zero of one samples exceed the guideline and this sample size is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating. A minimum of 16 samples is needed to determine if a beneficial use is fully supported using table 3.1.
4. Pursuant to SECTION 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.

Regional Board Staff Decision Recommendation: After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be placed on the section 303(d) list. The readily available data and information is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating.

Line of Evidence (LOE) for Decision ID 61138, PAHs (Polycyclic Aromatic Hydrocarbons)

Region 2

Alameda Creek

LOE ID:	90938
Pollutant:	PAHs (Polycyclic Aromatic Hydrocarbons)
LOE Subgroup:	Pollutant-Sediment
Matrix:	Sediment
Fraction:	Total
Beneficial Use:	Warm Freshwater Habitat
Number of Samples:	1
Number of Exceedances:	0
Data and Information Type:	PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality:	Water Board staff assessed SWAMP data for Alameda Creek to determine beneficial use support and results are as follows: 0 of 1 samples exceed the criterion for PAHs (Polycyclic Aromatic Hydrocarbons).
Data Reference:	Statewide Stream Pollution Trends Study 2008
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	San Francisco Bay Basin Water Quality Control Plan 2007: All waters shall be maintained free of toxic substances in concentrations which are toxic to, or which produce detrimental physiological responses in, human, plant, animal, or aquatic life.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	In freshwater sediments the probable effects level (predictive of sediment toxicity for sediment-dwelling organisms) for PAH, Total is 22,800 ug/Kg dry weight (Macdonald et al. 2000)
Guideline Reference:	Development and evaluation of consensus-based sediment quality guidelines for freshwater ecosystems. Environmental Contamination and Toxicology. 39: 20-31
Spatial Representation:	Data for this line of evidence for Alameda Creek was collected at 1 monitoring site [Alameda Creek E of Alvarado Blvd station (204ALA020)]
Temporal Representation:	Data was collected on a single day 6/17/2008.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	SWAMP data collected before September 2008 followed the QAMP (2002), however there may have been overlap in QA with SWAMP QAPP (2008).
QAPP Information Reference(s):	Quality Assurance Management Plan for the State of California's Surface Water Ambient Monitoring Program. Sacramento, CA. State Water Resources Control Board. SWAMP. December 2002 (1st version) Surface Water Ambient Monitoring Program Quality Assurance Program Plan

Line of Evidence (LOE) for Decision ID 61138, PAHs (Polycyclic Aromatic Hydrocarbons)

Region 2

Alameda Creek

LOE ID:	90939
Pollutant:	PAHs (Polycyclic Aromatic Hydrocarbons)
LOE Subgroup:	Pollutant-Sediment
Matrix:	Sediment
Fraction:	Total
Beneficial Use:	Cold Freshwater Habitat
Number of Samples:	1
Number of Exceedances:	0
Data and Information Type:	PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality:	Water Board staff assessed SWAMP data for Alameda Creek to determine beneficial use support and results are as follows: 0 of 1 samples exceed the criterion for PAHs (Polycyclic Aromatic Hydrocarbons).
Data Reference:	Statewide Stream Pollution Trends Study 2008
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	San Francisco Bay Basin Water Quality Control Plan 2007: All waters shall be maintained free of toxic substances in concentrations which are toxic to, or which produce detrimental physiological responses in, human, plant, animal, or aquatic life.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	In freshwater sediments the probable effects level (predictive of sediment toxicity for sediment-dwelling organisms) for PAH, Total is 22,800 ug/Kg dry weight (Macdonald et al. 2000)
Guideline Reference:	Development and evaluation of consensus-based sediment quality guidelines for freshwater ecosystems. Environmental Contamination and Toxicology. 39: 20-31
Spatial Representation:	Data for this line of evidence for Alameda Creek was collected at 1 monitoring site [Alameda Creek E of Alvarado Blvd station (204ALA020)]
Temporal Representation:	Data was collected on a single day 6/17/2008.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	SWAMP data collected before September 2008 followed the QAMP (2002), however there may have been overlap in QA with SWAMP QAPP (2008).
QAPP Information Reference(s):	Quality Assurance Management Plan for the State of California's Surface Water Ambient Monitoring Program. Sacramento, CA. State Water Resources Control Board. SWAMP. December 2002 (1st version). Surface Water Ambient Monitoring Program Quality Assurance Program Plan

DECISION ID	61139	Region 2
Alameda Creek		
Pollutant:	PCBs (Polychlorinated biphenyls)	
Final Listing Decision:	Do Not List on 303(d) list (TMDL required list)	
Last Listing Cycle's Final Listing Decision:	New Decision	
Revision Status	Revised	
Impairment from Pollutant or Pollution:	Pollutant	
Regional Board Staff Conclusion:	This pollutant is being considered for placement on the CWA section 303(d) List under section 3.1 of the Listing Policy. Under section 3.1 a single line of evidence is necessary to assess listing status. One line of evidence is available in the administrative record to assess this pollutant. Zero of one samples exceed the guideline. Based on the readily available data and information, the weight of evidence indicates that there is	

sufficient justification against placing this water segment-pollutant combination on the CWA section 303(d) List.

This conclusion is based on the staff findings that:

1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy.
2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy.
3. Zero of one samples exceed the guideline and this sample size is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating. A minimum of 16 samples is needed to determine if a beneficial use is fully supported using table 3.1.
4. Pursuant to SECTION 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.

Regional Board Staff Decision Recommendation: After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be placed on the section 303(d) list. The readily available data and information is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating.

Line of Evidence (LOE) for Decision ID 61139, PCBs (Polychlorinated biphenyls)

Region 2

Alameda Creek

LOE ID: 90578

Pollutant: PCBs (Polychlorinated biphenyls)
LOE Subgroup: Pollutant-Sediment
Matrix: Sediment
Fraction: Total

Beneficial Use: Cold Freshwater Habitat

Number of Samples: 1
Number of Exceedances: 0

Data and Information Type: PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality: Zero of 1 sample collected for Total PCBs exceeded the evaluation guideline.
Data Reference: [Statewide Stream Pollution Trends Study 2008](#)

SWAMP Data: SWAMP

Water Quality Objective/Criterion: Waters shall not contain substances in concentrations that result in the deposition of material that causes nuisance or adversely affects beneficial uses (Water Quality Control Plan for the San Francisco Bay Region).

Objective/Criterion Reference: [Water Quality Control Plan \(Basin Plan\) - San Francisco Bay Region \(Region 2\)](#)

Evaluation Guideline: In freshwater sediments the probable effect concentration (predictive of sediment toxicity) for total PCB is 676 ug/Kg dry weight (MacDonald et al. 2000).

Guideline Reference: [Development and evaluation of consensus-based sediment quality guidelines for freshwater ecosystems. Environmental Contamination and Toxicology. 39: 20-31](#)

Spatial Representation: Data were collected at the following station 5204ALA020 (Alameda Creek E. of Alvarado Blvd).

Temporal Representation: The samples were collected on 6/17/2008.

Environmental Conditions:

QAPP Information: The SWAMP QAPP (2008) was followed.

QAPP Information Reference(s): [Surface Water Ambient Monitoring Program Quality Assurance Program Plan](#)

DECISION ID

61140

Region 2

Alameda Creek

Pollutant:

Permethrin

Final Listing Decision:	Do Not List on 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision:	New Decision
Revision Status	Revised
Impairment from Pollutant or Pollution:	Pollutant

Regional Board Staff Conclusion: This pollutant is being considered for placement on the CWA section 303(d) List under section 3.1 of the Listing Policy. Under section 3.1 a single line of evidence is necessary to assess listing status. Two lines of evidence are available in the administrative record to assess this pollutant. Zero of one samples exceed the guideline.

Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against placing this water segment-pollutant combination on the CWA section 303(d) List.

This conclusion is based on the staff findings that:

1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy.
2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy.
3. Zero of one samples exceed the guideline and this sample size is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating. A minimum of 16 samples is needed to determine if a beneficial use is fully supported using table 3.1.
4. Pursuant to SECTION 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.

Regional Board Staff Decision Recommendation: After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be placed on the section 303(d) list. The readily available data and information is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating.

Line of Evidence (LOE) for Decision ID 61140, Permethrin	Region 2
Alameda Creek	

LOE ID:	90989
Pollutant:	Permethrin, total
LOE Subgroup:	Pollutant-Sediment
Matrix:	Sediment
Fraction:	Total
Beneficial Use:	Cold Freshwater Habitat
Number of Samples:	1
Number of Exceedances:	0
Data and Information Type:	PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality:	Water Board staff assessed SWAMP data for Alameda Creek to determine beneficial use support and results are as follows: 0 of 1 samples exceed the criterion for Permethrin, Total.
Data Reference:	Statewide Stream Pollution Trends Study 2008
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	San Francisco Bay Basin Water Quality Control Plan 2007: All waters shall be maintained free of toxic substances in concentrations which are toxic to, or which produce detrimental physiological responses in, human, plant, animal, or aquatic life.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	The evaluation guideline for permethrin is the median lethal concentration (LC50) of 8.9 ug/g and is normalized by the percentage of organic carbon in the sediment sample. The LC50 8.9 ug/g is the geometric mean of LC50 values for permethrin from Amweg et al.

Guideline Reference: (2005). [Use and Toxicity of Pyrethroid Pesticides in the Central Valley, California, USA. Environmental Toxicology and Chemistry, 24:966-972, with erratum 24:No. 5](#)

Spatial Representation: Data for this line of evidence for Alameda Creek was collected at 1 monitoring site [Alameda Creek E of Alvarado Blvd station (204ALA020)]

Temporal Representation: Data was collected on a single day 6/17/2008.

Environmental Conditions: Staff is not aware of any special conditions that might affect interpretation of the data.

QAPP Information: SWAMP data collected before September 2008 followed the QAMP (2002), however there may have been overlap in QA with SWAMP QAPP (2008).

QAPP Information Reference(s): [Quality Assurance Management Plan for the State of California's Surface Water Ambient Monitoring Program. Sacramento, CA. State Water Resources Control Board. SWAMP. December 2002 \(1st version\).](#)
[Surface Water Ambient Monitoring Program Quality Assurance Program Plan](#)

Line of Evidence (LOE) for Decision ID 61140, Permethrin

Region 2

Alameda Creek

LOE ID: 90988

Pollutant: Permethrin, total

LOE Subgroup: Pollutant-Sediment

Matrix: Sediment

Fraction: Total

Beneficial Use: Warm Freshwater Habitat

Number of Samples: 1

Number of Exceedances: 0

Data and Information Type: PHYSICAL/CHEMICAL MONITORING

Data Used to Assess Water Quality: Water Board staff assessed SWAMP data for Alameda Creek to determine beneficial use support and results are as follows: 0 of 1 samples exceed the criterion for Permethrin, Total.

Data Reference: [Statewide Stream Pollution Trends Study 2008](#)

SWAMP Data: SWAMP

Water Quality Objective/Criterion: San Francisco Bay Basin Water Quality Control Plan 2007: All waters shall be maintained free of toxic substances in concentrations which are toxic to, or which produce detrimental physiological responses in, human, plant, animal, or aquatic life.

Objective/Criterion Reference: [Water Quality Control Plan \(Basin Plan\) San Francisco Bay Basin \(Region 2\)](#)

Evaluation Guideline: The evaluation guideline for permethrin is the median lethal concentration (LC50) of 8.9 ug/g and is normalized by the percentage of organic carbon in the sediment sample. The LC50 8.9 ug/g is the geometric mean of LC50 values for permethrin from Amweg et al. (2005).

Guideline Reference: [Use and Toxicity of Pyrethroid Pesticides in the Central Valley, California, USA. Environmental Toxicology and Chemistry, 24:966-972, with erratum 24:No. 5](#)

Spatial Representation: Data for this line of evidence for Alameda Creek was collected at 1 monitoring site [Alameda Creek E of Alvarado Blvd station (204ALA020)]

Temporal Representation: Data was collected on a single day 6/17/2008.

Environmental Conditions: Staff is not aware of any special conditions that might affect interpretation of the data.

QAPP Information: SWAMP data collected before September 2008 followed the QAMP (2002), however there may have been overlap in QA with SWAMP QAPP (2008).

QAPP Information Reference(s): [Quality Assurance Management Plan for the State of California's Surface Water Ambient Monitoring Program. Sacramento, CA. State Water Resources Control Board. SWAMP. December 2002 \(1st version\).](#)
[Surface Water Ambient Monitoring Program Quality Assurance Program Plan](#)

Pollutant:	Phenanthrene
Final Listing Decision:	Do Not List on 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision:	New Decision
Revision Status	Revised
Impairment from Pollutant or Pollution:	Pollutant

Regional Board Staff Conclusion: This pollutant is being considered for placement on the CWA section 303(d) List under section 3.1 of the Listing Policy. Under section 3.1 a single line of evidence is necessary to assess listing status. Two lines of evidence are available in the administrative record to assess this pollutant. Zero of one samples exceed the guideline.

Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against placing this water segment-pollutant combination on the CWA section 303(d) List.

This conclusion is based on the staff findings that:

1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy.
2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy.
3. Zero of one samples exceed the guideline and this sample size is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating. A minimum of 16 samples is needed to determine if a beneficial use is fully supported using table 3.1.
4. Pursuant to SECTION 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.

Regional Board Staff Decision Recommendation: After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be placed on the section 303(d) list. The readily available data and information is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating.

Line of Evidence (LOE) for Decision ID 61141, Phenanthrene	Region 2
Alameda Creek	

LOE ID:	90990
Pollutant:	Phenanthrene
LOE Subgroup:	Pollutant-Sediment
Matrix:	Sediment
Fraction:	Total
Beneficial Use:	Warm Freshwater Habitat
Number of Samples:	1
Number of Exceedances:	0
Data and Information Type:	PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality:	Water Board staff assessed SWAMP data for Alameda Creek to determine beneficial use support and results are as follows: 0 of 1 samples exceed the criterion for Phenanthrene.
Data Reference:	Statewide Stream Pollution Trends Study 2008
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	San Francisco Bay Basin Water Quality Control Plan 2007: All waters shall be maintained free of toxic substances in concentrations which are toxic to, or which produce detrimental physiological responses in, human, plant, animal, or aquatic life.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)

Evaluation Guideline:	In freshwater sediments the probable effects level (predictive of sediment toxicity for sediment-dwelling organisms) for Phenanthrene is 1170 ug/Kg dry weight (Macdonald et al. 2000)
Guideline Reference:	Development and evaluation of consensus-based sediment quality guidelines for freshwater ecosystems. Environmental Contamination and Toxicology. 39: 20-31
Spatial Representation:	Data for this line of evidence for Alameda Creek was collected at 1 monitoring site [Alameda Creek E of Alvarado Blvd station (204ALA020)]
Temporal Representation:	Data was collected on a single day 6/17/2008.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	SWAMP data collected before September 2008 followed the QAMP (2002), however there may have been overlap in QA with SWAMP QAPP (2008).
QAPP Information Reference(s):	Quality Assurance Management Plan for the State of California's Surface Water Ambient Monitoring Program. Sacramento, CA. State Water Resources Control Board. SWAMP. December 2002 (1st version) Surface Water Ambient Monitoring Program Quality Assurance Program Plan

Line of Evidence (LOE) for Decision ID 61141, Phenanthrene
Alameda Creek

Region 2

LOE ID:	90991
Pollutant:	Phenanthrene
LOE Subgroup:	Pollutant-Sediment
Matrix:	Sediment
Fraction:	Total
Beneficial Use:	Cold Freshwater Habitat
Number of Samples:	1
Number of Exceedances:	0
Data and Information Type:	PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality:	Water Board staff assessed SWAMP data for Alameda Creek to determine beneficial use support and results are as follows: 0 of 1 samples exceed the criterion for Phenanthrene.
Data Reference:	Statewide Stream Pollution Trends Study 2008
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	San Francisco Bay Basin Water Quality Control Plan 2007: All waters shall be maintained free of toxic substances in concentrations which are toxic to, or which produce detrimental physiological responses in, human, plant, animal, or aquatic life.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	In freshwater sediments the probable effects level (predictive of sediment toxicity for sediment-dwelling organisms) for Phenanthrene is 1170 ug/Kg dry weight (Macdonald et al. 2000)
Guideline Reference:	Development and evaluation of consensus-based sediment quality guidelines for freshwater ecosystems. Environmental Contamination and Toxicology. 39: 20-31
Spatial Representation:	Data for this line of evidence for Alameda Creek was collected at 1 monitoring site [Alameda Creek E of Alvarado Blvd station (204ALA020)]
Temporal Representation:	Data was collected on a single day 6/17/2008.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	SWAMP data collected before September 2008 followed the QAMP (2002), however there may have been overlap in QA with SWAMP QAPP (2008).
QAPP Information Reference(s):	Quality Assurance Management Plan for the State of California's Surface Water Ambient Monitoring Program. Sacramento, CA. State Water Resources Control Board. SWAMP. December 2002 (1st version) Surface Water Ambient Monitoring Program Quality Assurance Program Plan

DECISION ID	61142	Region 2
Alameda Creek		

Pollutant: Pyrene
Final Listing Decision: Do Not List on 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision: New Decision
Revision Status: Revised
Impairment from Pollutant or Pollution: Pollutant

Regional Board Staff Conclusion: This pollutant is being considered for placement on the CWA section 303(d) List under section 3.1 of the Listing Policy. Under section 3.1 a single line of evidence is necessary to assess listing status. Two lines of evidence are available in the administrative record to assess this pollutant. Zero of one samples exceed the guideline.

Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against placing this water segment-pollutant combination on the CWA section 303(d) List.

This conclusion is based on the staff findings that:

1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy.
2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy.
3. Zero of one samples exceed the guideline and this sample size is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating. A minimum of 16 samples is needed to determine if a beneficial use is fully supported using table 3.1.
4. Pursuant to SECTION 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.

Regional Board Staff Decision Recommendation: After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be placed on the section 303(d) list. The readily available data and information is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating.

Line of Evidence (LOE) for Decision ID 61142, Pyrene	Region 2
Alameda Creek	

LOE ID: 90992
Pollutant: Pyrene
LOE Subgroup: Pollutant-Sediment
Matrix: Sediment
Fraction: Total
Beneficial Use: Warm Freshwater Habitat
Number of Samples: 1
Number of Exceedances: 0
Data and Information Type: PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality: Water Board staff assessed SWAMP data for Alameda Creek to determine beneficial use support and results are as follows: 0 of 1 samples exceed the criterion for Pyrene.
Data Reference: [Statewide Stream Pollution Trends Study 2008](#)
SWAMP Data: SWAMP
Water Quality Objective/Criterion: San Francisco Bay Basin Water Quality Control Plan 2007: All waters shall be maintained free of toxic substances in concentrations which are toxic to, or which produce detrimental physiological responses in, human, plant, animal, or aquatic life.

Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	In freshwater sediments the probable effects level (predictive of sediment toxicity for sediment-dwelling organisms) for Pyrene is 1520 ug/Kg dry weight (Macdonald et al. 2000)
Guideline Reference:	Development and evaluation of consensus-based sediment quality guidelines for freshwater ecosystems. Environmental Contamination and Toxicology. 39: 20-31
Spatial Representation:	Data for this line of evidence for Alameda Creek was collected at 1 monitoring site [Alameda Creek E of Alvarado Blvd station (204ALA020)]
Temporal Representation:	Data was collected on a single day 6/17/2008.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	SWAMP data collected before September 2008 followed the QAMP (2002), however there may have been overlap in QA with SWAMP QAPP (2008).
QAPP Information Reference(s):	Quality Assurance Management Plan for the State of California's Surface Water Ambient Monitoring Program. Sacramento, CA. State Water Resources Control Board. SWAMP. December 2002 (1st version) Surface Water Ambient Monitoring Program Quality Assurance Program Plan

Line of Evidence (LOE) for Decision ID 61142, Pyrene

Region 2

Alameda Creek

LOE ID:	90993
Pollutant:	Pyrene
LOE Subgroup:	Pollutant-Sediment
Matrix:	Sediment
Fraction:	Total
Beneficial Use:	Cold Freshwater Habitat
Number of Samples:	1
Number of Exceedances:	0
Data and Information Type:	PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality:	Water Board staff assessed SWAMP data for Alameda Creek to determine beneficial use support and results are as follows: 0 of 1 samples exceed the criterion for Pyrene.
Data Reference:	Statewide Stream Pollution Trends Study 2008
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	San Francisco Bay Basin Water Quality Control Plan 2007: All waters shall be maintained free of toxic substances in concentrations which are toxic to, or which produce detrimental physiological responses in, human, plant, animal, or aquatic life.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	In freshwater sediments the probable effects level (predictive of sediment toxicity for sediment-dwelling organisms) for Pyrene is 1520 ug/Kg dry weight (Macdonald et al. 2000)
Guideline Reference:	Development and evaluation of consensus-based sediment quality guidelines for freshwater ecosystems. Environmental Contamination and Toxicology. 39: 20-31
Spatial Representation:	Data for this line of evidence for Alameda Creek was collected at 1 monitoring site [Alameda Creek E of Alvarado Blvd station (204ALA020)]
Temporal Representation:	Data was collected on a single day 6/17/2008.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	SWAMP data collected before September 2008 followed the QAMP (2002), however there may have been overlap in QA with SWAMP QAPP (2008).
QAPP Information Reference(s):	Quality Assurance Management Plan for the State of California's Surface Water Ambient Monitoring Program. Sacramento, CA. State Water Resources Control Board. SWAMP. December 2002 (1st version) Surface Water Ambient Monitoring Program Quality Assurance Program Plan

DECISION ID	61144	Region 2
Alameda Creek		

Pollutant:	Toxicity
Final Listing Decision:	Do Not List on 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision:	New Decision
Revision Status	Revised
Impairment from Pollutant or Pollution:	Pollutant

Regional Board Staff Conclusion: This pollutant is being considered for placement on the CWA section 303(d) List under section 3.1 of the Listing Policy. Under section 3.1 a single line of evidence is necessary to assess listing status. One line of evidence is available in the administrative record to assess this pollutant. One of one samples exceed the guideline.

Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against placing this water segment-pollutant combination on the CWA section 303(d) List.

This conclusion is based on the staff findings that:

1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy.
2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy.
3. One of one samples exceed the guideline and this sample size is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating. A minimum of 16 samples is needed to determine if a beneficial use is fully supported using table 3.1.
4. Pursuant to SECTION 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.

Regional Board Staff Decision Recommendation: After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be placed on the section 303(d) list. The readily available data and information is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating.

Line of Evidence (LOE) for Decision ID 61144, Toxicity	Region 2
Alameda Creek	

LOE ID:	90996
Pollutant:	Toxicity
LOE Subgroup:	Toxicity
Matrix:	Sediment
Fraction:	None
Beneficial Use:	Cold Freshwater Habitat
Number of Samples:	1
Number of Exceedances:	1
Data and Information Type:	TOXICITY TESTING
Data Used to Assess Water Quality:	One sample was collected to evaluate sediment toxicity. The sample exhibited significant toxicity. The toxicity test included survival and growth of <i>Hyalella azteca</i> . One sample can have multiple toxicity test results but will be counted only once. One sample is defined as being collected on the same day at the same location with the same lab sample id (if provided).
Data Reference:	Statewide Stream Pollution Trends Study 2008
SWAMP Data:	SWAMP

Water Quality Objective/Criterion:	All waters shall be maintained free of toxic substances in concentrations that are toxic to, or that produce detrimental physiological responses in, human, plant, animal, or aquatic life. Region 2 Basin Plan.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) - San Francisco Bay Region (Region 2)
Evaluation Guideline:	Toxicity is defined as a statistically significant effect in the sample exposure compared to the control using EPA-recommended hypothesis testing. . For SWAMP data exceedances are counted with the significant effect code SL. SL is defined as the result being significant compared to the negative control based on a statistical test, less than stated the alpha level, AND less than the evaluation threshold.
Guideline Reference:	Methods for Measuring the Toxicity and Bioaccumulation of Sediment-associated Contaminants with Freshwater Invertebrates, Second Edition. U.S. Environmental Protection Agency Office of Research and Development, Duluth, MI, U.S. Environmental Protection Agency Office of Water, Washington, DC EPA-600/R-99/064
Spatial Representation:	The sample was collected at station 204ALA020.
Temporal Representation:	The sample was collected in June 2008.
Environmental Conditions:	
QAPP Information:	All data was collected following the Standard Operating Procedures and Data Quality Objectives outlined in the SWAMP QAMP, (Puckett, 2002). QA data are included in submission.
QAPP Information Reference(s):	

DECISION ID	61145	Region 2
Alameda Creek		
Pollutant:	Zinc	
Final Listing Decision:	Do Not List on 303(d) list (TMDL required list)	
Last Listing Cycle's Final Listing Decision:	New Decision	
Revision Status	Revised	
Impairment from Pollutant or Pollution:	Pollutant	
Regional Board Staff Conclusion:	<p>This pollutant is being considered for placement on the CWA section 303(d) List under section 3.1 of the Listing Policy. Under section 3.1 a single line of evidence is necessary to assess listing status. Two lines of evidence are available in the administrative record to assess this pollutant. Zero of one samples exceed the guideline.</p> <p>Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against placing this water segment-pollutant combination on the CWA section 303(d) List.</p> <p>This conclusion is based on the staff findings that:</p> <ol style="list-style-type: none"> 1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy. 2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy. 3. Zero of one samples exceed the guideline and this sample size is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating. A minimum of 16 samples is needed to determine if a beneficial use is fully supported using table 3.1. 4. Pursuant to SECTION 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met. 	
Regional Board Staff Decision Recommendation:	After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be placed on the section 303(d) list. The readily available data and information is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating.	

Line of Evidence (LOE) for Decision ID 61145, Zinc	Region 2
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Alameda Creek

LOE ID:	90997
Pollutant:	Zinc
LOE Subgroup:	Pollutant-Sediment
Matrix:	Sediment
Fraction:	Total
Beneficial Use:	Warm Freshwater Habitat
Number of Samples:	1
Number of Exceedances:	0
Data and Information Type:	PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality:	Water Board staff assessed SWAMP data for Alameda Creek to determine beneficial use support and results are as follows: 0 of 1 samples exceed the criterion for Zinc.
Data Reference:	Statewide Stream Pollution Trends Study 2008
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	San Francisco Bay Basin Water Quality Control Plan 2007: All waters shall be maintained free of toxic substances in concentrations which are toxic to, or which produce detrimental physiological responses in, human, plant, animal, or aquatic life.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	In freshwater sediments the probable effect concentration (predictive of sediment toxicity for sediment-dwelling organisms) for zinc is 459 mg/Kg dry weight (MacDonald et al. 2000).
Guideline Reference:	Development and evaluation of consensus-based sediment quality guidelines for freshwater ecosystems. Environmental Contamination and Toxicology. 39: 20-31
Spatial Representation:	Data for this line of evidence for Alameda Creek was collected at 1 monitoring site [Alameda Creek E of Alvarado Blvd station (204ALA020)]
Temporal Representation:	Data was collected on a single day 6/17/2008.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	SWAMP data collected before September 2008 followed the QAMP (2002), however there may have been overlap in QA with SWAMP QAPP (2008).
QAPP Information Reference(s):	Quality Assurance Management Plan for the State of California's Surface Water Ambient Monitoring Program. Sacramento, CA. State Water Resources Control Board. SWAMP. December 2002 (1st version) Surface Water Ambient Monitoring Program Quality Assurance Program Plan

Line of Evidence (LOE) for Decision ID 61145, Zinc**Region 2****Alameda Creek**

LOE ID:	90970
Pollutant:	Zinc
LOE Subgroup:	Pollutant-Sediment
Matrix:	Sediment
Fraction:	Total
Beneficial Use:	Cold Freshwater Habitat
Number of Samples:	1
Number of Exceedances:	0
Data and Information Type:	PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality:	Water Board staff assessed SWAMP data for Alameda Creek to determine beneficial use support and results are as follows: 0 of 1 samples exceed the criterion for Zinc.
Data Reference:	Statewide Stream Pollution Trends Study 2008

SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	San Francisco Bay Basin Water Quality Control Plan 2007: All waters shall be maintained free of toxic substances in concentrations which are toxic to, or which produce detrimental physiological responses in, human, plant, animal, or aquatic life.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	In freshwater sediments the probable effect concentration (predictive of sediment toxicity for sediment-dwelling organisms) for zinc is 459 mg/Kg dry weight (MacDonald et al. 2000).
Guideline Reference:	Development and evaluation of consensus-based sediment quality guidelines for freshwater ecosystems. Environmental Contamination and Toxicology. 39: 20-31
Spatial Representation:	Data for this line of evidence for Alameda Creek was collected at 1 monitoring site [Alameda Creek E of Alvarado Blvd station (204ALA020)]
Temporal Representation:	Data was collected on a single day 6/17/2008.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	SWAMP data collected before September 2008 followed the QAMP (2002), however there may have been overlap in QA with SWAMP QAPP (2008).
QAPP Information Reference(s):	Quality Assurance Management Plan for the State of California's Surface Water Ambient Monitoring Program. Sacramento, CA. State Water Resources Control Board. SWAMP. December 2002 (1st version) Surface Water Ambient Monitoring Program Quality Assurance Program Plan

DECISION ID	61053	Region 2
Alameda Creek		

Pollutant:	Cadmium
Final Listing Decision:	Do Not List on 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision:	New Decision
Revision Status	Original
Impairment from Pollutant or Pollution:	Pollutant
Regional Board Staff Conclusion:	<p>This pollutant is being considered for placement on the CWA section 303(d) List under section 3.1 of the Listing Policy. Under section 3.1 a single line of evidence is necessary to assess listing status. Two lines of evidence are available in the administrative record to assess this pollutant. Zero of one samples exceed the guideline.</p> <p>Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against placing this water segment-pollutant combination on the CWA section 303(d) List.</p> <p>This conclusion is based on the staff findings that:</p> <ol style="list-style-type: none"> 1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy. 2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy. 3. Zero of one samples exceed the guideline and this sample size is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating. A minimum of 16 samples is needed to determine if a beneficial use is fully supported using table 3.1. 4. Pursuant to SECTION 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.
Regional Board Staff Decision Recommendation:	After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be placed on the section 303(d) list. The readily available data and information is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating.

Line of Evidence (LOE) for Decision ID 61053, Cadmium	Region 2
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Alameda Creek

LOE ID:	90928
Pollutant:	Cadmium
LOE Subgroup:	Pollutant-Sediment
Matrix:	Sediment
Fraction:	Total
Beneficial Use:	Warm Freshwater Habitat
Number of Samples:	1
Number of Exceedances:	0
Data and Information Type:	PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality:	Water Board staff assessed SWAMP data for Alameda Creek to determine beneficial use support and results are as follows: 0 of 1 samples exceed the criterion for Cadmium.
Data Reference:	Statewide Stream Pollution Trends Study 2008
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	San Francisco Bay Basin Water Quality Control Plan 2007: All waters shall be maintained free of toxic substances in concentrations which are toxic to, or which produce detrimental physiological responses in, human, plant, animal, or aquatic life.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	In freshwater sediments the probable effect concentration (predictive of sediment toxicity for sediment-dwelling organisms) for cadmium is 4.98 mg/Kg dry weight (MacDonald et al. 2000).
Guideline Reference:	Development and evaluation of consensus-based sediment quality guidelines for freshwater ecosystems. Environmental Contamination and Toxicology. 39: 20-31
Spatial Representation:	Data for this line of evidence for Alameda Creek was collected at 1 monitoring site [Alameda Creek E of Alvarado Blvd station (204ALA020)]
Temporal Representation:	Data was collected on a single day 6/17/2008.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	SWAMP data collected before September 2008 followed the QAMP (2002), however there may have been overlap in QA with SWAMP QAPP (2008).
QAPP Information Reference(s):	Quality Assurance Management Plan for the State of California's Surface Water Ambient Monitoring Program. Sacramento, CA. State Water Resources Control Board. SWAMP. December 2002 (1st version) Surface Water Ambient Monitoring Program Quality Assurance Program Plan

Line of Evidence (LOE) for Decision ID 61053, Cadmium**Region 2****Alameda Creek**

LOE ID:	90929
Pollutant:	Cadmium
LOE Subgroup:	Pollutant-Sediment
Matrix:	Sediment
Fraction:	Total
Beneficial Use:	Cold Freshwater Habitat
Number of Samples:	1
Number of Exceedances:	0
Data and Information Type:	PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality:	Water Board staff assessed SWAMP data for Alameda Creek to determine beneficial use support and results are as follows: 0 of 1 samples exceed the criterion for Cadmium.
Data Reference:	Statewide Stream Pollution Trends Study 2008

SWAMP Data:

SWAMP

Water Quality Objective/Criterion:

San Francisco Bay Basin Water Quality Control Plan 2007: All waters shall be maintained free of toxic substances in concentrations which are toxic to, or which produce detrimental physiological responses in, human, plant, animal, or aquatic life.

Objective/Criterion Reference:

[Water Quality Control Plan \(Basin Plan\) San Francisco Bay Basin \(Region 2\)](#)

Evaluation Guideline:

In freshwater sediments the probable effect concentration (predictive of sediment toxicity for sediment-dwelling organisms) for cadmium is 4.98 mg/Kg dry weight (MacDonald et al. 2000).

Guideline Reference:

[Development and evaluation of consensus-based sediment quality guidelines for freshwater ecosystems. Environmental Contamination and Toxicology. 39: 20-31](#)

Spatial Representation:

Data for this line of evidence for Alameda Creek was collected at 1 monitoring site [Alameda Creek E of Alvarado Blvd station (204ALA020)]

Temporal Representation:

Data was collected on a single day 6/17/2008.

Environmental Conditions:

Staff is not aware of any special conditions that might affect interpretation of the data.

QAPP Information:

SWAMP data collected before September 2008 followed the QAMP (2002), however there may have been overlap in QA with SWAMP QAPP (2008).

QAPP Information Reference(s):

[Quality Assurance Management Plan for the State of California's Surface Water Ambient Monitoring Program. Sacramento, CA. State Water Resources Control Board. SWAMP. December 2002 \(1st version\)](#)
[Surface Water Ambient Monitoring Program Quality Assurance Program Plan](#)

Draft California 2016 Integrated Report (303(d) List/305(b) Report)

Supporting Information

Regional Board 2 - San Francisco Bay Region

Water Body Name: Arroyo Las Positas
Water Body ID: CAR2043008020010905115005
Water Body Type: River & Stream

DECISION ID 44108 **Region 2**
Arroyo Las Positas

Pollutant: Selenium
Final Listing Decision: Do Not List on 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision: Do Not List on 303(d) list (TMDL required list)(2012)
Revision Status Revised
Impairment from Pollutant or Pollution: Pollutant

Regional Board Staff Conclusion: This pollutant is being considered for placement on the section 303(d) list under section 3.1 of the Listing Policy. Under section 3.1 a single line of evidence is necessary to assess listing status. One line of evidence is available in the administrative record to assess this pollutant. Two of the samples exceed the water quality objective.

Based on the readily available data and information, the weight of evidence indicates that there is not sufficient justification in favor of placing this water segment-pollutant combination on the section 303(d) list in the Water Quality Limited Segments category.

This conclusion is based on the staff findings that:

1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy.
2. The data used do not satisfy the data quantity requirements of section 6.1.5 of the Policy. The exceedances both occurred during the same season of the same year and do not provide evidence of impairment extending through time or over multiple seasons.
3. Selenium exceeded the Basin Plan chronic water quality objective in 2 spring samples out of 6 samples analyzed. Considering natural abundance of selenium in soils in the area and the fact that the data are more than 16 years old there is insufficient information to determine with confidence required by the Listing Policy that this water body is impaired.
4. Pursuant to section 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.

Regional Board Staff Decision Recommendation: After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be placed on the section 303(d) list. The readily available data and information is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating.

Line of Evidence (LOE) for Decision ID 44108, Selenium **Region 2**
Arroyo Las Positas

LOE ID: 28928
Pollutant: Selenium, Total
LOE Subgroup: Pollutant-Water
Matrix: Water
Fraction: Total
Beneficial Use: Warm Freshwater Habitat

Number of Samples:	6
Number of Exceedances:	2
Data and Information Type:	PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality:	The Arroyo Las Positas Creek watershed was monitored as part of SWAMP assessment. Two of the six samples exceeded the chronic water quality objective for selenium, both during the spring sampling. ALP010 at 5.13 ug/L (1.02 chronic exceedence factor), and ALP100 at 8.6 ug/L (1.72 chronic exceedence factor).
Data Reference:	Water Quality Monitoring and Bioassessment in Nine San Francisco Bay Region Watersheds: Walker Creek, Lagunitas Creek, San Leandro Creek, Wildcat Creek/San Pablo Creek, Suisun Creek, Arroyo Las Positas, Pescadero Creek/Butano Creek, San Gregorio Creek, and Stevens Creek/Permanente Creek. Oakland, CA: Surface Water Ambient Monitoring Program, San Francisco Bay Regional Water Quality Control Board
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	All waters shall be maintained free of toxic substances that are lethal to or that produce other detrimental responses in aquatic organisms. Table 3-4 in the Basin Plan (2007) lists freshwater water quality objectives for toxic pollutants: selenium 5 ug/L 4-day average (chronic) and 20 ug/L 1-hour (acute) WQOs.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) - San Francisco Bay Region (Region 2)
Evaluation Guideline:	
Guideline Reference:	
Spatial Representation:	Data were collected at three sampling locations on Arroyo Las Positas Creek - ALP010 (El Charro), ALP100 (Altamont Creek), and ALP110 (Arroyo Las Positas).
Temporal Representation:	Samples were collected at all three sites during spring and dry seasons of the 2001-2002 sampling season.
Environmental Conditions:	
QAPP Information:	All samples were collected and analyzed using procedures comparable with the SWAMP Quality Assurance Management Plan (SWRCB, 2002).
QAPP Information Reference(s):	Quality Assurance Management Plan for the State of California's Surface Water Ambient Monitoring Program. Sacramento, CA. State Water Resources Control Board. SWAMP. December 2002 (1st version)

DECISION ID	43065	Region 2
Arroyo Las Positas		
Pollutant:	Toxicity	
Final Listing Decision:	Do Not List on 303(d) list (TMDL required list)	
Last Listing Cycle's Final Listing Decision:	Do Not List on 303(d) list (TMDL required list)(2012)	
Revision Status	Revised	
Impairment from Pollutant or Pollution:	Pollutant	
Regional Board Staff Conclusion:	<p>This pollutant is being considered for placement on the CWA section 303(d) List under section 3.1 of the Listing Policy. Under section 3.1 a single line of evidence is necessary to assess listing status.</p> <p>Two lines of evidence are available in the administrative record to assess this pollutant. Four of six samples exceed the guideline.</p> <p>A 2007 SWAMP study identified 1500 microSiemens per centimeter as an electrical conductivity (EC) limit for <i>Selenastrum capricornutum</i> in standard toxicity tests and recommended that sample waters exceeding this EC level be tested against high EC controls of similar salinity to differentiate actual toxicity from reductions in growth due to elevated EC. This protocol was not in effect for the data collected in 2001 and 2002. Specific conductance exceeded 1500 microSiemens per centimeter in three of the five samples that showed significant <i>S. capricornutum</i> growth reductions in laboratory tests (Spring sample at 204ALP010 and dry season and Spring samples at 204APL100). It is highly</p>	

likely that the algae growth results for up to three samples would be reported as not significantly toxic under the updated testing guidelines. Thus, the SWAMP data do not present a reasonable basis for this proposed listing and are deemed insufficient information.

Based on the readily available data and information, the weight of evidence indicates that there is not sufficient justification in favor of placing this water segment-pollutant combination on the CWA section 303(d) List.

This conclusion is based on the staff findings that:

1. The data used do not satisfy the data quality requirements of section 6.1.4 of the Policy (see above).
2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy.
3. Four of six samples exceed the guideline and this exceeds the allowable frequency listed in Table 3.1 of the Listing Policy.
4. Pursuant to section 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.

Regional Board Staff Decision Recommendation: After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be placed on the section 303(d) list. The readily available data and information is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating.

Line of Evidence (LOE) for Decision ID 43065, Toxicity

Region 2

Arroyo Las Positas

LOE ID:	28831
Pollutant:	Sediment Toxicity
LOE Subgroup:	Pollutant-Sediment
Matrix:	Sediment
Fraction:	None
Beneficial Use:	Warm Freshwater Habitat
Number of Samples:	1
Number of Exceedances:	0
Data and Information Type:	Toxicity testing of sediments
Data Used to Assess Water Quality:	Data used to evaluate sediment toxicity comprise one sediment sample collected by the SWAMP in 2001. No toxicity or adverse affects were exhibited for <i>Hyallela azteca</i> .
Data Reference:	Water Quality Monitoring and Bioassessment in Nine San Francisco Bay Region Watersheds: Walker Creek, Lagunitas Creek, San Leandro Creek, Wildcat Creek/San Pablo Creek, Suisun Creek, Arroyo Las Positas, Pescadero Creek/Butano Creek, San Gregorio Creek, and Stevens Creek/Permanente Creek, Oakland, CA: Surface Water Ambient Monitoring Program, San Francisco Bay Regional Water Quality Control Board
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	All waters shall be maintained free of toxic substances that are lethal to or that produce other detrimental responses in aquatic organisms. There shall be no chronic toxicity in ambient waters. Chronic toxicity is a detrimental biological effect on growth rate, reproduction, fertilization success, larval development, population abundance, community composition, or any other relevant measure of the health of an organism, population, or community.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) - San Francisco Bay Region (Region 2)
Evaluation Guideline:	Sediment toxicity was evaluated according to the SWAMP methodology. Sample toxicity was determined by comparing mean organism response in samples and in negative controls. Statistical evaluation ($\alpha = 0.05$) and a default threshold of 80% of the control value were used to establish whether the sediment exhibited significant toxicity adversely impacting aquatic organisms.

Guideline Reference:	Revised approach to toxicity test acceptability criteria using a statistical performance assessment. Environmental Toxicology and Chemistry, vol. 16, No. 6, pp 1322?1329
Spatial Representation:	One sediment sample was collected at a "watershed integrator" site located close to the mouth of Arroyo Las Positas Creek at El Charro.
Temporal Representation:	Sample was collected in 2001.
Environmental Conditions:	
QAPP Information:	Samples were collected and analyzed using procedures comparable with the SWAMP Quality Assurance Management Plan (SWRCB 2002).
QAPP Information Reference(s):	Quality Assurance Management Plan for the State of California's Surface Water Ambient Monitoring Program. Sacramento, CA. State Water Resources Control Board. SWAMP. December 2002 (1st version)

Line of Evidence (LOE) for Decision ID 43065, Toxicity

Region 2

Arroyo Las Positas

LOE ID:	28993
Pollutant:	Toxicity
LOE Subgroup:	Pollutant-Water
Matrix:	Water
Fraction:	None
Beneficial Use:	Warm Freshwater Habitat
Number of Samples:	6
Number of Exceedances:	4
Data and Information Type:	TOXICITY TESTING
Data Used to Assess Water Quality:	Six samples were collected in 2001 to evaluate water toxicity at two monitoring locations in Arroyo Las Positas Creek. The toxicity tests included survival and reproduction of Ceriodaphnia, survival and growth of fathead minnow, and growth of Selenastrum. Selenastrum growth was significantly lower than the control in four out of six samples (all spring samples and one of the dry season samples). Growth ranged between 55.6 and 79.5 percent of the control for these samples.
Data Reference:	Water Quality Monitoring and Bioassessment in Nine San Francisco Bay Region Watersheds: Walker Creek, Lagunitas Creek, San Leandro Creek, Wildcat Creek/San Pablo Creek, Suisun Creek, Arroyo Las Positas, Pescadero Creek/Butano Creek, San Gregorio Creek, and Stevens Creek/Permanente Creek. Oakland, CA: Surface Water Ambient Monitoring Program. San Francisco Bay Regional Water Quality Control Board
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	All waters shall be maintained free of toxic substances that are lethal to or that produce other detrimental responses in aquatic organisms. There shall be no chronic toxicity in ambient waters. Chronic toxicity is a detrimental biological effect on growth rate, reproduction, fertilization success, larval development, population abundance, community composition, or any other relevant measure of the health of an organism, population, or community.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) - San Francisco Bay Region (Region 2)
Evaluation Guideline:	Water toxicity was evaluated according to the SWAMP methodology. The U.S.EPA whole effluent toxicity protocol (U.S.EPA 1994) was used to test the effect of water samples on three freshwater test organisms. Statistical evaluation (alpha = 0.05) and a default threshold of 80% of the control value were used to establish whether water exhibited significant toxicity adversely impacting aquatic organisms.
Guideline Reference:	Revised approach to toxicity test acceptability criteria using a statistical performance assessment. Environmental Toxicology and Chemistry, vol. 16, No. 6, pp 1322?1329 Short-Term Methods for Estimating the Chronic Toxicity of Effluents and Receiving Waters to Freshwater Organisms. EPA/600/4-91/002. Third Edition. July 1994
Spatial Representation:	Data were collected at three sampling locations, ALP010, (El Charro), ALP100 (Altamont

	Creek), and ALP110 (Arroyo Las Positas) representing the mainstem of Arroyo Las Positas Creek.
Temporal Representation:	SWAMP samples were collected during winter wet season, spring season, and dry season of 2001.
Environmental Conditions:	
QAPP Information:	All samples were collected and analyzed using procedures comparable with the SWAMP Quality Assurance Management Plan (SWRCB, 2002).
QAPP Information Reference(s):	Quality Assurance Management Plan for the State of California's Surface Water Ambient Monitoring Program. Sacramento, CA. State Water Resources Control Board. SWAMP. December 2002 (1st version).

DECISION ID	43430	Region 2
Arroyo Las Positas		

Pollutant:	Ammonia (Unionized) Nitrogen, ammonia (Total Ammonia)
Final Listing Decision:	Do Not List on 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision:	Do Not List on 303(d) list (TMDL required list)(2012)
Revision Status	Original
Impairment from Pollutant or Pollution:	Pollutant

Regional Board Staff Conclusion: These pollutants are being considered for placement on the section 303(d) list under section 3.1 of the Listing Policy. Under section 3.1 a single line of evidence is necessary to assess listing status. One line of evidence is available in the administrative record to assess these pollutants. None of the samples exceed the water quality objective. Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against placing this water segment-pollutant combination on the section 303(d) list in the Water Quality Limited Segments category. This conclusion is based on the staff findings that: 1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy. 2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy. 3. None of the twelve samples exceeded the water quality objectives (Basin Plan) and US EPA's Lifetime Health advisory criteria and this does not exceed the allowable frequency listed in Table 3.1 of the Listing Policy. 4. Pursuant to section 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.

Regional Board Staff Decision Recommendation:	This is a decision previously approved by the State Water Resources Control Board and the USEPA. No new data were assessed by the Regional Board for the current. The decision has not changed.
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Line of Evidence (LOE) for Decision ID 43430, Multiple Pollutants	Region 2
Arroyo Las Positas	

LOE ID:	28065
Pollutant:	Ammonia (Unionized) Nitrogen, ammonia (Total Ammonia)
LOE Subgroup:	Pollutant-Water
Matrix:	Water
Fraction:	None
Beneficial Use:	Warm Freshwater Habitat
Number of Samples:	12
Number of Exceedances:	0
Data and Information Type:	PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality:	Twelve water samples were assessed for total ammonia and un-ionized ammonia. None of them exceeded the evaluation criteria.
Data Reference:	Water Quality Monitoring and Bioassessment in Nine San Francisco Bay Region Watersheds: Walker Creek, Lagunitas Creek, San Leandro Creek, Wildcat Creek/San Pablo Creek, Suisun Creek, Arroyo Las Positas, Pescadero Creek/Butano Creek, San

SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	<p>The San Francisco Bay Regional Water Quality Board Basin Plan stated that the discharge of wastes shall not cause receiving water to contain concentrations of un-ionized ammonia in excess of 0.025mg/l annual median.</p> <p>For Total Ammonia: EPA's Lifetime Health advisory level for total ammonia is 30.0 mg/L as stated on page 8 of the 2006 edition of the drinking water standards and health advisories. This Advisory Level is defined as "the concentration of a chemical in drinking water that is not expected to cause any adverse noncarcinogenic effects for up to ten days of exposure."</p>
Objective/Criterion Reference:	2006 edition of the drinking water standards and health advisories. EPA 822-R-03-013 Water Quality Control Plan (Basin Plan) - San Francisco Bay Region (Region 2)
Evaluation Guideline:	
Guideline Reference:	
Spatial Representation:	Twelve samples from four monitoring locations (ALP010, ALP100, ALP110 and ALP140) were assessed.
Temporal Representation:	Samples were collected during three seasons: dry, spring and wet season of 2001.
Environmental Conditions:	
QAPP Information:	All samples were collected and analyzed using procedures comparable with the SWAMP Quality Assurance Management Plan (SWRCB, 2002).
QAPP Information Reference(s):	

DECISION ID	43706	Region 2
Arroyo Las Positas		
Pollutant:	Anthracene Benzo(a)anthracene Benzo(a)pyrene (3,4-Benzopyrene -7-d) Chlordane Chrysene (C1-C4) DDD (Dichlorodiphenyldichloroethane) DDE (Dichlorodiphenyldichloroethylene) DDT (Dichlorodiphenyltrichloroethane) Dieldrin Endrin Fluoranthene Fluorene Heptachlor epoxide Lindane/gamma Hexachlorocyclohexane (gamma-HCH) Naphthalene PAHs (Polycyclic Aromatic Hydrocarbons) PCBs (Polychlorinated biphenyls) Phenanthrene Pyrene	
Final Listing Decision:	Do Not List on 303(d) list (TMDL required list)	
Last Listing Cycle's Final Listing Decision:	Do Not List on 303(d) list (TMDL required list)(2012)	
Revision Status	Original	
Impairment from Pollutant or Pollution:	Pollutant	
Regional Board Staff Conclusion:	<p>This pollutant is being considered for placement on the section 303(d) list under section 3.1 of the Listing Policy. Under section 3.1 a single line of evidence is necessary to assess listing status. One line of evidence is available in the administrative record to assess this pollutant. None of the samples exceed the water quality objective. Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against placing this water segment-pollutant combination on the section 303(d) list in the Water Quality Limited Segments category. This conclusion is based on the staff findings that: 1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy. 2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy. 3. Concentrations of organic pollutants analyzed in one sample did not exceed the Sediment Quality Guideline and this does not exceed the allowable frequency listed in Table 3.1 of the Listing Policy. There is insufficient number of samples to assess this pollutant. 4. Pursuant to section 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.</p>	
Regional Board Staff Decision Recommendation:	<p>This is a decision previously approved by the State Water Resources Control Board and the USEPA. No new data were assessed by the Regional Board for the current. The decision has not changed.</p>	

Arroyo Las Positas

LOE ID:	28498
Pollutant:	Anthracene Benzo(a)anthracene Benzo(a)pyrene (3,4-Benzopyrene -7-d) Chlordane Chrysene (C1-C4) DDD (Dichlorodiphenyldichloroethane) DDE (Dichlorodiphenyldichloroethylene) DDT (Dichlorodiphenyltrichloroethane) Dieldrin Endrin Fluoranthene Fluorene Heptachlor epoxide Lindane/gamma Hexachlorocyclohexane (gamma-HCH) Naphthalene PAHs (Polycyclic Aromatic Hydrocarbons) PCBs (Polychlorinated biphenyls) Phenanthrene Pyrene
LOE Subgroup:	Pollutant-Sediment
Matrix:	Sediment
Fraction:	None
Beneficial Use:	Warm Freshwater Habitat
Number of Samples:	1
Number of Exceedances:	0
Data and Information Type:	PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality:	Concentrations of Anthracene, fluorene, naphthalene, phenanthrene, benz(a)anthracene, benzo(a)pyrene, chrysene, fluoranthene, pyrene, PAH (total), PCB (total), chlordane, dieldrin, DDD/DDE/DDT, endrin, heptachlor epoxide, and HCH, gamma in one sediment sample collected in spring 2005 did not exceed the sediment quality guidelines.
Data Reference:	Water Quality Monitoring and Bioassessment in Nine San Francisco Bay Region Watersheds: Walker Creek, Lagunitas Creek, San Leandro Creek, Wildcat Creek/San Pablo Creek, Suisun Creek, Arroyo Las Positas, Pescadero Creek/Butano Creek, San Gregorio Creek, and Stevens Creek/Permanente Creek. Oakland, CA: Surface Water Ambient Monitoring Program, San Francisco Bay Regional Water Quality Control Board
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	All waters shall be maintained free of toxic substances that are lethal to or that produce other detrimental responses in aquatic organisms.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) - San Francisco Bay Region (Region 2)
Evaluation Guideline:	Sediment Quality Guidelines (MacDonald et al., 2000): PEC (probable effect concentration) Anthracene - 845 ug/kg; Fluorene - 536 ug/kg; Naphthalene - 561 ug/kg; Phenanthrene - 1170 ug/kg; Benz(a)anthracene - 1050 ug/kg; Benzo(a)pyrene - 1450 ug/kg; Chrysene - 1290 ug/kg; Fluoranthene - 2230 ug/kg; Pyrene - 1520 ug/kg; PAH (total) - 22800 ug/kg; PCB (total) - 676 ug/kg; Chlordane - 17.6 ug/kg; Dieldrin - 61.8 ug/kg; DDD (sum op + pp) - 28 ug/kg; DDE (sum op + pp) - 31.3 ug/kg; DDT (sum op + pp) - 62.9 ug/kg; DDT (total) - 572 ug/kg; Endrin - 207 ug/kg; Heptachlor epoxide - 16 ug/kg; HCH, gamma - 4.99 ug/kg.
Guideline Reference:	Development and evaluation of consensus-based sediment quality guidelines for freshwater ecosystems. Environmental Contamination and Toxicology. 39: 20-31
Spatial Representation:	One sediment sample was collected at a "watershed integrator" site located close to the mouth of Arroyo Las Positas Creek.
Temporal Representation:	Sediment sample was collected in 2001-2002 sampling season.
Environmental Conditions:	
QAPP Information:	All samples were collected and analyzed using procedures comparable with the SWAMP Quality Assurance Management Plan (SWRCB, 2002).
QAPP Information Reference(s):	

Pollutant: Arsenic | Cadmium | Copper | Lead | Mercury | Zinc
Final Listing Decision: Do Not List on 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision: Do Not List on 303(d) list (TMDL required list)(2012)
Revision Status Original
Impairment from Pollutant or Pollution: Pollutant

Regional Board Staff Conclusion: This pollutant is being considered for placement on the section 303(d) list under section 3.1 of the Listing Policy. Under section 3.1 a single line of evidence is necessary to assess listing status. One line of evidence is available in the administrative record to assess this pollutant. None of the samples exceed the water quality objective. Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against placing this water segment-pollutant combination on the section 303(d) list in the Water Quality Limited Segments category. This conclusion is based on the staff findings that: 1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy. 2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy. 3. None of one sample exceeded the Sediment Quality Guidelines and this does not exceed the allowable frequency listed in Table 3.1 of the Listing Policy. There were not enough samples taken to satisfy the requirements of Table 3.1. 4. Pursuant to section 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.

Regional Board Staff Decision Recommendation: This is a decision previously approved by the State Water Resources Control Board and the USEPA. No new data were assessed by the Regional Board for the current. The decision has not changed.

Line of Evidence (LOE) for Decision ID 43416, Multiple Pollutants

Region 2

Arroyo Las Positas

LOE ID: 28631

Pollutant: Arsenic | Cadmium | Copper | Lead | Mercury | Zinc
LOE Subgroup: Pollutant-Sediment
Matrix: Sediment
Fraction: Total

Beneficial Use: Warm Freshwater Habitat

Number of Samples: 1
Number of Exceedances: 0

Data and Information Type: PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality: Concentrations of arsenic, cadmium, copper, lead, mercury and zinc in one sediment sample collected in spring 2005 did not exceed the sediment quality guidelines.

Data Reference: [Water Quality Monitoring and Bioassessment in Nine San Francisco Bay Region Watersheds: Walker Creek, Lagunitas Creek, San Leandro Creek, Wildcat Creek/San Pablo Creek, Suisun Creek, Arroyo Las Positas, Pescadero Creek/Butano Creek, San Gregorio Creek, and Stevens Creek/Permanente Creek, Oakland, CA: Surface Water Ambient Monitoring Program, San Francisco Bay Regional Water Quality Control Board](#)

SWAMP Data: SWAMP

Water Quality Objective/Criterion: All waters shall be maintained free of toxic substances that are lethal to or that produce other detrimental responses in aquatic organisms.

Objective/Criterion Reference: [Water Quality Control Plan \(Basin Plan\) - San Francisco Bay Region \(Region 2\)](#)

Evaluation Guideline: Sediment Quality Guidelines (MacDonald et al., 2000): PEC (probable effect concentration) arsenic - 33 mg/kg dw; cadmium - 4.98 mg/kg dw; chromium - 111 mg/kg dw; copper - 149 mg/kg dw; lead - 128 mg/kg dw; mercury - 1.06 mg/kg dw; nickel - 48.6 mg/kg dw; zinc - 459 mg/kg dw.

Guideline Reference: [Development and evaluation of consensus-based sediment quality guidelines for freshwater ecosystems, Environmental Contamination and Toxicology. 39: 20-31](#)

Spatial Representation:	One sediment sample was collected at a "watershed integrator" site located close to the mouth of Arroyo Las Positas watershed at El Charro.
Temporal Representation:	Sediment sample was collected in April of 2005.
Environmental Conditions:	
QAPP Information:	All samples were collected and analyzed using procedures comparable with the SWAMP Quality Assurance Management Plan (SWRCB, 2002).
QAPP Information Reference(s):	

DECISION ID	44261	Region 2
Arroyo Las Positas		

Pollutant:	Arsenic Chromium (total) Copper Lead Nickel Silver Zinc
Final Listing Decision:	Do Not List on 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision:	Do Not List on 303(d) list (TMDL required list)(2012)
Revision Status	Original
Impairment from Pollutant or Pollution:	Pollutant

Regional Board Staff Conclusion:	This pollutant is being considered for placement on the section 303(d) list under section 3.1 of the Listing Policy. Under section 3.1 a single line of evidence is necessary to assess listing status. One line of evidence are available in the administrative record to assess this pollutant. None of the samples exceed the water quality objective. Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against placing this water segment-pollutant combination on the section 303(d) list in the Water Quality Limited Segments category. This conclusion is based on the staff findings that: 1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy. 2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy. 3. None of 6 samples exceeded the water quality objectives and this does not exceed the allowable frequency listed in Table 3.1 of the Listing Policy. 4. Pursuant to section 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.
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Regional Board Staff Decision Recommendation:	This is a decision previously approved by the State Water Resources Control Board and the USEPA. No new data were assessed by the Regional Board for the current. The decision has not changed.
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Line of Evidence (LOE) for Decision ID 44261, Multiple Pollutants	Region 2
Arroyo Las Positas	

LOE ID:	28927
Pollutant:	Arsenic Chromium (total) Copper Lead Nickel Silver Zinc
LOE Subgroup:	Pollutant-Water
Matrix:	Water
Fraction:	Dissolved
Beneficial Use:	Warm Freshwater Habitat
Number of Samples:	6
Number of Exceedances:	0
Data and Information Type:	PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality:	The Arroyo Las Positas Creek watershed was monitored as part of SWAMP assessment. None of the six samples exceeded the water quality objectives for arsenic, chromium VI, copper, lead, nickel, silver and zinc. Concentrations of total dissolved chromium were well below the objective for chromium VI.
Data Reference:	Water Quality Monitoring and Bioassessment in Nine San Francisco Bay Region Watersheds: Walker Creek, Lagunitas Creek, San Leandro Creek, Wildcat Creek/San Pablo Creek, Suisun Creek, Arroyo Las Positas, Pescadero Creek/Butano Creek, San

SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	All waters shall be maintained free of toxic substances that are lethal to or that produce other detrimental responses in aquatic organisms. Table 3-4 in the Basin Plan (2007) lists freshwater water quality objectives for toxic pollutants: arsenic- 150 ug/L, chromium VI- 11 ug/L, copper - 9.0 ug/L, lead - 2.5 ug/L; nickel - 52 ug/L, silver-3.4 ug/L and zinc - 120 ug/L.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) - San Francisco Bay Region (Region 2)
Evaluation Guideline:	
Guideline Reference:	
Spatial Representation:	Data were collected at three sampling locations on Arroyo Las Positas Creek - ALP010 (El Charro), ALP100 (Altamont Creek), and ALP110 (Arroyo Las Positas).
Temporal Representation:	Samples were collected at all three sites during spring and dry seasons of the 2001-2002 sampling season.
Environmental Conditions:	
QAPP Information:	All samples were collected and analyzed using procedures comparable with the SWAMP Quality Assurance Management Plan (SWRCB, 2002).
QAPP Information Reference(s):	Quality Assurance Management Plan for the State of California's Surface Water Ambient Monitoring Program, Sacramento, CA, State Water Resources Control Board, SWAMP, December 2002 (1st version)

DECISION ID	43584	Region 2
Arroyo Las Positas		

Pollutant:	Chlorpyrifos Dacthal Diazinon Disulfoton Endosulfan Lindane/gamma Hexachlorocyclohexane (gamma-HCH) Methyl Parathion PCBs (Polychlorinated biphenyls) Thiobencarb/Bolero
Final Listing Decision:	Do Not List on 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision:	Do Not List on 303(d) list (TMDL required list)(2012)
Revision Status	Original
Impairment from Pollutant or Pollution:	Pollutant
Regional Board Staff Conclusion:	These pollutants are being considered for placement on the section 303(d) list under section 3.1 of the Listing Policy. Under section 3.1 a single line of evidence is necessary to assess listing status. One line of evidence is available in the administrative record to assess this pollutant. None of the samples exceed the water quality objective. Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against placing this water segment-pollutant combination on the section 303(d) list in the Water Quality Limited Segments category. This conclusion is based on the staff findings that: 1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy. 2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy. 3. Zero of two samples exceeded the water quality objective and this does not exceed the allowable frequency listed in Table 3.1 of the Listing Policy. 4. Pursuant to section 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.
Regional Board Staff Decision Recommendation:	This is a decision previously approved by the State Water Resources Control Board and the USEPA. No new data were assessed by the Regional Board for the current. The decision has not changed.

Line of Evidence (LOE) for Decision ID 43584, Multiple Pollutants	Region 2
Arroyo Las Positas	

LOE ID: 28984

Pollutant:	Chlorpyrifos Dacthal Diazinon Disulfoton Endosulfan Lindane/gamma Hexachlorocyclohexane (gamma-HCH) Methyl Parathion PCBs (Polychlorinated biphenyls) Thiobencarb/Bolero
LOE Subgroup:	Pollutant-Water
Matrix:	Water
Fraction:	None
Beneficial Use:	Warm Freshwater Habitat
Number of Samples:	2
Number of Exceedances:	0
Data and Information Type:	PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality:	The Arroyo Las Positas Creek watershed was monitored as part of SWAMP assessment. Neither sample exceeded the water quality objectives for Chlorpyrifos, Dacthal, diazinon, disulfoton, endosulfan, Lindane/gamma Hexachlorocyclohexane (gamma-HCH), methyl parathion, thiobencarb.
Data Reference:	Water Quality Monitoring and Bioassessment in Nine San Francisco Bay Region Watersheds: Walker Creek, Lagunitas Creek, San Leandro Creek, Wildcat Creek/San Pablo Creek, Suisun Creek, Arroyo Las Positas, Pescadero Creek/Butano Creek, San Gregorio Creek, and Stevens Creek/Permanente Creek. Oakland, CA: Surface Water Ambient Monitoring Program. San Francisco Bay Regional Water Quality Control Board
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	All waters shall be maintained free of toxic substances that are lethal to or that produce other detrimental responses in aquatic organisms. There shall be no chronic toxicity in ambient waters. Chronic toxicity is a detrimental biological effect on growth rate, reproduction, fertilization success, larval development, population abundance, community composition, or any other relevant measure of the health of an organism, population, or community. Diazinon water quality objective, 0.1 ug/L (acute)
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) - San Francisco Bay Region (Region 2)
Evaluation Guideline:	PCBs - 0.014 ug/L freshwater continuous Concentration; Chlorpyrifos - 0.015 ug/L (chronic); Dacthal (DCPA) - 14300 ug/L (acute); Disulfoton (Disyston) - 0.05 ug/L (acute); Endosulfan - 0.056 ug/L (chronic)/0.22 ug/L (acute); HCH, gamma-(gamma BHC, Lindane) - 0.95 ug/L (acute); methyl parathion - 0.08 ug/L (acute); Thiobencarb - 3.1 ug/L (acute).
Guideline Reference:	National recommended water quality criteria: 2002. EPA-822-R-02-047 Washington, D.C. USEPA
Spatial Representation:	Data were collected at one sampling location (ALP010/El Charro) in the Arroyo Las Positas Creek.
Temporal Representation:	Samples were collected at one location during spring and dry seasons of the 2001 - 2002 sampling season.
Environmental Conditions:	
QAPP Information:	All samples were collected and analyzed using procedures comparable with the SWAMP Quality Assurance Management Plan (SWRCB, 2002).
QAPP Information Reference(s):	Quality Assurance Management Plan for the State of California's Surface Water Ambient Monitoring Program. Sacramento, CA. State Water Resources Control Board. SWAMP. December 2002 (1st version)

DECISION ID	43417	Region 2
Arroyo Las Positas		

Pollutant:	Chromium
Final Listing Decision:	Do Not List on 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision:	Do Not List on 303(d) list (TMDL required list)(2012)

Revision Status Original
Impairment from Pollutant or Pollution: Pollutant

Regional Board Staff Conclusion: This pollutant is being considered for placement on the section 303(d) list under section 3.1 of the Listing Policy. Under section 3.1 a single line of evidence is necessary to assess listing status. One line of evidence is available in the administrative record to assess this pollutant. One sample exceeds the water quality objective. Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against placing this water segment-pollutant combination on the section 303(d) list in the Water Quality Limited Segments category. This conclusion is based on the staff findings that: 1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy. 2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy. 3. One of one sample exceeded the Sediment Quality guidelines and this does not exceed the allowable frequency listed in Table 3.1 of the Listing Policy. However, the sample frequency was too low to meet the requirements of Table 3.1. 4. Pursuant to section 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.

Regional Board Staff Decision Recommendation: This is a decision previously approved by the State Water Resources Control Board and the USEPA. No new data were assessed by the Regional Board for the current. The decision has not changed.

Line of Evidence (LOE) for Decision ID 43417, Chromium

Region 2

Arroyo Las Positas

LOE ID: 28752

Pollutant: Chromium (total)
LOE Subgroup: Pollutant-Sediment
Matrix: Sediment
Fraction: Total

Beneficial Use: Warm Freshwater Habitat

Number of Samples: 1
Number of Exceedances: 1

Data and Information Type: PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality: Concentration of chromium in one sediment sample collected in fall 2001 exceeded the sediment quality guidelines.

Data Reference: [Water Quality Monitoring and Bioassessment in Nine San Francisco Bay Region Watersheds: Walker Creek, Lagunitas Creek, San Leandro Creek, Wildcat Creek/San Pablo Creek, Suisun Creek, Arroyo Las Positas, Pescadero Creek/Butano Creek, San Gregorio Creek, and Stevens Creek/Permanente Creek, Oakland, CA: Surface Water Ambient Monitoring Program, San Francisco Bay Regional Water Quality Control Board](#)

SWAMP Data: SWAMP

Water Quality Objective/Criterion: All waters shall be maintained free of toxic substances that are lethal to or that produce other detrimental responses in aquatic organisms.

Objective/Criterion Reference: [Water Quality Control Plan \(Basin Plan\) - San Francisco Bay Region \(Region 2\)](#)

Evaluation Guideline: Sediment Quality Guidelines (MacDonald et al., 2000): PEC (probable effect concentration) chromium - 111 mg/kg dw.

Guideline Reference: [Development and evaluation of consensus-based sediment quality guidelines for freshwater ecosystems. Environmental Contamination and Toxicology. 39: 20-31](#)

Spatial Representation: One sediment sample was collected at a "watershed integrator" site located close to the mouth of Arroyo Las Positas watershed at El Charro. The PEC was exceeded for chromium, with a sample concentration of 133 mg/kg dw.

Temporal Representation: Sediment sample was collected in September of 2001.

Environmental Conditions:

QAPP Information:

All samples were collected and analyzed using procedures comparable with the SWAMP Quality Assurance Management Plan (SWRCB, 2002).

QAPP Information Reference(s):

DECISION ID	39675	Region 2
Arroyo Las Positas		

Pollutant: Nickel
Final Listing Decision: Do Not List on 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision: Do Not List on 303(d) list (TMDL required list)(2012)
Revision Status Original
Impairment from Pollutant or Pollution: Pollutant

Regional Board Staff Conclusion: This pollutant is being considered for placement on the section 303(d) list under section 3.1 of the Listing Policy. Under this section a single line of evidence is necessary to assess listing status. One line of evidence is available in the administrative record to assess this pollutant. One sample exceeds the water quality objective. Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against placing this water segment-pollutant combination on the section 303(d) list in the Water Quality Limited Segments category. This conclusion is based on the staff findings that: 1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy. 2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy. 3. One of one sample exceeded the water quality objective, but this sample size is insufficient to determine with the power and confidence of the Listing Policy if standards are not met. A minimum of two samples are needed for application of table 3.1. 4. Pursuant to section 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.

Regional Board Staff Decision Recommendation: This is a decision previously approved by the State Water Resources Control Board and the USEPA. No new data were assessed by the Regional Board for the current. The decision has not changed.

Line of Evidence (LOE) for Decision ID 39675, Nickel	Region 2
Arroyo Las Positas	

LOE ID: 28753

Pollutant: Nickel
LOE Subgroup: Pollutant-Sediment
Matrix: Sediment
Fraction: Total

Beneficial Use: Warm Freshwater Habitat

Number of Samples: 1
Number of Exceedances: 1

Data and Information Type: PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality: Concentration of nickel in one sediment sample collected in fall 2001 exceeded the sediment quality guidelines.
Data Reference: [Water Quality Monitoring and Bioassessment in Nine San Francisco Bay Region Watersheds: Walker Creek, Lagunitas Creek, San Leandro Creek, Wildcat Creek/San Pablo Creek, Suisun Creek, Arroyo Las Positas, Pescadero Creek/Butano Creek, San Gregorio Creek, and Stevens Creek/Permanente Creek, Oakland, CA: Surface Water Ambient Monitoring Program, San Francisco Bay Regional Water Quality Control Board](#)

SWAMP Data: SWAMP

Water Quality Objective/Criterion: All waters shall be maintained free of toxic substances that are lethal to or that produce

Objective/Criterion Reference:	other detrimental responses in aquatic organisms. Water Quality Control Plan (Basin Plan) - San Francisco Bay Region (Region 2)
Evaluation Guideline:	Sediment Quality Guidelines (MacDonald et al., 2000): PEC (threshold effect concentration) nickel - 48.6 mg/kg dw.
Guideline Reference:	Development and evaluation of consensus-based sediment quality guidelines for freshwater ecosystems. Environmental Contamination and Toxicology. 39: 20-31
Spatial Representation:	One sediment sample was collected at a "watershed integrator" site located close to the mouth of Arroyo Las Positas watershed at El Charro. The PEC was exceeded for nickel, with a sample concentration of 109 mg/kg dw.
Temporal Representation:	Sediment sample was collected in September of 2001.
Environmental Conditions:	
QAPP Information:	All samples were collected and analyzed using procedures comparable with the SWAMP Quality Assurance Management Plan (SWRCB, 2002).
QAPP Information Reference(s):	

DECISION ID	43733	Region 2
Arroyo Las Positas		

Pollutant:	Temperature, water
Final Listing Decision:	Do Not List on 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision:	Do Not List on 303(d) list (TMDL required list)(2012)
Revision Status	Original
Impairment from Pollutant or Pollution:	Pollutant

Regional Board Staff Conclusion:	<p>This pollutant is being considered for listing under sections 3.2 of the Listing Policy. Under section 3.2 a single line of evidence is necessary to assess listing status. One line of evidence is available in the administrative record to assess this pollutant. Temperature measurements exceed the water quality objective in 7 out of 13 deployments. Based on the readily available data for this water body, the weight of evidence indicates that there is insufficient justification for placing this water segment-pollutant combination on the section 303(d) list in the Water Quality Limited Segments category. This conclusion is based on the staff findings that: 1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy. 2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy. 3. Temperature measurements at 7 out of 13 continuous deployments exceeded the 17oC evaluation guideline used to interpret the water quality objective for waters designated as cold water habitat. Although the number of exceedances exceeds the allowable frequency listed in Table 3.2 of the Listing Policy there is insufficient information to determine that the standards are not met. The maximum 7-day mean temperature exceeded 20oC on five occasions during dry summer period (June/July) only. The range of exceedances was from 17.2 to 23.1oC. These highest temperatures were detected in Altamont Creek that has intermittent flows in upstream portions and in the most upstream reach of Arroyo Las Positas Creek that has limited flows during dry summer months and these conditions are known to be difficult to monitor. Also, the creek survey in 1999 determined that Arroyo Las Positas and its tributaries had no spawning/rearing potential for rainbow trout. Thus, the temperature levels during summer months may reflect natural conditions in the creek and would not pose impairment on salmonides to which the evaluation guidelines apply. 4. Pursuant to section 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.</p>
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Regional Board Staff Decision Recommendation:	After review of the available data and information, Water Board staff concludes that the water body-pollutant combination should not be placed on the section 303(d) list because there is insufficient information to determine that the standards are not met.
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Line of Evidence (LOE) for Decision ID 43733, Temperature, water	Region 2
Arroyo Las Positas	

LOE ID:	30213
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Pollutant:	Temperature, water
LOE Subgroup:	Pollutant-Water
Matrix:	Water
Fraction:	None
Beneficial Use:	Cold Freshwater Habitat
Number of Samples:	13
Number of Exceedances:	7
Data and Information Type:	PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality:	Water quality assessment was conducted at the Arroyo Las Positas watershed as part of SWAMP study in 2002. Continuous field monitoring at 15 minute increments of temperature, dissolved oxygen, pH and specific conductance was conducted to determine temporal variability in basic water quality at three locations. Continuous monitoring sondes were deployed 13 times at 3 or 5 monitoring locations during winter wet, spring wet and summer dry seasons. The measured temperatures ranged from 3.89oC to 32.1oC and varied with season and location. The 7-day mean temperature threshold for steelhead of 17 °C was exceeded during 7 out of 13 deployments. The 7-day moving average was consistently high (above 20oC) at all 5 monitoring locations during summer sampling season only (June-July 2002).
Data Reference:	Water Quality Monitoring and Bioassessment in Nine San Francisco Bay Region Watersheds: Walker Creek, Lagunitas Creek, San Leandro Creek, Wildcat Creek/San Pablo Creek, Suisun Creek, Arroyo Las Positas, Pescadero Creek/Butano Creek, San Gregorio Creek, and Stevens Creek/Permanente Creek. Oakland, CA: Surface Water Ambient Monitoring Program, San Francisco Bay Regional Water Quality Control Board
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	Temperature objectives for enclosed bays and estuaries are specified in the "Water Quality Control Plan for Control of Temperature in the Coastal and Interstate Waters and Enclosed Bays of California" including any revisions to the plan. In addition, the following temperature objectives apply to surface waters: The natural receiving water temperature of intrastate waters shall not be altered unless it can be demonstrated to the satisfaction of the Regional Board that such an alteration does not adversely affect beneficial uses. The temperature of any cold or warm freshwater habitat shall not be increased by more than 5°F (2.8°C) above natural receiving water temperature.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) - San Francisco Bay Region (Region 2)
Evaluation Guideline:	Sullivan et al. (2000) reviewed a wide range of studies incorporating information from laboratory-based research, field observations, and risk assessment approaches and developed criteria for assessing temperature risk to aquatic life. The 7-day mean temperature (maximum value of a 7-day moving average of the daily mean temperature) of 14.8°C was established as the upper threshold criterion for coho salmon and 17.0°C for steelhead trout. The risk assessment approach used by Sullivan et al. (2000) suggest that temperatures exceeding the above thresholds will cause a 10% reduction in average growth compared to optimal conditions.
Guideline Reference:	An Analysis of the Effects of Temperature on Salmonids of the Pacific Northwest with Implications for Selecting Temperature Criteria
Spatial Representation:	Temperature was measured at three or five sites in the Arroyo Las Positas watershed. Four monitoring sites are located in the mainstream of Arroyo Las Positas Creek while one site (ALP105) is located in Altamont Creek that is believed to be intermittent in the upstream section.
Temporal Representation:	In 2002 the SWAMP Program performed continuous monitoring of temperature at 15 minute intervals for periods of 1-2 weeks in each of three different seasons: winter (3 sites), spring (5 sites), and summer dry season (5 sites).
Environmental Conditions:	
QAPP Information:	All samples were collected and analyzed using procedures comparable with the SWAMP Quality Assurance Management Plan (SWRCB 2002).
QAPP Information Reference(s):	Quality Assurance Management Plan for the State of California's Surface Water Ambient Monitoring Program. Sacramento, CA. State Water Resources Control Board. SWAMP.

DECISION ID	34169	Region 2
Arroyo Las Positas		

Pollutant:	Eutrophication
Final Listing Decision:	List on 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision:	List on 303(d) list (TMDL required list)(2012)
Revision Status	Original
Sources:	Source Unknown
Expected TMDL Completion Date:	2021
Impairment from Pollutant or Pollution:	Pollutant

Regional Board Staff Conclusion:	<p>This pollutant is being considered for listing under sections 3.2 and 3.11 of the Listing Policy. Under section 3.11, water segments shall be evaluated to determine whether the weight of evidence demonstrates that a water quality standard is not attained. Four lines of evidence are available in the administrative record to assess this pollutant: (1) low dissolved oxygen measurements from continuous dissolved oxygen records, (2) supersaturated dissolved oxygen measurements from continuous dissolved oxygen records, (3) measurements of nitrate as N concentrations in water, and (4) samples of benthic macroinvertebrate assemblages. Based on the readily available data for this water body, the weight of evidence indicates that there is sufficient justification available in favor of adding this water segment-pollutant combination to the section 303(d) list in the Water Quality Limited Segments category. This conclusion is based on the staff findings that: 1. The data concerning current conditions and supporting the listing decision satisfy the data quality requirements of section 6.1.4 of the Policy. 2. The data used satisfy the data quantity requirements of section 6.1.5 of the Policy. 3. Minimum dissolved oxygen measurements were below the warm-water water quality objective of 5 mg/L in 4 out of 9 sampling events. Using table 3.2 of the listing policy, a minimum of 5 exceedances are needed to list this water body on the 303(d) list with a minimum sample size of 5. However, additional water quality information indicates that this water body is impaired by low dissolved oxygen levels as a result of widespread eutrophic conditions. Under section 3.11, these additional factors shall be considered in a weight of evidence approach in the decision to list a water body as impaired. 4. Supersaturated dissolved oxygen levels greater than 200% were observed in 5 out of 9 deployments, including a maximum value of 395%, indicating tremendous oxygen production by algae (eutrophication). 5. Eight out of 8 nitrate samples had concentrations greater than the guideline of 0.5 mg/L to prevent nuisance algae growth. Additionally, 8 out of 8 nitrate samples had concentrations greater than the guideline of 2.0 mg/L to protect aquatic life from nitrate toxicity. These high nitrate concentrations can promote the growth of periphyton that can cause nuisance and adversely affect beneficial uses. 6. Twelve out of 13 samples exceeded the recommended pH level of 8.5. The measured exceedances ranged from 8.52 to 8.99 with one maximum pH of 9.24. 7. Benthic macroinvertebrate (BMI) assemblages were significantly altered relative to reference conditions, indicating that controllable water quality factors have resulted in significant alterations in the community ecology of receiving waters. These alterations are most likely the result of low levels of dissolved oxygen, which is a result of eutrophication. Of the 6 sites where BMI were sampled, dissolved oxygen was also measured at 4 sites. Three of these sites had dissolved oxygen levels <5 mg/L. 8. Pursuant to section 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.</p>
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Regional Board Staff Decision Recommendation:	This is a decision previously approved by the State Water Resources Control Board and the USEPA. No new data were assessed by the Regional Board for the current. The decision has not changed.
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Line of Evidence (LOE) for Decision ID 34169, Eutrophication	Region 2
Arroyo Las Positas	

LOE ID:	4811
Pollutant:	Dissolved oxygen saturation

LOE Subgroup:	Pollutant-Water
Matrix:	Water
Fraction:	None
Beneficial Use:	Warm Freshwater Habitat
Aquatic Life Use:	Wildlife Habitat
Number of Samples:	9
Number of Exceedances:	5
Data and Information Type:	PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality:	Data used to evaluate dissolved oxygen was collected by SWAMP. Supersaturated dissolved oxygen levels greater than 200% were observed in 5 out of 9 deployments, including a maximum value of 395%, indicating tremendous oxygen production by algae (eutrophication). Supersaturated conditions always occurred during the daylight hours. The maximum diurnal range in dissolved oxygen was greater than 30 mg/L, higher than any values ever reported in the literature (Kent et al. 2005).
Data Reference:	Water Quality Monitoring and Bioassessment in Nine San Francisco Bay Region Watersheds: Walker Creek, Lagunitas Creek, San Leandro Creek, Wildcat Creek/San Pablo Creek, Suisun Creek, Arroyo Las Positas, Pescadero Creek/Butano Creek, San Gregorio Creek, and Stevens Creek/Permanente Creek. Oakland, CA: Surface Water Ambient Monitoring Program, San Francisco Bay Regional Water Quality Control Board Algal productivity and nitrate assimilation in an effluent dominated concrete lined stream. Journal of the American Water Resources Association: 41: 1109-1128
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	All waters shall be maintained free of toxic substances in concentrations that are lethal to or that produce significant alterations in population or community ecology or receiving water biota.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) - San Francisco Bay Region (Region 2)
Evaluation Guideline:	Dissolved oxygen supersaturation above 200 percent results in mortality of fish due to gill and skin lesions from gas bubble disease (Woodbury 1942, Renfro 1963, Weitkamp and Katz 1980).
Guideline Reference:	A sudden mortality of fishes accompanying a supersaturation of oxygen in Lake Waubesa. Wisconsin. Trans. Am. Fish. Soc. 71: 112-117 A review of dissolved gas supersaturation literature. Trans. Am. Fish. Soc. 109:659-702 Gas-bubble mortality of fishes in Galveston Bay, Texas. Trans. Am. Fish Soc. 92:320-322
Spatial Representation:	Dissolved oxygen was measured at five sites. Three of these sites were located on the mainstem of Arroyo Las Positas, while one site each was located on the major tributary. The highest dissolved oxygen levels were measured at site ALP105 on Altamont Creek, a major tributary to Arroyo Las Positas.
Temporal Representation:	The SWAMP Program performed continuous monitoring of dissolved oxygen at 15 minute intervals for periods of 1-2 weeks in each of three different seasons: winter (March 2002; 3 sites, 1 site meeting quality assurance requirements), spring (April 2002; 5 sites, 4 sites meeting quality assurance requirements), and summer (late June and late July 2002; 5 sites, 4 sites meeting quality assurance requirements).
Environmental Conditions:	Arroyo Las Positas flows west through the eastern Livermore valley before its confluence with Arroyo Mocho in eastern Pleasanton. The lower and middle sections of Arroyo Las Positas and Altamont Creek flow through the northern portion of the city of Livermore, a city of 82,000 people. The upper watershed is primarily used for cattle grazing. The lowest and highest dissolved oxygen levels were measured in a section of Altamont Creek that contained very high amounts of benthic algae and was located downstream of a golf course and small eutrophic pond. The main stem of Arroyo Las Positas is almost completely devoid of riparian vegetation as a result of extensive channel alteration and incision.
QAPP Information:	All samples were collected and analyzed using procedures comparable with the SWAMP Quality Assurance Management Plan (SWRCB 2002).
QAPP Information Reference(s):	Quality Assurance Management Plan for the State of California's Surface Water Ambient Monitoring Program. Sacramento, CA. State Water Resources Control Board. SWAMP. December 2002 (1st version)

Arroyo Las Positas

LOE ID:	4813
Pollutant:	Benthic-Macroinvertebrate Bioassessments
LOE Subgroup:	Population/Community Degradation
Matrix:	-N/A
Fraction:	None
Beneficial Use:	Warm Freshwater Habitat
Aquatic Life Use:	Wildlife Habitat
Number of Samples:	7
Number of Exceedances:	7
Data and Information Type:	Benthic macroinvertebrate surveys
Data Used to Assess Water Quality:	Benthic macroinvertebrates were sampled from 7 sites in the Arroyo Las Positas watershed in April 2001 by the SWAMP program. Benthic macroinvertebrate assemblage metrics were well outside the range of scores for minimally disturbed reference sites. Taxa richness scores at all 7 sampled sites in the Arroyo Las Positas watershed ranged from 11 to 16 taxa, whereas taxa richness values at reference sites ranged from 28 to 59. No taxa that are sensitive to pollution were present in any of the samples, indicating that pollution has resulted in significant alterations of community ecology.
Data Reference:	Water Quality Monitoring and Bioassessment in Nine San Francisco Bay Region Watersheds: Walker Creek, Lagunitas Creek, San Leandro Creek, Wildcat Creek/San Pablo Creek, Suisun Creek, Arroyo Las Positas, Pescadero Creek/Butano Creek, San Gregorio Creek, and Stevens Creek/Permanente Creek. Oakland, CA: Surface Water Ambient Monitoring Program, San Francisco Bay Regional Water Quality Control Board
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	All waters shall be maintained free of toxic substances in concentrations that are lethal to or that produce significant alterations in population or community ecology or receiving water biota. In addition, the health and life history characteristics of aquatic organisms in waters affected by controllable water quality factors shall not differ significantly from those for the same waters in areas unaffected by controllable water quality factors.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) - San Francisco Bay Region (Region 2)
Evaluation Guideline:	Benthic macroinvertebrate assemblage metric scores that are outside the range of scores for minimally disturbed reference sites indicate significant alterations in community ecology. Taxa richness values at reference sites sampled by the SWAMP program between 2001 and 2003 ranged from 28 to 59.
Guideline Reference:	Water Quality Monitoring and Bioassessment in Nine San Francisco Bay Region Watersheds: Walker Creek, Lagunitas Creek, San Leandro Creek, Wildcat Creek/San Pablo Creek, Suisun Creek, Arroyo Las Positas, Pescadero Creek/Butano Creek, San Gregorio Creek, and Stevens Creek/Permanente Creek. Oakland, CA: Surface Water Ambient Monitoring Program, San Francisco Bay Regional Water Quality Control Board
Spatial Representation:	Benthic macroinvertebrates were sampled from 7 sites throughout the watershed. Five sites were sampled on the main stem of Arroyo Las Positas, and 2 sites were sampled on Altamont Creek, the major perennial tributary of Arroyo Las Positas.
Temporal Representation:	Benthic macroinvertebrates were sampled once in April, 2001.
Environmental Conditions:	Arroyo Las Positas flows west through the eastern Livermore valley before its confluence with Arroyo Mocho in eastern Pleasanton. The lower and middle sections of Arroyo Las Positas and Altamont Creek flow through the northern portion of the city of Livermore, a city of 82,000 people. The upper watershed is primarily used for cattle grazing. The main stem of Arroyo Las Positas is almost completely devoid of riparian vegetation as a result of extensive channel alteration and incision.
QAPP Information:	All samples were collected and analyzed using procedures comparable with the SWAMP Quality Assurance Management Plan (SWRCB 2002).

QAPP Information Reference(s): [Quality Assurance Management Plan for the State of California's Surface Water Ambient Monitoring Program. Sacramento, CA. State Water Resources Control Board. SWAMP. December 2002 \(1st version\)](#)

Line of Evidence (LOE) for Decision ID 34169, Eutrophication

Region 2

Arroyo Las Positas

LOE ID: 4812

Pollutant: Nitrate
LOE Subgroup: Pollutant-Water
Matrix: Water
Fraction: Dissolved

Beneficial Use: Warm Freshwater Habitat
Aquatic Life Use: Wildlife Habitat

Number of Samples: 8
Number of Exceedances: 8

Data and Information Type: PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality: Eight out of 8 nitrate samples had concentrations greater than 0.5 mg/L. Eight out of 8 nitrate samples also had concentrations greater than 2.0 mg/L. The highest concentrations (8.04 mg/L and 6.52 mg/L) occurred at the same site (ALP110; Arroyo Las Positas, just upstream of Altamont Creek) in January and April 2002, and were among the highest nitrate concentrations measured by SWAMP in the SF Bay Region.

Data Reference: [Water Quality Monitoring and Bioassessment in Nine San Francisco Bay Region Watersheds: Walker Creek, Lagunitas Creek, San Leandro Creek, Wildcat Creek/San Pablo Creek, Suisun Creek, Arroyo Las Positas, Pescadero Creek/Butano Creek, San Gregorio Creek, and Stevens Creek/Permanente Creek. Oakland, CA: Surface Water Ambient Monitoring Program, San Francisco Bay Regional Water Quality Control Board](#)

SWAMP Data: SWAMP

Water Quality Objective/Criterion: Waters shall not contain biostimulatory substances in concentrations that promote aquatic growths to the extent that such growths cause nuisance or adversely affect beneficial uses

All waters shall be maintained free of toxic substances in concentrations that are lethal to or that produce significant alterations in population or community ecology or receiving water biota.

Objective/Criterion Reference: [Water Quality Control Plan \(Basin Plan\) - San Francisco Bay Region \(Region 2\)](#)

Evaluation Guideline: 1. Total nitrogen levels greater than 0.5 mg/L can result in large masses of nuisance algae unless other factors limit algae growth (Bowie et al. 1985; Biggs 2000). Since nitrate is one component of total nitrogen in water, nitrate levels should also be less than 0.5 mg/L.

Guideline Reference: 2. Nitrate (NO₃-N) concentrations above 2.0 mg/L can cause toxicity in a variety of freshwater organisms (Camargo et al. 2005).
[Eutrophication of streams and rivers: dissolved nutrient-chlorophyll relationships for benthic algae. J. N. Am. Benthol. Soc. 19:17-31](#)
[Rates, Constant, and Kinetics Formulations in Surface Water Quality Modeling. 2nd Edition. EPA/600/3-85/040. USEPA Environmental Research Laboratory, Athens, GA](#)
[Nitrate toxicity to aquatic animals: a review with new data for freshwater invertebrates. Chemosphere 58:1255-67](#)

Spatial Representation: Nitrate was sampled at four sites in the watershed, including two main stem sites and two sites on Altamont Creek, an important tributary.

Temporal Representation: Water samples were collected for nitrate analyses during three sampling events. The same four sites were sampled during each sampling event. Data are evaluated from the January 2002 and April 2002 sampling events only. Laboratory methods used on samples collected during September 2001 did not meet quality assurance requirements, so this

Environmental Conditions:	data has not been considered. Arroyo Las Positas flows west through the eastern Livermore valley before its confluence with Arroyo Mocho in eastern Pleasanton. The lower and middle sections of Arroyo Las Positas and Altamont Creek flow through the northern portion of the city of Livermore, a city of 82,000 people. The upper watershed is primarily used for cattle grazing. The main stem of Arroyo Las Positas is almost completely devoid of riparian vegetation as a result of extensive channel alteration and incision.
QAPP Information:	All samples were collected and analyzed using procedures comparable with the SWAMP Quality Assurance Management Plan (SWRCB 2002).
QAPP Information Reference(s):	Quality Assurance Management Plan for the State of California's Surface Water Ambient Monitoring Program. Sacramento, CA. State Water Resources Control Board. SWAMP. December 2002 (1st version).

Line of Evidence (LOE) for Decision ID 34169, Eutrophication

Region 2

Arroyo Las Positas

LOE ID:	4810
Pollutant:	Low Dissolved Oxygen
LOE Subgroup:	Pollutant-Water
Matrix:	Water
Fraction:	None
Beneficial Use:	Warm Freshwater Habitat
Aquatic Life Use:	Wildlife Habitat
Number of Samples:	9
Number of Exceedances:	4
Data and Information Type:	PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality:	<p>Data used to evaluate dissolved oxygen were collected by SWAMP in 2002. In 4 out of 9 deployments, minimum dissolved oxygen levels fell below the objective of 5 mg/L. Minimum values were nearly anoxic (0.56 mg/L) at one site in the summer season. Low dissolved oxygen concentrations generally occurred during the night and early morning hours.</p> <p>Continuous depressed levels of dissolved oxygen (< 5.0 mg/L) lasted from over 5 hours (dry season, downstream location) to 12 hours and 45 minutes (dry season, Altamont Creek upstream of confluence with Arroyo Las Positas).</p> <p>Dissolved oxygen levels fell below 5 mg/L during one additional deployment in the upstream section of Arroyo Las Positas. The longest duration of suppressed oxygen levels lasted for over 12 hours and the patterns of dissolved oxygen concentrations at this location followed closely that of Altamont Creek. Although these measurements support the listing decision and indicate that dissolved oxygen levels are the cause of the impairment, they cannot be used directly because of the marginal (by +/- 0.4%) exceedance of the quality assurance requirements.</p>
Data Reference:	Water Quality Monitoring and Bioassessment in Nine San Francisco Bay Region Watersheds: Walker Creek, Lagunitas Creek, San Leandro Creek, Wildcat Creek/San Pablo Creek, Suisun Creek, Arroyo Las Positas, Pescadero Creek/Butano Creek, San Gregorio Creek, and Stevens Creek/Permanente Creek. Oakland, CA: Surface Water Ambient Monitoring Program. San Francisco Bay Regional Water Quality Control Board
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	The numeric water quality objective for dissolved oxygen is 5.0 mg/L minimum for waters designated as warm freshwater habitat. The median dissolved oxygen concentration for any three consecutive months shall not be less than 80 percent of the dissolved oxygen content at saturation.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) - San Francisco Bay Region (Region 2)
Evaluation Guideline:	
Guideline Reference:	

Spatial Representation:	Dissolved oxygen was measured at five sites. Three of these sites were located on the mainstem of Arroyo Las Positas, while one site each was located on Altamont Creek and Arroyo Seco, two major tributaries. The lowest dissolved oxygen levels were measured at site ALP105 on Altamont Creek. Low dissolved oxygen levels also occurred in the mainstem of Arroyo Las Positas during the summer season.
Temporal Representation:	The SWAMP Program performed continuous monitoring of dissolved oxygen at 15 minute intervals for periods of 1-2 weeks in each of three different seasons: winter (March 2002; 3 sites, 1 site meeting quality assurance requirements), spring (April 2002; 5 sites, 4 sites meeting quality assurance requirements), and summer (late June and late July 2002; 5 sites, 4 sites meeting quality assurance requirements).
Environmental Conditions:	Arroyo Las Positas flows west through the eastern Livermore valley before its confluence with Arroyo Mocho in eastern Pleasanton. The lower and middle sections of Arroyo Las Positas and Altamont Creek flow through the northern portion of the city of Livermore, a city of 82,000 people. The upper watershed is primarily used for cattle grazing. The lowest and highest dissolved oxygen levels were measured in a section of Altamont Creek that contained very high amounts of benthic algae and was located downstream of a golf course and small eutrophic pond. The main stem of Arroyo Las Positas is almost completely devoid of riparian vegetation as a result of extensive channel alteration and incision.
QAPP Information:	All samples were collected and analyzed using procedures comparable with the SWAMP Quality Assurance Management Plan (SWRCB 2002).
QAPP Information Reference(s):	Quality Assurance Management Plan for the State of California's Surface Water Ambient Monitoring Program. Sacramento, CA. State Water Resources Control Board. SWAMP. December 2002 (1st version).

Line of Evidence (LOE) for Decision ID 34169, Eutrophication

Region 2

Arroyo Las Positas

LOE ID:	28987
Pollutant:	pH
LOE Subgroup:	Pollutant-Water
Matrix:	Water
Fraction:	None
Beneficial Use:	Warm Freshwater Habitat
Number of Samples:	13
Number of Exceedances:	12
Data and Information Type:	PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality:	Water quality assessment was conducted at the Arroyo Las Positas Creek watershed as part of SWAMP study in 2001-2002. Continuous field monitoring at 15 minute increments of temperature, dissolved oxygen, pH and specific conductance was conducted to determine temporal variability in basic water quality at three locations. Continuous monitoring sondes were deployed 13 times at 3 or 5 monitoring locations during wet, spring and dry seasons. The pH ranged from 7.58 to 8.99. The upper level of 8.5 was exceeded in 12 of the 13 sampling location over the three seasons.
Data Reference:	Water Quality Monitoring and Bioassessment in Nine San Francisco Bay Region Watersheds: Walker Creek, Lagunitas Creek, San Leandro Creek, Wildcat Creek/San Pablo Creek, Suisun Creek, Arroyo Las Positas, Pescadero Creek/Butano Creek, San Gregorio Creek, and Stevens Creek/Permanente Creek. Oakland, CA: Surface Water Ambient Monitoring Program, San Francisco Bay Regional Water Quality Control Board
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	The pH shall not be depressed below 6.5 nor raised above 8.5. This encompasses the pH range usually found in waters within the basin. Controllable water quality factors shall not cause changes greater than 0.5 units in normal ambient pH levels.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) - San Francisco Bay Region (Region 2)

Evaluation Guideline:	Comprehensive water quality assessment was conducted at Arroyo Las Positas Creek watershed as part of SWAMP assessment in 2002. Continuous field monitoring of temperature, dissolved oxygen, pH, and specific conductance to determine temporal variability in basic water quality at three or five locations, throughout Arroyo Las Positas Creek watershed. The pH ranged from 7.58 to 8.99 and varied with season.
Guideline Reference:	Water Quality Control Plan (Basin Plan) - San Francisco Bay Region (Region 2)
Spatial Representation:	pH was measured at three to five sites located on the mainstream of Arroyo Las Positas Creek that are representative of the entire creek length.
Temporal Representation:	In 2002 the SWAMP Program performed continuous monitoring of pH at 15 minute intervals for periods of 1-2 weeks in each of three different seasons: winter (3 sites), spring (5 sites), and summer dry season (5 sites).
Environmental Conditions:	
QAPP Information:	All samples were collected and analyzed using procedures comparable with the SWAMP Quality Assurance Management Plan (SWRCB, 2002).
QAPP Information Reference(s):	Quality Assurance Management Plan for the State of California's Surface Water Ambient Monitoring Program. Sacramento, CA. State Water Resources Control Board. SWAMP. December 2002 (1st version)

DECISION ID	34081	Region 2
Arroyo Las Positas		

Pollutant:	Diazinon
Final Listing Decision:	List on 303(d) list (being addressed by USEPA approved TMDL)
Last Listing Cycle's Final Listing Decision:	List on 303(d) list (being addressed by USEPA approved TMDL)(2012)
Revision Status	Original
Sources:	Urban Runoff/Storm Sewers
TMDL Name:	San Francisco Bay Urban Creeks Diazinon
TMDL Project Code:	9
Date TMDL Approved by USEPA:	05/16/2007
Impairment from Pollutant or Pollution:	Pollutant

Regional Board Staff Conclusion: 303(d) listing decisions made prior to 2006 were not held in an assessment database. The Regional Boards will update this decision when new data and information become available and are assessed. The USEPA final decision on the 2006 303(d) list was to move this listing to the being addressed by a USEPA approved TMDL portion of the 303(d) list, because the San Francisco Bay Urban Creeks Diazinon TMDL was approved by USEPA on 5/16/07 (USEPA, 2007).

Regional Board Staff Decision Recommendation: This is a decision previously approved by the State Water Resources Control Board and the USEPA. No new data were assessed by the Regional Board for the current. The decision has not changed.

Line of Evidence (LOE) for Decision ID 34081, Diazinon	Region 2
Arroyo Las Positas	

LOE ID:	1797
Pollutant:	Diazinon
LOE Subgroup:	Pollutant-Water
Matrix:	Water
Fraction:	None
Beneficial Use:	Cold Freshwater Habitat
Number of Samples:	0
Number of Exceedances:	0

Data and Information Type:	Not Specified
Data Used to Assess Water Quality:	Unspecified---This LOE is a placeholder to support a 303(d) listing decision made prior to 2006.
Data Reference:	Placeholder reference 2006 303(d)
SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	
Objective/Criterion Reference:	
Evaluation Guideline:	
Guideline Reference:	
Spatial Representation:	
Temporal Representation:	
Environmental Conditions:	
QAPP Information:	QA Info Missing
QAPP Information Reference(s):	

Draft California 2016 Integrated Report (303(d) List/305(b) Report)

Supporting Information

Regional Board 2 - San Francisco Bay Region

Water Body Name: Arroyo Mocho
Water Body ID: CAR2043008020010905115519
Water Body Type: River & Stream

DECISION ID 41832 **Region 2**
Arroyo Mocho

Pollutant: Anthracene | Benzo(a)anthracene | Benzo(a)pyrene (3,4-Benzopyrene -7-d) | Chlordane | Chrysene (C1-C4) | DDD (Dichlorodiphenyldichloroethane) | DDE (Dichlorodiphenyldichloroethylene) | DDT (Dichlorodiphenyltrichloroethane) | Dieldrin | Endrin | Fluoranthene | Fluorene | Heptachlor epoxide | Lindane/gamma Hexachlorocyclohexane (gamma-HCH) | Naphthalene | PAHs (Polycyclic Aromatic Hydrocarbons) | PCBs (Polychlorinated biphenyls) | Phenanthrene | Pyrene

Final Listing Decision: Do Not List on 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision: Do Not List on 303(d) list (TMDL required list)(2012)

Revision Status Original
Impairment from Pollutant or Pollution: Pollutant

Regional Board Staff Conclusion: These pollutants are being considered for placement on the section 303(d) list under section 3.1 of the Listing Policy. Under this section a single line of evidence is necessary to assess listing status. One line of evidence is available in the administrative record to assess this pollutant. Zero samples exceed the water quality objective. Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against placing this water segment-pollutant combination on the section 303(d) list in the Water Quality Limited Segments category. This conclusion is based on the staff findings that: 1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy. 2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy. 3. Zero of one sample exceeded the water quality objective, but this sample size is insufficient to determine with the power and confidence of the Listing Policy if standards are not met. A minimum of two samples are needed for application of table 3.1. 4. Pursuant to section 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.

Regional Board Staff Decision Recommendation: This is a decision previously approved by the State Water Resources Control Board and the USEPA. No new data were assessed by the Regional Board for the current. The decision has not changed.

Line of Evidence (LOE) for Decision ID 41832, Multiple Pollutants **Region 2**
Arroyo Mocho

LOE ID: 28500

Pollutant: Anthracene | Benzo(a)anthracene | Benzo(a)pyrene (3,4-Benzopyrene -7-d) | Chlordane | Chrysene (C1-C4) | DDD (Dichlorodiphenyldichloroethane) | DDE (Dichlorodiphenyldichloroethylene) | DDT (Dichlorodiphenyltrichloroethane) | Dieldrin | Endrin | Fluoranthene | Fluorene | Heptachlor epoxide | Lindane/gamma Hexachlorocyclohexane (gamma-HCH) | Naphthalene | PAHs (Polycyclic Aromatic Hydrocarbons) | PCBs (Polychlorinated biphenyls) | Phenanthrene | Pyrene

LOE Subgroup: Pollutant-Sediment
Matrix: Sediment
Fraction: None

Beneficial Use:	Warm Freshwater Habitat
Number of Samples:	1
Number of Exceedances:	0
Data and Information Type:	PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality:	Concentrations of Anthracene, fluorene, naphthalene, phenanthrene, benz(a)anthracene, benzo(a)pyrene, chrysene, fluoranthrene, pyrene, PAH (total), PCB (total), chlordane, dieldrin, DDD/DDE/DDT, endrin, heptachlor epoxide, and HCH, gamma in one sediment sample collected in spring 2005 did not exceed the sediment quality guidelines.
Data Reference:	Data collected by the Surface Water Ambient Monitoring Program, San Francisco Bay Regional Water Quality Control Board. Years 4 and 5 Assessment
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	All waters shall be maintained free of toxic substances that are lethal to or that produce other detrimental responses in aquatic organisms.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) - San Francisco Bay Region (Region 2)
Evaluation Guideline:	Sediment Quality Guidelines (MacDonald et al., 2000): PEC (probable effect concentration) Anthracene - 845 ug/kg; Fluorene - 536 ug/kg; Naphthalene - 561 ug/kg; Phenanthrene - 1170 ug/kg; Benz(a)anthracene - 1050 ug/kg; Benzo(a)pyrene - 1450 ug/kg; Chrysene - 1290 ug/kg; Fluoranthene - 2230 ug/kg; Pyrene - 1520 ug/kg; PAH (total) - 22800 ug/kg; PCB (total) - 676 ug/kg; Chlordane - 17.6 ug/kg; Dieldrin - 61.8 ug/kg; DDD (sum op + pp) - 28 ug/kg; DDE (sum op + pp) - 31.3 ug/kg; DDT (sum op + pp) - 62.9 ug/kg; DDT (total) - 572 ug/kg; Endrin - 207 ug/kg; Heptachlor epoxide - 16 ug/kg; HCH, gamma - 4.99 ug/kg.
Guideline Reference:	Development and evaluation of consensus-based sediment quality guidelines for freshwater ecosystems. Environmental Contamination and Toxicology. 39: 20-31
Spatial Representation:	One sediment sample was collected at a "watershed integrator" site located close to the mouth of Arroyo Mocho watershed.
Temporal Representation:	Sediment sample was collected in April of 2005.
Environmental Conditions:	
QAPP Information:	All samples were collected and analyzed using procedures comparable with the SWAMP Quality Assurance Management Plan (SWRCB, 2002).
QAPP Information Reference(s):	

DECISION ID	60809	Region 2
Arroyo Mocho		
Pollutant:	Arsenic	
Final Listing Decision:	Do Not List on 303(d) list (TMDL required list)	
Last Listing Cycle's Final Listing Decision:	New Decision	
Revision Status	Original	
Impairment from Pollutant or Pollution:	Pollutant	
Regional Board Staff Conclusion:	<p>This pollutant is being considered for placement on the CWA section 303(d) List under section 3.1 of the Listing Policy. Under section 3.1 a single line of evidence is necessary to assess listing status.</p> <p>Two lines of evidence are available in the administrative record to assess this pollutant. Zero of three samples exceed the objective.</p> <p>Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against placing this water segment-pollutant combination on the CWA section 303(d) List.</p> <p>This conclusion is based on the staff findings that:</p> <ol style="list-style-type: none"> 1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy. 	

2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy.
3. Zero of three samples exceed the objective and this sample size is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating. A minimum of 16 samples is needed to determine if a beneficial use is fully supported using table 3.1.
4. Pursuant to SECTION 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.

Regional Board Staff Decision Recommendation: After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be placed on the section 303(d) list. The readily available data and information is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating.

Line of Evidence (LOE) for Decision ID 60809, Arsenic

Region 2

Arroyo Mocho

LOE ID: 95361

Pollutant: Arsenic
LOE Subgroup: Pollutant-Sediment
Matrix: Sediment
Fraction: Total

Beneficial Use: Warm Freshwater Habitat

Number of Samples: 1
Number of Exceedances: 0

Data and Information Type: PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality: Concentrations of arsenic, cadmium, chromium, copper, lead, mercury and zinc in one sediment sample collected in spring 2005 did not exceed the sediment quality guidelines.

Data Reference: [Data collected by the Surface Water Ambient Monitoring Program, San Francisco Bay Regional Water Quality Control Board. Years 4 and 5 Assessment](#)

SWAMP Data: SWAMP

Water Quality Objective/Criterion: All waters shall be maintained free of toxic substances that are lethal to or that produce other detrimental responses in aquatic organisms.

Objective/Criterion Reference: [Water Quality Control Plan \(Basin Plan\) - San Francisco Bay Region \(Region 2\)](#)

Evaluation Guideline: Sediment Quality Guidelines (MacDonald et al., 2000): PEC (probable effect concentration) arsenic - 33 mg/kg dw; cadmium - 4.98 mg/kg dw; chromium - 111 mg/kg dw; copper - 149 mg/kg dw; lead - 128 mg/kg dw; mercury - 1.06 mg/kg dw; nickel - 48.6 mg/kg dw; zinc - 459 mg/kg dw.

Guideline Reference: [Development and evaluation of consensus-based sediment quality guidelines for freshwater ecosystems. Environmental Contamination and Toxicology. 39: 20-31](#)

Spatial Representation: One sediment sample was collected at a "watershed integrator" site located close to the mouth of Arroyo Mocho watershed.

Temporal Representation: Sediment sample was collected in April of 2005.

Environmental Conditions: There were no unusual environmental conditions associated with the sampling.

QAPP Information: All samples were collected and analyzed using procedures comparable with the SWAMP Quality Assurance Management Plan (SWRCB, 2002).

QAPP Information Reference(s): [Quality Assurance Management Plan for the State of California's Surface Water Ambient Monitoring Program. Sacramento, CA. State Water Resources Control Board. SWAMP. December 2002 \(1st version\)](#)

Line of Evidence (LOE) for Decision ID 60809, Arsenic

Region 2

Arroyo Mocho

LOE ID: 95367

Pollutant:	Arsenic
LOE Subgroup:	Pollutant-Water
Matrix:	Water
Fraction:	Dissolved
Beneficial Use:	Warm Freshwater Habitat
Number of Samples:	3
Number of Exceedances:	0
Data and Information Type:	PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality:	The Arroyo Mocho watershed was monitored as part of SWAMP assessment. None of the three samples exceeded the water quality objectives for arsenic, chromium VI, copper, lead, nickel, silver and zinc. Concentrations of total dissolved chromium were well below the objective for chromium VI.
Data Reference:	Data collected by the Surface Water Ambient Monitoring Program, San Francisco Bay Regional Water Quality Control Board. Years 4 and 5 Assessment
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	All waters shall be maintained free of toxic substances that are lethal to or that produce other detrimental responses in aquatic organisms. Table 3-4 in the Basin Plan (2007) lists freshwater water quality objectives for toxic pollutants: arsenic- 150 ug/L, chromium VI- 11 ug/L, copper - 9.0 ug/L, lead - 2.5 ug/L; nickel - 52 ug/L, silver-3.4 ug/L and zinc - 120 ug/L.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) - San Francisco Bay Region (Region 2)
Evaluation Guideline:	
Guideline Reference:	
Spatial Representation:	Data were collected at one sampling location (AMO070) in the Arroyo Mocho watershed (above Vulcan Bridge Zone 7).
Temporal Representation:	Samples were collected during wet (January), spring (April), and dry(June) seasons of 2005.
Environmental Conditions:	There were no unusual environmental conditions associated with the sampling.
QAPP Information:	All samples were collected and analyzed using procedures comparable with the SWAMP Quality Assurance Management Plan (SWRCB, 2002).
QAPP Information Reference(s):	Quality Assurance Management Plan for the State of California's Surface Water Ambient Monitoring Program. Sacramento, CA. State Water Resources Control Board. SWAMP. December 2002 (1st version)

DECISION ID	60810	Region 2
Arroyo Mocho		
Pollutant:	Cadmium	
Final Listing Decision:	Do Not List on 303(d) list (TMDL required list)	
Last Listing Cycle's Final Listing Decision:	New Decision	
Revision Status	Original	
Impairment from Pollutant or Pollution:	Pollutant	
Regional Board Staff Conclusion:	<p>This pollutant is being considered for placement on the CWA section 303(d) List under section 3.1 of the Listing Policy. Under section 3.1 a single line of evidence is necessary to assess listing status.</p> <p>One line of evidence is available in the administrative record to assess this pollutant. Zero of one samples exceed the guideline.</p> <p>Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against placing this water segment-pollutant combination on the CWA section</p>	

303(d) List.

This conclusion is based on the staff findings that:

1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy.
2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy.
3. Zero of one samples exceed the guideline and this sample size is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating. A minimum of 16 samples is needed to determine if a beneficial use is fully supported using table 3.1.
4. Pursuant to SECTION 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.

Regional Board Staff Decision Recommendation: After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be placed on the section 303(d) list. The readily available data and information is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating.

Line of Evidence (LOE) for Decision ID 60810, Cadmium

Region 2

Arroyo Mocho

LOE ID:	95363
Pollutant:	Cadmium
LOE Subgroup:	Pollutant-Sediment
Matrix:	Sediment
Fraction:	Total
Beneficial Use:	Warm Freshwater Habitat
Number of Samples:	1
Number of Exceedances:	0
Data and Information Type:	PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality:	Concentrations of arsenic, cadmium, chromium, copper, lead, mercury and zinc in one sediment sample collected in spring 2005 did not exceed the sediment quality guidelines.
Data Reference:	Data collected by the Surface Water Ambient Monitoring Program, San Francisco Bay Regional Water Quality Control Board. Years 4 and 5 Assessment
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	All waters shall be maintained free of toxic substances that are lethal to or that produce other detrimental responses in aquatic organisms.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) - San Francisco Bay Region (Region 2)
Evaluation Guideline:	Sediment Quality Guidelines (MacDonald et al., 2000): PEC (probable effect concentration) arsenic - 33 mg/kg dw; cadmium - 4.98 mg/kg dw; chromium - 111 mg/kg dw; copper - 149 mg/kg dw; lead - 128 mg/kg dw; mercury - 1.06 mg/kg dw; nickel - 48.6 mg/kg dw; zinc - 459 mg/kg dw.
Guideline Reference:	Development and evaluation of consensus-based sediment quality guidelines for freshwater ecosystems. Environmental Contamination and Toxicology. 39: 20-31
Spatial Representation:	One sediment sample was collected at a "watershed integrator" site located close to the mouth of Arroyo Mocho watershed.
Temporal Representation:	Sediment sample was collected in April of 2005.
Environmental Conditions:	There were no unusual environmental conditions associated with the sampling.
QAPP Information:	All samples were collected and analyzed using procedures comparable with the SWAMP Quality Assurance Management Plan (SWRCB, 2002).
QAPP Information Reference(s):	Quality Assurance Management Plan for the State of California's Surface Water Ambient Monitoring Program. Sacramento, CA. State Water Resources Control Board. SWAMP. December 2002 (1st version)

Pollutant:	Chlorpyrifos Dacthal Diazinon Disulfoton Endosulfan Lindane/gamma Hexachlorocyclohexane (gamma-HCH) Methyl Parathion PCBs (Polychlorinated biphenyls) Thiobencarb/Bolero
Final Listing Decision:	Do Not List on 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision:	Do Not List on 303(d) list (TMDL required list)(2012)
Revision Status	Original
Impairment from Pollutant or Pollution:	Pollutant

Regional Board Staff Conclusion: These pollutants are being considered for placement on the section 303(d) list under section 3.1 of the Listing Policy. Under section 3.1 a single line of evidence is necessary to assess listing status. One line of evidence are available in the administrative record to assess these pollutants. None of the samples exceed the water quality objective. Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against placing this water segment-pollutant combination on the section 303(d) list in the Water Quality Limited Segments category. This conclusion is based on the staff findings that:

1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy.
2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy.
3. None of three samples exceeded the water quality objectives (Basin Plan, Central Valley Regional Board Basin Plan and The US EPA 1987 guidelines and this does not exceed the allowable frequency listed in Table 3.1 of the Listing Policy.
4. Pursuant to section 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.

Regional Board Staff Decision Recommendation: This is a decision previously approved by the State Water Resources Control Board and the USEPA. No new data were assessed by the Regional Board for the current. The decision has not changed.

Line of Evidence (LOE) for Decision ID 43523, Multiple Pollutants	Region 2
Arroyo Mocho	

LOE ID:	28961
Pollutant:	Chlorpyrifos Dacthal Diazinon Disulfoton Endosulfan Lindane/gamma Hexachlorocyclohexane (gamma-HCH) Methyl Parathion PCBs (Polychlorinated biphenyls) Thiobencarb/Bolero
LOE Subgroup:	Pollutant-Water
Matrix:	Water
Fraction:	None
Beneficial Use:	Warm Freshwater Habitat
Number of Samples:	3
Number of Exceedances:	0
Data and Information Type:	PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality:	The Arroyo Mocho watershed was monitored as part of SWAMP assessment. None of the three samples exceeded the water quality objectives for PCBs, Chlorpyrifos, Dacthal, diazinon, disulfoton, endosulfan, Lindane/gamma Hexachlorocyclohexane (gamma-HCH), methyl parathion, thiobencarb.
Data Reference:	Data collected by the Surface Water Ambient Monitoring Program, San Francisco Bay Regional Water Quality Control Board. Years 4 and 5 Assessment
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	All waters shall be maintained free of toxic substances that are lethal to or that produce other detrimental responses in aquatic organisms.

Objective/Criterion Reference:	There shall be no chronic toxicity in ambient waters. Chronic toxicity is a detrimental biological effect on growth rate, reproduction, fertilization success, larval development, population abundance, community composition, or any other relevant measure of the health of an organism, population, or community. Diazinon water quality objective, 0.1 ug/L (acute) Water Quality Control Plan (Basin Plan) - San Francisco Bay Region (Region 2)
Evaluation Guideline:	PCBs - 0.014 ug/L freshwater continuous Concentration; Chlorpyrifos - 0.015 ug/L (chronic); Dacthal (DCPA) - 14300 ug/L (acute); Disulfoton (Disyston) - 0.05 ug/L (acute); Endosulfan - 0.056 ug/L (chronic)/0.22 ug/L (acute); HCH, gamma-(gamma BHC, Lindane) - 0.95 ug/L (acute); methyl parathion - 0.08 ug/L (acute); Thiobencarb - 3.1 ug/L (acute).
Guideline Reference:	National recommended water quality criteria: 2002. EPA-822-R-02-047 Washington, D.C. USEPA
Spatial Representation:	Data were collected at one sampling location (AMO070) in the Arroyo Mocho watershed.
Temporal Representation:	Samples were collected during wet (January), spring (April), and dry(June) seasons of 2005.
Environmental Conditions:	
QAPP Information:	All samples were collected and analyzed using procedures comparable with the SWAMP Quality Assurance Management Plan (SWRCB, 2002).
QAPP Information Reference(s):	Quality Assurance Management Plan for the State of California's Surface Water Ambient Monitoring Program. Sacramento, CA. State Water Resources Control Board. SWAMP. December 2002 (1st version)

DECISION ID	60811	Region 2
Arroyo Mocho		
Pollutant:	Chromium	
Final Listing Decision:	Do Not List on 303(d) list (TMDL required list)	
Last Listing Cycle's Final Listing Decision:	New Decision	
Revision Status	Original	
Impairment from Pollutant or Pollution:	Pollutant	
Regional Board Staff Conclusion:	<p>This pollutant is being considered for placement on the CWA section 303(d) List under section 3.1 of the Listing Policy. Under section 3.1 a single line of evidence is necessary to assess listing status.</p> <p>Two lines of evidence are available in the administrative record to assess this pollutant. Zero of three samples exceed the objective.</p> <p>Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against placing this water segment-pollutant combination on the CWA section 303(d) List.</p> <p>This conclusion is based on the staff findings that:</p> <ol style="list-style-type: none"> 1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy. 2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy. 3. Zero of three samples exceed the objective and this sample size is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating. A minimum of 16 samples is needed to determine if a beneficial use is fully supported using table 3.1. 4. Pursuant to SECTION 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met. 	
Regional Board Staff Decision Recommendation:	After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be placed on the section 303(d) list. The readily available data and information is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating.	

Arroyo Mocho

LOE ID:	95362
Pollutant:	Chromium
LOE Subgroup:	Pollutant-Sediment
Matrix:	Sediment
Fraction:	Total
Beneficial Use:	Warm Freshwater Habitat
Number of Samples:	1
Number of Exceedances:	0
Data and Information Type:	PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality:	Concentrations of arsenic, cadmium, chromium, copper, lead, mercury and zinc in one sediment sample collected in spring 2005 did not exceed the sediment quality guidelines.
Data Reference:	Data collected by the Surface Water Ambient Monitoring Program, San Francisco Bay Regional Water Quality Control Board. Years 4 and 5 Assessment
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	All waters shall be maintained free of toxic substances that are lethal to or that produce other detrimental responses in aquatic organisms.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) - San Francisco Bay Region (Region 2)
Evaluation Guideline:	Sediment Quality Guidelines (MacDonald et al., 2000): PEC (probable effect concentration) arsenic - 33 mg/kg dw; cadmium - 4.98 mg/kg dw; chromium - 111 mg/kg dw; copper - 149 mg/kg dw; lead - 128 mg/kg dw; mercury - 1.06 mg/kg dw; nickel - 48.6 mg/kg dw; zinc - 459 mg/kg dw.
Guideline Reference:	Development and evaluation of consensus-based sediment quality guidelines for freshwater ecosystems. Environmental Contamination and Toxicology. 39: 20-31
Spatial Representation:	One sediment sample was collected at a "watershed integrator" site located close to the mouth of Arroyo Mocho watershed.
Temporal Representation:	Sediment sample was collected in April of 2005.
Environmental Conditions:	There were no unusual environmental conditions associated with the sampling.
QAPP Information:	All samples were collected and analyzed using procedures comparable with the SWAMP Quality Assurance Management Plan (SWRCB, 2002).
QAPP Information Reference(s):	Quality Assurance Management Plan for the State of California's Surface Water Ambient Monitoring Program. Sacramento, CA. State Water Resources Control Board. SWAMP. December 2002 (1st version)

Line of Evidence (LOE) for Decision ID 60811, Chromium

Region 2

Arroyo Mocho

LOE ID:	95368
Pollutant:	Chromium
LOE Subgroup:	Pollutant-Water
Matrix:	Water
Fraction:	Dissolved
Beneficial Use:	Warm Freshwater Habitat
Number of Samples:	3
Number of Exceedances:	0
Data and Information Type:	PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality:	The Arroyo Mocho watershed was monitored as part of SWAMP assessment. None of the

	three samples exceeded the water quality objectives for arsenic, chromium VI, copper, lead, nickel, silver and zinc. Concentrations of total dissolved chromium were well below the objective for chromium VI.
Data Reference:	Data collected by the Surface Water Ambient Monitoring Program, San Francisco Bay Regional Water Quality Control Board. Years 4 and 5 Assessment
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	All waters shall be maintained free of toxic substances that are lethal to or that produce other detrimental responses in aquatic organisms. Table 3-4 in the Basin Plan (2007) lists freshwater water quality objectives for toxic pollutants: arsenic- 150 ug/L, chromium VI- 11 ug/L, copper - 9.0 ug/L, lead - 2.5 ug/L; nickel - 52 ug/L, silver-3.4 ug/L and zinc - 120 ug/L.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) - San Francisco Bay Region (Region 2)
Evaluation Guideline:	
Guideline Reference:	
Spatial Representation:	Data were collected at one sampling location (AMO070) in the Arroyo Mocho watershed (above Vulcan Bridge Zone 7).
Temporal Representation:	Samples were collected during wet (January), spring (April), and dry(June) seasons of 2005.
Environmental Conditions:	There were no unusual environmental conditions associated with the sampling.
QAPP Information:	All samples were collected and analyzed using procedures comparable with the SWAMP Quality Assurance Management Plan (SWRCB, 2002).
QAPP Information Reference(s):	Quality Assurance Management Plan for the State of California's Surface Water Ambient Monitoring Program, Sacramento, CA, State Water Resources Control Board, SWAMP, December 2002 (1st version)

DECISION ID 60812 Region 2	
Arroyo Mocho	
Pollutant:	Copper
Final Listing Decision:	Do Not List on 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision:	New Decision
Revision Status	Original
Impairment from Pollutant or Pollution:	Pollutant
Regional Board Staff Conclusion:	<p>This pollutant is being considered for placement on the CWA section 303(d) List under section 3.1 of the Listing Policy. Under section 3.1 a single line of evidence is necessary to assess listing status.</p> <p>Two lines of evidence are available in the administrative record to assess this pollutant. Zero of three samples exceed the objective.</p> <p>Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against placing this water segment-pollutant combination on the CWA section 303(d) List.</p> <p>This conclusion is based on the staff findings that:</p> <ol style="list-style-type: none"> 1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy. 2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy. 3. Zero of three samples exceed the objective and this sample size is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating. A minimum of 16 samples is needed to determine if a beneficial use is fully supported using table 3.1. 4. Pursuant to SECTION 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.
Regional Board Staff Decision Recommendation:	After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be placed on the section 303(d) list. The readily available data and

information is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating.

Line of Evidence (LOE) for Decision ID 60812, Copper
Arroyo Mocho

Region 2

LOE ID:	95364
Pollutant:	Copper
LOE Subgroup:	Pollutant-Sediment
Matrix:	Sediment
Fraction:	Total
Beneficial Use:	Warm Freshwater Habitat
Number of Samples:	1
Number of Exceedances:	0
Data and Information Type:	PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality:	Concentrations of arsenic, cadmium, chromium, copper, lead, mercury and zinc in one sediment sample collected in spring 2005 did not exceed the sediment quality guidelines.
Data Reference:	Data collected by the Surface Water Ambient Monitoring Program, San Francisco Bay Regional Water Quality Control Board. Years 4 and 5 Assessment
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	All waters shall be maintained free of toxic substances that are lethal to or that produce other detrimental responses in aquatic organisms.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) - San Francisco Bay Region (Region 2)
Evaluation Guideline:	Sediment Quality Guidelines (MacDonald et al., 2000): PEC (probable effect concentration) arsenic - 33 mg/kg dw; cadmium - 4.98 mg/kg dw; chromium - 111 mg/kg dw; copper - 149 mg/kg dw; lead - 128 mg/kg dw; mercury - 1.06 mg/kg dw; nickel - 48.6 mg/kg dw; zinc - 459 mg/kg dw.
Guideline Reference:	Development and evaluation of consensus-based sediment quality guidelines for freshwater ecosystems. Environmental Contamination and Toxicology. 39: 20-31
Spatial Representation:	One sediment sample was collected at a "watershed integrator" site located close to the mouth of Arroyo Mocho watershed.
Temporal Representation:	Sediment sample was collected in April of 2005.
Environmental Conditions:	There were no unusual environmental conditions associated with the sampling.
QAPP Information:	All samples were collected and analyzed using procedures comparable with the SWAMP Quality Assurance Management Plan (SWRCB, 2002).
QAPP Information Reference(s):	Quality Assurance Management Plan for the State of California's Surface Water Ambient Monitoring Program. Sacramento, CA. State Water Resources Control Board. SWAMP. December 2002 (1st version)

Line of Evidence (LOE) for Decision ID 60812, Copper
Arroyo Mocho

Region 2

LOE ID:	95369
Pollutant:	Copper
LOE Subgroup:	Pollutant-Water
Matrix:	Water
Fraction:	Dissolved
Beneficial Use:	Warm Freshwater Habitat
Number of Samples:	3

Number of Exceedances:	0
Data and Information Type:	PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality:	The Arroyo Mocho watershed was monitored as part of SWAMP assessment. None of the three samples exceeded the water quality objectives for arsenic, chromium VI, copper, lead, nickel, silver and zinc. Concentrations of total dissolved chromium were well below the objective for chromium VI.
Data Reference:	Data collected by the Surface Water Ambient Monitoring Program, San Francisco Bay Regional Water Quality Control Board. Years 4 and 5 Assessment
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	All waters shall be maintained free of toxic substances that are lethal to or that produce other detrimental responses in aquatic organisms. Table 3-4 in the Basin Plan (2007) lists freshwater water quality objectives for toxic pollutants: arsenic- 150 ug/L, chromium VI- 11 ug/L, copper - 9.0 ug/L, lead - 2.5 ug/L; nickel - 52 ug/L, silver-3.4 ug/L and zinc - 120 ug/L.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) - San Francisco Bay Region (Region 2)
Evaluation Guideline:	
Guideline Reference:	
Spatial Representation:	Data were collected at one sampling location (AMO070) in the Arroyo Mocho watershed (above Vulcan Bridge Zone 7).
Temporal Representation:	Samples were collected during wet (January), spring (April), and dry(June) seasons of 2005.
Environmental Conditions:	There were no unusual environmental conditions associated with the sampling.
QAPP Information:	All samples were collected and analyzed using procedures comparable with the SWAMP Quality Assurance Management Plan (SWRCB, 2002).
QAPP Information Reference(s):	Quality Assurance Management Plan for the State of California's Surface Water Ambient Monitoring Program. Sacramento, CA. State Water Resources Control Board. SWAMP. December 2002 (1st version)

DECISION ID	60824	Region 2
Arroyo Mocho		

Pollutant:	Lead
Final Listing Decision:	Do Not List on 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision:	New Decision
Revision Status	Original
Impairment from Pollutant or Pollution:	Pollutant
Regional Board Staff Conclusion:	<p>This pollutant is being considered for placement on the CWA section 303(d) List under section 3.1 of the Listing Policy. Under section 3.1 a single line of evidence is necessary to assess listing status.</p> <p>Two lines of evidence are available in the administrative record to assess this pollutant. Zero of three samples exceed the objective.</p> <p>Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against placing this water segment-pollutant combination on the CWA section 303(d) List.</p> <p>This conclusion is based on the staff findings that:</p> <ol style="list-style-type: none"> 1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy. 2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy. 3. Zero of three samples exceed the objective and this sample size is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating. A minimum of 16 samples is needed to determine if a beneficial use is fully supported using table 3.1. 4. Pursuant to SECTION 3.11 of the Listing Policy, no additional data and information are available

indicating that standards are not met.

Regional Board Staff Decision Recommendation: After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be placed on the section 303(d) list. The readily available data and information is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating.

Line of Evidence (LOE) for Decision ID 60824, Lead Arroyo Mocho

Region 2

LOE ID: 95365

Pollutant: Lead
LOE Subgroup: Pollutant-Sediment
Matrix: Sediment
Fraction: Total

Beneficial Use: Warm Freshwater Habitat

Number of Samples: 1
Number of Exceedances: 0

Data and Information Type: PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality: Concentrations of arsenic, cadmium, chromium, copper, lead, mercury and zinc in one sediment sample collected in spring 2005 did not exceed the sediment quality guidelines.
Data Reference: [Data collected by the Surface Water Ambient Monitoring Program, San Francisco Bay Regional Water Quality Control Board. Years 4 and 5 Assessment](#)

SWAMP Data: SWAMP

Water Quality Objective/Criterion: All waters shall be maintained free of toxic substances that are lethal to or that produce other detrimental responses in aquatic organisms.
Objective/Criterion Reference: [Water Quality Control Plan \(Basin Plan\) - San Francisco Bay Region \(Region 2\)](#)

Evaluation Guideline: Sediment Quality Guidelines (MacDonald et al., 2000): PEC (probable effect concentration) arsenic - 33 mg/kg dw; cadmium - 4.98 mg/kg dw; chromium - 111 mg/kg dw; copper - 149 mg/kg dw; lead - 128 mg/kg dw; mercury - 1.06 mg/kg dw; nickel - 48.6 mg/kg dw; zinc - 459 mg/kg dw.
Guideline Reference: [Development and evaluation of consensus-based sediment quality guidelines for freshwater ecosystems. Environmental Contamination and Toxicology. 39: 20-31](#)

Spatial Representation: One sediment sample was collected at a "watershed integrator" site located close to the mouth of Arroyo Mocho watershed.

Temporal Representation: Sediment sample was collected in April of 2005.

Environmental Conditions: There were no unusual environmental conditions associated with the sampling.

QAPP Information: All samples were collected and analyzed using procedures comparable with the SWAMP Quality Assurance Management Plan (SWRCB, 2002).
QAPP Information Reference(s): [Quality Assurance Management Plan for the State of California's Surface Water Ambient Monitoring Program. Sacramento, CA. State Water Resources Control Board. SWAMP. December 2002 \(1st version\)](#)

Line of Evidence (LOE) for Decision ID 60824, Lead Arroyo Mocho

Region 2

LOE ID: 95370

Pollutant: Lead
LOE Subgroup: Pollutant-Water
Matrix: Water
Fraction: Dissolved

Beneficial Use:	Warm Freshwater Habitat
Number of Samples:	3
Number of Exceedances:	0
Data and Information Type:	PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality:	The Arroyo Mocho watershed was monitored as part of SWAMP assessment. None of the three samples exceeded the water quality objectives for arsenic, chromium VI, copper, lead, nickel, silver and zinc. Concentrations of total dissolved chromium were well below the objective for chromium VI.
Data Reference:	Data collected by the Surface Water Ambient Monitoring Program, San Francisco Bay Regional Water Quality Control Board. Years 4 and 5 Assessment
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	All waters shall be maintained free of toxic substances that are lethal to or that produce other detrimental responses in aquatic organisms. Table 3-4 in the Basin Plan (2007) lists freshwater water quality objectives for toxic pollutants: arsenic- 150 ug/L, chromium VI- 11 ug/L, copper - 9.0 ug/L, lead - 2.5 ug/L; nickel - 52 ug/L, silver-3.4 ug/L and zinc - 120 ug/L.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) - San Francisco Bay Region (Region 2)
Evaluation Guideline:	
Guideline Reference:	
Spatial Representation:	Data were collected at one sampling location (AMO070) in the Arroyo Mocho watershed (above Vulcan Bridge Zone 7).
Temporal Representation:	Samples were collected during wet (January), spring (April), and dry(June) seasons of 2005.
Environmental Conditions:	There were no unusual environmental conditions associated with the sampling.
QAPP Information:	All samples were collected and analyzed using procedures comparable with the SWAMP Quality Assurance Management Plan (SWRCB, 2002).
QAPP Information Reference(s):	Quality Assurance Management Plan for the State of California's Surface Water Ambient Monitoring Program. Sacramento, CA. State Water Resources Control Board. SWAMP. December 2002 (1st version)

DECISION ID	43767	Region 2
Arroyo Mocho		
Pollutant:	Nickel	
Final Listing Decision:	Do Not List on 303(d) list (TMDL required list)	
Last Listing Cycle's Final Listing Decision:	Do Not List on 303(d) list (TMDL required list)(2012)	
Revision Status	Original	
Impairment from Pollutant or Pollution:	Pollutant	
Regional Board Staff Conclusion:	<p>This pollutant is being considered for placement on the section 303(d) list under section 3.1 of the Listing Policy. Under this section a single line of evidence is necessary to assess listing status. One line of evidence is available in the administrative record to assess this pollutant. One sample exceeds the water quality objective. Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against placing this water segment-pollutant combination on the section 303(d) list in the Water Quality Limited Segments category. This conclusion is based on the staff findings that:</p> <ol style="list-style-type: none"> 1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy. 2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy. 3. One of one sample exceeded the water quality objective, but this sample size is insufficient to determine with the power and confidence of the Listing Policy if standards are not met. A minimum of two samples are needed for application of table 3.1. 4. Pursuant to section 3.11 of the Listing Policy, no additional data and information are available 	

indicating that standards are not met.

Regional Board Staff Decision Recommendation: This is a decision previously approved by the State Water Resources Control Board and the USEPA. No new data were assessed by the Regional Board for the current. The decision has not changed.

**Line of Evidence (LOE) for Decision ID 43767, Nickel
Arroyo Mocho**

Region 2

LOE ID: 28754

Pollutant: Nickel
LOE Subgroup: Pollutant-Sediment
Matrix: Sediment
Fraction: Total

Beneficial Use: Warm Freshwater Habitat

Number of Samples: 1
Number of Exceedances: 1

Data and Information Type: PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality: Concentration of nickel in one sediment sample collected in spring 2005 exceeded the sediment quality guidelines.
Data Reference: [Data collected by the Surface Water Ambient Monitoring Program, San Francisco Bay Regional Water Quality Control Board. Years 4 and 5 Assessment](#)

SWAMP Data: SWAMP

Water Quality Objective/Criterion: All waters shall be maintained free of toxic substances that are lethal to or that produce other detrimental responses in aquatic organisms.
Objective/Criterion Reference: [Water Quality Control Plan \(Basin Plan\) - San Francisco Bay Region \(Region 2\)](#)

Evaluation Guideline: Sediment Quality Guidelines (MacDonald et al., 2000): PEC (threshold effect concentration) nickel - 48.6 mg/kg dw.
Guideline Reference: [Development and evaluation of consensus-based sediment quality guidelines for freshwater ecosystems. Environmental Contamination and Toxicology. 39: 20-31](#)

Spatial Representation: One sediment sample was collected at a "watershed integrator" site located close to the mouth of Arroyo Mocho watershed. The PEC was exceeded for Nickel, with a sample concentration of 116 mg/kg dw.
Temporal Representation: Sediment sample was collected in April of 2005.
Environmental Conditions:
QAPP Information: All samples were collected and analyzed using procedures comparable with the SWAMP Quality Assurance Management Plan (SWRCB, 2002).
QAPP Information Reference(s):

**DECISION ID 43620
Arroyo Mocho**

Region 2

Pollutant: Oxygen, Dissolved
Final Listing Decision: Do Not List on 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision: Do Not List on 303(d) list (TMDL required list)(2012)
Revision Status Original
Impairment from Pollutant or Pollution: Pollutant

Regional Board Staff Conclusion: This pollutant is being considered for placement on the section 303(d) list under section 3.2 of the Listing Policy. Under section 3.2 a single line of evidence is necessary to assess listing status. Two

lines of evidence are available in the administrative record to assess this pollutant. Four of twelve samples exceed the water quality objective. Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against placing this water segment-pollutant combination on the section 303(d) list in the Water Quality Limited Segments category. This conclusion is based on the staff findings that:

1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy.
2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy.
3. Four of 12 samples for COLD beneficial use, and 3 of 12 samples exceeded the Basin Plan water quality objective. This does not exceed the allowable frequency listed in Table 3.2 of the Listing Policy.
4. Pursuant to section 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.

Regional Board Staff Decision Recommendation: This is a decision previously approved by the State Water Resources Control Board and the USEPA. No new data were assessed by the Regional Board for the current. The decision has not changed.

**Line of Evidence (LOE) for Decision ID 43620, Oxygen, Dissolved
Arroyo Mocho**

Region 2

LOE ID:	28625
Pollutant:	Oxygen, Dissolved
LOE Subgroup:	Pollutant-Water
Matrix:	Water
Fraction:	None
Beneficial Use:	Warm Freshwater Habitat
Number of Samples:	12
Number of Exceedances:	3
Data and Information Type:	PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality:	Comprehensive water quality assessment was conducted at Arroyo Mocho watershed as part of SWAMP assessment in 2004 and 2005. Continuous field monitoring of temperature, dissolved oxygen, pH, and specific conductance to determine temporal variability in basic water quality at one or two locations. The 7 day average minimum concentration of dissolved oxygen ranged from 0.2 to 10.5 mg/L and varied with season. Minimum dissolved oxygen levels fell below the objective of 5 mg/L at two locations in spring (April 2004) and one in the summer (August 2004) sampling events. The 7 day average concentration levels were 3.7, 0.7 (all spring) and 0.2 (summer) mg/L DO.
Data Reference:	Data collected by the Surface Water Ambient Monitoring Program, San Francisco Bay Regional Water Quality Control Board. Years 4 and 5 Assessment
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	The numeric water quality objective for dissolved oxygen is 5.0 mg/L minimum for waters designated as warm water habitat. The median dissolved oxygen concentration for any three consecutive months shall not be less than 80 percent of the dissolved oxygen content at saturation.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) - San Francisco Bay Region (Region 2)
Evaluation Guideline:	
Guideline Reference:	
Spatial Representation:	Dissolved oxygen was measured at two sites in summer 2004 and five sites in spring 2004 and winter 2005.
Temporal Representation:	At all locations the SWAMP performed continuous monitoring of dissolved oxygen at 15 minute intervals lasting 7-13 days during spring (April 2004), summer dry season (August 2004), and winter wet season (February 2005).
Environmental Conditions:	
QAPP Information:	All samples were collected and analyzed using procedures comparable with the SWAMP

QAPP Information Reference(s):

**Line of Evidence (LOE) for Decision ID 43620, Oxygen, Dissolved
Arroyo Mocho****Region 2**

LOE ID:	28624
Pollutant:	Oxygen, Dissolved
LOE Subgroup:	Pollutant-Water
Matrix:	Water
Fraction:	None
Beneficial Use:	Cold Freshwater Habitat
Number of Samples:	12
Number of Exceedances:	4
Data and Information Type:	PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality:	Comprehensive water quality assessment was conducted at Arroyo Mocho watershed as part of SWAMP assessment in 2004 and 2005. Continuous field monitoring of temperature, dissolved oxygen, pH, and specific conductance to determine temporal variability in basic water quality at one or two locations. The 7 day average minimum concentration of dissolved oxygen ranged from 0.2 to 10.5 mg/L and varied with season. Minimum dissolved oxygen levels fell below the objective of 7 mg/L at three locations in spring (April 2004) and one in the summer (August 2003) sampling events. The 7 day average concentration levels were 6.5, 3.7, 0.7 (all spring) and 0.2 (summer) mg/L DO.
Data Reference:	Data collected by the Surface Water Ambient Monitoring Program, San Francisco Bay Regional Water Quality Control Board. Years 4 and 5 Assessment
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	The numeric water quality objective for dissolved oxygen is 7.0 mg/L minimum for waters designated as cold water habitat. The median dissolved oxygen concentration for any three consecutive months shall not be less than 80 percent of the dissolved oxygen content at saturation.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) - San Francisco Bay Region (Region 2)
Evaluation Guideline:	
Guideline Reference:	
Spatial Representation:	Dissolved oxygen was measured at two or five sites located on the mainstem of San Mateo Creek that are representative of the entire creek length.
Temporal Representation:	At all locations the SWAMP performed continuous monitoring of dissolved oxygen at 15 minute intervals lasting 7-13 days during spring (April 2004), summer dry season (August 2004), and winter wet season (February 2004).
Environmental Conditions:	
QAPP Information:	All samples were collected and analyzed using procedures comparable with the SWAMP Quality Assurance Management Plan (SWRCB 2002).
QAPP Information Reference(s):	

DECISION ID 60826**Region 2****Arroyo Mocho**

Pollutant:	Silver
Final Listing Decision:	Do Not List on 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision:	New Decision
Revision Status	Original
Impairment from Pollutant or	Pollutant

Pollution:**Regional Board Staff Conclusion:**

This pollutant is being considered for placement on the CWA section 303(d) List under section 3.1 of the Listing Policy. Under section 3.1 a single line of evidence is necessary to assess listing status.

One line of evidence is available in the administrative record to assess this pollutant. Zero of three samples exceed the objective.

Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against placing this water segment-pollutant combination on the CWA section 303(d) List.

This conclusion is based on the staff findings that:

1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy.
2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy.
3. Zero of three samples exceed the objective and this sample size is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating. A minimum of 16 samples is needed to determine if a beneficial use is fully supported using table 3.1.
4. Pursuant to SECTION 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.

Regional Board Staff Decision Recommendation:

After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be placed on the section 303(d) list. The readily available data and information is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating.

Line of Evidence (LOE) for Decision ID 60826, Silver**Region 2****Arroyo Mocho**

LOE ID:	95371
Pollutant:	Silver
LOE Subgroup:	Pollutant-Water
Matrix:	Water
Fraction:	Dissolved
Beneficial Use:	Warm Freshwater Habitat
Number of Samples:	3
Number of Exceedances:	0
Data and Information Type:	PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality:	The Arroyo Mocho watershed was monitored as part of SWAMP assessment. None of the three samples exceeded the water quality objectives for arsenic, chromium VI, copper, lead, nickel, silver and zinc. Concentrations of total dissolved chromium were well below the objective for chromium VI.
Data Reference:	Data collected by the Surface Water Ambient Monitoring Program, San Francisco Bay Regional Water Quality Control Board. Years 4 and 5 Assessment
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	All waters shall be maintained free of toxic substances that are lethal to or that produce other detrimental responses in aquatic organisms. Table 3-4 in the Basin Plan (2007) lists freshwater water quality objectives for toxic pollutants: arsenic- 150 ug/L, chromium VI- 11 ug/L, copper - 9.0 ug/L, lead - 2.5 ug/L; nickel - 52 ug/L, silver-3.4 ug/L and zinc - 120 ug/L.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) - San Francisco Bay Region (Region 2)
Evaluation Guideline:	
Guideline Reference:	

Spatial Representation:	Data were collected at one sampling location (AMO070) in the Arroyo Mocho watershed (above Vulcan Bridge Zone 7).
Temporal Representation:	Samples were collected during wet (January), spring (April), and dry(June) seasons of 2005.
Environmental Conditions:	There were no unusual environmental conditions associated with the sampling.
QAPP Information:	All samples were collected and analyzed using procedures comparable with the SWAMP Quality Assurance Management Plan (SWRCB, 2002).
QAPP Information Reference(s):	Quality Assurance Management Plan for the State of California's Surface Water Ambient Monitoring Program. Sacramento, CA. State Water Resources Control Board. SWAMP. December 2002 (1st version).

DECISION ID	43245	Region 2
Arroyo Mocho		

Pollutant:	Toxicity
Final Listing Decision:	Do Not List on 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision:	Do Not List on 303(d) list (TMDL required list)(2012)
Revision Status	Original
Impairment from Pollutant or Pollution:	Pollutant
Regional Board Staff Conclusion:	<p>This pollutant is being considered for placement on the CWA section 303(d) List under section 3.1 of the Listing Policy. Under section 3.1 a single line of evidence is necessary to assess listing status.</p> <p>Two lines of evidence are available in the administrative record to assess this pollutant. One of three samples exceed the guideline.</p> <p>Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against placing this water segment-pollutant combination on the CWA section 303(d) List.</p> <p>This conclusion is based on the staff findings that:</p> <ol style="list-style-type: none"> 1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy. 2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy. 3. One of three samples exceed the guideline and this sample size is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating. A minimum of 16 samples is needed to determine if a beneficial use is fully supported using table 3.1. 4. Pursuant to SECTION 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.
Regional Board Staff Decision Recommendation:	This is a decision previously approved by the State Water Resources Control Board and the USEPA. No new data were assessed by the Regional Board for the current. The decision has not changed.

Line of Evidence (LOE) for Decision ID 43245, Toxicity	Region 2
Arroyo Mocho	

LOE ID:	28994
Pollutant:	Toxicity
LOE Subgroup:	Pollutant-Water
Matrix:	Water
Fraction:	None
Beneficial Use:	Cold Freshwater Habitat
Number of Samples:	3
Number of Exceedances:	1

Data and Information Type:	TOXICITY TESTING
Data Used to Assess Water Quality:	Three samples were collected in 2005 to evaluate water toxicity at two monitoring locations in Arroyo Mocho watershed. The toxicity tests included survival and reproduction of Ceriodaphnia, survival and growth of fathead minnow, and growth of Selenastrum. Ceriodaphnia growth was significantly lower than the control in one of three samples (dry season sample). Growth was 69.4 percent of the control for this sample.
Data Reference:	Data collected by the Surface Water Ambient Monitoring Program, San Francisco Bay Regional Water Quality Control Board. Years 4 and 5 Assessment
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	All waters shall be maintained free of toxic substances that are lethal to or that produce other detrimental responses in aquatic organisms. There shall be no chronic toxicity in ambient waters. Chronic toxicity is a detrimental biological effect on growth rate, reproduction, fertilization success, larval development, population abundance, community composition, or any other relevant measure of the health of an organism, population, or community.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) - San Francisco Bay Region (Region 2)
Evaluation Guideline:	Water toxicity was evaluated according to the SWAMP methodology. The U.S.EPA whole effluent toxicity protocol (U.S.EPA 1994) was used to test the effect of water samples on three freshwater test organisms. Statistical evaluation (alpha = 0.05) and a default threshold of 80% of the control value were used to establish whether water exhibited significant toxicity adversely impacting aquatic organisms.
Guideline Reference:	Revised approach to toxicity test acceptability criteria using a statistical performance assessment. Environmental Toxicology and Chemistry, vol. 16, No. 6, pp 1322?1329 Short-Term Methods for Estimating the Chronic Toxicity of Effluents and Receiving Waters to Freshwater Organisms. EPA/600/4-91/002. Third Edition. July 1994
Spatial Representation:	Data were collected at one sampling location, AMO070, located above Vulcan Bridge Zone 7, representing the Arroyo Mocho Creek.
Temporal Representation:	SWAMP samples were collected during wet (January), spring (April), and dry (June) seasons of 2005.
Environmental Conditions:	
QAPP Information:	All samples were collected and analyzed using procedures comparable with the SWAMP Quality Assurance Management Plan (SWRCB, 2002).
QAPP Information Reference(s):	Quality Assurance Management Plan for the State of California's Surface Water Ambient Monitoring Program. Sacramento, CA. State Water Resources Control Board. SWAMP. December 2002 (1st version)

Line of Evidence (LOE) for Decision ID 43245, Toxicity
Arroyo Mocho

Region 2

LOE ID:	28832
Pollutant:	Sediment Toxicity
LOE Subgroup:	Pollutant-Sediment
Matrix:	Sediment
Fraction:	None
Beneficial Use:	Warm Freshwater Habitat
Number of Samples:	1
Number of Exceedances:	0
Data and Information Type:	Toxicity testing of sediments
Data Used to Assess Water Quality:	Data used to evaluate sediment toxicity comprise one sediment sample collected by the SWAMP in 2005. No toxicity or adverse affects were exhibited for Hyallela azteca.
Data Reference:	Data collected by the Surface Water Ambient Monitoring Program, San Francisco Bay Regional Water Quality Control Board. Years 4 and 5 Assessment
SWAMP Data:	SWAMP

Water Quality Objective/Criterion:	All waters shall be maintained free of toxic substances that are lethal to or that produce other detrimental responses in aquatic organisms. There shall be no chronic toxicity in ambient waters. Chronic toxicity is a detrimental biological effect on growth rate, reproduction, fertilization success, larval development, population abundance, community composition, or any other relevant measure of the health of an organism, population, or community.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) - San Francisco Bay Region (Region 2)
Evaluation Guideline:	Sediment toxicity was evaluated according to the SWAMP methodology. Sample toxicity was determined by comparing mean organism response in samples and in negative controls. Statistical evaluation (alpha = 0.05) and a default threshold of 80% of the control value were used to establish whether the sediment exhibited significant toxicity adversely impacting aquatic organisms.
Guideline Reference:	Revised approach to toxicity test acceptability criteria using a statistical performance assessment. Environmental Toxicology and Chemistry, vol. 16, No. 6, pp 1322?1329
Spatial Representation:	One sediment sample was collected at a "watershed integrator" site located close to the mouth of Arroyo Mocho watershed (above Vulcan Bridge at zone 7).
Temporal Representation:	Sample was collected in April of 2005.
Environmental Conditions:	
QAPP Information:	Samples were collected and analyzed using procedures comparable with the SWAMP Quality Assurance Management Plan (SWRCB 2002).
QAPP Information Reference(s):	Quality Assurance Management Plan for the State of California's Surface Water Ambient Monitoring Program. Sacramento, CA. State Water Resources Control Board. SWAMP. December 2002 (1st version)

DECISION ID 60825 Region 2	
Arroyo Mocho	
Pollutant:	Zinc
Final Listing Decision:	Do Not List on 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision:	New Decision
Revision Status	Original
Impairment from Pollutant or Pollution:	Pollutant
Regional Board Staff Conclusion:	<p>This pollutant is being considered for placement on the CWA section 303(d) List under section 3.1 of the Listing Policy. Under section 3.1 a single line of evidence is necessary to assess listing status.</p> <p>Two lines of evidence are available in the administrative record to assess this pollutant. Zero of three samples exceed the objective.</p> <p>Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against placing this water segment-pollutant combination on the CWA section 303(d) List.</p> <p>This conclusion is based on the staff findings that:</p> <ol style="list-style-type: none"> 1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy. 2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy. 3. Zero of three samples exceed the objective and this sample size is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating. A minimum of 16 samples is needed to determine if a beneficial use is fully supported using table 3.1. 4. Pursuant to SECTION 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.
Regional Board Staff Decision Recommendation:	After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be placed on the section 303(d) list. The readily available data and information is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating.

Line of Evidence (LOE) for Decision ID 60825, Zinc**Region 2****Arroyo Mocho**

LOE ID:	95372
Pollutant:	Zinc
LOE Subgroup:	Pollutant-Water
Matrix:	Water
Fraction:	Dissolved
Beneficial Use:	Warm Freshwater Habitat
Number of Samples:	3
Number of Exceedances:	0
Data and Information Type:	PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality:	The Arroyo Mocho watershed was monitored as part of SWAMP assessment. None of the three samples exceeded the water quality objectives for arsenic, chromium VI, copper, lead, nickel, silver and zinc. Concentrations of total dissolved chromium were well below the objective for chromium VI.
Data Reference:	Data collected by the Surface Water Ambient Monitoring Program, San Francisco Bay Regional Water Quality Control Board. Years 4 and 5 Assessment
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	All waters shall be maintained free of toxic substances that are lethal to or that produce other detrimental responses in aquatic organisms. Table 3-4 in the Basin Plan (2007) lists freshwater water quality objectives for toxic pollutants: arsenic- 150 ug/L, chromium VI- 11 ug/L, copper - 9.0 ug/L, lead - 2.5 ug/L; nickel - 52 ug/L, silver-3.4 ug/L and zinc - 120 ug/L.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) - San Francisco Bay Region (Region 2)
Evaluation Guideline:	
Guideline Reference:	
Spatial Representation:	Data were collected at one sampling location (AMO070) in the Arroyo Mocho watershed (above Vulcan Bridge Zone 7).
Temporal Representation:	Samples were collected during wet (January), spring (April), and dry(June) seasons of 2005.
Environmental Conditions:	There were no unusual environmental conditions associated with the sampling.
QAPP Information:	All samples were collected and analyzed using procedures comparable with the SWAMP Quality Assurance Management Plan (SWRCB, 2002).
QAPP Information Reference(s):	Quality Assurance Management Plan for the State of California's Surface Water Ambient Monitoring Program. Sacramento, CA. State Water Resources Control Board. SWAMP. December 2002 (1st version)

Line of Evidence (LOE) for Decision ID 60825, Zinc**Region 2****Arroyo Mocho**

LOE ID:	95366
Pollutant:	Zinc
LOE Subgroup:	Pollutant-Sediment
Matrix:	Sediment
Fraction:	Total
Beneficial Use:	Warm Freshwater Habitat
Number of Samples:	1

Number of Exceedances:	0
Data and Information Type:	PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality:	Concentrations of arsenic, cadmium, chromium, copper, lead, mercury and zinc in one sediment sample collected in spring 2005 did not exceed the sediment quality guidelines.
Data Reference:	Data collected by the Surface Water Ambient Monitoring Program, San Francisco Bay Regional Water Quality Control Board. Years 4 and 5 Assessment
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	All waters shall be maintained free of toxic substances that are lethal to or that produce other detrimental responses in aquatic organisms.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) - San Francisco Bay Region (Region 2)
Evaluation Guideline:	Sediment Quality Guidelines (MacDonald et al., 2000): PEC (probable effect concentration) arsenic - 33 mg/kg dw; cadmium - 4.98 mg/kg dw; chromium - 111 mg/kg dw; copper - 149 mg/kg dw; lead - 128 mg/kg dw; mercury - 1.06 mg/kg dw; nickel - 48.6 mg/kg dw; zinc - 459 mg/kg dw.
Guideline Reference:	Development and evaluation of consensus-based sediment quality guidelines for freshwater ecosystems. Environmental Contamination and Toxicology. 39: 20-31
Spatial Representation:	One sediment sample was collected at a "watershed integrator" site located close to the mouth of Arroyo Mocho watershed.
Temporal Representation:	Sediment sample was collected in April of 2005.
Environmental Conditions:	There were no unusual environmental conditions associated with the sampling.
QAPP Information:	All samples were collected and analyzed using procedures comparable with the SWAMP Quality Assurance Management Plan (SWRCB, 2002).
QAPP Information Reference(s):	Quality Assurance Management Plan for the State of California's Surface Water Ambient Monitoring Program. Sacramento, CA. State Water Resources Control Board. SWAMP. December 2002 (1st version)

DECISION ID	44109	Region 2
Arroyo Mocho		
Pollutant:	pH	
Final Listing Decision:	Do Not List on 303(d) list (TMDL required list)	
Last Listing Cycle's Final Listing Decision:	Do Not List on 303(d) list (TMDL required list)(2012)	
Revision Status	Original	
Impairment from Pollutant or Pollution:	Pollutant	
Regional Board Staff Conclusion:	<p>This pollutant is being considered for placement on the section 303(d) list under section 3.2 of the Listing Policy. Under section 3.2 a single line of evidence is necessary to assess listing status. One line of evidence are available in the administrative record to assess this pollutant. Four of the samples exceed the water quality objective. Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against placing this water segment-pollutant combination on the section 303(d) list in the Water Quality Limited Segments category. This conclusion is based on the staff findings that:</p> <ol style="list-style-type: none"> 1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy. 2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy. 3. Four of the twelve samples exceeded the water quality objectives (Basin Plan) and this does not exceed the allowable frequency listed in Table 3.2 of the Listing Policy. 4. Pursuant to section 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met. 	
Regional Board Staff Decision Recommendation:	<p>This is a decision previously approved by the State Water Resources Control Board and the USEPA. No new data were assessed by the Regional Board for the current. The decision has not changed.</p>	
Line of Evidence (LOE) for Decision ID 44109, pH		Region 2

Arroyo Mocho

LOE ID:	28967
Pollutant:	pH
LOE Subgroup:	Pollutant-Water
Matrix:	Water
Fraction:	None
Beneficial Use:	Warm Freshwater Habitat
Number of Samples:	12
Number of Exceedances:	4
Data and Information Type:	PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality:	Comprehensive water quality assessment was conducted at Arroyo Mocho Creek watershed as part of SWAMP assessment in 2004 and 2005. Continuous field monitoring of temperature, dissolved oxygen, pH, and specific conductance to determine temporal variability in basic water quality at one or two locations. The pH ranged from 7.0 to 9.2 and varied with season. The pH exceeded the maximum of 8.5 four times (9.2, 9.1, 8.8, 8.6) in all three (spring, summer, winter) seasons. The pH did not go below the minimum during any sampling event.
Data Reference:	Data collected by the Surface Water Ambient Monitoring Program, San Francisco Bay Regional Water Quality Control Board. Years 4 and 5 Assessment
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	The pH shall not be depressed below 6.5 nor raised above 8.5. This encompasses the pH range usually found in waters within the basin. Controllable water quality factors shall not cause changes greater than 0.5 units in normal ambient pH levels.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) - San Francisco Bay Region (Region 2)
Evaluation Guideline:	
Guideline Reference:	
Spatial Representation:	pH was measured at two sites in summer 2004 and at five sites in spring 2004 and winter 2005 located within the Arroyo Mocho watershed that are representative of the entire watershed.
Temporal Representation:	At all locations the SWAMP performed continuous monitoring of pH at 15 minute intervals lasting 7-13 days during spring (April 2004), summer dry season (August 2004), and winter wet season (February 2005).
Environmental Conditions:	
QAPP Information:	All samples were collected and analyzed using procedures comparable with the SWAMP Quality Assurance Management Plan (SWRCB 2002).
QAPP Information Reference(s):	Quality Assurance Management Plan for the State of California's Surface Water Ambient Monitoring Program. Sacramento, CA. State Water Resources Control Board. SWAMP. December 2002 (1st version)

DECISION ID	34212	Region 2
Arroyo Mocho		

Pollutant:	Temperature, water
Final Listing Decision:	List on 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision:	List on 303(d) list (TMDL required list)(2012)
Revision Status	Original
Sources:	Source Unknown
Expected TMDL Completion Date:	2021
Impairment from Pollutant or Pollution:	Pollutant

**Regional Board Staff
Conclusion:**

This pollutant is being considered for listing under section 3.2 of the Listing Policy. Under section 3.2 a single line of evidence is necessary to assess listing status. One line of evidence is available in the administrative record to assess this pollutant. A sufficient number of samples exceed the water quality objective. Based on the readily available data for this water body, the weight of evidence indicates that there is sufficient justification available in favor of adding this water segment-pollutant combination to the section 303(d) list in the Water Quality Limited Segments category. This conclusion is based on the staff findings that:

1. The data concerning current conditions and supporting the listing decision were collected as part of the SWAMP and satisfy the data quality requirements of section 6.1.4 of the Policy.
2. The data used satisfy the data quantity requirements of section 6.1.5 of the Policy.
3. Temperature measurements at 6 out of 12 continuous deployments exceeded the 17 °C evaluation guideline for steelhead used to interpret the water quality objective for waters designated as cold water habitat and this exceeds the allowable frequency listed in Table 3.2 of the Listing Policy.
4. Pursuant to section 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.

Regional Board Staff Decision Recommendation: This is a decision previously approved by the State Water Resources Control Board and the USEPA. No new data were assessed by the Regional Board for the current. The decision has not changed.

Line of Evidence (LOE) for Decision ID 34212, Temperature, water

Region 2

Arroyo Mocho

LOE ID: 4789

Pollutant: Temperature, water
LOE Subgroup: Pollutant-Water
Matrix: Water
Fraction: None

Beneficial Use: Cold Freshwater Habitat
Aquatic Life Use: Wildlife Habitat

Number of Samples: 12
Number of Exceedances: 6

Data and Information Type: PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality: Comprehensive water quality assessment was conducted at the Arroyo Mocho watershed as part of SWAMP assessment. Continuous field monitoring at 15 minute increments of temperature, dissolved oxygen, pH and specific conductance was conducted to determine temporal variability in basic water quality at five locations throughout the watershed.

The measured temperatures ranged from 6.1°C to 27.72 °C and varied with season and location. The 17 °C criterion for steelhead was exceeded in 6 out of 12 deployments.

High water temperatures exceeding 24 °C, that is a maximum short exposure temperature for survival of salmonids (EPA 1977) were also measured at three monitoring locations at lower and upper reaches of the Creek during spring and summer seasons. At the monitoring site in the lower reach of the Arroyo Mocho Creek high temperature persisted for up to 5.75 hours during spring while at the middle and upper reach it lasted from 5 to more than 9 hours.

Data Reference: [Water Quality Monitoring and Bioassessment in Nine San Francisco Bay Region Watersheds: Walker Creek, Lagunitas Creek, San Leandro Creek, Wildcat Creek/San Pablo Creek, Suisun Creek, Arroyo Las Positas, Pescadero Creek/Butano Creek, San Gregorio Creek, and Stevens Creek/Permanente Creek, Oakland, CA: Surface Water Ambient Monitoring Program, San Francisco Bay Regional Water Quality Control Board](#)

SWAMP Data: SWAMP

Water Quality Objective/Criterion: Temperature objectives for enclosed bays and estuaries are specified in the "Water

Quality Control Plan for Control of Temperature in the Coastal and Interstate Waters and Enclosed Bays of California" including any revisions to the plan. In addition, the following temperature objectives apply to surface waters: The natural receiving water temperature of intrastate waters shall not be altered unless it can be demonstrated to the satisfaction of the Regional Water Board that such alteration in temperature does not adversely affect beneficial uses.

The temperature of any cold or warm freshwater habitat shall not be increased by more than 5°F (2.8°C) above natural receiving water temperature.

Objective/Criterion Reference:

[Water Quality Control Plan \(Basin Plan\) - San Francisco Bay Region \(Region 2\)](#)

Evaluation Guideline:

Sullivan et al. (2000) reviewed a wide range of studies incorporating information from laboratory-based research, field observations, and risk assessment approaches and developed criteria for assessing temperature risk to aquatic life. The 7-day mean temperature (maximum value of the 7-day moving average of the daily mean temperature) of 14.8°C was established as the upper threshold criterion for coho salmon and 17.0°C for steelhead trout. The risk assessment approach used by Sullivan et al. (2000) suggests that temperatures exceeding the above thresholds will cause 10% reduction in average fish growth compared to optimal conditions.

Guideline Reference:

[An Analysis of the Effects of Temperature on Salmonids of the Pacific Northwest with Implications for Selecting Temperature Criteria](#)

Spatial Representation:

Temperature was measured at five sites located on the mainstem of Arroyo Mocho Creek. The highest temperatures were recorded at the monitoring location southeast of Livermore in August 2004. High temperatures also occurred in the lower reach of the Creek during the spring season of 2004.

Temporal Representation:

In 2004 and 2005 the SWAMP Program performed continuous monitoring of temperature at 15 minute intervals for periods of 1-2 weeks in each of three different seasons: winter (5 sites), spring (5 sites), and summer dry season (2 sites).

Environmental Conditions:

QAPP Information:

All samples were collected and analyzed using procedures comparable with the SWAMP Quality Assurance Management Plan (SWRCB 2002).

QAPP Information Reference(s):

[Quality Assurance Management Plan for the State of California's Surface Water Ambient Monitoring Program. Sacramento, CA. State Water Resources Control Board. SWAMP. December 2002 \(1st version\)](#)

DECISION ID		35066	Region 2
Arroyo Mocho			
Pollutant:	Diazinon		
Final Listing Decision:	List on 303(d) list (being addressed by USEPA approved TMDL)		
Last Listing Cycle's Final Listing Decision:	List on 303(d) list (being addressed by USEPA approved TMDL)(2012)		
Revision Status	Original		
Sources:	Urban Runoff/Storm Sewers		
TMDL Name:	San Francisco Bay Urban Creeks Diazinon		
TMDL Project Code:	9		
Date TMDL Approved by USEPA:	05/16/2007		
Impairment from Pollutant or Pollution:	Pollutant		
Regional Board Staff Conclusion:	303(d) listing decisions made prior to 2006 were not held in an assessment database. The Regional Boards will update this decision when new data and information become available and are assessed. The USEPA final decision on the 2006 303(d) list was to move this listing to the being addressed by a USEPA approved TMDL portion of the 303(d) list, because the San Francisco Bay Urban Creeks Diazinon TMDL was approved by USEPA on 5/16/07 (USEPA, 2007).		
Regional Board Staff Decision Recommendation:	This is a decision previously approved by the State Water Resources Control Board and the USEPA. No new data were assessed by the Regional Board for the current. The decision has not changed.		

Arroyo Mocho

LOE ID:	1798
Pollutant:	Diazinon
LOE Subgroup:	Pollutant-Water
Matrix:	Water
Fraction:	None
Beneficial Use:	Cold Freshwater Habitat
Number of Samples:	0
Number of Exceedances:	0
Data and Information Type:	Not Specified
Data Used to Assess Water Quality:	Unspecified---This LOE is a placeholder to support a 303(d) listing decision made prior to 2006.
Data Reference:	Placeholder reference 2006 303(d)
SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	
Objective/Criterion Reference:	
Evaluation Guideline:	
Guideline Reference:	
Spatial Representation:	
Temporal Representation:	
Environmental Conditions:	
QAPP Information:	QA Info Missing
QAPP Information Reference(s):	

Draft California 2016 Integrated Report (303(d) List/305(b) Report)

Supporting Information

Regional Board 2 - San Francisco Bay Region

Water Body Name: Arroyo De La Laguna
Water Body ID: CAR2043008419990218135005
Water Body Type: River & Stream

DECISION ID 33965 **Region 2**
Arroyo De La Laguna

Pollutant: Diazinon
Final Listing Decision: List on 303(d) list (being addressed by USEPA approved TMDL)
Last Listing Cycle's Final Listing Decision: List on 303(d) list (being addressed by USEPA approved TMDL)(2012)
Revision Status Original
Sources: Urban Runoff/Storm Sewers
TMDL Name: San Francisco Bay Urban Creeks Diazinon
TMDL Project Code: 9
Date TMDL Approved by USEPA: 05/16/2007
Impairment from Pollutant or Pollution: Pollutant

Regional Board Staff Conclusion: 303(d) listing decisions made prior to 2006 were not held in an assessment database. The Regional Boards will update this decision when new data and information become available and are assessed. The USEPA final decision on the 2006 303(d) list was to move this listing to the being addressed by a USEPA approved TMDL portion of the 303(d) list, because the San Francisco Bay Urban Creeks Diazinon TMDL was approved by USEPA on 5/16/07 (USEPA, 2007).

Regional Board Staff Decision Recommendation: This is a decision previously approved by the State Water Resources Control Board and the USEPA. No new data were assessed by the Regional Board for the current. The decision has not changed.

Line of Evidence (LOE) for Decision ID 33965, Diazinon **Region 2**
Arroyo De La Laguna

LOE ID: 1799
Pollutant: Diazinon
LOE Subgroup: Pollutant-Water
Matrix: Water
Fraction: None
Beneficial Use: Fish Migration
Number of Samples: 0
Number of Exceedances: 0
Data and Information Type: Not Specified
Data Used to Assess Water Quality: Unspecified---This LOE is a placeholder to support a 303(d) listing decision made prior to 2006.
Data Reference: [Placeholder reference 2006 303\(d\)](#)
SWAMP Data: Non-SWAMP
Water Quality Objective/Criterion:

Objective/Criterion Reference:

Evaluation Guideline:

Guideline Reference:

Spatial Representation:

Temporal Representation:

Environmental Conditions:

QAPP Information:

QA Info Missing

QAPP Information Reference(s):

Draft California 2016 Integrated Report (303(d) List/305(b) Report)

Supporting Information

Regional Board 2 - San Francisco Bay Region

Water Body Name: San Mateo Creek
Water Body ID: CAR2044003219990219102616
Water Body Type: River & Stream

DECISION ID 34960

Region 2

San Mateo Creek

Pollutant: Trash
Final Listing Decision: **Do Not Delist from 303(d) list (being addressed with action other than TMDL)**
Last Listing Cycle's Final Listing Decision: List on 303(d) list (TMDL required list)(2012)
Revision Status: Revised
Sources: Source Unknown
Expected Attainment Date: 2029
Implementation Action Other than TMDL: This trash listing will be addressed by implementing the trash control provisions of the Water Quality Control Plan for Inland Surface Waters, Enclosed Bays, and Estuaries of California through the NPDES MS4 permit applicable to this waterbody.
Impairment from Pollutant or Pollution: Pollutant

Regional Board Staff Conclusion: This pollutant is being considered for placement on the section 303(d) list under section 3.11 of the Listing Policy. Under section 3.11, listing may be proposed based on the situation-specific weight of evidence. There are four lines of evidence available in the administrative record to assess this pollutant. Two of these lines of evidence rely on inspection of photographic evidence by Regional Water Board staff trained to conduct the Rapid Trash Assessment (RTA) methodology. The staff inspected these photos and applied the RTA methodology to develop Category 1 (Level of Trash) and Category 3 (Threat to Aquatic Life) scores for each photograph. The other two lines of evidence rely on data from field visits/trash surveys conducted according to the Rapid Trash Assessment (RTA) methodology. Based on the readily available photographic and trash assessment data for this waterbody, the weight of evidence indicates that there is sufficient justification available in favor of placing this water segment-pollutant combination to the section 303(d) list in the Water Quality Limited Segments category. This conclusion is based on the staff findings that: 1. Data have been evaluated that supports this decision. 2. The Rapid Trash Assessment methodology results showed that this waterbody had level of trash parameter scores in the poor category (indicating impairment of non-contact water recreational beneficial uses) at two locations. This waterbody also had transportable, Persistent, Buoyant Litter parameter scores in the poor category (indicating threat to Wildlife Habitat beneficial uses) at three locations and on two different dates. 3. Photographic evidence has been evaluated that supports this decision. 4. Applying the Rapid Trash Assessment methodology to the photographic evidence suggests that this waterbody had level of trash parameter scores in the poor category (indicating impairment of non-contact water recreational beneficial uses) at one location on two different dates. This waterbody also had threat to aquatic life parameter scores in the poor category (indicating threat to Wildlife Habitat beneficial uses) at one location on two different dates. 5. This waterbody is considered impaired by trash because there were exceedances of the evaluation guidelines (poor condition category for the trash assessment metrics) in more than one location or on more than one date. 6. The data used satisfy the data quality requirements of section 6.1.4 of the Policy. 7. The data used satisfy the data quantity requirements of section 6.1 of the Policy. 8. This trash listing will be addressed by implementing the trash control provisions of the Water Quality Control Plan for Inland Surface Waters, Enclosed Bays, and Estuaries of California through the NPDES MS4 permit applicable to this waterbody.

Regional Board Staff Decision Recommendation: After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be removed from the section 303(d) list because applicable water quality standards for the pollutant are being exceeded.

San Mateo Creek

LOE ID:	5666
Pollutant:	Trash
LOE Subgroup:	Pollutant-Nuisance
Matrix:	Not Specified
Fraction:	None
Beneficial Use:	Non-Contact Recreation
Number of Samples:	2
Number of Exceedances:	2
Data and Information Type:	Occurrence of conditions judged to cause impairment
Data Used to Assess Water Quality:	<p>Data available consist of photographic evidence of trash and interpretation of these photos by an experienced trash assessment specialist. Each photograph was analyzed to establish the RTA score for the level of trash and threat to aquatic life parameters, which relate to impairment of REC2 and WILD, respectively. Only those photos clear enough to establish these RTA scores were relied on for the listing determination. These results are available for the following locations on San Mateo Creek:</p> <p>This waterbody had level of trash parameter scores in the poor category (indicating impairment of non-contact water recreational beneficial uses) at one location on two different dates.</p>
Data Reference:	<p>Report from Roger James and Larry Kolb containing Trash Photos submitted for consideration in 2008 303(d) listing process</p> <p>Assessment by Matt Cover of Trash Photos (submitted to Region 2 in response to 2008 Data Solicitation)</p> <p>Archive of Trash Photos for San Mateo Creek submitted for 2008 303(d) list consideration</p>
SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	<p>The Basin Plan prohibits discharge of Rubbish, refuse, bark, sawdust, or other solid wastes into surface waters or at any place where they would contact or where they would be eventually transported to surface waters, including flood plain areas.</p> <p>The Basin Plan has a narrative objective for floating material, Waters shall not contain floating material, including solids, liquids, foams, and scum, in concentrations that cause nuisance or adversely affect beneficial uses.</p> <p>The Basin Plan has a narrative objective for settleable material, Waters shall not contain substances in concentrations that result in the deposition of material that cause nuisance or adversely affect beneficial uses.</p>
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) - San Francisco Bay Region (Region 2)
Evaluation Guideline:	<p>If the Rapid Trash Assessment (RTA) Parameter 1 (Level of Trash) is in the poor condition category (scores 0-5), REC2 is not supported. This level of trash distracts the eye on first glance, making the site unsuitable for recreation. The RTA defines poor condition for this parameter as follows, trash distracts the eye on first glance. Stream, bank surfaces, and immediate riparian zone contain substantial levels of litter and debris (>100 pieces). Evidence of site being used frequently by people: many cans, bottles, and food wrappers, blankets, clothing. Regional Water Board staff trained in the RTA inspected the available photographic evidence and applied the assessment method to determine the Level of Trash score.</p> <p>If the RTA Parameter 3 (Threat to Aquatic Life) is in the poor condition category (scores 0-5), then WILD is not supported. This level of trash is a large amount (>50 pieces) of transportable, persistent, buoyant litter that is detrimental to aquatic life. The RTA defines</p>

	poor condition for this parameter as follows, large amount (>50 pieces) of transportable, persistent, buoyant litter such as: hard or soft plastics, balloons, Styrofoam, cigarette butts; toxic items such as batteries, lighters, or spray cans; large clumps of yard waste or dumped leaf litter; or large amount (>50 pieces) of settleable glass or metal. Regional Water Board staff trained in the RTA inspected the available photographic evidence and applied the assessment method to determine the Threat to Aquatic Life score.
Guideline Reference:	A Rapid Trash Assessment Method Applied to Waters of the San Francisco Bay Region:Trash Measurement in Streams
Spatial Representation:	Photographic evidence was analyzed using the RTA methodology for this waterbody for a single location in 2003 and 2006.
Temporal Representation:	Photographic evidence was collected for this waterbody on two separate dates in 2003 and 2006.
Environmental Conditions:	
QAPP Information:	Assessments of the photographic evidence using the RTA were performed by Regional Water Board staff person who was a co-author of the Rapid Trash Assessment methodology.
	Assessments based on photographic evidence were only conducted when sufficient reach-scale and close-up photos were available for a site on a specific date. Photos used for the evaluation needed to be numerous enough and clear enough to document the level of trash at the site in a similar way as the assessor would experience during an actual site visit in the field. For example, at a minimum, one reach-scale photograph (showing at least a 100 linear foot section of the waterbody) and two close-up photographs (of representative trash deposits) were required.
QAPP Information Reference(s):	

Line of Evidence (LOE) for Decision ID 34960, Trash

Region 2

San Mateo Creek

LOE ID:	5664
Pollutant:	Trash
LOE Subgroup:	Pollutant-Nuisance
Matrix:	Not Specified
Fraction:	None
Beneficial Use:	Non-Contact Recreation
Number of Samples:	15
Number of Exceedances:	4
Data and Information Type:	Occurrence of conditions judged to cause impairment
Data Used to Assess Water Quality:	Data results were obtained through application the RTA methodology, developed by the Surface Water Ambient Monitoring Program (SWAMP). The RTA documents the total number and characteristics of pieces of trash per one hundred feet of stream or shoreline. The trash assessment protocol involves picking up and tallying all of the trash items found within the defined boundaries of a site. The tally results for level of trash (relating to REC2) and threat to aquatic life (relating to WILD) assessment parameters were considered for the listing determination. These results are available for field visits/trash surveys conducted in October 2004 and November 2006 according to the Rapid Trash Assessment methodology. This waterbody had level of trash parameter scores in the poor category (indicating impairment of non-contact water recreational beneficial uses) at location on two different dates.
Data Reference:	Archive of Rapid Trash Assessment (RTA) data for San Mateo Creek submitted for 2008 303(d) list consideration
SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	The Basin Plan prohibits discharge of Rubbish, refuse, bark, sawdust, or other solid wastes into surface waters or at any place where they would contact or where they would be eventually transported to surface waters, including flood plain areas.

The Basin Plan has a narrative objective for floating material, Waters shall not contain floating material, including solids, liquids, foams, and scum, in concentrations that cause nuisance or adversely affect beneficial uses.

The Basin Plan has a narrative objective for settleable material, Waters shall not contain substances in concentrations that result in the deposition of material that cause nuisance or adversely affect beneficial uses.

Objective/Criterion Reference:

[Water Quality Control Plan \(Basin Plan\) - San Francisco Bay Region \(Region 2\)](#)

Evaluation Guideline:

If the Rapid Trash Assessment (RTA) Parameter 1 (Level of Trash) is in the poor condition category (scores 0-5), REC2 is not supported. This level of trash distracts the eye on first glance, making the site unsuitable for recreation. The RTA defines poor condition for this parameter as follows, trash distracts the eye on first glance. Stream, bank surfaces, and immediate riparian zone contain substantial levels of litter and debris (>100 pieces). Evidence of site being used frequently by people: many cans, bottles, and food wrappers, blankets, clothing.

If the RTA Parameter 3 (Threat to Aquatic Life) is in the poor condition category (scores 0-5), then WILD is not supported. This level of trash is a large amount (>50 pieces) of transportable, persistent, buoyant litter that is detrimental to aquatic life. The RTA defines poor condition for this parameter as follows, large amount (>50 pieces) of transportable, persistent, buoyant litter such as: hard or soft plastics, balloons, Styrofoam, cigarette butts; toxic items such as batteries, lighters, or spray cans; large clumps of yard waste or dumped leaf litter; or large amount (>50 pieces) of settleable glass or metal.

Guideline Reference:

[A Rapid Trash Assessment Method Applied to Waters of the San Francisco Bay Region: Trash Measurement in Streams](#)

Spatial Representation:

RTA data were collected for this waterbody in three locations in 2004 and 2006.

Temporal Representation:

RTA data were collected for this waterbody in October 2004 and November 2006.

Environmental Conditions:

QAPP Information:

San Mateo program staff performed the initial October 2004 assessment jointly with Water Board staff to ensure that the assessment site was identical to the SWAMP location and that San Mateo program staff applied the protocol consistently to the SWAMP protocol.

QAPP Information Reference(s):

Line of Evidence (LOE) for Decision ID 34960, Trash

Region 2

San Mateo Creek

LOE ID: 5663

Pollutant: Trash

LOE Subgroup: Pollutant-Nuisance

Matrix: Not Specified

Fraction: None

Beneficial Use: Wildlife Habitat

Number of Samples: 15

Number of Exceedances: 7

Data and Information Type:

Occurrence of conditions judged to cause impairment

Data Used to Assess Water Quality:

Data results were obtained through application the RTA methodology, developed by the Surface Water Ambient Monitoring Program (SWAMP). The RTA documents the total number and characteristics of pieces of trash per one hundred feet of stream or shoreline. The trash assessment protocol involves picking up and tallying all of the trash items found within the defined boundaries of a site. The tally results for level of trash (relating to REC2) and threat to aquatic life (relating to WILD) assessment parameters were considered for the listing determination. These results are available for field visits/trash surveys conducted in October 2004 and November 2006 according to the Rapid Trash Assessment methodology.

	This waterbody had transportable, Persistent, Buoyant Litter parameter scores in the poor category (indicating threat to Wildlife Habitat beneficial uses) at three locations and on two different dates.
Data Reference:	Archive of Rapid Trash Assessment (RTA) data for San Mateo Creek submitted for 2008 303(d) list consideration
SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	<p>The Basin Plan prohibits discharge of Rubbish, refuse, bark, sawdust, or other solid wastes into surface waters or at any place where they would contact or where they would be eventually transported to surface waters, including flood plain areas.</p> <p>The Basin Plan has a narrative objective for floating material, Waters shall not contain floating material, including solids, liquids, foams, and scum, in concentrations that cause nuisance or adversely affect beneficial uses.</p> <p>The Basin Plan has a narrative objective for settleable material, Waters shall not contain substances in concentrations that result in the deposition of material that cause nuisance or adversely affect beneficial uses.</p>
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) - San Francisco Bay Region (Region 2)
Evaluation Guideline:	<p>If the Rapid Trash Assessment (RTA) Parameter 1 (Level of Trash) is in the poor condition category (scores 0-5), REC2 is not supported. This level of trash distracts the eye on first glance, making the site unsuitable for recreation. The RTA defines poor condition for this parameter as follows, trash distracts the eye on first glance. Stream, bank surfaces, and immediate riparian zone contain substantial levels of litter and debris (>100 pieces). Evidence of site being used frequently by people: many cans, bottles, and food wrappers, blankets, clothing.</p> <p>If the RTA Parameter 3 (Threat to Aquatic Life) is in the poor condition category (scores 0-5), then WILD is not supported. This level of trash is a large amount (>50 pieces) of transportable, persistent, buoyant litter that is detrimental to aquatic life. The RTA defines poor condition for this parameter as follows, large amount (>50 pieces) of transportable, persistent, buoyant litter such as: hard or soft plastics, balloons, Styrofoam, cigarette butts; toxic items such as batteries, lighters, or spray cans; large clumps of yard waste or dumped leaf litter; or large amount (>50 pieces) of settleable glass or metal.</p>
Guideline Reference:	A Rapid Trash Assessment Method Applied to Waters of the San Francisco Bay Region:Trash Measurement in Streams
Spatial Representation:	RTA data were collected for this waterbody in three locations in 2004 and 2006.
Temporal Representation:	RTA data were collected for this waterbody in October 2004 and November 2006.
Environmental Conditions:	
QAPP Information:	San Mateo program staff performed the initial October 2004 assessment jointly with Water Board staff to ensure that the assessment site was identical to the SWAMP location and that San Mateo program staff applied the protocol consistently to the SWAMP protocol.
QAPP Information Reference(s):	

Line of Evidence (LOE) for Decision ID 34960, Trash

Region 2

San Mateo Creek

LOE ID:	5665
Pollutant:	Trash
LOE Subgroup:	Pollutant-Nuisance
Matrix:	Not Specified
Fraction:	None
Beneficial Use:	Wildlife Habitat
Number of Samples:	2
Number of Exceedances:	2

Data and Information Type:	Occurrence of conditions judged to cause impairment
Data Used to Assess Water Quality:	Data available consist of photographic evidence of trash and interpretation of these photos by an experienced trash assessment specialist. Each photograph was analyzed to establish the RTA score for the level of trash and threat to aquatic life parameters, which relate to impairment of REC2 and WILD, respectively. Only those photos clear enough to establish these RTA scores were relied on for the listing determination. These results are available for one location on San Mateo Creek:
Data Reference:	<p>This waterbody had threat to aquatic life parameter scores in the poor category (indicating threat to Wildlife Habitat beneficial uses) at one location on two different dates.</p> <p>Report from Roger James and Larry Kolb containing Trash Photos submitted for consideration in 2008 303(d) listing process</p> <p>Assessment by Matt Cover of Trash Photos (submitted to Region 2 in response to 2008 Data Solicitation)</p> <p>Archive of Trash Photos for San Mateo Creek submitted for 2008 303(d) list consideration</p>
SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	<p>The Basin Plan prohibits discharge of Rubbish, refuse, bark, sawdust, or other solid wastes into surface waters or at any place where they would contact or where they would be eventually transported to surface waters, including flood plain areas.</p> <p>The Basin Plan has a narrative objective for floating material, Waters shall not contain floating material, including solids, liquids, foams, and scum, in concentrations that cause nuisance or adversely affect beneficial uses.</p> <p>The Basin Plan has a narrative objective for settleable material, Waters shall not contain substances in concentrations that result in the deposition of material that cause nuisance or adversely affect beneficial uses.</p>
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) - San Francisco Bay Region (Region 2)
Evaluation Guideline:	<p>If the Rapid Trash Assessment (RTA) Parameter 1 (Level of Trash) is in the poor condition category (scores 0-5), REC2 is not supported. This level of trash distracts the eye on first glance, making the site unsuitable for recreation. The RTA defines poor condition for this parameter as follows, trash distracts the eye on first glance. Stream, bank surfaces, and immediate riparian zone contain substantial levels of litter and debris (>100 pieces). Evidence of site being used frequently by people: many cans, bottles, and food wrappers, blankets, clothing. Regional Water Board staff trained in the RTA inspected the available photographic evidence and applied the assessment method to determine the Level of Trash score.</p> <p>If the RTA Parameter 3 (Threat to Aquatic Life) is in the poor condition category (scores 0-5), then WILD is not supported. This level of trash is a large amount (>50 pieces) of transportable, persistent, buoyant litter that is detrimental to aquatic life. The RTA defines poor condition for this parameter as follows, large amount (>50 pieces) of transportable, persistent, buoyant litter such as: hard or soft plastics, balloons, Styrofoam, cigarette butts; toxic items such as batteries, lighters, or spray cans; large clumps of yard waste or dumped leaf litter; or large amount (>50 pieces) of settleable glass or metal. Regional Water Board staff trained in the RTA inspected the available photographic evidence and applied the assessment method to determine the Threat to Aquatic Life score.</p>
Guideline Reference:	A Rapid Trash Assessment Method Applied to Waters of the San Francisco Bay Region: Trash Measurement in Streams
Spatial Representation:	Photographic evidence was analyzed using the RTA methodology for this waterbody for a single location in 2003 and 2006.
Temporal Representation:	Photographic evidence was collected for this waterbody on two separate dates in 2003 and 2006.
Environmental Conditions:	
QAPP Information:	<p>Assessments of the photographic evidence using the RTA were performed by Regional Water Board staff person who was a co-author of the Rapid Trash Assessment methodology.</p> <p>Assessments based on photographic evidence were only conducted when sufficient</p>

reach-scale and close-up photos were available for a site on a specific date. Photos used for the evaluation needed to be numerous enough and clear enough to document the level of trash at the site in a similar way as the assessor would experience during an actual site visit in the field. For example, at a minimum, one reach-scale photograph (showing at least a 100 linear foot section of the waterbody) and two close-up photographs (of representative trash deposits) were required.

QAPP Information Reference(s):

DECISION ID 34504		Region 2
San Mateo Creek		
Pollutant:	Diazinon	
Final Listing Decision:	List on 303(d) list (being addressed by USEPA approved TMDL)	
Last Listing Cycle's Final Listing Decision:	List on 303(d) list (being addressed by USEPA approved TMDL)(2012)	
Revision Status	Original	
Sources:	Source Unknown	
TMDL Name:	San Francisco Bay Urban Creeks Diazinon	
TMDL Project Code:	9	
Date TMDL Approved by USEPA:	05/16/2007	
Impairment from Pollutant or Pollution:	Pollutant	
Regional Board Staff Conclusion:	303(d) listing decisions made prior to 2006 were not held in an assessment database. The Regional Boards will update this decision when new data and information become available and are assessed. The USEPA final decision on the 2006 303(d) list was to move this listing to the being addressed by a USEPA approved TMDL portion of the 303(d) list, because the San Francisco Bay Urban Creeks Diazinon TMDL was approved by USEPA on 5/16/07 (USEPA, 2007).	
Regional Board Staff Decision Recommendation:	This is a decision previously approved by the State Water Resources Control Board and the USEPA. No new data were assessed by the Regional Board for the current. The decision has not changed.	

Line of Evidence (LOE) for Decision ID 34504, Diazinon		Region 2
San Mateo Creek		
LOE ID:	1800	
Pollutant:	Diazinon	
LOE Subgroup:	Pollutant-Water	
Matrix:	Water	
Fraction:	None	
Beneficial Use:	Wildlife Habitat	
Number of Samples:	0	
Number of Exceedances:	0	
Data and Information Type:	Not Specified	
Data Used to Assess Water Quality:	Unspecified--This LOE is a placeholder to support a 303(d) listing decision made prior to 2006.	
Data Reference:	Placeholder reference 2006 303(d)	
SWAMP Data:	Non-SWAMP	
Water Quality Objective/Criterion:		
Objective/Criterion Reference:		
Evaluation Guideline:		

Guideline Reference:

Spatial Representation:

Temporal Representation:

Environmental Conditions:

QAPP Information:

QAPP Information Reference(s):

QA Info Missing

Draft California 2016 Integrated Report (303(d) List/305(b) Report)

Supporting Information

Regional Board 2 - San Francisco Bay Region

Water Body Name: Laurel Creek (Solano Co)
Water Body ID: CAR2044003319990218111511
Water Body Type: River & Stream

DECISION ID 34276 **Region 2**
Laurel Creek (Solano Co)

Pollutant: Diazinon
Final Listing Decision: List on 303(d) list (being addressed by USEPA approved TMDL)
Last Listing Cycle's Final Listing Decision: List on 303(d) list (being addressed by USEPA approved TMDL)(2012)
Revision Status Original
Sources: Source Unknown
TMDL Name: San Francisco Bay Urban Creeks Diazinon
TMDL Project Code: 9
Date TMDL Approved by USEPA: 05/16/2007
Impairment from Pollutant or Pollution: Pollutant

Regional Board Staff Conclusion: 303(d) listing decisions made prior to 2006 were not held in an assessment database. The Regional Boards will update this decision when new data and information become available and are assessed. The USEPA final decision on the 2006 303(d) list was to move this listing to the being addressed by a USEPA approved TMDL portion of the 303(d) list, because the San Francisco Bay Urban Creeks Diazinon TMDL was approved by USEPA on 5/16/07 (USEPA, 2007).

Regional Board Staff Decision Recommendation: No new data were assessed for this cycle. The decision has not changed. The water body should remain in the Water Quality Limited Segments Being Addressed category of the section 303(d) list because the TMDL approved by USEPA and the implementation plan are in place.

Line of Evidence (LOE) for Decision ID 34276, Diazinon **Region 2**

Laurel Creek (Solano Co)

LOE ID: 1801
Pollutant: Diazinon
LOE Subgroup: Pollutant-Water
Matrix: Water
Fraction: None
Beneficial Use: Cold Freshwater Habitat
Number of Samples: 0
Number of Exceedances: 0
Data and Information Type: Not Specified
Data Used to Assess Water Quality: Unspecified---This LOE is a placeholder to support a 303(d) listing decision made prior to 2006.
Data Reference: [Placeholder reference 2006 303\(d\)](#)
SWAMP Data: Non-SWAMP

Water Quality Objective/Criterion:
Objective/Criterion Reference:

Evaluation Guideline:
Guideline Reference:

Spatial Representation:
Temporal Representation:
Environmental Conditions:

QAPP Information: QA Info Missing
QAPP Information Reference(s):

Draft California 2016 Integrated Report (303(d) List/305(b) Report)

Supporting Information

Regional Board 2 - San Francisco Bay Region

Water Body Name: Coyote Creek (Santa Clara Co.)
Water Body ID: CAR2053002119990218112824
Water Body Type: River & Stream

DECISION ID 34555 **Region 2**
Coyote Creek (Santa Clara Co.)

Pollutant: Diazinon
Final Listing Decision: Do Not Delist from 303(d) list (being addressed with USEPA approved TMDL)
Last Listing Cycle's Final Listing Decision: List on 303(d) list (being addressed by USEPA approved TMDL)(2012)
Revision Status Revised
Sources: Source Unknown
TMDL Name: San Francisco Bay Urban Creeks Diazinon
TMDL Project Code: 9
Date TMDL Approved by USEPA: 05/21/2007
Impairment from Pollutant or Pollution: Pollutant

Regional Board Staff Conclusion: This pollutant is being considered for removal on the CWA section 303(d) List under sections 2.2 and 4.1 of the Listing Policy. Under 4.1 of the Policy, a minimum of one line of evidence is needed to assess listing status.

Five lines of evidence are available in the administrative record to assess this pollutant.

Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against removing this water segment-pollutant combination from the CWA section 303(d) List. There is sufficient justification to place it in the Being Addressed portion of the CWA 303(d) List because a TMDL has been completed and approved by RWQCB and USEPA, and is expected to result in attainment of the standard.

This conclusion is based on the staff findings that:

1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy.
2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy.
3. A product ban for urban uses of diazinon in 1999 which has caused dramatic reduction in use.
4. Zero of two recent samples (since the ban) exceeded the evaluation guideline.
5. However, there are not a sufficient number of samples to de-list this waterbody according to Table 4.1 of the Listing Policy.
6. The Pesticides in Urban Creeks TMDL was approved by USEPA on 5/21/2007.
7. Pursuant to section 4.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.

Regional Board Staff Decision Recommendation: After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be removed from the section 303(d) list because applicable water quality standards for the pollutant are being exceeded.

Line of Evidence (LOE) for Decision ID 34555, Diazinon **Region 2**
Coyote Creek (Santa Clara Co.)

LOE ID: 91470

Pollutant:	Diazinon
LOE Subgroup:	Pollutant-Sediment
Matrix:	Sediment
Fraction:	Total
Beneficial Use:	Cold Freshwater Habitat
Number of Samples:	1
Number of Exceedances:	0
Data and Information Type:	PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality:	Water Board staff assessed SWAMP data for Coyote Creek (Santa Clara Co.) to determine beneficial use support and results are as follows: 0 of 1 samples exceed the criterion for Diazinon.
Data Reference:	Statewide Project Urban Pyrethroid Status Monitoring
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	San Francisco Bay Basin Water Quality Control Plan 2007: All waters shall be maintained free of toxic substances in concentrations which are toxic to, or which produce detrimental physiological responses in, human, plant, animal, or aquatic life.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	There is no diazinon evaluation guideline specific to "sediment, interstitial water" (pore water). The following evaluation guideline was used to evaluate an exceedance in water quality standards: the freshwater chronic value for diazinon is 0.1 ug/L, expressed as a continuous concentration (Finlayson, 2004).?
Guideline Reference:	Toxicity of Sediment-Associated Pesticides to Chironomus dilutus and Hyalella azteca. Arch. Environ. Contam. Toxicol. 61:83?92.
Spatial Representation:	Data for this line of evidence for Coyote Creek (Santa Clara Co.) was collected at 1 monitoring site [Coyote Ck @ E Williams St station (205SUP022).]
Temporal Representation:	Data was collected on a single day 1/2/2007.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	The SWAMP QAPP (2008) was followed.
QAPP Information Reference(s):	Quality Assurance Management Plan for the State of California's Surface Water Ambient Monitoring Program. Sacramento, CA. State Water Resources Control Board. SWAMP. December 2002 (1st version).

Line of Evidence (LOE) for Decision ID 34555, Diazinon
Coyote Creek (Santa Clara Co.)

Region 2

LOE ID:	91469
Pollutant:	Diazinon
LOE Subgroup:	Pollutant-Sediment
Matrix:	Sediment
Fraction:	Total
Beneficial Use:	Warm Freshwater Habitat
Number of Samples:	1
Number of Exceedances:	0
Data and Information Type:	PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality:	Water Board staff assessed SWAMP data for Coyote Creek (Santa Clara Co.) to determine beneficial use support and results are as follows: 0 of 1 samples exceed the criterion for Diazinon.
Data Reference:	Statewide Project Urban Pyrethroid Status Monitoring
SWAMP Data:	SWAMP

Water Quality Objective/Criterion:	San Francisco Bay Basin Water Quality Control Plan 2007: All waters shall be maintained free of toxic substances in concentrations which are toxic to, or which produce detrimental physiological responses in, human, plant, animal, or aquatic life.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	There is no diazinon evaluation guideline specific to "sediment, interstitial water" (pore water). The following evaluation guideline was used to evaluate an exceedance in water quality standards: the freshwater chronic value for diazinon is 0.1 ug/L, expressed as a continuous concentration (Finlayson, 2004).?
Guideline Reference:	Toxicity of Sediment-Associated Pesticides to Chironomus dilutus and Hyalella azteca. Arch. Environ. Contam. Toxicol. 61:83?92.
Spatial Representation:	Data for this line of evidence for Coyote Creek (Santa Clara Co.) was collected at 1 monitoring site [Coyote Ck @ E Williams St station (205SUP022).]
Temporal Representation:	Data was collected on a single day 1/2/2007.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	The SWAMP QAPP (2008) was followed.
QAPP Information Reference(s):	Quality Assurance Management Plan for the State of California's Surface Water Ambient Monitoring Program. Sacramento, CA. State Water Resources Control Board. SWAMP. December 2002 (1st version)

Line of Evidence (LOE) for Decision ID 34555, Diazinon

Region 2

Coyote Creek (Santa Clara Co.)

LOE ID:	91468
Pollutant:	Diazinon
LOE Subgroup:	Pollutant-Sediment
Matrix:	Sediment
Fraction:	Total
Beneficial Use:	Cold Freshwater Habitat
Number of Samples:	1
Number of Exceedances:	0
Data and Information Type:	PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality:	Water Board staff assessed SWAMP data for Coyote Creek (Santa Clara Co.) to determine beneficial use support and results are as follows: 0 of 1 samples exceed the criterion for Diazinon.
Data Reference:	Statewide Stream Pollution Trends Study 2008
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	San Francisco Bay Basin Water Quality Control Plan 2007: All waters shall be maintained free of toxic substances in concentrations which are toxic to, or which produce detrimental physiological responses in, human, plant, animal, or aquatic life.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	The evaluation guideline for diazinon is the median lethal concentration (LC50) of 11 ug/g and is normalized by the percentage of organic carbon in the sediment sample. The LC50 11 ug/g is the geometric mean of LC50 values for diazinon from Ding et al. (2011).
Guideline Reference:	Toxicity of Sediment-Associated Pesticides to Chironomus dilutus and Hyalella azteca. Arch. Environ. Contam. Toxicol. 61:83?92.
Spatial Representation:	Data for this line of evidence for Coyote Creek (Santa Clara Co) was collected at 1 monitoring site [Coyote Creek at Montague station (205COY060)]
Temporal Representation:	Data was collected on a single day 6/17/2008.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	SWAMP data collected before September 2008 followed the QAMP (2002), however there may have been overlap in QA with SWAMP QAPP (2008).
QAPP Information Reference(s):	Quality Assurance Management Plan for the State of California's Surface Water Ambient

Line of Evidence (LOE) for Decision ID 34555, Diazinon

Region 2

Coyote Creek (Santa Clara Co.)

LOE ID:	91467
Pollutant:	Diazinon
LOE Subgroup:	Pollutant-Sediment
Matrix:	Sediment
Fraction:	Total
Beneficial Use:	Warm Freshwater Habitat
Number of Samples:	1
Number of Exceedances:	0
Data and Information Type:	PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality:	Water Board staff assessed SWAMP data for Coyote Creek (Santa Clara Co.) to determine beneficial use support and results are as follows: 0 of 1 samples exceed the criterion for Diazinon.
Data Reference:	Statewide Stream Pollution Trends Study 2008
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	San Francisco Bay Basin Water Quality Control Plan 2007: All waters shall be maintained free of toxic substances in concentrations which are toxic to, or which produce detrimental physiological responses in, human, plant, animal, or aquatic life.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	The evaluation guideline for diazinon is the median lethal concentration (LC50) of 11 ug/g and is normalized by the percentage of organic carbon in the sediment sample. The LC50 11 ug/g is the geometric mean of LC50 values for diazinon from Ding et al. (2011).
Guideline Reference:	Toxicity of Sediment-Associated Pesticides to Chironomus dilutus and Hyalella azteca. Arch. Environ. Contam. Toxicol. 61:83?92.
Spatial Representation:	Data for this line of evidence for Coyote Creek (Santa Clara Co) was collected at 1 monitoring site [Coyote Creek at Montague station (205COY060)]
Temporal Representation:	Data was collected on a single day 6/17/2008.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	SWAMP data collected before September 2008 followed the QAMP (2002), however there may have been overlap in QA with SWAMP QAPP (2008).
QAPP Information Reference(s):	Quality Assurance Management Plan for the State of California's Surface Water Ambient Monitoring Program. Sacramento, CA. State Water Resources Control Board. SWAMP. December 2002 (1st version) Surface Water Ambient Monitoring Program Quality Assurance Program Plan

Line of Evidence (LOE) for Decision ID 34555, Diazinon

Region 2

Coyote Creek (Santa Clara Co.)

LOE ID:	1802
Pollutant:	Diazinon
LOE Subgroup:	Pollutant-Water
Matrix:	Water
Fraction:	None
Beneficial Use:	Cold Freshwater Habitat

Number of Samples:	0
Number of Exceedances:	0
Data and Information Type:	Not Specified
Data Used to Assess Water Quality:	Unspecified---This LOE is a placeholder to support a 303(d) listing decision made prior to 2006.
Data Reference:	Placeholder reference 2006 303(d)
SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	
Objective/Criterion Reference:	
Evaluation Guideline:	
Guideline Reference:	
Spatial Representation:	
Temporal Representation:	
Environmental Conditions:	
QAPP Information:	QA Info Missing
QAPP Information Reference(s):	

DECISION ID	35717	Region 2
Coyote Creek (Santa Clara Co.)		

Pollutant:	Trash
Final Listing Decision:	Do Not Delist from 303(d) list (being addressed with action other than TMDL)
Last Listing Cycle's Final Listing Decision:	List on 303(d) list (TMDL required list)(2012)
Revision Status	Revised
Sources:	Source Unknown
Expected Attainment Date:	2029
Implementation Action Other than TMDL:	This trash listing will be addressed by implementing the trash control provisions of the Water Quality Control Plan for Inland Surface Waters, Enclosed Bays, and Estuaries of California through the NPDES MS4 permit applicable to this waterbody.
Impairment from Pollutant or Pollution:	Pollutant

Regional Board Staff Conclusion:	<p>This pollutant is being considered for placement on the section 303(d) list under section 3.11 of the Listing Policy. Under section 3.11, listing may be proposed based on the situation-specific weight of evidence. Two lines of evidence are available in the administrative record to assess this pollutant. The first line of evidence consists of data from field visits/trash surveys conducted according to the Urban Rapid Trash Assessment (URTA) methodology developed by the Santa Clara Valley Urban Runoff Pollution Prevention Program (SCVURPPP). The second line of evidence consists of inspection of photographic evidence by Regional Water Board staff trained to conduct the Rapid Trash Assessment (RTA) methodology. The staff inspected these photos and applied the RTA methodology to develop Category 1 (Level of Trash) and Category 3 (Threat to Aquatic Life) scores for each photograph. Based on the readily available photographic and trash assessment data for this waterbody, the weight of evidence indicates that there is sufficient justification available in favor of placing this water segment-pollutant combination to the section 303(d) list in the Water Quality Limited Segments category. This conclusion is based on the staff findings that: 1. Data have been evaluated that supports this decision. 2. The Urban Rapid Trash Assessment methodology results showed that this waterbody had level of trash parameter scores in the poor category (indicating impairment of non-contact water recreational beneficial uses) at four locations and on a single date. This waterbody also had transportable, Persistent, Buoyant Litter parameter scores in the marginal urban and poor category (indicating threat to Wildlife Habitat beneficial uses) at four locations and on two different dates. 3. Photographic evidence has been evaluated that supports this decision. 4. Applying the Rapid Trash Assessment methodology to the photographic evidence suggests that this waterbody had level of trash parameter scores in the poor category (indicating impairment of non-contact water recreational beneficial uses) at six locations on eight different dates. This waterbody also had threat to aquatic life parameter scores in the poor category (indicating threat to Wildlife</p>
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Habitat beneficial uses) at seven different locations on nine different dates. 5. This waterbody is considered impaired by trash because there were exceedances of the evaluation guidelines (poor condition category for the trash assessment metrics) in more than one location or on more than one date. 6. The data used satisfy the data quality requirements of section 6.1.4 of the Policy. 7. The data used satisfy the data quantity requirements of section 6.1 of the Policy. 8. This trash listing will be addressed by implementing the trash control provisions of the Water Quality Control Plan for Inland Surface Waters, Enclosed Bays, and Estuaries of California through the NPDES MS4 permit applicable to this waterbody.

Regional Board Staff Decision Recommendation: After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be removed from the section 303(d) list because applicable water quality standards for the pollutant are being exceeded.

**Line of Evidence (LOE) for Decision ID 35717, Trash
Coyote Creek (Santa Clara Co.)**

Region 2

LOE ID:	5406
Pollutant:	Trash
LOE Subgroup:	Pollutant-Nuisance
Matrix:	Not Specified
Fraction:	None
Beneficial Use:	Non-Contact Recreation
Number of Samples:	10
Number of Exceedances:	9
Data and Information Type:	Occurrence of conditions judged to cause impairment
Data Used to Assess Water Quality:	<p>Data available consist of photographic evidence of trash and interpretation of these photos by an experienced trash assessment specialist. Each photograph was analyzed to establish the RTA score for the level of trash and threat to aquatic life parameters, which relate to impairment of REC2 and WILD, respectively. Only those photos clear enough to establish these RTA scores were relied on for the listing determination. These results are available for the following:</p> <p>Williams Street on 2/21/2005 Various locations on 2/3/2006 Between Montague Expressway and Highway 237 on 2/14/2007 Downstream of Highway 280 on 5/22/2005 At San Antonio St. on 4/27/2005 At Santa Clara St. on 5/20/2006 At the Julian St. Bridge on 3/24/2002, 5/6/2006, and 1/21/2007 At Mabry Rd. on 2/1/2004, and 5/6/2006.</p> <p>This waterbody had level of trash parameter scores in the poor category (indicating impairment of non-contact water recreational beneficial uses) at six locations on eight different dates.</p>
Data Reference:	<p>Report from Roger James and Larry Kolb containing Trash Photos submitted for consideration in 2008 303(d) listing process Assessment by Matt Cover of Trash Photos (submitted to Region 2 in response to 2008 Data Solicitation) Archive of Trash Photos for Coyote Creek submitted for 2008 303(d) list consideration</p>
SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	<p>The Basin Plan prohibits discharge of Rubbish, refuse, bark, sawdust, or other solid wastes into surface waters or at any place where they would contact or where they would be eventually transported to surface waters, including flood plain areas.</p> <p>The Basin Plan has a narrative objective for floating material, Waters shall not contain floating material, including solids, liquids, foams, and scum, in concentrations that cause</p>

nuisance or adversely affect beneficial uses.

The Basin Plan has a narrative objective for settleable material, Waters shall not contain substances in concentrations that result in the deposition of material that cause nuisance or adversely affect beneficial uses.

Objective/Criterion Reference:

[Water Quality Control Plan \(Basin Plan\) - San Francisco Bay Region \(Region 2\)](#)

Evaluation Guideline:

If the Rapid Trash Assessment (RTA) Parameter 1 (Level of Trash) is in the poor condition category (scores 0-5), REC2 is not supported. This level of trash distracts the eye on first glance, making the site unsuitable for recreation. The RTA defines poor condition for this parameter as follows, trash distracts the eye on first glance. Stream, bank surfaces, and immediate riparian zone contain substantial levels of litter and debris (>100 pieces). Evidence of site being used frequently by people: many cans, bottles, and food wrappers, blankets, clothing. Regional Water Board staff trained in the RTA inspected the available photographic evidence and applied the assessment method to determine the Level of Trash score.

If the RTA Parameter 3 (Threat to Aquatic Life) is in the poor condition category (scores 0-5), then WILD is not supported. This level of trash is a large amount (>50 pieces) of transportable, persistent, buoyant litter that is detrimental to aquatic life. The RTA defines poor condition for this parameter as follows, large amount (>50 pieces) of transportable, persistent, buoyant litter such as: hard or soft plastics, balloons, Styrofoam, cigarette butts; toxic items such as batteries, lighters, or spray cans; large clumps of yard waste or dumped leaf litter; or large amount (>50 pieces) of settleable glass or metal. Regional Water Board staff trained in the RTA inspected the available photographic evidence and applied the assessment method to determine the Threat to Aquatic Life score.

Guideline Reference:

[Memo: Development of Urban Rapid Trash Assessment Protocol. March 13, 2006](#)

Spatial Representation:

Photographic evidence was analyzed using the RTA methodology for this waterbody for 8 different locations spanning dates from 2002 through 2007.

Temporal Representation:

Photographic evidence was collected for this waterbody on nine separate dates from 2002 through 2007.

Environmental Conditions:

QAPP Information:

Assessments of the photographic evidence using the RTA were performed by Regional Water Board staff person who was a co-author of the Rapid Trash Assessment methodology.

Assessments based on photographic evidence were only conducted when sufficient reach-scale and close-up photos were available for a site on a specific date. Photos used for the evaluation needed to be numerous enough and clear enough to document the level of trash at the site in a similar way as the assessor would experience during an actual site visit in the field. For example, at a minimum, one reach-scale photograph (showing at least a 100 linear foot section of the waterbody) and two close-up photographs (of representative trash deposits) were required.

QAPP Information Reference(s):

Line of Evidence (LOE) for Decision ID 35717, Trash

Region 2

Coyote Creek (Santa Clara Co.)

LOE ID: 5404

Pollutant: Trash
LOE Subgroup: Pollutant-Nuisance
Matrix: Not Specified
Fraction: None

Beneficial Use: Non-Contact Recreation

Number of Samples: 4
Number of Exceedances: 3

Data and Information Type: Occurrence of conditions judged to cause impairment

Data Used to Assess Water Quality:	<p>Data results were obtained through application of the Urban Rapid Trash Assessment (URTA) methodology, developed by the Santa Clara Valley Urban Runoff Pollution Prevention Program. The URTA is a modification of the Rapid Trash Assessment (RTA) developed by the Surface Water Ambient Monitoring Program (SWAMP). The URTA method documents the total number and characteristics of pieces of trash per one hundred feet of stream or shoreline. The trash assessment protocol involves picking up and tallying all of the trash items found within the defined boundaries of a site. The tally results for level of trash (relating to REC2) and transportable, persistent, buoyant litter (relating to WILD) assessment parameters were considered for the listing determination.</p> <p>This waterbody had level of trash parameter scores in the poor category (indicating impairment of non-contact water recreational beneficial uses) at four locations and on a single date. There were exceedances of the evaluation guideline (poor condition category for the trash assessment metric) in more than one location or on more than one date.</p> <p>These results are available for field visits/trash surveys conducted in October 2004 and March 2005 at four separate locations according to the Urban Rapid Trash Assessment (URTA) methodology.</p>
Data Reference:	<p>Memo: Development of Urban Rapid Trash Assessment Protocol. March 13, 2006 Spreadsheet of Urban Rapid Trash Assessment (URTA) data collected by the Santa Clara Valley Urban Runoff Pollution Prevention Program, 2004-2007</p>
SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	<p>The Basin Plan prohibits discharge of Rubbish, refuse, bark, sawdust, or other solid wastes into surface waters or at any place where they would contact or where they would be eventually transported to surface waters, including flood plain areas.</p> <p>The Basin Plan has a narrative objective for floating material, Waters shall not contain floating material, including solids, liquids, foams, and scum, in concentrations that cause nuisance or adversely affect beneficial uses.</p> <p>The Basin Plan has a narrative objective for settleable material, Waters shall not contain substances in concentrations that result in the deposition of material that cause nuisance or adversely affect beneficial uses.</p>
Objective/Criterion Reference:	<p>Water Quality Control Plan (Basin Plan) - San Francisco Bay Region (Region 2)</p>
Evaluation Guideline:	<p>If the Urban Rapid Trash Assessment (URTA) Parameter 1 (Level of Trash) is in the poor condition category (scores 0-5), REC2 is not supported. The URTA defines poor condition for this parameter as a level of trash that distracts the eye on first glance. Stream, bank surfaces, and immediate riparian zone contain substantial levels of litter and debris. Evidence of site being used frequently by people: many cans, bottles, and food wrappers, blankets, clothing.</p>
Guideline Reference:	<p>Memo: Development of Urban Rapid Trash Assessment Protocol. March 13, 2006</p>
Spatial Representation:	URTA data were collected for this waterbody in four locations in 2004 and 2005.
Temporal Representation:	URTA data were collected for this waterbody on two separate dates, October 2004 and March 2005.
Environmental Conditions:	
QAPP Information:	Data were collected by trained staff in accordance with URTA methodology developed by SCVURPPP and are deemed reliable and of sufficient quality on which to base listing determinations.
QAPP Information Reference(s):	

Line of Evidence (LOE) for Decision ID 35717, Trash
Coyote Creek (Santa Clara Co.)

Region 2

LOE ID:	5405
Pollutant:	Trash
LOE Subgroup:	Pollutant-Nuisance
Matrix:	Not Specified

Fraction:	None
Beneficial Use:	Wildlife Habitat
Number of Samples:	10
Number of Exceedances:	10
Data and Information Type:	Occurrence of conditions judged to cause impairment
Data Used to Assess Water Quality:	<p>Data available consist of photographic evidence of trash and interpretation of these photos by an experienced trash assessment specialist. Each photograph was analyzed to establish the RTA score for the level of trash and threat to aquatic life parameters, which relate to impairment of REC2 and WILD, respectively. Only those photos clear enough to establish these RTA scores were relied on for the listing determination. These results are available for the following:</p> <p>Williams Street on 2/21/2005 Various locations on 2/3/2006 Between Montague Expressway and Highway 237 on 2/14/2007 Downstream of Highway 280 on 5/22/2005 At San Antonio St. on 4/27/2005 At Santa Clara St. on 5/20/2006 At the Julian St. Bridge on 3/24/2002, 5/6/2006, and 1/21/2007 At Mabry Rd. on 2/1/2004, and 5/6/2006</p> <p>. This waterbody also had threat to aquatic life parameter scores in the poor category (indicating threat to Wildlife Habitat beneficial uses) at seven different locations on nine different dates.</p>
Data Reference:	<p>Report from Roger James and Larry Kolb containing Trash Photos submitted for consideration in 2008 303(d) listing process</p> <p>Assessment by Matt Cover of Trash Photos (submitted to Region 2 in response to 2008 Data Solicitation)</p> <p>Archive of Trash Photos for Coyote Creek submitted for 2008 303(d) list consideration</p>
SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	<p>The Basin Plan prohibits discharge of Rubbish, refuse, bark, sawdust, or other solid wastes into surface waters or at any place where they would contact or where they would be eventually transported to surface waters, including flood plain areas.</p> <p>The Basin Plan has a narrative objective for floating material, Waters shall not contain floating material, including solids, liquids, foams, and scum, in concentrations that cause nuisance or adversely affect beneficial uses.</p> <p>The Basin Plan has a narrative objective for settleable material, Waters shall not contain substances in concentrations that result in the deposition of material that cause nuisance or adversely affect beneficial uses.</p>
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) - San Francisco Bay Region (Region 2)
Evaluation Guideline:	<p>If the Rapid Trash Assessment (RTA) Parameter 1 (Level of Trash) is in the poor condition category (scores 0-5), REC2 is not supported. This level of trash distracts the eye on first glance, making the site unsuitable for recreation. The RTA defines poor condition for this parameter as follows, trash distracts the eye on first glance. Stream, bank surfaces, and immediate riparian zone contain substantial levels of litter and debris (>100 pieces). Evidence of site being used frequently by people: many cans, bottles, and food wrappers, blankets, clothing. Regional Water Board staff trained in the RTA inspected the available photographic evidence and applied the assessment method to determine the Level of Trash score.</p> <p>If the RTA Parameter 3 (Threat to Aquatic Life) is in the poor condition category (scores 0-5), then WILD is not supported. This level of trash is a large amount (>50 pieces) of transportable, persistent, buoyant litter that is detrimental to aquatic life. The RTA defines poor condition for this parameter as follows, large amount (>50 pieces) of transportable, persistent, buoyant litter such as: hard or soft plastics, balloons, Styrofoam, cigarette butts; toxic items such as batteries, lighters, or spray cans; large clumps of yard waste or</p>

Guideline Reference:	<p>dumped leaf litter; or large amount (>50 pieces) of settleable glass or metal. Regional Water Board staff trained in the RTA inspected the available photographic evidence and applied the assessment method to determine the Threat to Aquatic Life score.</p> <p>A Rapid Trash Assessment Method Applied to Waters of the San Francisco Bay Region:Trash Measurement in Streams</p>
Spatial Representation:	Photographic evidence was analyzed using the RTA methodology for this waterbody for 8 different locations spanning dates from 2002 through 2007.
Temporal Representation:	Photographic evidence was collected for this waterbody on nine separate dates from 2002 through 2007.
Environmental Conditions:	
QAPP Information:	<p>Assessments of the photographic evidence using the RTA were performed by Regional Water Board staff person who was a co-author of the Rapid Trash Assessment methodology.</p> <p>Assessments based on photographic evidence were only conducted when sufficient reach-scale and close-up photos were available for a site on a specific date. Photos used for the evaluation needed to be numerous enough and clear enough to document the level of trash at the site in a similar way as the assessor would experience during an actual site visit in the field. For example, at a minimum, one reach-scale photograph (showing at least a 100 linear foot section of the waterbody) and two close-up photographs (of representative trash deposits) were required.</p>
QAPP Information Reference(s):	

**Line of Evidence (LOE) for Decision ID 35717, Trash
Coyote Creek (Santa Clara Co.)**

Region 2

LOE ID:	5401
Pollutant:	Trash
LOE Subgroup:	Pollutant-Nuisance
Matrix:	Not Specified
Fraction:	None
Beneficial Use:	Wildlife Habitat
Number of Samples:	4
Number of Exceedances:	4
Data and Information Type:	Occurrence of conditions judged to cause impairment
Data Used to Assess Water Quality:	<p>Data results were obtained through application of the Urban Rapid Trash Assessment (URTA) methodology, developed by the Santa Clara Valley Urban Runoff Pollution Prevention Program. The URTA is a modification of the Rapid Trash Assessment (RTA) developed by the Surface Water Ambient Monitoring Program (SWAMP). The URTA method documents the total number and characteristics of pieces of trash per one hundred feet of stream or shoreline. The trash assessment protocol involves picking up and tallying all of the trash items found within the defined boundaries of a site. The tally results for level of trash (relating to REC2) and transportable, persistent, buoyant litter (relating to WILD) assessment parameters were considered for the listing determination. These results are available for field visits/trash surveys conducted in four locations in October 2004 and March 2005 according to the Urban Rapid Trash Assessment (URTA) methodology. This waterbody had transportable, Persistent, Buoyant Litter parameter scores in the marginal urban and poor category (indicating threat to Wildlife Habitat beneficial uses) at four locations and on two different dates.</p>
Data Reference:	<p>Memo: Development of Urban Rapid Trash Assessment Protocol. March 13, 2006</p> <p>Spreadsheet of Urban Rapid Trash Assessment (URTA) data collected by the Santa Clara Valley Urban Runoff Pollution Prevention Program, 2004-2007</p>
SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	The Basin Plan prohibits discharge of Rubbish, refuse, bark, sawdust, or other solid wastes into surface waters or at any place where they would contact or where they would

be eventually transported to surface waters, including flood plain areas.

The Basin Plan has a narrative objective for floating material, Waters shall not contain floating material, including solids, liquids, foams, and scum, in concentrations that cause nuisance or adversely affect beneficial uses.

The Basin Plan has a narrative objective for settleable material, Waters shall not contain substances in concentrations that result in the deposition of material that cause nuisance or adversely affect beneficial uses.

Objective/Criterion Reference:

[Water Quality Control Plan \(Basin Plan\) - San Francisco Bay Region \(Region 2\)](#)

Evaluation Guideline:

If the URTA Parameter 3 (Transportable, Persistent, Buoyant Litter) is in the marginal urban or poor condition category (scores 0-10), then WILD is not supported. The URTA defines marginal urban or poor condition for this parameter as follows. this level of trash is a medium prevalence (76-200 pieces) or large amount (>200 pieces) of transportable, persistent, buoyant litter such as: hard or soft plastics, styrofoam, balloons, cigarette butts. These types of items are all detrimental to aquatic life.

Guideline Reference:

[Memo: Development of Urban Rapid Trash Assessment Protocol. March 13, 2006](#)

Spatial Representation:

URTA data were collected for this waterbody in four locations in 2004 and 2005.

Temporal Representation:

URTA data were collected for this waterbody on two separate dates, October 2004 and March 2005.

Environmental Conditions:

QAPP Information:

Data were collected by trained staff in accordance with URTA methodology developed by SCVURPPP and are deemed reliable and of sufficient quality on which to base listing determinations.

QAPP Information Reference(s):

DECISION ID	61860	Region 2
Coyote Creek (Santa Clara Co.)		

Pollutant:	Alkalinity as CaCO₃
Final Listing Decision:	Do Not List on 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision:	New Decision
Revision Status	Revised
Impairment from Pollutant or Pollution:	Pollutant

Regional Board Staff Conclusion:

This pollutant is being considered for placement on the CWA section 303(d) List under section 3.2 of the Listing Policy. Under section 3.2 a single line of evidence is necessary to assess listing status. Four lines of evidence are available in the administrative record to assess this pollutant. Zero of one samples exceed the objective.

Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against placing this water segment-pollutant combination on the CWA section 303(d) List.

This conclusion is based on the staff findings that:

1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy.
2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy.
3. Zero of one samples exceed the objective and this sample size is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating. A minimum of 26 samples is needed to determine if a beneficial use is fully supported using table 3.2.
4. Pursuant to SECTION 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.

Regional Board Staff Decision Recommendation:

After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be placed on the section 303(d) list. The readily available data and information is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating.

Line of Evidence (LOE) for Decision ID 61860, Alkalinity as CaCO₃
Coyote Creek (Santa Clara Co.)

Region 2

LOE ID:	91508
Pollutant:	Alkalinity as CaCO ₃
LOE Subgroup:	Pollutant-Water
Matrix:	Water
Fraction:	Total
Beneficial Use:	Cold Freshwater Habitat
Number of Samples:	0
Number of Exceedances:	0
Data and Information Type:	PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality:	State Water Board staff assessed SWAMP data for Coyote Creek (Santa Clara Co.) to determine beneficial use support and results are as follows: 0 of 0 samples exceed the criterion for Alkalinity as CaCO ₃ . One sample result was not used in the assessment because the laboratory data reporting limit(s) was above the objective and therefore the results could not be quantified with the level of certainty required by the Listing Policy.
Data Reference:	RWB2 Reference Study Monitoring 2008
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	Surface waters shall not contain concentrations of chemical constituents in amounts that adversely affect any designated beneficial use.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	The Alkalinity as CaCO ₃ criteria for the protection of freshwater aquatic life is 20000 ug/L (National Recommended Water Quality Criteria, 2009).
Guideline Reference:	National Recommended Water Quality Criteria. United States Environmental Protection Agency. Office of Water. Office of Science and Technology
Spatial Representation:	Data for this line of evidence for Coyote Creek (Santa Clara Co.) was collected at 1 monitoring site [Coyote approx 1.5 miles upstream of Gilroy Hot Springs Rd. bridge - 205COY610]
Temporal Representation:	Data was collected on a single day 4/30/2008.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	The SWAMP QAPP (2008) was followed.
QAPP Information Reference(s):	Surface Water Ambient Monitoring Program Quality Assurance Program Plan

Line of Evidence (LOE) for Decision ID 61860, Alkalinity as CaCO₃
Coyote Creek (Santa Clara Co.)

Region 2

LOE ID:	91500
Pollutant:	Alkalinity as CaCO ₃
LOE Subgroup:	Pollutant-Water
Matrix:	Water
Fraction:	Total
Beneficial Use:	Warm Freshwater Habitat
Number of Samples:	1
Number of Exceedances:	0
Data and Information Type:	PHYSICAL/CHEMICAL MONITORING

Data Used to Assess Water Quality:	State Water Board staff assessed SWAMP data for Coyote Creek (Santa Clara Co.) to determine beneficial use support and results are as follows: 0 of 1 samples exceed the criterion for Alkalinity as CaCO ₃ .
Data Reference:	Statewide Ref Condition Management Plan 2008
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	Surface waters shall not contain concentrations of chemical constituents in amounts that adversely affect any designated beneficial use.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	The Alkalinity as CaCO ₃ criteria for the protection of freshwater aquatic life is 20000 ug/L (National Recommended Water Quality Criteria, 2009).
Guideline Reference:	National Recommended Water Quality Criteria. United States Environmental Protection Agency. Office of Water. Office of Science and Technology
Spatial Representation:	Data for this line of evidence for Coyote Creek (Santa Clara Co.) was collected at 1 monitoring site [Coyote Creek Hunting Hollows - 205CYCAHH]
Temporal Representation:	Data was collected on a single day 6/10/2008.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	The SWAMP QAPP (2008) was followed.
QAPP Information Reference(s):	Surface Water Ambient Monitoring Program Quality Assurance Program Plan

Line of Evidence (LOE) for Decision ID 61860, Alkalinity as CaCO₃
Coyote Creek (Santa Clara Co.)

Region 2

LOE ID:	91501
Pollutant:	Alkalinity as CaCO ₃
LOE Subgroup:	Pollutant-Water
Matrix:	Water
Fraction:	Total
Beneficial Use:	Cold Freshwater Habitat
Number of Samples:	1
Number of Exceedances:	0
Data and Information Type:	PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality:	State Water Board staff assessed SWAMP data for Coyote Creek (Santa Clara Co.) to determine beneficial use support and results are as follows: 0 of 1 samples exceed the criterion for Alkalinity as CaCO ₃ .
Data Reference:	Statewide Ref Condition Management Plan 2008
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	Surface waters shall not contain concentrations of chemical constituents in amounts that adversely affect any designated beneficial use.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	The Alkalinity as CaCO ₃ criteria for the protection of freshwater aquatic life is 20000 ug/L (National Recommended Water Quality Criteria, 2009).
Guideline Reference:	National Recommended Water Quality Criteria. United States Environmental Protection Agency. Office of Water. Office of Science and Technology
Spatial Representation:	Data for this line of evidence for Coyote Creek (Santa Clara Co.) was collected at 1 monitoring site [Coyote Creek Hunting Hollows - 205CYCAHH]
Temporal Representation:	Data was collected on a single day 6/10/2008.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	The SWAMP QAPP (2008) was followed.

Line of Evidence (LOE) for Decision ID 61860, Alkalinity as CaCO3**Region 2****Coyote Creek (Santa Clara Co.)**

LOE ID:	91502
Pollutant:	Alkalinity as CaCO3
LOE Subgroup:	Pollutant-Water
Matrix:	Water
Fraction:	Total
Beneficial Use:	Warm Freshwater Habitat
Number of Samples:	0
Number of Exceedances:	0
Data and Information Type:	PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality:	State Water Board staff assessed SWAMP data for Coyote Creek (Santa Clara Co.) to determine beneficial use support and results are as follows: 0 of 0 samples exceed the criterion for Alkalinity as CaCO3. One sample result was not used in the assessment because the laboratory data reporting limit(s) was above the objective and therefore the results could not be quantified with the level of certainty required by the Listing Policy.
Data Reference:	RWB2 Reference Study Monitoring 2008
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	Surface?waters?shall?not?contain?concentrations?of?chemical?constituents?in?amounts?that?adversely?affect?any?designated?beneficial?use.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	The Alkalinity as CaCO3 criteria for the protection of freshwater aquatic life is 20000 ug/L (National Recommended Water Quality Criteria, 2009).
Guideline Reference:	National Recommended Water Quality Criteria. United States Environmental Protection Agency. Office of Water. Office of Science and Technology
Spatial Representation:	Data for this line of evidence for Coyote Creek (Santa Clara Co.) was collected at 1 monitoring site [Coyote approx 1.5 miles upstream of Gilroy Hot Springs Rd. bridge - 205COY610]
Temporal Representation:	Data was collected on a single day 4/30/2008.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	The SWAMP QAPP (2008) was followed.
QAPP Information Reference(s):	Surface Water Ambient Monitoring Program Quality Assurance Program Plan

DECISION ID 61861**Region 2****Coyote Creek (Santa Clara Co.)**

Pollutant:	Ammonia (Unionized)
Final Listing Decision:	Do Not List on 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision:	New Decision
Revision Status	Revised
Impairment from Pollutant or Pollution:	Pollutant
Regional Board Staff Conclusion:	This pollutant is being considered for placement on the CWA section 303(d) List under section 3.1 of the Listing Policy. Under section 3.1 a single line of evidence is necessary to assess listing status. Two lines of evidence are available in the administrative record to assess this pollutant. Zero of two samples exceed the objective.

Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against placing this water segment-pollutant combination on the CWA section 303(d) List.

This conclusion is based on the staff findings that:

1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy.
2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy.
3. Zero of two samples exceed the objective and this sample size is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating. A minimum of 16 samples is needed to determine if a beneficial use is fully supported using table 3.1.
4. Pursuant to SECTION 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.

Regional Board Staff Decision Recommendation: After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be placed on the section 303(d) list. The readily available data and information is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating.

**Line of Evidence (LOE) for Decision ID 61861, Ammonia (Unionized)
Coyote Creek (Santa Clara Co.)**

Region 2

LOE ID: 91510

Pollutant: Ammonia (Unionized)
LOE Subgroup: Pollutant-Water
Matrix: Water
Fraction: Total

Beneficial Use: Fish Spawning

Number of Samples: 1
Number of Exceedances: 0

Data and Information Type: PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality: 0 of 1 samples exceed the Maximum for the Lower Bay at 0.4 mg/L Un-ionized Ammonia (as N). Un-ionized ammonia (as N) was calculated from Total Ammonia (as N) from monthly samples reported in the data.

Data Reference: [Statewide Ref Condition Management Plan 2008](#)

SWAMP Data: SWAMP

Water Quality Objective/Criterion: Water Quality Control Plan, San Francisco Bay Region (SFBRWQCB 2011): All waters shall be maintained free of toxic substances in concentrations that are toxic to, or that produce detrimental physiological responses in human, plant, animal, or aquatic life.

Objective/Criterion Reference: [Water Quality Control Plan \(Basin Plan\) San Francisco Bay Basin \(Region 2\)](#)

Evaluation Guideline:
Guideline Reference:

Spatial Representation: Samples were collected at 205CYCAHH (Coyote Creek Hunting Hollows).
Temporal Representation: Samples collected on 6/10/2008.
Environmental Conditions:
QAPP Information: SWAMP QAPP (2008) was followed.
QAPP Information Reference(s): [Surface Water Ambient Monitoring Program Quality Assurance Program Plan](#)

**Line of Evidence (LOE) for Decision ID 61861, Ammonia (Unionized)
Coyote Creek (Santa Clara Co.)**

Region 2

LOE ID: 91509

Pollutant:	Ammonia (Unionized)
LOE Subgroup:	Pollutant-Water
Matrix:	Water
Fraction:	Total
Beneficial Use:	Fish Spawning
Number of Samples:	1
Number of Exceedances:	0
Data and Information Type:	PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality:	0 of 1 samples exceed the Maximum for the Lower Bay at 0.4 mg/L Un-ionized Ammonia (as N). Un-ionized ammonia (as N) was calculated from Total Ammonia (as N) from monthly samples reported in the data. The data value is reported as underneath the quantitation limit. This value is under the quantitation limit are less than or equal to the water quality standard, the value will be considered as meeting the water quality standard, objective, criterion, or evaluation guideline.
Data Reference:	RWB2 Reference Study Monitoring 2008
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	Water Quality Control Plan, San Francisco Bay Region (SFBRWQCB 2011): All waters shall be maintained free of toxic substances in concentrations that are toxic to, or that produce detrimental physiological responses in human, plant, animal, or aquatic life.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	
Guideline Reference:	
Spatial Representation:	Samples were collected at 205COY610 (Coyote approx 1.5 miles upstream of Gilroy Hot Springs Rd. bridge).
Temporal Representation:	Samples collected on 5/15/2008.
Environmental Conditions:	
QAPP Information:	SWAMP QAPP (2008) was followed.
QAPP Information Reference(s):	Surface Water Ambient Monitoring Program Quality Assurance Program Plan

DECISION ID	61862	Region 2
Coyote Creek (Santa Clara Co.)		

Pollutant:	Anthracene
Final Listing Decision:	Do Not List on 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision:	New Decision
Revision Status	Revised
Impairment from Pollutant or Pollution:	Pollutant
Regional Board Staff Conclusion:	<p>This pollutant is being considered for placement on the CWA section 303(d) List under section 3.6 of the Listing Policy.</p> <p>Under section 3.6 at least two lines of evidence are necessary to assess listing status for pollutants sediment, and pollutant concentrations in sediment must be associated with sediment toxicity to justify adding that pollutant to the CWA section 303(d) List.</p> <p>Two lines of evidence are available in the administrative record to assess this pollutant. Zero of one samples exceed the guideline.</p> <p>Sediment toxicity data are not associated with this decision because they are not relevant to this decision because there is insufficient information based on sediment chemistry.</p> <p>Based on the readily available data and information, the weight of evidence indicates that there is</p>

insufficient justification for placing this water segment-pollutant combination on the CWA section 303(d) List.

This conclusion is based on the staff findings that:

1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy.
2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy.
3. Zero of one samples exceed the guideline and this sample size is insufficient to determine beneficial use support, with the power and confidence of the Listing Policy. A minimum of 16 samples is needed to determine if a beneficial use is fully supported using table 3.1. Sediment toxicity data are not associated with this decision because the sediment chemistry data are insufficient.
4. Pursuant to section 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.

Regional Board Staff Decision Recommendation: After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be placed on the section 303(d) list. The readily available data and information is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating.

**Line of Evidence (LOE) for Decision ID 61862, Anthracene
Coyote Creek (Santa Clara Co.)**

Region 2

LOE ID:	91529
Pollutant:	Anthracene
LOE Subgroup:	Pollutant-Sediment
Matrix:	Sediment
Fraction:	Total
Beneficial Use:	Warm Freshwater Habitat
Number of Samples:	1
Number of Exceedances:	0
Data and Information Type:	PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality:	Water Board staff assessed SWAMP data for Coyote Creek (Santa Clara Co.) to determine beneficial use support and results are as follows: 0 of 1 samples exceed the criterion for Anthracene.
Data Reference:	Statewide Stream Pollution Trends Study 2008
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	San Francisco Bay Basin Water Quality Control Plan 2007: All waters shall be maintained free of toxic substances in concentrations which are toxic to, or which produce detrimental physiological responses in, human, plant, animal, or aquatic life.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	In freshwater sediments the probable effect concentration (predictive of sediment toxicity for sediment-dwelling organisms) for anthracene is 845 ug/Kg dry weight (MacDonald et al. 2000).
Guideline Reference:	Development and evaluation of consensus-based sediment quality guidelines for freshwater ecosystems. Environmental Contamination and Toxicology. 39: 20-31
Spatial Representation:	Data for this line of evidence for Coyote Creek (Santa Clara Co) was collected at 1 monitoring site [Coyote Creek at Montague station (205COY060)]
Temporal Representation:	Data was collected on a single day 6/17/2008.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	SWAMP data collected before September 2008 followed the QAMP (2002), however there may have been overlap in QA with SWAMP QAPP (2008).
QAPP Information Reference(s):	Quality Assurance Management Plan for the State of California's Surface Water Ambient Monitoring Program. Sacramento, CA. State Water Resources Control Board. SWAMP.

**Line of Evidence (LOE) for Decision ID 61862, Anthracene
Coyote Creek (Santa Clara Co.)****Region 2**

LOE ID:	91522
Pollutant:	Anthracene
LOE Subgroup:	Pollutant-Sediment
Matrix:	Sediment
Fraction:	Total
Beneficial Use:	Cold Freshwater Habitat
Number of Samples:	1
Number of Exceedances:	0
Data and Information Type:	PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality:	Water Board staff assessed SWAMP data for Coyote Creek (Santa Clara Co.) to determine beneficial use support and results are as follows: 0 of 1 samples exceed the criterion for Anthracene.
Data Reference:	Statewide Stream Pollution Trends Study 2008
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	San Francisco Bay Basin Water Quality Control Plan 2007: All waters shall be maintained free of toxic substances in concentrations which are toxic to, or which produce detrimental physiological responses in, human, plant, animal, or aquatic life.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	In freshwater sediments the probable effect concentration (predictive of sediment toxicity for sediment-dwelling organisms) for anthracene is 845 ug/Kg dry weight (MacDonald et al. 2000).
Guideline Reference:	Development and evaluation of consensus-based sediment quality guidelines for freshwater ecosystems. Environmental Contamination and Toxicology. 39: 20-31
Spatial Representation:	Data for this line of evidence for Coyote Creek (Santa Clara Co) was collected at 1 monitoring site [Coyote Creek at Montague station (205COY060)]
Temporal Representation:	Data was collected on a single day 6/17/2008.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	SWAMP data collected before September 2008 followed the QAMP (2002), however there may have been overlap in QA with SWAMP QAPP (2008).
QAPP Information Reference(s):	Quality Assurance Management Plan for the State of California's Surface Water Ambient Monitoring Program. Sacramento, CA. State Water Resources Control Board. SWAMP. December 2002 (1st version) Surface Water Ambient Monitoring Program Quality Assurance Program Plan

**DECISION ID 61863
Coyote Creek (Santa Clara Co.)****Region 2**

Pollutant:	Arsenic
Final Listing Decision:	Do Not List on 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision:	New Decision
Revision Status	Revised
Impairment from Pollutant or Pollution:	Pollutant

Regional Board Staff This pollutant is being considered for placement on the CWA section 303(d) List under section 3.6 of

Conclusion:

the Listing Policy. Under section 3.6 at least two lines of evidence are necessary to assess listing status for pollutants sediment, and pollutant concentrations in sediment must be associated with sediment toxicity to justify adding that pollutant to the CWA section 303(d) List.

Two lines of evidence are available in the administrative record to assess this pollutant. Zero of one samples exceed the guideline. Sediment toxicity data are not associated with this decision because they are not relevant to this decision because there is insufficient information based on sediment chemistry.

Based on the readily available data and information, the weight of evidence indicates that there is insufficient justification for placing this water segment-pollutant combination on the CWA section 303(d) List.

This conclusion is based on the staff findings that:

1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy.
2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy.
3. Zero of one samples exceed the guideline and this sample size is insufficient to determine beneficial use support, with the power and confidence of the Listing Policy. A minimum of 16 samples is needed to determine if a beneficial use is fully supported using table 3.1. Sediment toxicity data are not associated with this decision because the sediment chemistry data are insufficient.
4. Pursuant to section 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.

Regional Board Staff Decision Recommendation:

After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be placed on the section 303(d) list. The readily available data and information is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating.

**Line of Evidence (LOE) for Decision ID 61863, Arsenic
Coyote Creek (Santa Clara Co.)****Region 2**

LOE ID:	91530
Pollutant:	Arsenic
LOE Subgroup:	Pollutant-Sediment
Matrix:	Sediment
Fraction:	Total
Beneficial Use:	Warm Freshwater Habitat
Number of Samples:	1
Number of Exceedances:	0
Data and Information Type:	PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality:	Water Board staff assessed SWAMP data for Coyote Creek (Santa Clara Co.) to determine beneficial use support and results are as follows: 0 of 1 samples exceed the criterion for Arsenic.
Data Reference:	Statewide Stream Pollution Trends Study 2008
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	San Francisco Bay Basin Water Quality Control Plan 2007: All waters shall be maintained free of toxic substances in concentrations which are toxic to, or which produce detrimental physiological responses in, human, plant, animal, or aquatic life.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	In freshwater sediments the probable effect concentration (predictive of sediment toxicity for sediment-dwelling organisms) for arsenic is 33 mg/Kg dry weight (MacDonald et al. 2000).
Guideline Reference:	Development and evaluation of consensus-based sediment quality guidelines for

Spatial Representation: Data for this line of evidence for Coyote Creek (Santa Clara Co) was collected at 1 monitoring site [Coyote Creek at Montague station (205COY060)]

Temporal Representation: Data was collected on a single day 6/17/2008.

Environmental Conditions: Staff is not aware of any special conditions that might affect interpretation of the data.

QAPP Information: SWAMP data collected before September 2008 followed the QAMP (2002), however there may have been overlap in QA with SWAMP QAPP (2008).

QAPP Information Reference(s): [Quality Assurance Management Plan for the State of California's Surface Water Ambient Monitoring Program. Sacramento, CA. State Water Resources Control Board. SWAMP. December 2002 \(1st version\)](#)
[Surface Water Ambient Monitoring Program Quality Assurance Program Plan](#)

Line of Evidence (LOE) for Decision ID 61863, Arsenic
Coyote Creek (Santa Clara Co.)

Region 2

LOE ID: 91531

Pollutant: Arsenic

LOE Subgroup: Pollutant-Sediment

Matrix: Sediment

Fraction: Total

Beneficial Use: Cold Freshwater Habitat

Number of Samples: 1

Number of Exceedances: 0

Data and Information Type: PHYSICAL/CHEMICAL MONITORING

Data Used to Assess Water Quality: Water Board staff assessed SWAMP data for Coyote Creek (Santa Clara Co.) to determine beneficial use support and results are as follows: 0 of 1 samples exceed the criterion for Arsenic.

Data Reference: [Statewide Stream Pollution Trends Study 2008](#)

SWAMP Data: SWAMP

Water Quality Objective/Criterion: San Francisco Bay Basin Water Quality Control Plan 2007: All waters shall be maintained free of toxic substances in concentrations which are toxic to, or which produce detrimental physiological responses in, human, plant, animal, or aquatic life.

Objective/Criterion Reference: [Water Quality Control Plan \(Basin Plan\) San Francisco Bay Basin \(Region 2\)](#)

Evaluation Guideline: In freshwater sediments the probable effect concentration (predictive of sediment toxicity for sediment-dwelling organisms) for arsenic is 33 mg/Kg dry weight (MacDonald et al. 2000).

Guideline Reference: [Development and evaluation of consensus-based sediment quality guidelines for freshwater ecosystems. Environmental Contamination and Toxicology. 39: 20-31](#)

Spatial Representation: Data for this line of evidence for Coyote Creek (Santa Clara Co) was collected at 1 monitoring site [Coyote Creek at Montague station (205COY060)]

Temporal Representation: Data was collected on a single day 6/17/2008.

Environmental Conditions: Staff is not aware of any special conditions that might affect interpretation of the data.

QAPP Information: SWAMP data collected before September 2008 followed the QAMP (2002), however there may have been overlap in QA with SWAMP QAPP (2008).

QAPP Information Reference(s): [Quality Assurance Management Plan for the State of California's Surface Water Ambient Monitoring Program. Sacramento, CA. State Water Resources Control Board. SWAMP. December 2002 \(1st version\)](#)
[Surface Water Ambient Monitoring Program Quality Assurance Program Plan](#)

Pollutant:	Benzo(a)anthracene
Final Listing Decision:	Do Not List on 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision:	New Decision
Revision Status	Revised
Impairment from Pollutant or Pollution:	Pollutant

Regional Board Staff Conclusion:

This pollutant is being considered for placement on the CWA section 303(d) List under section 3.6 of the Listing Policy. Under section 3.6 at least two lines of evidence are necessary to assess listing status for pollutants sediment, and pollutant concentrations in sediment must be associated with sediment toxicity to justify adding that pollutant to the CWA section 303(d) List.

Two lines of evidence are available in the administrative record to assess this pollutant. Zero of one samples exceed the guideline. Sediment toxicity data are not associated with this decision because they are not relevant to this decision because there is insufficient information based on sediment chemistry.

Based on the readily available data and information, the weight of evidence indicates that there is insufficient justification for placing this water segment-pollutant combination on the CWA section 303(d) List.

This conclusion is based on the staff findings that:

1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy.
2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy.
3. Zero of one samples exceed the guideline and this sample size is insufficient to determine beneficial use support, with the power and confidence of the Listing Policy. A minimum of 16 samples is needed to determine if a beneficial use is fully supported using table 3.1. Sediment toxicity data are not associated with this decision because the sediment chemistry data are insufficient.
4. Pursuant to section 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.

Regional Board Staff Decision Recommendation:

After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be placed on the section 303(d) list. The readily available data and information is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating.

**Line of Evidence (LOE) for Decision ID 61864, Benzo(a)anthracene
Coyote Creek (Santa Clara Co.)**

Region 2

LOE ID:	91533
Pollutant:	Benzo(a)anthracene
LOE Subgroup:	Pollutant-Sediment
Matrix:	Sediment
Fraction:	Total
Beneficial Use:	Cold Freshwater Habitat
Number of Samples:	1
Number of Exceedances:	0
Data and Information Type:	PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality:	Water Board staff assessed SWAMP data for Coyote Creek (Santa Clara Co.) to determine beneficial use support and results are as follows: 0 of 1 samples exceed the criterion for Benzo(a)anthracene.
Data Reference:	Statewide Stream Pollution Trends Study 2008
SWAMP Data:	SWAMP

Water Quality Objective/Criterion:	San Francisco Bay Basin Water Quality Control Plan 2007: All waters shall be maintained free of toxic substances in concentrations which are toxic to, or which produce detrimental physiological responses in, human, plant, animal, or aquatic life.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	In freshwater sediments the probable effect concentration (predictive of sediment toxicity for sediment-dwelling organisms) for Benzo(a)anthracene is 1050 ug/Kg dry weight (MacDonald et al. 2000).
Guideline Reference:	Development and evaluation of consensus-based sediment quality guidelines for freshwater ecosystems. Environmental Contamination and Toxicology. 39: 20-31
Spatial Representation:	Data for this line of evidence for Coyote Creek (Santa Clara Co) was collected at 1 monitoring site [Coyote Creek at Montague station (205COY060)]
Temporal Representation:	Data was collected on a single day 6/17/2008.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	SWAMP data collected before September 2008 followed the QAMP (2002), however there may have been overlap in QA with SWAMP QAPP (2008).
QAPP Information Reference(s):	Quality Assurance Management Plan for the State of California's Surface Water Ambient Monitoring Program. Sacramento, CA. State Water Resources Control Board. SWAMP. December 2002 (1st version) Surface Water Ambient Monitoring Program Quality Assurance Program Plan

Line of Evidence (LOE) for Decision ID 61864, Benzo(a)anthracene
Coyote Creek (Santa Clara Co.)

Region 2

LOE ID:	91532
Pollutant:	Benzo(a)anthracene
LOE Subgroup:	Pollutant-Sediment
Matrix:	Sediment
Fraction:	Total
Beneficial Use:	Warm Freshwater Habitat
Number of Samples:	1
Number of Exceedances:	0
Data and Information Type:	PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality:	Water Board staff assessed SWAMP data for Coyote Creek (Santa Clara Co.) to determine beneficial use support and results are as follows: 0 of 1 samples exceed the criterion for Benzo(a)anthracene.
Data Reference:	Statewide Stream Pollution Trends Study 2008
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	San Francisco Bay Basin Water Quality Control Plan 2007: All waters shall be maintained free of toxic substances in concentrations which are toxic to, or which produce detrimental physiological responses in, human, plant, animal, or aquatic life.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	In freshwater sediments the probable effect concentration (predictive of sediment toxicity for sediment-dwelling organisms) for Benzo(a)anthracene is 1050 ug/Kg dry weight (MacDonald et al. 2000).
Guideline Reference:	Development and evaluation of consensus-based sediment quality guidelines for freshwater ecosystems. Environmental Contamination and Toxicology. 39: 20-31
Spatial Representation:	Data for this line of evidence for Coyote Creek (Santa Clara Co) was collected at 1 monitoring site [Coyote Creek at Montague station (205COY060)]
Temporal Representation:	Data was collected on a single day 6/17/2008.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	SWAMP data collected before September 2008 followed the QAMP (2002), however there

QAPP Information Reference(s): may have been overlap in QA with SWAMP QAPP (2008).
[Quality Assurance Management Plan for the State of California's Surface Water Ambient Monitoring Program. Sacramento, CA. State Water Resources Control Board. SWAMP. December 2002 \(1st version\).](#)
[Surface Water Ambient Monitoring Program Quality Assurance Program Plan](#)

DECISION ID	61865	Region 2
Coyote Creek (Santa Clara Co.)		

Pollutant:	Benzo(a)pyrene (3,4-Benzopyrene -7-d)
Final Listing Decision:	Do Not List on 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision:	New Decision
Revision Status	Revised
Impairment from Pollutant or Pollution:	Pollutant

Regional Board Staff Conclusion: This pollutant is being considered for placement on the CWA section 303(d) List under section 3.6 of the Listing Policy. Under section 3.6 at least two lines of evidence are necessary to assess listing status for pollutants sediment, and pollutant concentrations in sediment must be associated with sediment toxicity to justify adding that pollutant to the CWA section 303(d) List.

Two lines of evidence are available in the administrative record to assess this pollutant. Zero of one samples exceed the guideline. Sediment toxicity data are not associated with this decision because they are not relevant to this decision because there is insufficient information based on sediment chemistry.

Based on the readily available data and information, the weight of evidence indicates that there is insufficient justification for placing this water segment-pollutant combination on the CWA section 303(d) List.

This conclusion is based on the staff findings that:

1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy.
2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy.
3. Zero of one samples exceed the guideline and this sample size is insufficient to determine beneficial use support, with the power and confidence of the Listing Policy. A minimum of 16 samples is needed to determine if a beneficial use is fully supported using table 3.1. Sediment toxicity data are not associated with this decision because the sediment chemistry data are insufficient.
4. Pursuant to section 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.

Regional Board Staff Decision Recommendation: After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be placed on the section 303(d) list. The readily available data and information is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating.

Line of Evidence (LOE) for Decision ID 61865, Benzo(a)pyrene (3,4-Benzopyrene -7-d)	Region 2
Coyote Creek (Santa Clara Co.)	

LOE ID:	91397
Pollutant:	Benzo(a)pyrene (3,4-Benzopyrene -7-d)
LOE Subgroup:	Pollutant-Sediment
Matrix:	Sediment
Fraction:	Total
Beneficial Use:	Warm Freshwater Habitat

Number of Samples:	1
Number of Exceedances:	0
Data and Information Type:	PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality:	Water Board staff assessed SWAMP data for Coyote Creek (Santa Clara Co.) to determine beneficial use support and results are as follows: 0 of 1 samples exceed the criterion for Benzo(a)pyrene.
Data Reference:	Statewide Stream Pollution Trends Study 2008
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	San Francisco Bay Basin Water Quality Control Plan 2007: All waters shall be maintained free of toxic substances in concentrations which are toxic to, or which produce detrimental physiological responses in, human, plant, animal, or aquatic life.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	In freshwater sediments the probable effects level (predictive of sediment toxicity for sediment-dwelling organisms) for Benzo(a)Pyrene is 1450 ug/Kg dry weight (Macdonald et al. 2000)
Guideline Reference:	Development and evaluation of consensus-based sediment quality guidelines for freshwater ecosystems. Environmental Contamination and Toxicology. 39: 20-31
Spatial Representation:	Data for this line of evidence for Coyote Creek (Santa Clara Co) was collected at 1 monitoring site [Coyote Creek at Montague station (205COY060)]
Temporal Representation:	Data was collected on a single day 6/17/2008.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	SWAMP data collected before September 2008 followed the QAMP (2002), however there may have been overlap in QA with SWAMP QAPP (2008).
QAPP Information Reference(s):	Quality Assurance Management Plan for the State of California's Surface Water Ambient Monitoring Program. Sacramento, CA. State Water Resources Control Board. SWAMP. December 2002 (1st version) Surface Water Ambient Monitoring Program Quality Assurance Program Plan

**Line of Evidence (LOE) for Decision ID 61865, Benzo(a)pyrene (3,4-Benzopyrene -7-d)
Coyote Creek (Santa Clara Co.)**

Region 2

LOE ID:	91398
Pollutant:	Benzo(a)pyrene (3,4-Benzopyrene -7-d)
LOE Subgroup:	Pollutant-Sediment
Matrix:	Sediment
Fraction:	Total
Beneficial Use:	Cold Freshwater Habitat
Number of Samples:	1
Number of Exceedances:	0
Data and Information Type:	PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality:	Water Board staff assessed SWAMP data for Coyote Creek (Santa Clara Co.) to determine beneficial use support and results are as follows: 0 of 1 samples exceed the criterion for Benzo(a)pyrene.
Data Reference:	Statewide Stream Pollution Trends Study 2008
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	San Francisco Bay Basin Water Quality Control Plan 2007: All waters shall be maintained free of toxic substances in concentrations which are toxic to, or which produce detrimental physiological responses in, human, plant, animal, or aquatic life.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	In freshwater sediments the probable effects level (predictive of sediment toxicity for

sediment-dwelling organisms) for Benzo(a)Pyrene is 1450 ug/Kg dry weight (Macdonald et al. 2000)

Guideline Reference:

[Development and evaluation of consensus-based sediment quality guidelines for freshwater ecosystems. Environmental Contamination and Toxicology. 39: 20-31](#)

Spatial Representation:

Data for this line of evidence for Coyote Creek (Santa Clara Co) was collected at 1 monitoring site [Coyote Creek at Montague station (205COY060)]

Temporal Representation:

Data was collected on a single day 6/17/2008.

Environmental Conditions:

Staff is not aware of any special conditions that might affect interpretation of the data.

QAPP Information:

SWAMP data collected before September 2008 followed the QAMP (2002), however there may have been overlap in QA with SWAMP QAPP (2008).

QAPP Information Reference(s):

[Quality Assurance Management Plan for the State of California's Surface Water Ambient Monitoring Program. Sacramento, CA. State Water Resources Control Board. SWAMP. December 2002 \(1st version\).](#)
[Surface Water Ambient Monitoring Program Quality Assurance Program Plan](#)

DECISION ID	61866	Region 2
Coyote Creek (Santa Clara Co.)		

Pollutant:	Bifenthrin
Final Listing Decision:	Do Not List on 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision:	New Decision
Revision Status	Revised
Impairment from Pollutant or Pollution:	Pollutant

Regional Board Staff Conclusion:

This pollutant is being considered for placement on the CWA section 303(d) List under section 3.6 of the Listing Policy. Under section 3.6 at least two lines of evidence are necessary to assess listing status for pollutants sediment, and pollutant concentrations in sediment must be associated with sediment toxicity to justify adding that pollutant to the CWA section 303(d) List.

Four lines of evidence are available in the administrative record to assess this pollutant. Zero of two samples exceed the guideline. Sediment toxicity data are not associated with this decision because they are not relevant to this decision because there is insufficient information based on sediment chemistry.

Based on the readily available data and information, the weight of evidence indicates that there is insufficient justification for placing this water segment-pollutant combination on the CWA section 303(d) List.

This conclusion is based on the staff findings that:

1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy.
2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy.
3. Zero of two samples exceed the guideline and this sample size is insufficient to determine beneficial use support, with the power and confidence of the Listing Policy. A minimum of 16 samples is needed to determine if a beneficial use is fully supported using table 3.1. Sediment toxicity data are not associated with this decision because the sediment chemistry data are insufficient.
4. Pursuant to section 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.

Regional Board Staff Decision Recommendation:

After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be placed on the section 303(d) list. The readily available data and information is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating.

Line of Evidence (LOE) for Decision ID 61866, Bifenthrin	Region 2
Coyote Creek (Santa Clara Co.)	

LOE ID:	91401
Pollutant:	Bifenthrin
LOE Subgroup:	Pollutant-Sediment
Matrix:	Sediment
Fraction:	Total
Beneficial Use:	Warm Freshwater Habitat
Number of Samples:	1
Number of Exceedances:	0
Data and Information Type:	PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality:	Water Board staff assessed SWAMP data for Coyote Creek (Santa Clara Co.) to determine beneficial use support and results are as follows: 0 of 1 samples exceed the criterion for Bifenthrin.
Data Reference:	Statewide Stream Pollution Trends Study 2008
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	San Francisco Bay Basin Water Quality Control Plan 2007: All waters shall be maintained free of toxic substances in concentrations which are toxic to, or which produce detrimental physiological responses in, human, plant, animal, or aquatic life.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	The evaluation guideline for bifenthrin is the median lethal concentration (LC50) of 0.43 ug/g and is normalized by the percentage of organic carbon in the sediment sample. The LC50 0.43 ug/g is the geometric mean of LC50 values for bifenthrin from Amweg et al. (2005) and Amweg and Weston (2007).
Guideline Reference:	Use and Toxicity of Pyrethroid Pesticides in the Central Valley, California, USA. Environmental Toxicology and Chemistry, 24:966-972, with erratum 24:No. 5 Whole-sediment toxicity identification evaluation tools for pyrethroid insecticides: I. piperonyl butoxide addition. Environ. Toxicol. Chem. 26:2389-2396.
Spatial Representation:	Data for this line of evidence for Coyote Creek (Santa Clara Co) was collected at 1 monitoring site [Coyote Creek at Montague station (205COY060)]
Temporal Representation:	Data was collected on a single day 6/17/2008.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	SWAMP data collected before September 2008 followed the QAMP (2002), however there may have been overlap in QA with SWAMP QAPP (2008).
QAPP Information Reference(s):	Quality Assurance Management Plan for the State of California's Surface Water Ambient Monitoring Program. Sacramento, CA. State Water Resources Control Board. SWAMP. December 2002 (1st version) Surface Water Ambient Monitoring Program Quality Assurance Program Plan

**Line of Evidence (LOE) for Decision ID 61866, Bifenthrin
Coyote Creek (Santa Clara Co.)**

Region 2

LOE ID:	91407
Pollutant:	Bifenthrin
LOE Subgroup:	Pollutant-Sediment
Matrix:	Sediment
Fraction:	Total
Beneficial Use:	Cold Freshwater Habitat
Number of Samples:	1
Number of Exceedances:	0
Data and Information Type:	PHYSICAL/CHEMICAL MONITORING

Data Used to Assess Water Quality:	Water Board staff assessed SWAMP data for Coyote Creek (Santa Clara Co.) to determine beneficial use support and results are as follows: 0 of 1 samples exceed the criterion for Bifenthrin.
Data Reference:	Statewide Stream Pollution Trends Study 2008
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	San Francisco Bay Basin Water Quality Control Plan 2007: All waters shall be maintained free of toxic substances in concentrations which are toxic to, or which produce detrimental physiological responses in, human, plant, animal, or aquatic life.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	The evaluation guideline for bifenthrin is the median lethal concentration (LC50) of 0.43 ug/g and is normalized by the percentage of organic carbon in the sediment sample. The LC50 0.43 ug/g is the geometric mean of LC50 values for bifenthrin from Amweg et al. (2005) and Amweg and Weston (2007).
Guideline Reference:	Use and Toxicity of Pyrethroid Pesticides in the Central Valley, California, USA. Environmental Toxicology and Chemistry, 24:966-972, with erratum 24:No. 5 Whole-sediment toxicity identification evaluation tools for pyrethroid insecticides: I. piperonyl butoxide addition. Environ. Toxicol. Chem. 26:2389-2396.
Spatial Representation:	Data for this line of evidence for Coyote Creek (Santa Clara Co) was collected at 1 monitoring site [Coyote Creek at Montague station (205COY060)]
Temporal Representation:	Data was collected on a single day 6/17/2008.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	SWAMP data collected before September 2008 followed the QAMP (2002), however there may have been overlap in QA with SWAMP QAPP (2008).
QAPP Information Reference(s):	Quality Assurance Management Plan for the State of California's Surface Water Ambient Monitoring Program. Sacramento, CA. State Water Resources Control Board. SWAMP. December 2002 (1st version) Surface Water Ambient Monitoring Program Quality Assurance Program Plan

Line of Evidence (LOE) for Decision ID 61866, Bifenthrin
Coyote Creek (Santa Clara Co.)

Region 2

LOE ID:	91399
Pollutant:	Bifenthrin
LOE Subgroup:	Pollutant-Sediment
Matrix:	Sediment
Fraction:	Total
Beneficial Use:	Warm Freshwater Habitat
Number of Samples:	1
Number of Exceedances:	0
Data and Information Type:	PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality:	Water Board staff assessed SWAMP data for Coyote Creek (Santa Clara Co.) to determine beneficial use support and results are as follows: 0 of 1 samples exceed the criterion for Bifenthrin.
Data Reference:	Statewide Project Urban Pyrethroid Status Monitoring
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	San Francisco Bay Basin Water Quality Control Plan 2007: All waters shall be maintained free of toxic substances in concentrations which are toxic to, or which produce detrimental physiological responses in, human, plant, animal, or aquatic life.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	The evaluation guideline for bifenthrin is the median lethal concentration (LC50) of 0.43 ug/g and is normalized by the percentage of organic carbon in the sediment sample. The

Guideline Reference:	LC50 0.43 ug/g is the geometric mean of LC50 values for bifenthrin from Amweg et al. (2005) and Amweg and Weston (2007). Use and Toxicity of Pyrethroid Pesticides in the Central Valley, California, USA. Environmental Toxicology and Chemistry, 24:966-972, with erratum 24:No. 5 Whole-sediment toxicity identification evaluation tools for pyrethroid insecticides: I. piperonyl butoxide addition. Environ. Toxicol. Chem. 26:2389-2396.
Spatial Representation:	Data for this line of evidence for Coyote Creek (Santa Clara Co.) was collected at 1 monitoring site [Coyote Ck @ E Williams St station (205SUP022).]
Temporal Representation:	Data was collected on a single day 1/2/2007.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	The SWAMP QAPP (2008) was followed.
QAPP Information Reference(s):	Quality Assurance Management Plan for the State of California's Surface Water Ambient Monitoring Program. Sacramento, CA. State Water Resources Control Board. SWAMP. December 2002 (1st version)

Line of Evidence (LOE) for Decision ID 61866, Bifenthrin

Region 2

Coyote Creek (Santa Clara Co.)

LOE ID:	91400
Pollutant:	Bifenthrin
LOE Subgroup:	Pollutant-Sediment
Matrix:	Sediment
Fraction:	Total
Beneficial Use:	Cold Freshwater Habitat
Number of Samples:	1
Number of Exceedances:	0
Data and Information Type:	PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality:	Water Board staff assessed SWAMP data for Coyote Creek (Santa Clara Co.) to determine beneficial use support and results are as follows: 0 of 1 samples exceed the criterion for Bifenthrin.
Data Reference:	Statewide Project Urban Pyrethroid Status Monitoring
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	San Francisco Bay Basin Water Quality Control Plan 2007: All waters shall be maintained free of toxic substances in concentrations which are toxic to, or which produce detrimental physiological responses in, human, plant, animal, or aquatic life.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	The evaluation guideline for bifenthrin is the median lethal concentration (LC50) of 0.43 ug/g and is normalized by the percentage of organic carbon in the sediment sample. The LC50 0.43 ug/g is the geometric mean of LC50 values for bifenthrin from Amweg et al. (2005) and Amweg and Weston (2007).
Guideline Reference:	Use and Toxicity of Pyrethroid Pesticides in the Central Valley, California, USA. Environmental Toxicology and Chemistry, 24:966-972, with erratum 24:No. 5 Whole-sediment toxicity identification evaluation tools for pyrethroid insecticides: I. piperonyl butoxide addition. Environ. Toxicol. Chem. 26:2389-2396.
Spatial Representation:	Data for this line of evidence for Coyote Creek (Santa Clara Co.) was collected at 1 monitoring site [Coyote Ck @ E Williams St station (205SUP022).]
Temporal Representation:	Data was collected on a single day 1/2/2007.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	The SWAMP QAPP (2008) was followed.
QAPP Information Reference(s):	Quality Assurance Management Plan for the State of California's Surface Water Ambient Monitoring Program. Sacramento, CA. State Water Resources Control Board. SWAMP. December 2002 (1st version)

Pollutant:	Cadmium
Final Listing Decision:	Do Not List on 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision:	New Decision
Revision Status	Revised
Impairment from Pollutant or Pollution:	Pollutant
Regional Board Staff Conclusion:	<p>This pollutant is being considered for placement on the CWA section 303(d) List under section 3.6 of the Listing Policy. Under section 3.6 at least two lines of evidence are necessary to assess listing status for pollutants sediment, and pollutant concentrations in sediment must be associated with sediment toxicity to justify adding that pollutant to the CWA section 303(d) List.</p> <p>Two lines of evidence are available in the administrative record to assess this pollutant. Zero of one samples exceed the guideline. Sediment toxicity data are not associated with this decision because they are not relevant to this decision because there is insufficient information based on sediment chemistry.</p> <p>Based on the readily available data and information, the weight of evidence indicates that there is insufficient justification for placing this water segment-pollutant combination on the CWA section 303(d) List.</p> <p>This conclusion is based on the staff findings that:</p> <ol style="list-style-type: none"> 1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy. 2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy. 3. Zero of one samples exceed the guideline and this sample size is insufficient to determine beneficial use support, with the power and confidence of the Listing Policy. A minimum of 16 samples is needed to determine if a beneficial use is fully supported using table 3.1. Sediment toxicity data are not associated with this decision because the sediment chemistry data are insufficient. 4. Pursuant to section 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.
Regional Board Staff Decision Recommendation:	After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be placed on the section 303(d) list. The readily available data and information is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating.

Line of Evidence (LOE) for Decision ID 61867, Cadmium	Region 2
Coyote Creek (Santa Clara Co.)	

LOE ID:	91409
Pollutant:	Cadmium
LOE Subgroup:	Pollutant-Sediment
Matrix:	Sediment
Fraction:	Total
Beneficial Use:	Cold Freshwater Habitat
Number of Samples:	1
Number of Exceedances:	0
Data and Information Type:	PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality:	Water Board staff assessed SWAMP data for Coyote Creek (Santa Clara Co.) to determine beneficial use support and results are as follows: 0 of 1 samples exceed the

	criterion for Cadmium.
Data Reference:	Statewide Stream Pollution Trends Study 2008
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	San Francisco Bay Basin Water Quality Control Plan 2007: All waters shall be maintained free of toxic substances in concentrations which are toxic to, or which produce detrimental physiological responses in, human, plant, animal, or aquatic life.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	In freshwater sediments the probable effect concentration (predictive of sediment toxicity for sediment-dwelling organisms) for cadmium is 4.98 mg/Kg dry weight (MacDonald et al. 2000).
Guideline Reference:	Development and evaluation of consensus-based sediment quality guidelines for freshwater ecosystems. Environmental Contamination and Toxicology. 39: 20-31
Spatial Representation:	Data for this line of evidence for Coyote Creek (Santa Clara Co) was collected at 1 monitoring site [Coyote Creek at Montague station (205COY060)]
Temporal Representation:	Data was collected on a single day 6/17/2008.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	SWAMP data collected before September 2008 followed the QAMP (2002), however there may have been overlap in QA with SWAMP QAPP (2008).
QAPP Information Reference(s):	Quality Assurance Management Plan for the State of California's Surface Water Ambient Monitoring Program. Sacramento, CA. State Water Resources Control Board. SWAMP. December 2002 (1st version) Surface Water Ambient Monitoring Program Quality Assurance Program Plan

Line of Evidence (LOE) for Decision ID 61867, Cadmium

Region 2

Coyote Creek (Santa Clara Co.)

LOE ID:	91408
Pollutant:	Cadmium
LOE Subgroup:	Pollutant-Sediment
Matrix:	Sediment
Fraction:	Total
Beneficial Use:	Warm Freshwater Habitat
Number of Samples:	1
Number of Exceedances:	0
Data and Information Type:	PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality:	Water Board staff assessed SWAMP data for Coyote Creek (Santa Clara Co.) to determine beneficial use support and results are as follows: 0 of 1 samples exceed the criterion for Cadmium.
Data Reference:	Statewide Stream Pollution Trends Study 2008
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	San Francisco Bay Basin Water Quality Control Plan 2007: All waters shall be maintained free of toxic substances in concentrations which are toxic to, or which produce detrimental physiological responses in, human, plant, animal, or aquatic life.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	In freshwater sediments the probable effect concentration (predictive of sediment toxicity for sediment-dwelling organisms) for cadmium is 4.98 mg/Kg dry weight (MacDonald et al. 2000).
Guideline Reference:	Development and evaluation of consensus-based sediment quality guidelines for freshwater ecosystems. Environmental Contamination and Toxicology. 39: 20-31
Spatial Representation:	Data for this line of evidence for Coyote Creek (Santa Clara Co) was collected at 1

Temporal Representation:	monitoring site [Coyote Creek at Montague station (205COY060)]
Environmental Conditions:	Data was collected on a single day 6/17/2008.
QAPP Information:	Staff is not aware of any special conditions that might affect interpretation of the data. SWAMP data collected before September 2008 followed the QAMP (2002), however there may have been overlap in QA with SWAMP QAPP (2008).
QAPP Information Reference(s):	Quality Assurance Management Plan for the State of California's Surface Water Ambient Monitoring Program. Sacramento, CA. State Water Resources Control Board. SWAMP. December 2002 (1st version). Surface Water Ambient Monitoring Program Quality Assurance Program Plan

DECISION ID	61868	Region 2
Coyote Creek (Santa Clara Co.)		

Pollutant:	Chlordane
Final Listing Decision:	Do Not List on 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision:	New Decision
Revision Status	Revised
Impairment from Pollutant or Pollution:	Pollutant

Regional Board Staff Conclusion: This pollutant is being considered for placement on the CWA section 303(d) List under section 3.6 of the Listing Policy. Under section 3.6 at least two lines of evidence are necessary to assess listing status for pollutants sediment, and pollutant concentrations in sediment must be associated with sediment toxicity to justify adding that pollutant to the CWA section 303(d) List.

Two lines of evidence are available in the administrative record to assess this pollutant. One of two samples exceed the guideline. Sediment toxicity data are not associated with this decision because they are not relevant to this decision because there is insufficient information based on sediment chemistry.

Based on the readily available data and information, the weight of evidence indicates that there is insufficient justification for placing this water segment-pollutant combination on the CWA section 303(d) List.

This conclusion is based on the staff findings that:

1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy.
2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy.
3. One of two samples exceed the guideline and this sample size is insufficient to determine beneficial use support, with the power and confidence of the Listing Policy. A minimum of 16 samples is needed to determine if a beneficial use is fully supported using table 3.1. Sediment toxicity data are not associated with this decision because the sediment chemistry data are insufficient.
4. Pursuant to section 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.

Regional Board Staff Decision Recommendation: After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be placed on the section 303(d) list. The readily available data and information is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating.

Line of Evidence (LOE) for Decision ID 61868, Chlordane	Region 2
Coyote Creek (Santa Clara Co.)	

LOE ID:	90722
Pollutant:	Chlordane
LOE Subgroup:	Pollutant-Sediment
Matrix:	Sediment

Fraction:	Total
Beneficial Use:	Cold Freshwater Habitat
Number of Samples:	1
Number of Exceedances:	0
Data and Information Type:	PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality:	Zero of 1 samples collected exceeded the criteria for chlordane concentration (Sum of trans-Chlordane, cis-Chlordane, cis-Nonachlor, trans-Nonachlor, and Oxychlordane).
Data Reference:	Statewide Project Urban Pyrethroid Status Monitoring
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	All waters shall be maintained free of toxic substances in concentrations that are lethal to or that produce other detrimental responses in aquatic organisms. Waters shall not contain substances in concentrations that result in the deposition of material that causes nuisance or adversely affects beneficial uses. (Water Quality Control Plan for the San Francisco Bay Basin).
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) - San Francisco Bay Region (Region 2)
Evaluation Guideline:	The Probable Effect Concentration for Chlordane in freshwater sediments is 17.6 ug/kg(MacDonald et al. 2000).
Guideline Reference:	Development and evaluation of consensus-based sediment quality guidelines for freshwater ecosystems. Environmental Contamination and Toxicology. 39: 20-31
Spatial Representation:	Data were collected at the following station 205SUP022 (Coyote Ck @ E Williams St).
Temporal Representation:	The samples were collected on 1/2/2007.
Environmental Conditions:	
QAPP Information:	The SWAMP QAPP (2008) was followed.
QAPP Information Reference(s):	Surface Water Ambient Monitoring Program Quality Assurance Program Plan

Line of Evidence (LOE) for Decision ID 61868, Chlordane
Coyote Creek (Santa Clara Co.)

Region 2

LOE ID:	90713
Pollutant:	Chlordane
LOE Subgroup:	Pollutant-Sediment
Matrix:	Sediment
Fraction:	Total
Beneficial Use:	Cold Freshwater Habitat
Number of Samples:	1
Number of Exceedances:	1
Data and Information Type:	PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality:	1 of 1 samples collected exceeded the criteria for chlordane concentration (Sum of trans-Chlordane, cis-Chlordane, cis-Nonachlor, trans-Nonachlor, and Oxychlordane).
Data Reference:	Statewide Stream Pollution Trends Study 2008
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	All waters shall be maintained free of toxic substances in concentrations that are lethal to or that produce other detrimental responses in aquatic organisms. Waters shall not contain substances in concentrations that result in the deposition of material that causes nuisance or adversely affects beneficial uses. (Water Quality Control Plan for the San Francisco Bay Basin).
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) - San Francisco Bay Region (Region 2)
Evaluation Guideline:	The Probable Effect Concentration for Chlordane in freshwater sediments is 17.6

Guideline Reference: ug/kg(MacDonald et al. 2000).
[Development and evaluation of consensus-based sediment quality guidelines for freshwater ecosystems. Environmental Contamination and Toxicology. 39: 20-31](#)

Spatial Representation: Data were collected at the following station 205COY060 (Coyote Creek at Montague).
 Temporal Representation: The samples were collected on 6/17/2008.
 Environmental Conditions:
 QAPP Information: The SWAMP QAPP (2008) was followed.
 QAPP Information Reference(s): [Surface Water Ambient Monitoring Program Quality Assurance Program Plan](#)

DECISION ID	61869	Region 2
Coyote Creek (Santa Clara Co.)		

Pollutant: Chloride
Final Listing Decision: Do Not List on 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision: New Decision
Revision Status: Revised
Impairment from Pollutant or Pollution: Pollutant

Regional Board Staff Conclusion: This pollutant is being considered for placement on the CWA section 303(d) List under section 3.1 of the Listing Policy. Under section 3.1 a single line of evidence is necessary to assess listing status. One line of evidence is available in the administrative record to assess this pollutant. One of one samples exceed the objective.

Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against placing this water segment-pollutant combination on the CWA section 303(d) List.

This conclusion is based on the staff findings that:

1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy.
2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy.
3. One of one samples exceed the objective and this sample size is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating. A minimum of 16 samples is needed to determine if a beneficial use is fully supported using table 3.1.
4. Pursuant to SECTION 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.

Regional Board Staff Decision Recommendation: After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be placed on the section 303(d) list. The readily available data and information is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating.

Line of Evidence (LOE) for Decision ID 61869, Chloride	Region 2
Coyote Creek (Santa Clara Co.)	

LOE ID: 91410

Pollutant: Chloride
LOE Subgroup: Pollutant-Water
Matrix: Water
Fraction: None

Beneficial Use: Agricultural Supply

Number of Samples: 1
Number of Exceedances: 1

Data and Information Type:	PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality:	State Water Board staff assessed SWAMP data for Coyote Creek (Santa Clara Co.) to determine beneficial use support and results are as follows: 1 of 1 samples exceed the criterion for Chloride.
Data Reference:	Statewide Ref Condition Management Plan 2008
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	Water Quality Control Plan, San Francisco Bay Basin, Chapter III Water Quality Objectives, Section 3.3.22 Constituents of Concern for Municipal and Agricultural Water Supplies states: At a minimum, surface waters designated for use as agricultural supply (AGR) shall not contain concentrations of constituents in excess of the levels specified in Table 3-6. The limit for chloride is 355.0 mg/l.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	
Guideline Reference:	
Spatial Representation:	Data for this line of evidence for Coyote Creek (Santa Clara Co.) was collected at 1 monitoring site [Coyote Creek Hunting Hollows - 205CYCAHH]
Temporal Representation:	Data was collected on a single day 6/10/2008.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	The SWAMP QAPP (2008) was followed.
QAPP Information Reference(s):	Surface Water Ambient Monitoring Program Quality Assurance Program Plan

DECISION ID	61870	Region 2
Coyote Creek (Santa Clara Co.)		

Pollutant:	Chlorpyrifos
Final Listing Decision:	Do Not List on 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision:	New Decision
Revision Status	Revised
Impairment from Pollutant or Pollution:	Pollutant

Regional Board Staff Conclusion: This pollutant is being considered for placement on the CWA section 303(d) List under section 3.6 of the Listing Policy. Under section 3.6 at least two lines of evidence are necessary to assess listing status for pollutants sediment, and pollutant concentrations in sediment must be associated with sediment toxicity to justify adding that pollutant to the CWA section 303(d) List.

Four lines of evidence are available in the administrative record to assess this pollutant. Zero of one samples exceed the guideline. Sediment toxicity data are not associated with this decision because they are not relevant to this decision because there is insufficient information based on sediment chemistry.

Based on the readily available data and information, the weight of evidence indicates that there is insufficient justification for placing this water segment-pollutant combination on the CWA section 303(d) List.

This conclusion is based on the staff findings that:

1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy.
2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy.
3. Zero of one samples exceed the guideline and this sample size is insufficient to determine beneficial use support, with the power and confidence of the Listing Policy. A minimum of 16 samples is needed to determine if a beneficial use is fully supported using table 3.1. Sediment toxicity data are not associated with this decision because the sediment chemistry data are insufficient.
4. Pursuant to section 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.

Regional Board Staff Decision Recommendation: After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be placed on the section 303(d) list. The readily available data and information is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating.

**Line of Evidence (LOE) for Decision ID 61870, Chlorpyrifos
Coyote Creek (Santa Clara Co.)**

Region 2

LOE ID: 91425

Pollutant: Chlorpyrifos
LOE Subgroup: Pollutant-Sediment
Matrix: Sediment
Fraction: Total

Beneficial Use: Cold Freshwater Habitat

Number of Samples: 0
Number of Exceedances: 0

Data and Information Type: PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality: One of one sample result was not used in the assessment because the sample was non-detect and the laboratory data method detection limit was above the guideline and therefore the results could not be quantified with the level of certainty required by the Listing Policy.

Data Reference: [Statewide Project Urban Pyrethroid Status Monitoring](#)

SWAMP Data: SWAMP

Water Quality Objective/Criterion: San Francisco Bay Basin Water Quality Control Plan 2007: All waters shall be maintained free of toxic substances in concentrations which are toxic to, or which produce detrimental physiological responses in, human, plant, animal, or aquatic life.

Objective/Criterion Reference: [Water Quality Control Plan \(Basin Plan\) San Francisco Bay Basin \(Region 2\)](#)

Evaluation Guideline: There is no chlorpyrifos evaluation guideline specific to "sediment, interstitial water" (pore water). The following evaluation guideline was used to evaluate an exceedance in water quality standards: the freshwater criterion continuous concentration to protect aquatic organisms is 0.015 ug/L (Siepmann and Finlayson 2000, with minor corrections to significant figures as described in Beaulaurier et al., 2005).?

Guideline Reference: [Water quality criteria for diazinon and chlorpyrifos. Administrative Report 00-3. Rancho Cordova, CA: Pesticide Investigations Unit, Office of Spills and Response. CA Department of Fish and Game \(with minor corrections to significant figures as described in Beaulaurier et al., 2005\).](#)

Spatial Representation: Data for this line of evidence for Coyote Creek (Santa Clara Co.) was collected at 1 monitoring site [Coyote Ck @ E Williams St station (205SUP022).]

Temporal Representation: Data was collected on a single day 1/2/2007.

Environmental Conditions: Staff is not aware of any special conditions that might affect interpretation of the data.

QAPP Information: The SWAMP QAPP (2008) was followed.

QAPP Information Reference(s): [Quality Assurance Management Plan for the State of California's Surface Water Ambient Monitoring Program. Sacramento, CA. State Water Resources Control Board. SWAMP. December 2002 \(1st version\)](#)

**Line of Evidence (LOE) for Decision ID 61870, Chlorpyrifos
Coyote Creek (Santa Clara Co.)**

Region 2

LOE ID: 91424

Pollutant: Chlorpyrifos
LOE Subgroup: Pollutant-Sediment

Matrix:	Sediment
Fraction:	Total
Beneficial Use:	Warm Freshwater Habitat
Number of Samples:	0
Number of Exceedances:	0
Data and Information Type:	PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality:	One of one sample result was not used in the assessment because the sample was non-detect and the laboratory data method detection limit was above the guideline and therefore the results could not be quantified with the level of certainty required by the Listing Policy.
Data Reference:	Statewide Project Urban Pyrethroid Status Monitoring
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	San Francisco Bay Basin Water Quality Control Plan 2007: All waters shall be maintained free of toxic substances in concentrations which are toxic to, or which produce detrimental physiological responses in, human, plant, animal, or aquatic life.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	There is no chlorpyrifos evaluation guideline specific to "sediment, interstitial water" (pore water). The following evaluation guideline was used to evaluate an exceedance in water quality standards: the freshwater criterion continuous concentration to protect aquatic organisms is 0.015 ug/L (Siepmann and Finlayson 2000, with minor corrections to significant figures as described in Beaulaurier et al., 2005).?
Guideline Reference:	Water quality criteria for diazinon and chlorpyrifos. Administrative Report 00-3. Rancho Cordova, CA: Pesticide Investigations Unit, Office of Spills and Response. CA Department of Fish and Game (with minor corrections to significant figures as described in Beaulaurier et al., 2005).
Spatial Representation:	Data for this line of evidence for Coyote Creek (Santa Clara Co.) was collected at 1 monitoring site [Coyote Ck @ E Williams St station (205SUP022).]
Temporal Representation:	Data was collected on a single day 1/2/2007.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	The SWAMP QAPP (2008) was followed.
QAPP Information Reference(s):	Quality Assurance Management Plan for the State of California's Surface Water Ambient Monitoring Program. Sacramento, CA. State Water Resources Control Board. SWAMP. December 2002 (1st version)

Line of Evidence (LOE) for Decision ID 61870, Chlorpyrifos
Coyote Creek (Santa Clara Co.)

Region 2

LOE ID:	91411
Pollutant:	Chlorpyrifos
LOE Subgroup:	Pollutant-Sediment
Matrix:	Sediment
Fraction:	Total
Beneficial Use:	Warm Freshwater Habitat
Number of Samples:	1
Number of Exceedances:	0
Data and Information Type:	PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality:	Water Board staff assessed SWAMP data for Coyote Creek (Santa Clara Co.) to determine beneficial use support and results are as follows: 0 of 1 samples exceed the criterion for Chlorpyrifos.
Data Reference:	Statewide Stream Pollution Trends Study 2008

SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	San Francisco Bay Basin Water Quality Control Plan 2007: All waters shall be maintained free of toxic substances in concentrations which are toxic to, or which produce detrimental physiological responses in, human, plant, animal, or aquatic life.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	The evaluation guideline for chlorpyrifos is the median lethal concentration (LC50) of 1.77 ug/g and is normalized by the percentage of organic carbon in the sediment sample (Amweg and Weston, 2007).
Guideline Reference:	Whole-sediment toxicity identification evaluation tools for pyrethroid insecticides: I. piperonyl butoxide addition. Environ. Toxicol. Chem. 26:2389-2396.
Spatial Representation:	Data for this line of evidence for Coyote Creek (Santa Clara Co) was collected at 1 monitoring site [Coyote Creek at Montague station (205COY060)]
Temporal Representation:	Data was collected on a single day 6/17/2008.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	SWAMP data collected before September 2008 followed the QAMP (2002), however there may have been overlap in QA with SWAMP QAPP (2008).
QAPP Information Reference(s):	Quality Assurance Management Plan for the State of California's Surface Water Ambient Monitoring Program. Sacramento, CA. State Water Resources Control Board. SWAMP. December 2002 (1st version) Surface Water Ambient Monitoring Program Quality Assurance Program Plan

**Line of Evidence (LOE) for Decision ID 61870, Chlorpyrifos
Coyote Creek (Santa Clara Co.)**

Region 2

LOE ID:	91423
Pollutant:	Chlorpyrifos
LOE Subgroup:	Pollutant-Sediment
Matrix:	Sediment
Fraction:	Total
Beneficial Use:	Cold Freshwater Habitat
Number of Samples:	1
Number of Exceedances:	0
Data and Information Type:	PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality:	Water Board staff assessed SWAMP data for Coyote Creek (Santa Clara Co.) to determine beneficial use support and results are as follows: 0 of 1 samples exceed the criterion for Chlorpyrifos.
Data Reference:	Statewide Stream Pollution Trends Study 2008
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	San Francisco Bay Basin Water Quality Control Plan 2007: All waters shall be maintained free of toxic substances in concentrations which are toxic to, or which produce detrimental physiological responses in, human, plant, animal, or aquatic life.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	The evaluation guideline for chlorpyrifos is the median lethal concentration (LC50) of 1.77 ug/g and is normalized by the percentage of organic carbon in the sediment sample (Amweg and Weston, 2007).
Guideline Reference:	Whole-sediment toxicity identification evaluation tools for pyrethroid insecticides: I. piperonyl butoxide addition. Environ. Toxicol. Chem. 26:2389-2396.
Spatial Representation:	Data for this line of evidence for Coyote Creek (Santa Clara Co) was collected at 1 monitoring site [Coyote Creek at Montague station (205COY060)]
Temporal Representation:	Data was collected on a single day 6/17/2008.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.

QAPP Information: SWAMP data collected before September 2008 followed the QAMP (2002), however there may have been overlap in QA with SWAMP QAPP (2008).

QAPP Information Reference(s): [Quality Assurance Management Plan for the State of California's Surface Water Ambient Monitoring Program. Sacramento, CA. State Water Resources Control Board. SWAMP. December 2002 \(1st version\)](#)
[Surface Water Ambient Monitoring Program Quality Assurance Program Plan](#)

DECISION ID	61871	Region 2
Coyote Creek (Santa Clara Co.)		

Pollutant: Chromium

Final Listing Decision: Do Not List on 303(d) list (TMDL required list)

Last Listing Cycle's Final Listing Decision: New Decision

Revision Status: Revised

Impairment from Pollutant or Pollution: Pollutant

Regional Board Staff Conclusion: This pollutant is being considered for placement on the CWA section 303(d) List under section 3.6 of the Listing Policy. Under section 3.6 at least two lines of evidence are necessary to assess listing status for pollutants sediment, and pollutant concentrations in sediment must be associated with sediment toxicity to justify adding that pollutant to the CWA section 303(d) List.

Two lines of evidence are available in the administrative record to assess this pollutant. Zero of one samples exceed the guideline. Sediment toxicity data are not associated with this decision because they are not relevant to this decision because there is insufficient information based on sediment chemistry.

Based on the readily available data and information, the weight of evidence indicates that there is insufficient justification for placing this water segment-pollutant combination on the CWA section 303(d) List.

This conclusion is based on the staff findings that:

1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy.
2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy.
3. Zero of one samples exceed the guideline and this sample size is insufficient to determine beneficial use support, with the power and confidence of the Listing Policy. A minimum of 16 samples is needed to determine if a beneficial use is fully supported using table 3.1. Sediment toxicity data are not associated with this decision because the sediment chemistry data are insufficient.
4. Pursuant to section 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.

Regional Board Staff Decision Recommendation: After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be placed on the section 303(d) list. The readily available data and information is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating.

Line of Evidence (LOE) for Decision ID 61871, Chromium	Region 2
Coyote Creek (Santa Clara Co.)	

LOE ID: 91426

Pollutant: Chromium

LOE Subgroup: Pollutant-Sediment

Matrix: Sediment

Fraction: Total

Beneficial Use: Warm Freshwater Habitat

Number of Samples:	1
Number of Exceedances:	0
Data and Information Type:	PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality:	Water Board staff assessed SWAMP data for Coyote Creek (Santa Clara Co.) to determine beneficial use support and results are as follows: 0 of 1 samples exceed the criterion for Chromium.
Data Reference:	Statewide Stream Pollution Trends Study 2008
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	San Francisco Bay Basin Water Quality Control Plan 2007: All waters shall be maintained free of toxic substances in concentrations which are toxic to, or which produce detrimental physiological responses in, human, plant, animal, or aquatic life.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	In freshwater sediments the probable effect concentration (predictive of sediment toxicity for sediment-dwelling organisms) for chromium is 111 mg/Kg dry weight (MacDonald et al. 2000).
Guideline Reference:	Development and evaluation of consensus-based sediment quality guidelines for freshwater ecosystems. Environmental Contamination and Toxicology. 39: 20-31
Spatial Representation:	Data for this line of evidence for Coyote Creek (Santa Clara Co) was collected at 1 monitoring site [Coyote Creek at Montague station (205COY060)]
Temporal Representation:	Data was collected on a single day 6/17/2008.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	SWAMP data collected before September 2008 followed the QAMP (2002), however there may have been overlap in QA with SWAMP QAPP (2008).
QAPP Information Reference(s):	Quality Assurance Management Plan for the State of California's Surface Water Ambient Monitoring Program. Sacramento, CA. State Water Resources Control Board. SWAMP. December 2002 (1st version) Surface Water Ambient Monitoring Program Quality Assurance Program Plan

Line of Evidence (LOE) for Decision ID 61871, Chromium
Coyote Creek (Santa Clara Co.)

Region 2

LOE ID:	91427
Pollutant:	Chromium
LOE Subgroup:	Pollutant-Sediment
Matrix:	Sediment
Fraction:	Total
Beneficial Use:	Cold Freshwater Habitat
Number of Samples:	1
Number of Exceedances:	0
Data and Information Type:	PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality:	Water Board staff assessed SWAMP data for Coyote Creek (Santa Clara Co.) to determine beneficial use support and results are as follows: 0 of 1 samples exceed the criterion for Chromium.
Data Reference:	Statewide Stream Pollution Trends Study 2008
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	San Francisco Bay Basin Water Quality Control Plan 2007: All waters shall be maintained free of toxic substances in concentrations which are toxic to, or which produce detrimental physiological responses in, human, plant, animal, or aquatic life.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)

Evaluation Guideline:	In freshwater sediments the probable effect concentration (predictive of sediment toxicity for sediment-dwelling organisms) for chromium is 111 mg/Kg dry weight (MacDonald et al. 2000).
Guideline Reference:	Development and evaluation of consensus-based sediment quality guidelines for freshwater ecosystems. Environmental Contamination and Toxicology. 39: 20-31
Spatial Representation:	Data for this line of evidence for Coyote Creek (Santa Clara Co) was collected at 1 monitoring site [Coyote Creek at Montague station (205COY060)]
Temporal Representation:	Data was collected on a single day 6/17/2008.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	SWAMP data collected before September 2008 followed the QAMP (2002), however there may have been overlap in QA with SWAMP QAPP (2008).
QAPP Information Reference(s):	Quality Assurance Management Plan for the State of California's Surface Water Ambient Monitoring Program. Sacramento, CA. State Water Resources Control Board. SWAMP. December 2002 (1st version) Surface Water Ambient Monitoring Program Quality Assurance Program Plan

DECISION ID	61872	Region 2
Coyote Creek (Santa Clara Co.)		

Pollutant:	Chrysene (C1-C4)
Final Listing Decision:	Do Not List on 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision:	New Decision
Revision Status	Revised
Impairment from Pollutant or Pollution:	Pollutant

Regional Board Staff Conclusion:	This pollutant is being considered for placement on the CWA section 303(d) List under section 3.6 of the Listing Policy. Under section 3.6 at least two lines of evidence are necessary to assess listing status for pollutants sediment, and pollutant concentrations in sediment must be associated with sediment toxicity to justify adding that pollutant to the CWA section 303(d) List.
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Two lines of evidence are available in the administrative record to assess this pollutant. Zero of one samples exceed the guideline. Sediment toxicity data are not associated with this decision because they are not relevant to this decision because there is insufficient information based on sediment chemistry.

Based on the readily available data and information, the weight of evidence indicates that there is insufficient justification for placing this water segment-pollutant combination on the CWA section 303(d) List.

This conclusion is based on the staff findings that:

1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy.
2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy.
3. Zero of one samples exceed the guideline and this sample size is insufficient to determine beneficial use support, with the power and confidence of the Listing Policy. A minimum of 16 samples is needed to determine if a beneficial use is fully supported using table 3.1. Sediment toxicity data are not associated with this decision because the sediment chemistry data are insufficient.
4. Pursuant to section 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.

Regional Board Staff Decision Recommendation:	After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be placed on the section 303(d) list. The readily available data and information is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating.
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Line of Evidence (LOE) for Decision ID 61872, Chrysene (C1-C4)	Region 2
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Coyote Creek (Santa Clara Co.)

LOE ID:	91439
Pollutant:	Chrysene (C1-C4)
LOE Subgroup:	Pollutant-Sediment
Matrix:	Sediment
Fraction:	Total
Beneficial Use:	Warm Freshwater Habitat
Number of Samples:	1
Number of Exceedances:	0
Data and Information Type:	PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality:	Water Board staff assessed SWAMP data for Coyote Creek (Santa Clara Co.) to determine beneficial use support and results are as follows: 0 of 1 samples exceed the criterion for Chrysene.
Data Reference:	Statewide Stream Pollution Trends Study 2008
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	San Francisco Bay Basin Water Quality Control Plan 2007: All waters shall be maintained free of toxic substances in concentrations which are toxic to, or which produce detrimental physiological responses in, human, plant, animal, or aquatic life.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	In freshwater sediments the probable effects level (predictive of sediment toxicity for sediment-dwelling organisms) for Chrysene is 1290 ug/Kg dry weight (Macdonald et al. 2000)
Guideline Reference:	Development and evaluation of consensus-based sediment quality guidelines for freshwater ecosystems. Environmental Contamination and Toxicology. 39: 20-31
Spatial Representation:	Data for this line of evidence for Coyote Creek (Santa Clara Co) was collected at 1 monitoring site [Coyote Creek at Montague station (205COY060)]
Temporal Representation:	Data was collected on a single day 6/17/2008.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	SWAMP data collected before September 2008 followed the QAMP (2002), however there may have been overlap in QA with SWAMP QAPP (2008).
QAPP Information Reference(s):	Quality Assurance Management Plan for the State of California's Surface Water Ambient Monitoring Program. Sacramento, CA. State Water Resources Control Board. SWAMP. December 2002 (1st version). Surface Water Ambient Monitoring Program Quality Assurance Program Plan

Line of Evidence (LOE) for Decision ID 61872, Chrysene (C1-C4)**Region 2****Coyote Creek (Santa Clara Co.)**

LOE ID:	91440
Pollutant:	Chrysene (C1-C4)
LOE Subgroup:	Pollutant-Sediment
Matrix:	Sediment
Fraction:	Total
Beneficial Use:	Cold Freshwater Habitat
Number of Samples:	1
Number of Exceedances:	0
Data and Information Type:	PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality:	Water Board staff assessed SWAMP data for Coyote Creek (Santa Clara Co.) to determine beneficial use support and results are as follows: 0 of 1 samples exceed the

Data Reference:	<p>criterion for Chrysene.</p> <p>Statewide Stream Pollution Trends Study 2008</p>
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	San Francisco Bay Basin Water Quality Control Plan 2007: All waters shall be maintained free of toxic substances in concentrations which are toxic to, or which produce detrimental physiological responses in, human, plant, animal, or aquatic life.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	In freshwater sediments the probable effects level (predictive of sediment toxicity for sediment-dwelling organisms) for Chrysene is 1290 ug/Kg dry weight (Macdonald et al. 2000)
Guideline Reference:	Development and evaluation of consensus-based sediment quality guidelines for freshwater ecosystems. Environmental Contamination and Toxicology. 39: 20-31
Spatial Representation:	Data for this line of evidence for Coyote Creek (Santa Clara Co) was collected at 1 monitoring site [Coyote Creek at Montague station (205COY060)]
Temporal Representation:	Data was collected on a single day 6/17/2008.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	SWAMP data collected before September 2008 followed the QAMP (2002), however there may have been overlap in QA with SWAMP QAPP (2008).
QAPP Information Reference(s):	<p>Quality Assurance Management Plan for the State of California's Surface Water Ambient Monitoring Program. Sacramento, CA. State Water Resources Control Board. SWAMP. December 2002 (1st version)</p> <p>Surface Water Ambient Monitoring Program Quality Assurance Program Plan</p>

DECISION ID	61873	Region 2
Coyote Creek (Santa Clara Co.)		

Pollutant:	Copper
Final Listing Decision:	Do Not List on 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision:	New Decision
Revision Status	Revised
Impairment from Pollutant or Pollution:	Pollutant

Regional Board Staff Conclusion: This pollutant is being considered for placement on the CWA section 303(d) List under section 3.6 of the Listing Policy. Under section 3.6 at least two lines of evidence are necessary to assess listing status for pollutants sediment, and pollutant concentrations in sediment must be associated with sediment toxicity to justify adding that pollutant to the CWA section 303(d) List.

Two lines of evidence are available in the administrative record to assess this pollutant. Zero of one samples exceed the guideline. Sediment toxicity data are not associated with this decision because they are not relevant to this decision because there is insufficient information based on sediment chemistry.

Based on the readily available data and information, the weight of evidence indicates that there is insufficient justification for placing this water segment-pollutant combination on the CWA section 303(d) List.

This conclusion is based on the staff findings that:

1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy.
2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy.
3. Zero of one samples exceed the guideline and this sample size is insufficient to determine beneficial use support, with the power and confidence of the Listing Policy. A minimum of 16 samples is needed to determine if a beneficial use is fully supported using table 3.1. Sediment toxicity data are not associated with this decision because the sediment chemistry data are insufficient.
4. Pursuant to section 3.11 of the Listing Policy, no additional data and information are available

indicating that standards are not met.

Regional Board Staff Decision Recommendation: After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be placed on the section 303(d) list. The readily available data and information is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating.

**Line of Evidence (LOE) for Decision ID 61873, Copper
Coyote Creek (Santa Clara Co.)**

Region 2

LOE ID: 91441

Pollutant: Copper
LOE Subgroup: Pollutant-Sediment
Matrix: Sediment
Fraction: Total

Beneficial Use: Warm Freshwater Habitat

Number of Samples: 1
Number of Exceedances: 0

Data and Information Type: PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality: Water Board staff assessed SWAMP data for Coyote Creek (Santa Clara Co.) to determine beneficial use support and results are as follows: 0 of 1 samples exceed the criterion for Copper.

Data Reference: [Statewide Stream Pollution Trends Study 2008](#)

SWAMP Data: SWAMP

Water Quality Objective/Criterion: San Francisco Bay Basin Water Quality Control Plan 2007: All waters shall be maintained free of toxic substances in concentrations which are toxic to, or which produce detrimental physiological responses in, human, plant, animal, or aquatic life.

Objective/Criterion Reference: [Water Quality Control Plan \(Basin Plan\) San Francisco Bay Basin \(Region 2\)](#)

Evaluation Guideline: In freshwater sediments the probable effect concentration (predictive of sediment toxicity for sediment-dwelling organisms) for copper is 149 mg/Kg dry weight (MacDonald et al. 2000).

Guideline Reference: [Development and evaluation of consensus-based sediment quality guidelines for freshwater ecosystems. Environmental Contamination and Toxicology. 39: 20-31](#)

Spatial Representation: Data for this line of evidence for Coyote Creek (Santa Clara Co) was collected at 1 monitoring site [Coyote Creek at Montague station (205COY060)]

Temporal Representation: Data was collected on a single day 6/17/2008.

Environmental Conditions: Staff is not aware of any special conditions that might affect interpretation of the data.

QAPP Information: SWAMP data collected before September 2008 followed the QAMP (2002), however there may have been overlap in QA with SWAMP QAPP (2008).

QAPP Information Reference(s): [Quality Assurance Management Plan for the State of California's Surface Water Ambient Monitoring Program. Sacramento, CA. State Water Resources Control Board. SWAMP. December 2002 \(1st version\)](#)
[Surface Water Ambient Monitoring Program Quality Assurance Program Plan](#)

**Line of Evidence (LOE) for Decision ID 61873, Copper
Coyote Creek (Santa Clara Co.)**

Region 2

LOE ID: 91442

Pollutant: Copper
LOE Subgroup: Pollutant-Sediment
Matrix: Sediment

Fraction:	Total
Beneficial Use:	Cold Freshwater Habitat
Number of Samples:	1
Number of Exceedances:	0
Data and Information Type:	PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality:	Water Board staff assessed SWAMP data for Coyote Creek (Santa Clara Co.) to determine beneficial use support and results are as follows: 0 of 1 samples exceed the criterion for Copper.
Data Reference:	Statewide Stream Pollution Trends Study 2008
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	San Francisco Bay Basin Water Quality Control Plan 2007: All waters shall be maintained free of toxic substances in concentrations which are toxic to, or which produce detrimental physiological responses in, human, plant, animal, or aquatic life.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	In freshwater sediments the probable effect concentration (predictive of sediment toxicity for sediment-dwelling organisms) for copper is 149 mg/Kg dry weight (MacDonald et al. 2000).
Guideline Reference:	Development and evaluation of consensus-based sediment quality guidelines for freshwater ecosystems. Environmental Contamination and Toxicology. 39: 20-31
Spatial Representation:	Data for this line of evidence for Coyote Creek (Santa Clara Co) was collected at 1 monitoring site [Coyote Creek at Montague station (205COY060)]
Temporal Representation:	Data was collected on a single day 6/17/2008.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	SWAMP data collected before September 2008 followed the QAMP (2002), however there may have been overlap in QA with SWAMP QAPP (2008).
QAPP Information Reference(s):	Quality Assurance Management Plan for the State of California's Surface Water Ambient Monitoring Program. Sacramento, CA. State Water Resources Control Board. SWAMP. December 2002 (1st version) Surface Water Ambient Monitoring Program Quality Assurance Program Plan

DECISION ID	61874	Region 2
Coyote Creek (Santa Clara Co.)		

Pollutant:	Cyfluthrin
Final Listing Decision:	Do Not List on 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision:	New Decision
Revision Status	Revised
Impairment from Pollutant or Pollution:	Pollutant
Regional Board Staff Conclusion:	<p>This pollutant is being considered for placement on the CWA section 303(d) List under section 3.6 of the Listing Policy. Under section 3.6 at least two lines of evidence are necessary to assess listing status for pollutants sediment, and pollutant concentrations in sediment must be associated with sediment toxicity to justify adding that pollutant to the CWA section 303(d) List.</p> <p>Four lines of evidence are available in the administrative record to assess this pollutant. Zero of two samples exceed the guideline. Sediment toxicity data are not associated with this decision because they are not relevant to this decision because there is insufficient information based on sediment chemistry.</p> <p>Based on the readily available data and information, the weight of evidence indicates that there is insufficient justification for placing this water segment-pollutant combination on the CWA section 303(d) List.</p>

This conclusion is based on the staff findings that:

1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy.
2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy.
3. Zero of two samples exceed the guideline and this sample size is insufficient to determine beneficial use support, with the power and confidence of the Listing Policy. A minimum of 16 samples is needed to determine if a beneficial use is fully supported using table 3.1. Sediment toxicity data are not associated with this decision because the sediment chemistry data are insufficient.
4. Pursuant to section 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.

Regional Board Staff Decision Recommendation: After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be placed on the section 303(d) list. The readily available data and information is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating.

**Line of Evidence (LOE) for Decision ID 61874, Cyfluthrin
Coyote Creek (Santa Clara Co.)**

Region 2

LOE ID:	91456
Pollutant:	Cyfluthrin
LOE Subgroup:	Pollutant-Sediment
Matrix:	Sediment
Fraction:	Total
Beneficial Use:	Warm Freshwater Habitat
Number of Samples:	1
Number of Exceedances:	0
Data and Information Type:	PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality:	Water Board staff assessed SWAMP data for Coyote Creek (Santa Clara Co.) to determine beneficial use support and results are as follows: 0 of 1 samples exceed the criterion for Cyfluthrin, total.
Data Reference:	Statewide Stream Pollution Trends Study 2008
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	San Francisco Bay Basin Water Quality Control Plan 2007: All waters shall be maintained free of toxic substances in concentrations which are toxic to, or which produce detrimental physiological responses in, human, plant, animal, or aquatic life.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	The evaluation guideline for cyfluthrin is the median lethal concentration (LC50) of 1.1 ug/g and is normalized by the percentage of organic carbon in the sediment sample. The LC50 1.1 ug/g is the geometric mean of LC50 values for cyfluthrin from Amweg et al. (2005).
Guideline Reference:	Use and Toxicity of Pyrethroid Pesticides in the Central Valley, California, USA. Environmental Toxicology and Chemistry, 24:966-972, with erratum 24:No. 5
Spatial Representation:	Data for this line of evidence for Coyote Creek (Santa Clara Co) was collected at 1 monitoring site [Coyote Creek at Montague station (205COY060)]
Temporal Representation:	Data was collected on a single day 6/17/2008.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	SWAMP data collected before September 2008 followed the QAMP (2002), however there may have been overlap in QA with SWAMP QAPP (2008).
QAPP Information Reference(s):	Quality Assurance Management Plan for the State of California's Surface Water Ambient Monitoring Program. Sacramento, CA. State Water Resources Control Board. SWAMP. December 2002 (1st version)

**Line of Evidence (LOE) for Decision ID 61874, Cyfluthrin
Coyote Creek (Santa Clara Co.)**

Region 2

LOE ID:	91443
Pollutant:	Cyfluthrin
LOE Subgroup:	Pollutant-Sediment
Matrix:	Sediment
Fraction:	Total
Beneficial Use:	Warm Freshwater Habitat
Number of Samples:	1
Number of Exceedances:	0
Data and Information Type:	PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality:	Water Board staff assessed SWAMP data for Coyote Creek (Santa Clara Co.) to determine beneficial use support and results are as follows: 0 of 1 samples exceed the criterion for Cyfluthrin, total.
Data Reference:	Statewide Project Urban Pyrethroid Status Monitoring
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	San Francisco Bay Basin Water Quality Control Plan 2007: All waters shall be maintained free of toxic substances in concentrations which are toxic to, or which produce detrimental physiological responses in, human, plant, animal, or aquatic life.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	The evaluation guideline for cyfluthrin is the median lethal concentration (LC50) of 1.1 ug/g and is normalized by the percentage of organic carbon in the sediment sample. The LC50 1.1 ug/g is the geometric mean of LC50 values for cyfluthrin from Amweg et al. (2005).
Guideline Reference:	Use and Toxicity of Pyrethroid Pesticides in the Central Valley, California, USA. Environmental Toxicology and Chemistry, 24:966-972, with erratum 24:No. 5
Spatial Representation:	Data for this line of evidence for Coyote Creek (Santa Clara Co.) was collected at 1 monitoring site [Coyote Ck @ E Williams St station (205SUP022).]
Temporal Representation:	Data was collected on a single day 1/2/2007.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	The SWAMP QAPP (2008) was followed.
QAPP Information Reference(s):	Quality Assurance Management Plan for the State of California's Surface Water Ambient Monitoring Program. Sacramento, CA. State Water Resources Control Board. SWAMP. December 2002 (1st version)

**Line of Evidence (LOE) for Decision ID 61874, Cyfluthrin
Coyote Creek (Santa Clara Co.)**

Region 2

LOE ID:	91455
Pollutant:	Cyfluthrin
LOE Subgroup:	Pollutant-Sediment
Matrix:	Sediment
Fraction:	Total
Beneficial Use:	Cold Freshwater Habitat
Number of Samples:	1
Number of Exceedances:	0

Data and Information Type:	PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality:	Water Board staff assessed SWAMP data for Coyote Creek (Santa Clara Co.) to determine beneficial use support and results are as follows: 0 of 1 samples exceed the criterion for Cyfluthrin, total.
Data Reference:	Statewide Project Urban Pyrethroid Status Monitoring
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	San Francisco Bay Basin Water Quality Control Plan 2007: All waters shall be maintained free of toxic substances in concentrations which are toxic to, or which produce detrimental physiological responses in, human, plant, animal, or aquatic life.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	The evaluation guideline for cyfluthrin is the median lethal concentration (LC50) of 1.1 ug/g and is normalized by the percentage of organic carbon in the sediment sample. The LC50 1.1 ug/g is the geometric mean of LC50 values for cyfluthrin from Amweg et al. (2005).
Guideline Reference:	Use and Toxicity of Pyrethroid Pesticides in the Central Valley, California, USA. Environmental Toxicology and Chemistry, 24:966-972, with erratum 24:No. 5
Spatial Representation:	Data for this line of evidence for Coyote Creek (Santa Clara Co.) was collected at 1 monitoring site [Coyote Ck @ E Williams St station (205SUP022).]
Temporal Representation:	Data was collected on a single day 1/2/2007.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	The SWAMP QAPP (2008) was followed.
QAPP Information Reference(s):	Quality Assurance Management Plan for the State of California's Surface Water Ambient Monitoring Program, Sacramento, CA, State Water Resources Control Board, SWAMP, December 2002 (1st version)

Line of Evidence (LOE) for Decision ID 61874, Cyfluthrin
Coyote Creek (Santa Clara Co.)

Region 2

LOE ID:	91457
Pollutant:	Cyfluthrin
LOE Subgroup:	Pollutant-Sediment
Matrix:	Sediment
Fraction:	Total
Beneficial Use:	Cold Freshwater Habitat
Number of Samples:	1
Number of Exceedances:	0
Data and Information Type:	PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality:	Water Board staff assessed SWAMP data for Coyote Creek (Santa Clara Co.) to determine beneficial use support and results are as follows: 0 of 1 samples exceed the criterion for Cyfluthrin, total.
Data Reference:	Statewide Stream Pollution Trends Study 2008
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	San Francisco Bay Basin Water Quality Control Plan 2007: All waters shall be maintained free of toxic substances in concentrations which are toxic to, or which produce detrimental physiological responses in, human, plant, animal, or aquatic life.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	The evaluation guideline for cyfluthrin is the median lethal concentration (LC50) of 1.1 ug/g and is normalized by the percentage of organic carbon in the sediment sample. The LC50 1.1 ug/g is the geometric mean of LC50 values for cyfluthrin from Amweg et al. (2005).
Guideline Reference:	Use and Toxicity of Pyrethroid Pesticides in the Central Valley, California, USA.

Spatial Representation: Data for this line of evidence for Coyote Creek (Santa Clara Co) was collected at 1 monitoring site [Coyote Creek at Montague station (205COY060)]

Temporal Representation: Data was collected on a single day 6/17/2008.

Environmental Conditions: Staff is not aware of any special conditions that might affect interpretation of the data.

QAPP Information: SWAMP data collected before September 2008 followed the QAMP (2002), however there may have been overlap in QA with SWAMP QAPP (2008).

QAPP Information Reference(s): [Quality Assurance Management Plan for the State of California's Surface Water Ambient Monitoring Program, Sacramento, CA, State Water Resources Control Board, SWAMP, December 2002 \(1st version\)](#)
[Surface Water Ambient Monitoring Program Quality Assurance Program Plan](#)

DECISION ID	61875	Region 2
Coyote Creek (Santa Clara Co.)		

Pollutant: Cyhalothrin, Lambda

Final Listing Decision: Do Not List on 303(d) list (TMDL required list)

Last Listing Cycle's Final Listing Decision: New Decision

Revision Status: Revised

Impairment from Pollutant or Pollution: Pollutant

Regional Board Staff Conclusion: This pollutant is being considered for placement on the CWA section 303(d) List under section 3.6 of the Listing Policy. Under section 3.6 at least two lines of evidence are necessary to assess listing status for pollutants sediment, and pollutant concentrations in sediment must be associated with sediment toxicity to justify adding that pollutant to the CWA section 303(d) List.

Four lines of evidence are available in the administrative record to assess this pollutant. Zero of two samples exceed the guideline. Sediment toxicity data are not associated with this decision because they are not relevant to this decision because there is insufficient information based on sediment chemistry.

Based on the readily available data and information, the weight of evidence indicates that there is insufficient justification for placing this water segment-pollutant combination on the CWA section 303(d) List.

This conclusion is based on the staff findings that:

1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy.
2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy.
3. Zero of two samples exceed the guideline and this sample size is insufficient to determine beneficial use support, with the power and confidence of the Listing Policy. A minimum of 16 samples is needed to determine if a beneficial use is fully supported using table 3.1. Sediment toxicity data are not associated with this decision because the sediment chemistry data are insufficient.
4. Pursuant to section 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.

Regional Board Staff Decision Recommendation: After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be placed on the section 303(d) list. The readily available data and information is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating.

Line of Evidence (LOE) for Decision ID 61875, Cyhalothrin, Lambda	Region 2
Coyote Creek (Santa Clara Co.)	

LOE ID: 91412

Pollutant:	Cyhalothrin, Lambda
LOE Subgroup:	Pollutant-Sediment
Matrix:	Sediment
Fraction:	Total
Beneficial Use:	Warm Freshwater Habitat
Number of Samples:	1
Number of Exceedances:	0
Data and Information Type:	PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality:	Water Board staff assessed SWAMP data for Coyote Creek (Santa Clara Co.) to determine beneficial use support and results are as follows: 0 of 1 samples exceed the criterion for Cyhalothrin, lambda, total.
Data Reference:	Statewide Stream Pollution Trends Study 2008
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	San Francisco Bay Basin Water Quality Control Plan 2007: All waters shall be maintained free of toxic substances in concentrations which are toxic to, or which produce detrimental physiological responses in, human, plant, animal, or aquatic life.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	The evaluation guideline for lambda-cyhalothrin is the median lethal concentration (LC50) of 0.44 ug/g and is normalized by the percentage of organic carbon in the sediment sample. The LC50 0.44 ug/g is the geometric mean of LC50 values for lambda-cyhalothrin from Amweg et al. (2005).
Guideline Reference:	Use and Toxicity of Pyrethroid Pesticides in the Central Valley, California, USA. Environmental Toxicology and Chemistry, 24:966-972, with erratum 24:No. 5
Spatial Representation:	Data for this line of evidence for Coyote Creek (Santa Clara Co) was collected at 1 monitoring site [Coyote Creek at Montague station (205COY060)]
Temporal Representation:	Data was collected on a single day 6/17/2008.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	SWAMP data collected before September 2008 followed the QAMP (2002), however there may have been overlap in QA with SWAMP QAPP (2008).
QAPP Information Reference(s):	Quality Assurance Management Plan for the State of California's Surface Water Ambient Monitoring Program. Sacramento, CA. State Water Resources Control Board. SWAMP. December 2002 (1st version). Surface Water Ambient Monitoring Program Quality Assurance Program Plan

**Line of Evidence (LOE) for Decision ID 61875, Cyhalothrin, Lambda
Coyote Creek (Santa Clara Co.)**

Region 2

LOE ID:	91459
Pollutant:	Cyhalothrin, Lambda
LOE Subgroup:	Pollutant-Sediment
Matrix:	Sediment
Fraction:	Total
Beneficial Use:	Cold Freshwater Habitat
Number of Samples:	1
Number of Exceedances:	0
Data and Information Type:	PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality:	Water Board staff assessed SWAMP data for Coyote Creek (Santa Clara Co.) to determine beneficial use support and results are as follows: 0 of 1 samples exceed the criterion for Cyhalothrin, lambda, total.
Data Reference:	Statewide Project Urban Pyrethroid Status Monitoring

SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	San Francisco Bay Basin Water Quality Control Plan 2007: All waters shall be maintained free of toxic substances in concentrations which are toxic to, or which produce detrimental physiological responses in, human, plant, animal, or aquatic life.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	The evaluation guideline for lambda-cyhalothrin is the median lethal concentration (LC50) of 0.44 ug/g and is normalized by the percentage of organic carbon in the sediment sample. The LC50 0.44 ug/g is the geometric mean of LC50 values for lambda-cyhalothrin from Amweg et al. (2005).
Guideline Reference:	Use and Toxicity of Pyrethroid Pesticides in the Central Valley, California, USA. Environmental Toxicology and Chemistry, 24:966-972, with erratum 24:No. 5
Spatial Representation:	Data for this line of evidence for Coyote Creek (Santa Clara Co.) was collected at 1 monitoring site [Coyote Ck @ E Williams St station (205SUP022).]
Temporal Representation:	Data was collected on a single day 1/2/2007.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	The SWAMP QAPP (2008) was followed.
QAPP Information Reference(s):	Quality Assurance Management Plan for the State of California's Surface Water Ambient Monitoring Program. Sacramento, CA. State Water Resources Control Board. SWAMP. December 2002 (1st version)

**Line of Evidence (LOE) for Decision ID 61875, Cyhalothrin, Lambda
Coyote Creek (Santa Clara Co.)**

Region 2

LOE ID:	91413
Pollutant:	Cyhalothrin, Lambda
LOE Subgroup:	Pollutant-Sediment
Matrix:	Sediment
Fraction:	Total
Beneficial Use:	Cold Freshwater Habitat
Number of Samples:	1
Number of Exceedances:	0
Data and Information Type:	PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality:	Water Board staff assessed SWAMP data for Coyote Creek (Santa Clara Co.) to determine beneficial use support and results are as follows: 0 of 1 samples exceed the criterion for Cyhalothrin, lambda, total.
Data Reference:	Statewide Stream Pollution Trends Study 2008
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	San Francisco Bay Basin Water Quality Control Plan 2007: All waters shall be maintained free of toxic substances in concentrations which are toxic to, or which produce detrimental physiological responses in, human, plant, animal, or aquatic life.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	The evaluation guideline for lambda-cyhalothrin is the median lethal concentration (LC50) of 0.44 ug/g and is normalized by the percentage of organic carbon in the sediment sample. The LC50 0.44 ug/g is the geometric mean of LC50 values for lambda-cyhalothrin from Amweg et al. (2005).
Guideline Reference:	Use and Toxicity of Pyrethroid Pesticides in the Central Valley, California, USA. Environmental Toxicology and Chemistry, 24:966-972, with erratum 24:No. 5
Spatial Representation:	Data for this line of evidence for Coyote Creek (Santa Clara Co) was collected at 1 monitoring site [Coyote Creek at Montague station (205COY060)]
Temporal Representation:	Data was collected on a single day 6/17/2008.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.

QAPP Information: SWAMP data collected before September 2008 followed the QAMP (2002), however there may have been overlap in QA with SWAMP QAPP (2008).

QAPP Information Reference(s): [Quality Assurance Management Plan for the State of California's Surface Water Ambient Monitoring Program. Sacramento, CA. State Water Resources Control Board. SWAMP. December 2002 \(1st version\)](#)
[Surface Water Ambient Monitoring Program Quality Assurance Program Plan](#)

Line of Evidence (LOE) for Decision ID 61875, Cyhalothrin, Lambda	Region 2
Coyote Creek (Santa Clara Co.)	

LOE ID: 91458

Pollutant: Cyhalothrin, Lambda
 LOE Subgroup: Pollutant-Sediment
 Matrix: Sediment
 Fraction: Total

Beneficial Use: Warm Freshwater Habitat

Number of Samples: 1
 Number of Exceedances: 0

Data and Information Type: PHYSICAL/CHEMICAL MONITORING
 Data Used to Assess Water Quality: Water Board staff assessed SWAMP data for Coyote Creek (Santa Clara Co.) to determine beneficial use support and results are as follows: 0 of 1 samples exceed the criterion for Cyhalothrin, lambda, total.

Data Reference: [Statewide Project Urban Pyrethroid Status Monitoring](#)

SWAMP Data: SWAMP

Water Quality Objective/Criterion: San Francisco Bay Basin Water Quality Control Plan 2007: All waters shall be maintained free of toxic substances in concentrations which are toxic to, or which produce detrimental physiological responses in, human, plant, animal, or aquatic life.

Objective/Criterion Reference: [Water Quality Control Plan \(Basin Plan\) San Francisco Bay Basin \(Region 2\)](#)

Evaluation Guideline: The evaluation guideline for lambda-cyhalothrin is the median lethal concentration (LC50) of 0.44 ug/g and is normalized by the percentage of organic carbon in the sediment sample. The LC50 0.44 ug/g is the geometric mean of LC50 values for lambda-cyhalothrin from Amweg et al. (2005).

Guideline Reference: [Use and Toxicity of Pyrethroid Pesticides in the Central Valley, California, USA. Environmental Toxicology and Chemistry, 24:966-972, with erratum 24:No. 5](#)

Spatial Representation: Data for this line of evidence for Coyote Creek (Santa Clara Co.) was collected at 1 monitoring site [Coyote Ck @ E Williams St station (205SUP022).]

Temporal Representation: Data was collected on a single day 1/2/2007.

Environmental Conditions: Staff is not aware of any special conditions that might affect interpretation of the data.

QAPP Information: The SWAMP QAPP (2008) was followed.

QAPP Information Reference(s): [Quality Assurance Management Plan for the State of California's Surface Water Ambient Monitoring Program. Sacramento, CA. State Water Resources Control Board. SWAMP. December 2002 \(1st version\)](#)

DECISION ID	61876	Region 2
Coyote Creek (Santa Clara Co.)		

Pollutant: Cypermethrin
Final Listing Decision: Do Not List on 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision: New Decision
Revision Status: Revised
Impairment from Pollutant or Pollutant

Pollution:**Regional Board Staff Conclusion:**

This pollutant is being considered for placement on the CWA section 303(d) List under section 3.6 of the Listing Policy. Under section 3.6 at least two lines of evidence are necessary to assess listing status for pollutants sediment, and pollutant concentrations in sediment must be associated with sediment toxicity to justify adding that pollutant to the CWA section 303(d) List.

Four lines of evidence are available in the administrative record to assess this pollutant. Zero of two samples exceed the guideline. Sediment toxicity data are not associated with this decision because they are not relevant to this decision because there is insufficient information based on sediment chemistry.

Based on the readily available data and information, the weight of evidence indicates that there is insufficient justification for placing this water segment-pollutant combination on the CWA section 303(d) List.

This conclusion is based on the staff findings that:

1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy.
2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy.
3. Zero of two samples exceed the guideline and this sample size is insufficient to determine beneficial use support, with the power and confidence of the Listing Policy. A minimum of 16 samples is needed to determine if a beneficial use is fully supported using table 3.1. Sediment toxicity data are not associated with this decision because the sediment chemistry data are insufficient.
4. Pursuant to section 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.

Regional Board Staff Decision Recommendation:

After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be placed on the section 303(d) list. The readily available data and information is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating.

**Line of Evidence (LOE) for Decision ID 61876, Cypermethrin
Coyote Creek (Santa Clara Co.)****Region 2**

LOE ID:	91414
Pollutant:	Cypermethrin
LOE Subgroup:	Pollutant-Sediment
Matrix:	Sediment
Fraction:	Total
Beneficial Use:	Warm Freshwater Habitat
Number of Samples:	1
Number of Exceedances:	0
Data and Information Type:	PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality:	Water Board staff assessed SWAMP data for Coyote Creek (Santa Clara Co.) to determine beneficial use support and results are as follows: 0 of 1 samples exceed the criterion for Cypermethrin, total.
Data Reference:	Statewide Project Urban Pyrethroid Status Monitoring
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	San Francisco Bay Basin Water Quality Control Plan 2007: All waters shall be maintained free of toxic substances in concentrations which are toxic to, or which produce detrimental physiological responses in, human, plant, animal, or aquatic life.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	The evaluation guideline for cypermethrin is the median lethal concentration (LC50) of 0.3

ug/g and is normalized by the percentage of organic carbon in the sediment sample. The LC50 0.3 ug/g is the geometric mean of LC50 values for cypermethrin from Maund et al. (2002).

Guideline Reference:	Partitioning, bioavailability, and toxicity of the pyrethroid insecticide cypermethrin in sediments. Environmental Toxicology and Chemistry 21:9-15
Spatial Representation:	Data for this line of evidence for Coyote Creek (Santa Clara Co.) was collected at 1 monitoring site [Coyote Ck @ E Williams St station (205SUP022).]
Temporal Representation:	Data was collected on a single day 1/2/2007.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	The SWAMP QAPP (2008) was followed.
QAPP Information Reference(s):	Quality Assurance Management Plan for the State of California's Surface Water Ambient Monitoring Program. Sacramento, CA. State Water Resources Control Board. SWAMP. December 2002 (1st version)

Line of Evidence (LOE) for Decision ID 61876, Cypermethrin

Region 2

Coyote Creek (Santa Clara Co.)

LOE ID:	91416
Pollutant:	Cypermethrin
LOE Subgroup:	Pollutant-Sediment
Matrix:	Sediment
Fraction:	Total
Beneficial Use:	Warm Freshwater Habitat
Number of Samples:	1
Number of Exceedances:	0
Data and Information Type:	PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality:	Water Board staff assessed SWAMP data for Coyote Creek (Santa Clara Co.) to determine beneficial use support and results are as follows: 0 of 1 samples exceed the criterion for Cypermethrin, total.
Data Reference:	Statewide Stream Pollution Trends Study 2008
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	San Francisco Bay Basin Water Quality Control Plan 2007: All waters shall be maintained free of toxic substances in concentrations which are toxic to, or which produce detrimental physiological responses in, human, plant, animal, or aquatic life.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	The evaluation guideline for cypermethrin is the median lethal concentration (LC50) of 0.3 ug/g and is normalized by the percentage of organic carbon in the sediment sample. The LC50 0.3 ug/g is the geometric mean of LC50 values for cypermethrin from Maund et al. (2002).
Guideline Reference:	Partitioning, bioavailability, and toxicity of the pyrethroid insecticide cypermethrin in sediments. Environmental Toxicology and Chemistry 21:9-15
Spatial Representation:	Data for this line of evidence for Coyote Creek (Santa Clara Co) was collected at 1 monitoring site [Coyote Creek at Montague station (205COY060)]
Temporal Representation:	Data was collected on a single day 6/17/2008.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	SWAMP data collected before September 2008 followed the QAMP (2002), however there may have been overlap in QA with SWAMP QAPP (2008).
QAPP Information Reference(s):	Quality Assurance Management Plan for the State of California's Surface Water Ambient Monitoring Program. Sacramento, CA. State Water Resources Control Board. SWAMP. December 2002 (1st version) Surface Water Ambient Monitoring Program Quality Assurance Program Plan

Line of Evidence (LOE) for Decision ID 61876, Cypermethrin

Region 2

Coyote Creek (Santa Clara Co.)

LOE ID:	91415
Pollutant:	Cypermethrin
LOE Subgroup:	Pollutant-Sediment
Matrix:	Sediment
Fraction:	Total
Beneficial Use:	Cold Freshwater Habitat
Number of Samples:	1
Number of Exceedances:	0
Data and Information Type:	PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality:	Water Board staff assessed SWAMP data for Coyote Creek (Santa Clara Co.) to determine beneficial use support and results are as follows: 0 of 1 samples exceed the criterion for Cypermethrin, total.
Data Reference:	Statewide Project Urban Pyrethroid Status Monitoring
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	San Francisco Bay Basin Water Quality Control Plan 2007: All waters shall be maintained free of toxic substances in concentrations which are toxic to, or which produce detrimental physiological responses in, human, plant, animal, or aquatic life.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	The evaluation guideline for cypermethrin is the median lethal concentration (LC50) of 0.3 ug/g and is normalized by the percentage of organic carbon in the sediment sample. The LC50 0.3 ug/g is the geometric mean of LC50 values for cypermethrin from Maund et al. (2002).
Guideline Reference:	Partitioning, bioavailability, and toxicity of the pyrethroid insecticide cypermethrin in sediments. Environmental Toxicology and Chemistry 21:9-15
Spatial Representation:	Data for this line of evidence for Coyote Creek (Santa Clara Co.) was collected at 1 monitoring site [Coyote Ck @ E Williams St station (205SUP022).]
Temporal Representation:	Data was collected on a single day 1/2/2007.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	The SWAMP QAPP (2008) was followed.
QAPP Information Reference(s):	Quality Assurance Management Plan for the State of California's Surface Water Ambient Monitoring Program. Sacramento, CA. State Water Resources Control Board. SWAMP. December 2002 (1st version)

Line of Evidence (LOE) for Decision ID 61876, Cypermethrin**Region 2****Coyote Creek (Santa Clara Co.)**

LOE ID:	91428
Pollutant:	Cypermethrin
LOE Subgroup:	Pollutant-Sediment
Matrix:	Sediment
Fraction:	Total
Beneficial Use:	Cold Freshwater Habitat
Number of Samples:	1
Number of Exceedances:	0
Data and Information Type:	PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality:	Water Board staff assessed SWAMP data for Coyote Creek (Santa Clara Co.) to determine beneficial use support and results are as follows: 0 of 1 samples exceed the criterion for Cypermethrin, total.

Data Reference:	Statewide Stream Pollution Trends Study 2008
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	San Francisco Bay Basin Water Quality Control Plan 2007: All waters shall be maintained free of toxic substances in concentrations which are toxic to, or which produce detrimental physiological responses in, human, plant, animal, or aquatic life.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	The evaluation guideline for cypermethrin is the median lethal concentration (LC50) of 0.3 ug/g and is normalized by the percentage of organic carbon in the sediment sample. The LC50 0.3 ug/g is the geometric mean of LC50 values for cypermethrin from Maund et al. (2002).
Guideline Reference:	Partitioning, bioavailability, and toxicity of the pyrethroid insecticide cypermethrin in sediments. Environmental Toxicology and Chemistry 21:9-15
Spatial Representation:	Data for this line of evidence for Coyote Creek (Santa Clara Co) was collected at 1 monitoring site [Coyote Creek at Montague station (205COY060)]
Temporal Representation:	Data was collected on a single day 6/17/2008.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	SWAMP data collected before September 2008 followed the QAMP (2002), however there may have been overlap in QA with SWAMP QAPP (2008).
QAPP Information Reference(s):	Quality Assurance Management Plan for the State of California's Surface Water Ambient Monitoring Program. Sacramento, CA. State Water Resources Control Board. SWAMP. December 2002 (1st version) Surface Water Ambient Monitoring Program Quality Assurance Program Plan

DECISION ID	61877	Region 2
Coyote Creek (Santa Clara Co.)		

Pollutant:	DDD (Dichlorodiphenyldichloroethane)
Final Listing Decision:	Do Not List on 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision:	New Decision
Revision Status	Revised
Impairment from Pollutant or Pollution:	Pollutant

Regional Board Staff Conclusion: This pollutant is being considered for placement on the CWA section 303(d) List under section 3.6 of the Listing Policy. Under section 3.6 at least two lines of evidence are necessary to assess listing status for pollutants sediment, and pollutant concentrations in sediment must be associated with sediment toxicity to justify adding that pollutant to the CWA section 303(d) List.

Four lines of evidence are available in the administrative record to assess this pollutant. Zero of two samples exceed the guideline. Sediment toxicity data are not associated with this decision because they are not relevant to this decision because there is insufficient information based on sediment chemistry.

Based on the readily available data and information, the weight of evidence indicates that there is insufficient justification for placing this water segment-pollutant combination on the CWA section 303(d) List.

This conclusion is based on the staff findings that:

1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy.
2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy.
3. Zero of two samples exceed the guideline and this sample size is insufficient to determine beneficial use support, with the power and confidence of the Listing Policy. A minimum of 16 samples is needed to determine if a beneficial use is fully supported using table 3.1. Sediment toxicity data are not associated with this decision because the sediment chemistry data are insufficient.
4. Pursuant to section 3.11 of the Listing Policy, no additional data and information are available

indicating that standards are not met.

Regional Board Staff Decision Recommendation: After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be placed on the section 303(d) list. The readily available data and information is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating.

**Line of Evidence (LOE) for Decision ID 61877, DDD (Dichlorodiphenyldichloroethane)
Coyote Creek (Santa Clara Co.)**

Region 2

LOE ID: 91432

Pollutant: DDD (Dichlorodiphenyldichloroethane)
LOE Subgroup: Pollutant-Sediment
Matrix: Sediment
Fraction: Total

Beneficial Use: Cold Freshwater Habitat

Number of Samples: 1
Number of Exceedances: 0

Data and Information Type: PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality: Water Board staff assessed SWAMP data for Coyote Creek (Santa Clara Co.) to determine beneficial use support and results are as follows: 0 of 1 samples exceed the criterion for DDD.

Data Reference: [Statewide Stream Pollution Trends Study 2008](#)

SWAMP Data: SWAMP

Water Quality Objective/Criterion: San Francisco Bay Basin Water Quality Control Plan 2007: All waters shall be maintained free of toxic substances in concentrations which are toxic to, or which produce detrimental physiological responses in, human, plant, animal, or aquatic life.

Objective/Criterion Reference: [Water Quality Control Plan \(Basin Plan\) San Francisco Bay Basin \(Region 2\)](#)

Evaluation Guideline: In freshwater sediments the probable effect concentration (predictive of sediment toxicity for sediment-dwelling organisms) for sum of DDD is 28.0 ug/Kg dry weight (MacDonald et al. 2000).

Guideline Reference: [Development and evaluation of consensus-based sediment quality guidelines for freshwater ecosystems. Environmental Contamination and Toxicology. 39: 20-31](#)

Spatial Representation: Data for this line of evidence for Coyote Creek (Santa Clara Co) was collected at 1 monitoring site [Coyote Creek at Montague station (205COY060)]

Temporal Representation: Data was collected on a single day 6/17/2008.

Environmental Conditions: Staff is not aware of any special conditions that might affect interpretation of the data.

QAPP Information: SWAMP data collected before September 2008 followed the QAMP (2002), however there may have been overlap in QA with SWAMP QAPP (2008).

QAPP Information Reference(s): [Quality Assurance Management Plan for the State of California's Surface Water Ambient Monitoring Program. Sacramento, CA. State Water Resources Control Board. SWAMP. December 2002 \(1st version\)](#)
[Surface Water Ambient Monitoring Program Quality Assurance Program Plan](#)

**Line of Evidence (LOE) for Decision ID 61877, DDD (Dichlorodiphenyldichloroethane)
Coyote Creek (Santa Clara Co.)**

Region 2

LOE ID: 91429

Pollutant: DDD (Dichlorodiphenyldichloroethane)
LOE Subgroup: Pollutant-Sediment
Matrix: Sediment

Fraction:	Total
Beneficial Use:	Warm Freshwater Habitat
Number of Samples:	1
Number of Exceedances:	0
Data and Information Type:	PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality:	Water Board staff assessed SWAMP data for Coyote Creek (Santa Clara Co.) to determine beneficial use support and results are as follows: 0 of 1 samples exceed the criterion for DDD.
Data Reference:	Statewide Project Urban Pyrethroid Status Monitoring
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	San Francisco Bay Basin Water Quality Control Plan 2007: All waters shall be maintained free of toxic substances in concentrations which are toxic to, or which produce detrimental physiological responses in, human, plant, animal, or aquatic life.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	In freshwater sediments the probable effect concentration (predictive of sediment toxicity for sediment-dwelling organisms) for sum of DDD is 28.0 ug/Kg dry weight (MacDonald et al. 2000).
Guideline Reference:	Development and evaluation of consensus-based sediment quality guidelines for freshwater ecosystems. Environmental Contamination and Toxicology. 39: 20-31
Spatial Representation:	Data for this line of evidence for Coyote Creek (Santa Clara Co.) was collected at 1 monitoring site [Coyote Ck @ E Williams St station (205SUP022).]
Temporal Representation:	Data was collected on a single day 1/2/2007.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	The SWAMP QAPP (2008) was followed.
QAPP Information Reference(s):	Quality Assurance Management Plan for the State of California's Surface Water Ambient Monitoring Program. Sacramento, CA. State Water Resources Control Board. SWAMP. December 2002 (1st version)

Line of Evidence (LOE) for Decision ID 61877, DDD (Dichlorodiphenyldichloroethane)
Coyote Creek (Santa Clara Co.)

Region 2

LOE ID:	91430
Pollutant:	DDD (Dichlorodiphenyldichloroethane)
LOE Subgroup:	Pollutant-Sediment
Matrix:	Sediment
Fraction:	Total
Beneficial Use:	Cold Freshwater Habitat
Number of Samples:	1
Number of Exceedances:	0
Data and Information Type:	PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality:	Water Board staff assessed SWAMP data for Coyote Creek (Santa Clara Co.) to determine beneficial use support and results are as follows: 0 of 1 samples exceed the criterion for DDD.
Data Reference:	Statewide Project Urban Pyrethroid Status Monitoring
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	San Francisco Bay Basin Water Quality Control Plan 2007: All waters shall be maintained free of toxic substances in concentrations which are toxic to, or which produce detrimental physiological responses in, human, plant, animal, or aquatic life.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)

Evaluation Guideline:	In freshwater sediments the probable effect concentration (predictive of sediment toxicity for sediment-dwelling organisms) for sum of DDD is 28.0 ug/Kg dry weight (MacDonald et al. 2000).
Guideline Reference:	Development and evaluation of consensus-based sediment quality guidelines for freshwater ecosystems. Environmental Contamination and Toxicology. 39: 20-31
Spatial Representation:	Data for this line of evidence for Coyote Creek (Santa Clara Co.) was collected at 1 monitoring site [Coyote Ck @ E Williams St station (205SUP022).]
Temporal Representation:	Data was collected on a single day 1/2/2007.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	The SWAMP QAPP (2008) was followed.
QAPP Information Reference(s):	Quality Assurance Management Plan for the State of California's Surface Water Ambient Monitoring Program. Sacramento, CA. State Water Resources Control Board. SWAMP. December 2002 (1st version)

Line of Evidence (LOE) for Decision ID 61877, DDD (Dichlorodiphenyldichloroethane)

Region 2

Coyote Creek (Santa Clara Co.)

LOE ID:	91431
Pollutant:	DDD (Dichlorodiphenyldichloroethane)
LOE Subgroup:	Pollutant-Sediment
Matrix:	Sediment
Fraction:	Total
Beneficial Use:	Warm Freshwater Habitat
Number of Samples:	1
Number of Exceedances:	0
Data and Information Type:	PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality:	Water Board staff assessed SWAMP data for Coyote Creek (Santa Clara Co.) to determine beneficial use support and results are as follows: 0 of 1 samples exceed the criterion for DDD.
Data Reference:	Statewide Stream Pollution Trends Study 2008
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	San Francisco Bay Basin Water Quality Control Plan 2007: All waters shall be maintained free of toxic substances in concentrations which are toxic to, or which produce detrimental physiological responses in, human, plant, animal, or aquatic life.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	In freshwater sediments the probable effect concentration (predictive of sediment toxicity for sediment-dwelling organisms) for sum of DDD is 28.0 ug/Kg dry weight (MacDonald et al. 2000).
Guideline Reference:	Development and evaluation of consensus-based sediment quality guidelines for freshwater ecosystems. Environmental Contamination and Toxicology. 39: 20-31
Spatial Representation:	Data for this line of evidence for Coyote Creek (Santa Clara Co) was collected at 1 monitoring site [Coyote Creek at Montague station (205COY060)]
Temporal Representation:	Data was collected on a single day 6/17/2008.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	SWAMP data collected before September 2008 followed the QAMP (2002), however there may have been overlap in QA with SWAMP QAPP (2008).
QAPP Information Reference(s):	Quality Assurance Management Plan for the State of California's Surface Water Ambient Monitoring Program. Sacramento, CA. State Water Resources Control Board. SWAMP. December 2002 (1st version) Surface Water Ambient Monitoring Program Quality Assurance Program Plan

Pollutant:	DDE (Dichlorodiphenyldichloroethylene)
Final Listing Decision:	Do Not List on 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision:	New Decision
Revision Status	Revised
Impairment from Pollutant or Pollution:	Pollutant
Regional Board Staff Conclusion:	<p>This pollutant is being considered for placement on the CWA section 303(d) List under section 3.6 of the Listing Policy. Under section 3.6 at least two lines of evidence are necessary to assess listing status for pollutants sediment, and pollutant concentrations in sediment must be associated with sediment toxicity to justify adding that pollutant to the CWA section 303(d) List.</p> <p>Four lines of evidence are available in the administrative record to assess this pollutant. Zero of two samples exceed the guideline. Sediment toxicity data are not associated with this decision because they are not relevant to this decision because there is insufficient information based on sediment chemistry.</p> <p>Based on the readily available data and information, the weight of evidence indicates that there is insufficient justification for placing this water segment-pollutant combination on the CWA section 303(d) List.</p> <p>This conclusion is based on the staff findings that:</p> <ol style="list-style-type: none"> 1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy. 2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy. 3. Zero of two samples exceed the guideline and this sample size is insufficient to determine beneficial use support, with the power and confidence of the Listing Policy. A minimum of 16 samples is needed to determine if a beneficial use is fully supported using table 3.1. Sediment toxicity data are not associated with this decision because the sediment chemistry data are insufficient. 4. Pursuant to section 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.
Regional Board Staff Decision Recommendation:	After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be placed on the section 303(d) list. The readily available data and information is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating.

Line of Evidence (LOE) for Decision ID 61878, DDE (Dichlorodiphenyldichloroethylene)	Region 2
Coyote Creek (Santa Clara Co.)	

LOE ID:	91446
Pollutant:	DDE (Dichlorodiphenyldichloroethylene)
LOE Subgroup:	Pollutant-Sediment
Matrix:	Sediment
Fraction:	Total
Beneficial Use:	Warm Freshwater Habitat
Number of Samples:	1
Number of Exceedances:	0
Data and Information Type:	PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality:	Water Board staff assessed SWAMP data for Coyote Creek (Santa Clara Co.) to determine beneficial use support and results are as follows: 0 of 1 samples exceed the criterion for DDE.

Data Reference:	Statewide Stream Pollution Trends Study 2008
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	San Francisco Bay Basin Water Quality Control Plan 2007: All waters shall be maintained free of toxic substances in concentrations which are toxic to, or which produce detrimental physiological responses in, human, plant, animal, or aquatic life.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	In freshwater sediments the probable effect concentration (predictive of sediment toxicity for sediment-dwelling organisms) for sum of DDE is 31.3 ug/Kg dry weight (MacDonald et al. 2000).
Guideline Reference:	Development and evaluation of consensus-based sediment quality guidelines for freshwater ecosystems. Environmental Contamination and Toxicology. 39: 20-31
Spatial Representation:	Data for this line of evidence for Coyote Creek (Santa Clara Co) was collected at 1 monitoring site [Coyote Creek at Montague station (205COY060)]
Temporal Representation:	Data was collected on a single day 6/17/2008.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	SWAMP data collected before September 2008 followed the QAMP (2002), however there may have been overlap in QA with SWAMP QAPP (2008).
QAPP Information Reference(s):	Quality Assurance Management Plan for the State of California's Surface Water Ambient Monitoring Program. Sacramento, CA. State Water Resources Control Board. SWAMP. December 2002 (1st version) Surface Water Ambient Monitoring Program Quality Assurance Program Plan

Line of Evidence (LOE) for Decision ID 61878, DDE (Dichlorodiphenyldichloroethylene)
Coyote Creek (Santa Clara Co.)

Region 2

LOE ID:	91444
Pollutant:	DDE (Dichlorodiphenyldichloroethylene)
LOE Subgroup:	Pollutant-Sediment
Matrix:	Sediment
Fraction:	Total
Beneficial Use:	Warm Freshwater Habitat
Number of Samples:	1
Number of Exceedances:	0
Data and Information Type:	PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality:	Water Board staff assessed SWAMP data for Coyote Creek (Santa Clara Co.) to determine beneficial use support and results are as follows: 0 of 1 samples exceed the criterion for DDE.
Data Reference:	Statewide Project Urban Pyrethroid Status Monitoring
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	San Francisco Bay Basin Water Quality Control Plan 2007: All waters shall be maintained free of toxic substances in concentrations which are toxic to, or which produce detrimental physiological responses in, human, plant, animal, or aquatic life.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	In freshwater sediments the probable effect concentration (predictive of sediment toxicity for sediment-dwelling organisms) for sum of DDE is 31.3 ug/Kg dry weight (MacDonald et al. 2000).
Guideline Reference:	Development and evaluation of consensus-based sediment quality guidelines for freshwater ecosystems. Environmental Contamination and Toxicology. 39: 20-31
Spatial Representation:	Data for this line of evidence for Coyote Creek (Santa Clara Co.) was collected at 1 monitoring site [Coyote Ck @ E Williams St station (205SUP022).]

Temporal Representation:	Data was collected on a single day 1/2/2007.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	The SWAMP QAPP (2008) was followed.
QAPP Information Reference(s):	Quality Assurance Management Plan for the State of California's Surface Water Ambient Monitoring Program. Sacramento, CA. State Water Resources Control Board. SWAMP. December 2002 (1st version)

Line of Evidence (LOE) for Decision ID 61878, DDE (Dichlorodiphenyldichloroethylene)	Region 2
Coyote Creek (Santa Clara Co.)	

LOE ID:	91447
Pollutant:	DDE (Dichlorodiphenyldichloroethylene)
LOE Subgroup:	Pollutant-Sediment
Matrix:	Sediment
Fraction:	Total
Beneficial Use:	Cold Freshwater Habitat
Number of Samples:	1
Number of Exceedances:	0
Data and Information Type:	PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality:	Water Board staff assessed SWAMP data for Coyote Creek (Santa Clara Co.) to determine beneficial use support and results are as follows: 0 of 1 samples exceed the criterion for DDE.
Data Reference:	Statewide Stream Pollution Trends Study 2008
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	San Francisco Bay Basin Water Quality Control Plan 2007: All waters shall be maintained free of toxic substances in concentrations which are toxic to, or which produce detrimental physiological responses in, human, plant, animal, or aquatic life.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	In freshwater sediments the probable effect concentration (predictive of sediment toxicity for sediment-dwelling organisms) for sum of DDE is 31.3 ug/Kg dry weight (MacDonald et al. 2000).
Guideline Reference:	Development and evaluation of consensus-based sediment quality guidelines for freshwater ecosystems. Environmental Contamination and Toxicology. 39: 20-31
Spatial Representation:	Data for this line of evidence for Coyote Creek (Santa Clara Co) was collected at 1 monitoring site [Coyote Creek at Montague station (205COY060)]
Temporal Representation:	Data was collected on a single day 6/17/2008.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	SWAMP data collected before September 2008 followed the QAMP (2002), however there may have been overlap in QA with SWAMP QAPP (2008).
QAPP Information Reference(s):	Quality Assurance Management Plan for the State of California's Surface Water Ambient Monitoring Program. Sacramento, CA. State Water Resources Control Board. SWAMP. December 2002 (1st version) Surface Water Ambient Monitoring Program Quality Assurance Program Plan

Line of Evidence (LOE) for Decision ID 61878, DDE (Dichlorodiphenyldichloroethylene)	Region 2
Coyote Creek (Santa Clara Co.)	

LOE ID:	91445
Pollutant:	DDE (Dichlorodiphenyldichloroethylene)
LOE Subgroup:	Pollutant-Sediment
Matrix:	Sediment
Fraction:	Total

Beneficial Use:	Cold Freshwater Habitat
Number of Samples:	1
Number of Exceedances:	0
Data and Information Type:	PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality:	Water Board staff assessed SWAMP data for Coyote Creek (Santa Clara Co.) to determine beneficial use support and results are as follows: 0 of 1 samples exceed the criterion for DDE.
Data Reference:	Statewide Project Urban Pyrethroid Status Monitoring
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	San Francisco Bay Basin Water Quality Control Plan 2007: All waters shall be maintained free of toxic substances in concentrations which are toxic to, or which produce detrimental physiological responses in, human, plant, animal, or aquatic life.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	In freshwater sediments the probable effect concentration (predictive of sediment toxicity for sediment-dwelling organisms) for sum of DDE is 31.3 ug/Kg dry weight (MacDonald et al. 2000).
Guideline Reference:	Development and evaluation of consensus-based sediment quality guidelines for freshwater ecosystems. Environmental Contamination and Toxicology. 39: 20-31
Spatial Representation:	Data for this line of evidence for Coyote Creek (Santa Clara Co.) was collected at 1 monitoring site [Coyote Ck @ E Williams St station (205SUP022).]
Temporal Representation:	Data was collected on a single day 1/2/2007.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	The SWAMP QAPP (2008) was followed.
QAPP Information Reference(s):	Quality Assurance Management Plan for the State of California's Surface Water Ambient Monitoring Program. Sacramento, CA. State Water Resources Control Board. SWAMP. December 2002 (1st version)

DECISION ID	61879	Region 2
Coyote Creek (Santa Clara Co.)		

Pollutant:	DDT (Dichlorodiphenyltrichloroethane)
Final Listing Decision:	Do Not List on 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision:	New Decision
Revision Status	Revised
Impairment from Pollutant or Pollution:	Pollutant
Regional Board Staff Conclusion:	<p>This pollutant is being considered for placement on the CWA section 303(d) List under section 3.6 of the Listing Policy. Under section 3.6 at least two lines of evidence are necessary to assess listing status for pollutants sediment, and pollutant concentrations in sediment must be associated with sediment toxicity to justify adding that pollutant to the CWA section 303(d) List.</p> <p>Eight lines of evidence are available in the administrative record to assess this pollutant. Zero of two samples exceed the guideline. Sediment toxicity data are not associated with this decision because they are not relevant to this decision because there is insufficient information based on sediment chemistry.</p> <p>Based on the readily available data and information, the weight of evidence indicates that there is insufficient justification for placing this water segment-pollutant combination on the CWA section 303(d) List.</p> <p>This conclusion is based on the staff findings that:</p> <ol style="list-style-type: none"> 1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy.

2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy.
3. Zero of two samples exceed the guideline and this sample size is insufficient to determine beneficial use support, with the power and confidence of the Listing Policy. A minimum of 16 samples is needed to determine if a beneficial use is fully supported using table 3.1. Sediment toxicity data are not associated with this decision because the sediment chemistry data are insufficient.
4. Pursuant to section 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.

Regional Board Staff Decision Recommendation: After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be placed on the section 303(d) list. The readily available data and information is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating.

Line of Evidence (LOE) for Decision ID 61879, DDT (Dichlorodiphenyltrichloroethane)	Region 2
Coyote Creek (Santa Clara Co.)	

LOE ID:	91454
Pollutant:	Total DDT (sum of 4,4'- and 2,4'- isomers of DDT, DDE, and DDD)
LOE Subgroup:	Pollutant-Sediment
Matrix:	Sediment
Fraction:	Total
Beneficial Use:	Warm Freshwater Habitat
Number of Samples:	1
Number of Exceedances:	0
Data and Information Type:	PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality:	Water Board staff assessed SWAMP data for Coyote Creek (Santa Clara Co.) to determine beneficial use support and results are as follows: 0 of 1 samples exceed the criterion for DDT, Total.
Data Reference:	Statewide Project Urban Pyrethroid Status Monitoring
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	San Francisco Bay Basin Water Quality Control Plan 2007: All waters shall be maintained free of toxic substances in concentrations which are toxic to, or which produce detrimental physiological responses in, human, plant, animal, or aquatic life.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	In freshwater sediments the probable effect concentration (predictive of sediment toxicity for sediment-dwelling organisms) for total DDTs is 572 ug/Kg dry weight (MacDonald et al. 2000).
Guideline Reference:	Development and evaluation of consensus-based sediment quality guidelines for freshwater ecosystems. Environmental Contamination and Toxicology. 39: 20-31
Spatial Representation:	Data for this line of evidence for Coyote Creek (Santa Clara Co.) was collected at 1 monitoring site [Coyote Ck @ E Williams St station (205SUP022).]
Temporal Representation:	Data was collected on a single day 1/2/2007.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	The SWAMP QAPP (2008) was followed.
QAPP Information Reference(s):	Quality Assurance Management Plan for the State of California's Surface Water Ambient Monitoring Program. Sacramento, CA. State Water Resources Control Board. SWAMP. December 2002 (1st version).

Line of Evidence (LOE) for Decision ID 61879, DDT (Dichlorodiphenyltrichloroethane)	Region 2
Coyote Creek (Santa Clara Co.)	

LOE ID:	91448
Pollutant:	DDT (Dichlorodiphenyltrichloroethane)
LOE Subgroup:	Pollutant-Sediment
Matrix:	Sediment
Fraction:	Total
Beneficial Use:	Warm Freshwater Habitat
Number of Samples:	1
Number of Exceedances:	0
Data and Information Type:	PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality:	Water Board staff assessed SWAMP data for Coyote Creek (Santa Clara Co.) to determine beneficial use support and results are as follows: 0 of 1 samples exceed the criterion for DDT.
Data Reference:	Statewide Project Urban Pyrethroid Status Monitoring
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	San Francisco Bay Basin Water Quality Control Plan 2007: All waters shall be maintained free of toxic substances in concentrations which are toxic to, or which produce detrimental physiological responses in, human, plant, animal, or aquatic life.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	In freshwater sediments the probable effect concentration (predictive of sediment toxicity for sediment-dwelling organisms) for sum of DDT is 62.9 ug/Kg dry weight (MacDonald et al. 2000).
Guideline Reference:	Development and evaluation of consensus-based sediment quality guidelines for freshwater ecosystems. Environmental Contamination and Toxicology. 39: 20-31
Spatial Representation:	Data for this line of evidence for Coyote Creek (Santa Clara Co.) was collected at 1 monitoring site [Coyote Ck @ E Williams St station (205SUP022).]
Temporal Representation:	Data was collected on a single day 1/2/2007.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	The SWAMP QAPP (2008) was followed.
QAPP Information Reference(s):	Quality Assurance Management Plan for the State of California's Surface Water Ambient Monitoring Program. Sacramento, CA. State Water Resources Control Board. SWAMP. December 2002 (1st version)

Line of Evidence (LOE) for Decision ID 61879, DDT (Dichlorodiphenyltrichloroethane)
Coyote Creek (Santa Clara Co.)

Region 2

LOE ID:	91462
Pollutant:	DDT (Dichlorodiphenyltrichloroethane)
LOE Subgroup:	Pollutant-Sediment
Matrix:	Sediment
Fraction:	Total
Beneficial Use:	Cold Freshwater Habitat
Number of Samples:	1
Number of Exceedances:	0
Data and Information Type:	PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality:	Water Board staff assessed SWAMP data for Coyote Creek (Santa Clara Co.) to determine beneficial use support and results are as follows: 0 of 1 samples exceed the criterion for DDT.
Data Reference:	Statewide Stream Pollution Trends Study 2008
SWAMP Data:	SWAMP

Water Quality Objective/Criterion:	San Francisco Bay Basin Water Quality Control Plan 2007: All waters shall be maintained free of toxic substances in concentrations which are toxic to, or which produce detrimental physiological responses in, human, plant, animal, or aquatic life.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	In freshwater sediments the probable effect concentration (predictive of sediment toxicity for sediment-dwelling organisms) for sum of DDT is 62.9 ug/Kg dry weight (MacDonald et al. 2000).
Guideline Reference:	Development and evaluation of consensus-based sediment quality guidelines for freshwater ecosystems. Environmental Contamination and Toxicology. 39: 20-31
Spatial Representation:	Data for this line of evidence for Coyote Creek (Santa Clara Co) was collected at 1 monitoring site [Coyote Creek at Montague station (205COY060)]
Temporal Representation:	Data was collected on a single day 6/17/2008.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	SWAMP data collected before September 2008 followed the QAMP (2002), however there may have been overlap in QA with SWAMP QAPP (2008).
QAPP Information Reference(s):	Quality Assurance Management Plan for the State of California's Surface Water Ambient Monitoring Program. Sacramento, CA. State Water Resources Control Board. SWAMP. December 2002 (1st version) Surface Water Ambient Monitoring Program Quality Assurance Program Plan

Line of Evidence (LOE) for Decision ID 61879, DDT (Dichlorodiphenyltrichloroethane)
Coyote Creek (Santa Clara Co.)

Region 2

LOE ID:	91461
Pollutant:	DDT (Dichlorodiphenyltrichloroethane)
LOE Subgroup:	Pollutant-Sediment
Matrix:	Sediment
Fraction:	Total
Beneficial Use:	Warm Freshwater Habitat
Number of Samples:	1
Number of Exceedances:	0
Data and Information Type:	PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality:	Water Board staff assessed SWAMP data for Coyote Creek (Santa Clara Co.) to determine beneficial use support and results are as follows: 0 of 1 samples exceed the criterion for DDT.
Data Reference:	Statewide Stream Pollution Trends Study 2008
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	San Francisco Bay Basin Water Quality Control Plan 2007: All waters shall be maintained free of toxic substances in concentrations which are toxic to, or which produce detrimental physiological responses in, human, plant, animal, or aquatic life.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	In freshwater sediments the probable effect concentration (predictive of sediment toxicity for sediment-dwelling organisms) for sum of DDT is 62.9 ug/Kg dry weight (MacDonald et al. 2000).
Guideline Reference:	Development and evaluation of consensus-based sediment quality guidelines for freshwater ecosystems. Environmental Contamination and Toxicology. 39: 20-31
Spatial Representation:	Data for this line of evidence for Coyote Creek (Santa Clara Co) was collected at 1 monitoring site [Coyote Creek at Montague station (205COY060)]
Temporal Representation:	Data was collected on a single day 6/17/2008.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	SWAMP data collected before September 2008 followed the QAMP (2002), however there

QAPP Information Reference(s): may have been overlap in QA with SWAMP QAPP (2008).
[Quality Assurance Management Plan for the State of California's Surface Water Ambient Monitoring Program. Sacramento, CA. State Water Resources Control Board. SWAMP. December 2002 \(1st version\)](#)
[Surface Water Ambient Monitoring Program Quality Assurance Program Plan](#)

Line of Evidence (LOE) for Decision ID 61879, DDT (Dichlorodiphenyltrichloroethane)
Coyote Creek (Santa Clara Co.)

Region 2

LOE ID: 91460

Pollutant: DDT (Dichlorodiphenyltrichloroethane)
LOE Subgroup: Pollutant-Sediment
Matrix: Sediment
Fraction: Total

Beneficial Use: Cold Freshwater Habitat

Number of Samples: 1
Number of Exceedances: 0

Data and Information Type: PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality: Water Board staff assessed SWAMP data for Coyote Creek (Santa Clara Co.) to determine beneficial use support and results are as follows: 0 of 1 samples exceed the criterion for DDT.

Data Reference: [Statewide Project Urban Pyrethroid Status Monitoring](#)

SWAMP Data: SWAMP

Water Quality Objective/Criterion: San Francisco Bay Basin Water Quality Control Plan 2007: All waters shall be maintained free of toxic substances in concentrations which are toxic to, or which produce detrimental physiological responses in, human, plant, animal, or aquatic life.

Objective/Criterion Reference: [Water Quality Control Plan \(Basin Plan\) San Francisco Bay Basin \(Region 2\)](#)

Evaluation Guideline: In freshwater sediments the probable effect concentration (predictive of sediment toxicity for sediment-dwelling organisms) for sum of DDT is 62.9 ug/Kg dry weight (MacDonald et al. 2000).

Guideline Reference: [Development and evaluation of consensus-based sediment quality guidelines for freshwater ecosystems. Environmental Contamination and Toxicology. 39: 20-31](#)

Spatial Representation: Data for this line of evidence for Coyote Creek (Santa Clara Co.) was collected at 1 monitoring site [Coyote Ck @ E Williams St station (205SUP022).]

Temporal Representation: Data was collected on a single day 1/2/2007.

Environmental Conditions: Staff is not aware of any special conditions that might affect interpretation of the data.

QAPP Information: The SWAMP QAPP (2008) was followed.

QAPP Information Reference(s): [Quality Assurance Management Plan for the State of California's Surface Water Ambient Monitoring Program. Sacramento, CA. State Water Resources Control Board. SWAMP. December 2002 \(1st version\)](#)

Line of Evidence (LOE) for Decision ID 61879, DDT (Dichlorodiphenyltrichloroethane)
Coyote Creek (Santa Clara Co.)

Region 2

LOE ID: 91615

Pollutant: Total DDT (sum of 4,4'- and 2,4'- isomers of DDT, DDE, and DDD)
LOE Subgroup: Pollutant-Sediment
Matrix: Sediment
Fraction: Total

Beneficial Use: Warm Freshwater Habitat

Number of Samples:	1
Number of Exceedances:	0
Data and Information Type:	PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality:	Water Board staff assessed SWAMP data for Coyote Creek (Santa Clara Co.) to determine beneficial use support and results are as follows: 0 of 1 samples exceed the criterion for DDT, Total.
Data Reference:	Statewide Stream Pollution Trends Study 2008
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	San Francisco Bay Basin Water Quality Control Plan 2007: All waters shall be maintained free of toxic substances in concentrations which are toxic to, or which produce detrimental physiological responses in, human, plant, animal, or aquatic life.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	In freshwater sediments the probable effect concentration (predictive of sediment toxicity for sediment-dwelling organisms) for total DDTs is 572 ug/Kg dry weight (MacDonald et al. 2000).
Guideline Reference:	Development and evaluation of consensus-based sediment quality guidelines for freshwater ecosystems. Environmental Contamination and Toxicology. 39: 20-31
Spatial Representation:	Data for this line of evidence for Coyote Creek (Santa Clara Co) was collected at 1 monitoring site [Coyote Creek at Montague station (205COY060)]
Temporal Representation:	Data was collected on a single day 6/17/2008.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	SWAMP data collected before September 2008 followed the QAMP (2002), however there may have been overlap in QA with SWAMP QAPP (2008).
QAPP Information Reference(s):	Quality Assurance Management Plan for the State of California's Surface Water Ambient Monitoring Program. Sacramento, CA. State Water Resources Control Board. SWAMP. December 2002 (1st version) Surface Water Ambient Monitoring Program Quality Assurance Program Plan

Line of Evidence (LOE) for Decision ID 61879, DDT (Dichlorodiphenyltrichloroethane)
Coyote Creek (Santa Clara Co.)

Region 2

LOE ID:	91614
Pollutant:	Total DDT (sum of 4,4'- and 2,4'- isomers of DDT, DDE, and DDD)
LOE Subgroup:	Pollutant-Sediment
Matrix:	Sediment
Fraction:	Total
Beneficial Use:	Cold Freshwater Habitat
Number of Samples:	1
Number of Exceedances:	0
Data and Information Type:	PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality:	Water Board staff assessed SWAMP data for Coyote Creek (Santa Clara Co.) to determine beneficial use support and results are as follows: 0 of 1 samples exceed the criterion for DDT, Total.
Data Reference:	Statewide Project Urban Pyrethroid Status Monitoring
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	San Francisco Bay Basin Water Quality Control Plan 2007: All waters shall be maintained free of toxic substances in concentrations which are toxic to, or which produce detrimental physiological responses in, human, plant, animal, or aquatic life.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	In freshwater sediments the probable effect concentration (predictive of sediment toxicity

	for sediment-dwelling organisms) for total DDTs is 572 ug/Kg dry weight (MacDonald et al. 2000).
Guideline Reference:	Development and evaluation of consensus-based sediment quality guidelines for freshwater ecosystems. Environmental Contamination and Toxicology. 39: 20-31
Spatial Representation:	Data for this line of evidence for Coyote Creek (Santa Clara Co.) was collected at 1 monitoring site [Coyote Ck @ E Williams St station (205SUP022).]
Temporal Representation:	Data was collected on a single day 1/2/2007.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	The SWAMP QAPP (2008) was followed.
QAPP Information Reference(s):	Quality Assurance Management Plan for the State of California's Surface Water Ambient Monitoring Program. Sacramento, CA. State Water Resources Control Board. SWAMP. December 2002 (1st version)

Line of Evidence (LOE) for Decision ID 61879, DDT (Dichlorodiphenyltrichloroethane)
Coyote Creek (Santa Clara Co.)

Region 2

LOE ID:	91616
Pollutant:	Total DDT (sum of 4,4'- and 2,4'- isomers of DDT, DDE, and DDD)
LOE Subgroup:	Pollutant-Sediment
Matrix:	Sediment
Fraction:	Total
Beneficial Use:	Cold Freshwater Habitat
Number of Samples:	1
Number of Exceedances:	0
Data and Information Type:	PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality:	Water Board staff assessed SWAMP data for Coyote Creek (Santa Clara Co.) to determine beneficial use support and results are as follows: 0 of 1 samples exceed the criterion for DDT, Total.
Data Reference:	Statewide Stream Pollution Trends Study 2008
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	San Francisco Bay Basin Water Quality Control Plan 2007: All waters shall be maintained free of toxic substances in concentrations which are toxic to, or which produce detrimental physiological responses in, human, plant, animal, or aquatic life.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	In freshwater sediments the probable effect concentration (predictive of sediment toxicity for sediment-dwelling organisms) for total DDTs is 572 ug/Kg dry weight (MacDonald et al. 2000).
Guideline Reference:	Development and evaluation of consensus-based sediment quality guidelines for freshwater ecosystems. Environmental Contamination and Toxicology. 39: 20-31
Spatial Representation:	Data for this line of evidence for Coyote Creek (Santa Clara Co) was collected at 1 monitoring site [Coyote Creek at Montague station (205COY060)]
Temporal Representation:	Data was collected on a single day 6/17/2008.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	SWAMP data collected before September 2008 followed the QAMP (2002), however there may have been overlap in QA with SWAMP QAPP (2008).
QAPP Information Reference(s):	Quality Assurance Management Plan for the State of California's Surface Water Ambient Monitoring Program. Sacramento, CA. State Water Resources Control Board. SWAMP. December 2002 (1st version) Surface Water Ambient Monitoring Program Quality Assurance Program Plan

DECISION ID

61978

Region 2

Pollutant: Deltamethrin
Final Listing Decision: Do Not List on 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision: New Decision
Revision Status: Revised
Impairment from Pollutant or Pollution: Pollutant

Regional Board Staff Conclusion: This pollutant is being considered for placement on the CWA section 303(d) List under section 3.6 of the Listing Policy. Under section 3.6 at least two lines of evidence are necessary to assess listing status for pollutants sediment, and pollutant concentrations in sediment must be associated with sediment toxicity to justify adding that pollutant to the CWA section 303(d) List.

Four lines of evidence are available in the administrative record to assess this pollutant. Zero of two samples exceed the guideline. Sediment toxicity data are not associated with this decision because they are not relevant to this decision because there is insufficient information based on sediment chemistry.

Based on the readily available data and information, the weight of evidence indicates that there is insufficient justification for placing this water segment-pollutant combination on the CWA section 303(d) List.

This conclusion is based on the staff findings that:

1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy.
2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy.
3. Zero of two samples exceed the guideline and this sample size is insufficient to determine beneficial use support, with the power and confidence of the Listing Policy. A minimum of 16 samples is needed to determine if a beneficial use is fully supported using table 3.1. Sediment toxicity data are not associated with this decision because the sediment chemistry data are insufficient.
4. Pursuant to section 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.

Regional Board Staff Decision Recommendation: After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be placed on the section 303(d) list. The readily available data and information is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating.

Line of Evidence (LOE) for Decision ID 61978, Deltamethrin

Region 2

Coyote Creek (Santa Clara Co.)

LOE ID:	91464
Pollutant:	Deltamethrin
LOE Subgroup:	Pollutant-Sediment
Matrix:	Sediment
Fraction:	Total
Beneficial Use:	Cold Freshwater Habitat
Number of Samples:	1
Number of Exceedances:	0
Data and Information Type:	PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality:	Water Board staff assessed SWAMP data for Coyote Creek (Santa Clara Co.) to determine beneficial use support and results are as follows: 0 of 1 samples exceed the criterion for Deltamethrin.
Data Reference:	Statewide Project Urban Pyrethroid Status Monitoring

SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	San Francisco Bay Basin Water Quality Control Plan 2007: All waters shall be maintained free of toxic substances in concentrations which are toxic to, or which produce detrimental physiological responses in, human, plant, animal, or aquatic life.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	The evaluation guideline for deltamethrin is the median lethal concentration (LC50) of 0.79 ug/g and is normalized by the percentage of organic carbon in the sediment sample. The LC50 0.79 ug/g is the geometric mean of LC50 values for deltamethrin from Amweg et al. (2005).
Guideline Reference:	Use and Toxicity of Pyrethroid Pesticides in the Central Valley, California, USA. Environmental Toxicology and Chemistry, 24:966-972, with erratum 24:No. 5
Spatial Representation:	Data for this line of evidence for Coyote Creek (Santa Clara Co.) was collected at 1 monitoring site [Coyote Ck @ E Williams St station (205SUP022).]
Temporal Representation:	Data was collected on a single day 1/2/2007.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	The SWAMP QAPP (2008) was followed.
QAPP Information Reference(s):	Quality Assurance Management Plan for the State of California's Surface Water Ambient Monitoring Program. Sacramento, CA. State Water Resources Control Board. SWAMP. December 2002 (1st version)

**Line of Evidence (LOE) for Decision ID 61978, Deltamethrin
Coyote Creek (Santa Clara Co.)**

Region 2

LOE ID:	91463
Pollutant:	Deltamethrin
LOE Subgroup:	Pollutant-Sediment
Matrix:	Sediment
Fraction:	Total
Beneficial Use:	Warm Freshwater Habitat
Number of Samples:	1
Number of Exceedances:	0
Data and Information Type:	PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality:	Water Board staff assessed SWAMP data for Coyote Creek (Santa Clara Co.) to determine beneficial use support and results are as follows: 0 of 1 samples exceed the criterion for Deltamethrin.
Data Reference:	Statewide Project Urban Pyrethroid Status Monitoring
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	San Francisco Bay Basin Water Quality Control Plan 2007: All waters shall be maintained free of toxic substances in concentrations which are toxic to, or which produce detrimental physiological responses in, human, plant, animal, or aquatic life.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	The evaluation guideline for deltamethrin is the median lethal concentration (LC50) of 0.79 ug/g and is normalized by the percentage of organic carbon in the sediment sample. The LC50 0.79 ug/g is the geometric mean of LC50 values for deltamethrin from Amweg et al. (2005).
Guideline Reference:	Use and Toxicity of Pyrethroid Pesticides in the Central Valley, California, USA. Environmental Toxicology and Chemistry, 24:966-972, with erratum 24:No. 5
Spatial Representation:	Data for this line of evidence for Coyote Creek (Santa Clara Co.) was collected at 1 monitoring site [Coyote Ck @ E Williams St station (205SUP022).]
Temporal Representation:	Data was collected on a single day 1/2/2007.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.

QAPP Information: The SWAMP QAPP (2008) was followed.
QAPP Information Reference(s): [Quality Assurance Management Plan for the State of California's Surface Water Ambient Monitoring Program. Sacramento, CA. State Water Resources Control Board. SWAMP. December 2002 \(1st version\)](#)

Line of Evidence (LOE) for Decision ID 61978, Deltamethrin
Coyote Creek (Santa Clara Co.)

Region 2

LOE ID: 91466

Pollutant: Deltamethrin
LOE Subgroup: Pollutant-Sediment
Matrix: Sediment
Fraction: Total

Beneficial Use: Cold Freshwater Habitat

Number of Samples: 1
Number of Exceedances: 0

Data and Information Type: PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality: Water Board staff assessed SWAMP data for Coyote Creek (Santa Clara Co.) to determine beneficial use support and results are as follows: 0 of 1 samples exceed the criterion for Deltamethrin.

Data Reference: [Statewide Stream Pollution Trends Study 2008](#)

SWAMP Data: SWAMP

Water Quality Objective/Criterion: San Francisco Bay Basin Water Quality Control Plan 2007: All waters shall be maintained free of toxic substances in concentrations which are toxic to, or which produce detrimental physiological responses in, human, plant, animal, or aquatic life.

Objective/Criterion Reference: [Water Quality Control Plan \(Basin Plan\) San Francisco Bay Basin \(Region 2\)](#)

Evaluation Guideline: The evaluation guideline for deltamethrin is the median lethal concentration (LC50) of 0.79 ug/g and is normalized by the percentage of organic carbon in the sediment sample. The LC50 0.79 ug/g is the geometric mean of LC50 values for deltamethrin from Amweg et al. (2005).

Guideline Reference: [Use and Toxicity of Pyrethroid Pesticides in the Central Valley, California, USA. Environmental Toxicology and Chemistry, 24:966-972, with erratum 24:No. 5](#)

Spatial Representation: Data for this line of evidence for Coyote Creek (Santa Clara Co) was collected at 1 monitoring site [Coyote Creek at Montague station (205COY060)]

Temporal Representation: Data was collected on a single day 6/17/2008.

Environmental Conditions: Staff is not aware of any special conditions that might affect interpretation of the data.

QAPP Information: SWAMP data collected before September 2008 followed the QAMP (2002), however there may have been overlap in QA with SWAMP QAPP (2008).

QAPP Information Reference(s): [Quality Assurance Management Plan for the State of California's Surface Water Ambient Monitoring Program. Sacramento, CA. State Water Resources Control Board. SWAMP. December 2002 \(1st version\)](#)
[Surface Water Ambient Monitoring Program Quality Assurance Program Plan](#)

Line of Evidence (LOE) for Decision ID 61978, Deltamethrin
Coyote Creek (Santa Clara Co.)

Region 2

LOE ID: 91465

Pollutant: Deltamethrin
LOE Subgroup: Pollutant-Sediment
Matrix: Sediment
Fraction: Total

Beneficial Use:	Warm Freshwater Habitat
Number of Samples:	1
Number of Exceedances:	0
Data and Information Type:	PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality:	Water Board staff assessed SWAMP data for Coyote Creek (Santa Clara Co.) to determine beneficial use support and results are as follows: 0 of 1 samples exceed the criterion for Deltamethrin.
Data Reference:	Statewide Stream Pollution Trends Study 2008
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	San Francisco Bay Basin Water Quality Control Plan 2007: All waters shall be maintained free of toxic substances in concentrations which are toxic to, or which produce detrimental physiological responses in, human, plant, animal, or aquatic life.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	The evaluation guideline for deltamethrin is the median lethal concentration (LC50) of 0.79 ug/g and is normalized by the percentage of organic carbon in the sediment sample. The LC50 0.79 ug/g is the geometric mean of LC50 values for deltamethrin from Amweg et al. (2005).
Guideline Reference:	Use and Toxicity of Pyrethroid Pesticides in the Central Valley, California, USA. Environmental Toxicology and Chemistry, 24:966-972, with erratum 24:No. 5
Spatial Representation:	Data for this line of evidence for Coyote Creek (Santa Clara Co) was collected at 1 monitoring site [Coyote Creek at Montague station (205COY060)]
Temporal Representation:	Data was collected on a single day 6/17/2008.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	SWAMP data collected before September 2008 followed the QAMP (2002), however there may have been overlap in QA with SWAMP QAPP (2008).
QAPP Information Reference(s):	Quality Assurance Management Plan for the State of California's Surface Water Ambient Monitoring Program. Sacramento, CA. State Water Resources Control Board. SWAMP. December 2002 (1st version) Surface Water Ambient Monitoring Program Quality Assurance Program Plan

DECISION ID	61982	Region 2
Coyote Creek (Santa Clara Co.)		

Pollutant:	Dieldrin
Final Listing Decision:	Do Not List on 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision:	New Decision
Revision Status	Revised
Impairment from Pollutant or Pollution:	Pollutant
Regional Board Staff Conclusion:	<p>This pollutant is being considered for placement on the CWA section 303(d) List under section 3.6 of the Listing Policy. Under section 3.6 at least two lines of evidence are necessary to assess listing status for pollutants sediment, and pollutant concentrations in sediment must be associated with sediment toxicity to justify adding that pollutant to the CWA section 303(d) List.</p> <p>Four lines of evidence are available in the administrative record to assess this pollutant. Zero of two samples exceed the guideline. Sediment toxicity data are not associated with this decision because they are not relevant to this decision because there is insufficient information based on sediment chemistry.</p> <p>Based on the readily available data and information, the weight of evidence indicates that there is insufficient justification for placing this water segment-pollutant combination on the CWA section 303(d) List.</p>

This conclusion is based on the staff findings that:

1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy.
2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy.
3. Zero of two samples exceed the guideline and this sample size is insufficient to determine beneficial use support, with the power and confidence of the Listing Policy. A minimum of 16 samples is needed to determine if a beneficial use is fully supported using table 3.1. Sediment toxicity data are not associated with this decision because the sediment chemistry data are insufficient.
4. Pursuant to section 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.

Regional Board Staff Decision Recommendation: After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be placed on the section 303(d) list. The readily available data and information is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating.

**Line of Evidence (LOE) for Decision ID 61982, Dieldrin
Coyote Creek (Santa Clara Co.)**

Region 2

LOE ID:	91471
Pollutant:	Dieldrin
LOE Subgroup:	Pollutant-Sediment
Matrix:	Sediment
Fraction:	Total
Beneficial Use:	Warm Freshwater Habitat
Number of Samples:	1
Number of Exceedances:	0
Data and Information Type:	PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality:	Water Board staff assessed SWAMP data for Coyote Creek (Santa Clara Co.) to determine beneficial use support and results are as follows: 0 of 1 samples exceed the criterion for Dieldrin.
Data Reference:	Statewide Project Urban Pyrethroid Status Monitoring
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	San Francisco Bay Basin Water Quality Control Plan 2007: All waters shall be maintained free of toxic substances in concentrations which are toxic to, or which produce detrimental physiological responses in, human, plant, animal, or aquatic life.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	In freshwater sediments the probable effect concentration (predictive of sediment toxicity for sediment-dwelling organisms) for dieldrin is 61.8 ug/Kg dry weight (MacDonald et al. 2000).
Guideline Reference:	Development and evaluation of consensus-based sediment quality guidelines for freshwater ecosystems. Environmental Contamination and Toxicology. 39: 20-31
Spatial Representation:	Data for this line of evidence for Coyote Creek (Santa Clara Co.) was collected at 1 monitoring site [Coyote Ck @ E Williams St station (205SUP022).]
Temporal Representation:	Data was collected on a single day 1/2/2007.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	The SWAMP QAPP (2008) was followed.
QAPP Information Reference(s):	Quality Assurance Management Plan for the State of California's Surface Water Ambient Monitoring Program. Sacramento, CA. State Water Resources Control Board. SWAMP. December 2002 (1st version)

Line of Evidence (LOE) for Decision ID 61982, Dieldrin

Region 2

Coyote Creek (Santa Clara Co.)

LOE ID:	91472
Pollutant:	Dieldrin
LOE Subgroup:	Pollutant-Sediment
Matrix:	Sediment
Fraction:	Total
Beneficial Use:	Cold Freshwater Habitat
Number of Samples:	1
Number of Exceedances:	0
Data and Information Type:	PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality:	Water Board staff assessed SWAMP data for Coyote Creek (Santa Clara Co.) to determine beneficial use support and results are as follows: 0 of 1 samples exceed the criterion for Dieldrin.
Data Reference:	Statewide Project Urban Pyrethroid Status Monitoring
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	San Francisco Bay Basin Water Quality Control Plan 2007: All waters shall be maintained free of toxic substances in concentrations which are toxic to, or which produce detrimental physiological responses in, human, plant, animal, or aquatic life.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	In freshwater sediments the probable effect concentration (predictive of sediment toxicity for sediment-dwelling organisms) for dieldrin is 61.8 ug/Kg dry weight (MacDonald et al. 2000).
Guideline Reference:	Development and evaluation of consensus-based sediment quality guidelines for freshwater ecosystems. Environmental Contamination and Toxicology. 39: 20-31
Spatial Representation:	Data for this line of evidence for Coyote Creek (Santa Clara Co.) was collected at 1 monitoring site [Coyote Ck @ E Williams St station (205SUP022).]
Temporal Representation:	Data was collected on a single day 1/2/2007.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	The SWAMP QAPP (2008) was followed.
QAPP Information Reference(s):	Quality Assurance Management Plan for the State of California's Surface Water Ambient Monitoring Program. Sacramento, CA. State Water Resources Control Board. SWAMP. December 2002 (1st version)

Line of Evidence (LOE) for Decision ID 61982, Dieldrin**Region 2****Coyote Creek (Santa Clara Co.)**

LOE ID:	91473
Pollutant:	Dieldrin
LOE Subgroup:	Pollutant-Sediment
Matrix:	Sediment
Fraction:	Total
Beneficial Use:	Warm Freshwater Habitat
Number of Samples:	1
Number of Exceedances:	0
Data and Information Type:	PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality:	Water Board staff assessed SWAMP data for Coyote Creek (Santa Clara Co.) to determine beneficial use support and results are as follows: 0 of 1 samples exceed the criterion for Dieldrin.
Data Reference:	Statewide Stream Pollution Trends Study 2008

SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	San Francisco Bay Basin Water Quality Control Plan 2007: All waters shall be maintained free of toxic substances in concentrations which are toxic to, or which produce detrimental physiological responses in, human, plant, animal, or aquatic life.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	In freshwater sediments the probable effect concentration (predictive of sediment toxicity for sediment-dwelling organisms) for dieldrin is 61.8 ug/Kg dry weight (MacDonald et al. 2000).
Guideline Reference:	Development and evaluation of consensus-based sediment quality guidelines for freshwater ecosystems. Environmental Contamination and Toxicology. 39: 20-31
Spatial Representation:	Data for this line of evidence for Coyote Creek (Santa Clara Co) was collected at 1 monitoring site [Coyote Creek at Montague station (205COY060)]
Temporal Representation:	Data was collected on a single day 6/17/2008.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	SWAMP data collected before September 2008 followed the QAMP (2002), however there may have been overlap in QA with SWAMP QAPP (2008).
QAPP Information Reference(s):	Quality Assurance Management Plan for the State of California's Surface Water Ambient Monitoring Program. Sacramento, CA. State Water Resources Control Board. SWAMP. December 2002 (1st version) Surface Water Ambient Monitoring Program Quality Assurance Program Plan

**Line of Evidence (LOE) for Decision ID 61982, Dieldrin
Coyote Creek (Santa Clara Co.)**

Region 2

LOE ID:	91474
Pollutant:	Dieldrin
LOE Subgroup:	Pollutant-Sediment
Matrix:	Sediment
Fraction:	Total
Beneficial Use:	Cold Freshwater Habitat
Number of Samples:	1
Number of Exceedances:	0
Data and Information Type:	PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality:	Water Board staff assessed SWAMP data for Coyote Creek (Santa Clara Co.) to determine beneficial use support and results are as follows: 0 of 1 samples exceed the criterion for Dieldrin.
Data Reference:	Statewide Stream Pollution Trends Study 2008
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	San Francisco Bay Basin Water Quality Control Plan 2007: All waters shall be maintained free of toxic substances in concentrations which are toxic to, or which produce detrimental physiological responses in, human, plant, animal, or aquatic life.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	In freshwater sediments the probable effect concentration (predictive of sediment toxicity for sediment-dwelling organisms) for dieldrin is 61.8 ug/Kg dry weight (MacDonald et al. 2000).
Guideline Reference:	Development and evaluation of consensus-based sediment quality guidelines for freshwater ecosystems. Environmental Contamination and Toxicology. 39: 20-31
Spatial Representation:	Data for this line of evidence for Coyote Creek (Santa Clara Co) was collected at 1 monitoring site [Coyote Creek at Montague station (205COY060)]
Temporal Representation:	Data was collected on a single day 6/17/2008.

Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	SWAMP data collected before September 2008 followed the QAMP (2002), however there may have been overlap in QA with SWAMP QAPP (2008).
QAPP Information Reference(s):	Quality Assurance Management Plan for the State of California's Surface Water Ambient Monitoring Program. Sacramento, CA. State Water Resources Control Board. SWAMP. December 2002 (1st version) Surface Water Ambient Monitoring Program Quality Assurance Program Plan

DECISION ID	61990	Region 2
Coyote Creek (Santa Clara Co.)		

Pollutant:	Endrin
Final Listing Decision:	Do Not List on 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision:	New Decision
Revision Status	Revised
Impairment from Pollutant or Pollution:	Pollutant

Regional Board Staff Conclusion: This pollutant is being considered for placement on the CWA section 303(d) List under section 3.6 of the Listing Policy. Under section 3.6 at least two lines of evidence are necessary to assess listing status for pollutants sediment, and pollutant concentrations in sediment must be associated with sediment toxicity to justify adding that pollutant to the CWA section 303(d) List.

Four lines of evidence are available in the administrative record to assess this pollutant. Zero of two samples exceed the guideline. Sediment toxicity data are not associated with this decision because they are not relevant to this decision because there is insufficient information based on sediment chemistry.

Based on the readily available data and information, the weight of evidence indicates that there is insufficient justification for placing this water segment-pollutant combination on the CWA section 303(d) List.

This conclusion is based on the staff findings that:

1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy.
2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy.
3. Zero of two samples exceed the guideline and this sample size is insufficient to determine beneficial use support, with the power and confidence of the Listing Policy. A minimum of 16 samples is needed to determine if a beneficial use is fully supported using table 3.1. Sediment toxicity data are not associated with this decision because the sediment chemistry data are insufficient.
4. Pursuant to section 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.

Regional Board Staff Decision Recommendation: After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be placed on the section 303(d) list. The readily available data and information is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating.

Line of Evidence (LOE) for Decision ID 61990, Endrin	Region 2
Coyote Creek (Santa Clara Co.)	

LOE ID:	91476
Pollutant:	Endrin
LOE Subgroup:	Pollutant-Sediment
Matrix:	Sediment
Fraction:	Total

Beneficial Use:	Cold Freshwater Habitat
Number of Samples:	1
Number of Exceedances:	0
Data and Information Type:	PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality:	Water Board staff assessed SWAMP data for Coyote Creek (Santa Clara Co.) to determine beneficial use support and results are as follows: 0 of 1 samples exceed the criterion for Endrin.
Data Reference:	Statewide Project Urban Pyrethroid Status Monitoring
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	San Francisco Bay Basin Water Quality Control Plan 2007: All waters shall be maintained free of toxic substances in concentrations which are toxic to, or which produce detrimental physiological responses in, human, plant, animal, or aquatic life.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	In freshwater sediments the probable effect concentration (predictive of sediment toxicity for sediment-dwelling organisms) for endrin is 207 ug/Kg dry weight (MacDonald et al. 2000).
Guideline Reference:	Development and evaluation of consensus-based sediment quality guidelines for freshwater ecosystems. Environmental Contamination and Toxicology. 39: 20-31
Spatial Representation:	Data for this line of evidence for Coyote Creek (Santa Clara Co.) was collected at 1 monitoring site [Coyote Ck @ E Williams St station (205SUP022).]
Temporal Representation:	Data was collected on a single day 1/2/2007.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	The SWAMP QAPP (2008) was followed.
QAPP Information Reference(s):	Quality Assurance Management Plan for the State of California's Surface Water Ambient Monitoring Program. Sacramento, CA. State Water Resources Control Board. SWAMP. December 2002 (1st version)

**Line of Evidence (LOE) for Decision ID 61990, Endrin
Coyote Creek (Santa Clara Co.)**

Region 2

LOE ID:	91477
Pollutant:	Endrin
LOE Subgroup:	Pollutant-Sediment
Matrix:	Sediment
Fraction:	Total
Beneficial Use:	Warm Freshwater Habitat
Number of Samples:	1
Number of Exceedances:	0
Data and Information Type:	PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality:	Water Board staff assessed SWAMP data for Coyote Creek (Santa Clara Co.) to determine beneficial use support and results are as follows: 0 of 1 samples exceed the criterion for Endrin.
Data Reference:	Statewide Stream Pollution Trends Study 2008
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	San Francisco Bay Basin Water Quality Control Plan 2007: All waters shall be maintained free of toxic substances in concentrations which are toxic to, or which produce detrimental physiological responses in, human, plant, animal, or aquatic life.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	In freshwater sediments the probable effect concentration (predictive of sediment toxicity

	for sediment-dwelling organisms) for endrin is 207 ug/Kg dry weight (MacDonald et al. 2000).
Guideline Reference:	Development and evaluation of consensus-based sediment quality guidelines for freshwater ecosystems. Environmental Contamination and Toxicology. 39: 20-31
Spatial Representation:	Data for this line of evidence for Coyote Creek (Santa Clara Co) was collected at 1 monitoring site [Coyote Creek at Montague station (205COY060)]
Temporal Representation:	Data was collected on a single day 6/17/2008.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	SWAMP data collected before September 2008 followed the QAMP (2002), however there may have been overlap in QA with SWAMP QAPP (2008).
QAPP Information Reference(s):	Quality Assurance Management Plan for the State of California's Surface Water Ambient Monitoring Program. Sacramento, CA. State Water Resources Control Board. SWAMP. December 2002 (1st version). Surface Water Ambient Monitoring Program Quality Assurance Program Plan

**Line of Evidence (LOE) for Decision ID 61990, Endrin
Coyote Creek (Santa Clara Co.)**

Region 2

LOE ID:	91478
Pollutant:	Endrin
LOE Subgroup:	Pollutant-Sediment
Matrix:	Sediment
Fraction:	Total
Beneficial Use:	Cold Freshwater Habitat
Number of Samples:	1
Number of Exceedances:	0
Data and Information Type:	PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality:	Water Board staff assessed SWAMP data for Coyote Creek (Santa Clara Co.) to determine beneficial use support and results are as follows: 0 of 1 samples exceed the criterion for Endrin.
Data Reference:	Statewide Stream Pollution Trends Study 2008
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	San Francisco Bay Basin Water Quality Control Plan 2007: All waters shall be maintained free of toxic substances in concentrations which are toxic to, or which produce detrimental physiological responses in, human, plant, animal, or aquatic life.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	In freshwater sediments the probable effect concentration (predictive of sediment toxicity for sediment-dwelling organisms) for endrin is 207 ug/Kg dry weight (MacDonald et al. 2000).
Guideline Reference:	Development and evaluation of consensus-based sediment quality guidelines for freshwater ecosystems. Environmental Contamination and Toxicology. 39: 20-31
Spatial Representation:	Data for this line of evidence for Coyote Creek (Santa Clara Co) was collected at 1 monitoring site [Coyote Creek at Montague station (205COY060)]
Temporal Representation:	Data was collected on a single day 6/17/2008.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	SWAMP data collected before September 2008 followed the QAMP (2002), however there may have been overlap in QA with SWAMP QAPP (2008).
QAPP Information Reference(s):	Quality Assurance Management Plan for the State of California's Surface Water Ambient Monitoring Program. Sacramento, CA. State Water Resources Control Board. SWAMP. December 2002 (1st version). Surface Water Ambient Monitoring Program Quality Assurance Program Plan

Line of Evidence (LOE) for Decision ID 61990, Endrin

Region 2

Coyote Creek (Santa Clara Co.)

LOE ID:	91475
Pollutant:	Endrin
LOE Subgroup:	Pollutant-Sediment
Matrix:	Sediment
Fraction:	Total
Beneficial Use:	Warm Freshwater Habitat
Number of Samples:	1
Number of Exceedances:	0
Data and Information Type:	PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality:	Water Board staff assessed SWAMP data for Coyote Creek (Santa Clara Co.) to determine beneficial use support and results are as follows: 0 of 1 samples exceed the criterion for Endrin.
Data Reference:	Statewide Project Urban Pyrethroid Status Monitoring
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	San Francisco Bay Basin Water Quality Control Plan 2007: All waters shall be maintained free of toxic substances in concentrations which are toxic to, or which produce detrimental physiological responses in, human, plant, animal, or aquatic life.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	In freshwater sediments the probable effect concentration (predictive of sediment toxicity for sediment-dwelling organisms) for endrin is 207 ug/Kg dry weight (MacDonald et al. 2000).
Guideline Reference:	Development and evaluation of consensus-based sediment quality guidelines for freshwater ecosystems. Environmental Contamination and Toxicology. 39: 20-31
Spatial Representation:	Data for this line of evidence for Coyote Creek (Santa Clara Co.) was collected at 1 monitoring site [Coyote Ck @ E Williams St station (205SUP022).]
Temporal Representation:	Data was collected on a single day 1/2/2007.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	The SWAMP QAPP (2008) was followed.
QAPP Information Reference(s):	Quality Assurance Management Plan for the State of California's Surface Water Ambient Monitoring Program. Sacramento, CA. State Water Resources Control Board. SWAMP. December 2002 (1st version)

DECISION ID	61992	Region 2
Coyote Creek (Santa Clara Co.)		

Pollutant:	Esfenvalerate/Fenvalerate
Final Listing Decision:	Do Not List on 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision:	New Decision
Revision Status	Revised
Impairment from Pollutant or Pollution:	Pollutant

Regional Board Staff Conclusion:	<p>This pollutant is being considered for placement on the CWA section 303(d) List under section 3.6 of the Listing Policy. Under section 3.6 at least two lines of evidence are necessary to assess listing status for pollutants sediment, and pollutant concentrations in sediment must be associated with sediment toxicity to justify adding that pollutant to the CWA section 303(d) List.</p> <p>Four lines of evidence are available in the administrative record to assess this pollutant. Zero of two samples exceed the guideline. Sediment toxicity data are not associated with this decision because they are not relevant to this decision because there is insufficient information based on sediment</p>
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chemistry.

Based on the readily available data and information, the weight of evidence indicates that there is insufficient justification for placing this water segment-pollutant combination on the CWA section 303(d) List.

This conclusion is based on the staff findings that:

1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy.
2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy.
3. Zero of two samples exceed the guideline and this sample size is insufficient to determine beneficial use support, with the power and confidence of the Listing Policy. A minimum of 16 samples is needed to determine if a beneficial use is fully supported using table 3.1. Sediment toxicity data are not associated with this decision because the sediment chemistry data are insufficient.
4. Pursuant to section 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.

Regional Board Staff Decision Recommendation: After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be placed on the section 303(d) list. The readily available data and information is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating.

**Line of Evidence (LOE) for Decision ID 61992, Esfenvalerate/Fenvalerate
Coyote Creek (Santa Clara Co.)**

Region 2

LOE ID:	91481
Pollutant:	Esfenvalerate/Fenvalerate
LOE Subgroup:	Pollutant-Sediment
Matrix:	Sediment
Fraction:	Total
Beneficial Use:	Warm Freshwater Habitat
Number of Samples:	1
Number of Exceedances:	0
Data and Information Type:	PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality:	Water Board staff assessed SWAMP data for Coyote Creek (Santa Clara Co.) to determine beneficial use support and results are as follows: 0 of 1 samples exceed the criterion for Esfenvalerate/Fenvalerate, total.
Data Reference:	Statewide Stream Pollution Trends Study 2008
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	San Francisco Bay Basin Water Quality Control Plan 2007: All waters shall be maintained free of toxic substances in concentrations which are toxic to, or which produce detrimental physiological responses in, human, plant, animal, or aquatic life.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	The evaluation guideline for esfenvalerate/fenvalerate is the median lethal concentration (LC50) of 1.5 ug/g and is normalized by the percentage of organic carbon in the sediment sample. The LC50 1.5 ug/g is the geometric mean of LC50 values for esfenvalerate/fenvalerate from Amweg et al. (2005).
Guideline Reference:	Use and Toxicity of Pyrethroid Pesticides in the Central Valley, California, USA. Environmental Toxicology and Chemistry, 24:966-972, with erratum 24:No. 5
Spatial Representation:	Data for this line of evidence for Coyote Creek (Santa Clara Co) was collected at 1 monitoring site [Coyote Creek at Montague station (205COY060)]
Temporal Representation:	Data was collected on a single day 6/17/2008.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.

QAPP Information: SWAMP data collected before September 2008 followed the QAMP (2002), however there may have been overlap in QA with SWAMP QAPP (2008).

QAPP Information Reference(s): [Quality Assurance Management Plan for the State of California's Surface Water Ambient Monitoring Program. Sacramento, CA. State Water Resources Control Board. SWAMP. December 2002 \(1st version\)](#)
[Surface Water Ambient Monitoring Program Quality Assurance Program Plan](#)

Line of Evidence (LOE) for Decision ID 61992, Esfenvalerate/Fenvalerate	Region 2
Coyote Creek (Santa Clara Co.)	

LOE ID: 91480

Pollutant: Esfenvalerate/Fenvalerate
 LOE Subgroup: Pollutant-Sediment
 Matrix: Sediment
 Fraction: Total

Beneficial Use: Cold Freshwater Habitat

Number of Samples: 1
 Number of Exceedances: 0

Data and Information Type: PHYSICAL/CHEMICAL MONITORING
 Data Used to Assess Water Quality: Water Board staff assessed SWAMP data for Coyote Creek (Santa Clara Co.) to determine beneficial use support and results are as follows: 0 of 1 samples exceed the criterion for Esfenvalerate/Fenvalerate, total.

Data Reference: [Statewide Project Urban Pyrethroid Status Monitoring](#)

SWAMP Data: SWAMP

Water Quality Objective/Criterion: San Francisco Bay Basin Water Quality Control Plan 2007: All waters shall be maintained free of toxic substances in concentrations which are toxic to, or which produce detrimental physiological responses in, human, plant, animal, or aquatic life.

Objective/Criterion Reference: [Water Quality Control Plan \(Basin Plan\) San Francisco Bay Basin \(Region 2\)](#)

Evaluation Guideline: The evaluation guideline for esfenvalerate/fenvalerate is the median lethal concentration (LC50) of 1.5 ug/g and is normalized by the percentage of organic carbon in the sediment sample. The LC50 1.5 ug/g is the geometric mean of LC50 values for esfenvalerate/fenvalerate from Amweg et al. (2005).

Guideline Reference: [Use and Toxicity of Pyrethroid Pesticides in the Central Valley, California, USA. Environmental Toxicology and Chemistry, 24:966-972, with erratum 24:No. 5](#)

Spatial Representation: Data for this line of evidence for Coyote Creek (Santa Clara Co.) was collected at 1 monitoring site [Coyote Ck @ E Williams St station (205SUP022).]

Temporal Representation: Data was collected on a single day 1/2/2007.

Environmental Conditions: Staff is not aware of any special conditions that might affect interpretation of the data.

QAPP Information: The SWAMP QAPP (2008) was followed.

QAPP Information Reference(s): [Quality Assurance Management Plan for the State of California's Surface Water Ambient Monitoring Program. Sacramento, CA. State Water Resources Control Board. SWAMP. December 2002 \(1st version\)](#)

Line of Evidence (LOE) for Decision ID 61992, Esfenvalerate/Fenvalerate	Region 2
Coyote Creek (Santa Clara Co.)	

LOE ID: 91479

Pollutant: Esfenvalerate/Fenvalerate
 LOE Subgroup: Pollutant-Sediment
 Matrix: Sediment
 Fraction: Total

Beneficial Use:	Warm Freshwater Habitat
Number of Samples:	1
Number of Exceedances:	0
Data and Information Type:	PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality:	Water Board staff assessed SWAMP data for Coyote Creek (Santa Clara Co.) to determine beneficial use support and results are as follows: 0 of 1 samples exceed the criterion for Esfenvalerate/Fenvalerate, total.
Data Reference:	Statewide Project Urban Pyrethroid Status Monitoring
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	San Francisco Bay Basin Water Quality Control Plan 2007: All waters shall be maintained free of toxic substances in concentrations which are toxic to, or which produce detrimental physiological responses in, human, plant, animal, or aquatic life.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	The evaluation guideline for esfenvalerate/fenvalerate is the median lethal concentration (LC50) of 1.5 ug/g and is normalized by the percentage of organic carbon in the sediment sample. The LC50 1.5 ug/g is the geometric mean of LC50 values for esfenvalerate/fenvalerate from Amweg et al. (2005).
Guideline Reference:	Use and Toxicity of Pyrethroid Pesticides in the Central Valley, California, USA. Environmental Toxicology and Chemistry, 24:966-972, with erratum 24:No. 5
Spatial Representation:	Data for this line of evidence for Coyote Creek (Santa Clara Co.) was collected at 1 monitoring site [Coyote Ck @ E Williams St station (205SUP022).]
Temporal Representation:	Data was collected on a single day 1/2/2007.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	The SWAMP QAPP (2008) was followed.
QAPP Information Reference(s):	Quality Assurance Management Plan for the State of California's Surface Water Ambient Monitoring Program. Sacramento, CA. State Water Resources Control Board. SWAMP. December 2002 (1st version)

**Line of Evidence (LOE) for Decision ID 61992, Esfenvalerate/Fenvalerate
Coyote Creek (Santa Clara Co.)**

Region 2

LOE ID:	91482
Pollutant:	Esfenvalerate/Fenvalerate
LOE Subgroup:	Pollutant-Sediment
Matrix:	Sediment
Fraction:	Total
Beneficial Use:	Cold Freshwater Habitat
Number of Samples:	1
Number of Exceedances:	0
Data and Information Type:	PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality:	Water Board staff assessed SWAMP data for Coyote Creek (Santa Clara Co.) to determine beneficial use support and results are as follows: 0 of 1 samples exceed the criterion for Esfenvalerate/Fenvalerate, total.
Data Reference:	Statewide Stream Pollution Trends Study 2008
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	San Francisco Bay Basin Water Quality Control Plan 2007: All waters shall be maintained free of toxic substances in concentrations which are toxic to, or which produce detrimental physiological responses in, human, plant, animal, or aquatic life.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)

Evaluation Guideline:	The evaluation guideline for esfenvalerate/fenvalerate is the median lethal concentration (LC50) of 1.5 ug/g and is normalized by the percentage of organic carbon in the sediment sample. The LC50 1.5 ug/g is the geometric mean of LC50 values for esfenvalerate/fenvalerate from Amweg et al. (2005).
Guideline Reference:	Use and Toxicity of Pyrethroid Pesticides in the Central Valley, California, USA. Environmental Toxicology and Chemistry, 24:966-972, with erratum 24:No. 5
Spatial Representation:	Data for this line of evidence for Coyote Creek (Santa Clara Co) was collected at 1 monitoring site [Coyote Creek at Montague station (205COY060)]
Temporal Representation:	Data was collected on a single day 6/17/2008.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	SWAMP data collected before September 2008 followed the QAMP (2002), however there may have been overlap in QA with SWAMP QAPP (2008).
QAPP Information Reference(s):	Quality Assurance Management Plan for the State of California's Surface Water Ambient Monitoring Program. Sacramento, CA. State Water Resources Control Board. SWAMP. December 2002 (1st version) Surface Water Ambient Monitoring Program Quality Assurance Program Plan

DECISION ID	61995	Region 2
Coyote Creek (Santa Clara Co.)		

Pollutant:	Fenpropathrin
Final Listing Decision:	Do Not List on 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision:	New Decision
Revision Status	Revised
Impairment from Pollutant or Pollution:	Pollutant

Regional Board Staff Conclusion: This pollutant is being considered for placement on the CWA section 303(d) List under section 3.6 of the Listing Policy. Under section 3.6 at least two lines of evidence are necessary to assess listing status for pollutants sediment, and pollutant concentrations in sediment must be associated with sediment toxicity to justify adding that pollutant to the CWA section 303(d) List.

Four lines of evidence are available in the administrative record to assess this pollutant. Zero of two samples exceed the guideline. Sediment toxicity data are not associated with this decision because they are not relevant to this decision because there is insufficient information based on sediment chemistry.

Based on the readily available data and information, the weight of evidence indicates that there is insufficient justification for placing this water segment-pollutant combination on the CWA section 303(d) List.

This conclusion is based on the staff findings that:

1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy.
2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy.
3. Zero of two samples exceed the guideline and this sample size is insufficient to determine beneficial use support, with the power and confidence of the Listing Policy. A minimum of 16 samples is needed to determine if a beneficial use is fully supported using table 3.1. Sediment toxicity data are not associated with this decision because the sediment chemistry data are insufficient.
4. Pursuant to section 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.

Regional Board Staff Decision Recommendation: After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be placed on the section 303(d) list. The readily available data and information is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating.

Line of Evidence (LOE) for Decision ID 61995, Fenpropathrin	Region 2
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Coyote Creek (Santa Clara Co.)

LOE ID:	91485
Pollutant:	Fenpropathrin
LOE Subgroup:	Pollutant-Sediment
Matrix:	Sediment
Fraction:	Total
Beneficial Use:	Warm Freshwater Habitat
Number of Samples:	1
Number of Exceedances:	0
Data and Information Type:	PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality:	Water Board staff assessed SWAMP data for Coyote Creek (Santa Clara Co.) to determine beneficial use support and results are as follows: 0 of 1 samples exceed the criterion for Fenpropathrin.
Data Reference:	Statewide Stream Pollution Trends Study 2008
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	San Francisco Bay Basin Water Quality Control Plan 2007: All waters shall be maintained free of toxic substances in concentrations which are toxic to, or which produce detrimental physiological responses in, human, plant, animal, or aquatic life.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	The evaluation guideline for fenpropathrin is the median lethal concentration (LC50) of 1 ug/g and is normalized by the percentage of organic carbon in the sediment sample. The LC50 1 ug/g is the geometric mean of LC50 values for fenpropathrin from Ding et al. (2011).
Guideline Reference:	Toxicity of Sediment-Associated Pesticides to Chironomus dilutus and Hyalella azteca. Arch. Environ. Contam. Toxicol. 61:83?92.
Spatial Representation:	Data for this line of evidence for Coyote Creek (Santa Clara Co) was collected at 1 monitoring site [Coyote Creek at Montague station (205COY060)]
Temporal Representation:	Data was collected on a single day 6/17/2008.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	SWAMP data collected before September 2008 followed the QAMP (2002), however there may have been overlap in QA with SWAMP QAPP (2008).
QAPP Information Reference(s):	Quality Assurance Management Plan for the State of California's Surface Water Ambient Monitoring Program. Sacramento, CA. State Water Resources Control Board. SWAMP. December 2002 (1st version) Surface Water Ambient Monitoring Program Quality Assurance Program Plan

Line of Evidence (LOE) for Decision ID 61995, Fenpropathrin**Region 2****Coyote Creek (Santa Clara Co.)**

LOE ID:	91483
Pollutant:	Fenpropathrin
LOE Subgroup:	Pollutant-Sediment
Matrix:	Sediment
Fraction:	Total
Beneficial Use:	Warm Freshwater Habitat
Number of Samples:	1
Number of Exceedances:	0
Data and Information Type:	PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality:	Water Board staff assessed SWAMP data for Coyote Creek (Santa Clara Co.) to

	determine beneficial use support and results are as follows: 0 of 1 samples exceed the criterion for Fenpropathrin.
Data Reference:	Statewide Project Urban Pyrethroid Status Monitoring
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	San Francisco Bay Basin Water Quality Control Plan 2007: All waters shall be maintained free of toxic substances in concentrations which are toxic to, or which produce detrimental physiological responses in, human, plant, animal, or aquatic life.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	The evaluation guideline for fenpropathrin is the median lethal concentration (LC50) of 1 ug/g and is normalized by the percentage of organic carbon in the sediment sample. The LC50 1 ug/g is the geometric mean of LC50 values for fenpropathrin from Ding et al. (2011).
Guideline Reference:	Toxicity of Sediment-Associated Pesticides to Chironomus dilutus and Hyalella azteca. Arch. Environ. Contam. Toxicol. 61:83?92.
Spatial Representation:	Data for this line of evidence for Coyote Creek (Santa Clara Co.) was collected at 1 monitoring site [Coyote Ck @ E Williams St station (205SUP022).]
Temporal Representation:	Data was collected on a single day 1/2/2007.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	The SWAMP QAPP (2008) was followed.
QAPP Information Reference(s):	Quality Assurance Management Plan for the State of California's Surface Water Ambient Monitoring Program. Sacramento, CA. State Water Resources Control Board. SWAMP. December 2002 (1st version)

Line of Evidence (LOE) for Decision ID 61995, Fenpropathrin

Region 2

Coyote Creek (Santa Clara Co.)

LOE ID:	91484
Pollutant:	Fenpropathrin
LOE Subgroup:	Pollutant-Sediment
Matrix:	Sediment
Fraction:	Total
Beneficial Use:	Cold Freshwater Habitat
Number of Samples:	1
Number of Exceedances:	0
Data and Information Type:	PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality:	Water Board staff assessed SWAMP data for Coyote Creek (Santa Clara Co.) to determine beneficial use support and results are as follows: 0 of 1 samples exceed the criterion for Fenpropathrin.
Data Reference:	Statewide Project Urban Pyrethroid Status Monitoring
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	San Francisco Bay Basin Water Quality Control Plan 2007: All waters shall be maintained free of toxic substances in concentrations which are toxic to, or which produce detrimental physiological responses in, human, plant, animal, or aquatic life.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	The evaluation guideline for fenpropathrin is the median lethal concentration (LC50) of 1 ug/g and is normalized by the percentage of organic carbon in the sediment sample. The LC50 1 ug/g is the geometric mean of LC50 values for fenpropathrin from Ding et al. (2011).
Guideline Reference:	Toxicity of Sediment-Associated Pesticides to Chironomus dilutus and Hyalella azteca. Arch. Environ. Contam. Toxicol. 61:83?92.

Spatial Representation:	Data for this line of evidence for Coyote Creek (Santa Clara Co.) was collected at 1 monitoring site [Coyote Ck @ E Williams St station (205SUP022).]
Temporal Representation:	Data was collected on a single day 1/2/2007.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	The SWAMP QAPP (2008) was followed.
QAPP Information Reference(s):	Quality Assurance Management Plan for the State of California's Surface Water Ambient Monitoring Program. Sacramento, CA. State Water Resources Control Board. SWAMP. December 2002 (1st version)

Line of Evidence (LOE) for Decision ID 61995, Fenpropathrin

Region 2

Coyote Creek (Santa Clara Co.)

LOE ID:	91486
Pollutant:	Fenpropathrin
LOE Subgroup:	Pollutant-Sediment
Matrix:	Sediment
Fraction:	Total
Beneficial Use:	Cold Freshwater Habitat
Number of Samples:	1
Number of Exceedances:	0
Data and Information Type:	PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality:	Water Board staff assessed SWAMP data for Coyote Creek (Santa Clara Co.) to determine beneficial use support and results are as follows: 0 of 1 samples exceed the criterion for Fenpropathrin.
Data Reference:	Statewide Stream Pollution Trends Study 2008
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	San Francisco Bay Basin Water Quality Control Plan 2007: All waters shall be maintained free of toxic substances in concentrations which are toxic to, or which produce detrimental physiological responses in, human, plant, animal, or aquatic life.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	The evaluation guideline for fenpropathrin is the median lethal concentration (LC50) of 1 ug/g and is normalized by the percentage of organic carbon in the sediment sample. The LC50 1 ug/g is the geometric mean of LC50 values for fenpropathrin from Ding et al. (2011).
Guideline Reference:	Toxicity of Sediment-Associated Pesticides to Chironomus dilutus and Hyalella azteca. Arch. Environ. Contam. Toxicol. 61:83?92.
Spatial Representation:	Data for this line of evidence for Coyote Creek (Santa Clara Co) was collected at 1 monitoring site [Coyote Creek at Montague station (205COY060)]
Temporal Representation:	Data was collected on a single day 6/17/2008.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	SWAMP data collected before September 2008 followed the QAMP (2002), however there may have been overlap in QA with SWAMP QAPP (2008).
QAPP Information Reference(s):	Quality Assurance Management Plan for the State of California's Surface Water Ambient Monitoring Program. Sacramento, CA. State Water Resources Control Board. SWAMP. December 2002 (1st version) Surface Water Ambient Monitoring Program Quality Assurance Program Plan

DECISION ID 61997

Region 2

Coyote Creek (Santa Clara Co.)

Pollutant:	Fipronil
Final Listing Decision:	Do Not List on 303(d) list (TMDL required list)

Last Listing Cycle's Final Listing Decision:
Revision Status
Impairment from Pollutant or Pollution:

New Decision

Revised
Pollutant

Regional Board Staff Conclusion:

This pollutant is being considered for placement on the CWA section 303(d) List under section 3.6 of the Listing Policy. Under section 3.6 at least two lines of evidence are necessary to assess listing status for pollutants sediment, and pollutant concentrations in sediment must be associated with sediment toxicity to justify adding that pollutant to the CWA section 303(d) List.

Two lines of evidence are available in the administrative record to assess this pollutant. Zero of zero samples exceed the guideline. Sediment toxicity data are not associated with this decision because they are not relevant to this decision because there is insufficient information based on sediment chemistry.

Based on the readily available data and information, the weight of evidence indicates that there is insufficient justification for placing this water segment-pollutant combination on the CWA section 303(d) List.

This conclusion is based on the staff findings that:

1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy.
2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy.
3. Zero of zero samples exceed the guideline and this sample size is insufficient to determine beneficial use support, with the power and confidence of the Listing Policy. A minimum of 16 samples is needed to determine if a beneficial use is fully supported using table 3.1. Sediment toxicity data are not associated with this decision because the sediment chemistry data are insufficient.
4. Pursuant to section 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.

Regional Board Staff Decision Recommendation:

After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be placed on the section 303(d) list. The readily available data and information is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating.

**Line of Evidence (LOE) for Decision ID 61997, Fipronil
Coyote Creek (Santa Clara Co.)**

Region 2

LOE ID:	91487
Pollutant:	Fipronil
LOE Subgroup:	Pollutant-Sediment
Matrix:	Sediment
Fraction:	Total
Beneficial Use:	Warm Freshwater Habitat
Number of Samples:	0
Number of Exceedances:	0
Data and Information Type:	PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality:	One of one sample result was not used in the assessment because the laboratory data was non-detect and staff determined that the organic carbon normalized method detection limit was above the guideline and therefore the results could not be quantified with the level of certainty required by the Listing Policy.
Data Reference:	Statewide Project Urban Pyrethroid Status Monitoring
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	San Francisco Bay Basin Water Quality Control Plan 2007: All waters shall be maintained

Objective/Criterion Reference:	free of toxic substances in concentrations which are toxic to, or which produce detrimental physiological responses in, human, plant, animal, or aquatic life. Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	The evaluation guideline for fipronil is the median lethal concentration (LC50) of 0.13 ug/g and is normalized by the percentage of organic carbon in the sediment sample (Maul et al. 2008).
Guideline Reference:	Effect of sediment-associated pyrethroids, fipronil, and metabolites on Chironomus tentans growth rate, body mass, condition index, immobilization, and survival. Environ. Toxicol. Chem. 27(12):2582-2590.
Spatial Representation:	Data for this line of evidence for Coyote Creek (Santa Clara Co.) was collected at 1 monitoring site [Coyote Ck @ E Williams St station (205SUP022).]
Temporal Representation:	Data was collected on a single day 1/2/2007.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	The SWAMP QAPP (2008) was followed.
QAPP Information Reference(s):	Quality Assurance Management Plan for the State of California's Surface Water Ambient Monitoring Program. Sacramento, CA. State Water Resources Control Board. SWAMP. December 2002 (1st version)

Line of Evidence (LOE) for Decision ID 61997, Fipronil
Coyote Creek (Santa Clara Co.)

Region 2

LOE ID:	91488
Pollutant:	Fipronil
LOE Subgroup:	Pollutant-Sediment
Matrix:	Sediment
Fraction:	Total
Beneficial Use:	Cold Freshwater Habitat
Number of Samples:	0
Number of Exceedances:	0
Data and Information Type:	PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality:	One of one sample result was not used in the assessment because the laboratory data was non-detect and staff determined that the organic carbon normalized method detection limit was above the guideline and therefore the results could not be quantified with the level of certainty required by the Listing Policy.
Data Reference:	Statewide Project Urban Pyrethroid Status Monitoring
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	San Francisco Bay Basin Water Quality Control Plan 2007: All waters shall be maintained free of toxic substances in concentrations which are toxic to, or which produce detrimental physiological responses in, human, plant, animal, or aquatic life.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	The evaluation guideline for fipronil is the median lethal concentration (LC50) of 0.13 ug/g and is normalized by the percentage of organic carbon in the sediment sample (Maul et al. 2008).
Guideline Reference:	Effect of sediment-associated pyrethroids, fipronil, and metabolites on Chironomus tentans growth rate, body mass, condition index, immobilization, and survival. Environ. Toxicol. Chem. 27(12):2582-2590.
Spatial Representation:	Data for this line of evidence for Coyote Creek (Santa Clara Co.) was collected at 1 monitoring site [Coyote Ck @ E Williams St station (205SUP022).]
Temporal Representation:	Data was collected on a single day 1/2/2007.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	The SWAMP QAPP (2008) was followed.
QAPP Information Reference(s):	Quality Assurance Management Plan for the State of California's Surface Water Ambient

DECISION ID	61998	Region 2
Coyote Creek (Santa Clara Co.)		

Pollutant: Fipronil Sulfide
Final Listing Decision: Do Not List on 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision: New Decision
Revision Status: Revised
Impairment from Pollutant or Pollution: Pollutant

Regional Board Staff Conclusion: This pollutant is being considered for placement on the CWA section 303(d) List under section 3.6 of the Listing Policy. Under section 3.6 at least two lines of evidence are necessary to assess listing status for pollutants sediment, and pollutant concentrations in sediment must be associated with sediment toxicity to justify adding that pollutant to the CWA section 303(d) List.

Two lines of evidence are available in the administrative record to assess this pollutant. Zero of zero samples exceed the guideline. Sediment toxicity data are not associated with this decision because they are not relevant to this decision because there is insufficient information based on sediment chemistry.

Based on the readily available data and information, the weight of evidence indicates that there is insufficient justification for placing this water segment-pollutant combination on the CWA section 303(d) List.

This conclusion is based on the staff findings that:

1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy.
2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy.
3. Zero of zero samples exceed the guideline and this sample size is insufficient to determine beneficial use support, with the power and confidence of the Listing Policy. A minimum of 16 samples is needed to determine if a beneficial use is fully supported using table 3.1. Sediment toxicity data are not associated with this decision because the sediment chemistry data are insufficient.
4. Pursuant to section 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.

Regional Board Staff Decision Recommendation: After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be placed on the section 303(d) list. The readily available data and information is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating.

Line of Evidence (LOE) for Decision ID 61998, Fipronil Sulfide	Region 2
Coyote Creek (Santa Clara Co.)	

LOE ID: 91489
Pollutant: Fipronil Sulfide
LOE Subgroup: Pollutant-Sediment
Matrix: Sediment
Fraction: Total
Beneficial Use: Warm Freshwater Habitat
Number of Samples: 0
Number of Exceedances: 0

Data and Information Type:	PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality:	One of one sample result was not used in the assessment because the laboratory data was non-detect and staff determined that the organic carbon normalized method detection limit was above the guideline and therefore the results could not be quantified with the level of certainty required by the Listing Policy.
Data Reference:	Statewide Project Urban Pyrethroid Status Monitoring
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	San Francisco Bay Basin Water Quality Control Plan 2007: All waters shall be maintained free of toxic substances in concentrations which are toxic to, or which produce detrimental physiological responses in, human, plant, animal, or aquatic life.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	The evaluation guideline for fipronil sulfide is the median lethal concentration (LC50) of 0.16 ug/g and is normalized by the percentage of organic carbon in the sediment sample (Maul et al. 2008).
Guideline Reference:	Effect of sediment-associated pyrethroids, fipronil, and metabolites on Chironomus tentans growth rate, body mass, condition index, immobilization, and survival. Environ. Toxicol. Chem. 27(12):2582-2590.
Spatial Representation:	Data for this line of evidence for Coyote Creek (Santa Clara Co.) was collected at 1 monitoring site [Coyote Ck @ E Williams St station (205SUP022).]
Temporal Representation:	Data was collected on a single day 1/2/2007.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	The SWAMP QAPP (2008) was followed.
QAPP Information Reference(s):	Quality Assurance Management Plan for the State of California's Surface Water Ambient Monitoring Program. Sacramento, CA. State Water Resources Control Board. SWAMP. December 2002 (1st version).

Line of Evidence (LOE) for Decision ID 61998, Fipronil Sulfide
Coyote Creek (Santa Clara Co.)

Region 2

LOE ID:	91490
Pollutant:	Fipronil Sulfide
LOE Subgroup:	Pollutant-Sediment
Matrix:	Sediment
Fraction:	Total
Beneficial Use:	Cold Freshwater Habitat
Number of Samples:	0
Number of Exceedances:	0
Data and Information Type:	PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality:	One of one sample result was not used in the assessment because the laboratory data was non-detect and staff determined that the organic carbon normalized method detection limit was above the guideline and therefore the results could not be quantified with the level of certainty required by the Listing Policy.
Data Reference:	Statewide Project Urban Pyrethroid Status Monitoring
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	San Francisco Bay Basin Water Quality Control Plan 2007: All waters shall be maintained free of toxic substances in concentrations which are toxic to, or which produce detrimental physiological responses in, human, plant, animal, or aquatic life.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	The evaluation guideline for fipronil sulfide is the median lethal concentration (LC50) of 0.16 ug/g and is normalized by the percentage of organic carbon in the sediment sample (Maul et al. 2008).

Guideline Reference:	Effect of sediment-associated pyrethroids, fipronil, and metabolites on Chironomus tentans growth rate, body mass, condition index, immobilization, and survival. Environ. Toxicol. Chem. 27(12):2582-2590.
Spatial Representation:	Data for this line of evidence for Coyote Creek (Santa Clara Co.) was collected at 1 monitoring site [Coyote Ck @ E Williams St station (205SUP022).]
Temporal Representation:	Data was collected on a single day 1/2/2007.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	The SWAMP QAPP (2008) was followed.
QAPP Information Reference(s):	Quality Assurance Management Plan for the State of California's Surface Water Ambient Monitoring Program. Sacramento, CA. State Water Resources Control Board. SWAMP. December 2002 (1st version)

DECISION ID	62000	Region 2
Coyote Creek (Santa Clara Co.)		

Pollutant:	Fipronil Sulfone
Final Listing Decision:	Do Not List on 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision:	New Decision
Revision Status	Revised
Impairment from Pollutant or Pollution:	Pollutant

Regional Board Staff Conclusion:	<p>This pollutant is being considered for placement on the CWA section 303(d) List under section 3.6 of the Listing Policy. Under section 3.6 at least two lines of evidence are necessary to assess listing status for pollutants sediment, and pollutant concentrations in sediment must be associated with sediment toxicity to justify adding that pollutant to the CWA section 303(d) List.</p>
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two lines of evidence are available in the administrative record to assess this pollutant. Zero of zero samples exceed the guideline. Sediment toxicity data are not associated with this decision because they are not relevant to this decision because there is insufficient information based on sediment chemistry.

Based on the readily available data and information, the weight of evidence indicates that there is insufficient justification for placing this water segment-pollutant combination on the CWA section 303(d) List.

This conclusion is based on the staff findings that:

1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy.
2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy.
3. Zero of zero samples exceed the guideline and this sample size is insufficient to determine beneficial use support, with the power and confidence of the Listing Policy. A minimum of 16 samples is needed to determine if a beneficial use is fully supported using table 3.1. Sediment toxicity data are not associated with this decision because the sediment chemistry data are insufficient.
4. Pursuant to section 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.

Regional Board Staff Decision Recommendation:	After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be placed on the section 303(d) list. The readily available data and information is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating.
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Line of Evidence (LOE) for Decision ID 62000, Fipronil Sulfone	Region 2
Coyote Creek (Santa Clara Co.)	

LOE ID:	91491
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Pollutant:	Fipronil Sulfone
LOE Subgroup:	Pollutant-Sediment
Matrix:	Sediment
Fraction:	Total
Beneficial Use:	Warm Freshwater Habitat
Number of Samples:	0
Number of Exceedances:	0
Data and Information Type:	PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality:	One of one sample result was not used in the assessment because the laboratory data was non-detect and staff determined that the organic carbon normalized method detection limit was above the guideline and therefore the results could not be quantified with the level of certainty required by the Listing Policy.
Data Reference:	Statewide Project Urban Pyrethroid Status Monitoring
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	San Francisco Bay Basin Water Quality Control Plan 2007: All waters shall be maintained free of toxic substances in concentrations which are toxic to, or which produce detrimental physiological responses in, human, plant, animal, or aquatic life.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	The evaluation guideline for fipronil sulfone is the median lethal concentration (LC50) of 0.12 ug/g and is normalized by the percentage of organic carbon in the sediment sample (Maul et al. 2008).
Guideline Reference:	Effect of sediment-associated pyrethroids, fipronil, and metabolites on Chironomus tentans growth rate, body mass, condition index, immobilization, and survival. Environ. Toxicol. Chem. 27(12):2582-2590.
Spatial Representation:	Data for this line of evidence for Coyote Creek (Santa Clara Co.) was collected at 1 monitoring site [Coyote Ck @ E Williams St station (205SUP022).]
Temporal Representation:	Data was collected on a single day 1/2/2007.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	The SWAMP QAPP (2008) was followed.
QAPP Information Reference(s):	Quality Assurance Management Plan for the State of California's Surface Water Ambient Monitoring Program. Sacramento, CA. State Water Resources Control Board. SWAMP. December 2002 (1st version).

Line of Evidence (LOE) for Decision ID 62000, Fipronil Sulfone
Coyote Creek (Santa Clara Co.)

Region 2

LOE ID:	91492
Pollutant:	Fipronil Sulfone
LOE Subgroup:	Pollutant-Sediment
Matrix:	Sediment
Fraction:	Total
Beneficial Use:	Cold Freshwater Habitat
Number of Samples:	0
Number of Exceedances:	0
Data and Information Type:	PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality:	One of one sample result was not used in the assessment because the laboratory data was non-detect and staff determined that the organic carbon normalized method detection limit was above the guideline and therefore the results could not be quantified with the level of certainty required by the Listing Policy.
Data Reference:	Statewide Project Urban Pyrethroid Status Monitoring

SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	San Francisco Bay Basin Water Quality Control Plan 2007: All waters shall be maintained free of toxic substances in concentrations which are toxic to, or which produce detrimental physiological responses in, human, plant, animal, or aquatic life.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	The evaluation guideline for fipronil sulfone is the median lethal concentration (LC50) of 0.12 ug/g and is normalized by the percentage of organic carbon in the sediment sample (Maul et al. 2008).
Guideline Reference:	Effect of sediment-associated pyrethroids, fipronil, and metabolites on Chironomus tentans growth rate, body mass, condition index, immobilization, and survival. Environ. Toxicol. Chem. 27(12):2582-2590.
Spatial Representation:	Data for this line of evidence for Coyote Creek (Santa Clara Co.) was collected at 1 monitoring site [Coyote Ck @ E Williams St station (205SUP022).]
Temporal Representation:	Data was collected on a single day 1/2/2007.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	The SWAMP QAPP (2008) was followed.
QAPP Information Reference(s):	Quality Assurance Management Plan for the State of California's Surface Water Ambient Monitoring Program. Sacramento, CA. State Water Resources Control Board. SWAMP. December 2002 (1st version)

DECISION ID	62001	Region 2
Coyote Creek (Santa Clara Co.)		

Pollutant:	Fluoranthene
Final Listing Decision:	Do Not List on 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision:	New Decision
Revision Status	Revised
Impairment from Pollutant or Pollution:	Pollutant

Regional Board Staff Conclusion: This pollutant is being considered for placement on the CWA section 303(d) List under section 3.6 of the Listing Policy. Under section 3.6 at least two lines of evidence are necessary to assess listing status for pollutants sediment, and pollutant concentrations in sediment must be associated with sediment toxicity to justify adding that pollutant to the CWA section 303(d) List.

two lines of evidence are available in the administrative record to assess this pollutant. Zero of one samples exceed the guideline. Sediment toxicity data are not associated with this decision because they are not relevant to this decision because there is insufficient information based on sediment chemistry.

Based on the readily available data and information, the weight of evidence indicates that there is insufficient justification for placing this water segment-pollutant combination on the CWA section 303(d) List.

This conclusion is based on the staff findings that:

1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy.
2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy.
3. Zero of one samples exceed the guideline and this sample size is insufficient to determine beneficial use support, with the power and confidence of the Listing Policy. A minimum of 16 samples is needed to determine if a beneficial use is fully supported using table 3.1. Sediment toxicity data are not associated with this decision because the sediment chemistry data are insufficient.
4. Pursuant to section 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.

Regional Board Staff Decision Recommendation: After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be placed on the section 303(d) list. The readily available data and

information is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating.

**Line of Evidence (LOE) for Decision ID 62001, Fluoranthene
Coyote Creek (Santa Clara Co.)**

Region 2

LOE ID:	91494
Pollutant:	Fluoranthene
LOE Subgroup:	Pollutant-Sediment
Matrix:	Sediment
Fraction:	Total
Beneficial Use:	Cold Freshwater Habitat
Number of Samples:	1
Number of Exceedances:	0
Data and Information Type:	PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality:	Water Board staff assessed SWAMP data for Coyote Creek (Santa Clara Co.) to determine beneficial use support and results are as follows: 0 of 1 samples exceed the criterion for Fluoranthene.
Data Reference:	Statewide Stream Pollution Trends Study 2008
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	San Francisco Bay Basin Water Quality Control Plan 2007: All waters shall be maintained free of toxic substances in concentrations which are toxic to, or which produce detrimental physiological responses in, human, plant, animal, or aquatic life.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	In freshwater sediments the probable effects level (predictive of sediment toxicity for sediment-dwelling organisms) for Fluoranthene is 2,230 ug/Kg dry weight (Macdonald et al. 2000)
Guideline Reference:	Development and evaluation of consensus-based sediment quality guidelines for freshwater ecosystems. Environmental Contamination and Toxicology. 39: 20-31
Spatial Representation:	Data for this line of evidence for Coyote Creek (Santa Clara Co) was collected at 1 monitoring site [Coyote Creek at Montague station (205COY060)]
Temporal Representation:	Data was collected on a single day 6/17/2008.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	SWAMP data collected before September 2008 followed the QAMP (2002), however there may have been overlap in QA with SWAMP QAPP (2008).
QAPP Information Reference(s):	Quality Assurance Management Plan for the State of California's Surface Water Ambient Monitoring Program. Sacramento, CA. State Water Resources Control Board. SWAMP. December 2002 (1st version). Surface Water Ambient Monitoring Program Quality Assurance Program Plan

**Line of Evidence (LOE) for Decision ID 62001, Fluoranthene
Coyote Creek (Santa Clara Co.)**

Region 2

LOE ID:	91493
Pollutant:	Fluoranthene
LOE Subgroup:	Pollutant-Sediment
Matrix:	Sediment
Fraction:	Total
Beneficial Use:	Warm Freshwater Habitat

Number of Samples:	1
Number of Exceedances:	0
Data and Information Type:	PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality:	Water Board staff assessed SWAMP data for Coyote Creek (Santa Clara Co.) to determine beneficial use support and results are as follows: 0 of 1 samples exceed the criterion for Fluoranthene.
Data Reference:	Statewide Stream Pollution Trends Study 2008
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	San Francisco Bay Basin Water Quality Control Plan 2007: All waters shall be maintained free of toxic substances in concentrations which are toxic to, or which produce detrimental physiological responses in, human, plant, animal, or aquatic life.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	In freshwater sediments the probable effects level (predictive of sediment toxicity for sediment-dwelling organisms) for Fluoranthene is 2,230 ug/Kg dry weight (Macdonald et al. 2000)
Guideline Reference:	Development and evaluation of consensus-based sediment quality guidelines for freshwater ecosystems. Environmental Contamination and Toxicology. 39: 20-31
Spatial Representation:	Data for this line of evidence for Coyote Creek (Santa Clara Co) was collected at 1 monitoring site [Coyote Creek at Montague station (205COY060)]
Temporal Representation:	Data was collected on a single day 6/17/2008.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	SWAMP data collected before September 2008 followed the QAMP (2002), however there may have been overlap in QA with SWAMP QAPP (2008).
QAPP Information Reference(s):	Quality Assurance Management Plan for the State of California's Surface Water Ambient Monitoring Program. Sacramento, CA. State Water Resources Control Board. SWAMP. December 2002 (1st version) Surface Water Ambient Monitoring Program Quality Assurance Program Plan

DECISION ID	62002	Region 2
Coyote Creek (Santa Clara Co.)		

Pollutant:	Fluorene
Final Listing Decision:	Do Not List on 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision:	New Decision
Revision Status	Revised
Impairment from Pollutant or Pollution:	Pollutant

Regional Board Staff Conclusion:	<p>This pollutant is being considered for placement on the CWA section 303(d) List under section 3.6 of the Listing Policy. Under section 3.6 at least two lines of evidence are necessary to assess listing status for pollutants sediment, and pollutant concentrations in sediment must be associated with sediment toxicity to justify adding that pollutant to the CWA section 303(d) List.</p> <p>Two lines of evidence are available in the administrative record to assess this pollutant. Zero of one samples exceed the guideline. Sediment toxicity data are not associated with this decision because they are not relevant to this decision because there is insufficient information based on sediment chemistry.</p> <p>Based on the readily available data and information, the weight of evidence indicates that there is insufficient justification for placing this water segment-pollutant combination on the CWA section 303(d) List.</p> <p>This conclusion is based on the staff findings that:</p> <ol style="list-style-type: none"> 1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy. 2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy.
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3. Zero of one samples exceed the guideline and this sample size is insufficient to determine beneficial use support, with the power and confidence of the Listing Policy. A minimum of 16 samples is needed to determine if a beneficial use is fully supported using table 3.1. Sediment toxicity data are not associated with this decision because the sediment chemistry data are insufficient.
4. Pursuant to section 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.

Regional Board Staff Decision Recommendation: After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be placed on the section 303(d) list. The readily available data and information is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating.

**Line of Evidence (LOE) for Decision ID 62002, Fluorene
Coyote Creek (Santa Clara Co.)**

Region 2

LOE ID:	91495
Pollutant:	Fluorene
LOE Subgroup:	Pollutant-Sediment
Matrix:	Sediment
Fraction:	Total
Beneficial Use:	Warm Freshwater Habitat
Number of Samples:	1
Number of Exceedances:	0
Data and Information Type:	PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality:	Water Board staff assessed SWAMP data for Coyote Creek (Santa Clara Co.) to determine beneficial use support and results are as follows: 0 of 1 samples exceed the criterion for Fluorene.
Data Reference:	Statewide Stream Pollution Trends Study 2008
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	San Francisco Bay Basin Water Quality Control Plan 2007: All waters shall be maintained free of toxic substances in concentrations which are toxic to, or which produce detrimental physiological responses in, human, plant, animal, or aquatic life.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	In freshwater sediments the probable effect concentration (predictive of sediment toxicity for sediment-dwelling organisms) for fluorene is 536 ug/Kg dry weight (MacDonald et al. 2000).
Guideline Reference:	Development and evaluation of consensus-based sediment quality guidelines for freshwater ecosystems. Environmental Contamination and Toxicology. 39: 20-31
Spatial Representation:	Data for this line of evidence for Coyote Creek (Santa Clara Co) was collected at 1 monitoring site [Coyote Creek at Montague station (205COY060)]
Temporal Representation:	Data was collected on a single day 6/17/2008.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	SWAMP data collected before September 2008 followed the QAMP (2002), however there may have been overlap in QA with SWAMP QAPP (2008).
QAPP Information Reference(s):	Quality Assurance Management Plan for the State of California's Surface Water Ambient Monitoring Program. Sacramento, CA. State Water Resources Control Board. SWAMP. December 2002 (1st version). Surface Water Ambient Monitoring Program Quality Assurance Program Plan

**Line of Evidence (LOE) for Decision ID 62002, Fluorene
Coyote Creek (Santa Clara Co.)**

Region 2

LOE ID:	91496
Pollutant:	Fluorene
LOE Subgroup:	Pollutant-Sediment
Matrix:	Sediment
Fraction:	Total
Beneficial Use:	Cold Freshwater Habitat
Number of Samples:	1
Number of Exceedances:	0
Data and Information Type:	PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality:	Water Board staff assessed SWAMP data for Coyote Creek (Santa Clara Co.) to determine beneficial use support and results are as follows: 0 of 1 samples exceed the criterion for Fluorene.
Data Reference:	Statewide Stream Pollution Trends Study 2008
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	San Francisco Bay Basin Water Quality Control Plan 2007: All waters shall be maintained free of toxic substances in concentrations which are toxic to, or which produce detrimental physiological responses in, human, plant, animal, or aquatic life.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	In freshwater sediments the probable effect concentration (predictive of sediment toxicity for sediment-dwelling organisms) for fluorene is 536 ug/Kg dry weight (MacDonald et al. 2000).
Guideline Reference:	Development and evaluation of consensus-based sediment quality guidelines for freshwater ecosystems. Environmental Contamination and Toxicology. 39: 20-31
Spatial Representation:	Data for this line of evidence for Coyote Creek (Santa Clara Co) was collected at 1 monitoring site [Coyote Creek at Montague station (205COY060)]
Temporal Representation:	Data was collected on a single day 6/17/2008.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	SWAMP data collected before September 2008 followed the QAMP (2002), however there may have been overlap in QA with SWAMP QAPP (2008).
QAPP Information Reference(s):	Quality Assurance Management Plan for the State of California's Surface Water Ambient Monitoring Program. Sacramento, CA. State Water Resources Control Board. SWAMP. December 2002 (1st version). Surface Water Ambient Monitoring Program Quality Assurance Program Plan

DECISION ID	62011	Region 2
Coyote Creek (Santa Clara Co.)		

Pollutant:	Lead
Final Listing Decision:	Do Not List on 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision:	New Decision
Revision Status	Revised
Impairment from Pollutant or Pollution:	Pollutant

Regional Board Staff Conclusion: This pollutant is being considered for placement on the CWA section 303(d) List under section 3.5 of the Listing Policy. Under section 3.5 a single line of evidence is necessary to assess listing status. Two lines of evidence are available in the administrative record to assess this pollutant. Zero of one samples exceed the OEHHHA guideline.

Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against placing this water segment-pollutant combination on the CWA section

303(d) List.

This conclusion is based on the staff findings that:

1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy.
2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy.
3. Zero of one samples exceed the OEHHA guideline and this sample size is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating. A minimum of 16 samples is needed to determine if a beneficial use is fully supported using table 3.1.
4. Pursuant to SECTION 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.

Regional Board Staff Decision Recommendation: After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be placed on the section 303(d) list. The readily available data and information is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating.

**Line of Evidence (LOE) for Decision ID 62011, Lead
Coyote Creek (Santa Clara Co.)**

Region 2

LOE ID:	91498
Pollutant:	Lead
LOE Subgroup:	Pollutant-Sediment
Matrix:	Sediment
Fraction:	Total
Beneficial Use:	Cold Freshwater Habitat
Number of Samples:	1
Number of Exceedances:	0
Data and Information Type:	PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality:	Water Board staff assessed SWAMP data for Coyote Creek (Santa Clara Co.) to determine beneficial use support and results are as follows: 0 of 1 samples exceed the criterion for Lead.
Data Reference:	Statewide Stream Pollution Trends Study 2008
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	San Francisco Bay Basin Water Quality Control Plan 2007: All waters shall be maintained free of toxic substances in concentrations which are toxic to, or which produce detrimental physiological responses in, human, plant, animal, or aquatic life.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	In freshwater sediments the probable effect concentration (predictive of sediment toxicity for sediment-dwelling organisms) for lead is 128 mg/Kg dry weight (MacDonald et al. 2000).
Guideline Reference:	Development and evaluation of consensus-based sediment quality guidelines for freshwater ecosystems. Environmental Contamination and Toxicology. 39: 20-31
Spatial Representation:	Data for this line of evidence for Coyote Creek (Santa Clara Co) was collected at 1 monitoring site [Coyote Creek at Montague station (205COY060)]
Temporal Representation:	Data was collected on a single day 6/17/2008.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	SWAMP data collected before September 2008 followed the QAMP (2002), however there may have been overlap in QA with SWAMP QAPP (2008).
QAPP Information Reference(s):	Quality Assurance Management Plan for the State of California's Surface Water Ambient Monitoring Program. Sacramento, CA. State Water Resources Control Board. SWAMP. December 2002 (1st version). Surface Water Ambient Monitoring Program Quality Assurance Program Plan

**Line of Evidence (LOE) for Decision ID 62011, Lead
Coyote Creek (Santa Clara Co.)**

Region 2

LOE ID:	91497
Pollutant:	Lead
LOE Subgroup:	Pollutant-Sediment
Matrix:	Sediment
Fraction:	Total
Beneficial Use:	Warm Freshwater Habitat
Number of Samples:	1
Number of Exceedances:	0
Data and Information Type:	PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality:	Water Board staff assessed SWAMP data for Coyote Creek (Santa Clara Co.) to determine beneficial use support and results are as follows: 0 of 1 samples exceed the criterion for Lead.
Data Reference:	Statewide Stream Pollution Trends Study 2008
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	San Francisco Bay Basin Water Quality Control Plan 2007: All waters shall be maintained free of toxic substances in concentrations which are toxic to, or which produce detrimental physiological responses in, human, plant, animal, or aquatic life.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	In freshwater sediments the probable effect concentration (predictive of sediment toxicity for sediment-dwelling organisms) for lead is 128 mg/Kg dry weight (MacDonald et al. 2000).
Guideline Reference:	Development and evaluation of consensus-based sediment quality guidelines for freshwater ecosystems. Environmental Contamination and Toxicology. 39: 20-31
Spatial Representation:	Data for this line of evidence for Coyote Creek (Santa Clara Co) was collected at 1 monitoring site [Coyote Creek at Montague station (205COY060)]
Temporal Representation:	Data was collected on a single day 6/17/2008.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	SWAMP data collected before September 2008 followed the QAMP (2002), however there may have been overlap in QA with SWAMP QAPP (2008).
QAPP Information Reference(s):	Quality Assurance Management Plan for the State of California's Surface Water Ambient Monitoring Program. Sacramento, CA. State Water Resources Control Board. SWAMP. December 2002 (1st version). Surface Water Ambient Monitoring Program Quality Assurance Program Plan

DECISION ID 62012

Region 2

Coyote Creek (Santa Clara Co.)

Pollutant:	Lindane/gamma Hexachlorocyclohexane (gamma-HCH)
Final Listing Decision:	Do Not List on 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision:	New Decision
Revision Status	Revised
Impairment from Pollutant or Pollution:	Pollutant
Regional Board Staff Conclusion:	This pollutant is being considered for placement on the CWA section 303(d) List under section 3.6 of the Listing Policy. Under section 3.6 at least two lines of evidence are necessary to assess listing status for pollutants sediment, and pollutant concentrations in sediment must be associated with

sediment toxicity to justify adding that pollutant to the CWA section 303(d) List.

Four lines of evidence are available in the administrative record to assess this pollutant. Zero of two samples exceed the guideline. Sediment toxicity data are not associated with this decision because they are not relevant to this decision because there is insufficient information based on sediment chemistry.

Based on the readily available data and information, the weight of evidence indicates that there is insufficient justification for placing this water segment-pollutant combination on the CWA section 303(d) List.

This conclusion is based on the staff findings that:

1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy.
2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy.
3. Zero of two samples exceed the guideline and this sample size is insufficient to determine beneficial use support, with the power and confidence of the Listing Policy. A minimum of 16 samples is needed to determine if a beneficial use is fully supported using table 3.1. Sediment toxicity data are not associated with this decision because the sediment chemistry data are insufficient.
4. Pursuant to section 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.

Regional Board Staff Decision Recommendation: After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be placed on the section 303(d) list. The readily available data and information is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating.

Line of Evidence (LOE) for Decision ID 62012, Lindane/gamma Hexachlorocyclohexane (gamma-HCH)

Region 2

Coyote Creek (Santa Clara Co.)

LOE ID:	91503
Pollutant:	Lindane/gamma Hexachlorocyclohexane (gamma-HCH)
LOE Subgroup:	Pollutant-Sediment
Matrix:	Sediment
Fraction:	Total
Beneficial Use:	Cold Freshwater Habitat
Number of Samples:	1
Number of Exceedances:	0
Data and Information Type:	PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality:	Water Board staff assessed SWAMP data for Coyote Creek (Santa Clara Co.) to determine beneficial use support and results are as follows: 0 of 1 samples exceed the criterion for HCH, gamma.
Data Reference:	Statewide Project Urban Pyrethroid Status Monitoring
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	San Francisco Bay Basin Water Quality Control Plan 2007: All waters shall be maintained free of toxic substances in concentrations which are toxic to, or which produce detrimental physiological responses in, human, plant, animal, or aquatic life.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	In freshwater sediments the probable effect concentration (predictive of sediment toxicity for sediment-dwelling organisms) for Lindane (gamma-HCH) is 4.99 ug/Kg dry weight (MacDonald et al. 2000).
Guideline Reference:	Development and evaluation of consensus-based sediment quality guidelines for freshwater ecosystems. Environmental Contamination and Toxicology. 39: 20-31

Spatial Representation:	Data for this line of evidence for Coyote Creek (Santa Clara Co.) was collected at 1 monitoring site [Coyote Ck @ E Williams St station (205SUP022).]
Temporal Representation:	Data was collected on a single day 1/2/2007.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	The SWAMP QAPP (2008) was followed.
QAPP Information Reference(s):	Quality Assurance Management Plan for the State of California's Surface Water Ambient Monitoring Program. Sacramento, CA. State Water Resources Control Board. SWAMP. December 2002 (1st version).

Line of Evidence (LOE) for Decision ID 62012, Lindane/gamma Hexachlorocyclohexane (gamma-HCH)

Region 2

Coyote Creek (Santa Clara Co.)

LOE ID:	91505
Pollutant:	Lindane/gamma Hexachlorocyclohexane (gamma-HCH)
LOE Subgroup:	Pollutant-Sediment
Matrix:	Sediment
Fraction:	Total
Beneficial Use:	Cold Freshwater Habitat
Number of Samples:	1
Number of Exceedances:	0
Data and Information Type:	PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality:	Water Board staff assessed SWAMP data for Coyote Creek (Santa Clara Co.) to determine beneficial use support and results are as follows: 0 of 1 samples exceed the criterion for HCH, gamma.
Data Reference:	Statewide Stream Pollution Trends Study 2008
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	San Francisco Bay Basin Water Quality Control Plan 2007: All waters shall be maintained free of toxic substances in concentrations which are toxic to, or which produce detrimental physiological responses in, human, plant, animal, or aquatic life.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	In freshwater sediments the probable effect concentration (predictive of sediment toxicity for sediment-dwelling organisms) for Lindane (gamma-HCH) is 4.99 ug/Kg dry weight (MacDonald et al. 2000).
Guideline Reference:	Development and evaluation of consensus-based sediment quality guidelines for freshwater ecosystems. Environmental Contamination and Toxicology. 39: 20-31
Spatial Representation:	Data for this line of evidence for Coyote Creek (Santa Clara Co) was collected at 1 monitoring site [Coyote Creek at Montague station (205COY060)]
Temporal Representation:	Data was collected on a single day 6/17/2008.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	SWAMP data collected before September 2008 followed the QAMP (2002), however there may have been overlap in QA with SWAMP QAPP (2008).
QAPP Information Reference(s):	Quality Assurance Management Plan for the State of California's Surface Water Ambient Monitoring Program. Sacramento, CA. State Water Resources Control Board. SWAMP. December 2002 (1st version). Surface Water Ambient Monitoring Program Quality Assurance Program Plan

Line of Evidence (LOE) for Decision ID 62012, Lindane/gamma Hexachlorocyclohexane (gamma-HCH)

Region 2

Coyote Creek (Santa Clara Co.)

LOE ID:	91499
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Pollutant:	Lindane/gamma Hexachlorocyclohexane (gamma-HCH)
LOE Subgroup:	Pollutant-Sediment
Matrix:	Sediment
Fraction:	Total
Beneficial Use:	Warm Freshwater Habitat
Number of Samples:	1
Number of Exceedances:	0
Data and Information Type:	PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality:	Water Board staff assessed SWAMP data for Coyote Creek (Santa Clara Co.) to determine beneficial use support and results are as follows: 0 of 1 samples exceed the criterion for HCH, gamma.
Data Reference:	Statewide Project Urban Pyrethroid Status Monitoring
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	San Francisco Bay Basin Water Quality Control Plan 2007: All waters shall be maintained free of toxic substances in concentrations which are toxic to, or which produce detrimental physiological responses in, human, plant, animal, or aquatic life.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	In freshwater sediments the probable effect concentration (predictive of sediment toxicity for sediment-dwelling organisms) for Lindane (gamma-HCH) is 4.99 ug/Kg dry weight (MacDonald et al. 2000).
Guideline Reference:	Development and evaluation of consensus-based sediment quality guidelines for freshwater ecosystems. Environmental Contamination and Toxicology. 39: 20-31
Spatial Representation:	Data for this line of evidence for Coyote Creek (Santa Clara Co.) was collected at 1 monitoring site [Coyote Ck @ E Williams St station (205SUP022).]
Temporal Representation:	Data was collected on a single day 1/2/2007.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	The SWAMP QAPP (2008) was followed.
QAPP Information Reference(s):	Quality Assurance Management Plan for the State of California's Surface Water Ambient Monitoring Program. Sacramento, CA. State Water Resources Control Board. SWAMP. December 2002 (1st version).

Line of Evidence (LOE) for Decision ID 62012, Lindane/gamma Hexachlorocyclohexane (gamma-HCH)

Region 2

Coyote Creek (Santa Clara Co.)

LOE ID:	91504
Pollutant:	Lindane/gamma Hexachlorocyclohexane (gamma-HCH)
LOE Subgroup:	Pollutant-Sediment
Matrix:	Sediment
Fraction:	Total
Beneficial Use:	Warm Freshwater Habitat
Number of Samples:	1
Number of Exceedances:	0
Data and Information Type:	PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality:	Water Board staff assessed SWAMP data for Coyote Creek (Santa Clara Co.) to determine beneficial use support and results are as follows: 0 of 1 samples exceed the criterion for HCH, gamma.
Data Reference:	Statewide Stream Pollution Trends Study 2008
SWAMP Data:	SWAMP

Water Quality Objective/Criterion:	San Francisco Bay Basin Water Quality Control Plan 2007: All waters shall be maintained free of toxic substances in concentrations which are toxic to, or which produce detrimental physiological responses in, human, plant, animal, or aquatic life.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	In freshwater sediments the probable effect concentration (predictive of sediment toxicity for sediment-dwelling organisms) for Lindane (gamma-HCH) is 4.99 ug/Kg dry weight (MacDonald et al. 2000).
Guideline Reference:	Development and evaluation of consensus-based sediment quality guidelines for freshwater ecosystems. Environmental Contamination and Toxicology. 39: 20-31
Spatial Representation:	Data for this line of evidence for Coyote Creek (Santa Clara Co) was collected at 1 monitoring site [Coyote Creek at Montague station (205COY060)]
Temporal Representation:	Data was collected on a single day 6/17/2008.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	SWAMP data collected before September 2008 followed the QAMP (2002), however there may have been overlap in QA with SWAMP QAPP (2008).
QAPP Information Reference(s):	Quality Assurance Management Plan for the State of California's Surface Water Ambient Monitoring Program. Sacramento, CA. State Water Resources Control Board. SWAMP. December 2002 (1st version) Surface Water Ambient Monitoring Program Quality Assurance Program Plan

DECISION ID	62014	Region 2
Coyote Creek (Santa Clara Co.)		

Pollutant:	Mercury
Final Listing Decision:	Do Not List on 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision:	New Decision
Revision Status	Revised
Impairment from Pollutant or Pollution:	Pollutant
Regional Board Staff Conclusion:	<p>This pollutant is being considered for placement on the CWA section 303(d) List under section 3.6 of the Listing Policy. Under section 3.6 at least two lines of evidence are necessary to assess listing status for pollutants sediment, and pollutant concentrations in sediment must be associated with sediment toxicity to justify adding that pollutant to the CWA section 303(d) List.</p> <p>Four lines of evidence are available in the administrative record to assess this pollutant. Zero of one samples exceed the guideline. Sediment toxicity data are not associated with this decision because they are not relevant to this decision because there is insufficient information based on sediment chemistry.</p> <p>Based on the readily available data and information, the weight of evidence indicates that there is insufficient justification for placing this water segment-pollutant combination on the CWA section 303(d) List.</p> <p>This conclusion is based on the staff findings that:</p> <ol style="list-style-type: none"> 1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy. 2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy. 3. Zero of one samples exceed the guideline and this sample size is insufficient to determine beneficial use support, with the power and confidence of the Listing Policy. A minimum of 16 samples is needed to determine if a beneficial use is fully supported using table 3.1. Sediment toxicity data are not associated with this decision because the sediment chemistry data are insufficient. 4. Pursuant to section 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.
Regional Board Staff Decision Recommendation:	After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be placed on the section 303(d) list. The readily available data and

information is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating.

**Line of Evidence (LOE) for Decision ID 62014, Mercury
Coyote Creek (Santa Clara Co.)**

Region 2

LOE ID:	91506
Pollutant:	Mercury
LOE Subgroup:	Pollutant-Sediment
Matrix:	Sediment
Fraction:	Total
Beneficial Use:	Warm Freshwater Habitat
Number of Samples:	1
Number of Exceedances:	0
Data and Information Type:	PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality:	Water Board staff assessed SWAMP data for Coyote Creek (Santa Clara Co.) to determine beneficial use support and results are as follows: 0 of 1 samples exceed the criterion for Mercury.
Data Reference:	Statewide Stream Pollution Trends Study 2008
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	San Francisco Bay Basin Water Quality Control Plan 2007: All waters shall be maintained free of toxic substances in concentrations which are toxic to, or which produce detrimental physiological responses in, human, plant, animal, or aquatic life.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	In freshwater sediments the probable effect concentration (predictive of sediment toxicity for sediment-dwelling organisms) for mercury is 1.06 mg/Kg dry weight (MacDonald et al. 2000).
Guideline Reference:	Development and evaluation of consensus-based sediment quality guidelines for freshwater ecosystems. Environmental Contamination and Toxicology. 39: 20-31
Spatial Representation:	Data for this line of evidence for Coyote Creek (Santa Clara Co) was collected at 1 monitoring site [Coyote Creek at Montague station (205COY060)]
Temporal Representation:	Data was collected on a single day 6/17/2008.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	SWAMP data collected before September 2008 followed the QAMP (2002), however there may have been overlap in QA with SWAMP QAPP (2008).
QAPP Information Reference(s):	Quality Assurance Management Plan for the State of California's Surface Water Ambient Monitoring Program. Sacramento, CA. State Water Resources Control Board. SWAMP. December 2002 (1st version). Surface Water Ambient Monitoring Program Quality Assurance Program Plan

**Line of Evidence (LOE) for Decision ID 62014, Mercury
Coyote Creek (Santa Clara Co.)**

Region 2

LOE ID:	91507
Pollutant:	Mercury
LOE Subgroup:	Pollutant-Sediment
Matrix:	Sediment
Fraction:	Total
Beneficial Use:	Cold Freshwater Habitat

Number of Samples:	1
Number of Exceedances:	0
Data and Information Type:	PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality:	Water Board staff assessed SWAMP data for Coyote Creek (Santa Clara Co.) to determine beneficial use support and results are as follows: 0 of 1 samples exceed the criterion for Mercury.
Data Reference:	Statewide Stream Pollution Trends Study 2008
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	San Francisco Bay Basin Water Quality Control Plan 2007: All waters shall be maintained free of toxic substances in concentrations which are toxic to, or which produce detrimental physiological responses in, human, plant, animal, or aquatic life.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	In freshwater sediments the probable effect concentration (predictive of sediment toxicity for sediment-dwelling organisms) for mercury is 1.06 mg/Kg dry weight (MacDonald et al. 2000).
Guideline Reference:	Development and evaluation of consensus-based sediment quality guidelines for freshwater ecosystems. Environmental Contamination and Toxicology. 39: 20-31
Spatial Representation:	Data for this line of evidence for Coyote Creek (Santa Clara Co) was collected at 1 monitoring site [Coyote Creek at Montague station (205COY060)]
Temporal Representation:	Data was collected on a single day 6/17/2008.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	SWAMP data collected before September 2008 followed the QAMP (2002), however there may have been overlap in QA with SWAMP QAPP (2008).
QAPP Information Reference(s):	Quality Assurance Management Plan for the State of California's Surface Water Ambient Monitoring Program. Sacramento, CA. State Water Resources Control Board. SWAMP. December 2002 (1st version) Surface Water Ambient Monitoring Program Quality Assurance Program Plan

DECISION ID	62015	Region 2
Coyote Creek (Santa Clara Co.)		

Pollutant:	Methyl Parathion
Final Listing Decision:	Do Not List on 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision:	New Decision
Revision Status	Revised
Impairment from Pollutant or Pollution:	Pollutant

Regional Board Staff Conclusion:	<p>This pollutant is being considered for placement on the CWA section 303(d) List under section 3.6 of the Listing Policy. Under section 3.6 at least two lines of evidence are necessary to assess listing status for pollutants sediment, and pollutant concentrations in sediment must be associated with sediment toxicity to justify adding that pollutant to the CWA section 303(d) List.</p> <p>Two lines of evidence are available in the administrative record to assess this pollutant. Zero of one samples exceed the guideline. Sediment toxicity data are not associated with this decision because they are not relevant to this decision because there is insufficient information based on sediment chemistry.</p> <p>Based on the readily available data and information, the weight of evidence indicates that there is insufficient justification for placing this water segment-pollutant combination on the CWA section 303(d) List.</p> <p>This conclusion is based on the staff findings that:</p> <ol style="list-style-type: none"> 1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy. 2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy.
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3. Zero of one samples exceed the guideline and this sample size is insufficient to determine beneficial use support, with the power and confidence of the Listing Policy. A minimum of 16 samples is needed to determine if a beneficial use is fully supported using table 3.1. Sediment toxicity data are not associated with this decision because the sediment chemistry data are insufficient.
4. Pursuant to section 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.

Regional Board Staff Decision Recommendation: After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be placed on the section 303(d) list. The readily available data and information is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating.

Line of Evidence (LOE) for Decision ID 62015, Methyl Parathion Coyote Creek (Santa Clara Co.)		Region 2
LOE ID:	91513	
Pollutant:	Methyl Parathion	
LOE Subgroup:	Pollutant-Sediment	
Matrix:	Sediment	
Fraction:	Total	
Beneficial Use:	Warm Freshwater Habitat	
Number of Samples:	1	
Number of Exceedances:	0	
Data and Information Type:	PHYSICAL/CHEMICAL MONITORING	
Data Used to Assess Water Quality:	Water Board staff assessed SWAMP data for Coyote Creek (Santa Clara Co.) to determine beneficial use support and results are as follows: 0 of 1 samples exceed the criterion for Parathion, Methyl.	
Data Reference:	Statewide Stream Pollution Trends Study 2008	
SWAMP Data:	SWAMP	
Water Quality Objective/Criterion:	San Francisco Bay Basin Water Quality Control Plan 2007: All waters shall be maintained free of toxic substances in concentrations which are toxic to, or which produce detrimental physiological responses in, human, plant, animal, or aquatic life.	
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)	
Evaluation Guideline:	The evaluation guideline for methyl parathion is the median lethal concentration (LC50) of 6 ug/g and is normalized by the percentage of organic carbon in the sediment sample. The LC50 6 ug/g is the geometric mean of LC50 values for methyl parathion from Ding et al. (2011).	
Guideline Reference:	Toxicity of Sediment-Associated Pesticides to Chironomus dilutus and Hyalella azteca. Arch. Environ. Contam. Toxicol. 61:83?92.	
Spatial Representation:	Data for this line of evidence for Coyote Creek (Santa Clara Co) was collected at 1 monitoring site [Coyote Creek at Montague station (205COY060)]	
Temporal Representation:	Data was collected on a single day 6/17/2008.	
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.	
QAPP Information:	SWAMP data collected before September 2008 followed the QAMP (2002), however there may have been overlap in QA with SWAMP QAPP (2008).	
QAPP Information Reference(s):	Quality Assurance Management Plan for the State of California's Surface Water Ambient Monitoring Program. Sacramento, CA. State Water Resources Control Board. SWAMP. December 2002 (1st version). Surface Water Ambient Monitoring Program Quality Assurance Program Plan	
Line of Evidence (LOE) for Decision ID 62015, Methyl Parathion		Region 2

Coyote Creek (Santa Clara Co.)

LOE ID:	91514
Pollutant:	Methyl Parathion
LOE Subgroup:	Pollutant-Sediment
Matrix:	Sediment
Fraction:	Total
Beneficial Use:	Cold Freshwater Habitat
Number of Samples:	1
Number of Exceedances:	0
Data and Information Type:	PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality:	Water Board staff assessed SWAMP data for Coyote Creek (Santa Clara Co.) to determine beneficial use support and results are as follows: 0 of 1 samples exceed the criterion for Parathion, Methyl.
Data Reference:	Statewide Stream Pollution Trends Study 2008
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	San Francisco Bay Basin Water Quality Control Plan 2007: All waters shall be maintained free of toxic substances in concentrations which are toxic to, or which produce detrimental physiological responses in, human, plant, animal, or aquatic life.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	The evaluation guideline for methyl parathion is the median lethal concentration (LC50) of 6 ug/g and is normalized by the percentage of organic carbon in the sediment sample. The LC50 6 ug/g is the geometric mean of LC50 values for methyl parathion from Ding et al. (2011).
Guideline Reference:	Toxicity of Sediment-Associated Pesticides to Chironomus dilutus and Hyalella azteca. Arch. Environ. Contam. Toxicol. 61:83?92.
Spatial Representation:	Data for this line of evidence for Coyote Creek (Santa Clara Co) was collected at 1 monitoring site [Coyote Creek at Montague station (205COY060)]
Temporal Representation:	Data was collected on a single day 6/17/2008.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	SWAMP data collected before September 2008 followed the QAMP (2002), however there may have been overlap in QA with SWAMP QAPP (2008).
QAPP Information Reference(s):	Quality Assurance Management Plan for the State of California's Surface Water Ambient Monitoring Program. Sacramento, CA. State Water Resources Control Board. SWAMP. December 2002 (1st version). Surface Water Ambient Monitoring Program Quality Assurance Program Plan

DECISION ID 62017**Region 2****Coyote Creek (Santa Clara Co.)**

Pollutant:	Naphthalene
Final Listing Decision:	Do Not List on 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision:	New Decision
Revision Status	Revised
Impairment from Pollutant or Pollution:	Pollutant
Regional Board Staff Conclusion:	This pollutant is being considered for placement on the CWA section 303(d) List under section 3.6 of the Listing Policy. Under section 3.6 at least two lines of evidence are necessary to assess listing status for pollutants sediment, and pollutant concentrations in sediment must be associated with sediment toxicity to justify adding that pollutant to the CWA section 303(d) List.

Two lines of evidence are available in the administrative record to assess this pollutant. Zero of one samples exceed the guideline. Sediment toxicity data are not associated with this decision because they are not relevant to this decision because there is insufficient information based on sediment chemistry.

Based on the readily available data and information, the weight of evidence indicates that there is insufficient justification for placing this water segment-pollutant combination on the CWA section 303(d) List.

This conclusion is based on the staff findings that:

1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy.
2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy.
3. Zero of one samples exceed the guideline and this sample size is insufficient to determine beneficial use support, with the power and confidence of the Listing Policy. A minimum of 16 samples is needed to determine if a beneficial use is fully supported using table 3.1. Sediment toxicity data are not associated with this decision because the sediment chemistry data are insufficient.
4. Pursuant to section 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.

Regional Board Staff Decision Recommendation: After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be placed on the section 303(d) list. The readily available data and information is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating.

**Line of Evidence (LOE) for Decision ID 62017, Naphthalene
Coyote Creek (Santa Clara Co.)**

Region 2

LOE ID:	91516
Pollutant:	Naphthalene
LOE Subgroup:	Pollutant-Sediment
Matrix:	Sediment
Fraction:	Total
Beneficial Use:	Cold Freshwater Habitat
Number of Samples:	1
Number of Exceedances:	0
Data and Information Type:	PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality:	Water Board staff assessed SWAMP data for Coyote Creek (Santa Clara Co.) to determine beneficial use support and results are as follows: 0 of 1 samples exceed the criterion for Naphthalene.
Data Reference:	Statewide Stream Pollution Trends Study 2008
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	San Francisco Bay Basin Water Quality Control Plan 2007: All waters shall be maintained free of toxic substances in concentrations which are toxic to, or which produce detrimental physiological responses in, human, plant, animal, or aquatic life.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	In freshwater sediments the probable effect concentration (predictive of sediment toxicity for sediment-dwelling organisms) for naphthalene is 561 ug/Kg dry weight (MacDonald et al. 2000).
Guideline Reference:	Development and evaluation of consensus-based sediment quality guidelines for freshwater ecosystems. Environmental Contamination and Toxicology. 39: 20-31
Spatial Representation:	Data for this line of evidence for Coyote Creek (Santa Clara Co) was collected at 1 monitoring site [Coyote Creek at Montague station (205COY060)]

Temporal Representation:	Data was collected on a single day 6/17/2008.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	SWAMP data collected before September 2008 followed the QAMP (2002), however there may have been overlap in QA with SWAMP QAPP (2008).
QAPP Information Reference(s):	Quality Assurance Management Plan for the State of California's Surface Water Ambient Monitoring Program. Sacramento, CA. State Water Resources Control Board. SWAMP. December 2002 (1st version) Surface Water Ambient Monitoring Program Quality Assurance Program Plan

Line of Evidence (LOE) for Decision ID 62017, Naphthalene

Region 2

Coyote Creek (Santa Clara Co.)

LOE ID:	91515
Pollutant:	Naphthalene
LOE Subgroup:	Pollutant-Sediment
Matrix:	Sediment
Fraction:	Total
Beneficial Use:	Warm Freshwater Habitat
Number of Samples:	1
Number of Exceedances:	0
Data and Information Type:	PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality:	Water Board staff assessed SWAMP data for Coyote Creek (Santa Clara Co.) to determine beneficial use support and results are as follows: 0 of 1 samples exceed the criterion for Naphthalene.
Data Reference:	Statewide Stream Pollution Trends Study 2008
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	San Francisco Bay Basin Water Quality Control Plan 2007: All waters shall be maintained free of toxic substances in concentrations which are toxic to, or which produce detrimental physiological responses in, human, plant, animal, or aquatic life.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	In freshwater sediments the probable effect concentration (predictive of sediment toxicity for sediment-dwelling organisms) for naphthalene is 561 ug/Kg dry weight (MacDonald et al. 2000).
Guideline Reference:	Development and evaluation of consensus-based sediment quality guidelines for freshwater ecosystems. Environmental Contamination and Toxicology. 39: 20-31
Spatial Representation:	Data for this line of evidence for Coyote Creek (Santa Clara Co) was collected at 1 monitoring site [Coyote Creek at Montague station (205COY060)]
Temporal Representation:	Data was collected on a single day 6/17/2008.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	SWAMP data collected before September 2008 followed the QAMP (2002), however there may have been overlap in QA with SWAMP QAPP (2008).
QAPP Information Reference(s):	Quality Assurance Management Plan for the State of California's Surface Water Ambient Monitoring Program. Sacramento, CA. State Water Resources Control Board. SWAMP. December 2002 (1st version) Surface Water Ambient Monitoring Program Quality Assurance Program Plan

DECISION ID 62018

Region 2

Coyote Creek (Santa Clara Co.)

Pollutant:	Nickel
Final Listing Decision:	Do Not List on 303(d) list (TMDL required list)
Last Listing Cycle's Final	New Decision

Listing Decision:**Revision Status**

Revised

Impairment from Pollutant or Pollution:

Pollutant

Regional Board Staff**Conclusion:**

This pollutant is being considered for placement on the CWA section 303(d) List under section 3.6 of the Listing Policy. Under section 3.6 at least two lines of evidence are necessary to assess listing status for pollutants sediment, and pollutant concentrations in sediment must be associated with sediment toxicity to justify adding that pollutant to the CWA section 303(d) List.

Two lines of evidence are available in the administrative record to assess this pollutant. One of one samples exceed the guideline. Sediment toxicity data are not associated with this decision because they are not relevant to this decision because there is insufficient information based on sediment chemistry.

Based on the readily available data and information, the weight of evidence indicates that there is insufficient justification for placing this water segment-pollutant combination on the CWA section 303(d) List.

This conclusion is based on the staff findings that:

1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy.
2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy.
3. One of one samples exceed the guideline and this sample size is insufficient to determine beneficial use support, with the power and confidence of the Listing Policy. A minimum of 16 samples is needed to determine if a beneficial use is fully supported using table 3.1. Sediment toxicity data are not associated with this decision because the sediment chemistry data are insufficient.
4. Pursuant to section 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.

Regional Board Staff Decision**Recommendation:**

After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be placed on the section 303(d) list. The readily available data and information is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating.

Line of Evidence (LOE) for Decision ID 62018, Nickel**Region 2****Coyote Creek (Santa Clara Co.)**

LOE ID: 91523

Pollutant: Nickel

LOE Subgroup: Pollutant-Sediment

Matrix: Sediment

Fraction: Total

Beneficial Use: Cold Freshwater Habitat

Number of Samples: 1

Number of Exceedances: 1

Data and Information Type: PHYSICAL/CHEMICAL MONITORING

Data Used to Assess Water Quality: Water Board staff assessed SWAMP data for Coyote Creek (Santa Clara Co.) to determine beneficial use support and results are as follows: 1 of 1 samples exceed the criterion for Nickel.

Data Reference: [Statewide Stream Pollution Trends Study 2008](#)

SWAMP Data: SWAMP

Water Quality Objective/Criterion: San Francisco Bay Basin Water Quality Control Plan 2007: All waters shall be maintained free of toxic substances in concentrations which are toxic to, or which produce detrimental physiological responses in, human, plant, animal, or aquatic life.

Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	In freshwater sediments the probable effect concentration (predictive of sediment toxicity for sediment-dwelling organisms) for nickel is 48.6 mg/Kg dry weight (MacDonald et al. 2000).
Guideline Reference:	Development and evaluation of consensus-based sediment quality guidelines for freshwater ecosystems. Environmental Contamination and Toxicology. 39: 20-31
Spatial Representation:	Data for this line of evidence for Coyote Creek (Santa Clara Co) was collected at 1 monitoring site [Coyote Creek at Montague station (205COY060)]
Temporal Representation:	Data was collected on a single day 6/17/2008.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	SWAMP data collected before September 2008 followed the QAMP (2002), however there may have been overlap in QA with SWAMP QAPP (2008).
QAPP Information Reference(s):	Quality Assurance Management Plan for the State of California's Surface Water Ambient Monitoring Program. Sacramento, CA. State Water Resources Control Board. SWAMP. December 2002 (1st version) Surface Water Ambient Monitoring Program Quality Assurance Program Plan

**Line of Evidence (LOE) for Decision ID 62018, Nickel
Coyote Creek (Santa Clara Co.)**

Region 2

LOE ID:	91517
Pollutant:	Nickel
LOE Subgroup:	Pollutant-Sediment
Matrix:	Sediment
Fraction:	Total
Beneficial Use:	Warm Freshwater Habitat
Number of Samples:	1
Number of Exceedances:	1
Data and Information Type:	PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality:	Water Board staff assessed SWAMP data for Coyote Creek (Santa Clara Co.) to determine beneficial use support and results are as follows: 1 of 1 samples exceed the criterion for Nickel.
Data Reference:	Statewide Stream Pollution Trends Study 2008
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	San Francisco Bay Basin Water Quality Control Plan 2007: All waters shall be maintained free of toxic substances in concentrations which are toxic to, or which produce detrimental physiological responses in, human, plant, animal, or aquatic life.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	In freshwater sediments the probable effect concentration (predictive of sediment toxicity for sediment-dwelling organisms) for nickel is 48.6 mg/Kg dry weight (MacDonald et al. 2000).
Guideline Reference:	Development and evaluation of consensus-based sediment quality guidelines for freshwater ecosystems. Environmental Contamination and Toxicology. 39: 20-31
Spatial Representation:	Data for this line of evidence for Coyote Creek (Santa Clara Co) was collected at 1 monitoring site [Coyote Creek at Montague station (205COY060)]
Temporal Representation:	Data was collected on a single day 6/17/2008.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	SWAMP data collected before September 2008 followed the QAMP (2002), however there may have been overlap in QA with SWAMP QAPP (2008).
QAPP Information Reference(s):	Quality Assurance Management Plan for the State of California's Surface Water Ambient Monitoring Program. Sacramento, CA. State Water Resources Control Board. SWAMP. December 2002 (1st version)

DECISION ID	62019	Region 2
Coyote Creek (Santa Clara Co.)		

Pollutant: Nitrate/Nitrite (Nitrite + Nitrate as N)
Final Listing Decision: Do Not List on 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision: New Decision
Revision Status: Revised
Impairment from Pollutant or Pollution: Pollutant

Regional Board Staff Conclusion: This pollutant is being considered for placement on the CWA section 303(d) List under section 3.1 of the Listing Policy. Under section 3.1 a single line of evidence is necessary to assess listing status. Three lines of evidence are available in the administrative record to assess this pollutant. Zero of two samples exceed the guideline.

Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against placing this water segment-pollutant combination on the CWA section 303(d) List.

This conclusion is based on the staff findings that:

1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy.
2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy.
3. Zero of two samples exceed the guideline and this sample size is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating. A minimum of 16 samples is needed to determine if a beneficial use is fully supported using table 3.1.
4. Pursuant to SECTION 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.

Regional Board Staff Decision Recommendation: After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be placed on the section 303(d) list. The readily available data and information is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating.

Line of Evidence (LOE) for Decision ID 62019, Nitrate/Nitrite (Nitrite + Nitrate as N)	Region 2
Coyote Creek (Santa Clara Co.)	

LOE ID: 91525
Pollutant: Nitrate/Nitrite (Nitrite + Nitrate as N)
LOE Subgroup: Pollutant-Water
Matrix: Water
Fraction: None
Beneficial Use: Municipal & Domestic Supply
Number of Samples: 1
Number of Exceedances: 0
Data and Information Type: PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality: State Water Board staff assessed SWAMP data for Coyote Creek (Santa Clara Co.) to determine beneficial use support and results are as follows: 0 of 1 samples exceed the criterion for Nitrate/Nitrite as N.
Data Reference: [RWB2 Reference Study Monitoring 2008](#)
SWAMP Data: SWAMP

Water Quality Objective/Criterion:	The California Maximum Contaminant Level for nitrate + nitrite (as N) that is incorporated by reference in the Water Quality Control Plan, San Francisco Bay Region is 10.0 mg/L (Water Quality Control Plan, San Francisco Bay Region).
Objective/Criterion Reference:	Maximum Contaminant Levels for organic and inorganic chemicals. CCR
Evaluation Guideline:	
Guideline Reference:	
Spatial Representation:	Data for this line of evidence for Coyote Creek (Santa Clara Co.) was collected at 1 monitoring site [Coyote approx 1.5 miles upstream of Gilroy Hot Springs Rd. bridge - 205COY610]
Temporal Representation:	Data was collected on a single day 5/15/2008.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	The SWAMP QAPP (2008) was followed.
QAPP Information Reference(s):	Surface Water Ambient Monitoring Program Quality Assurance Program Plan

Line of Evidence (LOE) for Decision ID 62019, Nitrate/Nitrite (Nitrite + Nitrate as N)	Region 2
Coyote Creek (Santa Clara Co.)	

LOE ID:	91524
Pollutant:	Nitrate/Nitrite (Nitrite + Nitrate as N)
LOE Subgroup:	Pollutant-Water
Matrix:	Water
Fraction:	None
Beneficial Use:	Municipal & Domestic Supply
Number of Samples:	1
Number of Exceedances:	0
Data and Information Type:	PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality:	State Water Board staff assessed SWAMP data for Coyote Creek (Santa Clara Co.) to determine beneficial use support and results are as follows: 0 of 1 samples exceed the criterion for Nitrate/Nitrite as N.
Data Reference:	Statewide Ref Condition Management Plan 2008
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	The California Maximum Contaminant Level for nitrate + nitrite (as N) that is incorporated by reference in the Water Quality Control Plan, San Francisco Bay Region is 10.0 mg/L (Water Quality Control Plan, San Francisco Bay Region).
Objective/Criterion Reference:	Maximum Contaminant Levels for organic and inorganic chemicals. CCR
Evaluation Guideline:	
Guideline Reference:	
Spatial Representation:	Data for this line of evidence for Coyote Creek (Santa Clara Co.) was collected at 1 monitoring site [Coyote Creek Hunting Hollows - 205CYCAHH]
Temporal Representation:	Data was collected on a single day 6/10/2008.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	The SWAMP QAPP (2008) was followed.
QAPP Information Reference(s):	Surface Water Ambient Monitoring Program Quality Assurance Program Plan

Line of Evidence (LOE) for Decision ID 62019, Nitrate/Nitrite (Nitrite + Nitrate as N)	Region 2
Coyote Creek (Santa Clara Co.)	

LOE ID:	91526
Pollutant:	Nitrate/Nitrite (Nitrite + Nitrate as N)
LOE Subgroup:	Pollutant-Water

Matrix:	Water
Fraction:	Total
Beneficial Use:	Municipal & Domestic Supply
Number of Samples:	1
Number of Exceedances:	0
Data and Information Type:	PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality:	0 of 1 samples exceed the water quality objective for Nitrate + Nitrite (as N). The Nitrate + Nitrite (as N) MCL objective is 10 mg/L. The data are reported as non-detects. These non-detects are less than or equal to the water quality standard, the value will be considered as meeting the water quality standard, objective, criterion, or evaluation guideline.
Data Reference:	RWB2 Reference Study Monitoring 2008
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	Water Quality Control Plan, San Francisco Bay Region (SFBRWQCB 2011): Waters designated for MUN shall not contain concentrations of chemical constituents in excess of the MCL specified in Title 22 of the California Code of Regulations. The Nitrate + Nitrite (as N) MCL is 10 mg/L.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2) Maximum Contaminant Levels for organic and inorganic chemicals. CCR
Evaluation Guideline:	
Guideline Reference:	
Spatial Representation:	Samples were collected at 205COY610 (Coyote approx 1.5 miles upstream of Gilroy Hot Springs Rd. bridge).
Temporal Representation:	Samples collected on 5/15/2008.
Environmental Conditions:	
QAPP Information:	SWAMP QAPP (2008) was followed.
QAPP Information Reference(s):	Surface Water Ambient Monitoring Program Quality Assurance Program Plan

DECISION ID	62020	Region 2
Coyote Creek (Santa Clara Co.)		

Pollutant:	Nitrogen, ammonia (Total Ammonia)
Final Listing Decision:	Do Not List on 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision:	New Decision
Revision Status	Revised
Impairment from Pollutant or Pollution:	Pollutant
Regional Board Staff Conclusion:	<p>This pollutant is being considered for placement on the CWA section 303(d) List under section 3.1 of the Listing Policy. Under section 3.1 a single line of evidence is necessary to assess listing status. Six lines of evidence are available in the administrative record to assess this pollutant. Zero of two samples exceed the guideline.</p> <p>Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against placing this water segment-pollutant combination on the CWA section 303(d) List.</p> <p>This conclusion is based on the staff findings that:</p> <ol style="list-style-type: none"> 1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy. 2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy. 3. Zero of two samples exceed the guideline and this sample size is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating. A minimum of 16 samples is needed to determine if a beneficial use is fully supported using table 3.1.

4. Pursuant to SECTION 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.

Regional Board Staff Decision Recommendation: After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be placed on the section 303(d) list. The readily available data and information is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating.

Line of Evidence (LOE) for Decision ID 62020, Nitrogen, ammonia (Total Ammonia)

Region 2

Coyote Creek (Santa Clara Co.)

LOE ID: 91519

Pollutant: Nitrogen, ammonia (Total Ammonia)
LOE Subgroup: Pollutant-Water
Matrix: Water
Fraction: Total

Beneficial Use: Cold Freshwater Habitat

Number of Samples: 1
Number of Exceedances: 0

Data and Information Type: PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality: State Water Board staff assessed SWAMP data for Coyote Creek (Santa Clara Co.) to determine beneficial use support and results are as follows: 0 of 1 samples exceed the criterion for Ammonia as N, Total.

Data Reference: [RWB2 Reference Study Monitoring 2008](#)

SWAMP Data: SWAMP

Water Quality Objective/Criterion: Surface waters shall not contain concentrations of chemical constituents in amounts that adversely affect any designated beneficial use.

Objective/Criterion Reference: [Water Quality Control Plan \(Basin Plan\) San Francisco Bay Basin \(Region 2\)](#)

Evaluation Guideline: Aquatic Life Ambient Water Quality Criteria for Ammonia ? Freshwater (USEPA 2013): the 30-day rolling average concentration (criterion continuous concentration or CCC) of total ammonia nitrogen(in mg TAN/L) in freshwater are not to be exceeded more than once every three years on average. The CCC values are based on pH and temperature. The CCC formula is found on page 46 and the table of CCC values is on page 49.

Guideline Reference: [Aquatic Life Ambient Water Quality Criteria for Ammonia - Freshwater 2013](#)

Spatial Representation: Data for this line of evidence for Coyote Creek (Santa Clara Co.) was collected at 1 monitoring site [Coyote approx 1.5 miles upstream of Gilroy Hot Springs Rd. bridge - 205COY610]

Temporal Representation: Data was collected on a single day 5/15/2008.

Environmental Conditions: Staff is not aware of any special conditions that might affect interpretation of the data.

QAPP Information: The SWAMP QAPP (2008) was followed.

QAPP Information Reference(s): [Surface Water Ambient Monitoring Program Quality Assurance Program Plan](#)

Line of Evidence (LOE) for Decision ID 62020, Nitrogen, ammonia (Total Ammonia)

Region 2

Coyote Creek (Santa Clara Co.)

LOE ID: 91521

Pollutant: Nitrogen, ammonia (Total Ammonia)
LOE Subgroup: Pollutant-Water
Matrix: Water
Fraction: Total

Beneficial Use:	Municipal & Domestic Supply
Number of Samples:	1
Number of Exceedances:	0
Data and Information Type:	PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality:	State Water Board staff assessed SWAMP data for Coyote Creek (Santa Clara Co.) to determine beneficial use support and results are as follows: 0 of 1 samples exceed the criterion for Ammonia as N, Total.
Data Reference:	RWB2 Reference Study Monitoring 2008
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	Surface?waters?shall?not?contain?concentrations?of?chemical?constituents?in?amounts?that?adversely?affect?any?designated?beneficial?use.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	USEPA's Lifetime Health advisory level for total ammonia is 30.0 mg/L as stated on page 8 of the 2011 edition of the drinking water standards and health advisories. (EPA EPA 820-R-11-002, 2011).
Guideline Reference:	2011 Edition of the Drinking Water Standards and Health Advisories
Spatial Representation:	Data for this line of evidence for Coyote Creek (Santa Clara Co.) was collected at 1 monitoring site [Coyote approx 1.5 miles upstream of Gilroy Hot Springs Rd. bridge - 205COY610]
Temporal Representation:	Data was collected on a single day 5/15/2008.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	The SWAMP QAPP (2008) was followed.
QAPP Information Reference(s):	Surface Water Ambient Monitoring Program Quality Assurance Program Plan

**Line of Evidence (LOE) for Decision ID 62020, Nitrogen, ammonia (Total Ammonia)
Coyote Creek (Santa Clara Co.)**

Region 2

LOE ID:	91520
Pollutant:	Nitrogen, ammonia (Total Ammonia)
LOE Subgroup:	Pollutant-Water
Matrix:	Water
Fraction:	Total
Beneficial Use:	Municipal & Domestic Supply
Number of Samples:	1
Number of Exceedances:	0
Data and Information Type:	PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality:	State Water Board staff assessed SWAMP data for Coyote Creek (Santa Clara Co.) to determine beneficial use support and results are as follows: 0 of 1 samples exceed the criterion for Ammonia as N, Total.
Data Reference:	Statewide Ref Condition Management Plan 2008
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	Surface?waters?shall?not?contain?concentrations?of?chemical?constituents?in?amounts?that?adversely?affect?any?designated?beneficial?use.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	USEPA's Lifetime Health advisory level for total ammonia is 30.0 mg/L as stated on page 8 of the 2011 edition of the drinking water standards and health advisories. (EPA EPA

Guideline Reference: 820-R-11-002, 2011).
[2011 Edition of the Drinking Water Standards and Health Advisories](#)

Spatial Representation: Data for this line of evidence for Coyote Creek (Santa Clara Co.) was collected at 1 monitoring site [Coyote Creek Hunting Hollows - 205CYCAHH]

Temporal Representation: Data was collected on a single day 6/10/2008.

Environmental Conditions: Staff is not aware of any special conditions that might affect interpretation of the data.

QAPP Information: The SWAMP QAPP (2008) was followed.

QAPP Information Reference(s): [Surface Water Ambient Monitoring Program Quality Assurance Program Plan](#)

Line of Evidence (LOE) for Decision ID 62020, Nitrogen, ammonia (Total Ammonia)	Region 2
Coyote Creek (Santa Clara Co.)	

LOE ID: 91511

Pollutant: Nitrogen, ammonia (Total Ammonia)

LOE Subgroup: Pollutant-Water

Matrix: Water

Fraction: Total

Beneficial Use: Warm Freshwater Habitat

Number of Samples: 1

Number of Exceedances: 0

Data and Information Type: PHYSICAL/CHEMICAL MONITORING

Data Used to Assess Water Quality: State Water Board staff assessed SWAMP data for Coyote Creek (Santa Clara Co.) to determine beneficial use support and results are as follows: 0 of 1 samples exceed the criterion for Ammonia as N, Total.

Data Reference: [Statewide Ref Condition Management Plan 2008](#)

SWAMP Data: SWAMP

Water Quality Objective/Criterion: Surface waters shall not contain concentrations of chemical constituents in amounts that adversely affect any designated beneficial use.

Objective/Criterion Reference: [Water Quality Control Plan \(Basin Plan\) San Francisco Bay Basin \(Region 2\)](#)

Evaluation Guideline: Aquatic Life Ambient Water Quality Criteria for Ammonia ? Freshwater (USEPA 2013): the 30-day rolling average concentration (criterion continuous concentration or CCC) of total ammonia nitrogen(in mg TAN/L) in freshwater are not to be exceeded more than once every three years on average. The CCC values are based on pH and temperature. The CCC formula is found on page 46 and the table of CCC values is on page 49.

Guideline Reference: [Aquatic Life Ambient Water Quality Criteria for Ammonia - Freshwater 2013](#)

Spatial Representation: Data for this line of evidence for Coyote Creek (Santa Clara Co.) was collected at 1 monitoring site [Coyote Creek Hunting Hollows - 205CYCAHH]

Temporal Representation: Data was collected on a single day 6/10/2008.

Environmental Conditions: Staff is not aware of any special conditions that might affect interpretation of the data.

QAPP Information: The SWAMP QAPP (2008) was followed.

QAPP Information Reference(s): [Surface Water Ambient Monitoring Program Quality Assurance Program Plan](#)

Line of Evidence (LOE) for Decision ID 62020, Nitrogen, ammonia (Total Ammonia)	Region 2
Coyote Creek (Santa Clara Co.)	

LOE ID: 91512

Pollutant: Nitrogen, ammonia (Total Ammonia)

LOE Subgroup: Pollutant-Water

Matrix: Water

Fraction: Total

Beneficial Use:	Cold Freshwater Habitat
Number of Samples:	1
Number of Exceedances:	0
Data and Information Type:	PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality:	State Water Board staff assessed SWAMP data for Coyote Creek (Santa Clara Co.) to determine beneficial use support and results are as follows: 0 of 1 samples exceed the criterion for Ammonia as N, Total.
Data Reference:	Statewide Ref Condition Management Plan 2008
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	Surface waters shall not contain concentrations of chemical constituents in amounts that adversely affect any designated beneficial use.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	Aquatic Life Ambient Water Quality Criteria for Ammonia ? Freshwater (USEPA 2013): the 30-day rolling average concentration (criterion continuous concentration or CCC) of total ammonia nitrogen(in mg TAN/L) in freshwater are not to be exceeded more than once every three years on average. The CCC values are based on pH and temperature. The CCC formula is found on page 46 and the table of CCC values is on page 49.
Guideline Reference:	Aquatic Life Ambient Water Quality Criteria for Ammonia - Freshwater 2013
Spatial Representation:	Data for this line of evidence for Coyote Creek (Santa Clara Co.) was collected at 1 monitoring site [Coyote Creek Hunting Hollows - 205CYCAHH]
Temporal Representation:	Data was collected on a single day 6/10/2008.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	The SWAMP QAPP (2008) was followed.
QAPP Information Reference(s):	Surface Water Ambient Monitoring Program Quality Assurance Program Plan

**Line of Evidence (LOE) for Decision ID 62020, Nitrogen, ammonia (Total Ammonia)
Coyote Creek (Santa Clara Co.)**

Region 2

LOE ID:	91518
Pollutant:	Nitrogen, ammonia (Total Ammonia)
LOE Subgroup:	Pollutant-Water
Matrix:	Water
Fraction:	Total
Beneficial Use:	Warm Freshwater Habitat
Number of Samples:	1
Number of Exceedances:	0
Data and Information Type:	PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality:	State Water Board staff assessed SWAMP data for Coyote Creek (Santa Clara Co.) to determine beneficial use support and results are as follows: 0 of 1 samples exceed the criterion for Ammonia as N, Total.
Data Reference:	RWB2 Reference Study Monitoring 2008
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	Surface waters shall not contain concentrations of chemical constituents in amounts that adversely affect any designated beneficial use.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	Aquatic Life Ambient Water Quality Criteria for Ammonia ? Freshwater (USEPA 2013): the

30-day rolling average concentration (criterion continuous concentration or CCC) of total ammonia nitrogen(in mg TAN/L) in freshwater are not to be exceeded more than once every three years on average. The CCC values are based on pH and temperature. The CCC formula is found on page 46 and the table of CCC values is on page 49.

Guideline Reference:

[Aquatic Life Ambient Water Quality Criteria for Ammonia - Freshwater 2013](#)

Spatial Representation:

Data for this line of evidence for Coyote Creek (Santa Clara Co.) was collected at 1 monitoring site [Coyote approx 1.5 miles upstream of Gilroy Hot Springs Rd. bridge - 205COY610]

Temporal Representation:

Data was collected on a single day 5/15/2008.

Environmental Conditions:

Staff is not aware of any special conditions that might affect interpretation of the data.

QAPP Information:

The SWAMP QAPP (2008) was followed.

QAPP Information Reference(s):

[Surface Water Ambient Monitoring Program Quality Assurance Program Plan](#)

DECISION ID	62021	Region 2
Coyote Creek (Santa Clara Co.)		

Pollutant:	Oxygen, Dissolved
Final Listing Decision:	Do Not List on 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision:	New Decision
Revision Status	Revised
Impairment from Pollutant or Pollution:	Pollutant

Regional Board Staff Conclusion:

This pollutant is being considered for placement on the CWA section 303(d) List under section 3.2 of the Listing Policy. Under section 3.2 a single line of evidence is necessary to assess listing status. Six lines of evidence are available in the administrative record to assess this pollutant. Zero of six samples exceed the objective.

Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against placing this water segment-pollutant combination on the CWA section 303(d) List.

This conclusion is based on the staff findings that:

1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy.
2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy.
3. Zero of six samples exceed the objective and this sample size is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating. A minimum of 26 samples is needed to determine if a beneficial use is fully supported using table 3.2.
4. Pursuant to SECTION 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.

Regional Board Staff Decision Recommendation:

After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be placed on the section 303(d) list. The readily available data and information is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating.

Line of Evidence (LOE) for Decision ID 62021, Oxygen, Dissolved	Region 2
Coyote Creek (Santa Clara Co.)	

LOE ID:	91528
Pollutant:	Oxygen, Dissolved
LOE Subgroup:	Pollutant-Water
Matrix:	Water
Fraction:	Dissolved
Beneficial Use:	Cold Freshwater Habitat

Number of Samples:	1
Number of Exceedances:	0
Data and Information Type:	PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality:	State Water Board staff assessed SWAMP data for Coyote Creek (Santa Clara Co.) to determine beneficial use support and results are as follows: 0 of 1 samples exceed the criterion for Oxygen, Dissolved.
Data Reference:	Statewide Ref Condition Management Plan 2008
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	Dissolved oxygen objectives for waters designated as cold water habitat shall be of a 7.0 mg/l minimum. (Water Quality Control Plan, San Francisco Bay Basin, Chapter III Water Quality Objectives.)
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	
Guideline Reference:	
Spatial Representation:	Data for this line of evidence for Coyote Creek (Santa Clara Co.) was collected at 1 monitoring site [Coyote Creek Hunting Hollows - 205CYCAHH]
Temporal Representation:	Data was collected on a single day 6/10/2008.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	The SWAMP QAPP (2008) was followed.
QAPP Information Reference(s):	Surface Water Ambient Monitoring Program Quality Assurance Program Plan

**Line of Evidence (LOE) for Decision ID 62021, Oxygen, Dissolved
Coyote Creek (Santa Clara Co.)**

Region 2

LOE ID:	91534
Pollutant:	Oxygen, Dissolved
LOE Subgroup:	Pollutant-Water
Matrix:	Water
Fraction:	Dissolved
Beneficial Use:	Warm Freshwater Habitat
Number of Samples:	2
Number of Exceedances:	0
Data and Information Type:	PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality:	State Water Board staff assessed SWAMP data for Coyote Creek (Santa Clara Co.) to determine beneficial use support and results are as follows: 0 of 2 samples exceed the criterion for Oxygen, Dissolved.
Data Reference:	RWB2 Reference Study Monitoring 2008
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	Dissolved oxygen objectives for waters designated as warm water habitat shall be of a 5.0 mg/l minimum. (Water Quality Control Plan, San Francisco Bay Basin, Chapter III Water Quality Objectives.)
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	
Guideline Reference:	
Spatial Representation:	Data for this line of evidence for Coyote Creek (Santa Clara Co.) was collected at 1 monitoring site [Coyote approx 1.5 miles upstream of Gilroy Hot Springs Rd. bridge - 205COY610]
Temporal Representation:	Data was collected over the time period 4/30/2008-5/15/2008.

Environmental Conditions: Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information: The SWAMP QAPP (2008) was followed.
QAPP Information Reference(s): [Surface Water Ambient Monitoring Program Quality Assurance Program Plan](#)

Line of Evidence (LOE) for Decision ID 62021, Oxygen, Dissolved
Coyote Creek (Santa Clara Co.)

Region 2

LOE ID: 90748

Pollutant: Oxygen, Dissolved
LOE Subgroup: Pollutant-Water
Matrix: Water
Fraction: Dissolved

Beneficial Use: Cold Freshwater Habitat

Number of Samples: 1
Number of Exceedances: 0

Data and Information Type: PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality: Numeric data generated from 1 minimum sample of Dissolved Oxygen concentrations had no exceedence.
Data Reference: [Statewide Ref Condition Management Plan 2008](#)

SWAMP Data: SWAMP

Water Quality Objective/Criterion: Table 3.3.5 of the San Francisco Bay Basin Plan states the dissolved oxygen content of surface waters with the Cold Freshwater Habitat beneficial use shall not exceed 7.0 mg/L.
Objective/Criterion Reference: [Water Quality Control Plan \(Basin Plan\) San Francisco Bay Basin \(Region 2\)](#)

Evaluation Guideline:
Guideline Reference:

Spatial Representation: The sample was collected from the 205CYCAHH station.
Temporal Representation: One sample was collected on 6/10/2008.
Environmental Conditions:
QAPP Information: SWAMP QAPP
QAPP Information Reference(s): [Surface Water Ambient Monitoring Program Quality Assurance Program Plan](#)

Line of Evidence (LOE) for Decision ID 62021, Oxygen, Dissolved
Coyote Creek (Santa Clara Co.)

Region 2

LOE ID: 91535

Pollutant: Oxygen, Dissolved
LOE Subgroup: Pollutant-Water
Matrix: Water
Fraction: Dissolved

Beneficial Use: Cold Freshwater Habitat

Number of Samples: 2
Number of Exceedances: 0

Data and Information Type: PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality: State Water Board staff assessed SWAMP data for Coyote Creek (Santa Clara Co.) to determine beneficial use support and results are as follows: 0 of 2 samples exceed the criterion for Oxygen, Dissolved.
Data Reference: [RWB2 Reference Study Monitoring 2008](#)

SWAMP Data: SWAMP

Water Quality Objective/Criterion:	Dissolved oxygen objectives for waters designated as cold water habitat shall be of a 7.0 mg/l minimum. (Water Quality Control Plan, San Francisco Bay Basin, Chapter III Water Quality Objectives.)
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	
Guideline Reference:	
Spatial Representation:	Data for this line of evidence for Coyote Creek (Santa Clara Co.) was collected at 1 monitoring site [Coyote approx 1.5 miles upstream of Gilroy Hot Springs Rd. bridge - 205COY610]
Temporal Representation:	Data was collected over the time period 4/30/2008-5/15/2008.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	The SWAMP QAPP (2008) was followed.
QAPP Information Reference(s):	Surface Water Ambient Monitoring Program Quality Assurance Program Plan

Line of Evidence (LOE) for Decision ID 62021, Oxygen, Dissolved Coyote Creek (Santa Clara Co.)	Region 2
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LOE ID:	91536
Pollutant:	Oxygen, Dissolved
LOE Subgroup:	Pollutant-Water
Matrix:	Water
Fraction:	Dissolved
Beneficial Use:	Cold Freshwater Habitat
Number of Samples:	2
Number of Exceedances:	0
Data and Information Type:	PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality:	Zero of the 2 samples collected exceeded the objective.
Data Reference:	RWB2 Reference Study Monitoring 2008
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	The minimum dissolved oxygen content of non-tidal water bodies designated as Cold water habitat is 7.0 mg/L.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	
Guideline Reference:	
Spatial Representation:	Samples were collected from the Coyote approx 1.5 miles upstream of Gilroy Hot Springs Rd. bridge station (205COY610).
Temporal Representation:	Samples were collected on the following dates: 4/30/2008 5/15/2008
Environmental Conditions:	
QAPP Information:	The SWAMP QAPP (2008) was followed.
QAPP Information Reference(s):	

Line of Evidence (LOE) for Decision ID 62021, Oxygen, Dissolved Coyote Creek (Santa Clara Co.)	Region 2
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LOE ID:	91527
Pollutant:	Oxygen, Dissolved
LOE Subgroup:	Pollutant-Water
Matrix:	Water
Fraction:	Dissolved

Beneficial Use:	Warm Freshwater Habitat
Number of Samples:	1
Number of Exceedances:	0
Data and Information Type:	PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality:	State Water Board staff assessed SWAMP data for Coyote Creek (Santa Clara Co.) to determine beneficial use support and results are as follows: 0 of 1 samples exceed the criterion for Oxygen, Dissolved.
Data Reference:	Statewide Ref Condition Management Plan 2008
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	Dissolved oxygen objectives for waters designated as warm water habitat shall be of a 5.0 mg/l minimum. (Water Quality Control Plan, San Francisco Bay Basin, Chapter III Water Quality Objectives.)
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	
Guideline Reference:	
Spatial Representation:	Data for this line of evidence for Coyote Creek (Santa Clara Co.) was collected at 1 monitoring site [Coyote Creek Hunting Hollows - 205CYCAHH]
Temporal Representation:	Data was collected on a single day 6/10/2008.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	The SWAMP QAPP (2008) was followed.
QAPP Information Reference(s):	Surface Water Ambient Monitoring Program Quality Assurance Program Plan

DECISION ID	62022	Region 2
Coyote Creek (Santa Clara Co.)		

Pollutant:	PAHs (Polycyclic Aromatic Hydrocarbons)
Final Listing Decision:	Do Not List on 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision:	New Decision
Revision Status	Revised
Impairment from Pollutant or Pollution:	Pollutant

Regional Board Staff Conclusion:	<p>This pollutant is being considered for placement on the CWA section 303(d) List under section 3.6 of the Listing Policy. Under section 3.6 at least two lines of evidence are necessary to assess listing status for pollutants sediment, and pollutant concentrations in sediment must be associated with sediment toxicity to justify adding that pollutant to the CWA section 303(d) List.</p> <p>Two lines of evidence are available in the administrative record to assess this pollutant. Zero of one samples exceed the guideline. Sediment toxicity data are not associated with this decision because they are not relevant to this decision because there is insufficient information based on sediment chemistry.</p> <p>Based on the readily available data and information, the weight of evidence indicates that there is insufficient justification for placing this water segment-pollutant combination on the CWA section 303(d) List.</p> <p>This conclusion is based on the staff findings that:</p> <ol style="list-style-type: none"> 1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy. 2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy. 3. Zero of one samples exceed the guideline and this sample size is insufficient to determine beneficial use support, with the power and confidence of the Listing Policy. A minimum of 16 samples is needed to determine if a beneficial use is fully supported using table 3.1. <p>Sediment toxicity data are not associated with this decision because the sediment chemistry data are</p>
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insufficient.

4. Pursuant to section 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.

Regional Board Staff Decision Recommendation: After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be placed on the section 303(d) list. The readily available data and information is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating.

Line of Evidence (LOE) for Decision ID 62022, PAHs (Polycyclic Aromatic Hydrocarbons)

Region 2

Coyote Creek (Santa Clara Co.)

LOE ID: 91538

Pollutant: PAHs (Polycyclic Aromatic Hydrocarbons)
LOE Subgroup: Pollutant-Sediment
Matrix: Sediment
Fraction: Total

Beneficial Use: Cold Freshwater Habitat

Number of Samples: 1
Number of Exceedances: 0

Data and Information Type: PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality: Water Board staff assessed SWAMP data for Coyote Creek (Santa Clara Co.) to determine beneficial use support and results are as follows: 0 of 1 samples exceed the criterion for PAHs (Polycyclic Aromatic Hydrocarbons).

Data Reference: [Statewide Stream Pollution Trends Study 2008](#)

SWAMP Data: SWAMP

Water Quality Objective/Criterion: San Francisco Bay Basin Water Quality Control Plan 2007: All waters shall be maintained free of toxic substances in concentrations which are toxic to, or which produce detrimental physiological responses in, human, plant, animal, or aquatic life.

Objective/Criterion Reference: [Water Quality Control Plan \(Basin Plan\) San Francisco Bay Basin \(Region 2\)](#)

Evaluation Guideline: In freshwater sediments the probable effects level (predictive of sediment toxicity for sediment-dwelling organisms) for PAH, Total is 22,800 ug/Kg dry weight (Macdonald et al. 2000)

Guideline Reference: [Development and evaluation of consensus-based sediment quality guidelines for freshwater ecosystems. Environmental Contamination and Toxicology. 39: 20-31](#)

Spatial Representation: Data for this line of evidence for Coyote Creek (Santa Clara Co) was collected at 1 monitoring site [Coyote Creek at Montague station (205COY060)]

Temporal Representation: Data was collected on a single day 6/17/2008.

Environmental Conditions: Staff is not aware of any special conditions that might affect interpretation of the data.

QAPP Information: SWAMP data collected before September 2008 followed the QAMP (2002), however there may have been overlap in QA with SWAMP QAPP (2008).

QAPP Information Reference(s): [Quality Assurance Management Plan for the State of California's Surface Water Ambient Monitoring Program. Sacramento, CA. State Water Resources Control Board. SWAMP. December 2002 \(1st version\)](#)
[Surface Water Ambient Monitoring Program Quality Assurance Program Plan](#)

Line of Evidence (LOE) for Decision ID 62022, PAHs (Polycyclic Aromatic Hydrocarbons)

Region 2

Coyote Creek (Santa Clara Co.)

LOE ID: 91537

Pollutant: PAHs (Polycyclic Aromatic Hydrocarbons)

LOE Subgroup:	Pollutant-Sediment
Matrix:	Sediment
Fraction:	Total
Beneficial Use:	Warm Freshwater Habitat
Number of Samples:	1
Number of Exceedances:	0
Data and Information Type:	PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality:	Water Board staff assessed SWAMP data for Coyote Creek (Santa Clara Co.) to determine beneficial use support and results are as follows: 0 of 1 samples exceed the criterion for PAHs (Polycyclic Aromatic Hydrocarbons).
Data Reference:	Statewide Stream Pollution Trends Study 2008
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	San Francisco Bay Basin Water Quality Control Plan 2007: All waters shall be maintained free of toxic substances in concentrations which are toxic to, or which produce detrimental physiological responses in, human, plant, animal, or aquatic life.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	In freshwater sediments the probable effects level (predictive of sediment toxicity for sediment-dwelling organisms) for PAH, Total is 22,800 ug/Kg dry weight (Macdonald et al. 2000)
Guideline Reference:	Development and evaluation of consensus-based sediment quality guidelines for freshwater ecosystems. Environmental Contamination and Toxicology. 39: 20-31
Spatial Representation:	Data for this line of evidence for Coyote Creek (Santa Clara Co) was collected at 1 monitoring site [Coyote Creek at Montague station (205COY060)]
Temporal Representation:	Data was collected on a single day 6/17/2008.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	SWAMP data collected before September 2008 followed the QAMP (2002), however there may have been overlap in QA with SWAMP QAPP (2008).
QAPP Information Reference(s):	Quality Assurance Management Plan for the State of California's Surface Water Ambient Monitoring Program. Sacramento, CA. State Water Resources Control Board. SWAMP. December 2002 (1st version) Surface Water Ambient Monitoring Program Quality Assurance Program Plan

DECISION ID	62023	Region 2
Coyote Creek (Santa Clara Co.)		

Pollutant:	PCBs (Polychlorinated biphenyls)
Final Listing Decision:	Do Not List on 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision:	New Decision
Revision Status	Revised
Impairment from Pollutant or Pollution:	Pollutant
Regional Board Staff Conclusion:	<p>This pollutant is being considered for placement on the CWA section 303(d) List under section 3.6 of the Listing Policy. Under section 3.6 at least two lines of evidence are necessary to assess listing status for pollutants sediment, and pollutant concentrations in sediment must be associated with sediment toxicity to justify adding that pollutant to the CWA section 303(d) List.</p> <p>One line of evidence is available in the administrative record to assess this pollutant. Zero of one samples exceed the guideline. Sediment toxicity data are not associated with this decision because they are not relevant to this decision because there is insufficient information based on sediment chemistry.</p> <p>Based on the readily available data and information, the weight of evidence indicates that there is</p>

insufficient justification for placing this water segment-pollutant combination on the CWA section 303(d) List.

This conclusion is based on the staff findings that:

1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy.
2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy.
3. Zero of one samples exceed the guideline and this sample size is insufficient to determine beneficial use support, with the power and confidence of the Listing Policy. A minimum of 16 samples is needed to determine if a beneficial use is fully supported using table 3.1. Sediment toxicity data are not associated with this decision because the sediment chemistry data are insufficient.
4. Pursuant to section 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.

Regional Board Staff Decision Recommendation: After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be placed on the section 303(d) list. The readily available data and information is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating.

Line of Evidence (LOE) for Decision ID 62023, PCBs (Polychlorinated biphenyls)	Region 2
Coyote Creek (Santa Clara Co.)	

LOE ID:	90583
Pollutant:	PCBs (Polychlorinated biphenyls)
LOE Subgroup:	Pollutant-Sediment
Matrix:	Sediment
Fraction:	Total
Beneficial Use:	Cold Freshwater Habitat
Number of Samples:	1
Number of Exceedances:	0
Data and Information Type:	PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality:	Zero of 1 sample collected for Total PCBs exceeded the evaluation guideline.
Data Reference:	Statewide Stream Pollution Trends Study 2008
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	Waters shall not contain substances in concentrations that result in the deposition of material that causes nuisance or adversely affects beneficial uses (Water Quality Control Plan for the San Francisco Bay Region).
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) - San Francisco Bay Region (Region 2)
Evaluation Guideline:	In freshwater sediments the probable effect concentration (predictive of sediment toxicity) for total PCB is 676 ug/Kg dry weight (MacDonald et al. 2000).
Guideline Reference:	Development and evaluation of consensus-based sediment quality guidelines for freshwater ecosystems. Environmental Contamination and Toxicology. 39: 20-31
Spatial Representation:	Data were collected at the following station 205COY060 (Coyote Creek at Montague).
Temporal Representation:	The samples were collected on 6/17/2008.
Environmental Conditions:	
QAPP Information:	The SWAMP QAPP (2008) was followed.
QAPP Information Reference(s):	Surface Water Ambient Monitoring Program Quality Assurance Program Plan

DECISION ID	62024	Region 2
Coyote Creek (Santa Clara Co.)		

Pollutant:	Permethrin
Final Listing Decision:	Do Not List on 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision:	New Decision
Revision Status	Revised
Impairment from Pollutant or Pollution:	Pollutant

Regional Board Staff Conclusion:

This pollutant is being considered for placement on the CWA section 303(d) List under section 3.6 of the Listing Policy. Under section 3.6 at least two lines of evidence are necessary to assess listing status for pollutants sediment, and pollutant concentrations in sediment must be associated with sediment toxicity to justify adding that pollutant to the CWA section 303(d) List.

Four lines of evidence are available in the administrative record to assess this pollutant. Zero of two samples exceed the guideline. Sediment toxicity data are not associated with this decision because they are not relevant to this decision because there is insufficient information based on sediment chemistry.

Based on the readily available data and information, the weight of evidence indicates that there is insufficient justification for placing this water segment-pollutant combination on the CWA section 303(d) List.

This conclusion is based on the staff findings that:

1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy.
2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy.
3. Zero of two samples exceed the guideline and this sample size is insufficient to determine beneficial use support, with the power and confidence of the Listing Policy. A minimum of 16 samples is needed to determine if a beneficial use is fully supported using table 3.1. Sediment toxicity data are not associated with this decision because the sediment chemistry data are insufficient.
4. Pursuant to section 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.

Regional Board Staff Decision Recommendation:

After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be placed on the section 303(d) list. The readily available data and information is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating.

**Line of Evidence (LOE) for Decision ID 62024, Permethrin
Coyote Creek (Santa Clara Co.)**

Region 2

LOE ID:	91402
Pollutant:	Permethrin, total
LOE Subgroup:	Pollutant-Sediment
Matrix:	Sediment
Fraction:	Total
Beneficial Use:	Cold Freshwater Habitat
Number of Samples:	1
Number of Exceedances:	0
Data and Information Type:	PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality:	Water Board staff assessed SWAMP data for Coyote Creek (Santa Clara Co.) to determine beneficial use support and results are as follows: 0 of 1 samples exceed the criterion for Permethrin, Total.
Data Reference:	Statewide Project Urban Pyrethroid Status Monitoring
SWAMP Data:	SWAMP

Water Quality Objective/Criterion:	San Francisco Bay Basin Water Quality Control Plan 2007: All waters shall be maintained free of toxic substances in concentrations which are toxic to, or which produce detrimental physiological responses in, human, plant, animal, or aquatic life.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	The evaluation guideline for permethrin is the median lethal concentration (LC50) of 8.9 ug/g and is normalized by the percentage of organic carbon in the sediment sample. The LC50 8.9 ug/g is the geometric mean of LC50 values for permethrin from Amweg et al. (2005).
Guideline Reference:	Use and Toxicity of Pyrethroid Pesticides in the Central Valley, California, USA. Environmental Toxicology and Chemistry, 24:966-972, with erratum 24:No. 5
Spatial Representation:	Data for this line of evidence for Coyote Creek (Santa Clara Co.) was collected at 1 monitoring site [Coyote Ck @ E Williams St station (205SUP022).]
Temporal Representation:	Data was collected on a single day 1/2/2007.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	The SWAMP QAPP (2008) was followed.
QAPP Information Reference(s):	Quality Assurance Management Plan for the State of California's Surface Water Ambient Monitoring Program. Sacramento, CA. State Water Resources Control Board. SWAMP. December 2002 (1st version)

Line of Evidence (LOE) for Decision ID 62024, Permethrin

Region 2

Coyote Creek (Santa Clara Co.)

LOE ID:	91403
Pollutant:	Permethrin, total
LOE Subgroup:	Pollutant-Sediment
Matrix:	Sediment
Fraction:	Total
Beneficial Use:	Warm Freshwater Habitat
Number of Samples:	1
Number of Exceedances:	0
Data and Information Type:	PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality:	Water Board staff assessed SWAMP data for Coyote Creek (Santa Clara Co.) to determine beneficial use support and results are as follows: 0 of 1 samples exceed the criterion for Permethrin, Total.
Data Reference:	Statewide Stream Pollution Trends Study 2008
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	San Francisco Bay Basin Water Quality Control Plan 2007: All waters shall be maintained free of toxic substances in concentrations which are toxic to, or which produce detrimental physiological responses in, human, plant, animal, or aquatic life.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	The evaluation guideline for permethrin is the median lethal concentration (LC50) of 8.9 ug/g and is normalized by the percentage of organic carbon in the sediment sample. The LC50 8.9 ug/g is the geometric mean of LC50 values for permethrin from Amweg et al. (2005).
Guideline Reference:	Use and Toxicity of Pyrethroid Pesticides in the Central Valley, California, USA. Environmental Toxicology and Chemistry, 24:966-972, with erratum 24:No. 5
Spatial Representation:	Data for this line of evidence for Coyote Creek (Santa Clara Co) was collected at 1 monitoring site [Coyote Creek at Montague station (205COY060)]
Temporal Representation:	Data was collected on a single day 6/17/2008.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	SWAMP data collected before September 2008 followed the QAMP (2002), however there may have been overlap in QA with SWAMP QAPP (2008).

QAPP Information Reference(s): [Quality Assurance Management Plan for the State of California's Surface Water Ambient Monitoring Program. Sacramento, CA. State Water Resources Control Board. SWAMP. December 2002 \(1st version\)](#)
[Surface Water Ambient Monitoring Program Quality Assurance Program Plan](#)

**Line of Evidence (LOE) for Decision ID 62024, Permethrin
Coyote Creek (Santa Clara Co.)**

Region 2

LOE ID: 91404

Pollutant: Permethrin, total
LOE Subgroup: Pollutant-Sediment
Matrix: Sediment
Fraction: Total

Beneficial Use: Cold Freshwater Habitat

Number of Samples: 1
Number of Exceedances: 0

Data and Information Type: PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality: Water Board staff assessed SWAMP data for Coyote Creek (Santa Clara Co.) to determine beneficial use support and results are as follows: 0 of 1 samples exceed the criterion for Permethrin, Total.

Data Reference: [Statewide Stream Pollution Trends Study 2008](#)

SWAMP Data: SWAMP

Water Quality Objective/Criterion: San Francisco Bay Basin Water Quality Control Plan 2007: All waters shall be maintained free of toxic substances in concentrations which are toxic to, or which produce detrimental physiological responses in, human, plant, animal, or aquatic life.

Objective/Criterion Reference: [Water Quality Control Plan \(Basin Plan\) San Francisco Bay Basin \(Region 2\)](#)

Evaluation Guideline: The evaluation guideline for permethrin is the median lethal concentration (LC50) of 8.9 ug/g and is normalized by the percentage of organic carbon in the sediment sample. The LC50 8.9 ug/g is the geometric mean of LC50 values for permethrin from Amweg et al. (2005).

Guideline Reference: [Use and Toxicity of Pyrethroid Pesticides in the Central Valley, California, USA. Environmental Toxicology and Chemistry, 24:966-972, with erratum 24:No. 5](#)

Spatial Representation: Data for this line of evidence for Coyote Creek (Santa Clara Co) was collected at 1 monitoring site [Coyote Creek at Montague station (205COY060)]

Temporal Representation: Data was collected on a single day 6/17/2008.

Environmental Conditions: Staff is not aware of any special conditions that might affect interpretation of the data.

QAPP Information: SWAMP data collected before September 2008 followed the QAMP (2002), however there may have been overlap in QA with SWAMP QAPP (2008).

QAPP Information Reference(s): [Quality Assurance Management Plan for the State of California's Surface Water Ambient Monitoring Program. Sacramento, CA. State Water Resources Control Board. SWAMP. December 2002 \(1st version\)](#)
[Surface Water Ambient Monitoring Program Quality Assurance Program Plan](#)

**Line of Evidence (LOE) for Decision ID 62024, Permethrin
Coyote Creek (Santa Clara Co.)**

Region 2

LOE ID: 91539

Pollutant: Permethrin, total
LOE Subgroup: Pollutant-Sediment
Matrix: Sediment
Fraction: Total

Beneficial Use:	Warm Freshwater Habitat
Number of Samples:	1
Number of Exceedances:	0
Data and Information Type:	PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality:	Water Board staff assessed SWAMP data for Coyote Creek (Santa Clara Co.) to determine beneficial use support and results are as follows: 0 of 1 samples exceed the criterion for Permethrin, Total.
Data Reference:	Statewide Project Urban Pyrethroid Status Monitoring
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	San Francisco Bay Basin Water Quality Control Plan 2007: All waters shall be maintained free of toxic substances in concentrations which are toxic to, or which produce detrimental physiological responses in, human, plant, animal, or aquatic life.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	The evaluation guideline for permethrin is the median lethal concentration (LC50) of 8.9 ug/g and is normalized by the percentage of organic carbon in the sediment sample. The LC50 8.9 ug/g is the geometric mean of LC50 values for permethrin from Amweg et al. (2005).
Guideline Reference:	Use and Toxicity of Pyrethroid Pesticides in the Central Valley, California, USA. Environmental Toxicology and Chemistry, 24:966-972, with erratum 24:No. 5
Spatial Representation:	Data for this line of evidence for Coyote Creek (Santa Clara Co.) was collected at 1 monitoring site [Coyote Ck @ E Williams St station (205SUP022).]
Temporal Representation:	Data was collected on a single day 1/2/2007.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	The SWAMP QAPP (2008) was followed.
QAPP Information Reference(s):	Quality Assurance Management Plan for the State of California's Surface Water Ambient Monitoring Program. Sacramento, CA. State Water Resources Control Board. SWAMP. December 2002 (1st version)

DECISION ID	62073	Region 2
Coyote Creek (Santa Clara Co.)		

Pollutant:	Phenanthrene
Final Listing Decision:	Do Not List on 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision:	New Decision
Revision Status	Revised
Impairment from Pollutant or Pollution:	Pollutant

Regional Board Staff Conclusion:	<p>This pollutant is being considered for placement on the CWA section 303(d) List under section 3.6 of the Listing Policy. Under section 3.6 at least two lines of evidence are necessary to assess listing status for pollutants sediment, and pollutant concentrations in sediment must be associated with sediment toxicity to justify adding that pollutant to the CWA section 303(d) List.</p> <p>Two lines of evidence are available in the administrative record to assess this pollutant. Zero of one samples exceed the guideline. Sediment toxicity data are not associated with this decision because they are not relevant to this decision because there is insufficient information based on sediment chemistry.</p> <p>Based on the readily available data and information, the weight of evidence indicates that there is insufficient justification for placing this water segment-pollutant combination on the CWA section 303(d) List.</p> <p>This conclusion is based on the staff findings that:</p> <ol style="list-style-type: none"> 1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy.
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2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy.
3. Zero of one samples exceed the guideline and this sample size is insufficient to determine beneficial use support, with the power and confidence of the Listing Policy. A minimum of 16 samples is needed to determine if a beneficial use is fully supported using table 3.1. Sediment toxicity data are not associated with this decision because the sediment chemistry data are insufficient.
4. Pursuant to section 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.

Regional Board Staff Decision Recommendation: After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be placed on the section 303(d) list. The readily available data and information is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating.

**Line of Evidence (LOE) for Decision ID 62073, Phenanthrene
Coyote Creek (Santa Clara Co.)**

Region 2

LOE ID:	91435
Pollutant:	Phenanthrene
LOE Subgroup:	Pollutant-Sediment
Matrix:	Sediment
Fraction:	Total
Beneficial Use:	Cold Freshwater Habitat
Number of Samples:	1
Number of Exceedances:	0
Data and Information Type:	PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality:	Water Board staff assessed SWAMP data for Coyote Creek (Santa Clara Co.) to determine beneficial use support and results are as follows: 0 of 1 samples exceed the criterion for Phenanthrene.
Data Reference:	Statewide Stream Pollution Trends Study 2008
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	San Francisco Bay Basin Water Quality Control Plan 2007: All waters shall be maintained free of toxic substances in concentrations which are toxic to, or which produce detrimental physiological responses in, human, plant, animal, or aquatic life.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	In freshwater sediments the probable effects level (predictive of sediment toxicity for sediment-dwelling organisms) for Phenanthrene is 1170 ug/Kg dry weight (Macdonald et al. 2000)
Guideline Reference:	Development and evaluation of consensus-based sediment quality guidelines for freshwater ecosystems. Environmental Contamination and Toxicology. 39: 20-31
Spatial Representation:	Data for this line of evidence for Coyote Creek (Santa Clara Co) was collected at 1 monitoring site [Coyote Creek at Montague station (205COY060)]
Temporal Representation:	Data was collected on a single day 6/17/2008.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	SWAMP data collected before September 2008 followed the QAMP (2002), however there may have been overlap in QA with SWAMP QAPP (2008).
QAPP Information Reference(s):	Quality Assurance Management Plan for the State of California's Surface Water Ambient Monitoring Program. Sacramento, CA. State Water Resources Control Board. SWAMP. December 2002 (1st version) Surface Water Ambient Monitoring Program Quality Assurance Program Plan

Line of Evidence (LOE) for Decision ID 62073, Phenanthrene

Region 2

Coyote Creek (Santa Clara Co.)

LOE ID:	91434
Pollutant:	Phenanthrene
LOE Subgroup:	Pollutant-Sediment
Matrix:	Sediment
Fraction:	Total
Beneficial Use:	Warm Freshwater Habitat
Number of Samples:	1
Number of Exceedances:	0
Data and Information Type:	PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality:	Water Board staff assessed SWAMP data for Coyote Creek (Santa Clara Co.) to determine beneficial use support and results are as follows: 0 of 1 samples exceed the criterion for Phenanthrene.
Data Reference:	Statewide Stream Pollution Trends Study 2008
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	San Francisco Bay Basin Water Quality Control Plan 2007: All waters shall be maintained free of toxic substances in concentrations which are toxic to, or which produce detrimental physiological responses in, human, plant, animal, or aquatic life.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	In freshwater sediments the probable effects level (predictive of sediment toxicity for sediment-dwelling organisms) for Phenanthrene is 1170 ug/Kg dry weight (Macdonald et al. 2000)
Guideline Reference:	Development and evaluation of consensus-based sediment quality guidelines for freshwater ecosystems. Environmental Contamination and Toxicology. 39: 20-31
Spatial Representation:	Data for this line of evidence for Coyote Creek (Santa Clara Co) was collected at 1 monitoring site [Coyote Creek at Montague station (205COY060)]
Temporal Representation:	Data was collected on a single day 6/17/2008.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	SWAMP data collected before September 2008 followed the QAMP (2002), however there may have been overlap in QA with SWAMP QAPP (2008).
QAPP Information Reference(s):	Quality Assurance Management Plan for the State of California's Surface Water Ambient Monitoring Program. Sacramento, CA. State Water Resources Control Board. SWAMP. December 2002 (1st version). Surface Water Ambient Monitoring Program Quality Assurance Program Plan

DECISION ID 62111

Region 2

Coyote Creek (Santa Clara Co.)

Pollutant:	Pyrene
Final Listing Decision:	Do Not List on 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision:	New Decision
Revision Status	Revised
Impairment from Pollutant or Pollution:	Pollutant

Regional Board Staff Conclusion: This pollutant is being considered for placement on the CWA section 303(d) List under section 3.6 of the Listing Policy. Under section 3.6 at least two lines of evidence are necessary to assess listing status for pollutants sediment, and pollutant concentrations in sediment must be associated with sediment toxicity to justify adding that pollutant to the CWA section 303(d) List.

Two lines of evidence are available in the administrative record to assess this pollutant. Zero of one

samples exceed the guideline. Sediment toxicity data are not associated with this decision because they are not relevant to this decision because there is insufficient information based on sediment chemistry.

Based on the readily available data and information, the weight of evidence indicates that there is insufficient justification for placing this water segment-pollutant combination on the CWA section 303(d) List.

This conclusion is based on the staff findings that:

1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy.
2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy.
3. Zero of one samples exceed the guideline and this sample size is insufficient to determine beneficial use support, with the power and confidence of the Listing Policy. A minimum of 16 samples is needed to determine if a beneficial use is fully supported using table 3.1. Sediment toxicity data are not associated with this decision because the sediment chemistry data are insufficient.
4. Pursuant to section 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.

Regional Board Staff Decision Recommendation: After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be placed on the section 303(d) list. The readily available data and information is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating.

**Line of Evidence (LOE) for Decision ID 62111, Pyrene
Coyote Creek (Santa Clara Co.)**

Region 2

LOE ID:	91437
Pollutant:	Pyrene
LOE Subgroup:	Pollutant-Sediment
Matrix:	Sediment
Fraction:	Total
Beneficial Use:	Cold Freshwater Habitat
Number of Samples:	1
Number of Exceedances:	0
Data and Information Type:	PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality:	Water Board staff assessed SWAMP data for Coyote Creek (Santa Clara Co.) to determine beneficial use support and results are as follows: 0 of 1 samples exceed the criterion for Pyrene.
Data Reference:	Statewide Stream Pollution Trends Study 2008
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	San Francisco Bay Basin Water Quality Control Plan 2007: All waters shall be maintained free of toxic substances in concentrations which are toxic to, or which produce detrimental physiological responses in, human, plant, animal, or aquatic life.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	In freshwater sediments the probable effects level (predictive of sediment toxicity for sediment-dwelling organisms) for Pyrene is 1520 ug/Kg dry weight (Macdonald et al. 2000)
Guideline Reference:	Development and evaluation of consensus-based sediment quality guidelines for freshwater ecosystems. Environmental Contamination and Toxicology. 39: 20-31
Spatial Representation:	Data for this line of evidence for Coyote Creek (Santa Clara Co) was collected at 1 monitoring site [Coyote Creek at Montague station (205COY060)]
Temporal Representation:	Data was collected on a single day 6/17/2008.

Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	SWAMP data collected before September 2008 followed the QAMP (2002), however there may have been overlap in QA with SWAMP QAPP (2008).
QAPP Information Reference(s):	Quality Assurance Management Plan for the State of California's Surface Water Ambient Monitoring Program. Sacramento, CA. State Water Resources Control Board. SWAMP. December 2002 (1st version) Surface Water Ambient Monitoring Program Quality Assurance Program Plan

Line of Evidence (LOE) for Decision ID 62111, Pyrene
Coyote Creek (Santa Clara Co.)

Region 2

LOE ID:	91436
Pollutant:	Pyrene
LOE Subgroup:	Pollutant-Sediment
Matrix:	Sediment
Fraction:	Total
Beneficial Use:	Warm Freshwater Habitat
Number of Samples:	1
Number of Exceedances:	0
Data and Information Type:	PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality:	Water Board staff assessed SWAMP data for Coyote Creek (Santa Clara Co.) to determine beneficial use support and results are as follows: 0 of 1 samples exceed the criterion for Pyrene.
Data Reference:	Statewide Stream Pollution Trends Study 2008
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	San Francisco Bay Basin Water Quality Control Plan 2007: All waters shall be maintained free of toxic substances in concentrations which are toxic to, or which produce detrimental physiological responses in, human, plant, animal, or aquatic life.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	In freshwater sediments the probable effects level (predictive of sediment toxicity for sediment-dwelling organisms) for Pyrene is 1520 ug/Kg dry weight (Macdonald et al. 2000)
Guideline Reference:	Development and evaluation of consensus-based sediment quality guidelines for freshwater ecosystems. Environmental Contamination and Toxicology. 39: 20-31
Spatial Representation:	Data for this line of evidence for Coyote Creek (Santa Clara Co) was collected at 1 monitoring site [Coyote Creek at Montague station (205COY060)]
Temporal Representation:	Data was collected on a single day 6/17/2008.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	SWAMP data collected before September 2008 followed the QAMP (2002), however there may have been overlap in QA with SWAMP QAPP (2008).
QAPP Information Reference(s):	Quality Assurance Management Plan for the State of California's Surface Water Ambient Monitoring Program. Sacramento, CA. State Water Resources Control Board. SWAMP. December 2002 (1st version) Surface Water Ambient Monitoring Program Quality Assurance Program Plan

DECISION ID 62114
Coyote Creek (Santa Clara Co.)

Region 2

Pollutant:	Specific Conductivity
Final Listing Decision:	Do Not List on 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision:	New Decision

Revision Status
Impairment from Pollutant or
Pollution:

Revised
Pollutant

Regional Board Staff
Conclusion:

This pollutant is being considered for placement on the CWA section 303(d) List under section 3.1 of the Listing Policy. Under section 3.1 a single line of evidence is necessary to assess listing status. Two lines of evidence are available in the administrative record to assess this pollutant. Zero of three samples exceed the guideline.

Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against placing this water segment-pollutant combination on the CWA section 303(d) List.

This conclusion is based on the staff findings that:

1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy.
2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy.
3. Zero of three samples exceed the guideline and this sample size is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating. A minimum of 16 samples is needed to determine if a beneficial use is fully supported using table 3.1.
4. Pursuant to SECTION 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.

Regional Board Staff Decision
Recommendation:

After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be placed on the section 303(d) list. The readily available data and information is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating.

Line of Evidence (LOE) for Decision ID 62114, Specific Conductivity
Coyote Creek (Santa Clara Co.)

Region 2

LOE ID: 91449

Pollutant: Specific Conductivity
LOE Subgroup: Pollutant-Water
Matrix: Water
Fraction: None

Beneficial Use: Municipal & Domestic Supply

Number of Samples: 2
Number of Exceedances: 0

Data and Information Type: PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality: State Water Board staff assessed SWAMP data for Coyote Creek (Santa Clara Co.) to determine beneficial use support and results are as follows: 0 of 2 samples exceed the criterion for Conductivity(Us).

Data Reference: [RWB2 Reference Study Monitoring 2008](#)

SWAMP Data: SWAMP

Water Quality Objective/Criterion: The California Secondary MCL for Specific Conductance is 900 us/cm (Water Quality Control Plan, San Francisco Bay Region).

Objective/Criterion Reference: [Secondary Maximum Contaminant Levels and Compliance. CCR title 22 section 64449.](#)

Evaluation Guideline:
Guideline Reference:

Spatial Representation: Data for this line of evidence for Coyote Creek (Santa Clara Co.) was collected at 1 monitoring site [Coyote approx 1.5 miles upstream of Gilroy Hot Springs Rd. bridge - 205COY610]

Temporal Representation: Data was collected over the time period 4/30/2008-5/15/2008.

Environmental Conditions: Staff is not aware of any special conditions that might affect interpretation of the data.
 QAPP Information: The SWAMP QAPP (2008) was followed.
 QAPP Information Reference(s): [Surface Water Ambient Monitoring Program Quality Assurance Program Plan](#)

Line of Evidence (LOE) for Decision ID 62114, Specific Conductivity
Coyote Creek (Santa Clara Co.)

Region 2

LOE ID: 91438

Pollutant: Specific Conductivity
 LOE Subgroup: Pollutant-Water
 Matrix: Water
 Fraction: None

Beneficial Use: Municipal & Domestic Supply

Number of Samples: 1
 Number of Exceedances: 0

Data and Information Type: PHYSICAL/CHEMICAL MONITORING
 Data Used to Assess Water Quality: State Water Board staff assessed SWAMP data for Coyote Creek (Santa Clara Co.) to determine beneficial use support and results are as follows: 0 of 1 samples exceed the criterion for Conductivity(Us).
 Data Reference: [Statewide Ref Condition Management Plan 2008](#)

SWAMP Data: SWAMP

Water Quality Objective/Criterion: The California Secondary MCL for Specific Conductance is 900 us/cm (Water Quality Control Plan, San Francisco Bay Region).
 Objective/Criterion Reference: [Secondary Maximum Contaminant Levels and Compliance. CCR title 22 section 64449.](#)

Evaluation Guideline:
 Guideline Reference:

Spatial Representation: Data for this line of evidence for Coyote Creek (Santa Clara Co.) was collected at 1 monitoring site [Coyote Creek Hunting Hollows - 205CYCAHH]

Temporal Representation: Data was collected on a single day 6/10/2008.

Environmental Conditions: Staff is not aware of any special conditions that might affect interpretation of the data.
 QAPP Information: The SWAMP QAPP (2008) was followed.
 QAPP Information Reference(s): [Surface Water Ambient Monitoring Program Quality Assurance Program Plan](#)

DECISION ID 62119
Coyote Creek (Santa Clara Co.)

Region 2

Pollutant: Temperature, water
Final Listing Decision: Do Not List on 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision: New Decision
Revision Status Revised
Impairment from Pollutant or Pollution: Pollutant

Regional Board Staff Conclusion:

This pollutant is being considered for placement on the CWA section 303(d) List under section 3.2 of the Listing Policy. Under section 3.2 a single line of evidence is necessary to assess listing status. Four lines of evidence are available in the administrative record to assess this pollutant. Four of six samples exceed the objective.

Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against placing this water segment-pollutant combination on the CWA section 303(d) List.

This conclusion is based on the staff findings that:

1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy.
2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy.
3. Four of six samples exceed the objective and this sample size is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating. A minimum of 26 samples is needed to determine if a beneficial use is fully supported using table 3.2.
4. Pursuant to SECTION 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.

Regional Board Staff Decision Recommendation: After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be placed on the section 303(d) list. The readily available data and information is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating.

**Line of Evidence (LOE) for Decision ID 62119, Temperature, water
Coyote Creek (Santa Clara Co.)**

Region 2

LOE ID: 91450

Pollutant: Temperature, water
LOE Subgroup: Pollutant-Water
Matrix: Water
Fraction: None

Beneficial Use: Cold Freshwater Habitat

Number of Samples: 1
Number of Exceedances: 1

Data and Information Type: PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality: State Water Board staff assessed SWAMP data for Coyote Creek (Santa Clara Co.) to determine beneficial use support and results are as follows: 1 of 1 samples exceed the criterion for Water Temperature.

Data Reference: [Statewide Ref Condition Management Plan 2008](#)

SWAMP Data: SWAMP

Water Quality Objective/Criterion: The natural receiving water temperature of inland surface waters shall not be altered unless it can be demonstrated to the satisfaction of the Regional Board that such alteration in temperature does not adversely affect beneficial uses. (Water Quality Control Plan, San Francisco Bay Basin, Chapter III Water Quality Objectives.)

Objective/Criterion Reference: [Water Quality Control Plan \(Basin Plan\) San Francisco Bay Basin \(Region 2\)](#)

Evaluation Guideline: Inland Fishes of California (Moyle 1976) states that for rainbow trout the optimum range for growth and completion of most life stages is 13-21 degrees C (page 129).

Guideline Reference: [Inland Fishes of California](#)

Spatial Representation: Data for this line of evidence for Coyote Creek (Santa Clara Co.) was collected at 1 monitoring site [Coyote Creek Hunting Hollows - 205CYCAHH]

Temporal Representation: Data was collected on a single day 6/10/2008.

Environmental Conditions: Staff is not aware of any special conditions that might affect interpretation of the data.

QAPP Information: The SWAMP QAPP (2008) was followed.

QAPP Information Reference(s): [Surface Water Ambient Monitoring Program Quality Assurance Program Plan](#)

**Line of Evidence (LOE) for Decision ID 62119, Temperature, water
Coyote Creek (Santa Clara Co.)**

Region 2

LOE ID: 91451

Pollutant:	Temperature, water
LOE Subgroup:	Pollutant-Water
Matrix:	Water
Fraction:	None
Beneficial Use:	Cold Freshwater Habitat
Number of Samples:	2
Number of Exceedances:	1
Data and Information Type:	PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality:	State Water Board staff assessed SWAMP data for Coyote Creek (Santa Clara Co.) to determine beneficial use support and results are as follows: 1 of 2 samples exceed the criterion for Water Temperature.
Data Reference:	RWB2 Reference Study Monitoring 2008
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	The natural receiving water temperature of inland surface waters shall not be altered unless it can be demonstrated to the satisfaction of the Regional Board that such alteration in temperature does not adversely affect beneficial uses. (Water Quality Control Plan, San Francisco Bay Basin, Chapter III Water Quality Objectives.)
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	Inland Fishes of California (Moyle 1976) states that for rainbow trout the optimum range for growth and completion of most life stages is 13-21 degrees C (page 129).
Guideline Reference:	Inland Fishes of California
Spatial Representation:	Data for this line of evidence for Coyote Creek (Santa Clara Co.) was collected at 1 monitoring site [Coyote approx 1.5 miles upstream of Gilroy Hot Springs Rd. bridge - 205COY610]
Temporal Representation:	Data was collected over the time period 4/30/2008-5/15/2008.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	The SWAMP QAPP (2008) was followed.
QAPP Information Reference(s):	Surface Water Ambient Monitoring Program Quality Assurance Program Plan

**Line of Evidence (LOE) for Decision ID 62119, Temperature, water
Coyote Creek (Santa Clara Co.)**

Region 2

LOE ID:	91452
Pollutant:	Temperature, water
LOE Subgroup:	Pollutant-Water
Matrix:	Water
Fraction:	None
Beneficial Use:	Cold Freshwater Habitat
Number of Samples:	1
Number of Exceedances:	1
Data and Information Type:	PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality:	The grab sample collected exceeded the evaluation guideline.
Data Reference:	Statewide Ref Condition Management Plan 2008
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	Water Quality Control Plan, San Francisco Bay Region: The natural receiving water temperature of inland surface waters shall not be altered unless it can be demonstrated to the satisfaction of the Regional Board that such alteration in temperature does not adversely affect beneficial uses.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)

Evaluation Guideline:	According to Carter (2008) the lethal threshold for juvenile steelhead growth & rearing is 24 degrees Celsius (C).
Guideline Reference:	Effects of Temperature, Dissolved Oxygen/Total Dissolved Gas, Ammonia, and pH on Salmonids. Implications for California's North Coast TMDLs. California Regional Water Quality Control Board, North Coast Region
Spatial Representation:	One grab sample was collected from the Coyote Creek Hunting Hollows station (205CYCAHH).
Temporal Representation:	One grab sample was collected on 6/10/2008.
Environmental Conditions:	
QAPP Information:	The SWAMP QAPP was followed.
QAPP Information Reference(s):	

**Line of Evidence (LOE) for Decision ID 62119, Temperature, water
Coyote Creek (Santa Clara Co.)**

Region 2

LOE ID:	91453
Pollutant:	Temperature, water
LOE Subgroup:	Pollutant-Water
Matrix:	Water
Fraction:	None
Beneficial Use:	Cold Freshwater Habitat
Number of Samples:	2
Number of Exceedances:	1
Data and Information Type:	PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality:	One of the 2 samples collected exceeded the evaluation guideline.
Data Reference:	RWB2 Reference Study Monitoring 2008
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	Water Quality Control Plan, San Francisco Bay Region: The natural receiving water temperature of inland surface waters shall not be altered unless it can be demonstrated to the satisfaction of the Regional Board that such alteration in temperature does not adversely affect beneficial uses.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	According to Carter (2008) the lethal threshold for juvenile steelhead growth & rearing is 24 degrees Celsius (C).
Guideline Reference:	Effects of Temperature, Dissolved Oxygen/Total Dissolved Gas, Ammonia, and pH on Salmonids. Implications for California's North Coast TMDLs. California Regional Water Quality Control Board, North Coast Region
Spatial Representation:	Grab samples were collected at the Coyote approx 1.5 miles upstream of Gilroy Hot Springs Rd. bridge station (205COY610).
Temporal Representation:	Grab samples were collected on the following dates: 4/30/2008 5/15/2008
Environmental Conditions:	
QAPP Information:	The SWAMP QAPP was followed.
QAPP Information Reference(s):	

**DECISION ID 62127
Coyote Creek (Santa Clara Co.)**

Region 2

Pollutant:	Zinc
Final Listing Decision:	Do Not List on 303(d) list (TMDL required list)
Last Listing Cycle's Final	New Decision

Listing Decision:**Revision Status**

Revised

Impairment from Pollutant or Pollution:

Pollutant

Regional Board Staff**Conclusion:**

This pollutant is being considered for placement on the CWA section 303(d) List under section 3.6 of the Listing Policy. Under section 3.6 at least two lines of evidence are necessary to assess listing status for pollutants sediment, and pollutant concentrations in sediment must be associated with sediment toxicity to justify adding that pollutant to the CWA section 303(d) List.

Two lines of evidence are available in the administrative record to assess this pollutant. Zero of one samples exceed the guideline. Sediment toxicity data are not associated with this decision because they are not relevant to this decision because there is insufficient information based on sediment chemistry.

Based on the readily available data and information, the weight of evidence indicates that there is insufficient justification for placing this water segment-pollutant combination on the CWA section 303(d) List.

This conclusion is based on the staff findings that:

1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy.
2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy.
3. Zero of one samples exceed the guideline and this sample size is insufficient to determine beneficial use support, with the power and confidence of the Listing Policy. A minimum of 16 samples is needed to determine if a beneficial use is fully supported using table 3.1. Sediment toxicity data are not associated with this decision because the sediment chemistry data are insufficient.
4. Pursuant to section 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.

Regional Board Staff Decision**Recommendation:**

After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be placed on the section 303(d) list. The readily available data and information is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating.

Line of Evidence (LOE) for Decision ID 62127, Zinc**Region 2****Coyote Creek (Santa Clara Co.)**

LOE ID: 91620

Pollutant: Zinc
LOE Subgroup: Pollutant-Sediment
Matrix: Sediment
Fraction: Total

Beneficial Use: Cold Freshwater Habitat

Number of Samples: 1
Number of Exceedances: 0

Data and Information Type: PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality: Water Board staff assessed SWAMP data for Coyote Creek (Santa Clara Co.) to determine beneficial use support and results are as follows: 0 of 1 samples exceed the criterion for Zinc.

Data Reference: [Statewide Stream Pollution Trends Study 2008](#)

SWAMP Data: SWAMP

Water Quality Objective/Criterion: San Francisco Bay Basin Water Quality Control Plan 2007: All waters shall be maintained free of toxic substances in concentrations which are toxic to, or which produce detrimental physiological responses in, human, plant, animal, or aquatic life.

Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	In freshwater sediments the probable effect concentration (predictive of sediment toxicity for sediment-dwelling organisms) for zinc is 459 mg/Kg dry weight (MacDonald et al. 2000).
Guideline Reference:	Development and evaluation of consensus-based sediment quality guidelines for freshwater ecosystems. Environmental Contamination and Toxicology. 39: 20-31
Spatial Representation:	Data for this line of evidence for Coyote Creek (Santa Clara Co) was collected at 1 monitoring site [Coyote Creek at Montague station (205COY060)]
Temporal Representation:	Data was collected on a single day 6/17/2008.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	SWAMP data collected before September 2008 followed the QAMP (2002), however there may have been overlap in QA with SWAMP QAPP (2008).
QAPP Information Reference(s):	Quality Assurance Management Plan for the State of California's Surface Water Ambient Monitoring Program. Sacramento, CA. State Water Resources Control Board. SWAMP. December 2002 (1st version) Surface Water Ambient Monitoring Program Quality Assurance Program Plan

**Line of Evidence (LOE) for Decision ID 62127, Zinc
Coyote Creek (Santa Clara Co.)**

Region 2

LOE ID:	91619
Pollutant:	Zinc
LOE Subgroup:	Pollutant-Sediment
Matrix:	Sediment
Fraction:	Total
Beneficial Use:	Warm Freshwater Habitat
Number of Samples:	1
Number of Exceedances:	0
Data and Information Type:	PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality:	Water Board staff assessed SWAMP data for Coyote Creek (Santa Clara Co.) to determine beneficial use support and results are as follows: 0 of 1 samples exceed the criterion for Zinc.
Data Reference:	Statewide Stream Pollution Trends Study 2008
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	San Francisco Bay Basin Water Quality Control Plan 2007: All waters shall be maintained free of toxic substances in concentrations which are toxic to, or which produce detrimental physiological responses in, human, plant, animal, or aquatic life.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	In freshwater sediments the probable effect concentration (predictive of sediment toxicity for sediment-dwelling organisms) for zinc is 459 mg/Kg dry weight (MacDonald et al. 2000).
Guideline Reference:	Development and evaluation of consensus-based sediment quality guidelines for freshwater ecosystems. Environmental Contamination and Toxicology. 39: 20-31
Spatial Representation:	Data for this line of evidence for Coyote Creek (Santa Clara Co) was collected at 1 monitoring site [Coyote Creek at Montague station (205COY060)]
Temporal Representation:	Data was collected on a single day 6/17/2008.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	SWAMP data collected before September 2008 followed the QAMP (2002), however there may have been overlap in QA with SWAMP QAPP (2008).
QAPP Information Reference(s):	Quality Assurance Management Plan for the State of California's Surface Water Ambient Monitoring Program. Sacramento, CA. State Water Resources Control Board. SWAMP. December 2002 (1st version)

DECISION ID	62135	Region 2
Coyote Creek (Santa Clara Co.)		

Pollutant: pH
Final Listing Decision: Do Not List on 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision: New Decision
Revision Status: Revised
Impairment from Pollutant or Pollution: Pollutant

Regional Board Staff Conclusion: This pollutant is being considered for placement on the CWA section 303(d) List under section 3.2 of the Listing Policy. Under section 3.2 a single line of evidence is necessary to assess listing status. Ten lines of evidence are available in the administrative record to assess this pollutant. Zero of three samples exceed the objective.

Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against placing this water segment-pollutant combination on the CWA section 303(d) List.

This conclusion is based on the staff findings that:

1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy.
2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy.
3. Zero of three samples exceed the objective and this sample size is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating. A minimum of 26 samples is needed to determine if a beneficial use is fully supported using table 3.2.
4. Pursuant to SECTION 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.

Regional Board Staff Decision Recommendation: After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be placed on the section 303(d) list. The readily available data and information is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating.

Line of Evidence (LOE) for Decision ID 62135, pH	Region 2
Coyote Creek (Santa Clara Co.)	

LOE ID: 91406
Pollutant: pH
LOE Subgroup: Pollutant-Water
Matrix: Water
Fraction: None
Beneficial Use: Municipal & Domestic Supply
Number of Samples: 1
Number of Exceedances: 0
Data and Information Type: PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality: State Water Board staff assessed SWAMP data for Coyote Creek (Santa Clara Co.) to determine beneficial use support and results are as follows: 0 of 1 samples exceed the criterion for pH.
Data Reference: [Statewide Ref Condition Management Plan 2008](#)
SWAMP Data: SWAMP

Water Quality Objective/Criterion:	The Water Quality Control Plan for the San Francisco Bay Region's water quality objective for all surface waters states the following: The pH shall not be depressed below 6.5 nor raised above 8.5. This encompasses the pH range usually found in waters within the basin. Controllable water quality factors shall not cause changes greater than 0.5 units in normal ambient pH levels.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	
Guideline Reference:	
Spatial Representation:	Data for this line of evidence for Coyote Creek (Santa Clara Co.) was collected at 1 monitoring site [Coyote Creek Hunting Hollows - 205CYCAHH]
Temporal Representation:	Data was collected on a single day 6/10/2008.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	The SWAMP QAPP (2008) was followed.
QAPP Information Reference(s):	Surface Water Ambient Monitoring Program Quality Assurance Program Plan

Line of Evidence (LOE) for Decision ID 62135, pH	Region 2
Coyote Creek (Santa Clara Co.)	

LOE ID:	90729
Pollutant:	pH
LOE Subgroup:	Pollutant-Water
Matrix:	Water
Fraction:	Dissolved
Beneficial Use:	Cold Freshwater Habitat
Number of Samples:	1
Number of Exceedances:	0
Data and Information Type:	PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality:	Numeric data generated from 1 sample collected had no exceedences.
Data Reference:	Statewide Ref Condition Management Plan 2008
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	The pH shall not be depressed below 6.5 nor raised above 8.5.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	
Guideline Reference:	
Spatial Representation:	The sample was collected from the 205CYCAHH station.
Temporal Representation:	One sample was collected in June 2008.
Environmental Conditions:	
QAPP Information:	SWAMP QAPP
QAPP Information Reference(s):	Surface Water Ambient Monitoring Program Quality Assurance Program Plan

Line of Evidence (LOE) for Decision ID 62135, pH	Region 2
Coyote Creek (Santa Clara Co.)	

LOE ID:	91433
Pollutant:	pH
LOE Subgroup:	Pollutant-Water
Matrix:	Water
Fraction:	Total
Beneficial Use:	Cold Freshwater Habitat

Number of Samples:	2
Number of Exceedances:	0
Data and Information Type:	PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality:	0 of 2 samples exceed the water quality objectives.
Data Reference:	RWB2 Reference Study Monitoring 2008
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	Water Quality Control Plan, San Francisco Bay Region (SFBRWQCB 2011): In inland surface waters the pH shall not be depressed below 6.5 nor raised above 8.5.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	
Guideline Reference:	
Spatial Representation:	Samples were collected at 205COY610 (Coyote approx 1.5 miles upstream of Gilroy Hot Springs Rd. bridge).
Temporal Representation:	Samples collected on 4/30/2008 and 5/15/2008.
Environmental Conditions:	
QAPP Information:	SWAMP QAPP (2008) was followed.
QAPP Information Reference(s):	Surface Water Ambient Monitoring Program Quality Assurance Program Plan

**Line of Evidence (LOE) for Decision ID 62135, pH
Coyote Creek (Santa Clara Co.)**

Region 2

LOE ID:	91417
Pollutant:	pH
LOE Subgroup:	Pollutant-Water
Matrix:	Water
Fraction:	None
Beneficial Use:	Cold Freshwater Habitat
Number of Samples:	1
Number of Exceedances:	0
Data and Information Type:	PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality:	State Water Board staff assessed SWAMP data for Coyote Creek (Santa Clara Co.) to determine beneficial use support and results are as follows: 0 of 1 samples exceed the criterion for pH.
Data Reference:	Statewide Ref Condition Management Plan 2008
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	The Water Quality Control Plan for the San Francisco Bay Region's water quality objective for all surface waters states the following: The pH shall not be depressed below 6.5 nor raised above 8.5. This encompasses the pH range usually found in waters within the basin. Controllable water quality factors shall not cause changes greater than 0.5 units in normal ambient pH levels.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	
Guideline Reference:	
Spatial Representation:	Data for this line of evidence for Coyote Creek (Santa Clara Co.) was collected at 1 monitoring site [Coyote Creek Hunting Hollows - 205CYCAHH]
Temporal Representation:	Data was collected on a single day 6/10/2008.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	The SWAMP QAPP (2008) was followed.

Line of Evidence (LOE) for Decision ID 62135, pH **Region 2**
Coyote Creek (Santa Clara Co.)

LOE ID: 91418

Pollutant: pH
 LOE Subgroup: Pollutant-Water
 Matrix: Water
 Fraction: None

Beneficial Use: Agricultural Supply

Number of Samples: 1
 Number of Exceedances: 0

Data and Information Type: PHYSICAL/CHEMICAL MONITORING
 Data Used to Assess Water Quality: State Water Board staff assessed SWAMP data for Coyote Creek (Santa Clara Co.) to determine beneficial use support and results are as follows: 0 of 1 samples exceed the criterion for pH.

Data Reference: [Statewide Ref Condition Management Plan 2008](#)

SWAMP Data: SWAMP

Water Quality Objective/Criterion: Water Quality Control Plan, San Francisco Bay Basin, Chapter III Water Quality Objectives, Section 3.3.22 Constituents of Concern for Municipal and Agricultural Water Supplies states: At a minimum, surface waters designated for use as agricultural supply (AGR) shall not contain concentrations of constituents in excess of the levels specified in Table 3-6. The limit for pH ranges from 4.5-9.0.

Objective/Criterion Reference: [Water Quality Control Plan \(Basin Plan\) San Francisco Bay Basin \(Region 2\)](#)

Evaluation Guideline:
 Guideline Reference:

Spatial Representation: Data for this line of evidence for Coyote Creek (Santa Clara Co.) was collected at 1 monitoring site [Coyote Creek Hunting Hollows - 205CYCAHH]

Temporal Representation: Data was collected on a single day 6/10/2008.

Environmental Conditions: Staff is not aware of any special conditions that might affect interpretation of the data.

QAPP Information: The SWAMP QAPP (2008) was followed.

QAPP Information Reference(s): [Surface Water Ambient Monitoring Program Quality Assurance Program Plan](#)

Line of Evidence (LOE) for Decision ID 62135, pH **Region 2**
Coyote Creek (Santa Clara Co.)

LOE ID: 91419

Pollutant: pH
 LOE Subgroup: Pollutant-Water
 Matrix: Water
 Fraction: None

Beneficial Use: Warm Freshwater Habitat

Number of Samples: 2
 Number of Exceedances: 0

Data and Information Type: PHYSICAL/CHEMICAL MONITORING
 Data Used to Assess Water Quality: State Water Board staff assessed SWAMP data for Coyote Creek (Santa Clara Co.) to determine beneficial use support and results are as follows: 0 of 2 samples exceed the criterion for pH.

Data Reference:	RWB2 Reference Study Monitoring 2008
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	The Water Quality Control Plan for the San Francisco Bay Region's water quality objective for all surface waters states the following: The pH shall not be depressed below 6.5 nor raised above 8.5. This encompasses the pH range usually found in waters within the basin. Controllable water quality factors shall not cause changes greater than 0.5 units in normal ambient pH levels.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	
Guideline Reference:	
Spatial Representation:	Data for this line of evidence for Coyote Creek (Santa Clara Co.) was collected at 1 monitoring site [Coyote approx 1.5 miles upstream of Gilroy Hot Springs Rd. bridge - 205COY610]
Temporal Representation:	Data was collected over the time period 4/30/2008-5/15/2008.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	The SWAMP QAPP (2008) was followed.
QAPP Information Reference(s):	Surface Water Ambient Monitoring Program Quality Assurance Program Plan

Line of Evidence (LOE) for Decision ID 62135, pH

Region 2

Coyote Creek (Santa Clara Co.)

LOE ID:	91420
Pollutant:	pH
LOE Subgroup:	Pollutant-Water
Matrix:	Water
Fraction:	None
Beneficial Use:	Municipal & Domestic Supply
Number of Samples:	2
Number of Exceedances:	0
Data and Information Type:	PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality:	State Water Board staff assessed SWAMP data for Coyote Creek (Santa Clara Co.) to determine beneficial use support and results are as follows: 0 of 2 samples exceed the criterion for pH.
Data Reference:	RWB2 Reference Study Monitoring 2008
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	The Water Quality Control Plan for the San Francisco Bay Region's water quality objective for all surface waters states the following: The pH shall not be depressed below 6.5 nor raised above 8.5. This encompasses the pH range usually found in waters within the basin. Controllable water quality factors shall not cause changes greater than 0.5 units in normal ambient pH levels.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	
Guideline Reference:	
Spatial Representation:	Data for this line of evidence for Coyote Creek (Santa Clara Co.) was collected at 1 monitoring site [Coyote approx 1.5 miles upstream of Gilroy Hot Springs Rd. bridge - 205COY610]
Temporal Representation:	Data was collected over the time period 4/30/2008-5/15/2008.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	The SWAMP QAPP (2008) was followed.
QAPP Information Reference(s):	Surface Water Ambient Monitoring Program Quality Assurance Program Plan

**Line of Evidence (LOE) for Decision ID 62135, pH
Coyote Creek (Santa Clara Co.)**

Region 2

LOE ID: 91421

Pollutant: pH
LOE Subgroup: Pollutant-Water
Matrix: Water
Fraction: None

Beneficial Use: Cold Freshwater Habitat

Number of Samples: 2
Number of Exceedances: 0

Data and Information Type: PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality: State Water Board staff assessed SWAMP data for Coyote Creek (Santa Clara Co.) to determine beneficial use support and results are as follows: 0 of 2 samples exceed the criterion for pH.

Data Reference: [RWB2 Reference Study Monitoring 2008](#)

SWAMP Data: SWAMP

Water Quality Objective/Criterion: The Water Quality Control Plan for the San Francisco Bay Region's water quality objective for all surface waters states the following: The pH shall not be depressed below 6.5 nor raised above 8.5. This encompasses the pH range usually found in waters within the basin. Controllable water quality factors shall not cause changes greater than 0.5 units in normal ambient pH levels.

Objective/Criterion Reference: [Water Quality Control Plan \(Basin Plan\) San Francisco Bay Basin \(Region 2\)](#)

Evaluation Guideline:
Guideline Reference:

Spatial Representation: Data for this line of evidence for Coyote Creek (Santa Clara Co.) was collected at 1 monitoring site [Coyote approx 1.5 miles upstream of Gilroy Hot Springs Rd. bridge - 205COY610]

Temporal Representation: Data was collected over the time period 4/30/2008-5/15/2008.

Environmental Conditions: Staff is not aware of any special conditions that might affect interpretation of the data.

QAPP Information: The SWAMP QAPP (2008) was followed.

QAPP Information Reference(s): [Surface Water Ambient Monitoring Program Quality Assurance Program Plan](#)

**Line of Evidence (LOE) for Decision ID 62135, pH
Coyote Creek (Santa Clara Co.)**

Region 2

LOE ID: 91422

Pollutant: pH
LOE Subgroup: Pollutant-Water
Matrix: Water
Fraction: None

Beneficial Use: Agricultural Supply

Number of Samples: 2
Number of Exceedances: 0

Data and Information Type: PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality: State Water Board staff assessed SWAMP data for Coyote Creek (Santa Clara Co.) to determine beneficial use support and results are as follows: 0 of 2 samples exceed the criterion for pH.

Data Reference:	RWB2 Reference Study Monitoring 2008
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	Water Quality Control Plan, San Francisco Bay Basin, Chapter III Water Quality Objectives, Section 3.3.22 Constituents of Concern for Municipal and Agricultural Water Supplies states: At a minimum, surface waters designated for use as agricultural supply (AGR) shall not contain concentrations of constituents in excess of the levels specified in Table 3-6. The limit for pH ranges from 4.5-9.0.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	
Guideline Reference:	
Spatial Representation:	Data for this line of evidence for Coyote Creek (Santa Clara Co.) was collected at 1 monitoring site [Coyote approx 1.5 miles upstream of Gilroy Hot Springs Rd. bridge - 205COY610]
Temporal Representation:	Data was collected over the time period 4/30/2008-5/15/2008.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	The SWAMP QAPP (2008) was followed.
QAPP Information Reference(s):	Surface Water Ambient Monitoring Program Quality Assurance Program Plan

Line of Evidence (LOE) for Decision ID 62135, pH

Region 2

Coyote Creek (Santa Clara Co.)

LOE ID:	91405
Pollutant:	pH
LOE Subgroup:	Pollutant-Water
Matrix:	Water
Fraction:	None
Beneficial Use:	Warm Freshwater Habitat
Number of Samples:	1
Number of Exceedances:	0
Data and Information Type:	PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality:	State Water Board staff assessed SWAMP data for Coyote Creek (Santa Clara Co.) to determine beneficial use support and results are as follows: 0 of 1 samples exceed the criterion for pH.
Data Reference:	Statewide Ref Condition Management Plan 2008
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	The Water Quality Control Plan for the San Francisco Bay Region's water quality objective for all surface waters states the following: The pH shall not be depressed below 6.5 nor raised above 8.5. This encompasses the pH range usually found in waters within the basin. Controllable water quality factors shall not cause changes greater than 0.5 units in normal ambient pH levels.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	
Guideline Reference:	
Spatial Representation:	Data for this line of evidence for Coyote Creek (Santa Clara Co.) was collected at 1 monitoring site [Coyote Creek Hunting Hollows - 205CYCAHH]
Temporal Representation:	Data was collected on a single day 6/10/2008.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	The SWAMP QAPP (2008) was followed.
QAPP Information Reference(s):	Surface Water Ambient Monitoring Program Quality Assurance Program Plan

Pollutant:	Toxicity
Final Listing Decision:	List on 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision:	New Decision
Revision Status	Revised
Sources:	Source Unknown
Expected TMDL Completion Date:	2029
Impairment from Pollutant or Pollution:	Pollutant

Regional Board Staff Conclusion:	<p>This pollutant is being considered for placement on the CWA section 303(d) List under section 3.6 of the Listing Policy. Under section 3.6 a single line of evidence is necessary to assess listing status.</p> <p>Four lines of evidence are available in the administrative record to assess this pollutant. Two of three samples exceed the evaluation guideline for sediment toxicity.</p> <p>Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification in favor of placing this water segment-pollutant combination on the CWA section 303(d) List.</p> <p>This conclusion is based on the staff findings that:</p> <ol style="list-style-type: none"> 1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy. 2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy. 3. Two of three samples exceed the guideline and this exceeds the allowable frequency listed in Table 3.1 of the Listing Policy. 4. Pursuant to section 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.
Regional Board Staff Decision Recommendation:	<p>After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should be placed on the section 303(d) list because applicable water quality standards are exceeded and a pollutant contributes to or causes the problem.</p>

Line of Evidence (LOE) for Decision ID 62124, Toxicity	Region 2
Coyote Creek (Santa Clara Co.)	

LOE ID:	95749
Pollutant:	Toxicity
LOE Subgroup:	Toxicity
Matrix:	Water
Fraction:	None
Beneficial Use:	Cold Freshwater Habitat
Number of Samples:	16
Number of Exceedances:	1
Data and Information Type:	TOXICITY TESTING
Data Used to Assess Water Quality:	<p>One of the 16 samples exhibited toxicity. One sample can have multiple toxicity test results but will be counted only once. One sample is defined as being collected on the same day at the same location with the same lab sample id (if provided).</p> <p>The following test organisms and parameters were utilized for the toxicity tests: <i>Mytilus edulis</i> (% normal development): 1996-1997; and <i>Americamysis bahia</i> - formerly <i>Myxidopsis bahia</i> (% survival): 1994-2001. The sample which exhibited toxicity was for</p>

Americamysis bahia (% survival) collected July 1997.

Additional results were not included in the assessment due to control results of less than 90 percent for test parameter.

Data Reference: [Regional Monitoring Program data, Feb. 1993-Sep. 2008](#)

SWAMP Data: Non-SWAMP

Water Quality Objective/Criterion: All waters shall be maintained free of toxic substances in concentrations that are toxic to, or that produce detrimental physiological responses in, human, plant, animal, or aquatic life. Region 2 Basin Plan.

Objective/Criterion Reference: [Water Quality Control Plan \(Basin Plan\) - San Francisco Bay Region \(Region 2\)](#)

Evaluation Guideline: Toxicity is defined as a significant reduction of test organism relative to the control ($\alpha < 0.05$) and test organism survival is 80% or less than the control survival (at least 20% effect).

Guideline Reference: [SWAMP Memo Toxicity Data Interpretation Method 1007.0: Mysid, Mysidopsis bahia, Survival, Growth, and Fecundity Test; Chronic Toxicity. Excerpt from: Short-Term Methods for Estimating the Chronic Toxicity of Effluents and Receiving Waters to Marine and Estuarine Organisms. 3rd edition EPA-821-R-02-014](#)

Spatial Representation: Samples were collected at site C-3-0.

Temporal Representation: The samples were collected twice each year (winter and summer) from 1994 - 2001.

Environmental Conditions:

QAPP Information: Data collected after 1999 follows the San Francisco Estuary Institute 1999 Quality Assurance Project Plan Regional Monitoring Program for Trace Substances.

QAPP Information Reference(s): [1999 Quality Assurance Project Plan Regional Monitoring Program for Trace Substances](#)

Line of Evidence (LOE) for Decision ID 62124, Toxicity

Region 2

Coyote Creek (Santa Clara Co.)

LOE ID: 91617

Pollutant: Toxicity
LOE Subgroup: Toxicity
Matrix: Sediment
Fraction: None

Beneficial Use: Cold Freshwater Habitat

Number of Samples: 2
Number of Exceedances: 1

Data and Information Type: TOXICITY TESTING

Data Used to Assess Water Quality: Two samples were collected to evaluate sediment toxicity. Two of the samples exhibited significant toxicity. The toxicity test included survival and growth of *Hyalella azteca*. One sample can have multiple toxicity test results but will be counted only once. One sample is defined as being collected on the same day at the same location with the same lab sample id (if provided).

Data Reference: [Statewide Stream Pollution Trends Study 2008](#)

SWAMP Data: SWAMP

Water Quality Objective/Criterion: All waters shall be maintained free of toxic substances in concentrations that are toxic to, or that produce detrimental physiological responses in, human, plant, animal, or aquatic life. Region 2 Basin Plan.

Objective/Criterion Reference: [Water Quality Control Plan \(Basin Plan\) - San Francisco Bay Region \(Region 2\)](#)

Evaluation Guideline: Toxicity is defined as a statistically significant effect in the sample exposure compared to the control using EPA-recommended hypothesis testing. For SWAMP data exceedances are counted using the significant effect code: S equals significant, SG equals significantly

greater and SL equals significantly lower. If a sample has any one of these codes, it will be considered an exceedance.

Guideline Reference:

[Methods for Measuring the Toxicity and Bioaccumulation of Sediment-associated Contaminants with Freshwater Invertebrates, Second Edition. U.S. Environmental Protection Agency Office of Research and Development, Duluth, MI , U.S. Environmental Protection Agency Office of Water, Washington, DC EPA-600/R-99/064](#)

Spatial Representation:

The samples were collected at station 205COY060.

Temporal Representation:

The samples were collected in June 2008.

Environmental Conditions:

QAPP Information:

All data was collected following the Standard Operating Procedures and Data Quality Objectives outlined in the SWAMP QAMP, (Puckett, 2002). QA data are included in submission.

QAPP Information Reference(s):

Line of Evidence (LOE) for Decision ID 62124, Toxicity

Region 2

Coyote Creek (Santa Clara Co.)

LOE ID: 91618

Pollutant: Toxicity

LOE Subgroup: Toxicity

Matrix: Sediment

Fraction: None

Beneficial Use: Cold Freshwater Habitat

Number of Samples: 1

Number of Exceedances: 1

Data and Information Type:

TOXICITY TESTING

Data Used to Assess Water Quality:

One sample was collected to evaluate sediment toxicity. One of the samples exhibited significant toxicity. The toxicity test included survival and growth of *Hyaella azteca*. One sample can have multiple toxicity test results but will be counted only once. One sample is defined as being collected on the same day at the same location with the same lab sample id (if provided).

Data Reference:

[Statewide Project Urban Pyrethroid Status Monitoring](#)

SWAMP Data:

SWAMP

Water Quality Objective/Criterion:

All waters shall be maintained free of toxic substances in concentrations that are toxic to, or that produce detrimental physiological responses in, human, plant, animal, or aquatic life. Region 2 Basin Plan.

Objective/Criterion Reference:

[Water Quality Control Plan \(Basin Plan\) - San Francisco Bay Region \(Region 2\)](#)

Evaluation Guideline:

Toxicity is defined as a statistically significant effect in the sample exposure compared to the control using EPA-recommended hypothesis testing. . For SWAMP data exceedances are counted with the significant effect code SL. SL is defined as the result being significant compared to the negative control based on a statistical test, less than stated the alpha level, AND less than the evaluation threshold.

Guideline Reference:

[Methods for Measuring the Toxicity and Bioaccumulation of Sediment-associated Contaminants with Freshwater Invertebrates, Second Edition. U.S. Environmental Protection Agency Office of Research and Development, Duluth, MI , U.S. Environmental Protection Agency Office of Water, Washington, DC EPA-600/R-99/064](#)

Spatial Representation:

The sample was collected at station 205SUP022.

Temporal Representation:

The sample was collected in January 2007.

Environmental Conditions:

QAPP Information:

All data was collected following the Standard Operating Procedures and Data Quality Objectives outlined in the SWAMP QAMP, (Puckett, 2002). QA data are included in submission.

QAPP Information Reference(s):

**Line of Evidence (LOE) for Decision ID 62124, Toxicity
Coyote Creek (Santa Clara Co.)**

Region 2

LOE ID:	95800
Pollutant:	Toxicity
LOE Subgroup:	Toxicity
Matrix:	Sediment
Fraction:	None
Beneficial Use:	Estuarine Habitat
Number of Samples:	7
Number of Exceedances:	2
Data and Information Type:	TOXICITY TESTING
Data Used to Assess Water Quality:	<p>Two of the 7 samples exhibited toxicity. A sample may have multiple toxicity test results but will be counted only once. A sample is defined as being collected on the same day at the same location with the same lab sample id (if provided).</p> <p>The following test organisms and parameters were utilized for the toxicity tests: Eohaustorius estuarius (mean % survival), 1997-99, 2002; Mytilus edulis (mean % normal alive), 1997; Mytilus galloprovincialis (mean % normal alive), 1998-99, and Strongylocentrotus purpuratus (mean % normal development), 1998. The following samples exhibited toxicity: Mytilus galloprovincialis collected August 1998; Eohaustorius estuarius and Strongylocentrotus purpuratus collected February 1998.</p> <p>Additional results were not included in the assessment due to control results of less than 90 percent for test parameter.</p>
Data Reference:	Regional Monitoring Program data, Feb. 1993-Sep. 2008
SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	All waters shall be maintained free of toxic substances in concentrations that are toxic to, or that produce detrimental physiological responses in, human, plant, animal, or aquatic life. Region 2 Basin Plan.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) - San Francisco Bay Region (Region 2)
Evaluation Guideline:	Toxicity is defined as a significant reduction of test organism relative to the control ($\alpha < 0.01$) and test organism survival is 80% or less than the control survival (at least 20% effect).
Guideline Reference:	SWAMP Memo Toxicity Data Interpretation Methods for Assessing the Toxicity of Sediment-associated Contaminants with Estuarine and Marine Amphipods. June 1994. EPA 600/R-94/025
Spatial Representation:	Samples were collected at site C-3-0.
Temporal Representation:	The samples were collected twice each year (winter and summer) from 1997-99 and 2002.
Environmental Conditions:	
QAPP Information:	Data collected after 1999 follows the San Francisco Estuary Institute 1999 Quality Assurance Project Plan Regional Monitoring Program for Trace Substances.
QAPP Information Reference(s):	1999 Quality Assurance Project Plan Regional Monitoring Program for Trace Substances

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Supporting Information

Regional Board 2 - San Francisco Bay Region

Water Body Name: San Felipe Creek
Water Body ID: CAR2053004119990218133351
Water Body Type: River & Stream

DECISION ID 35091 **Region 2**
San Felipe Creek

Pollutant: Diazinon
Final Listing Decision: List on 303(d) list (being addressed by USEPA approved TMDL)
Last Listing Cycle's Final Listing Decision: List on 303(d) list (being addressed by USEPA approved TMDL)(2012)
Revision Status Original
Sources: Urban Runoff/Storm Sewers
TMDL Name: San Francisco Bay Urban Creeks Diazinon
TMDL Project Code: 9
Date TMDL Approved by USEPA: 05/16/2007
Impairment from Pollutant or Pollution: Pollutant

Regional Board Staff Conclusion: 303(d) listing decisions made prior to 2006 were not held in an assessment database. The Regional Boards will update this decision when new data and information become available and are assessed. The USEPA final decision on the 2006 303(d) list was to move this listing to the being addressed by a USEPA approved TMDL portion of the 303(d) list, because the San Francisco Bay Urban Creeks Diazinon TMDL was approved by USEPA on 5/16/07 (USEPA, 2007).

Regional Board Staff Decision Recommendation: This is a decision previously approved by the State Water Resources Control Board and the USEPA. No new data were assessed by the Regional Board for the current. The decision has not changed.

Line of Evidence (LOE) for Decision ID 35091, Diazinon **Region 2**
San Felipe Creek

LOE ID: 1803
Pollutant: Diazinon
LOE Subgroup: Pollutant-Water
Matrix: Water
Fraction: None
Beneficial Use: Warm Freshwater Habitat
Number of Samples: 0
Number of Exceedances: 0
Data and Information Type: Not Specified
Data Used to Assess Water Quality: Unspecified--This LOE is a placeholder to support a 303(d) listing decision made prior to 2006.
Data Reference: [Placeholder reference 2006 303\(d\)](#)
SWAMP Data: Non-SWAMP
Water Quality Objective/Criterion:

Objective/Criterion Reference:

Evaluation Guideline:
Guideline Reference:

Spatial Representation:
Temporal Representation:
Environmental Conditions:

QAPP Information: QA Info Missing
QAPP Information Reference(s):

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Supporting Information

Regional Board 2 - San Francisco Bay Region

Water Body Name: Los Gatos Creek (R2)
Water Body ID: CAR2054001119990218114518
Water Body Type: River & Stream

DECISION ID 34742 **Region 2**
Los Gatos Creek (R2)

Pollutant: Diazinon
Final Listing Decision: List on 303(d) list (being addressed by USEPA approved TMDL)
Last Listing Cycle's Final Listing Decision: List on 303(d) list (being addressed by USEPA approved TMDL)(2012)
Revision Status Original
Sources: Source Unknown
TMDL Name: San Francisco Bay Urban Creeks Diazinon
TMDL Project Code: 9
Date TMDL Approved by USEPA: 05/16/2007
Impairment from Pollutant or Pollution: Pollutant

Regional Board Staff Conclusion: 303(d) listing decisions made prior to 2006 were not held in an assessment database. The Regional Boards will update this decision when new data and information become available and are assessed. The USEPA final decision on the 2006 303(d) list was to move this listing to the being addressed by a USEPA approved TMDL portion of the 303(d) list, because the San Francisco Bay Urban Creeks Diazinon TMDL was approved by USEPA on 5/16/07 (USEPA, 2007).

Regional Board Staff Decision Recommendation: This is a decision previously approved by the State Water Resources Control Board and the USEPA. No new data were assessed by the Regional Board for the current. The decision has not changed.

Line of Evidence (LOE) for Decision ID 34742, Diazinon **Region 2**
Los Gatos Creek (R2)

LOE ID: 1804
Pollutant: Diazinon
LOE Subgroup: Pollutant-Water
Matrix: Water
Fraction: None
Beneficial Use: Cold Freshwater Habitat
Number of Samples: 0
Number of Exceedances: 0
Data and Information Type: Not Specified
Data Used to Assess Water Quality: Unspecified---This LOE is a placeholder to support a 303(d) listing decision made prior to 2006.
Data Reference: [Placeholder reference 2006 303\(d\)](#)
SWAMP Data: Non-SWAMP
Water Quality Objective/Criterion:

Objective/Criterion Reference:

Evaluation Guideline:
Guideline Reference:

Spatial Representation:
Temporal Representation:
Environmental Conditions:

QAPP Information: QA Info Missing
QAPP Information Reference(s):

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Supporting Information

Regional Board 2 - San Francisco Bay Region

Water Body Name: Alamitos Creek
Water Body ID: CAR2054004119980928110616
Water Body Type: River & Stream

DECISION ID 32504 **Region 2**
Alamitos Creek

Pollutant: Mercury
Final Listing Decision: List on 303(d) list (being addressed by USEPA approved TMDL)
Last Listing Cycle's Final Listing Decision: List on 303(d) list (TMDL required list)(2012)
Revision Status Original
Sources: Source Unknown
TMDL Name: Guadalupe River Watershed Mercury
TMDL Project Code: 11
Date TMDL Approved by USEPA: 06/01/2010
Impairment from Pollutant or Pollution: Pollutant

Regional Board Staff Conclusion: 303(d) listing decisions made prior to 2006 were not held in an assessment database. The Regional Boards will update this decision when new data and information become available and are assessed.

Regional Board Staff Decision Recommendation: This is a decision previously approved by the State Water Resources Control Board and the USEPA. No new data were assessed by the Regional Board for the current. The decision has not changed.

Line of Evidence (LOE) for Decision ID 32504, Mercury **Region 2**
Alamitos Creek

LOE ID: 3722
Pollutant: Mercury
LOE Subgroup: Pollutant-Tissue
Matrix: Tissue
Fraction: Not Recorded
Beneficial Use: Commercial or recreational collection of fish, shellfish, or organisms
Number of Samples: 0
Number of Exceedances: 0
Data and Information Type: Not Specified
Data Used to Assess Water Quality: Unspecified--This LOE is a placeholder to support a 303(d) listing decision made prior to 2006.
Data Reference: [Placeholder reference pre-2006 303\(d\)](#)
SWAMP Data: Non-SWAMP
Water Quality Objective/Criterion: Unspecified
Objective/Criterion Reference: [Placeholder reference pre-2006 303\(d\)](#)
Evaluation Guideline: Unspecified

Guideline Reference:	Placeholder reference pre-2006 303(d)
Spatial Representation:	Unspecified
Temporal Representation:	Unspecified
Environmental Conditions:	Unspecified
QAPP Information:	Unspecified
QAPP Information Reference(s):	

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Supporting Information

Regional Board 2 - San Francisco Bay Region

Water Body Name: Guadalupe River
Water Body ID: CAR2054005019980928160437
Water Body Type: River & Stream

DECISION ID 35113 **Region 2**
Guadalupe River

Pollutant: Diazinon
Final Listing Decision: Do Not Delist from 303(d) list (being addressed with USEPA approved TMDL)
Last Listing Cycle's Final Listing Decision: List on 303(d) list (being addressed by USEPA approved TMDL)(2012)
Revision Status Revised
Sources: Source Unknown
TMDL Name: San Francisco Bay Urban Creeks Diazinon
TMDL Project Code: 9
Date TMDL Approved by USEPA: 05/16/2007
Impairment from Pollutant or Pollution: Pollutant

Regional Board Staff Conclusion: This pollutant is being considered for removal on the CWA section 303(d) List under sections 2.2 and 4.1 of the Listing Policy. Under 4.1 of the Policy, a minimum of one line of evidence is needed to assess listing status.

Three lines of evidence are available in the administrative record to assess this pollutant.

Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against removing this water segment-pollutant combination from the CWA section 303(d) List. There is sufficient justification to place it in the Being Addressed portion of the CWA 303(d) List because a TMDL has been completed and approved by RWQCB and USEPA, and is expected to result in attainment of the standard.

This conclusion is based on the staff findings that:

1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy.
2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy.
3. A product ban for urban uses of diazinon in 1999 which has caused dramatic reduction in use.
4. Zero of one recent samples (since the ban) exceeded the evaluation guideline.
5. However, there are not a sufficient number of samples to de-list this waterbody according to Table 4.1 of the Listing Policy.
6. The Pesticides in Urban Creeks TMDL was approved by USEPA on 5/21/2007.
7. Pursuant to section 4.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.

Regional Board Staff Decision Recommendation: After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be removed from the section 303(d) list because applicable water quality standards for the pollutant are being exceeded.

Line of Evidence (LOE) for Decision ID 35113, Diazinon **Region 2**
Guadalupe River

LOE ID: 91868

Pollutant:	Diazinon
LOE Subgroup:	Pollutant-Sediment
Matrix:	Sediment
Fraction:	Total
Beneficial Use:	Warm Freshwater Habitat
Number of Samples:	1
Number of Exceedances:	0
Data and Information Type:	PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality:	Water Board staff assessed SWAMP data for Guadalupe River to determine beneficial use support and results are as follows: 0 of 1 samples exceed the criterion for Diazinon.
Data Reference:	Statewide Stream Pollution Trends Study 2008
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	San Francisco Bay Basin Water Quality Control Plan 2007: All waters shall be maintained free of toxic substances in concentrations which are toxic to, or which produce detrimental physiological responses in, human, plant, animal, or aquatic life.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	The evaluation guideline for diazinon is the median lethal concentration (LC50) of 11 ug/g and is normalized by the percentage of organic carbon in the sediment sample. The LC50 11 ug/g is the geometric mean of LC50 values for diazinon from Ding et al. (2011).
Guideline Reference:	Toxicity of Sediment-Associated Pesticides to Chironomus dilutus and Hyalella azteca. Arch. Environ. Contam. Toxicol. 61:83?92.
Spatial Representation:	Data for this line of evidence for Guadalupe River was collected at 1 monitoring site [Guadalupe Creek @ USGS Gaging Station 11169025 station (205GUA020)]
Temporal Representation:	Data was collected on a single day 6/17/2008.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	SWAMP data collected before September 2008 followed the QAMP (2002), however there may have been overlap in QA with SWAMP QAPP (2008).
QAPP Information Reference(s):	Quality Assurance Management Plan for the State of California's Surface Water Ambient Monitoring Program. Sacramento, CA. State Water Resources Control Board. SWAMP. December 2002 (1st version). Surface Water Ambient Monitoring Program Quality Assurance Program Plan

Line of Evidence (LOE) for Decision ID 35113, Diazinon

Region 2

Guadalupe River

LOE ID:	91869
Pollutant:	Diazinon
LOE Subgroup:	Pollutant-Sediment
Matrix:	Sediment
Fraction:	Total
Beneficial Use:	Cold Freshwater Habitat
Number of Samples:	1
Number of Exceedances:	0
Data and Information Type:	PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality:	Water Board staff assessed SWAMP data for Guadalupe River to determine beneficial use support and results are as follows: 0 of 1 samples exceed the criterion for Diazinon.
Data Reference:	Statewide Stream Pollution Trends Study 2008
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	San Francisco Bay Basin Water Quality Control Plan 2007: All waters shall be maintained

Objective/Criterion Reference:	free of toxic substances in concentrations which are toxic to, or which produce detrimental physiological responses in, human, plant, animal, or aquatic life. Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	The evaluation guideline for diazinon is the median lethal concentration (LC50) of 11 ug/g and is normalized by the percentage of organic carbon in the sediment sample. The LC50 11 ug/g is the geometric mean of LC50 values for diazinon from Ding et al. (2011).
Guideline Reference:	Toxicity of Sediment-Associated Pesticides to Chironomus dilutus and Hyalella azteca. Arch. Environ. Contam. Toxicol. 61:83?92.
Spatial Representation:	Data for this line of evidence for Guadalupe River was collected at 1 monitoring site [Guadalupe Creek @ USGS Gaging Station 11169025 station (205GUA020)]
Temporal Representation:	Data was collected on a single day 6/17/2008.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	SWAMP data collected before September 2008 followed the QAMP (2002), however there may have been overlap in QA with SWAMP QAPP (2008).
QAPP Information Reference(s):	Quality Assurance Management Plan for the State of California's Surface Water Ambient Monitoring Program. Sacramento, CA. State Water Resources Control Board. SWAMP. December 2002 (1st version) Surface Water Ambient Monitoring Program Quality Assurance Program Plan

Line of Evidence (LOE) for Decision ID 35113, Diazinon

Region 2

Guadalupe River

LOE ID:	1805
Pollutant:	Diazinon
LOE Subgroup:	Pollutant-Water
Matrix:	Water
Fraction:	None
Beneficial Use:	Warm Freshwater Habitat
Number of Samples:	0
Number of Exceedances:	0
Data and Information Type:	Not Specified
Data Used to Assess Water Quality:	Unspecified---This LOE is a placeholder to support a 303(d) listing decision made prior to 2006.
Data Reference:	Placeholder reference 2006 303(d)
SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	
Objective/Criterion Reference:	
Evaluation Guideline:	
Guideline Reference:	
Spatial Representation:	
Temporal Representation:	
Environmental Conditions:	
QAPP Information:	QA Info Missing
QAPP Information Reference(s):	

DECISION ID 34432

Region 2

Guadalupe River

Pollutant: Mercury
Final Listing Decision: Do Not Delist from 303(d) list (being addressed with USEPA approved TMDL)

Last Listing Cycle's Final Listing Decision:	List on 303(d) list (TMDL required list)(2012)
Revision Status	Revised
Sources:	Source Unknown
TMDL Name:	Guadalupe River Watershed Mercury
TMDL Project Code:	11
Date TMDL Approved by USEPA:	06/01/2010
Impairment from Pollutant or Pollution:	Pollutant

Regional Board Staff Conclusion: This pollutant is being considered for removal on the CWA section 303(d) List under sections 2.2 and 4.1 of the Listing Policy. Under section 4.1 of the Policy, a minimum of one line of evidence is needed to assess listing status.

Three lines of evidence are available in the administrative record to assess this pollutant.

Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against removing this water segment-pollutant combination from the CWA section 303(d) List. There is sufficient justification to place it in the Being Addressed portion of the CWA 303(d) List because a TMDL has been completed and approved by RWQCB and USEPA, and is expected to result in attainment of the standard.

This conclusion is based on the staff findings that:

1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy.
2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy.
3. One of one samples exceeded the evaluation guideline and these exceed the allowable frequency listed in Table 4.1 of the Listing Policy.
4. The Guadalupe River Watershed Mercury TMDL was approved by USEPA on 6/1/2010.
5. Pursuant to section 4.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.

Regional Board Staff Decision Recommendation: After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be removed from the section 303(d) list because applicable water quality standards for the pollutant are being exceeded.

Line of Evidence (LOE) for Decision ID 34432, Mercury Guadalupe River

Region 2

LOE ID:	3751
Pollutant:	Mercury
LOE Subgroup:	Pollutant-Tissue
Matrix:	Tissue
Fraction:	Not Recorded
Beneficial Use:	Commercial or recreational collection of fish, shellfish, or organisms
Number of Samples:	0
Number of Exceedances:	0
Data and Information Type:	Not Specified
Data Used to Assess Water Quality:	Unspecified--This LOE is a placeholder to support a 303(d) listing decision made prior to 2006.
Data Reference:	Placeholder reference pre-2006 303(d)
SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	Unspecified
Objective/Criterion Reference:	Placeholder reference pre-2006 303(d)

Evaluation Guideline:	Unspecified
Guideline Reference:	Placeholder reference pre-2006 303(d)
Spatial Representation:	Unspecified
Temporal Representation:	Unspecified
Environmental Conditions:	Unspecified
QAPP Information:	Unspecified
QAPP Information Reference(s):	

Line of Evidence (LOE) for Decision ID 34432, Mercury

Region 2

Guadalupe River

LOE ID:	91886
Pollutant:	Mercury
LOE Subgroup:	Pollutant-Sediment
Matrix:	Sediment
Fraction:	Total
Beneficial Use:	Warm Freshwater Habitat
Number of Samples:	1
Number of Exceedances:	1
Data and Information Type:	PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality:	Water Board staff assessed SWAMP data for Guadalupe River to determine beneficial use support and results are as follows: 1 of 1 samples exceed the criterion for Mercury.
Data Reference:	Statewide Stream Pollution Trends Study 2008
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	San Francisco Bay Basin Water Quality Control Plan 2007: All waters shall be maintained free of toxic substances in concentrations which are toxic to, or which produce detrimental physiological responses in, human, plant, animal, or aquatic life.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	In freshwater sediments the probable effect concentration (predictive of sediment toxicity for sediment-dwelling organisms) for mercury is 1.06 mg/Kg dry weight (MacDonald et al. 2000).
Guideline Reference:	Development and evaluation of consensus-based sediment quality guidelines for freshwater ecosystems. Environmental Contamination and Toxicology. 39: 20-31
Spatial Representation:	Data for this line of evidence for Guadalupe River was collected at 1 monitoring site [Guadalupe Creek @ USGS Gaging Station 11169025 station (205GUA020)]
Temporal Representation:	Data was collected on a single day 6/17/2008.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	SWAMP data collected before September 2008 followed the QAMP (2002), however there may have been overlap in QA with SWAMP QAPP (2008).
QAPP Information Reference(s):	Quality Assurance Management Plan for the State of California's Surface Water Ambient Monitoring Program. Sacramento, CA. State Water Resources Control Board. SWAMP. December 2002 (1st version) Surface Water Ambient Monitoring Program Quality Assurance Program Plan

Line of Evidence (LOE) for Decision ID 34432, Mercury

Region 2

Guadalupe River

LOE ID:	91887
Pollutant:	Mercury
LOE Subgroup:	Pollutant-Sediment
Matrix:	Sediment

Fraction:	Total
Beneficial Use:	Cold Freshwater Habitat
Number of Samples:	1
Number of Exceedances:	1
Data and Information Type:	PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality:	Water Board staff assessed SWAMP data for Guadalupe River to determine beneficial use support and results are as follows: 1 of 1 samples exceed the criterion for Mercury.
Data Reference:	Statewide Stream Pollution Trends Study 2008
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	San Francisco Bay Basin Water Quality Control Plan 2007: All waters shall be maintained free of toxic substances in concentrations which are toxic to, or which produce detrimental physiological responses in, human, plant, animal, or aquatic life.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	In freshwater sediments the probable effect concentration (predictive of sediment toxicity for sediment-dwelling organisms) for mercury is 1.06 mg/Kg dry weight (MacDonald et al. 2000).
Guideline Reference:	Development and evaluation of consensus-based sediment quality guidelines for freshwater ecosystems. Environmental Contamination and Toxicology. 39: 20-31
Spatial Representation:	Data for this line of evidence for Guadalupe River was collected at 1 monitoring site [Guadalupe Creek @ USGS Gaging Station 11169025 station (205GUA020)]
Temporal Representation:	Data was collected on a single day 6/17/2008.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	SWAMP data collected before September 2008 followed the QAMP (2002), however there may have been overlap in QA with SWAMP QAPP (2008).
QAPP Information Reference(s):	Quality Assurance Management Plan for the State of California's Surface Water Ambient Monitoring Program. Sacramento, CA. State Water Resources Control Board. SWAMP. December 2002 (1st version) Surface Water Ambient Monitoring Program Quality Assurance Program Plan

DECISION ID	34984	Region 2
Guadalupe River		

Pollutant:	Trash
Final Listing Decision:	Do Not Delist from 303(d) list (being addressed with action other than TMDL)
Last Listing Cycle's Final Listing Decision:	List on 303(d) list (TMDL required list)(2012)
Revision Status	Revised
Sources:	Source Unknown
Expected Attainment Date:	2029
Implementation Action Other than TMDL:	This trash listing will be addressed by implementing the trash control provisions of the Water Quality Control Plan for Inland Surface Waters, Enclosed Bays, and Estuaries of California through the NPDES MS4 permit applicable to this waterbody.
Impairment from Pollutant or Pollution:	Pollutant
Regional Board Staff Conclusion:	This pollutant is being considered for placement on the section 303(d) list under section 3.11 of the Listing Policy. Under section 3.11, listing may be proposed based on the situation-specific weight of evidence. Two lines of evidence are available in the administrative record to assess this pollutant. The first line of evidence concerns the non-contact recreation beneficial use, and the second line of evidence concerns the wildlife habit beneficial use. Both lines of evidence make use of data from field visits/trash surveys conducted according to the Urban Rapid Trash Assessment (URTA) methodology developed by the Santa Clara Valley Urban Runoff Pollution Prevention Program (SCVURPPP) as well as inspection of photographic evidence by Regional Water Board staff trained to conduct the Rapid Trash Assessment (RTA) methodology. The staff inspected these photos and

applied the RTA methodology to develop Category 1 (Level of Trash) and Category 3 (Threat to Aquatic Life) scores for each photograph. Based on the readily available photographic and trash assessment data for this waterbody, the weight of evidence indicates that there is sufficient justification available in favor of placing this water segment-pollutant combination to the section 303(d) list in the Water Quality Limited Segments category. This conclusion is based on the staff findings that: 1. Data have been evaluated that supports this decision. 2. The Urban Rapid Trash Assessment methodology results showed that this waterbody had level of trash parameter scores in the poor category (indicating impairment of non-contact water recreational beneficial uses) at three locations and on three different dates. This waterbody also had transportable, Persistent, Buoyant Litter parameter scores in the marginal urban and poor category (indicating threat to Wildlife Habitat beneficial uses) at four locations and on four different dates. 3. Photographic evidence has been evaluated that supports this decision. 4. Applying the Rapid Trash Assessment methodology to the photographic evidence suggests that this waterbody had level of trash parameter scores in the poor category (indicating impairment of non-contact water recreational beneficial uses) at more than five locations on six different dates. This waterbody also had threat to aquatic life parameter scores in the poor category (indicating threat to Wildlife Habitat beneficial uses) at more than six different locations on seven different dates. 5. This waterbody is considered impaired by trash because there were exceedances of the evaluation guidelines (poor condition category for the trash assessment metrics) in more than one location or on more than one date. 6. The data used satisfy the data quality requirements of section 6.1.4 of the Policy. 7. The data used satisfy the data quantity requirements of section 6.1 of the Policy.

8. This trash listing will be addressed by implementing the trash control provisions of the Water Quality Control Plan for Inland Surface Waters, Enclosed Bays, and Estuaries of California through the NPDES MS4 permit applicable to this waterbody.

Regional Board Staff Decision Recommendation: After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be removed from the section 303(d) list because applicable water quality standards for the pollutant are being exceeded.

Line of Evidence (LOE) for Decision ID 34984, Trash Guadalupe River

Region 2

LOE ID: 5478

Pollutant: Trash
LOE Subgroup: Pollutant-Nuisance
Matrix: Not Specified
Fraction: None

Beneficial Use: Non-Contact Recreation

Number of Samples: 8
Number of Exceedances: 5

Data and Information Type: Occurrence of conditions judged to cause impairment
Data Used to Assess Water Quality: Data results were obtained through application of the Urban Rapid Trash Assessment (URTA) methodology, developed by the Santa Clara Valley Urban Runoff Pollution Prevention Program. The URTA is a modification of the Rapid Trash Assessment (RTA) developed by the Surface Water Ambient Monitoring Program (SWAMP). The URTA method documents the total number and characteristics of pieces of trash per one hundred feet of stream or shoreline. The trash assessment protocol involves picking up and tallying all of the trash items found within the defined boundaries of a site. The tally results for level of trash (relating to REC2) and transportable, persistent, buoyant litter (relating to WILD) assessment parameters were considered for the listing determination. These results are available for field visits/trash surveys conducted in September 2004, an unknown date in 2005, and November 2006 according to the Urban Rapid Trash Assessment (URTA) methodology.

This waterbody had level of trash parameter scores in the poor category (indicating impairment of non-contact water recreational beneficial uses) at three locations and on three different dates.

Data Reference:	Memo: Development of Urban Rapid Trash Assessment Protocol. March 13, 2006 Spreadsheet of Urban Rapid Trash Assessment (URTA) data collected by the Santa Clara Valley Urban Runoff Pollution Prevention Program, 2004-2007
SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	<p>The Basin Plan prohibits discharge of Rubbish, refuse, bark, sawdust, or other solid wastes into surface waters or at any place where they would contact or where they would be eventually transported to surface waters, including flood plain areas.</p> <p>The Basin Plan has a narrative objective for floating material, Waters shall not contain floating material, including solids, liquids, foams, and scum, in concentrations that cause nuisance or adversely affect beneficial uses.</p> <p>The Basin Plan has a narrative objective for settleable material, Waters shall not contain substances in concentrations that result in the deposition of material that cause nuisance or adversely affect beneficial uses.</p>
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) - San Francisco Bay Region (Region 2)
Evaluation Guideline:	If the Urban Rapid Trash Assessment (URTA) Parameter 1 (Level of Trash) is in the poor condition category (scores 0-5), REC2 is not supported. The URTA defines poor condition for this parameter as a level of trash that distracts the eye on first glance. Stream, bank surfaces, and immediate riparian zone contain substantial levels of litter and debris. Evidence of site being used frequently by people: many cans, bottles, and food wrappers, blankets, clothing.
Guideline Reference:	Memo: Development of Urban Rapid Trash Assessment Protocol. March 13, 2006
Spatial Representation:	URTA data were collected for this waterbody in five locations in 2004 through 2006.
Temporal Representation:	URTA data was collected for this waterbody on five separate dates from September 2004 through November 2006.
Environmental Conditions:	
QAPP Information:	Data were collected by trained staff in accordance with URTA methodology developed by SCVURPPP and are deemed reliable and of sufficient quality on which to base listing determinations.
QAPP Information Reference(s):	

Line of Evidence (LOE) for Decision ID 34984, Trash
Guadalupe River

Region 2

LOE ID:	5479
Pollutant:	Trash
LOE Subgroup:	Pollutant-Nuisance
Matrix:	Not Specified
Fraction:	None
Beneficial Use:	Wildlife Habitat
Number of Samples:	8
Number of Exceedances:	8
Data and Information Type:	Occurrence of conditions judged to cause impairment
Data Used to Assess Water Quality:	<p>Data available consist of photographic evidence of trash and interpretation of these photos by an experienced trash assessment specialist. Each photograph was analyzed to establish the RTA score for the level of trash and threat to aquatic life parameters, which relate to impairment of REC2 and WILD, respectively. Only those photos clear enough to establish these RTA scores were relied on for the listing determination. These results are available for the following Guadalupe River locations:</p> <p>Multiple locations on 2/1/2004, 2/18/2005, and 2/2/2006</p> <p>San Jose Airport on 2/18/2005</p> <p>Alma Ave. on 2/24/2007</p> <p>Malone Ave. on 2/24/2007</p>

Between Tasman and Trimble on 2/19/2007
75 yards upstream of I880 on 1/22/2007
At the Montague Expressway on 5/8/2006

This waterbody had threat to aquatic life parameter scores in the poor category (indicating threat to Wildlife Habitat beneficial uses) at more than six different locations on seven different dates.

Data Reference:

[Report from Roger James and Larry Kolb containing Trash Photos submitted for consideration in 2008 303\(d\) listing process](#)
[Assessment by Matt Cover of Trash Photos \(submitted to Region 2 in response to 2008 Data Solicitation\)](#)
[Archive of Trash Photos for Guadalupe River submitted for 2008 303\(d\) list consideration](#)

SWAMP Data:

Non-SWAMP

Water Quality Objective/Criterion:

The Basin Plan prohibits discharge of Rubbish, refuse, bark, sawdust, or other solid wastes into surface waters or at any place where they would contact or where they would be eventually transported to surface waters, including flood plain areas.

The Basin Plan has a narrative objective for floating material, Waters shall not contain floating material, including solids, liquids, foams, and scum, in concentrations that cause nuisance or adversely affect beneficial uses.

The Basin Plan has a narrative objective for settleable material, Waters shall not contain substances in concentrations that result in the deposition of material that cause nuisance or adversely affect beneficial uses.

Objective/Criterion Reference:

[Water Quality Control Plan \(Basin Plan\) - San Francisco Bay Region \(Region 2\)](#)

Evaluation Guideline:

If the RTA Parameter 3 (Threat to Aquatic Life) is in the poor condition category (scores 0-5), then WILD is not supported. This level of trash is a large amount (>50 pieces) of transportable, persistent, buoyant litter that is detrimental to aquatic life. The RTA defines poor condition for this parameter as follows, large amount (>50 pieces) of transportable, persistent, buoyant litter such as: hard or soft plastics, balloons, Styrofoam, cigarette butts; toxic items such as batteries, lighters, or spray cans; large clumps of yard waste or dumped leaf litter; or large amount (>50 pieces) of settleable glass or metal.

Regional Water Board staff trained in the RTA inspected the available photographic evidence and applied the assessment method to determine the Threat to Aquatic Life score.

Guideline Reference:

[A Rapid Trash Assessment Method Applied to Waters of the San Francisco Bay Region: Trash Measurement in Streams](#)

Spatial Representation:

Photographic evidence was analyzed using the RTA methodology for this waterbody for more than seven different locations spanning dates from 2004 through 2007.

Temporal Representation:

Photographic evidence was collected for this waterbody on seven separate dates from 2004 through 2007.

Environmental Conditions:

QAPP Information:

Assessments of the photographic evidence using the RTA were performed by Regional Water Board staff person who was a co-author of the Rapid Trash Assessment methodology.

Assessments based on photographic evidence were only conducted when sufficient reach-scale and close-up photos were available for a site on a specific date. Photos used for the evaluation needed to be numerous enough and clear enough to document the level of trash at the site in a similar way as the assessor would experience during an actual site visit in the field. For example, at a minimum, one reach-scale photograph (showing at least a 100 linear foot section of the waterbody) and two close-up photographs (of representative trash deposits) were required.

QAPP Information Reference(s):

**Line of Evidence (LOE) for Decision ID 34984, Trash
Guadalupe River**

Region 2

LOE ID:	5480
Pollutant:	Trash
LOE Subgroup:	Pollutant-Nuisance
Matrix:	Not Specified
Fraction:	None
Beneficial Use:	Non-Contact Recreation
Number of Samples:	8
Number of Exceedances:	7
Data and Information Type:	Occurrence of conditions judged to cause impairment
Data Used to Assess Water Quality:	<p>Data available consist of photographic evidence of trash and interpretation of these photos by an experienced trash assessment specialist. Each photograph was analyzed to establish the RTA score for the level of trash and threat to aquatic life parameters, which relate to impairment of REC2 and WILD, respectively. Only those photos clear enough to establish these RTA scores were relied on for the listing determination. These results are available for the following Guadalupe River locations:</p> <p>Multiple locations on 2/1/2004, 2/18/2005, and 2/2/2006</p> <p>San Jose Airport on 2/18/2005</p> <p>Alma Ave. on 2/24/2007</p> <p>Malone Ave. on 2/24/2007</p> <p>Between Tasman and Trimble on 2/19/2007</p> <p>75 yards upstream of I880 on 1/22/2007</p> <p>At the Montague Expressway on 5/8/2006</p> <p>This waterbody had level of trash parameter scores in the poor category (indicating impairment of non-contact water recreational beneficial uses) at five locations on six different dates.</p>
Data Reference:	<p>Report from Roger James and Larry Kolb containing Trash Photos submitted for consideration in 2008 303(d) listing process</p> <p>Assessment by Matt Cover of Trash Photos (submitted to Region 2 in response to 2008 Data Solicitation)</p> <p>Archive of Trash Photos for Guadalupe River submitted for 2008 303(d) list consideration</p>
SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	<p>The Basin Plan prohibits discharge of Rubbish, refuse, bark, sawdust, or other solid wastes into surface waters or at any place where they would contact or where they would be eventually transported to surface waters, including flood plain areas.</p> <p>The Basin Plan has a narrative objective for floating material, Waters shall not contain floating material, including solids, liquids, foams, and scum, in concentrations that cause nuisance or adversely affect beneficial uses.</p> <p>The Basin Plan has a narrative objective for settleable material, Waters shall not contain substances in concentrations that result in the deposition of material that cause nuisance or adversely affect beneficial uses.</p>
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) - San Francisco Bay Region (Region 2)
Evaluation Guideline:	<p>If the Rapid Trash Assessment (RTA) Parameter 1 (Level of Trash) is in the poor condition category (scores 0-5), REC2 is not supported. This level of trash distracts the eye on first glance, making the site unsuitable for recreation. The RTA defines poor condition for this parameter as follows, trash distracts the eye on first glance. Stream, bank surfaces, and immediate riparian zone contain substantial levels of litter and debris (>100 pieces). Evidence of site being used frequently by people: many cans, bottles, and food wrappers, blankets, clothing.</p> <p>Regional Water Board staff trained in the RTA inspected the available photographic evidence and applied the assessment method to determine the Level of Trash score.</p>
Guideline Reference:	A Rapid Trash Assessment Method Applied to Waters of the San Francisco Bay

Spatial Representation:	Photographic evidence was analyzed using the RTA methodology for this waterbody for more than seven different locations spanning dates from 2004 through 2007.
Temporal Representation:	Photographic evidence was collected for this waterbody on seven separate dates from 2004 through 2007.
Environmental Conditions:	
QAPP Information:	Assessments of the photographic evidence using the RTA were performed by Regional Water Board staff person who was a co-author of the Rapid Trash Assessment methodology. Assessments based on photographic evidence were only conducted when sufficient reach-scale and close-up photos were available for a site on a specific date. Photos used for the evaluation needed to be numerous enough and clear enough to document the level of trash at the site in a similar way as the assessor would experience during an actual site visit in the field. For example, at a minimum, one reach-scale photograph (showing at least a 100 linear foot section of the waterbody) and two close-up photographs (of representative trash deposits) were required.
QAPP Information Reference(s):	

Line of Evidence (LOE) for Decision ID 34984, Trash
Guadalupe River

Region 2

LOE ID:	5477
Pollutant:	Trash
LOE Subgroup:	Pollutant-Nuisance
Matrix:	Not Specified
Fraction:	None
Beneficial Use:	Wildlife Habitat
Number of Samples:	8
Number of Exceedances:	7
Data and Information Type:	Occurrence of conditions judged to cause impairment
Data Used to Assess Water Quality:	Data results were obtained through application of the Urban Rapid Trash Assessment (URTA) methodology, developed by the Santa Clara Valley Urban Runoff Pollution Prevention Program. The URTA is a modification of the Rapid Trash Assessment (RTA) developed by the Surface Water Ambient Monitoring Program (SWAMP). The URTA method documents the total number and characteristics of pieces of trash per one hundred feet of stream or shoreline. The trash assessment protocol involves picking up and tallying all of the trash items found within the defined boundaries of a site. The tally results for level of trash (relating to REC2) and transportable, persistent, buoyant litter (relating to WILD) assessment parameters were considered for the listing determination. These results are available for field visits/trash surveys conducted in September 2004, an unknown date in 2005, and November 2006 according to the Urban Rapid Trash Assessment (URTA) methodology. This waterbody had transportable, Persistent, Buoyant Litter parameter scores in the marginal urban and poor category (indicating threat to Wildlife Habitat beneficial uses) at four locations and on four different dates.
Data Reference:	Memo: Development of Urban Rapid Trash Assessment Protocol. March 13, 2006 Spreadsheet of Urban Rapid Trash Assessment (URTA) data collected by the Santa Clara Valley Urban Runoff Pollution Prevention Program, 2004-2007
SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	The Basin Plan prohibits discharge of Rubbish, refuse, bark, sawdust, or other solid wastes into surface waters or at any place where they would contact or where they would be eventually transported to surface waters, including flood plain areas. The Basin Plan has a narrative objective for floating material, Waters shall not contain floating material, including solids, liquids, foams, and scum, in concentrations that cause

nuisance or adversely affect beneficial uses.

The Basin Plan has a narrative objective for settleable material, Waters shall not contain substances in concentrations that result in the deposition of material that cause nuisance or adversely affect beneficial uses.

Objective/Criterion Reference:

[Water Quality Control Plan \(Basin Plan\) - San Francisco Bay Region \(Region 2\)](#)

Evaluation Guideline:

If the URTA Parameter 3 (Transportable, Persistent, Buoyant Litter) is in the marginal urban or poor condition category (scores 0-10), then WILD is not supported. The URTA defines marginal urban or poor condition for this parameter as follows. this level of trash is a medium prevalence (76-200 pieces) or large amount (>200 pieces) of transportable, persistent, buoyant litter such as: hard or soft plastics, styrofoam, balloons, cigarette butts. These types of items are all detrimental to aquatic life.

Guideline Reference:

[Memo: Development of Urban Rapid Trash Assessment Protocol. March 13, 2006](#)

Spatial Representation:

URTA data were collected for this waterbody in five locations in 2004 through 2006.

Temporal Representation:

URTA data were collected for this waterbody on five separate dates from September 2004 through November 2006.

Environmental Conditions:

QAPP Information:

Data were collected by trained staff in accordance with URTA methodology developed by SCVURPPP and are deemed reliable and of sufficient quality on which to base listing determinations.

QAPP Information Reference(s):

DECISION ID	64573	Region 2
Guadalupe River		

Pollutant:	Anthracene
Final Listing Decision:	Do Not List on 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision:	New Decision
Revision Status	Revised
Impairment from Pollutant or Pollution:	Pollutant

Regional Board Staff Conclusion:

This pollutant is being considered for placement on the CWA section 303(d) List under section 3.6 of the Listing Policy. Under section 3.6 at least two lines of evidence are necessary to assess listing status for pollutants sediment, and pollutant concentrations in sediment must be associated with sediment toxicity to justify adding that pollutant to the CWA section 303(d) List.

Two lines of evidence are available in the administrative record to assess this pollutant. Zero of one samples exceed the guideline. Sediment toxicity data are not associated with this decision because they are not relevant to this decision because there is insufficient information based on sediment chemistry.

Based on the readily available data and information, the weight of evidence indicates that there is insufficient justification for placing this water segment-pollutant combination on the CWA section 303(d) List.

This conclusion is based on the staff findings that:

1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy.
2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy.
3. Zero of one samples exceed the guideline and this sample size is insufficient to determine beneficial use support, with the power and confidence of the Listing Policy. A minimum of 16 samples is needed to determine if a beneficial use is fully supported using table 3.1. Sediment toxicity data are not associated with this decision because the sediment chemistry data are insufficient.
4. Pursuant to section 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.

Regional Board Staff Decision After review of the available data and information, RWQCB staff concludes that the water body-

Recommendation: pollutant combination should not be placed on the section 303(d) list. The readily available data and information is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating.

Line of Evidence (LOE) for Decision ID 64573, Anthracene
Guadalupe River

Region 2

LOE ID: 91800

Pollutant: Anthracene
LOE Subgroup: Pollutant-Sediment
Matrix: Sediment
Fraction: Total

Beneficial Use: Cold Freshwater Habitat

Number of Samples: 1
Number of Exceedances: 0

Data and Information Type: PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality: Water Board staff assessed SWAMP data for Guadalupe River to determine beneficial use support and results are as follows: 0 of 1 samples exceed the criterion for Anthracene.
Data Reference: [Statewide Stream Pollution Trends Study 2008](#)

SWAMP Data: SWAMP

Water Quality Objective/Criterion: San Francisco Bay Basin Water Quality Control Plan 2007: All waters shall be maintained free of toxic substances in concentrations which are toxic to, or which produce detrimental physiological responses in, human, plant, animal, or aquatic life.
Objective/Criterion Reference: [Water Quality Control Plan \(Basin Plan\) San Francisco Bay Basin \(Region 2\)](#)

Evaluation Guideline: In freshwater sediments the probable effect concentration (predictive of sediment toxicity for sediment-dwelling organisms) for anthracene is 845 ug/Kg dry weight (MacDonald et al. 2000).
Guideline Reference: [Development and evaluation of consensus-based sediment quality guidelines for freshwater ecosystems. Environmental Contamination and Toxicology. 39: 20-31](#)

Spatial Representation: Data for this line of evidence for Guadalupe River was collected at 1 monitoring site [Guadalupe Creek @ USGS Gaging Station 11169025 station (205GUA020)]
Temporal Representation: Data was collected on a single day 6/17/2008.
Environmental Conditions: Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information: SWAMP data collected before September 2008 followed the QAMP (2002), however there may have been overlap in QA with SWAMP QAPP (2008).
QAPP Information Reference(s): [Quality Assurance Management Plan for the State of California's Surface Water Ambient Monitoring Program. Sacramento, CA. State Water Resources Control Board. SWAMP. December 2002 \(1st version\).](#)
[Surface Water Ambient Monitoring Program Quality Assurance Program Plan](#)

Line of Evidence (LOE) for Decision ID 64573, Anthracene
Guadalupe River

Region 2

LOE ID: 91799

Pollutant: Anthracene
LOE Subgroup: Pollutant-Sediment
Matrix: Sediment
Fraction: Total

Beneficial Use: Warm Freshwater Habitat

Number of Samples:	1
Number of Exceedances:	0
Data and Information Type:	PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality:	Water Board staff assessed SWAMP data for Guadalupe River to determine beneficial use support and results are as follows: 0 of 1 samples exceed the criterion for Anthracene.
Data Reference:	Statewide Stream Pollution Trends Study 2008
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	San Francisco Bay Basin Water Quality Control Plan 2007: All waters shall be maintained free of toxic substances in concentrations which are toxic to, or which produce detrimental physiological responses in, human, plant, animal, or aquatic life.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	In freshwater sediments the probable effect concentration (predictive of sediment toxicity for sediment-dwelling organisms) for anthracene is 845 ug/Kg dry weight (MacDonald et al. 2000).
Guideline Reference:	Development and evaluation of consensus-based sediment quality guidelines for freshwater ecosystems. Environmental Contamination and Toxicology. 39: 20-31
Spatial Representation:	Data for this line of evidence for Guadalupe River was collected at 1 monitoring site [Guadalupe Creek @ USGS Gaging Station 11169025 station (205GUA020)]
Temporal Representation:	Data was collected on a single day 6/17/2008.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	SWAMP data collected before September 2008 followed the QAMP (2002), however there may have been overlap in QA with SWAMP QAPP (2008).
QAPP Information Reference(s):	Quality Assurance Management Plan for the State of California's Surface Water Ambient Monitoring Program. Sacramento, CA. State Water Resources Control Board. SWAMP. December 2002 (1st version) Surface Water Ambient Monitoring Program Quality Assurance Program Plan

DECISION ID	64574	Region 2
Guadalupe River		

Pollutant:	Arsenic
Final Listing Decision:	Do Not List on 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision:	New Decision
Revision Status	Revised
Impairment from Pollutant or Pollution:	Pollutant

Regional Board Staff Conclusion:	<p>This pollutant is being considered for placement on the CWA section 303(d) List under section 3.6 of the Listing Policy. Under section 3.6 at least two lines of evidence are necessary to assess listing status for pollutants sediment, and pollutant concentrations in sediment must be associated with sediment toxicity to justify adding that pollutant to the CWA section 303(d) List.</p> <p>Two lines of evidence are available in the administrative record to assess this pollutant. Zero of one samples exceed the guideline. Sediment toxicity data are not associated with this decision because they are not relevant to this decision because there is insufficient information based on sediment chemistry.</p> <p>Based on the readily available data and information, the weight of evidence indicates that there is insufficient justification for placing this water segment-pollutant combination on the CWA section 303(d) List.</p> <p>This conclusion is based on the staff findings that:</p> <ol style="list-style-type: none"> 1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy. 2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy. 3. Zero of one samples exceed the guideline and this sample size is insufficient to determine
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beneficial use support, with the power and confidence of the Listing Policy. A minimum of 16 samples is needed to determine if a beneficial use is fully supported using table 3.1.

Sediment toxicity data are not associated with this decision because the sediment chemistry data are insufficient.

4. Pursuant to section 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.

Regional Board Staff Decision Recommendation: After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be placed on the section 303(d) list. The readily available data and information is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating.

Line of Evidence (LOE) for Decision ID 64574, Arsenic

Region 2

Guadalupe River

LOE ID:	91801
Pollutant:	Arsenic
LOE Subgroup:	Pollutant-Sediment
Matrix:	Sediment
Fraction:	Total
Beneficial Use:	Warm Freshwater Habitat
Number of Samples:	1
Number of Exceedances:	0
Data and Information Type:	PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality:	Water Board staff assessed SWAMP data for Guadalupe River to determine beneficial use support and results are as follows: 0 of 1 samples exceed the criterion for Arsenic.
Data Reference:	Statewide Stream Pollution Trends Study 2008
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	San Francisco Bay Basin Water Quality Control Plan 2007: All waters shall be maintained free of toxic substances in concentrations which are toxic to, or which produce detrimental physiological responses in, human, plant, animal, or aquatic life.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	In freshwater sediments the probable effect concentration (predictive of sediment toxicity for sediment-dwelling organisms) for arsenic is 33 mg/Kg dry weight (MacDonald et al. 2000).
Guideline Reference:	Development and evaluation of consensus-based sediment quality guidelines for freshwater ecosystems. Environmental Contamination and Toxicology. 39: 20-31
Spatial Representation:	Data for this line of evidence for Guadalupe River was collected at 1 monitoring site [Guadalupe Creek @ USGS Gaging Station 11169025 station (205GUA020)]
Temporal Representation:	Data was collected on a single day 6/17/2008.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	SWAMP data collected before September 2008 followed the QAMP (2002), however there may have been overlap in QA with SWAMP QAPP (2008).
QAPP Information Reference(s):	Quality Assurance Management Plan for the State of California's Surface Water Ambient Monitoring Program. Sacramento, CA. State Water Resources Control Board. SWAMP. December 2002 (1st version) Surface Water Ambient Monitoring Program Quality Assurance Program Plan

Line of Evidence (LOE) for Decision ID 64574, Arsenic

Region 2

Guadalupe River

LOE ID: 91772

Pollutant:	Arsenic
LOE Subgroup:	Pollutant-Sediment
Matrix:	Sediment
Fraction:	Total
Beneficial Use:	Cold Freshwater Habitat
Number of Samples:	1
Number of Exceedances:	0
Data and Information Type:	PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality:	Water Board staff assessed SWAMP data for Guadalupe River to determine beneficial use support and results are as follows: 0 of 1 samples exceed the criterion for Arsenic.
Data Reference:	Statewide Stream Pollution Trends Study 2008
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	San Francisco Bay Basin Water Quality Control Plan 2007: All waters shall be maintained free of toxic substances in concentrations which are toxic to, or which produce detrimental physiological responses in, human, plant, animal, or aquatic life.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	In freshwater sediments the probable effect concentration (predictive of sediment toxicity for sediment-dwelling organisms) for arsenic is 33 mg/Kg dry weight (MacDonald et al. 2000).
Guideline Reference:	Development and evaluation of consensus-based sediment quality guidelines for freshwater ecosystems. Environmental Contamination and Toxicology. 39: 20-31
Spatial Representation:	Data for this line of evidence for Guadalupe River was collected at 1 monitoring site [Guadalupe Creek @ USGS Gaging Station 11169025 station (205GUA020)]
Temporal Representation:	Data was collected on a single day 6/17/2008.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	SWAMP data collected before September 2008 followed the QAMP (2002), however there may have been overlap in QA with SWAMP QAPP (2008).
QAPP Information Reference(s):	Quality Assurance Management Plan for the State of California's Surface Water Ambient Monitoring Program. Sacramento, CA. State Water Resources Control Board. SWAMP. December 2002 (1st version). Surface Water Ambient Monitoring Program Quality Assurance Program Plan

DECISION ID	64575	Region 2
Guadalupe River		

Pollutant: Final Listing Decision: Last Listing Cycle's Final Listing Decision: Revision Status Impairment from Pollutant or Pollution:	Benzo(a)anthracene Do Not List on 303(d) list (TMDL required list) New Decision Revised Pollutant
Regional Board Staff Conclusion:	<p>This pollutant is being considered for placement on the CWA section 303(d) List under section 3.6 of the Listing Policy. Under section 3.6 at least two lines of evidence are necessary to assess listing status for pollutants sediment, and pollutant concentrations in sediment must be associated with sediment toxicity to justify adding that pollutant to the CWA section 303(d) List.</p> <p>Two lines of evidence are available in the administrative record to assess this pollutant. Zero of one samples exceed the guideline. Sediment toxicity data are not associated with this decision because they are not relevant to this decision because there is insufficient information based on sediment chemistry.</p>

Based on the readily available data and information, the weight of evidence indicates that there is insufficient justification for placing this water segment-pollutant combination on the CWA section 303(d) List.

This conclusion is based on the staff findings that:

1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy.
2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy.
3. Zero of one samples exceed the guideline and this sample size is insufficient to determine beneficial use support, with the power and confidence of the Listing Policy. A minimum of 16 samples is needed to determine if a beneficial use is fully supported using table 3.1. Sediment toxicity data are not associated with this decision because the sediment chemistry data are insufficient.
4. Pursuant to section 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.

Regional Board Staff Decision Recommendation:

After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be placed on the section 303(d) list. The readily available data and information is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating.

**Line of Evidence (LOE) for Decision ID 64575, Benzo(a)anthracene
Guadalupe River**

Region 2

LOE ID:	91774
Pollutant:	Benzo(a)anthracene
LOE Subgroup:	Pollutant-Sediment
Matrix:	Sediment
Fraction:	Total
Beneficial Use:	Cold Freshwater Habitat
Number of Samples:	1
Number of Exceedances:	0
Data and Information Type:	PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality:	Water Board staff assessed SWAMP data for Guadalupe River to determine beneficial use support and results are as follows: 0 of 1 samples exceed the criterion for Benzo(a)anthracene.
Data Reference:	Statewide Stream Pollution Trends Study 2008
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	San Francisco Bay Basin Water Quality Control Plan 2007: All waters shall be maintained free of toxic substances in concentrations which are toxic to, or which produce detrimental physiological responses in, human, plant, animal, or aquatic life.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	In freshwater sediments the probable effect concentration (predictive of sediment toxicity for sediment-dwelling organisms) for Benzo(a)anthracene is 1050 ug/Kg dry weight (MacDonald et al. 2000).
Guideline Reference:	Development and evaluation of consensus-based sediment quality guidelines for freshwater ecosystems. Environmental Contamination and Toxicology. 39: 20-31
Spatial Representation:	Data for this line of evidence for Guadalupe River was collected at 1 monitoring site [Guadalupe Creek @ USGS Gaging Station 11169025 station (205GUA020)]
Temporal Representation:	Data was collected on a single day 6/17/2008.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	SWAMP data collected before September 2008 followed the QAMP (2002), however there may have been overlap in QA with SWAMP QAPP (2008).
QAPP Information Reference(s):	Quality Assurance Management Plan for the State of California's Surface Water Ambient

Line of Evidence (LOE) for Decision ID 64575, Benzo(a)anthracene

Region 2

Guadalupe River

LOE ID:	91773
Pollutant:	Benzo(a)anthracene
LOE Subgroup:	Pollutant-Sediment
Matrix:	Sediment
Fraction:	Total
Beneficial Use:	Warm Freshwater Habitat
Number of Samples:	1
Number of Exceedances:	0
Data and Information Type:	PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality:	Water Board staff assessed SWAMP data for Guadalupe River to determine beneficial use support and results are as follows: 0 of 1 samples exceed the criterion for Benzo(a)anthracene.
Data Reference:	Statewide Stream Pollution Trends Study 2008
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	San Francisco Bay Basin Water Quality Control Plan 2007: All waters shall be maintained free of toxic substances in concentrations which are toxic to, or which produce detrimental physiological responses in, human, plant, animal, or aquatic life.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	In freshwater sediments the probable effect concentration (predictive of sediment toxicity for sediment-dwelling organisms) for Benzo(a)anthracene is 1050 ug/Kg dry weight (MacDonald et al. 2000).
Guideline Reference:	Development and evaluation of consensus-based sediment quality guidelines for freshwater ecosystems. Environmental Contamination and Toxicology. 39: 20-31
Spatial Representation:	Data for this line of evidence for Guadalupe River was collected at 1 monitoring site [Guadalupe Creek @ USGS Gaging Station 11169025 station (205GUA020)]
Temporal Representation:	Data was collected on a single day 6/17/2008.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	SWAMP data collected before September 2008 followed the QAMP (2002), however there may have been overlap in QA with SWAMP QAPP (2008).
QAPP Information Reference(s):	Quality Assurance Management Plan for the State of California's Surface Water Ambient Monitoring Program. Sacramento, CA. State Water Resources Control Board. SWAMP. December 2002 (1st version) Surface Water Ambient Monitoring Program Quality Assurance Program Plan

DECISION ID

64576

Region 2

Guadalupe River

Pollutant:	Benzo(a)pyrene (3,4-Benzopyrene -7-d)
Final Listing Decision:	Do Not List on 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision:	New Decision
Revision Status	Revised
Impairment from Pollutant or Pollution:	Pollutant

**Regional Board Staff
Conclusion:**

This pollutant is being considered for placement on the CWA section 303(d) List under section 3.6 of the Listing Policy. Under section 3.6 at least two lines of evidence are necessary to assess listing status for pollutants sediment, and pollutant concentrations in sediment must be associated with sediment toxicity to justify adding that pollutant to the CWA section 303(d) List.

Two lines of evidence are available in the administrative record to assess this pollutant. Zero of one samples exceed the guideline. Sediment toxicity data are not associated with this decision because they are not relevant to this decision because there is insufficient information based on sediment chemistry.

Based on the readily available data and information, the weight of evidence indicates that there is insufficient justification for placing this water segment-pollutant combination on the CWA section 303(d) List.

This conclusion is based on the staff findings that:

1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy.
2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy.
3. Zero of one samples exceed the guideline and this sample size is insufficient to determine beneficial use support, with the power and confidence of the Listing Policy. A minimum of 16 samples is needed to determine if a beneficial use is fully supported using table 3.1. Sediment toxicity data are not associated with this decision because the sediment chemistry data are insufficient.
4. Pursuant to section 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.

**Regional Board Staff Decision
Recommendation:**

After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be placed on the section 303(d) list. The readily available data and information is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating.

**Line of Evidence (LOE) for Decision ID 64576, Benzo(a)pyrene (3,4-Benzopyrene -7-d)
Guadalupe River**

Region 2

LOE ID:	91776
Pollutant:	Benzo(a)pyrene (3,4-Benzopyrene -7-d)
LOE Subgroup:	Pollutant-Sediment
Matrix:	Sediment
Fraction:	Total
Beneficial Use:	Cold Freshwater Habitat
Number of Samples:	1
Number of Exceedances:	0
Data and Information Type:	PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality:	Water Board staff assessed SWAMP data for Guadalupe River to determine beneficial use support and results are as follows: 0 of 1 samples exceed the criterion for Benzo(a)pyrene.
Data Reference:	Statewide Stream Pollution Trends Study 2008
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	San Francisco Bay Basin Water Quality Control Plan 2007: All waters shall be maintained free of toxic substances in concentrations which are toxic to, or which produce detrimental physiological responses in, human, plant, animal, or aquatic life.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	In freshwater sediments the probable effects level (predictive of sediment toxicity for sediment-dwelling organisms) for Benzo(a)Pyrene is 1450 ug/Kg dry weight (Macdonald et al. 2000)

Guideline Reference:	Development and evaluation of consensus-based sediment quality guidelines for freshwater ecosystems. Environmental Contamination and Toxicology. 39: 20-31
Spatial Representation:	Data for this line of evidence for Guadalupe River was collected at 1 monitoring site [Guadalupe Creek @ USGS Gaging Station 11169025 station (205GUA020)]
Temporal Representation:	Data was collected on a single day 6/17/2008.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	SWAMP data collected before September 2008 followed the QAMP (2002), however there may have been overlap in QA with SWAMP QAPP (2008).
QAPP Information Reference(s):	Quality Assurance Management Plan for the State of California's Surface Water Ambient Monitoring Program. Sacramento, CA. State Water Resources Control Board. SWAMP. December 2002 (1st version) Surface Water Ambient Monitoring Program Quality Assurance Program Plan

Line of Evidence (LOE) for Decision ID 64576, Benzo(a)pyrene (3,4-Benzopyrene -7-d)
Guadalupe River

Region 2

LOE ID:	91775
Pollutant:	Benzo(a)pyrene (3,4-Benzopyrene -7-d)
LOE Subgroup:	Pollutant-Sediment
Matrix:	Sediment
Fraction:	Total
Beneficial Use:	Warm Freshwater Habitat
Number of Samples:	1
Number of Exceedances:	0
Data and Information Type:	PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality:	Water Board staff assessed SWAMP data for Guadalupe River to determine beneficial use support and results are as follows: 0 of 1 samples exceed the criterion for Benzo(a)pyrene.
Data Reference:	Statewide Stream Pollution Trends Study 2008
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	San Francisco Bay Basin Water Quality Control Plan 2007: All waters shall be maintained free of toxic substances in concentrations which are toxic to, or which produce detrimental physiological responses in, human, plant, animal, or aquatic life.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	In freshwater sediments the probable effects level (predictive of sediment toxicity for sediment-dwelling organisms) for Benzo(a)Pyrene is 1450 ug/Kg dry weight (Macdonald et al. 2000)
Guideline Reference:	Development and evaluation of consensus-based sediment quality guidelines for freshwater ecosystems. Environmental Contamination and Toxicology. 39: 20-31
Spatial Representation:	Data for this line of evidence for Guadalupe River was collected at 1 monitoring site [Guadalupe Creek @ USGS Gaging Station 11169025 station (205GUA020)]
Temporal Representation:	Data was collected on a single day 6/17/2008.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	SWAMP data collected before September 2008 followed the QAMP (2002), however there may have been overlap in QA with SWAMP QAPP (2008).
QAPP Information Reference(s):	Quality Assurance Management Plan for the State of California's Surface Water Ambient Monitoring Program. Sacramento, CA. State Water Resources Control Board. SWAMP. December 2002 (1st version) Surface Water Ambient Monitoring Program Quality Assurance Program Plan

DECISION ID

64577

Region 2

Guadalupe River

Pollutant: Bifenthrin
Final Listing Decision: Do Not List on 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision: New Decision
Revision Status: Revised
Impairment from Pollutant or Pollution: Pollutant

Regional Board Staff Conclusion:

This pollutant is being considered for placement on the CWA section 303(d) List under section 3.6 of the Listing Policy. Under section 3.6 at least two lines of evidence are necessary to assess listing status for pollutants sediment, and pollutant concentrations in sediment must be associated with sediment toxicity to justify adding that pollutant to the CWA section 303(d) List.

Two lines of evidence are available in the administrative record to assess this pollutant. Zero of one samples exceed the guideline. Sediment toxicity data are not associated with this decision because they are not relevant to this decision because there is insufficient information based on sediment chemistry.

Based on the readily available data and information, the weight of evidence indicates that there is insufficient justification for placing this water segment-pollutant combination on the CWA section 303(d) List.

This conclusion is based on the staff findings that:

1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy.
2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy.
3. Zero of one samples exceed the guideline and this sample size is insufficient to determine beneficial use support, with the power and confidence of the Listing Policy. A minimum of 16 samples is needed to determine if a beneficial use is fully supported using table 3.1. Sediment toxicity data are not associated with this decision because the sediment chemistry data are insufficient.
4. Pursuant to section 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.

Regional Board Staff Decision Recommendation:

After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be placed on the section 303(d) list. The readily available data and information is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating.

Line of Evidence (LOE) for Decision ID 64577, Bifenthrin

Region 2

Guadalupe River

LOE ID: 91778

Pollutant: Bifenthrin
LOE Subgroup: Pollutant-Sediment
Matrix: Sediment
Fraction: Total

Beneficial Use: Cold Freshwater Habitat

Number of Samples: 1
Number of Exceedances: 0

Data and Information Type: PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality: Water Board staff assessed SWAMP data for Guadalupe River to determine beneficial use support and results are as follows: 0 of 1 samples exceed the criterion for Bifenthrin.

Data Reference: [Statewide Stream Pollution Trends Study 2008](#)

SWAMP Data: SWAMP

Water Quality Objective/Criterion:	San Francisco Bay Basin Water Quality Control Plan 2007: All waters shall be maintained free of toxic substances in concentrations which are toxic to, or which produce detrimental physiological responses in, human, plant, animal, or aquatic life.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	The evaluation guideline for bifenthrin is the median lethal concentration (LC50) of 0.43 ug/g and is normalized by the percentage of organic carbon in the sediment sample. The LC50 0.43 ug/g is the geometric mean of LC50 values for bifenthrin from Amweg et al. (2005) and Amweg and Weston (2007).
Guideline Reference:	Use and Toxicity of Pyrethroid Pesticides in the Central Valley, California, USA. Environmental Toxicology and Chemistry, 24:966-972, with erratum 24:No. 5 Whole-sediment toxicity identification evaluation tools for pyrethroid insecticides: I. piperonyl butoxide addition. Environ. Toxicol. Chem. 26:2389-2396.
Spatial Representation:	Data for this line of evidence for Guadalupe River was collected at 1 monitoring site [Guadalupe Creek @ USGS Gaging Station 11169025 station (205GUA020)]
Temporal Representation:	Data was collected on a single day 6/17/2008.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	SWAMP data collected before September 2008 followed the QAMP (2002), however there may have been overlap in QA with SWAMP QAPP (2008).
QAPP Information Reference(s):	Quality Assurance Management Plan for the State of California's Surface Water Ambient Monitoring Program. Sacramento, CA. State Water Resources Control Board. SWAMP. December 2002 (1st version). Surface Water Ambient Monitoring Program Quality Assurance Program Plan

Line of Evidence (LOE) for Decision ID 64577, Bifenthrin

Region 2

Guadalupe River

LOE ID:	91777
Pollutant:	Bifenthrin
LOE Subgroup:	Pollutant-Sediment
Matrix:	Sediment
Fraction:	Total
Beneficial Use:	Warm Freshwater Habitat
Number of Samples:	1
Number of Exceedances:	0
Data and Information Type:	PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality:	Water Board staff assessed SWAMP data for Guadalupe River to determine beneficial use support and results are as follows: 0 of 1 samples exceed the criterion for Bifenthrin.
Data Reference:	Statewide Stream Pollution Trends Study 2008
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	San Francisco Bay Basin Water Quality Control Plan 2007: All waters shall be maintained free of toxic substances in concentrations which are toxic to, or which produce detrimental physiological responses in, human, plant, animal, or aquatic life.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	The evaluation guideline for bifenthrin is the median lethal concentration (LC50) of 0.43 ug/g and is normalized by the percentage of organic carbon in the sediment sample. The LC50 0.43 ug/g is the geometric mean of LC50 values for bifenthrin from Amweg et al. (2005) and Amweg and Weston (2007).
Guideline Reference:	Use and Toxicity of Pyrethroid Pesticides in the Central Valley, California, USA. Environmental Toxicology and Chemistry, 24:966-972, with erratum 24:No. 5 Whole-sediment toxicity identification evaluation tools for pyrethroid insecticides: I. piperonyl butoxide addition. Environ. Toxicol. Chem. 26:2389-2396.

Spatial Representation: Data for this line of evidence for Guadalupe River was collected at 1 monitoring site [Guadalupe Creek @ USGS Gaging Station 11169025 station (205GUA020)]

Temporal Representation: Data was collected on a single day 6/17/2008.

Environmental Conditions: Staff is not aware of any special conditions that might affect interpretation of the data.

QAPP Information: SWAMP data collected before September 2008 followed the QAMP (2002), however there may have been overlap in QA with SWAMP QAPP (2008).

QAPP Information Reference(s): [Quality Assurance Management Plan for the State of California's Surface Water Ambient Monitoring Program. Sacramento, CA. State Water Resources Control Board. SWAMP. December 2002 \(1st version\).](#)
[Surface Water Ambient Monitoring Program Quality Assurance Program Plan](#)

DECISION ID	64578	Region 2
Guadalupe River		

Pollutant: Cadmium

Final Listing Decision: Do Not List on 303(d) list (TMDL required list)

Last Listing Cycle's Final Listing Decision: New Decision

Revision Status Revised

Impairment from Pollutant or Pollution: Pollutant

Regional Board Staff Conclusion: This pollutant is being considered for placement on the CWA section 303(d) List under section 3.6 of the Listing Policy. Under section 3.6 at least two lines of evidence are necessary to assess listing status for pollutants sediment, and pollutant concentrations in sediment must be associated with sediment toxicity to justify adding that pollutant to the CWA section 303(d) List.

Two lines of evidence are available in the administrative record to assess this pollutant. Zero of one samples exceed the guideline. Sediment toxicity data are not associated with this decision because they are not relevant to this decision because there is insufficient information based on sediment chemistry.

Based on the readily available data and information, the weight of evidence indicates that there is insufficient justification for placing this water segment-pollutant combination on the CWA section 303(d) List.

This conclusion is based on the staff findings that:

1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy.
2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy.
3. Zero of one samples exceed the guideline and this sample size is insufficient to determine beneficial use support, with the power and confidence of the Listing Policy. A minimum of 16 samples is needed to determine if a beneficial use is fully supported using table 3.1. Sediment toxicity data are not associated with this decision because the sediment chemistry data are insufficient.
4. Pursuant to section 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.

Regional Board Staff Decision Recommendation: After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be placed on the section 303(d) list. The readily available data and information is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating.

Line of Evidence (LOE) for Decision ID 64578, Cadmium	Region 2
Guadalupe River	

LOE ID: 91780

Pollutant: Cadmium

LOE Subgroup: Pollutant-Sediment

Matrix:	Sediment
Fraction:	Total
Beneficial Use:	Cold Freshwater Habitat
Number of Samples:	1
Number of Exceedances:	0
Data and Information Type:	PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality:	Water Board staff assessed SWAMP data for Guadalupe River to determine beneficial use support and results are as follows: 0 of 1 samples exceed the criterion for Cadmium.
Data Reference:	Statewide Stream Pollution Trends Study 2008
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	San Francisco Bay Basin Water Quality Control Plan 2007: All waters shall be maintained free of toxic substances in concentrations which are toxic to, or which produce detrimental physiological responses in, human, plant, animal, or aquatic life.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	In freshwater sediments the probable effect concentration (predictive of sediment toxicity for sediment-dwelling organisms) for cadmium is 4.98 mg/Kg dry weight (MacDonald et al. 2000).
Guideline Reference:	Development and evaluation of consensus-based sediment quality guidelines for freshwater ecosystems. Environmental Contamination and Toxicology. 39: 20-31
Spatial Representation:	Data for this line of evidence for Guadalupe River was collected at 1 monitoring site [Guadalupe Creek @ USGS Gaging Station 11169025 station (205GUA020)]
Temporal Representation:	Data was collected on a single day 6/17/2008.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	SWAMP data collected before September 2008 followed the QAMP (2002), however there may have been overlap in QA with SWAMP QAPP (2008).
QAPP Information Reference(s):	Quality Assurance Management Plan for the State of California's Surface Water Ambient Monitoring Program. Sacramento, CA. State Water Resources Control Board. SWAMP. December 2002 (1st version) Surface Water Ambient Monitoring Program Quality Assurance Program Plan

Line of Evidence (LOE) for Decision ID 64578, Cadmium

Region 2

Guadalupe River

LOE ID:	91779
Pollutant:	Cadmium
LOE Subgroup:	Pollutant-Sediment
Matrix:	Sediment
Fraction:	Total
Beneficial Use:	Warm Freshwater Habitat
Number of Samples:	1
Number of Exceedances:	0
Data and Information Type:	PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality:	Water Board staff assessed SWAMP data for Guadalupe River to determine beneficial use support and results are as follows: 0 of 1 samples exceed the criterion for Cadmium.
Data Reference:	Statewide Stream Pollution Trends Study 2008
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	San Francisco Bay Basin Water Quality Control Plan 2007: All waters shall be maintained free of toxic substances in concentrations which are toxic to, or which produce detrimental physiological responses in, human, plant, animal, or aquatic life.

Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	In freshwater sediments the probable effect concentration (predictive of sediment toxicity for sediment-dwelling organisms) for cadmium is 4.98 mg/Kg dry weight (MacDonald et al. 2000).
Guideline Reference:	Development and evaluation of consensus-based sediment quality guidelines for freshwater ecosystems. Environmental Contamination and Toxicology. 39: 20-31
Spatial Representation:	Data for this line of evidence for Guadalupe River was collected at 1 monitoring site [Guadalupe Creek @ USGS Gaging Station 11169025 station (205GUA020)]
Temporal Representation:	Data was collected on a single day 6/17/2008.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	SWAMP data collected before September 2008 followed the QAMP (2002), however there may have been overlap in QA with SWAMP QAPP (2008).
QAPP Information Reference(s):	Quality Assurance Management Plan for the State of California's Surface Water Ambient Monitoring Program. Sacramento, CA. State Water Resources Control Board. SWAMP. December 2002 (1st version) Surface Water Ambient Monitoring Program Quality Assurance Program Plan

DECISION ID	64580	Region 2
Guadalupe River		
Pollutant: Final Listing Decision: Last Listing Cycle's Final Listing Decision: Revision Status Impairment from Pollutant or Pollution:	Chlordane Do Not List on 303(d) list (TMDL required list) New Decision Revised Pollutant	
Regional Board Staff Conclusion:	<p>This pollutant is being considered for placement on the CWA section 303(d) List under section 3.6 of the Listing Policy. Under section 3.6 at least two lines of evidence are necessary to assess listing status for pollutants sediment, and pollutant concentrations in sediment must be associated with sediment toxicity to justify adding that pollutant to the CWA section 303(d) List.</p> <p>One line of evidence is available in the administrative record to assess this pollutant. One of one samples exceed the guideline. Sediment toxicity data are not associated with this decision because they are not relevant to this decision because there is insufficient information based on sediment chemistry.</p> <p>Based on the readily available data and information, the weight of evidence indicates that there is insufficient justification for placing this water segment-pollutant combination on the CWA section 303(d) List.</p> <p>This conclusion is based on the staff findings that:</p> <ol style="list-style-type: none"> 1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy. 2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy. 3. One of one samples exceed the guideline and this sample size is insufficient to determine beneficial use support, with the power and confidence of the Listing Policy. A minimum of 16 samples is needed to determine if a beneficial use is fully supported using table 3.1. Sediment toxicity data are not associated with this decision because the sediment chemistry data are insufficient. 4. Pursuant to section 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met. 	
Regional Board Staff Decision Recommendation:	After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be placed on the section 303(d) list. The readily available data and information is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating.	

Guadalupe River

LOE ID:	90712
Pollutant:	Chlordane
LOE Subgroup:	Pollutant-Sediment
Matrix:	Sediment
Fraction:	Total
Beneficial Use:	Cold Freshwater Habitat
Number of Samples:	1
Number of Exceedances:	1
Data and Information Type:	PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality:	1 of 1 samples collected exceeded the criteria for chlordane concentration (Sum of trans-Chlordane, cis-Chlordane, cis-Nonachlor, trans-Nonachlor, and Oxychlordane).
Data Reference:	Statewide Stream Pollution Trends Study 2008
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	All waters shall be maintained free of toxic substances in concentrations that are lethal to or that produce other detrimental responses in aquatic organisms. Waters shall not contain substances in concentrations that result in the deposition of material that causes nuisance or adversely affects beneficial uses. (Water Quality Control Plan for the San Francisco Bay Basin).
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) - San Francisco Bay Region (Region 2)
Evaluation Guideline:	The Probable Effect Concentration for Chlordane in freshwater sediments is 17.6 ug/kg(MacDonald et al. 2000).
Guideline Reference:	Development and evaluation of consensus-based sediment quality guidelines for freshwater ecosystems. Environmental Contamination and Toxicology. 39: 20-31
Spatial Representation:	Data were collected at the following station 205GUA020 (Guadalupe Creek @ USGS Gaging Station 11169025).
Temporal Representation:	The samples were collected on 6/17/2008.
Environmental Conditions:	
QAPP Information:	The SWAMP QAPP (2008) was followed.
QAPP Information Reference(s):	Surface Water Ambient Monitoring Program Quality Assurance Program Plan

DECISION ID

64581

Region 2

Guadalupe River

Pollutant:	Chlorpyrifos
Final Listing Decision:	Do Not List on 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision:	New Decision
Revision Status	Revised
Impairment from Pollutant or Pollution:	Pollutant
Regional Board Staff Conclusion:	<p>This pollutant is being considered for placement on the CWA section 303(d) List under section 3.6 of the Listing Policy. Under section 3.6 at least two lines of evidence are necessary to assess listing status for pollutants sediment, and pollutant concentrations in sediment must be associated with sediment toxicity to justify adding that pollutant to the CWA section 303(d) List.</p> <p>Two lines of evidence are available in the administrative record to assess this pollutant. Zero of one samples exceed the guideline. Sediment toxicity data are not associated with this decision because they are not relevant to this decision because there is insufficient information based on sediment</p>

chemistry.

Based on the readily available data and information, the weight of evidence indicates that there is insufficient justification for placing this water segment-pollutant combination on the CWA section 303(d) List.

This conclusion is based on the staff findings that:

1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy.
2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy.
3. Zero of one samples exceed the guideline and this sample size is insufficient to determine beneficial use support, with the power and confidence of the Listing Policy. A minimum of 16 samples is needed to determine if a beneficial use is fully supported using table 3.1. Sediment toxicity data are not associated with this decision because the sediment chemistry data are insufficient.
4. Pursuant to section 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.

Regional Board Staff Decision Recommendation: After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be placed on the section 303(d) list. The readily available data and information is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating.

**Line of Evidence (LOE) for Decision ID 64581, Chlorpyrifos
Guadalupe River**

Region 2

LOE ID:	91781
Pollutant:	Chlorpyrifos
LOE Subgroup:	Pollutant-Sediment
Matrix:	Sediment
Fraction:	Total
Beneficial Use:	Warm Freshwater Habitat
Number of Samples:	1
Number of Exceedances:	0
Data and Information Type:	PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality:	Water Board staff assessed SWAMP data for Guadalupe River to determine beneficial use support and results are as follows: 0 of 1 samples exceed the criterion for Chlorpyrifos.
Data Reference:	Statewide Stream Pollution Trends Study 2008
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	San Francisco Bay Basin Water Quality Control Plan 2007: All waters shall be maintained free of toxic substances in concentrations which are toxic to, or which produce detrimental physiological responses in, human, plant, animal, or aquatic life.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	The evaluation guideline for chlorpyrifos is the median lethal concentration (LC50) of 1.77 ug/g and is normalized by the percentage of organic carbon in the sediment sample (Amweg and Weston, 2007).
Guideline Reference:	Whole-sediment toxicity identification evaluation tools for pyrethroid insecticides: I. piperonyl butoxide addition. Environ. Toxicol. Chem. 26:2389-2396.
Spatial Representation:	Data for this line of evidence for Guadalupe River was collected at 1 monitoring site [Guadalupe Creek @ USGS Gaging Station 11169025 station (205GUA020)]
Temporal Representation:	Data was collected on a single day 6/17/2008.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	SWAMP data collected before September 2008 followed the QAMP (2002), however there may have been overlap in QA with SWAMP QAPP (2008).

QAPP Information Reference(s): [Quality Assurance Management Plan for the State of California's Surface Water Ambient Monitoring Program. Sacramento, CA. State Water Resources Control Board. SWAMP. December 2002 \(1st version\)](#)
[Surface Water Ambient Monitoring Program Quality Assurance Program Plan](#)

Line of Evidence (LOE) for Decision ID 64581, Chlorpyrifos
Guadalupe River

Region 2

LOE ID: 91782

Pollutant: Chlorpyrifos
LOE Subgroup: Pollutant-Sediment
Matrix: Sediment
Fraction: Total

Beneficial Use: Cold Freshwater Habitat

Number of Samples: 1
Number of Exceedances: 0

Data and Information Type: PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality: Water Board staff assessed SWAMP data for Guadalupe River to determine beneficial use support and results are as follows: 0 of 1 samples exceed the criterion for Chlorpyrifos.
Data Reference: [Statewide Stream Pollution Trends Study 2008](#)

SWAMP Data: SWAMP

Water Quality Objective/Criterion: San Francisco Bay Basin Water Quality Control Plan 2007: All waters shall be maintained free of toxic substances in concentrations which are toxic to, or which produce detrimental physiological responses in, human, plant, animal, or aquatic life.
Objective/Criterion Reference: [Water Quality Control Plan \(Basin Plan\) San Francisco Bay Basin \(Region 2\)](#)

Evaluation Guideline: The evaluation guideline for chlorpyrifos is the median lethal concentration (LC50) of 1.77 ug/g and is normalized by the percentage of organic carbon in the sediment sample (Amweg and Weston, 2007).
Guideline Reference: [Whole-sediment toxicity identification evaluation tools for pyrethroid insecticides: I. piperonyl butoxide addition. Environ. Toxicol. Chem. 26:2389-2396.](#)

Spatial Representation: Data for this line of evidence for Guadalupe River was collected at 1 monitoring site [Guadalupe Creek @ USGS Gaging Station 11169025 station (205GUA020)]
Temporal Representation: Data was collected on a single day 6/17/2008.
Environmental Conditions: Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information: SWAMP data collected before September 2008 followed the QAMP (2002), however there may have been overlap in QA with SWAMP QAPP (2008).
QAPP Information Reference(s): [Quality Assurance Management Plan for the State of California's Surface Water Ambient Monitoring Program. Sacramento, CA. State Water Resources Control Board. SWAMP. December 2002 \(1st version\)](#)
[Surface Water Ambient Monitoring Program Quality Assurance Program Plan](#)

DECISION ID 64582
Guadalupe River

Region 2

Pollutant: Chromium
Final Listing Decision: Do Not List on 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision: New Decision
Revision Status: Revised
Impairment from Pollutant or Pollution: Pollutant

**Regional Board Staff
Conclusion:**

This pollutant is being considered for placement on the CWA section 303(d) List under section 3.6 of the Listing Policy. Under section 3.6 at least two lines of evidence are necessary to assess listing status for pollutants sediment, and pollutant concentrations in sediment must be associated with sediment toxicity to justify adding that pollutant to the CWA section 303(d) List.

Two lines of evidence are available in the administrative record to assess this pollutant. One of one samples exceed the guideline. Sediment toxicity data are not associated with this decision because they are not relevant to this decision because there is insufficient information based on sediment chemistry.

Based on the readily available data and information, the weight of evidence indicates that there is insufficient justification for placing this water segment-pollutant combination on the CWA section 303(d) List.

This conclusion is based on the staff findings that:

1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy.
2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy.
3. One of one samples exceed the guideline and this sample size is insufficient to determine beneficial use support, with the power and confidence of the Listing Policy. A minimum of 16 samples is needed to determine if a beneficial use is fully supported using table 3.1. Sediment toxicity data are not associated with this decision because the sediment chemistry data are insufficient.
4. Pursuant to section 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.

**Regional Board Staff Decision
Recommendation:**

After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be placed on the section 303(d) list. The readily available data and information is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating.

**Line of Evidence (LOE) for Decision ID 64582, Chromium
Guadalupe River**

Region 2

LOE ID:	91784
Pollutant:	Chromium
LOE Subgroup:	Pollutant-Sediment
Matrix:	Sediment
Fraction:	Total
Beneficial Use:	Cold Freshwater Habitat
Number of Samples:	1
Number of Exceedances:	1
Data and Information Type:	PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality:	Water Board staff assessed SWAMP data for Guadalupe River to determine beneficial use support and results are as follows: 1 of 1 samples exceed the criterion for Chromium.
Data Reference:	Statewide Stream Pollution Trends Study 2008
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	San Francisco Bay Basin Water Quality Control Plan 2007: All waters shall be maintained free of toxic substances in concentrations which are toxic to, or which produce detrimental physiological responses in, human, plant, animal, or aquatic life.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	In freshwater sediments the probable effect concentration (predictive of sediment toxicity for sediment-dwelling organisms) for chromium is 111 mg/Kg dry weight (MacDonald et al. 2000).
Guideline Reference:	Development and evaluation of consensus-based sediment quality guidelines for

Spatial Representation: Data for this line of evidence for Guadalupe River was collected at 1 monitoring site [Guadalupe Creek @ USGS Gaging Station 11169025 station (205GUA020)]

Temporal Representation: Data was collected on a single day 6/17/2008.

Environmental Conditions: Staff is not aware of any special conditions that might affect interpretation of the data.

QAPP Information: SWAMP data collected before September 2008 followed the QAMP (2002), however there may have been overlap in QA with SWAMP QAPP (2008).

QAPP Information Reference(s): [Quality Assurance Management Plan for the State of California's Surface Water Ambient Monitoring Program. Sacramento, CA. State Water Resources Control Board. SWAMP. December 2002 \(1st version\)](#)
[Surface Water Ambient Monitoring Program Quality Assurance Program Plan](#)

Line of Evidence (LOE) for Decision ID 64582, Chromium

Region 2

Guadalupe River

LOE ID: 91783

Pollutant: Chromium

LOE Subgroup: Pollutant-Sediment

Matrix: Sediment

Fraction: Total

Beneficial Use: Warm Freshwater Habitat

Number of Samples: 1

Number of Exceedances: 1

Data and Information Type: PHYSICAL/CHEMICAL MONITORING

Data Used to Assess Water Quality: Water Board staff assessed SWAMP data for Guadalupe River to determine beneficial use support and results are as follows: 1 of 1 samples exceed the criterion for Chromium.

Data Reference: [Statewide Stream Pollution Trends Study 2008](#)

SWAMP Data: SWAMP

Water Quality Objective/Criterion: San Francisco Bay Basin Water Quality Control Plan 2007: All waters shall be maintained free of toxic substances in concentrations which are toxic to, or which produce detrimental physiological responses in, human, plant, animal, or aquatic life.

Objective/Criterion Reference: [Water Quality Control Plan \(Basin Plan\) San Francisco Bay Basin \(Region 2\)](#)

Evaluation Guideline: In freshwater sediments the probable effect concentration (predictive of sediment toxicity for sediment-dwelling organisms) for chromium is 111 mg/Kg dry weight (MacDonald et al. 2000).

Guideline Reference: [Development and evaluation of consensus-based sediment quality guidelines for freshwater ecosystems. Environmental Contamination and Toxicology. 39: 20-31](#)

Spatial Representation: Data for this line of evidence for Guadalupe River was collected at 1 monitoring site [Guadalupe Creek @ USGS Gaging Station 11169025 station (205GUA020)]

Temporal Representation: Data was collected on a single day 6/17/2008.

Environmental Conditions: Staff is not aware of any special conditions that might affect interpretation of the data.

QAPP Information: SWAMP data collected before September 2008 followed the QAMP (2002), however there may have been overlap in QA with SWAMP QAPP (2008).

QAPP Information Reference(s): [Quality Assurance Management Plan for the State of California's Surface Water Ambient Monitoring Program. Sacramento, CA. State Water Resources Control Board. SWAMP. December 2002 \(1st version\)](#)
[Surface Water Ambient Monitoring Program Quality Assurance Program Plan](#)

DECISION ID

64583

Region 2

Guadalupe River

Pollutant:	Chrysene (C1-C4)
Final Listing Decision:	Do Not List on 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision:	New Decision
Revision Status	Revised
Impairment from Pollutant or Pollution:	Pollutant

Regional Board Staff Conclusion:

This pollutant is being considered for placement on the CWA section 303(d) List under section 3.6 of the Listing Policy. Under section 3.6 at least two lines of evidence are necessary to assess listing status for pollutants sediment, and pollutant concentrations in sediment must be associated with sediment toxicity to justify adding that pollutant to the CWA section 303(d) List.

Two lines of evidence are available in the administrative record to assess this pollutant. Zero of one samples exceed the guideline. Sediment toxicity data are not associated with this decision because they are not relevant to this decision because there is insufficient information based on sediment chemistry.

Based on the readily available data and information, the weight of evidence indicates that there is insufficient justification for placing this water segment-pollutant combination on the CWA section 303(d) List.

This conclusion is based on the staff findings that:

1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy.
2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy.
3. Zero of one samples exceed the guideline and this sample size is insufficient to determine beneficial use support, with the power and confidence of the Listing Policy. A minimum of 16 samples is needed to determine if a beneficial use is fully supported using table 3.1. Sediment toxicity data are not associated with this decision because the sediment chemistry data are insufficient.
4. Pursuant to section 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.

Regional Board Staff Decision Recommendation:

After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be placed on the section 303(d) list. The readily available data and information is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating.

Line of Evidence (LOE) for Decision ID 64583, Chrysene (C1-C4)

Region 2

Guadalupe River

LOE ID:	91786
Pollutant:	Chrysene (C1-C4)
LOE Subgroup:	Pollutant-Sediment
Matrix:	Sediment
Fraction:	Total
Beneficial Use:	Cold Freshwater Habitat
Number of Samples:	1
Number of Exceedances:	0
Data and Information Type:	PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality:	Water Board staff assessed SWAMP data for Guadalupe River to determine beneficial use support and results are as follows: 0 of 1 samples exceed the criterion for Chrysene.
Data Reference:	Statewide Stream Pollution Trends Study 2008
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	San Francisco Bay Basin Water Quality Control Plan 2007: All waters shall be maintained

Objective/Criterion Reference:	free of toxic substances in concentrations which are toxic to, or which produce detrimental physiological responses in, human, plant, animal, or aquatic life. Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	In freshwater sediments the probable effects level (predictive of sediment toxicity for sediment-dwelling organisms) for Chrysene is 1290 ug/Kg dry weight (Macdonald et al. 2000)
Guideline Reference:	Development and evaluation of consensus-based sediment quality guidelines for freshwater ecosystems. Environmental Contamination and Toxicology. 39: 20-31
Spatial Representation:	Data for this line of evidence for Guadalupe River was collected at 1 monitoring site [Guadalupe Creek @ USGS Gaging Station 11169025 station (205GUA020)]
Temporal Representation:	Data was collected on a single day 6/17/2008.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	SWAMP data collected before September 2008 followed the QAMP (2002), however there may have been overlap in QA with SWAMP QAPP (2008).
QAPP Information Reference(s):	Quality Assurance Management Plan for the State of California's Surface Water Ambient Monitoring Program. Sacramento, CA. State Water Resources Control Board. SWAMP. December 2002 (1st version) Surface Water Ambient Monitoring Program Quality Assurance Program Plan

Line of Evidence (LOE) for Decision ID 64583, Chrysene (C1-C4)

Region 2

Guadalupe River

LOE ID:	91785
Pollutant:	Chrysene (C1-C4)
LOE Subgroup:	Pollutant-Sediment
Matrix:	Sediment
Fraction:	Total
Beneficial Use:	Warm Freshwater Habitat
Number of Samples:	1
Number of Exceedances:	0
Data and Information Type:	PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality:	Water Board staff assessed SWAMP data for Guadalupe River to determine beneficial use support and results are as follows: 0 of 1 samples exceed the criterion for Chrysene.
Data Reference:	Statewide Stream Pollution Trends Study 2008
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	San Francisco Bay Basin Water Quality Control Plan 2007: All waters shall be maintained free of toxic substances in concentrations which are toxic to, or which produce detrimental physiological responses in, human, plant, animal, or aquatic life.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	In freshwater sediments the probable effects level (predictive of sediment toxicity for sediment-dwelling organisms) for Chrysene is 1290 ug/Kg dry weight (Macdonald et al. 2000)
Guideline Reference:	Development and evaluation of consensus-based sediment quality guidelines for freshwater ecosystems. Environmental Contamination and Toxicology. 39: 20-31
Spatial Representation:	Data for this line of evidence for Guadalupe River was collected at 1 monitoring site [Guadalupe Creek @ USGS Gaging Station 11169025 station (205GUA020)]
Temporal Representation:	Data was collected on a single day 6/17/2008.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	SWAMP data collected before September 2008 followed the QAMP (2002), however there may have been overlap in QA with SWAMP QAPP (2008).
QAPP Information Reference(s):	Quality Assurance Management Plan for the State of California's Surface Water Ambient Monitoring Program. Sacramento, CA. State Water Resources Control Board. SWAMP.

DECISION ID	64584	Region 2
Guadalupe River		

Pollutant: Copper
Final Listing Decision: Do Not List on 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision: New Decision
Revision Status: Revised
Impairment from Pollutant or Pollution: Pollutant

Regional Board Staff Conclusion: This pollutant is being considered for placement on the CWA section 303(d) List under section 3.6 of the Listing Policy. Under section 3.6 at least two lines of evidence are necessary to assess listing status for pollutants sediment, and pollutant concentrations in sediment must be associated with sediment toxicity to justify adding that pollutant to the CWA section 303(d) List.

Two lines of evidence are available in the administrative record to assess this pollutant. Zero of one samples exceed the guideline. Sediment toxicity data are not associated with this decision because they are not relevant to this decision because there is insufficient information based on sediment chemistry.

Based on the readily available data and information, the weight of evidence indicates that there is insufficient justification for placing this water segment-pollutant combination on the CWA section 303(d) List.

This conclusion is based on the staff findings that:

1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy.
2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy.
3. Zero of one samples exceed the guideline and this sample size is insufficient to determine beneficial use support, with the power and confidence of the Listing Policy. A minimum of 16 samples is needed to determine if a beneficial use is fully supported using table 3.1. Sediment toxicity data are not associated with this decision because the sediment chemistry data are insufficient.
4. Pursuant to section 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.

Regional Board Staff Decision Recommendation: After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be placed on the section 303(d) list. The readily available data and information is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating.

Line of Evidence (LOE) for Decision ID 64584, Copper	Region 2
Guadalupe River	

LOE ID: 91788
Pollutant: Copper
LOE Subgroup: Pollutant-Sediment
Matrix: Sediment
Fraction: Total
Beneficial Use: Cold Freshwater Habitat
Number of Samples: 1
Number of Exceedances: 0

Data and Information Type:	PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality:	Water Board staff assessed SWAMP data for Guadalupe River to determine beneficial use support and results are as follows: 0 of 1 samples exceed the criterion for Copper.
Data Reference:	Statewide Stream Pollution Trends Study 2008
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	San Francisco Bay Basin Water Quality Control Plan 2007: All waters shall be maintained free of toxic substances in concentrations which are toxic to, or which produce detrimental physiological responses in, human, plant, animal, or aquatic life.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	In freshwater sediments the probable effect concentration (predictive of sediment toxicity for sediment-dwelling organisms) for copper is 149 mg/Kg dry weight (MacDonald et al. 2000).
Guideline Reference:	Development and evaluation of consensus-based sediment quality guidelines for freshwater ecosystems. Environmental Contamination and Toxicology. 39: 20-31
Spatial Representation:	Data for this line of evidence for Guadalupe River was collected at 1 monitoring site [Guadalupe Creek @ USGS Gaging Station 11169025 station (205GUA020)]
Temporal Representation:	Data was collected on a single day 6/17/2008.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	SWAMP data collected before September 2008 followed the QAMP (2002), however there may have been overlap in QA with SWAMP QAPP (2008).
QAPP Information Reference(s):	Quality Assurance Management Plan for the State of California's Surface Water Ambient Monitoring Program. Sacramento, CA. State Water Resources Control Board. SWAMP. December 2002 (1st version). Surface Water Ambient Monitoring Program Quality Assurance Program Plan

Line of Evidence (LOE) for Decision ID 64584, Copper
Guadalupe River

Region 2

LOE ID:	91787
Pollutant:	Copper
LOE Subgroup:	Pollutant-Sediment
Matrix:	Sediment
Fraction:	Total
Beneficial Use:	Warm Freshwater Habitat
Number of Samples:	1
Number of Exceedances:	0
Data and Information Type:	PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality:	Water Board staff assessed SWAMP data for Guadalupe River to determine beneficial use support and results are as follows: 0 of 1 samples exceed the criterion for Copper.
Data Reference:	Statewide Stream Pollution Trends Study 2008
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	San Francisco Bay Basin Water Quality Control Plan 2007: All waters shall be maintained free of toxic substances in concentrations which are toxic to, or which produce detrimental physiological responses in, human, plant, animal, or aquatic life.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	In freshwater sediments the probable effect concentration (predictive of sediment toxicity for sediment-dwelling organisms) for copper is 149 mg/Kg dry weight (MacDonald et al. 2000).
Guideline Reference:	Development and evaluation of consensus-based sediment quality guidelines for freshwater ecosystems. Environmental Contamination and Toxicology. 39: 20-31

Spatial Representation:	Data for this line of evidence for Guadalupe River was collected at 1 monitoring site [Guadalupe Creek @ USGS Gaging Station 11169025 station (205GUA020)]
Temporal Representation:	Data was collected on a single day 6/17/2008.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	SWAMP data collected before September 2008 followed the QAMP (2002), however there may have been overlap in QA with SWAMP QAPP (2008).
QAPP Information Reference(s):	Quality Assurance Management Plan for the State of California's Surface Water Ambient Monitoring Program. Sacramento, CA. State Water Resources Control Board. SWAMP. December 2002 (1st version). Surface Water Ambient Monitoring Program Quality Assurance Program Plan

DECISION ID	64585	Region 2
Guadalupe River		

Pollutant:	Cyfluthrin
Final Listing Decision:	Do Not List on 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision:	New Decision
Revision Status	Revised
Impairment from Pollutant or Pollution:	Pollutant

Regional Board Staff Conclusion: This pollutant is being considered for placement on the CWA section 303(d) List under section 3.6 of the Listing Policy. Under section 3.6 at least two lines of evidence are necessary to assess listing status for pollutants sediment, and pollutant concentrations in sediment must be associated with sediment toxicity to justify adding that pollutant to the CWA section 303(d) List.

Two lines of evidence are available in the administrative record to assess this pollutant. Zero of one samples exceed the guideline. Sediment toxicity data are not associated with this decision because they are not relevant to this decision because there is insufficient information based on sediment chemistry.

Based on the readily available data and information, the weight of evidence indicates that there is insufficient justification for placing this water segment-pollutant combination on the CWA section 303(d) List.

This conclusion is based on the staff findings that:

1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy.
2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy.
3. Zero of one samples exceed the guideline and this sample size is insufficient to determine beneficial use support, with the power and confidence of the Listing Policy. A minimum of 16 samples is needed to determine if a beneficial use is fully supported using table 3.1. Sediment toxicity data are not associated with this decision because the sediment chemistry data are insufficient.
4. Pursuant to section 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.

Regional Board Staff Decision Recommendation: After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be placed on the section 303(d) list. The readily available data and information is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating.

Line of Evidence (LOE) for Decision ID 64585, Cyfluthrin	Region 2
Guadalupe River	

LOE ID:	91789
Pollutant:	Cyfluthrin
LOE Subgroup:	Pollutant-Sediment

Matrix:	Sediment
Fraction:	Total
Beneficial Use:	Warm Freshwater Habitat
Number of Samples:	1
Number of Exceedances:	0
Data and Information Type:	PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality:	Water Board staff assessed SWAMP data for Guadalupe River to determine beneficial use support and results are as follows: 0 of 1 samples exceed the criterion for Cyfluthrin, total.
Data Reference:	Statewide Stream Pollution Trends Study 2008
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	San Francisco Bay Basin Water Quality Control Plan 2007: All waters shall be maintained free of toxic substances in concentrations which are toxic to, or which produce detrimental physiological responses in, human, plant, animal, or aquatic life.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	The evaluation guideline for cyfluthrin is the median lethal concentration (LC50) of 1.1 ug/g and is normalized by the percentage of organic carbon in the sediment sample. The LC50 1.1 ug/g is the geometric mean of LC50 values for cyfluthrin from Amweg et al. (2005).
Guideline Reference:	Use and Toxicity of Pyrethroid Pesticides in the Central Valley, California, USA. Environmental Toxicology and Chemistry, 24:966-972, with erratum 24:No. 5
Spatial Representation:	Data for this line of evidence for Guadalupe River was collected at 1 monitoring site [Guadalupe Creek @ USGS Gaging Station 11169025 station (205GUA020)]
Temporal Representation:	Data was collected on a single day 6/17/2008.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	SWAMP data collected before September 2008 followed the QAMP (2002), however there may have been overlap in QA with SWAMP QAPP (2008).
QAPP Information Reference(s):	Quality Assurance Management Plan for the State of California's Surface Water Ambient Monitoring Program. Sacramento, CA. State Water Resources Control Board. SWAMP. December 2002 (1st version) Surface Water Ambient Monitoring Program Quality Assurance Program Plan

Line of Evidence (LOE) for Decision ID 64585, Cyfluthrin

Region 2

Guadalupe River

LOE ID:	91790
Pollutant:	Cyfluthrin
LOE Subgroup:	Pollutant-Sediment
Matrix:	Sediment
Fraction:	Total
Beneficial Use:	Cold Freshwater Habitat
Number of Samples:	1
Number of Exceedances:	0
Data and Information Type:	PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality:	Water Board staff assessed SWAMP data for Guadalupe River to determine beneficial use support and results are as follows: 0 of 1 samples exceed the criterion for Cyfluthrin, total.
Data Reference:	Statewide Stream Pollution Trends Study 2008
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	San Francisco Bay Basin Water Quality Control Plan 2007: All waters shall be maintained free of toxic substances in concentrations which are toxic to, or which produce detrimental

Objective/Criterion Reference:	physiological responses in, human, plant, animal, or aquatic life. Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	The evaluation guideline for cyfluthrin is the median lethal concentration (LC50) of 1.1 ug/g and is normalized by the percentage of organic carbon in the sediment sample. The LC50 1.1 ug/g is the geometric mean of LC50 values for cyfluthrin from Amweg et al. (2005).
Guideline Reference:	Use and Toxicity of Pyrethroid Pesticides in the Central Valley, California, USA. Environmental Toxicology and Chemistry, 24:966-972, with erratum 24:No. 5
Spatial Representation:	Data for this line of evidence for Guadalupe River was collected at 1 monitoring site [Guadalupe Creek @ USGS Gaging Station 11169025 station (205GUA020)]
Temporal Representation:	Data was collected on a single day 6/17/2008.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	SWAMP data collected before September 2008 followed the QAMP (2002), however there may have been overlap in QA with SWAMP QAPP (2008).
QAPP Information Reference(s):	Quality Assurance Management Plan for the State of California's Surface Water Ambient Monitoring Program. Sacramento, CA. State Water Resources Control Board. SWAMP. December 2002 (1st version) Surface Water Ambient Monitoring Program Quality Assurance Program Plan

DECISION ID	64586	Region 2
Guadalupe River		

Pollutant:	Cyhalothrin, Lambda
Final Listing Decision:	Do Not List on 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision:	New Decision
Revision Status	Revised
Impairment from Pollutant or Pollution:	Pollutant

Regional Board Staff Conclusion: This pollutant is being considered for placement on the CWA section 303(d) List under section 3.6 of the Listing Policy. Under section 3.6 at least two lines of evidence are necessary to assess listing status for pollutants sediment, and pollutant concentrations in sediment must be associated with sediment toxicity to justify adding that pollutant to the CWA section 303(d) List.

Two lines of evidence are available in the administrative record to assess this pollutant. Zero of one samples exceed the guideline. Sediment toxicity data are not associated with this decision because they are not relevant to this decision because there is insufficient information based on sediment chemistry.

Based on the readily available data and information, the weight of evidence indicates that there is insufficient justification for placing this water segment-pollutant combination on the CWA section 303(d) List.

This conclusion is based on the staff findings that:

1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy.
2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy.
3. Zero of one samples exceed the guideline and this sample size is insufficient to determine beneficial use support, with the power and confidence of the Listing Policy. A minimum of 16 samples is needed to determine if a beneficial use is fully supported using table 3.1. Sediment toxicity data are not associated with this decision because the sediment chemistry data are insufficient.
4. Pursuant to section 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.

Regional Board Staff Decision Recommendation: After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be placed on the section 303(d) list. The readily available data and information is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating.

Line of Evidence (LOE) for Decision ID 64586, Cyhalothrin, Lambda
Guadalupe River

Region 2

LOE ID:	91857
Pollutant:	Cyhalothrin, Lambda
LOE Subgroup:	Pollutant-Sediment
Matrix:	Sediment
Fraction:	Total
Beneficial Use:	Cold Freshwater Habitat
Number of Samples:	1
Number of Exceedances:	0
Data and Information Type:	PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality:	Water Board staff assessed SWAMP data for Guadalupe River to determine beneficial use support and results are as follows: 0 of 1 samples exceed the criterion for Cyhalothrin, lambda, total.
Data Reference:	Statewide Stream Pollution Trends Study 2008
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	San Francisco Bay Basin Water Quality Control Plan 2007: All waters shall be maintained free of toxic substances in concentrations which are toxic to, or which produce detrimental physiological responses in, human, plant, animal, or aquatic life.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	The evaluation guideline for lambda-cyhalothrin is the median lethal concentration (LC50) of 0.44 ug/g and is normalized by the percentage of organic carbon in the sediment sample. The LC50 0.44 ug/g is the geometric mean of LC50 values for lambda-cyhalothrin from Amweg et al. (2005).
Guideline Reference:	Use and Toxicity of Pyrethroid Pesticides in the Central Valley, California, USA. Environmental Toxicology and Chemistry, 24:966-972, with erratum 24:No. 5
Spatial Representation:	Data for this line of evidence for Guadalupe River was collected at 1 monitoring site [Guadalupe Creek @ USGS Gaging Station 11169025 station (205GUA020)]
Temporal Representation:	Data was collected on a single day 6/17/2008.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	SWAMP data collected before September 2008 followed the QAMP (2002), however there may have been overlap in QA with SWAMP QAPP (2008).
QAPP Information Reference(s):	Quality Assurance Management Plan for the State of California's Surface Water Ambient Monitoring Program, Sacramento, CA. State Water Resources Control Board. SWAMP. December 2002 (1st version) Surface Water Ambient Monitoring Program Quality Assurance Program Plan

Line of Evidence (LOE) for Decision ID 64586, Cyhalothrin, Lambda
Guadalupe River

Region 2

LOE ID:	91791
Pollutant:	Cyhalothrin, Lambda
LOE Subgroup:	Pollutant-Sediment
Matrix:	Sediment
Fraction:	Total
Beneficial Use:	Warm Freshwater Habitat
Number of Samples:	1

Number of Exceedances:	0
Data and Information Type:	PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality:	Water Board staff assessed SWAMP data for Guadalupe River to determine beneficial use support and results are as follows: 0 of 1 samples exceed the criterion for Cyhalothrin, lambda, total.
Data Reference:	Statewide Stream Pollution Trends Study 2008
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	San Francisco Bay Basin Water Quality Control Plan 2007: All waters shall be maintained free of toxic substances in concentrations which are toxic to, or which produce detrimental physiological responses in, human, plant, animal, or aquatic life.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	The evaluation guideline for lambda-cyhalothrin is the median lethal concentration (LC50) of 0.44 ug/g and is normalized by the percentage of organic carbon in the sediment sample. The LC50 0.44 ug/g is the geometric mean of LC50 values for lambda-cyhalothrin from Amweg et al. (2005).
Guideline Reference:	Use and Toxicity of Pyrethroid Pesticides in the Central Valley, California, USA. Environmental Toxicology and Chemistry, 24:966-972, with erratum 24:No. 5
Spatial Representation:	Data for this line of evidence for Guadalupe River was collected at 1 monitoring site [Guadalupe Creek @ USGS Gaging Station 11169025 station (205GUA020)]
Temporal Representation:	Data was collected on a single day 6/17/2008.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	SWAMP data collected before September 2008 followed the QAMP (2002), however there may have been overlap in QA with SWAMP QAPP (2008).
QAPP Information Reference(s):	Quality Assurance Management Plan for the State of California's Surface Water Ambient Monitoring Program. Sacramento, CA. State Water Resources Control Board. SWAMP. December 2002 (1st version) Surface Water Ambient Monitoring Program Quality Assurance Program Plan

DECISION ID	64588	Region 2
Guadalupe River		

Pollutant:	Cypermethrin
Final Listing Decision:	Do Not List on 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision:	New Decision
Revision Status	Revised
Impairment from Pollutant or Pollution:	Pollutant

Regional Board Staff Conclusion:	<p>This pollutant is being considered for placement on the CWA section 303(d) List under section 3.6 of the Listing Policy. Under section 3.6 at least two lines of evidence are necessary to assess listing status for pollutants sediment, and pollutant concentrations in sediment must be associated with sediment toxicity to justify adding that pollutant to the CWA section 303(d) List.</p> <p>Two lines of evidence are available in the administrative record to assess this pollutant. Zero of one samples exceed the guideline. Sediment toxicity data are not associated with this decision because they are not relevant to this decision because there is insufficient information based on sediment chemistry.</p> <p>Based on the readily available data and information, the weight of evidence indicates that there is insufficient justification for placing this water segment-pollutant combination on the CWA section 303(d) List.</p> <p>This conclusion is based on the staff findings that:</p> <ol style="list-style-type: none"> 1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy. 2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy.
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3. Zero of one samples exceed the guideline and this sample size is insufficient to determine beneficial use support, with the power and confidence of the Listing Policy. A minimum of 16 samples is needed to determine if a beneficial use is fully supported using table 3.1. Sediment toxicity data are not associated with this decision because the sediment chemistry data are insufficient.
4. Pursuant to section 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.

Regional Board Staff Decision Recommendation: After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be placed on the section 303(d) list. The readily available data and information is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating.

**Line of Evidence (LOE) for Decision ID 64588, Cypermethrin
Guadalupe River**

Region 2

LOE ID:	91858
Pollutant:	Cypermethrin
LOE Subgroup:	Pollutant-Sediment
Matrix:	Sediment
Fraction:	Total
Beneficial Use:	Warm Freshwater Habitat
Number of Samples:	1
Number of Exceedances:	0
Data and Information Type:	PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality:	Water Board staff assessed SWAMP data for Guadalupe River to determine beneficial use support and results are as follows: 0 of 1 samples exceed the criterion for Cypermethrin, total.
Data Reference:	Statewide Stream Pollution Trends Study 2008
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	San Francisco Bay Basin Water Quality Control Plan 2007: All waters shall be maintained free of toxic substances in concentrations which are toxic to, or which produce detrimental physiological responses in, human, plant, animal, or aquatic life.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	The evaluation guideline for cypermethrin is the median lethal concentration (LC50) of 0.3 ug/g and is normalized by the percentage of organic carbon in the sediment sample. The LC50 0.3 ug/g is the geometric mean of LC50 values for cypermethrin from Maund et al. (2002).
Guideline Reference:	Partitioning, bioavailability, and toxicity of the pyrethroid insecticide cypermethrin in sediments. Environmental Toxicology and Chemistry 21:9-15
Spatial Representation:	Data for this line of evidence for Guadalupe River was collected at 1 monitoring site [Guadalupe Creek @ USGS Gaging Station 11169025 station (205GUA020)]
Temporal Representation:	Data was collected on a single day 6/17/2008.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	SWAMP data collected before September 2008 followed the QAMP (2002), however there may have been overlap in QA with SWAMP QAPP (2008).
QAPP Information Reference(s):	Quality Assurance Management Plan for the State of California's Surface Water Ambient Monitoring Program. Sacramento, CA. State Water Resources Control Board. SWAMP. December 2002 (1st version) Surface Water Ambient Monitoring Program Quality Assurance Program Plan

Line of Evidence (LOE) for Decision ID 64588, Cypermethrin

Region 2

Guadalupe River

LOE ID:	91859
Pollutant:	Cypermethrin
LOE Subgroup:	Pollutant-Sediment
Matrix:	Sediment
Fraction:	Total
Beneficial Use:	Cold Freshwater Habitat
Number of Samples:	1
Number of Exceedances:	0
Data and Information Type:	PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality:	Water Board staff assessed SWAMP data for Guadalupe River to determine beneficial use support and results are as follows: 0 of 1 samples exceed the criterion for Cypermethrin, total.
Data Reference:	Statewide Stream Pollution Trends Study 2008
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	San Francisco Bay Basin Water Quality Control Plan 2007: All waters shall be maintained free of toxic substances in concentrations which are toxic to, or which produce detrimental physiological responses in, human, plant, animal, or aquatic life.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	The evaluation guideline for cypermethrin is the median lethal concentration (LC50) of 0.3 ug/g and is normalized by the percentage of organic carbon in the sediment sample. The LC50 0.3 ug/g is the geometric mean of LC50 values for cypermethrin from Maund et al. (2002).
Guideline Reference:	Partitioning, bioavailability, and toxicity of the pyrethroid insecticide cypermethrin in sediments. Environmental Toxicology and Chemistry 21:9-15
Spatial Representation:	Data for this line of evidence for Guadalupe River was collected at 1 monitoring site [Guadalupe Creek @ USGS Gaging Station 11169025 station (205GUA020)]
Temporal Representation:	Data was collected on a single day 6/17/2008.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	SWAMP data collected before September 2008 followed the QAMP (2002), however there may have been overlap in QA with SWAMP QAPP (2008).
QAPP Information Reference(s):	Quality Assurance Management Plan for the State of California's Surface Water Ambient Monitoring Program. Sacramento, CA. State Water Resources Control Board. SWAMP. December 2002 (1st version). Surface Water Ambient Monitoring Program Quality Assurance Program Plan

DECISION ID Guadalupe River

64589

Region 2

Pollutant:	DDD (Dichlorodiphenyldichloroethane)
Final Listing Decision:	Do Not List on 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision:	New Decision
Revision Status	Revised
Impairment from Pollutant or Pollution:	Pollutant
Regional Board Staff Conclusion:	This pollutant is being considered for placement on the CWA section 303(d) List under section 3.6 of the Listing Policy. Under section 3.6 at least two lines of evidence are necessary to assess listing status for pollutants sediment, and pollutant concentrations in sediment must be associated with sediment toxicity to justify adding that pollutant to the CWA section 303(d) List.

Two lines of evidence are available in the administrative record to assess this pollutant. Zero of one samples exceed the guideline. Sediment toxicity data are not associated with this decision because they are not relevant to this decision because there is insufficient information based on sediment chemistry.

Based on the readily available data and information, the weight of evidence indicates that there is insufficient justification for placing this water segment-pollutant combination on the CWA section 303(d) List.

This conclusion is based on the staff findings that:

1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy.
2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy.
3. Zero of one samples exceed the guideline and this sample size is insufficient to determine beneficial use support, with the power and confidence of the Listing Policy. A minimum of 16 samples is needed to determine if a beneficial use is fully supported using table 3.1. Sediment toxicity data are not associated with this decision because the sediment chemistry data are insufficient.
4. Pursuant to section 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.

Regional Board Staff Decision Recommendation: After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be placed on the section 303(d) list. The readily available data and information is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating.

Line of Evidence (LOE) for Decision ID 64589, DDD (Dichlorodiphenyldichloroethane)

Region 2

Guadalupe River

LOE ID:	91860
Pollutant:	DDD (Dichlorodiphenyldichloroethane)
LOE Subgroup:	Pollutant-Sediment
Matrix:	Sediment
Fraction:	Total
Beneficial Use:	Warm Freshwater Habitat
Number of Samples:	1
Number of Exceedances:	0
Data and Information Type:	PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality:	Water Board staff assessed SWAMP data for Guadalupe River to determine beneficial use support and results are as follows: 0 of 1 samples exceed the criterion for DDD.
Data Reference:	Statewide Stream Pollution Trends Study 2008
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	San Francisco Bay Basin Water Quality Control Plan 2007: All waters shall be maintained free of toxic substances in concentrations which are toxic to, or which produce detrimental physiological responses in, human, plant, animal, or aquatic life.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	In freshwater sediments the probable effect concentration (predictive of sediment toxicity for sediment-dwelling organisms) for sum of DDD is 28.0 ug/Kg dry weight (MacDonald et al. 2000).
Guideline Reference:	Development and evaluation of consensus-based sediment quality guidelines for freshwater ecosystems. Environmental Contamination and Toxicology. 39: 20-31
Spatial Representation:	Data for this line of evidence for Guadalupe River was collected at 1 monitoring site [Guadalupe Creek @ USGS Gaging Station 11169025 station (205GUA020)]
Temporal Representation:	Data was collected on a single day 6/17/2008.

Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	SWAMP data collected before September 2008 followed the QAMP (2002), however there may have been overlap in QA with SWAMP QAPP (2008).
QAPP Information Reference(s):	Quality Assurance Management Plan for the State of California's Surface Water Ambient Monitoring Program. Sacramento, CA. State Water Resources Control Board. SWAMP. December 2002 (1st version) Surface Water Ambient Monitoring Program Quality Assurance Program Plan

Line of Evidence (LOE) for Decision ID 64589, DDD (Dichlorodiphenyldichloroethane)	Region 2
Guadalupe River	

LOE ID:	91861
Pollutant:	DDD (Dichlorodiphenyldichloroethane)
LOE Subgroup:	Pollutant-Sediment
Matrix:	Sediment
Fraction:	Total
Beneficial Use:	Cold Freshwater Habitat
Number of Samples:	1
Number of Exceedances:	0
Data and Information Type:	PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality:	Water Board staff assessed SWAMP data for Guadalupe River to determine beneficial use support and results are as follows: 0 of 1 samples exceed the criterion for DDD.
Data Reference:	Statewide Stream Pollution Trends Study 2008
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	San Francisco Bay Basin Water Quality Control Plan 2007: All waters shall be maintained free of toxic substances in concentrations which are toxic to, or which produce detrimental physiological responses in, human, plant, animal, or aquatic life.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	In freshwater sediments the probable effect concentration (predictive of sediment toxicity for sediment-dwelling organisms) for sum of DDD is 28.0 ug/Kg dry weight (MacDonald et al. 2000).
Guideline Reference:	Development and evaluation of consensus-based sediment quality guidelines for freshwater ecosystems. Environmental Contamination and Toxicology. 39: 20-31
Spatial Representation:	Data for this line of evidence for Guadalupe River was collected at 1 monitoring site [Guadalupe Creek @ USGS Gaging Station 11169025 station (205GUA020)]
Temporal Representation:	Data was collected on a single day 6/17/2008.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	SWAMP data collected before September 2008 followed the QAMP (2002), however there may have been overlap in QA with SWAMP QAPP (2008).
QAPP Information Reference(s):	Quality Assurance Management Plan for the State of California's Surface Water Ambient Monitoring Program. Sacramento, CA. State Water Resources Control Board. SWAMP. December 2002 (1st version) Surface Water Ambient Monitoring Program Quality Assurance Program Plan

DECISION ID	64590	Region 2
Guadalupe River		

Pollutant:	DDE (Dichlorodiphenyldichloroethylene)
Final Listing Decision:	Do Not List on 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision:	New Decision
Revision Status	Revised

Impairment from Pollutant or Pollution: Pollutant

Regional Board Staff Conclusion:

This pollutant is being considered for placement on the CWA section 303(d) List under section 3.6 of the Listing Policy. Under section 3.6 at least two lines of evidence are necessary to assess listing status for pollutants sediment, and pollutant concentrations in sediment must be associated with sediment toxicity to justify adding that pollutant to the CWA section 303(d) List.

Two lines of evidence are available in the administrative record to assess this pollutant. Zero of one samples exceed the guideline. Sediment toxicity data are not associated with this decision because they are not relevant to this decision because there is insufficient information based on sediment chemistry.

Based on the readily available data and information, the weight of evidence indicates that there is insufficient justification for placing this water segment-pollutant combination on the CWA section 303(d) List.

This conclusion is based on the staff findings that:

1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy.
2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy.
3. Zero of one samples exceed the guideline and this sample size is insufficient to determine beneficial use support, with the power and confidence of the Listing Policy. A minimum of 16 samples is needed to determine if a beneficial use is fully supported using table 3.1. Sediment toxicity data are not associated with this decision because the sediment chemistry data are insufficient.
4. Pursuant to section 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.

Regional Board Staff Decision Recommendation:

After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be placed on the section 303(d) list. The readily available data and information is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating.

Line of Evidence (LOE) for Decision ID 64590, DDE (Dichlorodiphenyldichloroethylene)

Region 2

Guadalupe River

LOE ID:	91863
Pollutant:	DDE (Dichlorodiphenyldichloroethylene)
LOE Subgroup:	Pollutant-Sediment
Matrix:	Sediment
Fraction:	Total
Beneficial Use:	Cold Freshwater Habitat
Number of Samples:	1
Number of Exceedances:	0
Data and Information Type:	PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality:	Water Board staff assessed SWAMP data for Guadalupe River to determine beneficial use support and results are as follows: 0 of 1 samples exceed the criterion for DDE.
Data Reference:	Statewide Stream Pollution Trends Study 2008
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	San Francisco Bay Basin Water Quality Control Plan 2007: All waters shall be maintained free of toxic substances in concentrations which are toxic to, or which produce detrimental physiological responses in, human, plant, animal, or aquatic life.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	In freshwater sediments the probable effect concentration (predictive of sediment toxicity

	for sediment-dwelling organisms) for sum of DDE is 31.3 ug/Kg dry weight (MacDonald et al. 2000).
Guideline Reference:	Development and evaluation of consensus-based sediment quality guidelines for freshwater ecosystems. Environmental Contamination and Toxicology. 39: 20-31
Spatial Representation:	Data for this line of evidence for Guadalupe River was collected at 1 monitoring site [Guadalupe Creek @ USGS Gaging Station 11169025 station (205GUA020)]
Temporal Representation:	Data was collected on a single day 6/17/2008.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	SWAMP data collected before September 2008 followed the QAMP (2002), however there may have been overlap in QA with SWAMP QAPP (2008).
QAPP Information Reference(s):	Quality Assurance Management Plan for the State of California's Surface Water Ambient Monitoring Program. Sacramento, CA. State Water Resources Control Board. SWAMP. December 2002 (1st version). Surface Water Ambient Monitoring Program Quality Assurance Program Plan

Line of Evidence (LOE) for Decision ID 64590, DDE (Dichlorodiphenyldichloroethylene)

Region 2

Guadalupe River

LOE ID:	91862
Pollutant:	DDE (Dichlorodiphenyldichloroethylene)
LOE Subgroup:	Pollutant-Sediment
Matrix:	Sediment
Fraction:	Total
Beneficial Use:	Warm Freshwater Habitat
Number of Samples:	1
Number of Exceedances:	0
Data and Information Type:	PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality:	Water Board staff assessed SWAMP data for Guadalupe River to determine beneficial use support and results are as follows: 0 of 1 samples exceed the criterion for DDE.
Data Reference:	Statewide Stream Pollution Trends Study 2008
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	San Francisco Bay Basin Water Quality Control Plan 2007: All waters shall be maintained free of toxic substances in concentrations which are toxic to, or which produce detrimental physiological responses in, human, plant, animal, or aquatic life.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	In freshwater sediments the probable effect concentration (predictive of sediment toxicity for sediment-dwelling organisms) for sum of DDE is 31.3 ug/Kg dry weight (MacDonald et al. 2000).
Guideline Reference:	Development and evaluation of consensus-based sediment quality guidelines for freshwater ecosystems. Environmental Contamination and Toxicology. 39: 20-31
Spatial Representation:	Data for this line of evidence for Guadalupe River was collected at 1 monitoring site [Guadalupe Creek @ USGS Gaging Station 11169025 station (205GUA020)]
Temporal Representation:	Data was collected on a single day 6/17/2008.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	SWAMP data collected before September 2008 followed the QAMP (2002), however there may have been overlap in QA with SWAMP QAPP (2008).
QAPP Information Reference(s):	Quality Assurance Management Plan for the State of California's Surface Water Ambient Monitoring Program. Sacramento, CA. State Water Resources Control Board. SWAMP. December 2002 (1st version). Surface Water Ambient Monitoring Program Quality Assurance Program Plan

DECISION ID

64591

Region 2

Guadalupe River

Pollutant: DDT (Dichlorodiphenyltrichloroethane)
Final Listing Decision: Do Not List on 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision: New Decision
Revision Status: Revised
Impairment from Pollutant or Pollution: Pollutant

Regional Board Staff Conclusion:

This pollutant is being considered for placement on the CWA section 303(d) List under section 3.6 of the Listing Policy. Under section 3.6 at least two lines of evidence are necessary to assess listing status for pollutants sediment, and pollutant concentrations in sediment must be associated with sediment toxicity to justify adding that pollutant to the CWA section 303(d) List.

Four lines of evidence are available in the administrative record to assess this pollutant. Zero of one samples exceed the guideline. Sediment toxicity data are not associated with this decision because they are not relevant to this decision because there is insufficient information based on sediment chemistry.

Based on the readily available data and information, the weight of evidence indicates that there is insufficient justification for placing this water segment-pollutant combination on the CWA section 303(d) List.

This conclusion is based on the staff findings that:

1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy.
2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy.
3. Zero of one samples exceed the guideline and this sample size is insufficient to determine beneficial use support, with the power and confidence of the Listing Policy. A minimum of 16 samples is needed to determine if a beneficial use is fully supported using table 3.1. Sediment toxicity data are not associated with this decision because the sediment chemistry data are insufficient.
4. Pursuant to section 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.

Regional Board Staff Decision Recommendation:

After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be placed on the section 303(d) list. The readily available data and information is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating.

Line of Evidence (LOE) for Decision ID 64591, DDT (Dichlorodiphenyltrichloroethane) Guadalupe River

Region 2

LOE ID: 91830

Pollutant: Total DDT (sum of 4,4'- and 2,4'- isomers of DDT, DDE, and DDD)
LOE Subgroup: Pollutant-Sediment
Matrix: Sediment
Fraction: Total

Beneficial Use: Cold Freshwater Habitat

Number of Samples: 1
Number of Exceedances: 0

Data and Information Type: PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality: Water Board staff assessed SWAMP data for Guadalupe River to determine beneficial use support and results are as follows: 0 of 1 samples exceed the criterion for DDT, Total.
Data Reference: [Statewide Stream Pollution Trends Study 2008](#)

SWAMP Data: SWAMP

Water Quality Objective/Criterion:	San Francisco Bay Basin Water Quality Control Plan 2007: All waters shall be maintained free of toxic substances in concentrations which are toxic to, or which produce detrimental physiological responses in, human, plant, animal, or aquatic life.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	In freshwater sediments the probable effect concentration (predictive of sediment toxicity for sediment-dwelling organisms) for total DDTs is 572 ug/Kg dry weight (MacDonald et al. 2000).
Guideline Reference:	Development and evaluation of consensus-based sediment quality guidelines for freshwater ecosystems. Environmental Contamination and Toxicology. 39: 20-31
Spatial Representation:	Data for this line of evidence for Guadalupe River was collected at 1 monitoring site [Guadalupe Creek @ USGS Gaging Station 11169025 station (205GUA020)]
Temporal Representation:	Data was collected on a single day 6/17/2008.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	SWAMP data collected before September 2008 followed the QAMP (2002), however there may have been overlap in QA with SWAMP QAPP (2008).
QAPP Information Reference(s):	Quality Assurance Management Plan for the State of California's Surface Water Ambient Monitoring Program. Sacramento, CA. State Water Resources Control Board. SWAMP. December 2002 (1st version) Surface Water Ambient Monitoring Program Quality Assurance Program Plan

Line of Evidence (LOE) for Decision ID 64591, DDT (Dichlorodiphenyltrichloroethane)

Region 2

Guadalupe River

LOE ID:	91865
Pollutant:	DDT (Dichlorodiphenyltrichloroethane)
LOE Subgroup:	Pollutant-Sediment
Matrix:	Sediment
Fraction:	Total
Beneficial Use:	Cold Freshwater Habitat
Number of Samples:	1
Number of Exceedances:	0
Data and Information Type:	PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality:	Water Board staff assessed SWAMP data for Guadalupe River to determine beneficial use support and results are as follows: 0 of 1 samples exceed the criterion for DDT.
Data Reference:	Statewide Stream Pollution Trends Study 2008
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	San Francisco Bay Basin Water Quality Control Plan 2007: All waters shall be maintained free of toxic substances in concentrations which are toxic to, or which produce detrimental physiological responses in, human, plant, animal, or aquatic life.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	In freshwater sediments the probable effect concentration (predictive of sediment toxicity for sediment-dwelling organisms) for sum of DDT is 62.9 ug/Kg dry weight (MacDonald et al. 2000).
Guideline Reference:	Development and evaluation of consensus-based sediment quality guidelines for freshwater ecosystems. Environmental Contamination and Toxicology. 39: 20-31
Spatial Representation:	Data for this line of evidence for Guadalupe River was collected at 1 monitoring site [Guadalupe Creek @ USGS Gaging Station 11169025 station (205GUA020)]
Temporal Representation:	Data was collected on a single day 6/17/2008.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	SWAMP data collected before September 2008 followed the QAMP (2002), however there may have been overlap in QA with SWAMP QAPP (2008).

QAPP Information Reference(s): [Quality Assurance Management Plan for the State of California's Surface Water Ambient Monitoring Program. Sacramento, CA. State Water Resources Control Board. SWAMP. December 2002 \(1st version\)](#)
[Surface Water Ambient Monitoring Program Quality Assurance Program Plan](#)

Line of Evidence (LOE) for Decision ID 64591, DDT (Dichlorodiphenyltrichloroethane)
Guadalupe River

Region 2

LOE ID: 91864

Pollutant: DDT (Dichlorodiphenyltrichloroethane)
LOE Subgroup: Pollutant-Sediment
Matrix: Sediment
Fraction: Total

Beneficial Use: Warm Freshwater Habitat

Number of Samples: 1
Number of Exceedances: 0

Data and Information Type: PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality: Water Board staff assessed SWAMP data for Guadalupe River to determine beneficial use support and results are as follows: 0 of 1 samples exceed the criterion for DDT.

Data Reference: [Statewide Stream Pollution Trends Study 2008](#)

SWAMP Data: SWAMP

Water Quality Objective/Criterion: San Francisco Bay Basin Water Quality Control Plan 2007: All waters shall be maintained free of toxic substances in concentrations which are toxic to, or which produce detrimental physiological responses in, human, plant, animal, or aquatic life.

Objective/Criterion Reference: [Water Quality Control Plan \(Basin Plan\) San Francisco Bay Basin \(Region 2\)](#)

Evaluation Guideline: In freshwater sediments the probable effect concentration (predictive of sediment toxicity for sediment-dwelling organisms) for sum of DDT is 62.9 ug/Kg dry weight (MacDonald et al. 2000).

Guideline Reference: [Development and evaluation of consensus-based sediment quality guidelines for freshwater ecosystems. Environmental Contamination and Toxicology. 39: 20-31](#)

Spatial Representation: Data for this line of evidence for Guadalupe River was collected at 1 monitoring site [Guadalupe Creek @ USGS Gaging Station 11169025 station (205GUA020)]

Temporal Representation: Data was collected on a single day 6/17/2008.

Environmental Conditions: Staff is not aware of any special conditions that might affect interpretation of the data.

QAPP Information: SWAMP data collected before September 2008 followed the QAMP (2002), however there may have been overlap in QA with SWAMP QAPP (2008).

QAPP Information Reference(s): [Quality Assurance Management Plan for the State of California's Surface Water Ambient Monitoring Program. Sacramento, CA. State Water Resources Control Board. SWAMP. December 2002 \(1st version\)](#)
[Surface Water Ambient Monitoring Program Quality Assurance Program Plan](#)

Line of Evidence (LOE) for Decision ID 64591, DDT (Dichlorodiphenyltrichloroethane)
Guadalupe River

Region 2

LOE ID: 91829

Pollutant: Total DDT (sum of 4,4'- and 2,4'- isomers of DDT, DDE, and DDD)
LOE Subgroup: Pollutant-Sediment
Matrix: Sediment
Fraction: Total

Beneficial Use: Warm Freshwater Habitat

Number of Samples:	1
Number of Exceedances:	0
Data and Information Type:	PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality:	Water Board staff assessed SWAMP data for Guadalupe River to determine beneficial use support and results are as follows: 0 of 1 samples exceed the criterion for DDT, Total.
Data Reference:	Statewide Stream Pollution Trends Study 2008
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	San Francisco Bay Basin Water Quality Control Plan 2007: All waters shall be maintained free of toxic substances in concentrations which are toxic to, or which produce detrimental physiological responses in, human, plant, animal, or aquatic life.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	In freshwater sediments the probable effect concentration (predictive of sediment toxicity for sediment-dwelling organisms) for total DDTs is 572 ug/Kg dry weight (MacDonald et al. 2000).
Guideline Reference:	Development and evaluation of consensus-based sediment quality guidelines for freshwater ecosystems. Environmental Contamination and Toxicology. 39: 20-31
Spatial Representation:	Data for this line of evidence for Guadalupe River was collected at 1 monitoring site [Guadalupe Creek @ USGS Gaging Station 11169025 station (205GUA020)]
Temporal Representation:	Data was collected on a single day 6/17/2008.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	SWAMP data collected before September 2008 followed the QAMP (2002), however there may have been overlap in QA with SWAMP QAPP (2008).
QAPP Information Reference(s):	Quality Assurance Management Plan for the State of California's Surface Water Ambient Monitoring Program. Sacramento, CA. State Water Resources Control Board. SWAMP. December 2002 (1st version) Surface Water Ambient Monitoring Program Quality Assurance Program Plan

DECISION ID	64592	Region 2
Guadalupe River		

Pollutant:	Deltamethrin
Final Listing Decision:	Do Not List on 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision:	New Decision
Revision Status	Revised
Impairment from Pollutant or Pollution:	Pollutant

Regional Board Staff Conclusion:	<p>This pollutant is being considered for placement on the CWA section 303(d) List under section 3.6 of the Listing Policy. Under section 3.6 at least two lines of evidence are necessary to assess listing status for pollutants sediment, and pollutant concentrations in sediment must be associated with sediment toxicity to justify adding that pollutant to the CWA section 303(d) List.</p> <p>Two lines of evidence are available in the administrative record to assess this pollutant. Zero of one samples exceed the guideline. Sediment toxicity data are not associated with this decision because they are not relevant to this decision because there is insufficient information based on sediment chemistry.</p> <p>Based on the readily available data and information, the weight of evidence indicates that there is insufficient justification for placing this water segment-pollutant combination on the CWA section 303(d) List.</p> <p>This conclusion is based on the staff findings that:</p> <ol style="list-style-type: none"> 1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy. 2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy. 3. Zero of one samples exceed the guideline and this sample size is insufficient to determine
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beneficial use support, with the power and confidence of the Listing Policy. A minimum of 16 samples is needed to determine if a beneficial use is fully supported using table 3.1. Sediment toxicity data are not associated with this decision because the sediment chemistry data are insufficient.

4. Pursuant to section 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.

Regional Board Staff Decision Recommendation: After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be placed on the section 303(d) list. The readily available data and information is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating.

Line of Evidence (LOE) for Decision ID 64592, Deltamethrin		Region 2
Guadalupe River		
LOE ID:	91867	
Pollutant:	Deltamethrin	
LOE Subgroup:	Pollutant-Sediment	
Matrix:	Sediment	
Fraction:	Total	
Beneficial Use:	Cold Freshwater Habitat	
Number of Samples:	1	
Number of Exceedances:	0	
Data and Information Type:	PHYSICAL/CHEMICAL MONITORING	
Data Used to Assess Water Quality:	Water Board staff assessed SWAMP data for Guadalupe River to determine beneficial use support and results are as follows: 0 of 1 samples exceed the criterion for Deltamethrin.	
Data Reference:	Statewide Stream Pollution Trends Study 2008	
SWAMP Data:	SWAMP	
Water Quality Objective/Criterion:	San Francisco Bay Basin Water Quality Control Plan 2007: All waters shall be maintained free of toxic substances in concentrations which are toxic to, or which produce detrimental physiological responses in, human, plant, animal, or aquatic life.	
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)	
Evaluation Guideline:	The evaluation guideline for deltamethrin is the median lethal concentration (LC50) of 0.79 ug/g and is normalized by the percentage of organic carbon in the sediment sample. The LC50 0.79 ug/g is the geometric mean of LC50 values for deltamethrin from Amweg et al. (2005).	
Guideline Reference:	Use and Toxicity of Pyrethroid Pesticides in the Central Valley, California, USA. Environmental Toxicology and Chemistry, 24:966-972, with erratum 24:No. 5	
Spatial Representation:	Data for this line of evidence for Guadalupe River was collected at 1 monitoring site [Guadalupe Creek @ USGS Gaging Station 11169025 station (205GUA020)]	
Temporal Representation:	Data was collected on a single day 6/17/2008.	
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.	
QAPP Information:	SWAMP data collected before September 2008 followed the QAMP (2002), however there may have been overlap in QA with SWAMP QAPP (2008).	
QAPP Information Reference(s):	Quality Assurance Management Plan for the State of California's Surface Water Ambient Monitoring Program. Sacramento, CA. State Water Resources Control Board. SWAMP. December 2002 (1st version) Surface Water Ambient Monitoring Program Quality Assurance Program Plan	

Line of Evidence (LOE) for Decision ID 64592, Deltamethrin		Region 2
Guadalupe River		

LOE ID:	91866
Pollutant:	Deltamethrin
LOE Subgroup:	Pollutant-Sediment
Matrix:	Sediment
Fraction:	Total
Beneficial Use:	Warm Freshwater Habitat
Number of Samples:	1
Number of Exceedances:	0
Data and Information Type:	PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality:	Water Board staff assessed SWAMP data for Guadalupe River to determine beneficial use support and results are as follows: 0 of 1 samples exceed the criterion for Deltamethrin.
Data Reference:	Statewide Stream Pollution Trends Study 2008
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	San Francisco Bay Basin Water Quality Control Plan 2007: All waters shall be maintained free of toxic substances in concentrations which are toxic to, or which produce detrimental physiological responses in, human, plant, animal, or aquatic life.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	The evaluation guideline for deltamethrin is the median lethal concentration (LC50) of 0.79 ug/g and is normalized by the percentage of organic carbon in the sediment sample. The LC50 0.79 ug/g is the geometric mean of LC50 values for deltamethrin from Amweg et al. (2005).
Guideline Reference:	Use and Toxicity of Pyrethroid Pesticides in the Central Valley, California, USA. Environmental Toxicology and Chemistry, 24:966-972, with erratum 24:No. 5
Spatial Representation:	Data for this line of evidence for Guadalupe River was collected at 1 monitoring site [Guadalupe Creek @ USGS Gaging Station 11169025 station (205GUA020)]
Temporal Representation:	Data was collected on a single day 6/17/2008.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	SWAMP data collected before September 2008 followed the QAMP (2002), however there may have been overlap in QA with SWAMP QAPP (2008).
QAPP Information Reference(s):	Quality Assurance Management Plan for the State of California's Surface Water Ambient Monitoring Program, Sacramento, CA. State Water Resources Control Board. SWAMP. December 2002 (1st version). Surface Water Ambient Monitoring Program Quality Assurance Program Plan

DECISION ID	64593	Region 2
Guadalupe River		
Pollutant:	Dieldrin	
Final Listing Decision:	Do Not List on 303(d) list (TMDL required list)	
Last Listing Cycle's Final Listing Decision:	New Decision	
Revision Status	Revised	
Impairment from Pollutant or Pollution:	Pollutant	
Regional Board Staff Conclusion:	<p>This pollutant is being considered for placement on the CWA section 303(d) List under section 3.6 of the Listing Policy. Under section 3.6 at least two lines of evidence are necessary to assess listing status for pollutants sediment, and pollutant concentrations in sediment must be associated with sediment toxicity to justify adding that pollutant to the CWA section 303(d) List.</p> <p>Two lines of evidence are available in the administrative record to assess this pollutant. Zero of one samples exceed the guideline. Sediment toxicity data are not associated with this decision because they are not relevant to this decision because there is insufficient information based on sediment</p>	

chemistry.

Based on the readily available data and information, the weight of evidence indicates that there is insufficient justification for placing this water segment-pollutant combination on the CWA section 303(d) List.

This conclusion is based on the staff findings that:

1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy.
2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy.
3. Zero of one samples exceed the guideline and this sample size is insufficient to determine beneficial use support, with the power and confidence of the Listing Policy. A minimum of 16 samples is needed to determine if a beneficial use is fully supported using table 3.1. Sediment toxicity data are not associated with this decision because the sediment chemistry data are insufficient.
4. Pursuant to section 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.

Regional Board Staff Decision Recommendation: After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be placed on the section 303(d) list. The readily available data and information is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating.

Line of Evidence (LOE) for Decision ID 64593, Dieldrin

Region 2

Guadalupe River

LOE ID:	91870
Pollutant:	Dieldrin
LOE Subgroup:	Pollutant-Sediment
Matrix:	Sediment
Fraction:	Total
Beneficial Use:	Warm Freshwater Habitat
Number of Samples:	1
Number of Exceedances:	0
Data and Information Type:	PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality:	Water Board staff assessed SWAMP data for Guadalupe River to determine beneficial use support and results are as follows: 0 of 1 samples exceed the criterion for Dieldrin.
Data Reference:	Statewide Stream Pollution Trends Study 2008
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	San Francisco Bay Basin Water Quality Control Plan 2007: All waters shall be maintained free of toxic substances in concentrations which are toxic to, or which produce detrimental physiological responses in, human, plant, animal, or aquatic life.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	In freshwater sediments the probable effect concentration (predictive of sediment toxicity for sediment-dwelling organisms) for dieldrin is 61.8 ug/Kg dry weight (MacDonald et al. 2000).
Guideline Reference:	Development and evaluation of consensus-based sediment quality guidelines for freshwater ecosystems. Environmental Contamination and Toxicology. 39: 20-31
Spatial Representation:	Data for this line of evidence for Guadalupe River was collected at 1 monitoring site [Guadalupe Creek @ USGS Gaging Station 11169025 station (205GUA020)]
Temporal Representation:	Data was collected on a single day 6/17/2008.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	SWAMP data collected before September 2008 followed the QAMP (2002), however there may have been overlap in QA with SWAMP QAPP (2008).

QAPP Information Reference(s): [Quality Assurance Management Plan for the State of California's Surface Water Ambient Monitoring Program. Sacramento, CA. State Water Resources Control Board. SWAMP. December 2002 \(1st version\)](#)
[Surface Water Ambient Monitoring Program Quality Assurance Program Plan](#)

Line of Evidence (LOE) for Decision ID 64593, Dieldrin
Guadalupe River

Region 2

LOE ID: 91871

Pollutant: Dieldrin
LOE Subgroup: Pollutant-Sediment
Matrix: Sediment
Fraction: Total

Beneficial Use: Cold Freshwater Habitat

Number of Samples: 1
Number of Exceedances: 0

Data and Information Type: PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality: Water Board staff assessed SWAMP data for Guadalupe River to determine beneficial use support and results are as follows: 0 of 1 samples exceed the criterion for Dieldrin.
Data Reference: [Statewide Stream Pollution Trends Study 2008](#)

SWAMP Data: SWAMP

Water Quality Objective/Criterion: San Francisco Bay Basin Water Quality Control Plan 2007: All waters shall be maintained free of toxic substances in concentrations which are toxic to, or which produce detrimental physiological responses in, human, plant, animal, or aquatic life.
Objective/Criterion Reference: [Water Quality Control Plan \(Basin Plan\) San Francisco Bay Basin \(Region 2\)](#)

Evaluation Guideline: In freshwater sediments the probable effect concentration (predictive of sediment toxicity for sediment-dwelling organisms) for dieldrin is 61.8 ug/Kg dry weight (MacDonald et al. 2000).
Guideline Reference: [Development and evaluation of consensus-based sediment quality guidelines for freshwater ecosystems. Environmental Contamination and Toxicology. 39: 20-31](#)

Spatial Representation: Data for this line of evidence for Guadalupe River was collected at 1 monitoring site [Guadalupe Creek @ USGS Gaging Station 11169025 station (205GUA020)]
Temporal Representation: Data was collected on a single day 6/17/2008.
Environmental Conditions: Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information: SWAMP data collected before September 2008 followed the QAMP (2002), however there may have been overlap in QA with SWAMP QAPP (2008).
QAPP Information Reference(s): [Quality Assurance Management Plan for the State of California's Surface Water Ambient Monitoring Program. Sacramento, CA. State Water Resources Control Board. SWAMP. December 2002 \(1st version\)](#)
[Surface Water Ambient Monitoring Program Quality Assurance Program Plan](#)

DECISION ID 64594
Guadalupe River

Region 2

Pollutant: Endrin
Final Listing Decision: Do Not List on 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision: New Decision
Revision Status: Revised
Impairment from Pollutant or Pollution: Pollutant

**Regional Board Staff
Conclusion:**

This pollutant is being considered for placement on the CWA section 303(d) List under section 3.6 of the Listing Policy. Under section 3.6 at least two lines of evidence are necessary to assess listing status for pollutants sediment, and pollutant concentrations in sediment must be associated with sediment toxicity to justify adding that pollutant to the CWA section 303(d) List.

Two lines of evidence are available in the administrative record to assess this pollutant. Zero of one samples exceed the guideline. Sediment toxicity data are not associated with this decision because they are not relevant to this decision because there is insufficient information based on sediment chemistry.

Based on the readily available data and information, the weight of evidence indicates that there is insufficient justification for placing this water segment-pollutant combination on the CWA section 303(d) List.

This conclusion is based on the staff findings that:

1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy.
2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy.
3. Zero of one samples exceed the guideline and this sample size is insufficient to determine beneficial use support, with the power and confidence of the Listing Policy. A minimum of 16 samples is needed to determine if a beneficial use is fully supported using table 3.1. Sediment toxicity data are not associated with this decision because the sediment chemistry data are insufficient.
4. Pursuant to section 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.

**Regional Board Staff Decision
Recommendation:**

After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be placed on the section 303(d) list. The readily available data and information is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating.

**Line of Evidence (LOE) for Decision ID 64594, Endrin
Guadalupe River**

Region 2

LOE ID:	91873
Pollutant:	Endrin
LOE Subgroup:	Pollutant-Sediment
Matrix:	Sediment
Fraction:	Total
Beneficial Use:	Cold Freshwater Habitat
Number of Samples:	1
Number of Exceedances:	0
Data and Information Type:	PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality:	Water Board staff assessed SWAMP data for Guadalupe River to determine beneficial use support and results are as follows: 0 of 1 samples exceed the criterion for Endrin.
Data Reference:	Statewide Stream Pollution Trends Study 2008
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	San Francisco Bay Basin Water Quality Control Plan 2007: All waters shall be maintained free of toxic substances in concentrations which are toxic to, or which produce detrimental physiological responses in, human, plant, animal, or aquatic life.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	In freshwater sediments the probable effect concentration (predictive of sediment toxicity for sediment-dwelling organisms) for endrin is 207 ug/Kg dry weight (MacDonald et al. 2000).
Guideline Reference:	Development and evaluation of consensus-based sediment quality guidelines for

Spatial Representation: Data for this line of evidence for Guadalupe River was collected at 1 monitoring site [Guadalupe Creek @ USGS Gaging Station 11169025 station (205GUA020)]

Temporal Representation: Data was collected on a single day 6/17/2008.

Environmental Conditions: Staff is not aware of any special conditions that might affect interpretation of the data.

QAPP Information: SWAMP data collected before September 2008 followed the QAMP (2002), however there may have been overlap in QA with SWAMP QAPP (2008).

QAPP Information Reference(s): [Quality Assurance Management Plan for the State of California's Surface Water Ambient Monitoring Program. Sacramento, CA. State Water Resources Control Board. SWAMP. December 2002 \(1st version\)](#)
[Surface Water Ambient Monitoring Program Quality Assurance Program Plan](#)

Line of Evidence (LOE) for Decision ID 64594, Endrin

Region 2

Guadalupe River

LOE ID: 91872

Pollutant: Endrin

LOE Subgroup: Pollutant-Sediment

Matrix: Sediment

Fraction: Total

Beneficial Use: Warm Freshwater Habitat

Number of Samples: 1

Number of Exceedances: 0

Data and Information Type: PHYSICAL/CHEMICAL MONITORING

Data Used to Assess Water Quality: Water Board staff assessed SWAMP data for Guadalupe River to determine beneficial use support and results are as follows: 0 of 1 samples exceed the criterion for Endrin.

Data Reference: [Statewide Stream Pollution Trends Study 2008](#)

SWAMP Data: SWAMP

Water Quality Objective/Criterion: San Francisco Bay Basin Water Quality Control Plan 2007: All waters shall be maintained free of toxic substances in concentrations which are toxic to, or which produce detrimental physiological responses in, human, plant, animal, or aquatic life.

Objective/Criterion Reference: [Water Quality Control Plan \(Basin Plan\) San Francisco Bay Basin \(Region 2\)](#)

Evaluation Guideline: In freshwater sediments the probable effect concentration (predictive of sediment toxicity for sediment-dwelling organisms) for endrin is 207 ug/Kg dry weight (MacDonald et al. 2000).

Guideline Reference: [Development and evaluation of consensus-based sediment quality guidelines for freshwater ecosystems. Environmental Contamination and Toxicology. 39: 20-31](#)

Spatial Representation: Data for this line of evidence for Guadalupe River was collected at 1 monitoring site [Guadalupe Creek @ USGS Gaging Station 11169025 station (205GUA020)]

Temporal Representation: Data was collected on a single day 6/17/2008.

Environmental Conditions: Staff is not aware of any special conditions that might affect interpretation of the data.

QAPP Information: SWAMP data collected before September 2008 followed the QAMP (2002), however there may have been overlap in QA with SWAMP QAPP (2008).

QAPP Information Reference(s): [Surface Water Ambient Monitoring Program Quality Assurance Program Plan](#)
[Quality Assurance Management Plan for the State of California's Surface Water Ambient Monitoring Program. Sacramento, CA. State Water Resources Control Board. SWAMP. December 2002 \(1st version\)](#)

DECISION ID

64595

Region 2

Guadalupe River

Pollutant:	Esfenvalerate/Fenvalerate
Final Listing Decision:	Do Not List on 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision:	New Decision
Revision Status	Revised
Impairment from Pollutant or Pollution:	Pollutant

Regional Board Staff Conclusion:

This pollutant is being considered for placement on the CWA section 303(d) List under section 3.6 of the Listing Policy. Under section 3.6 at least two lines of evidence are necessary to assess listing status for pollutants sediment, and pollutant concentrations in sediment must be associated with sediment toxicity to justify adding that pollutant to the CWA section 303(d) List.

Two lines of evidence are available in the administrative record to assess this pollutant. Zero of one samples exceed the guideline. Sediment toxicity data are not associated with this decision because they are not relevant to this decision because there is insufficient information based on sediment chemistry.

Based on the readily available data and information, the weight of evidence indicates that there is insufficient justification for placing this water segment-pollutant combination on the CWA section 303(d) List.

This conclusion is based on the staff findings that:

1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy.
2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy.
3. Zero of one samples exceed the guideline and this sample size is insufficient to determine beneficial use support, with the power and confidence of the Listing Policy. A minimum of 16 samples is needed to determine if a beneficial use is fully supported using table 3.1. Sediment toxicity data are not associated with this decision because the sediment chemistry data are insufficient.
4. Pursuant to section 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.

Regional Board Staff Decision Recommendation:

After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be placed on the section 303(d) list. The readily available data and information is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating.

Line of Evidence (LOE) for Decision ID 64595, Esfenvalerate/Fenvalerate
Guadalupe River

Region 2

LOE ID: 91874

Pollutant:	Esfenvalerate/Fenvalerate
LOE Subgroup:	Pollutant-Sediment
Matrix:	Sediment
Fraction:	Total

Beneficial Use: Warm Freshwater Habitat

Number of Samples:	1
Number of Exceedances:	0

Data and Information Type:	PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality:	Water Board staff assessed SWAMP data for Guadalupe River to determine beneficial use support and results are as follows: 0 of 1 samples exceed the criterion for Esfenvalerate/Fenvalerate, total.

Data Reference: [Statewide Stream Pollution Trends Study 2008](#)

SWAMP Data: SWAMP

Water Quality Objective/Criterion:	San Francisco Bay Basin Water Quality Control Plan 2007: All waters shall be maintained free of toxic substances in concentrations which are toxic to, or which produce detrimental physiological responses in, human, plant, animal, or aquatic life.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	The evaluation guideline for esfenvalerate/fenvalerate is the median lethal concentration (LC50) of 1.5 ug/g and is normalized by the percentage of organic carbon in the sediment sample. The LC50 1.5 ug/g is the geometric mean of LC50 values for esfenvalerate/fenvalerate from Amweg et al. (2005).
Guideline Reference:	Use and Toxicity of Pyrethroid Pesticides in the Central Valley, California, USA. Environmental Toxicology and Chemistry, 24:966-972, with erratum 24:No. 5
Spatial Representation:	Data for this line of evidence for Guadalupe River was collected at 1 monitoring site [Guadalupe Creek @ USGS Gaging Station 11169025 station (205GUA020)]
Temporal Representation:	Data was collected on a single day 6/17/2008.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	SWAMP data collected before September 2008 followed the QAMP (2002), however there may have been overlap in QA with SWAMP QAPP (2008).
QAPP Information Reference(s):	Quality Assurance Management Plan for the State of California's Surface Water Ambient Monitoring Program. Sacramento, CA. State Water Resources Control Board. SWAMP. December 2002 (1st version) Surface Water Ambient Monitoring Program Quality Assurance Program Plan

Line of Evidence (LOE) for Decision ID 64595, Esfenvalerate/Fenvalerate

Region 2

Guadalupe River

LOE ID:	91875
Pollutant:	Esfenvalerate/Fenvalerate
LOE Subgroup:	Pollutant-Sediment
Matrix:	Sediment
Fraction:	Total
Beneficial Use:	Cold Freshwater Habitat
Number of Samples:	1
Number of Exceedances:	0
Data and Information Type:	PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality:	Water Board staff assessed SWAMP data for Guadalupe River to determine beneficial use support and results are as follows: 0 of 1 samples exceed the criterion for Esfenvalerate/Fenvalerate, total.
Data Reference:	Statewide Stream Pollution Trends Study 2008
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	San Francisco Bay Basin Water Quality Control Plan 2007: All waters shall be maintained free of toxic substances in concentrations which are toxic to, or which produce detrimental physiological responses in, human, plant, animal, or aquatic life.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	The evaluation guideline for esfenvalerate/fenvalerate is the median lethal concentration (LC50) of 1.5 ug/g and is normalized by the percentage of organic carbon in the sediment sample. The LC50 1.5 ug/g is the geometric mean of LC50 values for esfenvalerate/fenvalerate from Amweg et al. (2005).
Guideline Reference:	Use and Toxicity of Pyrethroid Pesticides in the Central Valley, California, USA. Environmental Toxicology and Chemistry, 24:966-972, with erratum 24:No. 5
Spatial Representation:	Data for this line of evidence for Guadalupe River was collected at 1 monitoring site [Guadalupe Creek @ USGS Gaging Station 11169025 station (205GUA020)]
Temporal Representation:	Data was collected on a single day 6/17/2008.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.

QAPP Information: SWAMP data collected before September 2008 followed the QAMP (2002), however there may have been overlap in QA with SWAMP QAPP (2008).

QAPP Information Reference(s): [Quality Assurance Management Plan for the State of California's Surface Water Ambient Monitoring Program. Sacramento, CA. State Water Resources Control Board. SWAMP. December 2002 \(1st version\)](#)
[Surface Water Ambient Monitoring Program Quality Assurance Program Plan](#)

DECISION ID	64596	Region 2
Guadalupe River		

Pollutant: Fenpropathrin
Final Listing Decision: Do Not List on 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision: New Decision
Revision Status: Revised
Impairment from Pollutant or Pollution: Pollutant

Regional Board Staff Conclusion: This pollutant is being considered for placement on the CWA section 303(d) List under section 3.6 of the Listing Policy. Under section 3.6 at least two lines of evidence are necessary to assess listing status for pollutants sediment, and pollutant concentrations in sediment must be associated with sediment toxicity to justify adding that pollutant to the CWA section 303(d) List.

Two lines of evidence are available in the administrative record to assess this pollutant. Zero of one samples exceed the guideline. Sediment toxicity data are not associated with this decision because they are not relevant to this decision because there is insufficient information based on sediment chemistry.

Based on the readily available data and information, the weight of evidence indicates that there is insufficient justification for placing this water segment-pollutant combination on the CWA section 303(d) List.

This conclusion is based on the staff findings that:

1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy.
2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy.
3. Zero of one samples exceed the guideline and this sample size is insufficient to determine beneficial use support, with the power and confidence of the Listing Policy. A minimum of 16 samples is needed to determine if a beneficial use is fully supported using table 3.1. Sediment toxicity data are not associated with this decision because the sediment chemistry data are insufficient.
4. Pursuant to section 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.

Regional Board Staff Decision Recommendation: After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be placed on the section 303(d) list. The readily available data and information is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating.

Line of Evidence (LOE) for Decision ID 64596, Fenpropathrin	Region 2
Guadalupe River	

LOE ID: 91877
Pollutant: Fenpropathrin
LOE Subgroup: Pollutant-Sediment
Matrix: Sediment
Fraction: Total
Beneficial Use: Cold Freshwater Habitat

Number of Samples:	1
Number of Exceedances:	0
Data and Information Type:	PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality:	Water Board staff assessed SWAMP data for Guadalupe River to determine beneficial use support and results are as follows: 0 of 1 samples exceed the criterion for Fenpropathrin.
Data Reference:	Statewide Stream Pollution Trends Study 2008
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	San Francisco Bay Basin Water Quality Control Plan 2007: All waters shall be maintained free of toxic substances in concentrations which are toxic to, or which produce detrimental physiological responses in, human, plant, animal, or aquatic life.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	The evaluation guideline for fenpropathrin is the median lethal concentration (LC50) of 1 ug/g and is normalized by the percentage of organic carbon in the sediment sample. The LC50 1 ug/g is the geometric mean of LC50 values for fenpropathrin from Ding et al. (2011).
Guideline Reference:	Toxicity of Sediment-Associated Pesticides to Chironomus dilutus and Hyalella azteca. Arch. Environ. Contam. Toxicol. 61:83?92.
Spatial Representation:	Data for this line of evidence for Guadalupe River was collected at 1 monitoring site [Guadalupe Creek @ USGS Gaging Station 11169025 station (205GUA020)]
Temporal Representation:	Data was collected on a single day 6/17/2008.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	SWAMP data collected before September 2008 followed the QAMP (2002), however there may have been overlap in QA with SWAMP QAPP (2008).
QAPP Information Reference(s):	Quality Assurance Management Plan for the State of California's Surface Water Ambient Monitoring Program. Sacramento, CA. State Water Resources Control Board. SWAMP. December 2002 (1st version) Surface Water Ambient Monitoring Program Quality Assurance Program Plan

Line of Evidence (LOE) for Decision ID 64596, Fenpropathrin
Guadalupe River

Region 2

LOE ID:	91876
Pollutant:	Fenpropathrin
LOE Subgroup:	Pollutant-Sediment
Matrix:	Sediment
Fraction:	Total
Beneficial Use:	Warm Freshwater Habitat
Number of Samples:	1
Number of Exceedances:	0
Data and Information Type:	PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality:	Water Board staff assessed SWAMP data for Guadalupe River to determine beneficial use support and results are as follows: 0 of 1 samples exceed the criterion for Fenpropathrin.
Data Reference:	Statewide Stream Pollution Trends Study 2008
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	San Francisco Bay Basin Water Quality Control Plan 2007: All waters shall be maintained free of toxic substances in concentrations which are toxic to, or which produce detrimental physiological responses in, human, plant, animal, or aquatic life.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	The evaluation guideline for fenpropathrin is the median lethal concentration (LC50) of 1

ug/g and is normalized by the percentage of organic carbon in the sediment sample. The LC50 1 ug/g is the geometric mean of LC50 values for fenpropathrin from Ding et al. (2011).

Guideline Reference:

[Toxicity of Sediment-Associated Pesticides to Chironomus dilutus and Hyalella azteca. Arch. Environ. Contam. Toxicol. 61:83-92.](#)

Spatial Representation:

Data for this line of evidence for Guadalupe River was collected at 1 monitoring site [Guadalupe Creek @ USGS Gaging Station 11169025 station (205GUA020)]

Temporal Representation:

Data was collected on a single day 6/17/2008.

Environmental Conditions:

Staff is not aware of any special conditions that might affect interpretation of the data.

QAPP Information:

SWAMP data collected before September 2008 followed the QAMP (2002), however there may have been overlap in QA with SWAMP QAPP (2008).

QAPP Information Reference(s):

[Quality Assurance Management Plan for the State of California's Surface Water Ambient Monitoring Program. Sacramento, CA. State Water Resources Control Board. SWAMP. December 2002 \(1st version\)](#)
[Surface Water Ambient Monitoring Program Quality Assurance Program Plan](#)

DECISION ID

64597

Region 2

Guadalupe River

Pollutant:

Fluoranthene

Final Listing Decision:

Do Not List on 303(d) list (TMDL required list)

Last Listing Cycle's Final

New Decision

Listing Decision:

Revision Status

Revised

Impairment from Pollutant or Pollution:

Pollutant

Regional Board Staff

Conclusion:

This pollutant is being considered for placement on the CWA section 303(d) List under section 3.6 of the Listing Policy. Under section 3.6 at least two lines of evidence are necessary to assess listing status for pollutants sediment, and pollutant concentrations in sediment must be associated with sediment toxicity to justify adding that pollutant to the CWA section 303(d) List.

Two lines of evidence are available in the administrative record to assess this pollutant. Zero of one samples exceed the guideline. Sediment toxicity data are not associated with this decision because they are not relevant to this decision because there is insufficient information based on sediment chemistry.

Based on the readily available data and information, the weight of evidence indicates that there is insufficient justification for placing this water segment-pollutant combination on the CWA section 303(d) List.

This conclusion is based on the staff findings that:

1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy.
2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy.
3. Zero of one samples exceed the guideline and this sample size is insufficient to determine beneficial use support, with the power and confidence of the Listing Policy. A minimum of 16 samples is needed to determine if a beneficial use is fully supported using table 3.1. Sediment toxicity data are not associated with this decision because the sediment chemistry data are insufficient.
4. Pursuant to section 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.

Regional Board Staff Decision

Recommendation:

After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be placed on the section 303(d) list. The readily available data and information is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating.

Line of Evidence (LOE) for Decision ID 64597, Fluoranthene

Region 2

Guadalupe River

LOE ID:	91878
Pollutant:	Fluoranthene
LOE Subgroup:	Pollutant-Sediment
Matrix:	Sediment
Fraction:	Total
Beneficial Use:	Warm Freshwater Habitat
Number of Samples:	1
Number of Exceedances:	0
Data and Information Type:	PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality:	Water Board staff assessed SWAMP data for Guadalupe River to determine beneficial use support and results are as follows: 0 of 1 samples exceed the criterion for Fluoranthene.
Data Reference:	Statewide Stream Pollution Trends Study 2008
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	San Francisco Bay Basin Water Quality Control Plan 2007: All waters shall be maintained free of toxic substances in concentrations which are toxic to, or which produce detrimental physiological responses in, human, plant, animal, or aquatic life.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	In freshwater sediments the probable effects level (predictive of sediment toxicity for sediment-dwelling organisms) for Fluoranthene is 2,230 ug/Kg dry weight (Macdonald et al. 2000)
Guideline Reference:	Development and evaluation of consensus-based sediment quality guidelines for freshwater ecosystems. Environmental Contamination and Toxicology. 39: 20-31
Spatial Representation:	Data for this line of evidence for Guadalupe River was collected at 1 monitoring site [Guadalupe Creek @ USGS Gaging Station 11169025 station (205GUA020)]
Temporal Representation:	Data was collected on a single day 6/17/2008.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	SWAMP data collected before September 2008 followed the QAMP (2002), however there may have been overlap in QA with SWAMP QAPP (2008).
QAPP Information Reference(s):	Quality Assurance Management Plan for the State of California's Surface Water Ambient Monitoring Program. Sacramento, CA. State Water Resources Control Board. SWAMP. December 2002 (1st version). Surface Water Ambient Monitoring Program Quality Assurance Program Plan

Line of Evidence (LOE) for Decision ID 64597, Fluoranthene

Region 2

Guadalupe River

LOE ID:	91879
Pollutant:	Fluoranthene
LOE Subgroup:	Pollutant-Sediment
Matrix:	Sediment
Fraction:	Total
Beneficial Use:	Cold Freshwater Habitat
Number of Samples:	1
Number of Exceedances:	0
Data and Information Type:	PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality:	Water Board staff assessed SWAMP data for Guadalupe River to determine beneficial use support and results are as follows: 0 of 1 samples exceed the criterion for Fluoranthene.
Data Reference:	Statewide Stream Pollution Trends Study 2008

SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	San Francisco Bay Basin Water Quality Control Plan 2007: All waters shall be maintained free of toxic substances in concentrations which are toxic to, or which produce detrimental physiological responses in, human, plant, animal, or aquatic life.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	In freshwater sediments the probable effects level (predictive of sediment toxicity for sediment-dwelling organisms) for Fluoranthene is 2,230 ug/Kg dry weight (Macdonald et al. 2000)
Guideline Reference:	Development and evaluation of consensus-based sediment quality guidelines for freshwater ecosystems. Environmental Contamination and Toxicology. 39: 20-31
Spatial Representation:	Data for this line of evidence for Guadalupe River was collected at 1 monitoring site [Guadalupe Creek @ USGS Gaging Station 11169025 station (205GUA020)]
Temporal Representation:	Data was collected on a single day 6/17/2008.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	SWAMP data collected before September 2008 followed the QAMP (2002), however there may have been overlap in QA with SWAMP QAPP (2008).
QAPP Information Reference(s):	Quality Assurance Management Plan for the State of California's Surface Water Ambient Monitoring Program. Sacramento, CA. State Water Resources Control Board. SWAMP. December 2002 (1st version) Surface Water Ambient Monitoring Program Quality Assurance Program Plan

DECISION ID	64598	Region 2
Guadalupe River		

Pollutant:	Fluorene
Final Listing Decision:	Do Not List on 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision:	New Decision
Revision Status	Revised
Impairment from Pollutant or Pollution:	Pollutant
Regional Board Staff Conclusion:	<p>This pollutant is being considered for placement on the CWA section 303(d) List under section 3.6 of the Listing Policy. Under section 3.6 at least two lines of evidence are necessary to assess listing status for pollutants sediment, and pollutant concentrations in sediment must be associated with sediment toxicity to justify adding that pollutant to the CWA section 303(d) List.</p> <p>Two lines of evidence are available in the administrative record to assess this pollutant. Zero of one samples exceed the guideline. Sediment toxicity data are not associated with this decision because they are not relevant to this decision because there is insufficient information based on sediment chemistry.</p> <p>Based on the readily available data and information, the weight of evidence indicates that there is insufficient justification for placing this water segment-pollutant combination on the CWA section 303(d) List.</p> <p>This conclusion is based on the staff findings that:</p> <ol style="list-style-type: none"> 1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy. 2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy. 3. Zero of one samples exceed the guideline and this sample size is insufficient to determine beneficial use support, with the power and confidence of the Listing Policy. A minimum of 16 samples is needed to determine if a beneficial use is fully supported using table 3.1. Sediment toxicity data are not associated with this decision because the sediment chemistry data are insufficient. 4. Pursuant to section 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.

Regional Board Staff Decision Recommendation: After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be placed on the section 303(d) list. The readily available data and information is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating.

**Line of Evidence (LOE) for Decision ID 64598, Fluorene
Guadalupe River**

Region 2

LOE ID: 91880

Pollutant: Fluorene
LOE Subgroup: Pollutant-Sediment
Matrix: Sediment
Fraction: Total

Beneficial Use: Warm Freshwater Habitat

Number of Samples: 1
Number of Exceedances: 0

Data and Information Type: PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality: Water Board staff assessed SWAMP data for Guadalupe River to determine beneficial use support and results are as follows: 0 of 1 samples exceed the criterion for Fluorene.
Data Reference: [Statewide Stream Pollution Trends Study 2008](#)

SWAMP Data: SWAMP

Water Quality Objective/Criterion: San Francisco Bay Basin Water Quality Control Plan 2007: All waters shall be maintained free of toxic substances in concentrations which are toxic to, or which produce detrimental physiological responses in, human, plant, animal, or aquatic life.
Objective/Criterion Reference: [Water Quality Control Plan \(Basin Plan\) San Francisco Bay Basin \(Region 2\)](#)

Evaluation Guideline: In freshwater sediments the probable effect concentration (predictive of sediment toxicity for sediment-dwelling organisms) for fluorene is 536 ug/Kg dry weight (MacDonald et al. 2000).
Guideline Reference: [Development and evaluation of consensus-based sediment quality guidelines for freshwater ecosystems. Environmental Contamination and Toxicology. 39: 20-31](#)

Spatial Representation: Data for this line of evidence for Guadalupe River was collected at 1 monitoring site [Guadalupe Creek @ USGS Gaging Station 11169025 station (205GUA020)]
Temporal Representation: Data was collected on a single day 6/17/2008.
Environmental Conditions: Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information: SWAMP data collected before September 2008 followed the QAMP (2002), however there may have been overlap in QA with SWAMP QAPP (2008).
QAPP Information Reference(s): [Quality Assurance Management Plan for the State of California's Surface Water Ambient Monitoring Program. Sacramento, CA. State Water Resources Control Board. SWAMP. December 2002 \(1st version\)](#)
[Surface Water Ambient Monitoring Program Quality Assurance Program Plan](#)

**Line of Evidence (LOE) for Decision ID 64598, Fluorene
Guadalupe River**

Region 2

LOE ID: 91881

Pollutant: Fluorene
LOE Subgroup: Pollutant-Sediment
Matrix: Sediment
Fraction: Total

Beneficial Use: Cold Freshwater Habitat

Number of Samples:	1
Number of Exceedances:	0
Data and Information Type:	PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality:	Water Board staff assessed SWAMP data for Guadalupe River to determine beneficial use support and results are as follows: 0 of 1 samples exceed the criterion for Fluorene.
Data Reference:	Statewide Stream Pollution Trends Study 2008
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	San Francisco Bay Basin Water Quality Control Plan 2007: All waters shall be maintained free of toxic substances in concentrations which are toxic to, or which produce detrimental physiological responses in, human, plant, animal, or aquatic life.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	In freshwater sediments the probable effect concentration (predictive of sediment toxicity for sediment-dwelling organisms) for fluorene is 536 ug/Kg dry weight (MacDonald et al. 2000).
Guideline Reference:	Development and evaluation of consensus-based sediment quality guidelines for freshwater ecosystems. Environmental Contamination and Toxicology. 39: 20-31
Spatial Representation:	Data for this line of evidence for Guadalupe River was collected at 1 monitoring site [Guadalupe Creek @ USGS Gaging Station 11169025 station (205GUA020)]
Temporal Representation:	Data was collected on a single day 6/17/2008.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	SWAMP data collected before September 2008 followed the QAMP (2002), however there may have been overlap in QA with SWAMP QAPP (2008).
QAPP Information Reference(s):	Quality Assurance Management Plan for the State of California's Surface Water Ambient Monitoring Program. Sacramento, CA. State Water Resources Control Board. SWAMP. December 2002 (1st version) Surface Water Ambient Monitoring Program Quality Assurance Program Plan

DECISION ID	64599	Region 2
Guadalupe River		

Pollutant:	Lead
Final Listing Decision:	Do Not List on 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision:	New Decision
Revision Status	Revised
Impairment from Pollutant or Pollution:	Pollutant

Regional Board Staff Conclusion:	<p>This pollutant is being considered for placement on the CWA section 303(d) List under section 3.6 of the Listing Policy. Under section 3.6 at least two lines of evidence are necessary to assess listing status for pollutants sediment, and pollutant concentrations in sediment must be associated with sediment toxicity to justify adding that pollutant to the CWA section 303(d) List.</p> <p>Two lines of evidence are available in the administrative record to assess this pollutant. Zero of one samples exceed the guideline. Sediment toxicity data are not associated with this decision because they are not relevant to this decision because there is insufficient information based on sediment chemistry.</p> <p>Based on the readily available data and information, the weight of evidence indicates that there is insufficient justification for placing this water segment-pollutant combination on the CWA section 303(d) List.</p> <p>This conclusion is based on the staff findings that:</p> <ol style="list-style-type: none"> 1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy. 2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy.
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3. Zero of one samples exceed the guideline and this sample size is insufficient to determine beneficial use support, with the power and confidence of the Listing Policy. A minimum of 16 samples is needed to determine if a beneficial use is fully supported using table 3.1. Sediment toxicity data are not associated with this decision because the sediment chemistry data are insufficient.
4. Pursuant to section 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.

Regional Board Staff Decision Recommendation: After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be placed on the section 303(d) list. The readily available data and information is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating.

**Line of Evidence (LOE) for Decision ID 64599, Lead
Guadalupe River**

Region 2

LOE ID: 91882

Pollutant: Lead
LOE Subgroup: Pollutant-Sediment
Matrix: Sediment
Fraction: Total

Beneficial Use: Warm Freshwater Habitat

Number of Samples: 1
Number of Exceedances: 0

Data and Information Type: PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality: Water Board staff assessed SWAMP data for Guadalupe River to determine beneficial use support and results are as follows: 0 of 1 samples exceed the criterion for Lead.

Data Reference: [Statewide Stream Pollution Trends Study 2008](#)

SWAMP Data: SWAMP

Water Quality Objective/Criterion: San Francisco Bay Basin Water Quality Control Plan 2007: All waters shall be maintained free of toxic substances in concentrations which are toxic to, or which produce detrimental physiological responses in, human, plant, animal, or aquatic life.

Objective/Criterion Reference: [Water Quality Control Plan \(Basin Plan\) San Francisco Bay Basin \(Region 2\)](#)

Evaluation Guideline: In freshwater sediments the probable effect concentration (predictive of sediment toxicity for sediment-dwelling organisms) for lead is 128 mg/Kg dry weight (MacDonald et al. 2000).

Guideline Reference: [Development and evaluation of consensus-based sediment quality guidelines for freshwater ecosystems. Environmental Contamination and Toxicology. 39: 20-31](#)

Spatial Representation: Data for this line of evidence for Guadalupe River was collected at 1 monitoring site [Guadalupe Creek @ USGS Gaging Station 11169025 station (205GUA020)]

Temporal Representation: Data was collected on a single day 6/17/2008.

Environmental Conditions: Staff is not aware of any special conditions that might affect interpretation of the data.

QAPP Information: SWAMP data collected before September 2008 followed the QAMP (2002), however there may have been overlap in QA with SWAMP QAPP (2008).

QAPP Information Reference(s): [Quality Assurance Management Plan for the State of California's Surface Water Ambient Monitoring Program. Sacramento, CA. State Water Resources Control Board. SWAMP. December 2002 \(1st version\)](#)
[Surface Water Ambient Monitoring Program Quality Assurance Program Plan](#)

**Line of Evidence (LOE) for Decision ID 64599, Lead
Guadalupe River**

Region 2

LOE ID:	91883
Pollutant:	Lead
LOE Subgroup:	Pollutant-Sediment
Matrix:	Sediment
Fraction:	Total
Beneficial Use:	Cold Freshwater Habitat
Number of Samples:	1
Number of Exceedances:	0
Data and Information Type:	PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality:	Water Board staff assessed SWAMP data for Guadalupe River to determine beneficial use support and results are as follows: 0 of 1 samples exceed the criterion for Lead.
Data Reference:	Statewide Stream Pollution Trends Study 2008
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	San Francisco Bay Basin Water Quality Control Plan 2007: All waters shall be maintained free of toxic substances in concentrations which are toxic to, or which produce detrimental physiological responses in, human, plant, animal, or aquatic life.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	In freshwater sediments the probable effect concentration (predictive of sediment toxicity for sediment-dwelling organisms) for lead is 128 mg/Kg dry weight (MacDonald et al. 2000).
Guideline Reference:	Development and evaluation of consensus-based sediment quality guidelines for freshwater ecosystems. Environmental Contamination and Toxicology. 39: 20-31
Spatial Representation:	Data for this line of evidence for Guadalupe River was collected at 1 monitoring site [Guadalupe Creek @ USGS Gaging Station 11169025 station (205GUA020)]
Temporal Representation:	Data was collected on a single day 6/17/2008.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	SWAMP data collected before September 2008 followed the QAMP (2002), however there may have been overlap in QA with SWAMP QAPP (2008).
QAPP Information Reference(s):	Quality Assurance Management Plan for the State of California's Surface Water Ambient Monitoring Program. Sacramento, CA. State Water Resources Control Board. SWAMP. December 2002 (1st version). Surface Water Ambient Monitoring Program Quality Assurance Program Plan

DECISION ID	64600	Region 2
Guadalupe River		
Pollutant:	Lindane/gamma Hexachlorocyclohexane (gamma-HCH)	
Final Listing Decision:	Do Not List on 303(d) list (TMDL required list)	
Last Listing Cycle's Final Listing Decision:	New Decision	
Revision Status	Revised	
Impairment from Pollutant or Pollution:	Pollutant	
Regional Board Staff Conclusion:	<p>This pollutant is being considered for placement on the CWA section 303(d) List under section 3.6 of the Listing Policy. Under section 3.6 at least two lines of evidence are necessary to assess listing status for pollutants sediment, and pollutant concentrations in sediment must be associated with sediment toxicity to justify adding that pollutant to the CWA section 303(d) List.</p> <p>Two lines of evidence are available in the administrative record to assess this pollutant. Zero of one samples exceed the guideline. Sediment toxicity data are not associated with this decision because they are not relevant to this decision because there is insufficient information based on sediment chemistry.</p>	

Based on the readily available data and information, the weight of evidence indicates that there is insufficient justification for placing this water segment-pollutant combination on the CWA section 303(d) List.

This conclusion is based on the staff findings that:

1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy.
2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy.
3. Zero of one samples exceed the guideline and this sample size is insufficient to determine beneficial use support, with the power and confidence of the Listing Policy. A minimum of 16 samples is needed to determine if a beneficial use is fully supported using table 3.1. Sediment toxicity data are not associated with this decision because the sediment chemistry data are insufficient.
4. Pursuant to section 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.

Regional Board Staff Decision Recommendation: After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be placed on the section 303(d) list. The readily available data and information is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating.

Line of Evidence (LOE) for Decision ID 64600, Lindane/gamma Hexachlorocyclohexane (gamma-HCH)

Region 2

Guadalupe River

LOE ID:	91884
Pollutant:	Lindane/gamma Hexachlorocyclohexane (gamma-HCH)
LOE Subgroup:	Pollutant-Sediment
Matrix:	Sediment
Fraction:	Total
Beneficial Use:	Warm Freshwater Habitat
Number of Samples:	1
Number of Exceedances:	0
Data and Information Type:	PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality:	Water Board staff assessed SWAMP data for Guadalupe River to determine beneficial use support and results are as follows: 0 of 1 samples exceed the criterion for HCH, gamma.
Data Reference:	Statewide Stream Pollution Trends Study 2008
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	San Francisco Bay Basin Water Quality Control Plan 2007: All waters shall be maintained free of toxic substances in concentrations which are toxic to, or which produce detrimental physiological responses in, human, plant, animal, or aquatic life.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	In freshwater sediments the probable effect concentration (predictive of sediment toxicity for sediment-dwelling organisms) for Lindane (gamma-HCH) is 4.99 ug/Kg dry weight (MacDonald et al. 2000).
Guideline Reference:	Development and evaluation of consensus-based sediment quality guidelines for freshwater ecosystems. Environmental Contamination and Toxicology. 39: 20-31
Spatial Representation:	Data for this line of evidence for Guadalupe River was collected at 1 monitoring site [Guadalupe Creek @ USGS Gaging Station 11169025 station (205GUA020)]
Temporal Representation:	Data was collected on a single day 6/17/2008.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	SWAMP data collected before September 2008 followed the QAMP (2002), however there may have been overlap in QA with SWAMP QAPP (2008).

QAPP Information Reference(s): [Quality Assurance Management Plan for the State of California's Surface Water Ambient Monitoring Program. Sacramento, CA. State Water Resources Control Board. SWAMP. December 2002 \(1st version\)](#)
[Surface Water Ambient Monitoring Program Quality Assurance Program Plan](#)

Line of Evidence (LOE) for Decision ID 64600, Lindane/gamma Hexachlorocyclohexane (gamma-HCH)

Region 2

Guadalupe River

LOE ID: 91885

Pollutant: Lindane/gamma Hexachlorocyclohexane (gamma-HCH)
LOE Subgroup: Pollutant-Sediment
Matrix: Sediment
Fraction: Total

Beneficial Use: Cold Freshwater Habitat

Number of Samples: 1
Number of Exceedances: 0

Data and Information Type: PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality: Water Board staff assessed SWAMP data for Guadalupe River to determine beneficial use support and results are as follows: 0 of 1 samples exceed the criterion for HCH, gamma.
Data Reference: [Statewide Stream Pollution Trends Study 2008](#)

SWAMP Data: SWAMP

Water Quality Objective/Criterion: San Francisco Bay Basin Water Quality Control Plan 2007: All waters shall be maintained free of toxic substances in concentrations which are toxic to, or which produce detrimental physiological responses in, human, plant, animal, or aquatic life.
Objective/Criterion Reference: [Water Quality Control Plan \(Basin Plan\) San Francisco Bay Basin \(Region 2\)](#)

Evaluation Guideline: In freshwater sediments the probable effect concentration (predictive of sediment toxicity for sediment-dwelling organisms) for Lindane (gamma-HCH) is 4.99 ug/Kg dry weight (MacDonald et al. 2000).
Guideline Reference: [Development and evaluation of consensus-based sediment quality guidelines for freshwater ecosystems. Environmental Contamination and Toxicology. 39: 20-31](#)

Spatial Representation: Data for this line of evidence for Guadalupe River was collected at 1 monitoring site [Guadalupe Creek @ USGS Gaging Station 11169025 station (205GUA020)]
Temporal Representation: Data was collected on a single day 6/17/2008.
Environmental Conditions: Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information: SWAMP data collected before September 2008 followed the QAMP (2002), however there may have been overlap in QA with SWAMP QAPP (2008).
QAPP Information Reference(s): [Quality Assurance Management Plan for the State of California's Surface Water Ambient Monitoring Program. Sacramento, CA. State Water Resources Control Board. SWAMP. December 2002 \(1st version\)](#)
[Surface Water Ambient Monitoring Program Quality Assurance Program Plan](#)

DECISION ID 64601

Region 2

Guadalupe River

Pollutant: Methyl Parathion
Final Listing Decision: Do Not List on 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision: New Decision
Revision Status: Revised
Impairment from Pollutant or Pollution: Pollutant

**Regional Board Staff
Conclusion:**

This pollutant is being considered for placement on the CWA section 303(d) List under section 3.6 of the Listing Policy. Under section 3.6 at least two lines of evidence are necessary to assess listing status for pollutants sediment, and pollutant concentrations in sediment must be associated with sediment toxicity to justify adding that pollutant to the CWA section 303(d) List.

Two lines of evidence are available in the administrative record to assess this pollutant. Zero of one samples exceed the guideline. Sediment toxicity data are not associated with this decision because they are not relevant to this decision because there is insufficient information based on sediment chemistry.

Based on the readily available data and information, the weight of evidence indicates that there is insufficient justification for placing this water segment-pollutant combination on the CWA section 303(d) List.

This conclusion is based on the staff findings that:

1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy.
2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy.
3. Zero of one samples exceed the guideline and this sample size is insufficient to determine beneficial use support, with the power and confidence of the Listing Policy. A minimum of 16 samples is needed to determine if a beneficial use is fully supported using table 3.1. Sediment toxicity data are not associated with this decision because the sediment chemistry data are insufficient.
4. Pursuant to section 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.

**Regional Board Staff Decision
Recommendation:**

After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be placed on the section 303(d) list. The readily available data and information is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating.

**Line of Evidence (LOE) for Decision ID 64601, Methyl Parathion
Guadalupe River**

Region 2

LOE ID:	91888
Pollutant:	Methyl Parathion
LOE Subgroup:	Pollutant-Sediment
Matrix:	Sediment
Fraction:	Total
Beneficial Use:	Warm Freshwater Habitat
Number of Samples:	1
Number of Exceedances:	0
Data and Information Type:	PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality:	Water Board staff assessed SWAMP data for Guadalupe River to determine beneficial use support and results are as follows: 0 of 1 samples exceed the criterion for Parathion, Methyl.
Data Reference:	Statewide Stream Pollution Trends Study 2008
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	San Francisco Bay Basin Water Quality Control Plan 2007: All waters shall be maintained free of toxic substances in concentrations which are toxic to, or which produce detrimental physiological responses in, human, plant, animal, or aquatic life.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	The evaluation guideline for methyl parathion is the median lethal concentration (LC50) of 6 ug/g and is normalized by the percentage of organic carbon in the sediment sample.

Guideline Reference:	The LC50 6 ug/g is the geometric mean of LC50 values for methyl parathion from Ding et al. (2011). Toxicity of Sediment-Associated Pesticides to Chironomus dilutus and Hyalella azteca. Arch. Environ. Contam. Toxicol. 61:83?92.
Spatial Representation:	Data for this line of evidence for Guadalupe River was collected at 1 monitoring site [Guadalupe Creek @ USGS Gaging Station 11169025 station (205GUA020)]
Temporal Representation:	Data was collected on a single day 6/17/2008.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	SWAMP data collected before September 2008 followed the QAMP (2002), however there may have been overlap in QA with SWAMP QAPP (2008).
QAPP Information Reference(s):	Quality Assurance Management Plan for the State of California's Surface Water Ambient Monitoring Program. Sacramento, CA. State Water Resources Control Board. SWAMP. December 2002 (1st version). Surface Water Ambient Monitoring Program Quality Assurance Program Plan

Line of Evidence (LOE) for Decision ID 64601, Methyl Parathion

Region 2

Guadalupe River

LOE ID:	91889
Pollutant:	Methyl Parathion
LOE Subgroup:	Pollutant-Sediment
Matrix:	Sediment
Fraction:	Total
Beneficial Use:	Cold Freshwater Habitat
Number of Samples:	1
Number of Exceedances:	0
Data and Information Type:	PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality:	Water Board staff assessed SWAMP data for Guadalupe River to determine beneficial use support and results are as follows: 0 of 1 samples exceed the criterion for Parathion, Methyl.
Data Reference:	Statewide Stream Pollution Trends Study 2008
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	San Francisco Bay Basin Water Quality Control Plan 2007: All waters shall be maintained free of toxic substances in concentrations which are toxic to, or which produce detrimental physiological responses in, human, plant, animal, or aquatic life.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	The evaluation guideline for methyl parathion is the median lethal concentration (LC50) of 6 ug/g and is normalized by the percentage of organic carbon in the sediment sample. The LC50 6 ug/g is the geometric mean of LC50 values for methyl parathion from Ding et al. (2011).
Guideline Reference:	Toxicity of Sediment-Associated Pesticides to Chironomus dilutus and Hyalella azteca. Arch. Environ. Contam. Toxicol. 61:83?92.
Spatial Representation:	Data for this line of evidence for Guadalupe River was collected at 1 monitoring site [Guadalupe Creek @ USGS Gaging Station 11169025 station (205GUA020)]
Temporal Representation:	Data was collected on a single day 6/17/2008.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	SWAMP data collected before September 2008 followed the QAMP (2002), however there may have been overlap in QA with SWAMP QAPP (2008).
QAPP Information Reference(s):	Quality Assurance Management Plan for the State of California's Surface Water Ambient Monitoring Program. Sacramento, CA. State Water Resources Control Board. SWAMP. December 2002 (1st version). Surface Water Ambient Monitoring Program Quality Assurance Program Plan

Pollutant:	Naphthalene
Final Listing Decision:	Do Not List on 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision:	New Decision
Revision Status	Revised
Impairment from Pollutant or Pollution:	Pollutant
Regional Board Staff Conclusion:	<p>This pollutant is being considered for placement on the CWA section 303(d) List under section 3.6 of the Listing Policy. Under section 3.6 at least two lines of evidence are necessary to assess listing status for pollutants sediment, and pollutant concentrations in sediment must be associated with sediment toxicity to justify adding that pollutant to the CWA section 303(d) List.</p> <p>Two lines of evidence are available in the administrative record to assess this pollutant. Zero of one samples exceed the guideline. Sediment toxicity data are not associated with this decision because they are not relevant to this decision because there is insufficient information based on sediment chemistry.</p> <p>Based on the readily available data and information, the weight of evidence indicates that there is insufficient justification for placing this water segment-pollutant combination on the CWA section 303(d) List.</p> <p>This conclusion is based on the staff findings that:</p> <ol style="list-style-type: none"> 1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy. 2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy. 3. Zero of one samples exceed the guideline and this sample size is insufficient to determine beneficial use support, with the power and confidence of the Listing Policy. A minimum of 16 samples is needed to determine if a beneficial use is fully supported using table 3.1. Sediment toxicity data are not associated with this decision because the sediment chemistry data are insufficient. 4. Pursuant to section 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.
Regional Board Staff Decision Recommendation:	After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be placed on the section 303(d) list. The readily available data and information is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating.

Line of Evidence (LOE) for Decision ID 64602, Naphthalene	Region 2
Guadalupe River	

LOE ID:	91891
Pollutant:	Naphthalene
LOE Subgroup:	Pollutant-Sediment
Matrix:	Sediment
Fraction:	Total
Beneficial Use:	Cold Freshwater Habitat
Number of Samples:	1
Number of Exceedances:	0
Data and Information Type:	PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality:	Water Board staff assessed SWAMP data for Guadalupe River to determine beneficial use support and results are as follows: 0 of 1 samples exceed the criterion for Naphthalene.

Data Reference:	Statewide Stream Pollution Trends Study 2008
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	San Francisco Bay Basin Water Quality Control Plan 2007: All waters shall be maintained free of toxic substances in concentrations which are toxic to, or which produce detrimental physiological responses in, human, plant, animal, or aquatic life.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	In freshwater sediments the probable effect concentration (predictive of sediment toxicity for sediment-dwelling organisms) for naphthalene is 561 ug/Kg dry weight (MacDonald et al. 2000).
Guideline Reference:	Development and evaluation of consensus-based sediment quality guidelines for freshwater ecosystems. Environmental Contamination and Toxicology. 39: 20-31
Spatial Representation:	Data for this line of evidence for Guadalupe River was collected at 1 monitoring site [Guadalupe Creek @ USGS Gaging Station 11169025 station (205GUA020)]
Temporal Representation:	Data was collected on a single day 6/17/2008.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	SWAMP data collected before September 2008 followed the QAMP (2002), however there may have been overlap in QA with SWAMP QAPP (2008).
QAPP Information Reference(s):	Quality Assurance Management Plan for the State of California's Surface Water Ambient Monitoring Program. Sacramento, CA. State Water Resources Control Board. SWAMP. December 2002 (1st version) Surface Water Ambient Monitoring Program Quality Assurance Program Plan

Line of Evidence (LOE) for Decision ID 64602, Naphthalene

Region 2

Guadalupe River

LOE ID:	91890
Pollutant:	Naphthalene
LOE Subgroup:	Pollutant-Sediment
Matrix:	Sediment
Fraction:	Total
Beneficial Use:	Warm Freshwater Habitat
Number of Samples:	1
Number of Exceedances:	0
Data and Information Type:	PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality:	Water Board staff assessed SWAMP data for Guadalupe River to determine beneficial use support and results are as follows: 0 of 1 samples exceed the criterion for Naphthalene.
Data Reference:	Statewide Stream Pollution Trends Study 2008
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	San Francisco Bay Basin Water Quality Control Plan 2007: All waters shall be maintained free of toxic substances in concentrations which are toxic to, or which produce detrimental physiological responses in, human, plant, animal, or aquatic life.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	In freshwater sediments the probable effect concentration (predictive of sediment toxicity for sediment-dwelling organisms) for naphthalene is 561 ug/Kg dry weight (MacDonald et al. 2000).
Guideline Reference:	Development and evaluation of consensus-based sediment quality guidelines for freshwater ecosystems. Environmental Contamination and Toxicology. 39: 20-31
Spatial Representation:	Data for this line of evidence for Guadalupe River was collected at 1 monitoring site [Guadalupe Creek @ USGS Gaging Station 11169025 station (205GUA020)]
Temporal Representation:	Data was collected on a single day 6/17/2008.

Environmental Conditions:
QAPP Information:
QAPP Information Reference(s):

Staff is not aware of any special conditions that might affect interpretation of the data. SWAMP data collected before September 2008 followed the QAMP (2002), however there may have been overlap in QA with SWAMP QAPP (2008).
[Quality Assurance Management Plan for the State of California's Surface Water Ambient Monitoring Program. Sacramento, CA. State Water Resources Control Board. SWAMP. December 2002 \(1st version\)](#)
[Surface Water Ambient Monitoring Program Quality Assurance Program Plan](#)

DECISION ID	64603	Region 2
Guadalupe River		

Pollutant: Nickel
Final Listing Decision: Do Not List on 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision: New Decision
Revision Status: Revised
Impairment from Pollutant or Pollution: Pollutant

Regional Board Staff Conclusion: This pollutant is being considered for placement on the CWA section 303(d) List under section 3.6 of the Listing Policy. Under section 3.6 at least two lines of evidence are necessary to assess listing status for pollutants sediment, and pollutant concentrations in sediment must be associated with sediment toxicity to justify adding that pollutant to the CWA section 303(d) List.

Two lines of evidence are available in the administrative record to assess this pollutant. One of one samples exceed the guideline. Sediment toxicity data are not associated with this decision because they are not relevant to this decision because there is insufficient information based on sediment chemistry.

Based on the readily available data and information, the weight of evidence indicates that there is insufficient justification for placing this water segment-pollutant combination on the CWA section 303(d) List.

This conclusion is based on the staff findings that:

1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy.
2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy.
3. One of one samples exceed the guideline and this sample size is insufficient to determine beneficial use support, with the power and confidence of the Listing Policy. A minimum of 16 samples is needed to determine if a beneficial use is fully supported using table 3.1. Sediment toxicity data are not associated with this decision because the sediment chemistry data are insufficient.
4. Pursuant to section 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.

Regional Board Staff Decision Recommendation: After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be placed on the section 303(d) list. The readily available data and information is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating.

Line of Evidence (LOE) for Decision ID 64603, Nickel	Region 2
Guadalupe River	

LOE ID: 91893
Pollutant: Nickel
LOE Subgroup: Pollutant-Sediment
Matrix: Sediment
Fraction: Total

Beneficial Use:	Cold Freshwater Habitat
Number of Samples:	1
Number of Exceedances:	1
Data and Information Type:	PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality:	Water Board staff assessed SWAMP data for Guadalupe River to determine beneficial use support and results are as follows: 1 of 1 samples exceed the criterion for Nickel.
Data Reference:	Statewide Stream Pollution Trends Study 2008
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	San Francisco Bay Basin Water Quality Control Plan 2007: All waters shall be maintained free of toxic substances in concentrations which are toxic to, or which produce detrimental physiological responses in, human, plant, animal, or aquatic life.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	In freshwater sediments the probable effect concentration (predictive of sediment toxicity for sediment-dwelling organisms) for nickel is 48.6 mg/Kg dry weight (MacDonald et al. 2000).
Guideline Reference:	Development and evaluation of consensus-based sediment quality guidelines for freshwater ecosystems. Environmental Contamination and Toxicology. 39: 20-31
Spatial Representation:	Data for this line of evidence for Guadalupe River was collected at 1 monitoring site [Guadalupe Creek @ USGS Gaging Station 11169025 station (205GUA020)]
Temporal Representation:	Data was collected on a single day 6/17/2008.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	SWAMP data collected before September 2008 followed the QAMP (2002), however there may have been overlap in QA with SWAMP QAPP (2008).
QAPP Information Reference(s):	Quality Assurance Management Plan for the State of California's Surface Water Ambient Monitoring Program. Sacramento, CA. State Water Resources Control Board. SWAMP. December 2002 (1st version) Surface Water Ambient Monitoring Program Quality Assurance Program Plan

Line of Evidence (LOE) for Decision ID 64603, Nickel

Region 2

Guadalupe River

LOE ID:	91892
Pollutant:	Nickel
LOE Subgroup:	Pollutant-Sediment
Matrix:	Sediment
Fraction:	Total
Beneficial Use:	Warm Freshwater Habitat
Number of Samples:	1
Number of Exceedances:	1
Data and Information Type:	PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality:	Water Board staff assessed SWAMP data for Guadalupe River to determine beneficial use support and results are as follows: 1 of 1 samples exceed the criterion for Nickel.
Data Reference:	Statewide Stream Pollution Trends Study 2008
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	San Francisco Bay Basin Water Quality Control Plan 2007: All waters shall be maintained free of toxic substances in concentrations which are toxic to, or which produce detrimental physiological responses in, human, plant, animal, or aquatic life.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	In freshwater sediments the probable effect concentration (predictive of sediment toxicity

Guideline Reference:	for sediment-dwelling organisms) for nickel is 48.6 mg/Kg dry weight (MacDonald et al. 2000). Development and evaluation of consensus-based sediment quality guidelines for freshwater ecosystems. Environmental Contamination and Toxicology. 39: 20-31
Spatial Representation:	Data for this line of evidence for Guadalupe River was collected at 1 monitoring site [Guadalupe Creek @ USGS Gaging Station 11169025 station (205GUA020)]
Temporal Representation:	Data was collected on a single day 6/17/2008.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	SWAMP data collected before September 2008 followed the QAMP (2002), however there may have been overlap in QA with SWAMP QAPP (2008).
QAPP Information Reference(s):	Quality Assurance Management Plan for the State of California's Surface Water Ambient Monitoring Program. Sacramento, CA. State Water Resources Control Board. SWAMP. December 2002 (1st version). Surface Water Ambient Monitoring Program Quality Assurance Program Plan

DECISION ID 64604 Region 2	
Guadalupe River	
Pollutant:	PAHs (Polycyclic Aromatic Hydrocarbons)
Final Listing Decision:	Do Not List on 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision:	New Decision
Revision Status	Revised
Impairment from Pollutant or Pollution:	Pollutant
Regional Board Staff Conclusion:	<p>This pollutant is being considered for placement on the CWA section 303(d) List under section 3.6 of the Listing Policy. Under section 3.6 at least two lines of evidence are necessary to assess listing status for pollutants sediment, and pollutant concentrations in sediment must be associated with sediment toxicity to justify adding that pollutant to the CWA section 303(d) List.</p> <p>Two lines of evidence are available in the administrative record to assess this pollutant. Zero of one samples exceed the guideline. Sediment toxicity data are not associated with this decision because they are not relevant to this decision because there is insufficient information based on sediment chemistry.</p> <p>Based on the readily available data and information, the weight of evidence indicates that there is insufficient justification for placing this water segment-pollutant combination on the CWA section 303(d) List.</p> <p>This conclusion is based on the staff findings that:</p> <ol style="list-style-type: none"> 1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy. 2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy. 3. Zero of one samples exceed the guideline and this sample size is insufficient to determine beneficial use support, with the power and confidence of the Listing Policy. A minimum of 16 samples is needed to determine if a beneficial use is fully supported using table 3.1. Sediment toxicity data are not associated with this decision because the sediment chemistry data are insufficient. 4. Pursuant to section 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.
Regional Board Staff Decision Recommendation:	After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be placed on the section 303(d) list. The readily available data and information is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating.

Line of Evidence (LOE) for Decision ID 64604, PAHs (Polycyclic Aromatic Hydrocarbons) Region 2	
Guadalupe River	

LOE ID:	91822
Pollutant:	PAHs (Polycyclic Aromatic Hydrocarbons)
LOE Subgroup:	Pollutant-Sediment
Matrix:	Sediment
Fraction:	Total
Beneficial Use:	Cold Freshwater Habitat
Number of Samples:	1
Number of Exceedances:	0
Data and Information Type:	PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality:	Water Board staff assessed SWAMP data for Guadalupe River to determine beneficial use support and results are as follows: 0 of 1 samples exceed the criterion for PAHs (Polycyclic Aromatic Hydrocarbons).
Data Reference:	Statewide Stream Pollution Trends Study 2008
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	San Francisco Bay Basin Water Quality Control Plan 2007: All waters shall be maintained free of toxic substances in concentrations which are toxic to, or which produce detrimental physiological responses in, human, plant, animal, or aquatic life.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	In freshwater sediments the probable effects level (predictive of sediment toxicity for sediment-dwelling organisms) for PAH, Total is 22,800 ug/Kg dry weight (Macdonald et al. 2000)
Guideline Reference:	Development and evaluation of consensus-based sediment quality guidelines for freshwater ecosystems. Environmental Contamination and Toxicology. 39: 20-31
Spatial Representation:	Data for this line of evidence for Guadalupe River was collected at 1 monitoring site [Guadalupe Creek @ USGS Gaging Station 11169025 station (205GUA020)]
Temporal Representation:	Data was collected on a single day 6/17/2008.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	SWAMP data collected before September 2008 followed the QAMP (2002), however there may have been overlap in QA with SWAMP QAPP (2008).
QAPP Information Reference(s):	Quality Assurance Management Plan for the State of California's Surface Water Ambient Monitoring Program. Sacramento, CA. State Water Resources Control Board. SWAMP. December 2002 (1st version). Surface Water Ambient Monitoring Program Quality Assurance Program Plan

Line of Evidence (LOE) for Decision ID 64604, PAHs (Polycyclic Aromatic Hydrocarbons)	Region 2
Guadalupe River	

LOE ID:	91821
Pollutant:	PAHs (Polycyclic Aromatic Hydrocarbons)
LOE Subgroup:	Pollutant-Sediment
Matrix:	Sediment
Fraction:	Total
Beneficial Use:	Warm Freshwater Habitat
Number of Samples:	1
Number of Exceedances:	0
Data and Information Type:	PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality:	Water Board staff assessed SWAMP data for Guadalupe River to determine beneficial use support and results are as follows: 0 of 1 samples exceed the criterion for PAHs (Polycyclic Aromatic Hydrocarbons).

Data Reference:	Statewide Stream Pollution Trends Study 2008
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	San Francisco Bay Basin Water Quality Control Plan 2007: All waters shall be maintained free of toxic substances in concentrations which are toxic to, or which produce detrimental physiological responses in, human, plant, animal, or aquatic life.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	In freshwater sediments the probable effects level (predictive of sediment toxicity for sediment-dwelling organisms) for PAH, Total is 22,800 ug/Kg dry weight (Macdonald et al. 2000)
Guideline Reference:	Development and evaluation of consensus-based sediment quality guidelines for freshwater ecosystems. Environmental Contamination and Toxicology. 39: 20-31
Spatial Representation:	Data for this line of evidence for Guadalupe River was collected at 1 monitoring site [Guadalupe Creek @ USGS Gaging Station 11169025 station (205GUA020)]
Temporal Representation:	Data was collected on a single day 6/17/2008.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	SWAMP data collected before September 2008 followed the QAMP (2002), however there may have been overlap in QA with SWAMP QAPP (2008).
QAPP Information Reference(s):	Quality Assurance Management Plan for the State of California's Surface Water Ambient Monitoring Program. Sacramento, CA. State Water Resources Control Board. SWAMP. December 2002 (1st version) Surface Water Ambient Monitoring Program Quality Assurance Program Plan

DECISION ID	64605	Region 2
Guadalupe River		

Pollutant:	PCBs (Polychlorinated biphenyls)
Final Listing Decision:	Do Not List on 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision:	New Decision
Revision Status	Revised
Impairment from Pollutant or Pollution:	Pollutant

Regional Board Staff Conclusion: This pollutant is being considered for placement on the CWA section 303(d) List under section 3.6 of the Listing Policy. Under section 3.6 at least two lines of evidence are necessary to assess listing status for pollutants sediment, and pollutant concentrations in sediment must be associated with sediment toxicity to justify adding that pollutant to the CWA section 303(d) List.

One line of evidence is available in the administrative record to assess this pollutant. Zero of one samples exceed the guideline. Sediment toxicity data are not associated with this decision because they are not relevant to this decision because there is insufficient information based on sediment chemistry.

Based on the readily available data and information, the weight of evidence indicates that there is insufficient justification for placing this water segment-pollutant combination on the CWA section 303(d) List.

This conclusion is based on the staff findings that:

1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy.
2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy.
3. Zero of one samples exceed the guideline and this sample size is insufficient to determine beneficial use support, with the power and confidence of the Listing Policy. A minimum of 16 samples is needed to determine if a beneficial use is fully supported using table 3.1. Sediment toxicity data are not associated with this decision because the sediment chemistry data are insufficient.
4. Pursuant to section 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.

Regional Board Staff Decision Recommendation: After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be placed on the section 303(d) list. The readily available data and information is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating.

Line of Evidence (LOE) for Decision ID 64605, PCBs (Polychlorinated biphenyls)

Region 2

Guadalupe River

LOE ID: 90584

Pollutant: PCBs (Polychlorinated biphenyls)
 LOE Subgroup: Pollutant-Sediment
 Matrix: Sediment
 Fraction: Total

Beneficial Use: Cold Freshwater Habitat

Number of Samples: 1
 Number of Exceedances: 0

Data and Information Type: PHYSICAL/CHEMICAL MONITORING
 Data Used to Assess Water Quality: Zero of 1 sample collected for Total PCBs exceeded the evaluation guideline.
 Data Reference: [Statewide Stream Pollution Trends Study 2008](#)

SWAMP Data: SWAMP

Water Quality Objective/Criterion: Waters shall not contain substances in concentrations that result in the deposition of material that causes nuisance or adversely affects beneficial uses (Water Quality Control Plan for the San Francisco Bay Region).

Objective/Criterion Reference: [Water Quality Control Plan \(Basin Plan\) - San Francisco Bay Region \(Region 2\)](#)

Evaluation Guideline: In freshwater sediments the probable effect concentration (predictive of sediment toxicity) for total PCB is 676 ug/Kg dry weight (MacDonald et al. 2000).

Guideline Reference: [Development and evaluation of consensus-based sediment quality guidelines for freshwater ecosystems. Environmental Contamination and Toxicology. 39: 20-31](#)

Spatial Representation: Data were collected at the following station 205GUA020 (Guadalupe Creek @ USGS Gaging Station 11169025).

Temporal Representation: The samples were collected on 6/17/2008.

Environmental Conditions:

QAPP Information: The SWAMP QAPP (2008) was followed.

QAPP Information Reference(s): [Surface Water Ambient Monitoring Program Quality Assurance Program Plan](#)

DECISION ID

64606

Region 2

Guadalupe River

Pollutant: Permethrin
Final Listing Decision: Do Not List on 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision: New Decision
Revision Status: Revised
Impairment from Pollutant or Pollution: Pollutant

Regional Board Staff Conclusion: This pollutant is being considered for placement on the CWA section 303(d) List under section 3.6 of the Listing Policy. Under section 3.6 at least two lines of evidence are necessary to assess listing status for pollutants sediment, and pollutant concentrations in sediment must be associated with sediment toxicity to justify adding that pollutant to the CWA section 303(d) List.

Two lines of evidence are available in the administrative record to assess this pollutant. Zero of one samples exceed the guideline. Sediment toxicity data are not associated with this decision because they are not relevant to this decision because there is insufficient information based on sediment chemistry.

Based on the readily available data and information, the weight of evidence indicates that there is insufficient justification for placing this water segment-pollutant combination on the CWA section 303(d) List.

This conclusion is based on the staff findings that:

1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy.
2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy.
3. Zero of one samples exceed the guideline and this sample size is insufficient to determine beneficial use support, with the power and confidence of the Listing Policy. A minimum of 16 samples is needed to determine if a beneficial use is fully supported using table 3.1. Sediment toxicity data are not associated with this decision because the sediment chemistry data are insufficient.
4. Pursuant to section 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.

Regional Board Staff Decision Recommendation: After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be placed on the section 303(d) list. The readily available data and information is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating.

Line of Evidence (LOE) for Decision ID 64606, Permethrin

Region 2

Guadalupe River

LOE ID:	91823
Pollutant:	Permethrin, total
LOE Subgroup:	Pollutant-Sediment
Matrix:	Sediment
Fraction:	Total
Beneficial Use:	Warm Freshwater Habitat
Number of Samples:	1
Number of Exceedances:	0
Data and Information Type:	PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality:	Water Board staff assessed SWAMP data for Guadalupe River to determine beneficial use support and results are as follows: 0 of 1 samples exceed the criterion for Permethrin, Total.
Data Reference:	Statewide Stream Pollution Trends Study 2008
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	San Francisco Bay Basin Water Quality Control Plan 2007: All waters shall be maintained free of toxic substances in concentrations which are toxic to, or which produce detrimental physiological responses in, human, plant, animal, or aquatic life.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	The evaluation guideline for permethrin is the median lethal concentration (LC50) of 8.9 ug/g and is normalized by the percentage of organic carbon in the sediment sample. The LC50 8.9 ug/g is the geometric mean of LC50 values for permethrin from Amweg et al. (2005).
Guideline Reference:	Use and Toxicity of Pyrethroid Pesticides in the Central Valley, California, USA. Environmental Toxicology and Chemistry, 24:966-972, with erratum 24:No. 5

Spatial Representation:	Data for this line of evidence for Guadalupe River was collected at 1 monitoring site [Guadalupe Creek @ USGS Gaging Station 11169025 station (205GUA020)]
Temporal Representation:	Data was collected on a single day 6/17/2008.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	SWAMP data collected before September 2008 followed the QAMP (2002), however there may have been overlap in QA with SWAMP QAPP (2008).
QAPP Information Reference(s):	Quality Assurance Management Plan for the State of California's Surface Water Ambient Monitoring Program. Sacramento, CA. State Water Resources Control Board. SWAMP. December 2002 (1st version). Surface Water Ambient Monitoring Program Quality Assurance Program Plan

Line of Evidence (LOE) for Decision ID 64606, Permethrin

Region 2

Guadalupe River

LOE ID:	91824
Pollutant:	Permethrin, total
LOE Subgroup:	Pollutant-Sediment
Matrix:	Sediment
Fraction:	Total
Beneficial Use:	Cold Freshwater Habitat
Number of Samples:	1
Number of Exceedances:	0
Data and Information Type:	PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality:	Water Board staff assessed SWAMP data for Guadalupe River to determine beneficial use support and results are as follows: 0 of 1 samples exceed the criterion for Permethrin, Total.
Data Reference:	Statewide Stream Pollution Trends Study 2008
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	San Francisco Bay Basin Water Quality Control Plan 2007: All waters shall be maintained free of toxic substances in concentrations which are toxic to, or which produce detrimental physiological responses in, human, plant, animal, or aquatic life.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	The evaluation guideline for permethrin is the median lethal concentration (LC50) of 8.9 ug/g and is normalized by the percentage of organic carbon in the sediment sample. The LC50 8.9 ug/g is the geometric mean of LC50 values for permethrin from Amweg et al. (2005).
Guideline Reference:	Use and Toxicity of Pyrethroid Pesticides in the Central Valley, California, USA. Environmental Toxicology and Chemistry, 24:966-972, with erratum 24:No. 5
Spatial Representation:	Data for this line of evidence for Guadalupe River was collected at 1 monitoring site [Guadalupe Creek @ USGS Gaging Station 11169025 station (205GUA020)]
Temporal Representation:	Data was collected on a single day 6/17/2008.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	SWAMP data collected before September 2008 followed the QAMP (2002), however there may have been overlap in QA with SWAMP QAPP (2008).
QAPP Information Reference(s):	Quality Assurance Management Plan for the State of California's Surface Water Ambient Monitoring Program. Sacramento, CA. State Water Resources Control Board. SWAMP. December 2002 (1st version). Surface Water Ambient Monitoring Program Quality Assurance Program Plan

DECISION ID

64607

Region 2

Guadalupe River

Pollutant:	Phenanthrene
Final Listing Decision:	Do Not List on 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision:	New Decision
Revision Status	Revised
Impairment from Pollutant or Pollution:	Pollutant

Regional Board Staff Conclusion:

This pollutant is being considered for placement on the CWA section 303(d) List under section 3.6 of the Listing Policy. Under section 3.6 at least two lines of evidence are necessary to assess listing status for pollutants sediment, and pollutant concentrations in sediment must be associated with sediment toxicity to justify adding that pollutant to the CWA section 303(d) List.

Two lines of evidence are available in the administrative record to assess this pollutant. Zero of one samples exceed the guideline. Sediment toxicity data are not associated with this decision because they are not relevant to this decision because there is insufficient information based on sediment chemistry.

Based on the readily available data and information, the weight of evidence indicates that there is insufficient justification for placing this water segment-pollutant combination on the CWA section 303(d) List.

This conclusion is based on the staff findings that:

1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy.
2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy.
3. Zero of one samples exceed the guideline and this sample size is insufficient to determine beneficial use support, with the power and confidence of the Listing Policy. A minimum of 16 samples is needed to determine if a beneficial use is fully supported using table 3.1. Sediment toxicity data are not associated with this decision because the sediment chemistry data are insufficient.
4. Pursuant to section 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.

Regional Board Staff Decision Recommendation:

After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be placed on the section 303(d) list. The readily available data and information is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating.

Line of Evidence (LOE) for Decision ID 64607, Phenanthrene
Guadalupe River

Region 2

LOE ID:	91825
Pollutant:	Phenanthrene
LOE Subgroup:	Pollutant-Sediment
Matrix:	Sediment
Fraction:	Total
Beneficial Use:	Warm Freshwater Habitat
Number of Samples:	1
Number of Exceedances:	0
Data and Information Type:	PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality:	Water Board staff assessed SWAMP data for Guadalupe River to determine beneficial use support and results are as follows: 0 of 1 samples exceed the criterion for Phenanthrene.
Data Reference:	Statewide Stream Pollution Trends Study 2008
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	San Francisco Bay Basin Water Quality Control Plan 2007: All waters shall be maintained

Objective/Criterion Reference:	free of toxic substances in concentrations which are toxic to, or which produce detrimental physiological responses in, human, plant, animal, or aquatic life. Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	In freshwater sediments the probable effects level (predictive of sediment toxicity for sediment-dwelling organisms) for Phenanthrene is 1170 ug/Kg dry weight (Macdonald et al. 2000)
Guideline Reference:	Development and evaluation of consensus-based sediment quality guidelines for freshwater ecosystems. Environmental Contamination and Toxicology. 39: 20-31
Spatial Representation:	Data for this line of evidence for Guadalupe River was collected at 1 monitoring site [Guadalupe Creek @ USGS Gaging Station 11169025 station (205GUA020)]
Temporal Representation:	Data was collected on a single day 6/17/2008.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	SWAMP data collected before September 2008 followed the QAMP (2002), however there may have been overlap in QA with SWAMP QAPP (2008).
QAPP Information Reference(s):	Quality Assurance Management Plan for the State of California's Surface Water Ambient Monitoring Program. Sacramento, CA. State Water Resources Control Board. SWAMP. December 2002 (1st version) Surface Water Ambient Monitoring Program Quality Assurance Program Plan

Line of Evidence (LOE) for Decision ID 64607, Phenanthrene

Region 2

Guadalupe River

LOE ID:	91826
Pollutant:	Phenanthrene
LOE Subgroup:	Pollutant-Sediment
Matrix:	Sediment
Fraction:	Total
Beneficial Use:	Cold Freshwater Habitat
Number of Samples:	1
Number of Exceedances:	0
Data and Information Type:	PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality:	Water Board staff assessed SWAMP data for Guadalupe River to determine beneficial use support and results are as follows: 0 of 1 samples exceed the criterion for Phenanthrene.
Data Reference:	Statewide Stream Pollution Trends Study 2008
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	San Francisco Bay Basin Water Quality Control Plan 2007: All waters shall be maintained free of toxic substances in concentrations which are toxic to, or which produce detrimental physiological responses in, human, plant, animal, or aquatic life.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	In freshwater sediments the probable effects level (predictive of sediment toxicity for sediment-dwelling organisms) for Phenanthrene is 1170 ug/Kg dry weight (Macdonald et al. 2000)
Guideline Reference:	Development and evaluation of consensus-based sediment quality guidelines for freshwater ecosystems. Environmental Contamination and Toxicology. 39: 20-31
Spatial Representation:	Data for this line of evidence for Guadalupe River was collected at 1 monitoring site [Guadalupe Creek @ USGS Gaging Station 11169025 station (205GUA020)]
Temporal Representation:	Data was collected on a single day 6/17/2008.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	SWAMP data collected before September 2008 followed the QAMP (2002), however there may have been overlap in QA with SWAMP QAPP (2008).
QAPP Information Reference(s):	Quality Assurance Management Plan for the State of California's Surface Water Ambient Monitoring Program. Sacramento, CA. State Water Resources Control Board. SWAMP.

DECISION ID	64608	Region 2
Guadalupe River		

Pollutant: Pyrene
Final Listing Decision: Do Not List on 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision: New Decision
Revision Status: Revised
Impairment from Pollutant or Pollution: Pollutant

Regional Board Staff Conclusion: This pollutant is being considered for placement on the CWA section 303(d) List under section 3.6 of the Listing Policy. Under section 3.6 at least two lines of evidence are necessary to assess listing status for pollutants sediment, and pollutant concentrations in sediment must be associated with sediment toxicity to justify adding that pollutant to the CWA section 303(d) List.

Two lines of evidence are available in the administrative record to assess this pollutant. Zero of one samples exceed the guideline. Sediment toxicity data are not associated with this decision because they are not relevant to this decision because there is insufficient information based on sediment chemistry.

Based on the readily available data and information, the weight of evidence indicates that there is insufficient justification for placing this water segment-pollutant combination on the CWA section 303(d) List.

This conclusion is based on the staff findings that:

1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy.
2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy.
3. Zero of one samples exceed the guideline and this sample size is insufficient to determine beneficial use support, with the power and confidence of the Listing Policy. A minimum of 16 samples is needed to determine if a beneficial use is fully supported using table 3.1. Sediment toxicity data are not associated with this decision because the sediment chemistry data are insufficient.
4. Pursuant to section 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.

Regional Board Staff Decision Recommendation: After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be placed on the section 303(d) list. The readily available data and information is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating.

Line of Evidence (LOE) for Decision ID 64608, Pyrene	Region 2
Guadalupe River	

LOE ID: 91828
Pollutant: Pyrene
LOE Subgroup: Pollutant-Sediment
Matrix: Sediment
Fraction: Total
Beneficial Use: Cold Freshwater Habitat
Number of Samples: 1
Number of Exceedances: 0

Data and Information Type:	PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality:	Water Board staff assessed SWAMP data for Guadalupe River to determine beneficial use support and results are as follows: 0 of 1 samples exceed the criterion for Pyrene.
Data Reference:	Statewide Stream Pollution Trends Study 2008
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	San Francisco Bay Basin Water Quality Control Plan 2007: All waters shall be maintained free of toxic substances in concentrations which are toxic to, or which produce detrimental physiological responses in, human, plant, animal, or aquatic life.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	In freshwater sediments the probable effects level (predictive of sediment toxicity for sediment-dwelling organisms) for Pyrene is 1520 ug/Kg dry weight (Macdonald et al. 2000)
Guideline Reference:	Development and evaluation of consensus-based sediment quality guidelines for freshwater ecosystems. Environmental Contamination and Toxicology. 39: 20-31
Spatial Representation:	Data for this line of evidence for Guadalupe River was collected at 1 monitoring site [Guadalupe Creek @ USGS Gaging Station 11169025 station (205GUA020)]
Temporal Representation:	Data was collected on a single day 6/17/2008.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	SWAMP data collected before September 2008 followed the QAMP (2002), however there may have been overlap in QA with SWAMP QAPP (2008).
QAPP Information Reference(s):	Quality Assurance Management Plan for the State of California's Surface Water Ambient Monitoring Program. Sacramento, CA. State Water Resources Control Board. SWAMP. December 2002 (1st version). Surface Water Ambient Monitoring Program Quality Assurance Program Plan

Line of Evidence (LOE) for Decision ID 64608, Pyrene

Region 2

Guadalupe River

LOE ID:	91827
Pollutant:	Pyrene
LOE Subgroup:	Pollutant-Sediment
Matrix:	Sediment
Fraction:	Total
Beneficial Use:	Warm Freshwater Habitat
Number of Samples:	1
Number of Exceedances:	0
Data and Information Type:	PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality:	Water Board staff assessed SWAMP data for Guadalupe River to determine beneficial use support and results are as follows: 0 of 1 samples exceed the criterion for Pyrene.
Data Reference:	Statewide Stream Pollution Trends Study 2008
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	San Francisco Bay Basin Water Quality Control Plan 2007: All waters shall be maintained free of toxic substances in concentrations which are toxic to, or which produce detrimental physiological responses in, human, plant, animal, or aquatic life.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	In freshwater sediments the probable effects level (predictive of sediment toxicity for sediment-dwelling organisms) for Pyrene is 1520 ug/Kg dry weight (Macdonald et al. 2000)
Guideline Reference:	Development and evaluation of consensus-based sediment quality guidelines for freshwater ecosystems. Environmental Contamination and Toxicology. 39: 20-31

Spatial Representation:	Data for this line of evidence for Guadalupe River was collected at 1 monitoring site [Guadalupe Creek @ USGS Gaging Station 11169025 station (205GUA020)]
Temporal Representation:	Data was collected on a single day 6/17/2008.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	SWAMP data collected before September 2008 followed the QAMP (2002), however there may have been overlap in QA with SWAMP QAPP (2008).
QAPP Information Reference(s):	Quality Assurance Management Plan for the State of California's Surface Water Ambient Monitoring Program. Sacramento, CA. State Water Resources Control Board. SWAMP. December 2002 (1st version). Surface Water Ambient Monitoring Program Quality Assurance Program Plan

DECISION ID	64611	Region 2
Guadalupe River		

Pollutant: Final Listing Decision: Last Listing Cycle's Final Listing Decision: Revision Status Impairment from Pollutant or Pollution:	Toxicity Do Not List on 303(d) list (TMDL required list) New Decision Revised Pollutant
Regional Board Staff Conclusion:	<p>This pollutant is being considered for placement on the CWA section 303(d) List under section 3.6 of the Listing Policy. Under section 3.6 at least two lines of evidence are necessary to assess listing status for pollutants sediment, and pollutant concentrations in sediment must be associated with sediment toxicity to justify adding that pollutant to the CWA section 303(d) List.</p> <p>One line of evidence is available in the administrative record to assess this pollutant. Zero of one samples exceed the guideline.</p> <p>Based on the readily available data and information, the weight of evidence indicates that there is insufficient justification for placing this water segment-pollutant combination on the CWA section 303(d) List.</p> <p>This conclusion is based on the staff findings that:</p> <ol style="list-style-type: none"> 1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy. 2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy. 3. Zero of one samples exceed the guideline and this sample size is insufficient to determine beneficial use support, with the power and confidence of the Listing Policy. A minimum of 16 samples is needed to determine if a beneficial use is fully supported using table 3.1. 4. Pursuant to section 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.
Regional Board Staff Decision Recommendation:	After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be placed on the section 303(d) list. The readily available data and information is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating.

Line of Evidence (LOE) for Decision ID 64611, Toxicity	Region 2
Guadalupe River	

LOE ID:	91831
Pollutant:	Toxicity
LOE Subgroup:	Toxicity
Matrix:	Sediment
Fraction:	None
Beneficial Use:	Cold Freshwater Habitat

Number of Samples:	1
Number of Exceedances:	0
Data and Information Type:	TOXICITY TESTING
Data Used to Assess Water Quality:	One sample was collected to evaluate sediment toxicity. The sample did not exhibit significant toxicity. The toxicity test included survival and growth of <i>Hyaella azteca</i> . One sample can have multiple toxicity test results but will be counted only once. One sample is defined as being collected on the same day at the same location with the same lab sample id (if provided).
Data Reference:	Statewide Stream Pollution Trends Study 2008
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	All waters shall be maintained free of toxic substances in concentrations that are toxic to, or that produce detrimental physiological responses in, human, plant, animal, or aquatic life. Region 2 Basin Plan.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) - San Francisco Bay Region (Region 2)
Evaluation Guideline:	Toxicity is defined as a statistically significant effect in the sample exposure compared to the control using EPA-recommended hypothesis testing. . For SWAMP data exceedances are counted with the significant effect code SL. SL is defined as the result being significant compared to the negative control based on a statistical test, less than stated the alpha level, AND less than the evaluation threshold.
Guideline Reference:	Methods for Measuring the Toxicity and Bioaccumulation of Sediment-associated Contaminants with Freshwater Invertebrates, Second Edition. U.S. Environmental Protection Agency Office of Research and Development, Duluth, MI, U.S. Environmental Protection Agency Office of Water, Washington, DC EPA-600/R-99/064
Spatial Representation:	The sample was collected at station 205GUA020.
Temporal Representation:	The sample was collected in June 2008.
Environmental Conditions:	
QAPP Information:	All data was collected following the Standard Operating Procedures and Data Quality Objectives outlined in the SWAMP QAMP, (Puckett, 2002). QA data are included in submission.
QAPP Information Reference(s):	

DECISION ID	64613	Region 2
Guadalupe River		
Pollutant:	Zinc	
Final Listing Decision:	Do Not List on 303(d) list (TMDL required list)	
Last Listing Cycle's Final Listing Decision:	New Decision	
Revision Status	Revised	
Impairment from Pollutant or Pollution:	Pollutant	
Regional Board Staff Conclusion:	<p>This pollutant is being considered for placement on the CWA section 303(d) List under section 3.6 of the Listing Policy. Under section 3.6 at least two lines of evidence are necessary to assess listing status for pollutants sediment, and pollutant concentrations in sediment must be associated with sediment toxicity to justify adding that pollutant to the CWA section 303(d) List.</p> <p>Two lines of evidence are available in the administrative record to assess this pollutant. Zero of one samples exceed the guideline. Sediment toxicity data are not associated with this decision because they are not relevant to this decision because there is insufficient information based on sediment chemistry.</p> <p>Based on the readily available data and information, the weight of evidence indicates that there is insufficient justification for placing this water segment-pollutant combination on the CWA section 303(d) List.</p>	

This conclusion is based on the staff findings that:

1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy.
2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy.
3. Zero of one samples exceed the guideline and this sample size is insufficient to determine beneficial use support, with the power and confidence of the Listing Policy. A minimum of 16 samples is needed to determine if a beneficial use is fully supported using table 3.1. Sediment toxicity data are not associated with this decision because the sediment chemistry data are insufficient.
4. Pursuant to section 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.

Regional Board Staff Decision Recommendation: After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be placed on the section 303(d) list. The readily available data and information is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating.

**Line of Evidence (LOE) for Decision ID 64613, Zinc
Guadalupe River**

Region 2

LOE ID:	91833
Pollutant:	Zinc
LOE Subgroup:	Pollutant-Sediment
Matrix:	Sediment
Fraction:	Total
Beneficial Use:	Cold Freshwater Habitat
Number of Samples:	1
Number of Exceedances:	0
Data and Information Type:	PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality:	Water Board staff assessed SWAMP data for Guadalupe River to determine beneficial use support and results are as follows: 0 of 1 samples exceed the criterion for Zinc.
Data Reference:	Statewide Stream Pollution Trends Study 2008
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	San Francisco Bay Basin Water Quality Control Plan 2007: All waters shall be maintained free of toxic substances in concentrations which are toxic to, or which produce detrimental physiological responses in, human, plant, animal, or aquatic life.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	In freshwater sediments the probable effect concentration (predictive of sediment toxicity for sediment-dwelling organisms) for zinc is 459 mg/Kg dry weight (MacDonald et al. 2000).
Guideline Reference:	Development and evaluation of consensus-based sediment quality guidelines for freshwater ecosystems. Environmental Contamination and Toxicology. 39: 20-31
Spatial Representation:	Data for this line of evidence for Guadalupe River was collected at 1 monitoring site [Guadalupe Creek @ USGS Gaging Station 11169025 station (205GUA020)]
Temporal Representation:	Data was collected on a single day 6/17/2008.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	SWAMP data collected before September 2008 followed the QAMP (2002), however there may have been overlap in QA with SWAMP QAPP (2008).
QAPP Information Reference(s):	Quality Assurance Management Plan for the State of California's Surface Water Ambient Monitoring Program. Sacramento, CA. State Water Resources Control Board. SWAMP. December 2002 (1st version). Surface Water Ambient Monitoring Program Quality Assurance Program Plan

Guadalupe River

LOE ID:	91832
Pollutant:	Zinc
LOE Subgroup:	Pollutant-Sediment
Matrix:	Sediment
Fraction:	Total
Beneficial Use:	Warm Freshwater Habitat
Number of Samples:	1
Number of Exceedances:	0
Data and Information Type:	PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality:	Water Board staff assessed SWAMP data for Guadalupe River to determine beneficial use support and results are as follows: 0 of 1 samples exceed the criterion for Zinc.
Data Reference:	Statewide Stream Pollution Trends Study 2008
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	San Francisco Bay Basin Water Quality Control Plan 2007: All waters shall be maintained free of toxic substances in concentrations which are toxic to, or which produce detrimental physiological responses in, human, plant, animal, or aquatic life.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	In freshwater sediments the probable effect concentration (predictive of sediment toxicity for sediment-dwelling organisms) for zinc is 459 mg/Kg dry weight (MacDonald et al. 2000).
Guideline Reference:	Development and evaluation of consensus-based sediment quality guidelines for freshwater ecosystems. Environmental Contamination and Toxicology. 39: 20-31
Spatial Representation:	Data for this line of evidence for Guadalupe River was collected at 1 monitoring site [Guadalupe Creek @ USGS Gaging Station 11169025 station (205GUA020)]
Temporal Representation:	Data was collected on a single day 6/17/2008.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	SWAMP data collected before September 2008 followed the QAMP (2002), however there may have been overlap in QA with SWAMP QAPP (2008).
QAPP Information Reference(s):	Quality Assurance Management Plan for the State of California's Surface Water Ambient Monitoring Program. Sacramento, CA. State Water Resources Control Board. SWAMP. December 2002 (1st version). Surface Water Ambient Monitoring Program Quality Assurance Program Plan

Draft California 2016 Integrated Report (303(d) List/305(b) Report)

Supporting Information

Regional Board 2 - San Francisco Bay Region

Water Body Name: Guadalupe Creek
Water Body ID: CAR2054005019980929112519
Water Body Type: River & Stream

DECISION ID 34072 **Region 2**
Guadalupe Creek

Pollutant: Mercury
Final Listing Decision: Do Not Delist from 303(d) list (being addressed with USEPA approved TMDL)
Last Listing Cycle's Final Listing Decision: List on 303(d) list (TMDL required list)(2012)
Revision Status Revised
Sources: Source Unknown
TMDL Name: Guadalupe River Watershed Mercury
TMDL Project Code: 11
Date TMDL Approved by USEPA: 06/01/2010
Impairment from Pollutant or Pollution: Pollutant

Regional Board Staff Conclusion: 303(d) listing decisions made prior to 2006 were not held in an assessment database. The Regional Boards will update this decision when new data and information become available and are assessed.

Regional Board Staff Decision Recommendation: This is a decision previously approved by the State Water Resources Control Board and the USEPA. No new data were assessed by the Regional Board for the current. The decision has not changed.

Line of Evidence (LOE) for Decision ID 34072, Mercury **Region 2** **Guadalupe Creek**

LOE ID: 3749
Pollutant: Mercury
LOE Subgroup: Pollutant-Tissue
Matrix: Tissue
Fraction: Not Recorded
Beneficial Use: Commercial or recreational collection of fish, shellfish, or organisms
Number of Samples: 0
Number of Exceedances: 0
Data and Information Type: Not Specified
Data Used to Assess Water Quality: Unspecified--This LOE is a placeholder to support a 303(d) listing decision made prior to 2006.
Data Reference: [Placeholder reference pre-2006 303\(d\)](#)
SWAMP Data: Non-SWAMP
Water Quality Objective/Criterion: Unspecified
Objective/Criterion Reference: [Placeholder reference pre-2006 303\(d\)](#)
Evaluation Guideline: Unspecified

Guideline Reference: [Placeholder reference pre-2006 303\(d\)](#)

Spatial Representation: Unspecified

Temporal Representation: Unspecified

Environmental Conditions: Unspecified

QAPP Information: Unspecified

QAPP Information Reference(s):

Draft California 2016 Integrated Report (303(d) List/305(b) Report)

Supporting Information

Regional Board 2 - San Francisco Bay Region

Water Body Name: Stevens Creek
Water Body ID: CAR2055002019990218134341
Water Body Type: River & Stream

DECISION ID 33884 **Region 2**
Stevens Creek

Pollutant: Toxicity
Final Listing Decision: Do Not Delist from 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision: List on 303(d) list (TMDL required list)(2012)
Revision Status Revised
Sources: Source Unknown
Expected TMDL Completion Date: 2019
Impairment from Pollutant or Pollution: Pollutant

Regional Board Staff Conclusion: This pollutant is being considered for removal from the CWA section 303(d) List under section 4.1 of the Listing Policy. Under this section a single line of evidence is necessary to assess listing status. Three lines of evidence are available in the administrative record to assess pollutant. Two of six samples exceed the guideline.

Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against removing this water segment-pollutant combination from the CWA section 303(d) List.

This conclusion is based on the staff findings that:

1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy.
2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy.
3. Two of six samples exceed the guideline and this exceeds the allowable frequency listed in Table 4.1 of the Listing Policy.
4. Pursuant to section 4.11 of the Listing Policy, no additional data and information are available indicating that standards are met.

Regional Board Staff Decision Recommendation: After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be removed from the section 303(d) list because applicable water quality standards for the pollutant are being exceeded.

Line of Evidence (LOE) for Decision ID 33884, Toxicity **Region 2**
Stevens Creek

LOE ID: 90507
Pollutant: Toxicity
LOE Subgroup: Toxicity
Matrix: Sediment
Fraction: None
Beneficial Use: Cold Freshwater Habitat
Number of Samples: 1

Number of Exceedances:	1
Data and Information Type:	TOXICITY TESTING
Data Used to Assess Water Quality:	One sample was collected to evaluate sediment toxicity. The sample exhibited significant toxicity. The toxicity test included survival and growth of <i>Hyalella azteca</i> . One sample can have multiple toxicity test results but will be counted only once. One sample is defined as being collected on the same day at the same location with the same lab sample id (if provided).
Data Reference:	Statewide Project Urban Pyrethroid Status Monitoring
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	All waters shall be maintained free of toxic substances in concentrations that are toxic to, or that produce detrimental physiological responses in, human, plant, animal, or aquatic life. Region 2 Basin Plan.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) - San Francisco Bay Region (Region 2)
Evaluation Guideline:	Toxicity is defined as a statistically significant effect in the sample exposure compared to the control using EPA-recommended hypothesis testing. For SWAMP data exceedances are counted with the significant effect code SL. SL is defined as the result being significant compared to the negative control based on a statistical test, less than stated the alpha level, AND less than the evaluation threshold.
Guideline Reference:	Methods for Measuring the Toxicity and Bioaccumulation of Sediment-associated Contaminants with Freshwater Invertebrates, Second Edition, U.S. Environmental Protection Agency Office of Research and Development, Duluth, MI, U.S. Environmental Protection Agency Office of Water, Washington, DC EPA-600/R-99/064
Spatial Representation:	The sample was collected at station 205SUP101.
Temporal Representation:	The sample was collected in January 2007.
Environmental Conditions:	
QAPP Information:	All data was collected following the Standard Operating Procedures and Data Quality Objectives outlined in the SWAMP QAMP, (Puckett, 2002). QA data are included in submission.
QAPP Information Reference(s):	Surface Water Ambient Monitoring Program Quality Assurance Program Plan

Line of Evidence (LOE) for Decision ID 33884, Toxicity
Stevens Creek

Region 2

LOE ID:	28870
Pollutant:	Sediment Toxicity
LOE Subgroup:	Pollutant-Sediment
Matrix:	Sediment
Fraction:	None
Beneficial Use:	Cold Freshwater Habitat
Number of Samples:	1
Number of Exceedances:	1
Data and Information Type:	TOXICITY TESTING
Data Used to Assess Water Quality:	Data used to evaluate sediment toxicity comprise one sediment sample collected by the SWAMP in 2002. This sample displayed statistically significant toxicity during the <i>Hyalella azteca</i> test. <i>Hyalella azteca</i> growth was only 71% of the control.
Data Reference:	Water Quality Monitoring and Bioassessment in Nine San Francisco Bay Region Watersheds: Walker Creek, Lagunitas Creek, San Leandro Creek, Wildcat Creek/San Pablo Creek, Suisun Creek, Arroyo Las Positas, Pescadero Creek/Butano Creek, San Gregorio Creek, and Stevens Creek/Permanente Creek. Oakland, CA: Surface Water Ambient Monitoring Program, San Francisco Bay Regional Water Quality Control Board
SWAMP Data:	SWAMP

Water Quality Objective/Criterion:	All waters shall be maintained free of toxic substances that are lethal to or that produce other detrimental responses in aquatic organisms.
	There shall be no chronic toxicity in ambient waters. Chronic toxicity is a detrimental biological effect on growth rate, reproduction, fertilization success, larval development, population abundance, community composition, or any other relevant measure of the health of an organism, population, or community.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) - San Francisco Bay Region (Region 2)
Evaluation Guideline:	Sediment toxicity was evaluated according to the SWAMP methodology. Sample toxicity was determined by comparing mean organism response in samples and in negative controls. Statistical evaluation (alpha = 0.05) and a default threshold of 80% of the control value were used to establish whether the sediment exhibited significant toxicity adversely impacting aquatic organisms.
Guideline Reference:	Revised approach to toxicity test acceptability criteria using a statistical performance assessment. Environmental Toxicology and Chemistry, vol. 16, No. 6, pp 1322?1329
Spatial Representation:	Data were collected at one sampling location at the lower part of Stevens Creek.
Temporal Representation:	A sample was collected in spring season 2002.
Environmental Conditions:	
QAPP Information:	All samples were collected and analyzed using procedures comparable with the SWAMP Quality Assurance Management Plan (SWRCB, 2002).
QAPP Information Reference(s):	Quality Assurance Management Plan for the State of California's Surface Water Ambient Monitoring Program. Sacramento, CA. State Water Resources Control Board. SWAMP. December 2002 (1st version)

Line of Evidence (LOE) for Decision ID 33884, Toxicity

Region 2

Stevens Creek

LOE ID:	1806
Pollutant:	Toxicity
LOE Subgroup:	Toxicity
Matrix:	Water
Fraction:	None
Beneficial Use:	Warm Freshwater Habitat
Number of Samples:	6
Number of Exceedances:	2
Data and Information Type:	Toxicity testing of sediments
Data Used to Assess Water Quality:	Two out of six samples displayed significant toxicity in the survival endpoint when compared to the negative control based on a statistical test with alpha of less than 5%, and less than the evaluation threshold (both criteria were met). The toxic Belleville/Barranca samples of April 2002 and January 2003 were 7 day tests for % survival of Pimephales promelas and Ceriodaphnia dubia, respectively. Please see also the QA qualifier below for the January 2003 toxic Belleville/Barranca sample (TSMP, 2002).
Data Reference:	Placeholder reference 2006 303(d)
SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	Basin Plan: All waters shall be maintained free of toxic substances in concentrations that are lethal to or that produce other detrimental responses in aquatic organisms. Detrimental responses include, but are not limited to, decreased growth rate and decreased reproductive success of resident or indicator species. There shall be no acute toxicity in ambient waters. Acute toxicity is defined as a median of less than 90 percent survival, or less than 70 percent survival, 10 percent of the time, of test organisms in a 96-hour static or continuous flow test.
Objective/Criterion Reference:	Placeholder reference 2006 303(d)

Evaluation Guideline:

Guideline Reference:

Spatial Representation:

The samples were collected from two stations along Stevens Creek: Belleville/Barranca and La Avenida. Toxicity was detected in samples collected from the Belleville/Barranca site.

Temporal Representation:

Samples were collected at the two different stations on three dates, June 17, 2002, April 11, 2002, and January 23, 2003, for a total of six samples. Toxicity in the survival endpoint was detected in samples collected in April 2002 and January 2003.

Environmental Conditions:

Sub-Basin: Stevens Creek is in the Santa Clara Basin.

QAPP Information:

SWAMP QAPP. QA qualifier of Minor deviations in water quality parameters for the toxic January 2003 Barranca sample.

QAPP Information Reference(s):

DECISION ID	33996	Region 2
Stevens Creek		

Pollutant:	Diazinon
Final Listing Decision:	Do Not Delist from 303(d) list (being addressed with USEPA approved TMDL)
Last Listing Cycle's Final Listing Decision:	List on 303(d) list (being addressed by USEPA approved TMDL)(2012)
Revision Status	Revised
Sources:	Source Unknown
TMDL Name:	San Francisco Bay Urban Creeks Diazinon
TMDL Project Code:	9
Date TMDL Approved by USEPA:	05/21/2007
Impairment from Pollutant or Pollution:	Pollutant

Regional Board Staff Conclusion:

This pollutant is being considered for removal on the CWA section 303(d) List under sections 2.2 and 4.1 of the Listing Policy. Under 4.1 of the Policy, a minimum of one line of evidence is needed to assess listing status.

Two lines of evidence are available in the administrative record to assess this pollutant.

Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against removing this water segment-pollutant combination from the CWA section 303(d) List. There is sufficient justification to place it in the Being Addressed portion of the CWA 303(d) List because a TMDL has been completed and approved by RWQCB and USEPA, and is expected to result in attainment of the standard.

This conclusion is based on the staff findings that:

1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy.
2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy.
3. A product ban for urban uses of diazinon in 1999 which has caused dramatic reduction in use.
4. Zero of one recent samples (since the ban) exceeded the evaluation guideline.
5. However, there are not a sufficient number of samples to de-list this waterbody according to Table 4.1 of the Listing Policy.
6. The Pesticides in Urban Creeks TMDL was approved by USEPA on 5/21/2007.
7. Pursuant to section 4.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.

Regional Board Staff Decision Recommendation:

After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be removed from the section 303(d) list because applicable water quality standards for the pollutant are being exceeded.

Line of Evidence (LOE) for Decision ID 33996, Diazinon	Region 2
Stevens Creek	

LOE ID:	93432
Pollutant:	Diazinon
LOE Subgroup:	Pollutant-Sediment
Matrix:	Sediment
Fraction:	Total
Beneficial Use:	Cold Freshwater Habitat
Number of Samples:	1
Number of Exceedances:	0
Data and Information Type:	PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality:	Water Board staff assessed SWAMP data for Stevens Creek to determine beneficial use support and results are as follows: 0 of 1 samples exceed the criterion for Diazinon.
Data Reference:	Statewide Project Urban Pyrethroid Status Monitoring
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	San Francisco Bay Basin Water Quality Control Plan 2007: All waters shall be maintained free of toxic substances in concentrations which are toxic to, or which produce detrimental physiological responses in, human, plant, animal, or aquatic life.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	There is no diazinon evaluation guideline specific to "sediment, interstitial water" (pore water). The following evaluation guideline was used to evaluate an exceedance in water quality standards: the freshwater chronic value for diazinon is 0.1 ug/L, expressed as a continuous concentration (Finlayson, 2004).?
Guideline Reference:	Toxicity of Sediment-Associated Pesticides to Chironomus dilutus and Hyalella azteca. Arch. Environ. Contam. Toxicol. 61:83?92.
Spatial Representation:	Data for this line of evidence for Stevens Creek was collected at 1 monitoring site [Stevens Ck @ HWY 82 station (205SUP101).]
Temporal Representation:	Data was collected on a single day 1/2/2007.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	The SWAMP QAPP (2008) was followed.
QAPP Information Reference(s):	Quality Assurance Management Plan for the State of California's Surface Water Ambient Monitoring Program. Sacramento, CA. State Water Resources Control Board. SWAMP. December 2002 (1st version)

Line of Evidence (LOE) for Decision ID 33996, Diazinon
Stevens Creek

Region 2

LOE ID:	1807
Pollutant:	Diazinon
LOE Subgroup:	Pollutant-Water
Matrix:	Water
Fraction:	None
Beneficial Use:	Cold Freshwater Habitat
Number of Samples:	0
Number of Exceedances:	0
Data and Information Type:	Not Specified
Data Used to Assess Water Quality:	Unspecified--This LOE is a placeholder to support a 303(d) listing decision made prior to 2006.
Data Reference:	Placeholder reference 2006 303(d)
SWAMP Data:	Non-SWAMP

Water Quality Objective/Criterion:
Objective/Criterion Reference:

Evaluation Guideline:
Guideline Reference:

Spatial Representation:
Temporal Representation:
Environmental Conditions:
QAPP Information: QA Info Missing
QAPP Information Reference(s):

DECISION ID	34847	Region 2
Stevens Creek		

Pollutant:	Trash
Final Listing Decision:	Do Not Delist from 303(d) list (being addressed with action other than TMDL)
Last Listing Cycle's Final Listing Decision:	List on 303(d) list (TMDL required list)(2012)
Revision Status	Revised
Sources:	Source Unknown
Expected Attainment Date:	2029
Implementation Action Other than TMDL:	This trash listing will be addressed by implementing the trash control provisions of the Water Quality Control Plan for Inland Surface Waters, Enclosed Bays, and Estuaries of California through the NPDES MS4 permit applicable to this waterbody.
Impairment from Pollutant or Pollution:	Pollutant
Regional Board Staff Conclusion:	<p>This pollutant is being considered for placement on the section 303(d) list under section 3.11 of the Listing Policy. Under section 3.11, listing may be proposed based on the situation-specific weight of evidence. One line of evidence is available in the administrative record to assess this pollutant. The line of evidence consists of data from field visits/trash surveys conducted according to the Urban Rapid Trash Assessment (URTA) methodology developed by the Santa Clara Valley Urban Runoff Pollution Prevention Program (SCVURPPP). Based on the readily available trash assessment data for this waterbody, the weight of evidence indicates that there is sufficient justification available in favor of placing this water segment-pollutant combination to the section 303(d) list in the Water Quality Limited Segments category. This conclusion is based on the staff findings that: 1. Data have been evaluated that supports this decision. 2. The Urban Rapid Trash Assessment methodology results showed that this waterbody had transportable, Persistent, Buoyant Litter parameter scores in the marginal urban and poor category (indicating threat to Wildlife Habitat beneficial uses) at three locations on three different dates in 2004, 2006 and 2007. 3. This waterbody is considered impaired by trash because there were exceedances of the evaluation guideline (poor condition category for the trash assessment metric) in more than one location or on more than one date. 4. The data used satisfy the data quality requirements of section 6.1.4 of the Policy. 5. The data used satisfy the data quantity requirements of section 6.1 of the Policy. 6. This trash listing will be addressed by implementing the trash control provisions of the Water Quality Control Plan for Inland Surface Waters, Enclosed Bays, and Estuaries of California through the NPDES MS4 permit applicable to this waterbody.</p>
Regional Board Staff Decision Recommendation:	After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be removed from the section 303(d) list because applicable water quality standards for the pollutant are being exceeded.

Line of Evidence (LOE) for Decision ID 34847, Trash	Region 2
Stevens Creek	

LOE ID: 5540

Pollutant:	Trash
LOE Subgroup:	Pollutant-Nuisance
Matrix:	Not Specified
Fraction:	None
Beneficial Use:	Wildlife Habitat
Number of Samples:	11
Number of Exceedances:	4
Data and Information Type:	Occurrence of conditions judged to cause impairment
Data Used to Assess Water Quality:	Data results were obtained through application of the Urban Rapid Trash Assessment (URTA) methodology, developed by the Santa Clara Valley Urban Runoff Pollution Prevention Program. The URTA is a modification of the Rapid Trash Assessment (RTA) developed by the Surface Water Ambient Monitoring Program (SWAMP). The URTA method documents the total number and characteristics of pieces of trash per one hundred feet of stream or shoreline. The trash assessment protocol involves picking up and tallying all of the trash items found within the defined boundaries of a site. The tally results for level of trash (relating to REC2) and transportable, persistent, buoyant litter (relating to WILD) assessment parameters were considered for the listing determination. These results are available for field visits/trash surveys conducted in 2004 through 2007 according to the Urban Rapid Trash Assessment (URTA) methodology. This waterbody had transportable, Persistent, Buoyant Litter parameter scores in the marginal urban and poor category (indicating threat to Wildlife Habitat beneficial uses) at three locations on three different dates in 2004, 2006 and 2007.
Data Reference:	Memo: Development of Urban Rapid Trash Assessment Protocol. March 13, 2006 Spreadsheet of Urban Rapid Trash Assessment (URTA) data collected by the Santa Clara Valley Urban Runoff Pollution Prevention Program, 2004-2007
SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	<p>The Basin Plan prohibits discharge of Rubbish, refuse, bark, sawdust, or other solid wastes into surface waters or at any place where they would contact or where they would be eventually transported to surface waters, including flood plain areas.</p> <p>The Basin Plan has a narrative objective for floating material, Waters shall not contain floating material, including solids, liquids, foams, and scum, in concentrations that cause nuisance or adversely affect beneficial uses.</p> <p>The Basin Plan has a narrative objective for settleable material, Waters shall not contain substances in concentrations that result in the deposition of material that cause nuisance or adversely affect beneficial uses.</p>
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) - San Francisco Bay Region (Region 2)
Evaluation Guideline:	If the URTA Parameter 3 (Transportable, Persistent, Buoyant Litter) is in the marginal urban or poor condition category (scores 0-10), then WILD is not supported. The URTA defines marginal urban or poor condition for this parameter as follows. this level of trash is a medium prevalence (76-200 pieces) or large amount (>200 pieces) of transportable, persistent, buoyant litter such as: hard or soft plastics, styrofoam, balloons, cigarette butts. These types of items are all detrimental to aquatic life.
Guideline Reference:	Memo: Development of Urban Rapid Trash Assessment Protocol. March 13, 2006
Spatial Representation:	URTA data were collected for this waterbody in six locations in 2004 through 2007.
Temporal Representation:	URTA data were collected for this waterbody on seven dates in 2004 through 2007.
Environmental Conditions:	
QAPP Information:	Data were collected by trained staff in accordance with URTA methodology developed by SCVURPPP and are deemed reliable and of sufficient quality on which to base listing determinations.
QAPP Information Reference(s):	

Pollutant: Chlorpyrifos
Final Listing Decision: Do Not List on 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision: New Decision
Revision Status: Revised
Impairment from Pollutant or Pollution: Pollutant

Regional Board Staff Conclusion:

This pollutant is being considered for placement on the CWA section 303(d) List under section 3.6 of the Listing Policy. Under section 3.6 at least two lines of evidence are necessary to assess listing status for pollutants in sediment, and pollutant concentrations in sediment must be associated with sediment toxicity to justify adding that pollutant to the CWA section 303(d) List.

One line of evidence is available in the administrative record to assess this pollutant. Zero of zero samples exceed the guideline. Sediment toxicity data are not associated with this decision because they are not relevant to this decision because there is insufficient information based on sediment chemistry.

Based on the readily available data and information, the weight of evidence indicates that there is insufficient justification for placing this water segment-pollutant combination on the CWA section 303(d) List.

This conclusion is based on the staff findings that:

1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy.
2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy.
3. Zero of zero samples exceed the guideline and this sample size is insufficient to determine beneficial use support, with the power and confidence of the Listing Policy. A minimum of 16 samples is needed to determine if a beneficial use is fully supported using table 3.1. Sediment toxicity data are not associated with this decision because the sediment chemistry data are insufficient.
4. Pursuant to section 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.

Regional Board Staff Decision Recommendation: After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be placed on the section 303(d) list. The readily available data and information is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating.

Line of Evidence (LOE) for Decision ID 66841, Chlorpyrifos

Region 2

Stevens Creek

LOE ID:	93431
Pollutant:	Chlorpyrifos
LOE Subgroup:	Pollutant-Sediment
Matrix:	Sediment
Fraction:	Total
Beneficial Use:	Cold Freshwater Habitat
Number of Samples:	0
Number of Exceedances:	0
Data and Information Type:	PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality:	One of one sample result was not used in the assessment because the sample was non-detect and the laboratory data method detection limit was above the guideline and therefore the results could not be quantified with the level of certainty required by the Listing Policy.
Data Reference:	Statewide Project Urban Pyrethroid Status Monitoring

SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	San Francisco Bay Basin Water Quality Control Plan 2007: All waters shall be maintained free of toxic substances in concentrations which are toxic to, or which produce detrimental physiological responses in, human, plant, animal, or aquatic life.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	There is no chlorpyrifos evaluation guideline specific to "sediment, interstitial water" (pore water). The following evaluation guideline was used to evaluate an exceedance in water quality standards: the freshwater criterion continuous concentration to protect aquatic organisms is 0.015 ug/L (Siepmann and Finlayson 2000, with minor corrections to significant figures as described in Beaulaurier et al., 2005).?
Guideline Reference:	Water quality criteria for diazinon and chlorpyrifos. Administrative Report 00-3. Rancho Cordova, CA: Pesticide Investigations Unit, Office of Spills and Response. CA Department of Fish and Game (with minor corrections to significant figures as described in Beaulaurier et al., 2005).
Spatial Representation:	Data for this line of evidence for Stevens Creek was collected at 1 monitoring site [Stevens Ck @ HWY 82 station (205SUP101).]
Temporal Representation:	Data was collected on a single day 1/2/2007.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	The SWAMP QAPP (2008) was followed.
QAPP Information Reference(s):	Quality Assurance Management Plan for the State of California's Surface Water Ambient Monitoring Program. Sacramento, CA. State Water Resources Control Board. SWAMP. December 2002 (1st version)

DECISION ID 43410 Region 2	
Stevens Creek	
Pollutant:	Ammonia (Unionized) Nitrogen, ammonia (Total Ammonia)
Final Listing Decision:	Do Not List on 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision:	Do Not List on 303(d) list (TMDL required list)(2012)
Revision Status	Original
Impairment from Pollutant or Pollution:	Pollutant
Regional Board Staff Conclusion:	This pollutant is being considered for placement on the section 303(d) list under section 3.1 of the Listing Policy. Under section 3.1 a single line of evidence is necessary to assess listing status. One line of evidence is available in the administrative record to assess this pollutant. None of the samples exceed the water quality objective. Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against placing this water segment-pollutant combination on the section 303(d) list in the Water Quality Limited Segments category. This conclusion is based on the staff findings that: 1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy. 2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy. 3. None of nine samples exceeded the water quality objective and this does not exceed the allowable frequency listed in Table 3.1 of the Listing Policy. 4. Pursuant to section 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.
Regional Board Staff Decision Recommendation:	This is a decision previously approved by the State Water Resources Control Board and the USEPA. No new data were assessed by the Regional Board for the current. The decision has not changed.

Line of Evidence (LOE) for Decision ID 43410, Multiple Pollutants Region 2	
Stevens Creek	

LOE ID: 28070

Pollutant:	Ammonia (Unionized) Nitrogen, ammonia (Total Ammonia)
LOE Subgroup:	Pollutant-Water
Matrix:	Water
Fraction:	None
Beneficial Use:	Cold Freshwater Habitat
Number of Samples:	9
Number of Exceedances:	0
Data and Information Type:	PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality:	Nine water samples were assessed for total ammonia and un-ionized ammonia. None of the samples exceeded the evaluation criteria.
Data Reference:	Water Quality Monitoring and Bioassessment in Nine San Francisco Bay Region Watersheds: Walker Creek, Lagunitas Creek, San Leandro Creek, Wildcat Creek/San Pablo Creek, Suisun Creek, Arroyo Las Positas, Pescadero Creek/Butano Creek, San Gregorio Creek, and Stevens Creek/Permanente Creek. Oakland, CA: Surface Water Ambient Monitoring Program, San Francisco Bay Regional Water Quality Control Board
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	The San Francisco Bay Regional Water Quality Board Basin Plan states: All waters shall be maintained free of toxic substances in concentrations that produce detrimental physiological responses in human, plant, animal, or aquatic life. This objective applies regardless of whether the toxicity is caused by a single substance or the interactive effect of multiple substances.
Objective/Criterion Reference:	The San Francisco Bay Regional Water Quality Board Basin Plan stated that the discharge of wastes shall not cause receiving water to contain concentrations of un-ionized ammonia in excess of 0.025mg/l annual median. Water Quality Control Plan (Basin Plan) - San Francisco Bay Region (Region 2)
Evaluation Guideline:	For Total Ammonia: EPA's Lifetime Health advisory level for total ammonia is 30.0 mg/L as stated on page 8 of the 2006 edition of the drinking water standards and health advisories. This Advisory Level is defined as "the concentration of a chemical in drinking water that is not expected to cause any adverse noncarcinogenic effects for up to ten days of exposure."
Guideline Reference:	2006 edition of the drinking water standards and health advisories. EPA 822-R-03-013
Spatial Representation:	Nine samples from three monitoring locations (STE020, STE060, and STE100) were assessed.
Temporal Representation:	Samples were collected from three seasons, dry, spring and wet season of 2001-2002.
Environmental Conditions:	
QAPP Information:	The QA was in compliance with SWAMP Quality Assurance Management Plan.
QAPP Information Reference(s):	

DECISION ID	44307	Region 2
Stevens Creek		

Pollutant:	Anthracene Benzo(a)anthracene Benzo(a)pyrene (3,4-Benzopyrene -7-d) Chlordane Chrysene (C1-C4) DDD (Dichlorodiphenyldichloroethane) DDE (Dichlorodiphenyldichloroethylene) DDT (Dichlorodiphenyltrichloroethane) Dieldrin Endrin Fluoranthene Fluorene Heptachlor epoxide Lindane/gamma Hexachlorocyclohexane (gamma-HCH) Naphthalene PAHs (Polycyclic Aromatic Hydrocarbons) PCBs (Polychlorinated biphenyls) Phenanthrene Pyrene
Final Listing Decision:	Do Not List on 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision:	Do Not List on 303(d) list (TMDL required list)(2012)
Revision Status	Original
Impairment from Pollutant or Pollution:	Pollutant

Regional Board Staff Conclusion:

These pollutants are being considered for placement on the section 303(d) list under section 3.1 of the Listing Policy. Under this section a single line of evidence is necessary to assess listing status. One line of evidence is available in the administrative record to assess these pollutants. Zero samples exceed the water quality objective. Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against placing this water segment-pollutant combination on the section 303(d) list in the Water Quality Limited Segments category. This conclusion is based on the staff findings that: 1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy. 2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy. 3. Zero of one sample exceed the water quality objective, but this sample size is insufficient to determine with the power and confidence of the Listing Policy if standards are not met. A minimum of two samples are needed for application of table 3.1. 4. Pursuant to section 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.

Regional Board Staff Decision Recommendation:

This is a decision previously approved by the State Water Resources Control Board and the USEPA. No new data were assessed by the Regional Board for the current. The decision has not changed.

Line of Evidence (LOE) for Decision ID 44307, Multiple Pollutants

Region 2

Stevens Creek

LOE ID:	28512
Pollutant:	Anthracene Benzo(a)anthracene Benzo(a)pyrene (3,4-Benzopyrene -7-d) Chlordane Chrysene (C1-C4) DDD (Dichlorodiphenyldichloroethane) DDE (Dichlorodiphenyldichloroethylene) DDT (Dichlorodiphenyltrichloroethane) Dieldrin Endrin Fluoranthene Fluorene Heptachlor epoxide Lindane/gamma Hexachlorocyclohexane (gamma-HCH) Naphthalene PAHs (Polycyclic Aromatic Hydrocarbons) PCBs (Polychlorinated biphenyls) Phenanthrene Pyrene
LOE Subgroup:	Pollutant-Sediment
Matrix:	Sediment
Fraction:	None
Beneficial Use:	Cold Freshwater Habitat
Number of Samples:	1
Number of Exceedances:	0
Data and Information Type:	PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality:	Concentrations of anthracene, fluorene, naphthalene, phenanthrene, benz(a)anthracene, benzo(a)pyrene, chrysene, fluoranthene, pyrene, PAH (total), PCB (total), chlordane, dieldrin, DDD/DDE/DDT, endrin, heptachlor epoxide, and HCH, gamma in one sediment sample collected in spring 2005 did not exceed the sediment quality guidelines.
Data Reference:	Water Quality Monitoring and Bioassessment in Nine San Francisco Bay Region Watersheds: Walker Creek, Lagunitas Creek, San Leandro Creek, Wildcat Creek/San Pablo Creek, Suisun Creek, Arroyo Las Positas, Pescadero Creek/Butano Creek, San Gregorio Creek, and Stevens Creek/Permanente Creek. Oakland, CA: Surface Water Ambient Monitoring Program, San Francisco Bay Regional Water Quality Control Board
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	All waters shall be maintained free of toxic substances that are lethal to or that produce other detrimental responses in aquatic organisms.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) - San Francisco Bay Region (Region 2)
Evaluation Guideline:	Sediment Quality Guidelines (MacDonald et al., 2000): PEC (probable effect concentration) Anthracene - 845 ug/kg; Fluorene - 536 ug/kg; Naphthalene - 561 ug/kg; Phenanthrene -1170 ug/kg; Benz(a)anthracene - 1050 ug/kg; Benzo(a)pyrene - 1450 ug/kg; Chrysene - 1290 ug/kg; Fluoranthene - 2230 ug/kg; Pyrene - 1520 ug/kg; PAH (total) - 22800 ug/kg; PCB (total) - 676 ug/kg; Chlordane - 17.6 ug/kg; Dieldrin - 61.8 ug/kg; DDD (sum op + pp) - 28 ug/kg; DDE (sum op + pp) - 31.3 ug/kg; DDT (sum op +

Guideline Reference:	pp) - 62.9 ug/kg; DDT (total) - 572 ug/kg; Endrin - 207 ug/kg; Heptachlor epoxide - 16 ug/kg; HCH, gamma - 4.99 ug/kg. Development and evaluation of consensus-based sediment quality guidelines for freshwater ecosystems. Environmental Contamination and Toxicology. 39: 20-31
Spatial Representation:	One sediment sample was collected from the most downstream site of Stevens Creek at La Avenida.
Temporal Representation:	Sediment sample was collected in June of 2002.
Environmental Conditions:	
QAPP Information:	All samples were collected and analyzed using procedures comparable with the SWAMP Quality Assurance Management Plan (SWRCB, 2002).
QAPP Information Reference(s):	

DECISION ID	44240	Region 2
Stevens Creek		

Pollutant:	Arsenic Chromium (total) Copper Lead Nickel Silver Zinc
Final Listing Decision:	Do Not List on 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision:	Do Not List on 303(d) list (TMDL required list)(2012)
Revision Status	Original
Impairment from Pollutant or Pollution:	Pollutant

Regional Board Staff Conclusion:	This pollutant is being considered for placement on the section 303(d) list under section 3.1 of the Listing Policy. Under section 3.1 a single line of evidence is necessary to assess listing status. One line of evidence is available in the administrative record to assess this pollutant. None of the samples exceed the water quality objective. Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against placing this water segment-pollutant combination on the section 303(d) list in the Water Quality Limited Segments category. This conclusion is based on the staff findings that: 1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy. 2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy. 3. None of six samples exceeded the water quality objectives and this does not exceed the allowable frequency listed in Table 3.1 of the Listing Policy. 4. Pursuant to section 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.
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Regional Board Staff Decision Recommendation:	This is a decision previously approved by the State Water Resources Control Board and the USEPA. No new data were assessed by the Regional Board for the current. The decision has not changed.
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Line of Evidence (LOE) for Decision ID 44240, Multiple Pollutants	Region 2
Stevens Creek	

LOE ID:	27968
Pollutant:	Arsenic Chromium (total) Copper Lead Nickel Silver Zinc
LOE Subgroup:	Pollutant-Water
Matrix:	Water
Fraction:	None
Beneficial Use:	Cold Freshwater Habitat
Number of Samples:	6
Number of Exceedances:	0
Data and Information Type:	PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality:	The Stevens Creek watershed was monitored as part of SWAMP assessment. None of the six samples exceeded the water quality objectives for arsenic, chromium VI, copper, lead, nickel, silver and zinc.

	Concentrations of total dissolved chromium were well below the objective for chromium VI.
Data Reference:	Water Quality Monitoring and Bioassessment in Nine San Francisco Bay Region Watersheds: Walker Creek, Lagunitas Creek, San Leandro Creek, Wildcat Creek/San Pablo Creek, Suisun Creek, Arroyo Las Positas, Pescadero Creek/Butano Creek, San Gregorio Creek, and Stevens Creek/Permanente Creek. Oakland, CA: Surface Water Ambient Monitoring Program, San Francisco Bay Regional Water Quality Control Board
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	All waters shall be maintained free of toxic substances that are lethal to or that produce other detrimental responses in aquatic organisms. Table 3-4 in the Basin Plan (2007) lists freshwater water quality objectives for toxic pollutants: arsenic- 150 ug/L, chromium VI- 11 ug/L, copper - 9.0 ug/L, lead - 2.5 ug/L; nickel - 52 ug/L, silver-3.4 ug/L and zinc - 120 ug/L.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) - San Francisco Bay Region (Region 2)
Evaluation Guideline:	
Guideline Reference:	Water Quality Monitoring and Bioassessment in Nine San Francisco Bay Region Watersheds: Walker Creek, Lagunitas Creek, San Leandro Creek, Wildcat Creek/San Pablo Creek, Suisun Creek, Arroyo Las Positas, Pescadero Creek/Butano Creek, San Gregorio Creek, and Stevens Creek/Permanente Creek. Oakland, CA: Surface Water Ambient Monitoring Program, San Francisco Bay Regional Water Quality Control Board
Spatial Representation:	Two monitoring locations (STE020 and STE060) were sampled in Stevens Creek.
Temporal Representation:	The samples were collected from three different seasons, wet, dry, and spring.
Environmental Conditions:	
QAPP Information:	The Quality Control is is conducted in accordance with SWAMP's Quality Management Plan of 2002.
QAPP Information Reference(s):	

DECISION ID	43403	Region 2
Stevens Creek		

Pollutant:	Cadmium
Final Listing Decision:	Do Not List on 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision:	Do Not List on 303(d) list (TMDL required list)(2012)
Revision Status	Original
Impairment from Pollutant or Pollution:	Pollutant
Regional Board Staff Conclusion:	This pollutant is being considered for placement on the section 303(d) list under section 3.1 of the Listing Policy. Under section 3.1 a single line of evidence is necessary to assess listing status. One line of evidence is available in the administrative record to assess this pollutant. None of the samples exceed the water quality objective. Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against placing this water segment-pollutant combination on the section 303(d) list in the Water Quality Limited Segments category. This conclusion is based on the staff findings that: 1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy. 2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy. 3. None of six samples exceeded the water quality guidelines and this does not exceed the allowable frequency listed in Table 3.1 of the Listing Policy. 4. Pursuant to section 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.
Regional Board Staff Decision Recommendation:	This is a decision previously approved by the State Water Resources Control Board and the USEPA. No new data were assessed by the Regional Board for the current. The decision has not changed.

Line of Evidence (LOE) for Decision ID 43403, Cadmium	Region 2
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Stevens Creek

LOE ID:	27992
Pollutant:	Cadmium
LOE Subgroup:	Pollutant-Water
Matrix:	Water
Fraction:	None
Beneficial Use:	Cold Freshwater Habitat
Number of Samples:	6
Number of Exceedances:	0
Data and Information Type:	PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality:	Six water samples were assessed. The concentration of cadmium in all six samples was less than the acute and chronic evaluation criteria.
Data Reference:	Water Quality Monitoring and Bioassessment in Nine San Francisco Bay Region Watersheds: Walker Creek, Lagunitas Creek, San Leandro Creek, Wildcat Creek/San Pablo Creek, Suisun Creek, Arroyo Las Positas, Pescadero Creek/Butano Creek, San Gregorio Creek, and Stevens Creek/Permanente Creek. Oakland, CA: Surface Water Ambient Monitoring Program, San Francisco Bay Regional Water Quality Control Board
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	The Basin Plan states that the objective is expressed by formulas where $H = \ln(\text{hardness})$ as CaCO_3 in mg/l: The four-day average objective for cadmium is $e (\exp 0.7852H - 3.490)$. This is 1.1 ug/l at a hardness of 100mg/l as CaCO_3 . The one hour objective is $e (\exp 1.128H - 3.828)$. This is 3.9ug/l at a hardness of 100mg/l as CaCO_3 .
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) - San Francisco Bay Region (Region 2)
Evaluation Guideline:	
Guideline Reference:	
Spatial Representation:	The samples were collected from two monitoring locations: STE020 (the most downstream site) and STE060 (upstream portion of the creek).
Temporal Representation:	The samples were collected in three seasons, Spring, Wet and Dry seasons.
Environmental Conditions:	
QAPP Information:	The QA/QC procedure was in compliance with Surface Water Ambient Monitoring Program's (SWAMP) Quality Assurance Management Plan (QAMP).
QAPP Information Reference(s):	

DECISION ID	43411	Region 2
Stevens Creek		
Pollutant:	Chlorpyrifos Dacthal Diazinon Disulfoton Endosulfan Lindane/gamma Hexachlorocyclohexane (gamma-HCH) Methyl Parathion PCBs (Polychlorinated biphenyls) Thiobencarb/Bolero	
Final Listing Decision:	Do Not List on 303(d) list (TMDL required list)	
Last Listing Cycle's Final Listing Decision:	Do Not List on 303(d) list (TMDL required list)(2012)	
Revision Status	Original	
Impairment from Pollutant or Pollution:	Pollutant	
Regional Board Staff Conclusion:	This pollutant is being considered for placement on the section 303(d) list under section 3.1 of the Listing Policy. Under section 3.1 a single line of evidence is necessary to assess listing status. One line of evidence is available in the administrative record to assess this pollutant. None of the samples exceed the water quality objective. Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against placing this water segment-pollutant combination on the section 303(d) list in the Water Quality Limited Segments category. This	

conclusion is based on the staff findings that: 1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy. 2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy. 3. None of six samples exceeded the water quality guidelines and this does not exceed the allowable frequency listed in Table 3.1 of the Listing Policy. 4. Pursuant to section 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.

Regional Board Staff Decision Recommendation: This is a decision previously approved by the State Water Resources Control Board and the USEPA. No new data were assessed by the Regional Board for the current. The decision has not changed.

Line of Evidence (LOE) for Decision ID 43411, Multiple Pollutants

Region 2

Stevens Creek

LOE ID:	28991
Pollutant:	Chlorpyrifos Dacthal Diazinon Disulfoton Endosulfan Lindane/gamma Hexachlorocyclohexane (gamma-HCH) Methyl Parathion PCBs (Polychlorinated biphenyls) Thiobencarb/Bolero
LOE Subgroup:	Pollutant-Water
Matrix:	Water
Fraction:	None
Beneficial Use:	Warm Freshwater Habitat
Number of Samples:	6
Number of Exceedances:	0
Data and Information Type:	PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality:	The Stevens Creek watershed was monitored as part of SWAMP assessment. None of the six samples exceeded the water quality objectives for PCBs, Chlorpyrifos, Dacthal, diazinon, disulfoton, endosulfan, Lindane/gamma Hexachlorocyclohexane (gamma-HCH), methyl parathion, thiobencarb.
Data Reference:	Water Quality Monitoring and Bioassessment in Nine San Francisco Bay Region Watersheds: Walker Creek, Lagunitas Creek, San Leandro Creek, Wildcat Creek/San Pablo Creek, Suisun Creek, Arroyo Las Positas, Pescadero Creek/Butano Creek, San Gregorio Creek, and Stevens Creek/Permanente Creek. Oakland, CA: Surface Water Ambient Monitoring Program, San Francisco Bay Regional Water Quality Control Board Data collected by the Surface Water Ambient Monitoring Program, San Francisco Bay Regional Water Quality Control Board. Years 4 and 5 Assessment
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	All waters shall be maintained free of toxic substances that are lethal to or that produce other detrimental responses in aquatic organisms. There shall be no chronic toxicity in ambient waters. Chronic toxicity is a detrimental biological effect on growth rate, reproduction, fertilization success, larval development, population abundance, community composition, or any other relevant measure of the health of an organism, population, or community. Diazinon water quality objective, 0.1 ug/L (acute)
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) - San Francisco Bay Region (Region 2)
Evaluation Guideline:	PCBs - 0.014 ug/L freshwater continuous Concentration; Chlorpyrifos - 0.015 ug/L (chronic); Dacthal (DCPA) - 14300 ug/L (acute); Disulfoton (Disyston) - 0.05 ug/L (acute); Endosulfan - 0.056 ug/L (chronic)/0.22 ug/L (acute); HCH, gamma-(gamma BHC, Lindane) - 0.95 ug/L (acute); methyl parathion - 0.08 ug/L (acute); Thiobencarb - 3.1 ug/L (acute).
Guideline Reference:	National recommended water quality criteria: 2002. EPA-822-R-02-047 Washington, D.C. USEPA
Spatial Representation:	Data were collected at two sampling locations: STE020 (La Avenida) and STE060 ("Belleville"/ Barranca) in Stevens Creek.

Temporal Representation:	Samples were collected at both locations during wet, spring, and dry seasons of the 2001 - 2002 sampling season.
Environmental Conditions:	
QAPP Information:	All samples were collected and analyzed using procedures comparable with the SWAMP Quality Assurance Management Plan (SWRCB, 2002).
QAPP Information Reference(s):	Quality Assurance Management Plan for the State of California's Surface Water Ambient Monitoring Program. Sacramento, CA. State Water Resources Control Board. SWAMP. December 2002 (1st version).

DECISION ID	43557	Region 2
Stevens Creek		

Pollutant:	Escherichia coli (E. coli)
Final Listing Decision:	Do Not List on 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision:	Do Not List on 303(d) list (TMDL required list)(2012)
Revision Status	Original
Impairment from Pollutant or Pollution:	Pollutant

Regional Board Staff Conclusion:	This pollutant is being considered for placement on the section 303(d) list under section 3.3 of the Listing Policy. Under section 3.3 a single line of evidence is necessary to assess listing status. One line of evidence is available in the administrative record to assess this pollutant. Two out of four samples exceed the water quality objective. Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against placing this water segment-pollutant combination on the section 303(d) list in the Water Quality Limited Segments category. This conclusion is based on the staff findings that: 1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy. 2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy. 3. Two of four samples exceeded the number of Escherichia coli (E. Coli) counts, but this sample size is insufficient to determine with the power and confidence of the Listing Policy if standards are not met. A minimum of five samples are needed for application of table 3.2. 4. Pursuant to section 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.
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Regional Board Staff Decision Recommendation:	This is a decision previously approved by the State Water Resources Control Board and the USEPA. No new data were assessed by the Regional Board for the current. The decision has not changed.
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Line of Evidence (LOE) for Decision ID 43557, Escherichia coli (E. coli)	Region 2
Stevens Creek	

LOE ID:	29017
Pollutant:	Escherichia coli (E. coli)
LOE Subgroup:	Pollutant-Water
Matrix:	Water
Fraction:	None
Beneficial Use:	Water Contact Recreation
Number of Samples:	4
Number of Exceedances:	2
Data and Information Type:	PATHOGEN MONITORING
Data Used to Assess Water Quality:	Samples were collected as part of SWAMP sampling in the summer of 2002 at 7-day intervals and the geometric mean of the samples calculated over a five week interval. Samples were collected at four locations: STE020, STE070, STE080, and STE090. Monitoring occurred every 7 days for a total of 30 days. The geometric mean for STE020 was 796 MPN/100 mL, STE070 was 50 MPN/100 mL, STE080 was 92 MPN/100 mL, and STE090 was 182 MPN/100 mL. Two samples (STE020 and STE090) exceeded the 126

Data Reference:	MPN/100ml criteria. Water Quality Monitoring and Bioassessment in Nine San Francisco Bay Region Watersheds: Walker Creek, Lagunitas Creek, San Leandro Creek, Wildcat Creek/San Pablo Creek, Suisun Creek, Arroyo Las Positas, Pescadero Creek/Butano Creek, San Gregorio Creek, and Stevens Creek/Permanente Creek. Oakland, CA: Surface Water Ambient Monitoring Program, San Francisco Bay Regional Water Quality Control Board
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	Uses of water for recreational activities involving body contact with water where ingestion of water is reasonably possible. These uses include, but are not limited to, swimming, wading, water-skiing, skin and scuba diving, surfing, whitewater activities, fishing, and uses of natural hot springs. Water contact implies a risk of waterborne disease transmission and involves human health; accordingly, criteria required to protect this use are more stringent than those for more casual water-oriented recreation. U.S. EPA water quality criteria for water contact recreation based on the frequency of use a particular area receives - 1986: the E. coli criterion is not to exceed 126 organisms/100 mL. The value is expressed as a 7-day geometric mean based on five or more samples per 30?day period; designated beach (max) 235 MPN/100 mL.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) - San Francisco Bay Region (Region 2) Ambient Water Quality Criteria for Bacteria - 1986. EPA440/5-84-002
Evaluation Guideline:	
Guideline Reference:	
Spatial Representation:	Samples were collected at STE020 (La Avenida), STE070 (Chestnut Picnic Area), STE080 (Above the Reservoir), and STE090 (Camp Cooley).
Temporal Representation:	Samples were collected weekly from 7/22/2002 through 8/19/2002.
Environmental Conditions:	
QAPP Information:	All samples were collected and analyzed using procedures comparable with the SWAMP Quality Assurance Management Plan (SWRCB, 2002).
QAPP Information Reference(s):	Quality Assurance Management Plan for the State of California's Surface Water Ambient Monitoring Program. Sacramento, CA. State Water Resources Control Board. SWAMP. December 2002 (1st version)

DECISION ID	36182	Region 2
Stevens Creek		
Pollutant:	Oxygen, Dissolved	
Final Listing Decision:	Do Not List on 303(d) list (TMDL required list)	
Last Listing Cycle's Final Listing Decision:	Do Not List on 303(d) list (TMDL required list)(2012)	
Revision Status	Original	
Impairment from Pollutant or Pollution:	Pollutant	
Regional Board Staff Conclusion:	One line of evidence are available in the administrative record to assess this water body. Based on the readily available data for this water body, the weight of evidence indicates that there is sufficient justification against placing this water segment-pollutant combination on the section 303(d) list in the Water Quality Limited Segments category. This conclusion is based on the staff findings that: 1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy. 2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy. 3. Dissolved oxygen measurements at all 11 continuous deployments exceeded the applicable water quality objectives for waters designated as warm water habitat on one occasion, and this does not exceed the allowable frequency listed in Table 3.2 of the Listing Policy. 4. Pursuant to section 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.	
Regional Board Staff Decision Recommendation:	This is a decision previously approved by the State Water Resources Control Board and the USEPA. No new data were assessed by the Regional Board for the current. The decision has not changed.	

Line of Evidence (LOE) for Decision ID 36182, Oxygen, Dissolved**Region 2****Stevens Creek**

LOE ID:	8678
Pollutant:	Low Dissolved Oxygen
LOE Subgroup:	Pollutant-Water
Matrix:	Water
Fraction:	None
Beneficial Use:	Warm Freshwater Habitat
Aquatic Life Use:	Wildlife Habitat
Number of Samples:	11
Number of Exceedances:	1
Data and Information Type:	PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality:	Data used to evaluate dissolved oxygen was collected by SWAMP in 2002-2003. In 1 out of 11 seasonal deployments, minimum dissolved oxygen levels fell below the objective of 5 mg/L. The deployment where this occurred was a lower watershed deployment during the dry season.
Data Reference:	Water Quality Monitoring and Bioassessment in Nine San Francisco Bay Region Watersheds: Walker Creek, Lagunitas Creek, San Leandro Creek, Wildcat Creek/San Pablo Creek, Suisun Creek, Arroyo Las Positas, Pescadero Creek/Butano Creek, San Gregorio Creek, and Stevens Creek/Permanente Creek. Oakland, CA: Surface Water Ambient Monitoring Program, San Francisco Bay Regional Water Quality Control Board
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	The numeric water quality objective for dissolved oxygen is 5.0 mg/L minimum for waters designated as warm freshwater habitat. The median dissolved oxygen concentration for any three consecutive months shall not be less than 80 percent of the dissolved oxygen content at saturation.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) - San Francisco Bay Region (Region 2)
Evaluation Guideline:	
Guideline Reference:	
Spatial Representation:	Dissolved oxygen was measured at four sites spanning lower to upper watershed locations on this creek.
Temporal Representation:	The SWAMP Program performed continuous monitoring of dissolved oxygen at 15 minute intervals for periods of 1-2 weeks in two dry seasons and one wet season in 2002-2003.
Environmental Conditions:	The Stevens Creek watershed is in the western Santa Clara Basin. The watershed of Stevens Creek is a 38 square mile drainage basin, with its headwaters high in the densely forested Santa Cruz Mountains. The upper portions of the watershed drains upland, mountainous or hilly landscapes where human development is largely absent. The lower portions of the streams flow through western Santa Clara Valley, a large flat alluvial valley draining into South San Francisco Bay. Land uses in the watershed include mining, urbanization, forests, and parks.
QAPP Information:	All samples were collected and analyzed using procedures comparable with the SWAMP Quality Assurance Management Plan (SWRCB 2002).
QAPP Information Reference(s):	

DECISION ID**43556****Region 2****Stevens Creek**

Pollutant: pH
Final Listing Decision: Do Not List on 303(d) list (TMDL required list)

Last Listing Cycle's Final Listing Decision:
Revision Status
Impairment from Pollutant or Pollution:

Do Not List on 303(d) list (TMDL required list)(2012)
Original
Pollutant

Regional Board Staff Conclusion:

This pollutant is being considered for placement on the section 303(d) list under section 3.2 of the Listing Policy. Under section 3.2 a single line of evidence is necessary to assess listing status. One line of evidence is available in the administrative record to assess this pollutant. One of the samples exceeds the water quality objective. Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against placing this water segment-pollutant combination on the section 303(d) list in the Water Quality Limited Segments category. This conclusion is based on the staff findings that: 1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy. 2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy. 3. One of eleven samples exceeded the water quality objectives and this does not exceed the allowable frequency listed in Table 3.2 of the Listing Policy. 4. Pursuant to section 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.

Regional Board Staff Decision Recommendation:

This is a decision previously approved by the State Water Resources Control Board and the USEPA. No new data were assessed by the Regional Board for the current. The decision has not changed.

Line of Evidence (LOE) for Decision ID 43556, pH

Region 2

Stevens Creek

LOE ID: 29006

Pollutant: pH
LOE Subgroup: Pollutant-Water
Matrix: Water
Fraction: None

Beneficial Use: Cold Freshwater Habitat

Number of Samples: 11
Number of Exceedances: 1

Data and Information Type: PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality: Water quality assessment was conducted at the Stevens Creek watershed as part of SWAMP study in 2002-2003. Continuous field monitoring at 15 minute increments of temperature, dissolved oxygen, pH and specific conductance was conducted to determine temporal variability in basic water quality at one, three or four. Continuous monitoring sondes were deployed 11 times at 1, 3, or 4 monitoring locations during wet, spring and two dry seasons. The pH ranged from 7.13 to 8.65. The pH exceeded the threshold once (spring), but otherwise did not exceed or drop below the appropriate water quality threshold during any sampling event during the 2002-2003 season.

Data Reference: [Water Quality Monitoring and Bioassessment in Nine San Francisco Bay Region Watersheds: Walker Creek, Lagunitas Creek, San Leandro Creek, Wildcat Creek/San Pablo Creek, Suisun Creek, Arroyo Las Positas, Pescadero Creek/Butano Creek, San Gregorio Creek, and Stevens Creek/Permanente Creek, Oakland, CA: Surface Water Ambient Monitoring Program, San Francisco Bay Regional Water Quality Control Board](#)

SWAMP Data: SWAMP

Water Quality Objective/Criterion: The pH shall not be depressed below 6.5 nor raised above 8.5. This encompasses the pH range usually found in waters within the basin. Controllable water quality factors shall not cause changes greater than 0.5 units in normal ambient pH levels.

Objective/Criterion Reference: [Water Quality Control Plan \(Basin Plan\) - San Francisco Bay Region \(Region 2\)](#)

Evaluation Guideline:
Guideline Reference:

Spatial Representation:	pH was measured at one,three. or five sites located on the mainstream of Stevens Creek that are representative of the entire creek length.
Temporal Representation:	In 2002-2003 the SWAMP Program performed continuous monitoring of pH at 15 minute intervals for periods of 1-2 weeks in each of four seasons: winter (4 sites), spring (1 site), and two summer dry season (4, 3 sites).
Environmental Conditions:	
QAPP Information:	All samples were collected and analyzed using procedures comparable with the SWAMP Quality Assurance Management Plan (SWRCB, 2002).
QAPP Information Reference(s):	Quality Assurance Management Plan for the State of California's Surface Water Ambient Monitoring Program. Sacramento, CA. State Water Resources Control Board. SWAMP. December 2002 (1st version)

DECISION ID	35334	Region 2
Stevens Creek		

Pollutant:	Temperature, water
Final Listing Decision:	List on 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision:	List on 303(d) list (TMDL required list)(2012)
Revision Status	Original
Sources:	Source Unknown
Expected TMDL Completion Date:	2021
Impairment from Pollutant or Pollution:	Pollutant

Regional Board Staff Conclusion:	This pollutant is being considered for listing under section 3.2 of the Listing Policy. Under section 3.2 a single line of evidence is necessary to assess listing status. One line of evidence is available in the administrative record to assess this pollutant. A sufficient number of samples exceeds the water quality objective. Based on the readily available data for this water body, the weight of evidence indicates that there is sufficient justification available in favor of adding this water segment-pollutant combination to the section 303(d) list in the Water Quality Limited Segments category. This conclusion is based on the staff findings that: 1. The data concerning current conditions and supporting the listing decision were collected as part of the SWAMP and satisfy the data quality requirements of section 6.1.4 of the Policy. 2. The data used satisfy the data quantity requirements of section 6.1.5 of the Policy. 3. Temperature measurements at 6 out of 11 continuous deployments exceeded the 17 °C evaluation guideline used to interpret the water quality objective for waters designated as cold water habitat and this exceeds the allowable frequency listed in Table 3.2 of the Listing Policy. 4. Pursuant to section 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.
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Regional Board Staff Decision Recommendation:	This is a decision previously approved by the State Water Resources Control Board and the USEPA. No new data were assessed by the Regional Board for the current. The decision has not changed.
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Line of Evidence (LOE) for Decision ID 35334, Temperature, water	Region 2
Stevens Creek	

LOE ID:	8543
Pollutant:	Temperature, water
LOE Subgroup:	Pollutant-Water
Matrix:	Water
Fraction:	None
Beneficial Use:	Cold Freshwater Habitat
Number of Samples:	11
Number of Exceedances:	6

Data and Information Type:
Data Used to Assess Water Quality:

PHYSICAL/CHEMICAL MONITORING

Comprehensive water quality assessment was conducted at the Stevens Creek watershed as part of SWAMP assessment. Continuous field monitoring at 15 minute increments of temperature, dissolved oxygen, pH and specific conductance was conducted to determine temporal variability in basic water quality at five locations throughout the watershed.

The measured temperatures ranged from 9.3°C to 25.5 °C and varied with season and location. The 17 °C criterion for steelhead was exceeded in 6 out of 11 deployments. Five exceedances were recorded in the dry season and 1 was measured in the wet season.

High water temperature exceeding 24 °C, that is a maximum short exposure temperature for survival of salmonids (EPA 1977) was also measured at one monitoring location at lower reach of the Creek during summer dry season. At this monitoring site the lethal temperature for salmonids (< 24°C) persisted for 4.25 hours.

Data Reference:

[Water Quality Monitoring and Bioassessment in Nine San Francisco Bay Region Watersheds: Walker Creek, Lagunitas Creek, San Leandro Creek, Wildcat Creek/San Pablo Creek, Suisun Creek, Arroyo Las Positas, Pescadero Creek/Butano Creek, San Gregorio Creek, and Stevens Creek/Permanente Creek. Oakland, CA: Surface Water Ambient Monitoring Program, San Francisco Bay Regional Water Quality Control Board Temperature criteria for freshwater fish: protocol and procedures. Ecological Research Series. EPA-600/3-77-061 \(NTIS PB270032\). Prepared by W.A. Brungs and B.R. Jones. U.S. Environmental Protection Agency, Washington, D.C](#)

SWAMP Data:

SWAMP

Water Quality Objective/Criterion:

Temperature objectives for enclosed bays and estuaries are specified in the Water Quality Control Plan for Control of Temperature in the Coastal and Interstate Waters and Enclosed Bays of California including any revisions to the plan. In addition, the following temperature objectives apply to surface waters: The natural receiving water temperature of intrastate waters shall not be altered unless it can be demonstrated to the satisfaction of the Regional Water Board that such alteration in temperature does not adversely affect beneficial uses.

The temperature of any cold or warm freshwater habitat shall not be increased by more than 5°F (2.8°C) above natural receiving water temperature.

Objective/Criterion Reference:

[Water Quality Control Plan \(Basin Plan\) - San Francisco Bay Region \(Region 2\)](#)

Evaluation Guideline:

Sullivan et al. (2000) reviewed a wide range of studies incorporating information from laboratory-based research, field observations, and risk assessment approaches and developed criteria for assessing temperature risk to aquatic life. The 7-day mean temperature (maximum value of the 7-day moving average of the daily mean temperature) of 14.8°C was established as the upper threshold criterion for coho salmon and 17.0°C for steelhead trout. The risk assessment approach used by Sullivan et al. (2000) suggests that temperatures exceeding the above thresholds will cause 10% reduction in average fish growth compared to optimal conditions.

Guideline Reference:

[An Analysis of the Effects of Temperature on Salmonids of the Pacific Northwest with Implications for Selecting Temperature Criteria](#)

Spatial Representation:

Temperature was measured at four sites located on the mainstem of Stevens Creek. The highest temperatures were recorded at the most downstream location in July 2003. High temperatures exceeding the threshold for steelhead were measured in most parts of the creek with the exception of the upper reach.

Temporal Representation:

In 2002 and 2003 the SWAMP Program performed continuous monitoring of temperature at 15 minute intervals for periods of 1-2 weeks in each of three different seasons: winter wet season (3 sites), spring runoff season (1 site), and summer dry season (7 sites).

Environmental Conditions:

QAPP Information:

All samples were collected and analyzed using procedures comparable with the SWAMP Quality Assurance Management Plan (SWRCB 2002).

QAPP Information Reference(s):

[Quality Assurance Management Plan for the State of California's Surface Water Ambient Monitoring Program. Sacramento, CA. State Water Resources Control Board. SWAMP. December 2002 \(1st version\)](#)

Draft California 2016 Integrated Report (303(d) List/305(b) Report)

Supporting Information

Regional Board 2 - San Francisco Bay Region

Water Body Name: Permanente Creek
Water Body ID: CAR2055002119990218132449
Water Body Type: River & Stream

DECISION ID 34848 **Region 2**
Permanente Creek

Pollutant: Trash
Final Listing Decision: Do Not Delist from 303(d) list (being addressed with action other than TMDL)
Last Listing Cycle's Final Listing Decision: List on 303(d) list (TMDL required list)(2012)
Revision Status: Revised
Sources: Source Unknown
Expected Attainment Date: 2029
Implementation Action Other than TMDL: This trash listing will be addressed by implementing the trash control provisions of the Water Quality Control Plan for Inland Surface Waters, Enclosed Bays, and Estuaries of California through the NPDES MS4 permit applicable to this waterbody.
Impairment from Pollutant or Pollution: Pollutant

Regional Board Staff Conclusion: This pollutant is being considered for placement on the section 303(d) list under section 3.11 of the Listing Policy. Under section 3.11, listing may be proposed based on the situation-specific weight of evidence. One line of evidence is available in the administrative record to assess this pollutant. The line of evidence consists of data from field visits/trash surveys conducted according to the Rapid Trash Assessment (RTA) methodology. Based on the readily available trash assessment data for this waterbody, the weight of evidence indicates that there is sufficient justification available in favor of placing this water segment-pollutant combination to the section 303(d) list in the Water Quality Limited Segments category. This conclusion is based on the staff findings that: 1. Data have been evaluated that supports this decision. 2. The Rapid Trash Assessment methodology results showed that this waterbody had threat to aquatic life parameter scores in the poor category (indicating threat to Wildlife Habitat beneficial uses) at the only location surveyed in this waterbody on four different dates. 3. This waterbody is considered impaired by trash because there were exceedances of the evaluation guideline (poor condition category for the trash assessment metric) in more than one location or on more than one date. 4. The data used satisfy the data quality requirements of section 6.1.4 of the Policy. 5. The data used satisfy the data quantity requirements of section 6.1 of the Policy.
6. This trash listing will be addressed by implementing the trash control provisions of the Water Quality Control Plan for Inland Surface Waters, Enclosed Bays, and Estuaries of California through the NPDES MS4 permit applicable to this waterbody.

Regional Board Staff Decision Recommendation: After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be removed from the section 303(d) list because applicable water quality standards for the pollutant are being exceeded.

Line of Evidence (LOE) for Decision ID 34848, Trash **Region 2**
Permanente Creek

LOE ID: 5368
Pollutant: Trash
LOE Subgroup: Pollutant-Nuisance
Matrix: Not Specified

Fraction:	None
Beneficial Use:	Wildlife Habitat
Number of Samples:	4
Number of Exceedances:	4
Data and Information Type:	Occurrence of conditions judged to cause impairment
Data Used to Assess Water Quality:	Data results were obtained through application the RTA methodology, developed by the Surface Water Ambient Monitoring Program (SWAMP). The RTA documents the total number and characteristics of pieces of trash per one hundred feet of stream or shoreline. The trash assessment protocol involves picking up and tallying all of the trash items found within the defined boundaries of a site. The tally results for level of trash (relating to REC2) and threat to aquatic life (relating to WILD) assessment parameters were considered for the listing determination. These results are available for field visits/trash surveys conducted in March, July, and October 2003, and March 2004 according to the Rapid Trash Assessment methodology. There were exceedances of the evaluation guideline (poor condition category for the trash assessment metric) in more than one location or on more than one date.
Data Reference:	A Rapid Trash Assessment Method Applied to Waters of the San Francisco Bay Region:Trash Measurement in Streams Rapid Trash Assessment (RTA) data collected by the SF Bay Region Surface Water Ambient Monitoring Program from 2002-2005 and method description
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	<p>The Basin Plan prohibits discharge of rubbish, refuse, bark, sawdust, or other solid wastes into surface waters or at any place where they would contact or where they would be eventually transported to surface waters, including flood plain areas.</p> <p>The Basin Plan has a narrative objective for floating material, Waters shall not contain floating material, including solids, liquids, foams, and scum, in concentrations that cause nuisance or adversely affect beneficial uses.</p> <p>The Basin Plan has a narrative objective for settleable material, Waters shall not contain substances in concentrations that result in the deposition of material that cause nuisance or adversely affect beneficial uses.</p>
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) - San Francisco Bay Region (Region 2)
Evaluation Guideline:	<p>If the Rapid Trash Assessment (RTA) Parameter 1 (Level of Trash) is in the poor condition category (scores 0-5), REC2 is not supported. This level of trash distracts the eye on first glance, making the site unsuitable for recreation. The RTA defines poor condition for this parameter as follows, trash distracts the eye on first glance. Stream, bank surfaces, and immediate riparian zone contain substantial levels of litter and debris (>100 pieces). Evidence of site being used frequently by people: many cans, bottles, and food wrappers, blankets, clothing.</p> <p>If the RTA Parameter 3 (Threat to Aquatic Life) is in the poor condition category (scores 0-5), then WILD is not supported. This level of trash is a large amount (>50 pieces) of transportable, persistent, buoyant litter that is detrimental to aquatic life. The RTA defines poor condition for this parameter as follows, large amount (>50 pieces) of transportable, persistent, buoyant litter such as: hard or soft plastics, balloons, Styrofoam, cigarette butts; toxic items such as batteries, lighters, or spray cans; large clumps of yard waste or dumped leaf litter; or large amount (>50 pieces) of settleable glass or metal.</p>
Guideline Reference:	A Rapid Trash Assessment Method Applied to Waters of the San Francisco Bay Region:Trash Measurement in Streams
Spatial Representation:	RTA data were collected for this waterbody at one location in 2003 and 2004. This location scored in the poor condition category for the threat to aquatic life parameter.
Temporal Representation:	RTA data were collected for this waterbody in March, July, and October in 2003 and March 2004. Data from all four months scored in the poor condition category for the threat to aquatic life parameter.
Environmental Conditions:	

QAPP Information: For RTA trash assessment data to be considered, the data must have been collected by field operators that have received a 2-hour training in the Rapid Trash Assessment methodology.

QAPP Information Reference(s):

DECISION ID	44047	Region 2
Permanente Creek		

Pollutant:	Ammonia (Unionized) Nitrogen, ammonia (Total Ammonia)
Final Listing Decision:	Do Not List on 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision:	Do Not List on 303(d) list (TMDL required list)(2012)
Revision Status	Original
Impairment from Pollutant or Pollution:	Pollutant

Regional Board Staff Conclusion: These pollutants are being considered for placement on the section 303(d) list under section 3.1 of the Listing Policy. Under section 3.1 a single line of evidence is necessary to assess listing status. One line of evidence is available in the administrative record to assess this pollutant. None of the samples exceed the water quality objective. Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against placing this water segment-pollutant combination on the section 303(d) list in the Water Quality Limited Segments category. This conclusion is based on the staff findings that: 1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy. 2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy. 3. None of six samples exceeded the water quality objective and this does not exceed the allowable frequency listed in Table 3.1 of the Listing Policy. 4. Pursuant to section 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.

Regional Board Staff Decision Recommendation: This is a decision previously approved by the State Water Resources Control Board and the USEPA. No new data were assessed by the Regional Board for the current. The decision has not changed.

Line of Evidence (LOE) for Decision ID 44047, Multiple Pollutants	Region 2
Permanente Creek	

LOE ID:	28069
Pollutant:	Ammonia (Unionized) Nitrogen, ammonia (Total Ammonia)
LOE Subgroup:	Pollutant-Water
Matrix:	Water
Fraction:	None
Beneficial Use:	Cold Freshwater Habitat
Number of Samples:	6
Number of Exceedances:	0
Data and Information Type:	PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality:	Six water samples were collected by SWAMP Program to assess concentrations of total ammonia and un-ionized ammonia. None of them exceeded the evaluation criteria.
Data Reference:	Water Quality Monitoring and Bioassessment in Nine San Francisco Bay Region Watersheds: Walker Creek, Lagunitas Creek, San Leandro Creek, Wildcat Creek/San Pablo Creek, Suisun Creek, Arroyo Las Positas, Pescadero Creek/Butano Creek, San Gregorio Creek, and Stevens Creek/Permanente Creek, Oakland, CA: Surface Water Ambient Monitoring Program, San Francisco Bay Regional Water Quality Control Board
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	All waters shall be maintained free of toxic substances in concentrations that produce

detrimental physiological responses in human, plant, animal, or aquatic life. This objective applies regardless of whether the toxicity is caused by a single substance or the interactive effect of multiple substances.

The San Francisco Bay Regional Water Quality Board Basin Plan stated that the discharge of wastes shall not cause receiving water to contain concentrations of un-ionized ammonia in excess of 0.025mg/l annual median.

Objective/Criterion Reference:

[Water Quality Control Plan \(Basin Plan\) - San Francisco Bay Region \(Region 2\)](#)

Evaluation Guideline:

For Total Ammonia: EPA's Lifetime Health advisory level for total ammonia is 30.0 mg/L as stated on page 8 of the 2006 edition of the drinking water standards and health advisories. This Advisory Level is defined as "the concentration of a chemical in drinking water that is not expected to cause any adverse noncarcinogenic effects for up to ten days of exposure."

Guideline Reference:

[2006 edition of the drinking water standards and health advisories. EPA 822-R-03-013](#)

Spatial Representation:

Data were collected at two sampling locations representative of upper reach of the creek PER070 (3 samples) and the lower reach at the bottom of the watershed PER010 (3 samples).

Temporal Representation:

Samples were collected from three seasons, dry, spring and wet season of 2002.

Environmental Conditions:

QAPP Information:

The QA was in compliance with SWAMP Quality Assurance Management Plan.

QAPP Information Reference(s):

DECISION ID	42658	Region 2
Permanente Creek		

Pollutant:	Anthracene Benzo(a)anthracene Benzo(a)pyrene (3,4-Benzopyrene -7-d) Chrysene (C1-C4) DDD (Dichlorodiphenyldichloroethane) DDE (Dichlorodiphenyldichloroethylene) DDT (Dichlorodiphenyltrichloroethane) Dieldrin Endrin Fluoranthene Fluorene Heptachlor epoxide Lindane/gamma Hexachlorocyclohexane (gamma-HCH) Naphthalene PAHs (Polycyclic Aromatic Hydrocarbons) PCBs (Polychlorinated biphenyls) Phenanthrene Pyrene
Final Listing Decision:	Do Not List on 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision:	Do Not List on 303(d) list (TMDL required list)(2012)
Revision Status	Original
Impairment from Pollutant or Pollution:	Pollutant
Regional Board Staff Conclusion:	These pollutants are being considered for placement on the section 303(d) list under section 3.1 of the Listing Policy. Under this section a single line of evidence is necessary to assess listing status. One line of evidence is available in the administrative record to assess these pollutants. Zero samples exceed the water quality objective. Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against placing this water segment-pollutant combination on the section 303(d) list in the Water Quality Limited Segments category. This conclusion is based on the staff findings that: 1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy. 2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy. 3. Zero of one sample exceed the water quality objective, but this sample size is insufficient to determine with the power and confidence of the Listing Policy if standards are not met. A minimum of two samples are needed for application of table 3.1. 4. Pursuant to section 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.
Regional Board Staff Decision Recommendation:	This is a decision previously approved by the State Water Resources Control Board and the USEPA. No new data were assessed by the Regional Board for the current. The decision has not changed.

Line of Evidence (LOE) for Decision ID 42658, Multiple Pollutants	Region 2
Permanente Creek	

LOE ID: 28652

Pollutant: Anthracene | Benzo(a)anthracene | Benzo(a)pyrene (3,4-Benzopyrene -7-d) | Chrysene (C1-C4) | DDD (Dichlorodiphenyldichloroethane) | DDE (Dichlorodiphenyldichloroethylene) | DDT (Dichlorodiphenyltrichloroethane) | Dieldrin | Endrin | Fluoranthene | Fluorene | Heptachlor epoxide | Lindane/gamma Hexachlorocyclohexane (gamma-HCH) | Naphthalene | PAHs (Polycyclic Aromatic Hydrocarbons) | PCBs (Polychlorinated biphenyls) | Phenanthrene | Pyrene

LOE Subgroup: Pollutant-Sediment

Matrix: Sediment

Fraction: None

Beneficial Use: Cold Freshwater Habitat

Number of Samples: 1

Number of Exceedances: 0

Data and Information Type: PHYSICAL/CHEMICAL MONITORING

Data Used to Assess Water Quality: Concentrations of anthracene, fluorene, naphthalene, phenanthrene, benz(a)anthracene, benzo(a)pyrene, chrysene, fluoranthene, pyrene, PAH (total), PCB (total), dieldrin, DDD/DDE/DDT, endrin, heptachlor epoxide, and HCH, gamma in one sediment sample collected in June 2002 did not exceed the sediment quality guidelines.

Data Reference: [Water Quality Monitoring and Bioassessment in Nine San Francisco Bay Region Watersheds: Walker Creek, Lagunitas Creek, San Leandro Creek, Wildcat Creek/San Pablo Creek, Suisun Creek, Arroyo Las Positas, Pescadero Creek/Butano Creek, San Gregorio Creek, and Stevens Creek/Permanente Creek, Oakland, CA: Surface Water Ambient Monitoring Program, San Francisco Bay Regional Water Quality Control Board](#)

SWAMP Data: SWAMP

Water Quality Objective/Criterion: All waters shall be maintained free of toxic substances that are lethal to or that produce other detrimental responses in aquatic organisms.

Objective/Criterion Reference: [Water Quality Control Plan \(Basin Plan\) - San Francisco Bay Region \(Region 2\)](#)

Evaluation Guideline: Sediment Quality Guidelines (MacDonald et al., 2000): PEC (probable effect concentration) Anthracene - 845 ug/kg; Fluorene - 536 ug/kg; Naphthalene - 561 ug/kg; Phenanthrene - 1170 ug/kg; Benz(a)anthracene - 1050 ug/kg; Benzo(a)pyrene - 1450 ug/kg; Chrysene - 1290 ug/kg; Fluoranthene - 2230 ug/kg; Pyrene - 1520 ug/kg; PAH (total) - 22800 ug/kg; PCB (total) - 676 ug/kg; Chlordane - 17.6 ug/kg; Dieldrin - 61.8 ug/kg; DDD (sum op + pp) - 28 ug/kg; DDE (sum op + pp) - 31.3 ug/kg; DDT (sum op + pp) - 62.9 ug/kg; DDT (total) - 572 ug/kg; Endrin - 207 ug/kg; Heptachlor epoxide - 16 ug/kg; HCH, gamma - 4.99 ug/kg.

Guideline Reference: [Development and evaluation of consensus-based sediment quality guidelines for freshwater ecosystems. Environmental Contamination and Toxicology. 39: 20-31](#)

Spatial Representation: One sediment sample was collected on Permanente Creek at Charleston Road.

Temporal Representation: Sediment sample collected at a "watershed integrator" site near the mouth of the Permanente Creek in June of 2002.

Environmental Conditions:

QAPP Information: All samples were collected and analyzed using procedures comparable with the SWAMP Quality Assurance Management Plan (SWRCB, 2002).

QAPP Information Reference(s):

DECISION ID	44141	Region 2
Permanente Creek		

Pollutant: Arsenic | Cadmium | Chromium (total) | Copper | Lead | Mercury | Nickel | Zinc

Final Listing Decision: Do Not List on 303(d) list (TMDL required list)

Last Listing Cycle's Final Listing Decision: Do Not List on 303(d) list (TMDL required list)(2012)

Revision Status
Impairment from Pollutant or
Pollution:

Original
Pollutant

Regional Board Staff
Conclusion:

These pollutants are being considered for placement on the section 303(d) list under section 3.1 of the Listing Policy. Under this section a single line of evidence is necessary to assess listing status. One line of evidence is available in the administrative record to assess these pollutants. Zero samples exceed the water quality objective. Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against placing this water segment-pollutant combination on the section 303(d) list in the Water Quality Limited Segments category. This conclusion is based on the staff findings that: 1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy. 2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy. 3. Zero of one sample exceed the water quality objective, but this sample size is insufficient to determine with the power and confidence of the Listing Policy if standards are not met. A minimum of two samples are needed for application of table 3.1. 4. Pursuant to section 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.

Regional Board Staff Decision
Recommendation:

This is a decision previously approved by the State Water Resources Control Board and the USEPA. No new data were assessed by the Regional Board for the current. The decision has not changed.

Line of Evidence (LOE) for Decision ID 44141, Multiple Pollutants

Region 2

Permanente Creek

LOE ID: 28648

Pollutant: Arsenic | Cadmium | Chromium (total) | Copper | Lead | Mercury | Nickel | Zinc
LOE Subgroup: Pollutant-Sediment
Matrix: Sediment
Fraction: Total

Beneficial Use: Cold Freshwater Habitat

Number of Samples: 1
Number of Exceedances: 0

Data and Information Type: PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality: Concentrations of arsenic, cadmium, chromium, copper, lead, mercury, nickel and zinc in one sediment sample collected in June of 2002 did not exceed the sediment quality guidelines.

Data Reference: [Water Quality Monitoring and Bioassessment in Nine San Francisco Bay Region Watersheds: Walker Creek, Lagunitas Creek, San Leandro Creek, Wildcat Creek/San Pablo Creek, Suisun Creek, Arroyo Las Positas, Pescadero Creek/Butano Creek, San Gregorio Creek, and Stevens Creek/Permanente Creek, Oakland, CA: Surface Water Ambient Monitoring Program, San Francisco Bay Regional Water Quality Control Board](#)

SWAMP Data: SWAMP

Water Quality Objective/Criterion: All waters shall be maintained free of toxic substances that are lethal to or that produce other detrimental responses in aquatic organisms.

Objective/Criterion Reference: [Water Quality Control Plan \(Basin Plan\) - San Francisco Bay Region \(Region 2\)](#)

Evaluation Guideline: Sediment Quality Guidelines (MacDonald et al., 2000): PEC (probable effect concentration) arsenic - 33 mg/kg dw; cadmium - 4.98 mg/kg dw; chromium - 111 mg/kg dw; copper - 149 mg/kg dw; lead - 128 mg/kg dw; mercury - 1.06 mg/kg dw; nickel - 48.6 mg/kg dw; zinc - 459 mg/kg dw.

Guideline Reference: [Development and evaluation of consensus-based sediment quality guidelines for freshwater ecosystems. Environmental Contamination and Toxicology. 39: 20-31](#)

Spatial Representation: One sediment sample was collected at a "watershed integrator" site located close to the mouth of Permanente Creek at Charleston Road.

Temporal Representation:	Sediment sample was collected in June of 2002.
Environmental Conditions:	
QAPP Information:	All samples were collected and analyzed using procedures comparable with the SWAMP Quality Assurance Management Plan (SWRCB, 2002).
QAPP Information Reference(s):	

DECISION ID	44088	Region 2
Permanente Creek		

Pollutant:	Arsenic Chromium (total) Copper Lead Nickel Silver Zinc
Final Listing Decision:	Do Not List on 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision:	Do Not List on 303(d) list (TMDL required list)(2012)
Revision Status	Original
Impairment from Pollutant or Pollution:	Pollutant

Regional Board Staff Conclusion: These pollutants are being considered for placement on the section 303(d) list under section 3.1 of the Listing Policy. Under section 3.1 a single line of evidence is necessary to assess listing status. One line of evidence is available in the administrative record to assess this pollutant. None of the samples exceed the water quality objective. Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against placing this water segment-pollutant combination on the section 303(d) list in the Water Quality Limited Segments category. This conclusion is based on the staff findings that: 1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy. 2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy. 3. None of six samples exceeded the water quality objective and this does not exceed the allowable frequency listed in Table 3.1 of the Listing Policy. 4. Pursuant to section 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.

Regional Board Staff Decision Recommendation: This is a decision previously approved by the State Water Resources Control Board and the USEPA. No new data were assessed by the Regional Board for the current. The decision has not changed.

Line of Evidence (LOE) for Decision ID 44088, Multiple Pollutants	Region 2
Permanente Creek	

LOE ID:	29026
Pollutant:	Arsenic Chromium (total) Copper Lead Nickel Silver Zinc
LOE Subgroup:	Pollutant-Water
Matrix:	Water
Fraction:	Dissolved
Beneficial Use:	Cold Freshwater Habitat
Number of Samples:	6
Number of Exceedances:	0
Data and Information Type:	PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality:	The Permanente Creek watershed was monitored as part of SWAMP assessment. None of the three samples exceeded the water quality objectives for arsenic, chromium VI, copper, lead, nickel, silver and zinc. Concentrations of total dissolved chromium were well below the objective for chromium VI.
Data Reference:	Water Quality Monitoring and Bioassessment in Nine San Francisco Bay Region Watersheds: Walker Creek, Lagunitas Creek, San Leandro Creek, Wildcat Creek/San Pablo Creek, Suisun Creek, Arroyo Las Positas, Pescadero Creek/Butano Creek, San Gregorio Creek, and Stevens Creek/Permanente Creek. Oakland, CA: Surface Water Ambient Monitoring Program, San Francisco Bay Regional Water Quality Control Board

SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	All waters shall be maintained free of toxic substances that are lethal to or that produce other detrimental responses in aquatic organisms. Table 3-4 in the Basin Plan (2007) lists freshwater water quality objectives for toxic pollutants: arsenic- 150 ug/L, chromium VI- 11 ug/L, copper - 9.0 ug/L, lead - 2.5 ug/L; nickel - 52 ug/L, silver-3.4 ug/L and zinc - 120 ug/L.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) - San Francisco Bay Region (Region 2)
Evaluation Guideline:	
Guideline Reference:	
Spatial Representation:	Data were collected at two sampling locations on Permanente Creek - PER010 (Charleston Rd) and PER070 (Rancho San Antonio).
Temporal Representation:	Samples were collected during spring, wet, and dry seasons of the 2001-2002 sampling season.
Environmental Conditions:	
QAPP Information:	All samples were collected and analyzed using procedures comparable with the SWAMP Quality Assurance Management Plan (SWRCB, 2002).
QAPP Information Reference(s):	Quality Assurance Management Plan for the State of California's Surface Water Ambient Monitoring Program. Sacramento, CA. State Water Resources Control Board. SWAMP. December 2002 (1st version)

DECISION ID	43379	Region 2
Permanente Creek		

Pollutant:	Cadmium
Final Listing Decision:	Do Not List on 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision:	Do Not List on 303(d) list (TMDL required list)(2012)
Revision Status	Original
Impairment from Pollutant or Pollution:	Pollutant
Regional Board Staff Conclusion:	This pollutant is being considered for placement on the section 303(d) list under section 3.1 of the Listing Policy. Under section 3.1 a single line of evidence is necessary to assess listing status. One line of evidence is available in the administrative record to assess this pollutant. None of the samples exceed the water quality objective. Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against placing this water segment-pollutant combination on the section 303(d) list in the Water Quality Limited Segments category. This conclusion is based on the staff findings that: 1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy. 2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy. 3. None of six samples exceeded the water quality objective and this does not exceed the allowable frequency listed in Table 3.1 of the Listing Policy.
Regional Board Staff Decision Recommendation:	This is a decision previously approved by the State Water Resources Control Board and the USEPA. No new data were assessed by the Regional Board for the current. The decision has not changed.

Line of Evidence (LOE) for Decision ID 43379, Cadmium	Region 2
Permanente Creek	

LOE ID:	27991
Pollutant:	Cadmium
LOE Subgroup:	Pollutant-Water
Matrix:	Water
Fraction:	None

Beneficial Use:	Cold Freshwater Habitat
Number of Samples:	6
Number of Exceedances:	0
Data and Information Type:	PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality:	Six water samples were assessed. Concentrations of cadmium did not exceed the water quality objectives.
Data Reference:	Water Quality Monitoring and Bioassessment in Nine San Francisco Bay Region Watersheds: Walker Creek, Lagunitas Creek, San Leandro Creek, Wildcat Creek/San Pablo Creek, Suisun Creek, Arroyo Las Positas, Pescadero Creek/Butano Creek, San Gregorio Creek, and Stevens Creek/Permanente Creek. Oakland, CA: Surface Water Ambient Monitoring Program, San Francisco Bay Regional Water Quality Control Board
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	The objective in the Basin Plan is expressed by formulas where $H = \ln(\text{hardness})$ as CaCO_3 in mg/l: The four-day average objective for cadmium is $e^{(0.7852H - 3.490)}$. This is 1.1 ug/l at a hardness of 100mg/l as CaCO_3 . The one hour objective is $e^{(1.128H - 3.828)}$. This is 3.9ug/l at a hardness of 100mg/l as CaCO_3 .
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) - San Francisco Bay Region (Region 2)
Evaluation Guideline:	
Guideline Reference:	
Spatial Representation:	Data were collected at two sampling locations representative of upper reach of the creek PER070 (3 samples) and the lower reach at the bottom of the watershed PER010 (3 samples).
Temporal Representation:	The samples were collected in three seasons, Spring, Wet and Dry of 2002.
Environmental Conditions:	
QAPP Information:	The QA/QC procedure was in compliance with Surface Water Ambient Monitoring Program's (SWAMP) Quality Assurance Management Plan (QAMP).
QAPP Information Reference(s):	

DECISION ID	44142	Region 2
Permanente Creek		

Pollutant:	Chlordane
Final Listing Decision:	Do Not List on 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision:	Do Not List on 303(d) list (TMDL required list)(2012)
Revision Status	Original
Impairment from Pollutant or Pollution:	Pollutant
Regional Board Staff Conclusion:	This pollutant is being considered for placement on the section 303(d) list under section 3.1 of the Listing Policy. Under this section a single line of evidence is necessary to assess listing status. One line of evidence is available in the administrative record to assess this pollutant. One sample exceeds the water quality objective. Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against placing this water segment-pollutant combination on the section 303(d) list in the Water Quality Limited Segments category. This conclusion is based on the staff findings that: 1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy. 2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy. 3. One out of one sample exceeded the water quality objective, but this sample size is insufficient to determine with the power and confidence of the Listing Policy if standards are not met. A minimum of two samples are needed for application of table 3.1. 4. Pursuant to section 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.
Regional Board Staff Decision Recommendation:	This is a decision previously approved by the State Water Resources Control Board and the USEPA. No new data were assessed by the Regional Board for the current. The decision has not changed.

Line of Evidence (LOE) for Decision ID 44142, Chlordane**Region 2****Permanente Creek**

LOE ID:	28777
Pollutant:	Chlordane
LOE Subgroup:	Pollutant-Sediment
Matrix:	Sediment
Fraction:	None
Beneficial Use:	Cold Freshwater Habitat
Number of Samples:	1
Number of Exceedances:	1
Data and Information Type:	PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality:	Chlordane exceeded the PEC (sediment quality guidelines) with a sample concentration of 55.1 ug/kg in one sediment sample collected in June 2002.
Data Reference:	Water Quality Monitoring and Bioassessment in Nine San Francisco Bay Region Watersheds: Walker Creek, Lagunitas Creek, San Leandro Creek, Wildcat Creek/San Pablo Creek, Suisun Creek, Arroyo Las Positas, Pescadero Creek/Butano Creek, San Gregorio Creek, and Stevens Creek/Permanente Creek, Oakland, CA: Surface Water Ambient Monitoring Program, San Francisco Bay Regional Water Quality Control Board
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	All waters shall be maintained free of toxic substances that are lethal to or that produce other detrimental responses in aquatic organisms.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) - San Francisco Bay Region (Region 2)
Evaluation Guideline:	Sediment Quality Guidelines (MacDonald et al., 2000): PEC (probable effect concentration) Chlordane - 17.6 ug/kg.
Guideline Reference:	Development and evaluation of consensus-based sediment quality guidelines for freshwater ecosystems. Environmental Contamination and Toxicology. 39: 20-31
Spatial Representation:	One sediment sample was collected on Permanente Creek at Charleston Road.
Temporal Representation:	Sediment sample collected at a "watershed integrator" site near the mouth of the Permanente Creek in June of 2002.
Environmental Conditions:	
QAPP Information:	All samples were collected and analyzed using procedures comparable with the SWAMP Quality Assurance Management Plan (SWRCB, 2002).
QAPP Information Reference(s):	

DECISION ID**43387****Region 2****Permanente Creek**

Pollutant:	Chlorpyrifos Dacthal Diazinon Disulfoton Endosulfan Lindane/gamma Hexachlorocyclohexane (gamma-HCH) Methyl Parathion PCBs (Polychlorinated biphenyls) Thiobencarb/Bolero
Final Listing Decision:	Do Not List on 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision:	Do Not List on 303(d) list (TMDL required list)(2012)
Revision Status	Original
Impairment from Pollutant or Pollution:	Pollutant
Regional Board Staff Conclusion:	These pollutants are being considered for placement on the section 303(d) list under section 3.1 of the Listing Policy. Under section 3.1 a single line of evidence is necessary to assess listing status.

One line of evidence is available in the administrative record to assess this pollutant. None of the samples exceed the water quality objective. Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against placing this water segment-pollutant combination on the section 303(d) list in the Water Quality Limited Segments category. This conclusion is based on the staff findings that: 1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy. 2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy. 3. None of six samples exceeded the water quality objective and this does not exceed the allowable frequency listed in Table 3.1 of the Listing Policy. 4. Pursuant to section 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.

Regional Board Staff Decision Recommendation: This is a decision previously approved by the State Water Resources Control Board and the USEPA. No new data were assessed by the Regional Board for the current. The decision has not changed.

Line of Evidence (LOE) for Decision ID 43387, Multiple Pollutants

Region 2

Permanente Creek

LOE ID:	29011
Pollutant:	Chlorpyrifos Dacthal Diazinon Disulfoton Endosulfan Lindane/gamma Hexachlorocyclohexane (gamma-HCH) Methyl Parathion PCBs (Polychlorinated biphenyls) Thiobencarb/Bolero
LOE Subgroup:	Pollutant-Water
Matrix:	Water
Fraction:	None
Beneficial Use:	Cold Freshwater Habitat
Number of Samples:	6
Number of Exceedances:	0
Data and Information Type:	PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality:	The Permanente Creek watershed was monitored as part of SWAMP assessment. None of the six samples exceeded the water quality objectives for Chlorpyrifos, Dacthal, diazinon, disulfoton, endosulfan, Lindane/gamma Hexachlorocyclohexane (gamma-HCH), methyl parathion, thiobencarb.
Data Reference:	Water Quality Monitoring and Bioassessment in Nine San Francisco Bay Region Watersheds: Walker Creek, Lagunitas Creek, San Leandro Creek, Wildcat Creek/San Pablo Creek, Suisun Creek, Arroyo Las Positas, Pescadero Creek/Butano Creek, San Gregorio Creek, and Stevens Creek/Permanente Creek. Oakland, CA: Surface Water Ambient Monitoring Program, San Francisco Bay Regional Water Quality Control Board Data collected by the Surface Water Ambient Monitoring Program, San Francisco Bay Regional Water Quality Control Board. Years 4 and 5 Assessment
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	All waters shall be maintained free of toxic substances that are lethal to or that produce other detrimental responses in aquatic organisms. There shall be no chronic toxicity in ambient waters. Chronic toxicity is a detrimental biological effect on growth rate, reproduction, fertilization success, larval development, population abundance, community composition, or any other relevant measure of the health of an organism, population, or community. Diazinon water quality objective, 0.1 ug/L (acute)
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) - San Francisco Bay Region (Region 2)
Evaluation Guideline:	PCBs - 0.014 ug/L freshwater continuous Concentration; Chlorpyrifos - 0.015 ug/L (chronic); Dacthal (DCPA) - 14300 ug/L (acute); Disulfoton (Disyston) - 0.05 ug/L (acute); Endosulfan - 0.056 ug/L (chronic)/0.22 ug/L (acute); HCH, gamma-(gamma BHC, Lindane) - 0.95 ug/L (acute); methyl parathion - 0.08 ug/L (acute); Thiobencarb - 3.1 ug/L (acute).
Guideline Reference:	National recommended water quality criteria: 2002. EPA-822-R-02-047 Washington, D.C.

Spatial Representation:	Data were collected at two sampling locations: PER010 (Charleston Rd) and PER070 (Rancho San Antonio) in the Permanente Creek.
Temporal Representation:	Samples were collected at two locations during wet, spring and dry seasons of the 2001 - 2002 sampling season.
Environmental Conditions:	
QAPP Information:	All samples were collected and analyzed using procedures comparable with the SWAMP Quality Assurance Management Plan (SWRCB, 2002).
QAPP Information Reference(s):	Quality Assurance Management Plan for the State of California's Surface Water Ambient Monitoring Program, Sacramento, CA. State Water Resources Control Board. SWAMP. December 2002 (1st version)

DECISION ID	43388	Region 2
Permanente Creek		
Pollutant:	Copper Lead Nickel Silver Zinc	
Final Listing Decision:	Do Not List on 303(d) list (TMDL required list)	
Last Listing Cycle's Final Listing Decision:	Do Not List on 303(d) list (TMDL required list)(2012)	
Revision Status	Original	
Impairment from Pollutant or Pollution:	Pollutant	
Regional Board Staff Conclusion:	These pollutants are being considered for placement on the section 303(d) list under section 3.1 of the Listing Policy. Under section 3.1 a single line of evidence is necessary to assess listing status. One line of evidence is available in the administrative record to assess this pollutant. None of the samples exceed the water quality objective. Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against placing this water segment-pollutant combination on the section 303(d) list in the Water Quality Limited Segments category. This conclusion is based on the staff findings that: 1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy. 2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy. 3. None of six samples exceeded the water quality objective and this does not exceed the allowable frequency listed in Table 3.1 of the Listing Policy. 4. Pursuant to section 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.	
Regional Board Staff Decision Recommendation:	This is a decision previously approved by the State Water Resources Control Board and the USEPA. No new data were assessed by the Regional Board for the current. The decision has not changed.	

Line of Evidence (LOE) for Decision ID 43388, Multiple Pollutants		Region 2
Permanente Creek		
LOE ID:	27964	
Pollutant:	Copper Lead Nickel Silver Zinc	
LOE Subgroup:	Pollutant-Water	
Matrix:	Water	
Fraction:	None	
Beneficial Use:	Cold Freshwater Habitat	
Number of Samples:	6	
Number of Exceedances:	0	
Data and Information Type:	PHYSICAL/CHEMICAL MONITORING	
Data Used to Assess Water Quality:	The Permanente Creek watershed was monitored as part of SWAMP assessment. None of the six samples exceeded the water quality objectives for copper, lead, nickel, silver and zinc.	

Data Reference:	Water Quality Monitoring and Bioassessment in Nine San Francisco Bay Region Watersheds: Walker Creek, Lagunitas Creek, San Leandro Creek, Wildcat Creek/San Pablo Creek, Suisun Creek, Arroyo Las Positas, Pescadero Creek/Butano Creek, San Gregorio Creek, and Stevens Creek/Permanente Creek. Oakland, CA: Surface Water Ambient Monitoring Program, San Francisco Bay Regional Water Quality Control Board
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	Table 3-4 in the Basin Plan (2007) lists freshwater water quality objectives for toxic pollutants: copper - 9.0 ug/L, lead - 2.5 ug/L; nickel - 52 ug/L, silver - 3.4 ug/L and zinc - 120 ug/L.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) - San Francisco Bay Region (Region 2)
Evaluation Guideline:	
Guideline Reference:	Water Quality Monitoring and Bioassessment in Nine San Francisco Bay Region Watersheds: Walker Creek, Lagunitas Creek, San Leandro Creek, Wildcat Creek/San Pablo Creek, Suisun Creek, Arroyo Las Positas, Pescadero Creek/Butano Creek, San Gregorio Creek, and Stevens Creek/Permanente Creek. Oakland, CA: Surface Water Ambient Monitoring Program, San Francisco Bay Regional Water Quality Control Board
Spatial Representation:	Data were collected at two sampling locations representative of upper reach of the creek PER070 (3 samples) and the lower reach at the bottom of the watershed PER010 (3 samples).
Temporal Representation:	The samples were collected from three different seasons: wet, dry, and spring of 2002.
Environmental Conditions:	
QAPP Information:	The Quality Control is is conducted in accordance with SWAMP's Quality Management Plan of 2002.
QAPP Information Reference(s):	

DECISION ID	44143	Region 2
Permanente Creek		
Pollutant:	Escherichia coli (E. coli)	
Final Listing Decision:	Do Not List on 303(d) list (TMDL required list)	
Last Listing Cycle's Final Listing Decision:	Do Not List on 303(d) list (TMDL required list)(2012)	
Revision Status	Original	
Impairment from Pollutant or Pollution:	Pollutant	
Regional Board Staff Conclusion:	<p>This pollutant is being considered for placement on the section 303(d) list under section 3.2 of the Listing Policy. Under this section a single line of evidence is necessary to assess listing status. One line of evidence is available in the administrative record to assess this pollutant. One out of one sample exceeded the water quality objective. Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against placing this water segment-pollutant combination on the section 303(d) list in the Water Quality Limited Segments category. This conclusion is based on the staff findings that: 1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy. 2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy. 3. One out of one sample exceeded the water quality objective, but this sample size is insufficient to determine with the power and confidence of the Listing Policy if standards are not met. A minimum of five samples is needed for application of table 3.2. 4. Pursuant to section 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.</p>	
Regional Board Staff Decision Recommendation:	<p>This is a decision previously approved by the State Water Resources Control Board and the USEPA. No new data were assessed by the Regional Board for the current. The decision has not changed.</p>	

Line of Evidence (LOE) for Decision ID 44143, Escherichia coli (E. coli)	Region 2
Permanente Creek	

LOE ID:	29020
Pollutant:	Escherichia coli (E. coli)
LOE Subgroup:	Pollutant-Water
Matrix:	Water
Fraction:	None
Beneficial Use:	Water Contact Recreation
Number of Samples:	1
Number of Exceedances:	1
Data and Information Type:	PATHOGEN MONITORING
Data Used to Assess Water Quality:	Samples were collected as part of SWAMP sampling in the summer of 2002 at 7-day intervals and the geometric mean of the samples calculated over a five week interval. Samples were collected at one location, PER080, every 7 days for a total of 30 days. The geometric mean was 145 MPN/100 mL, which exceeds the 126 MPN/100ml criteria.
Data Reference:	Water Quality Monitoring and Bioassessment in Nine San Francisco Bay Region Watersheds: Walker Creek, Lagunitas Creek, San Leandro Creek, Wildcat Creek/San Pablo Creek, Suisun Creek, Arroyo Las Positas, Pescadero Creek/Butano Creek, San Gregorio Creek, and Stevens Creek/Permanente Creek. Oakland, CA: Surface Water Ambient Monitoring Program. San Francisco Bay Regional Water Quality Control Board
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	<p>Uses of water for recreational activities involving body contact with water where ingestion of water is reasonably possible. These uses include, but are not limited to, swimming, wading, water-skiing, skin and scuba diving, surfing, whitewater activities, fishing, and uses of natural hot springs.</p> <p>Water contact implies a risk of waterborne disease transmission and involves human health; accordingly, criteria required to protect this use are more stringent than those for more casual water-oriented recreation.</p> <p>U.S. EPA water quality criteria for water contact recreation based on the frequency of use a particular area receives - 1986: the E. coli criterion is not to exceed 126 organisms/100 mL. The value is expressed as a 7-day geometric mean based on five or more samples per 30?day period; designated beach (max) 235 MPN/100 mL.</p>
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) - San Francisco Bay Region (Region 2) Ambient Water Quality Criteria for Bacteria - 1986. EPA440/5-84-002
Evaluation Guideline:	
Guideline Reference:	
Spatial Representation:	Samples were collected at PER080 (Lower Meadow/West Branch).
Temporal Representation:	Samples were collected weekly from 7/22/2002 through 8/19/2002.
Environmental Conditions:	
QAPP Information:	All samples were collected and analyzed using procedures comparable with the SWAMP Quality Assurance Management Plan (SWRCB, 2002).
QAPP Information Reference(s):	Quality Assurance Management Plan for the State of California's Surface Water Ambient Monitoring Program. Sacramento, CA. State Water Resources Control Board. SWAMP. December 2002 (1st version)

DECISION ID	43478	Region 2
Permanente Creek		

Pollutant:	Oxygen, Dissolved
Final Listing Decision:	Do Not List on 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision:	Do Not List on 303(d) list (TMDL required list)(2012)
Revision Status	Original

Impairment from Pollutant or Pollution: Pollutant

Regional Board Staff Conclusion:

This pollutant is being considered for placement on the section 303(d) list under section 3.2 of the Listing Policy. Under section 3.2 a single line of evidence is necessary to assess listing status. One line of evidence is available in the administrative record to assess this pollutant. Three of the samples exceed the water quality objective. Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against placing this water segment-pollutant combination on the section 303(d) list in the Water Quality Limited Segments category. This conclusion is based on the staff findings that: 1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy. 2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy. 3. Three of five samples exceeded the water quality objective and this sample size is insufficient to determine with the power and confidence of the Listing Policy if standards are not met. A minimum of five samples is needed for application of table 3.1. 4. Pursuant to SECTION 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.

Regional Board Staff Decision Recommendation: This is a decision previously approved by the State Water Resources Control Board and the USEPA. No new data were assessed by the Regional Board for the current. The decision has not changed.

**Line of Evidence (LOE) for Decision ID 43478, Oxygen, Dissolved
Permanente Creek**

Region 2

LOE ID:	29268
Pollutant:	Oxygen, Dissolved
LOE Subgroup:	Pollutant-Water
Matrix:	Water
Fraction:	None
Beneficial Use:	Cold Freshwater Habitat
Number of Samples:	5
Number of Exceedances:	3
Data and Information Type:	PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality:	Water quality assessment was conducted at the Permanente Creek watershed as part of SWAMP study in 2002. Continuous field monitoring at 15 minute increments of temperature, dissolved oxygen, pH and specific conductance was conducted to determine temporal variability in basic water quality at between one or two sites. Continuous monitoring sondes were deployed 5 times at 1-2 monitoring locations during wet, spring and two dry seasons. The 7 day average for dissolved oxygen ranged from 0.81 to 10.71 mg/L. The concentration dropped below the 7.0 mg/L threshold three of the 5 deployments during the 2002 sampling season.
Data Reference:	Water Quality Monitoring and Bioassessment in Nine San Francisco Bay Region Watersheds: Walker Creek, Lagunitas Creek, San Leandro Creek, Wildcat Creek/San Pablo Creek, Suisun Creek, Arroyo Las Positas, Pescadero Creek/Butano Creek, San Gregorio Creek, and Stevens Creek/Permanente Creek. Oakland, CA: Surface Water Ambient Monitoring Program, San Francisco Bay Regional Water Quality Control Board
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	The numeric water quality objective for dissolved oxygen is 7.0 mg/L minimum for waters designated as cold water habitat. The median dissolved oxygen concentration for any three consecutive months shall not be less than 80 percent of the dissolved oxygen content at saturation.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) - San Francisco Bay Region (Region 2)
Evaluation Guideline:	
Guideline Reference:	Water Quality Control Plan (Basin Plan) - San Francisco Bay Region (Region 2)

Spatial Representation:	Dissolved oxygen was measured at between one and two sites located on the mainstream of Permanente Creek that are representative of the entire creek length.
Temporal Representation:	In 2002 the SWAMP Program performed continuous monitoring of dissolved oxygen at 15 minute intervals for periods of 1 to 2 weeks during winter (1 site), spring (1 site), and two summer dry seasons (1, 2 sites).
Environmental Conditions:	
QAPP Information:	All samples were collected and analyzed using procedures comparable with the SWAMP Quality Assurance Management Plan (SWRCB, 2002).
QAPP Information Reference(s):	Quality Assurance Management Plan for the State of California's Surface Water Ambient Monitoring Program, Sacramento, CA, State Water Resources Control Board, SWAMP, December 2002 (1st version)

DECISION ID	44017	Region 2
Permanente Creek		

Pollutant:	Temperature, water
Final Listing Decision:	Do Not List on 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision:	Do Not List on 303(d) list (TMDL required list)(2012)
Revision Status	Original
Impairment from Pollutant or Pollution:	Pollutant
Regional Board Staff Conclusion:	This pollutant is being considered for placement on the section 303(d) list under section 3.2 of the Listing Policy. Under section 3.2 a single line of evidence is necessary to assess listing status. One line of evidence is available in the administrative record to assess this pollutant. Two of the samples exceed the water quality objective. Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against placing this water segment-pollutant combination on the section 303(d) list in the Water Quality Limited Segments category. This conclusion is based on the staff findings that: 1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy. 2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy. 3. Two of five samples exceeded the water quality objective and this sample size is insufficient to determine with the power and confidence of the Listing Policy if standards are not met. A minimum of five samples is needed for application of table 3.2. 4. Pursuant to SECTION 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.
Regional Board Staff Decision Recommendation:	This is a decision previously approved by the State Water Resources Control Board and the USEPA. No new data were assessed by the Regional Board for the current. The decision has not changed.

Line of Evidence (LOE) for Decision ID 44017, Temperature, water	Region 2
Permanente Creek	

LOE ID:	29033
Pollutant:	Temperature, water
LOE Subgroup:	Pollutant-Water
Matrix:	Water
Fraction:	None
Beneficial Use:	Cold Freshwater Habitat
Number of Samples:	5
Number of Exceedances:	2
Data and Information Type:	PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality:	Water quality assessment was conducted at the Permanente Creek watershed as part of SWAMP study in 2001-2003. Continuous field monitoring at 15 minute increments of temperature, dissolved oxygen, pH and specific conductance was conducted to determine

temporal variability in basic water quality at one location. Continuous monitoring sondes were deployed 4 times at 1 monitoring location during wet, spring and two dry seasons. The measured temperatures ranged from 10.59oC to 28.06oC and varied with season and location. The 7-day mean temperature threshold for steelhead was exceeded in 2 of the five deployments during the monitoring season. Both exceedances occurred in summer months.

Data Reference: [Water Quality Monitoring and Bioassessment in Nine San Francisco Bay Region Watersheds: Walker Creek, Lagunitas Creek, San Leandro Creek, Wildcat Creek/San Pablo Creek, Suisun Creek, Arroyo Las Positas, Pescadero Creek/Butano Creek, San Gregorio Creek, and Stevens Creek/Permanente Creek, Oakland, CA: Surface Water Ambient Monitoring Program, San Francisco Bay Regional Water Quality Control Board](#)

SWAMP Data: SWAMP

Water Quality Objective/Criterion: Temperature objectives for enclosed bays and estuaries are specified in the "Water Quality Control Plan for Control of Temperature in the Coastal and Interstate Waters and Enclosed Bays of California" including any revisions to the plan. In addition, the following temperature objectives apply to surface waters: The natural receiving water temperature of intrastate waters shall not be altered unless it can be demonstrated to the satisfaction of the Regional Board that such an alteration does not adversely affect beneficial uses. The temperature of any cold or warm freshwater habitat shall not be increased by more than 5°F (2.8°C) above natural receiving water temperature.

Objective/Criterion Reference: [Water Quality Control Plan \(Basin Plan\) - San Francisco Bay Region \(Region 2\)](#)

Evaluation Guideline: Sullivan et al. (2000) reviewed a wide range of studies incorporating information from laboratory-based research, field observations, and risk assessment approaches and developed criteria for assessing temperature risk to aquatic life. The 7-day mean temperature (maximum value of a 7-day moving average of the daily mean temperature) of 14.8°C was established as the upper threshold criterion for coho salmon and 17.0°C for steelhead trout. The risk assessment approach used by Sullivan et al. (2000) suggest that temperatures exceeding the above thresholds will cause a 10% reduction in average growth compared to optimal conditions.

Guideline Reference: [An Analysis of the Effects of Temperature on Salmonids of the Pacific Northwest with Implications for Selecting Temperature Criteria](#)

Spatial Representation: Temperature was measured at two sites PER010 and PER050 located on the mainstream of Permanente Creek.

Temporal Representation: In 2002-2003 the SWAMP Program performed continuous monitoring of temperature at 15 minute intervals for periods of 1-2 weeks at two locations. PER010 was monitored during four different seasons: winter, spring, and two summer dry seasons. PER050 was monitored in spring runoff season of 2003.

Environmental Conditions:

QAPP Information: All samples were collected and analyzed using procedures comparable with the SWAMP Quality Assurance Management Plan (SWRCB, 2002).

QAPP Information Reference(s): [Quality Assurance Management Plan for the State of California's Surface Water Ambient Monitoring Program, Sacramento, CA, State Water Resources Control Board, SWAMP, December 2002 \(1st version\)](#)

DECISION ID	43386	Region 2
Permanente Creek		

Pollutant:	pH
Final Listing Decision:	Do Not List on 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision:	Do Not List on 303(d) list (TMDL required list)(2012)
Revision Status	Original
Impairment from Pollutant or Pollution:	Pollutant

Regional Board Staff Conclusion: This pollutant is being considered for placement on the section 303(d) list under section 3.2 of the Listing Policy. Under section 3.2 a one line of evidence is necessary to assess listing status. One

line of evidence is available in the administrative record to assess this pollutant. Three of the samples exceed the water quality objective. Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against placing this water segment-pollutant combination on the section 303(d) list in the Water Quality Limited Segments category. This conclusion is based on the staff findings that: 1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy. 2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy. 3. Three of five samples exceeded the water quality objectives and this sample size is insufficient to determine with the power and confidence of the Listing Policy if standards are not met. A minimum of five samples is needed for application of table 3.2. 4. Pursuant to SECTION 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.

Regional Board Staff Decision Recommendation: This is a decision previously approved by the State Water Resources Control Board and the USEPA. No new data were assessed by the Regional Board for the current. The decision has not changed.

Line of Evidence (LOE) for Decision ID 43386, pH

Region 2

Permanente Creek

LOE ID:	29038
Pollutant:	pH
LOE Subgroup:	Pollutant-Water
Matrix:	Water
Fraction:	None
Beneficial Use:	Cold Freshwater Habitat
Number of Samples:	5
Number of Exceedances:	3
Data and Information Type:	PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality:	Water quality assessment was conducted at the Permanente Creek watershed as part of SWAMP study in 2001-2003. Continuous field monitoring of temperature, dissolved oxygen, pH, and specific conductance to determine temporal variability in basic water quality at one or two locations on Permanente Creek. Continuous monitoring sondes were deployed 5 times at 1 or 2 monitoring locations during wet, spring and two dry seasons. The pH ranged from 6.95 to 8.70 and varied with season. The pH exceeded the maximum allowable threshold once during spring monitoring in PER010, and did not drop below the minimum for any deployment.
Data Reference:	Water Quality Monitoring and Bioassessment in Nine San Francisco Bay Region Watersheds: Walker Creek, Lagunitas Creek, San Leandro Creek, Wildcat Creek/San Pablo Creek, Suisun Creek, Arroyo Las Positas, Pescadero Creek/Butano Creek, San Gregorio Creek, and Stevens Creek/Permanente Creek. Oakland, CA: Surface Water Ambient Monitoring Program, San Francisco Bay Regional Water Quality Control Board
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	The pH shall not be depressed below 6.5 nor raised above 8.5. This encompasses the pH range usually found in waters within the basin. Controllable water quality factors shall not cause changes greater than 0.5 units in normal ambient pH levels.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) - San Francisco Bay Region (Region 2)
Evaluation Guideline:	
Guideline Reference:	
Spatial Representation:	pH was measured at 1 or 2 sites located on the mainstream of Permanente Creek.
Temporal Representation:	In 2002-2003 the SWAMP Program performed continuous monitoring of temperature at 15 minute intervals for periods of 1 to 2 weeks at one or two locations in four different seasons: winter, spring, and two summer dry seasons.
Environmental Conditions:	
QAPP Information:	All samples were collected and analyzed using procedures comparable with the SWAMP

DECISION ID	35107	Region 2
Permanente Creek		

Pollutant:	Selenium
Final Listing Decision:	List on 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision:	List on 303(d) list (TMDL required list)(2012)
Revision Status	Original
Sources:	Source Unknown
Expected TMDL Completion Date:	2021
Impairment from Pollutant or Pollution:	Pollutant

Regional Board Staff Conclusion:	This pollutant is being considered for listing under section 3.1 of the Listing Policy. Under section 3.1 a single line of evidence is necessary to assess listing status. Two lines of evidence are available in the administrative record to assess this pollutant. A sufficient number of samples exceed the NTR total selenium criterion for continuous concentration (chronic). Based on the readily available data for this water body, the weight of evidence indicates that there is sufficient justification available in favor of adding this water segment-pollutant combination to the section 303(d) list in the Water Quality Limited Segments category. This conclusion is based on the staff findings that: 1. The data concerning current conditions and supporting the listing decision were collected as part of the SWAMP and satisfy the data quality requirements of section 6.1.4 of the Policy. 2. The data used satisfy the data quantity requirements of section 6.1.5 of the Policy. 3. Six of 12 samples exceeded the NTR criterion for total selenium and this exceeds the allowable frequency listed in Table 3.1 of the Listing Policy. 4. Pursuant to section 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.
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Regional Board Staff Decision Recommendation:	This is a decision previously approved by the State Water Resources Control Board and the USEPA. No new data were assessed by the Regional Board for the current. The decision has not changed.
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Line of Evidence (LOE) for Decision ID 35107, Selenium	Region 2
Permanente Creek	

LOE ID:	4790
Pollutant:	Selenium, Total
LOE Subgroup:	Pollutant-Water
Matrix:	Water
Fraction:	Total
Beneficial Use:	Cold Freshwater Habitat
Aquatic Life Use:	Wildlife Habitat
Number of Samples:	6
Number of Exceedances:	3
Data and Information Type:	PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality:	Water quality assessment was conducted in the Permanente Creek watershed as part of SWAMP assessment. The aim of the monitoring was to determine patterns of water quality, protection of beneficial uses and potential impacts of land use and water management. Sampled parameters included physical and biological indicators, conventional water quality, water metals and toxicity as well as sediment metals and toxicity.

Data Reference:	Three out of six samples collected at two monitoring locations during 2002 exceeded the NTR continuous total selenium concentration criterion. Water Quality Monitoring and Bioassessment in Nine San Francisco Bay Region Watersheds: Walker Creek, Lagunitas Creek, San Leandro Creek, Wildcat Creek/San Pablo Creek, Suisun Creek, Arroyo Las Positas, Pescadero Creek/Butano Creek, San Gregorio Creek, and Stevens Creek/Permanente Creek. Oakland, CA: Surface Water Ambient Monitoring Program, San Francisco Bay Regional Water Quality Control Board
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	NTR total selenium criterion for continuous concentration (chronic objective) in water for the protection of aquatic life is 5.0?g/L (Basin Plan 2007, Table 3-4). The criterion is linked and applicable in streams with waters that support cold water ecosystems, including preservation or enhancement of aquatic habitats, vegetation, fish, or wildlife, including invertebrates.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) - San Francisco Bay Region (Region 2)
Evaluation Guideline:	
Guideline Reference:	
Spatial Representation:	Data were collected at two sampling locations representative of upper reach of the creek (3 samples) and the lower reach at the bottom of the watershed (3 samples).
Temporal Representation:	Samples were collected during spring, dry and wet season of 2002.
Environmental Conditions:	The lower reach data are representative of the predominantly urbanized area with a highly modified channel draining into South San Francisco Bay.
QAPP Information:	All samples were collected and analyzed using procedures comparable with the SWAMP Quality Assurance Management Plan (SWRCB 2002).
QAPP Information Reference(s):	Quality Assurance Management Plan for the State of California's Surface Water Ambient Monitoring Program. Sacramento, CA. State Water Resources Control Board. SWAMP. December 2002 (1st version)

Line of Evidence (LOE) for Decision ID 35107, Selenium Permanente Creek

Region 2

LOE ID:	5765
Pollutant:	Selenium, Total
LOE Subgroup:	Pollutant-Water
Matrix:	Water
Fraction:	Total
Beneficial Use:	Cold Freshwater Habitat
Aquatic Life Use:	Wildlife Habitat
Number of Samples:	6
Number of Exceedances:	3
Data and Information Type:	PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality:	SCVURPPP (2007) monitoring program of Santa Clara Basin creeks collected water quality data at two monitoring locations corresponding to the SWAMP sampling points. Three out of six samples collected in 2005, 2006 and 2007 exceeded the NTR continuous total selenium concentration criterion.
Data Reference:	Monitoring and Assessment Summary Report: Santa Clara Basin Creeks (2002-2007). Watershed Monitoring and Assessment Program
SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	NTR total selenium criterion for continuous concentration (chronic objective) in water for the protection of aquatic life is 5.0?g/L (Basin Plan 2007, Table 3-4). The criterion is linked and applicable in streams with waters that support cold water ecosystems, including preservation or enhancement of aquatic habitats, vegetation, fish, or wildlife, including invertebrates.

Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) - San Francisco Bay Region (Region 2)
Evaluation Guideline:	
Guideline Reference:	
Spatial Representation:	Data were collected at two sampling locations representative of upper reach of the creek (2 samples) and the lower reach at the bottom of the watershed (4 samples).
Temporal Representation:	SCVURPPP samples were collected during dry and wet seasons from 2005 through 2007.
Environmental Conditions:	The lower reach data are representative of the predominantly urbanized area with a highly modified channel draining into South San Francisco Bay.
QAPP Information:	All samples were collected and analyzed using procedures comparable with the SWAMP Quality Assurance Management Plan (SWRCB 2002).
QAPP Information Reference(s):	

DECISION ID	35088	Region 2
Permanente Creek		

Pollutant:	Toxicity
Final Listing Decision:	List on 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision:	List on 303(d) list (TMDL required list)(2012)
Revision Status	Original
Sources:	Source Unknown
Expected TMDL Completion Date:	2021
Impairment from Pollutant or Pollution:	Pollutant

Regional Board Staff Conclusion:	This pollutant is being considered for listing under section 3.6 of the Listing Policy. Under section 3.6 a single line of evidence is necessary to assess listing status. One line of evidence is available in the administrative record to assess this pollutant. This water body experiences toxicity. Based on the readily available data for this water body, the weight of evidence indicates that there is sufficient justification available in favor of adding this water segment-pollutant combination to the section 303(d) list in the Water Quality Limited Segments category. This conclusion is based on the staff findings that: 1. The data concerning current conditions and supporting the listing decision satisfy the data quality requirements of section 6.1.4 of the Policy. 2. The data used satisfy the data quantity requirements of section 6.1.5 of the Policy. 3. Six out of 6 water samples exhibited significant chronic toxicity to Selenastrum and the benthic community was considered to be degraded. The number of samples with detected significant water toxicity exceeds the allowable frequency listed in Table 3.1. 4. Pursuant to section 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.
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Regional Board Staff Decision Recommendation:	This is a decision previously approved by the State Water Resources Control Board and the USEPA. No new data were assessed by the Regional Board for the current. The decision has not changed.
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Line of Evidence (LOE) for Decision ID 35088, Toxicity	Region 2
Permanente Creek	

LOE ID:	8574
Pollutant:	Sediment Toxicity
LOE Subgroup:	Pollutant-Sediment
Matrix:	Sediment
Fraction:	None
Beneficial Use:	Cold Freshwater Habitat
Number of Samples:	1
Number of Exceedances:	1

Data and Information Type:	TOXICITY TESTING
Data Used to Assess Water Quality:	Data used to evaluate sediment toxicity comprise one sediment sample collected by the SWAMP in 2002. The sample displayed statistically significant toxicity during the 10-day Hyalella azteca test and exhibited diminished growth at 72.1% of control. In addition, many organic contaminants were found in the sediment above Threshold Effect Concentrations (TEC). Chlordane was particularly elevated above the Probable Effects Concentration (PEC) of 17.6 ug/kg.
Data Reference:	Water Quality Monitoring and Bioassessment in Nine San Francisco Bay Region Watersheds: Walker Creek, Lagunitas Creek, San Leandro Creek, Wildcat Creek/San Pablo Creek, Suisun Creek, Arroyo Las Positas, Pescadero Creek/Butano Creek, San Gregorio Creek, and Stevens Creek/Permanente Creek. Oakland, CA: Surface Water Ambient Monitoring Program, San Francisco Bay Regional Water Quality Control Board
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	All waters shall be maintained free of toxic substances that are lethal to or that produce other detrimental responses in aquatic organisms.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) - San Francisco Bay Region (Region 2)
Evaluation Guideline:	Sediment toxicity was evaluated according to the SWAMP methodology. Sample toxicity was determined by comparing mean organism response in samples and in negative controls. Statistical evaluation (alpha = 0.05) and a default threshold of 80% of the control value were used to establish whether the sediment exhibited significant toxicity adversely impacting aquatic organisms
Guideline Reference:	Revised approach to toxicity test acceptability criteria using a statistical performance assessment. Environmental Toxicology and Chemistry, vol. 16, No. 6, pp 1322?1329
Spatial Representation:	Data were collected at one sampling location at the lower part of Permanente Creek.
Temporal Representation:	Sample was collected during the dry summer season of 2002.
Environmental Conditions:	The lower reach data are representative of the predominantly urbanized area with a highly modified channel draining into South San Francisco Bay.
QAPP Information:	All samples were collected and analyzed using procedures comparable with the SWAMP Quality Assurance Management Plan (SWRCB 2002).
QAPP Information Reference(s):	Quality Assurance Management Plan for the State of California's Surface Water Ambient Monitoring Program. Sacramento, CA. State Water Resources Control Board. SWAMP. December 2002 (1st version).

Line of Evidence (LOE) for Decision ID 35088, Toxicity
Permanente Creek

Region 2

LOE ID:	8571
Pollutant:	Toxicity
LOE Subgroup:	Pollutant-Water
Matrix:	Water
Fraction:	None
Beneficial Use:	Cold Freshwater Habitat
Number of Samples:	6
Number of Exceedances:	6
Data and Information Type:	TOXICITY TESTING
Data Used to Assess Water Quality:	Six samples were collected in 2002-2003 to evaluate water toxicity at two monitoring locations at the most downstream and upstream reaches of the creek. The toxicity tests included survival and reproduction of Ceriodaphnia, survival and growth of fathead minnow, and growth of Selenastrum. In all six samples at both locations, during all 3 seasons Selenastrum growth was significantly reduced. Selenastrum growth on average did not exceed 60.9% of the control with one sample from the downstream location exhibiting only 44.6% growth compared to control. At one station during winter Ceriodaphnia had significant mortality.

Data Reference:	Water Quality Monitoring and Bioassessment in Nine San Francisco Bay Region Watersheds: Walker Creek, Lagunitas Creek, San Leandro Creek, Wildcat Creek/San Pablo Creek, Suisun Creek, Arroyo Las Positas, Pescadero Creek/Butano Creek, San Gregorio Creek, and Stevens Creek/Permanente Creek. Oakland, CA: Surface Water Ambient Monitoring Program, San Francisco Bay Regional Water Quality Control Board
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	<p>All waters shall be maintained free of toxic substances that are lethal to or that produce other detrimental responses in aquatic organisms.</p> <p>There shall be no chronic toxicity in ambient waters. Chronic toxicity is a detrimental biological effect on growth rate, reproduction, fertilization success, larval development, population abundance, community composition, or any other relevant measure of the health of an organism, population, or community.</p>
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) - San Francisco Bay Region (Region 2)
Evaluation Guideline:	Water toxicity was evaluated according to the SWAMP methodology. The U.S.EPA whole effluent toxicity protocol (U.S.EPA 1994) was used to test the effect of water samples on three freshwater test organisms. Statistical evaluation (alpha = 0.05) and a default threshold of 80% of the control value were used to establish whether water exhibited significant toxicity adversely impacting aquatic organisms.
Guideline Reference:	Revised approach to toxicity test acceptability criteria using a statistical performance assessment. Environmental Toxicology and Chemistry, vol. 16, No. 6, pp 1322?1329 Short-Term Methods for Estimating the Chronic Toxicity of Effluents and Receiving Waters to Freshwater Organisms. EPA/600/4-91/002. Third Edition. July 1994
Spatial Representation:	Data were collected at two sampling locations representative of upper reach of the creek (3 samples) and the lower reach at the bottom of the watershed (3 samples).
Temporal Representation:	SWAMP samples were collected during spring, dry and wet season of 2002-2003.
Environmental Conditions:	The lower reach data are representative of the predominantly urbanized area with a highly modified channel draining into South San Francisco Bay.
QAPP Information:	All samples were collected and analyzed using procedures comparable with the SWAMP Quality Assurance Management Plan (SWRCB 2002).
QAPP Information Reference(s):	Quality Assurance Management Plan for the State of California's Surface Water Ambient Monitoring Program. Sacramento, CA. State Water Resources Control Board. SWAMP. December 2002 (1st version).

DECISION ID	33575	Region 2
Permanente Creek		
Pollutant:	Diazinon	
Final Listing Decision:	List on 303(d) list (being addressed by USEPA approved TMDL)	
Last Listing Cycle's Final Listing Decision:	List on 303(d) list (being addressed by USEPA approved TMDL)(2012)	
Revision Status	Original	
Sources:	Urban Runoff/Storm Sewers	
TMDL Name:	San Francisco Bay Urban Creeks Diazinon	
TMDL Project Code:	9	
Date TMDL Approved by USEPA:	05/16/2007	
Impairment from Pollutant or Pollution:	Pollutant	
Regional Board Staff Conclusion:	303(d) listing decisions made prior to 2006 were not held in an assessment database. The Regional Boards will update this decision when new data and information become available and are assessed. The USEPA final decision on the 2006 303(d) list was to move this listing to the being addressed by a USEPA approved TMDL portion of the 303(d) list, because the San Francisco Bay Urban Creeks Diazinon TMDL was approved by USEPA on 5/16/07 (USEPA, 2007).	
Regional Board Staff Decision	This is a decision previously approved by the State Water Resources Control Board and the USEPA.	

Recommendation: No new data were assessed by the Regional Board for the current. The decision has not changed.

Line of Evidence (LOE) for Decision ID 33575, Diazinon

Region 2

Permanente Creek

LOE ID:	1808
Pollutant:	Diazinon
LOE Subgroup:	Pollutant-Water
Matrix:	Water
Fraction:	None
Beneficial Use:	Cold Freshwater Habitat
Number of Samples:	0
Number of Exceedances:	0
Data and Information Type:	Not Specified
Data Used to Assess Water Quality:	Unspecified---This LOE is a placeholder to support a 303(d) listing decision made prior to 2006.
Data Reference:	Placeholder reference 2006 303(d)
SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	
Objective/Criterion Reference:	
Evaluation Guideline:	
Guideline Reference:	
Spatial Representation:	
Temporal Representation:	
Environmental Conditions:	
QAPP Information:	QA Info Missing
QAPP Information Reference(s):	

Draft California 2016 Integrated Report (303(d) List/305(b) Report)

Supporting Information

Regional Board 2 - San Francisco Bay Region

Water Body Name: San Francisquito Creek
Water Body ID: CAR2055004019980929144005
Water Body Type: River & Stream

DECISION ID	35585	Region 2
San Francisquito Creek		

Pollutant: Trash
Final Listing Decision: Do Not Delist from 303(d) list (being addressed with action other than TMDL)
Last Listing Cycle's Final Listing Decision: List on 303(d) list (TMDL required list)(2012)
Revision Status: Revised
Sources: Source Unknown
Expected Attainment Date: 2029
Implementation Action Other than TMDL: This trash listing will be addressed by implementing the trash control provisions of the Water Quality Control Plan for Inland Surface Waters, Enclosed Bays, and Estuaries of California through the NPDES MS4 permit applicable to this waterbody.
Impairment from Pollutant or Pollution: Pollutant

Regional Board Staff Conclusion: This pollutant is being considered for placement on the section 303(d) list under section 3.11 of the Listing Policy. Under section 3.11, listing may be proposed based on the situation-specific weight of evidence. Two lines of evidence are available in the administrative record to assess this pollutant. Both lines of evidence rely on data from field visits/trash surveys conducted according to the Urban Rapid Trash Assessment (URTA) methodology developed by the Santa Clara Valley Urban Runoff Pollution Prevention Program (SCVURPPP). Based on the readily available trash assessment data for this waterbody, the weight of evidence indicates that there is sufficient justification available in favor of placing this water segment-pollutant combination to the section 303(d) list in the Water Quality Limited Segments category. This conclusion is based on the staff findings that: 1. Data have been evaluated that supports this decision. 2. The Urban Rapid Trash Assessment methodology results showed that this waterbody had level of trash parameter scores in the poor category (indicating impairment of non-contact water recreational beneficial uses) at different four locations and on four different dates. This waterbody also had transportable, Persistent, Buoyant Litter parameter scores in the marginal urban and poor category (indicating threat to Wildlife Habitat beneficial uses) at four different locations and on three different dates. 3. This waterbody is considered impaired by trash because there were exceedances of the evaluation guidelines (poor condition category for the trash assessment metrics) in more than one location or on more than one date. 4. The data used satisfy the data quality requirements of section 6.1.4 of the Policy. 5. The data used satisfy the data quantity requirements of section 6.1 of the Policy. 6. This trash listing will be addressed by implementing the trash control provisions of the Water Quality Control Plan for Inland Surface Waters, Enclosed Bays, and Estuaries of California through the NPDES MS4 permit applicable to this waterbody.

Regional Board Staff Decision Recommendation: After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be removed from the section 303(d) list because applicable water quality standards for the pollutant are being exceeded.

Line of Evidence (LOE) for Decision ID 35585, Trash	Region 2
San Francisquito Creek	

LOE ID: 5537

Pollutant:	Trash
LOE Subgroup:	Pollutant-Nuisance
Matrix:	Not Specified
Fraction:	None
Beneficial Use:	Wildlife Habitat
Number of Samples:	23
Number of Exceedances:	5
Data and Information Type:	Occurrence of conditions judged to cause impairment
Data Used to Assess Water Quality:	Data results were obtained through application of the Urban Rapid Trash Assessment (URTA) methodology, developed by the Santa Clara Valley Urban Runoff Pollution Prevention Program. The URTA is a modification of the Rapid Trash Assessment (RTA) developed by the Surface Water Ambient Monitoring Program (SWAMP). The URTA method documents the total number and characteristics of pieces of trash per one hundred feet of stream or shoreline. The trash assessment protocol involves picking up and tallying all of the trash items found within the defined boundaries of a site. The tally results for level of trash (relating to REC2) and transportable, persistent, buoyant litter (relating to WILD) assessment parameters were considered for the listing determination. These results are available for field visits/trash surveys conducted in February 2005, July 2005, May 2006, October 2006, May 2007, September 2007, and October 2007 according to the Urban Rapid Trash Assessment (URTA) methodology. This waterbody had transportable, Persistent, Buoyant Litter parameter scores in the marginal urban and poor category (indicating threat to Wildlife Habitat beneficial uses) at four different locations and on three different dates.
Data Reference:	Memo: Development of Urban Rapid Trash Assessment Protocol. March 13, 2006 Spreadsheet of Urban Rapid Trash Assessment (URTA) data collected by the Santa Clara Valley Urban Runoff Pollution Prevention Program, 2004-2007
SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	<p>The Basin Plan prohibits discharge of Rubbish, refuse, bark, sawdust, or other solid wastes into surface waters or at any place where they would contact or where they would be eventually transported to surface waters, including flood plain areas.</p> <p>The Basin Plan has a narrative objective for floating material, Waters shall not contain floating material, including solids, liquids, foams, and scum, in concentrations that cause nuisance or adversely affect beneficial uses.</p> <p>The Basin Plan has a narrative objective for settleable material, Waters shall not contain substances in concentrations that result in the deposition of material that cause nuisance or adversely affect beneficial uses.</p>
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) - San Francisco Bay Region (Region 2)
Evaluation Guideline:	If the URTA Parameter 3 (Transportable, Persistent, Buoyant Litter) is in the marginal urban or poor condition category (scores 0-10), then WILD is not supported. The URTA defines marginal urban or poor condition for this parameter as follows. this level of trash is a medium prevalence (76-200 pieces) or large amount (>200 pieces) of transportable, persistent, buoyant litter such as: hard or soft plastics, styrofoam, balloons, cigarette butts. These types of items are all detrimental to aquatic life.
Guideline Reference:	Memo: Development of Urban Rapid Trash Assessment Protocol. March 13, 2006
Spatial Representation:	URTA data were collected for this waterbody in six locations from 2004 through 2006.
Temporal Representation:	URTA data were collected for this waterbody on seven separate dates, 2004 through 2006.
Environmental Conditions:	
QAPP Information:	Data were collected by trained staff in accordance with URTA methodology developed by SCVURPPP and are deemed reliable and of sufficient quality on which to base listing determinations.
QAPP Information Reference(s):	

San Francisquito Creek

LOE ID:	5538
Pollutant:	Trash
LOE Subgroup:	Pollutant-Nuisance
Matrix:	Not Specified
Fraction:	None
Beneficial Use:	Non-Contact Recreation
Number of Samples:	23
Number of Exceedances:	7
Data and Information Type:	Occurrence of conditions judged to cause impairment
Data Used to Assess Water Quality:	Data results were obtained through application of the Urban Rapid Trash Assessment (URTA) methodology, developed by the Santa Clara Valley Urban Runoff Pollution Prevention Program. The URTA is a modification of the Rapid Trash Assessment (RTA) developed by the Surface Water Ambient Monitoring Program (SWAMP). The URTA method documents the total number and characteristics of pieces of trash per one hundred feet of stream or shoreline. The trash assessment protocol involves picking up and tallying all of the trash items found within the defined boundaries of a site. The tally results for level of trash (relating to REC2) and transportable, persistent, buoyant litter (relating to WILD) assessment parameters were considered for the listing determination. These results are available for field visits/trash surveys conducted in February 2005, July 2005, May 2006, October 2006, May 2007, September 2007, and October 2007 according to the Urban Rapid Trash Assessment (URTA) methodology. This waterbody had level of trash parameter scores in the poor category (indicating impairment of non-contact water recreational beneficial uses) at different four locations and on four different dates.
Data Reference:	Memo: Development of Urban Rapid Trash Assessment Protocol. March 13, 2006 Spreadsheet of Urban Rapid Trash Assessment (URTA) data collected by the Santa Clara Valley Urban Runoff Pollution Prevention Program, 2004-2007
SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	<p>The Basin Plan prohibits discharge of Rubbish, refuse, bark, sawdust, or other solid wastes into surface waters or at any place where they would contact or where they would be eventually transported to surface waters, including flood plain areas.</p> <p>The Basin Plan has a narrative objective for floating material, Waters shall not contain floating material, including solids, liquids, foams, and scum, in concentrations that cause nuisance or adversely affect beneficial uses.</p> <p>The Basin Plan has a narrative objective for settleable material, Waters shall not contain substances in concentrations that result in the deposition of material that cause nuisance or adversely affect beneficial uses.</p>
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) - San Francisco Bay Region (Region 2)
Evaluation Guideline:	If the Urban Rapid Trash Assessment (URTA) Parameter 1 (Level of Trash) is in the poor condition category (scores 0-5), REC2 is not supported. The URTA defines poor condition for this parameter as a level of trash that distracts the eye on first glance. Stream, bank surfaces, and immediate riparian zone contain substantial levels of litter and debris. Evidence of site being used frequently by people: many cans, bottles, and food wrappers, blankets, clothing.
Guideline Reference:	Memo: Development of Urban Rapid Trash Assessment Protocol. March 13, 2006
Spatial Representation:	URTA data were collected for this waterbody in six locations from 2004 through 2006.
Temporal Representation:	URTA data were collected for this waterbody on seven separate dates, 2004 through 2006.
Environmental Conditions:	
QAPP Information:	Data were collected by trained staff in accordance with URTA methodology developed by SCVURPPP and are deemed reliable and of sufficient quality on which to base listing

determinations.

QAPP Information Reference(s):

DECISION ID	32985	Region 2
San Francisquito Creek		

Pollutant: Oxygen, Dissolved
Final Listing Decision: Do Not List on 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision: Do Not List on 303(d) list (TMDL required list)(2012)
Revision Status: Original
Impairment from Pollutant or Pollution: Pollutant

Regional Board Staff Conclusion: This pollutant is being considered for placement on the section 303(d) list under section 3.2 of the Listing Policy. Under section 3.2 a single line of evidence is necessary to assess listing status. One line of evidence is available in the administrative record to assess this pollutant. Very few of the measurements exceeded the water quality objective. Based on the readily available data and information, the weight of evidence indicates that there is insufficient justification in favor of placing this water segment-pollutant combination on the section 303(d) list in the Water Quality Limited Segments category. This conclusion is based on the staff findings that: 1. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy. 2. Three of 142 samples exceeded the dissolved oxygen water quality objective and this does not exceed the allowable frequency listed in Table 3.2 of the Listing Policy. 3. Pursuant to section 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.

Regional Board Staff Decision Recommendation: This is a decision previously approved by the State Water Resources Control Board and the USEPA. No new data were assessed by the Regional Board for the current. The decision has not changed.

Line of Evidence (LOE) for Decision ID 32985, Oxygen, Dissolved	Region 2
San Francisquito Creek	

LOE ID: 1809

Pollutant: Oxygen, Dissolved
LOE Subgroup: Pollutant-Water
Matrix: Water
Fraction: None

Beneficial Use: Cold Freshwater Habitat

Number of Samples: 142
Number of Exceedances: 3

Data and Information Type: PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality: DO values recorded in parts per million (equal to mg/l). Of the 142 readings, only 3 exceeded the Basin Plan objective (SFEI, 1998)..
Data Reference: [Placeholder reference 2006 303\(d\)](#)

SWAMP Data: Non-SWAMP

Water Quality Objective/Criterion: 5.0 mg/liter, Basin Plan Objective.
Objective/Criterion Reference: [Placeholder reference 2006 303\(d\)](#)

Evaluation Guideline:
Guideline Reference:

Spatial Representation: Three stations.
Temporal Representation: Samples taken over 143 weeks, October 1992 to January 1997. Samples taken

consistently in morning (e.g., 8:00 AM).
 Environmental Conditions: Information recorded on air temperature, water temperature, rainfall, weather conditions, water appearance (e.g., turbidity), stream depth, and flow rates (visual information).
 QAPP Information: QA Info Missing
 QAPP Information Reference(s):

DECISION ID	32576	Region 2
San Francisquito Creek		

Pollutant: Turbidity
Final Listing Decision: Do Not List on 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision: Do Not List on 303(d) list (TMDL required list)(2012)
Revision Status: Original
Impairment from Pollutant or Pollution: Pollutant

Regional Board Staff Conclusion: This pollutant is being considered for placement on the section 303(d) list under section 3.2 of the Listing Policy. Under section 3.2 a single line of evidence is necessary to assess listing status. One line of evidence is available in the administrative record to assess this pollutant. None of the samples exceed the water quality objective. Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against placing this water segment-pollutant combination on the section 303(d) list in the Water Quality Limited Segments category. This conclusion is based on the staff findings that: 1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy. 2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy. 3. None of 58 samples exceeded the turbidity water quality objective and this does not exceed the allowable frequency listed in Table 3.2 of the Listing Policy. 4. Pursuant to section 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.

Regional Board Staff Decision Recommendation: This is a decision previously approved by the State Water Resources Control Board and the USEPA. No new data were assessed by the Regional Board for the current. The decision has not changed.

Line of Evidence (LOE) for Decision ID 32576, Turbidity	Region 2
San Francisquito Creek	

LOE ID: 1811
Pollutant: Turbidity
LOE Subgroup: Pollutant-Water
Matrix: Water
Fraction: None
Beneficial Use: Cold Freshwater Habitat
Number of Samples: 58
Number of Exceedances: 0
Data and Information Type: PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality: Fifty-eight total readings. 0 total "exceedances" of Basin Plan objective. (SFEI, 1998).
Data Reference: [Placeholder reference 2006 303\(d\)](#)
SWAMP Data: Non-SWAMP
Water Quality Objective/Criterion: Basin Plan Objective: Increases from normal background light penetration or turbidity relatable to waste discharge shall not be greater than 10 percent in areas where natural turbidity is greater than 50 NTU.
Objective/Criterion Reference: [Placeholder reference 2006 303\(d\)](#)

Evaluation Guideline:	Percentage over 50 (NTU standard) were measured.
Guideline Reference:	Placeholder reference 2006 303(d)
Spatial Representation:	One station.
Temporal Representation:	Samples taken over 143 weeks, October 1992 to January 1997. Samples taken consistently in morning (e.g., 8:00 AM).
Environmental Conditions:	Information recorded on air temperature, water temperature, rainfall, weather conditions, water appearance (e.g., related to turbidity), stream depth, and flow rates (visual information).
QAPP Information:	QA Info Missing
QAPP Information Reference(s):	

DECISION ID	32575	Region 2
San Francisquito Creek		

Pollutant:	pH
Final Listing Decision:	Do Not List on 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision:	Do Not List on 303(d) list (TMDL required list)(2012)
Revision Status	Original
Impairment from Pollutant or Pollution:	Pollutant

Regional Board Staff Conclusion:	This pollutant is being considered for placement on the section 303(d) list under section 3.2 of the Listing Policy. Under section 3.2 a single line of evidence is necessary to assess listing status. One line of evidence is available in the administrative record to assess this pollutant. A small number of samples exceed the water quality objective. Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against placing this water segment-pollutant combination on the section 303(d) list in the Water Quality Limited Segments category. This conclusion is based on the staff findings that: 1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy. 2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy. 3. Seven of 143 samples exceeded the pH water quality objective and this does not exceed the allowable frequency calculated using the equations in Table 3.2 of the Listing Policy. 3. Pursuant to section 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.
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Regional Board Staff Decision Recommendation:	This is a decision previously approved by the State Water Resources Control Board and the USEPA. No new data were assessed by the Regional Board for the current. The decision has not changed.
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Line of Evidence (LOE) for Decision ID 32575, pH	Region 2
San Francisquito Creek	

LOE ID:	1810
Pollutant:	pH
LOE Subgroup:	Pollutant-Water
Matrix:	Water
Fraction:	None
Beneficial Use:	Cold Freshwater Habitat
Number of Samples:	143
Number of Exceedances:	7
Data and Information Type:	PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality:	Seven of 143 samples exceeded the objective. (SFEI, 1998).
Data Reference:	Placeholder reference 2006 303(d)
SWAMP Data:	Non-SWAMP

Water Quality Objective/Criterion:	The pH of inland surface waters shall not be raised above 8.5 or depressed below 6.5 as a result of controllable water quality factors (SFBRWQCB, 1995)
Objective/Criterion Reference:	Placeholder reference 2006 303(d)
Evaluation Guideline:	
Guideline Reference:	
Spatial Representation:	Spatial representation is unknown.
Temporal Representation:	Samples taken over 143 weeks, October 1992 to January 1997. Samples taken consistently in morning (e.g., 8:00 AM).
Environmental Conditions:	Information recorded on air temperature, water temperature, rainfall, weather conditions, water appearance (e.g., turbidity), stream depth, and flow rates (visual information).
QAPP Information:	QA Info Missing
QAPP Information Reference(s):	

DECISION ID	44744	Region 2
San Francisco Creek		

Pollutant:	Sedimentation/Siltation
Final Listing Decision:	List on 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision:	List on 303(d) list (TMDL required list)(2012)
Revision Status	Original
Sources:	Source Unknown
Expected TMDL Completion Date:	2013
Impairment from Pollutant or Pollution:	Pollutant

Regional Board Staff Conclusion:	303(d) listing decisions made prior to 2006 were not held in an assessment database. The Regional Boards will update this decision when new data and information become available and are assessed.
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Regional Board Staff Decision Recommendation:	This is a decision previously approved by the State Water Resources Control Board and the USEPA. No new data were assessed by the Regional Board for the current. The decision has not changed.
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Line of Evidence (LOE) for Decision ID 44744, Sedimentation/Siltation	Region 2
San Francisco Creek	

LOE ID:	3852
Pollutant:	Sedimentation/Siltation
LOE Subgroup:	Pollutant-Water
Matrix:	Water
Fraction:	Not Recorded
Beneficial Use:	Cold Freshwater Habitat
Number of Samples:	0
Number of Exceedances:	0
Data and Information Type:	Not Specified
Data Used to Assess Water Quality:	Unspecified--This LOE is a placeholder to support a 303(d) listing decision made prior to 2006.
Data Reference:	Placeholder reference pre-2006 303(d)
SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	Unspecified

Objective/Criterion Reference:	Placeholder reference pre-2006 303(d)
Evaluation Guideline:	Unspecified
Guideline Reference:	Placeholder reference pre-2006 303(d)
Spatial Representation:	Unspecified
Temporal Representation:	Unspecified
Environmental Conditions:	Unspecified
QAPP Information:	Unspecified
QAPP Information Reference(s):	

DECISION ID	35157	Region 2
San Francisquito Creek		

Pollutant:	Diazinon
Final Listing Decision:	List on 303(d) list (being addressed by USEPA approved TMDL)
Last Listing Cycle's Final Listing Decision:	List on 303(d) list (being addressed by USEPA approved TMDL)(2012)
Revision Status	Original
Sources:	Source Unknown
TMDL Name:	San Francisco Bay Urban Creeks Diazinon
TMDL Project Code:	9
Date TMDL Approved by USEPA:	05/16/2007
Impairment from Pollutant or Pollution:	Pollutant

Regional Board Staff Conclusion:	303(d) listing decisions made prior to 2006 were not held in an assessment database. The Regional Boards will update this decision when new data and information become available and are assessed. The USEPA final decision on the 2006 303(d) list was to move this listing to the being addressed by a USEPA approved TMDL portion of the 303(d) list, because the San Francisco Bay Urban Creeks Diazinon TMDL was approved by USEPA on 5/16/07 (USEPA, 2007).
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Regional Board Staff Decision Recommendation:	This is a decision previously approved by the State Water Resources Control Board and the USEPA. No new data were assessed by the Regional Board for the current. The decision has not changed.
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Line of Evidence (LOE) for Decision ID 35157, Diazinon	Region 2
San Francisquito Creek	

LOE ID:	1812
Pollutant:	Diazinon
LOE Subgroup:	Pollutant-Water
Matrix:	Water
Fraction:	None
Beneficial Use:	Cold Freshwater Habitat
Number of Samples:	0
Number of Exceedances:	0
Data and Information Type:	Not Specified
Data Used to Assess Water Quality:	Unspecified-- This LOE is a placeholder to support a 303(d) listing decision made prior to 2006.
Data Reference:	Placeholder reference 2006 303(d)
SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	

Objective/Criterion Reference:

Evaluation Guideline:
Guideline Reference:

Spatial Representation:
Temporal Representation:
Environmental Conditions:

QAPP Information: QA Info Missing
QAPP Information Reference(s):

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Supporting Information

Regional Board 2 - San Francisco Bay Region

Water Body Name: Matadero Creek
Water Body ID: CAR2055004019990218130228
Water Body Type: River & Stream

DECISION ID 35098 **Region 2**
Matadero Creek

Pollutant: Trash
Final Listing Decision: **Do Not Delist from 303(d) list (being addressed with action other than TMDL)**
Last Listing Cycle's Final Listing Decision: List on 303(d) list (TMDL required list)(2012)
Revision Status Revised
Sources: Source Unknown
Expected Attainment Date: 2029
Implementation Action Other than TMDL: This trash listing will be addressed by implementing the trash control provisions of the Water Quality Control Plan for Inland Surface Waters, Enclosed Bays, and Estuaries of California through the NPDES MS4 permit applicable to this waterbody.
Impairment from Pollutant or Pollution: Pollutant

Regional Board Staff Conclusion: This pollutant is being considered for placement on the section 303(d) list under section 3.11 of the Listing Policy. Under section 3.11, listing may be proposed based on the situation-specific weight of evidence. One line of evidence is available in the administrative record to assess this pollutant. The line of evidence consists of data from field visits/trash surveys conducted according to the Urban Rapid Trash Assessment (URTA) methodology developed by the Santa Clara Valley Urban Runoff Pollution Prevention Program (SCVURPPP). Based on the readily available trash assessment data for this waterbody, the weight of evidence indicates that there is sufficient justification available in favor of placing this water segment-pollutant combination to the section 303(d) list in the Water Quality Limited Segments category. This conclusion is based on the staff findings that: 1. Data have been evaluated that supports this decision. 2. The Urban Rapid Trash Assessment methodology results showed that this waterbody had ?transportable, Persistent, Buoyant Litter? parameter scores in the marginal urban and poor category (indicating threat to Wildlife Habitat beneficial uses) at two locations and on two different dates in 2005 and 2006. 3. This waterbody is considered impaired by trash because there were exceedances of the evaluation guideline (poor condition category for the trash assessment metric) in more than one location or on more than one date. 4. The data used satisfy the data quality requirements of section 6.1.4 of the Policy. 5. The data used satisfy the data quantity requirements of section 6.1 of the Policy. 6. This trash listing will be addressed by implementing the trash control provisions of the Water Quality Control Plan for Inland Surface Waters, Enclosed Bays, and Estuaries of California through the NPDES MS4 permit applicable to this waterbody.

Regional Board Staff Decision Recommendation: After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be removed from the section 303(d) list because applicable water quality standards for the pollutant are being exceeded.

Line of Evidence (LOE) for Decision ID 35098, Trash **Region 2**
Matadero Creek

LOE ID: 5481
Pollutant: Trash
LOE Subgroup: Pollutant-Nuisance

Matrix:	Not Specified
Fraction:	None
Beneficial Use:	Wildlife Habitat
Number of Samples:	5
Number of Exceedances:	2
Data and Information Type:	Occurrence of conditions judged to cause impairment
Data Used to Assess Water Quality:	Data results were obtained through application of the Urban Rapid Trash Assessment (URTA) methodology, developed by the Santa Clara Valley Urban Runoff Pollution Prevention Program. The URTA is a modification of the Rapid Trash Assessment (RTA) developed by the Surface Water Ambient Monitoring Program (SWAMP). The URTA method documents the total number and characteristics of pieces of trash per one hundred feet of stream or shoreline. The trash assessment protocol involves picking up and tallying all of the trash items found within the defined boundaries of a site. The tally results for ?level of trash? (relating to REC2) and ?transportable, persistent, buoyant litter? (relating to WILD) assessment parameters were considered for the listing determination. These results are available for field visits/trash surveys conducted in February 2005, May 2006, June 2006, and November 2006 according to the Urban Rapid Trash Assessment (URTA) methodology
Data Reference:	Memo: Development of Urban Rapid Trash Assessment Protocol. March 13, 2006 Spreadsheet of Urban Rapid Trash Assessment (URTA) data collected by the Santa Clara Valley Urban Runoff Pollution Prevention Program. 2004-2007
SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	<p>The Basin Plan prohibits discharge of ?Rubbish, refuse, bark, sawdust, or other solid wastes into surface waters or at any place where they would contact or where they would be eventually transported to surface waters, including flood plain areas.?</p> <p>The Basin Plan has a narrative objective for floating material, ?Waters shall not contain floating material, including solids, liquids, foams, and scum, in concentrations that cause nuisance or adversely affect beneficial uses.?</p> <p>The Basin Plan has a narrative objective for settleable material, ?Waters shall not contain substances in concentrations that result in the deposition of material that cause nuisance or adversely affect beneficial uses.?</p>
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) - San Francisco Bay Region (Region 2)
Evaluation Guideline:	If the URTA Parameter 3 (Transportable, Persistent, Buoyant Litter) is in the marginal urban or poor condition category (scores 0-10), then WILD is not supported. The URTA defines marginal urban or poor condition for this parameter as follows. this level of trash is a ?medium prevalence (76-200 pieces)? or ?large amount (>200 pieces) of transportable, persistent, buoyant litter such as: hard or soft plastics, styrofoam, balloons, cigarette butts?. These types of items are all detrimental to aquatic life.
Guideline Reference:	Memo: Development of Urban Rapid Trash Assessment Protocol. March 13, 2006
Spatial Representation:	URTA data were collected for this waterbody in two locations in 2005 and 2006.
Temporal Representation:	URTA data were collected for this waterbody on five different dates in 2005 and 2006.
Environmental Conditions:	
QAPP Information:	Data were collected by trained staff in accordance with URTA methodology developed by SCVURPPP and are deemed reliable and of sufficient quality on which to base listing determinations.
QAPP Information Reference(s):	

DECISION ID	34282	Region 2
Matadero Creek		

Pollutant: Diazinon
Final Listing Decision: Do Not Delist from 303(d) list (being addressed with USEPA approved TMDL)

Last Listing Cycle's Final Listing Decision:	Do Not Delist from 303(d) list (being addressed with USEPA approved TMDL)(2012)
Revision Status	Original
Sources:	Urban Runoff/Storm Sewers
TMDL Name:	San Francisco Bay Urban Creeks Diazinon
TMDL Project Code:	9
Date TMDL Approved by USEPA:	05/16/2007
Impairment from Pollutant or Pollution:	Pollutant

Regional Board Staff Conclusion: 303(d) listing decisions made prior to 2006 were not held in an assessment database. The Regional Boards will update this decision when new data and information become available and are assessed. The USEPA final decision on the 2006 303(d) list was to move this listing to the being addressed by a USEPA approved TMDL portion of the 303(d) list, because the San Francisco Bay Urban Creeks Diazinon TMDL was approved by USEPA on 5/16/07 (USEPA, 2007).

Regional Board Staff Decision Recommendation: This is a decision previously approved by the State Water Resources Control Board and the USEPA. No new data were assessed by the Regional Board for the current. The decision has not changed.

Line of Evidence (LOE) for Decision ID 34282, Diazinon

Region 2

Matadero Creek

LOE ID:	1813
Pollutant:	Diazinon
LOE Subgroup:	Pollutant-Water
Matrix:	Water
Fraction:	None
Beneficial Use:	Cold Freshwater Habitat
Number of Samples:	0
Number of Exceedances:	0
Data and Information Type:	Not Specified
Data Used to Assess Water Quality:	Unspecified---This LOE is a placeholder to support a 303(d) listing decision made prior to 2006.
Data Reference:	Placeholder reference 2006 303(d)
SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	
Objective/Criterion Reference:	
Evaluation Guideline:	
Guideline Reference:	
Spatial Representation:	
Temporal Representation:	
Environmental Conditions:	
QAPP Information:	QA Info Missing
QAPP Information Reference(s):	

Draft California 2016 Integrated Report (303(d) List/305(b) Report)

Supporting Information

Regional Board 2 - San Francisco Bay Region

Water Body Name: Saratoga Creek
Water Body ID: CAR2055004019990218133956
Water Body Type: River & Stream

DECISION ID 34977 **Region 2**
Saratoga Creek

Pollutant: Trash
Final Listing Decision: **Do Not Delist from 303(d) list (being addressed with action other than TMDL)**
Last Listing Cycle's Final Listing Decision: List on 303(d) list (TMDL required list)(2012)
Revision Status Revised
Sources: Source Unknown
Expected Attainment Date: 2029
Implementation Action Other than TMDL: This trash listing will be addressed by implementing the trash control provisions of the Water Quality Control Plan for Inland Surface Waters, Enclosed Bays, and Estuaries of California through the NPDES MS4 permit applicable to this waterbody.
Impairment from Pollutant or Pollution: Pollutant

Regional Board Staff Conclusion: This pollutant is being considered for placement on the section 303(d) list under section 3.11 of the Listing Policy. Under section 3.11, listing may be proposed based on the situation-specific weight of evidence. One line of evidence is available in the administrative record to assess this pollutant. The line of evidence consists of data from field visits/trash surveys conducted according to the Urban Rapid Trash Assessment (URTA) methodology developed by the Santa Clara Valley Urban Runoff Pollution Prevention Program (SCVURPPP). Based on the readily available trash assessment data for this waterbody, the weight of evidence indicates that there is sufficient justification available in favor of placing this water segment-pollutant combination to the section 303(d) list in the Water Quality Limited Segments category. This conclusion is based on the staff findings that: 1. Data have been evaluated that supports this decision. 2. The Urban Rapid Trash Assessment methodology results showed that this waterbody had transportable, Persistent, Buoyant Litter parameter scores in the marginal urban and poor category (indicating threat to Wildlife Habitat beneficial uses) at one location on two different dates in 2004 and 2006. 3. This waterbody is considered impaired by trash because there were exceedances of the evaluation guideline (poor condition category for the trash assessment metric) in more than one location or on more than one date. 4. The data used satisfy the data quality requirements of section 6.1.4 of the Policy. 5. The data used satisfy the data quantity requirements of section 6.1 of the Policy. 6. This trash listing will be addressed by implementing the trash control provisions of the Water Quality Control Plan for Inland Surface Waters, Enclosed Bays, and Estuaries of California through the NPDES MS4 permit applicable to this waterbody.

Regional Board Staff Decision Recommendation: After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be removed from the section 303(d) list because applicable water quality standards for the pollutant are being exceeded.

Line of Evidence (LOE) for Decision ID 34977, Trash **Region 2**
Saratoga Creek

LOE ID: 5662
Pollutant: Trash
LOE Subgroup: Pollutant-Nuisance

Matrix:	Not Specified
Fraction:	None
Beneficial Use:	Wildlife Habitat
Number of Samples:	2
Number of Exceedances:	2
Data and Information Type:	Occurrence of conditions judged to cause impairment
Data Used to Assess Water Quality:	Data results were obtained through application of the Urban Rapid Trash Assessment (URTA) methodology, developed by the Santa Clara Valley Urban Runoff Pollution Prevention Program. The URTA is a modification of the Rapid Trash Assessment (RTA) developed by the Surface Water Ambient Monitoring Program (SWAMP). The URTA method documents the total number and characteristics of pieces of trash per one hundred feet of stream or shoreline. The trash assessment protocol involves picking up and tallying all of the trash items found within the defined boundaries of a site. The tally results for level of trash (relating to REC2) and transportable, persistent, buoyant litter (relating to WILD) assessment parameters were considered for the listing determination. These results are available for field visits/trash surveys conducted in December 2004 and October 2006 according to the Urban Rapid Trash Assessment (URTA) methodology. This waterbody had transportable, Persistent, Buoyant Litter parameter scores in the marginal urban and poor category (indicating threat to Wildlife Habitat beneficial uses) at one location on two different dates in 2004 and 2006.
Data Reference:	Spreadsheet of Urban Rapid Trash Assessment (URTA) data collected by the Santa Clara Valley Urban Runoff Pollution Prevention Program, 2004-2007
SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	<p>The Basin Plan prohibits discharge of Rubbish, refuse, bark, sawdust, or other solid wastes into surface waters or at any place where they would contact or where they would be eventually transported to surface waters, including flood plain areas.</p> <p>The Basin Plan has a narrative objective for floating material, Waters shall not contain floating material, including solids, liquids, foams, and scum, in concentrations that cause nuisance or adversely affect beneficial uses.</p> <p>The Basin Plan has a narrative objective for settleable material, Waters shall not contain substances in concentrations that result in the deposition of material that cause nuisance or adversely affect beneficial uses.</p>
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) - San Francisco Bay Region (Region 2)
Evaluation Guideline:	If the URTA Parameter 3 (Transportable, Persistent, Buoyant Litter) is in the marginal urban or poor condition category (scores 0-10), then WILD is not supported. The URTA defines marginal urban or poor condition for this parameter as follows. this level of trash is a medium prevalence (76-200 pieces) or large amount (>200 pieces) of transportable, persistent, buoyant litter such as: hard or soft plastics, styrofoam, balloons, cigarette butts. These types of items are all detrimental to aquatic life.
Guideline Reference:	Memo: Development of Urban Rapid Trash Assessment Protocol. March 13, 2006
Spatial Representation:	URTA data were collected for this waterbody at one location in December 2004 and October 2006.
Temporal Representation:	URTA data were collected for this waterbody on two dates in December 2004 and October 2006.
Environmental Conditions:	
QAPP Information:	Data were collected by trained staff in accordance with URTA methodology developed by SCVURPPP and are deemed reliable and of sufficient quality on which to base listing determinations.
QAPP Information Reference(s):	

DECISION ID
Saratoga Creek

66048

Region 2

Pollutant:	Alkalinity as CaCO₃
Final Listing Decision:	Do Not List on 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision:	New Decision
Revision Status	Revised
Impairment from Pollutant or Pollution:	Pollutant

Regional Board Staff Conclusion: This pollutant is being considered for placement on the CWA section 303(d) List under section 3.2 of the Listing Policy. Under section 3.2 a single line(s) of evidence are necessary to assess listing status.

Four lines of evidence are available in the administrative record to assess this pollutant. Zero of the four samples exceed the .

Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against placing this water segment-pollutant combination on the CWA section 303(d) List.

This conclusion is based on the staff findings that:

1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy.
2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy.
3. Zero of four samples exceeded the criteria for alkalinity and this sample size is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating. A minimum of 16 samples is needed to determine if a beneficial use is fully supported using table 3.2.
4. Pursuant to SECTION 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.

Regional Board Staff Decision Recommendation: After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be placed on the section 303(d) list. The readily available data and information is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating.

Line of Evidence (LOE) for Decision ID 66048, Alkalinity as CaCO₃

Region 2

Saratoga Creek

LOE ID:	93231
Pollutant:	Alkalinity as CaCO ₃
LOE Subgroup:	Pollutant-Water
Matrix:	Water
Fraction:	Total
Beneficial Use:	Cold Freshwater Habitat
Number of Samples:	4
Number of Exceedances:	0
Data and Information Type:	PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality:	State Water Board staff assessed SWAMP data for Saratoga Creek to determine beneficial use support and results are as follows: 0 of 4 samples exceed the criterion for Alkalinity as CaCO ₃ .
Data Reference:	RWB2 Urbanization Study 2008
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	Surface waters shall not contain concentrations of chemical constituents in amounts that adversely affect any designated beneficial use.

Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	The Alkalinity as CaCO ₃ criteria for the protection of freshwater aquatic life is 20000 ug/L (National Recommended Water Quality Criteria, 2009).
Guideline Reference:	National Recommended Water Quality Criteria. United States Environmental Protection Agency. Office of Water. Office of Science and Technology
Spatial Representation:	Data for this line of evidence for Saratoga Creek was collected at 4 monitoring sites [Saratoga near Hakone Gardens - 205SAR080, Saratoga inside SCVWD gate - below Walnut Ave - 205SAR070, Saratoga behind Lutheran school - Saratoga Ave and Braemar - 205SAR060, Saratoga above Congress Springs Park - 205SAR057]
Temporal Representation:	Data was collected on a single day 5/21/2008.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	The SWAMP QAPP (2008) was followed.
QAPP Information Reference(s):	Surface Water Ambient Monitoring Program Quality Assurance Program Plan

DECISION ID 66053 Region 2	
Saratoga Creek	
Pollutant: Final Listing Decision: Last Listing Cycle's Final Listing Decision: Revision Status Impairment from Pollutant or Pollution:	Ammonia (Unionized) Do Not List on 303(d) list (TMDL required list) New Decision Revised Pollutant
Regional Board Staff Conclusion:	<p>This pollutant is being considered for placement on the CWA section 303(d) List under section 3.2 of the Listing Policy. Under section 3.2 a single line(s) of evidence are necessary to assess listing status.</p> <p>Four lines of evidence are available in the administrative record to assess this pollutant. Zero of the four samples exceed the criteria for Ammonia.</p> <p>Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against placing this water segment-pollutant combination on the CWA section 303(d) List.</p> <p>This conclusion is based on the staff findings that:</p> <ol style="list-style-type: none"> 1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy. 2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy. 3. Zero of four samples exceeded the criteria for ammonia and this sample size is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating. A minimum of 16 samples is needed to determine if a beneficial use is fully supported using table 3.2. 4. Pursuant to SECTION 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.
Regional Board Staff Decision Recommendation:	After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be placed on the section 303(d) list. The readily available data and information is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating.

Line of Evidence (LOE) for Decision ID 66053, Ammonia (Unionized) Region 2	
Saratoga Creek	
LOE ID:	93232
Pollutant:	Ammonia (Unionized)

LOE Subgroup:	Pollutant-Water
Matrix:	Water
Fraction:	Total
Beneficial Use:	Fish Spawning
Number of Samples:	4
Number of Exceedances:	0
Data and Information Type:	PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality:	0 of 4 samples exceed the Maximum for the Lower Bay at 0.4 mg/L Un-ionized Ammonia (as N). Un-ionized ammonia (as N) was calculated from Total Ammonia (as N) from monthly samples reported in the data. The data values are reported as underneath the quantitation limit. These values under the quantitation limit are less than or equal to the water quality standard, the value will be considered as meeting the water quality standard, objective, criterion, or evaluation guideline.
Data Reference:	RWB2 Urbanization Study 2008
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	Water Quality Control Plan, San Francisco Bay Region (SFBRWQCB 2011): All waters shall be maintained free of toxic substances in concentrations that are toxic to, or that produce detrimental physiological responses in human, plant, animal, or aquatic life.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	
Guideline Reference:	
Spatial Representation:	Samples were collected at 205SAR05 (Saratoga above Congress Springs Park), 205SAR060 (Saratoga behind Lutheran school - Saratoga Ave and Braemar), 205SAR070 (Saratoga inside SCVWD gate - below Walnut Ave) and 205SAR080 (Saratoga near Hakone Gardens).
Temporal Representation:	Samples collected on 5/21/2008.
Environmental Conditions:	
QAPP Information:	SWAMP QAPP (2008) was followed.
QAPP Information Reference(s):	Surface Water Ambient Monitoring Program Quality Assurance Program Plan

DECISION ID	66056	Region 2
Saratoga Creek		
Pollutant:	Nitrate/Nitrite (Nitrite + Nitrate as N)	
Final Listing Decision:	Do Not List on 303(d) list (TMDL required list)	
Last Listing Cycle's Final Listing Decision:	New Decision	
Revision Status	Revised	
Impairment from Pollutant or Pollution:	Pollutant	
Regional Board Staff Conclusion:	<p>This pollutant is being considered for placement on the CWA section 303(d) List under section 3.1 of the Listing Policy. Under section 3.1 a single line(s) of evidence are necessary to assess listing status.</p> <p>Four lines of evidence are available in the administrative record to assess this pollutant. Zero of the four samples exceed the criteria for Nitrate/Nitrite..</p> <p>Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against placing this water segment-pollutant combination on the CWA section 303(d) List.</p> <p>This conclusion is based on the staff findings that:</p> <ol style="list-style-type: none"> 1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy. 	

2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy.
3. Zero of four samples exceeded the criteria for Nitrate/Nitrite and this sample size is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating. A minimum of 16 samples is needed to determine if a beneficial use is fully supported using table 3.1.
4. Pursuant to SECTION 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.

Regional Board Staff Decision Recommendation: After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be placed on the section 303(d) list. The readily available data and information is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating.

Line of Evidence (LOE) for Decision ID 66056, Nitrate/Nitrite (Nitrite + Nitrate as N)
Saratoga Creek

Region 2

LOE ID: 93237

Pollutant: Nitrate/Nitrite (Nitrite + Nitrate as N)
 LOE Subgroup: Pollutant-Water
 Matrix: Water
 Fraction: None

Beneficial Use: Municipal & Domestic Supply

Number of Samples: 4
 Number of Exceedances: 0

Data and Information Type: PHYSICAL/CHEMICAL MONITORING
 Data Used to Assess Water Quality: State Water Board staff assessed SWAMP data for Saratoga Creek to determine beneficial use support and results are as follows: 0 of 4 samples exceed the criterion for Nitrate/Nitrite as N.

Data Reference: [RWB2 Urbanization Study 2008](#)

SWAMP Data: SWAMP

Water Quality Objective/Criterion: The California Maximum Contaminant Level for nitrate + nitrite (as N) that is incorporated by reference in the Water Quality Control Plan, San Francisco Bay Region is 10.0 mg/L (Water Quality Control Plan, San Francisco Bay Region).

Objective/Criterion Reference: [Maximum Contaminant Levels for organic and inorganic chemicals. CCR](#)

Evaluation Guideline:
 Guideline Reference:

Spatial Representation: Data for this line of evidence for Saratoga Creek was collected at 4 monitoring sites [Saratoga near Hakone Gardens - 205SAR080, Saratoga inside SCVWD gate - below Walnut Ave - 205SAR070, Saratoga behind Lutheran school - Saratoga Ave and Braemar - 205SAR060, Saratoga above Congress Springs Park - 205SAR057]

Temporal Representation: Data was collected on a single day 5/21/2008.

Environmental Conditions: Staff is not aware of any special conditions that might affect interpretation of the data.

QAPP Information: The SWAMP QAPP (2008) was followed.

QAPP Information Reference(s): [Surface Water Ambient Monitoring Program Quality Assurance Program Plan](#)

DECISION ID 66065
Saratoga Creek

Region 2

Pollutant: Nitrogen, ammonia (Total Ammonia)
Final Listing Decision: Do Not List on 303(d) list (TMDL required list)
Last Listing Cycle's Final New Decision

Listing Decision:**Revision Status**

Revised

Impairment from Pollutant or Pollution:

Pollutant

Regional Board Staff**Conclusion:**

This pollutant is being considered for placement on the CWA section 303(d) List under section 3.2 of the Listing Policy. Under section 3.2 a single line(s) of evidence are necessary to assess listing status.

Two lines of evidence are available in the administrative record to assess this pollutant. Zero of the four samples exceed the Nitrogen guideline.

Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against placing this water segment-pollutant combination on the CWA section 303(d) List.

This conclusion is based on the staff findings that:

1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy.
2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy.
3. Zero of eight samples exceeded the Nitrogen, ammonia criteria and this sample size is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating. A minimum of 16 samples is needed to determine if a beneficial use is fully supported using table 3.1.
4. Pursuant to SECTION 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.

Regional Board Staff Decision Recommendation:

After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be placed on the section 303(d) list. The readily available data and information is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating.

Line of Evidence (LOE) for Decision ID 66065, Nitrogen, ammonia (Total Ammonia)**Region 2****Saratoga Creek**

LOE ID: 93236

Pollutant: Nitrogen, ammonia (Total Ammonia)

LOE Subgroup: Pollutant-Water

Matrix: Water

Fraction: Total

Beneficial Use: Municipal & Domestic Supply

Number of Samples: 4

Number of Exceedances: 0

Data and Information Type: PHYSICAL/CHEMICAL MONITORING

Data Used to Assess Water Quality: State Water Board staff assessed SWAMP data for Saratoga Creek to determine beneficial use support and results are as follows: 0 of 4 samples exceed the criterion for Ammonia as N, Total.

Data Reference: [RWB2 Urbanization Study 2008](#)

SWAMP Data: SWAMP

Water Quality Objective/Criterion: Surface waters shall not contain concentrations of chemical constituents in amounts that adversely affect any designated beneficial use.

Objective/Criterion Reference: [Water Quality Control Plan \(Basin Plan\) San Francisco Bay Basin \(Region 2\)](#)

Evaluation Guideline: USEPA's Lifetime Health advisory level for total ammonia is 30.0 mg/L as stated on page 8 of the 2011 edition of the drinking water standards and health advisories. (EPA EPA

Guideline Reference: 820-R-11-002, 2011).
[2011 Edition of the Drinking Water Standards and Health Advisories](#)

Spatial Representation: Data for this line of evidence for Saratoga Creek was collected at 4 monitoring sites [Saratoga near Hakone Gardens - 205SAR080, Saratoga inside SCVWD gate - below Walnut Ave - 205SAR070, Saratoga behind Lutheran school - Saratoga Ave and Braemar - 205SAR060, Saratoga above Congress Springs Park - 205SAR057]

Temporal Representation: Data was collected on a single day 5/21/2008.

Environmental Conditions: Staff is not aware of any special conditions that might affect interpretation of the data.

QAPP Information: The SWAMP QAPP (2008) was followed.

QAPP Information Reference(s): [Surface Water Ambient Monitoring Program Quality Assurance Program Plan](#)

Line of Evidence (LOE) for Decision ID 66065, Nitrogen, ammonia (Total Ammonia)

Region 2

Saratoga Creek

LOE ID: 93234

Pollutant: Nitrogen, ammonia (Total Ammonia)

LOE Subgroup: Pollutant-Water

Matrix: Water

Fraction: Total

Beneficial Use: Cold Freshwater Habitat

Number of Samples: 4

Number of Exceedances: 0

Data and Information Type: PHYSICAL/CHEMICAL MONITORING

Data Used to Assess Water Quality: State Water Board staff assessed SWAMP data for Saratoga Creek to determine beneficial use support and results are as follows: 0 of 4 samples exceed the criterion for Ammonia as N, Total.

Data Reference: [RWB2 Urbanization Study 2008](#)

SWAMP Data: SWAMP

Water Quality Objective/Criterion: Surface waters shall not contain concentrations of chemical constituents in amounts that adversely affect any designated beneficial use.

Objective/Criterion Reference: [Water Quality Control Plan \(Basin Plan\) San Francisco Bay Basin \(Region 2\)](#)

Evaluation Guideline: Aquatic Life Ambient Water Quality Criteria for Ammonia ? Freshwater (USEPA 2013): the 30-day rolling average concentration (criterion continuous concentration or CCC) of total ammonia nitrogen(in mg TAN/L) in freshwater are not to be exceeded more than once every three years on average. The CCC values are based on pH and temperature. The CCC formula is found on page 46 and the table of CCC values is on page 49.

Guideline Reference: [Aquatic Life Ambient Water Quality Criteria for Ammonia - Freshwater 2013](#)

Spatial Representation: Data for this line of evidence for Saratoga Creek was collected at 4 monitoring sites [Saratoga near Hakone Gardens - 205SAR080, Saratoga inside SCVWD gate - below Walnut Ave - 205SAR070, Saratoga behind Lutheran school - Saratoga Ave and Braemar - 205SAR060, Saratoga above Congress Springs Park - 205SAR057]

Temporal Representation: Data was collected on a single day 5/21/2008.

Environmental Conditions: Staff is not aware of any special conditions that might affect interpretation of the data.

QAPP Information: The SWAMP QAPP (2008) was followed.

QAPP Information Reference(s): [Surface Water Ambient Monitoring Program Quality Assurance Program Plan](#)

DECISION ID

66135

Region 2

Saratoga Creek

Pollutant:

Oxygen, Dissolved

Final Listing Decision:
Last Listing Cycle's Final Listing Decision:
Revision Status
Impairment from Pollutant or Pollution:

Do Not List on 303(d) list (TMDL required list)
New Decision

Revised
Pollutant

Regional Board Staff Conclusion:

This pollutant is being considered for placement on the CWA section 303(d) List under section 3.2 of the Listing Policy. Under section 3.2 a single line(s) of evidence are necessary to assess listing status.

Four lines of evidence are available in the administrative record to assess this pollutant. Zero of the 4 samples exceed the objective for dissolved oxygen.

Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against placing this water segment-pollutant combination on the CWA section 303(d) List.

This conclusion is based on the staff findings that:

1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy.
2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy.
3. Zero of 4 samples exceeded the objective for dissolved oxygen and this sample size is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating. A minimum of 26 samples is needed to determine if a beneficial use is fully supported using table 3.2.
4. Pursuant to SECTION 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.

Regional Board Staff Decision Recommendation:

After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be placed on the section 303(d) list. The readily available data and information is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating.

**Line of Evidence (LOE) for Decision ID 66135, Oxygen, Dissolved
Saratoga Creek**

Region 2

LOE ID: 93239

Pollutant: Oxygen, Dissolved
LOE Subgroup: Pollutant-Water
Matrix: Water
Fraction: Dissolved

Beneficial Use: Cold Freshwater Habitat

Number of Samples: 4
Number of Exceedances: 0

Data and Information Type: PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality: State Water Board staff assessed SWAMP data for Saratoga Creek to determine beneficial use support and results are as follows: 0 of 4 samples exceed the criterion for Oxygen, Dissolved.

Data Reference: [RWB2 Urbanization Study 2008](#)

SWAMP Data: SWAMP

Water Quality Objective/Criterion: Dissolved oxygen objectives for waters designated as cold water habitat shall be of a 7.0 mg/l minimum. (Water Quality Control Plan, San Francisco Bay Basin, Chapter III Water Quality Objectives.)

Objective/Criterion Reference: [Water Quality Control Plan \(Basin Plan\) San Francisco Bay Basin \(Region 2\)](#)

Evaluation Guideline:

Guideline Reference:

Spatial Representation:

Data for this line of evidence for Saratoga Creek was collected at 4 monitoring sites [Saratoga near Hakone Gardens - 205SAR080, Saratoga inside SCVWD gate - below Walnut Ave - 205SAR070, Saratoga behind Lutheran school - Saratoga Ave and Braemar - 205SAR060, Saratoga above Congress Springs Park - 205SAR057]

Temporal Representation:

Data was collected on a single day 5/21/2008.

Environmental Conditions:

Staff is not aware of any special conditions that might affect interpretation of the data.

QAPP Information:

The SWAMP QAPP (2008) was followed.

QAPP Information Reference(s):

[Surface Water Ambient Monitoring Program Quality Assurance Program Plan](#)

Line of Evidence (LOE) for Decision ID 66135, Oxygen, Dissolved

Region 2

Saratoga Creek

LOE ID: 93238

Pollutant: Oxygen, Dissolved

LOE Subgroup: Pollutant-Water

Matrix: Water

Fraction: Dissolved

Beneficial Use: Warm Freshwater Habitat

Number of Samples: 4

Number of Exceedances: 0

Data and Information Type:

PHYSICAL/CHEMICAL MONITORING

Data Used to Assess Water Quality:

State Water Board staff assessed SWAMP data for Saratoga Creek to determine beneficial use support and results are as follows: 0 of 4 samples exceed the criterion for Oxygen, Dissolved.

Data Reference:

[RWB2 Urbanization Study 2008](#)

SWAMP Data:

SWAMP

Water Quality Objective/Criterion:

Dissolved oxygen objectives for waters designated as warm water habitat shall be of a 5.0 mg/l minimum. (Water Quality Control Plan, San Francisco Bay Basin, Chapter III Water Quality Objectives.)

Objective/Criterion Reference:

[Water Quality Control Plan \(Basin Plan\) San Francisco Bay Basin \(Region 2\)](#)

Evaluation Guideline:

Guideline Reference:

Spatial Representation:

Data for this line of evidence for Saratoga Creek was collected at 4 monitoring sites [Saratoga near Hakone Gardens - 205SAR080, Saratoga inside SCVWD gate - below Walnut Ave - 205SAR070, Saratoga behind Lutheran school - Saratoga Ave and Braemar - 205SAR060, Saratoga above Congress Springs Park - 205SAR057]

Temporal Representation:

Data was collected on a single day 5/21/2008.

Environmental Conditions:

Staff is not aware of any special conditions that might affect interpretation of the data.

QAPP Information:

The SWAMP QAPP (2008) was followed.

QAPP Information Reference(s):

[Surface Water Ambient Monitoring Program Quality Assurance Program Plan](#)

DECISION ID 66404

Region 2

Saratoga Creek

Pollutant:

Specific Conductivity

Final Listing Decision:

Do Not List on 303(d) list (TMDL required list)

Last Listing Cycle's Final

New Decision

Listing Decision:

Revision Status

Revised

Impairment from Pollutant or Pollution:	Pollutant
Regional Board Staff Conclusion:	<p>This pollutant is being considered for placement on the CWA section 303(d) List under section 3.2 of the Listing Policy. Under section 3.2 a single line(s) of evidence are necessary to assess listing status.</p> <p>One lines of evidence are available in the administrative record to assess this pollutant. Zero out of four samples exceed the objective for specific conductivity.</p> <p>Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against placing this water segment-pollutant combination on the CWA section 303(d) List.</p> <p>This conclusion is based on the staff findings that:</p> <ol style="list-style-type: none"> 1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy. 2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy. 3. Zero out of four samples exceed the objective for specific conductivity and this sample size is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating. A minimum of 26 samples is needed to determine if a beneficial use is fully supported using table 3.2. 4. Pursuant to SECTION 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.
Regional Board Staff Decision Recommendation:	After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be placed on the section 303(d) list. The readily available data and information is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating.

Line of Evidence (LOE) for Decision ID 66404, Specific Conductivity		Region 2
Saratoga Creek		
LOE ID:	93249	
Pollutant:	Specific Conductivity	
LOE Subgroup:	Pollutant-Water	
Matrix:	Water	
Fraction:	None	
Beneficial Use:	Municipal & Domestic Supply	
Number of Samples:	4	
Number of Exceedances:	0	
Data and Information Type:	PHYSICAL/CHEMICAL MONITORING	
Data Used to Assess Water Quality:	State Water Board staffassessed SWAMP data for Saratoga Creek to determine beneficial use support and results are as follows: 0 of 4 samples exceed the criterion for Conductivity(Us).	
Data Reference:	RWB2 Urbanization Study 2008	
SWAMP Data:	SWAMP	
Water Quality Objective/Criterion:	The California Secondary MCL for Specific Conductance is 900 us/cm (Water Quality Control Plan, San Francisco Bay Region).	
Objective/Criterion Reference:	Secondary Maximum Contaminant Levels and Compliance. CCR title 22 section 64449.	
Evaluation Guideline:		
Guideline Reference:		
Spatial Representation:	Data for this line of evidence for Saratoga Creek was collected at 4 monitoring sites [Saratoga near Hakone Gardens - 205SAR080, Saratoga inside SCVWD gate - below	

Temporal Representation:
Environmental Conditions:
QAPP Information:
QAPP Information Reference(s):

Walnut Ave - 205SAR070, Saratoga behind Lutheran school - Saratoga Ave and Braemar - 205SAR060, Saratoga above Congress Springs Park - 205SAR057]
Data was collected on a single day 5/21/2008.
Staff is not aware of any special conditions that might affect interpretation of the data.
The SWAMP QAPP (2008) was followed.
[Surface Water Ambient Monitoring Program Quality Assurance Program Plan](#)

DECISION ID	66405	Region 2
Saratoga Creek		

Pollutant:	Temperature, water
Final Listing Decision:	Do Not List on 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision:	New Decision
Revision Status	Revised
Impairment from Pollutant or Pollution:	Pollutant
Regional Board Staff Conclusion:	<p>This pollutant is being considered for placement on the CWA section 303(d) List under section 3.2 of the Listing Policy. Under section 3.2 a single line(s) of evidence are necessary to assess listing status.</p> <p>One lines of evidence are available in the administrative record to assess this pollutant. Zero out of four samples exceed the guideline for temperature.</p> <p>Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against placing this water segment-pollutant combination on the CWA section 303(d) List.</p> <p>This conclusion is based on the staff findings that:</p> <ol style="list-style-type: none">1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy.2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy.3. Zero out of four samples exceed the guideline for temperature] and this sample size is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating. A minimum of 26 samples is needed to determine if a beneficial use is fully supported using table 3.2.4. Pursuant to SECTION 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.
Regional Board Staff Decision Recommendation:	After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be placed on the section 303(d) list. The readily available data and information is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating.

Line of Evidence (LOE) for Decision ID 66405, Temperature, water	Region 2
Saratoga Creek	

LOE ID:	93250
Pollutant:	Temperature, water
LOE Subgroup:	Pollutant-Water
Matrix:	Water
Fraction:	None
Beneficial Use:	Cold Freshwater Habitat
Number of Samples:	4
Number of Exceedances:	0

Data and Information Type:	PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality:	State Water Board staff assessed SWAMP data for Saratoga Creek to determine beneficial use support and results are as follows: 0 of 4 samples exceed the criterion for Water Temperature.
Data Reference:	RWB2 Urbanization Study 2008
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	The natural receiving water temperature of inland surface waters shall not be altered unless it can be demonstrated to the satisfaction of the Regional Board that such alteration in temperature does not adversely affect beneficial uses. (Water Quality Control Plan, San Francisco Bay Basin, Chapter III Water Quality Objectives.)
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	Inland Fishes of California (Moyle 1976) states that for rainbow trout the optimum range for growth and completion of most life stages is 13-21 degrees C (page 129).
Guideline Reference:	Inland Fishes of California
Spatial Representation:	Data for this line of evidence for Saratoga Creek was collected at 4 monitoring sites [Saratoga near Hakone Gardens - 205SAR080, Saratoga inside SCVWD gate - below Walnut Ave - 205SAR070, Saratoga behind Lutheran school - Saratoga Ave and Braemar - 205SAR060, Saratoga above Congress Springs Park - 205SAR057]
Temporal Representation:	Data was collected on a single day 5/21/2008.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	The SWAMP QAPP (2008) was followed.
QAPP Information Reference(s):	Surface Water Ambient Monitoring Program Quality Assurance Program Plan

DECISION ID	66401	Region 2
Saratoga Creek		

Pollutant:	pH
Final Listing Decision:	Do Not List on 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision:	New Decision
Revision Status	Revised
Impairment from Pollutant or Pollution:	Pollutant
Regional Board Staff Conclusion:	<p>This pollutant is being considered for placement on the CWA section 303(d) List under section 3.2 of the Listing Policy. Under section 3.2 a single line(s) of evidence are necessary to assess listing status.</p> <p>Two lines of evidence are available in the administrative record to assess this pollutant. Zero out of four samples exceed the objective for pH.</p> <p>Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against placing this water segment-pollutant combination on the CWA section 303(d) List.</p> <p>This conclusion is based on the staff findings that:</p> <ol style="list-style-type: none"> 1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy. 2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy. 3. Zero out of four samples exceed the objective for pH and this sample size is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating. A minimum of 26 samples is needed to determine if a beneficial use is fully supported using table 3.2. 4. Pursuant to SECTION 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.
Regional Board Staff Decision Recommendation:	After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be placed on the section 303(d) list. The readily available data and

information is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating.

Line of Evidence (LOE) for Decision ID 66401, pH

Region 2

Saratoga Creek

LOE ID: 93241

Pollutant: pH
LOE Subgroup: Pollutant-Water
Matrix: Water
Fraction: None

Beneficial Use: Agricultural Supply

Number of Samples: 4
Number of Exceedances: 0

Data and Information Type: PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality: State Water Board staff assessed SWAMP data for Saratoga Creek to determine beneficial use support and results are as follows: 0 of 4 samples exceed the criterion for pH.
Data Reference: [RWB2 Urbanization Study 2008](#)

SWAMP Data: SWAMP

Water Quality Objective/Criterion: Water Quality Control Plan, San Francisco Bay Basin, Chapter III Water Quality Objectives, Section 3.3.22 Constituents of Concern for Municipal and Agricultural Water Supplies states: At a minimum, surface waters designated for use as agricultural supply (AGR) shall not contain concentrations of constituents in excess of the levels specified in Table 3-6. The limit for pH ranges from 4.5-9.0.

Objective/Criterion Reference: [Water Quality Control Plan \(Basin Plan\) San Francisco Bay Basin \(Region 2\)](#)

Evaluation Guideline:
Guideline Reference:

Spatial Representation: Data for this line of evidence for Saratoga Creek was collected at 4 monitoring sites [Saratoga near Hakone Gardens - 205SAR080, Saratoga inside SCVWD gate - below Walnut Ave - 205SAR070, Saratoga behind Lutheran school - Saratoga Ave and Braemar - 205SAR060, Saratoga above Congress Springs Park - 205SAR057]

Temporal Representation: Data was collected on a single day 5/21/2008.

Environmental Conditions: Staff is not aware of any special conditions that might affect interpretation of the data.

QAPP Information: The SWAMP QAPP (2008) was followed.

QAPP Information Reference(s): [Surface Water Ambient Monitoring Program Quality Assurance Program Plan](#)

Line of Evidence (LOE) for Decision ID 66401, pH

Region 2

Saratoga Creek

LOE ID: 93247

Pollutant: pH
LOE Subgroup: Pollutant-Water
Matrix: Water
Fraction: None

Beneficial Use: Cold Freshwater Habitat

Number of Samples: 4
Number of Exceedances: 0

Data and Information Type: PHYSICAL/CHEMICAL MONITORING

Data Used to Assess Water Quality: State Water Board staff assessed SWAMP data for Saratoga Creek to determine beneficial use support and results are as follows: 0 of 4 samples exceed the criterion for pH.

Data Reference: [RWB2 Urbanization Study 2008](#)

SWAMP Data: SWAMP

Water Quality Objective/Criterion: The Water Quality Control Plan for the San Francisco Bay Region's water quality objective for all surface waters states the following: The pH shall not be depressed below 6.5 nor raised above 8.5. This encompasses the pH range usually found in waters within the basin. Controllable water quality factors shall not cause changes greater than 0.5 units in normal ambient pH levels.

Objective/Criterion Reference: [Water Quality Control Plan \(Basin Plan\) San Francisco Bay Basin \(Region 2\)](#)

Evaluation Guideline:

Guideline Reference:

Spatial Representation: Data for this line of evidence for Saratoga Creek was collected at 4 monitoring sites [Saratoga near Hakone Gardens - 205SAR080, Saratoga inside SCVWD gate - below Walnut Ave - 205SAR070, Saratoga behind Lutheran school - Saratoga Ave and Braemar - 205SAR060, Saratoga above Congress Springs Park - 205SAR057]

Temporal Representation: Data was collected on a single day 5/21/2008.

Environmental Conditions: Staff is not aware of any special conditions that might affect interpretation of the data.

QAPP Information: The SWAMP QAPP (2008) was followed.

QAPP Information Reference(s): [Surface Water Ambient Monitoring Program Quality Assurance Program Plan](#)

DECISION ID	34563	Region 2
Saratoga Creek		

Pollutant: Diazinon

Final Listing Decision: List on 303(d) list (being addressed by USEPA approved TMDL)

Last Listing Cycle's Final Listing Decision: List on 303(d) list (being addressed by USEPA approved TMDL)(2012)

Revision Status Original

Sources: Source Unknown

TMDL Name: San Francisco Bay Urban Creeks Diazinon

TMDL Project Code: 9

Date TMDL Approved by USEPA: 05/16/2007

Impairment from Pollutant or Pollution: Pollutant

Regional Board Staff Conclusion: 303(d) listing decisions made prior to 2006 were not held in an assessment database. The Regional Boards will update this decision when new data and information become available and are assessed. The USEPA final decision on the 2006 303(d) list was to move this listing to the being addressed by a USEPA approved TMDL portion of the 303(d) list, because the San Francisco Bay Urban Creeks Diazinon TMDL was approved by USEPA on 5/16/07 (USEPA, 2007).

Regional Board Staff Decision Recommendation: This is a decision previously approved by the State Water Resources Control Board and the USEPA. No new data were assessed by the Regional Board for the current. The decision has not changed.

Line of Evidence (LOE) for Decision ID 34563, Diazinon	Region 2
Saratoga Creek	

LOE ID: 1814

Pollutant: Diazinon

LOE Subgroup: Pollutant-Water

Matrix: Water

Fraction: None

Beneficial Use:	Cold Freshwater Habitat
Number of Samples:	0
Number of Exceedances:	0
Data and Information Type:	Not Specified
Data Used to Assess Water Quality:	Unspecified--This LOE is a placeholder to support a 303(d) listing decision made prior to 2006.
Data Reference:	Placeholder reference 2006 303(d)
SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	
Objective/Criterion Reference:	
Evaluation Guideline:	
Guideline Reference:	
Spatial Representation:	
Temporal Representation:	
Environmental Conditions:	
QAPP Information:	QA Info Missing
QAPP Information Reference(s):	

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Supporting Information

Regional Board 2 - San Francisco Bay Region

Water Body Name: Novato Creek
Water Body ID: CAR2062001019990218113321
Water Body Type: River & Stream

DECISION ID 35081 **Region 2**
Novato Creek

Pollutant: Diazinon
Final Listing Decision: List on 303(d) list (being addressed by USEPA approved TMDL)
Last Listing Cycle's Final Listing Decision: List on 303(d) list (being addressed by USEPA approved TMDL)(2012)
Revision Status Original
Sources: Source Unknown
TMDL Name: San Francisco Bay Urban Creeks Diazinon
TMDL Project Code: 9
Date TMDL Approved by USEPA: 05/16/2007
Impairment from Pollutant or Pollution: Pollutant

Regional Board Staff Conclusion: 303(d) listing decisions made prior to 2006 were not held in an assessment database. The Regional Boards will update this decision when new data and information become available and are assessed. The USEPA final decision on the 2006 303(d) list was to move this listing to the being addressed by a USEPA approved TMDL portion of the 303(d) list, because the San Francisco Bay Urban Creeks Diazinon TMDL was approved by USEPA on 5/16/07 (USEPA, 2007).

Regional Board Staff Decision Recommendation: This is a decision previously approved by the State Water Resources Control Board and the USEPA. No new data were assessed by the Regional Board for the current. The decision has not changed.

Line of Evidence (LOE) for Decision ID 35081, Diazinon **Region 2**

Novato Creek

LOE ID: 1815
Pollutant: Diazinon
LOE Subgroup: Pollutant-Water
Matrix: Water
Fraction: None
Beneficial Use: Preservation of Rare & Endangered Species
Number of Samples: 0
Number of Exceedances: 0
Data and Information Type: Not Specified
Data Used to Assess Water Quality: Unspecified---This LOE is a placeholder to support a 303(d) listing decision made prior to 2006.
Data Reference: [Placeholder reference 2006 303\(d\)](#)
SWAMP Data: Non-SWAMP
Water Quality Objective/Criterion:

Objective/Criterion Reference:

Evaluation Guideline:

Guideline Reference:

Spatial Representation:

Temporal Representation:

Environmental Conditions:

QAPP Information:

QA Info Missing

QAPP Information Reference(s):

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Supporting Information

Regional Board 2 - San Francisco Bay Region

Water Body Name: Miller Creek
Water Body ID: CAR2062001219990219101448
Water Body Type: River & Stream

DECISION ID 34471 **Region 2**
Miller Creek

Pollutant: Diazinon
Final Listing Decision: List on 303(d) list (being addressed by USEPA approved TMDL)
Last Listing Cycle's Final Listing Decision: List on 303(d) list (being addressed by USEPA approved TMDL)(2012)
Revision Status Original
Sources: Source Unknown
TMDL Name: San Francisco Bay Urban Creeks Diazinon
TMDL Project Code: 9
Date TMDL Approved by USEPA: 05/16/2007
Impairment from Pollutant or Pollution: Pollutant

Regional Board Staff Conclusion: 303(d) listing decisions made prior to 2006 were not held in an assessment database. The Regional Boards will update this decision when new data and information become available and are assessed. The USEPA final decision on the 2006 303(d) list was to move this listing to the being addressed by a USEPA approved TMDL portion of the 303(d) list, because the San Francisco Bay Urban Creeks Diazinon TMDL was approved by USEPA on 5/16/07 (USEPA, 2007).

Regional Board Staff Decision Recommendation: This is a decision previously approved by the State Water Resources Control Board and the USEPA. No new data were assessed by the Regional Board for the current. The decision has not changed.

Line of Evidence (LOE) for Decision ID 34471, Diazinon **Region 2**
Miller Creek

LOE ID: 1816
Pollutant: Diazinon
LOE Subgroup: Pollutant-Water
Matrix: Water
Fraction: None
Beneficial Use: Cold Freshwater Habitat
Number of Samples: 0
Number of Exceedances: 0
Data and Information Type: Not Specified
Data Used to Assess Water Quality: Unspecified---This LOE is a placeholder to support a 303(d) listing decision made prior to 2006.
Data Reference: [Placeholder reference 2006 303\(d\)](#)
SWAMP Data: Non-SWAMP
Water Quality Objective/Criterion:

Objective/Criterion Reference:

Evaluation Guideline:
Guideline Reference:

Spatial Representation:
Temporal Representation:
Environmental Conditions:

QAPP Information: QA Info Missing
QAPP Information Reference(s):

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Supporting Information

Regional Board 2 - San Francisco Bay Region

Water Body Name: Gallinas Creek
Water Body ID: CAR2062001320000413113524
Water Body Type: River & Stream

DECISION ID 34329 **Region 2**
Gallinas Creek

Pollutant: Diazinon
Final Listing Decision: List on 303(d) list (being addressed by USEPA approved TMDL)
Last Listing Cycle's Final Listing Decision: List on 303(d) list (being addressed by USEPA approved TMDL)(2012)
Revision Status Original
Sources: Source Unknown
TMDL Name: San Francisco Bay Urban Creeks Diazinon
TMDL Project Code: 9
Date TMDL Approved by USEPA: 05/16/2007
Impairment from Pollutant or Pollution: Pollutant

Regional Board Staff Conclusion: 303(d) listing decisions made prior to 2006 were not held in an assessment database. The Regional Boards will update this decision when new data and information become available and are assessed. The USEPA final decision on the 2006 303(d) list was to move this listing to the being addressed by a USEPA approved TMDL portion of the 303(d) list, because the San Francisco Bay Urban Creeks Diazinon TMDL was approved by USEPA on 5/16/07 (USEPA, 2007).

Regional Board Staff Decision Recommendation: This is a decision previously approved by the State Water Resources Control Board and the USEPA. No new data were assessed by the Regional Board for the current. The decision has not changed.

Line of Evidence (LOE) for Decision ID 34329, Diazinon **Region 2**

Gallinas Creek

LOE ID: 1817
Pollutant: Diazinon
LOE Subgroup: Pollutant-Water
Matrix: Water
Fraction: None
Beneficial Use: Cold Freshwater Habitat
Number of Samples: 0
Number of Exceedances: 0
Data and Information Type: Not Specified
Data Used to Assess Water Quality: Unspecified---This LOE is a placeholder to support a 303(d) listing decision made prior to 2006.
Data Reference: [Placeholder reference 2006 303\(d\)](#)
SWAMP Data: Non-SWAMP
Water Quality Objective/Criterion:

Objective/Criterion Reference:

Evaluation Guideline:
Guideline Reference:

Spatial Representation:
Temporal Representation:
Environmental Conditions:

QAPP Information: QA Info Missing
QAPP Information Reference(s):

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Supporting Information

Regional Board 2 - San Francisco Bay Region

Water Body Name: Petaluma River
Water Body ID: CAR2063002019980928165716
Water Body Type: River & Stream

DECISION ID	34923	Region 2
Petaluma River		

Pollutant: Trash
Final Listing Decision: **Do Not Delist from 303(d) list (being addressed with action other than TMDL)**
Last Listing Cycle's Final Listing Decision: List on 303(d) list (TMDL required list)(2012)
Revision Status: Revised
Sources: Source Unknown
Expected Attainment Date: 2029
Implementation Action Other than TMDL: This trash listing will be addressed by implementing the trash control provisions of the Water Quality Control Plan for Inland Surface Waters, Enclosed Bays, and Estuaries of California through the NPDES phase II small MS4 permit applicable to this waterbody.
Impairment from Pollutant or Pollution: Pollutant

Regional Board Staff Conclusion: This pollutant is being considered for placement on the section 303(d) list under section 3.11 of the Listing Policy. Under section 3.11, listing may be proposed based on the situation-specific weight of evidence. Two lines of evidence are available in the administrative record to assess this pollutant. Both lines of evidence consist of data from field visits/trash surveys conducted according to the Rapid Trash Assessment (RTA) methodology. These data have been compared to evaluation guidelines to assess protection of the non-contact recreation beneficial use and the wildlife habitat beneficial use. Based on the readily available trash assessment data for this waterbody, the weight of evidence indicates that there is sufficient justification available in favor of placing this water segment-pollutant combination to the section 303(d) list in the Water Quality Limited Segments category. This conclusion is based on the staff findings that: 1. Data have been evaluated that supports this decision. 2. The Rapid Trash Assessment methodology results showed that this waterbody had level of trash parameter scores in the poor category (indicating impairment of non-contact water recreational beneficial uses) at a single location on three different dates. This waterbody had threat to aquatic life parameter scores in the poor category (indicating threat to Wildlife Habitat beneficial uses) at four different locations on three different dates. 3. This waterbody is considered impaired by trash because there were exceedances of the evaluation guidelines (poor condition category for the trash assessment metrics) in more than one location or on more than one date. 4. The data used satisfy the data quality requirements of section 6.1.4 of the Policy. 5. The data used satisfy the data quantity requirements of section 6.1 of the Policy. 6. This trash listing will be addressed by implementing the trash control provisions of the Water Quality Control Plan for Inland Surface Waters, Enclosed Bays, and Estuaries of California through the NPDES phase II small MS4 permit applicable to this waterbody.

Regional Board Staff Decision Recommendation: After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be removed from the section 303(d) list because applicable water quality standards for the pollutant are being exceeded.

Line of Evidence (LOE) for Decision ID 34923, Trash	Region 2
Petaluma River	

LOE ID: 5483

Pollutant:	Trash
LOE Subgroup:	Pollutant-Nuisance
Matrix:	Not Specified
Fraction:	None
Beneficial Use:	Non-Contact Recreation
Number of Samples:	16
Number of Exceedances:	3
Data and Information Type:	Occurrence of conditions judged to cause impairment
Data Used to Assess Water Quality:	Data results were obtained through application the RTA methodology, developed by the Surface Water Ambient Monitoring Program (SWAMP). The RTA documents the total number and characteristics of pieces of trash per one hundred feet of stream or shoreline. The trash assessment protocol involves picking up and tallying all of the trash items found within the defined boundaries of a site. The tally results for level of trash (relating to REC2) and threat to aquatic life (relating to WILD) assessment parameters were considered for the listing determination. These results are available for field visits/trash surveys conducted in March, July, and November 2003, and January and February of 2004 according to the Rapid Trash Assessment methodology. This waterbody had threat to aquatic life parameter scores in the poor category (indicating threat to Wildlife Habitat beneficial uses) at four different locations on three different dates.
Data Reference:	A Rapid Trash Assessment Method Applied to Waters of the San Francisco Bay Region:Trash Measurement in Streams Rapid Trash Assessment (RTA) data collected by the SF Bay Region Surface Water Ambient Monitoring Program from 2002-2005 and method description
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	<p>The Basin Plan prohibits discharge of Rubbish, refuse, bark, sawdust, or other solid wastes into surface waters or at any place where they would contact or where they would be eventually transported to surface waters, including flood plain areas.</p> <p>The Basin Plan has a narrative objective for floating material, Waters shall not contain floating material, including solids, liquids, foams, and scum, in concentrations that cause nuisance or adversely affect beneficial uses.</p> <p>The Basin Plan has a narrative objective for settleable material, Waters shall not contain substances in concentrations that result in the deposition of material that cause nuisance or adversely affect beneficial uses.</p>
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) - San Francisco Bay Region (Region 2)
Evaluation Guideline:	If the Rapid Trash Assessment (RTA) Parameter 1 (Level of Trash) is in the poor condition category (scores 0-5), REC2 is not supported. This level of trash distracts the eye on first glance, making the site unsuitable for recreation. The RTA defines poor condition for this parameter as follows, trash distracts the eye on first glance. Stream, bank surfaces, and immediate riparian zone contain substantial levels of litter and debris (>100 pieces). Evidence of site being used frequently by people: many cans, bottles, and food wrappers, blankets, clothing.
Guideline Reference:	A Rapid Trash Assessment Method Applied to Waters of the San Francisco Bay Region:Trash Measurement in Streams
Spatial Representation:	RTA data were collected for this waterbody in four different locations in 2003 and 2004.
Temporal Representation:	RTA data were collected for this waterbody in March, July, and November in 2003, and January, February 2004.
Environmental Conditions:	
QAPP Information:	For RTA trash assessment data to be considered, the data must have been collected by field operators that have received a 2-hour training in the Rapid Trash Assessment methodology.
QAPP Information Reference(s):	

Petaluma River

LOE ID:	5482
Pollutant:	Trash
LOE Subgroup:	Pollutant-Nuisance
Matrix:	Not Specified
Fraction:	None
Beneficial Use:	Wildlife Habitat
Number of Samples:	16
Number of Exceedances:	10
Data and Information Type:	Occurrence of conditions judged to cause impairment
Data Used to Assess Water Quality:	<p>Data results were obtained through application the RTA methodology, developed by the Surface Water Ambient Monitoring Program (SWAMP). The RTA documents the total number and characteristics of pieces of trash per one hundred feet of stream or shoreline. The trash assessment protocol involves picking up and tallying all of the trash items found within the defined boundaries of a site. The tally results for level of trash (relating to REC2) and threat to aquatic life (relating to WILD) assessment parameters were considered for the listing determination. These results are available for field visits/trash surveys conducted in March, July, and November 2003, and January and February of 2004 according to the Rapid Trash Assessment methodology.</p> <p>This waterbody had threat to aquatic life parameter scores in the poor category (indicating threat to Wildlife Habitat beneficial uses) at four different locations on three different dates.</p>
Data Reference:	<p>A Rapid Trash Assessment Method Applied to Waters of the San Francisco Bay Region: Trash Measurement in Streams</p> <p>Rapid Trash Assessment (RTA) data collected by the SF Bay Region Surface Water Ambient Monitoring Program from 2002-2005 and method description</p>
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	<p>The Basin Plan prohibits discharge of Rubbish, refuse, bark, sawdust, or other solid wastes into surface waters or at any place where they would contact or where they would be eventually transported to surface waters, including flood plain areas.</p> <p>The Basin Plan has a narrative objective for floating material, Waters shall not contain floating material, including solids, liquids, foams, and scum, in concentrations that cause nuisance or adversely affect beneficial uses.</p> <p>The Basin Plan has a narrative objective for settleable material, Waters shall not contain substances in concentrations that result in the deposition of material that cause nuisance or adversely affect beneficial uses.</p>
Objective/Criterion Reference:	<p>Water Quality Control Plan (Basin Plan) - San Francisco Bay Region (Region 2)</p>
Evaluation Guideline:	<p>If the RTA Parameter 3 (Threat to Aquatic Life) is in the poor condition category (scores 0-5), then WILD is not supported. This level of trash is a large amount (>50 pieces) of transportable, persistent, buoyant litter that is detrimental to aquatic life. The RTA defines poor condition for this parameter as follows, large amount (>50 pieces) of transportable, persistent, buoyant litter such as: hard or soft plastics, balloons, Styrofoam, cigarette butts; toxic items such as batteries, lighters, or spray cans; large clumps of yard waste or dumped leaf litter; or large amount (>50 pieces) of settleable glass or metal.</p>
Guideline Reference:	<p>A Rapid Trash Assessment Method Applied to Waters of the San Francisco Bay Region: Trash Measurement in Streams</p>
Spatial Representation:	RTA data were collected for this waterbody in four different locations in 2003 and 2004.
Temporal Representation:	RTA data were collected for this waterbody in March, July, and November in 2003, and January, February 2004.
Environmental Conditions:	
QAPP Information:	<p>For RTA trash assessment data to be considered, the data must have been collected by field operators that have received a 2-hour training in the Rapid Trash Assessment</p>

DECISION ID	44358	Region 2
Petaluma River		

Pollutant:	Anthracene Benzo(a)anthracene Benzo(a)pyrene (3,4-Benzopyrene -7-d) Chlordane Chrysene (C1-C4) DDD (Dichlorodiphenyldichloroethane) DDE (Dichlorodiphenyldichloroethylene) DDT (Dichlorodiphenyltrichloroethane) Dieldrin Endrin Fluoranthene Fluorene Heptachlor epoxide Lindane/gamma Hexachlorocyclohexane (gamma-HCH) Naphthalene PAHs (Polycyclic Aromatic Hydrocarbons) PCBs (Polychlorinated biphenyls) Phenanthrene Pyrene
Final Listing Decision:	Do Not List on 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision:	Do Not List on 303(d) list (TMDL required list)(2012)
Revision Status	Original
Impairment from Pollutant or Pollution:	Pollutant
Regional Board Staff Conclusion:	These pollutants are being considered for placement on the section 303(d) list under section 3.1 of the Listing Policy. Under this section a single line of evidence is necessary to assess listing status. One line of evidence is available in the administrative record to assess these pollutants. Zero samples exceed the water quality objective. Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against placing this water segment-pollutant combination on the section 303(d) list in the Water Quality Limited Segments category. This conclusion is based on the staff findings that: 1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy. 2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy. 3. Zero of one sample exceed the water quality objective, but this sample size is insufficient to determine with the power and confidence of the Listing Policy if standards are not met. A minimum of two samples are needed for application of table 3.1. 4. Pursuant to section 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.
Regional Board Staff Decision Recommendation:	This is a decision previously approved by the State Water Resources Control Board and the USEPA. No new data were assessed by the Regional Board for the current. The decision has not changed.

Line of Evidence (LOE) for Decision ID 44358, Multiple Pollutants	Region 2
Petaluma River	

LOE ID:	30363
Pollutant:	Anthracene Benzo(a)anthracene Benzo(a)pyrene (3,4-Benzopyrene -7-d) Chlordane Chrysene (C1-C4) DDD (Dichlorodiphenyldichloroethane) DDE (Dichlorodiphenyldichloroethylene) DDT (Dichlorodiphenyltrichloroethane) Dieldrin Endrin Fluoranthene Fluorene Heptachlor epoxide Lindane/gamma Hexachlorocyclohexane (gamma-HCH) Naphthalene PAHs (Polycyclic Aromatic Hydrocarbons) PCBs (Polychlorinated biphenyls) Phenanthrene Pyrene
LOE Subgroup:	Pollutant-Sediment
Matrix:	Sediment
Fraction:	None
Beneficial Use:	Cold Freshwater Habitat
Number of Samples:	1
Number of Exceedances:	0
Data and Information Type:	PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality:	Concentrations of anthracene, fluorene, naphthalene, phenanthrene, benz(a)anthracene, benzo(a)pyrene, chrysene, fluoranthrene, pyrene, PAH (total), PCB (total), chlordane,

Data Reference:	<p>dieldrin, DDD/DDE/DDT, endrin, heptachlor epoxide, and HCH, gamma in one sediment sample collected in spring 2003 did not exceed the sediment quality guidelines.</p> <p>Water Quality Monitoring and Bioassessment in Four San Francisco Bay Region Watersheds in 2003-2004: Kirker Creek, Mt. Diablo Creek, Petaluma River, and San Mateo Creek. Surface Water Monitoring Program, San Francisco Bay Regional Water Quality Control Board, Oakland, CA</p>
SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	All waters shall be maintained free of toxic substances that are lethal to or that produce other detrimental responses in aquatic organisms.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) - San Francisco Bay Region (Region 2)
Evaluation Guideline:	Sediment Quality Guidelines (MacDonald et al., 2000): PEC (probable effect concentration) Anthracene - 845 ug/kg; Fluorene - 536 ug/kg; Naphthalene - 561 ug/kg; Phenanthrene - 1170 ug/kg; Benz(a)anthracene - 1050 ug/kg; Benzo(a)pyrene - 1450 ug/kg; Chrysene - 1290 ug/kg; Fluoranthene - 2230 ug/kg; Pyrene - 1520 ug/kg; PAH (total) - 22800 ug/kg; PCB (total) - 676 ug/kg; Chlordane - 17.6 ug/kg; Dieldrin - 61.8 ug/kg; DDD (sum op + pp) - 28 ug/kg; DDE (sum op + pp) - 31.3 ug/kg; DDT (sum op + pp) - 62.9 ug/kg; DDT (total) - 572 ug/kg; Endrin - 207 ug/kg; Heptachlor epoxide - 16 ug/kg; HCH, gamma - 4.99 ug/kg.
Guideline Reference:	Development and evaluation of consensus-based sediment quality guidelines for freshwater ecosystems. Environmental Contamination and Toxicology. 39: 20-31
Spatial Representation:	One sediment sample was collected at PET310 on the mainstem of Petaluma River.
Temporal Representation:	Sediment sample was collected in April of 2003.
Environmental Conditions:	The Petaluma River watershed is heavily influenced by historic and current poultry and dairy farming, and has a substantial urban area within the city of Petaluma and adjacent communities. The tidal influences extend many miles up the slough, through highly channelized agricultural areas and tidal marshes.
QAPP Information:	All samples were collected and analyzed using procedures comparable with the SWAMP Quality Assurance Management Plan (SWRCB, 2002).
QAPP Information Reference(s):	

DECISION ID	44073	Region 2
Petaluma River		
Pollutant: Final Listing Decision: Last Listing Cycle's Final Listing Decision: Revision Status Impairment from Pollutant or Pollution:	Arsenic Cadmium Chromium (total) Copper Lead Mercury Nickel Zinc Do Not List on 303(d) list (TMDL required list) Do Not List on 303(d) list (TMDL required list)(2012) Original Pollutant	
Regional Board Staff Conclusion:	These pollutants are being considered for placement on the section 303(d) list under section 3.1 of the Listing Policy. Under this section a single line of evidence is necessary to assess listing status. One line of evidence is available in the administrative record to assess these pollutants. Zero samples exceed the water quality objective. Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against placing this water segment-pollutant combination on the section 303(d) list in the Water Quality Limited Segments category. This conclusion is based on the staff findings that: 1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy. 2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy. 3. Zero of one sample exceed the water quality objective, but this sample size is insufficient to determine with the power and confidence of the Listing Policy if standards are not met. A minimum of two samples are needed for application of table 3.1. 4. Pursuant to section 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.	
Regional Board Staff Decision Recommendation:	This is a decision previously approved by the State Water Resources Control Board and the USEPA. No new data were assessed by the Regional Board for the current. The decision has not changed.	

Line of Evidence (LOE) for Decision ID 44073, Multiple Pollutants**Region 2****Petaluma River**

LOE ID:	30364
Pollutant:	Arsenic Cadmium Chromium (total) Copper Lead Mercury Nickel Zinc
LOE Subgroup:	Pollutant-Sediment
Matrix:	Sediment
Fraction:	Total
Beneficial Use:	Cold Freshwater Habitat
Number of Samples:	1
Number of Exceedances:	0
Data and Information Type:	PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality:	Concentrations of arsenic, cadmium, chromium, copper, lead, mercury, nickel and zinc in one sediment sample collected in spring 2003 did not exceed the sediment quality guidelines.
Data Reference:	Water Quality Monitoring and Bioassessment in Four San Francisco Bay Region Watersheds in 2003-2004: Kirker Creek, Mt. Diablo Creek, Petaluma River, and San Mateo Creek. Surface Water Monitoring Program. San Francisco Bay Regional Water Quality Control Board, Oakland, CA
SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	All waters shall be maintained free of toxic substances that are lethal to or that produce other detrimental responses in aquatic organisms.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) - San Francisco Bay Region (Region 2)
Evaluation Guideline:	Sediment Quality Guidelines (MacDonald et al., 2000): PEC (probable effect concentration) arsenic - 33 mg/kg dw; cadmium - 4.98 mg/kg dw; chromium - 111 mg/kg dw; copper - 149 mg/kg dw; lead - 128 mg/kg dw; mercury - 1.06 mg/kg dw; nickel - 48.6 mg/kg dw; zinc - 459 mg/kg dw.
Guideline Reference:	Development and evaluation of consensus-based sediment quality guidelines for freshwater ecosystems. Environmental Contamination and Toxicology. 39: 20-31
Spatial Representation:	One sediment sample was collected at PET310 on the mainstem of Petaluma River.
Temporal Representation:	Sediment sample was collected in April of 2003.
Environmental Conditions:	The Petaluma River watershed is heavily influenced by historic and current poultry and dairy farming, and has a substantial urban area within the city of Petaluma and adjacent communities. The tidal influences extend many miles up the slough, through highly channelized agricultural areas and tidal marshes.
QAPP Information:	All samples were collected and analyzed using procedures comparable with the SWAMP Quality Assurance Management Plan (SWRCB, 2002).
QAPP Information Reference(s):	

DECISION ID**43911****Region 2****Petaluma River**

Pollutant:	Arsenic Chromium (total) Copper Lead Nickel Selenium Silver Zinc
Final Listing Decision:	Do Not List on 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision:	Do Not List on 303(d) list (TMDL required list)(2012)
Revision Status	Original
Impairment from Pollutant or Pollution:	Pollutant

**Regional Board Staff
Conclusion:**

This pollutant is being considered for listing under sections 3.1 of the Listing Policy. Under section 3.1 a single line of evidence is necessary to assess listing status. One line of evidence is available in the administrative record to assess these pollutants. Concentrations of arsenic, chromium, copper, lead, nickel, selenium, silver and zinc do not exceed the water quality objectives. Based on the readily available data for this water body, the weight of evidence indicates that there is sufficient justification against placing this water segment-pollutant combination on the section 303(d) list in the Water Quality Limited Segments category. This conclusion is based on the staff findings that: 1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy. 2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy. 3. None of the three samples exceeded the the water quality objectives and this does not exceed the allowable frequency listed in Table 3.1 of the Listing Policy. 4. Pursuant to section 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.

**Regional Board Staff Decision
Recommendation:**

This is a decision previously approved by the State Water Resources Control Board and the USEPA. No new data were assessed by the Regional Board for the current. The decision has not changed.

Line of Evidence (LOE) for Decision ID 43911, Multiple Pollutants

Region 2

Petaluma River

LOE ID:	30366
Pollutant:	Arsenic Chromium (total) Copper Lead Nickel Selenium Silver Zinc
LOE Subgroup:	Pollutant-Water
Matrix:	Water
Fraction:	Dissolved
Beneficial Use:	Cold Freshwater Habitat
Number of Samples:	3
Number of Exceedances:	0
Data and Information Type:	PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality:	Three samples were collected by SWAMP from a monitoring location PET310 in Petaluma River. Concentrations of arsenic, chromium, copper, lead, nickel, selenium, silver and and zinc did not exceed the water quality objectives. Concentrations of total dissolved chromium were well below the objective for chromium VI.
Data Reference:	Water Quality Monitoring and Bioassessment in Four San Francisco Bay Region Watersheds in 2003-2004: Kirker Creek, Mt. Diablo Creek, Petaluma River, and San Mateo Creek. Surface Water Monitoring Program, San Francisco Bay Regional Water Quality Control Board, Oakland. CA
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	All waters shall be maintained free of toxic substances that are lethal to or that produce other detrimental responses in aquatic organisms. Table 3-4 in the Basin Plan (2007) lists freshwater water quality objectives for toxic pollutants: arsenic- 150 ug/L, chromium VI- 11 ug/L, copper - 9.0 ug/L, lead - 2.5 ug/L, nickel - 52 ug/L, selenium - 5 ug/L, silver-3.4 ug/L and zinc - 120 ug/L.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) - San Francisco Bay Region (Region 2)
Evaluation Guideline:	
Guideline Reference:	
Spatial Representation:	Samples were collected from one monitoring location PET310 in the main stem of Petaluma River.
Temporal Representation:	Samples were collected on: 01/20/2003, 04/21/2003 and 06/02/2003 .
Environmental Conditions:	
QAPP Information:	All samples were collected and analyzed using procedures comparable with the SWAMP Quality Assurance Management Plan (SWRCB 2002).

DECISION ID	44081	Region 2
Petaluma River		

Pollutant: **Escherichia coli (E. coli)**
Final Listing Decision: **Do Not List on 303(d) list (TMDL required list)**
Last Listing Cycle's Final Listing Decision: Do Not List on 303(d) list (TMDL required list)(2012)
Revision Status Original
Impairment from Pollutant or Pollution: Pollutant

Regional Board Staff Conclusion: This pollutant is being considered for placement on the section 303(d) list under section 3.2 of the Listing Policy. Under this section a single line of evidence is necessary to assess listing status. One line of evidence is available in the administrative record to assess this pollutant. Four of the samples exceed the water quality objective. Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against placing this water segment-pollutant combination on the section 303(d) list in the Water Quality Limited Segments category. This conclusion is based on the staff findings that: 1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy. 2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy. 3. Four of four samples exceeded the water quality objective, but this sample size is insufficient to determine with the power and confidence of the Listing Policy if standards are not met. A minimum of five samples is needed for application of table 3.2. 4. Pursuant to section 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.

Regional Board Staff Decision Recommendation: This is a decision previously approved by the State Water Resources Control Board and the USEPA. No new data were assessed by the Regional Board for the current. The decision has not changed.

Line of Evidence (LOE) for Decision ID 44081, Escherichia coli (E. coli)	Region 2
Petaluma River	

LOE ID: 30361
Pollutant: Escherichia coli (E. coli)
LOE Subgroup: Pollutant-Water
Matrix: Water
Fraction: None
Beneficial Use: Water Contact Recreation
Number of Samples: 4
Number of Exceedances: 4
Data and Information Type: PATHOGEN MONITORING
Data Used to Assess Water Quality: Samples were collected as part of SWAMP sampling in the summer of 2003 at 7-day intervals and the geometric mean of the samples calculated over a five week interval. The geometric mean for PET265 was 161 MPN/100 mL, for PET400 was 215 MPN/100 mL, for PET310 was 498 MPN/100 mL, and for PET315 was 431 MPN/100 mL, all exceed the 126 MPN/100mL criteria.
Data Reference: [Water Quality Monitoring and Bioassessment in Four San Francisco Bay Region Watersheds in 2003-2004: Kirker Creek, Mt. Diablo Creek, Petaluma River, and San Mateo Creek, Surface Water Monitoring Program, San Francisco Bay Regional Water Quality Control Board, Oakland, CA](#)
SWAMP Data: SWAMP
Water Quality Objective/Criterion: Uses of water for recreational activities involving body contact with water where ingestion

of water is reasonably possible. These uses include, but are not limited to, swimming, wading, water-skiing, skin and scuba diving, surfing, whitewater activities, fishing, and uses of natural hot springs.

Water contact implies a risk of waterborne disease transmission and involves human health; accordingly, criteria required to protect this use are more stringent than those for more casual water-oriented recreation.

U.S. EPA water quality criteria for water contact recreation based on the frequency of use a particular area receives - 1986: the E. coli criterion is not to exceed 126 organisms/100 mL. The value is expressed as a 7-day geometric mean based on five or more samples per 30?day period; designated beach (max) 235 MPN/100 mL.

Objective/Criterion Reference:

[Water Quality Control Plan \(Basin Plan\) - San Francisco Bay Region \(Region 2\)](#)
[Ambient Water Quality Criteria for Bacteria - 1986. EPA440/5-84-002](#)

Evaluation Guideline:

Guideline Reference:

Spatial Representation:

Samples were collected at four locations: PET265 (Lower Lynch Creek), PET400 ((urban) on Lichau Creek), PET310 and PET315 on the mainstem of Petaluma River.

Temporal Representation:

Samples were collected weekly from 7/21/2003 through 8/18/2003.

Environmental Conditions:

The Petaluma River watershed is heavily influenced by historic and current poultry and dairy farming, and has a substantial urban area within the city of Petaluma and adjacent communities. The tidal influences extend many miles up the slough, through highly channelized agricultural areas and tidal marshes.

QAPP Information:

All samples were collected and analyzed using procedures comparable with the SWAMP Quality Assurance Management Plan (SWRCB, 2002).

QAPP Information Reference(s):

[Quality Assurance Management Plan for the State of California's Surface Water Ambient Monitoring Program. Sacramento, CA. State Water Resources Control Board. SWAMP. December 2002 \(1st version\)](#)

DECISION ID	43296	Region 2
Petaluma River		

Pollutant:	Oxygen, Dissolved
Final Listing Decision:	Do Not List on 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision:	Do Not List on 303(d) list (TMDL required list)(2012)
Revision Status	Original
Impairment from Pollutant or Pollution:	Pollutant

Regional Board Staff Conclusion:

This pollutant is being considered for listing under sections 3.2 of the Listing Policy. Under section 3.2 a single line of evidence is necessary to assess listing status. Two lines of evidence is available in the administrative record to assess this pollutant. Based on the readily available data for this water body, the weight of evidence indicates that there is insufficient justification for placing this water segment-pollutant combination on the section 303(d) list in the Water Quality Limited Segments category. This conclusion is based on the staff findings that: 1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy. 2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy. 3. Petaluma River is designated as warm and cold water habitat. Dissolved oxygen measurements at 4 out of 8 continuous deployments were below the Basin Plan objective of 5 mg/L for waters designated as warm water habitat and this does not exceed the allowable frequency listed in Table 3.2 of the Listing Policy. Dissolved oxygen measurements at 5 out of 8 continuous deployments were below the Basin Plan objective of 7 mg/L for waters designated as cold water habitat. Although this number of exceedances exceeds the allowable frequency listed in Table 3.2 of the Listing Policy there is insufficient information to determine that the standards are not met. Four out of 5 exceedances showed very low dissolved oxygen levels but the fifth exceedance measured 6.86 mg/L and was just below the minimum concentration of 7 mg/L. Only two exceedances were detected at the monitoring sites in Petaluma River. The data represent only spring and summer months as six additional deployments from fall and winter did not meet the quality assurance protocol making it difficult to determine whether these dissolved oxygen measurements ascertain that water quality in Petaluma River is impaired. 4. Pursuant to section 3.11

of the Listing Policy, no additional data and information are available indicating that standards are not met.

Regional Board Staff Decision Recommendation: This is a decision previously approved by the State Water Resources Control Board and the USEPA. No new data were assessed by the Regional Board for the current. The decision has not changed.

**Line of Evidence (LOE) for Decision ID 43296, Oxygen, Dissolved
Petaluma River**

Region 2

LOE ID: 28293

Pollutant: Low Dissolved Oxygen

LOE Subgroup: Pollutant-Water

Matrix: Water

Fraction: None

Beneficial Use: Warm Freshwater Habitat

Number of Samples: 8

Number of Exceedances: 4

Data and Information Type: PHYSICAL/CHEMICAL MONITORING

Data Used to Assess Water Quality: Water quality assessment was conducted at the Petaluma River watershed as part of SWAMP assessment. Continuous field monitoring of temperature, dissolved oxygen, pH and specific conductance was conducted to determine temporal variability in basic water quality at four locations.

Data Reference: In 4 out of 8 deployments, minimum dissolved oxygen levels fell below the objective of 5 mg/L. The 7-day minimum in the main stem monitoring site and the Adobe Creek and Lynch Creek sites in summer 2003 showed extremely low dissolved oxygen concentrations below 1 mg/L and median percent saturation below 20 percent.
[Water Quality Monitoring and Bioassessment in Four San Francisco Bay Region Watersheds in 2003-2004: Kirker Creek, Mt. Diablo Creek, Petaluma River, and San Mateo Creek. Surface Water Monitoring Program, San Francisco Bay Regional Water Quality Control Board, Oakland, CA](#)

SWAMP Data: SWAMP

Water Quality Objective/Criterion: The numeric water quality objective for dissolved oxygen is 5.0 mg/L minimum for waters designated as warm water habitat. The median dissolved oxygen concentration for any three consecutive months shall not be less than 80 percent of the dissolved oxygen content at saturation.

Objective/Criterion Reference: [Water Quality Control Plan \(Basin Plan\) - San Francisco Bay Region \(Region 2\)](#)

Evaluation Guideline:

Guideline Reference:

Spatial Representation: Dissolved oxygen was measured at four sites. One monitoring site is located in the main stem of Petaluma River and 3 other sites represent three east site tributaries: Adobe Creek (most downstream tributary), Lynch Creek and Lichau Creek (most upstream tributary).

Temporal Representation: Dissolved oxygen was measured at 15 minute intervals over 1 to 2 weeks period during spring (April 2003), summer (July 2003), and winter wet season (January/February 2004).

Environmental Conditions: The Petaluma River watershed is heavily influenced by historic and current poultry and dairy farming, and has a substantial urban area within the city of Petaluma and adjacent communities. The tidal influences extend many miles up the slough, through highly channelized agricultural areas and tidal marshes.

QAPP Information: All samples were collected and analyzed using procedures comparable with the SWAMP Quality Assurance Management Plan (SWRCB 2002).

QAPP Information Reference(s): [Quality Assurance Management Plan for the State of California's Surface Water Ambient Monitoring Program, Sacramento, CA, State Water Resources Control Board, SWAMP.](#)

Line of Evidence (LOE) for Decision ID 43296, Oxygen, Dissolved

Region 2

Petaluma River

LOE ID:	28269
Pollutant:	Low Dissolved Oxygen
LOE Subgroup:	Pollutant-Water
Matrix:	Water
Fraction:	None
Beneficial Use:	Cold Freshwater Habitat
Number of Samples:	8
Number of Exceedances:	5
Data and Information Type:	PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality:	Water quality assessment was conducted at the Petaluma River watershed as part of SWAMP assessment. Continuous field monitoring of temperature, dissolved oxygen, pH and specific conductance was conducted to determine temporal variability in basic water quality at four locations. In 5 out of 8 deployments, minimum dissolved oxygen levels fell below the objective of 7 mg/L. The 7-day minimum in the main stem monitoring site and the Adobe Creek and Lynch Creek sites in summer 2003 showed extremely low dissolved oxygen concentrations below 1 mg/L and median percent saturation below 20 percent.
Data Reference:	Water Quality Monitoring and Bioassessment in Four San Francisco Bay Region Watersheds in 2003-2004: Kirker Creek, Mt. Diablo Creek, Petaluma River, and San Mateo Creek. Surface Water Monitoring Program, San Francisco Bay Regional Water Quality Control Board, Oakland, CA
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	The numeric water quality objective for dissolved oxygen is 7.0 mg/L minimum for waters designated as cold water habitat. The median dissolved oxygen concentration for any three consecutive months shall not be less than 80 percent of the dissolved oxygen content at saturation.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) - San Francisco Bay Region (Region 2)
Evaluation Guideline:	
Guideline Reference:	
Spatial Representation:	Dissolved oxygen was measured at four sites. One monitoring site is located in the main stem of Petaluma River and 3 other sites represent three east site tributaries: Adobe Creek (most downstream tributary), Lynch Creek and Lichau Creek (most upstream tributary).
Temporal Representation:	Dissolved oxygen was measured at 15 minute intervals over 1 to 2 weeks period during spring (April 2003), summer (July 2003), and winter wet season (January/February 2004).
Environmental Conditions:	The Petaluma River watershed is heavily influenced by historic and current poultry and dairy farming, and has a substantial urban area within the city of Petaluma and adjacent communities. The tidal influences extend many miles up the slough, through highly channelized agricultural areas and tidal marshes.
QAPP Information:	All samples were collected and analyzed using procedures comparable with the SWAMP Quality Assurance Management Plan (SWRCB 2002).
QAPP Information Reference(s):	Quality Assurance Management Plan for the State of California's Surface Water Ambient Monitoring Program, Sacramento, CA. State Water Resources Control Board. SWAMP. December 2002 (1st version)

DECISION ID

43076

Region 2

Petaluma River

Pollutant: Temperature, water
Final Listing Decision: Do Not List on 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision: Do Not List on 303(d) list (TMDL required list)(2012)
Revision Status: Original
Impairment from Pollutant or Pollution: Pollutant

Regional Board Staff Conclusion: This pollutant is being considered for listing under sections 3.2 of the Listing Policy. Under section 3.2 a single line of evidence is necessary to assess listing status. One line of evidence is available in the administrative record to assess this pollutant. Temperature measurements exceed the water quality objective in 5 out of 14 deployments. Based on the readily available data for this water body, the weight of evidence indicates that there is insufficient justification for placing this water segment-pollutant combination on the section 303(d) list in the Water Quality Limited Segments category. This conclusion is based on the staff findings that: 1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy. 2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy. 3. Temperature measurements at 5 out of 14 continuous deployments exceeded the 17C evaluation guideline used to interpret the water quality objective for waters designated as cold water habitat. Although the number of exceedances exceeds the allowable frequency listed in Table 3.2 of the Listing Policy there is insufficient information to determine that the standards are not met. The exceedances only occurred during dry summer periods (July/September). The range of exceedances was from 17.41 to 19.09C and the maximum 7-day mean temperature exceeded 18C at two occasions only. These highest temperatures were detected in tributaries of Adobe and Lichau Creek that have limited flows during dry summer months and these conditions are known to be difficult to monitor. Only single exceedance was detected in each monitored tributary stream and in the main stem of Petaluma River and the available data reflect the watershed conditions and not the water quality of Petaluma River. 4. Pursuant to section 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.

Regional Board Staff Decision Recommendation: This is a decision previously approved by the State Water Resources Control Board and the USEPA. No new data were assessed by the Regional Board for the current. The decision has not changed.

Line of Evidence (LOE) for Decision ID 43076, Temperature, water Petaluma River

Region 2

LOE ID: 28266
Pollutant: Temperature, water
LOE Subgroup: Pollutant-Water
Matrix: Water
Fraction: None
Beneficial Use: Cold Freshwater Habitat
Number of Samples: 14
Number of Exceedances: 5

Data and Information Type: PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality: Water quality assessment was conducted at the Petaluma watershed as part of SWAMP study in 2003 and 2004. Continuous field monitoring at 15 minute increments of temperature, dissolved oxygen, pH and specific conductance was conducted to determine temporal variability in basic water quality at four locations.

The measured temperatures ranged from 7.51 oC to 20.71 oC and varied with season and location. The 17 oC criterion for steelhead was exceeded in 5 out of 14 deployments. In 3 instances the estimated maximum 7-day mean temperature ranged from 17.41 to 17.98 ? C, and the remaining 2 exceedances had temperatures of 18.36 and 19.09 ?C. The highest temperatures were detected at sites draining urban areas in tributaries of Adobe and Lichau Creek

Data Reference:	Water Quality Monitoring and Bioassessment in Four San Francisco Bay Region Watersheds in 2003-2004: Kirker Creek, Mt. Diablo Creek, Petaluma River, and San Mateo Creek, Surface Water Monitoring Program, San Francisco Bay Regional Water Quality Control Board, Oakland, CA
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	Temperature objectives for enclosed bays and estuaries are specified in the Water Quality Control Plan for Control of Temperature in the Coastal and Interstate Waters and Enclosed Bays of California including any revisions to the plan. In addition, the following temperature objectives apply to surface waters: The natural receiving water temperature of intrastate waters shall not be altered unless it can be demonstrated to the satisfaction of the Regional Water Board that such alteration in temperature does not adversely affect beneficial uses. The temperature of any cold or warm freshwater habitat shall not be increased by more than 5 oF (2.8 oC) above natural receiving water temperature.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) - San Francisco Bay Region (Region 2)
Evaluation Guideline:	Sullivan et al. (2000) reviewed a wide range of studies incorporating information from laboratory-based research, field observations, and risk assessment approaches and developed criteria for assessing temperature risk to aquatic life. The 7-day mean temperature (maximum value of the 7-day moving average of the daily mean temperature) of 14.8 oC was established as the upper threshold criterion for coho salmon and 17.0 oC for steelhead trout. The risk assessment approach used by Sullivan et al. (2000) suggests that temperatures exceeding the above thresholds will cause 10% reduction in average growth compared to optimal conditions.
Guideline Reference:	An Analysis of the Effects of Temperature on Salmonids of the Pacific Northwest with Implications for Selecting Temperature Criteria
Spatial Representation:	Temperature was measured at four sites. One monitoring site is located in the main stem of Petaluma River and 3 other sites represent three east side tributaries: Adobe Creek (most downstream tributary), Lynch Creek and Lichau Creek (most upstream tributary).
Temporal Representation:	Temperature was recorded at 15 minute intervals over 1 to 2 weeks period during spring (April 2003), summer (July 2003), fall September 2003), and winter wet season (January/February 2004).
Environmental Conditions:	The Petaluma River watershed is heavily influenced by historic and current poultry and dairy farming, and has a substantial urban area within the city of Petaluma and adjacent communities. The tidal influences extend many miles up the slough, through highly channelized agricultural areas and tidal marshes.
QAPP Information:	All samples were collected and analyzed using procedures comparable with the SWAMP Quality Assurance Management Plan (SWRCB 2002).
QAPP Information Reference(s):	

DECISION ID 43987 Region 2	
Petaluma River	
Pollutant:	Toxicity
Final Listing Decision:	Do Not List on 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision:	Do Not List on 303(d) list (TMDL required list)(2012)
Revision Status	Original
Impairment from Pollutant or Pollution:	Pollutant
Regional Board Staff Conclusion:	This pollutant is being considered for listing under section 3.6 of the Listing Policy. Under section 3.6 a single line of evidence is necessary to assess listing status. One line of evidence is available in the administrative record to assess toxicity in Petaluma River. Two of three water samples exhibited limited toxicity. Based on the readily available data for this water body, the weight of evidence indicates that there is sufficient justification available against placing this water segment-pollutant combination on the section 303(d) list in the Water Quality Limited Segments category. This conclusion is based on the staff findings that: 1. The data concerning current conditions and

supporting the listing decision satisfy the data quality requirements of section 6.1.4 of the Policy. 2. The data used satisfy the data quantity requirements of section 6.1.5 of the Policy. 3. Chronic toxicity to Cerodaphnia was observed in one of three samples and growth of Selenastrum was affected in two samples that did not produce adverse effects in Cerodaphnia. The significant toxic effects observed could result from the robustness of the control organisms used in toxicity tests that artificially amplified the difference between the test organisms and the control. Acceptable growth and/or reproduction was observed during the tests. Therefore, the results are insufficient to demonstrate that standards are not attained. 4. Pursuant to section 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.

Regional Board Staff Decision Recommendation: This is a decision previously approved by the State Water Resources Control Board and the USEPA. No new data were assessed by the Regional Board for the current. The decision has not changed.

Line of Evidence (LOE) for Decision ID 43987, Toxicity

Region 2

Petaluma River

LOE ID:	30362
Pollutant:	Sediment Toxicity
LOE Subgroup:	Pollutant-Sediment
Matrix:	Sediment
Fraction:	None
Beneficial Use:	Cold Freshwater Habitat
Number of Samples:	1
Number of Exceedances:	1
Data and Information Type:	Toxicity testing of sediments
Data Used to Assess Water Quality:	Data used to evaluate sediment toxicity comprise one sediment sample collected by the SWAMP in 2003. No toxicity or adverse effects were exhibited for survival of Hyallela azteca, however there was a minor effect on Hyalella growth (76% of the control) in the bulk toxicity test.
Data Reference:	Water Quality Monitoring and Bioassessment in Nine San Francisco Bay Region Watersheds: Walker Creek, Lagunitas Creek, San Leandro Creek, Wildcat Creek/San Pablo Creek, Suisun Creek, Arroyo Las Positas, Pescadero Creek/Butano Creek, San Gregorio Creek, and Stevens Creek/Permanente Creek. Oakland, CA: Surface Water Ambient Monitoring Program. San Francisco Bay Regional Water Quality Control Board
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	All waters shall be maintained free of toxic substances that are lethal to or that produce other detrimental responses in aquatic organisms. There shall be no chronic toxicity in ambient waters. Chronic toxicity is a detrimental biological effect on growth rate, reproduction, fertilization success, larval development, population abundance, community composition, or any other relevant measure of the health of an organism, population, or community.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) - San Francisco Bay Region (Region 2)
Evaluation Guideline:	Sediment toxicity was evaluated according to the SWAMP methodology. Sample toxicity was determined by comparing mean organism response in samples and in negative controls. Statistical evaluation (alpha = 0.05) and a default threshold of 80% of the control value were used to establish whether the sediment exhibited significant toxicity adversely impacting aquatic organisms.
Guideline Reference:	Revised approach to toxicity test acceptability criteria using a statistical performance assessment. Environmental Toxicology and Chemistry, vol. 16, No. 6, pp 1322?1329
Spatial Representation:	One sediment sample was collected at PET310 on the mainstem on Petaluma River.
Temporal Representation:	Sample was collected in Spring 2003.
Environmental Conditions:	The Petaluma River watershed is heavily influenced by historic and current poultry and dairy farming, and has a substantial urban area within the city of Petaluma and adjacent

communities. The tidal influences extend many miles up the slough, through highly channelized agricultural areas and tidal marshes.

QAPP Information: Samples were collected and analyzed using procedures comparable with the SWAMP Quality Assurance Management Plan (SWRCB 2002).

QAPP Information Reference(s): [Quality Assurance Management Plan for the State of California's Surface Water Ambient Monitoring Program. Sacramento, CA. State Water Resources Control Board. SWAMP. December 2002 \(1st version\).](#)

Line of Evidence (LOE) for Decision ID 43987, Toxicity	Region 2
Petaluma River	

LOE ID:	30360
Pollutant:	Toxicity
LOE Subgroup:	Pollutant-Water
Matrix:	Water
Fraction:	None
Beneficial Use:	Cold Freshwater Habitat
Number of Samples:	3
Number of Exceedances:	2
Data and Information Type:	TOXICITY TESTING
Data Used to Assess Water Quality:	Three samples were collected in 2003 to evaluate water toxicity at one monitoring location in the main stem of Petaluma River upstream from the confluence with Lynch Creek. The toxicity tests included survival and reproduction of Ceriodaphnia, survival and growth of fathead minnow, and growth of Selenastrum. Statistically significant chronic effects on Ceriodaphnia reproduction were observed in one sample collected in winter wet season. Mortality and growth in fathead minnow was not affected. Selenastrum growth was significantly reduced (less than 40% of control) in two samples collected in spring and summer.
Data Reference:	Water Quality Monitoring and Bioassessment in Four San Francisco Bay Region Watersheds in 2003-2004: Kirker Creek, Mt. Diablo Creek, Petaluma River, and San Mateo Creek. Surface Water Monitoring Program, San Francisco Bay Regional Water Quality Control Board, Oakland, CA
SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	All waters shall be maintained free of toxic substances that are lethal to or that produce other detrimental responses in aquatic organisms. There shall be no chronic toxicity in ambient waters. Chronic toxicity is a detrimental biological effect on growth rate, reproduction, fertilization success, larval development, population abundance, community composition, or any other relevant measure of the health of an organism, population, or community.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) - San Francisco Bay Region (Region 2)
Evaluation Guideline:	Water toxicity was evaluated according to the SWAMP methodology. The U.S.EPA whole effluent toxicity protocol (U.S.EPA 1994) was used to test the effect of water samples on three freshwater test organisms. Statistical evaluation (alpha = 0.05) and a default threshold of 80% of the control value were used to establish whether water exhibited significant toxicity adversely impacting aquatic organisms.
Guideline Reference:	Revised approach to toxicity test acceptability criteria using a statistical performance assessment. Environmental Toxicology and Chemistry, vol. 16, No. 6, pp 1322-1329 Short-Term Methods for Estimating the Chronic Toxicity of Effluents and Receiving Waters to Freshwater Organisms. EPA/600/4-91/002. Third Edition. July 1994
Spatial Representation:	Data were collected at one sampling location - PET310 in the main stem of Petaluma River upstream from the confluence with Lynch Creek.
Temporal Representation:	SWAMP samples were collected during winter wet season (January), spring season (April) and summer dry season (June) of 2003.
Environmental Conditions:	

QAPP Information: All samples were collected and analyzed using procedures comparable with the SWAMP Quality Assurance Management Plan (SWRCB, 2002).

QAPP Information Reference(s): [Quality Assurance Management Plan for the State of California's Surface Water Ambient Monitoring Program. Sacramento, CA. State Water Resources Control Board. SWAMP. December 2002 \(1st version\)](#)

DECISION ID	44074	Region 2
Petaluma River		

Pollutant: pH
Final Listing Decision: Do Not List on 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision: Do Not List on 303(d) list (TMDL required list)(2012)
Revision Status: Original
Impairment from Pollutant or Pollution: Pollutant

Regional Board Staff Conclusion: This pollutant is being considered for listing under sections 3.2 of the Listing Policy. Under section 3.2 a single line of evidence is necessary to assess listing status. One line of evidence is available in the administrative record to assess this pollutant. pH measurements do not exceed the water quality objective. Based on the readily available data for this water body, the weight of evidence indicates that there is sufficient justification against placing this water segment-pollutant combination on the section 303(d) list in the Water Quality Limited Segments category. This conclusion is based on the staff findings that: 1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy. 2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy. 3. pH measurements at 13 continuous deployments do not exceed the recommended range between 6.5 and 8.5 and thus not exceed the allowable frequency listed in Table 3.2 of the Listing Policy. 4. Pursuant to section 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.

Regional Board Staff Decision Recommendation: This is a decision previously approved by the State Water Resources Control Board and the USEPA. No new data were assessed by the Regional Board for the current. The decision has not changed.

Line of Evidence (LOE) for Decision ID 44074, pH	Region 2
Petaluma River	

LOE ID: 30359

Pollutant: pH
LOE Subgroup: Pollutant-Water
Matrix: Water
Fraction: None

Beneficial Use: Cold Freshwater Habitat

Number of Samples: 13
Number of Exceedances: 0

Data and Information Type: PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality: Water quality assessment was conducted in the Petaluma River watershed as part of SWAMP study in 2003. Continuous field monitoring at 15 minute increments of temperature, dissolved oxygen, pH and specific conductance was conducted to determine temporal variability in basic water quality at eight monitoring sites throughout the watershed. Continuous monitoring sondes were deployed at two to four locations in spring, summer, fall and winter of 2003-2004 monitoring season. The pH ranged from 6.52 (PET265) to 8.15 (PET130) and varied with season. The pH did not exceed the maximum or drop below the minimum recommended value for any deployment.

Data Reference: [Water Quality Monitoring and Bioassessment in Four San Francisco Bay Region Watersheds in 2003-2004: Kirker Creek, Mt. Diablo Creek, Petaluma River, and San](#)

SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	The pH shall not be depressed below 6.5 nor raised above 8.5. This encompasses the pH range usually found in waters within the basin. Controllable water quality factors shall not cause changes greater than 0.5 units in normal ambient pH levels.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) - San Francisco Bay Region (Region 2)
Evaluation Guideline:	
Guideline Reference:	
Spatial Representation:	pH was measured at three sites in Adobe Creek, two sites in Lynch Creek, two sites in the main stem of Petaluma River and one site in Lichau Creek in the upper watershed.
Temporal Representation:	SWAMP Program performed continuous monitoring of pH at 15 minute intervals lasting for 1 to 2 weeks in spring (April 2003), summer (July 2003), fall (September 2003) and winter wet season (January-February 2004).
Environmental Conditions:	
QAPP Information:	All samples were collected and analyzed using procedures comparable with the SWAMP Quality Assurance Management Plan (SWRCB, 2002).
QAPP Information Reference(s):	Quality Assurance Management Plan for the State of California's Surface Water Ambient Monitoring Program, Sacramento, CA, State Water Resources Control Board, SWAMP, December 2002 (1st version)

DECISION ID	33833	Region 2
Petaluma River		

Pollutant:	Diazinon
Final Listing Decision:	List on 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision:	List on 303(d) list (TMDL required list)(2012)
Revision Status	Original
Sources:	Source Unknown
Expected TMDL Completion Date:	2019
Impairment from Pollutant or Pollution:	Pollutant
Regional Board Staff Conclusion:	303(d) listing decisions made prior to 2006 were not held in an assessment database. The Regional Boards will update this decision when new data and information become available and are assessed.
Regional Board Staff Decision Recommendation:	This is a decision previously approved by the State Water Resources Control Board and the USEPA. No new data were assessed by the Regional Board for the current. The decision has not changed.

Line of Evidence (LOE) for Decision ID 33833, Diazinon	Region 2
Petaluma River	

LOE ID:	1818
Pollutant:	Diazinon
LOE Subgroup:	Pollutant-Water
Matrix:	Water
Fraction:	Not Recorded
Beneficial Use:	Cold Freshwater Habitat
Number of Samples:	
Number of Exceedances:	

Data and Information Type:	Not Specified
Data Used to Assess Water Quality:	Unspecified--This LOE is a placeholder to support a 303(d) listing decision made prior to 2006.
Data Reference:	Placeholder reference 2006 303(d)
SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	
Objective/Criterion Reference:	
Evaluation Guideline:	
Guideline Reference:	
Spatial Representation:	
Temporal Representation:	
Environmental Conditions:	
QAPP Information:	QA Info Missing
QAPP Information Reference(s):	

DECISION ID	34887	Region 2
Petaluma River		

Pollutant:	Nutrients
Final Listing Decision:	List on 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision:	List on 303(d) list (TMDL required list)(2012)
Revision Status	Original
Sources:	Source Unknown
Expected TMDL Completion Date:	2020
Impairment from Pollutant or Pollution:	Pollutant

Regional Board Staff Conclusion:	303(d) listing decisions made prior to 2006 were not held in an assessment database. The Regional Boards will update this decision when new data and information become available and are assessed.
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Regional Board Staff Decision Recommendation:	This is a decision previously approved by the State Water Resources Control Board and the USEPA. No new data were assessed by the Regional Board for the current. The decision has not changed.
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Line of Evidence (LOE) for Decision ID 34887, Nutrients	Region 2
Petaluma River	

LOE ID:	3794
Pollutant:	Nutrients
LOE Subgroup:	Pollutant-Water
Matrix:	Water
Fraction:	Not Recorded
Beneficial Use:	Warm Freshwater Habitat
Number of Samples:	0
Number of Exceedances:	0

Data and Information Type:	Not Specified
Data Used to Assess Water Quality:	Unspecified--This LOE is a placeholder to support a 303(d) listing decision made prior to 2006.
Data Reference:	Placeholder reference pre-2006 303(d)

SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	Unspecified
Objective/Criterion Reference:	Placeholder reference pre-2006 303(d)
Evaluation Guideline:	Unspecified
Guideline Reference:	Placeholder reference pre-2006 303(d)
Spatial Representation:	Unspecified
Temporal Representation:	Unspecified
Environmental Conditions:	Unspecified
QAPP Information:	Unspecified
QAPP Information Reference(s):	

DECISION ID	34368	Region 2
Petaluma River		

Pollutant:	Pathogens
Final Listing Decision:	List on 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision:	List on 303(d) list (TMDL required list)(2012)
Revision Status	Original
Sources:	Source Unknown
Expected TMDL Completion Date:	2019
Impairment from Pollutant or Pollution:	Pollutant

Regional Board Staff Conclusion:	303(d) listing decisions made prior to 2006 were not held in an assessment database. The Regional Boards will update this decision when new data and information become available and are assessed.
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Regional Board Staff Decision Recommendation:	This is a decision previously approved by the State Water Resources Control Board and the USEPA. No new data were assessed by the Regional Board for the current. The decision has not changed.
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Line of Evidence (LOE) for Decision ID 34368, Pathogens	Region 2
Petaluma River	

LOE ID:	3795
Pollutant:	Pathogens
LOE Subgroup:	Pollutant-Water
Matrix:	Water
Fraction:	Not Recorded
Beneficial Use:	Water Contact Recreation
Number of Samples:	0
Number of Exceedances:	0
Data and Information Type:	Not Specified
Data Used to Assess Water Quality:	Unspecified--This LOE is a placeholder to support a 303(d) listing decision made prior to 2006.
Data Reference:	Placeholder reference pre-2006 303(d)
SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	
Objective/Criterion Reference:	

Evaluation Guideline:
Guideline Reference:

Spatial Representation: Unspecified
Temporal Representation: Unspecified
Environmental Conditions: Unspecified
QAPP Information: Unspecified
QAPP Information Reference(s):

DECISION ID	34369	Region 2
Petaluma River		

Pollutant: Sedimentation/Siltation
Final Listing Decision: List on 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision: List on 303(d) list (TMDL required list)(2012)
Revision Status Original
Sources: Source Unknown
Expected TMDL Completion Date: 2019
Impairment from Pollutant or Pollution: Pollutant

Regional Board Staff Conclusion: 303(d) listing decisions made prior to 2006 were not held in an assessment database. The Regional Boards will update this decision when new data and information become available and are assessed.

Regional Board Staff Decision Recommendation: This is a decision previously approved by the State Water Resources Control Board and the USEPA. No new data were assessed by the Regional Board for the current. The decision has not changed.

Line of Evidence (LOE) for Decision ID 34369, Sedimentation/Siltation	Region 2
Petaluma River	

LOE ID: 3796

Pollutant: Sedimentation/Siltation
LOE Subgroup: Pollutant-Water
Matrix: Water
Fraction: Not Recorded

Beneficial Use: Cold Freshwater Habitat

Number of Samples: 0
Number of Exceedances: 0

Data and Information Type: Not Specified
Data Used to Assess Water Quality: Unspecified--This LOE is a placeholder to support a 303(d) listing decision made prior to 2006.
Data Reference: [Placeholder reference pre-2006 303\(d\)](#)

SWAMP Data: Non-SWAMP

Water Quality Objective/Criterion: Unspecified
Objective/Criterion Reference: [Placeholder reference pre-2006 303\(d\)](#)

Evaluation Guideline: Unspecified
Guideline Reference: [Placeholder reference pre-2006 303\(d\)](#)

Spatial Representation: Unspecified

Temporal Representation:	Unspecified
Environmental Conditions:	Unspecified
QAPP Information:	Unspecified
QAPP Information Reference(s):	

Draft California 2016 Integrated Report (303(d) List/305(b) Report)

Supporting Information

Regional Board 2 - San Francisco Bay Region

Water Body Name: San Antonio Creek (Marin/Sonoma Co)
Water Body ID: CAR2063003019990218113646
Water Body Type: River & Stream

DECISION ID 43989 **Region 2**
San Antonio Creek (Marin/Sonoma Co)

Pollutant: Arsenic | Chromium (total) | Copper | Lead | Nickel | Selenium | Silver | Zinc
Final Listing Decision: Do Not List on 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision: Do Not List on 303(d) list (TMDL required list)(2012)
Revision Status Original
Impairment from Pollutant or Pollution: Pollutant

Regional Board Staff Conclusion: This pollutant is being considered for listing under sections 3.1 of the Listing Policy. Under section 3.1 a single line of evidence is necessary to assess listing status. One line of evidence is available in the administrative record to assess these pollutants. Concentrations of arsenic, chromium, copper, lead, nickel, selenium, silver and zinc do not exceed the water quality objectives. Based on the readily available data for this water body, the weight of evidence indicates that there is sufficient justification against placing this water segment-pollutant combination on the section 303(d) list in the Water Quality Limited Segments category. This conclusion is based on the staff findings that: 1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy. 2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy. 3. None of the two samples exceeded the the water quality objectives and this does not exceed the allowable frequency listed in Table 3.1 of the Listing Policy. 4. Pursuant to section 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met. This pollutant is being considered for listing under sections 3.1 of the Listing Policy. Under section 3.1 a single line of evidence is necessary to assess listing status. One line of evidence is available in the administrative record to assess these pollutants. Concentrations of arsenic, chromium, copper, lead, nickel, selenium, silver and zinc do not exceed the water quality objectives. Based on the readily available data for this water body, the weight of evidence indicates that there is sufficient justification against placing this water segment-pollutant combination on the section 303(d) list in the Water Quality Limited Segments category. This conclusion is based on the staff findings that: 1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy. 2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy. 3. None of the two samples exceeded the water quality objectives and this does not exceed the allowable frequency listed in Table 3.1 of the Listing Policy. 4. Pursuant to section 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.

Regional Board Staff Decision Recommendation: This is a decision previously approved by the State Water Resources Control Board and the USEPA. No new data were assessed by the Regional Board for the current. The decision has not changed.

Line of Evidence (LOE) for Decision ID 43989, Multiple Pollutants **Region 2**
San Antonio Creek (Marin/Sonoma Co)

LOE ID: 30367
Pollutant: Arsenic | Chromium (total) | Copper | Lead | Nickel | Selenium | Silver | Zinc
LOE Subgroup: Pollutant-Water
Matrix: Water
Fraction: Dissolved

Beneficial Use:	Cold Freshwater Habitat
Number of Samples:	2
Number of Exceedances:	0
Data and Information Type:	PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality:	Three samples were collected by SWAMP from a monitoring location PET010 in San Antonio Creek. Concentrations of arsenic, chromium, copper, lead, nickel, selenium, silver and and zinc did not exceed the water quality objectives. Concentrations of total dissolved chromium were well below the objective for chromium VI.
Data Reference:	Water Quality Monitoring and Bioassessment in Four San Francisco Bay Region Watersheds in 2003-2004: Kirker Creek, Mt. Diablo Creek, Petaluma River, and San Mateo Creek. Surface Water Monitoring Program, San Francisco Bay Regional Water Quality Control Board, Oakland, CA
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	All waters shall be maintained free of toxic substances that are lethal to or that produce other detrimental responses in aquatic organisms. Table 3-4 in the Basin Plan (2007) lists freshwater water quality objectives for toxic pollutants: arsenic- 150 ug/L, chromium VI- 11 ug/L, copper - 9.0 ug/L, lead - 2.5 ug/L, nickel - 52 ug/L, selenium - 5 ug/L, silver-3.4 ug/L and zinc - 120 ug/L.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) - San Francisco Bay Region (Region 2)
Evaluation Guideline:	
Guideline Reference:	
Spatial Representation:	Samples were collected from one monitoring location PET010 in the downstream section of San Antonio Creek.
Temporal Representation:	Samples were collected on: 01/20/2003 and 04/21/2003.
Environmental Conditions:	.
QAPP Information:	All samples were collected and analyzed using procedures comparable with the SWAMP Quality Assurance Management Plan (SWRCB 2002).
QAPP Information Reference(s):	

DECISION ID	42719	Region 2
San Antonio Creek (Marin/Sonoma Co)		

Pollutant:	Oxygen, Dissolved
Final Listing Decision:	Do Not List on 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision:	Do Not List on 303(d) list (TMDL required list)(2012)
Revision Status	Original
Impairment from Pollutant or Pollution:	Pollutant
Regional Board Staff Conclusion:	This pollutant is being considered for listing under sections 3.2 of the Listing Policy. Under section 3.2 a single line of evidence is necessary to assess listing status. One line of evidence is available in the administrative record to assess this pollutant. The water quality objective was exceeded in one out of two samples. Based on the readily available data for this water body, the weight of evidence indicates that there is sufficient justification against placing this water segment-pollutant combination on the section 303(d) list in the Water Quality Limited Segments category. This conclusion is based on the staff findings that: 1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy. 2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy. 3. Dissolved oxygen measurements at 1 of 2 continuous deployments were below the Basin Plan objective for waters designated as cold water habitat. The number of exceedances does not meet the requirements listed in Table 3.2 and the sample size is insufficient to determine with the power

and confidence of the Listing Policy if standards are not met. 4. Pursuant to section 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.

Regional Board Staff Decision Recommendation: This is a decision previously approved by the State Water Resources Control Board and the USEPA. No new data were assessed by the Regional Board for the current. The decision has not changed.

**Line of Evidence (LOE) for Decision ID 42719, Oxygen, Dissolved
San Antonio Creek (Marin/Sonoma Co)**

Region 2

LOE ID: 28268

Pollutant: Low Dissolved Oxygen
LOE Subgroup: Pollutant-Water
Matrix: Water
Fraction: None

Beneficial Use: Cold Freshwater Habitat

Number of Samples: 2
Number of Exceedances: 1

Data and Information Type: PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality: Water quality assessment was conducted at the San Antonio Creek watershed as part of SWAMP assessment. Continuous field monitoring of temperature, dissolved oxygen, pH and specific conductance was conducted to determine temporal variability in basic water quality at one location.

Data Reference: In 1 out of 2 deployments, minimum dissolved oxygen levels fell below the objective of 7 mg/L. The detected concentrations ranged from 1.8 to 12.2 mg/L. The very low dissolved oxygen concentrations were recorded in spring 2003. The median percent saturation also fell below 80 percent during the spring season measurements.
[Water Quality Monitoring and Bioassessment in Four San Francisco Bay Region Watersheds in 2003-2004: Kirker Creek, Mt. Diablo Creek, Petaluma River, and San Mateo Creek. Surface Water Monitoring Program, San Francisco Bay Regional Water Quality Control Board, Oakland, CA](#)

SWAMP Data: SWAMP

Water Quality Objective/Criterion: The numeric water quality objective for dissolved oxygen is 7.0 mg/L minimum for waters designated as cold water habitat. The median dissolved oxygen concentration for any three consecutive months shall not be less than 80 percent of the dissolved oxygen content at saturation.

Objective/Criterion Reference: [Water Quality Control Plan \(Basin Plan\) - San Francisco Bay Region \(Region 2\)](#)

Evaluation Guideline:
Guideline Reference:

Spatial Representation: Dissolved oxygen was measured at one most downstream location at the San Antonio Rd bridge.

Temporal Representation: Dissolved oxygen was measured at 15 minute intervals over 11 and 14 days during spring (April 2003) and winter wet season (January/February 2004) respectively.

Environmental Conditions: The site drains ranches and grazing land, and it was dry in the summer.

QAPP Information: All samples were collected and analyzed using procedures comparable with the SWAMP Quality Assurance Management Plan (SWRCB 2002).

QAPP Information Reference(s): [Quality Assurance Management Plan for the State of California's Surface Water Ambient Monitoring Program, Sacramento, CA. State Water Resources Control Board. SWAMP. December 2002 \(1st version\)](#)

DECISION ID

33505

Region 2

San Antonio Creek (Marin/Sonoma Co)

Pollutant: Temperature, water
Final Listing Decision: Do Not List on 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision: Do Not List on 303(d) list (TMDL required list)(2012)
Revision Status: Original
Impairment from Pollutant or Pollution: Pollutant

Regional Board Staff Conclusion: This pollutant is being considered for listing under sections 3.2 of the Listing Policy. Under section 3.2 a single line of evidence is necessary to assess listing status. One line of evidence is available in the administrative record to assess this pollutant. Temperature measurements do not exceed the water quality objective. Based on the readily available data for this water body, the weight of evidence indicates that there is sufficient justification against placing this water segment-pollutant combination on the section 303(d) list in the Water Quality Limited Segments category. This conclusion is based on the staff findings that: 1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy. 2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy. 3. Temperature measurements at 2 continuous deployments do not exceed the 17 oC evaluation guideline used to interpret the water quality objective for waters designated as cold water habitat. The number of exceedances does not meet the requirements listed in Table 3.2 and the sample size is insufficient to determine with the power and confidence of the Listing Policy if standards are not met. 4. Pursuant to section 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.

Regional Board Staff Decision Recommendation: This is a decision previously approved by the State Water Resources Control Board and the USEPA. No new data were assessed by the Regional Board for the current. The decision has not changed.

Line of Evidence (LOE) for Decision ID 33505, Temperature, water San Antonio Creek (Marin/Sonoma Co)

Region 2

LOE ID: 28265

Pollutant: Temperature, water
LOE Subgroup: Pollutant-Water
Matrix: Water
Fraction: None

Beneficial Use: Cold Freshwater Habitat

Number of Samples: 2
Number of Exceedances: 0

Data and Information Type: PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality: Water quality assessment was conducted at the San Antonio watershed as part of SWAMP study in 2003 and 2004. Continuous field monitoring at 15 minute increments of temperature, dissolved oxygen, pH and specific conductance was conducted to determine temporal variability in basic water quality at two locations.

Data Reference: The measured temperatures ranged from 8.61 oC to 17.13 oC and varied with season. The 17 oC criterion for steelhead was not exceeded in two deployments.
[Water Quality Monitoring and Bioassessment in Four San Francisco Bay Region Watersheds in 2003-2004: Kirker Creek, Mt. Diablo Creek, Petaluma River, and San Mateo Creek. Surface Water Monitoring Program, San Francisco Bay Regional Water Quality Control Board, Oakland, CA](#)

SWAMP Data: SWAMP

Water Quality Objective/Criterion: Temperature objectives for enclosed bays and estuaries are specified in the Water Quality Control Plan for Control of Temperature in the Coastal and Interstate Waters and Enclosed Bays of California including any revisions to the plan. In addition, the following

Objective/Criterion Reference:	<p>temperature objectives apply to surface waters: The natural receiving water temperature of intrastate waters shall not be altered unless it can be demonstrated to the satisfaction of the Regional Water Board that such alteration in temperature does not adversely affect beneficial uses.</p> <p>The temperature of any cold or warm freshwater habitat shall not be increased by more than 5 oF (2.8 oC) above natural receiving water temperature.</p> <p>Water Quality Control Plan (Basin Plan) - San Francisco Bay Region (Region 2)</p>
Evaluation Guideline:	<p>Sullivan et al. (2000) reviewed a wide range of studies incorporating information from laboratory-based research, field observations, and risk assessment approaches and developed criteria for assessing temperature risk to aquatic life. The 7-day mean temperature (maximum value of the 7-day moving average of the daily mean temperature) of 14.8 oC was established as the upper threshold criterion for coho salmon and 17.0 oC for steelhead trout. The risk assessment approach used by Sullivan et al. (2000) suggests that temperatures exceeding the above thresholds will cause 10% reduction in average growth compared to optimal conditions.</p>
Guideline Reference:	<p>An Analysis of the Effects of Temperature on Salmonids of the Pacific Northwest with Implications for Selecting Temperature Criteria</p>
Spatial Representation:	<p>Temperature was measured at one most downstream location at the San Antonio Rd bridge.</p>
Temporal Representation:	<p>Temperature was recorded at 15 minute intervals over 11 and 14 days during spring (April 2003) and winter wet season (January/February 2004) respectively.</p>
Environmental Conditions:	<p>The site drains ranches and grazing land, and it was dry in the summer.</p>
QAPP Information:	<p>All samples were collected and analyzed using procedures comparable with the SWAMP Quality Assurance Management Plan (SWRCB 2002).</p>
QAPP Information Reference(s):	

DECISION ID 44023		Region 2
San Antonio Creek (Marin/Sonoma Co)		
Pollutant:	Toxicity	
Final Listing Decision:	Do Not List on 303(d) list (TMDL required list)	
Last Listing Cycle's Final Listing Decision:	Do Not List on 303(d) list (TMDL required list)(2012)	
Revision Status	Original	
Impairment from Pollutant or Pollution:	Pollutant	
Regional Board Staff Conclusion:	<p>This pollutant is being considered for listing under section 3.6 and 3.1 of the Listing Policy. Under section 3.6 a single line of evidence is necessary to assess listing status. One line of evidence is available in the administrative record to assess toxicity in San Antonio Creek. One of two water samples exhibited limited toxicity. Based on the readily available data for this water body, the weight of evidence indicates that there is sufficient justification available against placing this water segment-pollutant combination on the section 303(d) list in the Water Quality Limited Segments category. This conclusion is based on the staff findings that: 1. The data concerning current conditions and supporting the listing decision satisfy the data quality requirements of section 6.1.4 of the Policy. 2. The data used satisfy the data quantity requirements of section 6.1.5 of the Policy. 3. Water toxicity was observed in one of two samples and this does not exceed the allowable frequency listed in Table 3.1 of the Listing Policy or demonstrate with confidence that standards are not met. 4. Pursuant to section 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.</p>	
Regional Board Staff Decision Recommendation:	<p>This is a decision previously approved by the State Water Resources Control Board and the USEPA. No new data were assessed by the Regional Board for the current. The decision has not changed.</p>	
Line of Evidence (LOE) for Decision ID 44023, Toxicity		Region 2
San Antonio Creek (Marin/Sonoma Co)		

LOE ID:	30365
Pollutant:	Toxicity
LOE Subgroup:	Pollutant-Water
Matrix:	Water
Fraction:	None
Beneficial Use:	Cold Freshwater Habitat
Number of Samples:	2
Number of Exceedances:	1
Data and Information Type:	TOXICITY TESTING
Data Used to Assess Water Quality:	Two samples were collected in 2003 to evaluate water toxicity at one monitoring location in San Antonio Creek. The toxicity tests included survival and reproduction of Ceriodaphnia, survival and growth of fathead minnow, and growth of Selenastrum. Ceriodaphnia reproduction was significantly lower than the control in one of two samples (winter wet season sample). Reproduction was 58.5 percent of the control for this sample.
Data Reference:	Water Quality Monitoring and Bioassessment in Four San Francisco Bay Region Watersheds in 2003-2004: Kirker Creek, Mt. Diablo Creek, Petaluma River, and San Mateo Creek. Surface Water Monitoring Program, San Francisco Bay Regional Water Quality Control Board, Oakland. CA
SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	All waters shall be maintained free of toxic substances that are lethal to or that produce other detrimental responses in aquatic organisms. There shall be no chronic toxicity in ambient waters. Chronic toxicity is a detrimental biological effect on growth rate, reproduction, fertilization success, larval development, population abundance, community composition, or any other relevant measure of the health of an organism, population, or community.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) - San Francisco Bay Region (Region 2)
Evaluation Guideline:	Water toxicity was evaluated according to the SWAMP methodology. The U.S.EPA whole effluent toxicity protocol (U.S.EPA 1994) was used to test the effect of water samples on three freshwater test organisms. Statistical evaluation (alpha = 0.05) and a default threshold of 80% of the control value were used to establish whether water exhibited significant toxicity adversely impacting aquatic organisms.
Guideline Reference:	Revised approach to toxicity test acceptability criteria using a statistical performance assessment. Environmental Toxicology and Chemistry, vol. 16, No. 6, pp 1322?1329 Short-Term Methods for Estimating the Chronic Toxicity of Effluents and Receiving Waters to Freshwater Organisms. EPA/600/4-91/002. Third Edition. July 1994
Spatial Representation:	Data were collected at one sampling site, PET010, located near San Antonio Road bridge.
Temporal Representation:	SWAMP samples were collected during wet (January) and spring (April) seasons of 2003.
Environmental Conditions:	
QAPP Information:	All samples were collected and analyzed using procedures comparable with the SWAMP Quality Assurance Management Plan (SWRCB, 2002).
QAPP Information Reference(s):	Quality Assurance Management Plan for the State of California's Surface Water Ambient Monitoring Program. Sacramento, CA. State Water Resources Control Board. SWAMP. December 2002 (1st version)

DECISION ID	43963	Region 2
San Antonio Creek (Marin/Sonoma Co)		

Pollutant:	pH
Final Listing Decision:	Do Not List on 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision:	Do Not List on 303(d) list (TMDL required list)(2012)
Revision Status	Original

Impairment from Pollutant or Pollution: Pollutant

Regional Board Staff Conclusion:

This pollutant is being considered for placement on the section 303(d) list under section 3.2 of the Listing Policy. Under section 3.2 a single line of evidence is necessary to assess listing status. One line of evidence is available in the administrative record to assess this pollutant. None of the samples exceed the water quality objective. Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against placing this water segment-pollutant combination on the section 303(d) list in the Water Quality Limited Segments category. This conclusion is based on the staff findings that: 1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy. 2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy. 3. None of two samples exceeded the water quality objective, but this sample size is insufficient to determine with the power and confidence of the Listing Policy if standards are not met. A minimum of five samples is needed for application of Table 3.2 of the Listing Policy. 4. Pursuant to section 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.

Regional Board Staff Decision Recommendation: This is a decision previously approved by the State Water Resources Control Board and the USEPA. No new data were assessed by the Regional Board for the current. The decision has not changed.

**Line of Evidence (LOE) for Decision ID 43963, pH
San Antonio Creek (Marin/Sonoma Co)**

Region 2

LOE ID: 30358

Pollutant: pH
LOE Subgroup: Pollutant-Water
Matrix: Water
Fraction: None

Beneficial Use: Cold Freshwater Habitat

Number of Samples: 2
Number of Exceedances: 0

Data and Information Type: PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality: Water quality assessment was conducted in San Antonio Creek as part of SWAMP study in 2003. Continuous field monitoring at 15 minute increments of temperature, dissolved oxygen, pH and specific conductance was conducted to determine temporal variability in basic water quality. Continuous monitoring sondes were deployed twice at one monitoring location during spring and winter wet season. The pH ranged from 6.58 to 7.82. The pH did not exceed the maximum or drop below the minimum recommended value for any deployment.

Data Reference: [Water Quality Monitoring and Bioassessment in Four San Francisco Bay Region Watersheds in 2003-2004: Kirker Creek, Mt. Diablo Creek, Petaluma River, and San Mateo Creek. Surface Water Monitoring Program, San Francisco Bay Regional Water Quality Control Board, Oakland, CA](#)

SWAMP Data: SWAMP

Water Quality Objective/Criterion: The pH shall not be depressed below 6.5 nor raised above 8.5. This encompasses the pH range usually found in waters within the basin. Controllable water quality factors shall not cause changes greater than 0.5 units in normal ambient pH levels.

Objective/Criterion Reference: [Water Quality Control Plan \(Basin Plan\) - San Francisco Bay Region \(Region 2\)](#)

Evaluation Guideline:
Guideline Reference:

Spatial Representation: pH was measured at one site located in the downstream portion of the creek at San Antonio Road Bridge (PET010).

Temporal Representation: In 2003-04 the SWAMP Program performed continuous monitoring of pH at 15 minute

intervals from 04/10/2003 to 04/24/2003 (spring season) and from 01/27/2004 to 02/06/2004 (winter wet season).

Environmental Conditions:

QAPP Information:

All samples were collected and analyzed using procedures comparable with the SWAMP Quality Assurance Management Plan (SWRCB, 2002).

QAPP Information Reference(s):

[Quality Assurance Management Plan for the State of California's Surface Water Ambient Monitoring Program. Sacramento, CA. State Water Resources Control Board. SWAMP. December 2002 \(1st version\).](#)

DECISION ID	34199	Region 2
San Antonio Creek (Marin/Sonoma Co)		

Pollutant:	Diazinon
Final Listing Decision:	List on 303(d) list (being addressed by USEPA approved TMDL)
Last Listing Cycle's Final Listing Decision:	List on 303(d) list (being addressed by USEPA approved TMDL)(2012)
Revision Status	Original
Sources:	Urban Runoff/Storm Sewers
TMDL Name:	San Francisco Bay Urban Creeks Diazinon
TMDL Project Code:	9
Date TMDL Approved by USEPA:	05/16/2007
Impairment from Pollutant or Pollution:	Pollutant

Regional Board Staff Conclusion:	303(d) listing decisions made prior to 2006 were not held in an assessment database. The Regional Boards will update this decision when new data and information become available and are assessed. The USEPA final decision on the 2006 303(d) list was to move this listing to the being addressed by a USEPA approved TMDL portion of the 303(d) list, because the San Francisco Bay Urban Creeks Diazinon TMDL was approved by USEPA on 5/16/07 (USEPA, 2007).
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Regional Board Staff Decision Recommendation:	This is a decision previously approved by the State Water Resources Control Board and the USEPA. No new data were assessed by the Regional Board for the current. The decision has not changed.
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Line of Evidence (LOE) for Decision ID 34199, Diazinon	Region 2
San Antonio Creek (Marin/Sonoma Co)	

LOE ID:	1819
Pollutant:	Diazinon
LOE Subgroup:	Pollutant-Water
Matrix:	Water
Fraction:	None
Beneficial Use:	Cold Freshwater Habitat
Number of Samples:	0
Number of Exceedances:	0
Data and Information Type:	Not Specified
Data Used to Assess Water Quality:	Unspecified--This LOE is a placeholder to support a 303(d) listing decision made prior to 2006.
Data Reference:	Placeholder reference 2006 303(d)
SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	
Objective/Criterion Reference:	

Evaluation Guideline:
Guideline Reference:

Spatial Representation:
Temporal Representation:
Environmental Conditions:
QAPP Information:
QAPP Information Reference(s):

QA Info Missing

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Supporting Information

Regional Board 2 - San Francisco Bay Region

Water Body Name: Petaluma River (tidal portion)
Water Body ID: CAR2063004020020916200425
Water Body Type: River & Stream

DECISION ID 34370 **Region 2**
Petaluma River (tidal portion)

Pollutant: Diazinon
Final Listing Decision: List on 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision: List on 303(d) list (TMDL required list)(2012)
Revision Status Original
Sources: Source Unknown
Expected TMDL Completion Date: 2019
Impairment from Pollutant or Pollution: Pollutant

Regional Board Staff Conclusion: 303(d) listing decisions made prior to 2006 were not held in an assessment database. The Regional Boards will update this decision when new data and information become available and are assessed.

Regional Board Staff Decision Recommendation: This is a decision previously approved by the State Water Resources Control Board and the USEPA. No new data were assessed by the Regional Board for the current. The decision has not changed.

Line of Evidence (LOE) for Decision ID 34370, Diazinon **Region 2**
Petaluma River (tidal portion)

LOE ID: 3797
Pollutant: Diazinon
LOE Subgroup: Pollutant-Water
Matrix: Water
Fraction: Not Recorded
Beneficial Use: Cold Freshwater Habitat
Number of Samples: 0
Number of Exceedances: 0
Data and Information Type: Not Specified
Data Used to Assess Water Quality: Unspecified--This LOE is a placeholder to support a 303(d) listing decision made prior to 2006.
Data Reference: [Placeholder reference pre-2006 303\(d\)](#)
SWAMP Data: Non-SWAMP
Water Quality Objective/Criterion: Unspecified
Objective/Criterion Reference: [Placeholder reference pre-2006 303\(d\)](#)
Evaluation Guideline: Unspecified
Guideline Reference: [Placeholder reference pre-2006 303\(d\)](#)

Spatial Representation:	Unspecified
Temporal Representation:	Unspecified
Environmental Conditions:	Unspecified
QAPP Information:	Unspecified
QAPP Information Reference(s):	

DECISION ID	34371	Region 2
Petaluma River (tidal portion)		

Pollutant:	Nickel
Final Listing Decision:	List on 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision:	List on 303(d) list (TMDL required list)(2012)
Revision Status	Original
Sources:	Source Unknown
Expected TMDL Completion Date:	2019
Impairment from Pollutant or Pollution:	Pollutant

Regional Board Staff Conclusion:	303(d) listing decisions made prior to 2006 were not held in an assessment database. The Regional Boards will update this decision when new data and information become available and are assessed.
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Regional Board Staff Decision Recommendation:	This is a decision previously approved by the State Water Resources Control Board and the USEPA. No new data were assessed by the Regional Board for the current. The decision has not changed.
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Line of Evidence (LOE) for Decision ID 34371, Nickel	Region 2
Petaluma River (tidal portion)	

LOE ID:	3798
Pollutant:	Nickel
LOE Subgroup:	Pollutant-Water
Matrix:	Water
Fraction:	Not Recorded
Beneficial Use:	Warm Freshwater Habitat
Number of Samples:	0
Number of Exceedances:	0
Data and Information Type:	Not Specified
Data Used to Assess Water Quality:	Unspecified--This LOE is a placeholder to support a 303(d) listing decision made prior to 2006.
Data Reference:	Placeholder reference pre-2006 303(d)
SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	Unspecified
Objective/Criterion Reference:	Placeholder reference pre-2006 303(d)
Evaluation Guideline:	Unspecified
Guideline Reference:	Placeholder reference pre-2006 303(d)
Spatial Representation:	Unspecified
Temporal Representation:	Unspecified
Environmental Conditions:	Unspecified
QAPP Information:	Unspecified
QAPP Information Reference(s):	

DECISION ID	34888	Region 2
Petaluma River (tidal portion)		

Pollutant:	Nutrients
Final Listing Decision:	List on 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision:	List on 303(d) list (TMDL required list)(2012)
Revision Status	Original
Sources:	Source Unknown
Expected TMDL Completion Date:	2020
Impairment from Pollutant or Pollution:	Pollutant

Regional Board Staff Conclusion: 303(d) listing decisions made prior to 2006 were not held in an assessment database. The Regional Boards will update this decision when new data and information become available and are assessed.

Regional Board Staff Decision Recommendation: This is a decision previously approved by the State Water Resources Control Board and the USEPA. No new data were assessed by the Regional Board for the current. The decision has not changed.

Line of Evidence (LOE) for Decision ID 34888, Nutrients	Region 2
Petaluma River (tidal portion)	

LOE ID:	3799
Pollutant:	Nutrients
LOE Subgroup:	Pollutant-Water
Matrix:	Water
Fraction:	Not Recorded
Beneficial Use:	Warm Freshwater Habitat
Number of Samples:	0
Number of Exceedances:	0
Data and Information Type:	Not Specified
Data Used to Assess Water Quality:	Unspecified--This LOE is a placeholder to support a 303(d) listing decision made prior to 2006.
Data Reference:	Placeholder reference pre-2006 303(d)
SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	Unspecified
Objective/Criterion Reference:	Placeholder reference pre-2006 303(d)
Evaluation Guideline:	Unspecified
Guideline Reference:	Placeholder reference pre-2006 303(d)
Spatial Representation:	Unspecified
Temporal Representation:	Unspecified
Environmental Conditions:	Unspecified
QAPP Information:	Unspecified
QAPP Information Reference(s):	

DECISION ID	34574	Region 2
Petaluma River (tidal portion)		

Pollutant:	Pathogens
Final Listing Decision:	List on 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision:	List on 303(d) list (TMDL required list)(2012)
Revision Status	Original
Sources:	Source Unknown
Expected TMDL Completion Date:	2019
Impairment from Pollutant or Pollution:	Pollutant

Regional Board Staff Conclusion: 303(d) listing decisions made prior to 2006 were not held in an assessment database. The Regional Boards will update this decision when new data and information become available and are assessed.

Regional Board Staff Decision Recommendation: This is a decision previously approved by the State Water Resources Control Board and the USEPA. No new data were assessed by the Regional Board for the current. The decision has not changed.

Line of Evidence (LOE) for Decision ID 34574, Pathogens Petaluma River (tidal portion)

Region 2

LOE ID:	3800
Pollutant:	Pathogens
LOE Subgroup:	Pollutant-Water
Matrix:	Water
Fraction:	Not Recorded
Beneficial Use:	Water Contact Recreation
Number of Samples:	0
Number of Exceedances:	0
Data and Information Type:	Not Specified
Data Used to Assess Water Quality:	Unspecified--This LOE is a placeholder to support a 303(d) listing decision made prior to 2006.
Data Reference:	Placeholder reference pre-2006 303(d)
SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	
Objective/Criterion Reference:	
Evaluation Guideline:	
Guideline Reference:	
Spatial Representation:	Unspecified
Temporal Representation:	Unspecified
Environmental Conditions:	Unspecified
QAPP Information:	Unspecified
QAPP Information Reference(s):	

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Supporting Information

Regional Board 2 - San Francisco Bay Region

Water Body Name: Calabazas Creek
Water Body ID: CAR2064001219990218114210
Water Body Type: River & Stream

DECISION ID 34750 **Region 2**
Calabazas Creek

Pollutant: Diazinon
Final Listing Decision: Delist from 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision: List on 303(d) list (being addressed by USEPA approved TMDL)(2012)
Revision Status Revised
Reason for Delisting: Flaws in original listing
Impairment from Pollutant or Pollution: Pollutant

Regional Board Staff Conclusion:

This waterbody is being delisted because the data originally used had been incorrectly assigned to this waterbody. The data has been moved to the correct waterbody in Santa Clara County (WBID - CAR2055004020120423095155), and this decision will be retired next cycle.

This pollutant is being considered for removal from the CWA section 303(d) List under section 4.1 of the Listing Policy. Under this section a single line of evidence is necessary to assess listing status.

Zero lines of evidence are available in the administrative record to assess this pollutant. Zero of the zero samples exceeded the Objective.

Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification for removing this water segment-pollutant combination from the CWA section 303(d) List.

This conclusion is based on the staff findings that:

1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy.
2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy.
3. Zero of zero samples exceeded the objective and this does not exceed the allowable frequency listed in Table 4.1 of the Listing Policy.
4. Pursuant to section 4.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.

Regional Board Staff Decision Recommendation: This is a decision previously approved by the State Water Resources Control Board and the USEPA. No new data were assessed by the Regional Board for the current. The decision has not changed.

Line of Evidence (LOE) for Decision ID 34750, Diazinon **Region 2**
Calabazas Creek

LOE ID: 1820
Pollutant: Diazinon
LOE Subgroup: Pollutant-Water
Matrix: Water
Fraction: None
Beneficial Use: Cold Freshwater Habitat

Number of Samples:	0
Number of Exceedances:	0
Data and Information Type:	Not Specified
Data Used to Assess Water Quality:	Unspecified---This LOE is a placeholder to support a 303(d) listing decision made prior to 2006.
Data Reference:	Placeholder reference 2006 303(d)
SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	
Objective/Criterion Reference:	
Evaluation Guideline:	
Guideline Reference:	
Spatial Representation:	
Temporal Representation:	
Environmental Conditions:	
QAPP Information:	QA Info Missing
QAPP Information Reference(s):	

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Supporting Information

Regional Board 2 - San Francisco Bay Region

Water Body Name: Sonoma Creek
Water Body ID: CAR2064005019980916140112
Water Body Type: River & Stream

DECISION ID 34403 **Region 2**
Sonoma Creek

Pollutant: Nutrients
Final Listing Decision: Delist from 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision: List on 303(d) list (TMDL required list)(2012)
Revision Status Revised
Reason for Delisting: Delisting due to spatial change or other CalWQA administrative reason
Impairment from Pollutant or Pollution: Pollutant

Regional Board Staff Conclusion: This is a de-listing because Sonoma Creek was split into 2 waterbodies, and the listing was transferred to the appropriate portions of the new waterbodies.

Regional Board Staff Decision Recommendation: This is a de-listing because Sonoma Creek was split into 2 waterbodies, and the listing was transferred to the appropriate portions of the new waterbodies.

Line of Evidence (LOE) for Decision ID 34403, Nutrients **Region 2** **Sonoma Creek**

LOE ID: 3695

Pollutant: Nutrients
LOE Subgroup: Pollutant-Water
Matrix: Water
Fraction: Not Recorded

Beneficial Use: Warm Freshwater Habitat

Number of Samples: 0
Number of Exceedances: 0

Data and Information Type: Not Specified
Data Used to Assess Water Quality: Unspecified--This LOE is a placeholder to support a 303(d) listing decision made prior to 2006.
Data Reference: [Placeholder reference pre-2006 303\(d\)](#)

SWAMP Data: Non-SWAMP

Water Quality Objective/Criterion: Unspecified
Objective/Criterion Reference: [Placeholder reference pre-2006 303\(d\)](#)

Evaluation Guideline: Unspecified
Guideline Reference: [Placeholder reference pre-2006 303\(d\)](#)

Spatial Representation: Unspecified
Temporal Representation: Unspecified

Environmental Conditions: Unspecified
QAPP Information: Unspecified
QAPP Information Reference(s):

DECISION ID	34086	Region 2
Sonoma Creek		

Pollutant: Pathogens
Final Listing Decision: Delist from 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision: List on 303(d) list (being addressed by USEPA approved TMDL)(2012)
Revision Status: Revised
Reason for Delisting: Delisting due to spatial change or other CalWQA administrative reason
Impairment from Pollutant or Pollution: Pollutant

Regional Board Staff Conclusion: This is a de-listing because Sonoma Creek was split into 2 waterbodies, and the listing was transferred to the appropriate portions of the new waterbodies.

Regional Board Staff Decision Recommendation: This is a de-listing because Sonoma Creek was split into 2 waterbodies, and the listing was transferred to the appropriate portions of the new waterbodies.

Line of Evidence (LOE) for Decision ID 34086, Pathogens	Region 2
Sonoma Creek	

LOE ID: 1821

Pollutant: Pathogens
LOE Subgroup: Pollutant-Water
Matrix: Water
Fraction: Not Recorded

Beneficial Use: Water Contact Recreation

Number of Samples:
Number of Exceedances:

Data and Information Type: Not Specified
Data Used to Assess Water Quality: Unspecified--This LOE is a placeholder to support a 303(d) listing decision made prior to 2006.
Data Reference: [Placeholder reference 2006 303\(d\)](#)

SWAMP Data: Non-SWAMP

Water Quality Objective/Criterion:
Objective/Criterion Reference:

Evaluation Guideline:
Guideline Reference:

Spatial Representation:
Temporal Representation:
Environmental Conditions:
QAPP Information: QA Info Missing
QAPP Information Reference(s):

DECISION ID	34404	Region 2
Sonoma Creek		

Pollutant:	Sedimentation/Siltation
Final Listing Decision:	Delist from 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision:	List on 303(d) list (TMDL required list)(2012)
Revision Status	Revised
Reason for Delisting:	Delisting due to spatial change or other CalWQA administrative reason
Impairment from Pollutant or Pollution:	Pollutant
Regional Board Staff Conclusion:	<p>303(d) listing decisions made prior to 2006 were not held in an assessment database. The Regional Boards will update this decision when new data and information become available and are assessed.</p> <p>This is a de-listing because Sonoma Creek was split into 2 waterbodies, and the listing was transferred to the appropriate portions of the new waterbodies.</p>
Regional Board Staff Decision Recommendation:	This is a de-listing because Sonoma Creek was split into 2 waterbodies, and the listing was transferred to the appropriate portions of the new waterbodies.

Line of Evidence (LOE) for Decision ID 34404, Sedimentation/Siltation
Sonoma Creek

Region 2

LOE ID:	3696
Pollutant:	Sedimentation/Siltation
LOE Subgroup:	Pollutant-Water
Matrix:	Water
Fraction:	Not Recorded
Beneficial Use:	Cold Freshwater Habitat
Number of Samples:	0
Number of Exceedances:	0
Data and Information Type:	Not Specified
Data Used to Assess Water Quality:	Unspecified--This LOE is a placeholder to support a 303(d) listing decision made prior to 2006.
Data Reference:	Placeholder reference pre-2006 303(d)
SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	Unspecified
Objective/Criterion Reference:	Placeholder reference pre-2006 303(d)
Evaluation Guideline:	Unspecified
Guideline Reference:	Placeholder reference pre-2006 303(d)
Spatial Representation:	Unspecified
Temporal Representation:	Unspecified
Environmental Conditions:	Unspecified
QAPP Information:	Unspecified
QAPP Information Reference(s):	

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Supporting Information

Regional Board 2 - San Francisco Bay Region

Water Body Name: Napa River
Water Body ID: CAR2065001019980928164417
Water Body Type: River & Stream

DECISION ID 34017 **Region 2**
Napa River

Pollutant: Nutrients
Final Listing Decision: Delist from 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision: List on 303(d) list (TMDL required list)(2012)
Revision Status Revised
Reason for Delisting: Delisting due to spatial change or other CalWQA administrative reason
Impairment from Pollutant or Pollution: Pollutant

Regional Board Staff Conclusion: This is a de-listing because the Napa River was split into 3 waterbodies, and the listing was transferred to the appropriate portions of the new waterbodies.

Regional Board Staff Decision Recommendation: This is a de-listing because the Napa River was split into 3 waterbodies, and the listing was transferred to the appropriate portions of the new waterbodies.

Line of Evidence (LOE) for Decision ID 34017, Nutrients **Region 2** Napa River

LOE ID: 3768

Pollutant: Nutrients
LOE Subgroup: Pollutant-Water
Matrix: Water
Fraction: Not Recorded

Beneficial Use: Warm Freshwater Habitat

Number of Samples: 0
Number of Exceedances: 0

Data and Information Type: Not Specified
Data Used to Assess Water Quality: Unspecified--This LOE is a placeholder to support a 303(d) listing decision made prior to 2006.
Data Reference: [Placeholder reference pre-2006 303\(d\)](#)

SWAMP Data: Non-SWAMP

Water Quality Objective/Criterion: Unspecified
Objective/Criterion Reference: [Placeholder reference pre-2006 303\(d\)](#)

Evaluation Guideline: Unspecified
Guideline Reference: [Placeholder reference pre-2006 303\(d\)](#)

Spatial Representation: Unspecified
Temporal Representation: Unspecified

Environmental Conditions: Unspecified
QAPP Information: Unspecified
QAPP Information Reference(s):

DECISION ID	35007	Region 2
Napa River		

Pollutant:	Pathogens
Final Listing Decision:	Delist from 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision:	List on 303(d) list (being addressed by USEPA approved TMDL)(2012)
Revision Status	Revised
Reason for Delisting:	Delisting due to spatial change or other CalWQA administrative reason
Impairment from Pollutant or Pollution:	Pollutant

Regional Board Staff Conclusion: This is a de-listing because the Napa River was split into 3 waterbodies, and the listing was transferred to the appropriate portions of the new waterbodies.

Regional Board Staff Decision Recommendation: This is a de-listing because the Napa River was split into 3 waterbodies, and the listing was transferred to the appropriate portions of the new waterbodies.

Line of Evidence (LOE) for Decision ID 35007, Pathogens	Region 2
Napa River	

LOE ID:	1824
Pollutant:	Pathogens
LOE Subgroup:	Pollutant-Water
Matrix:	Water
Fraction:	Not Recorded
Beneficial Use:	Water Contact Recreation
Number of Samples:	0
Number of Exceedances:	0
Data and Information Type:	Not Specified
Data Used to Assess Water Quality:	Unspecified--This LOE is a placeholder to support a 303(d) listing decision made prior to 2006.
Data Reference:	Placeholder reference 2006 303(d)
SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	
Objective/Criterion Reference:	
Evaluation Guideline:	
Guideline Reference:	
Spatial Representation:	
Temporal Representation:	
Environmental Conditions:	
QAPP Information:	QA Info Missing
QAPP Information Reference(s):	

DECISION ID	44582	Region 2
Napa River		

Pollutant:	Sedimentation/Siltation
Final Listing Decision:	Delist from 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision:	List on 303(d) list (TMDL required list)(2012)
Revision Status	Revised
Reason for Delisting:	Delisting due to spatial change or other CalWQA administrative reason
Impairment from Pollutant or Pollution:	Pollutant
Regional Board Staff Conclusion:	This is a de-listing because the Napa River was split into 3 waterbodies, and the listing was transferred to the appropriate portion of the new waterbodies.
Regional Board Staff Decision Recommendation:	This is a de-listing because the Napa River was split into 3 waterbodies, and the listing was transferred to the appropriate portions of the new waterbodies.

**Line of Evidence (LOE) for Decision ID 44582, Sedimentation/Siltation
Napa River**

Region 2

LOE ID:	3769
Pollutant:	Sedimentation/Siltation
LOE Subgroup:	Pollutant-Water
Matrix:	Water
Fraction:	Not Recorded
Beneficial Use:	Cold Freshwater Habitat
Number of Samples:	0
Number of Exceedances:	0
Data and Information Type:	Not Specified
Data Used to Assess Water Quality:	Unspecified--This LOE is a placeholder to support a 303(d) listing decision made prior to 2006.
Data Reference:	Placeholder reference pre-2006 303(d)
SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	Unspecified
Objective/Criterion Reference:	Placeholder reference pre-2006 303(d)
Evaluation Guideline:	Unspecified
Guideline Reference:	Placeholder reference pre-2006 303(d)
Spatial Representation:	Unspecified
Temporal Representation:	Unspecified
Environmental Conditions:	Unspecified
QAPP Information:	Unspecified
QAPP Information Reference(s):	

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Supporting Information

Regional Board 2 - San Francisco Bay Region

Water Body Name: Dry Creek (Napa County)
Water Body ID: CAR2065005120000320121704
Water Body Type: River & Stream

DECISION ID 67402

Region 2

Dry Creek (Napa County)

Pollutant: Benthic Community Effects
Final Listing Decision: Do Not List on 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision: New Decision
Revision Status: Revised
Impairment from Pollutant or Pollution: Pollutant

Regional Board Staff Conclusion: Benthic Community Effects is being considered for placement on the CWA section 303(d) List under sections 3.9 of the Listing Policy. Under section 3.9, an additional line of evidence associating the Benthic Community Effects with a water or sediment concentration of pollutants is necessary to assess listing status. Three lines of evidence are available in the administrative record. The CSCI scores for this site are all above 0.92. However, Regional Board staff are concerned about water quality issues related to sediment in this water body.

Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against placing Benthic Community Effects in this water segment on the CWA section 303(d) List.

This conclusion is based on the staff findings that:

1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy.
2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy.
3. The CSCI scores for this site are all above 0.92. Additionally, this water body passed several screening criteria and was identified as a reference water body for the purposes of developing the CSCI. The State Water Board has redefined the Integrated Reporting categories in order to make them more reflective of actual water quality conditions in the State. This revision allows for the inclusion of minimally disturbed data reference sites that were identified in the development of the California Stream Condition Index (CSCI) tool into Category 1. Reference sites are the core of the State's statewide biological and habitat assessment program and set the benchmark for biological conditions expected when human activity in the landscape is absent or minimal. Unless there is any additional data showing that beneficial uses in a water body are not being supported, these reference water bodies along with any other bioassessment data sets showing a score of 0.92 or higher will be placed in Category 1 (all core beneficial uses are supported). However, Regional Board staff are concerned about water quality issues related to sediment in this water body and do not feel it should be placed in Category 1 at this time..
4. Pursuant to section 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.

Regional Board Staff Decision Recommendation: After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be placed on the section 303(d) list. The readily available data and information is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating.

Line of Evidence (LOE) for Decision ID 67402, Benthic Community Effects

Region 2

Dry Creek (Napa County)

LOE ID:	96005
Pollutant:	Benthic-Macroinvertebrate Bioassessments
LOE Subgroup:	Population/Community Degradation
Matrix:	Water
Fraction:	None
Beneficial Use:	Cold Freshwater Habitat
Number of Samples:	3
Number of Exceedances:	0
Data and Information Type:	Benthic macroinvertebrate surveys
Data Used to Assess Water Quality:	The CSCI scores for these sites are 0.983922, 1.244608, 1.23922 and is therefore meeting the water quality objective for this water body. This water body passed several screening criteria and was identified as a reference water body for the purposes of developing the CSCI. Reference sites where human disturbance is absent or minimal are used to set benchmark expectations for healthy streams. A large set of nearly 600 reference sites representing the broad diversity of natural stream types found across California was used to develop the CSCI.
Data Reference:	RWB2 Reference Study Monitoring 2008
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	All waters shall be maintained free of toxic substances in concentrations that are lethal to or that produce significant alterations in population or community ecology or receiving water biota. In addition, the health and life history characteristics of aquatic organisms in waters affected by controllable water quality factors shall not differ significantly from those for the same waters in areas unaffected by controllable water quality factors.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	The California Stream Condition Index (CSCI) is a biological scoring tool that helps aquatic resource managers translate complex data about benthic macroinvertebrates found living in a stream into an overall measure of stream health. The CSCI score is calculated by comparing the expected condition with actual (observed) results (Rhen, A.C. et al., 2015). CSCI scores range from 0 (highly degraded) to greater than 1 (equivalent to reference). CSCI scoring of biological condition are as follows (per the scientific paper supporting the development of the CSCI scoring tool): greater than or equal to 0.92 = likely intact condition, 0.91 to 0.80 = possibly altered condition, 0.79 to 0.63 = likely altered condition, less than or equal to 0.62 = very likely altered condition. Sites with scores below 0.79 are considered to have exceeded the water quality objective for the aquatic life beneficial use.
Guideline Reference:	The California Stream Condition Index (CSCI): A New Statewide Biological Scoring Tool for Assessing the Health of Freshwater Streams.
Spatial Representation:	Sampling was done at to following station:206DRY040, 206DRY060, 206DRY100
Temporal Representation:	Sampling was done on 4/23/2001 (at sites 206DRY040 and 206DRY060), and 5/3/2000 at 206DRY100
Environmental Conditions:	
QAPP Information:	Data collected following SWAMP QA protocols.
QAPP Information Reference(s):	Surface Water Ambient Monitoring Program Quality Assurance Program Plan

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Supporting Information

Regional Board 2 - San Francisco Bay Region

Water Body Name: Wildcat Creek
Water Body ID: CAR2066001319990218111129
Water Body Type: River & Stream

DECISION ID 43930 **Region 2**
Wildcat Creek

Pollutant: Ammonia (Unionized) | Nitrogen, ammonia (Total Ammonia)
Final Listing Decision: Do Not List on 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision: Do Not List on 303(d) list (TMDL required list)(2012)
Revision Status Original
Impairment from Pollutant or Pollution: Pollutant

Regional Board Staff Conclusion: This pollutant is being considered for placement on the section 303(d) list under section 3.1 of the Listing Policy. Under section 3.1 a single line of evidence is necessary to assess listing status. One line of evidence is available in the administrative record to assess this pollutant. None of the samples exceed the water quality objective. Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against placing this water segment-pollutant combination on the section 303(d) list in the Water Quality Limited Segments category. This conclusion is based on the staff findings that: 1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy. 2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy. 3. None of five samples exceeded the water quality objective and this does not exceed the allowable frequency listed in Table 3.1 of the Listing Policy. 4. Pursuant to section 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.

Regional Board Staff Decision Recommendation: This is a decision previously approved by the State Water Resources Control Board and the USEPA. No new data were assessed by the Regional Board for the current. The decision has not changed.

Line of Evidence (LOE) for Decision ID 43930, Multiple Pollutants **Region 2**

Wildcat Creek

LOE ID: 28063
Pollutant: Ammonia (Unionized) | Nitrogen, ammonia (Total Ammonia)
LOE Subgroup: Pollutant-Water
Matrix: Water
Fraction: None
Beneficial Use: Warm Freshwater Habitat
Number of Samples: 5
Number of Exceedances: 0
Data and Information Type: PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality: Five water samples were assessed for total ammonia and un-ionized ammonia. None of them exceeded the evaluation criteria.
Data Reference: [Water Quality Monitoring and Bioassessment in Nine San Francisco Bay Region Watersheds: Walker Creek, Lagunitas Creek, San Leandro Creek, Wildcat Creek/San Pablo Creek, Suisun Creek, Arroyo Las Positas, Pescadero Creek/Butano Creek, San](#)

SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	All waters shall be maintained free of toxic substances in concentrations that produce detrimental physiological responses in human, plant, animal, or aquatic life.
Objective/Criterion Reference:	The Basin Plan states that the discharge of wastes shall not cause receiving water to contain concentrations of un-ionized ammonia in excess of 0.025mg/l annual median. Water Quality Control Plan (Basin Plan) - San Francisco Bay Region (Region 2)
Evaluation Guideline:	For Total Ammonia: EPA's Lifetime Health advisory level for total ammonia is 30.0 mg/L as stated on page 8 of the 2006 edition of the drinking water standards and health advisories. This Advisory Level is defined as "the concentration of a chemical in drinking water that is not expected to cause any adverse noncarcinogenic effects for up to ten days of exposure."
Guideline Reference:	2006 edition of the drinking water standards and health advisories. EPA 822-R-03-013
Spatial Representation:	Samples were collected from two monitoring locations (WIL020 - lower reach and WIL180- upper reach of the creek).
Temporal Representation:	Samples were collected from three seasons: dry, spring and wet.
Environmental Conditions:	
QAPP Information:	The QA was in compliance with SWAMP Quality Assurance Management Plan.
QAPP Information Reference(s):	

DECISION ID	43833	Region 2
Wildcat Creek		

Pollutant:	Anthracene Benzo(a)anthracene Benzo(a)pyrene (3,4-Benzopyrene -7-d) Chlordane Chrysene (C1-C4) DDD (Dichlorodiphenyldichloroethane) DDE (Dichlorodiphenyldichloroethylene) DDT (Dichlorodiphenyltrichloroethane) Dieldrin Endrin Fluoranthene Fluorene Heptachlor epoxide Lindane/gamma Hexachlorocyclohexane (gamma-HCH) Naphthalene PAHs (Polycyclic Aromatic Hydrocarbons) PCBs (Polychlorinated biphenyls) Phenanthrene Pyrene
Final Listing Decision:	Do Not List on 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision:	Do Not List on 303(d) list (TMDL required list)(2012)
Revision Status	Original
Impairment from Pollutant or Pollution:	Pollutant
Regional Board Staff Conclusion:	These pollutants are being considered for placement on the section 303(d) list under section 3.6 of the Listing Policy. Under this section a single line of evidence is necessary to assess listing status. One line of evidence is available in the administrative record to assess these pollutants. Zero samples exceed the water quality objective. Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against placing this water segment-pollutant combination on the section 303(d) list in the Water Quality Limited Segments category. This conclusion is based on the staff findings that: 1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy. 2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy. 3. Zero of one sample exceed the water quality objective, but this sample size is insufficient to determine with the power and confidence of the Listing Policy if standards are not met. A minimum of two samples are needed for application of table 3.1. 4. Pursuant to section 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.
Regional Board Staff Decision Recommendation:	This is a decision previously approved by the State Water Resources Control Board and the USEPA. No new data were assessed by the Regional Board for the current. The decision has not changed.

Line of Evidence (LOE) for Decision ID 43833, Multiple Pollutants	Region 2
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Wildcat Creek

LOE ID:	28676
Pollutant:	Anthracene Benzo(a)anthracene Benzo(a)pyrene (3,4-Benzopyrene -7-d) Chlordane Chrysene (C1-C4) DDD (Dichlorodiphenyldichloroethane) DDE (Dichlorodiphenyldichloroethylene) DDT (Dichlorodiphenyltrichloroethane) Dieldrin Endrin Fluoranthene Fluorene Heptachlor epoxide Lindane/gamma Hexachlorocyclohexane (gamma-HCH) Naphthalene PAHs (Polycyclic Aromatic Hydrocarbons) PCBs (Polychlorinated biphenyls) Phenanthrene Pyrene
LOE Subgroup:	Pollutant-Sediment
Matrix:	Sediment
Fraction:	None
Beneficial Use:	Warm Freshwater Habitat
Number of Samples:	1
Number of Exceedances:	0
Data and Information Type:	PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality:	Concentrations of anthracene, fluorene, naphthalene, phenanthrene, benz(a)anthracene, benzo(a)pyrene, chrysene, fluoranthene, pyrene, PAH (total), PCB (total), chlordane, dieldrin, DDD/DDE/DDT, endrin, heptachlor epoxide, and HCH, gamma in one sediment sample collected in June 2002 did not exceed the sediment quality guidelines.
Data Reference:	Water Quality Monitoring and Bioassessment in Nine San Francisco Bay Region Watersheds: Walker Creek, Lagunitas Creek, San Leandro Creek, Wildcat Creek/San Pablo Creek, Suisun Creek, Arroyo Las Positas, Pescadero Creek/Butano Creek, San Gregorio Creek, and Stevens Creek/Permanente Creek. Oakland, CA: Surface Water Ambient Monitoring Program, San Francisco Bay Regional Water Quality Control Board
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	All waters shall be maintained free of toxic substances that are lethal to or that produce other detrimental responses in aquatic organisms.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) - San Francisco Bay Region (Region 2)
Evaluation Guideline:	Sediment Quality Guidelines (MacDonald et al., 2000): PEC (probable effect concentration) Anthracene - 845 ug/kg; Fluorene - 536 ug/kg; Naphthalene - 561 ug/kg; Phenanthrene -1170 ug/kg; Benz(a)anthracene - 1050 ug/kg; Benzo(a)pyrene - 1450 ug/kg; Chrysene - 1290 ug/kg; Fluoranthene - 2230 ug/kg; Pyrene - 1520 ug/kg; PAH (total) - 22800 ug/kg; PCB (total) - 676 ug/kg; Chlordane - 17.6 ug/kg; Dieldrin - 61.8 ug/kg; DDD (sum op + pp) - 28 ug/kg; DDE (sum op + pp) - 31.3 ug/kg; DDT (sum op + pp) - 62.9 ug/kg; DDT (total) - 572 ug/kg; Endrin - 207 ug/kg; Heptachlor epoxide - 16 ug/kg; HCH, gamma - 4.99 ug/kg.
Guideline Reference:	Development and evaluation of consensus-based sediment quality guidelines for freshwater ecosystems. Environmental Contamination and Toxicology. 39: 20-31
Spatial Representation:	One sediment sample was collected at Richmond Parkway at the "watershed integrator" site closest to the mouth of the Wildcat Creek.
Temporal Representation:	Sediment sample for Wildcat Creek was collected in June 2002.
Environmental Conditions:	
QAPP Information:	All samples were collected and analyzed using procedures comparable with the SWAMP Quality Assurance Management Plan (SWRCB, 2002).
QAPP Information Reference(s):	

DECISION ID**44284****Region 2****Wildcat Creek**

Pollutant:	Arsenic Cadmium Chromium (total) Copper Lead Mercury Zinc
Final Listing Decision:	Do Not List on 303(d) list (TMDL required list)
Last Listing Cycle's Final	Do Not List on 303(d) list (TMDL required list)(2012)

Listing Decision:
Revision Status Original
Impairment from Pollutant or Pollution: Pollutant

Regional Board Staff Conclusion: These pollutants are being considered for placement on the section 303(d) list under section 3.6 of the Listing Policy. Under this section a single line of evidence is necessary to assess listing status. One line of evidence is available in the administrative record to assess these pollutants. Zero samples exceed the water quality objective. Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against placing this water segment-pollutant combination on the section 303(d) list in the Water Quality Limited Segments category. This conclusion is based on the staff findings that: 1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy. 2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy. 3. Zero of one sample exceed the water quality objective, but this sample size is insufficient to determine with the power and confidence of the Listing Policy if standards are not met. A minimum of two samples are needed for application of table 3.1. 4. Pursuant to section 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.

Regional Board Staff Decision Recommendation: This is a decision previously approved by the State Water Resources Control Board and the USEPA. No new data were assessed by the Regional Board for the current. The decision has not changed.

Line of Evidence (LOE) for Decision ID 44284, Multiple Pollutants

Region 2

Wildcat Creek

LOE ID: 28671

Pollutant: Arsenic | Cadmium | Chromium (total) | Copper | Lead | Mercury | Zinc
LOE Subgroup: Pollutant-Sediment
Matrix: Sediment
Fraction: Total

Beneficial Use: Warm Freshwater Habitat

Number of Samples: 1
Number of Exceedances: 0

Data and Information Type: PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality: Concentrations of arsenic, cadmium, chromium, copper, lead, mercury and zinc in one sediment sample collected in June 2002 did not exceed the sediment quality guidelines.

Data Reference: [Water Quality Monitoring and Bioassessment in Nine San Francisco Bay Region Watersheds: Walker Creek, Lagunitas Creek, San Leandro Creek, Wildcat Creek/San Pablo Creek, Suisun Creek, Arroyo Las Positas, Pescadero Creek/Butano Creek, San Gregorio Creek, and Stevens Creek/Permanente Creek, Oakland, CA: Surface Water Ambient Monitoring Program, San Francisco Bay Regional Water Quality Control Board](#)

SWAMP Data: SWAMP

Water Quality Objective/Criterion: All waters shall be maintained free of toxic substances that are lethal to or that produce other detrimental responses in aquatic organisms.

Objective/Criterion Reference: [Water Quality Control Plan \(Basin Plan\) - San Francisco Bay Region \(Region 2\)](#)

Evaluation Guideline: Sediment Quality Guidelines (MacDonald et al., 2000): PEC (probable effect concentration) arsenic - 33 mg/kg dw; cadmium - 4.98 mg/kg dw; chromium - 111 mg/kg dw; copper - 149 mg/kg dw; lead - 128 mg/kg dw; mercury - 1.06 mg/kg dw; nickel - 48.6 mg/kg dw; zinc - 459 mg/kg dw.

Guideline Reference: [Development and evaluation of consensus-based sediment quality guidelines for freshwater ecosystems. Environmental Contamination and Toxicology. 39: 20-31](#)

Spatial Representation: One sediment sample was collected at a "watershed integrator" site located close to the mouth of Wildcat Creek at Richmond Parkway.

Temporal Representation:	Sediment sample was collected in June of 2002.
Environmental Conditions:	
QAPP Information:	All samples were collected and analyzed using procedures comparable with the SWAMP Quality Assurance Management Plan (SWRCB, 2002).
QAPP Information Reference(s):	

DECISION ID	36205	Region 2
Wildcat Creek		

Pollutant:	Arsenic Chromium (total) Copper Lead Nickel Silver Zinc
Final Listing Decision:	Do Not List on 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision:	Do Not List on 303(d) list (TMDL required list)(2012)
Revision Status	Original
Impairment from Pollutant or Pollution:	Pollutant

Regional Board Staff Conclusion: These pollutants are being considered for placement on the section 303(d) list under section 3.1 of the Listing Policy. Under section 3.1 a single line of evidence is necessary to assess listing status. One line of evidence is available in the administrative record to assess this pollutant. None of the samples exceed the water quality objective. Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against placing this water segment-pollutant combination on the section 303(d) list in the Water Quality Limited Segments category. This conclusion is based on the staff findings that: 1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy. 2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy. 3. None of two samples exceeded the water quality objective and this does not exceed the allowable frequency listed in Table 3.1 of the Listing Policy. 4. Pursuant to section 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.

Regional Board Staff Decision Recommendation: This is a decision previously approved by the State Water Resources Control Board and the USEPA. No new data were assessed by the Regional Board for the current. The decision has not changed.

Line of Evidence (LOE) for Decision ID 36205, Multiple Pollutants	Region 2
Wildcat Creek	

LOE ID:	28857
Pollutant:	Arsenic Chromium (total) Copper Lead Nickel Silver Zinc
LOE Subgroup:	Pollutant-Water
Matrix:	Water
Fraction:	Dissolved
Beneficial Use:	Warm Freshwater Habitat
Number of Samples:	2
Number of Exceedances:	0
Data and Information Type:	PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality:	The Wildcat Creek watershed was monitored as part of SWAMP assessment. Concentrations in all two samples did not exceed the water quality objectives for arsenic, chromium VI, copper, lead, nickel, silver and zinc. Concentrations of total dissolved chromium were well below the objective for chromium VI.
Data Reference:	Water Quality Monitoring and Bioassessment in Nine San Francisco Bay Region Watersheds: Walker Creek, Lagunitas Creek, San Leandro Creek, Wildcat Creek/San Pablo Creek, Suisun Creek, Arroyo Las Positas, Pescadero Creek/Butano Creek, San Gregorio Creek, and Stevens Creek/Permanente Creek. Oakland, CA: Surface Water Ambient Monitoring Program, San Francisco Bay Regional Water Quality Control Board

SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	All waters shall be maintained free of toxic substances that are lethal to or that produce other detrimental responses in aquatic organisms. Table 3-4 in the Basin Plan (2007) lists freshwater water quality objectives for toxic pollutants: arsenic- 150 ug/L, chromium VI- 11 ug/L, copper - 9.0 ug/L, lead - 2.5 ug/L; nickel - 52 ug/L, silver-3.4 ug/L and zinc - 120 ug/L.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) - San Francisco Bay Region (Region 2)
Evaluation Guideline:	
Guideline Reference:	
Spatial Representation:	Samples were collected at Richmond Parkway (WIL020) at the "watershed integrator" site closest to the mouth of the Wildcat Creek.
Temporal Representation:	Samples were collected during spring and dry seasons of the 2001-2002 sampling season.
Environmental Conditions:	
QAPP Information:	All samples were collected and analyzed using procedures comparable with the SWAMP Quality Assurance Management Plan (SWRCB, 2002).
QAPP Information Reference(s):	Quality Assurance Management Plan for the State of California's Surface Water Ambient Monitoring Program. Sacramento, CA. State Water Resources Control Board. SWAMP. December 2002 (1st version)

DECISION ID	43464	Region 2
Wildcat Creek		
Pollutant:	Chlorpyrifos Dacthal Diazinon Disulfoton Endosulfan Lindane/gamma Hexachlorocyclohexane (gamma-HCH) Methyl Parathion PCBs (Polychlorinated biphenyls) Thiobencarb/Bolero	
Final Listing Decision:	Do Not List on 303(d) list (TMDL required list)	
Last Listing Cycle's Final Listing Decision:	Do Not List on 303(d) list (TMDL required list)(2012)	
Revision Status	Original	
Impairment from Pollutant or Pollution:	Pollutant	
Regional Board Staff Conclusion:	This pollutant is being considered for placement on the section 303(d) list under section 3.1 of the Listing Policy. Under section 3.1 a single line of evidence is necessary to assess listing status. One line of evidence is available in the administrative record to assess this pollutant. None of the samples exceed the water quality objective. Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against placing this water segment-pollutant combination on the section 303(d) list in the Water Quality Limited Segments category. This conclusion is based on the staff findings that: 1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy. 2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy. 3. None of two samples exceeded the water quality objective and this does not exceed the allowable frequency listed in Table 3.1 of the Listing Policy. 4. Pursuant to section 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.	
Regional Board Staff Decision Recommendation:	This is a decision previously approved by the State Water Resources Control Board and the USEPA. No new data were assessed by the Regional Board for the current. The decision has not changed.	

Line of Evidence (LOE) for Decision ID 43464, Multiple Pollutants	Region 2
Wildcat Creek	

LOE ID:	28989
Pollutant:	Chlorpyrifos Dacthal Diazinon Disulfoton Endosulfan Lindane/gamma

LOE Subgroup:	Hexachlorocyclohexane (gamma-HCH) Methyl Parathion PCBs (Polychlorinated biphenyls) Thiobencarb/Bolero
Matrix:	Pollutant-Water
Fraction:	Water
	None
Beneficial Use:	Warm Freshwater Habitat
Number of Samples:	2
Number of Exceedances:	0
Data and Information Type:	PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality:	The Wildcat Creek watershed was monitored as part of SWAMP assessment. Neither of the samples exceeded the water quality objectives for PCBs, Chlorpyrifos, Dacthal, diazinon, disulfoton, endosulfan, Lindane/gamma Hexachlorocyclohexane (gamma-HCH), methyl parathion, thiobencarb.
Data Reference:	Water Quality Monitoring and Bioassessment in Nine San Francisco Bay Region Watersheds: Walker Creek, Lagunitas Creek, San Leandro Creek, Wildcat Creek/San Pablo Creek, Suisun Creek, Arroyo Las Positas, Pescadero Creek/Butano Creek, San Gregorio Creek, and Stevens Creek/Permanente Creek. Oakland, CA: Surface Water Ambient Monitoring Program, San Francisco Bay Regional Water Quality Control Board Data collected by the Surface Water Ambient Monitoring Program, San Francisco Bay Regional Water Quality Control Board. Years 4 and 5 Assessment
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	All waters shall be maintained free of toxic substances that are lethal to or that produce other detrimental responses in aquatic organisms. There shall be no chronic toxicity in ambient waters. Chronic toxicity is a detrimental biological effect on growth rate, reproduction, fertilization success, larval development, population abundance, community composition, or any other relevant measure of the health of an organism, population, or community. Diazinon water quality objective, 0.1 ug/L (acute)
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) - San Francisco Bay Region (Region 2)
Evaluation Guideline:	PCBs - 0.014 ug/L freshwater continuous Concentration; Chlorpyrifos - 0.015 ug/L (chronic); Dacthal (DCPA) - 14300 ug/L (acute); Disulfoton (Disyston) - 0.05 ug/L (acute); Endosulfan - 0.056 ug/L (chronic)/0.22 ug/L (acute); HCH, gamma-(gamma BHC, Lindane) - 0.95 ug/L (acute); methyl parathion - 0.08 ug/L (acute); Thiobencarb - 3.1 ug/L (acute).
Guideline Reference:	National recommended water quality criteria: 2002. EPA-822-R-02-047 Washington, D.C. USEPA
Spatial Representation:	Data were collected at one sampling location: WIL020 (Richmond Parkway) in the Wildcat Creek.
Temporal Representation:	Samples were collected at one or two locations during spring and dry seasons of the 2001 - 2002 sampling season.
Environmental Conditions:	
QAPP Information:	All samples were collected and analyzed using procedures comparable with the SWAMP Quality Assurance Management Plan (SWRCB, 2002).
QAPP Information Reference(s):	Quality Assurance Management Plan for the State of California's Surface Water Ambient Monitoring Program, Sacramento, CA. State Water Resources Control Board. SWAMP. December 2002 (1st version)

DECISION ID	43834	Region 2
Wildcat Creek		

Pollutant:	Escherichia coli (E. coli)
Final Listing Decision:	Do Not List on 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision:	Do Not List on 303(d) list (TMDL required list)(2012)

Revision Status Original
Impairment from Pollutant or Pollution: Pollutant

Regional Board Staff Conclusion:

This pollutant is being considered for placement on the section 303(d) list under section 3.2 of the Listing Policy. Under this section a single line of evidence is necessary to assess listing status. One line of evidence is available in the administrative record to assess this pollutant. One of the samples exceeds the water quality objective. Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against placing this water segment-pollutant combination on the section 303(d) list in the Water Quality Limited Segments category. This conclusion is based on the staff findings that: 1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy. 2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy. 3. One of two samples exceeded the water quality objective, but this sample size is insufficient to determine with the power and confidence of the Listing Policy if standards are not met. A minimum of five samples is needed for application of table 3.2. 4. Pursuant to section 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.

Regional Board Staff Decision Recommendation: This is a decision previously approved by the State Water Resources Control Board and the USEPA. No new data were assessed by the Regional Board for the current. The decision has not changed.

Line of Evidence (LOE) for Decision ID 43834, Escherichia coli (E. coli)

Region 2

Wildcat Creek

LOE ID: 29016

Pollutant: Escherichia coli (E. coli)
LOE Subgroup: Pollutant-Water
Matrix: Water
Fraction: None

Beneficial Use: Water Contact Recreation

Number of Samples: 2
Number of Exceedances: 1

Data and Information Type: PATHOGEN MONITORING
Data Used to Assess Water Quality: Samples were collected as part of SWAMP sampling in the summer of 2001 at 7-day intervals and the geometric mean of the samples calculated over a five week interval. Samples were collected at two locations, WIL070 and WIL130, every 7 days for a total of 30 days. The geometric mean of samples collected at WIL070 was 208 MPN/100 mL and exceeded the 126 MPN/100ml criteria.

Data Reference: [Water Quality Monitoring and Bioassessment in Nine San Francisco Bay Region Watersheds: Walker Creek, Lagunitas Creek, San Leandro Creek, Wildcat Creek/San Pablo Creek, Suisun Creek, Arroyo Las Positas, Pescadero Creek/Butano Creek, San Gregorio Creek, and Stevens Creek/Permanente Creek. Oakland, CA: Surface Water Ambient Monitoring Program, San Francisco Bay Regional Water Quality Control Board](#)

SWAMP Data: SWAMP

Water Quality Objective/Criterion: Uses of water for recreational activities involving body contact with water where ingestion of water is reasonably possible. These uses include, but are not limited to, swimming, wading, water-skiing, skin and scuba diving, surfing, whitewater activities, fishing, and uses of natural hot springs.

Water contact implies a risk of waterborne disease transmission and involves human health; accordingly, criteria required to protect this use are more stringent than those for more casual water-oriented recreation.
U.S. EPA water quality criteria for water contact recreation based on the frequency of use a particular area receives - 1986: the E. coli criterion is not to exceed 126 organisms/100 mL. The value is expressed as a 7-day geometric mean based on five or more samples

Objective/Criterion Reference: per 30?day period; designated beach (max) 235 MPN/100 mL.
[Water Quality Control Plan \(Basin Plan\) - San Francisco Bay Region \(Region 2\)](#)
[Ambient Water Quality Criteria for Bacteria - 1986. EPA440/5-84-002](#)

Evaluation Guideline:
Guideline Reference:

Spatial Representation: Samples were collected at WIL070 (Alvarado Park) and WIL130 (Lone Oak).
Temporal Representation: Samples were collected weekly from 8/7/2001 through 9/4/2001.
Environmental Conditions:
QAPP Information: All samples were collected and analyzed using procedures comparable with the SWAMP Quality Assurance Management Plan (SWRCB, 2002).
QAPP Information Reference(s): [Quality Assurance Management Plan for the State of California's Surface Water Ambient Monitoring Program. Sacramento, CA. State Water Resources Control Board. SWAMP. December 2002 \(1st version\)](#)

DECISION ID	44285	Region 2
Wildcat Creek		

Pollutant: Nickel
Final Listing Decision: Do Not List on 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision: Do Not List on 303(d) list (TMDL required list)(2012)
Revision Status Original
Impairment from Pollutant or Pollution: Pollutant

Regional Board Staff Conclusion: This pollutant is being considered for placement on the section 303(d) list under section 3.1 of the Listing Policy. Under this section a single line of evidence is necessary to assess listing status. One line of evidence is available in the administrative record to assess this pollutant. One sample exceeds the water quality objective. Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against placing this water segment-pollutant combination on the section 303(d) list in the Water Quality Limited Segments category. This conclusion is based on the staff findings that: 1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy. 2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy. 3. One out of one sample exceeded the water quality objective, but this sample size is insufficient to determine with the power and confidence of the Listing Policy if standards are not met. A minimum of two samples are needed for application of table 3.1. 4. Pursuant to section 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.

Regional Board Staff Decision Recommendation: This is a decision previously approved by the State Water Resources Control Board and the USEPA. No new data were assessed by the Regional Board for the current. The decision has not changed.

Line of Evidence (LOE) for Decision ID 44285, Nickel	Region 2
Wildcat Creek	

LOE ID: 28772

Pollutant: Nickel
LOE Subgroup: Pollutant-Sediment
Matrix: Sediment
Fraction: Total

Beneficial Use: Warm Freshwater Habitat

Number of Samples: 1
Number of Exceedances: 1

Data and Information Type:	PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality:	Nickel exceeded the PEC (sediment quality guidelines) with a sample concentration of 51.3 mg/kg dw in one sediment sample collected in June 2002.
Data Reference:	Water Quality Monitoring and Bioassessment in Nine San Francisco Bay Region Watersheds: Walker Creek, Lagunitas Creek, San Leandro Creek, Wildcat Creek/San Pablo Creek, Suisun Creek, Arroyo Las Positas, Pescadero Creek/Butano Creek, San Gregorio Creek, and Stevens Creek/Permanente Creek. Oakland, CA: Surface Water Ambient Monitoring Program, San Francisco Bay Regional Water Quality Control Board
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	All waters shall be maintained free of toxic substances that are lethal to or that produce other detrimental responses in aquatic organisms.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) - San Francisco Bay Region (Region 2)
Evaluation Guideline:	Sediment Quality Guidelines (MacDonald et al., 2000): PEC (threshold effect concentration) nickel - 48.6 mg/kg dw.
Guideline Reference:	Development and evaluation of consensus-based sediment quality guidelines for freshwater ecosystems. Environmental Contamination and Toxicology. 39: 20-31
Spatial Representation:	One sediment sample was collected at a "watershed integrator" site (WIL020) located close to the mouth of Wildcat Creek at Richmond Parkway.
Temporal Representation:	Sediment sample was collected in June of 2002.
Environmental Conditions:	
QAPP Information:	All samples were collected and analyzed using procedures comparable with the SWAMP Quality Assurance Management Plan (SWRCB, 2002).
QAPP Information Reference(s):	

DECISION ID	43931	Region 2
Wildcat Creek		

Pollutant:	Oxygen, Dissolved
Final Listing Decision:	Do Not List on 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision:	Do Not List on 303(d) list (TMDL required list)(2012)
Revision Status	Original
Impairment from Pollutant or Pollution:	Pollutant

Regional Board Staff Conclusion: This pollutant is being considered for placement on the section 303(d) list under section 3.2 of the Listing Policy. Under section 3.2 a single line of evidence is necessary to assess listing status. One line of evidence is available in the administrative record to assess this pollutant. Three of the samples exceed the water quality objective. Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against placing this water segment-pollutant combination on the section 303(d) list in the Water Quality Limited Segments category. This conclusion is based on the staff findings that: 1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy. 2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy. 3. Three of five samples exceeded the water quality objective and this does not exceed the allowable frequency listed in Table 3.2 of the Listing Policy. 4. Pursuant to section 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.

Regional Board Staff Decision Recommendation: This is a decision previously approved by the State Water Resources Control Board and the USEPA. No new data were assessed by the Regional Board for the current. The decision has not changed.

Line of Evidence (LOE) for Decision ID 43931, Oxygen, Dissolved	Region 2
Wildcat Creek	

LOE ID:	29266
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Pollutant:	Oxygen, Dissolved
LOE Subgroup:	Pollutant-Water
Matrix:	Water
Fraction:	None
Beneficial Use:	Warm Freshwater Habitat
Number of Samples:	5
Number of Exceedances:	3
Data and Information Type:	PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality:	Water quality assessment was conducted at the Wildcat Creek watershed as part of SWAMP study in 2002. Continuous field monitoring at 15 minute increments of temperature, dissolved oxygen, pH and specific conductance was conducted to determine temporal variability in basic water quality at between one or two sites. Continuous monitoring sondes were deployed 5 times at 1 or 2 monitoring locations during wet, spring and two dry seasons. The 7-day average for dissolved oxygen ranged from 0.98 to 7.93 mg/L. The concentration dropped below the 5.0 mg/L threshold in 3 out of 6 deployments at 0.98, 2.66, and 4.88 mg/L.
Data Reference:	Water Quality Monitoring and Bioassessment in Nine San Francisco Bay Region Watersheds: Walker Creek, Lagunitas Creek, San Leandro Creek, Wildcat Creek/San Pablo Creek, Suisun Creek, Arroyo Las Positas, Pescadero Creek/Butano Creek, San Gregorio Creek, and Stevens Creek/Permanente Creek. Oakland, CA: Surface Water Ambient Monitoring Program, San Francisco Bay Regional Water Quality Control Board
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	The numeric water quality objective for dissolved oxygen is 5.0 mg/L minimum for waters designated as warm water habitat. The median dissolved oxygen concentration for any three consecutive months shall not be less than 80 percent of the dissolved oxygen content at saturation.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) - San Francisco Bay Region (Region 2)
Evaluation Guideline:	
Guideline Reference:	Water Quality Control Plan (Basin Plan) - San Francisco Bay Region (Region 2)
Spatial Representation:	Dissolved oxygen was measured at between one and two sites located on the mainstream of Wildcat Creek that are representative of the entire creek length.
Temporal Representation:	In 2002 the SWAMP Program performed continuous monitoring of dissolved oxygen at 15 minute intervals for periods of 1-2 weeks during each of three seasons: winter (1 site), spring (2 sites), and two summer dry seasons (1 site each).
Environmental Conditions:	
QAPP Information:	All samples were collected and analyzed using procedures comparable with the SWAMP Quality Assurance Management Plan (SWRCB, 2002).
QAPP Information Reference(s):	Quality Assurance Management Plan for the State of California's Surface Water Ambient Monitoring Program. Sacramento, CA. State Water Resources Control Board. SWAMP. December 2002 (1st version)

DECISION ID	43734	Region 2
Wildcat Creek		
Pollutant:	Temperature, water	
Final Listing Decision:	Do Not List on 303(d) list (TMDL required list)	
Last Listing Cycle's Final Listing Decision:	Do Not List on 303(d) list (TMDL required list)(2012)	
Revision Status	Original	
Impairment from Pollutant or Pollution:	Pollutant	
Regional Board Staff	This pollutant is being considered for placement on the section 303(d) list under section 3.2 of the	

Conclusion:	Listing Policy. Under section 3.2 a single line of evidence is necessary to assess listing status. One line of evidence is available in the administrative record to assess this water body. Based on the readily available data for this water body, the weight of evidence indicates that there is sufficient justification against placing this water segment-pollutant combination on the section 303(d) list in the Water Quality Limited Segments category. This conclusion is based on the staff findings that: 1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy. 2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy. 3. Temperature measurements at 4 continuous deployments did not exceed the applicable water quality objectives for waters designated as cold water habitat and this does not exceed the allowable frequency listed in Table 3.2 of the Listing Policy. A minimum of five samples is required. 4. Pursuant to section 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.
Regional Board Staff Decision Recommendation:	This is a decision previously approved by the State Water Resources Control Board and the USEPA. No new data were assessed by the Regional Board for the current. The decision has not changed.

Line of Evidence (LOE) for Decision ID 43734, Temperature, water

Region 2

Wildcat Creek

LOE ID:	30222
Pollutant:	Temperature, water
LOE Subgroup:	Pollutant-Water
Matrix:	Water
Fraction:	None
Beneficial Use:	Cold Freshwater Habitat
Number of Samples:	4
Number of Exceedances:	0
Data and Information Type:	PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality:	Water quality assessment was conducted at the Wildcat Creek watershed as part of SWAMP study in 2001-2002. Continuous field monitoring at 15 minute increments of temperature, dissolved oxygen, pH and specific conductance was conducted to determine temporal variability in basic water quality at two locations. Continuous monitoring sondes were deployed 6 times at 2 monitoring locations during wet, spring and dry seasons. The 7-day moving average ranged from 12.6oC to 16.4oC and did not exceed the temperature threshold for steelhead in any deployments during the monitoring season.
Data Reference:	Water Quality Monitoring and Bioassessment in Nine San Francisco Bay Region Watersheds: Walker Creek, Lagunitas Creek, San Leandro Creek, Wildcat Creek/San Pablo Creek, Suisun Creek, Arroyo Las Positas, Pescadero Creek/Butano Creek, San Gregorio Creek, and Stevens Creek/Permanente Creek. Oakland, CA: Surface Water Ambient Monitoring Program, San Francisco Bay Regional Water Quality Control Board
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	Temperature objectives for enclosed bays and estuaries are specified in the "Water Quality Control Plan for Control of Temperature in the Coastal and Interstate Waters and Enclosed Bays of California" including any revisions to the plan. In addition, the following temperature objectives apply to surface waters: The natural receiving water temperature of intrastate waters shall not be altered unless it can be demonstrated to the satisfaction of the Regional Board that such an alteration does not adversely affect beneficial uses. The temperature of any cold or warm freshwater habitat shall not be increased by more than 5°F (2.8°C) above natural receiving water temperature.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) - San Francisco Bay Region (Region 2)
Evaluation Guideline:	Sullivan et al. (2000) reviewed a wide range of studies incorporating information from laboratory-based research, field observations, and risk assessment approaches and developed criteria for assessing temperature risk to aquatic life. The 7-day mean temperature (maximum value of a 7-day moving average of the daily mean temperature) of 14.8°C was established as the upper threshold criterion for coho salmon and 17.0°C

for steelhead trout. The risk assessment approach used by Sullivan et al. (2000) suggest that temperatures exceeding the above thresholds will cause a 10% reduction in average growth compared to optimal conditions.

Guideline Reference:

[An Analysis of the Effects of Temperature on Salmonids of the Pacific Northwest with Implications for Selecting Temperature Criteria](#)

Spatial Representation:

Temperature was measured at one or two sites located on the mainstem of Wild Creek that are representative of the entire creek length.

Temporal Representation:

In 2002 the SWAMP Program performed continuous monitoring of temperature at 15 minute intervals for periods of 1-2 weeks at each location in each of three different seasons: winter, spring, and summer dry season.

Environmental Conditions:

QAPP Information:

All samples were collected and analyzed using procedures comparable with the SWAMP Quality Assurance Management Plan (SWRCB, 2002).

QAPP Information Reference(s):

[Quality Assurance Management Plan for the State of California's Surface Water Ambient Monitoring Program, Sacramento, CA, State Water Resources Control Board, SWAMP, December 2002 \(1st version\)](#)

DECISION ID	43968	Region 2
Wildcat Creek		

Pollutant:	Toxicity
Final Listing Decision:	Do Not List on 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision:	Do Not List on 303(d) list (TMDL required list)(2012)
Revision Status	Original
Impairment from Pollutant or Pollution:	Pollutant

Regional Board Staff Conclusion:

This pollutant is being considered for placement on the section 303(d) list under section 3.1 of the Listing Policy. Under section 3.1 a single line of evidence is necessary to assess listing status. One line of evidence is available in the administrative record to assess this pollutant. None of the samples exceed the water quality objective. Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against placing this water segment-pollutant combination on the section 303(d) list in the Water Quality Limited Segments category. This conclusion is based on the staff findings that: 1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy. 2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy. 3. None of two samples exceeded the water quality objective and this does not exceed the allowable frequency listed in Table 3.1 of the Listing Policy. 4. Pursuant to section 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.

Regional Board Staff Decision Recommendation:	This is a decision previously approved by the State Water Resources Control Board and the USEPA. No new data were assessed by the Regional Board for the current. The decision has not changed.
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Line of Evidence (LOE) for Decision ID 43968, Toxicity	Region 2
Wildcat Creek	

LOE ID:	28828
Pollutant:	Toxicity
LOE Subgroup:	Pollutant-Water
Matrix:	Water
Fraction:	None
Beneficial Use:	Warm Freshwater Habitat
Number of Samples:	2
Number of Exceedances:	0

Data and Information Type: Data Used to Assess Water Quality:	TOXICITY TESTING Two samples were collected in 2001 to evaluate water toxicity at one monitoring location within the Wildcat Creek watershed. The toxicity tests included survival and reproduction of Ceriodaphnia, survival and growth of fathead minnow, and growth of Selenastrum. No significant toxicity was observed in these samples.
Data Reference:	Water Quality Monitoring and Bioassessment in Nine San Francisco Bay Region Watersheds: Walker Creek, Lagunitas Creek, San Leandro Creek, Wildcat Creek/San Pablo Creek, Suisun Creek, Arroyo Las Positas, Pescadero Creek/Butano Creek, San Gregorio Creek, and Stevens Creek/Permanente Creek, Oakland, CA: Surface Water Ambient Monitoring Program, San Francisco Bay Regional Water Quality Control Board
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	All waters shall be maintained free of toxic substances that are lethal to or that produce other detrimental responses in aquatic organisms. There shall be no chronic toxicity in ambient waters. Chronic toxicity is a detrimental biological effect on growth rate, reproduction, fertilization success, larval development, population abundance, community composition, or any other relevant measure of the health of an organism, population, or community.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) - San Francisco Bay Region (Region 2)
Evaluation Guideline:	Water toxicity was evaluated according to the SWAMP methodology. The U.S.EPA whole effluent toxicity protocol (U.S.EPA 1994) was used to test the effect of water samples on three freshwater test organisms. Statistical evaluation (alpha = 0.05) and a default threshold of 80% of the control value were used to establish whether water exhibited significant toxicity adversely impacting aquatic organisms.
Guideline Reference:	Revised approach to toxicity test acceptability criteria using a statistical performance assessment. Environmental Toxicology and Chemistry, vol. 16, No. 6, pp 1322?1329 Short-Term Methods for Estimating the Chronic Toxicity of Effluents and Receiving Waters to Freshwater Organisms. EPA/600/4-91/002. Third Edition. July 1994
Spatial Representation:	Data were collected at one downstream sampling location - WIL020 (Richmond Parkway).
Temporal Representation:	SWAMP samples were collected at one site during dry and spring seasons of 2001.
Environmental Conditions:	
QAPP Information:	All samples were collected and analyzed using procedures comparable with the SWAMP Quality Assurance Management Plan (SWRCB, 2002).
QAPP Information Reference(s):	Quality Assurance Management Plan for the State of California's Surface Water Ambient Monitoring Program, Sacramento, CA, State Water Resources Control Board, SWAMP, December 2002 (1st version)

Line of Evidence (LOE) for Decision ID 43968, Toxicity

Region 2

Wildcat Creek

LOE ID:	29004
Pollutant:	Sediment Toxicity
LOE Subgroup:	Pollutant-Sediment
Matrix:	Sediment
Fraction:	None
Beneficial Use:	Warm Freshwater Habitat
Number of Samples:	1
Number of Exceedances:	0
Data and Information Type:	Toxicity testing of sediments
Data Used to Assess Water Quality:	Data used to evaluate sediment toxicity comprise one sediment sample collected by the SWAMP in 2001. No toxicity or adverse affects for survival were exhibited for Hyallela azteca.
Data Reference:	Water Quality Monitoring and Bioassessment in Nine San Francisco Bay Region Watersheds: Walker Creek, Lagunitas Creek, San Leandro Creek, Wildcat Creek/San

SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	All waters shall be maintained free of toxic substances that are lethal to or that produce other detrimental responses in aquatic organisms. There shall be no chronic toxicity in ambient waters. Chronic toxicity is a detrimental biological effect on growth rate, reproduction, fertilization success, larval development, population abundance, community composition, or any other relevant measure of the health of an organism, population, or community.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) - San Francisco Bay Region (Region 2)
Evaluation Guideline:	Sediment toxicity was evaluated according to the SWAMP methodology. Sample toxicity was determined by comparing mean organism response in samples and in negative controls. Statistical evaluation (alpha = 0.05) and a default threshold of 80% of the control value were used to establish whether the sediment exhibited significant toxicity adversely impacting aquatic organisms.
Guideline Reference:	Revised approach to toxicity test acceptability criteria using a statistical performance assessment. Environmental Toxicology and Chemistry, vol. 16, No. 6, pp 1322?1329
Spatial Representation:	One sediment sample was collected at a "watershed integrator" site (WIL020) located close to the mouth of Wildcat Creek.
Temporal Representation:	Sample was collected in 2001.
Environmental Conditions:	
QAPP Information:	Samples were collected and analyzed using procedures comparable with the SWAMP Quality Assurance Management Plan (SWRCB 2002).
QAPP Information Reference(s):	Quality Assurance Management Plan for the State of California's Surface Water Ambient Monitoring Program, Sacramento, CA, State Water Resources Control Board, SWAMP, December 2002 (1st version)

DECISION ID	44367	Region 2
Wildcat Creek		

Pollutant:	pH
Final Listing Decision:	Do Not List on 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision:	Do Not List on 303(d) list (TMDL required list)(2012)
Revision Status	Original
Impairment from Pollutant or Pollution:	Pollutant
Regional Board Staff Conclusion:	This pollutant is being considered for placement on the section 303(d) list under section 3.2 of the Listing Policy. Under this section a single line of evidence is necessary to assess listing status. One line of evidence is available in the administrative record to assess this pollutant. One of the samples exceed the water quality objective. Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against placing this water segment-pollutant combination on the section 303(d) list in the Water Quality Limited Segments category. This conclusion is based on the staff findings that: 1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy. 2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy. 3. One of three samples exceeded the water quality objective, but this sample size is insufficient to determine with the power and confidence of the Listing Policy if standards are not met. A minimum of five samples is needed for application of table 3.2. 4. Pursuant to section 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.
Regional Board Staff Decision Recommendation:	This is a decision previously approved by the State Water Resources Control Board and the USEPA. No new data were assessed by the Regional Board for the current. The decision has not changed.

Wildcat Creek

LOE ID: 29010

Pollutant: pH
 LOE Subgroup: Pollutant-Water
 Matrix: Water
 Fraction: None

Beneficial Use: Warm Freshwater Habitat

Number of Samples: 3
 Number of Exceedances: 1

Data and Information Type: PHYSICAL/CHEMICAL MONITORING
 Data Used to Assess Water Quality: Water quality assessment was conducted at the Wildcat Creek watershed as part of SWAMP study in 2002. Continuous field monitoring at 15 minute increments of temperature, dissolved oxygen, pH and specific conductance was conducted to determine temporal variability in basic water quality at between one or two sites. Continuous monitoring sondes were deployed 3 times during wet, spring and late summer dry season. The pH ranged from 7.44 to 8.56 and slightly exceeded the threshold in one out of three deployments during wet winter season measurements.

Data Reference: [Water Quality Monitoring and Bioassessment in Nine San Francisco Bay Region Watersheds: Walker Creek, Lagunitas Creek, San Leandro Creek, Wildcat Creek/San Pablo Creek, Suisun Creek, Arroyo Las Positas, Pescadero Creek/Butano Creek, San Gregorio Creek, and Stevens Creek/Permanente Creek. Oakland, CA: Surface Water Ambient Monitoring Program, San Francisco Bay Regional Water Quality Control Board](#)

SWAMP Data: SWAMP

Water Quality Objective/Criterion: The pH shall not be depressed below 6.5 nor raised above 8.5. This encompasses the pH range usually found in waters within the basin. Controllable water quality factors shall not cause changes greater than 0.5 units in normal ambient pH levels.

Objective/Criterion Reference: [Water Quality Control Plan \(Basin Plan\) - San Francisco Bay Region \(Region 2\)](#)

Evaluation Guideline:
 Guideline Reference:

Spatial Representation: pH was measured at WIL020 (Richmond Parkway) site in February 2002 and WIL100 (Jewel Lake Outlet) site in April and October 2002.

Temporal Representation: In 2002 the SWAMP Program performed continuous monitoring of pH at 15-minute intervals for periods of 1-2 weeks in winter (WIL020), spring (WIL100), and late summer dry season (WIL100).

Environmental Conditions:

QAPP Information: All samples were collected and analyzed using procedures comparable with the SWAMP Quality Assurance Management Plan (SWRCB, 2002).

QAPP Information Reference(s): [Quality Assurance Management Plan for the State of California's Surface Water Ambient Monitoring Program. Sacramento, CA. State Water Resources Control Board. SWAMP. December 2002 \(1st version\)](#)

DECISION ID 33851

Region 2

Wildcat Creek

Pollutant: Diazinon
 Final Listing Decision: List on 303(d) list (being addressed by USEPA approved TMDL)
 Last Listing Cycle's Final Listing Decision: List on 303(d) list (being addressed by USEPA approved TMDL)(2012)
 Revision Status: Original
 Sources: Source Unknown

TMDL Name: San Francisco Bay Urban Creeks Diazinon
TMDL Project Code: 9
Date TMDL Approved by USEPA: 05/16/2007
Impairment from Pollutant or Pollution: Pollutant

Regional Board Staff Conclusion: 303(d) listing decisions made prior to 2006 were not held in an assessment database. The Regional Boards will update this decision when new data and information become available and are assessed. The USEPA final decision on the 2006 303(d) list was to move this listing to the being addressed by a USEPA approved TMDL portion of the 303(d) list, because the San Francisco Bay Urban Creeks Diazinon TMDL was approved by USEPA on 5/16/07 (USEPA, 2007).

Regional Board Staff Decision Recommendation: This is a decision previously approved by the State Water Resources Control Board and the USEPA. No new data were assessed by the Regional Board for the current. The decision has not changed.

Line of Evidence (LOE) for Decision ID 33851, Diazinon

Region 2

Wildcat Creek

LOE ID: 1825

Pollutant: Diazinon
LOE Subgroup: Pollutant-Water
Matrix: Water
Fraction: None

Beneficial Use: Warm Freshwater Habitat

Number of Samples: 0
Number of Exceedances: 0

Data and Information Type: Not Specified
Data Used to Assess Water Quality: Unspecified--This LOE is a placeholder to support a 303(d) listing decision made prior to 2006.

Data Reference: [Placeholder reference 2006 303\(d\)](#)

SWAMP Data: Non-SWAMP

Water Quality Objective/Criterion:
Objective/Criterion Reference:

Evaluation Guideline:
Guideline Reference:

Spatial Representation:
Temporal Representation:
Environmental Conditions:
QAPP Information: QA Info Missing
QAPP Information Reference(s):

Draft California 2016 Integrated Report (303(d) List/305(b) Report)

Supporting Information

Regional Board 2 - San Francisco Bay Region

Water Body Name: San Pablo Creek
Water Body ID: CAR2066001419990219094913
Water Body Type: River & Stream

DECISION ID 44743

Region 2

San Pablo Creek

Pollutant: Trash
Final Listing Decision: Do Not Delist from 303(d) list (being addressed with action other than TMDL)
Last Listing Cycle's Final Listing Decision: List on 303(d) list (TMDL required list)(2012)
Revision Status: Revised
Sources: Source Unknown
Expected Attainment Date: 2029
Implementation Action Other than TMDL: This trash listing will be addressed by implementing the trash control provisions of the Water Quality Control Plan for Inland Surface Waters, Enclosed Bays, and Estuaries of California through the NPDES MS4 permit applicable to this waterbody.
Impairment from Pollutant or Pollution: Pollutant

Regional Board Staff Conclusion: This pollutant is being considered for placement on the section 303(d) list under section 3.11 of the Listing Policy. Under section 3.11, listing may be proposed based on the situation-specific weight of evidence. One line of evidence is available in the administrative record to assess this pollutant. The line of evidence consists of data from field visits/trash surveys conducted according to the Rapid Trash Assessment (RTA) methodology. Based on the readily available trash assessment data for this waterbody, the weight of evidence indicates that there is sufficient justification available in favor of placing this water segment-pollutant combination to the section 303(d) list in the Water Quality Limited Segments category. This conclusion is based on the staff findings that: 1. Data have been evaluated that supports this decision. 2. The Rapid Trash Assessment methodology results showed that this waterbody had level of trash scores in the poor category (indicating impairment of non-contact water recreational beneficial use) at two different locations and on two different dates. 3. The temporal and spatial extent of this poor condition affords a substantial basis in fact from which the listing decision can be reasonably inferred. Namely, this waterbody is considered impaired by trash because there were exceedances of the evaluation guideline (poor condition category for the trash assessment metric) in more than one location or on more than one date. 4. The data used satisfy the data quality requirements of section 6.1.4 of the Policy. 5. The data used satisfy the data quantity requirements of section 6.1 of the Policy.

6. This trash listing will be addressed by implementing the trash control provisions of the Water Quality Control Plan for Inland Surface Waters, Enclosed Bays, and Estuaries of California through the NPDES MS4 permit applicable to this waterbody.

Regional Board Staff Decision Recommendation: After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be removed from the section 303(d) list because applicable water quality standards for the pollutant are being exceeded.

Line of Evidence (LOE) for Decision ID 44743, Trash

Region 2

San Pablo Creek

LOE ID: 5661

Pollutant: Trash

LOE Subgroup:	Pollutant-Nuisance
Matrix:	Not Specified
Fraction:	None
Beneficial Use:	Non-Contact Recreation
Number of Samples:	3
Number of Exceedances:	3
Data and Information Type:	Occurrence of conditions judged to cause impairment
Data Used to Assess Water Quality:	Data results were obtained through application the RTA methodology, developed by the Surface Water Ambient Monitoring Program (SWAMP). The RTA documents the total number and characteristics of pieces of trash per one hundred feet of stream or shoreline. The trash assessment protocol involves picking up and tallying all of the trash items found within the defined boundaries of a site. The tally results for level of trash (relating to REC2) and threat to aquatic life (relating to WILD) assessment parameters were considered for the listing determination. These results are available for field visits/trash surveys conducted in July 2002 according to the Rapid Trash Assessment methodology.
Data Reference:	This waterbody had level of trash scores in the poor category (indicating impairment of non-contact water recreational beneficial use) at two different locations and on two different dates. Rapid Trash Assessment (RTA) data collected by the SF Bay Region Surface Water Ambient Monitoring Program from 2002-2005 and method description
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	The Basin Plan prohibits discharge of Rubbish, refuse, bark, sawdust, or other solid wastes into surface waters or at any place where they would contact or where they would be eventually transported to surface waters, including flood plain areas. The Basin Plan has a narrative objective for floating material, Waters shall not contain floating material, including solids, liquids, foams, and scum, in concentrations that cause nuisance or adversely affect beneficial uses. The Basin Plan has a narrative objective for settleable material, Waters shall not contain substances in concentrations that result in the deposition of material that cause nuisance or adversely affect beneficial uses.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) - San Francisco Bay Region (Region 2)
Evaluation Guideline:	If the Rapid Trash Assessment (RTA) Parameter 1 (Level of Trash) is in the poor condition category (scores 0-5), REC2 is not supported. This level of trash distracts the eye on first glance, making the site unsuitable for recreation. The RTA defines poor condition for this parameter as follows, trash distracts the eye on first glance. Stream, bank surfaces, and immediate riparian zone contain substantial levels of litter and debris (>100 pieces). Evidence of site being used frequently by people: many cans, bottles, and food wrappers, blankets, clothing.
Guideline Reference:	A Rapid Trash Assessment Method Applied to Waters of the San Francisco Bay Region:Trash Measurement in Streams
Spatial Representation:	RTA data were collected for this waterbody in two different locations in July 2002 and both locations scored in the poor condition category for the Level of Trash parameter.
Temporal Representation:	RTA data were collected on two different dates, July 18, and 30 2002, and data from both dates were in the poor condition category for the Level of Trash parameter.
Environmental Conditions:	
QAPP Information:	For RTA trash assessment data to be considered, the data must have been collected by field operators that have received a 2-hour training in the Rapid Trash Assessment methodology.
QAPP Information Reference(s):	

San Pablo Creek

Pollutant: Ammonia (Unionized) | Nitrogen, ammonia (Total Ammonia)
Final Listing Decision: Do Not List on 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision: Do Not List on 303(d) list (TMDL required list)(2012)
Revision Status: Original
Impairment from Pollutant or Pollution: Pollutant

Regional Board Staff Conclusion: This pollutant is being considered for placement on the section 303(d) list under section 3.1 of the Listing Policy. Under section 3.1 a single line of evidence is necessary to assess listing status. One line of evidence is available in the administrative record to assess this pollutant. None of the samples exceed the water quality objective. Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against placing this water segment-pollutant combination on the section 303(d) list in the Water Quality Limited Segments category. This conclusion is based on the staff findings that: 1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy. 2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy. 3. None of the fifteen samples exceeded the water quality objectives and water quality guidelines and this does not exceed the allowable frequency listed in Table 3.1 of the Listing Policy. 4. Pursuant to section 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.

Regional Board Staff Decision Recommendation: This is a decision previously approved by the State Water Resources Control Board and the USEPA. No new data were assessed by the Regional Board for the current. The decision has not changed.

Line of Evidence (LOE) for Decision ID 43912, Multiple Pollutants

Region 2

San Pablo Creek

LOE ID: 28061

Pollutant: Ammonia (Unionized) | Nitrogen, ammonia (Total Ammonia)
LOE Subgroup: Subgroup Missing
Matrix: Water
Fraction: None

Beneficial Use: Warm Freshwater Habitat

Number of Samples: 15
Number of Exceedances: 0

Data and Information Type: PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality: Fifteen water samples were assessed for total ammonia and un-ionized ammonia. None of them exceeded the evaluation criteria.

Data Reference: [Water Quality Monitoring and Bioassessment in Nine San Francisco Bay Region Watersheds: Walker Creek, Lagunitas Creek, San Leandro Creek, Wildcat Creek/San Pablo Creek, Suisun Creek, Arroyo Las Positas, Pescadero Creek/Butano Creek, San Gregorio Creek, and Stevens Creek/Permanente Creek. Oakland, CA: Surface Water Ambient Monitoring Program, San Francisco Bay Regional Water Quality Control Board](#)

SWAMP Data: SWAMP

Water Quality Objective/Criterion: The San Francisco Bay Regional Water Quality Board Basin Plan states: All waters shall be maintained free of toxic substances in concentrations that produce detrimental physiological responses in human, plant, animal, or aquatic life. This objective applies regardless of whether the toxicity is caused by a single substance or the interactive effect of multiple substances.

The San Francisco Bay Regional Water Quality Board Basin Plan stated that the discharge of wastes shall not cause receiving water to contain concentrations of un-ionized ammonia in excess of 0.025mg/l annual median.

Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) - San Francisco Bay Region (Region 2)
Evaluation Guideline:	For Total Ammonia: EPA's Lifetime Health advisory level for total ammonia is 30.0 mg/L as stated on page 8 of the 2006 edition of the drinking water standards and health advisories. This Advisory Level is defined as "the concentration of a chemical in drinking water that is not expected to cause any adverse noncarcinogenic effects for up to ten days of exposure."
Guideline Reference:	2006 edition of the drinking water standards and health advisories. EPA 822-R-03-013
Spatial Representation:	Samples were collected from five monitoring locations throughout the watershed. Two sampling sites (SPA020, SPA070) represent downstream part of the creek, one site (SPA150) represents upper tributary of Boar Creek, and two sites (SPA200, SPA220) represent the upstream portion of San Pablo Creek above San Pablo Reservoir.
Temporal Representation:	Samples were collected during dry, spring and wet season of 2001-2002 sampling season.
Environmental Conditions:	
QAPP Information:	The QA was in compliance with SWAMP Quality Assurance Management Plan.
QAPP Information Reference(s):	

DECISION ID 44149 Region 2	
San Pablo Creek	
Pollutant:	Anthracene Benzo(a)anthracene Benzo(a)pyrene (3,4-Benzopyrene -7-d) Chlordane Chrysene (C1-C4) DDD (Dichlorodiphenyldichloroethane) DDE (Dichlorodiphenyldichloroethylene) DDT (Dichlorodiphenyltrichloroethane) Dieldrin Endrin Fluoranthene Fluorene Heptachlor epoxide Lindane/gamma Hexachlorocyclohexane (gamma-HCH) Naphthalene PAHs (Polycyclic Aromatic Hydrocarbons) PCBs (Polychlorinated biphenyls) Phenanthrene Pyrene
Final Listing Decision:	Do Not List on 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision:	Do Not List on 303(d) list (TMDL required list)(2012)
Revision Status	Original
Impairment from Pollutant or Pollution:	Pollutant
Regional Board Staff Conclusion:	These pollutants are being considered for placement on the section 303(d) list under section 3.1 of the Listing Policy. Under this section a single line of evidence is necessary to assess listing status. One line of evidence is available in the administrative record to assess these pollutants. Zero samples exceed the water quality objective. Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against placing this water segment-pollutant combination on the section 303(d) list in the Water Quality Limited Segments category. This conclusion is based on the staff findings that: 1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy. 2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy. 3. Zero of one sample exceeded the water quality objective, but this sample size is insufficient to determine with the power and confidence of the Listing Policy if standards are not met. A minimum of two samples are needed for application of table 3.1. 4. Pursuant to section 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.
Regional Board Staff Decision Recommendation:	This is a decision previously approved by the State Water Resources Control Board and the USEPA. No new data were assessed by the Regional Board for the current. The decision has not changed.

Line of Evidence (LOE) for Decision ID 44149, Multiple Pollutants Region 2	
San Pablo Creek	
LOE ID:	28511
Pollutant:	Anthracene Benzo(a)anthracene Benzo(a)pyrene (3,4-Benzopyrene -7-d) Chlordane Chrysene (C1-C4) DDD (Dichlorodiphenyldichloroethane) DDE

LOE Subgroup:	(Dichlorodiphenyldichloroethylene) DDT (Dichlorodiphenyltrichloroethane) Dieldrin Endrin Fluoranthene Fluorene Heptachlor epoxide Lindane/gamma Hexachlorocyclohexane (gamma-HCH) Naphthalene PAHs (Polycyclic Aromatic Hydrocarbons) PCBs (Polychlorinated biphenyls) Phenanthrene Pyrene
Matrix:	Pollutant-Sediment
Fraction:	Sediment
	None
Beneficial Use:	Warm Freshwater Habitat
Number of Samples:	1
Number of Exceedances:	0
Data and Information Type:	PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality:	Concentrations of anthracene, fluorene, naphthalene, phenanthrene, benz(a)anthracene, benzo(a)pyrene, chrysene, fluoranthene, pyrene, PAH (total), PCB (total), chlordan, dieldrin, DDD/DDE/DDT, endrin, heptachlor epoxide, and HCH, gamma in one sediment sample collected in spring 2005 did not exceed the sediment quality guidelines.
Data Reference:	Water Quality Monitoring and Bioassessment in Nine San Francisco Bay Region Watersheds: Walker Creek, Lagunitas Creek, San Leandro Creek, Wildcat Creek/San Pablo Creek, Suisun Creek, Arroyo Las Positas, Pescadero Creek/Butano Creek, San Gregorio Creek, and Stevens Creek/Permanente Creek. Oakland, CA: Surface Water Ambient Monitoring Program. San Francisco Bay Regional Water Quality Control Board
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	All waters shall be maintained free of toxic substances that are lethal to or that produce other detrimental responses in aquatic organisms.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) - San Francisco Bay Region (Region 2)
Evaluation Guideline:	Sediment Quality Guidelines (MacDonald et al., 2000): PEC (probable effect concentration) Anthracene - 845 ug/kg; Fluorene - 536 ug/kg; Naphthalene - 561 ug/kg; Phenanthrene - 1170 ug/kg; Benz(a)anthracene - 1050 ug/kg; Benzo(a)pyrene - 1450 ug/kg; Chrysene - 1290 ug/kg; Fluoranthene - 2230 ug/kg; Pyrene - 1520 ug/kg; PAH (total) - 22800 ug/kg; PCB (total) - 676 ug/kg; Chlordane - 17.6 ug/kg; Dieldrin - 61.8 ug/kg; DDD (sum op + pp) - 28 ug/kg; DDE (sum op + pp) - 31.3 ug/kg; DDT (sum op + pp) - 62.9 ug/kg; DDT (total) - 572 ug/kg; Endrin - 207 ug/kg; Heptachlor epoxide - 16 ug/kg; HCH, gamma - 4.99 ug/kg.
Guideline Reference:	Development and evaluation of consensus-based sediment quality guidelines for freshwater ecosystems. Environmental Contamination and Toxicology. 39: 20-31
Spatial Representation:	One sediment sample was collected from San Pablo Creek at the 3rd Street Bridge.
Temporal Representation:	Sediment sample was collected in September of 2001.
Environmental Conditions:	
QAPP Information:	All samples were collected and analyzed using procedures comparable with the SWAMP Quality Assurance Management Plan (SWRCB, 2002).
QAPP Information Reference(s):	

DECISION ID	44411	Region 2
San Pablo Creek		
Pollutant:	Arsenic Cadmium Chromium (total) Copper Lead Mercury Nickel Zinc	
Final Listing Decision:	Do Not List on 303(d) list (TMDL required list)	
Last Listing Cycle's Final Listing Decision:	Do Not List on 303(d) list (TMDL required list)(2012)	
Revision Status	Original	
Impairment from Pollutant or Pollution:	Pollutant	
Regional Board Staff Conclusion:	These pollutants are being considered for placement on the section 303(d) list under section 3.1 of the Listing Policy. Under this section a single line of evidence is necessary to assess listing status.	

One line of evidence is available in the administrative record to assess these pollutants. Zero samples exceed the water quality objective. Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against placing this water segment-pollutant combination on the section 303(d) list in the Water Quality Limited Segments category. This conclusion is based on the staff findings that: 1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy. 2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy. 3. Zero of one sample exceeded the water quality objective, but this sample size is insufficient to determine with the power and confidence of the Listing Policy if standards are not met. A minimum of two samples are needed for application of table 3.1. 4. Pursuant to section 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.

Regional Board Staff Decision Recommendation: This is a decision previously approved by the State Water Resources Control Board and the USEPA. No new data were assessed by the Regional Board for the current. The decision has not changed.

Line of Evidence (LOE) for Decision ID 44411, Multiple Pollutants

Region 2

San Pablo Creek

LOE ID:	28667
Pollutant:	Arsenic Cadmium Chromium (total) Copper Lead Mercury Nickel Zinc
LOE Subgroup:	Pollutant-Sediment
Matrix:	Sediment
Fraction:	Total
Beneficial Use:	Warm Freshwater Habitat
Number of Samples:	1
Number of Exceedances:	0
Data and Information Type:	PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality:	Concentrations of arsenic, cadmium, chromium, copper, lead, mercury, nickel and zinc in one sediment sample collected in September 2001 did not exceed the sediment quality guidelines.
Data Reference:	Water Quality Monitoring and Bioassessment in Nine San Francisco Bay Region Watersheds: Walker Creek, Lagunitas Creek, San Leandro Creek, Wildcat Creek/San Pablo Creek, Suisun Creek, Arroyo Las Positas, Pescadero Creek/Butano Creek, San Gregorio Creek, and Stevens Creek/Permanente Creek. Oakland, CA: Surface Water Ambient Monitoring Program, San Francisco Bay Regional Water Quality Control Board
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	All waters shall be maintained free of toxic substances that are lethal to or that produce other detrimental responses in aquatic organisms.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) - San Francisco Bay Region (Region 2)
Evaluation Guideline:	Sediment Quality Guidelines (MacDonald et al., 2000): PEC (probable effect concentration) arsenic - 33 mg/kg dw; cadmium - 4.98 mg/kg dw; chromium - 111 mg/kg dw; copper - 149 mg/kg dw; lead - 128 mg/kg dw; mercury - 1.06 mg/kg dw; nickel - 48.6 mg/kg dw; zinc - 459 mg/kg dw.
Guideline Reference:	Development and evaluation of consensus-based sediment quality guidelines for freshwater ecosystems. Environmental Contamination and Toxicology. 39: 20-31
Spatial Representation:	One sediment sample was collected at a "watershed integrator" site located close to the mouth of San Pablo Creek at 3rd Avenue Bridge.
Temporal Representation:	Sediment sample was collected in September of 2001.
Environmental Conditions:	
QAPP Information:	All samples were collected and analyzed using procedures comparable with the SWAMP Quality Assurance Management Plan (SWRCB, 2002).
QAPP Information Reference(s):	

DECISION ID	44212	Region 2
San Pablo Creek		

Pollutant:	Arsenic Chromium (total) Copper Lead Nickel Silver Zinc
Final Listing Decision:	Do Not List on 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision:	Do Not List on 303(d) list (TMDL required list)(2012)
Revision Status	Original
Impairment from Pollutant or Pollution:	Pollutant
Regional Board Staff Conclusion:	<p>This pollutant is being considered for placement on the section 303(d) list under section 3.1 of the Listing Policy. Under section 3.1 a single line of evidence is necessary to assess listing status. One line of evidence is available in the administrative record to assess this pollutant. None of the samples exceeds the water quality objective. Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against placing this water segment-pollutant combination on the section 303(d) list in the Water Quality Limited Segments category. This conclusion is based on the staff findings that: 1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy. 2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy. 3. None of eight samples exceeded the water quality guideline and this does not exceed the allowable frequency listed in Table 3.1 of the Listing Policy. 4. Pursuant to section 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.</p>
Regional Board Staff Decision Recommendation:	<p>This is a decision previously approved by the State Water Resources Control Board and the USEPA. No new data were assessed by the Regional Board for the current. The decision has not changed.</p>

Line of Evidence (LOE) for Decision ID 44212, Multiple Pollutants	Region 2
San Pablo Creek	

LOE ID:	28856
Pollutant:	Arsenic Chromium (total) Copper Lead Nickel Silver Zinc
LOE Subgroup:	Pollutant-Water
Matrix:	Water
Fraction:	Dissolved
Beneficial Use:	Warm Freshwater Habitat
Number of Samples:	8
Number of Exceedances:	0
Data and Information Type:	PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality:	<p>The San Pablo Creek watershed was monitored as part of SWAMP assessment. None of the three samples exceeded the water quality objectives for arsenic, chromium VI, copper, lead, nickel, silver and zinc. Concentrations of total dissolved chromium were well below the objective for chromium VI.</p>
Data Reference:	<p>Water Quality Monitoring and Bioassessment in Nine San Francisco Bay Region Watersheds: Walker Creek, Lagunitas Creek, San Leandro Creek, Wildcat Creek/San Pablo Creek, Suisun Creek, Arroyo Las Positas, Pescadero Creek/Butano Creek, San Gregorio Creek, and Stevens Creek/Permanente Creek. Oakland, CA: Surface Water Ambient Monitoring Program, San Francisco Bay Regional Water Quality Control Board</p>
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	<p>All waters shall be maintained free of toxic substances that are lethal to or that produce other detrimental responses in aquatic organisms.</p> <p>Table 3-4 in the Basin Plan (2007) lists freshwater water quality objectives for toxic pollutants: arsenic- 150 ug/L, chromium VI- 11 ug/L, copper - 9.0 ug/L, lead - 2.5 ug/L;</p>

Objective/Criterion Reference:	nickel - 52 ug/L, silver-3.4 ug/L and zinc - 120 ug/L. Water Quality Control Plan (Basin Plan) - San Francisco Bay Region (Region 2)
Evaluation Guideline:	
Guideline Reference:	
Spatial Representation:	Samples were collected from four monitoring locations throughout the watershed. Sampling sites (SPA020, SPA070) represent downstream part of the creek, and sites (SPA200, SPA220) represent the upstream reach of San Pablo Creek above San Pablo Reservoir.
Temporal Representation:	Samples were collected at all four locations during spring and dry seasons of the 2001-2002 sampling season.
Environmental Conditions:	
QAPP Information:	All samples were collected and analyzed using procedures comparable with the SWAMP Quality Assurance Management Plan (SWRCB, 2002).
QAPP Information Reference(s):	Quality Assurance Management Plan for the State of California's Surface Water Ambient Monitoring Program. Sacramento, CA. State Water Resources Control Board. SWAMP. December 2002 (1st version)

DECISION ID	43495	Region 2
San Pablo Creek		

Pollutant:	Cadmium
Final Listing Decision:	Do Not List on 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision:	Do Not List on 303(d) list (TMDL required list)(2012)
Revision Status	Original
Impairment from Pollutant or Pollution:	Pollutant

Regional Board Staff Conclusion:	This pollutant is being considered for placement on the section 303(d) list under section 3.1 of the Listing Policy. Under section 3.1 a single line of evidence is necessary to assess listing status. One line of evidence is available in the administrative record to assess this pollutant. None of the samples exceeds the water quality objective. Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against placing this water segment-pollutant combination on the section 303(d) list in the Water Quality Limited Segments category. This conclusion is based on the staff findings that: 1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy. 2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy. 3. None of eight samples exceeded the water quality guidelines and this does not exceed the allowable frequency listed in Table 3.1 of the Listing Policy. 4. Pursuant to section 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.
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Regional Board Staff Decision Recommendation:	This is a decision previously approved by the State Water Resources Control Board and the USEPA. No new data were assessed by the Regional Board for the current. The decision has not changed.
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Line of Evidence (LOE) for Decision ID 43495, Cadmium	Region 2
San Pablo Creek	

LOE ID:	27993
Pollutant:	Cadmium
LOE Subgroup:	Pollutant-Water
Matrix:	Water
Fraction:	None
Beneficial Use:	Warm Freshwater Habitat
Number of Samples:	8

Number of Exceedances:	0
Data and Information Type:	PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality:	Eight water samples were assessed. The concentration of cadmium in the eight samples were less than the acute and chronic objective for cadmium.
Data Reference:	Water Quality Monitoring and Bioassessment in Nine San Francisco Bay Region Watersheds: Walker Creek, Lagunitas Creek, San Leandro Creek, Wildcat Creek/San Pablo Creek, Suisun Creek, Arroyo Las Positas, Pescadero Creek/Butano Creek, San Gregorio Creek, and Stevens Creek/Permanente Creek, Oakland, CA: Surface Water Ambient Monitoring Program, San Francisco Bay Regional Water Quality Control Board
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	The Basin Plan states that the objective is expressed by formulas where $H = \ln$ (hardness) as CaCO_3 in mg/l: The four-day average objective for cadmium is $e \text{ (exp } 0.7852H - 3.490)$. This is 1.1 ug/l at a hardness of 100mg/l as CaCO_3 . The one hour objective is $e \text{ (exp } 1.128H - 3.828)$. This is 3.9ug/l at a hardness of 100mg/l as CaCO_3 .
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) - San Francisco Bay Region (Region 2)
Evaluation Guideline:	
Guideline Reference:	
Spatial Representation:	Samples were collected from four monitoring locations throughout the watershed. Sampling sites (SPA020, SPA070) represent downstream part of the creek, and sites (SPA200, SPA220) represent the upstream reach of San Pablo Creek above San Pablo Reservoir.
Temporal Representation:	The samples were collected in two seasons: Spring and Dry.
Environmental Conditions:	
QAPP Information:	The QA/QC procedure was in compliance with Surface Water Ambient Monitoring Program's (SWAMP) Quality Assurance Management Plan (QAMP).
QAPP Information Reference(s):	

DECISION ID	43525	Region 2
San Pablo Creek		
Pollutant:	Chlorpyrifos	
Final Listing Decision:	Do Not List on 303(d) list (TMDL required list)	
Last Listing Cycle's Final Listing Decision:	Do Not List on 303(d) list (TMDL required list)(2012)	
Revision Status	Original	
Impairment from Pollutant or Pollution:	Pollutant	
Regional Board Staff Conclusion:	This pollutant is being considered for placement on the section 303(d) list under section 3.1 of the Listing Policy. Under section 3.1 a single line of evidence is necessary to assess listing status. One line of evidence is available in the administrative record to assess this pollutant. One of the samples exceeds the water quality objective. Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against placing this water segment-pollutant combination on the section 303(d) list in the Water Quality Limited Segments category. This conclusion is based on the staff findings that: 1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy. 2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy. 3. One of two samples exceeded the water quality guidelines and this sample size is insufficient to determine with the power and confidence of the Listing Policy if standards are not met. A minimum of two samples is needed for application of table 3.1. 4. Pursuant to SECTION 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.	
Regional Board Staff Decision Recommendation:	This is a decision previously approved by the State Water Resources Control Board and the USEPA. No new data were assessed by the Regional Board for the current. The decision has not changed.	

San Pablo Creek

LOE ID:	29023
Pollutant:	Chlorpyrifos
LOE Subgroup:	Pollutant-Water
Matrix:	Water
Fraction:	None
Beneficial Use:	Warm Freshwater Habitat
Number of Samples:	2
Number of Exceedances:	1
Data and Information Type:	PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality:	The San Pablo Creek watershed was monitored as part of SWAMP assessment. One sample exceeded the water quality objectives for chlorpyrifos, with a sample concentrations of 0.079 ug/L.
Data Reference:	Water Quality Monitoring and Bioassessment in Nine San Francisco Bay Region Watersheds: Walker Creek, Lagunitas Creek, San Leandro Creek, Wildcat Creek/San Pablo Creek, Suisun Creek, Arroyo Las Positas, Pescadero Creek/Butano Creek, San Gregorio Creek, and Stevens Creek/Permanente Creek. Oakland, CA: Surface Water Ambient Monitoring Program, San Francisco Bay Regional Water Quality Control Board
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	All waters shall be maintained free of toxic substances that are lethal to or that produce other detrimental responses in aquatic organisms. Table 3-4 in the Basin Plan (2007) lists freshwater water quality objectives for toxic pollutants: Chlorpyrifos 4-day average (chronic) - 0.0015 ug/L.
Objective/Criterion Reference:	Water Quality Standards 2000. Establishment of numeric criteria for priority toxic pollutants for the State of California: Rules and regulations. Federal Register Vol. 65, No. 97. Washington, D.C.: Environmental Protection Agency Water Quality Control Plan (Basin Plan) - San Francisco Bay Region (Region 2) Water Quality Control Plan for the California Regional Water Quality Control Board Central Valley Region, Sacramento and San Joaquin River Basins. 4th ed Hazard Assessment of the Insecticide Methyl Parathion to Aquatic Organisms in the Sacramento River System. California Department of Fish and Game, Environmental Services Division. Administrative Report 92-1 Hazard Assessment of the Rice Herbicides Molinate and Thiobencarb to Aquatic Organisms in the Sacramento River System. Administrative Report 90-1. California Department of Fish and Game, Environmental Services Division
Evaluation Guideline:	
Guideline Reference:	
Spatial Representation:	Data were collected at one sampling location: SPA020 (3rd St Bridge) in San Pablo Creek.
Temporal Representation:	Samples were collected at one location during spring and dry seasons of the 2001 - 2002 sampling season.
Environmental Conditions:	
QAPP Information:	All samples were collected and analyzed using procedures comparable with the SWAMP Quality Assurance Management Plan (SWRCB, 2002).
QAPP Information Reference(s):	Quality Assurance Management Plan for the State of California's Surface Water Ambient Monitoring Program. Sacramento, CA. State Water Resources Control Board. SWAMP. December 2002 (1st version)

Pollutant:	Escherichia coli (E. coli)
Final Listing Decision:	Do Not List on 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision:	Do Not List on 303(d) list (TMDL required list)(2012)
Revision Status	Original
Impairment from Pollutant or Pollution:	Pollutant

Regional Board Staff Conclusion: This pollutant is being considered for placement on the section 303(d) list under section 3.3 of the Listing Policy. Under section 3.3 a single line of evidence is necessary to assess listing status. One line of evidence is available in the administrative record to assess this pollutant. Two out of two samples exceed the water quality objective. Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against placing this water segment-pollutant combination on the section 303(d) list in the Water Quality Limited Segments category. This conclusion is based on the staff findings that: 1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy. 2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy. 3. Two of two samples exceeded the number of Escherichia coli (E. Coli) counts and this does not exceed the allowable frequency listed in Table 3.2 of the Listing Policy. 4. Pursuant to section 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.

Regional Board Staff Decision Recommendation: This is a decision previously approved by the State Water Resources Control Board and the USEPA. No new data were assessed by the Regional Board for the current. The decision has not changed.

Line of Evidence (LOE) for Decision ID 43526, Escherichia coli (E. coli)	Region 2
San Pablo Creek	

LOE ID:	29021
Pollutant:	Escherichia coli (E. coli)
LOE Subgroup:	Pollutant-Water
Matrix:	Water
Fraction:	None
Beneficial Use:	Water Contact Recreation
Number of Samples:	2
Number of Exceedances:	2
Data and Information Type:	PATHOGEN MONITORING
Data Used to Assess Water Quality:	Samples were collected as part of SWAMP sampling in the summer of 2005 at 7-day intervals and the geometric mean of the samples calculated over a five week interval. Samples were collected at two locations, SPA060 and SPA150, every 7 days for a total of 30 days. The geometric mean for SPA060 was 220 MPN/100 mL, and for SPA150 was 946 MPN/100 mL, both of which exceed the 126 MPN/100ml criteria.
Data Reference:	Water Quality Monitoring and Bioassessment in Nine San Francisco Bay Region Watersheds: Walker Creek, Lagunitas Creek, San Leandro Creek, Wildcat Creek/San Pablo Creek, Suisun Creek, Arroyo Las Positas, Pescadero Creek/Butano Creek, San Gregorio Creek, and Stevens Creek/Permanente Creek. Oakland, CA: Surface Water Ambient Monitoring Program, San Francisco Bay Regional Water Quality Control Board
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	Uses of water for recreational activities involving body contact with water where ingestion of water is reasonably possible. These uses include, but are not limited to, swimming, wading, water-skiing, skin and scuba diving, surfing, whitewater activities, fishing, and uses of natural hot springs.

Water contact implies a risk of waterborne disease transmission and involves human health; accordingly, criteria required to protect this use are more stringent than those for

more casual water-oriented recreation.

U.S. EPA water quality criteria for water contact recreation based on the frequency of use a particular area receives - 1986: the E. coli criterion is not to exceed 126 organisms/100 mL. The value is expressed as a 7-day geometric mean based on five or more samples per 30?day period; designated beach (max) 235 MPN/100 mL.

Objective/Criterion Reference:

[Water Quality Control Plan \(Basin Plan\) - San Francisco Bay Region \(Region 2\)](#)
[Ambient Water Quality Criteria for Bacteria - 1986. EPA440/5-84-002](#)

Evaluation Guideline:

Guideline Reference:

Spatial Representation:

Samples were collected at SPA080 - San Pablo City Park, lower reach of the creek, and SPA150 in Bear Creek upstream of Briones Reservoir.

Temporal Representation:

Samples were collected weekly from 7/12/2005 through 8/16/2005.

Environmental Conditions:

QAPP Information:

All samples were collected and analyzed using procedures comparable with the SWAMP Quality Assurance Management Plan (SWRCB, 2002).

QAPP Information Reference(s):

[Quality Assurance Management Plan for the State of California's Surface Water Ambient Monitoring Program. Sacramento, CA. State Water Resources Control Board. SWAMP. December 2002 \(1st version\)](#)

DECISION ID

43538

Region 2

San Pablo Creek

Pollutant:

Oxygen, Dissolved

Final Listing Decision:

Do Not List on 303(d) list (TMDL required list)

Last Listing Cycle's Final Listing Decision:

Do Not List on 303(d) list (TMDL required list)(2012)

Revision Status

Original

Impairment from Pollutant or Pollution:

Pollutant

Regional Board Staff Conclusion:

This pollutant is being considered for placement on the section 303(d) list under section 3.2 of the Listing Policy. Under section 3.2 a single line of evidence is necessary to assess listing status. One line of evidence is available in the administrative record to assess this pollutant. None of the samples exceeds the water quality objective. Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against placing this water segment-pollutant combination on the section 303(d) list in the Water Quality Limited Segments category. This conclusion is based on the staff findings that: 1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy. 2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy. 3. None of twelve samples exceeded the water quality guidelines and this does not exceed the allowable frequency listed in Table 3.2 of the Listing Policy. 4. Pursuant to section 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.

Regional Board Staff Decision Recommendation:

This is a decision previously approved by the State Water Resources Control Board and the USEPA. No new data were assessed by the Regional Board for the current. The decision has not changed.

Line of Evidence (LOE) for Decision ID 43538, Oxygen, Dissolved

Region 2

San Pablo Creek

LOE ID:

29267

Pollutant:

Oxygen, Dissolved

LOE Subgroup:

Pollutant-Water

Matrix:

Water

Fraction:

None

Beneficial Use:

Warm Freshwater Habitat

Number of Samples:	12
Number of Exceedances:	0
Data and Information Type:	PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality:	Water quality assessment was conducted at the San Pablo Creek watershed as part of SWAMP study in 2002. Continuous field monitoring at 15 minute increments of temperature, dissolved oxygen, pH and specific conductance was conducted to determine temporal variability in basic water quality at between one or two sites. Continuous monitoring sondes were deployed 16 times at 3 to 5 monitoring locations during wet, spring and two dry seasons. The 7-day average for dissolved oxygen ranged from 4.8 to 10.86 mg/L. The concentration did not fall below the 5.0 mg/L threshold at any deployment during the 2002 sampling season.
Data Reference:	Water Quality Monitoring and Bioassessment in Nine San Francisco Bay Region Watersheds: Walker Creek, Lagunitas Creek, San Leandro Creek, Wildcat Creek/San Pablo Creek, Suisun Creek, Arroyo Las Positas, Pescadero Creek/Butano Creek, San Gregorio Creek, and Stevens Creek/Permanente Creek. Oakland, CA: Surface Water Ambient Monitoring Program, San Francisco Bay Regional Water Quality Control Board
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	The numeric water quality objective for dissolved oxygen is 5.0 mg/L minimum for waters designated as warm water habitat. The median dissolved oxygen concentration for any three consecutive months shall not be less than 80 percent of the dissolved oxygen content at saturation.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) - San Francisco Bay Region (Region 2)
Evaluation Guideline:	
Guideline Reference:	Water Quality Control Plan (Basin Plan) - San Francisco Bay Region (Region 2)
Spatial Representation:	Dissolved oxygen was measured at three to five monitoring locations throughout the watershed during one season. Sampling sites (SPA050, SPA070) represent downstream part of the creek, and sites (SPA200, SPA220, SPA235) represent the upstream reach and tributaries of San Pablo Creek above San Pablo Reservoir.
Temporal Representation:	In 2002 the SWAMP Program performed continuous monitoring of dissolved oxygen at 15 minute intervals for periods of 3 to 5 weeks in each of three seasons: spring (5 sites), and two summer dry seasons (4 and 3 sites respectively).
Environmental Conditions:	
QAPP Information:	All samples were collected and analyzed using procedures comparable with the SWAMP Quality Assurance Management Plan (SWRCB, 2002).
QAPP Information Reference(s):	Quality Assurance Management Plan for the State of California's Surface Water Ambient Monitoring Program. Sacramento, CA. State Water Resources Control Board. SWAMP. December 2002 (1st version)

DECISION ID	44156	Region 2
San Pablo Creek		
Pollutant:	Temperature, water	
Final Listing Decision:	Do Not List on 303(d) list (TMDL required list)	
Last Listing Cycle's Final Listing Decision:	Do Not List on 303(d) list (TMDL required list)(2012)	
Revision Status	Original	
Impairment from Pollutant or Pollution:	Pollutant	
Regional Board Staff Conclusion:	This pollutant is being considered for placement on the section 303(d) list under section 3.2 of the Listing Policy. Under section 3.2 a single line of evidence is necessary to assess listing status. One line of evidence is available in the administrative record to assess this pollutant. Two of the samples exceed the water quality objective. Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against placing this water segment-pollutant combination on the section 303(d) list in the Water Quality Limited Segments category. This	

conclusion is based on the staff findings that: 1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy. 2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy. 3. Two of sixteen samples exceeded the water quality guidelines and this does not exceed the allowable frequency listed in Table 3.2 of the Listing Policy. 4. Pursuant to section 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.

Regional Board Staff Decision Recommendation: This is a decision previously approved by the State Water Resources Control Board and the USEPA. No new data were assessed by the Regional Board for the current. The decision has not changed.

**Line of Evidence (LOE) for Decision ID 44156, Temperature, water
San Pablo Creek**

Region 2

LOE ID:	29035
Pollutant:	Temperature, water
LOE Subgroup:	Pollutant-Water
Matrix:	Water
Fraction:	None
Beneficial Use:	Cold Freshwater Habitat
Number of Samples:	16
Number of Exceedances:	2
Data and Information Type:	PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality:	Water quality assessment was conducted at the San Pablo Creek watershed as part of SWAMP study in 2001-2002. Continuous field monitoring at 15 minute increments of temperature, dissolved oxygen, pH and specific conductance was conducted to determine temporal variability in basic water quality at three to five locations. Continuous monitoring sondes were deployed 16 times at 3 to 5 monitoring location during wet, spring and two dry seasons. The measured temperatures ranged from 4.29°C to 24.52°C and varied with season and location. During summer season (July 2002) the 7-day mean temperature threshold for steelhead was exceeded in 2 deployments. At the SPA200 site the 7-day mean temperature was 18.3oC, and at SPA220 it was 17.6oC. The monitoring at all four sites in October 2002 was shorter than 7 days, but all temperature measurements were well below 17oC.
Data Reference:	Water Quality Monitoring and Bioassessment in Nine San Francisco Bay Region Watersheds: Walker Creek, Lagunitas Creek, San Leandro Creek, Wildcat Creek/San Pablo Creek, Suisun Creek, Arroyo Las Positas, Pescadero Creek/Butano Creek, San Gregorio Creek, and Stevens Creek/Permanente Creek. Oakland, CA: Surface Water Ambient Monitoring Program, San Francisco Bay Regional Water Quality Control Board
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	Temperature objectives for enclosed bays and estuaries are specified in the "Water Quality Control Plan for Control of Temperature in the Coastal and Interstate Waters and Enclosed Bays of California" including any revisions to the plan. In addition, the following temperature objectives apply to surface waters: The natural receiving water temperature of intrastate waters shall not be altered unless it can be demonstrated to the satisfaction of the Regional Board that such an alteration does not adversely affect beneficial uses. The temperature of any cold or warm freshwater habitat shall not be increased by more than 5°F (2.8°C) above natural receiving water temperature.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) - San Francisco Bay Region (Region 2)
Evaluation Guideline:	Sullivan et al. (2000) reviewed a wide range of studies incorporating information from laboratory-based research, field observations, and risk assessment approaches and developed criteria for assessing temperature risk to aquatic life. The 7-day mean temperature (maximum value of a 7-day moving average of the daily mean temperature) of 14.8°C was established as the upper threshold criterion for coho salmon and 17.0°C for steelhead trout. The risk assessment approach used by Sullivan et al. (2000)suggest

Guideline Reference:	that temperatures exceeding the above thresholds will cause a 10% reduction in average growth compared to optimal conditions. An Analysis of the Effects of Temperature on Salmonids of the Pacific Northwest with Implications for Selecting Temperature Criteria
Spatial Representation:	Temperature was measured at three to five monitoring locations throughout the watershed during one season. Sampling sites (SPA050, SPA070) represent downstream part of the creek, and sites (SPA200, SPA220, SPA235, SPA240) represent the upstream reach and tributaries of San Pablo Creek above San Pablo Reservoir.
Temporal Representation:	In 2002 the SWAMP Program performed continuous monitoring of temperature at 15 minute intervals for periods of less than one to two weeks at three to five locations in four different seasons: winter, spring, and two summer dry seasons.
Environmental Conditions:	
QAPP Information:	All samples were collected and analyzed using procedures comparable with the SWAMP Quality Assurance Management Plan (SWRCB, 2002).
QAPP Information Reference(s):	Quality Assurance Management Plan for the State of California's Surface Water Ambient Monitoring Program. Sacramento, CA. State Water Resources Control Board. SWAMP. December 2002 (1st version)

DECISION ID	43777	Region 2
San Pablo Creek		

Pollutant:	Toxicity
Final Listing Decision:	Do Not List on 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision:	Do Not List on 303(d) list (TMDL required list)(2012)
Revision Status	Original
Impairment from Pollutant or Pollution:	Pollutant

Regional Board Staff Conclusion:	This pollutant is being considered for placement on the section 303(d) list under section 3.6 of the Listing Policy. Under this section a single line of evidence is necessary to assess listing status. One line of evidence is available in the administrative record to assess this pollutant. Zero samples exceed the water quality objective. Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against placing this water segment-pollutant combination on the section 303(d) list in the Water Quality Limited Segments category. This conclusion is based on the staff findings that: 1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy. 2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy. 3. Zero of one sample exceeded the water quality objective, but this sample size is insufficient to determine with the power and confidence of the Listing Policy if standards are not met. A minimum of two samples are needed for application of table 3.1. 4. Pursuant to section 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.
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Regional Board Staff Decision Recommendation:	This is a decision previously approved by the State Water Resources Control Board and the USEPA. No new data were assessed by the Regional Board for the current. The decision has not changed.
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Line of Evidence (LOE) for Decision ID 43777, Toxicity	Region 2
San Pablo Creek	

LOE ID:	28836
Pollutant:	Sediment Toxicity
LOE Subgroup:	Pollutant-Sediment
Matrix:	Sediment
Fraction:	None
Beneficial Use:	Warm Freshwater Habitat

Number of Samples:	1
Number of Exceedances:	0
Data and Information Type:	Toxicity testing of sediments
Data Used to Assess Water Quality:	Data used to evaluate sediment toxicity comprise one sediment sample collected by the SWAMP in 2001. No toxicity or adverse affects were exhibited for <i>Hyallela azteca</i> .
Data Reference:	Water Quality Monitoring and Bioassessment in Nine San Francisco Bay Region Watersheds: Walker Creek, Lagunitas Creek, San Leandro Creek, Wildcat Creek/San Pablo Creek, Suisun Creek, Arroyo Las Positas, Pescadero Creek/Butano Creek, San Gregorio Creek, and Stevens Creek/Permanente Creek, Oakland, CA: Surface Water Ambient Monitoring Program, San Francisco Bay Regional Water Quality Control Board
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	All waters shall be maintained free of toxic substances that are lethal to or that produce other detrimental responses in aquatic organisms. There shall be no chronic toxicity in ambient waters. Chronic toxicity is a detrimental biological effect on growth rate, reproduction, fertilization success, larval development, population abundance, community composition, or any other relevant measure of the health of an organism, population, or community.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) - San Francisco Bay Region (Region 2)
Evaluation Guideline:	Sediment toxicity was evaluated according to the SWAMP methodology. Sample toxicity was determined by comparing mean organism response in samples and in negative controls. Statistical evaluation ($\alpha = 0.05$) and a default threshold of 80% of the control value were used to establish whether the sediment exhibited significant toxicity adversely impacting aquatic organisms.
Guideline Reference:	Revised approach to toxicity test acceptability criteria using a statistical performance assessment. Environmental Toxicology and Chemistry, vol. 16, No. 6, pp 1322?1329
Spatial Representation:	One sediment sample was collected at a "watershed integrator" site located close to the mouth of San Pablo Creek (3rd Street Bridge).
Temporal Representation:	Sample was collected in 2001.
Environmental Conditions:	
QAPP Information:	Samples were collected and analyzed using procedures comparable with the SWAMP Quality Assurance Management Plan (SWRCB 2002).
QAPP Information Reference(s):	Quality Assurance Management Plan for the State of California's Surface Water Ambient Monitoring Program, Sacramento, CA, State Water Resources Control Board, SWAMP, December 2002 (1st version)

DECISION ID	43541	Region 2
San Pablo Creek		
Pollutant:	pH	
Final Listing Decision:	Do Not List on 303(d) list (TMDL required list)	
Last Listing Cycle's Final Listing Decision:	Do Not List on 303(d) list (TMDL required list)(2012)	
Revision Status	Original	
Impairment from Pollutant or Pollution:	Pollutant	
Regional Board Staff Conclusion:	<p>This pollutant is being considered for placement on the section 303(d) list under section 3.2 of the Listing Policy. Under section 3.2 a single line of evidence is necessary to assess listing status. One line of evidence is available in the administrative record to assess this pollutant. One of the samples exceed the water quality objective. Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against placing this water segment-pollutant combination on the section 303(d) list in the Water Quality Limited Segments category. This conclusion is based on the staff findings that: 1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy. 2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy. 3. One of sixteen samples exceeded the water quality objectives and this does not exceed the allowable frequency listed in Table 3.2 of the Listing Policy. 4. Pursuant to</p>	

section 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.

Regional Board Staff Decision Recommendation: This is a decision previously approved by the State Water Resources Control Board and the USEPA. No new data were assessed by the Regional Board for the current. The decision has not changed.

Line of Evidence (LOE) for Decision ID 43541, pH

Region 2

San Pablo Creek

LOE ID: 29005

Pollutant: pH
LOE Subgroup: Pollutant-Water
Matrix: Water
Fraction: None

Beneficial Use: Warm Freshwater Habitat

Number of Samples: 16
Number of Exceedances: 1

Data and Information Type: PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality: Water quality assessment was conducted at the San Pablo Creek watershed as part of SWAMP study in 2001-2002. Continuous field monitoring at 15 minute increments of temperature, dissolved oxygen, pH and specific conductance was conducted to determine temporal variability in basic water quality at three, four, or five locations. Continuous monitoring sondes were deployed 16 times at 3, 4, or 5 monitoring locations during wet, spring and two dry seasons. The pH ranged from 7.1 to 8.56. The pH exceeded the threshold once, but otherwise did not exceed or fall below the appropriate water quality threshold in any sampling event during the 2002 season.

Data Reference: [Water Quality Monitoring and Bioassessment in Nine San Francisco Bay Region Watersheds: Walker Creek, Lagunitas Creek, San Leandro Creek, Wildcat Creek/San Pablo Creek, Suisun Creek, Arroyo Las Positas, Pescadero Creek/Butano Creek, San Gregorio Creek, and Stevens Creek/Permanente Creek. Oakland, CA: Surface Water Ambient Monitoring Program, San Francisco Bay Regional Water Quality Control Board](#)

SWAMP Data: SWAMP

Water Quality Objective/Criterion: The pH shall not be depressed below 6.5 nor raised above 8.5. This encompasses the pH range usually found in waters within the basin. Controllable water quality factors shall not cause changes greater than 0.5 units in normal ambient pH levels.

Objective/Criterion Reference: [Water Quality Control Plan \(Basin Plan\) - San Francisco Bay Region \(Region 2\)](#)

Evaluation Guideline:
Guideline Reference:

Spatial Representation: pH was measured at three to five monitoring locations throughout the watershed during one season. Sampling sites (SPA050, SPA070) represent downstream part of the creek, and sites (SPA200, SPA220, SPA235) represent the upstream reach and tributaries of San Pablo Creek above San Pablo Reservoir.

Temporal Representation: In 2002 the SWAMP Program performed continuous monitoring of pH at 15 minute intervals for periods of 1-2 weeks in each of four times: winter (3 sites), spring (5 sites), and two summer dry season (4 sites each time).

Environmental Conditions:
QAPP Information: All samples were collected and analyzed using procedures comparable with the SWAMP Quality Assurance Management Plan (SWRCB, 2002).

QAPP Information Reference(s): [Quality Assurance Management Plan for the State of California's Surface Water Ambient Monitoring Program. Sacramento, CA. State Water Resources Control Board. SWAMP. December 2002 \(1st version\)](#)

DECISION ID	44155	Region 2
San Pablo Creek		

Pollutant: Diazinon
Final Listing Decision: List on 303(d) list (being addressed by USEPA approved TMDL)
Last Listing Cycle's Final Listing Decision: List on 303(d) list (being addressed by USEPA approved TMDL)(2012)
Revision Status: Original
Sources: Urban Runoff/Storm Sewers
TMDL Name: San Francisco Bay Urban Creeks Diazinon
TMDL Project Code: 9
Date TMDL Approved by USEPA: 05/16/2007
Impairment from Pollutant or Pollution: Pollutant

Regional Board Staff Conclusion: 303(d) listing decisions made prior to 2006 were not held in an assessment database. The Regional Boards will update this decision when new data and information become available and are assessed. The USEPA final decision on the 2006 303(d) list was to move this listing to the being addressed by a USEPA approved TMDL portion of the 303(d) list, because the San Francisco Bay Urban Creeks Diazinon TMDL was approved by USEPA on 5/16/07 (USEPA, 2007).

Regional Board Staff Decision Recommendation: This is a decision previously approved by the State Water Resources Control Board and the USEPA. No new data were assessed by the Regional Board for the current. The decision has not changed.

Line of Evidence (LOE) for Decision ID 44155, Diazinon	Region 2
San Pablo Creek	

LOE ID: 1826
Pollutant: Diazinon
LOE Subgroup: Pollutant-Water
Matrix: Water
Fraction: None
Beneficial Use: Warm Freshwater Habitat
Number of Samples: 0
Number of Exceedances: 0
Data and Information Type: Not Specified
Data Used to Assess Water Quality: Unspecified--This LOE is a placeholder to support a 303(d) listing decision made prior to 2006.
Data Reference: [Placeholder reference 2006 303\(d\)](#)
SWAMP Data: Non-SWAMP
Water Quality Objective/Criterion:
Objective/Criterion Reference:
Evaluation Guideline:
Guideline Reference:
Spatial Representation:
Temporal Representation:
Environmental Conditions:
QAPP Information: QA Info Missing
QAPP Information Reference(s):

Line of Evidence (LOE) for Decision ID 44155, Diazinon	Region 2
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San Pablo Creek

LOE ID:	29027
Pollutant:	Toxicity
LOE Subgroup:	Pollutant-Water
Matrix:	Water
Fraction:	None
Beneficial Use:	Warm Freshwater Habitat
Number of Samples:	8
Number of Exceedances:	3
Data and Information Type:	TOXICITY TESTING
Data Used to Assess Water Quality:	<p>Eight samples were collected in 2001-2002 sampling season to evaluate water toxicity at four monitoring locations within the San Pablo Creek watershed. The toxicity tests included survival and reproduction of Ceriodaphnia, survival and growth of fathead minnow, and growth of Selenastrum.</p> <p>Three of the eight samples demonstrated adverse impacts to Selenastrum growth in both samples at SPA020 with 55.1 and 65.7 percent of control, and at SPA070 (spring only) with 53.6 percent of control.</p>
Data Reference:	Water Quality Monitoring and Bioassessment in Nine San Francisco Bay Region Watersheds: Walker Creek, Lagunitas Creek, San Leandro Creek, Wildcat Creek/San Pablo Creek, Suisun Creek, Arroyo Las Positas, Pescadero Creek/Butano Creek, San Gregorio Creek, and Stevens Creek/Permanente Creek. Oakland, CA: Surface Water Ambient Monitoring Program, San Francisco Bay Regional Water Quality Control Board
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	<p>All waters shall be maintained free of toxic substances that are lethal to or that produce other detrimental responses in aquatic organisms.</p> <p>There shall be no chronic toxicity in ambient waters. Chronic toxicity is a detrimental biological effect on growth rate, reproduction, fertilization success, larval development, population abundance, community composition, or any other relevant measure of the health of an organism, population, or community.</p>
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) - San Francisco Bay Region (Region 2)
Evaluation Guideline:	Water toxicity was evaluated according to the SWAMP methodology. The U.S.EPA whole effluent toxicity protocol (U.S.EPA 1994) was used to test the effect of water samples on three freshwater test organisms. Statistical evaluation (alpha = 0.05) and a default threshold of 80% of the control value were used to establish whether water exhibited significant toxicity adversely impacting aquatic organisms.
Guideline Reference:	Revised approach to toxicity test acceptability criteria using a statistical performance assessment. Environmental Toxicology and Chemistry, vol. 16, No. 6, pp 1322?1329 Short-Term Methods for Estimating the Chronic Toxicity of Effluents and Receiving Waters to Freshwater Organisms. EPA/600/4-91/002. Third Edition. July 1994
Spatial Representation:	Data were collected at four sampling locations - SPA020 (3rd St Bridge) and SPA070 (Cemetery Bridge) at the downstream portion of the creek, and SPA200 (Lauterwasser Creek), and SPA220 (Orinda Creek) on two occasions in the upstream portion of the creek above San Pablo Reservoir.
Temporal Representation:	SWAMP samples were collected during dry and spring seasons of the 2001-2002 sampling season.
Environmental Conditions:	
QAPP Information:	All samples were collected and analyzed using procedures comparable with the SWAMP Quality Assurance Management Plan (SWRCB, 2002).
QAPP Information Reference(s):	Quality Assurance Management Plan for the State of California's Surface Water Ambient Monitoring Program. Sacramento, CA. State Water Resources Control Board. SWAMP. December 2002 (1st version)

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Supporting Information

Regional Board 2 - San Francisco Bay Region

Water Body Name: Pinole Creek
Water Body ID: CAR2066002019990218104959
Water Body Type: River & Stream

DECISION ID 35131 **Region 2**
Pinole Creek

Pollutant: Diazinon
Final Listing Decision: List on 303(d) list (being addressed by USEPA approved TMDL)
Last Listing Cycle's Final Listing Decision: List on 303(d) list (being addressed by USEPA approved TMDL)(2012)
Revision Status Original
Sources: Source Unknown
TMDL Name: San Francisco Bay Urban Creeks Diazinon
TMDL Project Code: 9
Date TMDL Approved by USEPA: 05/16/2007
Impairment from Pollutant or Pollution: Pollutant

Regional Board Staff Conclusion: 303(d) listing decisions made prior to 2006 were not held in an assessment database. The Regional Boards will update this decision when new data and information become available and are assessed. The USEPA final decision on the 2006 303(d) list was to move this listing to the being addressed by a USEPA approved TMDL portion of the 303(d) list, because the San Francisco Bay Urban Creeks Diazinon TMDL was approved by USEPA on 5/16/07 (USEPA, 2007).

Regional Board Staff Decision Recommendation: This is a decision previously approved by the State Water Resources Control Board and the USEPA. No new data were assessed by the Regional Board for the current. The decision has not changed.

Line of Evidence (LOE) for Decision ID 35131, Diazinon **Region 2** **Pinole Creek**

LOE ID: 1827
Pollutant: Diazinon
LOE Subgroup: Pollutant-Water
Matrix: Water
Fraction: None
Beneficial Use: Cold Freshwater Habitat
Number of Samples: 0
Number of Exceedances: 0
Data and Information Type: Not Specified
Data Used to Assess Water Quality: Unspecified--This LOE is a placeholder to support a 303(d) listing decision made prior to 2006.
Data Reference: [Placeholder reference 2006 303\(d\)](#)
SWAMP Data: Non-SWAMP
Water Quality Objective/Criterion:

Objective/Criterion Reference:

Evaluation Guideline:

Guideline Reference:

Spatial Representation:

Temporal Representation:

Environmental Conditions:

QAPP Information:

QA Info Missing

QAPP Information Reference(s):

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Supporting Information

Regional Board 2 - San Francisco Bay Region

Water Body Name: Rodeo Creek (Contra Costa County)
Water Body ID: CAR2066002219990219092843
Water Body Type: River & Stream

DECISION ID 33890 **Region 2**
Rodeo Creek (Contra Costa County)

Pollutant: Diazinon
Final Listing Decision: List on 303(d) list (being addressed by USEPA approved TMDL)
Last Listing Cycle's Final Listing Decision: List on 303(d) list (being addressed by USEPA approved TMDL)(2012)
Revision Status Original
Sources: Source Unknown
TMDL Name: San Francisco Bay Urban Creeks Diazinon
TMDL Project Code: 9
Date TMDL Approved by USEPA: 05/16/2007
Impairment from Pollutant or Pollution: Pollutant

Regional Board Staff Conclusion: 303(d) listing decisions made prior to 2006 were not held in an assessment database. The Regional Boards will update this decision when new data and information become available and are assessed. The USEPA final decision on the 2006 303(d) list was to move this listing to the being addressed by a USEPA approved TMDL portion of the 303(d) list, because the San Francisco Bay Urban Creeks Diazinon TMDL was approved by USEPA on 5/16/07 (USEPA, 2007).

Regional Board Staff Decision Recommendation: This is a decision previously approved by the State Water Resources Control Board and the USEPA. No new data were assessed by the Regional Board for the current. The decision has not changed.

Line of Evidence (LOE) for Decision ID 33890, Diazinon **Region 2**
Rodeo Creek (Contra Costa County)

LOE ID: 1828
Pollutant: Diazinon
LOE Subgroup: Pollutant-Water
Matrix: Water
Fraction: None
Beneficial Use: Warm Freshwater Habitat
Number of Samples: 0
Number of Exceedances: 0
Data and Information Type: Not Specified
Data Used to Assess Water Quality: Unspecified--This LOE is a placeholder to support a 303(d) listing decision made prior to 2006.
Data Reference: [Placeholder reference 2006 303\(d\)](#)
SWAMP Data: Non-SWAMP
Water Quality Objective/Criterion:

Objective/Criterion Reference:

Evaluation Guideline:
Guideline Reference:

Spatial Representation:
Temporal Representation:
Environmental Conditions:

QAPP Information: QA Info Missing
QAPP Information Reference(s):

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Supporting Information

Regional Board 2 - San Francisco Bay Region

Water Body Name: Hill Slough
Water Body ID: CAR2072300020050602210728
Water Body Type: River & Stream

DECISION ID	33014	Region 2
Hill Slough		

Pollutant: Mercury
Final Listing Decision: Do Not List on 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision: Do Not List on 303(d) list (TMDL required list)(2012)
Revision Status: Original
Impairment from Pollutant or Pollution: Pollutant

Regional Board Staff Conclusion: This pollutant is being considered for placement on the section 303(d) list under section 3.5 of the Listing Policy. One line of evidence is available in the administrative record to assess this pollutant. Based on the readily available data and information, the weight of evidence indicates that there is insufficient justification in favor of placing this water segment-pollutant combination on the section 303(d) list in the Water Quality Limited Segments category. This conclusion is based on the staff findings that: 1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy. 2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy. 3. One of 1 sample exceeded the OEHHA Screening Value and this does not exceed the allowable frequency listed in Table 3.1 of the Listing Policy. 4. Pursuant to section 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.

Regional Board Staff Decision Recommendation: This is a decision previously approved by the State Water Resources Control Board and the USEPA. No new data were assessed by the Regional Board for the current. The decision has not changed.

Line of Evidence (LOE) for Decision ID 33014, Mercury

Hill Slough

Region 2

LOE ID: 1829

Pollutant: Mercury
LOE Subgroup: Pollutant-Tissue
Matrix: Tissue
Fraction: Total

Beneficial Use: Commercial or recreational collection of fish, shellfish, or organisms

Number of Samples: 1
Number of Exceedances: 1

Data and Information Type: Fish tissue analysis
Data Used to Assess Water Quality: Two samples were collected on the same day at the same location (hence they are considered one sample). Thus, 1 out of 1 sample exceeded. Two filet individual samples of striped bass were collected in 1997 (TSMP, 2002).
Data Reference: [Placeholder reference 2006 303\(d\)](#)

SWAMP Data: Non-SWAMP

Water Quality Objective/Criterion:	San Francisco Bay RWQCB Basin Plan: Many pollutants can accumulate on particles, in sediment, or bioaccumulate in fish and other aquatic organisms. Controllable water quality factors shall not cause a detrimental increase in concentrations of toxic substances found in bottom sediments or aquatic life. Effects on aquatic organisms, wildlife, and human health will be considered.
Objective/Criterion Reference:	Placeholder reference 2006 303(d)
Evaluation Guideline:	OEHHA Screening Value 0.3 ug/g (Brodberg and Pollock, 1999).
Guideline Reference:	Placeholder reference 2006 303(d)
Spatial Representation:	One station located upstream of McCoy Ditch near Suisun City.
Temporal Representation:	Samples were collected 2/27/97.
Environmental Conditions:	
QAPP Information:	Environmental Chemistry Quality Assurance and Data Report for the Toxic Substances Monitoring Program, 1996 to 2000. Department of Fish and Game.
QAPP Information Reference(s):	

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Supporting Information

Regional Board 2 - San Francisco Bay Region

Water Body Name: Ledgewood Creek
Water Body ID: CAR2072301019990218111805
Water Body Type: River & Stream

DECISION ID 65538 **Region 2**
Ledgewood Creek

Pollutant: Trash
Final Listing Decision: Do Not List on 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision: New Decision
Revision Status Revised
Impairment from Pollutant or Pollution: Pollutant

Regional Board Staff Conclusion: This pollutant is being considered for placement on the CWA section 303(d) List under section 3.11 of the Listing Policy. Under this section when all other listing factors do not result in the listing of a water segment but information indicates non-attainment of standards, a water segment shall be evaluated to determine whether the weight of evidence demonstrates that water quality standard is not attained. If the weight of evidence indicates non-attainment, the water segment shall be placed on the CWA section 303(d) List.

Based on the readily available data and information, the weight of evidence indicates that there is not sufficient justification for placing this water segment-pollutant combination from the CWA section 303(d) List. This conclusion is based on the staff findings that:

1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy.
2. The following information indicates that the water quality standard is not being attained: Zero of three samples exceeded the guideline.
3. This process is scientifically defensible and reproducible.

Regional Board Staff Decision Recommendation: After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be placed on the section 303(d) list because applicable water quality standards are not being exceeded.

Line of Evidence (LOE) for Decision ID 65538, Trash **Region 2**
Ledgewood Creek

LOE ID: 92154

Pollutant: Trash
LOE Subgroup: Pollutant-Nuisance
Matrix: Not Specified
Fraction: None

Beneficial Use: Non-Contact Recreation

Number of Samples: 3
Number of Exceedances: 0

Data and Information Type: Occurrence of conditions judged to cause impairment
Data Used to Assess Water Quality: Data available consist of photographic evidence of trash and interpretation of these photos by an experienced trash assessment specialist. Each photograph was analyzed to

establish the RTA score for the level of trash and threat to aquatic life parameters, which relate to impairment of REC2 and WILD, respectively. Only those photos clear enough to establish these RTA scores were relied on for the listing determination. These results are available for photos taken on 3/1/07, 1/15/08 and 3/14/08 at Cordelia Road 1/4 mile West of Pennsylvania. This waterbody did not have level of trash parameter scores in the poor category (indicating impairment of non-contact water recreational beneficial uses).

Data Reference:

[Photos of trash in various San Francisco Bay water bodies, Mar. 2007-Mar. 2008](#)

SWAMP Data:

Non-SWAMP

Water Quality Objective/Criterion:

The Basin Plan prohibits discharge of Rubbish, refuse, bark, sawdust, or other solid wastes into surface waters or at any place where they would contact or where they would be eventually transported to surface waters, including flood plain areas. The Basin Plan has a narrative objective for floating material, Waters shall not contain floating material, including solids, liquids, foams, and scum, in concentrations that cause nuisance or adversely affect beneficial uses. The Basin Plan has a narrative objective for settleable material, Waters shall not contain substances in concentrations that result in the deposition of material that cause nuisance or adversely affect beneficial uses.

Objective/Criterion Reference:

[Water Quality Control Plan \(Basin Plan\) San Francisco Bay Basin \(Region 2\)](#)

Evaluation Guideline:

If the Rapid Trash Assessment (RTA) Parameter 1 (Level of Trash) is in the poor condition category (scores 0-5), REC2 is not supported. This level of trash distracts the eye on first glance, making the site unsuitable for recreation. The RTA defines poor condition for this parameter as follows, trash distracts the eye on first glance. Stream, bank surfaces, and immediate riparian zone contain substantial levels of litter and debris (>100 pieces). Evidence of site being used frequently by people: many cans, bottles, and food wrappers, blankets, clothing. State Water Board staff trained in the RTA inspected the available photographic evidence and applied the assessment method to determine the Level of Trash score. If the RTA Parameter 3 (Threat to Aquatic Life) is in the poor condition category (scores 0-5), then WILD is not supported. This level of trash is a large amount (>50 pieces) of transportable, persistent, buoyant litter that is detrimental to aquatic life. The RTA defines poor condition for this parameter as follows, large amount (>50 pieces) of transportable, persistent, buoyant litter such as: hard or soft plastics, balloons, Styrofoam, cigarette butts; toxic items such as batteries, lighters, or spray cans; large clumps of yard waste or dumped leaf litter; or large amount (>50 pieces) of settleable glass or metal. State Water Board staff trained in the RTA inspected the available photographic evidence and applied the assessment method to determine the Threat to Aquatic Life score.

Guideline Reference:

[A Rapid Trash Assessment Method Applied to Waters of the San Francisco Bay Region: Trash Measurement in Streams](#)

Spatial Representation:

Photos were taken at Cordelia Road 1/4 mile West of Pennsylvania on 3/1/07, 1/15/08, and 3/14/08.

Temporal Representation:

Photos were taken at Cordelia Road 1/4 mile West of Pennsylvania on 3/1/07, 1/15/08, and 3/14/08.

Environmental Conditions:

QAPP Information:

Assessments of the photographic evidence using the RTA were performed by a State Water Board staff person. Assessments based on photographic evidence were only conducted when sufficient reach-scale and close-up photos were available for a site on a specific date. Photos used for the evaluation needed to be numerous enough and clear enough to document the level of trash at the site in a similar way as the assessor would experience during an actual site visit in the field. For example, at a minimum, one reach-scale photograph (showing at least a 100 linear foot section of the waterbody) and two close-up photographs (of representative trash deposits) were required.

QAPP Information Reference(s):

**Line of Evidence (LOE) for Decision ID 65538, Trash
Ledgewood Creek**

Region 2

LOE ID:

92153

Pollutant:

Trash

LOE Subgroup:	Pollutant-Nuisance
Matrix:	Not Specified
Fraction:	None
Beneficial Use:	Wildlife Habitat
Number of Samples:	3
Number of Exceedances:	0
Data and Information Type:	Occurrence of conditions judged to cause impairment
Data Used to Assess Water Quality:	Data available consist of photographic evidence of trash and interpretation of these photos by an experienced trash assessment specialist. Each photograph was analyzed to establish the RTA score for the level of trash and threat to aquatic life parameters, which relate to impairment of REC2 and WILD, respectively. Only those photos clear enough to establish these RTA scores were relied on for the listing determination. These results are available for photos taken on 3/1/07, 1/15/08 and 3/14/08 at Cordelia Road 1/4 mile West of Pennsylvania. This waterbody did not have threat to aquatic life parameter scores in the poor category (indicating threat to Wildlife Habitat beneficial uses).
Data Reference:	Photos of trash in various San Francisco Bay water bodies, Mar. 2007-Mar. 2008
SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	The Basin Plan prohibits discharge of Rubbish, refuse, bark, sawdust, or other solid wastes into surface waters or at any place where they would contact or where they would be eventually transported to surface waters, including flood plain areas. The Basin Plan has a narrative objective for floating material, Waters shall not contain floating material, including solids, liquids, foams, and scum, in concentrations that cause nuisance or adversely affect beneficial uses. The Basin Plan has a narrative objective for settleable material, Waters shall not contain substances in concentrations that result in the deposition of material that cause nuisance or adversely affect beneficial uses.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	If the Rapid Trash Assessment (RTA) Parameter 1 (Level of Trash) is in the poor condition category (scores 0-5), REC2 is not supported. This level of trash distracts the eye on first glance, making the site unsuitable for recreation. The RTA defines poor condition for this parameter as follows, trash distracts the eye on first glance. Stream, bank surfaces, and immediate riparian zone contain substantial levels of litter and debris (>100 pieces). Evidence of site being used frequently by people: many cans, bottles, and food wrappers, blankets, clothing. State Water Board staff trained in the RTA inspected the available photographic evidence and applied the assessment method to determine the Level of Trash score. If the RTA Parameter 3 (Threat to Aquatic Life) is in the poor condition category (scores 0-5), then WILD is not supported. This level of trash is a large amount (>50 pieces) of transportable, persistent, buoyant litter that is detrimental to aquatic life. The RTA defines poor condition for this parameter as follows, large amount (>50 pieces) of transportable, persistent, buoyant litter such as: hard or soft plastics, balloons, Styrofoam, cigarette butts; toxic items such as batteries, lighters, or spray cans; large clumps of yard waste or dumped leaf litter; or large amount (>50 pieces) of settleable glass or metal. State Water Board staff trained in the RTA inspected the available photographic evidence and applied the assessment method to determine the Threat to Aquatic Life score.
Guideline Reference:	A Rapid Trash Assessment Method Applied to Waters of the San Francisco Bay Region:Trash Measurement in Streams
Spatial Representation:	Photos were taken at Cordelia Road 1/4 mile West of Pennsylvania on three separate dates.
Temporal Representation:	Photos were taken at Cordelia Road 1/4 mile West of Pennsylvania on 3/1/07, 1/15/08, and 3/14/08.
Environmental Conditions:	
QAPP Information:	Assessments of the photographic evidence using the RTA were performed by a State Water Board staff person. Assessments based on photographic evidence were only conducted when sufficient reach-scale and close-up photos were available for a site on a specific date. Photos used for the evaluation needed to be numerous enough and clear enough to document the level of trash at the site in a similar way as the assessor would

experience during an actual site visit in the field. For example, at a minimum, one reach-scale photograph (showing at least a 100 linear foot section of the waterbody) and two close-up photographs (of representative trash deposits) were required.

QAPP Information Reference(s):

DECISION ID	35112	Region 2
Ledgewood Creek		

Pollutant:	Diazinon
Final Listing Decision:	List on 303(d) list (being addressed by USEPA approved TMDL)
Last Listing Cycle's Final Listing Decision:	List on 303(d) list (being addressed by USEPA approved TMDL)(2012)
Revision Status	Original
Sources:	Source Unknown
TMDL Name:	San Francisco Bay Urban Creeks Diazinon
TMDL Project Code:	9
Date TMDL Approved by USEPA:	05/16/2007
Impairment from Pollutant or Pollution:	Pollutant

Regional Board Staff Conclusion:	303(d) listing decisions made prior to 2006 were not held in an assessment database. The Regional Boards will update this decision when new data and information become available and are assessed. The USEPA final decision on the 2006 303(d) list was to move this listing to the being addressed by a USEPA approved TMDL portion of the 303(d) list, because the San Francisco Bay Urban Creeks Diazinon TMDL was approved by USEPA on 5/16/07 (USEPA, 2007).
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Regional Board Staff Decision Recommendation:	This is a decision previously approved by the State Water Resources Control Board and the USEPA. No new data were assessed by the Regional Board for the current. The decision has not changed.
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Line of Evidence (LOE) for Decision ID 35112, Diazinon	Region 2
Ledgewood Creek	

LOE ID:	1830
Pollutant:	Diazinon
LOE Subgroup:	Pollutant-Water
Matrix:	Water
Fraction:	None
Beneficial Use:	Cold Freshwater Habitat
Number of Samples:	0
Number of Exceedances:	0
Data and Information Type:	Not Specified
Data Used to Assess Water Quality:	Unspecified---This LOE is a placeholder to support a 303(d) listing decision made prior to 2006.
Data Reference:	Placeholder reference 2006 303(d)
SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	
Objective/Criterion Reference:	
Evaluation Guideline:	
Guideline Reference:	
Spatial Representation:	

Temporal Representation:

Environmental Conditions:

QAPP Information:

QAPP Information Reference(s):

QA Info Missing

Draft California 2016 Integrated Report (303(d) List/305(b) Report)

Supporting Information

Regional Board 2 - San Francisco Bay Region

Water Body Name: Pine Creek (Contra Costa Co)
Water Body ID: CAR2073101119990218101152
Water Body Type: River & Stream

DECISION ID 35130 **Region 2**
Pine Creek (Contra Costa Co)

Pollutant: Diazinon
Final Listing Decision: List on 303(d) list (being addressed by USEPA approved TMDL)
Last Listing Cycle's Final Listing Decision: List on 303(d) list (being addressed by USEPA approved TMDL)(2012)
Revision Status Original
Sources: Source Unknown
TMDL Name: San Francisco Bay Urban Creeks Diazinon
TMDL Project Code: 9
Date TMDL Approved by USEPA: 05/16/2007
Impairment from Pollutant or Pollution: Pollutant

Regional Board Staff Conclusion: 303(d) listing decisions made prior to 2006 were not held in an assessment database. The Regional Boards will update this decision when new data and information become available and are assessed. The USEPA final decision on the 2006 303(d) list was to move this listing to the being addressed by a USEPA approved TMDL portion of the 303(d) list, because the San Francisco Bay Urban Creeks Diazinon TMDL was approved by USEPA on 5/16/07 (USEPA, 2007).

Regional Board Staff Decision Recommendation: This is a decision previously approved by the State Water Resources Control Board and the USEPA. No new data were assessed by the Regional Board for the current. The decision has not changed.

Line of Evidence (LOE) for Decision ID 35130, Diazinon **Region 2**
Pine Creek (Contra Costa Co)

LOE ID: 1831
Pollutant: Diazinon
LOE Subgroup: Pollutant-Water
Matrix: Water
Fraction: None
Beneficial Use: Cold Freshwater Habitat
Number of Samples: 0
Number of Exceedances: 0
Data and Information Type: Not Specified
Data Used to Assess Water Quality: Unspecified--This LOE is a placeholder to support a 303(d) listing decision made prior to 2006.
Data Reference: [Placeholder reference 2006 303\(d\)](#)
SWAMP Data: Non-SWAMP
Water Quality Objective/Criterion:

Objective/Criterion Reference:

Evaluation Guideline:

Guideline Reference:

Spatial Representation:

Temporal Representation:

Environmental Conditions:

QAPP Information:

QA Info Missing

QAPP Information Reference(s):

Draft California 2016 Integrated Report (303(d) List/305(b) Report)

Supporting Information

Regional Board 2 - San Francisco Bay Region

Water Body Name: Mt. Diablo Creek
Water Body ID: CAR2073104019990217163214
Water Body Type: River & Stream

DECISION ID 44388 **Region 2**
Mt. Diablo Creek

Pollutant: Anthracene | Benzo(a)anthracene | Benzo(a)pyrene (3,4-Benzopyrene -7-d) | Chlordane | Chrysene (C1-C4) | DDD (Dichlorodiphenyldichloroethane) | DDE (Dichlorodiphenyldichloroethylene) | DDT (Dichlorodiphenyltrichloroethane) | Dieldrin | Endrin | Fluoranthene | Fluorene | Heptachlor epoxide | Lindane/gamma Hexachlorocyclohexane (gamma-HCH) | Naphthalene | PAHs (Polycyclic Aromatic Hydrocarbons) | PCBs (Polychlorinated biphenyls) | Phenanthrene | Pyrene

Final Listing Decision: Do Not List on 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision: Do Not List on 303(d) list (TMDL required list)(2012)

Revision Status Original
Impairment from Pollutant or Pollution: Pollutant

Regional Board Staff Conclusion: These pollutants are being considered for placement on the section 303(d) list under section 3.1 of the Listing Policy. Under this section a single line of evidence is necessary to assess listing status. One line of evidence is available in the administrative record to assess these pollutants. Zero samples exceed the water quality objective. Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against placing this water segment-pollutant combination on the section 303(d) list in the Water Quality Limited Segments category. This conclusion is based on the staff findings that: 1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy. 2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy. 3. Zero of one sample exceeded the water quality objective, but this sample size is insufficient to determine with the power and confidence of the Listing Policy if standards are not met. A minimum of two samples are needed for application of table 3.1. 4. Pursuant to section 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.

Regional Board Staff Decision Recommendation: This is a decision previously approved by the State Water Resources Control Board and the USEPA. No new data were assessed by the Regional Board for the current. The decision has not changed.

Line of Evidence (LOE) for Decision ID 44388, Multiple Pollutants **Region 2**
Mt. Diablo Creek

LOE ID: 28503

Pollutant: Anthracene | Benzo(a)anthracene | Benzo(a)pyrene (3,4-Benzopyrene -7-d) | Chlordane | Chrysene (C1-C4) | DDD (Dichlorodiphenyldichloroethane) | DDE (Dichlorodiphenyldichloroethylene) | DDT (Dichlorodiphenyltrichloroethane) | Dieldrin | Endrin | Fluoranthene | Fluorene | Heptachlor epoxide | Lindane/gamma Hexachlorocyclohexane (gamma-HCH) | Naphthalene | PAHs (Polycyclic Aromatic Hydrocarbons) | PCBs (Polychlorinated biphenyls) | Phenanthrene | Pyrene

LOE Subgroup: Pollutant-Sediment
Matrix: Sediment
Fraction: None

Beneficial Use:	Warm Freshwater Habitat
Number of Samples:	1
Number of Exceedances:	0
Data and Information Type:	PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality:	Concentrations of anthracene, fluorene, naphthalene, phenanthrene, benz(a)anthracene, benzo(a)pyrene, chrysene, fluoranthene, pyrene, PAH (total), PCB (total), chlordane, dieldrin, DDD/DDE/DDT, endrin, heptachlor epoxide, and HCH, gamma in one sediment sample collected in spring 2005 did not exceed the sediment quality guidelines.
Data Reference:	Water Quality Monitoring and Bioassessment in Four San Francisco Bay Region Watersheds in 2003-2004: Kirker Creek, Mt. Diablo Creek, Petaluma River, and San Mateo Creek. Surface Water Monitoring Program, San Francisco Bay Regional Water Quality Control Board, Oakland, CA
SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	All waters shall be maintained free of toxic substances that are lethal to or that produce other detrimental responses in aquatic organisms.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) - San Francisco Bay Region (Region 2)
Evaluation Guideline:	Sediment Quality Guidelines (MacDonald et al., 2000): PEC (probable effect concentration) Anthracene - 845 ug/kg; Fluorene - 536 ug/kg; Naphthalene - 561 ug/kg; Phenanthrene - 1170 ug/kg; Benz(a)anthracene - 1050 ug/kg; Benzo(a)pyrene - 1450 ug/kg; Chrysene - 1290 ug/kg; Fluoranthene - 2230 ug/kg; Pyrene - 1520 ug/kg; PAH (total) - 22800 ug/kg; PCB (total) - 676 ug/kg; Chlordane - 17.6 ug/kg; Dieldrin - 61.8 ug/kg; DDD (sum op + pp) - 28 ug/kg; DDE (sum op + pp) - 31.3 ug/kg; DDT (sum op + pp) - 62.9 ug/kg; DDT (total) - 572 ug/kg; Endrin - 207 ug/kg; Heptachlor epoxide - 16 ug/kg; HCH, gamma - 4.99 ug/kg.
Guideline Reference:	Development and evaluation of consensus-based sediment quality guidelines for freshwater ecosystems. Environmental Contamination and Toxicology. 39: 20-31
Spatial Representation:	One sediment sample was collected at a "watershed integrator" site located close to the mouth of Mt. Diablo Creek.
Temporal Representation:	Sediment sample was collected in April of 2003.
Environmental Conditions:	
QAPP Information:	All samples were collected and analyzed using procedures comparable with the SWAMP Quality Assurance Management Plan (SWRCB, 2002).
QAPP Information Reference(s):	

DECISION ID	44342	Region 2
Mt. Diablo Creek		
Pollutant:	Arsenic Cadmium Chromium (total) Copper Lead Mercury Nickel Zinc	
Final Listing Decision:	Do Not List on 303(d) list (TMDL required list)	
Last Listing Cycle's Final Listing Decision:	Do Not List on 303(d) list (TMDL required list)(2012)	
Revision Status	Original	
Impairment from Pollutant or Pollution:	Pollutant	
Regional Board Staff Conclusion:	<p>These pollutants are being considered for placement on the section 303(d) list under section 3.1 of the Listing Policy. Under this section a single line of evidence is necessary to assess listing status. One line of evidence is available in the administrative record to assess these pollutants. Zero samples exceed the water quality objective. Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against placing this water segment-pollutant combination on the section 303(d) list in the Water Quality Limited Segments category. This conclusion is based on the staff findings that: 1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy. 2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy. 3. Zero of one sample exceeded the water quality objective, but this sample size is insufficient to determine with the power and confidence of the Listing Policy if</p>	

standards are not met. A minimum of two samples are needed for application of table 3.1. 4. Pursuant to section 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.

Regional Board Staff Decision Recommendation: This is a decision previously approved by the State Water Resources Control Board and the USEPA. No new data were assessed by the Regional Board for the current. The decision has not changed.

Line of Evidence (LOE) for Decision ID 44342, Multiple Pollutants

Region 2

Mt. Diablo Creek

LOE ID: 28538

Pollutant: Arsenic | Cadmium | Chromium (total) | Copper | Lead | Mercury | Nickel | Zinc
 LOE Subgroup: Pollutant-Sediment
 Matrix: Sediment
 Fraction: Total

Beneficial Use: Warm Freshwater Habitat

Number of Samples: 1
 Number of Exceedances: 0

Data and Information Type: PHYSICAL/CHEMICAL MONITORING
 Data Used to Assess Water Quality: Concentrations of arsenic, cadmium, chromium, copper, lead, mercury, nickel and zinc in one sediment sample collected in spring 2003 did not exceed the sediment quality guidelines.

Data Reference: [Water Quality Monitoring and Bioassessment in Four San Francisco Bay Region Watersheds in 2003-2004: Kirker Creek, Mt. Diablo Creek, Petaluma River, and San Mateo Creek. Surface Water Monitoring Program, San Francisco Bay Regional Water Quality Control Board, Oakland, CA](#)

SWAMP Data: Non-SWAMP

Water Quality Objective/Criterion: All waters shall be maintained free of toxic substances that are lethal to or that produce other detrimental responses in aquatic organisms.

Objective/Criterion Reference: [Water Quality Control Plan \(Basin Plan\) - San Francisco Bay Region \(Region 2\)](#)

Evaluation Guideline: Sediment Quality Guidelines (MacDonald et al., 2000): PEC (probable effect concentration) arsenic - 33 mg/kg dw; cadmium - 4.98 mg/kg dw; chromium - 111 mg/kg dw; copper - 149 mg/kg dw; lead - 128 mg/kg dw; mercury - 1.06 mg/kg dw; zinc - 459 mg/kg dw.

Guideline Reference: [Development and evaluation of consensus-based sediment quality guidelines for freshwater ecosystems. Environmental Contamination and Toxicology. 39: 20-31](#)

Spatial Representation: One sediment sample was collected at a "watershed integrator" site located close to the mouth of Mt Diablo Creek.

Temporal Representation: Sediment sample was collected in April of 2003.

Environmental Conditions:

QAPP Information: All samples were collected and analyzed using procedures comparable with the SWAMP Quality Assurance Management Plan (SWRCB, 2002).

QAPP Information Reference(s):

DECISION ID

43507

Region 2

Mt. Diablo Creek

Pollutant: Arsenic | Chromium (total) | Copper | Lead | Nickel | Silver | Zinc
Final Listing Decision: Do Not List on 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision: Do Not List on 303(d) list (TMDL required list)(2012)

Revision Status Original
Impairment from Pollutant or Pollution: Pollutant

Regional Board Staff Conclusion: These pollutants are being considered for placement on the section 303(d) list under section 3.1 of the Listing Policy. Under section 3.1 a single line of evidence is necessary to assess listing status. One line of evidence is available in the administrative record to assess this pollutant. None of the samples exceed the water quality objective. Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against placing this water segment-pollutant combination on the section 303(d) list in the Water Quality Limited Segments category. This conclusion is based on the staff findings that: 1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy. 2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy. 3. None of four samples exceeded the water quality objective and this does not exceed the allowable frequency listed in Table 3.1 of the Listing Policy. 4. Pursuant to section 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.

Regional Board Staff Decision Recommendation: This is a decision previously approved by the State Water Resources Control Board and the USEPA. No new data were assessed by the Regional Board for the current. The decision has not changed.

Line of Evidence (LOE) for Decision ID 43507, Multiple Pollutants

Region 2

Mt. Diablo Creek

LOE ID: 28845

Pollutant: Arsenic | Chromium (total) | Copper | Lead | Nickel | Silver | Zinc
LOE Subgroup: Pollutant-Water
Matrix: Water
Fraction: Dissolved

Beneficial Use: Warm Freshwater Habitat

Number of Samples: 4
Number of Exceedances: 0

Data and Information Type: PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality: The Mt Diablo Creek watershed was monitored as part of SWAMP assessment. None of the four samples exceeded the water quality objectives for arsenic, chromium VI, copper, lead, nickel, silver and zinc. Concentrations of total dissolved chromium were well below the objective for chromium VI.

Data Reference: [Water Quality Monitoring and Bioassessment in Four San Francisco Bay Region Watersheds in 2003-2004: Kirker Creek, Mt. Diablo Creek, Petaluma River, and San Mateo Creek. Surface Water Monitoring Program, San Francisco Bay Regional Water Quality Control Board, Oakland, CA](#)

SWAMP Data: SWAMP

Water Quality Objective/Criterion: All waters shall be maintained free of toxic substances that are lethal to or that produce other detrimental responses in aquatic organisms. Table 3-4 in the Basin Plan (2007) lists freshwater water quality objectives for toxic pollutants: arsenic- 150 ug/L, chromium VI- 11 ug/L, copper - 9.0 ug/L, lead - 2.5 ug/L; nickel - 52 ug/L, silver-3.4 ug/L and zinc - 120 ug/L.

Objective/Criterion Reference: [Water Quality Control Plan \(Basin Plan\) - San Francisco Bay Region \(Region 2\)](#)

Evaluation Guideline:
Guideline Reference:

Spatial Representation: Data were collected at two sampling locations on Mt Diablo Creek - MTD010 and MTD100.

Temporal Representation: Samples were collected at both sites during spring and wet seasons of the 2003-2004

Environmental Conditions: sampling season.

QAPP Information: All samples were collected and analyzed using procedures comparable with the SWAMP Quality Assurance Management Plan (SWRCB, 2002).

QAPP Information Reference(s): [Quality Assurance Management Plan for the State of California's Surface Water Ambient Monitoring Program. Sacramento, CA. State Water Resources Control Board. SWAMP. December 2002 \(1st version\).](#)

DECISION ID	44343	Region 2
Mt. Diablo Creek		

Pollutant: Dacthal | Disulfoton | Endosulfan | Lindane/gamma Hexachlorocyclohexane (gamma-HCH) | Methyl Parathion | PCBs (Polychlorinated biphenyls) | Thiobencarb/Bolero

Final Listing Decision: Do Not List on 303(d) list (TMDL required list)

Last Listing Cycle's Final Listing Decision: Do Not List on 303(d) list (TMDL required list)(2012)

Revision Status: Original

Impairment from Pollutant or Pollution: Pollutant

Regional Board Staff Conclusion: These pollutants are being considered for placement on the section 303(d) list under section 3.1 of the Listing Policy. Under section 3.1 a single line of evidence is necessary to assess listing status. One line of evidence is available in the administrative record to assess this pollutant. None of the samples exceed the water quality objective. Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against placing this water segment-pollutant combination on the section 303(d) list in the Water Quality Limited Segments category. This conclusion is based on the staff findings that: 1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy. 2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy. 3. Zero of four samples exceeded the water quality objective and this does not exceed the allowable frequency listed in Table 3.1 of the Listing Policy. 4. Pursuant to section 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.

Regional Board Staff Decision Recommendation: This is a decision previously approved by the State Water Resources Control Board and the USEPA. No new data were assessed by the Regional Board for the current. The decision has not changed.

Line of Evidence (LOE) for Decision ID 44343, Multiple Pollutants	Region 2
Mt. Diablo Creek	

LOE ID: 28964

Pollutant: Dacthal | Disulfoton | Endosulfan | Lindane/gamma Hexachlorocyclohexane (gamma-HCH) | Methyl Parathion | PCBs (Polychlorinated biphenyls) | Thiobencarb/Bolero

LOE Subgroup: Pollutant-Water

Matrix: Water

Fraction: None

Beneficial Use: Warm Freshwater Habitat

Number of Samples: 4

Number of Exceedances: 0

Data and Information Type: PHYSICAL/CHEMICAL MONITORING

Data Used to Assess Water Quality: The Mt Diablo Creek watershed was monitored as part of SWAMP assessment. None of the four samples exceeded the water quality objectives for PCBs, Dacthal, disulfoton, endosulfan, Lindane/gamma Hexachlorocyclohexane (gamma-HCH), methyl parathion, thiobencarb.

Data Reference: [Data collected by the Surface Water Ambient Monitoring Program, San Francisco Bay Regional Water Quality Control Board. Years 4 and 5 Assessment](#)

SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	All waters shall be maintained free of toxic substances that are lethal to or that produce other detrimental responses in aquatic organisms. Table 3-4 in the Basin Plan (2007) lists freshwater water quality objectives for toxic pollutants: PCBs - 0.014 ug/L freshwater continuous Concentration; Chlorpyrifos - 0.015 ug/L (chronic); Dacthal (DCPA) - 14300 ug/L (acute); diazinon - 0.1 ug/L (acute); Disulfoton (Disyston) - 0.05 ug/L (acute); Endosulfan - 0.056 ug/L (chronic)/0.22 ug/L (acute); HCH, gamma-(gamma BHC, Lindane) - 0.95 ug/L (acute); methyl parathion - 0.08 ug/L (acute); Thiobencarb - 3.1 ug/L (acute).
Objective/Criterion Reference:	Water Quality Standards 2000. Establishment of numeric criteria for priority toxic pollutants for the State of California: Rules and regulations. Federal Register Vol. 65, No. 97. Washington, D.C.: Environmental Protection Agency Water Quality Control Plan (Basin Plan) - San Francisco Bay Region (Region 2) Water Quality Control Plan for the California Regional Water Quality Control Board Central Valley Region, Sacramento and San Joaquin River Basins. 4th ed Hazard Assessment of the Insecticide Methyl Parathion to Aquatic Organisms in the Sacramento River System. California Department of Fish and Game. Environmental Services Division. Administrative Report 92-1 Hazard Assessment of the Rice Herbicides Molinate and Thiobencarb to Aquatic Organisms in the Sacramento River System. Administrative Report 90-1. California Department of Fish and Game. Environmental Services Division Amendments to the Water Quality Control Plan for the Sacramento River and San Joaquin Rivers Basins for the Control of Diazinon and Chlorpyrifos. June 2006. Final Staff Report
Evaluation Guideline:	
Guideline Reference:	
Spatial Representation:	Data were collected at two sampling locations: MTD010 (Port Chicago Highway) and MTD100 (Mitchell at Oak St) on Mt Diablo Creek.
Temporal Representation:	Two samples were collected during both the wet (January) and spring (April) seasons of 2003.
Environmental Conditions:	
QAPP Information:	All samples were collected and analyzed using procedures comparable with the SWAMP Quality Assurance Management Plan (SWRCB, 2002).
QAPP Information Reference(s):	Quality Assurance Management Plan for the State of California's Surface Water Ambient Monitoring Program. Sacramento, CA. State Water Resources Control Board. SWAMP. December 2002 (1st version)

DECISION ID	44412	Region 2
Mt. Diablo Creek		
Pollutant:	Escherichia coli (E. coli)	
Final Listing Decision:	Do Not List on 303(d) list (TMDL required list)	
Last Listing Cycle's Final Listing Decision:	Do Not List on 303(d) list (TMDL required list)(2012)	
Revision Status	Original	
Impairment from Pollutant or Pollution:	Pollutant	
Regional Board Staff Conclusion:	This pollutant is being considered for placement on the section 303(d) list under section 3.2 of the Listing Policy. Under this section a single line of evidence is necessary to assess listing status. One line of evidence is available in the administrative record to assess this pollutant. None of the samples exceed the water quality objective. Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against placing this water segment-pollutant combination on the section 303(d) list in the Water Quality Limited Segments category. This conclusion is based on the staff findings that: 1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy. 2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy. 3. Zero of one sample exceeded the water quality objective, but this	

sample size is insufficient to determine with the power and confidence of the Listing Policy if standards are not met. A minimum of five samples is needed for application of table 3.2. 4. Pursuant to section 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.

Regional Board Staff Decision Recommendation: This is a decision previously approved by the State Water Resources Control Board and the USEPA. No new data were assessed by the Regional Board for the current. The decision has not changed.

Line of Evidence (LOE) for Decision ID 44412, Escherichia coli (E. coli)		Region 2
Mt. Diablo Creek		
LOE ID:	29015	
Pollutant:	Escherichia coli (E. coli)	
LOE Subgroup:	Pollutant-Water	
Matrix:	Water	
Fraction:	None	
Beneficial Use:	Water Contact Recreation	
Number of Samples:	1	
Number of Exceedances:	0	
Data and Information Type:	PATHOGEN MONITORING	
Data Used to Assess Water Quality:	Samples were collected as part of SWAMP sampling in the summer of 2003 at 7-day intervals and the geometric mean of the samples was calculated over a five week interval. Samples were collected at one location, MTD120, every 7 days for a total of 30 days. The geometric mean was 16 MPN/100 mL, which does not exceed the 126 MPN/100ml criterion.	
Data Reference:	Water Quality Monitoring and Bioassessment in Four San Francisco Bay Region Watersheds in 2003-2004: Kirker Creek, Mt. Diablo Creek, Petaluma River, and San Mateo Creek. Surface Water Monitoring Program, San Francisco Bay Regional Water Quality Control Board, Oakland, CA	
SWAMP Data:	SWAMP	
Water Quality Objective/Criterion:	<p>Uses of water for recreational activities involving body contact with water where ingestion of water is reasonably possible. These uses include, but are not limited to, swimming, wading, water-skiing, skin and scuba diving, surfing, whitewater activities, fishing, and uses of natural hot springs.</p> <p>Water contact implies a risk of waterborne disease transmission and involves human health; accordingly, criteria required to protect this use are more stringent than those for more casual water-oriented recreation.</p> <p>U.S. EPA water quality criteria for water contact recreation based on the frequency of use a particular area receives - 1986: the E. coli criterion is not to exceed 126 organisms/100 mL. The value is expressed as a 7-day geometric mean based on five or more samples per 30-day period; designated beach (max) 235 MPN/100 mL.</p>	
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) - San Francisco Bay Region (Region 2) Ambient Water Quality Criteria for Bacteria - 1986. EPA440/5-84-002	
Evaluation Guideline:		
Guideline Reference:		
Spatial Representation:	Samples were collected at MTD120 (Mitchell on Fire Rd).	
Temporal Representation:	Samples were collected weekly from 7/21/2003 through 8/18/2003.	
Environmental Conditions:		
QAPP Information:	All samples were collected and analyzed using procedures comparable with the SWAMP Quality Assurance Management Plan (SWRCB, 2002).	
QAPP Information Reference(s):	Quality Assurance Management Plan for the State of California's Surface Water Ambient Monitoring Program. Sacramento, CA. State Water Resources Control Board. SWAMP.	

DECISION ID	36591	Region 2
Mt. Diablo Creek		

Pollutant: Oxygen, Dissolved
Final Listing Decision: Do Not List on 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision: Do Not List on 303(d) list (TMDL required list)(2012)
Revision Status: Original
Impairment from Pollutant or Pollution: Pollutant

Regional Board Staff Conclusion: One line of evidence are available in the administrative record to assess this water body. Based on the readily available data for this water body, the weight of evidence indicates that there is sufficient justification against placing this water segment-pollutant combination on the section 303(d) list in the Water Quality Limited Segments category. This conclusion is based on the staff findings that: 1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy. 2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy. 3. Dissolved oxygen measurements from 10 continuous deployments exceeded the applicable water quality objectives for waters designated as warm fresh water habitat on two occasions, and this does not exceed the allowable frequency listed in Table 3.2 of the Listing Policy. 4. Pursuant to section 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.

Regional Board Staff Decision Recommendation: This is a decision previously approved by the State Water Resources Control Board and the USEPA. No new data were assessed by the Regional Board for the current. The decision has not changed.

Line of Evidence (LOE) for Decision ID 36591, Oxygen, Dissolved	Region 2
Mt. Diablo Creek	

LOE ID: 8649
Pollutant: Low Dissolved Oxygen
LOE Subgroup: Pollutant-Water
Matrix: Water
Fraction: None
Beneficial Use: Warm Freshwater Habitat
Aquatic Life Use: Wildlife Habitat
Number of Samples: 10
Number of Exceedances: 2
Data and Information Type: PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality: Data used to evaluate dissolved oxygen was collected by SWAMP in 2003. In 2 out of 10 seasonal deployments, minimum dissolved oxygen levels fell below the objective of 5 mg/L. One deployment with low oxygen levels was a Spring deployment at a mainstem station in the lower watershed, and the second was a tributary deployment in the dry season.
Data Reference: [Revised approach to toxicity test acceptability criteria using a statistical performance assessment. Environmental Toxicology and Chemistry, vol. 16, No. 6, pp 1322?1329](#)
[Water Quality Monitoring and Bioassessment in Four San Francisco Bay Region Watersheds in 2003-2004: Kirker Creek, Mt. Diablo Creek, Petaluma River, and San Mateo Creek. Surface Water Monitoring Program, San Francisco Bay Regional Water Quality Control Board, Oakland, CA](#)
SWAMP Data: SWAMP
Water Quality Objective/Criterion: The numeric water quality objective for dissolved oxygen is 5.0 mg/L minimum for waters

designated as warm freshwater habitat. The median dissolved oxygen concentration for any three consecutive months shall not be less than 80 percent of the dissolved oxygen content at saturation.

Objective/Criterion Reference:

[Water Quality Control Plan \(Basin Plan\) - San Francisco Bay Region \(Region 2\)](#)

Evaluation Guideline:

Guideline Reference:

Spatial Representation:

Dissolved oxygen was measured at eight sites. Four of these sites were located on the mainstem of Mt. Diablo Creek, and the remainder were tributary creek measurements.

Temporal Representation:

The SWAMP Program performed continuous monitoring of dissolved oxygen at 15 minute intervals for periods of 1-2 weeks in each of three different seasons in 2003: winter, spring, and summer.

Environmental Conditions:

The Mt. Diablo Creek watershed is heavily urbanized throughout most of the lower and middle watershed. Flow in the Mt. Diablo Creek watershed is mostly intermittent with dry creeks in the summer. Some creeks are fed by runoff from residential and golf course watering, and pools remain through the summer in upstream portions of tributary, Mitchell Creek.

QAPP Information:

All samples were collected and analyzed using procedures comparable with the SWAMP Quality Assurance Management Plan (SWRCB 2002).

QAPP Information Reference(s):

DECISION ID	43465	Region 2
Mt. Diablo Creek		

Pollutant:	Temperature, water
Final Listing Decision:	Do Not List on 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision:	Do Not List on 303(d) list (TMDL required list)(2012)
Revision Status	Original
Impairment from Pollutant or Pollution:	Pollutant

Regional Board Staff Conclusion:	This pollutant is being considered for placement on the section 303(d) list under section 3.2 of the Listing Policy. Under section 3.2 a single line of evidence is necessary to assess listing status. One line of evidence is available in the administrative record to assess this pollutant. Three of the samples exceed the water quality objective. Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against placing this water segment-pollutant combination on the section 303(d) list in the Water Quality Limited Segments category. This conclusion is based on the staff findings that: 1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy. 2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy. 3. Three of ten samples exceeded the water quality objective and this does not exceed the allowable frequency listed in Table 3.2 of the Listing Policy. 4. Pursuant to section 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.
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Regional Board Staff Decision Recommendation:	This is a decision previously approved by the State Water Resources Control Board and the USEPA. No new data were assessed by the Regional Board for the current. The decision has not changed.
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Line of Evidence (LOE) for Decision ID 43465, Temperature, water	Region 2
Mt. Diablo Creek	

LOE ID:	29014
Pollutant:	Temperature, water
LOE Subgroup:	Pollutant-Water
Matrix:	Water
Fraction:	None

Beneficial Use:	Cold Freshwater Habitat
Number of Samples:	10
Number of Exceedances:	3
Data and Information Type:	PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality:	Water quality assessment was conducted at the Mt. Diablo Creek watershed as part of SWAMP study in 2003-2004. Continuous field monitoring at 15 minute increments of temperature, dissolved oxygen, pH and specific conductance was conducted to determine temporal variability in basic water quality at three locations. Continuous monitoring sondes were deployed 10 times at monitoring locations during wet, spring and one dry seasons. The measured temperatures ranged from 9.4°C to 25.40°C and varied with season. During the summer season deployments at all three monitoring locations, the 7-day mean temperature threshold for steelhead was exceeded. In total, the 17 °C criterion was exceeded in 3 out of 10 deployments for steelhead.
Data Reference:	Water Quality Monitoring and Bioassessment in Four San Francisco Bay Region Watersheds in 2003-2004: Kirker Creek, Mt. Diablo Creek, Petaluma River, and San Mateo Creek. Surface Water Monitoring Program. San Francisco Bay Regional Water Quality Control Board, Oakland, CA
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	Temperature objectives for enclosed bays and estuaries are specified in the "Water Quality Control Plan for Control of Temperature in the Coastal and Interstate Waters and Enclosed Bays of California" including any revisions to the plan. In addition, the following temperature objectives apply to surface waters: The natural receiving water temperature of intrastate waters shall not be altered unless it can be demonstrated to the satisfaction of the Regional Board that such an alteration does not adversely affect beneficial uses. The temperature of any cold or warm freshwater habitat shall not be increased by more than 5°F (2.8°C) above natural receiving water temperature.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) - San Francisco Bay Region (Region 2)
Evaluation Guideline:	Sullivan et al. (2000) reviewed a wide range of studies incorporating information from laboratory-based research, field observations, and risk assessment approaches and developed criteria for assessing temperature risk to aquatic life. The 7-day mean temperature (maximum value of a 7-day moving average of the daily mean temperature) of 14.8°C was established as the upper threshold criterion for coho salmon and 17.0°C for steelhead trout. The risk assessment approach used by Sullivan et al. (2000) suggests that temperatures exceeding the above thresholds will cause a 10% reduction in average growth compared to optimal conditions.
Guideline Reference:	An Analysis of the Effects of Temperature on Salmonids of the Pacific Northwest with Implications for Selecting Temperature Criteria
Spatial Representation:	Continuous field monitoring at 15 minute increments of temperature were collected at three sites located in the Mt. Diablo Creek watershed.
Temporal Representation:	At all locations the SWAMP performed continuous monitoring of temperature at 15 minute intervals lasting 1-2 weeks during spring (March 2003), one dry season (July 2003), and winter wet season (February 2004).
Environmental Conditions:	
QAPP Information:	All samples were collected and analyzed using procedures comparable with the SWAMP Quality Assurance Management Plan (SWRCB 2002).
QAPP Information Reference(s):	

DECISION ID	43848	Region 2
Mt. Diablo Creek		

Pollutant:	pH
Final Listing Decision:	Do Not List on 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision:	Do Not List on 303(d) list (TMDL required list)(2012)
Revision Status	Original

Impairment from Pollutant or Pollution: Pollutant

Regional Board Staff Conclusion:

This pollutant is being considered for placement on the section 303(d) list under section 3.2 of the Listing Policy. Under section 3.2 a single line of evidence is necessary to assess listing status. One line of evidence is available in the administrative record to assess this pollutant. One of the samples exceed the water quality objective. Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against placing this water segment-pollutant combination on the section 303(d) list in the Water Quality Limited Segments category. This conclusion is based on the staff findings that: 1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy. 2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy. 3. One of ten samples exceeded the water quality objective and this does not exceed the allowable frequency listed in Table 3.2 of the Listing Policy. 4. Pursuant to section 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.

Regional Board Staff Decision Recommendation:

This is a decision previously approved by the State Water Resources Control Board and the USEPA. No new data were assessed by the Regional Board for the current. The decision has not changed.

**Line of Evidence (LOE) for Decision ID 43848, pH
Mt. Diablo Creek**

Region 2

LOE ID:	29009
Pollutant:	pH
LOE Subgroup:	Subgroup Missing
Matrix:	Water
Fraction:	None
Beneficial Use:	Cold Freshwater Habitat
Number of Samples:	10
Number of Exceedances:	1
Data and Information Type:	PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality:	Comprehensive water quality assessment was conducted at Mt Diablo Creek watershed as part of SWAMP assessment in 2003 and 2004. Continuous field monitoring of temperature, dissolved oxygen, pH, and specific conductance to determine temporal variability in basic water quality at three or four locations, throughout Mt Diablo Creek, ranging from 1-15 days. The pH ranged from 6.87 to 8.62 and varied with season. There was only one exceedence of the upper pH threshold.
Data Reference:	Water Quality Monitoring and Bioassessment in Four San Francisco Bay Region Watersheds in 2003-2004: Kirker Creek, Mt. Diablo Creek, Petaluma River, and San Mateo Creek. Surface Water Monitoring Program, San Francisco Bay Regional Water Quality Control Board, Oakland, CA
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	The pH shall not be depressed below 6.5 nor raised above 8.5. This encompasses the pH range usually found in waters within the basin. Controllable water quality factors shall not cause changes greater than 0.5 units in normal ambient pH levels.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) - San Francisco Bay Region (Region 2)
Evaluation Guideline:	
Guideline Reference:	
Spatial Representation:	pH was measured at three or four sites located in the Mt Diablo Creek watershed.
Temporal Representation:	At all locations the SWAMP performed continuous monitoring of pH at 15 minute intervals lasting 1-15 days during spring (March 2003), summer dry season (July 2003), and winter wet season (February 2004).
Environmental Conditions:	

QAPP Information: All samples were collected and analyzed using procedures comparable with the SWAMP Quality Assurance Management Plan (SWRCB 2002)..

QAPP Information Reference(s): [Quality Assurance Management Plan for the State of California's Surface Water Ambient Monitoring Program. Sacramento, CA. State Water Resources Control Board. SWAMP. December 2002 \(1st version\)](#)

DECISION ID	35725	Region 2
Mt. Diablo Creek		

Pollutant:	Toxicity
Final Listing Decision:	List on 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision:	List on 303(d) list (TMDL required list)(2012)
Revision Status	Original
Sources:	Source Unknown
Expected TMDL Completion Date:	2021
Impairment from Pollutant or Pollution:	Pollutant

Regional Board Staff Conclusion: This pollutant is being considered for listing under section 3.6 of the Listing Policy. Under section 3.6 a single line of evidence is necessary to assess listing status. One line of evidence is available in the administrative record to assess this pollutant. This water body experiences toxicity. Based on the readily available data for this water body, the weight of evidence indicates that there is sufficient justification available in favor of adding this water segment-pollutant combination to the section 303(d) list in the Water Quality Limited Segments category. This conclusion is based on the staff findings that: 1. The data concerning current conditions and supporting the listing decision satisfy the data quality requirements of section 6.1.4 of the Policy. 2. The data used satisfy the data quantity requirements of section 6.1.5 of the Policy. 3. Two out of 4 water samples exhibited significant chronic toxicity to Ceriodaphnia and two other test organisms showed diminished growth. The number of samples with detected significant water toxicity exceeds the allowable frequency listed in Table 3.1 of the Listing Policy and the sediment toxicity is also observed. 4. Pursuant to section 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.

Regional Board Staff Decision Recommendation: This is a decision previously approved by the State Water Resources Control Board and the USEPA. No new data were assessed by the Regional Board for the current. The decision has not changed.

Line of Evidence (LOE) for Decision ID 35725, Toxicity	Region 2
Mt. Diablo Creek	

LOE ID:	8541
Pollutant:	Toxicity
LOE Subgroup:	Pollutant-Water
Matrix:	Water
Fraction:	None
Beneficial Use:	Cold Freshwater Habitat
Number of Samples:	4
Number of Exceedances:	2
Data and Information Type:	TOXICITY TESTING
Data Used to Assess Water Quality:	Four samples were collected in 2003 to evaluate water toxicity at two monitoring locations at the mouth of Mount Diablo Creek and at Mitchell Canyon, the upstream tributary. The toxicity tests included survival and reproduction of Ceriodaphnia, survival and growth of fathead minnow, and growth of Selenastrum. Statistically significant chronic effects on Ceriodaphnia reproduction were observed in 2

out of 4 samples collected at both locations during winter wet season. In addition, one sample caused significant mortality and another caused a decrease in growth in fathead minnow. Selenastrum growth was also significantly reduced in one sample collected during winter wet season.

Data Reference:

[Water Quality Monitoring and Bioassessment in Four San Francisco Bay Region Watersheds in 2003-2004: Kirker Creek, Mt. Diablo Creek, Petaluma River, and San Mateo Creek. Surface Water Monitoring Program, San Francisco Bay Regional Water Quality Control Board, Oakland, CA](#)

SWAMP Data:

Non-SWAMP

Water Quality Objective/Criterion:

All waters shall be maintained free of toxic substances that are lethal to or that produce other detrimental responses in aquatic organisms.
There shall be no chronic toxicity in ambient waters. Chronic toxicity is a detrimental biological effect on growth rate, reproduction, fertilization success, larval development, population abundance, community composition, or any other relevant measure of the health of an organism, population, or community.

Objective/Criterion Reference:

[Water Quality Control Plan \(Basin Plan\) - San Francisco Bay Region \(Region 2\)](#)

Evaluation Guideline:

Water toxicity was evaluated according to the SWAMP methodology. The U.S.EPA whole effluent toxicity protocol (U.S.EPA 1994) was used to test the effect of water samples on three freshwater test organisms. Statistical evaluation ($\alpha = 0.05$) and a default threshold of 80% of the control value were used to establish whether water exhibited significant toxicity adversely impacting aquatic organisms.

Guideline Reference:

[Revised approach to toxicity test acceptability criteria using a statistical performance assessment. Environmental Toxicology and Chemistry, vol. 16, No. 6, pp 1322?1329 Short-Term Methods for Estimating the Chronic Toxicity of Effluents and Receiving Waters to Freshwater Organisms. EPA/600/4-91/002. Third Edition. July 1994](#)

Spatial Representation:

Data were collected at one sampling location, MTD010, on two (2) occasions, representative of the lower reach of the creek. Data were collected at one sampling location, MTD100, on two occasions, representative of the upstream tributary.

Temporal Representation:

SWAMP samples were collected during winter wet season (January) and spring season (April) of 2003.

Environmental Conditions:

The lower reach data are representative of heavily urbanized area dominated by the city of Concord. The tributary stream of Mitchell Canyon drains in its upper portion the area within the Mt. Diablo State Park.

QAPP Information:

All samples were collected and analyzed using procedures comparable with the SWAMP Quality Assurance Management Plan (SWRCB, 2002).

QAPP Information Reference(s):

[Quality Assurance Management Plan for the State of California's Surface Water Ambient Monitoring Program. Sacramento, CA. State Water Resources Control Board. SWAMP. December 2002 \(1st version\)](#)

**Line of Evidence (LOE) for Decision ID 35725, Toxicity
Mt. Diablo Creek**

Region 2

LOE ID:

8542

Pollutant:

Sediment Toxicity

LOE Subgroup:

Pollutant-Sediment

Matrix:

Sediment

Fraction:

None

Beneficial Use:

Cold Freshwater Habitat

Number of Samples:

1

Number of Exceedances:

1

Data and Information Type:

TOXICITY TESTING

Data Used to Assess Water Quality:

Data used to evaluate sediment toxicity comprise one sediment sample collected by the SWAMP in April 2003. The sample displayed statistically significant toxicity during the 10-day Hyalella azteca test. It caused mortality (70.7%) and exhibited diminished growth at

Data Reference:	56.6% of control. Water Quality Monitoring and Bioassessment in Four San Francisco Bay Region Watersheds in 2003-2004: Kirker Creek, Mt. Diablo Creek, Petaluma River, and San Mateo Creek. Surface Water Monitoring Program. San Francisco Bay Regional Water Quality Control Board, Oakland. CA
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	All waters shall be maintained free of toxic substances that are lethal to or that produce other detrimental responses in aquatic organisms. There shall be no chronic toxicity in ambient waters. Chronic toxicity is a detrimental biological effect on growth rate, reproduction, fertilization success, larval development, population abundance, community composition, or any other relevant measure of the health of an organism, population, or community.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) - San Francisco Bay Region (Region 2)
Evaluation Guideline:	Sediment toxicity was evaluated according to the SWAMP methodology. Sample toxicity was determined by comparing mean organism response in samples and in negative controls. Statistical evaluation (alpha = 0.05) and a default threshold of 80% of the control value were used to establish whether the sediment exhibited significant toxicity adversely impacting aquatic organisms.
Guideline Reference:	Revised approach to toxicity test acceptability criteria using a statistical performance assessment. Environmental Toxicology and Chemistry, vol. 16, No. 6, pp 1322?1329
Spatial Representation:	One sediment sample was collected at a watershed integrator site located close to the mouth of Mt. Diablo Creek.
Temporal Representation:	Sample was collected during the spring season of 2003.
Environmental Conditions:	The lower reach data are representative of heavily urbanized area dominated by the city of Concord.
QAPP Information:	All samples were collected and analyzed using procedures comparable with the SWAMP Quality Assurance Management Plan (SWRCB 2002).
QAPP Information Reference(s):	

DECISION ID	34283	Region 2
Mt. Diablo Creek		

Pollutant:	Diazinon
Final Listing Decision:	List on 303(d) list (being addressed by USEPA approved TMDL)
Last Listing Cycle's Final Listing Decision:	List on 303(d) list (being addressed by USEPA approved TMDL)(2012)
Revision Status	Original
Sources:	Source Unknown
TMDL Name:	San Francisco Bay Urban Creeks Diazinon
TMDL Project Code:	9
Date TMDL Approved by USEPA:	05/16/2007
Impairment from Pollutant or Pollution:	Pollutant
Regional Board Staff Conclusion:	303(d) listing decisions made prior to 2006 were not held in an assessment database. The Regional Boards will update this decision when new data and information become available and are assessed. The USEPA final decision on the 2006 303(d) list was to move this listing to the being addressed by a USEPA approved TMDL portion of the 303(d) list, because the San Francisco Bay Urban Creeks Diazinon TMDL was approved by USEPA on 5/16/07 (USEPA, 2007).
Regional Board Staff Decision Recommendation:	This is a decision previously approved by the State Water Resources Control Board and the USEPA. No new data were assessed by the Regional Board for the current. The decision has not changed.

Line of Evidence (LOE) for Decision ID 34283, Diazinon	Region 2
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Mt. Diablo Creek

LOE ID:	1832
Pollutant:	Diazinon
LOE Subgroup:	Pollutant-Water
Matrix:	Water
Fraction:	None
Beneficial Use:	Cold Freshwater Habitat
Number of Samples:	0
Number of Exceedances:	0
Data and Information Type:	Not Specified
Data Used to Assess Water Quality:	Unspecified---This LOE is a placeholder to support a 303(d) listing decision made prior to 2006.
Data Reference:	Placeholder reference 2006 303(d)
SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	
Objective/Criterion Reference:	
Evaluation Guideline:	
Guideline Reference:	
Spatial Representation:	
Temporal Representation:	
Environmental Conditions:	
QAPP Information:	QA Info Missing
QAPP Information Reference(s):	

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Supporting Information

Regional Board 2 - San Francisco Bay Region

Water Body Name: Walnut Creek
Water Body ID: CAR2073104019990218110904
Water Body Type: River & Stream

DECISION ID 33647 **Region 2**
Walnut Creek

Pollutant: Diazinon
Final Listing Decision: Do Not Delist from 303(d) list (being addressed with USEPA approved TMDL)
Last Listing Cycle's Final Listing Decision: List on 303(d) list (being addressed by USEPA approved TMDL)(2012)
Revision Status Revised
Sources: Source Unknown
TMDL Name: San Francisco Bay Urban Creeks Diazinon
TMDL Project Code: 9
Date TMDL Approved by USEPA: 05/16/2007
Impairment from Pollutant or Pollution: Pollutant

Regional Board Staff Conclusion: his pollutant is being considered for removal on the CWA section 303(d) List under sections 2.2 and 4.1 of the Listing Policy. Under 4.1 of the Policy, a minimum of one line of evidence is needed to assess listing status.

Three lines of evidence are available in the administrative record to assess this pollutant.

Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against removing this water segment-pollutant combination from the CWA section 303(d) List. There is sufficient justification to place it in the Being Addressed portion of the CWA 303(d) List because a TMDL has been completed and approved by RWQCB and USEPA, and is expected to result in attainment of the standard.

This conclusion is based on the staff findings that:

1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy.
2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy.
3. A product ban for urban uses of diazinon in 1999 which has caused dramatic reduction in use.
4. Zero of one recent samples (since the ban) exceeded the evaluation guideline.
5. However, there are not a sufficient number of samples to de-list this waterbody according to Table 4.1 of the Listing Policy.
6. The Pesticides in Urban Creeks TMDL was approved by USEPA on 5/21/2007.
7. Pursuant to section 4.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.

Regional Board Staff Decision Recommendation: After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be removed from the section 303(d) list because applicable water quality standards for the pollutant are being exceeded.

Line of Evidence (LOE) for Decision ID 33647, Diazinon **Region 2**
Walnut Creek

LOE ID: 1833

Pollutant:	Diazinon
LOE Subgroup:	Pollutant-Water
Matrix:	Water
Fraction:	None
Beneficial Use:	Cold Freshwater Habitat
Number of Samples:	0
Number of Exceedances:	0
Data and Information Type:	Not Specified
Data Used to Assess Water Quality:	Unspecified--This LOE is a placeholder to support a 303(d) listing decision made prior to 2006.
Data Reference:	Placeholder reference 2006 303(d)
SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	
Objective/Criterion Reference:	
Evaluation Guideline:	
Guideline Reference:	
Spatial Representation:	
Temporal Representation:	
Environmental Conditions:	
QAPP Information:	QA Info Missing
QAPP Information Reference(s):	

Line of Evidence (LOE) for Decision ID 33647, Diazinon

Region 2

Walnut Creek

LOE ID:	93531
Pollutant:	Diazinon
LOE Subgroup:	Pollutant-Sediment
Matrix:	Sediment
Fraction:	Total
Beneficial Use:	Cold Freshwater Habitat
Number of Samples:	1
Number of Exceedances:	0
Data and Information Type:	PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality:	Water Board staff assessed SWAMP data for Walnut Creek to determine beneficial use support and results are as follows: 0 of 1 samples exceed the criterion for Diazinon.
Data Reference:	Statewide Stream Pollution Trends Study 2008
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	San Francisco Bay Basin Water Quality Control Plan 2007: All waters shall be maintained free of toxic substances in concentrations which are toxic to, or which produce detrimental physiological responses in, human, plant, animal, or aquatic life.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	The evaluation guideline for diazinon is the median lethal concentration (LC50) of 11 ug/g and is normalized by the percentage of organic carbon in the sediment sample. The LC50 11 ug/g is the geometric mean of LC50 values for diazinon from Ding et al. (2011).
Guideline Reference:	Toxicity of Sediment-Associated Pesticides to Chironomus dilutus and Hyalella azteca. Arch. Environ. Contam. Toxicol. 61:83?92.

Spatial Representation:	Data for this line of evidence for Walnut Creek was collected at 1 monitoring site [Walnut Creek @ Concord Ave OC station (207WAL020)]
Temporal Representation:	Data was collected on a single day 6/17/2008.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	SWAMP data collected before September 2008 followed the QAMP (2002), however there may have been overlap in QA with SWAMP QAPP (2008).
QAPP Information Reference(s):	Quality Assurance Management Plan for the State of California's Surface Water Ambient Monitoring Program. Sacramento, CA. State Water Resources Control Board. SWAMP. December 2002 (1st version) Surface Water Ambient Monitoring Program Quality Assurance Program Plan

Line of Evidence (LOE) for Decision ID 33647, Diazinon

Region 2

Walnut Creek

LOE ID:	93530
Pollutant:	Diazinon
LOE Subgroup:	Pollutant-Sediment
Matrix:	Sediment
Fraction:	Total
Beneficial Use:	Warm Freshwater Habitat
Number of Samples:	1
Number of Exceedances:	0
Data and Information Type:	PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality:	Water Board staff assessed SWAMP data for Walnut Creek to determine beneficial use support and results are as follows: 0 of 1 samples exceed the criterion for Diazinon.
Data Reference:	Statewide Stream Pollution Trends Study 2008
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	San Francisco Bay Basin Water Quality Control Plan 2007: All waters shall be maintained free of toxic substances in concentrations which are toxic to, or which produce detrimental physiological responses in, human, plant, animal, or aquatic life.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	The evaluation guideline for diazinon is the median lethal concentration (LC50) of 11 ug/g and is normalized by the percentage of organic carbon in the sediment sample. The LC50 11 ug/g is the geometric mean of LC50 values for diazinon from Ding et al. (2011).
Guideline Reference:	Toxicity of Sediment-Associated Pesticides to Chironomus dilutus and Hyalella azteca. Arch. Environ. Contam. Toxicol. 61:83?92.
Spatial Representation:	Data for this line of evidence for Walnut Creek was collected at 1 monitoring site [Walnut Creek @ Concord Ave OC station (207WAL020)]
Temporal Representation:	Data was collected on a single day 6/17/2008.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	SWAMP data collected before September 2008 followed the QAMP (2002), however there may have been overlap in QA with SWAMP QAPP (2008).
QAPP Information Reference(s):	Quality Assurance Management Plan for the State of California's Surface Water Ambient Monitoring Program. Sacramento, CA. State Water Resources Control Board. SWAMP. December 2002 (1st version) Surface Water Ambient Monitoring Program Quality Assurance Program Plan

DECISION ID

65826

Region 2

Walnut Creek

Pollutant:	Anthracene
Final Listing Decision:	Do Not List on 303(d) list (TMDL required list)

**Last Listing Cycle's Final Listing Decision:
Revision Status
Impairment from Pollutant or Pollution:**

New Decision

Revised
Pollutant

Regional Board Staff Conclusion:

This pollutant is being considered for placement on the CWA section 303(d) List under section 3.6 of the Listing Policy. Under section 3.6 at least two lines of evidence are necessary to assess listing status for pollutants sediment, and pollutant concentrations in sediment must be associated with sediment toxicity to justify adding that pollutant to the CWA section 303(d) List.

One line of evidence is available in the administrative record to assess this pollutant. Zero of one sample exceeds the guideline. Sediment toxicity data are available but not relevant because there is not enough information based on sediment chemistry.

Based on the readily available data and information, the weight of evidence indicates that there is insufficient justification for placing this water segment-pollutant combination on the CWA section 303(d) List.

This conclusion is based on the staff findings that:

1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy.
2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy.
3. Zero of one samples exceed the objective and this sample size is insufficient to determine beneficial use support, with the power and confidence of the Listing Policy. There is an associated sediment toxicity data as required by Section 3.6 of the Listing Policy, but these data are not attached to this decision because the sediment chemistry data are insufficient.
4. Pursuant to section 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.

Regional Board Staff Decision Recommendation:

After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be placed on the section 303(d) list. The readily available data and information is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating.

**Line of Evidence (LOE) for Decision ID 65826, Anthracene
Walnut Creek**

Region 2

LOE ID: 93467

Pollutant: Anthracene
LOE Subgroup: Pollutant-Sediment
Matrix: Sediment
Fraction: Total

Beneficial Use: Warm Freshwater Habitat

Number of Samples: 1
Number of Exceedances: 0

Data and Information Type: PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality: Water Board staff assessed SWAMP data for Walnut Creek to determine beneficial use support and results are as follows: 0 of 1 samples exceed the criterion for Anthracene.
Data Reference: [Statewide Stream Pollution Trends Study 2008](#)

SWAMP Data: SWAMP

Water Quality Objective/Criterion: San Francisco Bay Basin Water Quality Control Plan 2007: All waters shall be maintained free of toxic substances in concentrations which are toxic to, or which produce detrimental physiological responses in, human, plant, animal, or aquatic life.

Objective/Criterion Reference: [Water Quality Control Plan \(Basin Plan\) San Francisco Bay Basin \(Region 2\)](#)

Evaluation Guideline:	In freshwater sediments the probable effect concentration (predictive of sediment toxicity for sediment-dwelling organisms) for anthracene is 845 ug/Kg dry weight (MacDonald et al. 2000).
Guideline Reference:	Development and evaluation of consensus-based sediment quality guidelines for freshwater ecosystems. Environmental Contamination and Toxicology. 39: 20-31
Spatial Representation:	Data for this line of evidence for Walnut Creek was collected at 1 monitoring site [Walnut Creek @ Concord Ave OC station (207WAL020)]
Temporal Representation:	Data was collected on a single day 6/17/2008.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	SWAMP data collected before September 2008 followed the QAMP (2002), however there may have been overlap in QA with SWAMP QAPP (2008).
QAPP Information Reference(s):	Quality Assurance Management Plan for the State of California's Surface Water Ambient Monitoring Program. Sacramento, CA. State Water Resources Control Board. SWAMP. December 2002 (1st version) Surface Water Ambient Monitoring Program Quality Assurance Program Plan

Line of Evidence (LOE) for Decision ID 65826, Anthracene
Walnut Creek

Region 2

LOE ID:	93468
Pollutant:	Anthracene
LOE Subgroup:	Pollutant-Sediment
Matrix:	Sediment
Fraction:	Total
Beneficial Use:	Cold Freshwater Habitat
Number of Samples:	1
Number of Exceedances:	0
Data and Information Type:	PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality:	Water Board staff assessed SWAMP data for Walnut Creek to determine beneficial use support and results are as follows: 0 of 1 samples exceed the criterion for Anthracene.
Data Reference:	Statewide Stream Pollution Trends Study 2008
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	San Francisco Bay Basin Water Quality Control Plan 2007: All waters shall be maintained free of toxic substances in concentrations which are toxic to, or which produce detrimental physiological responses in, human, plant, animal, or aquatic life.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	In freshwater sediments the probable effect concentration (predictive of sediment toxicity for sediment-dwelling organisms) for anthracene is 845 ug/Kg dry weight (MacDonald et al. 2000).
Guideline Reference:	Development and evaluation of consensus-based sediment quality guidelines for freshwater ecosystems. Environmental Contamination and Toxicology. 39: 20-31
Spatial Representation:	Data for this line of evidence for Walnut Creek was collected at 1 monitoring site [Walnut Creek @ Concord Ave OC station (207WAL020)]
Temporal Representation:	Data was collected on a single day 6/17/2008.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	SWAMP data collected before September 2008 followed the QAMP (2002), however there may have been overlap in QA with SWAMP QAPP (2008).
QAPP Information Reference(s):	Quality Assurance Management Plan for the State of California's Surface Water Ambient Monitoring Program. Sacramento, CA. State Water Resources Control Board. SWAMP. December 2002 (1st version) Surface Water Ambient Monitoring Program Quality Assurance Program Plan

Pollutant: Arsenic
Final Listing Decision: Do Not List on 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision: New Decision
Revision Status: Revised
Impairment from Pollutant or Pollution: Pollutant

Regional Board Staff Conclusion:

This pollutant is being considered for placement on the CWA section 303(d) List under section 3.6 of the Listing Policy. Under section 3.6 at least two lines of evidence are necessary to assess listing status for pollutants sediment, and pollutant concentrations in sediment must be associated with sediment toxicity to justify adding that pollutant to the CWA section 303(d) List.

Two lines of evidence are available in the administrative record to assess this pollutant. Zero of one samples exceed the guideline. Sediment toxicity data are available but not relevant because there is not enough information based on sediment chemistry.

Based on the readily available data and information, the weight of evidence indicates that there is insufficient justification for placing this water segment-pollutant combination on the CWA section 303(d) List.

This conclusion is based on the staff findings that:

1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy.
2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy.
3. Zero of one samples exceed the objective and this sample size is insufficient to determine beneficial use support, with the power and confidence of the Listing Policy. There is an associated sediment toxicity data as required by Section 3.6 of the Listing Policy, but these data are not attached to this decision because the sediment chemistry data are insufficient.
4. Pursuant to section 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.

Regional Board Staff Decision Recommendation: After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be placed on the section 303(d) list. The readily available data and information is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating.

Line of Evidence (LOE) for Decision ID 65827, Arsenic	Region 2
Walnut Creek	

LOE ID: 93470
Pollutant: Arsenic
LOE Subgroup: Pollutant-Sediment
Matrix: Sediment
Fraction: Total
Beneficial Use: Cold Freshwater Habitat
Number of Samples: 1
Number of Exceedances: 0
Data and Information Type: PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality: Water Board staff assessed SWAMP data for Walnut Creek to determine beneficial use support and results are as follows: 0 of 1 samples exceed the criterion for Arsenic.
Data Reference: [Statewide Stream Pollution Trends Study 2008](#)
SWAMP Data: SWAMP

Water Quality Objective/Criterion:	San Francisco Bay Basin Water Quality Control Plan 2007: All waters shall be maintained free of toxic substances in concentrations which are toxic to, or which produce detrimental physiological responses in, human, plant, animal, or aquatic life.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	In freshwater sediments the probable effect concentration (predictive of sediment toxicity for sediment-dwelling organisms) for arsenic is 33 mg/Kg dry weight (MacDonald et al. 2000).
Guideline Reference:	Development and evaluation of consensus-based sediment quality guidelines for freshwater ecosystems. Environmental Contamination and Toxicology. 39: 20-31
Spatial Representation:	Data for this line of evidence for Walnut Creek was collected at 1 monitoring site [Walnut Creek @ Concord Ave OC station (207WAL020)]
Temporal Representation:	Data was collected on a single day 6/17/2008.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	SWAMP data collected before September 2008 followed the QAMP (2002), however there may have been overlap in QA with SWAMP QAPP (2008).
QAPP Information Reference(s):	Quality Assurance Management Plan for the State of California's Surface Water Ambient Monitoring Program. Sacramento, CA. State Water Resources Control Board. SWAMP. December 2002 (1st version) Surface Water Ambient Monitoring Program Quality Assurance Program Plan

Line of Evidence (LOE) for Decision ID 65827, Arsenic

Region 2

Walnut Creek

LOE ID:	93469
Pollutant:	Arsenic
LOE Subgroup:	Pollutant-Sediment
Matrix:	Sediment
Fraction:	Total
Beneficial Use:	Warm Freshwater Habitat
Number of Samples:	1
Number of Exceedances:	0
Data and Information Type:	PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality:	Water Board staff assessed SWAMP data for Walnut Creek to determine beneficial use support and results are as follows: 0 of 1 samples exceed the criterion for Arsenic.
Data Reference:	Statewide Stream Pollution Trends Study 2008
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	San Francisco Bay Basin Water Quality Control Plan 2007: All waters shall be maintained free of toxic substances in concentrations which are toxic to, or which produce detrimental physiological responses in, human, plant, animal, or aquatic life.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	In freshwater sediments the probable effect concentration (predictive of sediment toxicity for sediment-dwelling organisms) for arsenic is 33 mg/Kg dry weight (MacDonald et al. 2000).
Guideline Reference:	Development and evaluation of consensus-based sediment quality guidelines for freshwater ecosystems. Environmental Contamination and Toxicology. 39: 20-31
Spatial Representation:	Data for this line of evidence for Walnut Creek was collected at 1 monitoring site [Walnut Creek @ Concord Ave OC station (207WAL020)]
Temporal Representation:	Data was collected on a single day 6/17/2008.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	SWAMP data collected before September 2008 followed the QAMP (2002), however there may have been overlap in QA with SWAMP QAPP (2008).

DECISION ID	65828	Region 2
Walnut Creek		

Pollutant: Benzo(a)anthracene
Final Listing Decision: Do Not List on 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision: New Decision
Revision Status: Revised
Impairment from Pollutant or Pollution: Pollutant

Regional Board Staff Conclusion:

This pollutant is being considered for placement on the CWA section 303(d) List under section 3.6 of the Listing Policy. Under section 3.6 at least two lines of evidence are necessary to assess listing status for pollutants sediment, and pollutant concentrations in sediment must be associated with sediment toxicity to justify adding that pollutant to the CWA section 303(d) List.

Two lines of evidence are available in the administrative record to assess this pollutant. Zero of one samples exceed the guideline. Sediment toxicity data are available but not relevant because there is not enough information based on sediment chemistry.

Based on the readily available data and information, the weight of evidence indicates that there is insufficient justification for placing this water segment-pollutant combination on the CWA section 303(d) List.

This conclusion is based on the staff findings that:

1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy.
2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy.
3. Zero of one samples exceed the objective and this sample size is insufficient to determine beneficial use support, with the power and confidence of the Listing Policy. There is an associated sediment toxicity data as required by Section 3.6 of the Listing Policy, but these data are not attached to this decision because the sediment chemistry data are insufficient.
4. Pursuant to section 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.

Regional Board Staff Decision Recommendation: After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be placed on the section 303(d) list. The readily available data and information is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating.

Line of Evidence (LOE) for Decision ID 65828, Benzo(a)anthracene	Region 2
Walnut Creek	

LOE ID: 93479

Pollutant: Benzo(a)anthracene
LOE Subgroup: Pollutant-Sediment
Matrix: Sediment
Fraction: Total

Beneficial Use: Warm Freshwater Habitat

Number of Samples: 1
Number of Exceedances: 0

Data and Information Type:	PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality:	Water Board staff assessed SWAMP data for Walnut Creek to determine beneficial use support and results are as follows: 0 of 1 samples exceed the criterion for Benzo(a)anthracene.
Data Reference:	Statewide Stream Pollution Trends Study 2008
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	San Francisco Bay Basin Water Quality Control Plan 2007: All waters shall be maintained free of toxic substances in concentrations which are toxic to, or which produce detrimental physiological responses in, human, plant, animal, or aquatic life.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	In freshwater sediments the probable effect concentration (predictive of sediment toxicity for sediment-dwelling organisms) for Benzo(a)anthracene is 1050 ug/Kg dry weight (MacDonald et al. 2000).
Guideline Reference:	Development and evaluation of consensus-based sediment quality guidelines for freshwater ecosystems. Environmental Contamination and Toxicology. 39: 20-31
Spatial Representation:	Data for this line of evidence for Walnut Creek was collected at 1 monitoring site [Walnut Creek @ Concord Ave OC station (207WAL020)]
Temporal Representation:	Data was collected on a single day 6/17/2008.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	SWAMP data collected before September 2008 followed the QAMP (2002), however there may have been overlap in QA with SWAMP QAPP (2008).
QAPP Information Reference(s):	Quality Assurance Management Plan for the State of California's Surface Water Ambient Monitoring Program. Sacramento, CA. State Water Resources Control Board. SWAMP. December 2002 (1st version) Surface Water Ambient Monitoring Program Quality Assurance Program Plan

**Line of Evidence (LOE) for Decision ID 65828, Benzo(a)anthracene
Walnut Creek**

Region 2

LOE ID:	93480
Pollutant:	Benzo(a)anthracene
LOE Subgroup:	Pollutant-Sediment
Matrix:	Sediment
Fraction:	Total
Beneficial Use:	Cold Freshwater Habitat
Number of Samples:	1
Number of Exceedances:	0
Data and Information Type:	PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality:	Water Board staff assessed SWAMP data for Walnut Creek to determine beneficial use support and results are as follows: 0 of 1 samples exceed the criterion for Benzo(a)anthracene.
Data Reference:	Statewide Stream Pollution Trends Study 2008
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	San Francisco Bay Basin Water Quality Control Plan 2007: All waters shall be maintained free of toxic substances in concentrations which are toxic to, or which produce detrimental physiological responses in, human, plant, animal, or aquatic life.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	In freshwater sediments the probable effect concentration (predictive of sediment toxicity for sediment-dwelling organisms) for Benzo(a)anthracene is 1050 ug/Kg dry weight (MacDonald et al. 2000).
Guideline Reference:	Development and evaluation of consensus-based sediment quality guidelines for

Spatial Representation: Data for this line of evidence for Walnut Creek was collected at 1 monitoring site [Walnut Creek @ Concord Ave OC station (207WAL020)]

Temporal Representation: Data was collected on a single day 6/17/2008.

Environmental Conditions: Staff is not aware of any special conditions that might affect interpretation of the data.

QAPP Information: SWAMP data collected before September 2008 followed the QAMP (2002), however there may have been overlap in QA with SWAMP QAPP (2008).

QAPP Information Reference(s): [Quality Assurance Management Plan for the State of California's Surface Water Ambient Monitoring Program. Sacramento, CA. State Water Resources Control Board. SWAMP. December 2002 \(1st version\)](#)
[Surface Water Ambient Monitoring Program Quality Assurance Program Plan](#)

DECISION ID	65829	Region 2
Walnut Creek		

Pollutant: Benzo(a)pyrene (3,4-Benzopyrene -7-d)
Final Listing Decision: Do Not List on 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision: New Decision
Revision Status Revised
Impairment from Pollutant or Pollution: Pollutant

Regional Board Staff Conclusion: This pollutant is being considered for placement on the CWA section 303(d) List under section 3.6 of the Listing Policy. Under section 3.6 at least two lines of evidence are necessary to assess listing status for pollutants sediment, and pollutant concentrations in sediment must be associated with sediment toxicity to justify adding that pollutant to the CWA section 303(d) List.

Two lines of evidence are available in the administrative record to assess this pollutant. Zero of one samples exceed the guideline. Sediment toxicity data are available but not relevant because there is not enough information based on sediment chemistry.

Based on the readily available data and information, the weight of evidence indicates that there is insufficient justification for placing this water segment-pollutant combination on the CWA section 303(d) List.

This conclusion is based on the staff findings that:

1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy.
2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy.
3. Zero of one samples exceed the objective and this sample size is insufficient to determine beneficial use support, with the power and confidence of the Listing Policy. There is an associated sediment toxicity data as required by Section 3.6 of the Listing Policy, but these data are not attached to this decision because the sediment chemistry data are insufficient.
4. Pursuant to section 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.

Regional Board Staff Decision Recommendation: After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be placed on the section 303(d) list. The readily available data and information is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating.

Line of Evidence (LOE) for Decision ID 65829, Benzo(a)pyrene (3,4-Benzopyrene -7-d)	Region 2
Walnut Creek	

LOE ID: 93481

Pollutant: Benzo(a)pyrene (3,4-Benzopyrene -7-d)
LOE Subgroup: Pollutant-Sediment

Matrix:	Sediment
Fraction:	Total
Beneficial Use:	Warm Freshwater Habitat
Number of Samples:	1
Number of Exceedances:	0
Data and Information Type:	PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality:	Water Board staff assessed SWAMP data for Walnut Creek to determine beneficial use support and results are as follows: 0 of 1 samples exceed the criterion for Benzo(a)pyrene.
Data Reference:	Statewide Stream Pollution Trends Study 2008
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	San Francisco Bay Basin Water Quality Control Plan 2007: All waters shall be maintained free of toxic substances in concentrations which are toxic to, or which produce detrimental physiological responses in, human, plant, animal, or aquatic life.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	In freshwater sediments the probable effects level (predictive of sediment toxicity for sediment-dwelling organisms) for Benzo(a)Pyrene is 1450 ug/Kg dry weight (Macdonald et al. 2000)
Guideline Reference:	Development and evaluation of consensus-based sediment quality guidelines for freshwater ecosystems. Environmental Contamination and Toxicology. 39: 20-31
Spatial Representation:	Data for this line of evidence for Walnut Creek was collected at 1 monitoring site [Walnut Creek @ Concord Ave OC station (207WAL020)]
Temporal Representation:	Data was collected on a single day 6/17/2008.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	SWAMP data collected before September 2008 followed the QAMP (2002), however there may have been overlap in QA with SWAMP QAPP (2008).
QAPP Information Reference(s):	Quality Assurance Management Plan for the State of California's Surface Water Ambient Monitoring Program. Sacramento, CA. State Water Resources Control Board. SWAMP. December 2002 (1st version) Surface Water Ambient Monitoring Program Quality Assurance Program Plan

Line of Evidence (LOE) for Decision ID 65829, Benzo(a)pyrene (3,4-Benzopyrene -7-d)

Region 2

Walnut Creek

LOE ID:	93482
Pollutant:	Benzo(a)pyrene (3,4-Benzopyrene -7-d)
LOE Subgroup:	Pollutant-Sediment
Matrix:	Sediment
Fraction:	Total
Beneficial Use:	Cold Freshwater Habitat
Number of Samples:	1
Number of Exceedances:	0
Data and Information Type:	PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality:	Water Board staff assessed SWAMP data for Walnut Creek to determine beneficial use support and results are as follows: 0 of 1 samples exceed the criterion for Benzo(a)pyrene.
Data Reference:	Statewide Stream Pollution Trends Study 2008
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	San Francisco Bay Basin Water Quality Control Plan 2007: All waters shall be maintained

Objective/Criterion Reference:	free of toxic substances in concentrations which are toxic to, or which produce detrimental physiological responses in, human, plant, animal, or aquatic life. Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	In freshwater sediments the probable effects level (predictive of sediment toxicity for sediment-dwelling organisms) for Benzo(a)Pyrene is 1450 ug/Kg dry weight (Macdonald et al. 2000)
Guideline Reference:	Development and evaluation of consensus-based sediment quality guidelines for freshwater ecosystems. Environmental Contamination and Toxicology. 39: 20-31
Spatial Representation:	Data for this line of evidence for Walnut Creek was collected at 1 monitoring site [Walnut Creek @ Concord Ave OC station (207WAL020)]
Temporal Representation:	Data was collected on a single day 6/17/2008.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	SWAMP data collected before September 2008 followed the QAMP (2002), however there may have been overlap in QA with SWAMP QAPP (2008).
QAPP Information Reference(s):	Quality Assurance Management Plan for the State of California's Surface Water Ambient Monitoring Program. Sacramento, CA. State Water Resources Control Board. SWAMP. December 2002 (1st version) Surface Water Ambient Monitoring Program Quality Assurance Program Plan

DECISION ID		65830	Region 2
Walnut Creek			
Pollutant:		Bifenthrin	
Final Listing Decision:		Do Not List on 303(d) list (TMDL required list)	
Last Listing Cycle's Final Listing Decision:		New Decision	
Revision Status		Revised	
Impairment from Pollutant or Pollution:		Pollutant	
Regional Board Staff Conclusion:	<p>This pollutant is being considered for placement on the CWA section 303(d) List under section 3.6 of the Listing Policy. Under section 3.6 at least two lines of evidence are necessary to assess listing status for pollutants sediment, and pollutant concentrations in sediment must be associated with sediment toxicity to justify adding that pollutant to the CWA section 303(d) List.</p> <p>Two lines of evidence are available in the administrative record to assess this pollutant. Zero of one samples exceed the guideline. Sediment toxicity data are available but not relevant because there is not enough information based on sediment chemistry.</p> <p>Based on the readily available data and information, the weight of evidence indicates that there is insufficient justification for placing this water segment-pollutant combination on the CWA section 303(d) List.</p> <p>This conclusion is based on the staff findings that:</p> <ol style="list-style-type: none"> 1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy. 2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy. 3. Zero of one samples exceed the objective and this sample size is insufficient to determine beneficial use support, with the power and confidence of the Listing Policy. There is an associated sediment toxicity data as required by Section 3.6 of the Listing Policy, but these data are not attached to this decision because the sediment chemistry data are insufficient. 4. Pursuant to section 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met. 		
Regional Board Staff Decision Recommendation:	After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be placed on the section 303(d) list. The readily available data and information is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating.		

Line of Evidence (LOE) for Decision ID 65830, Bifenthrin**Region 2****Walnut Creek**

LOE ID:	93492
Pollutant:	Bifenthrin
LOE Subgroup:	Pollutant-Sediment
Matrix:	Sediment
Fraction:	Total
Beneficial Use:	Cold Freshwater Habitat
Number of Samples:	1
Number of Exceedances:	0
Data and Information Type:	PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality:	Water Board staff assessed SWAMP data for Walnut Creek to determine beneficial use support and results are as follows: 0 of 1 samples exceed the criterion for Bifenthrin.
Data Reference:	Statewide Stream Pollution Trends Study 2008
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	San Francisco Bay Basin Water Quality Control Plan 2007: All waters shall be maintained free of toxic substances in concentrations which are toxic to, or which produce detrimental physiological responses in, human, plant, animal, or aquatic life.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	The evaluation guideline for bifenthrin is the median lethal concentration (LC50) of 0.43 ug/g and is normalized by the percentage of organic carbon in the sediment sample. The LC50 0.43 ug/g is the geometric mean of LC50 values for bifenthrin from Amweg et al. (2005) and Amweg and Weston (2007).
Guideline Reference:	Use and Toxicity of Pyrethroid Pesticides in the Central Valley, California, USA. Environmental Toxicology and Chemistry, 24:966-972, with erratum 24:No. 5 Whole-sediment toxicity identification evaluation tools for pyrethroid insecticides: I. piperonyl butoxide addition. Environ. Toxicol. Chem. 26:2389-2396.
Spatial Representation:	Data for this line of evidence for Walnut Creek was collected at 1 monitoring site [Walnut Creek @ Concord Ave OC station (207WAL020)]
Temporal Representation:	Data was collected on a single day 6/17/2008.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	SWAMP data collected before September 2008 followed the QAMP (2002), however there may have been overlap in QA with SWAMP QAPP (2008).
QAPP Information Reference(s):	Quality Assurance Management Plan for the State of California's Surface Water Ambient Monitoring Program. Sacramento, CA. State Water Resources Control Board. SWAMP. December 2002 (1st version) Surface Water Ambient Monitoring Program Quality Assurance Program Plan

Line of Evidence (LOE) for Decision ID 65830, Bifenthrin**Region 2****Walnut Creek**

LOE ID:	93483
Pollutant:	Bifenthrin
LOE Subgroup:	Pollutant-Sediment
Matrix:	Sediment
Fraction:	Total
Beneficial Use:	Warm Freshwater Habitat
Number of Samples:	1
Number of Exceedances:	0

Data and Information Type:	PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality:	Water Board staff assessed SWAMP data for Walnut Creek to determine beneficial use support and results are as follows: 0 of 1 samples exceed the criterion for Bifenthrin.
Data Reference:	Statewide Stream Pollution Trends Study 2008
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	San Francisco Bay Basin Water Quality Control Plan 2007: All waters shall be maintained free of toxic substances in concentrations which are toxic to, or which produce detrimental physiological responses in, human, plant, animal, or aquatic life.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	The evaluation guideline for bifenthrin is the median lethal concentration (LC50) of 0.43 ug/g and is normalized by the percentage of organic carbon in the sediment sample. The LC50 0.43 ug/g is the geometric mean of LC50 values for bifenthrin from Amweg et al. (2005) and Amweg and Weston (2007).
Guideline Reference:	Use and Toxicity of Pyrethroid Pesticides in the Central Valley, California, USA. Environmental Toxicology and Chemistry, 24:966-972, with erratum 24:No. 5 Whole-sediment toxicity identification evaluation tools for pyrethroid insecticides: I. piperonyl butoxide addition. Environ. Toxicol. Chem. 26:2389-2396.
Spatial Representation:	Data for this line of evidence for Walnut Creek was collected at 1 monitoring site [Walnut Creek @ Concord Ave OC station (207WAL020)]
Temporal Representation:	Data was collected on a single day 6/17/2008.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	SWAMP data collected before September 2008 followed the QAMP (2002), however there may have been overlap in QA with SWAMP QAPP (2008).
QAPP Information Reference(s):	Quality Assurance Management Plan for the State of California's Surface Water Ambient Monitoring Program. Sacramento, CA. State Water Resources Control Board. SWAMP. December 2002 (1st version) Surface Water Ambient Monitoring Program Quality Assurance Program Plan

DECISION ID	65831	Region 2
Walnut Creek		

Pollutant:	Cadmium
Final Listing Decision:	Do Not List on 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision:	New Decision
Revision Status	Revised
Impairment from Pollutant or Pollution:	Pollutant

Regional Board Staff Conclusion:	<p>This pollutant is being considered for placement on the CWA section 303(d) List under section 3.6 of the Listing Policy. Under section 3.6 at least two lines of evidence are necessary to assess listing status for pollutants sediment, and pollutant concentrations in sediment must be associated with sediment toxicity to justify adding that pollutant to the CWA section 303(d) List.</p> <p>Two lines of evidence are available in the administrative record to assess this pollutant. Zero of one samples exceed the guideline. Sediment toxicity data are available but not relevant because there is not enough information based on sediment chemistry.</p> <p>Based on the readily available data and information, the weight of evidence indicates that there is insufficient justification for placing this water segment-pollutant combination on the CWA section 303(d) List.</p> <p>This conclusion is based on the staff findings that:</p> <ol style="list-style-type: none"> 1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy. 2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy. 3. Zero of one samples exceed the objective and this sample size is insufficient to determine
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beneficial use support, with the power and confidence of the Listing Policy. There is an associated sediment toxicity data as required by Section 3.6 of the Listing Policy, but these data are not attached to this decision because the sediment chemistry data are insufficient.

4. Pursuant to section 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.

Regional Board Staff Decision Recommendation: After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be placed on the section 303(d) list. The readily available data and information is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating.

Line of Evidence (LOE) for Decision ID 65831, Cadmium

Region 2

Walnut Creek

LOE ID: 93493

Pollutant: Cadmium
LOE Subgroup: Pollutant-Sediment
Matrix: Sediment
Fraction: Total

Beneficial Use: Warm Freshwater Habitat

Number of Samples: 1
Number of Exceedances: 0

Data and Information Type: PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality: Water Board staff assessed SWAMP data for Walnut Creek to determine beneficial use support and results are as follows: 0 of 1 samples exceed the criterion for Cadmium.

Data Reference: [Statewide Stream Pollution Trends Study 2008](#)

SWAMP Data: SWAMP

Water Quality Objective/Criterion: San Francisco Bay Basin Water Quality Control Plan 2007: All waters shall be maintained free of toxic substances in concentrations which are toxic to, or which produce detrimental physiological responses in, human, plant, animal, or aquatic life.

Objective/Criterion Reference: [Water Quality Control Plan \(Basin Plan\) San Francisco Bay Basin \(Region 2\)](#)

Evaluation Guideline: In freshwater sediments the probable effect concentration (predictive of sediment toxicity for sediment-dwelling organisms) for cadmium is 4.98 mg/Kg dry weight (MacDonald et al. 2000).

Guideline Reference: [Development and evaluation of consensus-based sediment quality guidelines for freshwater ecosystems. Environmental Contamination and Toxicology. 39: 20-31](#)

Spatial Representation: Data for this line of evidence for Walnut Creek was collected at 1 monitoring site [Walnut Creek @ Concord Ave OC station (207WAL020)]

Temporal Representation: Data was collected on a single day 6/17/2008.

Environmental Conditions: Staff is not aware of any special conditions that might affect interpretation of the data.

QAPP Information: SWAMP data collected before September 2008 followed the QAMP (2002), however there may have been overlap in QA with SWAMP QAPP (2008).

QAPP Information Reference(s): [Quality Assurance Management Plan for the State of California's Surface Water Ambient Monitoring Program. Sacramento, CA. State Water Resources Control Board. SWAMP. December 2002 \(1st version\)](#)
[Surface Water Ambient Monitoring Program Quality Assurance Program Plan](#)

Line of Evidence (LOE) for Decision ID 65831, Cadmium

Region 2

Walnut Creek

LOE ID: 93494

Pollutant:	Cadmium
LOE Subgroup:	Pollutant-Sediment
Matrix:	Sediment
Fraction:	Total
Beneficial Use:	Cold Freshwater Habitat
Number of Samples:	1
Number of Exceedances:	0
Data and Information Type:	PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality:	Water Board staff assessed SWAMP data for Walnut Creek to determine beneficial use support and results are as follows: 0 of 1 samples exceed the criterion for Cadmium.
Data Reference:	Statewide Stream Pollution Trends Study 2008
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	San Francisco Bay Basin Water Quality Control Plan 2007: All waters shall be maintained free of toxic substances in concentrations which are toxic to, or which produce detrimental physiological responses in, human, plant, animal, or aquatic life.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	In freshwater sediments the probable effect concentration (predictive of sediment toxicity for sediment-dwelling organisms) for cadmium is 4.98 mg/Kg dry weight (MacDonald et al. 2000).
Guideline Reference:	Development and evaluation of consensus-based sediment quality guidelines for freshwater ecosystems. Environmental Contamination and Toxicology. 39: 20-31
Spatial Representation:	Data for this line of evidence for Walnut Creek was collected at 1 monitoring site [Walnut Creek @ Concord Ave OC station (207WAL020)]
Temporal Representation:	Data was collected on a single day 6/17/2008.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	SWAMP data collected before September 2008 followed the QAMP (2002), however there may have been overlap in QA with SWAMP QAPP (2008).
QAPP Information Reference(s):	Quality Assurance Management Plan for the State of California's Surface Water Ambient Monitoring Program. Sacramento, CA. State Water Resources Control Board. SWAMP. December 2002 (1st version) Surface Water Ambient Monitoring Program Quality Assurance Program Plan

DECISION ID	65907	Region 2
Walnut Creek		

Pollutant:	Chlordane
Final Listing Decision:	Do Not List on 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision:	New Decision
Revision Status	Revised
Impairment from Pollutant or Pollution:	Pollutant
Regional Board Staff Conclusion:	<p>This pollutant is being considered for placement on the CWA section 303(d) List under section 3.6 of the Listing Policy. Under section 3.6 at least two lines of evidence are necessary to assess listing status for pollutants sediment, and pollutant concentrations in sediment must be associated with sediment toxicity to justify adding that pollutant to the CWA section 303(d) List.</p> <p>One line of evidence is available in the administrative record to assess this pollutant. Zero of one samples exceed the guideline. Sediment toxicity data are available but not relevant because there is not enough information based on sediment chemistry.</p> <p>Based on the readily available data and information, the weight of evidence indicates that there is insufficient justification for placing this water segment-pollutant combination on the CWA section</p>

303(d) List.

This conclusion is based on the staff findings that:

1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy.
2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy.
3. Zero of one samples exceed the objective and this sample size is insufficient to determine beneficial use support, with the power and confidence of the Listing Policy. There is an associated sediment toxicity data as required by Section 3.6 of the Listing Policy, but these data are not attached to this decision because the sediment chemistry data are insufficient.
4. Pursuant to section 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.

Regional Board Staff Decision Recommendation: After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be placed on the section 303(d) list. The readily available data and information is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating.

Line of Evidence (LOE) for Decision ID 65907, Chlordane

Region 2

Walnut Creek

LOE ID:	90709
Pollutant:	Chlordane
LOE Subgroup:	Pollutant-Sediment
Matrix:	Sediment
Fraction:	Total
Beneficial Use:	Cold Freshwater Habitat
Number of Samples:	1
Number of Exceedances:	0
Data and Information Type:	PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality:	Zero of 1 samples collected exceeded the criteria for chlordane concentration (Sum of trans-Chlordane, cis-Chlordane, cis-Nonachlor, trans-Nonachlor, and Oxychlordane).
Data Reference:	Statewide Stream Pollution Trends Study 2008
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	All waters shall be maintained free of toxic substances in concentrations that are lethal to or that produce other detrimental responses in aquatic organisms. Waters shall not contain substances in concentrations that result in the deposition of material that causes nuisance or adversely affects beneficial uses. (Water Quality Control Plan for the San Francisco Bay Basin).
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) - San Francisco Bay Region (Region 2)
Evaluation Guideline:	The Probable Effect Concentration for Chlordane in freshwater sediments is 17.6 ug/kg(MacDonald et al. 2000).
Guideline Reference:	Development and evaluation of consensus-based sediment quality guidelines for freshwater ecosystems. Environmental Contamination and Toxicology. 39: 20-31
Spatial Representation:	Data were collected at the following station 207WAL020 (Walnut Creek @ Concord Ave O.C.).
Temporal Representation:	The samples were collected on 6/17/2008.
Environmental Conditions:	
QAPP Information:	The SWAMP QAPP (2008) was followed.
QAPP Information Reference(s):	Surface Water Ambient Monitoring Program Quality Assurance Program Plan

DECISION ID

65832

Region 2

Pollutant: Chlorpyrifos
Final Listing Decision: Do Not List on 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision: New Decision
Revision Status: Revised
Impairment from Pollutant or Pollution: Pollutant

Regional Board Staff Conclusion:

This pollutant is being considered for placement on the CWA section 303(d) List under section 3.6 of the Listing Policy. Under section 3.6 at least two lines of evidence are necessary to assess listing status for pollutants sediment, and pollutant concentrations in sediment must be associated with sediment toxicity to justify adding that pollutant to the CWA section 303(d) List.

Two lines of evidence are available in the administrative record to assess this pollutant. Zero of one samples exceed the guideline. Sediment toxicity data are available but not relevant because there is not enough information based on sediment chemistry.

Based on the readily available data and information, the weight of evidence indicates that there is insufficient justification for placing this water segment-pollutant combination on the CWA section 303(d) List.

This conclusion is based on the staff findings that:

1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy.
2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy.
3. Zero of one samples exceed the objective and this sample size is insufficient to determine beneficial use support, with the power and confidence of the Listing Policy. There is an associated sediment toxicity data as required by Section 3.6 of the Listing Policy, but these data are not attached to this decision because the sediment chemistry data are insufficient.
4. Pursuant to section 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.

Regional Board Staff Decision Recommendation: After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be placed on the section 303(d) list. The readily available data and information is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating.

Line of Evidence (LOE) for Decision ID 65832, Chlorpyrifos

Region 2

Walnut Creek

LOE ID:	93496
Pollutant:	Chlorpyrifos
LOE Subgroup:	Pollutant-Sediment
Matrix:	Sediment
Fraction:	Total
Beneficial Use:	Cold Freshwater Habitat
Number of Samples:	1
Number of Exceedances:	0
Data and Information Type:	PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality:	Water Board staff assessed SWAMP data for Walnut Creek to determine beneficial use support and results are as follows: 0 of 1 samples exceed the criterion for Chlorpyrifos.
Data Reference:	Statewide Stream Pollution Trends Study 2008
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	San Francisco Bay Basin Water Quality Control Plan 2007: All waters shall be maintained

Objective/Criterion Reference:	free of toxic substances in concentrations which are toxic to, or which produce detrimental physiological responses in, human, plant, animal, or aquatic life. Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	The evaluation guideline for chlorpyrifos is the median lethal concentration (LC50) of 1.77 ug/g and is normalized by the percentage of organic carbon in the sediment sample (Amweg and Weston, 2007).
Guideline Reference:	Whole-sediment toxicity identification evaluation tools for pyrethroid insecticides: I. piperonyl butoxide addition. Environ. Toxicol. Chem. 26:2389-2396.
Spatial Representation:	Data for this line of evidence for Walnut Creek was collected at 1 monitoring site [Walnut Creek @ Concord Ave OC station (207WAL020)]
Temporal Representation:	Data was collected on a single day 6/17/2008.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	SWAMP data collected before September 2008 followed the QAMP (2002), however there may have been overlap in QA with SWAMP QAPP (2008).
QAPP Information Reference(s):	Quality Assurance Management Plan for the State of California's Surface Water Ambient Monitoring Program. Sacramento, CA. State Water Resources Control Board. SWAMP. December 2002 (1st version) Surface Water Ambient Monitoring Program Quality Assurance Program Plan

Line of Evidence (LOE) for Decision ID 65832, Chlorpyrifos

Region 2

Walnut Creek

LOE ID:	93495
Pollutant:	Chlorpyrifos
LOE Subgroup:	Pollutant-Sediment
Matrix:	Sediment
Fraction:	Total
Beneficial Use:	Warm Freshwater Habitat
Number of Samples:	1
Number of Exceedances:	0
Data and Information Type:	PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality:	Water Board staff assessed SWAMP data for Walnut Creek to determine beneficial use support and results are as follows: 0 of 1 samples exceed the criterion for Chlorpyrifos.
Data Reference:	Statewide Stream Pollution Trends Study 2008
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	San Francisco Bay Basin Water Quality Control Plan 2007: All waters shall be maintained free of toxic substances in concentrations which are toxic to, or which produce detrimental physiological responses in, human, plant, animal, or aquatic life.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	The evaluation guideline for chlorpyrifos is the median lethal concentration (LC50) of 1.77 ug/g and is normalized by the percentage of organic carbon in the sediment sample (Amweg and Weston, 2007).
Guideline Reference:	Whole-sediment toxicity identification evaluation tools for pyrethroid insecticides: I. piperonyl butoxide addition. Environ. Toxicol. Chem. 26:2389-2396.
Spatial Representation:	Data for this line of evidence for Walnut Creek was collected at 1 monitoring site [Walnut Creek @ Concord Ave OC station (207WAL020)]
Temporal Representation:	Data was collected on a single day 6/17/2008.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	SWAMP data collected before September 2008 followed the QAMP (2002), however there may have been overlap in QA with SWAMP QAPP (2008).
QAPP Information Reference(s):	Quality Assurance Management Plan for the State of California's Surface Water Ambient Monitoring Program. Sacramento, CA. State Water Resources Control Board. SWAMP.

DECISION ID	65833	Region 2
Walnut Creek		

Pollutant:	Chromium
Final Listing Decision:	Do Not List on 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision:	New Decision
Revision Status	Revised
Impairment from Pollutant or Pollution:	Pollutant

Regional Board Staff Conclusion: This pollutant is being considered for placement on the CWA section 303(d) List under section 3.6 of the Listing Policy. Under section 3.6 at least two lines of evidence are necessary to assess listing status for pollutants sediment, and pollutant concentrations in sediment must be associated with sediment toxicity to justify adding that pollutant to the CWA section 303(d) List.

Two lines of evidence are available in the administrative record to assess this pollutant. Zero of one samples exceed the guideline. Sediment toxicity data are available but not relevant because there is not enough information based on sediment chemistry.

Based on the readily available data and information, the weight of evidence indicates that there is insufficient justification for placing this water segment-pollutant combination on the CWA section 303(d) List.

This conclusion is based on the staff findings that:

1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy.
2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy.
3. Zero of one samples exceed the objective and this sample size is insufficient to determine beneficial use support, with the power and confidence of the Listing Policy. There is an associated sediment toxicity data as required by Section 3.6 of the Listing Policy, but these data are not attached to this decision because the sediment chemistry data are insufficient.
4. Pursuant to section 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.

Regional Board Staff Decision Recommendation: After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be placed on the section 303(d) list. The readily available data and information is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating.

Line of Evidence (LOE) for Decision ID 65833, Chromium	Region 2
Walnut Creek	

LOE ID:	93506
Pollutant:	Chromium
LOE Subgroup:	Pollutant-Sediment
Matrix:	Sediment
Fraction:	Total
Beneficial Use:	Cold Freshwater Habitat
Number of Samples:	1
Number of Exceedances:	0
Data and Information Type:	PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality:	Water Board staff assessed SWAMP data for Walnut Creek to determine beneficial use

Data Reference:	support and results are as follows: 0 of 1 samples exceed the criterion for Chromium. Statewide Stream Pollution Trends Study 2008
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	San Francisco Bay Basin Water Quality Control Plan 2007: All waters shall be maintained free of toxic substances in concentrations which are toxic to, or which produce detrimental physiological responses in, human, plant, animal, or aquatic life.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	In freshwater sediments the probable effect concentration (predictive of sediment toxicity for sediment-dwelling organisms) for chromium is 111 mg/Kg dry weight (MacDonald et al. 2000).
Guideline Reference:	Development and evaluation of consensus-based sediment quality guidelines for freshwater ecosystems. Environmental Contamination and Toxicology. 39: 20-31
Spatial Representation:	Data for this line of evidence for Walnut Creek was collected at 1 monitoring site [Walnut Creek @ Concord Ave OC station (207WAL020)]
Temporal Representation:	Data was collected on a single day 6/17/2008.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	SWAMP data collected before September 2008 followed the QAMP (2002), however there may have been overlap in QA with SWAMP QAPP (2008).
QAPP Information Reference(s):	Quality Assurance Management Plan for the State of California's Surface Water Ambient Monitoring Program. Sacramento, CA. State Water Resources Control Board. SWAMP. December 2002 (1st version) Surface Water Ambient Monitoring Program Quality Assurance Program Plan

Line of Evidence (LOE) for Decision ID 65833, Chromium

Region 2

Walnut Creek

LOE ID:	93505
Pollutant:	Chromium
LOE Subgroup:	Pollutant-Sediment
Matrix:	Sediment
Fraction:	Total
Beneficial Use:	Warm Freshwater Habitat
Number of Samples:	1
Number of Exceedances:	0
Data and Information Type:	PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality:	Water Board staff assessed SWAMP data for Walnut Creek to determine beneficial use support and results are as follows: 0 of 1 samples exceed the criterion for Chromium.
Data Reference:	Statewide Stream Pollution Trends Study 2008
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	San Francisco Bay Basin Water Quality Control Plan 2007: All waters shall be maintained free of toxic substances in concentrations which are toxic to, or which produce detrimental physiological responses in, human, plant, animal, or aquatic life.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	In freshwater sediments the probable effect concentration (predictive of sediment toxicity for sediment-dwelling organisms) for chromium is 111 mg/Kg dry weight (MacDonald et al. 2000).
Guideline Reference:	Development and evaluation of consensus-based sediment quality guidelines for freshwater ecosystems. Environmental Contamination and Toxicology. 39: 20-31
Spatial Representation:	Data for this line of evidence for Walnut Creek was collected at 1 monitoring site [Walnut Creek @ Concord Ave OC station (207WAL020)]

Temporal Representation:	Data was collected on a single day 6/17/2008.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	SWAMP data collected before September 2008 followed the QAMP (2002), however there may have been overlap in QA with SWAMP QAPP (2008).
QAPP Information Reference(s):	Quality Assurance Management Plan for the State of California's Surface Water Ambient Monitoring Program. Sacramento, CA. State Water Resources Control Board. SWAMP. December 2002 (1st version). Surface Water Ambient Monitoring Program Quality Assurance Program Plan

DECISION ID	65834	Region 2
Walnut Creek		

Pollutant:	Chrysene (C1-C4)
Final Listing Decision:	Do Not List on 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision:	New Decision
Revision Status	Revised
Impairment from Pollutant or Pollution:	Pollutant

Regional Board Staff Conclusion: This pollutant is being considered for placement on the CWA section 303(d) List under section 3.6 of the Listing Policy. Under section 3.6 at least two lines of evidence are necessary to assess listing status for pollutants sediment, and pollutant concentrations in sediment must be associated with sediment toxicity to justify adding that pollutant to the CWA section 303(d) List.

Two lines of evidence are available in the administrative record to assess this pollutant. Zero of one samples exceed the guideline. Sediment toxicity data are available but not relevant because there is not enough information based on sediment chemistry.

Based on the readily available data and information, the weight of evidence indicates that there is insufficient justification for placing this water segment-pollutant combination on the CWA section 303(d) List.

This conclusion is based on the staff findings that:

1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy.
2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy.
3. Zero of one samples exceed the objective and this sample size is insufficient to determine beneficial use support, with the power and confidence of the Listing Policy. There is an associated sediment toxicity data as required by Section 3.6 of the Listing Policy, but these data are not attached to this decision because the sediment chemistry data are insufficient.
4. Pursuant to section 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.

Regional Board Staff Decision Recommendation: After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be placed on the section 303(d) list. The readily available data and information is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating.

Line of Evidence (LOE) for Decision ID 65834, Chrysene (C1-C4)		Region 2
Walnut Creek		

LOE ID:	93508
Pollutant:	Chrysene (C1-C4)
LOE Subgroup:	Pollutant-Sediment
Matrix:	Sediment
Fraction:	Total
Beneficial Use:	Cold Freshwater Habitat

Number of Samples:	1
Number of Exceedances:	0
Data and Information Type:	PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality:	Water Board staff assessed SWAMP data for Walnut Creek to determine beneficial use support and results are as follows: 0 of 1 samples exceed the criterion for Chrysene.
Data Reference:	Statewide Stream Pollution Trends Study 2008
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	San Francisco Bay Basin Water Quality Control Plan 2007: All waters shall be maintained free of toxic substances in concentrations which are toxic to, or which produce detrimental physiological responses in, human, plant, animal, or aquatic life.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	In freshwater sediments the probable effects level (predictive of sediment toxicity for sediment-dwelling organisms) for Chrysene is 1290 ug/Kg dry weight (Macdonald et al. 2000)
Guideline Reference:	Development and evaluation of consensus-based sediment quality guidelines for freshwater ecosystems. Environmental Contamination and Toxicology. 39: 20-31
Spatial Representation:	Data for this line of evidence for Walnut Creek was collected at 1 monitoring site [Walnut Creek @ Concord Ave OC station (207WAL020)]
Temporal Representation:	Data was collected on a single day 6/17/2008.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	SWAMP data collected before September 2008 followed the QAMP (2002), however there may have been overlap in QA with SWAMP QAPP (2008).
QAPP Information Reference(s):	Quality Assurance Management Plan for the State of California's Surface Water Ambient Monitoring Program. Sacramento, CA. State Water Resources Control Board. SWAMP. December 2002 (1st version) Surface Water Ambient Monitoring Program Quality Assurance Program Plan

Line of Evidence (LOE) for Decision ID 65834, Chrysene (C1-C4)

Region 2

Walnut Creek

LOE ID:	93507
Pollutant:	Chrysene (C1-C4)
LOE Subgroup:	Pollutant-Sediment
Matrix:	Sediment
Fraction:	Total
Beneficial Use:	Warm Freshwater Habitat
Number of Samples:	1
Number of Exceedances:	0
Data and Information Type:	PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality:	Water Board staff assessed SWAMP data for Walnut Creek to determine beneficial use support and results are as follows: 0 of 1 samples exceed the criterion for Chrysene.
Data Reference:	Statewide Stream Pollution Trends Study 2008
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	San Francisco Bay Basin Water Quality Control Plan 2007: All waters shall be maintained free of toxic substances in concentrations which are toxic to, or which produce detrimental physiological responses in, human, plant, animal, or aquatic life.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	In freshwater sediments the probable effects level (predictive of sediment toxicity for sediment-dwelling organisms) for Chrysene is 1290 ug/Kg dry weight (Macdonald et al.

Guideline Reference:	2000) Development and evaluation of consensus-based sediment quality guidelines for freshwater ecosystems. Environmental Contamination and Toxicology. 39: 20-31
Spatial Representation:	Data for this line of evidence for Walnut Creek was collected at 1 monitoring site [Walnut Creek @ Concord Ave OC station (207WAL020)]
Temporal Representation:	Data was collected on a single day 6/17/2008.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	SWAMP data collected before September 2008 followed the QAMP (2002), however there may have been overlap in QA with SWAMP QAPP (2008).
QAPP Information Reference(s):	Quality Assurance Management Plan for the State of California's Surface Water Ambient Monitoring Program. Sacramento, CA. State Water Resources Control Board. SWAMP. December 2002 (1st version). Surface Water Ambient Monitoring Program Quality Assurance Program Plan

DECISION ID 65835 Region 2	
Walnut Creek	
Pollutant:	Copper
Final Listing Decision:	Do Not List on 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision:	New Decision
Revision Status	Revised
Impairment from Pollutant or Pollution:	Pollutant
Regional Board Staff Conclusion:	<p>This pollutant is being considered for placement on the CWA section 303(d) List under section 3.6 of the Listing Policy. Under section 3.6 at least two lines of evidence are necessary to assess listing status for pollutants sediment, and pollutant concentrations in sediment must be associated with sediment toxicity to justify adding that pollutant to the CWA section 303(d) List.</p> <p>Two lines of evidence are available in the administrative record to assess this pollutant. Zero of one samples exceed the guideline. Sediment toxicity data are available but not relevant because there is not enough information based on sediment chemistry.</p> <p>Based on the readily available data and information, the weight of evidence indicates that there is insufficient justification for placing this water segment-pollutant combination on the CWA section 303(d) List.</p> <p>This conclusion is based on the staff findings that:</p> <ol style="list-style-type: none"> 1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy. 2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy. 3. Zero of one samples exceed the objective and this sample size is insufficient to determine beneficial use support, with the power and confidence of the Listing Policy. There is an associated sediment toxicity data as required by Section 3.6 of the Listing Policy, but these data are not attached to this decision because the sediment chemistry data are insufficient. 4. Pursuant to section 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.
Regional Board Staff Decision Recommendation:	After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be placed on the section 303(d) list. The readily available data and information is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating.

Line of Evidence (LOE) for Decision ID 65835, Copper Region 2	
Walnut Creek	

LOE ID: 93513

Pollutant:	Copper
LOE Subgroup:	Pollutant-Sediment
Matrix:	Sediment
Fraction:	Total
Beneficial Use:	Cold Freshwater Habitat
Number of Samples:	1
Number of Exceedances:	0
Data and Information Type:	PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality:	Water Board staff assessed SWAMP data for Walnut Creek to determine beneficial use support and results are as follows: 0 of 1 samples exceed the criterion for Copper.
Data Reference:	Statewide Stream Pollution Trends Study 2008
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	San Francisco Bay Basin Water Quality Control Plan 2007: All waters shall be maintained free of toxic substances in concentrations which are toxic to, or which produce detrimental physiological responses in, human, plant, animal, or aquatic life.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	In freshwater sediments the probable effect concentration (predictive of sediment toxicity for sediment-dwelling organisms) for copper is 149 mg/Kg dry weight (MacDonald et al. 2000).
Guideline Reference:	Development and evaluation of consensus-based sediment quality guidelines for freshwater ecosystems. Environmental Contamination and Toxicology. 39: 20-31
Spatial Representation:	Data for this line of evidence for Walnut Creek was collected at 1 monitoring site [Walnut Creek @ Concord Ave OC station (207WAL020)]
Temporal Representation:	Data was collected on a single day 6/17/2008.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	SWAMP data collected before September 2008 followed the QAMP (2002), however there may have been overlap in QA with SWAMP QAPP (2008).
QAPP Information Reference(s):	Quality Assurance Management Plan for the State of California's Surface Water Ambient Monitoring Program. Sacramento, CA. State Water Resources Control Board. SWAMP. December 2002 (1st version). Surface Water Ambient Monitoring Program Quality Assurance Program Plan

Line of Evidence (LOE) for Decision ID 65835, Copper

Region 2

Walnut Creek

LOE ID:	93509
Pollutant:	Copper
LOE Subgroup:	Pollutant-Sediment
Matrix:	Sediment
Fraction:	Total
Beneficial Use:	Warm Freshwater Habitat
Number of Samples:	1
Number of Exceedances:	0
Data and Information Type:	PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality:	Water Board staff assessed SWAMP data for Walnut Creek to determine beneficial use support and results are as follows: 0 of 1 samples exceed the criterion for Copper.
Data Reference:	Statewide Stream Pollution Trends Study 2008
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	San Francisco Bay Basin Water Quality Control Plan 2007: All waters shall be maintained

Objective/Criterion Reference:	free of toxic substances in concentrations which are toxic to, or which produce detrimental physiological responses in, human, plant, animal, or aquatic life. Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	In freshwater sediments the probable effect concentration (predictive of sediment toxicity for sediment-dwelling organisms) for copper is 149 mg/Kg dry weight (MacDonald et al. 2000).
Guideline Reference:	Development and evaluation of consensus-based sediment quality guidelines for freshwater ecosystems. Environmental Contamination and Toxicology. 39: 20-31
Spatial Representation:	Data for this line of evidence for Walnut Creek was collected at 1 monitoring site [Walnut Creek @ Concord Ave OC station (207WAL020)]
Temporal Representation:	Data was collected on a single day 6/17/2008.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	SWAMP data collected before September 2008 followed the QAMP (2002), however there may have been overlap in QA with SWAMP QAPP (2008).
QAPP Information Reference(s):	Quality Assurance Management Plan for the State of California's Surface Water Ambient Monitoring Program. Sacramento, CA. State Water Resources Control Board. SWAMP. December 2002 (1st version) Surface Water Ambient Monitoring Program Quality Assurance Program Plan

DECISION ID 65836 Region 2	
Walnut Creek	
Pollutant: Final Listing Decision: Last Listing Cycle's Final Listing Decision: Revision Status Impairment from Pollutant or Pollution:	Cyfluthrin Do Not List on 303(d) list (TMDL required list) New Decision Revised Pollutant
Regional Board Staff Conclusion:	<p>This pollutant is being considered for placement on the CWA section 303(d) List under section 3.6 of the Listing Policy. Under section 3.6 at least two lines of evidence are necessary to assess listing status for pollutants sediment, and pollutant concentrations in sediment must be associated with sediment toxicity to justify adding that pollutant to the CWA section 303(d) List.</p> <p>Two lines of evidence are available in the administrative record to assess this pollutant. Zero of one samples exceed the guideline. Sediment toxicity data are available but not relevant because there is not enough information based on sediment chemistry.</p> <p>Based on the readily available data and information, the weight of evidence indicates that there is insufficient justification for placing this water segment-pollutant combination on the CWA section 303(d) List.</p> <p>This conclusion is based on the staff findings that:</p> <ol style="list-style-type: none"> 1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy. 2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy. 3. Zero of one samples exceed the objective and this sample size is insufficient to determine beneficial use support, with the power and confidence of the Listing Policy. There is an associated sediment toxicity data as required by Section 3.6 of the Listing Policy, but these data are not attached to this decision because the sediment chemistry data are insufficient. 4. Pursuant to section 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.
Regional Board Staff Decision Recommendation:	After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be placed on the section 303(d) list. The readily available data and information is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating.

Line of Evidence (LOE) for Decision ID 65836, Cyfluthrin**Region 2****Walnut Creek**

LOE ID:	93515
Pollutant:	Cyfluthrin
LOE Subgroup:	Pollutant-Sediment
Matrix:	Sediment
Fraction:	Total
Beneficial Use:	Cold Freshwater Habitat
Number of Samples:	1
Number of Exceedances:	0
Data and Information Type:	PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality:	Water Board staff assessed SWAMP data for Walnut Creek to determine beneficial use support and results are as follows: 0 of 1 samples exceed the criterion for Cyfluthrin, total.
Data Reference:	Statewide Stream Pollution Trends Study 2008
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	San Francisco Bay Basin Water Quality Control Plan 2007: All waters shall be maintained free of toxic substances in concentrations which are toxic to, or which produce detrimental physiological responses in, human, plant, animal, or aquatic life.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	The evaluation guideline for cyfluthrin is the median lethal concentration (LC50) of 1.1 ug/g and is normalized by the percentage of organic carbon in the sediment sample. The LC50 1.1 ug/g is the geometric mean of LC50 values for cyfluthrin from Amweg et al. (2005).
Guideline Reference:	Use and Toxicity of Pyrethroid Pesticides in the Central Valley, California, USA. Environmental Toxicology and Chemistry, 24:966-972, with erratum 24:No. 5
Spatial Representation:	Data for this line of evidence for Walnut Creek was collected at 1 monitoring site [Walnut Creek @ Concord Ave OC station (207WAL020)]
Temporal Representation:	Data was collected on a single day 6/17/2008.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	SWAMP data collected before September 2008 followed the QAMP (2002), however there may have been overlap in QA with SWAMP QAPP (2008).
QAPP Information Reference(s):	Quality Assurance Management Plan for the State of California's Surface Water Ambient Monitoring Program. Sacramento, CA. State Water Resources Control Board. SWAMP. December 2002 (1st version) Surface Water Ambient Monitoring Program Quality Assurance Program Plan

Line of Evidence (LOE) for Decision ID 65836, Cyfluthrin**Region 2****Walnut Creek**

LOE ID:	93514
Pollutant:	Cyfluthrin
LOE Subgroup:	Pollutant-Sediment
Matrix:	Sediment
Fraction:	Total
Beneficial Use:	Warm Freshwater Habitat
Number of Samples:	1
Number of Exceedances:	0
Data and Information Type:	PHYSICAL/CHEMICAL MONITORING

Data Used to Assess Water Quality:	Water Board staff assessed SWAMP data for Walnut Creek to determine beneficial use support and results are as follows: 0 of 1 samples exceed the criterion for Cyfluthrin, total.
Data Reference:	Statewide Stream Pollution Trends Study 2008
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	San Francisco Bay Basin Water Quality Control Plan 2007: All waters shall be maintained free of toxic substances in concentrations which are toxic to, or which produce detrimental physiological responses in, human, plant, animal, or aquatic life.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	The evaluation guideline for cyfluthrin is the median lethal concentration (LC50) of 1.1 ug/g and is normalized by the percentage of organic carbon in the sediment sample. The LC50 1.1 ug/g is the geometric mean of LC50 values for cyfluthrin from Amweg et al. (2005).
Guideline Reference:	Use and Toxicity of Pyrethroid Pesticides in the Central Valley, California, USA. Environmental Toxicology and Chemistry, 24:966-972, with erratum 24:No. 5
Spatial Representation:	Data for this line of evidence for Walnut Creek was collected at 1 monitoring site [Walnut Creek @ Concord Ave OC station (207WAL020)]
Temporal Representation:	Data was collected on a single day 6/17/2008.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	SWAMP data collected before September 2008 followed the QAMP (2002), however there may have been overlap in QA with SWAMP QAPP (2008).
QAPP Information Reference(s):	Quality Assurance Management Plan for the State of California's Surface Water Ambient Monitoring Program. Sacramento, CA. State Water Resources Control Board. SWAMP. December 2002 (1st version). Surface Water Ambient Monitoring Program Quality Assurance Program Plan

DECISION ID	65837	Region 2
Walnut Creek		

Pollutant:	Cyhalothrin, Lambda
Final Listing Decision:	Do Not List on 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision:	New Decision
Revision Status	Revised
Impairment from Pollutant or Pollution:	Pollutant

Regional Board Staff Conclusion:	<p>This pollutant is being considered for placement on the CWA section 303(d) List under section 3.6 of the Listing Policy. Under section 3.6 at least two lines of evidence are necessary to assess listing status for pollutants sediment, and pollutant concentrations in sediment must be associated with sediment toxicity to justify adding that pollutant to the CWA section 303(d) List.</p> <p>Two lines of evidence are available in the administrative record to assess this pollutant. Zero of one samples exceed the guideline. Sediment toxicity data are available but not relevant because there is not enough information based on sediment chemistry.</p> <p>Based on the readily available data and information, the weight of evidence indicates that there is insufficient justification for placing this water segment-pollutant combination on the CWA section 303(d) List.</p> <p>This conclusion is based on the staff findings that:</p> <ol style="list-style-type: none"> 1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy. 2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy. 3. Zero of one samples exceed the objective and this sample size is insufficient to determine beneficial use support, with the power and confidence of the Listing Policy. There is an associated sediment toxicity data as required by Section 3.6 of the Listing Policy, but these data are not attached to this decision because the sediment chemistry data are insufficient. 4. Pursuant to section 3.11 of the Listing Policy, no additional data and information are available
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indicating that standards are not met.

Regional Board Staff Decision Recommendation: After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be placed on the section 303(d) list. The readily available data and information is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating.

**Line of Evidence (LOE) for Decision ID 65837, Cyhalothrin, Lambda
Walnut Creek**

Region 2

LOE ID: 93516

Pollutant: Cyhalothrin, Lambda
LOE Subgroup: Pollutant-Sediment
Matrix: Sediment
Fraction: Total

Beneficial Use: Warm Freshwater Habitat

Number of Samples: 1
Number of Exceedances: 0

Data and Information Type: PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality: Water Board staff assessed SWAMP data for Walnut Creek to determine beneficial use support and results are as follows: 0 of 1 samples exceed the criterion for Cyhalothrin, lambda, total.

Data Reference: [Statewide Stream Pollution Trends Study 2008](#)

SWAMP Data: SWAMP

Water Quality Objective/Criterion: San Francisco Bay Basin Water Quality Control Plan 2007: All waters shall be maintained free of toxic substances in concentrations which are toxic to, or which produce detrimental physiological responses in, human, plant, animal, or aquatic life.

Objective/Criterion Reference: [Water Quality Control Plan \(Basin Plan\) San Francisco Bay Basin \(Region 2\)](#)

Evaluation Guideline: The evaluation guideline for lambda-cyhalothrin is the median lethal concentration (LC50) of 0.44 ug/g and is normalized by the percentage of organic carbon in the sediment sample. The LC50 0.44 ug/g is the geometric mean of LC50 values for lambda-cyhalothrin from Amweg et al. (2005).

Guideline Reference: [Use and Toxicity of Pyrethroid Pesticides in the Central Valley, California, USA. Environmental Toxicology and Chemistry, 24:966-972. with erratum 24:No. 5](#)

Spatial Representation: Data for this line of evidence for Walnut Creek was collected at 1 monitoring site [Walnut Creek @ Concord Ave OC station (207WAL020)]

Temporal Representation: Data was collected on a single day 6/17/2008.

Environmental Conditions: Staff is not aware of any special conditions that might affect interpretation of the data.

QAPP Information: SWAMP data collected before September 2008 followed the QAMP (2002), however there may have been overlap in QA with SWAMP QAPP (2008).

QAPP Information Reference(s): [Quality Assurance Management Plan for the State of California's Surface Water Ambient Monitoring Program. Sacramento, CA. State Water Resources Control Board. SWAMP. December 2002 \(1st version\)](#)
[Surface Water Ambient Monitoring Program Quality Assurance Program Plan](#)

**Line of Evidence (LOE) for Decision ID 65837, Cyhalothrin, Lambda
Walnut Creek**

Region 2

LOE ID: 93517

Pollutant: Cyhalothrin, Lambda
LOE Subgroup: Pollutant-Sediment

Matrix:	Sediment
Fraction:	Total
Beneficial Use:	Cold Freshwater Habitat
Number of Samples:	1
Number of Exceedances:	0
Data and Information Type:	PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality:	Water Board staff assessed SWAMP data for Walnut Creek to determine beneficial use support and results are as follows: 0 of 1 samples exceed the criterion for Cyhalothrin, lambda, total.
Data Reference:	Statewide Stream Pollution Trends Study 2008
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	San Francisco Bay Basin Water Quality Control Plan 2007: All waters shall be maintained free of toxic substances in concentrations which are toxic to, or which produce detrimental physiological responses in, human, plant, animal, or aquatic life.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	The evaluation guideline for lambda-cyhalothrin is the median lethal concentration (LC50) of 0.44 ug/g and is normalized by the percentage of organic carbon in the sediment sample. The LC50 0.44 ug/g is the geometric mean of LC50 values for lambda-cyhalothrin from Amweg et al. (2005).
Guideline Reference:	Use and Toxicity of Pyrethroid Pesticides in the Central Valley, California, USA. Environmental Toxicology and Chemistry, 24:966-972, with erratum 24:No. 5
Spatial Representation:	Data for this line of evidence for Walnut Creek was collected at 1 monitoring site [Walnut Creek @ Concord Ave OC station (207WAL020)]
Temporal Representation:	Data was collected on a single day 6/17/2008.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	SWAMP data collected before September 2008 followed the QAMP (2002), however there may have been overlap in QA with SWAMP QAPP (2008).
QAPP Information Reference(s):	Quality Assurance Management Plan for the State of California's Surface Water Ambient Monitoring Program. Sacramento, CA. State Water Resources Control Board. SWAMP. December 2002 (1st version) Surface Water Ambient Monitoring Program Quality Assurance Program Plan

DECISION ID	65838	Region 2
Walnut Creek		

Pollutant:	Cypermethrin
Final Listing Decision:	Do Not List on 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision:	New Decision
Revision Status	Revised
Impairment from Pollutant or Pollution:	Pollutant
Regional Board Staff Conclusion:	<p>This pollutant is being considered for placement on the CWA section 303(d) List under section 3.6 of the Listing Policy. Under section 3.6 at least two lines of evidence are necessary to assess listing status for pollutants sediment, and pollutant concentrations in sediment must be associated with sediment toxicity to justify adding that pollutant to the CWA section 303(d) List.</p> <p>Two lines of evidence are available in the administrative record to assess this pollutant. Zero of one samples exceed the guideline. Sediment toxicity data are available but not relevant because there is not enough information based on sediment chemistry.</p> <p>Based on the readily available data and information, the weight of evidence indicates that there is insufficient justification for placing this water segment-pollutant combination on the CWA section</p>

303(d) List.

This conclusion is based on the staff findings that:

1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy.
2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy.
3. Zero of one samples exceed the objective and this sample size is insufficient to determine beneficial use support, with the power and confidence of the Listing Policy. There is an associated sediment toxicity data as required by Section 3.6 of the Listing Policy, but these data are not attached to this decision because the sediment chemistry data are insufficient.
4. Pursuant to section 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.

Regional Board Staff Decision Recommendation: After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be placed on the section 303(d) list. The readily available data and information is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating.

Line of Evidence (LOE) for Decision ID 65838, Cypermethrin

Region 2

Walnut Creek

LOE ID:	93520
Pollutant:	Cypermethrin
LOE Subgroup:	Pollutant-Sediment
Matrix:	Sediment
Fraction:	Total
Beneficial Use:	Cold Freshwater Habitat
Number of Samples:	1
Number of Exceedances:	0
Data and Information Type:	PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality:	Water Board staff assessed SWAMP data for Walnut Creek to determine beneficial use support and results are as follows: 0 of 1 samples exceed the criterion for Cypermethrin, total.
Data Reference:	Statewide Stream Pollution Trends Study 2008
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	San Francisco Bay Basin Water Quality Control Plan 2007: All waters shall be maintained free of toxic substances in concentrations which are toxic to, or which produce detrimental physiological responses in, human, plant, animal, or aquatic life.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	The evaluation guideline for cypermethrin is the median lethal concentration (LC50) of 0.3 ug/g and is normalized by the percentage of organic carbon in the sediment sample. The LC50 0.3 ug/g is the geometric mean of LC50 values for cypermethrin from Maund et al. (2002).
Guideline Reference:	Partitioning, bioavailability, and toxicity of the pyrethroid insecticide cypermethrin in sediments. Environmental Toxicology and Chemistry 21:9-15
Spatial Representation:	Data for this line of evidence for Walnut Creek was collected at 1 monitoring site [Walnut Creek @ Concord Ave OC station (207WAL020)]
Temporal Representation:	Data was collected on a single day 6/17/2008.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	SWAMP data collected before September 2008 followed the QAMP (2002), however there may have been overlap in QA with SWAMP QAPP (2008).
QAPP Information Reference(s):	Quality Assurance Management Plan for the State of California's Surface Water Ambient Monitoring Program. Sacramento, CA. State Water Resources Control Board. SWAMP. December 2002 (1st version)

Line of Evidence (LOE) for Decision ID 65838, Cypermethrin

Region 2

Walnut Creek

LOE ID:	93519
Pollutant:	Cypermethrin
LOE Subgroup:	Pollutant-Sediment
Matrix:	Sediment
Fraction:	Total
Beneficial Use:	Warm Freshwater Habitat
Number of Samples:	1
Number of Exceedances:	0
Data and Information Type:	PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality:	Water Board staff assessed SWAMP data for Walnut Creek to determine beneficial use support and results are as follows: 0 of 1 samples exceed the criterion for Cypermethrin, total.
Data Reference:	Statewide Stream Pollution Trends Study 2008
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	San Francisco Bay Basin Water Quality Control Plan 2007: All waters shall be maintained free of toxic substances in concentrations which are toxic to, or which produce detrimental physiological responses in, human, plant, animal, or aquatic life.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	The evaluation guideline for cypermethrin is the median lethal concentration (LC50) of 0.3 ug/g and is normalized by the percentage of organic carbon in the sediment sample. The LC50 0.3 ug/g is the geometric mean of LC50 values for cypermethrin from Maund et al. (2002).
Guideline Reference:	Partitioning, bioavailability, and toxicity of the pyrethroid insecticide cypermethrin in sediments. Environmental Toxicology and Chemistry 21:9-15
Spatial Representation:	Data for this line of evidence for Walnut Creek was collected at 1 monitoring site [Walnut Creek @ Concord Ave OC station (207WAL020)]
Temporal Representation:	Data was collected on a single day 6/17/2008.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	SWAMP data collected before September 2008 followed the QAMP (2002), however there may have been overlap in QA with SWAMP QAPP (2008).
QAPP Information Reference(s):	Quality Assurance Management Plan for the State of California's Surface Water Ambient Monitoring Program, Sacramento, CA. State Water Resources Control Board. SWAMP. December 2002 (1st version) Surface Water Ambient Monitoring Program Quality Assurance Program Plan

DECISION ID

65839

Region 2

Walnut Creek

Pollutant:	DDD (Dichlorodiphenyldichloroethane)
Final Listing Decision:	Do Not List on 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision:	New Decision
Revision Status	Revised
Impairment from Pollutant or Pollution:	Pollutant

Regional Board Staff

This pollutant is being considered for placement on the CWA section 303(d) List under section 3.6 of

Conclusion:

the Listing Policy. Under section 3.6 at least two lines of evidence are necessary to assess listing status for pollutants sediment, and pollutant concentrations in sediment must be associated with sediment toxicity to justify adding that pollutant to the CWA section 303(d) List.

Two lines of evidence are available in the administrative record to assess this pollutant. Zero of one samples exceed the guideline. Sediment toxicity data are available but not relevant because there is not enough information based on sediment chemistry.

Based on the readily available data and information, the weight of evidence indicates that there is insufficient justification for placing this water segment-pollutant combination on the CWA section 303(d) List.

This conclusion is based on the staff findings that:

1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy.
2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy.
3. Zero of one samples exceed the objective and this sample size is insufficient to determine beneficial use support, with the power and confidence of the Listing Policy. There is an associated sediment toxicity data as required by Section 3.6 of the Listing Policy, but these data are not attached to this decision because the sediment chemistry data are insufficient.
4. Pursuant to section 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.

Regional Board Staff Decision Recommendation:

After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be placed on the section 303(d) list. The readily available data and information is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating.

Line of Evidence (LOE) for Decision ID 65839, DDD (Dichlorodiphenyldichloroethane)**Region 2****Walnut Creek**

LOE ID:	93522
Pollutant:	DDD (Dichlorodiphenyldichloroethane)
LOE Subgroup:	Pollutant-Sediment
Matrix:	Sediment
Fraction:	Total
Beneficial Use:	Cold Freshwater Habitat
Number of Samples:	1
Number of Exceedances:	0
Data and Information Type:	PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality:	Water Board staff assessed SWAMP data for Walnut Creek to determine beneficial use support and results are as follows: 0 of 1 samples exceed the criterion for DDD.
Data Reference:	Statewide Stream Pollution Trends Study 2008
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	San Francisco Bay Basin Water Quality Control Plan 2007: All waters shall be maintained free of toxic substances in concentrations which are toxic to, or which produce detrimental physiological responses in, human, plant, animal, or aquatic life.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	In freshwater sediments the probable effect concentration (predictive of sediment toxicity for sediment-dwelling organisms) for sum of DDD is 28.0 ug/Kg dry weight (MacDonald et al. 2000).
Guideline Reference:	Development and evaluation of consensus-based sediment quality guidelines for freshwater ecosystems. Environmental Contamination and Toxicology. 39: 20-31
Spatial Representation:	Data for this line of evidence for Walnut Creek was collected at 1 monitoring site [Walnut

Temporal Representation:	Creek @ Concord Ave OC station (207WAL020)]
Environmental Conditions:	Data was collected on a single day 6/17/2008.
QAPP Information:	Staff is not aware of any special conditions that might affect interpretation of the data.
	SWAMP data collected before September 2008 followed the QAMP (2002), however there may have been overlap in QA with SWAMP QAPP (2008).
QAPP Information Reference(s):	Quality Assurance Management Plan for the State of California's Surface Water Ambient Monitoring Program. Sacramento, CA. State Water Resources Control Board. SWAMP. December 2002 (1st version). Surface Water Ambient Monitoring Program Quality Assurance Program Plan

Line of Evidence (LOE) for Decision ID 65839, DDD (Dichlorodiphenyldichloroethane)	Region 2
Walnut Creek	

LOE ID:	93521
Pollutant:	DDD (Dichlorodiphenyldichloroethane)
LOE Subgroup:	Pollutant-Sediment
Matrix:	Sediment
Fraction:	Total
Beneficial Use:	Warm Freshwater Habitat
Number of Samples:	1
Number of Exceedances:	0
Data and Information Type:	PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality:	Water Board staff assessed SWAMP data for Walnut Creek to determine beneficial use support and results are as follows: 0 of 1 samples exceed the criterion for DDD.
Data Reference:	Statewide Stream Pollution Trends Study 2008
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	San Francisco Bay Basin Water Quality Control Plan 2007: All waters shall be maintained free of toxic substances in concentrations which are toxic to, or which produce detrimental physiological responses in, human, plant, animal, or aquatic life.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	In freshwater sediments the probable effect concentration (predictive of sediment toxicity for sediment-dwelling organisms) for sum of DDD is 28.0 ug/Kg dry weight (MacDonald et al. 2000).
Guideline Reference:	Development and evaluation of consensus-based sediment quality guidelines for freshwater ecosystems. Environmental Contamination and Toxicology. 39: 20-31
Spatial Representation:	Data for this line of evidence for Walnut Creek was collected at 1 monitoring site [Walnut Creek @ Concord Ave OC station (207WAL020)]
Temporal Representation:	Data was collected on a single day 6/17/2008.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	SWAMP data collected before September 2008 followed the QAMP (2002), however there may have been overlap in QA with SWAMP QAPP (2008).
QAPP Information Reference(s):	Quality Assurance Management Plan for the State of California's Surface Water Ambient Monitoring Program. Sacramento, CA. State Water Resources Control Board. SWAMP. December 2002 (1st version). Surface Water Ambient Monitoring Program Quality Assurance Program Plan

DECISION ID	65840	Region 2
Walnut Creek		

Pollutant:	DDE (Dichlorodiphenyldichloroethylene)
Final Listing Decision:	Do Not List on 303(d) list (TMDL required list)
Last Listing Cycle's Final	New Decision

Listing Decision:**Revision Status**

Revised

Impairment from Pollutant or Pollution:

Pollutant

Regional Board Staff**Conclusion:**

This pollutant is being considered for placement on the CWA section 303(d) List under section 3.6 of the Listing Policy. Under section 3.6 at least two lines of evidence are necessary to assess listing status for pollutants sediment, and pollutant concentrations in sediment must be associated with sediment toxicity to justify adding that pollutant to the CWA section 303(d) List.

Two lines of evidence are available in the administrative record to assess this pollutant. Zero of one samples exceed the guideline. Sediment toxicity data are available but not relevant because there is not enough information based on sediment chemistry.

Based on the readily available data and information, the weight of evidence indicates that there is insufficient justification for placing this water segment-pollutant combination on the CWA section 303(d) List.

This conclusion is based on the staff findings that:

1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy.
2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy.
3. Zero of one samples exceed the objective and this sample size is insufficient to determine beneficial use support, with the power and confidence of the Listing Policy. There is an associated sediment toxicity data as required by Section 3.6 of the Listing Policy, but these data are not attached to this decision because the sediment chemistry data are insufficient.
4. Pursuant to section 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.

Regional Board Staff Decision Recommendation:

After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be placed on the section 303(d) list. The readily available data and information is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating.

Line of Evidence (LOE) for Decision ID 65840, DDE (Dichlorodiphenyldichloroethylene)**Region 2****Walnut Creek**

LOE ID: 93524

Pollutant: DDE (Dichlorodiphenyldichloroethylene)

LOE Subgroup: Pollutant-Sediment

Matrix: Sediment

Fraction: Total

Beneficial Use: Cold Freshwater Habitat

Number of Samples: 1

Number of Exceedances: 0

Data and Information Type: PHYSICAL/CHEMICAL MONITORING

Data Used to Assess Water Quality: Water Board staff assessed SWAMP data for Walnut Creek to determine beneficial use support and results are as follows: 0 of 1 samples exceed the criterion for DDE.

Data Reference: [Statewide Stream Pollution Trends Study 2008](#)

SWAMP Data: SWAMP

Water Quality Objective/Criterion: San Francisco Bay Basin Water Quality Control Plan 2007: All waters shall be maintained free of toxic substances in concentrations which are toxic to, or which produce detrimental physiological responses in, human, plant, animal, or aquatic life.

Objective/Criterion Reference: [Water Quality Control Plan \(Basin Plan\) San Francisco Bay Basin \(Region 2\)](#)

Evaluation Guideline: In freshwater sediments the probable effect concentration (predictive of sediment toxicity

	for sediment-dwelling organisms) for sum of DDE is 31.3 ug/Kg dry weight (MacDonald et al. 2000).
Guideline Reference:	Development and evaluation of consensus-based sediment quality guidelines for freshwater ecosystems. Environmental Contamination and Toxicology. 39: 20-31
Spatial Representation:	Data for this line of evidence for Walnut Creek was collected at 1 monitoring site [Walnut Creek @ Concord Ave OC station (207WAL020)]
Temporal Representation:	Data was collected on a single day 6/17/2008.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	SWAMP data collected before September 2008 followed the QAMP (2002), however there may have been overlap in QA with SWAMP QAPP (2008).
QAPP Information Reference(s):	Quality Assurance Management Plan for the State of California's Surface Water Ambient Monitoring Program. Sacramento, CA. State Water Resources Control Board. SWAMP. December 2002 (1st version). Surface Water Ambient Monitoring Program Quality Assurance Program Plan

Line of Evidence (LOE) for Decision ID 65840, DDE (Dichlorodiphenyldichloroethylene)

Region 2

Walnut Creek

LOE ID:	93523
Pollutant:	DDE (Dichlorodiphenyldichloroethylene)
LOE Subgroup:	Pollutant-Sediment
Matrix:	Sediment
Fraction:	Total
Beneficial Use:	Warm Freshwater Habitat
Number of Samples:	1
Number of Exceedances:	0
Data and Information Type:	PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality:	Water Board staff assessed SWAMP data for Walnut Creek to determine beneficial use support and results are as follows: 0 of 1 samples exceed the criterion for DDE.
Data Reference:	Statewide Stream Pollution Trends Study 2008
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	San Francisco Bay Basin Water Quality Control Plan 2007: All waters shall be maintained free of toxic substances in concentrations which are toxic to, or which produce detrimental physiological responses in, human, plant, animal, or aquatic life.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	In freshwater sediments the probable effect concentration (predictive of sediment toxicity for sediment-dwelling organisms) for sum of DDE is 31.3 ug/Kg dry weight (MacDonald et al. 2000).
Guideline Reference:	Development and evaluation of consensus-based sediment quality guidelines for freshwater ecosystems. Environmental Contamination and Toxicology. 39: 20-31
Spatial Representation:	Data for this line of evidence for Walnut Creek was collected at 1 monitoring site [Walnut Creek @ Concord Ave OC station (207WAL020)]
Temporal Representation:	Data was collected on a single day 6/17/2008.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	SWAMP data collected before September 2008 followed the QAMP (2002), however there may have been overlap in QA with SWAMP QAPP (2008).
QAPP Information Reference(s):	Quality Assurance Management Plan for the State of California's Surface Water Ambient Monitoring Program. Sacramento, CA. State Water Resources Control Board. SWAMP. December 2002 (1st version). Surface Water Ambient Monitoring Program Quality Assurance Program Plan

DECISION ID

65841

Region 2

Pollutant: DDT (Dichlorodiphenyltrichloroethane)
Final Listing Decision: Do Not List on 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision: New Decision
Revision Status: Revised
Impairment from Pollutant or Pollution: Pollutant

Regional Board Staff Conclusion:

This pollutant is being considered for placement on the CWA section 303(d) List under section 3.6 of the Listing Policy. Under section 3.6 at least two lines of evidence are necessary to assess listing status for pollutants sediment, and pollutant concentrations in sediment must be associated with sediment toxicity to justify adding that pollutant to the CWA section 303(d) List.

Four lines of evidence are available in the administrative record to assess this pollutant. Zero of one samples exceed the guideline. Sediment toxicity data are available but not relevant because there is not enough information based on sediment chemistry.

Based on the readily available data and information, the weight of evidence indicates that there is insufficient justification for placing this water segment-pollutant combination on the CWA section 303(d) List.

This conclusion is based on the staff findings that:

1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy.
2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy.
3. Zero of one samples exceed the objective and this sample size is insufficient to determine beneficial use support, with the power and confidence of the Listing Policy. There is an associated sediment toxicity data as required by Section 3.6 of the Listing Policy, but these data are not attached to this decision because the sediment chemistry data are insufficient.
4. Pursuant to section 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.

Regional Board Staff Decision Recommendation: After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be placed on the section 303(d) list. The readily available data and information is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating.

Line of Evidence (LOE) for Decision ID 65841, DDT (Dichlorodiphenyltrichloroethane)

Region 2

Walnut Creek

LOE ID: 93610

Pollutant: Total DDT (sum of 4,4'- and 2,4'- isomers of DDT, DDE, and DDD)
LOE Subgroup: Pollutant-Sediment
Matrix: Sediment
Fraction: Total

Beneficial Use: Cold Freshwater Habitat

Number of Samples: 1
Number of Exceedances: 0

Data and Information Type: PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality: Water Board staff assessed SWAMP data for Walnut Creek to determine beneficial use support and results are as follows: 0 of 1 samples exceed the criterion for DDT, Total.
Data Reference: [Statewide Stream Pollution Trends Study 2008](#)

SWAMP Data: SWAMP

Water Quality Objective/Criterion: San Francisco Bay Basin Water Quality Control Plan 2007: All waters shall be maintained

Objective/Criterion Reference:	free of toxic substances in concentrations which are toxic to, or which produce detrimental physiological responses in, human, plant, animal, or aquatic life. Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	In freshwater sediments the probable effect concentration (predictive of sediment toxicity for sediment-dwelling organisms) for total DDTs is 572 ug/Kg dry weight (MacDonald et al. 2000).
Guideline Reference:	Development and evaluation of consensus-based sediment quality guidelines for freshwater ecosystems. Environmental Contamination and Toxicology. 39: 20-31
Spatial Representation:	Data for this line of evidence for Walnut Creek was collected at 1 monitoring site [Walnut Creek @ Concord Ave OC station (207WAL020)]
Temporal Representation:	Data was collected on a single day 6/17/2008.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	SWAMP data collected before September 2008 followed the QAMP (2002), however there may have been overlap in QA with SWAMP QAPP (2008).
QAPP Information Reference(s):	Quality Assurance Management Plan for the State of California's Surface Water Ambient Monitoring Program. Sacramento, CA. State Water Resources Control Board. SWAMP. December 2002 (1st version) Surface Water Ambient Monitoring Program Quality Assurance Program Plan

Line of Evidence (LOE) for Decision ID 65841, DDT (Dichlorodiphenyltrichloroethane)

Region 2

Walnut Creek

LOE ID:	93525
Pollutant:	DDT (Dichlorodiphenyltrichloroethane)
LOE Subgroup:	Pollutant-Sediment
Matrix:	Sediment
Fraction:	Total
Beneficial Use:	Cold Freshwater Habitat
Number of Samples:	1
Number of Exceedances:	0
Data and Information Type:	PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality:	Water Board staff assessed SWAMP data for Walnut Creek to determine beneficial use support and results are as follows: 0 of 1 samples exceed the criterion for DDT.
Data Reference:	Statewide Stream Pollution Trends Study 2008
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	San Francisco Bay Basin Water Quality Control Plan 2007: All waters shall be maintained free of toxic substances in concentrations which are toxic to, or which produce detrimental physiological responses in, human, plant, animal, or aquatic life.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	In freshwater sediments the probable effect concentration (predictive of sediment toxicity for sediment-dwelling organisms) for sum of DDT is 62.9 ug/Kg dry weight (MacDonald et al. 2000).
Guideline Reference:	Development and evaluation of consensus-based sediment quality guidelines for freshwater ecosystems. Environmental Contamination and Toxicology. 39: 20-31
Spatial Representation:	Data for this line of evidence for Walnut Creek was collected at 1 monitoring site [Walnut Creek @ Concord Ave OC station (207WAL020)]
Temporal Representation:	Data was collected on a single day 6/17/2008.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	SWAMP data collected before September 2008 followed the QAMP (2002), however there may have been overlap in QA with SWAMP QAPP (2008).
QAPP Information Reference(s):	Quality Assurance Management Plan for the State of California's Surface Water Ambient Monitoring Program. Sacramento, CA. State Water Resources Control Board. SWAMP.

Line of Evidence (LOE) for Decision ID 65841, DDT (Dichlorodiphenyltrichloroethane)

Region 2

Walnut Creek

LOE ID:	93600
Pollutant:	Total DDT (sum of 4,4'- and 2,4'- isomers of DDT, DDE, and DDD)
LOE Subgroup:	Pollutant-Sediment
Matrix:	Sediment
Fraction:	Total
Beneficial Use:	Warm Freshwater Habitat
Number of Samples:	1
Number of Exceedances:	0
Data and Information Type:	PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality:	Water Board staff assessed SWAMP data for Walnut Creek to determine beneficial use support and results are as follows: 0 of 1 samples exceed the criterion for DDT, Total.
Data Reference:	Statewide Stream Pollution Trends Study 2008
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	San Francisco Bay Basin Water Quality Control Plan 2007: All waters shall be maintained free of toxic substances in concentrations which are toxic to, or which produce detrimental physiological responses in, human, plant, animal, or aquatic life.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	In freshwater sediments the probable effect concentration (predictive of sediment toxicity for sediment-dwelling organisms) for total DDTs is 572 ug/Kg dry weight (MacDonald et al. 2000).
Guideline Reference:	Development and evaluation of consensus-based sediment quality guidelines for freshwater ecosystems. Environmental Contamination and Toxicology. 39: 20-31
Spatial Representation:	Data for this line of evidence for Walnut Creek was collected at 1 monitoring site [Walnut Creek @ Concord Ave OC station (207WAL020)]
Temporal Representation:	Data was collected on a single day 6/17/2008.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	SWAMP data collected before September 2008 followed the QAMP (2002), however there may have been overlap in QA with SWAMP QAPP (2008).
QAPP Information Reference(s):	Quality Assurance Management Plan for the State of California's Surface Water Ambient Monitoring Program. Sacramento, CA. State Water Resources Control Board. SWAMP. December 2002 (1st version). Surface Water Ambient Monitoring Program Quality Assurance Program Plan

Line of Evidence (LOE) for Decision ID 65841, DDT (Dichlorodiphenyltrichloroethane)

Region 2

Walnut Creek

LOE ID:	93526
Pollutant:	DDT (Dichlorodiphenyltrichloroethane)
LOE Subgroup:	Pollutant-Sediment
Matrix:	Sediment
Fraction:	Total
Beneficial Use:	Warm Freshwater Habitat
Number of Samples:	1
Number of Exceedances:	0

Data and Information Type:	PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality:	Water Board staff assessed SWAMP data for Walnut Creek to determine beneficial use support and results are as follows: 0 of 1 samples exceed the criterion for DDT.
Data Reference:	Statewide Stream Pollution Trends Study 2008
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	San Francisco Bay Basin Water Quality Control Plan 2007: All waters shall be maintained free of toxic substances in concentrations which are toxic to, or which produce detrimental physiological responses in, human, plant, animal, or aquatic life.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	In freshwater sediments the probable effect concentration (predictive of sediment toxicity for sediment-dwelling organisms) for sum of DDT is 62.9 ug/Kg dry weight (MacDonald et al. 2000).
Guideline Reference:	Development and evaluation of consensus-based sediment quality guidelines for freshwater ecosystems. Environmental Contamination and Toxicology. 39: 20-31
Spatial Representation:	Data for this line of evidence for Walnut Creek was collected at 1 monitoring site [Walnut Creek @ Concord Ave OC station (207WAL020)]
Temporal Representation:	Data was collected on a single day 6/17/2008.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	SWAMP data collected before September 2008 followed the QAMP (2002), however there may have been overlap in QA with SWAMP QAPP (2008).
QAPP Information Reference(s):	Quality Assurance Management Plan for the State of California's Surface Water Ambient Monitoring Program. Sacramento, CA. State Water Resources Control Board. SWAMP. December 2002 (1st version) Surface Water Ambient Monitoring Program Quality Assurance Program Plan

DECISION ID	65842	Region 2
Walnut Creek		

Pollutant:	Deltamethrin
Final Listing Decision:	Do Not List on 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision:	New Decision
Revision Status	Revised
Impairment from Pollutant or Pollution:	Pollutant

Regional Board Staff Conclusion:	<p>This pollutant is being considered for placement on the CWA section 303(d) List under section 3.6 of the Listing Policy. Under section 3.6 at least two lines of evidence are necessary to assess listing status for pollutants sediment, and pollutant concentrations in sediment must be associated with sediment toxicity to justify adding that pollutant to the CWA section 303(d) List.</p> <p>Two lines of evidence are available in the administrative record to assess this pollutant. Zero of one samples exceed the guideline. Sediment toxicity data are available but not relevant because there is not enough information based on sediment chemistry.</p> <p>Based on the readily available data and information, the weight of evidence indicates that there is insufficient justification for placing this water segment-pollutant combination on the CWA section 303(d) List.</p> <p>This conclusion is based on the staff findings that:</p> <ol style="list-style-type: none"> 1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy. 2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy. 3. Zero of one samples exceed the objective and this sample size is insufficient to determine beneficial use support, with the power and confidence of the Listing Policy. There is an associated sediment toxicity data as required by Section 3.6 of the Listing Policy, but these data are not attached to this decision because the sediment chemistry data are insufficient.
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4. Pursuant to section 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.

Regional Board Staff Decision Recommendation: After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be placed on the section 303(d) list. The readily available data and information is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating.

Line of Evidence (LOE) for Decision ID 65842, Deltamethrin

Region 2

Walnut Creek

LOE ID: 93527

Pollutant: Deltamethrin
LOE Subgroup: Pollutant-Sediment
Matrix: Sediment
Fraction: Total

Beneficial Use: Warm Freshwater Habitat

Number of Samples: 1
Number of Exceedances: 0

Data and Information Type: PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality: Water Board staff assessed SWAMP data for Walnut Creek to determine beneficial use support and results are as follows: 0 of 1 samples exceed the criterion for Deltamethrin.
Data Reference: [Statewide Stream Pollution Trends Study 2008](#)

SWAMP Data: SWAMP

Water Quality Objective/Criterion: San Francisco Bay Basin Water Quality Control Plan 2007: All waters shall be maintained free of toxic substances in concentrations which are toxic to, or which produce detrimental physiological responses in, human, plant, animal, or aquatic life.
Objective/Criterion Reference: [Water Quality Control Plan \(Basin Plan\) San Francisco Bay Basin \(Region 2\)](#)

Evaluation Guideline: The evaluation guideline for deltamethrin is the median lethal concentration (LC50) of 0.79 ug/g and is normalized by the percentage of organic carbon in the sediment sample. The LC50 0.79 ug/g is the geometric mean of LC50 values for deltamethrin from Amweg et al. (2005).
Guideline Reference: [Use and Toxicity of Pyrethroid Pesticides in the Central Valley, California, USA. Environmental Toxicology and Chemistry, 24:966-972, with erratum 24:No. 5](#)

Spatial Representation: Data for this line of evidence for Walnut Creek was collected at 1 monitoring site [Walnut Creek @ Concord Ave OC station (207WAL020)]

Temporal Representation: Data was collected on a single day 6/17/2008.

Environmental Conditions: Staff is not aware of any special conditions that might affect interpretation of the data.

QAPP Information: SWAMP data collected before September 2008 followed the QAMP (2002), however there may have been overlap in QA with SWAMP QAPP (2008).
QAPP Information Reference(s): [Quality Assurance Management Plan for the State of California's Surface Water Ambient Monitoring Program. Sacramento, CA. State Water Resources Control Board. SWAMP. December 2002 \(1st version\)](#)
[Surface Water Ambient Monitoring Program Quality Assurance Program Plan](#)

Line of Evidence (LOE) for Decision ID 65842, Deltamethrin

Region 2

Walnut Creek

LOE ID: 93528

Pollutant: Deltamethrin
LOE Subgroup: Pollutant-Sediment

Matrix:	Sediment
Fraction:	Total
Beneficial Use:	Cold Freshwater Habitat
Number of Samples:	1
Number of Exceedances:	0
Data and Information Type:	PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality:	Water Board staff assessed SWAMP data for Walnut Creek to determine beneficial use support and results are as follows: 0 of 1 samples exceed the criterion for Deltamethrin.
Data Reference:	Statewide Stream Pollution Trends Study 2008
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	San Francisco Bay Basin Water Quality Control Plan 2007: All waters shall be maintained free of toxic substances in concentrations which are toxic to, or which produce detrimental physiological responses in, human, plant, animal, or aquatic life.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	The evaluation guideline for deltamethrin is the median lethal concentration (LC50) of 0.79 ug/g and is normalized by the percentage of organic carbon in the sediment sample. The LC50 0.79 ug/g is the geometric mean of LC50 values for deltamethrin from Amweg et al. (2005).
Guideline Reference:	Use and Toxicity of Pyrethroid Pesticides in the Central Valley, California, USA. Environmental Toxicology and Chemistry, 24:966-972, with erratum 24:No. 5
Spatial Representation:	Data for this line of evidence for Walnut Creek was collected at 1 monitoring site [Walnut Creek @ Concord Ave OC station (207WAL020)]
Temporal Representation:	Data was collected on a single day 6/17/2008.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	SWAMP data collected before September 2008 followed the QAMP (2002), however there may have been overlap in QA with SWAMP QAPP (2008).
QAPP Information Reference(s):	Quality Assurance Management Plan for the State of California's Surface Water Ambient Monitoring Program. Sacramento, CA. State Water Resources Control Board. SWAMP. December 2002 (1st version) Surface Water Ambient Monitoring Program Quality Assurance Program Plan

DECISION ID	65843	Region 2
Walnut Creek		

Pollutant:	Dieldrin
Final Listing Decision:	Do Not List on 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision:	New Decision
Revision Status	Revised
Impairment from Pollutant or Pollution:	Pollutant
Regional Board Staff Conclusion:	<p>This pollutant is being considered for placement on the CWA section 303(d) List under section 3.6 of the Listing Policy. Under section 3.6 at least two lines of evidence are necessary to assess listing status for pollutants sediment, and pollutant concentrations in sediment must be associated with sediment toxicity to justify adding that pollutant to the CWA section 303(d) List.</p> <p>Two lines of evidence are available in the administrative record to assess this pollutant. Zero of one samples exceed the guideline. Sediment toxicity data are available but not relevant because there is not enough information based on sediment chemistry.</p> <p>Based on the readily available data and information, the weight of evidence indicates that there is insufficient justification for placing this water segment-pollutant combination on the CWA section 303(d) List.</p>

This conclusion is based on the staff findings that:

1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy.
2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy.
3. Zero of one samples exceed the objective and this sample size is insufficient to determine beneficial use support, with the power and confidence of the Listing Policy. There is an associated sediment toxicity data as required by Section 3.6 of the Listing Policy, but these data are not attached to this decision because the sediment chemistry data are insufficient.
4. Pursuant to section 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.

Regional Board Staff Decision Recommendation: After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be placed on the section 303(d) list. The readily available data and information is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating.

Line of Evidence (LOE) for Decision ID 65843, Dieldrin

Region 2

Walnut Creek

LOE ID:	93533
Pollutant:	Dieldrin
LOE Subgroup:	Pollutant-Sediment
Matrix:	Sediment
Fraction:	Total
Beneficial Use:	Cold Freshwater Habitat
Number of Samples:	1
Number of Exceedances:	0
Data and Information Type:	PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality:	Water Board staff assessed SWAMP data for Walnut Creek to determine beneficial use support and results are as follows: 0 of 1 samples exceed the criterion for Dieldrin.
Data Reference:	Statewide Stream Pollution Trends Study 2008
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	San Francisco Bay Basin Water Quality Control Plan 2007: All waters shall be maintained free of toxic substances in concentrations which are toxic to, or which produce detrimental physiological responses in, human, plant, animal, or aquatic life.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	In freshwater sediments the probable effect concentration (predictive of sediment toxicity for sediment-dwelling organisms) for dieldrin is 61.8 ug/Kg dry weight (MacDonald et al. 2000).
Guideline Reference:	Development and evaluation of consensus-based sediment quality guidelines for freshwater ecosystems. Environmental Contamination and Toxicology. 39: 20-31
Spatial Representation:	Data for this line of evidence for Walnut Creek was collected at 1 monitoring site [Walnut Creek @ Concord Ave OC station (207WAL020)]
Temporal Representation:	Data was collected on a single day 6/17/2008.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	SWAMP data collected before September 2008 followed the QAMP (2002), however there may have been overlap in QA with SWAMP QAPP (2008).
QAPP Information Reference(s):	Quality Assurance Management Plan for the State of California's Surface Water Ambient Monitoring Program. Sacramento, CA. State Water Resources Control Board. SWAMP. December 2002 (1st version) Surface Water Ambient Monitoring Program Quality Assurance Program Plan

Line of Evidence (LOE) for Decision ID 65843, Dieldrin

Region 2

Walnut Creek

LOE ID:	93532
Pollutant:	Dieldrin
LOE Subgroup:	Pollutant-Sediment
Matrix:	Sediment
Fraction:	Total
Beneficial Use:	Warm Freshwater Habitat
Number of Samples:	1
Number of Exceedances:	0
Data and Information Type:	PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality:	Water Board staff assessed SWAMP data for Walnut Creek to determine beneficial use support and results are as follows: 0 of 1 samples exceed the criterion for Dieldrin.
Data Reference:	Statewide Stream Pollution Trends Study 2008
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	San Francisco Bay Basin Water Quality Control Plan 2007: All waters shall be maintained free of toxic substances in concentrations which are toxic to, or which produce detrimental physiological responses in, human, plant, animal, or aquatic life.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	In freshwater sediments the probable effect concentration (predictive of sediment toxicity for sediment-dwelling organisms) for dieldrin is 61.8 ug/Kg dry weight (MacDonald et al. 2000).
Guideline Reference:	Development and evaluation of consensus-based sediment quality guidelines for freshwater ecosystems. Environmental Contamination and Toxicology. 39: 20-31
Spatial Representation:	Data for this line of evidence for Walnut Creek was collected at 1 monitoring site [Walnut Creek @ Concord Ave OC station (207WAL020)]
Temporal Representation:	Data was collected on a single day 6/17/2008.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	SWAMP data collected before September 2008 followed the QAMP (2002), however there may have been overlap in QA with SWAMP QAPP (2008).
QAPP Information Reference(s):	Quality Assurance Management Plan for the State of California's Surface Water Ambient Monitoring Program. Sacramento, CA. State Water Resources Control Board. SWAMP. December 2002 (1st version) Surface Water Ambient Monitoring Program Quality Assurance Program Plan

DECISION ID

65844

Region 2

Walnut Creek

Pollutant:	Endrin
Final Listing Decision:	Do Not List on 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision:	New Decision
Revision Status	Revised
Impairment from Pollutant or Pollution:	Pollutant

Regional Board Staff Conclusion:

This pollutant is being considered for placement on the CWA section 303(d) List under section 3.6 of the Listing Policy. Under section 3.6 at least two lines of evidence are necessary to assess listing status for pollutants sediment, and pollutant concentrations in sediment must be associated with sediment toxicity to justify adding that pollutant to the CWA section 303(d) List.

Two lines of evidence are available in the administrative record to assess this pollutant. Zero of one samples exceed the guideline. Sediment toxicity data are available but not relevant because there is

not enough information based on sediment chemistry.

Based on the readily available data and information, the weight of evidence indicates that there is insufficient justification for placing this water segment-pollutant combination on the CWA section 303(d) List.

This conclusion is based on the staff findings that:

1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy.
2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy.
3. Zero of one samples exceed the objective and this sample size is insufficient to determine beneficial use support, with the power and confidence of the Listing Policy. There is an associated sediment toxicity data as required by Section 3.6 of the Listing Policy, but these data are not attached to this decision because the sediment chemistry data are insufficient.
4. Pursuant to section 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.

Regional Board Staff Decision Recommendation: After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be placed on the section 303(d) list. The readily available data and information is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating.

Line of Evidence (LOE) for Decision ID 65844, Endrin

Region 2

Walnut Creek

LOE ID:	93536
Pollutant:	Endrin
LOE Subgroup:	Pollutant-Sediment
Matrix:	Sediment
Fraction:	Total
Beneficial Use:	Cold Freshwater Habitat
Number of Samples:	1
Number of Exceedances:	0
Data and Information Type:	PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality:	Water Board staff assessed SWAMP data for Walnut Creek to determine beneficial use support and results are as follows: 0 of 1 samples exceed the criterion for Endrin.
Data Reference:	Statewide Stream Pollution Trends Study 2008
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	San Francisco Bay Basin Water Quality Control Plan 2007: All waters shall be maintained free of toxic substances in concentrations which are toxic to, or which produce detrimental physiological responses in, human, plant, animal, or aquatic life.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	In freshwater sediments the probable effect concentration (predictive of sediment toxicity for sediment-dwelling organisms) for endrin is 207 ug/Kg dry weight (MacDonald et al. 2000).
Guideline Reference:	Development and evaluation of consensus-based sediment quality guidelines for freshwater ecosystems. Environmental Contamination and Toxicology. 39: 20-31
Spatial Representation:	Data for this line of evidence for Walnut Creek was collected at 1 monitoring site [Walnut Creek @ Concord Ave OC station (207WAL020)]
Temporal Representation:	Data was collected on a single day 6/17/2008.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	SWAMP data collected before September 2008 followed the QAMP (2002), however there may have been overlap in QA with SWAMP QAPP (2008).
QAPP Information Reference(s):	Quality Assurance Management Plan for the State of California's Surface Water Ambient

Line of Evidence (LOE) for Decision ID 65844, Endrin

Region 2

Walnut Creek

LOE ID:	93534
Pollutant:	Endrin
LOE Subgroup:	Pollutant-Sediment
Matrix:	Sediment
Fraction:	Total
Beneficial Use:	Warm Freshwater Habitat
Number of Samples:	1
Number of Exceedances:	0
Data and Information Type:	PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality:	Water Board staff assessed SWAMP data for Walnut Creek to determine beneficial use support and results are as follows: 0 of 1 samples exceed the criterion for Endrin.
Data Reference:	Statewide Stream Pollution Trends Study 2008
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	San Francisco Bay Basin Water Quality Control Plan 2007: All waters shall be maintained free of toxic substances in concentrations which are toxic to, or which produce detrimental physiological responses in, human, plant, animal, or aquatic life.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	In freshwater sediments the probable effect concentration (predictive of sediment toxicity for sediment-dwelling organisms) for endrin is 207 ug/Kg dry weight (MacDonald et al. 2000).
Guideline Reference:	Development and evaluation of consensus-based sediment quality guidelines for freshwater ecosystems. Environmental Contamination and Toxicology. 39: 20-31
Spatial Representation:	Data for this line of evidence for Walnut Creek was collected at 1 monitoring site [Walnut Creek @ Concord Ave OC station (207WAL020)]
Temporal Representation:	Data was collected on a single day 6/17/2008.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	SWAMP data collected before September 2008 followed the QAMP (2002), however there may have been overlap in QA with SWAMP QAPP (2008).
QAPP Information Reference(s):	Quality Assurance Management Plan for the State of California's Surface Water Ambient Monitoring Program. Sacramento, CA. State Water Resources Control Board. SWAMP. December 2002 (1st version) Surface Water Ambient Monitoring Program Quality Assurance Program Plan

DECISION ID

65845

Region 2

Walnut Creek

Pollutant:	Esfenvalerate/Fenvalerate
Final Listing Decision:	Do Not List on 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision:	New Decision
Revision Status	Revised
Impairment from Pollutant or Pollution:	Pollutant

Regional Board Staff

This pollutant is being considered for placement on the CWA section 303(d) List under section 3.6 of

Conclusion:

the Listing Policy. Under section 3.6 at least two lines of evidence are necessary to assess listing status for pollutants sediment, and pollutant concentrations in sediment must be associated with sediment toxicity to justify adding that pollutant to the CWA section 303(d) List.

Two lines of evidence are available in the administrative record to assess this pollutant. Zero of one samples exceed the guideline. Sediment toxicity data are available but not relevant because there is not enough information based on sediment chemistry.

Based on the readily available data and information, the weight of evidence indicates that there is insufficient justification for placing this water segment-pollutant combination on the CWA section 303(d) List.

This conclusion is based on the staff findings that:

1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy.
2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy.
3. Zero of one samples exceed the objective and this sample size is insufficient to determine beneficial use support, with the power and confidence of the Listing Policy. There is an associated sediment toxicity data as required by Section 3.6 of the Listing Policy, but these data are not attached to this decision because the sediment chemistry data are insufficient.
4. Pursuant to section 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.

Regional Board Staff Decision Recommendation:

After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be placed on the section 303(d) list. The readily available data and information is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating.

Line of Evidence (LOE) for Decision ID 65845, Esfenvalerate/Fenvalerate**Region 2****Walnut Creek**

LOE ID: 93537

Pollutant: Esfenvalerate/Fenvalerate

LOE Subgroup: Pollutant-Sediment

Matrix: Sediment

Fraction: Total

Beneficial Use: Warm Freshwater Habitat

Number of Samples: 1

Number of Exceedances: 0

Data and Information Type: PHYSICAL/CHEMICAL MONITORING

Data Used to Assess Water Quality: Water Board staff assessed SWAMP data for Walnut Creek to determine beneficial use support and results are as follows: 0 of 1 samples exceed the criterion for Esfenvalerate/Fenvalerate, total.

Data Reference: [Statewide Stream Pollution Trends Study 2008](#)

SWAMP Data: SWAMP

Water Quality Objective/Criterion: San Francisco Bay Basin Water Quality Control Plan 2007: All waters shall be maintained free of toxic substances in concentrations which are toxic to, or which produce detrimental physiological responses in, human, plant, animal, or aquatic life.

Objective/Criterion Reference: [Water Quality Control Plan \(Basin Plan\) San Francisco Bay Basin \(Region 2\)](#)

Evaluation Guideline: The evaluation guideline for esfenvalerate/fenvalerate is the median lethal concentration (LC50) of 1.5 ug/g and is normalized by the percentage of organic carbon in the sediment sample. The LC50 1.5 ug/g is the geometric mean of LC50 values for esfenvalerate/fenvalerate from Amweg et al. (2005).

Guideline Reference: [Use and Toxicity of Pyrethroid Pesticides in the Central Valley, California, USA. Environmental Toxicology and Chemistry, 24:966-972, with erratum 24:No. 5](#)

Spatial Representation:	Data for this line of evidence for Walnut Creek was collected at 1 monitoring site [Walnut Creek @ Concord Ave OC station (207WAL020)]
Temporal Representation:	Data was collected on a single day 6/17/2008.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	SWAMP data collected before September 2008 followed the QAMP (2002), however there may have been overlap in QA with SWAMP QAPP (2008).
QAPP Information Reference(s):	Quality Assurance Management Plan for the State of California's Surface Water Ambient Monitoring Program. Sacramento, CA. State Water Resources Control Board. SWAMP. December 2002 (1st version). Surface Water Ambient Monitoring Program Quality Assurance Program Plan

Line of Evidence (LOE) for Decision ID 65845, Esfenvalerate/Fenvalerate
Walnut Creek

Region 2

LOE ID:	93538
Pollutant:	Esfenvalerate/Fenvalerate
LOE Subgroup:	Pollutant-Sediment
Matrix:	Sediment
Fraction:	Total
Beneficial Use:	Cold Freshwater Habitat
Number of Samples:	1
Number of Exceedances:	0
Data and Information Type:	PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality:	Water Board staff assessed SWAMP data for Walnut Creek to determine beneficial use support and results are as follows: 0 of 1 samples exceed the criterion for Esfenvalerate/Fenvalerate, total.
Data Reference:	Statewide Stream Pollution Trends Study 2008
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	San Francisco Bay Basin Water Quality Control Plan 2007: All waters shall be maintained free of toxic substances in concentrations which are toxic to, or which produce detrimental physiological responses in, human, plant, animal, or aquatic life.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	The evaluation guideline for esfenvalerate/fenvalerate is the median lethal concentration (LC50) of 1.5 ug/g and is normalized by the percentage of organic carbon in the sediment sample. The LC50 1.5 ug/g is the geometric mean of LC50 values for esfenvalerate/fenvalerate from Amweg et al. (2005).
Guideline Reference:	Use and Toxicity of Pyrethroid Pesticides in the Central Valley, California, USA. Environmental Toxicology and Chemistry, 24:966-972, with erratum 24:No. 5
Spatial Representation:	Data for this line of evidence for Walnut Creek was collected at 1 monitoring site [Walnut Creek @ Concord Ave OC station (207WAL020)]
Temporal Representation:	Data was collected on a single day 6/17/2008.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	SWAMP data collected before September 2008 followed the QAMP (2002), however there may have been overlap in QA with SWAMP QAPP (2008).
QAPP Information Reference(s):	Quality Assurance Management Plan for the State of California's Surface Water Ambient Monitoring Program. Sacramento, CA. State Water Resources Control Board. SWAMP. December 2002 (1st version). Surface Water Ambient Monitoring Program Quality Assurance Program Plan

DECISION ID 65897
Walnut Creek

Region 2

Pollutant:	Fenpropathrin
Final Listing Decision:	Do Not List on 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision:	New Decision
Revision Status	Revised
Impairment from Pollutant or Pollution:	Pollutant

Regional Board Staff Conclusion:

This pollutant is being considered for placement on the CWA section 303(d) List under section 3.6 of the Listing Policy. Under section 3.6 at least two lines of evidence are necessary to assess listing status for pollutants sediment, and pollutant concentrations in sediment must be associated with sediment toxicity to justify adding that pollutant to the CWA section 303(d) List.

Two lines of evidence are available in the administrative record to assess this pollutant. Zero of one samples exceed the guideline. Sediment toxicity data are available but not relevant because there is not enough information based on sediment chemistry.

Based on the readily available data and information, the weight of evidence indicates that there is insufficient justification for placing this water segment-pollutant combination on the CWA section 303(d) List.

This conclusion is based on the staff findings that:

1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy.
2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy.
3. Zero of one samples exceed the objective and this sample size is insufficient to determine beneficial use support, with the power and confidence of the Listing Policy. There is an associated sediment toxicity data as required by Section 3.6 of the Listing Policy, but these data are not attached to this decision because the sediment chemistry data are insufficient.
4. Pursuant to section 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.

Regional Board Staff Decision Recommendation:

After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be placed on the section 303(d) list. The readily available data and information is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating.

**Line of Evidence (LOE) for Decision ID 65897, Fenpropathrin
Walnut Creek**

Region 2

LOE ID:	93540
Pollutant:	Fenpropathrin
LOE Subgroup:	Pollutant-Sediment
Matrix:	Sediment
Fraction:	Total
Beneficial Use:	Cold Freshwater Habitat
Number of Samples:	1
Number of Exceedances:	0
Data and Information Type:	PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality:	Water Board staff assessed SWAMP data for Walnut Creek to determine beneficial use support and results are as follows: 0 of 1 samples exceed the criterion for Fenpropathrin.
Data Reference:	Statewide Stream Pollution Trends Study 2008
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	San Francisco Bay Basin Water Quality Control Plan 2007: All waters shall be maintained free of toxic substances in concentrations which are toxic to, or which produce detrimental

Objective/Criterion Reference:	physiological responses in, human, plant, animal, or aquatic life. Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	The evaluation guideline for fenpropathrin is the median lethal concentration (LC50) of 1 ug/g and is normalized by the percentage of organic carbon in the sediment sample. The LC50 1 ug/g is the geometric mean of LC50 values for fenpropathrin from Ding et al. (2011).
Guideline Reference:	Toxicity of Sediment-Associated Pesticides to Chironomus dilutus and Hyalella azteca. Arch. Environ. Contam. Toxicol. 61:83?92.
Spatial Representation:	Data for this line of evidence for Walnut Creek was collected at 1 monitoring site [Walnut Creek @ Concord Ave OC station (207WAL020)]
Temporal Representation:	Data was collected on a single day 6/17/2008.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	SWAMP data collected before September 2008 followed the QAMP (2002), however there may have been overlap in QA with SWAMP QAPP (2008).
QAPP Information Reference(s):	Quality Assurance Management Plan for the State of California's Surface Water Ambient Monitoring Program. Sacramento, CA. State Water Resources Control Board. SWAMP. December 2002 (1st version) Surface Water Ambient Monitoring Program Quality Assurance Program Plan

Line of Evidence (LOE) for Decision ID 65897, Fenpropathrin

Region 2

Walnut Creek

LOE ID:	93539
Pollutant:	Fenpropathrin
LOE Subgroup:	Pollutant-Sediment
Matrix:	Sediment
Fraction:	Total
Beneficial Use:	Warm Freshwater Habitat
Number of Samples:	1
Number of Exceedances:	0
Data and Information Type:	PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality:	Water Board staff assessed SWAMP data for Walnut Creek to determine beneficial use support and results are as follows: 0 of 1 samples exceed the criterion for Fenpropathrin.
Data Reference:	Statewide Stream Pollution Trends Study 2008
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	San Francisco Bay Basin Water Quality Control Plan 2007: All waters shall be maintained free of toxic substances in concentrations which are toxic to, or which produce detrimental physiological responses in, human, plant, animal, or aquatic life.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	The evaluation guideline for fenpropathrin is the median lethal concentration (LC50) of 1 ug/g and is normalized by the percentage of organic carbon in the sediment sample. The LC50 1 ug/g is the geometric mean of LC50 values for fenpropathrin from Ding et al. (2011).
Guideline Reference:	Toxicity of Sediment-Associated Pesticides to Chironomus dilutus and Hyalella azteca. Arch. Environ. Contam. Toxicol. 61:83?92.
Spatial Representation:	Data for this line of evidence for Walnut Creek was collected at 1 monitoring site [Walnut Creek @ Concord Ave OC station (207WAL020)]
Temporal Representation:	Data was collected on a single day 6/17/2008.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	SWAMP data collected before September 2008 followed the QAMP (2002), however there may have been overlap in QA with SWAMP QAPP (2008).
QAPP Information Reference(s):	Quality Assurance Management Plan for the State of California's Surface Water Ambient

DECISION ID	65898	Region 2
Walnut Creek		

Pollutant: Fluoranthene
Final Listing Decision: Do Not List on 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision: New Decision
Revision Status: Revised
Impairment from Pollutant or Pollution: Pollutant

Regional Board Staff Conclusion: This pollutant is being considered for placement on the CWA section 303(d) List under section 3.6 of the Listing Policy. Under section 3.6 at least two lines of evidence are necessary to assess listing status for pollutants sediment, and pollutant concentrations in sediment must be associated with sediment toxicity to justify adding that pollutant to the CWA section 303(d) List.

Two lines of evidence are available in the administrative record to assess this pollutant. Zero of one samples exceed the guideline. Sediment toxicity data are available but not relevant because there is not enough information based on sediment chemistry.

Based on the readily available data and information, the weight of evidence indicates that there is insufficient justification for placing this water segment-pollutant combination on the CWA section 303(d) List.

This conclusion is based on the staff findings that:

1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy.
2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy.
3. Zero of one samples exceed the objective and this sample size is insufficient to determine beneficial use support, with the power and confidence of the Listing Policy. There is an associated sediment toxicity data as required by Section 3.6 of the Listing Policy, but these data are not attached to this decision because the sediment chemistry data are insufficient.
4. Pursuant to section 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.

Regional Board Staff Decision Recommendation: After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be placed on the section 303(d) list. The readily available data and information is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating.

Line of Evidence (LOE) for Decision ID 65898, Fluoranthene	Region 2
Walnut Creek	

LOE ID: 93545
Pollutant: Fluoranthene
LOE Subgroup: Pollutant-Sediment
Matrix: Sediment
Fraction: Total
Beneficial Use: Cold Freshwater Habitat
Number of Samples: 1
Number of Exceedances: 0
Data and Information Type: PHYSICAL/CHEMICAL MONITORING

Data Used to Assess Water Quality:	Water Board staff assessed SWAMP data for Walnut Creek to determine beneficial use support and results are as follows: 0 of 1 samples exceed the criterion for Fluoranthene.
Data Reference:	Statewide Stream Pollution Trends Study 2008
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	San Francisco Bay Basin Water Quality Control Plan 2007: All waters shall be maintained free of toxic substances in concentrations which are toxic to, or which produce detrimental physiological responses in, human, plant, animal, or aquatic life.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	In freshwater sediments the probable effects level (predictive of sediment toxicity for sediment-dwelling organisms) for Fluoranthene is 2,230 ug/Kg dry weight (Macdonald et al. 2000)
Guideline Reference:	Development and evaluation of consensus-based sediment quality guidelines for freshwater ecosystems. Environmental Contamination and Toxicology. 39: 20-31
Spatial Representation:	Data for this line of evidence for Walnut Creek was collected at 1 monitoring site [Walnut Creek @ Concord Ave OC station (207WAL020)]
Temporal Representation:	Data was collected on a single day 6/17/2008.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	SWAMP data collected before September 2008 followed the QAMP (2002), however there may have been overlap in QA with SWAMP QAPP (2008).
QAPP Information Reference(s):	Quality Assurance Management Plan for the State of California's Surface Water Ambient Monitoring Program. Sacramento, CA. State Water Resources Control Board. SWAMP. December 2002 (1st version) Surface Water Ambient Monitoring Program Quality Assurance Program Plan

Line of Evidence (LOE) for Decision ID 65898, Fluoranthene

Region 2

Walnut Creek

LOE ID:	93544
Pollutant:	Fluoranthene
LOE Subgroup:	Pollutant-Sediment
Matrix:	Sediment
Fraction:	Total
Beneficial Use:	Warm Freshwater Habitat
Number of Samples:	1
Number of Exceedances:	0
Data and Information Type:	PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality:	Water Board staff assessed SWAMP data for Walnut Creek to determine beneficial use support and results are as follows: 0 of 1 samples exceed the criterion for Fluoranthene.
Data Reference:	Statewide Stream Pollution Trends Study 2008
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	San Francisco Bay Basin Water Quality Control Plan 2007: All waters shall be maintained free of toxic substances in concentrations which are toxic to, or which produce detrimental physiological responses in, human, plant, animal, or aquatic life.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	In freshwater sediments the probable effects level (predictive of sediment toxicity for sediment-dwelling organisms) for Fluoranthene is 2,230 ug/Kg dry weight (Macdonald et al. 2000)
Guideline Reference:	Development and evaluation of consensus-based sediment quality guidelines for freshwater ecosystems. Environmental Contamination and Toxicology. 39: 20-31
Spatial Representation:	Data for this line of evidence for Walnut Creek was collected at 1 monitoring site [Walnut

Temporal Representation:	Creek @ Concord Ave OC station (207WAL020)]
Environmental Conditions:	Data was collected on a single day 6/17/2008.
QAPP Information:	Staff is not aware of any special conditions that might affect interpretation of the data. SWAMP data collected before September 2008 followed the QAMP (2002), however there may have been overlap in QA with SWAMP QAPP (2008).
QAPP Information Reference(s):	Quality Assurance Management Plan for the State of California's Surface Water Ambient Monitoring Program. Sacramento, CA. State Water Resources Control Board. SWAMP. December 2002 (1st version). Surface Water Ambient Monitoring Program Quality Assurance Program Plan

DECISION ID	65899	Region 2
Walnut Creek		

Pollutant:	Fluorene
Final Listing Decision:	Do Not List on 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision:	New Decision
Revision Status	Revised
Impairment from Pollutant or Pollution:	Pollutant

Regional Board Staff Conclusion: This pollutant is being considered for placement on the CWA section 303(d) List under section 3.6 of the Listing Policy. Under section 3.6 at least two lines of evidence are necessary to assess listing status for pollutants sediment, and pollutant concentrations in sediment must be associated with sediment toxicity to justify adding that pollutant to the CWA section 303(d) List.

Two lines of evidence are available in the administrative record to assess this pollutant. Zero of one samples exceed the guideline. Sediment toxicity data are available but not relevant because there is not enough information based on sediment chemistry.

Based on the readily available data and information, the weight of evidence indicates that there is insufficient justification for placing this water segment-pollutant combination on the CWA section 303(d) List.

This conclusion is based on the staff findings that:

1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy.
2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy.
3. Zero of one samples exceed the objective and this sample size is insufficient to determine beneficial use support, with the power and confidence of the Listing Policy. There is an associated sediment toxicity data as required by Section 3.6 of the Listing Policy, but these data are not attached to this decision because the sediment chemistry data are insufficient.
4. Pursuant to section 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.

Regional Board Staff Decision Recommendation: After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be placed on the section 303(d) list. The readily available data and information is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating.

Line of Evidence (LOE) for Decision ID 65899, Fluorene	Region 2
Walnut Creek	

LOE ID:	93546
Pollutant:	Fluorene
LOE Subgroup:	Pollutant-Sediment
Matrix:	Sediment
Fraction:	Total

Beneficial Use:	Warm Freshwater Habitat
Number of Samples:	1
Number of Exceedances:	0
Data and Information Type:	PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality:	Water Board staff assessed SWAMP data for Walnut Creek to determine beneficial use support and results are as follows: 0 of 1 samples exceed the criterion for Fluorene.
Data Reference:	Statewide Stream Pollution Trends Study 2008
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	San Francisco Bay Basin Water Quality Control Plan 2007: All waters shall be maintained free of toxic substances in concentrations which are toxic to, or which produce detrimental physiological responses in, human, plant, animal, or aquatic life.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	In freshwater sediments the probable effect concentration (predictive of sediment toxicity for sediment-dwelling organisms) for fluorene is 536 ug/Kg dry weight (MacDonald et al. 2000).
Guideline Reference:	Development and evaluation of consensus-based sediment quality guidelines for freshwater ecosystems. Environmental Contamination and Toxicology. 39: 20-31
Spatial Representation:	Data for this line of evidence for Walnut Creek was collected at 1 monitoring site [Walnut Creek @ Concord Ave OC station (207WAL020)]
Temporal Representation:	Data was collected on a single day 6/17/2008.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	SWAMP data collected before September 2008 followed the QAMP (2002), however there may have been overlap in QA with SWAMP QAPP (2008).
QAPP Information Reference(s):	Quality Assurance Management Plan for the State of California's Surface Water Ambient Monitoring Program. Sacramento, CA. State Water Resources Control Board. SWAMP. December 2002 (1st version) Surface Water Ambient Monitoring Program Quality Assurance Program Plan

Line of Evidence (LOE) for Decision ID 65899, Fluorene

Region 2

Walnut Creek

LOE ID:	93547
Pollutant:	Fluorene
LOE Subgroup:	Pollutant-Sediment
Matrix:	Sediment
Fraction:	Total
Beneficial Use:	Cold Freshwater Habitat
Number of Samples:	1
Number of Exceedances:	0
Data and Information Type:	PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality:	Water Board staff assessed SWAMP data for Walnut Creek to determine beneficial use support and results are as follows: 0 of 1 samples exceed the criterion for Fluorene.
Data Reference:	Statewide Stream Pollution Trends Study 2008
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	San Francisco Bay Basin Water Quality Control Plan 2007: All waters shall be maintained free of toxic substances in concentrations which are toxic to, or which produce detrimental physiological responses in, human, plant, animal, or aquatic life.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	In freshwater sediments the probable effect concentration (predictive of sediment toxicity

Guideline Reference:	for sediment-dwelling organisms) for fluorene is 536 ug/Kg dry weight (MacDonald et al. 2000). Development and evaluation of consensus-based sediment quality guidelines for freshwater ecosystems. Environmental Contamination and Toxicology. 39: 20-31
Spatial Representation:	Data for this line of evidence for Walnut Creek was collected at 1 monitoring site [Walnut Creek @ Concord Ave OC station (207WAL020)]
Temporal Representation:	Data was collected on a single day 6/17/2008.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	SWAMP data collected before September 2008 followed the QAMP (2002), however there may have been overlap in QA with SWAMP QAPP (2008).
QAPP Information Reference(s):	Quality Assurance Management Plan for the State of California's Surface Water Ambient Monitoring Program. Sacramento, CA. State Water Resources Control Board. SWAMP. December 2002 (1st version). Surface Water Ambient Monitoring Program Quality Assurance Program Plan

DECISION ID	65900	Region 2
Walnut Creek		

Pollutant:	Lead
Final Listing Decision:	Do Not List on 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision:	New Decision
Revision Status	Revised
Impairment from Pollutant or Pollution:	Pollutant
Regional Board Staff Conclusion:	<p>This pollutant is being considered for placement on the CWA section 303(d) List under section 3.6 of the Listing Policy. Under section 3.6 at least two lines of evidence are necessary to assess listing status for pollutants sediment, and pollutant concentrations in sediment must be associated with sediment toxicity to justify adding that pollutant to the CWA section 303(d) List.</p> <p>Two lines of evidence are available in the administrative record to assess this pollutant. Zero of one samples exceed the guideline. Sediment toxicity data are available but not relevant because there is not enough information based on sediment chemistry.</p> <p>Based on the readily available data and information, the weight of evidence indicates that there is insufficient justification for placing this water segment-pollutant combination on the CWA section 303(d) List.</p> <p>This conclusion is based on the staff findings that:</p> <ol style="list-style-type: none"> 1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy. 2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy. 3. Zero of one samples exceed the objective and this sample size is insufficient to determine beneficial use support, with the power and confidence of the Listing Policy. There is an associated sediment toxicity data as required by Section 3.6 of the Listing Policy, but these data are not attached to this decision because the sediment chemistry data are insufficient. 4. Pursuant to section 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.
Regional Board Staff Decision Recommendation:	After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be placed on the section 303(d) list. The readily available data and information is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating.

Line of Evidence (LOE) for Decision ID 65900, Lead	Region 2
Walnut Creek	

LOE ID: 93548

Pollutant:	Lead
LOE Subgroup:	Pollutant-Sediment
Matrix:	Sediment
Fraction:	Total
Beneficial Use:	Warm Freshwater Habitat
Number of Samples:	1
Number of Exceedances:	0
Data and Information Type:	PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality:	Water Board staff assessed SWAMP data for Walnut Creek to determine beneficial use support and results are as follows: 0 of 1 samples exceed the criterion for Lead.
Data Reference:	Statewide Stream Pollution Trends Study 2008
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	San Francisco Bay Basin Water Quality Control Plan 2007: All waters shall be maintained free of toxic substances in concentrations which are toxic to, or which produce detrimental physiological responses in, human, plant, animal, or aquatic life.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	In freshwater sediments the probable effect concentration (predictive of sediment toxicity for sediment-dwelling organisms) for lead is 128 mg/Kg dry weight (MacDonald et al. 2000).
Guideline Reference:	Development and evaluation of consensus-based sediment quality guidelines for freshwater ecosystems. Environmental Contamination and Toxicology. 39: 20-31
Spatial Representation:	Data for this line of evidence for Walnut Creek was collected at 1 monitoring site [Walnut Creek @ Concord Ave OC station (207WAL020)]
Temporal Representation:	Data was collected on a single day 6/17/2008.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	SWAMP data collected before September 2008 followed the QAMP (2002), however there may have been overlap in QA with SWAMP QAPP (2008).
QAPP Information Reference(s):	Quality Assurance Management Plan for the State of California's Surface Water Ambient Monitoring Program. Sacramento, CA. State Water Resources Control Board. SWAMP. December 2002 (1st version). Surface Water Ambient Monitoring Program Quality Assurance Program Plan

**Line of Evidence (LOE) for Decision ID 65900, Lead
Walnut Creek**

Region 2

LOE ID:	93556
Pollutant:	Lead
LOE Subgroup:	Pollutant-Sediment
Matrix:	Sediment
Fraction:	Total
Beneficial Use:	Cold Freshwater Habitat
Number of Samples:	1
Number of Exceedances:	0
Data and Information Type:	PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality:	Water Board staff assessed SWAMP data for Walnut Creek to determine beneficial use support and results are as follows: 0 of 1 samples exceed the criterion for Lead.
Data Reference:	Statewide Stream Pollution Trends Study 2008
SWAMP Data:	SWAMP

Water Quality Objective/Criterion:	San Francisco Bay Basin Water Quality Control Plan 2007: All waters shall be maintained free of toxic substances in concentrations which are toxic to, or which produce detrimental physiological responses in, human, plant, animal, or aquatic life.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	In freshwater sediments the probable effect concentration (predictive of sediment toxicity for sediment-dwelling organisms) for lead is 128 mg/Kg dry weight (MacDonald et al. 2000).
Guideline Reference:	Development and evaluation of consensus-based sediment quality guidelines for freshwater ecosystems. Environmental Contamination and Toxicology. 39: 20-31
Spatial Representation:	Data for this line of evidence for Walnut Creek was collected at 1 monitoring site [Walnut Creek @ Concord Ave OC station (207WAL020)]
Temporal Representation:	Data was collected on a single day 6/17/2008.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	SWAMP data collected before September 2008 followed the QAMP (2002), however there may have been overlap in QA with SWAMP QAPP (2008).
QAPP Information Reference(s):	Quality Assurance Management Plan for the State of California's Surface Water Ambient Monitoring Program. Sacramento, CA. State Water Resources Control Board. SWAMP. December 2002 (1st version) Surface Water Ambient Monitoring Program Quality Assurance Program Plan

DECISION ID	65901	Region 2
Walnut Creek		

Pollutant:	Lindane/gamma Hexachlorocyclohexane (gamma-HCH)
Final Listing Decision:	Do Not List on 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision:	New Decision
Revision Status	Revised
Impairment from Pollutant or Pollution:	Pollutant

Regional Board Staff Conclusion: This pollutant is being considered for placement on the CWA section 303(d) List under section 3.6 of the Listing Policy. Under section 3.6 at least two lines of evidence are necessary to assess listing status for pollutants sediment, and pollutant concentrations in sediment must be associated with sediment toxicity to justify adding that pollutant to the CWA section 303(d) List.

Two lines of evidence are available in the administrative record to assess this pollutant. Zero of one samples exceed the guideline. Sediment toxicity data are available but not relevant because there is not enough information based on sediment chemistry.

Based on the readily available data and information, the weight of evidence indicates that there is insufficient justification for placing this water segment-pollutant combination on the CWA section 303(d) List.

This conclusion is based on the staff findings that:

1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy.
2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy.
3. Zero of one samples exceed the objective and this sample size is insufficient to determine beneficial use support, with the power and confidence of the Listing Policy. There is an associated sediment toxicity data as required by Section 3.6 of the Listing Policy, but these data are not attached to this decision because the sediment chemistry data are insufficient.
4. Pursuant to section 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.

Regional Board Staff Decision Recommendation: After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be placed on the section 303(d) list. The readily available data and information is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating.

Line of Evidence (LOE) for Decision ID 65901, Lindane/gamma Hexachlorocyclohexane (gamma-HCH)

Region 2

Walnut Creek

LOE ID:	93558
Pollutant:	Lindane/gamma Hexachlorocyclohexane (gamma-HCH)
LOE Subgroup:	Pollutant-Sediment
Matrix:	Sediment
Fraction:	Total
Beneficial Use:	Cold Freshwater Habitat
Number of Samples:	1
Number of Exceedances:	0
Data and Information Type:	PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality:	Water Board staff assessed SWAMP data for Walnut Creek to determine beneficial use support and results are as follows: 0 of 1 samples exceed the criterion for HCH, gamma.
Data Reference:	Statewide Stream Pollution Trends Study 2008
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	San Francisco Bay Basin Water Quality Control Plan 2007: All waters shall be maintained free of toxic substances in concentrations which are toxic to, or which produce detrimental physiological responses in, human, plant, animal, or aquatic life.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	In freshwater sediments the probable effect concentration (predictive of sediment toxicity for sediment-dwelling organisms) for Lindane (gamma-HCH) is 4.99 ug/Kg dry weight (MacDonald et al. 2000).
Guideline Reference:	Development and evaluation of consensus-based sediment quality guidelines for freshwater ecosystems. Environmental Contamination and Toxicology. 39: 20-31
Spatial Representation:	Data for this line of evidence for Walnut Creek was collected at 1 monitoring site [Walnut Creek @ Concord Ave OC station (207WAL020)]
Temporal Representation:	Data was collected on a single day 6/17/2008.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	SWAMP data collected before September 2008 followed the QAMP (2002), however there may have been overlap in QA with SWAMP QAPP (2008).
QAPP Information Reference(s):	Quality Assurance Management Plan for the State of California's Surface Water Ambient Monitoring Program. Sacramento, CA. State Water Resources Control Board. SWAMP. December 2002 (1st version). Surface Water Ambient Monitoring Program Quality Assurance Program Plan

Line of Evidence (LOE) for Decision ID 65901, Lindane/gamma Hexachlorocyclohexane (gamma-HCH)

Region 2

Walnut Creek

LOE ID:	93557
Pollutant:	Lindane/gamma Hexachlorocyclohexane (gamma-HCH)
LOE Subgroup:	Pollutant-Sediment
Matrix:	Sediment
Fraction:	Total
Beneficial Use:	Warm Freshwater Habitat
Number of Samples:	1
Number of Exceedances:	0

Data and Information Type:	PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality:	Water Board staff assessed SWAMP data for Walnut Creek to determine beneficial use support and results are as follows: 0 of 1 samples exceed the criterion for HCH, gamma.
Data Reference:	Statewide Stream Pollution Trends Study 2008
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	San Francisco Bay Basin Water Quality Control Plan 2007: All waters shall be maintained free of toxic substances in concentrations which are toxic to, or which produce detrimental physiological responses in, human, plant, animal, or aquatic life.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	In freshwater sediments the probable effect concentration (predictive of sediment toxicity for sediment-dwelling organisms) for Lindane (gamma-HCH) is 4.99 ug/Kg dry weight (MacDonald et al. 2000).
Guideline Reference:	Development and evaluation of consensus-based sediment quality guidelines for freshwater ecosystems. Environmental Contamination and Toxicology. 39: 20-31
Spatial Representation:	Data for this line of evidence for Walnut Creek was collected at 1 monitoring site [Walnut Creek @ Concord Ave OC station (207WAL020)]
Temporal Representation:	Data was collected on a single day 6/17/2008.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	SWAMP data collected before September 2008 followed the QAMP (2002), however there may have been overlap in QA with SWAMP QAPP (2008).
QAPP Information Reference(s):	Quality Assurance Management Plan for the State of California's Surface Water Ambient Monitoring Program. Sacramento, CA. State Water Resources Control Board. SWAMP. December 2002 (1st version) Surface Water Ambient Monitoring Program Quality Assurance Program Plan

DECISION ID	65902	Region 2
Walnut Creek		

Pollutant:	Mercury
Final Listing Decision:	Do Not List on 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision:	New Decision
Revision Status	Revised
Impairment from Pollutant or Pollution:	Pollutant
Regional Board Staff Conclusion:	<p>This pollutant is being considered for placement on the CWA section 303(d) List under section 3.6 of the Listing Policy. Under section 3.6 at least two lines of evidence are necessary to assess listing status for pollutants sediment, and pollutant concentrations in sediment must be associated with sediment toxicity to justify adding that pollutant to the CWA section 303(d) List.</p> <p>Two lines of evidence are available in the administrative record to assess this pollutant. Zero of one samples exceed the guideline. Sediment toxicity data are available but not relevant because there is not enough information based on sediment chemistry.</p> <p>Based on the readily available data and information, the weight of evidence indicates that there is insufficient justification for placing this water segment-pollutant combination on the CWA section 303(d) List.</p> <p>This conclusion is based on the staff findings that:</p> <ol style="list-style-type: none"> 1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy. 2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy. 3. Zero of one samples exceed the objective and this sample size is insufficient to determine beneficial use support, with the power and confidence of the Listing Policy. There is an associated sediment toxicity data as required by Section 3.6 of the Listing Policy, but these data are not attached to this decision because the sediment chemistry data are insufficient.

4. Pursuant to section 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.

Regional Board Staff Decision Recommendation: After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be placed on the section 303(d) list. The readily available data and information is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating.

Line of Evidence (LOE) for Decision ID 65902, Mercury

Region 2

Walnut Creek

LOE ID: 93560

Pollutant: Mercury
LOE Subgroup: Pollutant-Sediment
Matrix: Sediment
Fraction: Total

Beneficial Use: Cold Freshwater Habitat

Number of Samples: 1
Number of Exceedances: 0

Data and Information Type: PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality: Water Board staff assessed SWAMP data for Walnut Creek to determine beneficial use support and results are as follows: 0 of 1 samples exceed the criterion for Mercury.

Data Reference: [Statewide Stream Pollution Trends Study 2008](#)

SWAMP Data: SWAMP

Water Quality Objective/Criterion: San Francisco Bay Basin Water Quality Control Plan 2007: All waters shall be maintained free of toxic substances in concentrations which are toxic to, or which produce detrimental physiological responses in, human, plant, animal, or aquatic life.

Objective/Criterion Reference: [Water Quality Control Plan \(Basin Plan\) San Francisco Bay Basin \(Region 2\)](#)

Evaluation Guideline: In freshwater sediments the probable effect concentration (predictive of sediment toxicity for sediment-dwelling organisms) for mercury is 1.06 mg/Kg dry weight (MacDonald et al. 2000).

Guideline Reference: [Development and evaluation of consensus-based sediment quality guidelines for freshwater ecosystems. Environmental Contamination and Toxicology. 39: 20-31](#)

Spatial Representation: Data for this line of evidence for Walnut Creek was collected at 1 monitoring site [Walnut Creek @ Concord Ave OC station (207WAL020)]

Temporal Representation: Data was collected on a single day 6/17/2008.

Environmental Conditions: Staff is not aware of any special conditions that might affect interpretation of the data.

QAPP Information: SWAMP data collected before September 2008 followed the QAMP (2002), however there may have been overlap in QA with SWAMP QAPP (2008).

QAPP Information Reference(s): [Quality Assurance Management Plan for the State of California's Surface Water Ambient Monitoring Program. Sacramento, CA. State Water Resources Control Board. SWAMP. December 2002 \(1st version\)](#)
[Surface Water Ambient Monitoring Program Quality Assurance Program Plan](#)

Line of Evidence (LOE) for Decision ID 65902, Mercury

Region 2

Walnut Creek

LOE ID: 93559

Pollutant: Mercury
LOE Subgroup: Pollutant-Sediment
Matrix: Sediment

Fraction:	Total
Beneficial Use:	Warm Freshwater Habitat
Number of Samples:	1
Number of Exceedances:	0
Data and Information Type:	PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality:	Water Board staff assessed SWAMP data for Walnut Creek to determine beneficial use support and results are as follows: 0 of 1 samples exceed the criterion for Mercury.
Data Reference:	Statewide Stream Pollution Trends Study 2008
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	San Francisco Bay Basin Water Quality Control Plan 2007: All waters shall be maintained free of toxic substances in concentrations which are toxic to, or which produce detrimental physiological responses in, human, plant, animal, or aquatic life.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	In freshwater sediments the probable effect concentration (predictive of sediment toxicity for sediment-dwelling organisms) for mercury is 1.06 mg/Kg dry weight (MacDonald et al. 2000).
Guideline Reference:	Development and evaluation of consensus-based sediment quality guidelines for freshwater ecosystems. Environmental Contamination and Toxicology. 39: 20-31
Spatial Representation:	Data for this line of evidence for Walnut Creek was collected at 1 monitoring site [Walnut Creek @ Concord Ave OC station (207WAL020)]
Temporal Representation:	Data was collected on a single day 6/17/2008.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	SWAMP data collected before September 2008 followed the QAMP (2002), however there may have been overlap in QA with SWAMP QAPP (2008).
QAPP Information Reference(s):	Quality Assurance Management Plan for the State of California's Surface Water Ambient Monitoring Program. Sacramento, CA. State Water Resources Control Board. SWAMP. December 2002 (1st version) Surface Water Ambient Monitoring Program Quality Assurance Program Plan

DECISION ID	65903	Region 2
Walnut Creek		

Pollutant:	Methyl Parathion
Final Listing Decision:	Do Not List on 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision:	New Decision
Revision Status	Revised
Impairment from Pollutant or Pollution:	Pollutant
Regional Board Staff Conclusion:	<p>This pollutant is being considered for placement on the CWA section 303(d) List under section 3.6 of the Listing Policy. Under section 3.6 at least two lines of evidence are necessary to assess listing status for pollutants sediment, and pollutant concentrations in sediment must be associated with sediment toxicity to justify adding that pollutant to the CWA section 303(d) List.</p> <p>Two lines of evidence are available in the administrative record to assess this pollutant. Zero of one samples exceed the guideline. Sediment toxicity data are available but not relevant because there is not enough information based on sediment chemistry.</p> <p>Based on the readily available data and information, the weight of evidence indicates that there is insufficient justification for placing this water segment-pollutant combination on the CWA section 303(d) List.</p> <p>This conclusion is based on the staff findings that:</p>

1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy.
2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy.
3. Zero of one samples exceed the objective and this sample size is insufficient to determine beneficial use support, with the power and confidence of the Listing Policy. There is an associated sediment toxicity data as required by Section 3.6 of the Listing Policy, but these data are not attached to this decision because the sediment chemistry data are insufficient.
4. Pursuant to section 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.

Regional Board Staff Decision Recommendation: After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be placed on the section 303(d) list. The readily available data and information is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating.

Line of Evidence (LOE) for Decision ID 65903, Methyl Parathion		Region 2
Walnut Creek		
LOE ID:	93570	
Pollutant:	Methyl Parathion	
LOE Subgroup:	Pollutant-Sediment	
Matrix:	Sediment	
Fraction:	Total	
Beneficial Use:	Warm Freshwater Habitat	
Number of Samples:	1	
Number of Exceedances:	0	
Data and Information Type:	PHYSICAL/CHEMICAL MONITORING	
Data Used to Assess Water Quality:	Water Board staff assessed SWAMP data for Walnut Creek to determine beneficial use support and results are as follows: 0 of 1 samples exceed the criterion for Parathion, Methyl.	
Data Reference:	Statewide Stream Pollution Trends Study 2008	
SWAMP Data:	SWAMP	
Water Quality Objective/Criterion:	San Francisco Bay Basin Water Quality Control Plan 2007: All waters shall be maintained free of toxic substances in concentrations which are toxic to, or which produce detrimental physiological responses in, human, plant, animal, or aquatic life.	
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)	
Evaluation Guideline:	The evaluation guideline for methyl parathion is the median lethal concentration (LC50) of 6 ug/g and is normalized by the percentage of organic carbon in the sediment sample. The LC50 6 ug/g is the geometric mean of LC50 values for methyl parathion from Ding et al. (2011).	
Guideline Reference:	Toxicity of Sediment-Associated Pesticides to Chironomus dilutus and Hyalella azteca. Arch. Environ. Contam. Toxicol. 61:83?92.	
Spatial Representation:	Data for this line of evidence for Walnut Creek was collected at 1 monitoring site [Walnut Creek @ Concord Ave OC station (207WAL020)]	
Temporal Representation:	Data was collected on a single day 6/17/2008.	
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.	
QAPP Information:	SWAMP data collected before September 2008 followed the QAMP (2002), however there may have been overlap in QA with SWAMP QAPP (2008).	
QAPP Information Reference(s):	Quality Assurance Management Plan for the State of California's Surface Water Ambient Monitoring Program. Sacramento, CA. State Water Resources Control Board. SWAMP. December 2002 (1st version). Surface Water Ambient Monitoring Program Quality Assurance Program Plan	
Line of Evidence (LOE) for Decision ID 65903, Methyl Parathion		Region 2

Walnut Creek

LOE ID:	93571
Pollutant:	Methyl Parathion
LOE Subgroup:	Pollutant-Sediment
Matrix:	Sediment
Fraction:	Total
Beneficial Use:	Cold Freshwater Habitat
Number of Samples:	1
Number of Exceedances:	0
Data and Information Type:	PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality:	Water Board staff assessed SWAMP data for Walnut Creek to determine beneficial use support and results are as follows: 0 of 1 samples exceed the criterion for Parathion, Methyl.
Data Reference:	Statewide Stream Pollution Trends Study 2008
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	San Francisco Bay Basin Water Quality Control Plan 2007: All waters shall be maintained free of toxic substances in concentrations which are toxic to, or which produce detrimental physiological responses in, human, plant, animal, or aquatic life.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	The evaluation guideline for methyl parathion is the median lethal concentration (LC50) of 6 ug/g and is normalized by the percentage of organic carbon in the sediment sample. The LC50 6 ug/g is the geometric mean of LC50 values for methyl parathion from Ding et al. (2011).
Guideline Reference:	Toxicity of Sediment-Associated Pesticides to Chironomus dilutus and Hyalella azteca. Arch. Environ. Contam. Toxicol. 61:83?92.
Spatial Representation:	Data for this line of evidence for Walnut Creek was collected at 1 monitoring site [Walnut Creek @ Concord Ave OC station (207WAL020)]
Temporal Representation:	Data was collected on a single day 6/17/2008.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	SWAMP data collected before September 2008 followed the QAMP (2002), however there may have been overlap in QA with SWAMP QAPP (2008).
QAPP Information Reference(s):	Quality Assurance Management Plan for the State of California's Surface Water Ambient Monitoring Program. Sacramento, CA. State Water Resources Control Board. SWAMP. December 2002 (1st version) Surface Water Ambient Monitoring Program Quality Assurance Program Plan

DECISION ID	65904	Region 2
Walnut Creek		

Pollutant:	Naphthalene
Final Listing Decision:	Do Not List on 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision:	New Decision
Revision Status	Revised
Impairment from Pollutant or Pollution:	Pollutant
Regional Board Staff Conclusion:	This pollutant is being considered for placement on the CWA section 303(d) List under section 3.6 of the Listing Policy. Under section 3.6 at least two lines of evidence are necessary to assess listing status for pollutants sediment, and pollutant concentrations in sediment must be associated with sediment toxicity to justify adding that pollutant to the CWA section 303(d) List.

Two lines of evidence are available in the administrative record to assess this pollutant. Zero of one samples exceed the guideline. Sediment toxicity data are available but not relevant because there is not enough information based on sediment chemistry.

Based on the readily available data and information, the weight of evidence indicates that there is insufficient justification for placing this water segment-pollutant combination on the CWA section 303(d) List.

This conclusion is based on the staff findings that:

1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy.
2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy.
3. Zero of one samples exceed the objective and this sample size is insufficient to determine beneficial use support, with the power and confidence of the Listing Policy. There is an associated sediment toxicity data as required by Section 3.6 of the Listing Policy, but these data are not attached to this decision because the sediment chemistry data are insufficient.
4. Pursuant to section 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.

Regional Board Staff Decision Recommendation: After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be placed on the section 303(d) list. The readily available data and information is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating.

**Line of Evidence (LOE) for Decision ID 65904, Naphthalene
Walnut Creek**

Region 2

LOE ID:	93572
Pollutant:	Naphthalene
LOE Subgroup:	Pollutant-Sediment
Matrix:	Sediment
Fraction:	Total
Beneficial Use:	Warm Freshwater Habitat
Number of Samples:	1
Number of Exceedances:	0
Data and Information Type:	PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality:	Water Board staff assessed SWAMP data for Walnut Creek to determine beneficial use support and results are as follows: 0 of 1 samples exceed the criterion for Naphthalene.
Data Reference:	Statewide Stream Pollution Trends Study 2008
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	San Francisco Bay Basin Water Quality Control Plan 2007: All waters shall be maintained free of toxic substances in concentrations which are toxic to, or which produce detrimental physiological responses in, human, plant, animal, or aquatic life.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	In freshwater sediments the probable effect concentration (predictive of sediment toxicity for sediment-dwelling organisms) for naphthalene is 561 ug/Kg dry weight (MacDonald et al. 2000).
Guideline Reference:	Development and evaluation of consensus-based sediment quality guidelines for freshwater ecosystems. Environmental Contamination and Toxicology. 39: 20-31
Spatial Representation:	Data for this line of evidence for Walnut Creek was collected at 1 monitoring site [Walnut Creek @ Concord Ave OC station (207WAL020)]
Temporal Representation:	Data was collected on a single day 6/17/2008.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	SWAMP data collected before September 2008 followed the QAMP (2002), however there

QAPP Information Reference(s): may have been overlap in QA with SWAMP QAPP (2008).
[Quality Assurance Management Plan for the State of California's Surface Water Ambient Monitoring Program. Sacramento, CA. State Water Resources Control Board. SWAMP. December 2002 \(1st version\)](#)
[Surface Water Ambient Monitoring Program Quality Assurance Program Plan](#)

Line of Evidence (LOE) for Decision ID 65904, Naphthalene
Walnut Creek

Region 2

LOE ID: 93573

Pollutant: Naphthalene
LOE Subgroup: Pollutant-Sediment
Matrix: Sediment
Fraction: Total

Beneficial Use: Cold Freshwater Habitat

Number of Samples: 1
Number of Exceedances: 0

Data and Information Type: PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality: Water Board staff assessed SWAMP data for Walnut Creek to determine beneficial use support and results are as follows: 0 of 1 samples exceed the criterion for Naphthalene.
Data Reference: [Statewide Stream Pollution Trends Study 2008](#)

SWAMP Data: SWAMP

Water Quality Objective/Criterion: San Francisco Bay Basin Water Quality Control Plan 2007: All waters shall be maintained free of toxic substances in concentrations which are toxic to, or which produce detrimental physiological responses in, human, plant, animal, or aquatic life.
Objective/Criterion Reference: [Water Quality Control Plan \(Basin Plan\) San Francisco Bay Basin \(Region 2\)](#)

Evaluation Guideline: In freshwater sediments the probable effect concentration (predictive of sediment toxicity for sediment-dwelling organisms) for naphthalene is 561 ug/Kg dry weight (MacDonald et al. 2000).
Guideline Reference: [Development and evaluation of consensus-based sediment quality guidelines for freshwater ecosystems. Environmental Contamination and Toxicology. 39: 20-31](#)

Spatial Representation: Data for this line of evidence for Walnut Creek was collected at 1 monitoring site [Walnut Creek @ Concord Ave OC station (207WAL020)]
Temporal Representation: Data was collected on a single day 6/17/2008.
Environmental Conditions: Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information: SWAMP data collected before September 2008 followed the QAMP (2002), however there may have been overlap in QA with SWAMP QAPP (2008).
QAPP Information Reference(s): [Quality Assurance Management Plan for the State of California's Surface Water Ambient Monitoring Program. Sacramento, CA. State Water Resources Control Board. SWAMP. December 2002 \(1st version\)](#)
[Surface Water Ambient Monitoring Program Quality Assurance Program Plan](#)

DECISION ID 65905
Walnut Creek

Region 2

Pollutant: Nickel
Final Listing Decision: Do Not List on 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision: New Decision
Revision Status: Revised
Impairment from Pollutant or Pollution: Pollutant

**Regional Board Staff
Conclusion:**

This pollutant is being considered for placement on the CWA section 303(d) List under section 3.6 of the Listing Policy. Under section 3.6 at least two lines of evidence are necessary to assess listing status for pollutants sediment, and pollutant concentrations in sediment must be associated with sediment toxicity to justify adding that pollutant to the CWA section 303(d) List.

Two lines of evidence are available in the administrative record to assess this pollutant. Zero of one samples exceed the guideline. Sediment toxicity data are available but not relevant because there is not enough information based on sediment chemistry.

Based on the readily available data and information, the weight of evidence indicates that there is insufficient justification for placing this water segment-pollutant combination on the CWA section 303(d) List.

This conclusion is based on the staff findings that:

1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy.
2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy.
3. Zero of one samples exceed the objective and this sample size is insufficient to determine beneficial use support, with the power and confidence of the Listing Policy. There is an associated sediment toxicity data as required by Section 3.6 of the Listing Policy, but these data are not attached to this decision because the sediment chemistry data are insufficient.
4. Pursuant to section 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.

**Regional Board Staff Decision
Recommendation:**

After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be placed on the section 303(d) list. The readily available data and information is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating.

Line of Evidence (LOE) for Decision ID 65905, Nickel

Region 2

Walnut Creek

LOE ID:	93583
Pollutant:	Nickel
LOE Subgroup:	Pollutant-Sediment
Matrix:	Sediment
Fraction:	Total
Beneficial Use:	Warm Freshwater Habitat
Number of Samples:	1
Number of Exceedances:	1
Data and Information Type:	PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality:	Water Board staff assessed SWAMP data for Walnut Creek to determine beneficial use support and results are as follows: 1 of 1 samples exceed the criterion for Nickel.
Data Reference:	Statewide Stream Pollution Trends Study 2008
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	San Francisco Bay Basin Water Quality Control Plan 2007: All waters shall be maintained free of toxic substances in concentrations which are toxic to, or which produce detrimental physiological responses in, human, plant, animal, or aquatic life.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	In freshwater sediments the probable effect concentration (predictive of sediment toxicity for sediment-dwelling organisms) for nickel is 48.6 mg/Kg dry weight (MacDonald et al. 2000).
Guideline Reference:	Development and evaluation of consensus-based sediment quality guidelines for freshwater ecosystems. Environmental Contamination and Toxicology. 39: 20-31

Spatial Representation:	Data for this line of evidence for Walnut Creek was collected at 1 monitoring site [Walnut Creek @ Concord Ave OC station (207WAL020)]
Temporal Representation:	Data was collected on a single day 6/17/2008.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	SWAMP data collected before September 2008 followed the QAMP (2002), however there may have been overlap in QA with SWAMP QAPP (2008).
QAPP Information Reference(s):	Quality Assurance Management Plan for the State of California's Surface Water Ambient Monitoring Program. Sacramento, CA. State Water Resources Control Board. SWAMP. December 2002 (1st version). Surface Water Ambient Monitoring Program Quality Assurance Program Plan

Line of Evidence (LOE) for Decision ID 65905, Nickel
Walnut Creek

Region 2

LOE ID:	93574
Pollutant:	Nickel
LOE Subgroup:	Pollutant-Sediment
Matrix:	Sediment
Fraction:	Total
Beneficial Use:	Cold Freshwater Habitat
Number of Samples:	1
Number of Exceedances:	1
Data and Information Type:	PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality:	Water Board staff assessed SWAMP data for Walnut Creek to determine beneficial use support and results are as follows: 1 of 1 samples exceed the criterion for Nickel.
Data Reference:	Statewide Stream Pollution Trends Study 2008
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	San Francisco Bay Basin Water Quality Control Plan 2007: All waters shall be maintained free of toxic substances in concentrations which are toxic to, or which produce detrimental physiological responses in, human, plant, animal, or aquatic life.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	In freshwater sediments the probable effect concentration (predictive of sediment toxicity for sediment-dwelling organisms) for nickel is 48.6 mg/Kg dry weight (MacDonald et al. 2000).
Guideline Reference:	Development and evaluation of consensus-based sediment quality guidelines for freshwater ecosystems. Environmental Contamination and Toxicology. 39: 20-31
Spatial Representation:	Data for this line of evidence for Walnut Creek was collected at 1 monitoring site [Walnut Creek @ Concord Ave OC station (207WAL020)]
Temporal Representation:	Data was collected on a single day 6/17/2008.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	SWAMP data collected before September 2008 followed the QAMP (2002), however there may have been overlap in QA with SWAMP QAPP (2008).
QAPP Information Reference(s):	Quality Assurance Management Plan for the State of California's Surface Water Ambient Monitoring Program. Sacramento, CA. State Water Resources Control Board. SWAMP. December 2002 (1st version). Surface Water Ambient Monitoring Program Quality Assurance Program Plan

DECISION ID 65906
Walnut Creek

Region 2

Pollutant: PAHs (Polycyclic Aromatic Hydrocarbons)

Final Listing Decision:
Last Listing Cycle's Final Listing Decision:
Revision Status
Impairment from Pollutant or Pollution:

Do Not List on 303(d) list (TMDL required list)
New Decision

Revised
Pollutant

Regional Board Staff Conclusion:

This pollutant is being considered for placement on the CWA section 303(d) List under section 3.6 of the Listing Policy. Under section 3.6 at least two lines of evidence are necessary to assess listing status for pollutants sediment, and pollutant concentrations in sediment must be associated with sediment toxicity to justify adding that pollutant to the CWA section 303(d) List.

Two lines of evidence are available in the administrative record to assess this pollutant. Zero of one samples exceed the guideline. Sediment toxicity data are available but not relevant because there is not enough information based on sediment chemistry.

Based on the readily available data and information, the weight of evidence indicates that there is insufficient justification for placing this water segment-pollutant combination on the CWA section 303(d) List.

This conclusion is based on the staff findings that:

1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy.
2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy.
3. Zero of one samples exceed the objective and this sample size is insufficient to determine beneficial use support, with the power and confidence of the Listing Policy. There is an associated sediment toxicity data as required by Section 3.6 of the Listing Policy, but these data are not attached to this decision because the sediment chemistry data are insufficient.
4. Pursuant to section 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.

Regional Board Staff Decision Recommendation:

After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be placed on the section 303(d) list. The readily available data and information is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating.

Line of Evidence (LOE) for Decision ID 65906, PAHs (Polycyclic Aromatic Hydrocarbons)

Region 2

Walnut Creek

LOE ID: 93585

Pollutant: PAHs (Polycyclic Aromatic Hydrocarbons)
LOE Subgroup: Pollutant-Sediment
Matrix: Sediment
Fraction: Total

Beneficial Use: Cold Freshwater Habitat

Number of Samples: 1
Number of Exceedances: 0

Data and Information Type: PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality: Water Board staff assessed SWAMP data for Walnut Creek to determine beneficial use support and results are as follows: 0 of 1 samples exceed the criterion for PAHs (Polycyclic Aromatic Hydrocarbons).

Data Reference: [Statewide Stream Pollution Trends Study 2008](#)

SWAMP Data: SWAMP

Water Quality Objective/Criterion: San Francisco Bay Basin Water Quality Control Plan 2007: All waters shall be maintained free of toxic substances in concentrations which are toxic to, or which produce detrimental physiological responses in, human, plant, animal, or aquatic life.

Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	In freshwater sediments the probable effects level (predictive of sediment toxicity for sediment-dwelling organisms) for PAH, Total is 22,800 ug/Kg dry weight (Macdonald et al. 2000)
Guideline Reference:	Development and evaluation of consensus-based sediment quality guidelines for freshwater ecosystems. Environmental Contamination and Toxicology. 39: 20-31
Spatial Representation:	Data for this line of evidence for Walnut Creek was collected at 1 monitoring site [Walnut Creek @ Concord Ave OC station (207WAL020)]
Temporal Representation:	Data was collected on a single day 6/17/2008.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	SWAMP data collected before September 2008 followed the QAMP (2002), however there may have been overlap in QA with SWAMP QAPP (2008).
QAPP Information Reference(s):	Quality Assurance Management Plan for the State of California's Surface Water Ambient Monitoring Program. Sacramento, CA. State Water Resources Control Board. SWAMP. December 2002 (1st version) Surface Water Ambient Monitoring Program Quality Assurance Program Plan

Line of Evidence (LOE) for Decision ID 65906, PAHs (Polycyclic Aromatic Hydrocarbons)		Region 2
Walnut Creek		
LOE ID:	93584	
Pollutant:	PAHs (Polycyclic Aromatic Hydrocarbons)	
LOE Subgroup:	Pollutant-Sediment	
Matrix:	Sediment	
Fraction:	Total	
Beneficial Use:	Warm Freshwater Habitat	
Number of Samples:	1	
Number of Exceedances:	0	
Data and Information Type:	PHYSICAL/CHEMICAL MONITORING	
Data Used to Assess Water Quality:	Water Board staff assessed SWAMP data for Walnut Creek to determine beneficial use support and results are as follows: 0 of 1 samples exceed the criterion for PAHs (Polycyclic Aromatic Hydrocarbons).	
Data Reference:	Statewide Stream Pollution Trends Study 2008	
SWAMP Data:	SWAMP	
Water Quality Objective/Criterion:	San Francisco Bay Basin Water Quality Control Plan 2007: All waters shall be maintained free of toxic substances in concentrations which are toxic to, or which produce detrimental physiological responses in, human, plant, animal, or aquatic life.	
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)	
Evaluation Guideline:	In freshwater sediments the probable effects level (predictive of sediment toxicity for sediment-dwelling organisms) for PAH, Total is 22,800 ug/Kg dry weight (Macdonald et al. 2000)	
Guideline Reference:	Development and evaluation of consensus-based sediment quality guidelines for freshwater ecosystems. Environmental Contamination and Toxicology. 39: 20-31	
Spatial Representation:	Data for this line of evidence for Walnut Creek was collected at 1 monitoring site [Walnut Creek @ Concord Ave OC station (207WAL020)]	
Temporal Representation:	Data was collected on a single day 6/17/2008.	
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.	
QAPP Information:	SWAMP data collected before September 2008 followed the QAMP (2002), however there may have been overlap in QA with SWAMP QAPP (2008).	
QAPP Information Reference(s):	Quality Assurance Management Plan for the State of California's Surface Water Ambient Monitoring Program. Sacramento, CA. State Water Resources Control Board. SWAMP. December 2002 (1st version)	

DECISION ID	66842	Region 2
Walnut Creek		

Pollutant: PCBs (Polychlorinated biphenyls)
Final Listing Decision: Do Not List on 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision: New Decision
Revision Status: Revised
Impairment from Pollutant or Pollution: Pollutant

Regional Board Staff Conclusion: This pollutant is being considered for placement on the CWA section 303(d) List under section 3.6 of the Listing Policy. Under section 3.6 at least two lines of evidence are necessary to assess listing status for pollutants in sediment, and pollutant concentrations in sediment must be associated with sediment toxicity to justify adding that pollutant to the CWA section 303(d) List.

One line of evidence is available in the administrative record to assess this pollutant. Zero of one samples exceed the guideline. Sediment toxicity data are not associated with this decision because they are not relevant to this decision because there is insufficient information based on sediment chemistry.

Based on the readily available data and information, the weight of evidence indicates that there is insufficient justification for placing this water segment-pollutant combination on the CWA section 303(d) List.

This conclusion is based on the staff findings that:

1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy.
2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy.
3. Zero of one samples exceed the guideline and this sample size is insufficient to determine beneficial use support, with the power and confidence of the Listing Policy. A minimum of 16 samples is needed to determine if a beneficial use is fully supported using table 3.1. Sediment toxicity data are not associated with this decision because the sediment chemistry data are insufficient.
4. Pursuant to section 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.

Regional Board Staff Decision Recommendation: After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be placed on the section 303(d) list. The readily available data and information is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating.

Line of Evidence (LOE) for Decision ID 66842, PCBs (Polychlorinated biphenyls)	Region 2
Walnut Creek	

LOE ID: 90587
Pollutant: PCBs (Polychlorinated biphenyls)
LOE Subgroup: Pollutant-Sediment
Matrix: Sediment
Fraction: Total
Beneficial Use: Cold Freshwater Habitat
Number of Samples: 1
Number of Exceedances: 0
Data and Information Type: PHYSICAL/CHEMICAL MONITORING

Data Used to Assess Water Quality:	Zero of 1 sample collected for Total PCBs exceeded the evaluation guideline.
Data Reference:	Statewide Stream Pollution Trends Study 2008
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	Waters shall not contain substances in concentrations that result in the deposition of material that causes nuisance or adversely affects beneficial uses (Water Quality Control Plan for the San Francisco Bay Region).
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) - San Francisco Bay Region (Region 2)
Evaluation Guideline:	In freshwater sediments the probable effect concentration (predictive of sediment toxicity) for total PCB is 676 ug/Kg dry weight (MacDonald et al. 2000).
Guideline Reference:	Development and evaluation of consensus-based sediment quality guidelines for freshwater ecosystems. Environmental Contamination and Toxicology. 39: 20-31
Spatial Representation:	Data were collected at the following station 207WAL020 (Walnut Creek @ Concord Ave O.C.).
Temporal Representation:	The samples were collected on 6/17/2008.
Environmental Conditions:	
QAPP Information:	The SWAMP QAPP (2008) was followed.
QAPP Information Reference(s):	Surface Water Ambient Monitoring Program Quality Assurance Program Plan

DECISION ID	66843	Region 2
Walnut Creek		

Pollutant:	Permethrin
Final Listing Decision:	Do Not List on 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision:	New Decision
Revision Status	Revised
Impairment from Pollutant or Pollution:	Pollutant

Regional Board Staff Conclusion:	<p>This pollutant is being considered for placement on the CWA section 303(d) List under section 3.6 of the Listing Policy. Under section 3.6 at least two lines of evidence are necessary to assess listing status for pollutants in sediment, and pollutant concentrations in sediment must be associated with sediment toxicity to justify adding that pollutant to the CWA section 303(d) List.</p> <p>Two lines of evidence are available in the administrative record to assess this pollutant. Zero of one samples exceed the guideline. Sediment toxicity data are not associated with this decision because they are not relevant to this decision because there is insufficient information based on sediment chemistry.</p> <p>Based on the readily available data and information, the weight of evidence indicates that there is insufficient justification for placing this water segment-pollutant combination on the CWA section 303(d) List.</p> <p>This conclusion is based on the staff findings that:</p> <ol style="list-style-type: none"> 1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy. 2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy. 3. Zero of one samples exceed the guideline and this sample size is insufficient to determine beneficial use support, with the power and confidence of the Listing Policy. A minimum of 16 samples is needed to determine if a beneficial use is fully supported using table 3.1. Sediment toxicity data are not associated with this decision because the sediment chemistry data are insufficient. 4. Pursuant to section 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.
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Regional Board Staff Decision Recommendation:	After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be placed on the section 303(d) list. The readily available data and information is insufficient to determine, with the power and confidence of the Listing Policy, the
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Line of Evidence (LOE) for Decision ID 66843, Permethrin**Region 2****Walnut Creek**

LOE ID:	93587
Pollutant:	Permethrin, total
LOE Subgroup:	Pollutant-Sediment
Matrix:	Sediment
Fraction:	Total
Beneficial Use:	Cold Freshwater Habitat
Number of Samples:	1
Number of Exceedances:	0
Data and Information Type:	PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality:	Water Board staff assessed SWAMP data for Walnut Creek to determine beneficial use support and results are as follows: 0 of 1 samples exceed the criterion for Permethrin, Total.
Data Reference:	Statewide Stream Pollution Trends Study 2008
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	San Francisco Bay Basin Water Quality Control Plan 2007: All waters shall be maintained free of toxic substances in concentrations which are toxic to, or which produce detrimental physiological responses in, human, plant, animal, or aquatic life.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	The evaluation guideline for permethrin is the median lethal concentration (LC50) of 8.9 ug/g and is normalized by the percentage of organic carbon in the sediment sample. The LC50 8.9 ug/g is the geometric mean of LC50 values for permethrin from Amweg et al. (2005).
Guideline Reference:	Use and Toxicity of Pyrethroid Pesticides in the Central Valley, California, USA. Environmental Toxicology and Chemistry, 24:966-972, with erratum 24:No. 5
Spatial Representation:	Data for this line of evidence for Walnut Creek was collected at 1 monitoring site [Walnut Creek @ Concord Ave OC station (207WAL020)]
Temporal Representation:	Data was collected on a single day 6/17/2008.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	SWAMP data collected before September 2008 followed the QAMP (2002), however there may have been overlap in QA with SWAMP QAPP (2008).
QAPP Information Reference(s):	Quality Assurance Management Plan for the State of California's Surface Water Ambient Monitoring Program. Sacramento, CA. State Water Resources Control Board. SWAMP. December 2002 (1st version). Surface Water Ambient Monitoring Program Quality Assurance Program Plan

Line of Evidence (LOE) for Decision ID 66843, Permethrin**Region 2****Walnut Creek**

LOE ID:	93586
Pollutant:	Permethrin, total
LOE Subgroup:	Pollutant-Sediment
Matrix:	Sediment
Fraction:	Total
Beneficial Use:	Warm Freshwater Habitat

Number of Samples:	1
Number of Exceedances:	0
Data and Information Type:	PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality:	Water Board staff assessed SWAMP data for Walnut Creek to determine beneficial use support and results are as follows: 0 of 1 samples exceed the criterion for Permethrin, Total.
Data Reference:	Statewide Stream Pollution Trends Study 2008
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	San Francisco Bay Basin Water Quality Control Plan 2007: All waters shall be maintained free of toxic substances in concentrations which are toxic to, or which produce detrimental physiological responses in, human, plant, animal, or aquatic life.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	The evaluation guideline for permethrin is the median lethal concentration (LC50) of 8.9 ug/g and is normalized by the percentage of organic carbon in the sediment sample. The LC50 8.9 ug/g is the geometric mean of LC50 values for permethrin from Amweg et al. (2005).
Guideline Reference:	Use and Toxicity of Pyrethroid Pesticides in the Central Valley, California, USA. Environmental Toxicology and Chemistry, 24:966-972, with erratum 24:No. 5
Spatial Representation:	Data for this line of evidence for Walnut Creek was collected at 1 monitoring site [Walnut Creek @ Concord Ave OC station (207WAL020)]
Temporal Representation:	Data was collected on a single day 6/17/2008.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	SWAMP data collected before September 2008 followed the QAMP (2002), however there may have been overlap in QA with SWAMP QAPP (2008).
QAPP Information Reference(s):	Quality Assurance Management Plan for the State of California's Surface Water Ambient Monitoring Program. Sacramento, CA. State Water Resources Control Board. SWAMP. December 2002 (1st version) Surface Water Ambient Monitoring Program Quality Assurance Program Plan

DECISION ID	66844	Region 2
Walnut Creek		

Pollutant:	Phenanthrene
Final Listing Decision:	Do Not List on 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision:	New Decision
Revision Status	Revised
Impairment from Pollutant or Pollution:	Pollutant

Regional Board Staff Conclusion:	<p>This pollutant is being considered for placement on the CWA section 303(d) List under section 3.6 of the Listing Policy. Under section 3.6 at least two lines of evidence are necessary to assess listing status for pollutants in sediment, and pollutant concentrations in sediment must be associated with sediment toxicity to justify adding that pollutant to the CWA section 303(d) List.</p> <p>Two lines of evidence are available in the administrative record to assess this pollutant. Zero of one samples exceed the guideline. Sediment toxicity data are not associated with this decision because they are not relevant to this decision because there is insufficient information based on sediment chemistry.</p> <p>Based on the readily available data and information, the weight of evidence indicates that there is insufficient justification for placing this water segment-pollutant combination on the CWA section 303(d) List.</p> <p>This conclusion is based on the staff findings that:</p> <ol style="list-style-type: none"> 1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy.
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2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy.
3. Zero of one samples exceed the guideline and this sample size is insufficient to determine beneficial use support, with the power and confidence of the Listing Policy. A minimum of 16 samples is needed to determine if a beneficial use is fully supported using table 3.1. Sediment toxicity data are not associated with this decision because the sediment chemistry data are insufficient.
4. Pursuant to section 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.

Regional Board Staff Decision Recommendation: After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be placed on the section 303(d) list. The readily available data and information is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating.

**Line of Evidence (LOE) for Decision ID 66844, Phenanthrene
Walnut Creek**

Region 2

LOE ID:	93597
Pollutant:	Phenanthrene
LOE Subgroup:	Pollutant-Sediment
Matrix:	Sediment
Fraction:	Total
Beneficial Use:	Cold Freshwater Habitat
Number of Samples:	1
Number of Exceedances:	0
Data and Information Type:	PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality:	Water Board staff assessed SWAMP data for Walnut Creek to determine beneficial use support and results are as follows: 0 of 1 samples exceed the criterion for Phenanthrene.
Data Reference:	Statewide Stream Pollution Trends Study 2008
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	San Francisco Bay Basin Water Quality Control Plan 2007: All waters shall be maintained free of toxic substances in concentrations which are toxic to, or which produce detrimental physiological responses in, human, plant, animal, or aquatic life.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	In freshwater sediments the probable effects level (predictive of sediment toxicity for sediment-dwelling organisms) for Phenanthrene is 1170 ug/Kg dry weight (Macdonald et al. 2000)
Guideline Reference:	Development and evaluation of consensus-based sediment quality guidelines for freshwater ecosystems. Environmental Contamination and Toxicology. 39: 20-31
Spatial Representation:	Data for this line of evidence for Walnut Creek was collected at 1 monitoring site [Walnut Creek @ Concord Ave OC station (207WAL020)]
Temporal Representation:	Data was collected on a single day 6/17/2008.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	SWAMP data collected before September 2008 followed the QAMP (2002), however there may have been overlap in QA with SWAMP QAPP (2008).
QAPP Information Reference(s):	Quality Assurance Management Plan for the State of California's Surface Water Ambient Monitoring Program. Sacramento, CA. State Water Resources Control Board. SWAMP. December 2002 (1st version). Surface Water Ambient Monitoring Program Quality Assurance Program Plan

**Line of Evidence (LOE) for Decision ID 66844, Phenanthrene
Walnut Creek**

Region 2

LOE ID:	93596
Pollutant:	Phenanthrene
LOE Subgroup:	Pollutant-Sediment
Matrix:	Sediment
Fraction:	Total
Beneficial Use:	Warm Freshwater Habitat
Number of Samples:	1
Number of Exceedances:	0
Data and Information Type:	PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality:	Water Board staff assessed SWAMP data for Walnut Creek to determine beneficial use support and results are as follows: 0 of 1 samples exceed the criterion for Phenanthrene.
Data Reference:	Statewide Stream Pollution Trends Study 2008
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	San Francisco Bay Basin Water Quality Control Plan 2007: All waters shall be maintained free of toxic substances in concentrations which are toxic to, or which produce detrimental physiological responses in, human, plant, animal, or aquatic life.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	In freshwater sediments the probable effects level (predictive of sediment toxicity for sediment-dwelling organisms) for Phenanthrene is 1170 ug/Kg dry weight (Macdonald et al. 2000)
Guideline Reference:	Development and evaluation of consensus-based sediment quality guidelines for freshwater ecosystems. Environmental Contamination and Toxicology. 39: 20-31
Spatial Representation:	Data for this line of evidence for Walnut Creek was collected at 1 monitoring site [Walnut Creek @ Concord Ave OC station (207WAL020)]
Temporal Representation:	Data was collected on a single day 6/17/2008.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	SWAMP data collected before September 2008 followed the QAMP (2002), however there may have been overlap in QA with SWAMP QAPP (2008).
QAPP Information Reference(s):	Quality Assurance Management Plan for the State of California's Surface Water Ambient Monitoring Program. Sacramento, CA. State Water Resources Control Board. SWAMP. December 2002 (1st version). Surface Water Ambient Monitoring Program Quality Assurance Program Plan

DECISION ID 66845 Region 2	
Walnut Creek	
Pollutant:	Pyrene
Final Listing Decision:	Do Not List on 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision:	New Decision
Revision Status	Revised
Impairment from Pollutant or Pollution:	Pollutant
Regional Board Staff Conclusion:	<p>This pollutant is being considered for placement on the CWA section 303(d) List under section 3.6 of the Listing Policy. Under section 3.6 at least two lines of evidence are necessary to assess listing status for pollutants in sediment, and pollutant concentrations in sediment must be associated with sediment toxicity to justify adding that pollutant to the CWA section 303(d) List.</p> <p>Two lines of evidence are available in the administrative record to assess this pollutant. Zero of one samples exceed the guideline. Sediment toxicity data are not associated with this decision because they are not relevant to this decision because there is insufficient information based on sediment</p>

chemistry.

Based on the readily available data and information, the weight of evidence indicates that there is insufficient justification for placing this water segment-pollutant combination on the CWA section 303(d) List.

This conclusion is based on the staff findings that:

1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy.
2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy.
3. Zero of one samples exceed the guideline and this sample size is insufficient to determine beneficial use support, with the power and confidence of the Listing Policy. A minimum of 16 samples is needed to determine if a beneficial use is fully supported using table 3.1. Sediment toxicity data are not associated with this decision because the sediment chemistry data are insufficient.
4. Pursuant to section 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.

Regional Board Staff Decision Recommendation: After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be placed on the section 303(d) list. The readily available data and information is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating.

Line of Evidence (LOE) for Decision ID 66845, Pyrene

Region 2

Walnut Creek

LOE ID:	93598
Pollutant:	Pyrene
LOE Subgroup:	Pollutant-Sediment
Matrix:	Sediment
Fraction:	Total
Beneficial Use:	Warm Freshwater Habitat
Number of Samples:	1
Number of Exceedances:	0
Data and Information Type:	PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality:	Water Board staff assessed SWAMP data for Walnut Creek to determine beneficial use support and results are as follows: 0 of 1 samples exceed the criterion for Pyrene.
Data Reference:	Statewide Stream Pollution Trends Study 2008
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	San Francisco Bay Basin Water Quality Control Plan 2007: All waters shall be maintained free of toxic substances in concentrations which are toxic to, or which produce detrimental physiological responses in, human, plant, animal, or aquatic life.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	In freshwater sediments the probable effects level (predictive of sediment toxicity for sediment-dwelling organisms) for Pyrene is 1520 ug/Kg dry weight (Macdonald et al. 2000)
Guideline Reference:	Development and evaluation of consensus-based sediment quality guidelines for freshwater ecosystems. Environmental Contamination and Toxicology. 39: 20-31
Spatial Representation:	Data for this line of evidence for Walnut Creek was collected at 1 monitoring site [Walnut Creek @ Concord Ave OC station (207WAL020)]
Temporal Representation:	Data was collected on a single day 6/17/2008.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	SWAMP data collected before September 2008 followed the QAMP (2002), however there may have been overlap in QA with SWAMP QAPP (2008).

QAPP Information Reference(s): [Quality Assurance Management Plan for the State of California's Surface Water Ambient Monitoring Program. Sacramento, CA. State Water Resources Control Board. SWAMP. December 2002 \(1st version\)](#)
[Surface Water Ambient Monitoring Program Quality Assurance Program Plan](#)

Line of Evidence (LOE) for Decision ID 66845, Pyrene

Region 2

Walnut Creek

LOE ID: 93599

Pollutant: Pyrene
LOE Subgroup: Pollutant-Sediment
Matrix: Sediment
Fraction: Total

Beneficial Use: Cold Freshwater Habitat

Number of Samples: 1
Number of Exceedances: 0

Data and Information Type: PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality: Water Board staff assessed SWAMP data for Walnut Creek to determine beneficial use support and results are as follows: 0 of 1 samples exceed the criterion for Pyrene.
Data Reference: [Statewide Stream Pollution Trends Study 2008](#)

SWAMP Data: SWAMP

Water Quality Objective/Criterion: San Francisco Bay Basin Water Quality Control Plan 2007: All waters shall be maintained free of toxic substances in concentrations which are toxic to, or which produce detrimental physiological responses in, human, plant, animal, or aquatic life.
Objective/Criterion Reference: [Water Quality Control Plan \(Basin Plan\) San Francisco Bay Basin \(Region 2\)](#)

Evaluation Guideline: In freshwater sediments the probable effects level (predictive of sediment toxicity for sediment-dwelling organisms) for Pyrene is 1520 ug/Kg dry weight (Macdonald et al. 2000)
Guideline Reference: [Development and evaluation of consensus-based sediment quality guidelines for freshwater ecosystems. Environmental Contamination and Toxicology. 39: 20-31](#)

Spatial Representation: Data for this line of evidence for Walnut Creek was collected at 1 monitoring site [Walnut Creek @ Concord Ave OC station (207WAL020)]
Temporal Representation: Data was collected on a single day 6/17/2008.
Environmental Conditions: Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information: SWAMP data collected before September 2008 followed the QAMP (2002), however there may have been overlap in QA with SWAMP QAPP (2008).
QAPP Information Reference(s): [Quality Assurance Management Plan for the State of California's Surface Water Ambient Monitoring Program. Sacramento, CA. State Water Resources Control Board. SWAMP. December 2002 \(1st version\)](#)
[Surface Water Ambient Monitoring Program Quality Assurance Program Plan](#)

DECISION ID 66847

Region 2

Walnut Creek

Pollutant: Toxicity
Final Listing Decision: Do Not List on 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision: New Decision
Revision Status: Revised
Impairment from Pollutant or Pollution: Pollutant

**Regional Board Staff
Conclusion:**

This pollutant is being considered for placement on the CWA section 303(d) List under section 3.6 of the Listing Policy. Under section 3.6 at least one line of toxicity evidence is necessary to assess listing status for pollutants in sediment, and pollutant concentrations in sediment must be associated with sediment toxicity to justify adding that pollutant to the CWA section 303(d) List.

One line of toxicity evidence is available in the administrative record to assess this pollutant. One of one samples exceed the guideline.

Based on the readily available data and information, the weight of evidence indicates that there is insufficient justification for placing this water segment-pollutant combination on the CWA section 303(d) List.

This conclusion is based on the staff findings that:

1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy.
2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy.
3. One of one samples exceed the guideline and this sample size is insufficient to determine beneficial use support, with the power and confidence of the Listing Policy. A minimum of 16 samples is needed to determine if a beneficial use is fully supported using table 3.1.

4. Pursuant to section 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.

**Regional Board Staff Decision
Recommendation:**

After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be placed on the section 303(d) list. The readily available data and information is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating.

**Line of Evidence (LOE) for Decision ID 66847, Toxicity
Walnut Creek**

Region 2

LOE ID:	93611
Pollutant:	Toxicity
LOE Subgroup:	Toxicity
Matrix:	Sediment
Fraction:	None
Beneficial Use:	Cold Freshwater Habitat
Number of Samples:	1
Number of Exceedances:	1
Data and Information Type:	TOXICITY TESTING
Data Used to Assess Water Quality:	One sample was collected to evaluate sediment toxicity. The sample exhibited significant toxicity. The toxicity test included survival and growth of <i>Hyalella azteca</i> . One sample can have multiple toxicity test results but will be counted only once. One sample is defined as being collected on the same day at the same location with the same lab sample id (if provided).
Data Reference:	Statewide Stream Pollution Trends Study 2008
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	All waters shall be maintained free of toxic substances in concentrations that are toxic to, or that produce detrimental physiological responses in, human, plant, animal, or aquatic life. Region 2 Basin Plan.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) - San Francisco Bay Region (Region 2)
Evaluation Guideline:	Toxicity is defined as a statistically significant effect in the sample exposure compared to the control using EPA-recommended hypothesis testing. . For SWAMP data exceedances are counted with the significant effect code SL. SL is defined as the result being significant compared to the negative control based on a statistical test, less than stated

Guideline Reference: the alpha level, AND less than the evaluation threshold.
[Methods for Measuring the Toxicity and Bioaccumulation of Sediment-associated Contaminants with Freshwater Invertebrates, Second Edition. U.S. Environmental Protection Agency Office of Research and Development, Duluth, MI, U.S. Environmental Protection Agency Office of Water, Washington, DC EPA-600/R-99/064](#)

Spatial Representation: The sample was collected at station 207WAL020.

Temporal Representation: The sample was collected in June 2008.

Environmental Conditions:

QAPP Information: All data was collected following the Standard Operating Procedures and Data Quality Objectives outlined in the SWAMP QAMP, (Puckett, 2002). QA data are included in submission.

QAPP Information Reference(s):

DECISION ID	66846	Region 2
Walnut Creek		

Pollutant:	Zinc
Final Listing Decision:	Do Not List on 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision:	New Decision
Revision Status	Revised
Impairment from Pollutant or Pollution:	Pollutant
Regional Board Staff Conclusion:	<p>This pollutant is being considered for placement on the CWA section 303(d) List under section 3.6 of the Listing Policy. Under section 3.6 at least two lines of evidence are necessary to assess listing status for pollutants in sediment, and pollutant concentrations in sediment must be associated with sediment toxicity to justify adding that pollutant to the CWA section 303(d) List.</p> <p>Two lines of evidence are available in the administrative record to assess this pollutant. Zero of one samples exceed the guideline. Sediment toxicity data are not associated with this decision because they are not relevant to this decision because there is insufficient information based on sediment chemistry.</p> <p>Based on the readily available data and information, the weight of evidence indicates that there is insufficient justification for placing this water segment-pollutant combination on the CWA section 303(d) List.</p> <p>This conclusion is based on the staff findings that:</p> <ol style="list-style-type: none"> 1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy. 2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy. 3. Zero of one samples exceed the guideline and this sample size is insufficient to determine beneficial use support, with the power and confidence of the Listing Policy. A minimum of 16 samples is needed to determine if a beneficial use is fully supported using table 3.1. Sediment toxicity data are not associated with this decision because the sediment chemistry data are insufficient. 4. Pursuant to section 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.
Regional Board Staff Decision Recommendation:	After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be placed on the section 303(d) list. The readily available data and information is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating.

Line of Evidence (LOE) for Decision ID 66846, Zinc	Region 2
Walnut Creek	

LOE ID: 93613

Pollutant:	Zinc
LOE Subgroup:	Pollutant-Sediment
Matrix:	Sediment
Fraction:	Total
Beneficial Use:	Cold Freshwater Habitat
Number of Samples:	1
Number of Exceedances:	0
Data and Information Type:	PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality:	Water Board staff assessed SWAMP data for Walnut Creek to determine beneficial use support and results are as follows: 0 of 1 samples exceed the criterion for Zinc.
Data Reference:	Statewide Stream Pollution Trends Study 2008
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	San Francisco Bay Basin Water Quality Control Plan 2007: All waters shall be maintained free of toxic substances in concentrations which are toxic to, or which produce detrimental physiological responses in, human, plant, animal, or aquatic life.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	In freshwater sediments the probable effect concentration (predictive of sediment toxicity for sediment-dwelling organisms) for zinc is 459 mg/Kg dry weight (MacDonald et al. 2000).
Guideline Reference:	Development and evaluation of consensus-based sediment quality guidelines for freshwater ecosystems. Environmental Contamination and Toxicology. 39: 20-31
Spatial Representation:	Data for this line of evidence for Walnut Creek was collected at 1 monitoring site [Walnut Creek @ Concord Ave OC station (207WAL020)]
Temporal Representation:	Data was collected on a single day 6/17/2008.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	SWAMP data collected before September 2008 followed the QAMP (2002), however there may have been overlap in QA with SWAMP QAPP (2008).
QAPP Information Reference(s):	Quality Assurance Management Plan for the State of California's Surface Water Ambient Monitoring Program. Sacramento, CA. State Water Resources Control Board. SWAMP. December 2002 (1st version). Surface Water Ambient Monitoring Program Quality Assurance Program Plan

Line of Evidence (LOE) for Decision ID 66846, Zinc
Walnut Creek

Region 2

LOE ID:	93612
Pollutant:	Zinc
LOE Subgroup:	Pollutant-Sediment
Matrix:	Sediment
Fraction:	Total
Beneficial Use:	Warm Freshwater Habitat
Number of Samples:	1
Number of Exceedances:	0
Data and Information Type:	PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality:	Water Board staff assessed SWAMP data for Walnut Creek to determine beneficial use support and results are as follows: 0 of 1 samples exceed the criterion for Zinc.
Data Reference:	Statewide Stream Pollution Trends Study 2008
SWAMP Data:	SWAMP

Water Quality Objective/Criterion:	San Francisco Bay Basin Water Quality Control Plan 2007: All waters shall be maintained free of toxic substances in concentrations which are toxic to, or which produce detrimental physiological responses in, human, plant, animal, or aquatic life.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	In freshwater sediments the probable effect concentration (predictive of sediment toxicity for sediment-dwelling organisms) for zinc is 459 mg/Kg dry weight (MacDonald et al. 2000).
Guideline Reference:	Development and evaluation of consensus-based sediment quality guidelines for freshwater ecosystems. Environmental Contamination and Toxicology. 39: 20-31
Spatial Representation:	Data for this line of evidence for Walnut Creek was collected at 1 monitoring site [Walnut Creek @ Concord Ave OC station (207WAL020)]
Temporal Representation:	Data was collected on a single day 6/17/2008.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	SWAMP data collected before September 2008 followed the QAMP (2002), however there may have been overlap in QA with SWAMP QAPP (2008).
QAPP Information Reference(s):	Quality Assurance Management Plan for the State of California's Surface Water Ambient Monitoring Program. Sacramento, CA. State Water Resources Control Board. SWAMP. December 2002 (1st version) Surface Water Ambient Monitoring Program Quality Assurance Program Plan

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Supporting Information

Regional Board 2 - San Francisco Bay Region

Water Body Name: Suisun Marsh Wetlands
Water Body ID: CAT2072400019980929145809
Water Body Type: Wetland, Tidal

DECISION ID	66675	Region 2
Suisun Marsh Wetlands		

Pollutant: Acenaphthene
Final Listing Decision: Do Not List on 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision: New Decision
Revision Status: Revised
Impairment from Pollutant or Pollution: Pollutant

Regional Board Staff Conclusion: This pollutant is being considered for placement on the CWA section 303(d) List under section 3.1 of the Listing Policy. Under section 3.1 a single line of evidence is necessary to assess listing status. One line of evidence is available in the administrative record to assess this pollutant. Zero of three samples exceed the guideline.

Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against placing this water segment-pollutant combination on the CWA section 303(d) List.

This conclusion is based on the staff findings that:

1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy.
2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy.
3. Zero of three samples exceed the guideline and this sample size is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating. A minimum of 16 samples is needed to determine if a beneficial use is fully supported using table 3.1.
4. Pursuant to SECTION 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.

Regional Board Staff Decision Recommendation: After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be placed on the section 303(d) list. The readily available data and information is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating.

Line of Evidence (LOE) for Decision ID 66675, Acenaphthene	Region 2
Suisun Marsh Wetlands	

LOE ID: 93316

Pollutant: Acenaphthene
LOE Subgroup: Pollutant-Water
Matrix: Water
Fraction: Total

Beneficial Use: Commercial or recreational collection of fish, shellfish, or organisms

Number of Samples: 3
Number of Exceedances: 0

Data and Information Type:	PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality:	State Water Board staff assessed SFEI data for Suisun Marsh Wetlands to determine beneficial use support and results are as follows: 0 of 3 samples exceed the criterion for Acenaphthene.
Data Reference:	Regional Monitoring Program data, Feb. 1993-Sep. 2008
SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	The Acenaphthene criteria for the protection of human health from consumption of organisms only is 2,700 ug/L (California Toxics Rule, 2000).
Objective/Criterion Reference:	Code of Federal Regulations 40 part 131.38 Establishment of numeric criteria for priority toxic pollutants for the State of California, 7/1/2011 Edition
Evaluation Guideline:	
Guideline Reference:	
Spatial Representation:	Data for this line of evidence for Suisun Marsh Wetlands was collected at 3 monitoring sites [Suisun Bay - SU006W, Suisun Bay - SU007W, Suisun Bay - SU013W]
Temporal Representation:	Data was collected over the time period 8/14/2003-7/22/2004.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	The 1999 Quality Assurance Project Plan Regional Monitoring Program for Trace Substances was used.
QAPP Information Reference(s):	1999 Quality Assurance Project Plan Regional Monitoring Program for Trace Substances

DECISION ID 66708		Region 2
Suisun Marsh Wetlands		
Pollutant:	Aldrin	
Final Listing Decision:	Do Not List on 303(d) list (TMDL required list)	
Last Listing Cycle's Final Listing Decision:	New Decision	
Revision Status	Revised	
Impairment from Pollutant or Pollution:	Pollutant	
Regional Board Staff Conclusion:	<p>This pollutant is being considered for placement on the CWA section 303(d) List under section 3.1 of the Listing Policy. Under section 3.1 a single line of evidence is necessary to assess listing status. One line of evidence is available in the administrative record to assess this pollutant. Zero of one samples exceed the guideline.</p> <p>Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against placing this water segment-pollutant combination on the CWA section 303(d) List.</p> <p>This conclusion is based on the staff findings that:</p> <ol style="list-style-type: none"> 1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy. 2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy. 3. Zero of one samples exceed the guideline and this sample size is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating. A minimum of 16 samples is needed to determine if a beneficial use is fully supported using table 3.1. 4. Pursuant to SECTION 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met. 	
Regional Board Staff Decision Recommendation:	After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be placed on the section 303(d) list. The readily available data and information is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating.	
Line of Evidence (LOE) for Decision ID 66708, Aldrin		Region 2

Suisun Marsh Wetlands

LOE ID:	93317
Pollutant:	Aldrin
LOE Subgroup:	Pollutant-Water
Matrix:	Water
Fraction:	Total
Beneficial Use:	Commercial or recreational collection of fish, shellfish, or organisms
Number of Samples:	1
Number of Exceedances:	0
Data and Information Type:	PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality:	State Water Board staff assessed SFEI data for Suisun Marsh Wetlands to determine beneficial use support and results are as follows: 0 of 1 samples exceed the criterion for Aldrin.
Data Reference:	Regional Monitoring Program data, Feb. 1993-Sep. 2008
SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	The Aldrin criteria for the protection of human health from consumption of organisms only is 0.00014 ug/L (California Toxics Rule, 2000).
Objective/Criterion Reference:	Code of Federal Regulations 40 part 131.38 Establishment of numeric criteria for priority toxic pollutants for the State of California. 7/1/2011 Edition
Evaluation Guideline:	
Guideline Reference:	
Spatial Representation:	Data for this line of evidence for Suisun Marsh Wetlands was collected at 1 monitoring site [Suisun Bay - SU013W]
Temporal Representation:	Data was collected on a single day 7/22/2004.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	The 1999 Quality Assurance Project Plan Regional Monitoring Program for Trace Substances was used.
QAPP Information Reference(s):	1999 Quality Assurance Project Plan Regional Monitoring Program for Trace Substances

DECISION ID	66726	Region 2
Suisun Marsh Wetlands		

Pollutant:	Arsenic
Final Listing Decision:	Do Not List on 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision:	New Decision
Revision Status	Revised
Impairment from Pollutant or Pollution:	Pollutant
Regional Board Staff Conclusion:	<p>This pollutant is being considered for placement on the CWA section 303(d) List under section 3.1 of the Listing Policy. Under section 3.1 a single line of evidence is necessary to assess listing status. One line of evidence is available in the administrative record to assess this pollutant. Zero of three samples exceed the guideline.</p> <p>Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against placing this water segment-pollutant combination on the CWA section 303(d) List.</p> <p>This conclusion is based on the staff findings that:</p> <ol style="list-style-type: none">1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy.2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy.

3. Zero of three samples exceed the guideline and this sample size is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating. A minimum of 16 samples is needed to determine if a beneficial use is fully supported using table 3.1.

4. Pursuant to SECTION 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.

Regional Board Staff Decision Recommendation: After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be placed on the section 303(d) list. The readily available data and information is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating.

Line of Evidence (LOE) for Decision ID 66726, Arsenic

Region 2

Suisun Marsh Wetlands

LOE ID:	93318
Pollutant:	Arsenic
LOE Subgroup:	Pollutant-Water
Matrix:	Water
Fraction:	Total
Beneficial Use:	Commercial or recreational collection of fish, shellfish, or organisms
Number of Samples:	3
Number of Exceedances:	0
Data and Information Type:	PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality:	State Water Board staff assessed SFEI data for Suisun Marsh Wetlands to determine beneficial use support and results are as follows: 0 of 3 samples exceed the criterion for Arsenic.
Data Reference:	Regional Monitoring Program data, Feb. 1993-Sep. 2008
SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	Surface?waters?shall?not?contain?concentrations?of?chemical?constituents?in? amounts?that?adversely?affect?any?designated?beneficial?use.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	The Arsenic criteria for the protection of human health from consumption of organisms only is 0.14 ug/L (National Recommended Water Quality Criteria, 2009).
Guideline Reference:	National Recommended Water Quality Criteria. United States Environmental Protection Agency. Office of Water. Office of Science and Technology
Spatial Representation:	Data for this line of evidence for Suisun Marsh Wetlands was collected at 3 monitoring sites [Suisun Bay - SU006W, Suisun Bay - SU007W, Suisun Bay - SU013W]
Temporal Representation:	Data was collected over the time period 8/14/2003-7/22/2004.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	The 1999 Quality Assurance Project Plan Regional Monitoring Program for Trace Substances was used.
QAPP Information Reference(s):	1999 Quality Assurance Project Plan Regional Monitoring Program for Trace Substances

DECISION ID

66727

Region 2

Suisun Marsh Wetlands

Pollutant:	Benzo(a)pyrene (3,4-Benzopyrene -7-d)
Final Listing Decision:	Do Not List on 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision:	New Decision
Revision Status	Revised

Impairment from Pollutant or Pollution: Pollutant

Regional Board Staff Conclusion:

This pollutant is being considered for placement on the CWA section 303(d) List under section 3.1 of the Listing Policy. Under section 3.1 a single line of evidence is necessary to assess listing status. One line of evidence is available in the administrative record to assess this pollutant. Zero of one samples exceed the guideline.

Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against placing this water segment-pollutant combination on the CWA section 303(d) List.

This conclusion is based on the staff findings that:

1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy.
2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy.
3. Zero of one samples exceed the guideline and this sample size is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating. A minimum of 16 samples is needed to determine if a beneficial use is fully supported using table 3.1.
4. Pursuant to SECTION 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.

Regional Board Staff Decision Recommendation:

After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be placed on the section 303(d) list. The readily available data and information is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating.

Line of Evidence (LOE) for Decision ID 66727, Benzo(a)pyrene (3,4-Benzopyrene -7-d)

Region 2

Suisun Marsh Wetlands

LOE ID:	93319
Pollutant:	Benzo(a)pyrene (3,4-Benzopyrene -7-d)
LOE Subgroup:	Pollutant-Water
Matrix:	Water
Fraction:	Total
Beneficial Use:	Commercial or recreational collection of fish, shellfish, or organisms
Number of Samples:	1
Number of Exceedances:	0
Data and Information Type:	PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality:	State Water Board staff assessed SFEI data for Suisun Marsh Wetlands to determine beneficial use support and results are as follows: 0 of 1 samples exceed the criterion for Indeno(1, 2, 3-C, D)Pyrene.
Data Reference:	Regional Monitoring Program data, Feb. 1993-Sep. 2008
SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	The Indeno(1, 2, 3-C, D)Pyrene criteria for the protection of human health from consumption of organisms only is 0.049 ug/L (California Toxics Rule, 2000).
Objective/Criterion Reference:	Code of Federal Regulations 40 part 131.38 Establishment of numeric criteria for priority toxic pollutants for the State of California. 7/1/2011 Edition
Evaluation Guideline:	
Guideline Reference:	
Spatial Representation:	Data for this line of evidence for Suisun Marsh Wetlands was collected at 1 monitoring site [Suisun Bay - SU007W]
Temporal Representation:	Data was collected on a single day 8/14/2003.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.

QAPP Information: The 1999 Quality Assurance Project Plan Regional Monitoring Program for Trace Substances was used.

QAPP Information Reference(s): [1999 Quality Assurance Project Plan Regional Monitoring Program for Trace Substances](#)

DECISION ID	66728	Region 2
Suisun Marsh Wetlands		

Pollutant:	Chlordane
Final Listing Decision:	Do Not List on 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision:	New Decision
Revision Status	Revised
Impairment from Pollutant or Pollution:	Pollutant

Regional Board Staff Conclusion: This pollutant is being considered for placement on the CWA section 303(d) List under section 3.1 of the Listing Policy. Under section 3.1 a single line of evidence is necessary to assess listing status. One line of evidence is available in the administrative record to assess this pollutant. Zero of three samples exceed the guideline.

Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against placing this water segment-pollutant combination on the CWA section 303(d) List.

This conclusion is based on the staff findings that:

1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy.
2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy.
3. Zero of three samples exceed the guideline and this sample size is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating. A minimum of 16 samples is needed to determine if a beneficial use is fully supported using table 3.1.
4. Pursuant to SECTION 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.

Regional Board Staff Decision Recommendation: After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be placed on the section 303(d) list. The readily available data and information is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating.

Line of Evidence (LOE) for Decision ID 66728, Chlordane	Region 2
Suisun Marsh Wetlands	

LOE ID:	93320
Pollutant:	Chlordane
LOE Subgroup:	Pollutant-Water
Matrix:	Water
Fraction:	Total
Beneficial Use:	Commercial or recreational collection of fish, shellfish, or organisms
Number of Samples:	3
Number of Exceedances:	0
Data and Information Type:	PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality:	State Water Board staff assessed SFEI data for Suisun Marsh Wetlands to determine beneficial use support and results are as follows: 0 of 3 samples exceed the criterion for Chlordane, Total.
Data Reference:	Regional Monitoring Program data, Feb. 1993-Sep. 2008

SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	The Chlordane, Total criteria for the protection of human health from consumption of organisms only is 0.00059 ug/L (California Toxics Rule, 2000).
Objective/Criterion Reference:	Code of Federal Regulations 40 part 131.38 Establishment of numeric criteria for priority toxic pollutants for the State of California. 7/1/2011 Edition
Evaluation Guideline:	
Guideline Reference:	
Spatial Representation:	Data for this line of evidence for Suisun Marsh Wetlands was collected at 3 monitoring sites [Suisun Bay - SU006W, Suisun Bay - SU007W, Suisun Bay - SU013W]
Temporal Representation:	Data was collected over the time period 8/14/2003-7/22/2004.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	The 1999 Quality Assurance Project Plan Regional Monitoring Program for Trace Substances was used.
QAPP Information Reference(s):	1999 Quality Assurance Project Plan Regional Monitoring Program for Trace Substances

DECISION ID	66729	Region 2
Suisun Marsh Wetlands		
Pollutant:	Chrysene (C1-C4)	
Final Listing Decision:	Do Not List on 303(d) list (TMDL required list)	
Last Listing Cycle's Final Listing Decision:	New Decision	
Revision Status	Revised	
Impairment from Pollutant or Pollution:	Pollutant	
Regional Board Staff Conclusion:	<p>This pollutant is being considered for placement on the CWA section 303(d) List under section 3.1 of the Listing Policy. Under section 3.1 a single line of evidence is necessary to assess listing status. One line of evidence is available in the administrative record to assess this pollutant. Zero of three samples exceed the guideline.</p> <p>Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against placing this water segment-pollutant combination on the CWA section 303(d) List.</p> <p>This conclusion is based on the staff findings that:</p> <ol style="list-style-type: none"> 1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy. 2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy. 3. Zero of three samples exceed the guideline and this sample size is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating. A minimum of 16 samples is needed to determine if a beneficial use is fully supported using table 3.1. 4. Pursuant to SECTION 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met. 	
Regional Board Staff Decision Recommendation:	After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be placed on the section 303(d) list. The readily available data and information is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating.	

Line of Evidence (LOE) for Decision ID 66729, Chrysene (C1-C4)	Region 2
Suisun Marsh Wetlands	
LOE ID:	93321
Pollutant:	Chrysene (C1-C4)
LOE Subgroup:	Pollutant-Water

Matrix:	Water
Fraction:	Total
Beneficial Use:	Commercial or recreational collection of fish, shellfish, or organisms
Number of Samples:	3
Number of Exceedances:	0
Data and Information Type:	PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality:	State Water Board staff assessed SFEI data for Suisun Marsh Wetlands to determine beneficial use support and results are as follows: 0 of 3 samples exceed the criterion for Chrysene.
Data Reference:	Regional Monitoring Program data, Feb. 1993-Sep. 2008
SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	The Chrysene criteria for the protection of human health from consumption of organisms only is 0.049 ug/L (California Toxics Rule, 2000).
Objective/Criterion Reference:	Code of Federal Regulations 40 part 131.38 Establishment of numeric criteria for priority toxic pollutants for the State of California. 7/1/2011 Edition
Evaluation Guideline:	
Guideline Reference:	
Spatial Representation:	Data for this line of evidence for Suisun Marsh Wetlands was collected at 3 monitoring sites [Suisun Bay - SU006W, Suisun Bay - SU007W, Suisun Bay - SU013W]
Temporal Representation:	Data was collected over the time period 8/14/2003-7/22/2004.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	The 1999 Quality Assurance Project Plan Regional Monitoring Program for Trace Substances was used.
QAPP Information Reference(s):	1999 Quality Assurance Project Plan Regional Monitoring Program for Trace Substances

DECISION ID	66747	Region 2
Suisun Marsh Wetlands		

Pollutant:	DDT (Dichlorodiphenyltrichloroethane)
Final Listing Decision:	Do Not List on 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision:	New Decision
Revision Status	Revised
Impairment from Pollutant or Pollution:	Pollutant

Regional Board Staff Conclusion:

This pollutant is being considered for placement on the CWA section 303(d) List under section 3.1 of the Listing Policy. Under section 3.1 a single line of evidence is necessary to assess listing status. One line of evidence is available in the administrative record to assess this pollutant. Zero of three samples exceed the guideline.

Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against placing this water segment-pollutant combination on the CWA section 303(d) List.

This conclusion is based on the staff findings that:

1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy.
2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy.
3. Zero of three samples exceed the guideline and this sample size is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating. A minimum of 16 samples is needed to determine if a beneficial use is fully supported using table 3.1.
4. Pursuant to SECTION 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.

Regional Board Staff Decision Recommendation: After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be placed on the section 303(d) list. The readily available data and information is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating.

Line of Evidence (LOE) for Decision ID 66747, DDT (Dichlorodiphenyltrichloroethane)
Suisun Marsh Wetlands

Region 2

LOE ID: 93335

Pollutant: Total DDT (sum of 4,4'- and 2,4'- isomers of DDT, DDE, and DDD)
LOE Subgroup: Pollutant-Water
Matrix: Water
Fraction: Total

Beneficial Use: Commercial or recreational collection of fish, shellfish, or organisms

Number of Samples: 3
Number of Exceedances: 0

Data and Information Type: PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality: State Water Board staff assessed SFEI data for Suisun Marsh Wetlands to determine beneficial use support and results are as follows: 0 of 3 samples exceed the criterion for DDT, Total.

Data Reference: [Regional Monitoring Program data, Feb. 1993-Sep. 2008](#)

SWAMP Data: Non-SWAMP

Water Quality Objective/Criterion: The DDT, Total criteria for the protection of human health from consumption of organisms only is 0.00059 ug/L (California Toxics Rule, 2000).

Objective/Criterion Reference: [Code of Federal Regulations 40 part 131.38 Establishment of numeric criteria for priority toxic pollutants for the State of California, 7/1/2011 Edition](#)

Evaluation Guideline:
Guideline Reference:

Spatial Representation: Data for this line of evidence for Suisun Marsh Wetlands was collected at 3 monitoring sites [Suisun Bay - SU006W, Suisun Bay - SU007W, Suisun Bay - SU013W]

Temporal Representation: Data was collected over the time period 8/14/2003-7/22/2004.

Environmental Conditions: Staff is not aware of any special conditions that might affect interpretation of the data.

QAPP Information: The 1999 Quality Assurance Project Plan Regional Monitoring Program for Trace Substances was used.

QAPP Information Reference(s): [1999 Quality Assurance Project Plan Regional Monitoring Program for Trace Substances](#)

DECISION ID 66730
Suisun Marsh Wetlands

Region 2

Pollutant: Dieldrin
Final Listing Decision: Do Not List on 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision: New Decision
Revision Status: Revised
Impairment from Pollutant or Pollution: Pollutant

Regional Board Staff Conclusion: This pollutant is being considered for placement on the CWA section 303(d) List under section 3.1 of the Listing Policy. Under section 3.1 a single line of evidence is necessary to assess listing status. One line of evidence is available in the administrative record to assess this pollutant. Zero of three samples exceed the guideline.

Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against placing this water segment-pollutant combination on the CWA section 303(d) List.

This conclusion is based on the staff findings that:

1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy.
2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy.
3. Zero of three samples exceed the guideline and this sample size is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating. A minimum of 16 samples is needed to determine if a beneficial use is fully supported using table 3.1.
4. Pursuant to SECTION 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.

Regional Board Staff Decision Recommendation: After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be placed on the section 303(d) list. The readily available data and information is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating.

Line of Evidence (LOE) for Decision ID 66730, Dieldrin

Region 2

Suisun Marsh Wetlands

LOE ID:	93322
Pollutant:	Dieldrin
LOE Subgroup:	Pollutant-Water
Matrix:	Water
Fraction:	Total
Beneficial Use:	Commercial or recreational collection of fish, shellfish, or organisms
Number of Samples:	3
Number of Exceedances:	0
Data and Information Type:	PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality:	State Water Board staff assessed SFEI data for Suisun Marsh Wetlands to determine beneficial use support and results are as follows: 0 of 3 samples exceed the criterion for Dieldrin.
Data Reference:	Regional Monitoring Program data, Feb. 1993-Sep. 2008
SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	The Dieldrin criteria for the protection of human health from consumption of organisms only is 0.00014 ug/L (California Toxics Rule, 2000).
Objective/Criterion Reference:	Code of Federal Regulations 40 part 131.38 Establishment of numeric criteria for priority toxic pollutants for the State of California. 7/1/2011 Edition
Evaluation Guideline:	
Guideline Reference:	
Spatial Representation:	Data for this line of evidence for Suisun Marsh Wetlands was collected at 3 monitoring sites [Suisun Bay - SU006W, Suisun Bay - SU007W, Suisun Bay - SU013W]
Temporal Representation:	Data was collected over the time period 8/14/2003-7/22/2004.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	The 1999 Quality Assurance Project Plan Regional Monitoring Program for Trace Substances was used.
QAPP Information Reference(s):	1999 Quality Assurance Project Plan Regional Monitoring Program for Trace Substances

DECISION ID

66731

Region 2

Suisun Marsh Wetlands

Pollutant: Endosulfan sulfate
Final Listing Decision: Do Not List on 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision: New Decision
Revision Status: Revised
Impairment from Pollutant or Pollution: Pollutant

Regional Board Staff Conclusion: This pollutant is being considered for placement on the CWA section 303(d) List under section 3.1 of the Listing Policy. Under section 3.1 a single line of evidence is necessary to assess listing status. One line of evidence is available in the administrative record to assess this pollutant. Zero of two samples exceed the guideline.

Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against placing this water segment-pollutant combination on the CWA section 303(d) List.

This conclusion is based on the staff findings that:

1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy.
2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy.
3. Zero of three samples exceed the guideline and this sample size is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating. A minimum of 16 samples is needed to determine if a beneficial use is fully supported using table 3.1.
4. Pursuant to SECTION 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.

Regional Board Staff Decision Recommendation: After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be placed on the section 303(d) list. The readily available data and information is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating.

Line of Evidence (LOE) for Decision ID 66731, Endosulfan sulfate

Region 2

Suisun Marsh Wetlands

LOE ID: 93323

Pollutant: Endosulfan sulfate
LOE Subgroup: Pollutant-Water
Matrix: Water
Fraction: Total

Beneficial Use: Commercial or recreational collection of fish, shellfish, or organisms

Number of Samples: 2
Number of Exceedances: 0

Data and Information Type: PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality: State Water Board staff assessed SFEI data for Suisun Marsh Wetlands to determine beneficial use support and results are as follows: 0 of 2 samples exceed the criterion for Endosulfan Sulfate.

Data Reference: [Regional Monitoring Program data, Feb. 1993-Sep. 2008](#)

SWAMP Data: Non-SWAMP

Water Quality Objective/Criterion: The Endosulfan Sulfate criteria for the protection of human health from consumption of organisms only is 240 ug/L (California Toxics Rule, 2000).

Objective/Criterion Reference: [Code of Federal Regulations 40 part 131.38 Establishment of numeric criteria for priority toxic pollutants for the State of California. 7/1/2011 Edition](#)

Evaluation Guideline:

Guideline Reference:

Spatial Representation:

Data for this line of evidence for Suisun Marsh Wetlands was collected at 2 monitoring sites [Suisun Bay - SU006W, Suisun Bay - SU007W]

Temporal Representation:

Data was collected on a single day 8/14/2003.

Environmental Conditions:

Staff is not aware of any special conditions that might affect interpretation of the data.

QAPP Information:

The 1999 Quality Assurance Project Plan Regional Monitoring Program for Trace Substances was used.

QAPP Information Reference(s):

[1999 Quality Assurance Project Plan Regional Monitoring Program for Trace Substances](#)

DECISION ID	66732	Region 2
Suisun Marsh Wetlands		

Pollutant: Endrin
Final Listing Decision: Do Not List on 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision: New Decision
Revision Status Revised
Impairment from Pollutant or Pollution: Pollutant

Regional Board Staff Conclusion: This pollutant is being considered for placement on the CWA section 303(d) List under section 3.1 of the Listing Policy. Under section 3.1 a single line of evidence is necessary to assess listing status. One line of evidence is available in the administrative record to assess this pollutant. Zero of three samples exceed the guideline.

Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against placing this water segment-pollutant combination on the CWA section 303(d) List.

This conclusion is based on the staff findings that:

1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy.
2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy.
3. Zero of three samples exceed the guideline and this sample size is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating. A minimum of 16 samples is needed to determine if a beneficial use is fully supported using table 3.1.
4. Pursuant to SECTION 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.

Regional Board Staff Decision Recommendation: After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be placed on the section 303(d) list. The readily available data and information is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating.

Line of Evidence (LOE) for Decision ID 66732, Endrin	Region 2
Suisun Marsh Wetlands	

LOE ID: 93324

Pollutant: Endrin
LOE Subgroup: Pollutant-Water
Matrix: Water
Fraction: Total

Beneficial Use: Commercial or recreational collection of fish, shellfish, or organisms

Number of Samples: 3
Number of Exceedances: 0

Data and Information Type:	PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality:	State Water Board staff assessed SFEI data for Suisun Marsh Wetlands to determine beneficial use support and results are as follows: 0 of 3 samples exceed the criterion for Endrin.
Data Reference:	Regional Monitoring Program data, Feb. 1993-Sep. 2008
SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	The Endrin criteria for the protection of human health from consumption of organisms only is 0.81ug/L (California Toxics Rule, 2000).
Objective/Criterion Reference:	Code of Federal Regulations 40 part 131.38 Establishment of numeric criteria for priority toxic pollutants for the State of California. 7/1/2011 Edition
Evaluation Guideline:	
Guideline Reference:	
Spatial Representation:	Data for this line of evidence for Suisun Marsh Wetlands was collected at 3 monitoring sites [Suisun Bay - SU006W, Suisun Bay - SU007W, Suisun Bay - SU013W]
Temporal Representation:	Data was collected over the time period 8/14/2003-7/22/2004.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	The 1999 Quality Assurance Project Plan Regional Monitoring Program for Trace Substances was used.
QAPP Information Reference(s):	1999 Quality Assurance Project Plan Regional Monitoring Program for Trace Substances

DECISION ID	66733	Region 2
Suisun Marsh Wetlands		

Pollutant:	Fluoranthene
Final Listing Decision:	Do Not List on 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision:	New Decision
Revision Status	Revised
Impairment from Pollutant or Pollution:	Pollutant

Regional Board Staff Conclusion: This pollutant is being considered for placement on the CWA section 303(d) List under section 3.1 of the Listing Policy. Under section 3.1 a single line of evidence is necessary to assess listing status. One line of evidence is available in the administrative record to assess this pollutant. Zero of three samples exceed the guideline.

Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against placing this water segment-pollutant combination on the CWA section 303(d) List.

This conclusion is based on the staff findings that:

1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy.
2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy.
3. Zero of three samples exceed the guideline and this sample size is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating. A minimum of 16 samples is needed to determine if a beneficial use is fully supported using table 3.1.
4. Pursuant to SECTION 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.

Regional Board Staff Decision Recommendation: After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be placed on the section 303(d) list. The readily available data and information is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating.

Line of Evidence (LOE) for Decision ID 66733, Fluoranthene	Region 2
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Suisun Marsh Wetlands

LOE ID:	93325
Pollutant:	Fluoranthene
LOE Subgroup:	Pollutant-Water
Matrix:	Water
Fraction:	Total
Beneficial Use:	Commercial or recreational collection of fish, shellfish, or organisms
Number of Samples:	3
Number of Exceedances:	0
Data and Information Type:	PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality:	State Water Board staff assessed SFEI data for Suisun Marsh Wetlands to determine beneficial use support and results are as follows: 0 of 3 samples exceed the criterion for Fluoranthene.
Data Reference:	Regional Monitoring Program data, Feb. 1993-Sep. 2008
SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	The Fluoranthene criteria for the protection of human health from consumption of organisms only is 370 ug/L (California Toxics Rule, 2000).
Objective/Criterion Reference:	Code of Federal Regulations 40 part 131.38 Establishment of numeric criteria for priority toxic pollutants for the State of California. 7/1/2011 Edition
Evaluation Guideline:	
Guideline Reference:	
Spatial Representation:	Data for this line of evidence for Suisun Marsh Wetlands was collected at 3 monitoring sites [Suisun Bay - SU006W, Suisun Bay - SU007W, Suisun Bay - SU013W]
Temporal Representation:	Data was collected over the time period 8/14/2003-7/22/2004.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	The 1999 Quality Assurance Project Plan Regional Monitoring Program for Trace Substances was used.
QAPP Information Reference(s):	1999 Quality Assurance Project Plan Regional Monitoring Program for Trace Substances

DECISION ID	66739	Region 2
Suisun Marsh Wetlands		

Pollutant:	Fluorene
Final Listing Decision:	Do Not List on 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision:	New Decision
Revision Status	Revised
Impairment from Pollutant or Pollution:	Pollutant
Regional Board Staff Conclusion:	<p>This pollutant is being considered for placement on the CWA section 303(d) List under section 3.1 of the Listing Policy. Under section 3.1 a single line of evidence is necessary to assess listing status. One line of evidence is available in the administrative record to assess this pollutant. Zero of three samples exceed the guideline.</p> <p>Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against placing this water segment-pollutant combination on the CWA section 303(d) List.</p> <p>This conclusion is based on the staff findings that:</p> <ol style="list-style-type: none">1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy.2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy.

3. Zero of three samples exceed the guideline and this sample size is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating. A minimum of 16 samples is needed to determine if a beneficial use is fully supported using table 3.1.

4. Pursuant to SECTION 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.

Regional Board Staff Decision Recommendation: After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be placed on the section 303(d) list. The readily available data and information is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating.

Line of Evidence (LOE) for Decision ID 66739, Fluorene
Suisun Marsh Wetlands

Region 2

LOE ID:	93326
Pollutant:	Fluorene
LOE Subgroup:	Pollutant-Water
Matrix:	Water
Fraction:	Total
Beneficial Use:	Commercial or recreational collection of fish, shellfish, or organisms
Number of Samples:	3
Number of Exceedances:	0
Data and Information Type:	PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality:	State Water Board staff assessed SFEI data for Suisun Marsh Wetlands to determine beneficial use support and results are as follows: 0 of 3 samples exceed the criterion for Fluorene.
Data Reference:	Regional Monitoring Program data, Feb. 1993-Sep. 2008
SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	The Fluorene criteria for the protection of human health from consumption of organisms only is 14,000 ug/L (California Toxics Rule, 2000).
Objective/Criterion Reference:	Code of Federal Regulations 40 part 131.38 Establishment of numeric criteria for priority toxic pollutants for the State of California. 7/1/2011 Edition
Evaluation Guideline:	
Guideline Reference:	
Spatial Representation:	Data for this line of evidence for Suisun Marsh Wetlands was collected at 3 monitoring sites [Suisun Bay - SU006W, Suisun Bay - SU007W, Suisun Bay - SU013W]
Temporal Representation:	Data was collected over the time period 8/14/2003-7/22/2004.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	The 1999 Quality Assurance Project Plan Regional Monitoring Program for Trace Substances was used.
QAPP Information Reference(s):	1999 Quality Assurance Project Plan Regional Monitoring Program for Trace Substances

DECISION ID 66740
Suisun Marsh Wetlands

Region 2

Pollutant:	Heptachlor
Final Listing Decision:	Do Not List on 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision:	New Decision
Revision Status	Revised
Impairment from Pollutant or	Pollutant

Pollution:**Regional Board Staff Conclusion:**

This pollutant is being considered for placement on the CWA section 303(d) List under section 3.1 of the Listing Policy. Under section 3.1 a single line of evidence is necessary to assess listing status. One line of evidence is available in the administrative record to assess this pollutant. Zero of one samples exceed the guideline.

Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against placing this water segment-pollutant combination on the CWA section 303(d) List.

This conclusion is based on the staff findings that:

1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy.
2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy.
3. Zero of one samples exceed the guideline and this sample size is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating. A minimum of 16 samples is needed to determine if a beneficial use is fully supported using table 3.1.
4. Pursuant to SECTION 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.

Regional Board Staff Decision Recommendation:

After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be placed on the section 303(d) list. The readily available data and information is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating.

Line of Evidence (LOE) for Decision ID 66740, Heptachlor**Region 2****Suisun Marsh Wetlands**

LOE ID: 93327

Pollutant: Heptachlor
LOE Subgroup: Pollutant-Water
Matrix: Water
Fraction: Total

Beneficial Use: Commercial or recreational collection of fish, shellfish, or organisms

Number of Samples: 1
Number of Exceedances: 0

Data and Information Type: PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality: State Water Board staff assessed SFEI data for Suisun Marsh Wetlands to determine beneficial use support and results are as follows: 0 of 1 samples exceed the criterion for Heptachlor.

Data Reference: [Regional Monitoring Program data, Feb. 1993-Sep. 2008](#)

SWAMP Data: Non-SWAMP

Water Quality Objective/Criterion: The Heptachlor criteria for the protection of human health from consumption of organisms only is 0.00021 ug/L (California Toxics Rule, 2000).

Objective/Criterion Reference: [Code of Federal Regulations 40 part 131.38 Establishment of numeric criteria for priority toxic pollutants for the State of California. 7/1/2011 Edition](#)

Evaluation Guideline:
Guideline Reference:

Spatial Representation: Data for this line of evidence for Suisun Marsh Wetlands was collected at 1 monitoring site [Suisun Bay - SU013W]

Temporal Representation: Data was collected on a single day 7/22/2004.

Environmental Conditions: Staff is not aware of any special conditions that might affect interpretation of the data.

QAPP Information: The 1999 Quality Assurance Project Plan Regional Monitoring Program for Trace

DECISION ID	66741	Region 2
Suisun Marsh Wetlands		

Pollutant: Heptachlor epoxide
Final Listing Decision: Do Not List on 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision: New Decision
Revision Status: Revised
Impairment from Pollutant or Pollution: Pollutant

Regional Board Staff Conclusion: This pollutant is being considered for placement on the CWA section 303(d) List under section 3.1 of the Listing Policy. Under section 3.1 a single line of evidence is necessary to assess listing status. One line of evidence is available in the administrative record to assess this pollutant. Zero of three samples exceed the guideline.

Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against placing this water segment-pollutant combination on the CWA section 303(d) List.

This conclusion is based on the staff findings that:

1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy.
2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy.
3. Zero of three samples exceed the guideline and this sample size is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating. A minimum of 16 samples is needed to determine if a beneficial use is fully supported using table 3.1.
4. Pursuant to SECTION 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.

Regional Board Staff Decision Recommendation: After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be placed on the section 303(d) list. The readily available data and information is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating.

Line of Evidence (LOE) for Decision ID 66741, Heptachlor epoxide	Region 2
Suisun Marsh Wetlands	

LOE ID: 93328

Pollutant: Heptachlor epoxide
LOE Subgroup: Pollutant-Water
Matrix: Water
Fraction: Total

Beneficial Use: Commercial or recreational collection of fish, shellfish, or organisms

Number of Samples: 3
Number of Exceedances: 0

Data and Information Type: PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality: State Water Board staff assessed SFEI data for Suisun Marsh Wetlands to determine beneficial use support and results are as follows: 0 of 3 samples exceed the criterion for Heptachlor Epoxide.

Data Reference: [Regional Monitoring Program data, Feb. 1993-Sep. 2008](#)

SWAMP Data: Non-SWAMP

Water Quality Objective/Criterion: The Heptachlor Epoxide criteria for the protection of human health from consumption of organisms only is 0.00011 ug/L (California Toxics Rule, 2000).

Objective/Criterion Reference: [Code of Federal Regulations 40 part 131.38 Establishment of numeric criteria for priority toxic pollutants for the State of California. 7/1/2011 Edition](#)

Evaluation Guideline:

Guideline Reference:

Spatial Representation: Data for this line of evidence for Suisun Marsh Wetlands was collected at 3 monitoring sites [Suisun Bay - SU006W, Suisun Bay - SU007W, Suisun Bay - SU013W]

Temporal Representation: Data was collected over the time period 8/14/2003-7/22/2004.

Environmental Conditions: Staff is not aware of any special conditions that might affect interpretation of the data.

QAPP Information: The 1999 Quality Assurance Project Plan Regional Monitoring Program for Trace Substances was used.

QAPP Information Reference(s): [1999 Quality Assurance Project Plan Regional Monitoring Program for Trace Substances](#)

DECISION ID	66742	Region 2
Suisun Marsh Wetlands		

Pollutant: Hexachlorobenzene/ HCB

Final Listing Decision: Do Not List on 303(d) list (TMDL required list)

Last Listing Cycle's Final Listing Decision: New Decision

Revision Status Revised

Impairment from Pollutant or Pollution: Pollutant

Regional Board Staff Conclusion: This pollutant is being considered for placement on the CWA section 303(d) List under section 3.1 of the Listing Policy. Under section 3.1 a single line of evidence is necessary to assess listing status. One line of evidence is available in the administrative record to assess this pollutant. Zero of two samples exceed the guideline.

Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against placing this water segment-pollutant combination on the CWA section 303(d) List.

This conclusion is based on the staff findings that:

1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy.
2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy.
3. Zero of two samples exceed the guideline and this sample size is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating. A minimum of 16 samples is needed to determine if a beneficial use is fully supported using table 3.1.
4. Pursuant to SECTION 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.

Regional Board Staff Decision Recommendation: After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be placed on the section 303(d) list. The readily available data and information is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating.

Line of Evidence (LOE) for Decision ID 66742, Hexachlorobenzene/ HCB	Region 2
Suisun Marsh Wetlands	

LOE ID: 93329

Pollutant: Hexachlorobenzene/ HCB

LOE Subgroup: Pollutant-Water

Matrix: Water

Fraction:	Total
Beneficial Use:	Commercial or recreational collection of fish, shellfish, or organisms
Number of Samples:	2
Number of Exceedances:	0
Data and Information Type:	PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality:	State Water Board staff assessed SFEI data for Suisun Marsh Wetlands to determine beneficial use support and results are as follows: 0 of 2 samples exceed the criterion for Hexachlorobenzene.
Data Reference:	Regional Monitoring Program data, Feb. 1993-Sep. 2008
SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	The Hexachlorobenzene criteria for the protection of human health from consumption of organisms only is 0.00077 ug/L (California Toxics Rule, 2000).
Objective/Criterion Reference:	Code of Federal Regulations 40 part 131.38 Establishment of numeric criteria for priority toxic pollutants for the State of California. 7/1/2011 Edition
Evaluation Guideline:	
Guideline Reference:	
Spatial Representation:	Data for this line of evidence for Suisun Marsh Wetlands was collected at 2 monitoring sites [Suisun Bay - SU007W, Suisun Bay - SU013W]
Temporal Representation:	Data was collected over the time period 8/14/2003-7/22/2004.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	The 1999 Quality Assurance Project Plan Regional Monitoring Program for Trace Substances was used.
QAPP Information Reference(s):	1999 Quality Assurance Project Plan Regional Monitoring Program for Trace Substances

DECISION ID	66743	Region 2
Suisun Marsh Wetlands		

Pollutant:	Manganese
Final Listing Decision:	Do Not List on 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision:	New Decision
Revision Status	Revised
Impairment from Pollutant or Pollution:	Pollutant
Regional Board Staff Conclusion:	<p>This pollutant is being considered for placement on the CWA section 303(d) List under section 3.1 of the Listing Policy. Under section 3.1 a single line of evidence is necessary to assess listing status. One line of evidence is available in the administrative record to assess this pollutant. Zero of three samples exceed the guideline.</p> <p>Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against placing this water segment-pollutant combination on the CWA section 303(d) List.</p> <p>This conclusion is based on the staff findings that:</p> <ol style="list-style-type: none"> 1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy. 2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy. 3. Zero of three samples exceed the guideline and this sample size is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating. A minimum of 16 samples is needed to determine if a beneficial use is fully supported using table 3.1. 4. Pursuant to SECTION 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.
Regional Board Staff Decision	After review of the available data and information, RWQCB staff concludes that the water body-

Recommendation: pollutant combination should not be placed on the section 303(d) list. The readily available data and information is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating.

**Line of Evidence (LOE) for Decision ID 66743, Manganese
Suisun Marsh Wetlands**

Region 2

LOE ID: 93330

Pollutant: Manganese
LOE Subgroup: Pollutant-Water
Matrix: Water
Fraction: Total

Beneficial Use: Commercial or recreational collection of fish, shellfish, or organisms

Number of Samples: 3
Number of Exceedances: 0

Data and Information Type: PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality: State Water Board staff assessed SFEI data for Suisun Marsh Wetlands to determine beneficial use support and results are as follows: 0 of 3 samples exceed the criterion for Manganese.

Data Reference: [Regional Monitoring Program data, Feb. 1993-Sep. 2008](#)

SWAMP Data: Non-SWAMP

Water Quality Objective/Criterion: The Manganese criteria for the protection of human health from the consumption of organisms only is 100 ug/L (California Toxics Rule, 2000).

Objective/Criterion Reference: [Water Quality Control Plan \(Basin Plan\) San Francisco Bay Basin \(Region 2\)](#)

Evaluation Guideline: The Lead criteria for the protection of human health from fish consumption only is 100 ug/L (National Recommended Water Quality Criteria, 2009).

Guideline Reference: [National Recommended Water Quality Criteria. United States Environmental Protection Agency. Office of Water. Office of Science and Technology](#)

Spatial Representation: Data for this line of evidence for Suisun Marsh Wetlands was collected at 3 monitoring sites [Suisun Bay - SU006W, Suisun Bay - SU007W, Suisun Bay - SU013W]

Temporal Representation: Data was collected over the time period 8/14/2003-7/22/2004.

Environmental Conditions: Staff is not aware of any special conditions that might affect interpretation of the data.

QAPP Information: The 1999 Quality Assurance Project Plan Regional Monitoring Program for Trace Substances was used.

QAPP Information Reference(s): [1999 Quality Assurance Project Plan Regional Monitoring Program for Trace Substances](#)

**DECISION ID 66744
Suisun Marsh Wetlands**

Region 2

Pollutant: Mirex
Final Listing Decision: Do Not List on 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision: New Decision
Revision Status: Revised
Impairment from Pollutant or Pollution: Pollutant

Regional Board Staff Conclusion: This pollutant is being considered for placement on the CWA section 303(d) List under section 3.1 of the Listing Policy. Under section 3.1 a single line of evidence is necessary to assess listing status. One line of evidence is available in the administrative record to assess this pollutant. Zero of one samples exceed the guideline.

Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against placing this water segment-pollutant combination on the CWA section 303(d) List.

This conclusion is based on the staff findings that:

1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy.
2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy.
3. Zero of one samples exceed the guideline and this sample size is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating. A minimum of 16 samples is needed to determine if a beneficial use is fully supported using table 3.1.
4. Pursuant to SECTION 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.

Regional Board Staff Decision Recommendation: After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be placed on the section 303(d) list. The readily available data and information is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating.

Line of Evidence (LOE) for Decision ID 66744, Mirex

Region 2

Suisun Marsh Wetlands

LOE ID:	93331
Pollutant:	Mirex
LOE Subgroup:	Pollutant-Water
Matrix:	Water
Fraction:	Total
Beneficial Use:	Commercial or recreational collection of fish, shellfish, or organisms
Number of Samples:	1
Number of Exceedances:	0
Data and Information Type:	PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality:	State Water Board staff assessed SFEI data for Suisun Marsh Wetlands to determine beneficial use support and results are as follows: 0 of 1 samples exceed the criterion for Mirex.
Data Reference:	Regional Monitoring Program data, Feb. 1993-Sep. 2008
SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	No individual pesticide or combination of pesticides shall be present in concentrations that adversely affect beneficial uses.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	The Mirex criteria for the protection of human health from consumption of organisms only is 0.000097 ug/L (National Recommended Water Quality Criteria, 2009).
Guideline Reference:	National Recommended Water Quality Criteria. United States Environmental Protection Agency. Office of Water. Office of Science and Technology
Spatial Representation:	Data for this line of evidence for Suisun Marsh Wetlands was collected at 1 monitoring site [Suisun Bay - SU013W]
Temporal Representation:	Data was collected on a single day 7/22/2004.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	The 1999 Quality Assurance Project Plan Regional Monitoring Program for Trace Substances was used.
QAPP Information Reference(s):	1999 Quality Assurance Project Plan Regional Monitoring Program for Trace Substances

DECISION ID

66745

Region 2

Suisun Marsh Wetlands

Pollutant: Nickel
Final Listing Decision: Do Not List on 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision: New Decision
Revision Status: Revised
Impairment from Pollutant or Pollution: Pollutant

Regional Board Staff Conclusion: This pollutant is being considered for placement on the CWA section 303(d) List under section 3.1 of the Listing Policy. Under section 3.1 a single line of evidence is necessary to assess listing status. One line of evidence is available in the administrative record to assess this pollutant. Zero of three samples exceed the guideline.

Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against placing this water segment-pollutant combination on the CWA section 303(d) List.

This conclusion is based on the staff findings that:

1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy.
2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy.
3. Zero of three samples exceed the guideline and this sample size is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating. A minimum of 16 samples is needed to determine if a beneficial use is fully supported using table 3.1.
4. Pursuant to SECTION 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.

Regional Board Staff Decision Recommendation: After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be placed on the section 303(d) list. The readily available data and information is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating.

Line of Evidence (LOE) for Decision ID 66745, Nickel

Region 2

Suisun Marsh Wetlands

LOE ID: 93332

Pollutant: Nickel
LOE Subgroup: Pollutant-Water
Matrix: Water
Fraction: Total

Beneficial Use: Commercial or recreational collection of fish, shellfish, or organisms

Number of Samples: 3
Number of Exceedances: 0

Data and Information Type: PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality: State Water Board staff assessed SFEI data for Suisun Marsh Wetlands to determine beneficial use support and results are as follows: 0 of 3 samples exceed the criterion for Nickel.

Data Reference: [Regional Monitoring Program data, Feb. 1993-Sep. 2008](#)

SWAMP Data: Non-SWAMP

Water Quality Objective/Criterion: The Nickel criteria for the protection of human health from consumption of organisms only is 4.6 mg/L (California Toxics Rule, 2000).

Objective/Criterion Reference: [Code of Federal Regulations 40 part 131.38 Establishment of numeric criteria for priority toxic pollutants for the State of California. 7/1/2011 Edition](#)

Evaluation Guideline:

Guideline Reference:

Spatial Representation:

Data for this line of evidence for Suisun Marsh Wetlands was collected at 3 monitoring sites [Suisun Bay - SU006W, Suisun Bay - SU007W, Suisun Bay - SU013W]

Temporal Representation:

Data was collected over the time period 8/14/2003-7/22/2004.

Environmental Conditions:

Staff is not aware of any special conditions that might affect interpretation of the data.

QAPP Information:

The 1999 Quality Assurance Project Plan Regional Monitoring Program for Trace Substances was used.

QAPP Information Reference(s):

[1999 Quality Assurance Project Plan Regional Monitoring Program for Trace Substances](#)

DECISION ID	66746	Region 2
Suisun Marsh Wetlands		

Pollutant: Pyrene
Final Listing Decision: Do Not List on 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision: New Decision
Revision Status Revised
Impairment from Pollutant or Pollution: Pollutant

Regional Board Staff Conclusion: This pollutant is being considered for placement on the CWA section 303(d) List under section 3.1 of the Listing Policy. Under section 3.1 a single line of evidence is necessary to assess listing status. One line of evidence is available in the administrative record to assess this pollutant. Zero of three samples exceed the guideline.

Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against placing this water segment-pollutant combination on the CWA section 303(d) List.

This conclusion is based on the staff findings that:

1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy.
2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy.
3. Zero of three samples exceed the guideline and this sample size is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating. A minimum of 16 samples is needed to determine if a beneficial use is fully supported using table 3.1.
4. Pursuant to SECTION 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.

Regional Board Staff Decision Recommendation: After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be placed on the section 303(d) list. The readily available data and information is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating.

Line of Evidence (LOE) for Decision ID 66746, Pyrene	Region 2
Suisun Marsh Wetlands	

LOE ID: 93334

Pollutant: Pyrene
LOE Subgroup: Pollutant-Water
Matrix: Water
Fraction: Total

Beneficial Use: Commercial or recreational collection of fish, shellfish, or organisms

Number of Samples: 3
Number of Exceedances: 0

Data and Information Type:	PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality:	State Water Board staff assessed SFEI data for Suisun Marsh Wetlands to determine beneficial use support and results are as follows: 0 of 3 samples exceed the criterion for Pyrene.
Data Reference:	Regional Monitoring Program data, Feb. 1993-Sep. 2008
SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	The Pyrene criteria for the protection of human health from consumption of organisms only is 11,000 ug/L (California Toxics Rule, 2000).
Objective/Criterion Reference:	Code of Federal Regulations 40 part 131.38 Establishment of numeric criteria for priority toxic pollutants for the State of California, 7/1/2011 Edition
Evaluation Guideline:	
Guideline Reference:	
Spatial Representation:	Data for this line of evidence for Suisun Marsh Wetlands was collected at 3 monitoring sites [Suisun Bay - SU006W, Suisun Bay - SU007W, Suisun Bay - SU013W]
Temporal Representation:	Data was collected over the time period 8/14/2003-7/22/2004.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	The 1999 Quality Assurance Project Plan Regional Monitoring Program for Trace Substances was used.
QAPP Information Reference(s):	1999 Quality Assurance Project Plan Regional Monitoring Program for Trace Substances

DECISION ID 66748		Region 2
Suisun Marsh Wetlands		
Pollutant:	Zinc	
Final Listing Decision:	Do Not List on 303(d) list (TMDL required list)	
Last Listing Cycle's Final Listing Decision:	New Decision	
Revision Status	Revised	
Impairment from Pollutant or Pollution:	Pollutant	
Regional Board Staff Conclusion:	<p>This pollutant is being considered for placement on the CWA section 303(d) List under section 3.1 of the Listing Policy. Under section 3.1 a single line of evidence is necessary to assess listing status. One line of evidence is available in the administrative record to assess this pollutant. Zero of three samples exceed the guideline.</p> <p>Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against placing this water segment-pollutant combination on the CWA section 303(d) List.</p> <p>This conclusion is based on the staff findings that:</p> <ol style="list-style-type: none"> 1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy. 2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy. 3. Zero of three samples exceed the guideline and this sample size is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating. A minimum of 16 samples is needed to determine if a beneficial use is fully supported using table 3.1. 4. Pursuant to SECTION 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met. 	
Regional Board Staff Decision Recommendation:	After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be placed on the section 303(d) list. The readily available data and information is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating.	
Line of Evidence (LOE) for Decision ID 66748, Zinc		Region 2

Suisun Marsh Wetlands

LOE ID:	93336
Pollutant:	Zinc
LOE Subgroup:	Pollutant-Water
Matrix:	Water
Fraction:	Total
Beneficial Use:	Commercial or recreational collection of fish, shellfish, or organisms
Number of Samples:	3
Number of Exceedances:	0
Data and Information Type:	PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality:	State Water Board staff assessed SFEI data for Suisun Marsh Wetlands to determine beneficial use support and results are as follows: 0 of 3 samples exceed the criterion for Zinc.
Data Reference:	Regional Monitoring Program data, Feb. 1993-Sep. 2008
SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	Surface waters shall not contain concentrations of chemical constituents in amounts that adversely affect any designated beneficial use.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	The Zinc criteria for the protection of human health from consumption of fish only is 26000 ug/L (National Recommended Water Quality Criteria, 2009).
Guideline Reference:	National Recommended Water Quality Criteria. United States Environmental Protection Agency. Office of Water. Office of Science and Technology
Spatial Representation:	Data for this line of evidence for Suisun Marsh Wetlands was collected at 3 monitoring sites [Suisun Bay - SU006W, Suisun Bay - SU007W, Suisun Bay - SU013W]
Temporal Representation:	Data was collected over the time period 8/14/2003-7/22/2004.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	The 1999 Quality Assurance Project Plan Regional Monitoring Program for Trace Substances was used.
QAPP Information Reference(s):	1999 Quality Assurance Project Plan Regional Monitoring Program for Trace Substances

DECISION ID	33578	Region 2
Suisun Marsh Wetlands		

Pollutant:	Mercury
Final Listing Decision:	List on 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision:	List on 303(d) list (TMDL required list)(2012)
Revision Status	Original
Sources:	Source Unknown
Expected TMDL Completion Date:	2013
Impairment from Pollutant or Pollution:	Pollutant

Regional Board Staff Conclusion: 303(d) listing decisions made prior to 2006 were not held in an assessment database. The Regional Boards will update this decision when new data and information become available and are assessed.

Regional Board Staff Decision Recommendation: This is a decision previously approved by the State Water Resources Control Board and the USEPA. No new data were assessed by the Regional Board for the current. The decision has not changed.



Line of Evidence (LOE) for Decision ID 33578, Mercury

Region 2

Suisun Marsh Wetlands

LOE ID:	3708
Pollutant:	Metals
LOE Subgroup:	Pollutant-Water
Matrix:	Water
Fraction:	Not Recorded
Beneficial Use:	Estuarine Habitat
Number of Samples:	0
Number of Exceedances:	0
Data and Information Type:	Not Specified
Data Used to Assess Water Quality:	Unspecified--This LOE is a placeholder to support a 303(d) listing decision made prior to 2006.
Data Reference:	Placeholder reference pre-2006 303(d)
SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	Unspecified
Objective/Criterion Reference:	Placeholder reference pre-2006 303(d)
Evaluation Guideline:	Unspecified
Guideline Reference:	Placeholder reference pre-2006 303(d)
Spatial Representation:	Unspecified
Temporal Representation:	Unspecified
Environmental Conditions:	Unspecified
QAPP Information:	Unspecified
QAPP Information Reference(s):	

DECISION ID

33579

Region 2

Suisun Marsh Wetlands

Pollutant:	Nutrients
Final Listing Decision:	List on 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision:	List on 303(d) list (TMDL required list)(2012)
Revision Status	Original
Sources:	Source Unknown
Expected TMDL Completion Date:	2019
Impairment from Pollutant or Pollution:	Pollutant

Regional Board Staff Conclusion: 303(d) listing decisions made prior to 2006 were not held in an assessment database. The Regional Boards will update this decision when new data and information become available and are assessed.

Regional Board Staff Decision Recommendation: This is a decision previously approved by the State Water Resources Control Board and the USEPA. No new data were assessed by the Regional Board for the current. The decision has not changed.

Line of Evidence (LOE) for Decision ID 33579, Nutrients

Region 2

Suisun Marsh Wetlands

LOE ID: 3709

Pollutant:	Nutrients
LOE Subgroup:	Pollutant-Water
Matrix:	Water
Fraction:	Not Recorded
Beneficial Use:	Estuarine Habitat
Number of Samples:	0
Number of Exceedances:	0
Data and Information Type:	Not Specified
Data Used to Assess Water Quality:	Unspecified--This LOE is a placeholder to support a 303(d) listing decision made prior to 2006.
Data Reference:	Placeholder reference pre-2006 303(d)
SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	Unspecified
Objective/Criterion Reference:	Placeholder reference pre-2006 303(d)
Evaluation Guideline:	Unspecified
Guideline Reference:	Placeholder reference pre-2006 303(d)
Spatial Representation:	Unspecified
Temporal Representation:	Unspecified
Environmental Conditions:	Unspecified
QAPP Information:	Unspecified
QAPP Information Reference(s):	

DECISION ID	44820	Region 2
Suisun Marsh Wetlands		

Pollutant:	Organic Enrichment/Low Dissolved Oxygen
Final Listing Decision:	List on 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision:	List on 303(d) list (TMDL required list)(2012)
Revision Status	Original
Sources:	Source Unknown
Expected TMDL Completion Date:	2013
Impairment from Pollutant or Pollution:	Pollutant

Regional Board Staff Conclusion: 303(d) listing decisions made prior to 2006 were not held in an assessment database. The Regional Boards will update this decision when new data and information become available and are assessed.

Regional Board Staff Decision Recommendation: This is a decision previously approved by the State Water Resources Control Board and the USEPA. No new data were assessed by the Regional Board for the current. The decision has not changed.

Line of Evidence (LOE) for Decision ID 44820, Organic Enrichment/Low Dissolved Oxygen	Region 2
Suisun Marsh Wetlands	

LOE ID:	3710
Pollutant:	Organic Enrichment/Low Dissolved Oxygen
LOE Subgroup:	Pollutant-Water
Matrix:	Water
Fraction:	Not Recorded

Beneficial Use:	Estuarine Habitat
Number of Samples:	0
Number of Exceedances:	0
Data and Information Type:	Not Specified
Data Used to Assess Water Quality:	Unspecified--This LOE is a placeholder to support a 303(d) listing decision made prior to 2006.
Data Reference:	Placeholder reference pre-2006 303(d)
SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	
Objective/Criterion Reference:	
Evaluation Guideline:	
Guideline Reference:	
Spatial Representation:	Unspecified
Temporal Representation:	Unspecified
Environmental Conditions:	Unspecified
QAPP Information:	Unspecified
QAPP Information Reference(s):	

DECISION ID	33580	Region 2
Suisun Marsh Wetlands		

Pollutant:	Salinity/TDS/Chlorides
Final Listing Decision:	List on 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision:	List on 303(d) list (TMDL required list)(2012)
Revision Status	Original
Sources:	Source Unknown
Expected TMDL Completion Date:	2013
Impairment from Pollutant or Pollution:	Pollutant

Regional Board Staff Conclusion:	303(d) listing decisions made prior to 2006 were not held in an assessment database. The Regional Boards will update this decision when new data and information become available and are assessed.
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Regional Board Staff Decision Recommendation:	This is a decision previously approved by the State Water Resources Control Board and the USEPA. No new data were assessed by the Regional Board for the current. The decision has not changed.
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Line of Evidence (LOE) for Decision ID 33580, Salinity/TDS/Chlorides	Region 2
Suisun Marsh Wetlands	

LOE ID:	3711
Pollutant:	Salinity/TDS/Chlorides
LOE Subgroup:	Pollutant-Water
Matrix:	Water
Fraction:	Not Recorded
Beneficial Use:	Estuarine Habitat
Number of Samples:	0
Number of Exceedances:	0

Data and Information Type:	Not Specified
Data Used to Assess Water Quality:	Unspecified--This LOE is a placeholder to support a 303(d) listing decision made prior to 2006.
Data Reference:	Placeholder reference pre-2006 303(d)
SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	
Objective/Criterion Reference:	
Evaluation Guideline:	
Guideline Reference:	
Spatial Representation:	Unspecified
Temporal Representation:	Unspecified
Environmental Conditions:	Unspecified
QAPP Information:	Unspecified
QAPP Information Reference(s):	

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Supporting Information

Regional Board 2 - San Francisco Bay Region

Water Body Name: Pacific Ocean at Rockaway Beach
Water Body ID: CAX2022101120011017111055
Water Body Type: Coastal & Bay Shoreline

DECISION ID 32928 **Region 2**
Pacific Ocean at Rockaway Beach

Pollutant: Indicator Bacteria
Final Listing Decision: Delist from 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision: Do Not Delist from 303(d) list (TMDL required list)(2012)
Revision Status Revised
Reason for Delisting: Applicable WQS attained; reason for recovery unspecified
Impairment from Pollutant or Pollution: Pollutant

Regional Board Staff Conclusion: This pollutant is being considered for removal from the CWA section 303(d) List under section 4.3 of the Listing Policy. Under section 4.3 a single line of evidence is necessary to assess listing status.

Seven lines of evidence are available in the administrative record to assess this pollutant. Seven of the two hundred fifty-six samples exceed the enterococcus geometric mean objective.

Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification for removing this water segment-pollutant combination from the CWA section 303(d) List.

This conclusion is based on the staff findings that:

1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy.
2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy.
3. Seven of the two hundred fifty-six samples exceed the enterococcus geometric mean objective and this does not exceed the allowable frequency listed in Table 3.2 of the Listing Policy.
4. Pursuant to section 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.

Regional Board Staff Decision Recommendation: After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should be removed from the section 303(d) list because applicable water quality standards for the pollutant are not being exceeded.

Line of Evidence (LOE) for Decision ID 32928, Indicator Bacteria **Region 2**
Pacific Ocean at Rockaway Beach

LOE ID: 90554
Pollutant: Fecal Coliform
LOE Subgroup: Pollutant-Water
Matrix: Water
Fraction: None
Beneficial Use: Water Contact Recreation
Number of Samples: 260
Number of Exceedances: 0

Data and Information Type:	Not Specified
Data Used to Assess Water Quality:	Zero of the 260 geomeans exceeded the fecal coliform objective.
Data Reference:	Data for Region 2 Beach Watch.
SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	The geometric mean standard for fecal coliform states that the fecal coliform density shall not exceed 200 per 100 mL. Water Quality Control Plan for Ocean Waters 2009.
Objective/Criterion Reference:	California Ocean Plan Water Quality Control Plan Ocean Waters of California 2009
Evaluation Guideline:	
Guideline Reference:	
Spatial Representation:	Samples were collected at station Rockaway Beach.
Temporal Representation:	Samples were collected approximately once a week from January 2005 to September 2010.
Environmental Conditions:	
QAPP Information:	The samples were collected for the Beach Watch program.
QAPP Information Reference(s):	

Line of Evidence (LOE) for Decision ID 32928, Indicator Bacteria
Pacific Ocean at Rockaway Beach

Region 2

LOE ID:	90555
Pollutant:	Total Coliform
LOE Subgroup:	Pollutant-Water
Matrix:	Water
Fraction:	None
Beneficial Use:	Water Contact Recreation
Number of Samples:	260
Number of Exceedances:	0
Data and Information Type:	Not Specified
Data Used to Assess Water Quality:	Zero of the 260 geomeans exceeded the total coliform objective.
Data Reference:	Data for Region 2 Beach Watch.
SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	The geometric mean standard for total coliform states that the total coliform density shall not exceed 1,000 per 100 mL. Water Quality Control Plan for Ocean Waters 2009.
Objective/Criterion Reference:	California Ocean Plan Water Quality Control Plan Ocean Waters of California 2009
Evaluation Guideline:	
Guideline Reference:	
Spatial Representation:	Samples were collected at station Rockaway Beach.
Temporal Representation:	Samples were collected approximately once a week from January 2005 to September 2010.
Environmental Conditions:	
QAPP Information:	The samples were collected for the Beach Watch program.
QAPP Information Reference(s):	

Line of Evidence (LOE) for Decision ID 32928, Indicator Bacteria
Pacific Ocean at Rockaway Beach

Region 2

LOE ID:	90556
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Pollutant:	Enterococcus
LOE Subgroup:	Pollutant-Water
Matrix:	Water
Fraction:	None
Beneficial Use:	Water Contact Recreation
Number of Samples:	256
Number of Exceedances:	7
Data and Information Type:	Not Specified
Data Used to Assess Water Quality:	Seven of the 256 geomeans exceeded the enterococcus objective.
Data Reference:	Data for Region 2 Beach Watch.
SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	The geometric mean standard for enterococcus states that the enterococcus density shall not exceed 35 per 100 mL. Water Quality Control Plan for Ocean Waters 2009.
Objective/Criterion Reference:	California Ocean Plan Water Quality Control Plan Ocean Waters of California 2009
Evaluation Guideline:	
Guideline Reference:	
Spatial Representation:	Samples were collected at station Rockaway Beach.
Temporal Representation:	Samples were collected approximately once a week from January 2005 to September 2010.
Environmental Conditions:	
QAPP Information:	The samples were collected for the Beach Watch program.
QAPP Information Reference(s):	

Line of Evidence (LOE) for Decision ID 32928, Indicator Bacteria
Pacific Ocean at Rockaway Beach

Region 2

LOE ID:	3441
Pollutant:	Coliform Bacteria
LOE Subgroup:	Pollutant-Water
Matrix:	Water
Fraction:	None
Beneficial Use:	Water Contact Recreation
Number of Samples:	23
Number of Exceedances:	3
Data and Information Type:	PATHOGEN MONITORING
Data Used to Assess Water Quality:	Three of 23 sample exceeded the objective. Samples exceeding were collected during dry-weather season (SWRCB, 2003).
Data Reference:	Placeholder reference 2006 303(d)
SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	Ocean Plan: Samples of water from each sampling station shall have a density of total coliform organisms less than 1,000 per 100 ml (10 per ml); provided that not more than 20 percent of the samples at any sampling station, in any 30-day period, may exceed 1,000 per 100 ml (10 per ml), and provided further that no single sample when verified by a repeat sample taken within 48 hours shall exceed 10,000 per 100 ml (100 per ml) (SWRCB, 2001).
Objective/Criterion Reference:	Placeholder reference 2006 303(d)
Evaluation Guideline:	
Guideline Reference:	

Spatial Representation:	Data was spatially collected.
Temporal Representation:	Data was collected from 5/2000-10/2000.
Environmental Conditions:	
QAPP Information:	San Mateo County Environmental Health Dept. Beach Monitoring, Surfrider data/lab QA/QC used. Data evaluation was based on USEPA guidelines for 305(b) reports, that uses a hierarchy of water quality data levels. Only data of higher overall level of information (Levels 3 and 4) were used to list a water body.
QAPP Information Reference(s):	

Line of Evidence (LOE) for Decision ID 32928, Indicator Bacteria	Region 2
Pacific Ocean at Rockaway Beach	

LOE ID:	90780
Pollutant:	Enterococcus
LOE Subgroup:	Pollutant-Water
Matrix:	Water
Fraction:	None
Beneficial Use:	Water Contact Recreation
Number of Samples:	277
Number of Exceedances:	5
Data and Information Type:	PATHOGEN MONITORING
Data Used to Assess Water Quality:	Water Board staff assessed BeachWatch data for Pacific Ocean at Rockaway Beach to determine beneficial use support and results are as follows: 5 of 277 samples exceed the criterion for Enterococci.
Data Reference:	Data for Region 2 Beach Watch.
SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	California Ocean Plan (SWRCB 2009) states that the single sample maximum for Enterococcus shall not exceed 104 MPN/100 mL.
Objective/Criterion Reference:	California Ocean Plan Water Quality Control Plan Ocean Waters of California 2009
Evaluation Guideline:	
Guideline Reference:	
Spatial Representation:	Data for this line of evidence for Pacific Ocean at Rockaway Beach was collected at 1 monitoring site [Rockaway Beach]
Temporal Representation:	Data was collected over the time period 1/3/2005-8/30/2010.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	The samples were collected for the Beach Watch program.
QAPP Information Reference(s):	

Line of Evidence (LOE) for Decision ID 32928, Indicator Bacteria	Region 2
Pacific Ocean at Rockaway Beach	

LOE ID:	90818
Pollutant:	Fecal Coliform
LOE Subgroup:	Pollutant-Water
Matrix:	Water
Fraction:	None
Beneficial Use:	Water Contact Recreation
Number of Samples:	277
Number of Exceedances:	2

Data and Information Type:	PATHOGEN MONITORING
Data Used to Assess Water Quality:	Water Board staff assessed BeachWatch data for Pacific Ocean at Rockaway Beach to determine beneficial use support and results are as follows: 2 of 277 samples exceed the criterion for Coliform, Fecal.
Data Reference:	Data for Region 2 Beach Watch.
SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	California Ocean Plan (SWRCB 2009) states that the single sample maximum for fecal coliform shall not exceed 400 MPN/100 mL
Objective/Criterion Reference:	California Ocean Plan Water Quality Control Plan Ocean Waters of California 2009
Evaluation Guideline:	
Guideline Reference:	
Spatial Representation:	Data for this line of evidence for Pacific Ocean at Rockaway Beach was collected at 1 monitoring site [Rockaway Beach]
Temporal Representation:	Data was collected over the time period 1/3/2005-8/30/2010.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	The samples were collected for the Beach Watch program.
QAPP Information Reference(s):	

Line of Evidence (LOE) for Decision ID 32928, Indicator Bacteria
Pacific Ocean at Rockaway Beach

Region 2

LOE ID:	90872
Pollutant:	Total Coliform
LOE Subgroup:	Pollutant-Water
Matrix:	Water
Fraction:	None
Beneficial Use:	Water Contact Recreation
Number of Samples:	277
Number of Exceedances:	1
Data and Information Type:	PATHOGEN MONITORING
Data Used to Assess Water Quality:	Water Board staff assessed BeachWatch data for Pacific Ocean at Rockaway Beach to determine beneficial use support and results are as follows: 1 of 277 samples exceed the criterion for Coliform, Total.
Data Reference:	Data for Region 2 Beach Watch.
SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	California Ocean Plan (2009) single sample maximum states that total coliform density shall not exceed 10,000 MPN/100 mL
Objective/Criterion Reference:	California Ocean Plan Water Quality Control Plan Ocean Waters of California 2009
Evaluation Guideline:	
Guideline Reference:	
Spatial Representation:	Data for this line of evidence for Pacific Ocean at Rockaway Beach was collected at 1 monitoring site [Rockaway Beach]
Temporal Representation:	Data was collected over the time period 1/3/2005-8/30/2010.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	The samples were collected for the Beach Watch program.
QAPP Information Reference(s):	

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Supporting Information

Regional Board 2 - San Francisco Bay Region

Water Body Name: Pacific Ocean at Pacifica State/Linda Mar Beach
Water Body ID: CAX2022101120011017111429
Water Body Type: Coastal & Bay Shoreline

DECISION ID 34523 **Region 2**
Pacific Ocean at Pacifica State/Linda Mar Beach

Pollutant: Indicator Bacteria
Final Listing Decision: Do Not Delist from 303(d) list (being addressed with USEPA approved TMDL)
Last Listing Cycle's Final Listing Decision: List on 303(d) list (TMDL required list)(2012)
Revision Status Revised
Sources: Source Unknown
TMDL Name: San Mateo Coast Pathogens (Pacifica Beaches and San Pedro Creek)
TMDL Project Code: 781
Date TMDL Approved by USEPA: 08/01/2013
Impairment from Pollutant or Pollution: Pollutant

Regional Board Staff Conclusion: This pollutant is being considered for removal from the CWA section 303(d) List under section 4.3 of the Listing Policy. Under section 4.3 a single line of evidence is necessary to assess listing status.

Thirteen lines of evidence are available in the administrative record to assess this pollutant. Forty-five of two hundred eighty-four samples exceed the enterococcus geometric mean objective at the Linda Mar Beach #5 site.

Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification for removing this water segment-pollutant combination from the CWA section 303(d) List.

This conclusion is based on the staff findings that:

1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy.
2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy.
3. Forty-five of two hundred eighty-four samples exceed the enterococcus geometric mean objective at the Linda Mar Beach #5 site and this exceeds the allowable frequency listed in Table 4.2 of the Listing Policy.
4. Pursuant to section 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.
5. TMDL was approved for this waterbody on 8/1/2013.
6. The Linda Mar Beach #5 site is the site on the beach that is best indicative of water quality relative to the source of pathogens to the beach entering from San Pedro Creek. For this reason, the samples and exceedances from this site were used to determine the use support.

Regional Board Staff Decision Recommendation: After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be removed from the section 303(d) list because applicable water quality standards for the pollutant are being exceeded.

Line of Evidence (LOE) for Decision ID 34523, Indicator Bacteria **Region 2**
Pacific Ocean at Pacifica State/Linda Mar Beach

LOE ID: 95951

Pollutant:	Fecal Coliform
LOE Subgroup:	Pollutant-Water
Matrix:	Water
Fraction:	None
Beneficial Use:	Water Contact Recreation
Number of Samples:	182
Number of Exceedances:	0
Data and Information Type:	PATHOGEN MONITORING
Data Used to Assess Water Quality:	Water Board staff assessed BeachWatch data for Pacific Ocean at Pacifica State/Linda Mar Beach to determine beneficial use support and results are as follows: 0 of 182 samples exceed the criterion for Coliform, Fecal.
Data Reference:	Data for Region 2 Beach Watch.
SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	California Ocean Plan (SWRCB 2009) states that the single sample maximum for fecal coliform shall not exceed 400 MPN/100 mL
Objective/Criterion Reference:	California Ocean Plan Water Quality Control Plan Ocean Waters of California 2009
Evaluation Guideline:	
Guideline Reference:	
Spatial Representation:	Data for this line of evidence for Pacific Ocean at Pacifica State/Linda Mar Beach was collected at Linda Mar Beach #6
Temporal Representation:	Data was collected over the time period 1/3/2005-8/30/2010.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	The samples were collected for the Beach Watch program.
QAPP Information Reference(s):	

Line of Evidence (LOE) for Decision ID 34523, Indicator Bacteria

Region 2

Pacific Ocean at Pacifica State/Linda Mar Beach

LOE ID:	95952
Pollutant:	Total Coliform
LOE Subgroup:	Pollutant-Water
Matrix:	Water
Fraction:	None
Beneficial Use:	Water Contact Recreation
Number of Samples:	182
Number of Exceedances:	0
Data and Information Type:	PATHOGEN MONITORING
Data Used to Assess Water Quality:	Water Board staff assessed BeachWatch data for Pacific Ocean at Pacifica State/Linda Mar Beach to determine beneficial use support and results are as follows: 0 of 182 samples exceed the criterion for Coliform, Total.
Data Reference:	Data for Region 2 Beach Watch.
SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	California Ocean Plan (2009) single sample maximum states that total coliform density shall not exceed 10,000 MPN/100 mL
Objective/Criterion Reference:	California Ocean Plan Water Quality Control Plan Ocean Waters of California 2009
Evaluation Guideline:	
Guideline Reference:	

Spatial Representation:	Data for this line of evidence for Pacific Ocean at Pacifica State/Linda Mar Beach was collected at Linda Mar Beach #6
Temporal Representation:	Data was collected over the time period 1/3/2005-8/30/2010.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	The samples were collected for the Beach Watch program.
QAPP Information Reference(s):	

Line of Evidence (LOE) for Decision ID 34523, Indicator Bacteria**Region 2****Pacific Ocean at Pacifica State/Linda Mar Beach**

LOE ID:	95953
Pollutant:	Enterococcus
LOE Subgroup:	Pollutant-Water
Matrix:	Water
Fraction:	None
Beneficial Use:	Water Contact Recreation
Number of Samples:	182
Number of Exceedances:	0
Data and Information Type:	PATHOGEN MONITORING
Data Used to Assess Water Quality:	Water Board staff assessed BeachWatch data for Pacific Ocean at Pacifica State/Linda Mar Beach to determine beneficial use support and results are as follows: 0 of 182 samples exceed the criterion for Enterococci.
Data Reference:	Data for Region 2 Beach Watch.
SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	California Ocean Plan (SWRCB 2009) states that the single sample maximum for Enterococcus shall not exceed 104 MPN/100 mL.
Objective/Criterion Reference:	California Ocean Plan Water Quality Control Plan Ocean Waters of California 2009
Evaluation Guideline:	
Guideline Reference:	
Spatial Representation:	Data for this line of evidence for Pacific Ocean at Pacifica State/Linda Mar Beach was collected at Linda Mar Beach #6
Temporal Representation:	Data was collected over the time period 1/3/2005-8/30/2010.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	The samples were collected for the Beach Watch program.
QAPP Information Reference(s):	

Line of Evidence (LOE) for Decision ID 34523, Indicator Bacteria**Region 2****Pacific Ocean at Pacifica State/Linda Mar Beach**

LOE ID:	90802
Pollutant:	Fecal Coliform
LOE Subgroup:	Pollutant-Water
Matrix:	Water
Fraction:	None
Beneficial Use:	Water Contact Recreation
Number of Samples:	284
Number of Exceedances:	10
Data and Information Type:	PATHOGEN MONITORING

Data Used to Assess Water Quality:	Water Board staff assessed BeachWatch data for Pacific Ocean at Pacifica State/Linda Mar Beach to determine beneficial use support and results are as follows: 10 of 284 samples exceed the criterion for Coliform, Fecal.
Data Reference:	Data for Region 2 Beach Watch.
SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	California Ocean Plan (SWRCB 2009) states that the single sample maximum for fecal coliform shall not exceed 400 MPN/100 mL
Objective/Criterion Reference:	California Ocean Plan Water Quality Control Plan Ocean Waters of California 2009
Evaluation Guideline:	
Guideline Reference:	
Spatial Representation:	Data for this line of evidence for Pacific Ocean at Pacifica State/Linda Mar Beach was collected at Linda Mar Beach #5
Temporal Representation:	Data was collected over the time period 1/3/2005-8/30/2010.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	The samples were collected for the Beach Watch program.
QAPP Information Reference(s):	

Line of Evidence (LOE) for Decision ID 34523, Indicator Bacteria

Region 2

Pacific Ocean at Pacifica State/Linda Mar Beach

LOE ID:	90803
Pollutant:	Total Coliform
LOE Subgroup:	Pollutant-Water
Matrix:	Water
Fraction:	None
Beneficial Use:	Water Contact Recreation
Number of Samples:	284
Number of Exceedances:	6
Data and Information Type:	PATHOGEN MONITORING
Data Used to Assess Water Quality:	Water Board staff assessed BeachWatch data for Pacific Ocean at Pacifica State/Linda Mar Beach to determine beneficial use support and results are as follows: 6 of 284 samples exceed the criterion for Coliform, Total.
Data Reference:	Data for Region 2 Beach Watch.
SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	California Ocean Plan (2009) single sample maximum states that total coliform density shall not exceed 10,000 MPN/100 mL
Objective/Criterion Reference:	California Ocean Plan Water Quality Control Plan Ocean Waters of California 2009
Evaluation Guideline:	
Guideline Reference:	
Spatial Representation:	Data for this line of evidence for Pacific Ocean at Pacifica State/Linda Mar Beach was collected at Linda Mar Beach #5
Temporal Representation:	Data was collected over the time period 1/3/2005-8/30/2010.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	The samples were collected for the Beach Watch program.
QAPP Information Reference(s):	

Line of Evidence (LOE) for Decision ID 34523, Indicator Bacteria

Region 2

Pacific Ocean at Pacifica State/Linda Mar Beach

LOE ID:	90804
Pollutant:	Enterococcus
LOE Subgroup:	Pollutant-Water
Matrix:	Water
Fraction:	None
Beneficial Use:	Water Contact Recreation
Number of Samples:	284
Number of Exceedances:	25
Data and Information Type:	PATHOGEN MONITORING
Data Used to Assess Water Quality:	Water Board staff assessed BeachWatch data for Pacific Ocean at Pacifica State/Linda Mar Beach to determine beneficial use support and results are as follows: 25 of 284 samples exceed the criterion for Enterococci.
Data Reference:	Data for Region 2 Beach Watch.
SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	California Ocean Plan (SWRCB 2009) states that the single sample maximum for Enterococcus shall not exceed 104 MPN/100 mL.
Objective/Criterion Reference:	California Ocean Plan Water Quality Control Plan Ocean Waters of California 2009
Evaluation Guideline:	
Guideline Reference:	
Spatial Representation:	Data for this line of evidence for Pacific Ocean at Pacifica State/Linda Mar Beach was collected at Linda Mar Beach #5
Temporal Representation:	Data was collected over the time period 1/3/2005-8/30/2010.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	The samples were collected for the Beach Watch program.
QAPP Information Reference(s):	

Line of Evidence (LOE) for Decision ID 34523, Indicator Bacteria

Region 2

Pacific Ocean at Pacifica State/Linda Mar Beach

LOE ID:	3791
Pollutant:	Coliform Bacteria
LOE Subgroup:	Pollutant-Water
Matrix:	Water
Fraction:	Not Recorded
Beneficial Use:	Water Contact Recreation
Number of Samples:	0
Number of Exceedances:	0
Data and Information Type:	Not Specified
Data Used to Assess Water Quality:	Unspecified--This LOE is a placeholder to support a 303(d) listing decision made prior to 2006.
Data Reference:	Placeholder reference pre-2006 303(d)
SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	
Objective/Criterion Reference:	
Evaluation Guideline:	
Guideline Reference:	

Spatial Representation:	Unspecified
Temporal Representation:	Unspecified
Environmental Conditions:	Unspecified
QAPP Information:	Unspecified
QAPP Information Reference(s):	

Line of Evidence (LOE) for Decision ID 34523, Indicator Bacteria
Pacific Ocean at Pacifica State/Linda Mar Beach

Region 2

LOE ID:	90698
Pollutant:	Total Coliform
LOE Subgroup:	Pollutant-Water
Matrix:	Water
Fraction:	None
Beneficial Use:	Water Contact Recreation
Number of Samples:	264
Number of Exceedances:	0
Data and Information Type:	Not Specified
Data Used to Assess Water Quality:	Zero of the 264 geomeans exceeded the objective.
Data Reference:	Data for Region 2 Beach Watch.
SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	The geometric mean standard for total coliform states that the coliform density shall not exceed 1000 per 100 mL. Water Quality Control Plan for Ocean Waters 2009.
Objective/Criterion Reference:	California Ocean Plan Water Quality Control Plan Ocean Waters of California 2009
Evaluation Guideline:	
Guideline Reference:	
Spatial Representation:	Samples were collected at the Linda Mar Beach #5 site.
Temporal Representation:	Samples were collected from January 2005 to August 2010.
Environmental Conditions:	
QAPP Information:	The samples were collected for the Beach Watch program.
QAPP Information Reference(s):	

Line of Evidence (LOE) for Decision ID 34523, Indicator Bacteria
Pacific Ocean at Pacifica State/Linda Mar Beach

Region 2

LOE ID:	90699
Pollutant:	Fecal Coliform
LOE Subgroup:	Pollutant-Water
Matrix:	Water
Fraction:	None
Beneficial Use:	Water Contact Recreation
Number of Samples:	265
Number of Exceedances:	0
Data and Information Type:	Not Specified
Data Used to Assess Water Quality:	Zero of the 265 geomeans exceeded the objective.
Data Reference:	Data for Region 2 Beach Watch.
SWAMP Data:	Non-SWAMP

Water Quality Objective/Criterion: The geometric mean standard for fecal coliform states that the fecal coliform density shall not exceed 200 per 100 mL. Water Quality Control Plan for Ocean Waters 2009.

Objective/Criterion Reference: [California Ocean Plan Water Quality Control Plan Ocean Waters of California 2009](#)

Evaluation Guideline:

Guideline Reference:

Spatial Representation: Samples were collected at the Linda Mar Beach #5 site.

Temporal Representation: Samples were collected from January 2005 to August 2010.

Environmental Conditions:

QAPP Information: The samples were collected for the beach watch program.

QAPP Information Reference(s):

Line of Evidence (LOE) for Decision ID 34523, Indicator Bacteria

Region 2

Pacific Ocean at Pacifica State/Linda Mar Beach

LOE ID: 90700

Pollutant: Fecal Coliform

LOE Subgroup: Pollutant-Water

Matrix: Water

Fraction: None

Beneficial Use: Water Contact Recreation

Number of Samples: 166

Number of Exceedances: 0

Data and Information Type: Not Specified

Data Used to Assess Water Quality: Zero of the 166 geomeans exceeded the objective.

Data Reference: [Data for Region 2 Beach Watch.](#)

SWAMP Data: Non-SWAMP

Water Quality Objective/Criterion: The geometric mean standard for fecal coliform states that the fecal coliform density shall not exceed 200 per 100 mL. Water Quality Control Plan for Ocean Waters 2009.

Objective/Criterion Reference: [California Ocean Plan Water Quality Control Plan Ocean Waters of California 2009](#)

Evaluation Guideline:

Guideline Reference:

Spatial Representation: Samples were collected at the Linda Mar Beach #6 site.

Temporal Representation: Samples were collected from January 2005 to September 2008.

Environmental Conditions:

QAPP Information: The samples were collected for the beach watch program.

QAPP Information Reference(s):

Line of Evidence (LOE) for Decision ID 34523, Indicator Bacteria

Region 2

Pacific Ocean at Pacifica State/Linda Mar Beach

LOE ID: 90701

Pollutant: Total Coliform

LOE Subgroup: Pollutant-Water

Matrix: Water

Fraction: None

Beneficial Use: Water Contact Recreation

Number of Samples: 166

Number of Exceedances: 0

Data and Information Type:	Not Specified
Data Used to Assess Water Quality:	Zero of the 166 geomeans exceeded the objective.
Data Reference:	Data for Region 2 Beach Watch.
SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	The geometric mean standard for total coliform states that the coliform density shall not exceed 1000 per 100 mL. Water Quality Control Plan for Ocean Waters 2009.
Objective/Criterion Reference:	California Ocean Plan Water Quality Control Plan Ocean Waters of California 2009
Evaluation Guideline:	
Guideline Reference:	
Spatial Representation:	Samples were collected at the Linda Mar Beach #6 site.
Temporal Representation:	Samples were collected from January 2005 to September 2009.
Environmental Conditions:	
QAPP Information:	The samples were collected for the Beach Watch program.
QAPP Information Reference(s):	

Line of Evidence (LOE) for Decision ID 34523, Indicator Bacteria	Region 2
Pacific Ocean at Pacifica State/Linda Mar Beach	

LOE ID:	90702
Pollutant:	Enterococcus
LOE Subgroup:	Pollutant-Water
Matrix:	Water
Fraction:	None
Beneficial Use:	Water Contact Recreation
Number of Samples:	166
Number of Exceedances:	0
Data and Information Type:	Not Specified
Data Used to Assess Water Quality:	Zero of the 166 geomeans exceeded the objective.
Data Reference:	Data for Region 2 Beach Watch.
SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	The geometric mean standard for enterococcus states that the enterococcus density shall not exceed 35 per 100 mL. Water Quality Control Plan for Ocean Waters 2009.
Objective/Criterion Reference:	California Ocean Plan Water Quality Control Plan Ocean Waters of California 2009
Evaluation Guideline:	
Guideline Reference:	
Spatial Representation:	Samples were collected at the Linda Mar Beach #6 site.
Temporal Representation:	Samples were collected from January 2005 to September 2009.
Environmental Conditions:	
QAPP Information:	The samples were collected for the Beach Watch program.
QAPP Information Reference(s):	

Line of Evidence (LOE) for Decision ID 34523, Indicator Bacteria	Region 2
Pacific Ocean at Pacifica State/Linda Mar Beach	

LOE ID:	90697
Pollutant:	Enterococcus
LOE Subgroup:	Pollutant-Water

Matrix:	Water
Fraction:	None
Beneficial Use:	Water Contact Recreation
Number of Samples:	263
Number of Exceedances:	45
Data and Information Type:	Not Specified
Data Used to Assess Water Quality:	Forty five of the 263 geomeans exceeded the objective.
Data Reference:	Data for Region 2 Beach Watch.
SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	The geometric mean standard for enterococcus states that the enterococcus density shall not exceed 35 per 100 mL. Water Quality Control Plan for Ocean Waters 2009.
Objective/Criterion Reference:	California Ocean Plan Water Quality Control Plan Ocean Waters of California 2009
Evaluation Guideline:	
Guideline Reference:	
Spatial Representation:	Samples were collected at the Linda Mar Beach #5 site.
Temporal Representation:	Samples were collected from January 2005 to August 2010.
Environmental Conditions:	
QAPP Information:	The samples were collected for the Beach Watch program.
QAPP Information Reference(s):	

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Supporting Information

Regional Board 2 - San Francisco Bay Region

Water Body Name: Pacific Ocean at Pillar Point Beach
Water Body ID: CAX2022101220011017105702
Water Body Type: Coastal & Bay Shoreline

DECISION ID 34356 **Region 2**
Pacific Ocean at Pillar Point Beach

Pollutant: Indicator Bacteria
Final Listing Decision: Do Not Delist from 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision: List on 303(d) list (TMDL required list)(2012)
Revision Status Revised
Sources: Source Unknown
Expected TMDL Completion Date: 2019
Impairment from Pollutant or Pollution: Pollutant

Regional Board Staff Conclusion: This pollutant is being considered for removal from the CWA section 303(d) List under section 4.3 of the Listing Policy. Under section 4.3 a single line of evidence is necessary to assess listing status.

Eleven lines of evidence are available in the administrative record to assess this pollutant. One hundred fifty-eight of four hundred ninety-two samples exceed the enterococcus geometric mean objective.

Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against removing this water segment-pollutant combination from the CWA section 303(d) List.

This conclusion is based on the staff findings that:

1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy.
2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy.
3. One hundred fifty-eight of four hundred ninety-two samples exceed the enterococcus geometric mean objective and this does exceeds the allowable frequency listed in Table 3.2 of the Listing Policy.
4. Pursuant to section 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.

Regional Board Staff Decision Recommendation: After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be removed from the section 303(d) list because applicable water quality standards for the pollutant are being exceeded.

Line of Evidence (LOE) for Decision ID 34356, Indicator Bacteria **Region 2**
Pacific Ocean at Pillar Point Beach

LOE ID: 90885
Pollutant: Total Coliform
LOE Subgroup: Pollutant-Water
Matrix: Water
Fraction: None

Beneficial Use:	Water Contact Recreation
Number of Samples:	539
Number of Exceedances:	10
Data and Information Type:	PATHOGEN MONITORING
Data Used to Assess Water Quality:	Water Board staff assessed BeachWatch data for Pacific Ocean at Pillar Point Beach to determine beneficial use support and results are as follows: 10 of 539 samples exceed the criterion for Coliform, Total.
Data Reference:	Data for Region 2 Beach Watch.
SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	California Ocean Plan (2009) single sample maximum states that total coliform density shall not exceed 10,000 MPN/100 mL
Objective/Criterion Reference:	California Ocean Plan Water Quality Control Plan Ocean Waters of California 2009
Evaluation Guideline:	
Guideline Reference:	
Spatial Representation:	Data for this line of evidence for Pacific Ocean at Pillar Point Beach was collected at 2 monitoring sites [Pillar Point #7, Pillar Point #8]
Temporal Representation:	Data was collected over the time period 1/3/2005-8/30/2010.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	The samples were collected for the Beach Watch program.
QAPP Information Reference(s):	

Line of Evidence (LOE) for Decision ID 34356, Indicator Bacteria

Region 2

Pacific Ocean at Pillar Point Beach

LOE ID:	90800
Pollutant:	Enterococcus
LOE Subgroup:	Pollutant-Water
Matrix:	Water
Fraction:	None
Beneficial Use:	Water Contact Recreation
Number of Samples:	539
Number of Exceedances:	87
Data and Information Type:	PATHOGEN MONITORING
Data Used to Assess Water Quality:	Water Board staff assessed BeachWatch data for Pacific Ocean at Pillar Point Beach to determine beneficial use support and results are as follows: 87 of 539 samples exceed the criterion for Enterococci.
Data Reference:	Data for Region 2 Beach Watch.
SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	California Ocean Plan (SWRCB 2009) states that the single sample maximum for Enterococcus shall not exceed 104 MPN/100 mL.
Objective/Criterion Reference:	California Ocean Plan Water Quality Control Plan Ocean Waters of California 2009
Evaluation Guideline:	
Guideline Reference:	
Spatial Representation:	Data for this line of evidence for Pacific Ocean at Pillar Point Beach was collected at 2 monitoring sites [Pillar Point #7, Pillar Point #8]
Temporal Representation:	Data was collected over the time period 1/3/2005-8/30/2010.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	The samples were collected for the Beach Watch program.

Line of Evidence (LOE) for Decision ID 34356, Indicator Bacteria**Region 2****Pacific Ocean at Pillar Point Beach**

LOE ID:	90707
Pollutant:	Total Coliform
LOE Subgroup:	Pollutant-Water
Matrix:	Water
Fraction:	None
Beneficial Use:	Water Contact Recreation
Number of Samples:	244
Number of Exceedances:	1
Data and Information Type:	Not Specified
Data Used to Assess Water Quality:	One of the 247 geomeans exceeded the objective.
Data Reference:	Data for Region 2 Beach Watch.
SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	The geometric mean standard for total coliform states that the coliform density shall not exceed 1000 per 100 mL. Water Quality Control Plan for Ocean Waters 2009.
Objective/Criterion Reference:	California Ocean Plan Water Quality Control Plan Ocean Waters of California 2009
Evaluation Guideline:	
Guideline Reference:	
Spatial Representation:	Samples were collected at the Pillar Point #8 site.
Temporal Representation:	Samples were collected from March 2005 to August 2010.
Environmental Conditions:	
QAPP Information:	The samples were collected for the Beach Watch program.
QAPP Information Reference(s):	

Line of Evidence (LOE) for Decision ID 34356, Indicator Bacteria**Region 2****Pacific Ocean at Pillar Point Beach**

LOE ID:	90708
Pollutant:	Fecal Coliform
LOE Subgroup:	Pollutant-Water
Matrix:	Water
Fraction:	None
Beneficial Use:	Water Contact Recreation
Number of Samples:	244
Number of Exceedances:	2
Data and Information Type:	Not Specified
Data Used to Assess Water Quality:	Two of the 244 geomeans exceeded the objective.
Data Reference:	Data for Region 2 Beach Watch.
SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	The geometric mean standard for fecal coliform states that the fecal coliform density shall not exceed 200 per 100 mL. Water Quality Control Plan for Ocean Waters 2009.
Objective/Criterion Reference:	California Ocean Plan Water Quality Control Plan Ocean Waters of California 2009

Evaluation Guideline:
Guideline Reference:

Spatial Representation: Samples were collected at the Pillar Point #8 site.
Temporal Representation: Samples were collected from March 2005 to August 2010.
Environmental Conditions:
QAPP Information: The samples were collected for the beach watch program.
QAPP Information Reference(s):

Line of Evidence (LOE) for Decision ID 34356, Indicator Bacteria
Pacific Ocean at Pillar Point Beach

Region 2

LOE ID: 90834

Pollutant: Fecal Coliform
LOE Subgroup: Pollutant-Water
Matrix: Water
Fraction: None

Beneficial Use: Water Contact Recreation

Number of Samples: 539
Number of Exceedances: 37

Data and Information Type: PATHOGEN MONITORING
Data Used to Assess Water Quality: Water Board staff assessed BeachWatch data for Pacific Ocean at Pillar Point Beach to determine beneficial use support and results are as follows: 37 of 539 samples exceed the criterion for Coliform, Fecal.

Data Reference: [Data for Region 2 Beach Watch.](#)

SWAMP Data: Non-SWAMP

Water Quality Objective/Criterion: California Ocean Plan (SWRCB 2009) states that the single sample maximum for fecal coliform shall not exceed 400 MPN/100 mL

Objective/Criterion Reference: [California Ocean Plan Water Quality Control Plan Ocean Waters of California 2009](#)

Evaluation Guideline:
Guideline Reference:

Spatial Representation: Data for this line of evidence for Pacific Ocean at Pillar Point Beach was collected at 2 monitoring sites [Pillar Point #7, Pillar Point #8]
Temporal Representation: Data was collected over the time period 1/3/2005-8/30/2010.
Environmental Conditions: Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information: The samples were collected for the Beach Watch program.
QAPP Information Reference(s):

Line of Evidence (LOE) for Decision ID 34356, Indicator Bacteria
Pacific Ocean at Pillar Point Beach

Region 2

LOE ID: 90706

Pollutant: Enterococcus
LOE Subgroup: Pollutant-Water
Matrix: Water
Fraction: None

Beneficial Use: Water Contact Recreation

Number of Samples: 245
Number of Exceedances: 53

Data and Information Type:	Not Specified
Data Used to Assess Water Quality:	Fifty three of the 245 geomeans exceeded the objective.
Data Reference:	Data for Region 2 Beach Watch.
SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	The geometric mean standard for enterococcus states that the enterococcus density shall not exceed 35 per 100 mL. Water Quality Control Plan for Ocean Waters 2009.
Objective/Criterion Reference:	California Ocean Plan Water Quality Control Plan Ocean Waters of California 2009
Evaluation Guideline:	
Guideline Reference:	
Spatial Representation:	Samples were collected at the Pillar Point #8 site.
Temporal Representation:	Samples were collected from March 2005 to August 2010.
Environmental Conditions:	
QAPP Information:	The samples were collected for the Beach Watch program.
QAPP Information Reference(s):	

Line of Evidence (LOE) for Decision ID 34356, Indicator Bacteria
Pacific Ocean at Pillar Point Beach

Region 2

LOE ID:	90705
Pollutant:	Enterococcus
LOE Subgroup:	Pollutant-Water
Matrix:	Water
Fraction:	None
Beneficial Use:	Water Contact Recreation
Number of Samples:	247
Number of Exceedances:	105
Data and Information Type:	Not Specified
Data Used to Assess Water Quality:	One hundred and five of the 247 geomeans exceeded the objective.
Data Reference:	Data for Region 2 Beach Watch.
SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	The geometric mean standard for enterococcus states that the enterococcus density shall not exceed 35 per 100 mL. Water Quality Control Plan for Ocean Waters 2009.
Objective/Criterion Reference:	California Ocean Plan Water Quality Control Plan Ocean Waters of California 2009
Evaluation Guideline:	
Guideline Reference:	
Spatial Representation:	Samples were collected at the Pillar Point #7 site.
Temporal Representation:	Samples were collected from January 2005 to August 2010.
Environmental Conditions:	
QAPP Information:	The samples were collected for the Beach Watch program.
QAPP Information Reference(s):	

Line of Evidence (LOE) for Decision ID 34356, Indicator Bacteria
Pacific Ocean at Pillar Point Beach

Region 2

LOE ID:	90704
Pollutant:	Total Coliform
LOE Subgroup:	Pollutant-Water
Matrix:	Water

Fraction:	None
Beneficial Use:	Water Contact Recreation
Number of Samples:	247
Number of Exceedances:	9
Data and Information Type:	Not Specified
Data Used to Assess Water Quality:	Nine of the 247 geomeans exceeded the objective.
Data Reference:	Data for Region 2 Beach Watch.
SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	The geometric mean standard for total coliform states that the coliform density shall not exceed 1000 per 100 mL. Water Quality Control Plan for Ocean Waters 2009.
Objective/Criterion Reference:	California Ocean Plan Water Quality Control Plan Ocean Waters of California 2009
Evaluation Guideline:	
Guideline Reference:	
Spatial Representation:	Samples were collected at the Pillar Point #7 site.
Temporal Representation:	Samples were collected from January 2005 to August 2010.
Environmental Conditions:	
QAPP Information:	The samples were collected for the Beach Watch program.
QAPP Information Reference(s):	

Line of Evidence (LOE) for Decision ID 34356, Indicator Bacteria
Pacific Ocean at Pillar Point Beach

Region 2

LOE ID:	90703
Pollutant:	Fecal Coliform
LOE Subgroup:	Pollutant-Water
Matrix:	Water
Fraction:	None
Beneficial Use:	Water Contact Recreation
Number of Samples:	247
Number of Exceedances:	1
Data and Information Type:	Not Specified
Data Used to Assess Water Quality:	One of the 247 geomeans exceeded the objective.
Data Reference:	Data for Region 2 Beach Watch.
SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	The geometric mean standard for fecal coliform states that the fecal coliform density shall not exceed 200 per 100 mL. Water Quality Control Plan for Ocean Waters 2009.
Objective/Criterion Reference:	California Ocean Plan Water Quality Control Plan Ocean Waters of California 2009
Evaluation Guideline:	
Guideline Reference:	
Spatial Representation:	Samples were collected at the Pillar Point #7 site.
Temporal Representation:	Samples were collected from January 2005 to August 2010.
Environmental Conditions:	
QAPP Information:	The samples were collected for the beach watch program.
QAPP Information Reference(s):	

Line of Evidence (LOE) for Decision ID 34356, Indicator Bacteria

Region 2

Pacific Ocean at Pillar Point Beach

LOE ID:	3792
Pollutant:	Coliform Bacteria
LOE Subgroup:	Pollutant-Water
Matrix:	Water
Fraction:	Not Recorded
Beneficial Use:	Water Contact Recreation
Number of Samples:	0
Number of Exceedances:	0
Data and Information Type:	Not Specified
Data Used to Assess Water Quality:	Unspecified--This LOE is a placeholder to support a 303(d) listing decision made prior to 2006.
Data Reference:	Placeholder reference pre-2006 303(d)
SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	
Objective/Criterion Reference:	
Evaluation Guideline:	
Guideline Reference:	
Spatial Representation:	Unspecified
Temporal Representation:	Unspecified
Environmental Conditions:	Unspecified
QAPP Information:	Unspecified
QAPP Information Reference(s):	

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Supporting Information

Regional Board 2 - San Francisco Bay Region

Water Body Name: Pacific Ocean at Fitzgerald Marine Reserve
Water Body ID: CAX2022101220020117093910
Water Body Type: Coastal & Bay Shoreline

DECISION ID 34522 **Region 2**
Pacific Ocean at Fitzgerald Marine Reserve

Pollutant: Indicator Bacteria
Final Listing Decision: Delist from 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision: List on 303(d) list (TMDL required list)(2012)
Revision Status Revised
Reason for Delisting: Applicable WQS attained; reason for recovery unspecified
Impairment from Pollutant or Pollution: Pollutant

Regional Board Staff Conclusion: This pollutant is being considered for removal from the CWA section 303(d) List under section 4.3 of the Listing Policy. Under section 4.3 a single line of evidence is necessary to assess listing status.

Seven lines of evidence are available in the administrative record to assess this pollutant. Nine of the two hundred sixty-two samples exceed the enterococcus geometric mean objective.

Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification for removing this water segment-pollutant combination on the CWA section 303(d) List.

This conclusion is based on the staff findings that:

1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy.
2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy.
3. Nine of the two hundred sixty-two samples exceed the enterococcus geometric mean objective and this does not exceed the allowable frequency listed in Table 4.2 of the Listing Policy.
4. Pursuant to section 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.

Regional Board Staff Decision Recommendation: After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should be removed from the section 303(d) list because applicable water quality standards for the pollutant are not being exceeded.

Line of Evidence (LOE) for Decision ID 34522, Indicator Bacteria **Region 2**
Pacific Ocean at Fitzgerald Marine Reserve

LOE ID: 90815
Pollutant: Fecal Coliform
LOE Subgroup: Pollutant-Water
Matrix: Water
Fraction: None
Beneficial Use: Water Contact Recreation
Number of Samples: 283
Number of Exceedances: 22

Data and Information Type:	PATHOGEN MONITORING
Data Used to Assess Water Quality:	Water Board staff assessed BeachWatch data for Pacific Ocean at Fitzgerald Marine Reserve to determine beneficial use support and results are as follows: 22 of 283 samples exceed the criterion for Coliform, Fecal.
Data Reference:	Data for Region 2 Beach Watch.
SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	California Ocean Plan (SWRCB 2009) states that the single sample maximum for fecal coliform shall not exceed 400 MPN/100 mL
Objective/Criterion Reference:	California Ocean Plan Water Quality Control Plan Ocean Waters of California 2009
Evaluation Guideline:	
Guideline Reference:	
Spatial Representation:	Data for this line of evidence for Pacific Ocean at Fitzgerald Marine Reserve was collected at 1 monitoring site [Fitzgerald Marine (Moss Beach)]
Temporal Representation:	Data was collected over the time period 1/3/2005-8/23/2010.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	The samples were collected for the Beach Watch program.
QAPP Information Reference(s):	

Line of Evidence (LOE) for Decision ID 34522, Indicator Bacteria	Region 2
Pacific Ocean at Fitzgerald Marine Reserve	

LOE ID:	90777
Pollutant:	Enterococcus
LOE Subgroup:	Pollutant-Water
Matrix:	Water
Fraction:	None
Beneficial Use:	Water Contact Recreation
Number of Samples:	283
Number of Exceedances:	9
Data and Information Type:	PATHOGEN MONITORING
Data Used to Assess Water Quality:	Water Board staff assessed BeachWatch data for Pacific Ocean at Fitzgerald Marine Reserve to determine beneficial use support and results are as follows: 9 of 283 samples exceed the criterion for Enterococci.
Data Reference:	Data for Region 2 Beach Watch.
SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	California Ocean Plan (SWRCB 2009) states that the single sample maximum for Enterococcus shall not exceed 104 MPN/100 mL.
Objective/Criterion Reference:	California Ocean Plan Water Quality Control Plan Ocean Waters of California 2009
Evaluation Guideline:	
Guideline Reference:	
Spatial Representation:	Data for this line of evidence for Pacific Ocean at Fitzgerald Marine Reserve was collected at 1 monitoring site [Fitzgerald Marine (Moss Beach)]
Temporal Representation:	Data was collected over the time period 1/3/2005-8/23/2010.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	The samples were collected for the Beach Watch program.
QAPP Information Reference(s):	

Line of Evidence (LOE) for Decision ID 34522, Indicator Bacteria	Region 2
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Pacific Ocean at Fitzgerald Marine Reserve

LOE ID:	90531
Pollutant:	Fecal Coliform
LOE Subgroup:	Pollutant-Water
Matrix:	Water
Fraction:	None
Beneficial Use:	Water Contact Recreation
Number of Samples:	265
Number of Exceedances:	9
Data and Information Type:	Not Specified
Data Used to Assess Water Quality:	Nine of the 265 geomeans exceeded the fecal coliform objective.
Data Reference:	Data for Region 2 Beach Watch.
SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	The geometric mean standard for fecal coliform states that the fecal coliform density shall not exceed 200 per 100 mL. Water Quality Control Plan for Ocean Waters 2009.
Objective/Criterion Reference:	California Ocean Plan Water Quality Control Plan Ocean Waters of California 2009
Evaluation Guideline:	
Guideline Reference:	
Spatial Representation:	Samples were collected at station Fitzgerald Marine (Moss Beach).
Temporal Representation:	Samples were collected approximately once a week from January 2005 to September 2010.
Environmental Conditions:	
QAPP Information:	The samples were collected for the Beach Watch program.
QAPP Information Reference(s):	

Line of Evidence (LOE) for Decision ID 34522, Indicator Bacteria

Region 2

Pacific Ocean at Fitzgerald Marine Reserve

LOE ID:	90532
Pollutant:	Total Coliform
LOE Subgroup:	Pollutant-Water
Matrix:	Water
Fraction:	None
Beneficial Use:	Water Contact Recreation
Number of Samples:	265
Number of Exceedances:	0
Data and Information Type:	Not Specified
Data Used to Assess Water Quality:	Zero of the 265 geomeans exceeded the total coliform objective.
Data Reference:	Data for Region 2 Beach Watch.
SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	The geometric mean standard for total coliform states that the total coliform density shall not exceed 1,000 per 100 mL. Water Quality Control Plan for Ocean Waters 2009.
Objective/Criterion Reference:	California Ocean Plan Water Quality Control Plan Ocean Waters of California 2009
Evaluation Guideline:	
Guideline Reference:	

Spatial Representation:	Samples were collected at station Fitzgerald Marine (Moss Beach).
Temporal Representation:	Samples were collected approximately once a week from January 2005 to September 2010.
Environmental Conditions:	
QAPP Information:	The samples were collected for the Beach Watch program.
QAPP Information Reference(s):	

Line of Evidence (LOE) for Decision ID 34522, Indicator Bacteria

Region 2

Pacific Ocean at Fitzgerald Marine Reserve

LOE ID:	90533
Pollutant:	Enterococcus
LOE Subgroup:	Pollutant-Water
Matrix:	Water
Fraction:	None
Beneficial Use:	Water Contact Recreation
Number of Samples:	262
Number of Exceedances:	9
Data and Information Type:	Not Specified
Data Used to Assess Water Quality:	Nine of the 262 geomeans exceeded the enterococcus objective.
Data Reference:	Data for Region 2 Beach Watch.
SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	The geometric mean standard for enterococcus states that the enterococcus density shall not exceed 35 per 100 mL. Water Quality Control Plan for Ocean Waters 2009.
Objective/Criterion Reference:	California Ocean Plan Water Quality Control Plan Ocean Waters of California 2009
Evaluation Guideline:	
Guideline Reference:	
Spatial Representation:	Samples were collected at station Fitzgerald Marine (Moss Beach).
Temporal Representation:	Samples were collected approximately once a week from January 2005 to September 2010.
Environmental Conditions:	
QAPP Information:	The samples were collected for the Beach Watch program.
QAPP Information Reference(s):	

Line of Evidence (LOE) for Decision ID 34522, Indicator Bacteria

Region 2

Pacific Ocean at Fitzgerald Marine Reserve

LOE ID:	3790
Pollutant:	Coliform Bacteria
LOE Subgroup:	Pollutant-Water
Matrix:	Water
Fraction:	Not Recorded
Beneficial Use:	Water Contact Recreation
Number of Samples:	0
Number of Exceedances:	0
Data and Information Type:	Not Specified
Data Used to Assess Water Quality:	Unspecified--This LOE is a placeholder to support a 303(d) listing decision made prior to 2006.
Data Reference:	Placeholder reference pre-2006 303(d)

SWAMP Data: Non-SWAMP

Water Quality Objective/Criterion:
Objective/Criterion Reference:

Evaluation Guideline:
Guideline Reference:

Spatial Representation: Unspecified
Temporal Representation: Unspecified
Environmental Conditions: Unspecified
QAPP Information: Unspecified
QAPP Information Reference(s):

**Line of Evidence (LOE) for Decision ID 34522, Indicator Bacteria
Pacific Ocean at Fitzgerald Marine Reserve**

Region 2

LOE ID: 90862

Pollutant: Total Coliform
LOE Subgroup: Pollutant-Water
Matrix: Water
Fraction: None

Beneficial Use: Water Contact Recreation

Number of Samples: 283
Number of Exceedances: 2

Data and Information Type: PATHOGEN MONITORING
Data Used to Assess Water Quality: Water Board staff assessed BeachWatch data for Pacific Ocean at Fitzgerald Marine Reserve to determine beneficial use support and results are as follows: 2 of 283 samples exceed the criterion for Coliform, Total.
Data Reference: [Data for Region 2 Beach Watch.](#)

SWAMP Data: Non-SWAMP

Water Quality Objective/Criterion: California Ocean Plan (2009) single sample maximum states that total coliform density shall not exceed 10,000 MPN/100 mL
Objective/Criterion Reference: [California Ocean Plan Water Quality Control Plan Ocean Waters of California 2009](#)

Evaluation Guideline:
Guideline Reference:

Spatial Representation: Data for this line of evidence for Pacific Ocean at Fitzgerald Marine Reserve was collected at 1 monitoring site [Fitzgerald Marine (Moss Beach)]
Temporal Representation: Data was collected over the time period 1/3/2005-8/23/2010.
Environmental Conditions: Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information: The samples were collected for the Beach Watch program.
QAPP Information Reference(s):

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Supporting Information

Regional Board 2 - San Francisco Bay Region

Water Body Name: Pacific Ocean at Venice Beach
Water Body ID: CAX2022201120011017105036
Water Body Type: Coastal & Bay Shoreline

DECISION ID 34367 **Region 2**
Pacific Ocean at Venice Beach

Pollutant: Indicator Bacteria
Final Listing Decision: Do Not Delist from 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision: List on 303(d) list (TMDL required list)(2012)
Revision Status Revised
Sources: Source Unknown
Expected TMDL Completion Date: 2019
Impairment from Pollutant or Pollution: Pollutant

Regional Board Staff Conclusion: This pollutant is being considered for placement on the CWA section 303(d) List under section 4.3 of the Listing Policy. Under section 4.3 a single line of evidence is necessary to assess listing status.

Ten lines of evidence are available in the administrative record to assess this pollutant. Eighty of the four hundred eleven samples exceed the enterococcus geometric mean objective.

Based on the readily available data and information, the weight of evidence indicates that there is insufficient justification for removing this water segment-pollutant combination from the CWA section 303(d) List.

This conclusion is based on the staff findings that:

1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy.
2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy.
3. Eighty of the four hundred eleven samples exceed the enterococcus geometric mean objective and this does not exceed the allowable frequency listed in Table 3.2 of the Listing Policy.
4. Pursuant to section 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.

Regional Board Staff Decision Recommendation: After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be removed from the section 303(d) list because applicable water quality standards for the pollutant are being exceeded.

Line of Evidence (LOE) for Decision ID 34367, Indicator Bacteria **Region 2**
Pacific Ocean at Venice Beach

LOE ID: 90657
Pollutant: Fecal Coliform
LOE Subgroup: Pollutant-Water
Matrix: Water
Fraction: None
Beneficial Use: Water Contact Recreation

Number of Samples:	259
Number of Exceedances:	0
Data and Information Type:	Not Specified
Data Used to Assess Water Quality:	Zero of the 259 geomeans exceeded the objective.
Data Reference:	Data for Region 2 Beach Watch.
SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	The geometric mean standard for fecal coliform states that the fecal coliform density shall not exceed 200 per 100 mL. Water Quality Control Plan for Ocean Waters 2009.
Objective/Criterion Reference:	California Ocean Plan Water Quality Control Plan Ocean Waters of California 2009
Evaluation Guideline:	
Guideline Reference:	
Spatial Representation:	Samples were collected at the Surfers Beach site.
Temporal Representation:	Samples were collected from January 2005 to August 2010.
Environmental Conditions:	
QAPP Information:	The samples were collected for the beach watch program.
QAPP Information Reference(s):	

Line of Evidence (LOE) for Decision ID 34367, Indicator Bacteria
Pacific Ocean at Venice Beach

Region 2

LOE ID:	90783
Pollutant:	Enterococcus
LOE Subgroup:	Pollutant-Water
Matrix:	Water
Fraction:	None
Beneficial Use:	Water Contact Recreation
Number of Samples:	501
Number of Exceedances:	70
Data and Information Type:	PATHOGEN MONITORING
Data Used to Assess Water Quality:	Water Board staff assessed BeachWatch data for Pacific Ocean at Venice Beach to determine beneficial use support and results are as follows: 70 of 501 samples exceed the criterion for Enterococci.
Data Reference:	Data for Region 2 Beach Watch.
SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	California Ocean Plan (SWRCB 2009) states that the single sample maximum for Enterococcus shall not exceed 104 MPN/100 mL.
Objective/Criterion Reference:	California Ocean Plan Water Quality Control Plan Ocean Waters of California 2009
Evaluation Guideline:	
Guideline Reference:	
Spatial Representation:	Data for this line of evidence for Pacific Ocean at Venice Beach was collected at 2 monitoring sites [Surfers Beach, Venice State Beach]
Temporal Representation:	Data was collected over the time period 1/3/2005-8/30/2010.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	The samples were collected for the Beach Watch program.
QAPP Information Reference(s):	

Line of Evidence (LOE) for Decision ID 34367, Indicator Bacteria
Pacific Ocean at Venice Beach

Region 2

LOE ID:	3793
Pollutant:	Coliform Bacteria
LOE Subgroup:	Pollutant-Water
Matrix:	Water
Fraction:	Not Recorded
Beneficial Use:	Water Contact Recreation
Number of Samples:	0
Number of Exceedances:	0
Data and Information Type:	Not Specified
Data Used to Assess Water Quality:	Unspecified--This LOE is a placeholder to support a 303(d) listing decision made prior to 2006.
Data Reference:	Placeholder reference pre-2006 303(d)
SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	
Objective/Criterion Reference:	
Evaluation Guideline:	
Guideline Reference:	
Spatial Representation:	Unspecified
Temporal Representation:	Unspecified
Environmental Conditions:	Unspecified
QAPP Information:	Unspecified
QAPP Information Reference(s):	

Line of Evidence (LOE) for Decision ID 34367, Indicator Bacteria
Pacific Ocean at Venice Beach

Region 2

LOE ID:	90875
Pollutant:	Total Coliform
LOE Subgroup:	Pollutant-Water
Matrix:	Water
Fraction:	None
Beneficial Use:	Water Contact Recreation
Number of Samples:	501
Number of Exceedances:	12
Data and Information Type:	PATHOGEN MONITORING
Data Used to Assess Water Quality:	Water Board staff assessed BeachWatch data for Pacific Ocean at Venice Beach to determine beneficial use support and results are as follows: 12 of 501 samples exceed the criterion for Coliform, Total.
Data Reference:	Data for Region 2 Beach Watch.
SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	California Ocean Plan (2009) single sample maximum states that total coliform density shall not exceed 10,000 MPN/100 mL
Objective/Criterion Reference:	California Ocean Plan Water Quality Control Plan Ocean Waters of California 2009
Evaluation Guideline:	
Guideline Reference:	

Spatial Representation:	Data for this line of evidence for Pacific Ocean at Venice Beach was collected at 2 monitoring sites [Surfers Beach, Venice State Beach]
Temporal Representation:	Data was collected over the time period 1/3/2005-8/30/2010.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	The samples were collected for the Beach Watch program.
QAPP Information Reference(s):	

Line of Evidence (LOE) for Decision ID 34367, Indicator Bacteria

Region 2

Pacific Ocean at Venice Beach

LOE ID:	90659
Pollutant:	Enterococcus
LOE Subgroup:	Pollutant-Water
Matrix:	Water
Fraction:	None
Beneficial Use:	Water Contact Recreation
Number of Samples:	256
Number of Exceedances:	21
Data and Information Type:	Not Specified
Data Used to Assess Water Quality:	Twenty One of the 256 geomeans exceeded the objective.
Data Reference:	Data for Region 2 Beach Watch.
SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	The geometric mean standard for enterococcus states that the enterococcus density shall not exceed 35 per 100 mL. Water Quality Control Plan for Ocean Waters 2009.
Objective/Criterion Reference:	California Ocean Plan Water Quality Control Plan Ocean Waters of California 2009
Evaluation Guideline:	
Guideline Reference:	
Spatial Representation:	Samples were collected at the Surfers Beach site.
Temporal Representation:	Samples were collected from January 2005 to August 2010.
Environmental Conditions:	
QAPP Information:	The samples were collected for the Beach Watch program.
QAPP Information Reference(s):	

Line of Evidence (LOE) for Decision ID 34367, Indicator Bacteria

Region 2

Pacific Ocean at Venice Beach

LOE ID:	90660
Pollutant:	Enterococcus
LOE Subgroup:	Pollutant-Water
Matrix:	Water
Fraction:	None
Beneficial Use:	Water Contact Recreation
Number of Samples:	155
Number of Exceedances:	59
Data and Information Type:	Not Specified
Data Used to Assess Water Quality:	Fifty Nine of the 155 geomeans exceeded the objective.
Data Reference:	Data for Region 2 Beach Watch.
SWAMP Data:	Non-SWAMP

Water Quality Objective/Criterion:	The geometric mean standard for enterococcus states that the enterococcus density shall not exceed 35 per 100 mL. Water Quality Control Plan for Ocean Waters 2009.
Objective/Criterion Reference:	California Ocean Plan Water Quality Control Plan Ocean Waters of California 2009
Evaluation Guideline:	
Guideline Reference:	
Spatial Representation:	Samples were collected at the Venice State Beach site.
Temporal Representation:	Samples were collected from January 2005 to August 2010.
Environmental Conditions:	
QAPP Information:	The samples were collected for the Beach Watch program.
QAPP Information Reference(s):	

Line of Evidence (LOE) for Decision ID 34367, Indicator Bacteria	Region 2
Pacific Ocean at Venice Beach	

LOE ID:	90661
Pollutant:	Total Coliform
LOE Subgroup:	Pollutant-Water
Matrix:	Water
Fraction:	None
Beneficial Use:	Water Contact Recreation
Number of Samples:	158
Number of Exceedances:	15
Data and Information Type:	Not Specified
Data Used to Assess Water Quality:	Fifteen of the 158 geomeans exceeded the objective.
Data Reference:	Data for Region 2 Beach Watch.
SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	The geometric mean standard for total coliform states that the coliform density shall not exceed 1000 per 100 mL. Water Quality Control Plan for Ocean Waters 2009.
Objective/Criterion Reference:	California Ocean Plan Water Quality Control Plan Ocean Waters of California 2009
Evaluation Guideline:	
Guideline Reference:	
Spatial Representation:	Samples were collected at the Venice State Beach site.
Temporal Representation:	Samples were collected from January 2005 to August 2010.
Environmental Conditions:	
QAPP Information:	The samples were collected for the Beach Watch program.
QAPP Information Reference(s):	

Line of Evidence (LOE) for Decision ID 34367, Indicator Bacteria	Region 2
Pacific Ocean at Venice Beach	

LOE ID:	90662
Pollutant:	Fecal Coliform
LOE Subgroup:	Pollutant-Water
Matrix:	Water
Fraction:	None
Beneficial Use:	Water Contact Recreation
Number of Samples:	159

Number of Exceedances:	12
Data and Information Type:	Not Specified
Data Used to Assess Water Quality:	Twelve of the 159 geomeans exceeded the objective.
Data Reference:	Data for Region 2 Beach Watch.
SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	The geometric mean standard for fecal coliform states that the fecal coliform density shall not exceed 200 per 100 mL. Water Quality Control Plan for Ocean Waters 2009.
Objective/Criterion Reference:	California Ocean Plan Water Quality Control Plan Ocean Waters of California 2009
Evaluation Guideline:	
Guideline Reference:	
Spatial Representation:	Samples were collected at the Venice State Beach site.
Temporal Representation:	Samples were collected from January 2005 to August 2010.
Environmental Conditions:	
QAPP Information:	The samples were collected for the beach watch program.
QAPP Information Reference(s):	

Line of Evidence (LOE) for Decision ID 34367, Indicator Bacteria
Pacific Ocean at Venice Beach

Region 2

LOE ID:	90658
Pollutant:	Total Coliform
LOE Subgroup:	Pollutant-Water
Matrix:	Water
Fraction:	None
Beneficial Use:	Water Contact Recreation
Number of Samples:	259
Number of Exceedances:	1
Data and Information Type:	Not Specified
Data Used to Assess Water Quality:	One of the 259 geomeans exceeded the objective.
Data Reference:	Data for Region 2 Beach Watch.
SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	The geometric mean standard for total coliform states that the coliform density shall not exceed 1000 per 100 mL. Water Quality Control Plan for Ocean Waters 2009.
Objective/Criterion Reference:	California Ocean Plan Water Quality Control Plan Ocean Waters of California 2009
Evaluation Guideline:	
Guideline Reference:	
Spatial Representation:	Samples were collected at the Surfers Beach site.
Temporal Representation:	Samples were collected from January 2005 to August 2010.
Environmental Conditions:	
QAPP Information:	The samples were collected for the Beach Watch program.
QAPP Information Reference(s):	

Line of Evidence (LOE) for Decision ID 34367, Indicator Bacteria
Pacific Ocean at Venice Beach

Region 2

LOE ID:	90831
Pollutant:	Fecal Coliform

LOE Subgroup:	Pollutant-Water
Matrix:	Water
Fraction:	None
Beneficial Use:	Water Contact Recreation
Number of Samples:	501
Number of Exceedances:	27
Data and Information Type:	PATHOGEN MONITORING
Data Used to Assess Water Quality:	Water Board staff assessed BeachWatch data for Pacific Ocean at Venice Beach to determine beneficial use support and results are as follows: 27 of 501 samples exceed the criterion for Coliform, Fecal.
Data Reference:	Data for Region 2 Beach Watch.
SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	California Ocean Plan (SWRCB 2009) states that the single sample maximum for fecal coliform shall not exceed 400 MPN/100 mL
Objective/Criterion Reference:	California Ocean Plan Water Quality Control Plan Ocean Waters of California 2009
Evaluation Guideline:	
Guideline Reference:	
Spatial Representation:	Data for this line of evidence for Pacific Ocean at Venice Beach was collected at 2 monitoring sites [Surfers Beach, Venice State Beach]
Temporal Representation:	Data was collected over the time period 1/3/2005-8/30/2010.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	The samples were collected for the Beach Watch program.
QAPP Information Reference(s):	

Draft California 2016 Integrated Report (303(d) List/305(b) Report)

Supporting Information

Regional Board 2 - San Francisco Bay Region

Water Body Name: Pacific Ocean at San Gregorio Beach
Water Body ID: CAX2023001420020129130718
Water Body Type: Coastal & Bay Shoreline

DECISION ID 66063 **Region 2**
Pacific Ocean at San Gregorio Beach

Pollutant: Indicator Bacteria
Final Listing Decision: Do Not List on 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision: New Decision
Revision Status: Revised
Impairment from Pollutant or Pollution: Pollutant

Regional Board Staff Conclusion: This pollutant is being considered for placement on the CWA section 303(d) List under section 3.3 of the Listing Policy. Under section 3.3 a single line of evidence is necessary to assess listing status.

Six lines of evidence are available in the administrative record to assess this pollutant. Four of the one hundred sixty-eight samples exceed the enterococcus single sample maximum objective.

Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against placing this water segment-pollutant combination on the CWA section 303(d) List.

This conclusion is based on the staff findings that:

1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy.
2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy.
3. Four of the one hundred sixty-eight samples exceed the enterococcus single sample maximum objective and this does not exceed the allowable frequency listed in Table 3.2 of the Listing Policy.
4. Pursuant to section 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.

Regional Board Staff Decision Recommendation: After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be placed on the section 303(d) list because applicable water quality standards are not being exceeded.

Line of Evidence (LOE) for Decision ID 66063, Indicator Bacteria **Region 2**
Pacific Ocean at San Gregorio Beach

LOE ID: 90873
Pollutant: Total Coliform
LOE Subgroup: Pollutant-Water
Matrix: Water
Fraction: None
Beneficial Use: Water Contact Recreation
Number of Samples: 168
Number of Exceedances: 3

Data and Information Type:	PATHOGEN MONITORING
Data Used to Assess Water Quality:	Water Board staff assessed BeachWatch data for Pacific Ocean at San Gregorio Beach to determine beneficial use support and results are as follows: 3 of 168 samples exceed the criterion for Coliform, Total.
Data Reference:	Data for Region 2 Beach Watch.
SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	California Ocean Plan (2009) single sample maximum states that total coliform density shall not exceed 10,000 MPN/100 mL
Objective/Criterion Reference:	California Ocean Plan Water Quality Control Plan Ocean Waters of California 2009
Evaluation Guideline:	
Guideline Reference:	
Spatial Representation:	Data for this line of evidence for Pacific Ocean at San Gregorio Beach was collected at 1 monitoring site [San Gregorio State Beach]
Temporal Representation:	Data was collected over the time period 1/3/2005-8/23/2010.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	The samples were collected for the Beach Watch program.
QAPP Information Reference(s):	

Line of Evidence (LOE) for Decision ID 66063, Indicator Bacteria
Pacific Ocean at San Gregorio Beach

Region 2

LOE ID:	90559
Pollutant:	Enterococcus
LOE Subgroup:	Pollutant-Water
Matrix:	Water
Fraction:	None
Beneficial Use:	Water Contact Recreation
Number of Samples:	99
Number of Exceedances:	2
Data and Information Type:	Not Specified
Data Used to Assess Water Quality:	Two of the 99 geomeans exceeded the enterococcus objective.
Data Reference:	Data for Region 2 Beach Watch.
SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	The geometric mean standard for enterococcus states that the enterococcus density shall not exceed 35 per 100 mL. Water Quality Control Plan for Ocean Waters 2009.
Objective/Criterion Reference:	California Ocean Plan Water Quality Control Plan Ocean Waters of California 2009
Evaluation Guideline:	
Guideline Reference:	
Spatial Representation:	Samples were collected at station San Gregorio State Beach.
Temporal Representation:	Samples were collected approximately thrice a month from January 2005 to September 2010.
Environmental Conditions:	
QAPP Information:	The samples were collected for the Beach Watch program.
QAPP Information Reference(s):	

Line of Evidence (LOE) for Decision ID 66063, Indicator Bacteria
Pacific Ocean at San Gregorio Beach

Region 2

LOE ID:	90557
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Pollutant:	Fecal Coliform
LOE Subgroup:	Pollutant-Water
Matrix:	Water
Fraction:	None
Beneficial Use:	Water Contact Recreation
Number of Samples:	99
Number of Exceedances:	0
Data and Information Type:	Not Specified
Data Used to Assess Water Quality:	Zero of the 99 geomeans exceeded the fecal coliform objective.
Data Reference:	Data for Region 2 Beach Watch.
SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	The geometric mean standard for fecal coliform states that the fecal coliform density shall not exceed 200 per 100 mL. Water Quality Control Plan for Ocean Waters 2009.
Objective/Criterion Reference:	California Ocean Plan Water Quality Control Plan Ocean Waters of California 2009
Evaluation Guideline:	
Guideline Reference:	
Spatial Representation:	Samples were collected at station San Gregorio State Beach.
Temporal Representation:	Samples were collected approximately thrice a month from January 2005 to September 2010.
Environmental Conditions:	
QAPP Information:	The samples were collected for the Beach Watch program.
QAPP Information Reference(s):	

Line of Evidence (LOE) for Decision ID 66063, Indicator Bacteria
Pacific Ocean at San Gregorio Beach

Region 2

LOE ID:	90829
Pollutant:	Fecal Coliform
LOE Subgroup:	Pollutant-Water
Matrix:	Water
Fraction:	None
Beneficial Use:	Water Contact Recreation
Number of Samples:	168
Number of Exceedances:	4
Data and Information Type:	PATHOGEN MONITORING
Data Used to Assess Water Quality:	Water Board staff assessed BeachWatch data for Pacific Ocean at San Gregorio Beach to determine beneficial use support and results are as follows: 4 of 168 samples exceed the criterion for Coliform, Fecal.
Data Reference:	Data for Region 2 Beach Watch.
SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	California Ocean Plan (SWRCB 2009) states that the single sample maximum for fecal coliform shall not exceed 400 MPN/100 mL
Objective/Criterion Reference:	California Ocean Plan Water Quality Control Plan Ocean Waters of California 2009
Evaluation Guideline:	
Guideline Reference:	
Spatial Representation:	Data for this line of evidence for Pacific Ocean at San Gregorio Beach was collected at 1

Temporal Representation:	monitoring site [San Gregorio State Beach]
Environmental Conditions:	Data was collected over the time period 1/3/2005-8/23/2010.
QAPP Information:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information Reference(s):	The samples were collected for the Beach Watch program.

Line of Evidence (LOE) for Decision ID 66063, Indicator Bacteria
Pacific Ocean at San Gregorio Beach

Region 2

LOE ID:	90558
Pollutant:	Total Coliform
LOE Subgroup:	Pollutant-Water
Matrix:	Water
Fraction:	None
Beneficial Use:	Water Contact Recreation
Number of Samples:	99
Number of Exceedances:	3
Data and Information Type:	Not Specified
Data Used to Assess Water Quality:	Three of the 99 geomeans exceeded the total coliform objective.
Data Reference:	Data for Region 2 Beach Watch.
SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	The geometric mean standard for total coliform states that the total coliform density shall not exceed 1,000 per 100 mL. Water Quality Control Plan for Ocean Waters 2009.
Objective/Criterion Reference:	California Ocean Plan Water Quality Control Plan Ocean Waters of California 2009
Evaluation Guideline:	
Guideline Reference:	
Spatial Representation:	Samples were collected at station San Gregorio State Beach.
Temporal Representation:	Samples were collected approximately thrice a month from January 2005 to September 2010.
Environmental Conditions:	
QAPP Information:	The samples were collected for the Beach Watch program.
QAPP Information Reference(s):	

Line of Evidence (LOE) for Decision ID 66063, Indicator Bacteria
Pacific Ocean at San Gregorio Beach

Region 2

LOE ID:	90781
Pollutant:	Enterococcus
LOE Subgroup:	Pollutant-Water
Matrix:	Water
Fraction:	None
Beneficial Use:	Water Contact Recreation
Number of Samples:	168
Number of Exceedances:	4
Data and Information Type:	PATHOGEN MONITORING
Data Used to Assess Water Quality:	Water Board staff assessed BeachWatch data for Pacific Ocean at San Gregorio Beach to determine beneficial use support and results are as follows: 4 of 168 samples exceed the criterion for Enterococci.
Data Reference:	Data for Region 2 Beach Watch.

SWAMP Data:

Non-SWAMP

Water Quality Objective/Criterion:

California Ocean Plan (SWRCB 2009) states that the single sample maximum for Enterococcus shall not exceed 104 MPN/100 mL.

Objective/Criterion Reference:

[California Ocean Plan Water Quality Control Plan Ocean Waters of California 2009](#)

Evaluation Guideline:

Guideline Reference:

Spatial Representation:

Data for this line of evidence for Pacific Ocean at San Gregorio Beach was collected at 1 monitoring site [San Gregorio State Beach]

Temporal Representation:

Data was collected over the time period 1/3/2005-8/23/2010.

Environmental Conditions:

Staff is not aware of any special conditions that might affect interpretation of the data.

QAPP Information:

The samples were collected for the Beach Watch program.

QAPP Information Reference(s):

Draft California 2016 Integrated Report (303(d) List/305(b) Report)

Supporting Information

Regional Board 2 - San Francisco Bay Region

Water Body Name: Pacific Ocean at Baker Beach
Water Body ID: CAX2034001020020115153523
Water Body Type: Coastal & Bay Shoreline

DECISION ID 34385 **Region 2**
Pacific Ocean at Baker Beach

Pollutant: Indicator Bacteria
Final Listing Decision: Delist from 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision: List on 303(d) list (TMDL required list)(2012)
Revision Status Revised
Reason for Delisting: Applicable WQS attained; reason for recovery unspecified
Impairment from Pollutant or Pollution: Pollutant

Regional Board Staff Conclusion: This pollutant is being considered for removal from the CWA section 303(d) List under section 4.3 of the Listing Policy. Under section 4.3 a single line of evidence is necessary to assess listing status.

Sixteen lines of evidence are available in the administrative record to assess this pollutant. Two hundred fourteen of thirteen hundred sixty-five samples exceed the enterococcus geometric mean objective.

Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification for removing this water segment-pollutant combination on the CWA section 303(d) List.

Notice that in LOE 3445 from 2006, the exceedances and samples for geometric mean enterococcus were added to the exceedances and samples for the SSM enterococcus. This is in error. There are 42 exceedances in 331 samples for the SSM entero, and 62 exceedances in 273 samples for the geomean entero indicator. When these exceedances and samples are added to the newer data for each indicator, the frequency of exceedance is less than that required according to Table 4.2 of the Listing Policy.

This conclusion is based on the staff findings that:

1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy.
2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy.
3. Two hundred fourteen of thirteen hundred sixty-five samples exceed the enterococcus geometric mean objective and this is less than the allowable frequency listed in Table 4.2 of the Listing Policy.
4. Pursuant to section 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.

Regional Board Staff Decision Recommendation: After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should be removed from the section 303(d) list because applicable water quality standards for the pollutant are not being exceeded.

Line of Evidence (LOE) for Decision ID 34385, Indicator Bacteria **Region 2**
Pacific Ocean at Baker Beach

LOE ID: 90870
Pollutant: Total Coliform

LOE Subgroup:	Pollutant-Water
Matrix:	Water
Fraction:	None
Beneficial Use:	Water Contact Recreation
Number of Samples:	1107
Number of Exceedances:	43
Data and Information Type:	PATHOGEN MONITORING
Data Used to Assess Water Quality:	Water Board staff assessed BeachWatch data for Baker Beach to determine beneficial use support and results are as follows: 43 of 1107 samples exceed the criterion for Enterococci.
Data Reference:	Data for Region 2 Beach Watch.
SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	California Ocean Plan (2009) single sample maximum states that total coliform density shall not exceed 10,000 MPN/100 mL
Objective/Criterion Reference:	California Ocean Plan Water Quality Control Plan Ocean Waters of California 2009
Evaluation Guideline:	
Guideline Reference:	
Spatial Representation:	Data for this line of evidence for Pacific Ocean at Baker Beach was collected at 3 monitoring sites [Baker Beach, Opposite Seacliff 2 Pumping Station, Baker Beach, Upper Parking Lot, Baker Beach, Lobos Creek at Lower Parking Lot]
Temporal Representation:	Data was collected over the time period 1/4/2005-8/25/2010.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	The samples were collected for the Beach Watch program.
QAPP Information Reference(s):	

Line of Evidence (LOE) for Decision ID 34385, Indicator Bacteria

Region 2

Pacific Ocean at Baker Beach

LOE ID:	3445
Pollutant:	Indicator Bacteria
LOE Subgroup:	Pollutant-Water
Matrix:	Water
Fraction:	Total
Beneficial Use:	Water Contact Recreation
Number of Samples:	604
Number of Exceedances:	104
Data and Information Type:	PATHOGEN MONITORING
Data Used to Assess Water Quality:	Available data indicate sufficient exceedances of bacterial indicator objectives. There were 42 out of 331 exceedances of the single sample maximum for enterococci, and 62 out of 273 exceedances of the geomean for enterococci (USEPA, 2007).
Data Reference:	Placeholder reference 2006 303(d)
SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	Title 17 C.C.R. Section 7958 states: Based on a single sample, the density of bacteria in water from each sampling station at a public beach or public water contact sports area shall not exceed: (A) 1,000 total coliform bacteria per 100 milliliters, if the ratio of fecal/total coliform bacteria exceeds 0.1; or (B) 10,000 total coliform bacteria per 100 milliliters; or (C) 400 fecal coliform bacteria per 100 milliliters; or

(D) 104 enterococcus bacteria per 100 milliliters.

Based on the mean of the logarithms of the results of at least five weekly samples during any 30-day sampling period, the density of bacteria in water from any sampling station at a public beach or public water contact sports area, shall not exceed:

(A) 1,000 total coliform bacteria per 100 milliliters; or

(B) 200 fecal coliform bacteria per 100 milliliters; or

(C) 35 enterococcus bacteria per 100 milliliters. (DHS, 1999)

Objective/Criterion Reference: [Placeholder reference 2006 303\(d\)](#)

Evaluation Guideline:

Guideline Reference:

Spatial Representation:

Includes Lobos Creek, Horseshoe Cove NW and NE.

Temporal Representation:

10/16/2002-10/26/2005

Environmental Conditions:

QAPP Information:

Data record: 2002-2005, San Francisco County Health Dept.

QAPP Information Reference(s):

Line of Evidence (LOE) for Decision ID 34385, Indicator Bacteria

Region 2

Pacific Ocean at Baker Beach

LOE ID: 90853

Pollutant: Fecal Coliform

LOE Subgroup: Pollutant-Water

Matrix: Water

Fraction: None

Beneficial Use: Water Contact Recreation

Number of Samples: 1107

Number of Exceedances: 28

Data and Information Type: PATHOGEN MONITORING

Data Used to Assess Water Quality: Water Board staff assessed BeachWatch data for Baker Beach to determine beneficial use support and results are as follows: 28 of 1107 samples exceed the criterion for fecal coliform.

Data Reference: [Data for Region 2 Beach Watch.](#)

SWAMP Data: Non-SWAMP

Water Quality Objective/Criterion: California Ocean Plan (SWRCB 2009) states that the single sample maximum for fecal coliform shall not exceed 400 MPN/100 mL

Objective/Criterion Reference: [California Ocean Plan Water Quality Control Plan Ocean Waters of California 2009](#)

Evaluation Guideline:

Guideline Reference:

Spatial Representation:

Data for this line of evidence for Pacific Ocean at Baker Beach was collected at 3 monitoring sites [Baker Beach, Opposite Seacliff 2 Pumping Station, Baker Beach, Upper Parking Lot, Baker Beach, Lobos Creek at Lower Parking Lot]

Temporal Representation:

Data was collected over the time period 1/4/2005-8/25/2010.

Environmental Conditions:

Staff is not aware of any special conditions that might affect interpretation of the data.

QAPP Information:

The samples were collected for the Beach Watch program.

QAPP Information Reference(s):

Line of Evidence (LOE) for Decision ID 34385, Indicator Bacteria

Region 2

Pacific Ocean at Baker Beach

LOE ID: 90683

Pollutant:	Fecal Coliform
LOE Subgroup:	Pollutant-Water
Matrix:	Water
Fraction:	None
Beneficial Use:	Water Contact Recreation
Number of Samples:	390
Number of Exceedances:	0
Data and Information Type:	Not Specified
Data Used to Assess Water Quality:	Zero of the 390 geomeans exceeded the objective.
Data Reference:	Data for Region 2 Beach Watch.
SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	The geometric mean standard for fecal coliform states that the fecal coliform density shall not exceed 200 per 100 mL. San Francisco Bay Basin Water Quality Control Plan.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	
Guideline Reference:	
Spatial Representation:	Samples were collected at the Baker Beach, Upper Parking Lot site.
Temporal Representation:	Samples were collected from January 2005 to August 2010.
Environmental Conditions:	
QAPP Information:	The samples were collected for the beach watch program.
QAPP Information Reference(s):	

Line of Evidence (LOE) for Decision ID 34385, Indicator Bacteria
Pacific Ocean at Baker Beach

Region 2

LOE ID:	90894
Pollutant:	Enterococcus
LOE Subgroup:	Pollutant-Water
Matrix:	Water
Fraction:	None
Beneficial Use:	Water Contact Recreation
Number of Samples:	1107
Number of Exceedances:	102
Data and Information Type:	PATHOGEN MONITORING
Data Used to Assess Water Quality:	Water Board staff assessed BeachWatch data for Baker Beach to determine beneficial use support and results are as follows: 102 of 1107 samples exceed the criterion for Enterococci.
Data Reference:	Data for Region 2 Beach Watch.
SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	California Ocean Plan (SWRCB 2009) states that the single sample maximum for Enterococcus shall not exceed 104 MPN/100 mL.
Objective/Criterion Reference:	California Ocean Plan Water Quality Control Plan Ocean Waters of California 2009
Evaluation Guideline:	
Guideline Reference:	
Spatial Representation:	Data for this line of evidence for Pacific Ocean at Baker Beach was collected at 3 monitoring sites [Baker Beach, Opposite Seacliff 2 Pumping Station, Baker Beach, Upper

Temporal Representation:	Parking Lot, Baker Beach, Lobos Creek at Lower Parking Lot]
Environmental Conditions:	Data was collected over the time period 1/4/2005-8/25/2010.
QAPP Information:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information Reference(s):	The samples were collected for the Beach Watch program.

Line of Evidence (LOE) for Decision ID 34385, Indicator Bacteria
Pacific Ocean at Baker Beach

Region 2

LOE ID:	90682
Pollutant:	Total Coliform
LOE Subgroup:	Pollutant-Water
Matrix:	Water
Fraction:	None
Beneficial Use:	Water Contact Recreation
Number of Samples:	390
Number of Exceedances:	0
Data and Information Type:	Not Specified
Data Used to Assess Water Quality:	Zero of the 390 geomeans exceeded the objective.
Data Reference:	Data for Region 2 Beach Watch.
SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	The geometric mean standard for total coliform states that the coliform density shall not exceed 1000 per 100 mL. Water Quality Control Plan for Ocean Waters 2009.
Objective/Criterion Reference:	California Ocean Plan Water Quality Control Plan Ocean Waters of California 2009
Evaluation Guideline:	
Guideline Reference:	
Spatial Representation:	Samples were collected at the Baker Beach, Upper Parking Lot site.
Temporal Representation:	Samples were collected from January 2005 to August 2010.
Environmental Conditions:	
QAPP Information:	The samples were collected for the Beach Watch program.
QAPP Information Reference(s):	

Line of Evidence (LOE) for Decision ID 34385, Indicator Bacteria
Pacific Ocean at Baker Beach

Region 2

LOE ID:	90681
Pollutant:	Enterococcus
LOE Subgroup:	Pollutant-Water
Matrix:	Water
Fraction:	None
Beneficial Use:	Water Contact Recreation
Number of Samples:	390
Number of Exceedances:	16
Data and Information Type:	Not Specified
Data Used to Assess Water Quality:	Sixteen of the 390 geomeans exceeded the objective.
Data Reference:	Data for Region 2 Beach Watch.
SWAMP Data:	Non-SWAMP

Water Quality Objective/Criterion:	The geometric mean standard for enterococcus states that the enterococcus density shall not exceed 35 per 100 mL. Water Quality Control Plan for Ocean Waters 2009.
Objective/Criterion Reference:	California Ocean Plan Water Quality Control Plan Ocean Waters of California 2009
Evaluation Guideline:	
Guideline Reference:	
Spatial Representation:	Samples were collected at the Baker Beach, Upper Parking Lot site.
Temporal Representation:	Samples were collected from January 2005 to August 2010.
Environmental Conditions:	
QAPP Information:	The samples were collected for the Beach Watch program.
QAPP Information Reference(s):	

Line of Evidence (LOE) for Decision ID 34385, Indicator Bacteria	Region 2
Pacific Ocean at Baker Beach	

LOE ID:	90680
Pollutant:	Enterococcus
LOE Subgroup:	Pollutant-Water
Matrix:	Water
Fraction:	None
Beneficial Use:	Water Contact Recreation
Number of Samples:	317
Number of Exceedances:	15
Data and Information Type:	Not Specified
Data Used to Assess Water Quality:	Fifteen of the 317 geomeans exceeded the objective.
Data Reference:	Data for Region 2 Beach Watch.
SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	The geometric mean standard for enterococcus states that the enterococcus density shall not exceed 35 per 100 mL. Water Quality Control Plan for Ocean Waters 2009.
Objective/Criterion Reference:	California Ocean Plan Water Quality Control Plan Ocean Waters of California 2009
Evaluation Guideline:	
Guideline Reference:	
Spatial Representation:	Samples were collected at the Baker Beach, Opposite Seacliff 2 Pumping Station site.
Temporal Representation:	Samples were collected from January 2005 to August 2010.
Environmental Conditions:	
QAPP Information:	The samples were collected for the Beach Watch program.
QAPP Information Reference(s):	

Line of Evidence (LOE) for Decision ID 34385, Indicator Bacteria	Region 2
Pacific Ocean at Baker Beach	

LOE ID:	90679
Pollutant:	Total Coliform
LOE Subgroup:	Pollutant-Water
Matrix:	Water
Fraction:	None
Beneficial Use:	Water Contact Recreation
Number of Samples:	317
Number of Exceedances:	0

Data and Information Type:	Not Specified
Data Used to Assess Water Quality:	Zero of the 317 geomeans exceeded the objective.
Data Reference:	Data for Region 2 Beach Watch.
SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	The geometric mean standard for total coliform states that the coliform density shall not exceed 1000 per 100 mL. Water Quality Control Plan for Ocean Waters 2009.
Objective/Criterion Reference:	California Ocean Plan Water Quality Control Plan Ocean Waters of California 2009
Evaluation Guideline:	
Guideline Reference:	
Spatial Representation:	Samples were collected at the Baker Beach, Opposite Seacliff 2 Pumping Station site.
Temporal Representation:	Samples were collected from January 2005 to August 2010.
Environmental Conditions:	
QAPP Information:	The samples were collected for the Beach Watch program.
QAPP Information Reference(s):	

Line of Evidence (LOE) for Decision ID 34385, Indicator Bacteria
Pacific Ocean at Baker Beach

Region 2

LOE ID:	90678
Pollutant:	Fecal Coliform
LOE Subgroup:	Pollutant-Water
Matrix:	Water
Fraction:	None
Beneficial Use:	Water Contact Recreation
Number of Samples:	317
Number of Exceedances:	0
Data and Information Type:	Not Specified
Data Used to Assess Water Quality:	Zero of the 317 geomeans exceeded the objective.
Data Reference:	Data for Region 2 Beach Watch.
SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	The geometric mean standard for fecal coliform states that the fecal coliform density shall not exceed 200 per 100 mL. San Francisco Bay Basin Water Quality Control Plan.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	
Guideline Reference:	
Spatial Representation:	Samples were collected at the Baker Beach, Opposite Seacliff 2 Pumping Station site.
Temporal Representation:	Samples were collected from January 2005 to August 2010.
Environmental Conditions:	
QAPP Information:	The samples were collected for the beach watch program.
QAPP Information Reference(s):	

Line of Evidence (LOE) for Decision ID 34385, Indicator Bacteria
Pacific Ocean at Baker Beach

Region 2

LOE ID:	90677
Pollutant:	Fecal Coliform
LOE Subgroup:	Pollutant-Water

Matrix:	Water
Fraction:	None
Beneficial Use:	Water Contact Recreation
Number of Samples:	385
Number of Exceedances:	1
Data and Information Type:	Not Specified
Data Used to Assess Water Quality:	One of the 385 geomeans exceeded the objective.
Data Reference:	Data for Region 2 Beach Watch.
SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	The geometric mean standard for fecal coliform states that the fecal coliform density shall not exceed 200 per 100 mL. San Francisco Bay Basin Water Quality Control Plan.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	
Guideline Reference:	
Spatial Representation:	Samples were collected at the Baker Beach, Lobos Creek at Lower Park Lot site.
Temporal Representation:	Samples were collected from January 2005 to August 2010.
Environmental Conditions:	
QAPP Information:	The samples were collected for the beach watch program.
QAPP Information Reference(s):	

Line of Evidence (LOE) for Decision ID 34385, Indicator Bacteria

Region 2

Pacific Ocean at Baker Beach

LOE ID:	90676
Pollutant:	Total Coliform
LOE Subgroup:	Pollutant-Water
Matrix:	Water
Fraction:	None
Beneficial Use:	Water Contact Recreation
Number of Samples:	385
Number of Exceedances:	133
Data and Information Type:	Not Specified
Data Used to Assess Water Quality:	One hundred and thirty three of the 385 geomeans exceeded the objective.
Data Reference:	Data for Region 2 Beach Watch.
SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	The geometric mean standard for total coliform states that the coliform density shall not exceed 1000 per 100 mL. Water Quality Control Plan for Ocean Waters 2009.
Objective/Criterion Reference:	California Ocean Plan Water Quality Control Plan Ocean Waters of California 2009
Evaluation Guideline:	
Guideline Reference:	
Spatial Representation:	Samples were collected at the Baker Beach, Lobos Creek at Lower Parking Lot site.
Temporal Representation:	Samples were collected from January 2005 to August 2010.
Environmental Conditions:	
QAPP Information:	The samples were collected for the Beach Watch program.
QAPP Information Reference(s):	

Line of Evidence (LOE) for Decision ID 34385, Indicator Bacteria

Region 2

Pacific Ocean at Baker Beach

LOE ID:	90675
Pollutant:	Enterococcus
LOE Subgroup:	Pollutant-Water
Matrix:	Water
Fraction:	None
Beneficial Use:	Water Contact Recreation
Number of Samples:	385
Number of Exceedances:	121
Data and Information Type:	Not Specified
Data Used to Assess Water Quality:	One hundred and twenty one of the 385 geomeans exceeded the objective.
Data Reference:	Data for Region 2 Beach Watch.
SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	The geometric mean standard for enterococcus states that the enterococcus density shall not exceed 35 per 100 mL. Water Quality Control Plan for Ocean Waters 2009.
Objective/Criterion Reference:	California Ocean Plan Water Quality Control Plan Ocean Waters of California 2009
Evaluation Guideline:	
Guideline Reference:	
Spatial Representation:	Samples were collected at the Baker Beach, Lobos Creek at Lower Parking Lot site.
Temporal Representation:	Samples were collected from January 2005 to August 2010.
Environmental Conditions:	
QAPP Information:	The samples were collected for the Beach Watch program.
QAPP Information Reference(s):	

Draft California 2016 Integrated Report (303(d) List/305(b) Report)

Supporting Information

Regional Board 2 - San Francisco Bay Region

Water Body Name: Cerrito Creek
Water Body ID: CAR2033001120080624162810
Water Body Type: River & Stream

DECISION ID	35451	Region 2
Cerrito Creek		

Pollutant: Trash
Final Listing Decision: Do Not Delist from 303(d) list (being addressed with action other than TMDL)
Last Listing Cycle's Final Listing Decision: List on 303(d) list (TMDL required list)(2012)
Revision Status: Revised
Sources: Source Unknown
Expected Attainment Date: 2029
Implementation Action Other than TMDL: This trash listing will be addressed by implementing the trash control provisions of the Water Quality Control Plan for Inland Surface Waters, Enclosed Bays, and Estuaries of California through the NPDES MS4 permit applicable to this waterbody.
Impairment from Pollutant or Pollution: Pollutant

Regional Board Staff Conclusion: This pollutant is being considered for placement on the section 303(d) list under section 3.11 of the Listing Policy. Under section 3.11, listing may be proposed based on the situation-specific weight of evidence. Two lines of evidence are available in the administrative record to assess this pollutant. One line of evidence concerns the non-contact recreation beneficial use, and the second concerns the wildlife beneficial use. Both lines of evidence involve interpretation of data from field visits/trash surveys conducted according to the Rapid Trash Assessment (RTA) methodology. Based on the readily available trash assessment data for this waterbody, the weight of evidence indicates that there is sufficient justification available in favor of placing this water segment-pollutant combination to the section 303(d) list in the Water Quality Limited Segments category. This conclusion is based on the staff findings that: 1. Data have been evaluated that supports this decision. 2. The Rapid Trash Assessment methodology results showed that this waterbody had level of trash parameter scores in the poor category (indicating impairment of non-contact water recreational beneficial uses) at one location on three different dates. This waterbody also had threat to aquatic life parameter scores in the poor category (indicating threat to Wildlife Habitat beneficial uses) at one location on three different dates. 3. This waterbody is considered impaired by trash because there were exceedances of the evaluation guidelines (poor condition category for the trash assessment metrics) in more than one location or on more than one date. 4. The data used satisfy the data quality requirements of section 6.1.4 of the Policy. 5. The data used satisfy the data quantity requirements of section 6.1 of the Policy. 6. This trash listing will be addressed by implementing the trash control provisions of the Water Quality Control Plan for Inland Surface Waters, Enclosed Bays, and Estuaries of California through the NPDES MS4 permit applicable to this waterbody.

Regional Board Staff Decision Recommendation: After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be removed from the section 303(d) list because applicable water quality standards for the pollutant are being exceeded.

Line of Evidence (LOE) for Decision ID 35451, Trash	Region 2
Cerrito Creek	

LOE ID: 5349

Pollutant:	Trash
LOE Subgroup:	Pollutant-Nuisance
Matrix:	Not Specified
Fraction:	None
Beneficial Use:	Wildlife Habitat
Number of Samples:	3
Number of Exceedances:	3
Data and Information Type:	Occurrence of conditions judged to cause impairment
Data Used to Assess Water Quality:	Data results were obtained through application the RTA methodology, developed by the Surface Water Ambient Monitoring Program (SWAMP). The RTA documents the total number and characteristics of pieces of trash per one hundred feet of stream or shoreline. The trash assessment protocol involves picking up and tallying all of the trash items found within the defined boundaries of a site. The tally results for level of trash (relating to REC2) and threat to aquatic life (relating to WILD) assessment parameters were considered for the listing determination. These results are available for field visits/trash surveys conducted in March, July, and November 2004 according to the Rapid Trash Assessment methodology. There were exceedances of the evaluation guideline (poor condition category for the trash assessment metric) in more than one location or on more than one date.
Data Reference:	A Rapid Trash Assessment Method Applied to Waters of the San Francisco Bay Region:Trash Measurement in Streams Rapid Trash Assessment (RTA) data collected by the SF Bay Region Surface Water Ambient Monitoring Program from 2002-2005 and method description
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	<p>The Basin Plan prohibits discharge of Rubbish, refuse, bark, sawdust, or other solid wastes into surface waters or at any place where they would contact or where they would be eventually transported to surface waters, including flood plain areas.</p> <p>The Basin Plan has a narrative objective for floating material, Waters shall not contain floating material, including solids, liquids, foams, and scum, in concentrations that cause nuisance or adversely affect beneficial uses.</p> <p>The Basin Plan has a narrative objective for settleable material, Waters shall not contain substances in concentrations that result in the deposition of material that cause nuisance or adversely affect beneficial uses.</p>
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) - San Francisco Bay Region (Region 2)
Evaluation Guideline:	<p>If the Rapid Trash Assessment (RTA) Parameter 1 (Level of Trash) is in the poor condition category (scores 0-5), REC2 is not supported. This level of trash distracts the eye on first glance, making the site unsuitable for recreation. The RTA defines poor condition for this parameter as follows, trash distracts the eye on first glance. Stream, bank surfaces, and immediate riparian zone contain substantial levels of litter and debris (>100 pieces). Evidence of site being used frequently by people: many cans, bottles, and food wrappers, blankets, clothing.</p> <p>If the RTA Parameter 3 (Threat to Aquatic Life) is in the poor condition category (scores 0-5), then WILD is not supported. This level of trash is a large amount (>50 pieces) of transportable, persistent, buoyant litter that is detrimental to aquatic life. The RTA defines poor condition for this parameter as follows, large amount (>50 pieces) of transportable, persistent, buoyant litter such as: hard or soft plastics, balloons, Styrofoam, cigarette butts; toxic items such as batteries, lighters, or spray cans; large clumps of yard waste or dumped leaf litter; or large amount (>50 pieces) of settleable glass or metal.</p>
Guideline Reference:	A Rapid Trash Assessment Method Applied to Waters of the San Francisco Bay Region:Trash Measurement in Streams
Spatial Representation:	RTA data were collected for this waterbody in one location in 2004.
Temporal Representation:	RTA data were collected for this waterbody in March, July, and November in 2004.
Environmental Conditions:	

QAPP Information: For RTA trash assessment data to be considered, the data must have been collected by field operators that have received a 2-hour training in the Rapid Trash Assessment methodology.

QAPP Information Reference(s):

**Line of Evidence (LOE) for Decision ID 35451, Trash
Cerrito Creek**

Region 2

LOE ID: 5347

Pollutant: Trash
LOE Subgroup: Pollutant-Nuisance
Matrix: Not Specified
Fraction: None

Beneficial Use: Non-Contact Recreation

Number of Samples: 3
Number of Exceedances: 3

Data and Information Type: Occurrence of conditions judged to cause impairment
Data Used to Assess Water Quality: Data results were obtained through application the RTA methodology, developed by the Surface Water Ambient Monitoring Program (SWAMP). The RTA documents the total number and characteristics of pieces of trash per one hundred feet of stream or shoreline. The trash assessment protocol involves picking up and tallying all of the trash items found within the defined boundaries of a site. The tally results for "level of trash" (relating to REC2) and threat to aquatic life (relating to WILD) assessment parameters were considered for the listing determination. These results are available for field visits/trash surveys conducted in March, July, and November 2004 according to the Rapid Trash Assessment methodology. There were exceedances of the evaluation guideline (poor condition category for the trash assessment metric) in more than one location or on more than one date.

Data Reference: [A Rapid Trash Assessment Method Applied to Waters of the San Francisco Bay Region: Trash Measurement in Streams](#)
[Rapid Trash Assessment \(RTA\) data collected by the SF Bay Region Surface Water Ambient Monitoring Program from 2002-2005 and method description](#)

SWAMP Data: SWAMP

Water Quality Objective/Criterion: The Basin Plan prohibits discharge of Rubbish, refuse, bark, sawdust, or other solid wastes into surface waters or at any place where they would contact or where they would be eventually transported to surface waters, including flood plain areas.

The Basin Plan has a narrative objective for floating material, Waters shall not contain floating material, including solids, liquids, foams, and scum, in concentrations that cause nuisance or adversely affect beneficial uses.

The Basin Plan has a narrative objective for settleable material, Waters shall not contain substances in concentrations that result in the deposition of material that cause nuisance or adversely affect beneficial uses.

Objective/Criterion Reference: [Water Quality Control Plan \(Basin Plan\) - San Francisco Bay Region \(Region 2\)](#)

Evaluation Guideline: If the Rapid Trash Assessment (RTA) Parameter 1 (Level of Trash) is in the poor condition category (scores 0-5), REC2 is not supported. This level of trash distracts the eye on first glance, making the site unsuitable for recreation. The RTA defines poor condition for this parameter as follows, trash distracts the eye on first glance. Stream, bank surfaces, and immediate riparian zone contain substantial levels of litter and debris (>100 pieces). Evidence of site being used frequently by people: many cans, bottles, and food wrappers, blankets, clothing.

If the RTA Parameter 3 (Threat to Aquatic Life) is in the poor condition category (scores 0-5), then WILD is not supported. This level of trash is a large amount (>50 pieces) of

transportable, persistent, buoyant litter that is detrimental to aquatic life. The RTA defines poor condition for this parameter as follows, large amount (>50 pieces) of transportable, persistent, buoyant litter such as: hard or soft plastics, balloons, Styrofoam, cigarette butts; toxic items such as batteries, lighters, or spray cans; large clumps of yard waste or dumped leaf litter; or large amount (>50 pieces) of settleable glass or metal.

Guideline Reference:

[A Rapid Trash Assessment Method Applied to Waters of the San Francisco Bay Region: Trash Measurement in Streams](#)

Spatial Representation:

RTA data were collected for this waterbody in one location in 2004.

Temporal Representation:

RTA data were collected for this waterbody in March, July, and November in 2004.

Environmental Conditions:

QAPP Information:

For RTA trash assessment data to be considered, the data must have been collected by field operators that have received a 2-hour training in the Rapid Trash Assessment methodology.

QAPP Information Reference(s):

DECISION ID	44333	Region 2
Cerrito Creek		

Pollutant:	Chlordane
Final Listing Decision:	Do Not List on 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision:	Do Not List on 303(d) list (TMDL required list)(2012)
Revision Status	Revised
Impairment from Pollutant or Pollution:	Pollutant

Regional Board Staff Conclusion:	This pollutant is being considered for placement on the section 303(d) list under section 3.1 of the Listing Policy. Under this section a single line of evidence is necessary to assess listing status. One line of evidence is available in the administrative record to assess this pollutant. One sample exceeds the water quality objective. Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against placing this water segment-pollutant combination on the section 303(d) list in the Water Quality Limited Segments category. This conclusion is based on the staff findings that: 1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy. 2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy. 3. One out of one sample exceeded the water quality objective, but this sample size is insufficient to determine with the power and confidence of the Listing Policy if standards are not met. A minimum of two samples are needed for application of table 3.1. 4. Pursuant to section 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.
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Regional Board Staff Decision Recommendation:	This is a decision previously approved by the State Water Resources Control Board and the USEPA. No new data were assessed by the Regional Board for the current. The decision has not changed.
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Line of Evidence (LOE) for Decision ID 44333, Chlordane	Region 2
Cerrito Creek	

LOE ID:	95310
Pollutant:	Chlordane
LOE Subgroup:	Pollutant-Sediment
Matrix:	Sediment
Fraction:	None
Beneficial Use:	Warm Freshwater Habitat
Number of Samples:	1
Number of Exceedances:	0

Data and Information Type:	PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality:	Concentrations of anthracene, fluorene, naphthalene, phenanthrene, benz(a)anthracene, benzo(a)pyrene, chrysene, fluoranthrene, pyrene, PAH (total), PCB (total), dieldrin, DDD/DDE/DDT, endrin, heptachlor epoxide, and HCH, gamma in one sediment sample collected in spring 2005 did not exceed the sediment quality guidelines.
Data Reference:	Data collected by the Surface Water Ambient Monitoring Program, San Francisco Bay Regional Water Quality Control Board. Years 4 and 5 Assessment
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	All waters shall be maintained free of toxic substances that are lethal to or that produce other detrimental responses in aquatic organisms.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) - San Francisco Bay Region (Region 2)
Evaluation Guideline:	Sediment Quality Guidelines (MacDonald et al., 2000): PEC (probable effect concentration) Anthracene - 845 ug/kg; Fluorene - 536 ug/kg; Naphthalene - 561 ug/kg; Phenanthrene - 1170 ug/kg; Benz(a)anthracene - 1050 ug/kg; Benzo(a)pyrene - 1450 ug/kg; Chrysene - 1290 ug/kg; Fluoranthene - 2230 ug/kg; Pyrene - 1520 ug/kg; PAH (total) - 22800 ug/kg; PCB (total) - 676 ug/kg; Dieldrin - 61.8 ug/kg; DDD (sum op + pp) - 28 ug/kg; DDE (sum op + pp) - 31.3 ug/kg; DDT (sum op + pp) - 62.9 ug/kg; DDT (total) - 572 ug/kg; Endrin - 207 ug/kg; Heptachlor epoxide - 16 ug/kg; HCH, gamma - 4.99 ug/kg.
Guideline Reference:	Development and evaluation of consensus-based sediment quality guidelines for freshwater ecosystems. Environmental Contamination and Toxicology. 39: 20-31
Spatial Representation:	One sediment sample was collected at a "watershed integrator" site located close to the mouth of Cerrito Creek.
Temporal Representation:	Sediment sample was collected in April of 2005.
Environmental Conditions:	There were no special environmental conditions associated with the sampling event.
QAPP Information:	All samples were collected and analyzed using procedures comparable with the SWAMP Quality Assurance Management Plan (SWRCB, 2002).
QAPP Information Reference(s):	

**Line of Evidence (LOE) for Decision ID 44333, Chlordane
Cerrito Creek**

Region 2

LOE ID:	28639
Pollutant:	Chlordane (sediment)
LOE Subgroup:	Pollutant-Sediment
Matrix:	Sediment
Fraction:	None
Beneficial Use:	Warm Freshwater Habitat
Number of Samples:	1
Number of Exceedances:	1
Data and Information Type:	PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality:	Concentration of chlordane (19.93 ug/kg) in one sediment sample collected in spring 2005 exceeded the sediment quality guidelines.
Data Reference:	Data collected by the Surface Water Ambient Monitoring Program, San Francisco Bay Regional Water Quality Control Board. Years 4 and 5 Assessment
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	All waters shall be maintained free of toxic substances that are lethal to or that produce other detrimental responses in aquatic organisms.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) - San Francisco Bay Region (Region 2)
Evaluation Guideline:	Sediment Quality Guidelines (MacDonald et al., 2000): PEC (probable effect concentration) Chlordane - 17.6 ug/kg.
Guideline Reference:	Development and evaluation of consensus-based sediment quality guidelines for

Spatial Representation: One sediment sample was collected at a "watershed integrator" site located close to the mouth of Baxter Creek.

Temporal Representation: Sediment sample was collected in April of 2005.

Environmental Conditions:

QAPP Information: All samples were collected and analyzed using procedures comparable with the SWAMP Quality Assurance Management Plan (SWRCB, 2002).

QAPP Information Reference(s):

DECISION ID	60669	Region 2
Cerrito Creek		

Pollutant: Fluoranthene

Final Listing Decision: Do Not List on 303(d) list (TMDL required list)

Last Listing Cycle's Final Listing Decision: New Decision

Revision Status: Revised

Impairment from Pollutant or Pollution: Pollutant

Regional Board Staff Conclusion:

This pollutant is being considered for placement on the CWA section 303(d) List under section 3.1 of the Listing Policy. Under section 3.1 a single line of evidence is necessary to assess listing status.

One line of evidence are available in the administrative record to assess this pollutant. Zero of one samples exceed the guideline.

Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against placing this water segment-pollutant combination on the CWA section 303(d) List.

This conclusion is based on the staff findings that:

1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy.
2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy.
3. Zero of one samples exceed the guideline and this sample size is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating. A minimum of 16 samples is needed to determine if a beneficial use is fully supported using table 3.1.
4. Pursuant to SECTION 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.

Regional Board Staff Decision Recommendation: After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be placed on the section 303(d) list. The readily available data and information is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating.

Line of Evidence (LOE) for Decision ID 60669, Fluoranthene	Region 2
Cerrito Creek	

LOE ID: 95317

Pollutant: Fluoranthene

LOE Subgroup: Pollutant-Sediment

Matrix: Sediment

Fraction: None

Beneficial Use: Warm Freshwater Habitat

Number of Samples: 1

Number of Exceedances: 0

Data and Information Type:	PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality:	Concentrations of anthracene, fluorene, naphthalene, phenanthrene, benz(a)anthracene, benzo(a)pyrene, chrysene, fluoranthrene, pyrene, PAH (total), PCB (total), dieldrin, DDD/DDE/DDT, endrin, heptachlor epoxide, and HCH, gamma in one sediment sample collected in spring 2005 did not exceed the sediment quality guidelines.
Data Reference:	Data collected by the Surface Water Ambient Monitoring Program, San Francisco Bay Regional Water Quality Control Board. Years 4 and 5 Assessment
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	All waters shall be maintained free of toxic substances that are lethal to or that produce other detrimental responses in aquatic organisms.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) - San Francisco Bay Region (Region 2)
Evaluation Guideline:	Sediment Quality Guidelines (MacDonald et al., 2000): PEC (probable effect concentration) Anthracene - 845 ug/kg; Fluorene - 536 ug/kg; Naphthalene - 561 ug/kg; Phenanthrene - 1170 ug/kg; Benz(a)anthracene - 1050 ug/kg; Benzo(a)pyrene - 1450 ug/kg; Chrysene - 1290 ug/kg; Fluoranthene - 2230 ug/kg; Pyrene - 1520 ug/kg; PAH (total) - 22800 ug/kg; PCB (total) - 676 ug/kg; Dieldrin - 61.8 ug/kg; DDD (sum op + pp) - 28 ug/kg; DDE (sum op + pp) - 31.3 ug/kg; DDT (sum op + pp) - 62.9 ug/kg; DDT (total) - 572 ug/kg; Endrin - 207 ug/kg; Heptachlor epoxide - 16 ug/kg; HCH, gamma - 4.99 ug/kg.
Guideline Reference:	Development and evaluation of consensus-based sediment quality guidelines for freshwater ecosystems. Environmental Contamination and Toxicology. 39: 20-31
Spatial Representation:	One sediment sample was collected at a "watershed integrator" site located close to the mouth of Cerrito Creek.
Temporal Representation:	Sediment sample was collected in April of 2005.
Environmental Conditions:	There were no special environmental conditions associated with the sampling event.
QAPP Information:	All samples were collected and analyzed using procedures comparable with the SWAMP Quality Assurance Management Plan (SWRCB, 2002).
QAPP Information Reference(s):	

DECISION ID	60670	Region 2
Cerrito Creek		

Pollutant:	Fluorene
Final Listing Decision:	Do Not List on 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision:	New Decision
Revision Status	Revised
Impairment from Pollutant or Pollution:	Pollutant
Regional Board Staff Conclusion:	<p>This pollutant is being considered for placement on the CWA section 303(d) List under section 3.1 of the Listing Policy. Under section 3.1 a single line of evidence is necessary to assess listing status.</p> <p>One line of evidence are available in the administrative record to assess this pollutant. Zero of one samples exceed the guideline.</p> <p>Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against placing this water segment-pollutant combination on the CWA section 303(d) List.</p> <p>This conclusion is based on the staff findings that:</p> <ol style="list-style-type: none"> 1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy. 2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy. 3. Zero of one samples exceed the guideline and this sample size is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating. A minimum of 16 samples is needed to determine if a beneficial use is fully supported using table 3.1. 4. Pursuant to SECTION 3.11 of the Listing Policy, no additional data and information are available

indicating that standards are not met.

Regional Board Staff Decision Recommendation: After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be placed on the section 303(d) list. The readily available data and information is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating.

**Line of Evidence (LOE) for Decision ID 60670, Fluorene
Cerrito Creek**

Region 2

LOE ID: 95318

Pollutant: Fluorene
LOE Subgroup: Pollutant-Sediment
Matrix: Sediment
Fraction: None

Beneficial Use: Warm Freshwater Habitat

Number of Samples: 1
Number of Exceedances: 0

Data and Information Type: PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality: Concentrations of anthracene, fluorene, naphthalene, phenanthrene, benz(a)anthracene, benzo(a)pyrene, chrysene, fluoranthrene, pyrene, PAH (total), PCB (total), dieldrin, DDD/DDE/DDT, endrin, heptachlor epoxide, and HCH, gamma in one sediment sample collected in spring 2005 did not exceed the sediment quality guidelines.

Data Reference: [Data collected by the Surface Water Ambient Monitoring Program, San Francisco Bay Regional Water Quality Control Board. Years 4 and 5 Assessment](#)

SWAMP Data: SWAMP

Water Quality Objective/Criterion: All waters shall be maintained free of toxic substances that are lethal to or that produce other detrimental responses in aquatic organisms.

Objective/Criterion Reference: [Water Quality Control Plan \(Basin Plan\) - San Francisco Bay Region \(Region 2\)](#)

Evaluation Guideline: Sediment Quality Guidelines (MacDonald et al., 2000): PEC (probable effect concentration) Anthracene - 845 ug/kg; Fluorene - 536 ug/kg; Naphthalene - 561 ug/kg; Phenanthrene - 1170 ug/kg; Benz(a)anthracene - 1050 ug/kg; Benzo(a)pyrene - 1450 ug/kg; Chrysene - 1290 ug/kg; Fluoranthene - 2230 ug/kg; Pyrene - 1520 ug/kg; PAH (total) - 22800 ug/kg; PCB (total) - 676 ug/kg; Dieldrin - 61.8 ug/kg; DDD (sum op + pp) - 28 ug/kg; DDE (sum op + pp) - 31.3 ug/kg; DDT (sum op + pp) - 62.9 ug/kg; DDT (total) - 572 ug/kg; Endrin - 207 ug/kg; Heptachlor epoxide - 16 ug/kg; HCH, gamma - 4.99 ug/kg.

Guideline Reference: [Development and evaluation of consensus-based sediment quality guidelines for freshwater ecosystems. Environmental Contamination and Toxicology. 39: 20-31](#)

Spatial Representation: One sediment sample was collected at a "watershed integrator" site located close to the mouth of Cerrito Creek.

Temporal Representation: Sediment sample was collected in April of 2005.

Environmental Conditions: There were no special environmental conditions associated with the sampling event.

QAPP Information: All samples were collected and analyzed using procedures comparable with the SWAMP Quality Assurance Management Plan (SWRCB, 2002).

QAPP Information Reference(s):

**DECISION ID 60674
Cerrito Creek**

Region 2

**Pollutant: PAHs (Polycyclic Aromatic Hydrocarbons)
Final Listing Decision: Do Not List on 303(d) list (TMDL required list)**

Last Listing Cycle's Final Listing Decision: Revision Status Impairment from Pollutant or Pollution:

New Decision

Revised
Pollutant

Regional Board Staff Conclusion:

This pollutant is being considered for placement on the CWA section 303(d) List under section 3.1 of the Listing Policy. Under section 3.1 a single line of evidence is necessary to assess listing status.

One line of evidence are available in the administrative record to assess this pollutant. Zero of one samples exceed the guideline.

Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against placing this water segment-pollutant combination on the CWA section 303(d) List.

This conclusion is based on the staff findings that:

1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy.
2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy.
3. Zero of one samples exceed the guideline and this sample size is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating. A minimum of 16 samples is needed to determine if a beneficial use is fully supported using table 3.1.
4. Pursuant to SECTION 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.

Regional Board Staff Decision Recommendation:

After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be placed on the section 303(d) list. The readily available data and information is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating.

Line of Evidence (LOE) for Decision ID 60674, PAHs (Polycyclic Aromatic Hydrocarbons) Cerrito Creek

Region 2

LOE ID: 95322

Pollutant: PAHs (Polycyclic Aromatic Hydrocarbons)
LOE Subgroup: Pollutant-Sediment
Matrix: Sediment
Fraction: None

Beneficial Use: Warm Freshwater Habitat

Number of Samples: 1
Number of Exceedances: 0

Data and Information Type: PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality: Concentrations of anthracene, fluorene, naphthalene, phenanthrene, benz(a)anthracene, benzo(a)pyrene, chrysene, fluoranthrene, pyrene, PAH (total), PCB (total), dieldrin, DDD/DDE/DDT, endrin, heptachlor epoxide, and HCH, gamma in one sediment sample collected in spring 2005 did not exceed the sediment quality guidelines.

Data Reference: [Data collected by the Surface Water Ambient Monitoring Program, San Francisco Bay Regional Water Quality Control Board. Years 4 and 5 Assessment](#)

SWAMP Data: SWAMP

Water Quality Objective/Criterion: All waters shall be maintained free of toxic substances that are lethal to or that produce other detrimental responses in aquatic organisms.

Objective/Criterion Reference: [Water Quality Control Plan \(Basin Plan\) - San Francisco Bay Region \(Region 2\)](#)

Evaluation Guideline: Sediment Quality Guidelines (MacDonald et al., 2000): PEC (probable effect concentration) Anthracene - 845 ug/kg; Fluorene - 536 ug/kg; Naphthalene - 561 ug/kg;

Phenanthrene -1170 ug/kg; Benz(a)anthracene - 1050 ug/kg; Benzo(a)pyrene - 1450 ug/kg; Chrysene - 1290 ug/kg; Fluoranthene - 2230 ug/kg; Pyrene - 1520 ug/kg; PAH (total) - 22800 ug/kg; PCB (total) - 676 ug/kg; Dieldrin - 61.8 ug/kg; DDD (sum op + pp) - 28 ug/kg; DDE (sum op + pp) - 31.3 ug/kg; DDT (sum op + pp) - 62.9 ug/kg; DDT (total) - 572 ug/kg; Endrin - 207 ug/kg; Heptachlor epoxide - 16 ug/kg; HCH, gamma - 4.99 ug/kg.

Guideline Reference: [Development and evaluation of consensus-based sediment quality guidelines for freshwater ecosystems. Environmental Contamination and Toxicology. 39: 20-31](#)

Spatial Representation: One sediment sample was collected at a "watershed integrator" site located close to the mouth of Cerrito Creek.

Temporal Representation: Sediment sample was collected in April of 2005.

Environmental Conditions: There were no special environmental conditions associated with the sampling event.

QAPP Information: All samples were collected and analyzed using procedures comparable with the SWAMP Quality Assurance Management Plan (SWRCB, 2002).

QAPP Information Reference(s):

DECISION ID	60628	Region 2
Cerrito Creek		

Pollutant: Anthracene

Final Listing Decision: Do Not List on 303(d) list (TMDL required list)

Last Listing Cycle's Final Listing Decision: New Decision

Revision Status: Original

Impairment from Pollutant or Pollution: Pollutant

Regional Board Staff Conclusion: This pollutant is being considered for placement on the CWA section 303(d) List under section 3.1 of the Listing Policy. Under section 3.1 a single line of evidence is necessary to assess listing status. One line of evidence are available in the administrative record to assess this pollutant. Zero of one sample exceeds the guideline.

Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against placing this water segment-pollutant combination on the CWA section 303(d) List.

This conclusion is based on the staff findings that:

1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy.
2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy.
3. Zero of one sample exceeds the guideline and this sample size is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating. A minimum of 16 samples is needed to determine if a beneficial use is fully supported using table 3.1.
4. Pursuant to SECTION 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.

Regional Board Staff Decision Recommendation: After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be placed on the section 303(d) list. The readily available data and information is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating.

Line of Evidence (LOE) for Decision ID 60628, Anthracene	Region 2
Cerrito Creek	

LOE ID: 95307

Pollutant: Anthracene

LOE Subgroup: Pollutant-Sediment

Matrix: Sediment

Fraction: None

Beneficial Use:	Warm Freshwater Habitat
Number of Samples:	1
Number of Exceedances:	0
Data and Information Type:	PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality:	Concentrations of anthracene, fluorene, naphthalene, phenanthrene, benz(a)anthracene, benzo(a)pyrene, chrysene, fluoranthrene, pyrene, PAH (total), PCB (total), dieldrin, DDD/DDE/DDT, endrin, heptachlor epoxide, and HCH, gamma in one sediment sample collected in spring 2005 did not exceed the sediment quality guidelines.
Data Reference:	Data collected by the Surface Water Ambient Monitoring Program, San Francisco Bay Regional Water Quality Control Board. Years 4 and 5 Assessment
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	All waters shall be maintained free of toxic substances that are lethal to or that produce other detrimental responses in aquatic organisms.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) - San Francisco Bay Region (Region 2)
Evaluation Guideline:	Sediment Quality Guidelines (MacDonald et al., 2000): PEC (probable effect concentration) Anthracene - 845 ug/kg; Fluorene - 536 ug/kg; Naphthalene - 561 ug/kg; Phenanthrene - 1170 ug/kg; Benz(a)anthracene - 1050 ug/kg; Benzo(a)pyrene - 1450 ug/kg; Chrysene - 1290 ug/kg; Fluoranthene - 2230 ug/kg; Pyrene - 1520 ug/kg; PAH (total) - 22800 ug/kg; PCB (total) - 676 ug/kg; Dieldrin - 61.8 ug/kg; DDD (sum op + pp) - 28 ug/kg; DDE (sum op + pp) - 31.3 ug/kg; DDT (sum op + pp) - 62.9 ug/kg; DDT (total) - 572 ug/kg; Endrin - 207 ug/kg; Heptachlor epoxide - 16 ug/kg; HCH, gamma - 4.99 ug/kg.
Guideline Reference:	Development and evaluation of consensus-based sediment quality guidelines for freshwater ecosystems. Environmental Contamination and Toxicology. 39: 20-31
Spatial Representation:	One sediment sample was collected at a "watershed integrator" site located close to the mouth of Cerrito Creek.
Temporal Representation:	Sediment sample was collected in April of 2005.
Environmental Conditions:	There were no special environmental conditions associated with the sampling event.
QAPP Information:	All samples were collected and analyzed using procedures comparable with the SWAMP Quality Assurance Management Plan (SWRCB, 2002).
QAPP Information Reference(s):	

DECISION ID	60730	Region 2
Cerrito Creek		
Pollutant:	Arsenic	
Final Listing Decision:	Do Not List on 303(d) list (TMDL required list)	
Last Listing Cycle's Final Listing Decision:	New Decision	
Revision Status	Original	
Impairment from Pollutant or Pollution:	Pollutant	
Regional Board Staff Conclusion:	<p>This pollutant is being considered for placement on the CWA section 303(d) List under section 3.1 of the Listing Policy. Under section 3.1 a single line of evidence is necessary to assess listing status.</p> <p>Two lines of evidence is available in the administrative record to assess this pollutant. Zero of three samples exceed the objective.</p> <p>Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against placing this water segment-pollutant combination on the CWA section 303(d) List.</p> <p>This conclusion is based on the staff findings that:</p> <ol style="list-style-type: none"> 1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy. 	

2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy.
3. Zero of three samples exceed the objective and this sample size is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating. A minimum of 16 samples is needed to determine if a beneficial use is fully supported using table 3.1.
4. Pursuant to SECTION 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.

Regional Board Staff Decision Recommendation: After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be placed on the section 303(d) list. The readily available data and information is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating.

**Line of Evidence (LOE) for Decision ID 60730, Arsenic
Cerrito Creek**

Region 2

LOE ID:	95345
Pollutant:	Arsenic
LOE Subgroup:	Pollutant-Water
Matrix:	Water
Fraction:	Dissolved
Beneficial Use:	Warm Freshwater Habitat
Number of Samples:	3
Number of Exceedances:	0
Data and Information Type:	PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality:	The Cerrito Creek watershed was monitored as part of SWAMP assessment. None of the three samples exceeded the water quality objectives for arsenic, chromium VI, copper, lead, nickel, silver and zinc.
Data Reference:	Data collected by the Surface Water Ambient Monitoring Program, San Francisco Bay Regional Water Quality Control Board. Years 4 and 5 Assessment
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	All waters shall be maintained free of toxic substances that are lethal to or that produce other detrimental responses in aquatic organisms. Table 3-4 in the Basin Plan (2007) lists freshwater water quality objectives for toxic pollutants: arsenic- 150 ug/L, chromium VI- 11 ug/L, copper - 9.0 ug/L, lead - 2.5 ug/L; nickel - 52 ug/L, silver-3.4 ug/L and zinc - 120 ug/L.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) - San Francisco Bay Region (Region 2)
Evaluation Guideline:	
Guideline Reference:	
Spatial Representation:	Data were collected at one sampling location (CER020) on Cerrito Creek (Creekside Park).
Temporal Representation:	Samples were collected during wet (January), spring (April), and dry(June) seasons of 2005.
Environmental Conditions:	There were no unusual environmental conditions associated with the sampling.
QAPP Information:	All samples were collected and analyzed using procedures comparable with the SWAMP Quality Assurance Management Plan (SWRCB, 2002).
QAPP Information Reference(s):	Quality Assurance Management Plan for the State of California's Surface Water Ambient Monitoring Program. Sacramento, CA. State Water Resources Control Board. SWAMP. December 2002 (1st version)

**Line of Evidence (LOE) for Decision ID 60730, Arsenic
Cerrito Creek**

Region 2

LOE ID:	95329
Pollutant:	Arsenic
LOE Subgroup:	Pollutant-Sediment
Matrix:	Sediment
Fraction:	Total
Beneficial Use:	Warm Freshwater Habitat
Number of Samples:	1
Number of Exceedances:	0
Data and Information Type:	PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality:	Concentrations of arsenic, cadmium, chromium, copper, lead, mercury and zinc in one sediment sample collected in April 2005 did not exceed the sediment quality guidelines.
Data Reference:	Data collected by the Surface Water Ambient Monitoring Program, San Francisco Bay Regional Water Quality Control Board. Years 4 and 5 Assessment
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	All waters shall be maintained free of toxic substances that are lethal to or that produce other detrimental responses in aquatic organisms.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) - San Francisco Bay Region (Region 2)
Evaluation Guideline:	Sediment Quality Guidelines (MacDonald et al., 2000): PEC (probable effect concentration) arsenic - 33 mg/kg dw; cadmium - 4.98 mg/kg dw; chromium - 111 mg/kg dw; copper - 149 mg/kg dw; lead - 128 mg/kg dw; mercury - 1.06 mg/kg dw; nickel - 48.6 mg/kg dw; zinc - 459 mg/kg dw.
Guideline Reference:	Development and evaluation of consensus-based sediment quality guidelines for freshwater ecosystems. Environmental Contamination and Toxicology. 39: 20-31
Spatial Representation:	One sediment sample was collected at a "watershed integrator" site located close to the mouth of Cerrito Creek.
Temporal Representation:	Sediment sample collected in April 2005.
Environmental Conditions:	There were no special or unusual environmental conditions associated with the sample collection date or location.
QAPP Information:	All samples were collected and analyzed using procedures comparable with the SWAMP Quality Assurance Management Plan (SWRCB, 2002).
QAPP Information Reference(s):	

DECISION ID 60634 Region 2	
Cerrito Creek	
Pollutant:	Benzo(a)anthracene
Final Listing Decision:	Do Not List on 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision:	New Decision
Revision Status	Original
Impairment from Pollutant or Pollution:	Pollutant
Regional Board Staff Conclusion:	<p>This pollutant is being considered for placement on the CWA section 303(d) List under section 3.1 of the Listing Policy. Under section 3.1 a single line of evidence is necessary to assess listing status.</p> <p>One line of evidence are available in the administrative record to assess this pollutant. Zero of one samples exceed the guideline.</p> <p>Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against placing this water segment-pollutant combination on the CWA section 303(d) List.</p>

This conclusion is based on the staff findings that:

1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy.
2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy.
3. Zero of one samples exceed the guideline and this sample size is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating. A minimum of 16 samples is needed to determine if a beneficial use is fully supported using table 3.1.
4. Pursuant to SECTION 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.

Regional Board Staff Decision Recommendation: After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be placed on the section 303(d) list. The readily available data and information is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating.

**Line of Evidence (LOE) for Decision ID 60634, Benzo(a)anthracene
Cerrito Creek**

Region 2

LOE ID:	95308
Pollutant:	Benzo(a)anthracene
LOE Subgroup:	Pollutant-Sediment
Matrix:	Sediment
Fraction:	None
Beneficial Use:	Warm Freshwater Habitat
Number of Samples:	1
Number of Exceedances:	0
Data and Information Type:	PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality:	Concentrations of anthracene, fluorene, naphthalene, phenanthrene, benz(a)anthracene, benzo(a)pyrene, chrysene, fluoranthrene, pyrene, PAH (total), PCB (total), dieldrin, DDD/DDE/DDT, endrin, heptachlor epoxide, and HCH, gamma in one sediment sample collected in spring 2005 did not exceed the sediment quality guidelines.
Data Reference:	Data collected by the Surface Water Ambient Monitoring Program, San Francisco Bay Regional Water Quality Control Board. Years 4 and 5 Assessment
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	All waters shall be maintained free of toxic substances that are lethal to or that produce other detrimental responses in aquatic organisms.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) - San Francisco Bay Region (Region 2)
Evaluation Guideline:	Sediment Quality Guidelines (MacDonald et al., 2000): PEC (probable effect concentration) Anthracene - 845 ug/kg; Fluorene - 536 ug/kg; Naphthalene - 561 ug/kg; Phenanthrene - 1170 ug/kg; Benz(a)anthracene - 1050 ug/kg; Benzo(a)pyrene - 1450 ug/kg; Chrysene - 1290 ug/kg; Fluoranthene - 2230 ug/kg; Pyrene - 1520 ug/kg; PAH (total) - 22800 ug/kg; PCB (total) - 676 ug/kg; Dieldrin - 61.8 ug/kg; DDD (sum op + pp) - 28 ug/kg; DDE (sum op + pp) - 31.3 ug/kg; DDT (sum op + pp) - 62.9 ug/kg; DDT (total) - 572 ug/kg; Endrin - 207 ug/kg; Heptachlor epoxide - 16 ug/kg; HCH, gamma - 4.99 ug/kg.
Guideline Reference:	Development and evaluation of consensus-based sediment quality guidelines for freshwater ecosystems. Environmental Contamination and Toxicology. 39: 20-31
Spatial Representation:	One sediment sample was collected at a "watershed integrator" site located close to the mouth of Cerrito Creek.
Temporal Representation:	Sediment sample was collected in April of 2005.
Environmental Conditions:	There were no special environmental conditions associated with the sampling event.
QAPP Information:	All samples were collected and analyzed using procedures comparable with the SWAMP Quality Assurance Management Plan (SWRCB, 2002).
QAPP Information Reference(s):	

DECISION ID	60636	Region 2
Cerrito Creek		

Pollutant: Benzo(a)pyrene (3,4-Benzopyrene -7-d)
Final Listing Decision: Do Not List on 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision: New Decision
Revision Status: Original
Impairment from Pollutant or Pollution: Pollutant

Regional Board Staff Conclusion: This pollutant is being considered for placement on the CWA section 303(d) List under section 3.1 of the Listing Policy. Under section 3.1 a single line of evidence is necessary to assess listing status.

One line of evidence are available in the administrative record to assess this pollutant. Zero of one samples exceed the guideline.

Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against placing this water segment-pollutant combination on the CWA section 303(d) List.

This conclusion is based on the staff findings that:

1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy.
2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy.
3. Zero of one samples exceed the guideline and this sample size is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating. A minimum of 16 samples is needed to determine if a beneficial use is fully supported using table 3.1.
4. Pursuant to SECTION 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.

Regional Board Staff Decision Recommendation: After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be placed on the section 303(d) list. The readily available data and information is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating.

Line of Evidence (LOE) for Decision ID 60636, Benzo(a)pyrene (3,4-Benzopyrene -7-d)	Region 2
Cerrito Creek	

LOE ID: 95309
Pollutant: Benzo(a)pyrene (3,4-Benzopyrene -7-d)
LOE Subgroup: Pollutant-Sediment
Matrix: Sediment
Fraction: None
Beneficial Use: Warm Freshwater Habitat
Number of Samples: 1
Number of Exceedances: 0
Data and Information Type: PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality: Concentrations of anthracene, fluorene, naphthalene, phenanthrene, benz(a)anthracene, benzo(a)pyrene, chrysene, fluoranthrene, pyrene, PAH (total), PCB (total), dieldrin, DDD/DDE/DDT, endrin, heptachlor epoxide, and HCH, gamma in one sediment sample collected in spring 2005 did not exceed the sediment quality guidelines.
Data Reference: [Data collected by the Surface Water Ambient Monitoring Program, San Francisco Bay Regional Water Quality Control Board. Years 4 and 5 Assessment](#)
SWAMP Data: SWAMP

Water Quality Objective/Criterion:	All waters shall be maintained free of toxic substances that are lethal to or that produce other detrimental responses in aquatic organisms.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) - San Francisco Bay Region (Region 2)
Evaluation Guideline:	Sediment Quality Guidelines (MacDonald et al., 2000): PEC (probable effect concentration) Anthracene - 845 ug/kg; Fluorene - 536 ug/kg; Naphthalene - 561 ug/kg; Phenanthrene - 1170 ug/kg; Benz(a)anthracene - 1050 ug/kg; Benzo(a)pyrene - 1450 ug/kg; Chrysene - 1290 ug/kg; Fluoranthene - 2230 ug/kg; Pyrene - 1520 ug/kg; PAH (total) - 22800 ug/kg; PCB (total) - 676 ug/kg; Dieldrin - 61.8 ug/kg; DDD (sum op + pp) - 28 ug/kg; DDE (sum op + pp) - 31.3 ug/kg; DDT (sum op + pp) - 62.9 ug/kg; DDT (total) - 572 ug/kg; Endrin - 207 ug/kg; Heptachlor epoxide - 16 ug/kg; HCH, gamma - 4.99 ug/kg.
Guideline Reference:	Development and evaluation of consensus-based sediment quality guidelines for freshwater ecosystems. Environmental Contamination and Toxicology. 39: 20-31
Spatial Representation:	One sediment sample was collected at a "watershed integrator" site located close to the mouth of Cerrito Creek.
Temporal Representation:	Sediment sample was collected in April of 2005.
Environmental Conditions:	There were no special environmental conditions associated with the sampling event.
QAPP Information:	All samples were collected and analyzed using procedures comparable with the SWAMP Quality Assurance Management Plan (SWRCB, 2002).
QAPP Information Reference(s):	

DECISION ID 60731 Region 2	
Cerrito Creek	
Pollutant:	Cadmium
Final Listing Decision:	Do Not List on 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision:	New Decision
Revision Status	Original
Impairment from Pollutant or Pollution:	Pollutant
Regional Board Staff Conclusion:	<p>This pollutant is being considered for placement on the CWA section 303(d) List under section 3.1 of the Listing Policy. Under section 3.1 a single line of evidence is necessary to assess listing status.</p> <p>One line of evidence is available in the administrative record to assess this pollutant. Zero of one samples exceed the guideline.</p> <p>Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against placing this water segment-pollutant combination on the CWA section 303(d) List.</p> <p>This conclusion is based on the staff findings that:</p> <ol style="list-style-type: none"> 1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy. 2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy. 3. Zero of one samples exceed the guideline and this sample size is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating. A minimum of 16 samples is needed to determine if a beneficial use is fully supported using table 3.1. 4. Pursuant to SECTION 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.
Regional Board Staff Decision Recommendation:	After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be placed on the section 303(d) list. The readily available data and information is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating.
Line of Evidence (LOE) for Decision ID 60731, Cadmium Region 2	

Cerrito Creek

LOE ID:	95330
Pollutant:	Cadmium
LOE Subgroup:	Pollutant-Sediment
Matrix:	Sediment
Fraction:	Total
Beneficial Use:	Warm Freshwater Habitat
Number of Samples:	1
Number of Exceedances:	0
Data and Information Type:	PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality:	Concentrations of arsenic, cadmium, chromium, copper, lead, mercury and zinc in one sediment sample collected in April 2005 did not exceed the sediment quality guidelines.
Data Reference:	Data collected by the Surface Water Ambient Monitoring Program, San Francisco Bay Regional Water Quality Control Board. Years 4 and 5 Assessment
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	All waters shall be maintained free of toxic substances that are lethal to or that produce other detrimental responses in aquatic organisms.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) - San Francisco Bay Region (Region 2)
Evaluation Guideline:	Sediment Quality Guidelines (MacDonald et al., 2000): PEC (probable effect concentration) arsenic - 33 mg/kg dw; cadmium - 4.98 mg/kg dw; chromium - 111 mg/kg dw; copper - 149 mg/kg dw; lead - 128 mg/kg dw; mercury - 1.06 mg/kg dw; nickel - 48.6 mg/kg dw; zinc - 459 mg/kg dw.
Guideline Reference:	Development and evaluation of consensus-based sediment quality guidelines for freshwater ecosystems. Environmental Contamination and Toxicology. 39: 20-31
Spatial Representation:	One sediment sample was collected at a "watershed integrator" site located close to the mouth of Cerrito Creek.
Temporal Representation:	Sediment sample collected in April 2005.
Environmental Conditions:	There were no special or unusual environmental conditions associated with the sample collection date or location.
QAPP Information:	All samples were collected and analyzed using procedures comparable with the SWAMP Quality Assurance Management Plan (SWRCB, 2002).
QAPP Information Reference(s):	

DECISION ID	60754	Region 2
Cerrito Creek		
Pollutant:	Chlorpyrifos	
Final Listing Decision:	Do Not List on 303(d) list (TMDL required list)	
Last Listing Cycle's Final Listing Decision:	New Decision	
Revision Status	Original	
Impairment from Pollutant or Pollution:	Pollutant	
Regional Board Staff Conclusion:	<p>This pollutant is being considered for placement on the CWA section 303(d) List under section 3.1 of the Listing Policy. Under section 3.1 a single line of evidence is necessary to assess listing status.</p> <p>One line of evidence is available in the administrative record to assess this pollutant. Zero of three samples exceed the criterion.</p> <p>Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against placing this water segment-pollutant combination on the CWA section</p>	

303(d) List.

This conclusion is based on the staff findings that:

1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy.
2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy.
3. Zero of three samples exceed the criterion and this sample size is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating. A minimum of 16 samples is needed to determine if a beneficial use is fully supported using table 3.1.
4. Pursuant to SECTION 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.

Regional Board Staff Decision Recommendation: After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be placed on the section 303(d) list. The readily available data and information is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating.

**Line of Evidence (LOE) for Decision ID 60754, Chlorpyrifos
Cerrito Creek**

Region 2

LOE ID:	95336
Pollutant:	Chlorpyrifos
LOE Subgroup:	Pollutant-Water
Matrix:	Water
Fraction:	None
Beneficial Use:	Warm Freshwater Habitat
Number of Samples:	3
Number of Exceedances:	0
Data and Information Type:	PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality:	The Cerrito Creek watershed was monitored as part of SWAMP assessment. None of the three samples exceeded the water quality objectives for PCBs, Chlorpyrifos, Dacthal, diazinon, disulfoton, endosulfan, Lindane/gamma Hexachlorocyclohexane (gamma-HCH), methyl parathion, thiobencarb.
Data Reference:	Data collected by the Surface Water Ambient Monitoring Program, San Francisco Bay Regional Water Quality Control Board. Years 4 and 5 Assessment
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	All waters shall be maintained free of toxic substances that are lethal to or that produce other detrimental responses in aquatic organisms. There shall be no chronic toxicity in ambient waters. Chronic toxicity is a detrimental biological effect on growth rate, reproduction, fertilization success, larval development, population abundance, community composition, or any other relevant measure of the health of an organism, population, or community.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) - San Francisco Bay Region (Region 2)
Evaluation Guideline:	PCBs - 0.014 ug/L freshwater continuous Concentration; Chlorpyrifos - 0.015 ug/L (chronic); Dacthal (DCPA) - 14300 ug/L (acute); Disulfoton (Disyston) - 0.05 ug/L (acute); Endosulfan - 0.056 ug/L (chronic)/0.22 ug/L (acute); HCH, gamma-(gamma BHC, Lindane) - 0.95 ug/L (acute); methyl parathion - 0.08 ug/L (acute); Thiobencarb - 3.1 ug/L (acute).
Guideline Reference:	National recommended water quality criteria: 2002. EPA-822-R-02-047 Washington, D.C. USEPA
Spatial Representation:	Data were collected at one sampling location (CER020) on Cerrito Creek.
Temporal Representation:	Samples were collected during wet (January), spring (April), and dry(June) seasons of 2005.
Environmental Conditions:	There were no unusual or special environmental conditions associated with the sample

collection.

QAPP Information: All samples were collected and analyzed using procedures comparable with the SWAMP Quality Assurance Management Plan (SWRCB, 2002).

QAPP Information Reference(s): [Quality Assurance Management Plan for the State of California's Surface Water Ambient Monitoring Program. Sacramento, CA. State Water Resources Control Board. SWAMP. December 2002 \(1st version\)](#)

DECISION ID	60732	Region 2
Cerrito Creek		

Pollutant: Chromium

Final Listing Decision: Do Not List on 303(d) list (TMDL required list)

Last Listing Cycle's Final Listing Decision: New Decision

Revision Status: Original

Impairment from Pollutant or Pollution: Pollutant

Regional Board Staff Conclusion: This pollutant is being considered for placement on the CWA section 303(d) List under section 3.1 of the Listing Policy. Under section 3.1 a single line of evidence is necessary to assess listing status.

Two lines of evidence are available in the administrative record to assess this pollutant. Zero of three samples exceed the objective.

Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against placing this water segment-pollutant combination on the CWA section 303(d) List.

This conclusion is based on the staff findings that:

1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy.
2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy.
3. Zero of three samples exceed the objective and this sample size is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating. A minimum of 16 samples is needed to determine if a beneficial use is fully supported using table 3.1.
4. Pursuant to SECTION 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.

Regional Board Staff Decision Recommendation: After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be placed on the section 303(d) list. The readily available data and information is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating.

Line of Evidence (LOE) for Decision ID 60732, Chromium	Region 2
Cerrito Creek	

LOE ID: 95347

Pollutant: Chromium

LOE Subgroup: Pollutant-Water

Matrix: Water

Fraction: Dissolved

Beneficial Use: Warm Freshwater Habitat

Number of Samples: 3

Number of Exceedances: 0

Data and Information Type: PHYSICAL/CHEMICAL MONITORING

Data Used to Assess Water Quality: The Cerrito Creek watershed was monitored as part of SWAMP assessment. None of the

Data Reference:	three samples exceeded the water quality objectives for arsenic, chromium VI, copper, lead, nickel, silver and zinc. Data collected by the Surface Water Ambient Monitoring Program, San Francisco Bay Regional Water Quality Control Board. Years 4 and 5 Assessment
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	All waters shall be maintained free of toxic substances that are lethal to or that produce other detrimental responses in aquatic organisms. Table 3-4 in the Basin Plan (2007) lists freshwater water quality objectives for toxic pollutants: arsenic- 150 ug/L, chromium VI- 11 ug/L, copper - 9.0 ug/L, lead - 2.5 ug/L; nickel - 52 ug/L, silver-3.4 ug/L and zinc - 120 ug/L.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) - San Francisco Bay Region (Region 2)
Evaluation Guideline:	
Guideline Reference:	
Spatial Representation:	Data were collected at one sampling location (CER020) on Cerrito Creek (Creekside Park).
Temporal Representation:	Samples were collected during wet (January), spring (April), and dry(June) seasons of 2005.
Environmental Conditions:	There were no unusual environmental conditions associated with the sampling.
QAPP Information:	All samples were collected and analyzed using procedures comparable with the SWAMP Quality Assurance Management Plan (SWRCB, 2002).
QAPP Information Reference(s):	Quality Assurance Management Plan for the State of California's Surface Water Ambient Monitoring Program. Sacramento, CA. State Water Resources Control Board. SWAMP. December 2002 (1st version)

**Line of Evidence (LOE) for Decision ID 60732, Chromium
Cerrito Creek**

Region 2

LOE ID:	95331
Pollutant:	Chromium
LOE Subgroup:	Pollutant-Sediment
Matrix:	Sediment
Fraction:	Total
Beneficial Use:	Warm Freshwater Habitat
Number of Samples:	1
Number of Exceedances:	0
Data and Information Type:	PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality:	Concentrations of arsenic, cadmium, chromium, copper, lead, mercury and zinc in one sediment sample collected in April 2005 did not exceed the sediment quality guidelines.
Data Reference:	Data collected by the Surface Water Ambient Monitoring Program, San Francisco Bay Regional Water Quality Control Board. Years 4 and 5 Assessment
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	All waters shall be maintained free of toxic substances that are lethal to or that produce other detrimental responses in aquatic organisms.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) - San Francisco Bay Region (Region 2)
Evaluation Guideline:	Sediment Quality Guidelines (MacDonald et al., 2000): PEC (probable effect concentration) arsenic - 33 mg/kg dw; cadmium - 4.98 mg/kg dw; chromium - 111 mg/kg dw; copper - 149 mg/kg dw; lead - 128 mg/kg dw; mercury - 1.06 mg/kg dw; nickel - 48.6 mg/kg dw; zinc - 459 mg/kg dw.
Guideline Reference:	Development and evaluation of consensus-based sediment quality guidelines for freshwater ecosystems. Environmental Contamination and Toxicology. 39: 20-31

Spatial Representation:	One sediment sample was collected at a "watershed integrator" site located close to the mouth of Cerrito Creek.
Temporal Representation:	Sediment sample collected in April 2005.
Environmental Conditions:	There were no special or unusual environmental conditions associated with the sample collection date or location.
QAPP Information:	All samples were collected and analyzed using procedures comparable with the SWAMP Quality Assurance Management Plan (SWRCB, 2002).
QAPP Information Reference(s):	

DECISION ID	60638	Region 2
Cerrito Creek		

Pollutant:	Chrysene (C1-C4)
Final Listing Decision:	Do Not List on 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision:	New Decision
Revision Status	Original
Impairment from Pollutant or Pollution:	Pollutant

Regional Board Staff Conclusion:

This pollutant is being considered for placement on the CWA section 303(d) List under section 3.1 of the Listing Policy. Under section 3.1 a single line of evidence is necessary to assess listing status.

One line of evidence are available in the administrative record to assess this pollutant. Zero of one samples exceed the guideline.

Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against placing this water segment-pollutant combination on the CWA section 303(d) List.

This conclusion is based on the staff findings that:

1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy.
2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy.
3. Zero of one samples exceed the guideline and this sample size is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating. A minimum of 16 samples is needed to determine if a beneficial use is fully supported using table 3.1.
4. Pursuant to SECTION 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.

Regional Board Staff Decision Recommendation: After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be placed on the section 303(d) list. The readily available data and information is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating.

Line of Evidence (LOE) for Decision ID 60638, Chrysene (C1-C4)	Region 2
Cerrito Creek	

LOE ID:	95311
Pollutant:	Chrysene (C1-C4)
LOE Subgroup:	Pollutant-Sediment
Matrix:	Sediment
Fraction:	None
Beneficial Use:	Warm Freshwater Habitat
Number of Samples:	1
Number of Exceedances:	0

Data and Information Type:	PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality:	Concentrations of anthracene, fluorene, naphthalene, phenanthrene, benz(a)anthracene, benzo(a)pyrene, chrysene, fluoranthrene, pyrene, PAH (total), PCB (total), dieldrin, DDD/DDE/DDT, endrin, heptachlor epoxide, and HCH, gamma in one sediment sample collected in spring 2005 did not exceed the sediment quality guidelines.
Data Reference:	Data collected by the Surface Water Ambient Monitoring Program, San Francisco Bay Regional Water Quality Control Board. Years 4 and 5 Assessment
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	All waters shall be maintained free of toxic substances that are lethal to or that produce other detrimental responses in aquatic organisms.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) - San Francisco Bay Region (Region 2)
Evaluation Guideline:	Sediment Quality Guidelines (MacDonald et al., 2000): PEC (probable effect concentration) Anthracene - 845 ug/kg; Fluorene - 536 ug/kg; Naphthalene - 561 ug/kg; Phenanthrene - 1170 ug/kg; Benz(a)anthracene - 1050 ug/kg; Benzo(a)pyrene - 1450 ug/kg; Chrysene - 1290 ug/kg; Fluoranthene - 2230 ug/kg; Pyrene - 1520 ug/kg; PAH (total) - 22800 ug/kg; PCB (total) - 676 ug/kg; Dieldrin - 61.8 ug/kg; DDD (sum op + pp) - 28 ug/kg; DDE (sum op + pp) - 31.3 ug/kg; DDT (sum op + pp) - 62.9 ug/kg; DDT (total) - 572 ug/kg; Endrin - 207 ug/kg; Heptachlor epoxide - 16 ug/kg; HCH, gamma - 4.99 ug/kg.
Guideline Reference:	Development and evaluation of consensus-based sediment quality guidelines for freshwater ecosystems. Environmental Contamination and Toxicology. 39: 20-31
Spatial Representation:	One sediment sample was collected at a "watershed integrator" site located close to the mouth of Cerrito Creek.
Temporal Representation:	Sediment sample was collected in April of 2005.
Environmental Conditions:	There were no special environmental conditions associated with the sampling event.
QAPP Information:	All samples were collected and analyzed using procedures comparable with the SWAMP Quality Assurance Management Plan (SWRCB, 2002).
QAPP Information Reference(s):	

DECISION ID	60734	Region 2
Cerrito Creek		
Pollutant:	Copper	
Final Listing Decision:	Do Not List on 303(d) list (TMDL required list)	
Last Listing Cycle's Final Listing Decision:	New Decision	
Revision Status	Original	
Impairment from Pollutant or Pollution:	Pollutant	
Regional Board Staff Conclusion:	<p>This pollutant is being considered for placement on the CWA section 303(d) List under section 3.1 of the Listing Policy. Under section 3.1 a single line of evidence is necessary to assess listing status.</p> <p>Two lines of evidence are available in the administrative record to assess this pollutant. Zero of three samples exceed the objective.</p> <p>Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against placing this water segment-pollutant combination on the CWA section 303(d) List.</p> <p>This conclusion is based on the staff findings that:</p> <ol style="list-style-type: none"> 1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy. 2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy. 3. Zero of three samples exceed the objective and this sample size is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating. A minimum of 16 samples is needed to determine if a beneficial use is fully supported using table 3.1. 4. Pursuant to SECTION 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met. 	

Regional Board Staff Decision Recommendation: After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be placed on the section 303(d) list. The readily available data and information is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating.

**Line of Evidence (LOE) for Decision ID 60734, Copper
Cerrito Creek**

Region 2

LOE ID: 95332

Pollutant: Copper
LOE Subgroup: Pollutant-Sediment
Matrix: Sediment
Fraction: Total

Beneficial Use: Warm Freshwater Habitat

Number of Samples: 1
Number of Exceedances: 0

Data and Information Type: PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality: Concentrations of arsenic, cadmium, chromium, copper, lead, mercury and zinc in one sediment sample collected in April 2005 did not exceed the sediment quality guidelines.
Data Reference: [Data collected by the Surface Water Ambient Monitoring Program, San Francisco Bay Regional Water Quality Control Board. Years 4 and 5 Assessment](#)

SWAMP Data: SWAMP

Water Quality Objective/Criterion: All waters shall be maintained free of toxic substances that are lethal to or that produce other detrimental responses in aquatic organisms.
Objective/Criterion Reference: [Water Quality Control Plan \(Basin Plan\) - San Francisco Bay Region \(Region 2\)](#)

Evaluation Guideline: Sediment Quality Guidelines (MacDonald et al., 2000): PEC (probable effect concentration) arsenic - 33 mg/kg dw; cadmium - 4.98 mg/kg dw; chromium - 111 mg/kg dw; copper - 149 mg/kg dw; lead - 128 mg/kg dw; mercury - 1.06 mg/kg dw; nickel - 48.6 mg/kg dw; zinc - 459 mg/kg dw.
Guideline Reference: [Development and evaluation of consensus-based sediment quality guidelines for freshwater ecosystems. Environmental Contamination and Toxicology. 39: 20-31](#)

Spatial Representation: One sediment sample was collected at a "watershed integrator" site located close to the mouth of Cerrito Creek.

Temporal Representation: Sediment sample collected in April 2005.

Environmental Conditions: There were no special or unusual environmental conditions associated with the sample collection date or location.

QAPP Information: All samples were collected and analyzed using procedures comparable with the SWAMP Quality Assurance Management Plan (SWRCB, 2002).

QAPP Information Reference(s):

**Line of Evidence (LOE) for Decision ID 60734, Copper
Cerrito Creek**

Region 2

LOE ID: 95348

Pollutant: Copper
LOE Subgroup: Pollutant-Water
Matrix: Water
Fraction: Dissolved

Beneficial Use: Warm Freshwater Habitat

Number of Samples:	3
Number of Exceedances:	0
Data and Information Type:	PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality:	The Cerrito Creek watershed was monitored as part of SWAMP assessment. None of the three samples exceeded the water quality objectives for arsenic, chromium VI, copper, lead, nickel, silver and zinc.
Data Reference:	Data collected by the Surface Water Ambient Monitoring Program, San Francisco Bay Regional Water Quality Control Board. Years 4 and 5 Assessment
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	All waters shall be maintained free of toxic substances that are lethal to or that produce other detrimental responses in aquatic organisms. Table 3-4 in the Basin Plan (2007) lists freshwater water quality objectives for toxic pollutants: arsenic- 150 ug/L, chromium VI- 11 ug/L, copper - 9.0 ug/L, lead - 2.5 ug/L; nickel - 52 ug/L, silver-3.4 ug/L and zinc - 120 ug/L.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) - San Francisco Bay Region (Region 2)
Evaluation Guideline:	
Guideline Reference:	
Spatial Representation:	Data were collected at one sampling location (CER020) on Cerrito Creek (Creekside Park).
Temporal Representation:	Samples were collected during wet (January), spring (April), and dry(June) seasons of 2005.
Environmental Conditions:	There were no unusual environmental conditions associated with the sampling.
QAPP Information:	All samples were collected and analyzed using procedures comparable with the SWAMP Quality Assurance Management Plan (SWRCB, 2002).
QAPP Information Reference(s):	Quality Assurance Management Plan for the State of California's Surface Water Ambient Monitoring Program. Sacramento, CA. State Water Resources Control Board. SWAMP. December 2002 (1st version)

DECISION ID	60664	Region 2
Cerrito Creek		

Pollutant:	DDD (Dichlorodiphenyldichloroethane)
Final Listing Decision:	Do Not List on 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision:	New Decision
Revision Status	Original
Impairment from Pollutant or Pollution:	Pollutant
Regional Board Staff Conclusion:	<p>This pollutant is being considered for placement on the CWA section 303(d) List under section 3.1 of the Listing Policy. Under section 3.1 a single line of evidence is necessary to assess listing status.</p> <p>One line of evidence are available in the administrative record to assess this pollutant. Zero of one samples exceed the guideline.</p> <p>Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against placing this water segment-pollutant combination on the CWA section 303(d) List.</p> <p>This conclusion is based on the staff findings that:</p> <ol style="list-style-type: none"> 1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy. 2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy. 3. Zero of one samples exceed the guideline and this sample size is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating. A minimum of 16 samples is needed to determine if a beneficial use is fully supported using table 3.1.

4. Pursuant to SECTION 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.

Regional Board Staff Decision Recommendation: After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be placed on the section 303(d) list. The readily available data and information is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating.

Line of Evidence (LOE) for Decision ID 60664, DDD (Dichlorodiphenyldichloroethane)

Region 2

Cerrito Creek

LOE ID: 95312

Pollutant: DDD (Dichlorodiphenyldichloroethane)
LOE Subgroup: Pollutant-Sediment
Matrix: Sediment
Fraction: None

Beneficial Use: Warm Freshwater Habitat

Number of Samples: 1
Number of Exceedances: 0

Data and Information Type: PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality: Concentrations of anthracene, fluorene, naphthalene, phenanthrene, benz(a)anthracene, benzo(a)pyrene, chrysene, fluoranthrene, pyrene, PAH (total), PCB (total), dieldrin, DDD/DDE/DDT, endrin, heptachlor epoxide, and HCH, gamma in one sediment sample collected in spring 2005 did not exceed the sediment quality guidelines.

Data Reference: [Data collected by the Surface Water Ambient Monitoring Program, San Francisco Bay Regional Water Quality Control Board. Years 4 and 5 Assessment](#)

SWAMP Data: SWAMP

Water Quality Objective/Criterion: All waters shall be maintained free of toxic substances that are lethal to or that produce other detrimental responses in aquatic organisms.

Objective/Criterion Reference: [Water Quality Control Plan \(Basin Plan\) - San Francisco Bay Region \(Region 2\)](#)

Evaluation Guideline: Sediment Quality Guidelines (MacDonald et al., 2000): PEC (probable effect concentration) Anthracene - 845 ug/kg; Fluorene - 536 ug/kg; Naphthalene - 561 ug/kg; Phenanthrene - 1170 ug/kg; Benz(a)anthracene - 1050 ug/kg; Benzo(a)pyrene - 1450 ug/kg; Chrysene - 1290 ug/kg; Fluoranthene - 2230 ug/kg; Pyrene - 1520 ug/kg; PAH (total) - 22800 ug/kg; PCB (total) - 676 ug/kg; Dieldrin - 61.8 ug/kg; DDD (sum op + pp) - 28 ug/kg; DDE (sum op + pp) - 31.3 ug/kg; DDT (sum op + pp) - 62.9 ug/kg; DDT (total) - 572 ug/kg; Endrin - 207 ug/kg; Heptachlor epoxide - 16 ug/kg; HCH, gamma - 4.99 ug/kg.

Guideline Reference: [Development and evaluation of consensus-based sediment quality guidelines for freshwater ecosystems. Environmental Contamination and Toxicology. 39: 20-31](#)

Spatial Representation: One sediment sample was collected at a "watershed integrator" site located close to the mouth of Cerrito Creek.

Temporal Representation: Sediment sample was collected in April of 2005.

Environmental Conditions: There were no special environmental conditions associated with the sampling event.

QAPP Information: All samples were collected and analyzed using procedures comparable with the SWAMP Quality Assurance Management Plan (SWRCB, 2002).

QAPP Information Reference(s):

DECISION ID

60665

Region 2

Cerrito Creek

Pollutant: DDE (Dichlorodiphenyldichloroethylene)

Final Listing Decision:
Last Listing Cycle's Final Listing Decision:
Revision Status
Impairment from Pollutant or Pollution:

Do Not List on 303(d) list (TMDL required list)

New Decision

Original
Pollutant

Regional Board Staff Conclusion:

This pollutant is being considered for placement on the CWA section 303(d) List under section 3.1 of the Listing Policy. Under section 3.1 a single line of evidence is necessary to assess listing status.

One line of evidence are available in the administrative record to assess this pollutant. Zero of one samples exceed the guideline.

Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against placing this water segment-pollutant combination on the CWA section 303(d) List.

This conclusion is based on the staff findings that:

1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy.
2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy.
3. Zero of one samples exceed the guideline and this sample size is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating. A minimum of 16 samples is needed to determine if a beneficial use is fully supported using table 3.1.
4. Pursuant to SECTION 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.

Regional Board Staff Decision Recommendation:

After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be placed on the section 303(d) list. The readily available data and information is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating.

Line of Evidence (LOE) for Decision ID 60665, DDE (Dichlorodiphenyldichloroethylene)
Cerrito Creek

Region 2

LOE ID: 95313

Pollutant: DDE (Dichlorodiphenyldichloroethylene)
LOE Subgroup: Pollutant-Sediment
Matrix: Sediment
Fraction: None

Beneficial Use: Warm Freshwater Habitat

Number of Samples: 1
Number of Exceedances: 0

Data and Information Type: PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality: Concentrations of anthracene, fluorene, naphthalene, phenanthrene, benz(a)anthracene, benzo(a)pyrene, chrysene, fluoranthrene, pyrene, PAH (total), PCB (total), dieldrin, DDD/DDE/DDT, endrin, heptachlor epoxide, and HCH, gamma in one sediment sample collected in spring 2005 did not exceed the sediment quality guidelines.

Data Reference: [Data collected by the Surface Water Ambient Monitoring Program, San Francisco Bay Regional Water Quality Control Board. Years 4 and 5 Assessment](#)

SWAMP Data: SWAMP

Water Quality Objective/Criterion: All waters shall be maintained free of toxic substances that are lethal to or that produce other detrimental responses in aquatic organisms.

Objective/Criterion Reference: [Water Quality Control Plan \(Basin Plan\) - San Francisco Bay Region \(Region 2\)](#)

Evaluation Guideline: Sediment Quality Guidelines (MacDonald et al., 2000): PEC (probable effect

concentration) Anthracene - 845 ug/kg; Fluorene - 536 ug/kg; Naphthalene - 561 ug/kg; Phenanthrene - 1170 ug/kg; Benz(a)anthracene - 1050 ug/kg; Benzo(a)pyrene - 1450 ug/kg; Chrysene - 1290 ug/kg; Fluoranthene - 2230 ug/kg; Pyrene - 1520 ug/kg; PAH (total) - 22800 ug/kg; PCB (total) - 676 ug/kg; Dieldrin - 61.8 ug/kg; DDD (sum op + pp) - 28 ug/kg; DDE (sum op + pp) - 31.3 ug/kg; DDT (sum op + pp) - 62.9 ug/kg; DDT (total) - 572 ug/kg; Endrin - 207 ug/kg; Heptachlor epoxide - 16 ug/kg; HCH, gamma - 4.99 ug/kg. [Development and evaluation of consensus-based sediment quality guidelines for freshwater ecosystems. Environmental Contamination and Toxicology. 39: 20-31](#)

Guideline Reference:

Spatial Representation:

One sediment sample was collected at a "watershed integrator" site located close to the mouth of Cerrito Creek.

Temporal Representation:

Sediment sample was collected in April of 2005.

Environmental Conditions:

There were no special environmental conditions associated with the sampling event.

QAPP Information:

All samples were collected and analyzed using procedures comparable with the SWAMP Quality Assurance Management Plan (SWRCB, 2002).

QAPP Information Reference(s):

DECISION ID	60666	Region 2
Cerrito Creek		

Pollutant: DDT (Dichlorodiphenyltrichloroethane)
Final Listing Decision: Do Not List on 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision: New Decision
Revision Status Original
Impairment from Pollutant or Pollution: Pollutant

Regional Board Staff Conclusion: This pollutant is being considered for placement on the CWA section 303(d) List under section 3.1 of the Listing Policy. Under section 3.1 a single line of evidence is necessary to assess listing status.

One line of evidence are available in the administrative record to assess this pollutant. Zero of one samples exceed the guideline.

Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against placing this water segment-pollutant combination on the CWA section 303(d) List.

This conclusion is based on the staff findings that:

1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy.
2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy.
3. Zero of one samples exceed the guideline and this sample size is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating. A minimum of 16 samples is needed to determine if a beneficial use is fully supported using table 3.1.
4. Pursuant to SECTION 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.

Regional Board Staff Decision Recommendation: After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be placed on the section 303(d) list. The readily available data and information is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating.

Line of Evidence (LOE) for Decision ID 60666, DDT (Dichlorodiphenyltrichloroethane)	Region 2
Cerrito Creek	

LOE ID: 95314

Pollutant: DDT (Dichlorodiphenyltrichloroethane)
LOE Subgroup: Pollutant-Sediment

Matrix:	Sediment
Fraction:	None
Beneficial Use:	Warm Freshwater Habitat
Number of Samples:	1
Number of Exceedances:	0
Data and Information Type:	PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality:	Concentrations of anthracene, fluorene, naphthalene, phenanthrene, benz(a)anthracene, benzo(a)pyrene, chrysene, fluoranthene, pyrene, PAH (total), PCB (total), dieldrin, DDD/DDE/DDT, endrin, heptachlor epoxide, and HCH, gamma in one sediment sample collected in spring 2005 did not exceed the sediment quality guidelines.
Data Reference:	Data collected by the Surface Water Ambient Monitoring Program, San Francisco Bay Regional Water Quality Control Board. Years 4 and 5 Assessment
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	All waters shall be maintained free of toxic substances that are lethal to or that produce other detrimental responses in aquatic organisms.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) - San Francisco Bay Region (Region 2)
Evaluation Guideline:	Sediment Quality Guidelines (MacDonald et al., 2000): PEC (probable effect concentration) Anthracene - 845 ug/kg; Fluorene - 536 ug/kg; Naphthalene - 561 ug/kg; Phenanthrene - 1170 ug/kg; Benz(a)anthracene - 1050 ug/kg; Benzo(a)pyrene - 1450 ug/kg; Chrysene - 1290 ug/kg; Fluoranthene - 2230 ug/kg; Pyrene - 1520 ug/kg; PAH (total) - 22800 ug/kg; PCB (total) - 676 ug/kg; Dieldrin - 61.8 ug/kg; DDD (sum op + pp) - 28 ug/kg; DDE (sum op + pp) - 31.3 ug/kg; DDT (sum op + pp) - 62.9 ug/kg; DDT (total) - 572 ug/kg; Endrin - 207 ug/kg; Heptachlor epoxide - 16 ug/kg; HCH, gamma - 4.99 ug/kg.
Guideline Reference:	Development and evaluation of consensus-based sediment quality guidelines for freshwater ecosystems. Environmental Contamination and Toxicology. 39: 20-31
Spatial Representation:	One sediment sample was collected at a "watershed integrator" site located close to the mouth of Cerrito Creek.
Temporal Representation:	Sediment sample was collected in April of 2005.
Environmental Conditions:	There were no special environmental conditions associated with the sampling event.
QAPP Information:	All samples were collected and analyzed using procedures comparable with the SWAMP Quality Assurance Management Plan (SWRCB, 2002).
QAPP Information Reference(s):	

DECISION ID	60756	Region 2
Cerrito Creek		
Pollutant:	Dacthal	
Final Listing Decision:	Do Not List on 303(d) list (TMDL required list)	
Last Listing Cycle's Final Listing Decision:	New Decision	
Revision Status	Original	
Impairment from Pollutant or Pollution:	Pollutant	
Regional Board Staff Conclusion:	<p>This pollutant is being considered for placement on the CWA section 303(d) List under section 3.1 of the Listing Policy. Under section 3.1 a single line of evidence is necessary to assess listing status.</p> <p>One line of evidence is available in the administrative record to assess this pollutant. Zero of three samples exceed the criterion.</p> <p>Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against placing this water segment-pollutant combination on the CWA section 303(d) List.</p>	

This conclusion is based on the staff findings that:

1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy.
2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy.
3. Zero of three samples exceed the criterion and this sample size is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating. A minimum of 16 samples is needed to determine if a beneficial use is fully supported using table 3.1.
4. Pursuant to SECTION 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.

Regional Board Staff Decision Recommendation: After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be placed on the section 303(d) list. The readily available data and information is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating.

Line of Evidence (LOE) for Decision ID 60756, Dacthal

Region 2

Cerrito Creek

LOE ID:	95337
Pollutant:	Dacthal
LOE Subgroup:	Pollutant-Water
Matrix:	Water
Fraction:	None
Beneficial Use:	Warm Freshwater Habitat
Number of Samples:	3
Number of Exceedances:	0
Data and Information Type:	PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality:	The Cerrito Creek watershed was monitored as part of SWAMP assessment. None of the three samples exceeded the water quality objectives for PCBs, Chlorpyrifos, Dacthal, diazinon, disulfoton, endosulfan, Lindane/gamma Hexachlorocyclohexane (gamma-HCH), methyl parathion, thiobencarb.
Data Reference:	Data collected by the Surface Water Ambient Monitoring Program, San Francisco Bay Regional Water Quality Control Board. Years 4 and 5 Assessment
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	All waters shall be maintained free of toxic substances that are lethal to or that produce other detrimental responses in aquatic organisms. There shall be no chronic toxicity in ambient waters. Chronic toxicity is a detrimental biological effect on growth rate, reproduction, fertilization success, larval development, population abundance, community composition, or any other relevant measure of the health of an organism, population, or community.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) - San Francisco Bay Region (Region 2)
Evaluation Guideline:	PCBs - 0.014 ug/L freshwater continuous Concentration; Chlorpyrifos - 0.015 ug/L (chronic); Dacthal (DCPA) - 14300 ug/L (acute); Disulfoton (Disyston) - 0.05 ug/L (acute); Endosulfan - 0.056 ug/L (chronic)/0.22 ug/L (acute); HCH, gamma-(gamma BHC, Lindane) - 0.95 ug/L (acute); methyl parathion - 0.08 ug/L (acute); Thiobencarb - 3.1 ug/L (acute).
Guideline Reference:	National recommended water quality criteria: 2002. EPA-822-R-02-047 Washington, D.C. USEPA
Spatial Representation:	Data were collected at one sampling location (CER020) on Cerrito Creek.
Temporal Representation:	Samples were collected during wet (January), spring (April), and dry(June) seasons of 2005.
Environmental Conditions:	There were no unusual or special environmental conditions associated with the sample collection.
QAPP Information:	All samples were collected and analyzed using procedures comparable with the SWAMP

DECISION ID	60802	Region 2
Cerrito Creek		

Pollutant: Diazinon
Final Listing Decision: Do Not List on 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision: New Decision
Revision Status: Original
Impairment from Pollutant or Pollution: Pollutant

Regional Board Staff Conclusion: This pollutant is being considered for placement on the CWA section 303(d) List under section 3.1 of the Listing Policy. Under section 3.1 a single line of evidence is necessary to assess listing status.

One line of evidence is available in the administrative record to assess this pollutant. Zero of three samples exceed the criterion.

Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against placing this water segment-pollutant combination on the CWA section 303(d) List.

This conclusion is based on the staff findings that:

1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy.
2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy.
3. Zero of three samples exceed the criterion and this sample size is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating. A minimum of 16 samples is needed to determine if a beneficial use is fully supported using table 3.1.
4. Pursuant to SECTION 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.

Regional Board Staff Decision Recommendation: After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be placed on the section 303(d) list. The readily available data and information is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating.

Line of Evidence (LOE) for Decision ID 60802, Diazinon	Region 2
Cerrito Creek	

LOE ID: 95338

Pollutant: Diazinon
LOE Subgroup: Pollutant-Water
Matrix: Water
Fraction: None

Beneficial Use: Warm Freshwater Habitat

Number of Samples: 3
Number of Exceedances: 0

Data and Information Type: PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality: The Cerrito Creek watershed was monitored as part of SWAMP assessment. None of the three samples exceeded the water quality objectives for PCBs, Chlorpyrifos, Dacthal, diazinon, disulfoton, endosulfan, Lindane/gamma Hexachlorocyclohexane (gamma-HCH),

Data Reference:	<p>methyl parathion, thiobencarb.</p> <p>Data collected by the Surface Water Ambient Monitoring Program, San Francisco Bay Regional Water Quality Control Board. Years 4 and 5 Assessment</p>
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	All waters shall be maintained free of toxic substances that are lethal to or that produce other detrimental responses in aquatic organisms. There shall be no chronic toxicity in ambient waters. Chronic toxicity is a detrimental biological effect on growth rate, reproduction, fertilization success, larval development, population abundance, community composition, or any other relevant measure of the health of an organism, population, or community. Diazinon water quality objective, 0.1 ug/L (acute)
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) - San Francisco Bay Region (Region 2)
Evaluation Guideline:	PCBs - 0.014 ug/L freshwater continuous Concentration; Chlorpyrifos - 0.015 ug/L (chronic); Dacthal (DCPA) - 14300 ug/L (acute); Disulfoton (Disyston) - 0.05 ug/L (acute); Endosulfan - 0.056 ug/L (chronic)/0.22 ug/L (acute); HCH, gamma-(gamma BHC, Lindane) - 0.95 ug/L (acute); methyl parathion - 0.08 ug/L (acute); Thiobencarb - 3.1 ug/L (acute). Diazinon water quality objective, 0.1 ug/L (acute)
Guideline Reference:	National recommended water quality criteria: 2002. EPA-822-R-02-047 Washington, D.C. USEPA
Spatial Representation:	Data were collected at one sampling location (CER020) on Cerrito Creek.
Temporal Representation:	Samples were collected during wet (January), spring (April), and dry(June) seasons of 2005.
Environmental Conditions:	There were no unusual or special environmental conditions associated with the sample collection.
QAPP Information:	All samples were collected and analyzed using procedures comparable with the SWAMP Quality Assurance Management Plan (SWRCB, 2002).
QAPP Information Reference(s):	Quality Assurance Management Plan for the State of California's Surface Water Ambient Monitoring Program. Sacramento, CA. State Water Resources Control Board. SWAMP. December 2002 (1st version)

DECISION ID	60667	Region 2
Cerrito Creek		

Pollutant:	Dieldrin
Final Listing Decision:	Do Not List on 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision:	New Decision
Revision Status	Original
Impairment from Pollutant or Pollution:	Pollutant
Regional Board Staff Conclusion:	<p>This pollutant is being considered for placement on the CWA section 303(d) List under section 3.1 of the Listing Policy. Under section 3.1 a single line of evidence is necessary to assess listing status.</p> <p>One line of evidence are available in the administrative record to assess this pollutant. Zero of one samples exceed the guideline.</p> <p>Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against placing this water segment-pollutant combination on the CWA section 303(d) List.</p> <p>This conclusion is based on the staff findings that:</p> <ol style="list-style-type: none"> 1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy. 2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy. 3. Zero of one samples exceed the guideline and this sample size is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating. A minimum of 16 samples is needed to determine if a beneficial use is fully supported using table 3.1. 4. Pursuant to SECTION 3.11 of the Listing Policy, no additional data and information are available

indicating that standards are not met.

Regional Board Staff Decision Recommendation: After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be placed on the section 303(d) list. The readily available data and information is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating.

Line of Evidence (LOE) for Decision ID 60667, Dieldrin

Region 2

Cerrito Creek

LOE ID: 95315

Pollutant: Dieldrin
LOE Subgroup: Pollutant-Sediment
Matrix: Sediment
Fraction: None

Beneficial Use: Warm Freshwater Habitat

Number of Samples: 1
Number of Exceedances: 0

Data and Information Type: PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality: Concentrations of anthracene, fluorene, naphthalene, phenanthrene, benz(a)anthracene, benzo(a)pyrene, chrysene, fluoranthene, pyrene, PAH (total), PCB (total), dieldrin, DDD/DDE/DDT, endrin, heptachlor epoxide, and HCH, gamma in one sediment sample collected in spring 2005 did not exceed the sediment quality guidelines.

Data Reference: [Data collected by the Surface Water Ambient Monitoring Program, San Francisco Bay Regional Water Quality Control Board. Years 4 and 5 Assessment](#)

SWAMP Data: SWAMP

Water Quality Objective/Criterion: All waters shall be maintained free of toxic substances that are lethal to or that produce other detrimental responses in aquatic organisms.

Objective/Criterion Reference: [Water Quality Control Plan \(Basin Plan\) - San Francisco Bay Region \(Region 2\)](#)

Evaluation Guideline: Sediment Quality Guidelines (MacDonald et al., 2000): PEC (probable effect concentration) Anthracene - 845 ug/kg; Fluorene - 536 ug/kg; Naphthalene - 561 ug/kg; Phenanthrene - 1170 ug/kg; Benz(a)anthracene - 1050 ug/kg; Benzo(a)pyrene - 1450 ug/kg; Chrysene - 1290 ug/kg; Fluoranthene - 2230 ug/kg; Pyrene - 1520 ug/kg; PAH (total) - 22800 ug/kg; PCB (total) - 676 ug/kg; Dieldrin - 61.8 ug/kg; DDD (sum op + pp) - 28 ug/kg; DDE (sum op + pp) - 31.3 ug/kg; DDT (sum op + pp) - 62.9 ug/kg; DDT (total) - 572 ug/kg; Endrin - 207 ug/kg; Heptachlor epoxide - 16 ug/kg; HCH, gamma - 4.99 ug/kg.

Guideline Reference: [Development and evaluation of consensus-based sediment quality guidelines for freshwater ecosystems. Environmental Contamination and Toxicology. 39: 20-31](#)

Spatial Representation: One sediment sample was collected at a "watershed integrator" site located close to the mouth of Cerrito Creek.

Temporal Representation: Sediment sample was collected in April of 2005.

Environmental Conditions: There were no special environmental conditions associated with the sampling event.

QAPP Information: All samples were collected and analyzed using procedures comparable with the SWAMP Quality Assurance Management Plan (SWRCB, 2002).

QAPP Information Reference(s):

DECISION ID

60803

Region 2

Cerrito Creek

Pollutant: Disulfoton
Final Listing Decision: Do Not List on 303(d) list (TMDL required list)

Last Listing Cycle's Final Listing Decision: Revision Status Impairment from Pollutant or Pollution:

New Decision

Original
Pollutant

Regional Board Staff Conclusion:

This pollutant is being considered for placement on the CWA section 303(d) List under section 3.1 of the Listing Policy. Under section 3.1 a single line of evidence is necessary to assess listing status.

One line of evidence is available in the administrative record to assess this pollutant. Zero of three samples exceed the criterion.

Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against placing this water segment-pollutant combination on the CWA section 303(d) List.

This conclusion is based on the staff findings that:

1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy.
2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy.
3. Zero of three samples exceed the criterion and this sample size is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating. A minimum of 16 samples is needed to determine if a beneficial use is fully supported using table 3.1.
4. Pursuant to SECTION 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.

Regional Board Staff Decision Recommendation:

After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be placed on the section 303(d) list. The readily available data and information is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating.

**Line of Evidence (LOE) for Decision ID 60803, Disulfoton
Cerrito Creek**

Region 2

LOE ID: 95339

Pollutant: Disulfoton
LOE Subgroup: Pollutant-Water
Matrix: Water
Fraction: None

Beneficial Use: Warm Freshwater Habitat

Number of Samples: 3
Number of Exceedances: 0

Data and Information Type: PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality: The Cerrito Creek watershed was monitored as part of SWAMP assessment. None of the three samples exceeded the water quality objectives for PCBs, Chlorpyrifos, Dacthal, diazinon, disulfoton, endosulfan, Lindane/gamma Hexachlorocyclohexane (gamma-HCH), methyl parathion, thiobencarb.

Data Reference: [Data collected by the Surface Water Ambient Monitoring Program, San Francisco Bay Regional Water Quality Control Board. Years 4 and 5 Assessment](#)

SWAMP Data: SWAMP

Water Quality Objective/Criterion: All waters shall be maintained free of toxic substances that are lethal to or that produce other detrimental responses in aquatic organisms. There shall be no chronic toxicity in ambient waters. Chronic toxicity is a detrimental biological effect on growth rate, reproduction, fertilization success, larval development, population abundance, community composition, or any other relevant measure of the health of an organism, population, or community. Diazinon water quality objective, 0.1 ug/L (acute)

Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) - San Francisco Bay Region (Region 2)
Evaluation Guideline:	PCBs - 0.014 ug/L freshwater continuous Concentration; Chlorpyrifos - 0.015 ug/L (chronic); Dacthal (DCPA) - 14300 ug/L (acute); Disulfoton (Disyston) - 0.05 ug/L (acute); Endosulfan - 0.056 ug/L (chronic)/0.22 ug/L (acute); HCH, gamma-(gamma BHC, Lindane) - 0.95 ug/L (acute); methyl parathion - 0.08 ug/L (acute); Thiobencarb - 3.1 ug/L (acute). Diazinon water quality objective, 0.1 ug/L (acute)
Guideline Reference:	National recommended water quality criteria: 2002. EPA-822-R-02-047 Washington, D.C. USEPA
Spatial Representation:	Data were collected at one sampling location (CER020) on Cerrito Creek.
Temporal Representation:	Samples were collected during wet (January), spring (April), and dry(June) seasons of 2005.
Environmental Conditions:	There were no unusual or special environmental conditions associated with the sample collection.
QAPP Information:	All samples were collected and analyzed using procedures comparable with the SWAMP Quality Assurance Management Plan (SWRCB, 2002).
QAPP Information Reference(s):	Quality Assurance Management Plan for the State of California's Surface Water Ambient Monitoring Program. Sacramento, CA. State Water Resources Control Board. SWAMP. December 2002 (1st version)

DECISION ID 60804 Region 2	
Cerrito Creek	
Pollutant: Final Listing Decision: Last Listing Cycle's Final Listing Decision: Revision Status Impairment from Pollutant or Pollution:	Endosulfan Do Not List on 303(d) list (TMDL required list) New Decision Original Pollutant
Regional Board Staff Conclusion:	<p>This pollutant is being considered for placement on the CWA section 303(d) List under section 3.1 of the Listing Policy. Under section 3.1 a single line of evidence is necessary to assess listing status.</p> <p>One line of evidence is available in the administrative record to assess this pollutant. Zero of three samples exceed the criterion.</p> <p>Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against placing this water segment-pollutant combination on the CWA section 303(d) List.</p> <p>This conclusion is based on the staff findings that:</p> <ol style="list-style-type: none"> 1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy. 2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy. 3. Zero of three samples exceed the criterion and this sample size is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating. A minimum of 16 samples is needed to determine if a beneficial use is fully supported using table 3.1. 4. Pursuant to SECTION 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.
Regional Board Staff Decision Recommendation:	After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be placed on the section 303(d) list. The readily available data and information is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating.
Line of Evidence (LOE) for Decision ID 60804, Endosulfan Region 2	
Cerrito Creek	

LOE ID:	95340
Pollutant:	Endosulfan
LOE Subgroup:	Pollutant-Water
Matrix:	Water
Fraction:	None
Beneficial Use:	Warm Freshwater Habitat
Number of Samples:	3
Number of Exceedances:	0
Data and Information Type:	PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality:	The Cerrito Creek watershed was monitored as part of SWAMP assessment. None of the three samples exceeded the water quality objectives for PCBs, Chlorpyrifos, Dacthal, diazinon, disulfoton, endosulfan, Lindane/gamma Hexachlorocyclohexane (gamma-HCH), methyl parathion, thiobencarb.
Data Reference:	Data collected by the Surface Water Ambient Monitoring Program, San Francisco Bay Regional Water Quality Control Board. Years 4 and 5 Assessment
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	All waters shall be maintained free of toxic substances that are lethal to or that produce other detrimental responses in aquatic organisms. There shall be no chronic toxicity in ambient waters. Chronic toxicity is a detrimental biological effect on growth rate, reproduction, fertilization success, larval development, population abundance, community composition, or any other relevant measure of the health of an organism, population, or community. Diazinon water quality objective, 0.1 ug/L (acute)
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) - San Francisco Bay Region (Region 2)
Evaluation Guideline:	PCBs - 0.014 ug/L freshwater continuous Concentration; Chlorpyrifos - 0.015 ug/L (chronic); Dacthal (DCPA) - 14300 ug/L (acute); Disulfoton (Disyston) - 0.05 ug/L (acute); Endosulfan - 0.056 ug/L (chronic)/0.22 ug/L (acute); HCH, gamma-(gamma BHC, Lindane) - 0.95 ug/L (acute); methyl parathion - 0.08 ug/L (acute); Thiobencarb - 3.1 ug/L (acute). Diazinon water quality objective, 0.1 ug/L (acute)
Guideline Reference:	National recommended water quality criteria: 2002. EPA-822-R-02-047 Washington, D.C. USEPA
Spatial Representation:	Data were collected at one sampling location (CER020) on Cerrito Creek.
Temporal Representation:	Samples were collected during wet (January), spring (April), and dry(June) seasons of 2005.
Environmental Conditions:	There were no unusual or special environmental conditions associated with the sample collection.
QAPP Information:	All samples were collected and analyzed using procedures comparable with the SWAMP Quality Assurance Management Plan (SWRCB, 2002).
QAPP Information Reference(s):	Quality Assurance Management Plan for the State of California's Surface Water Ambient Monitoring Program. Sacramento, CA. State Water Resources Control Board. SWAMP. December 2002 (1st version)

DECISION ID	60668	Region 2
Cerrito Creek		
Pollutant:	Endrin	
Final Listing Decision:	Do Not List on 303(d) list (TMDL required list)	
Last Listing Cycle's Final Listing Decision:	New Decision	
Revision Status	Original	
Impairment from Pollutant or Pollution:	Pollutant	
Regional Board Staff	This pollutant is being considered for placement on the CWA section 303(d) List under section 3.1 of	

Conclusion:	<p>the Listing Policy. Under section 3.1 a single line of evidence is necessary to assess listing status.</p> <p>One line of evidence are available in the administrative record to assess this pollutant. Zero of one samples exceed the guideline.</p> <p>Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against placing this water segment-pollutant combination on the CWA section 303(d) List.</p> <p>This conclusion is based on the staff findings that:</p> <ol style="list-style-type: none"> 1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy. 2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy. 3. Zero of one samples exceed the guideline and this sample size is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating. A minimum of 16 samples is needed to determine if a beneficial use is fully supported using table 3.1. 4. Pursuant to SECTION 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.
Regional Board Staff Decision Recommendation:	After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be placed on the section 303(d) list. The readily available data and information is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating.

Line of Evidence (LOE) for Decision ID 60668, Endrin Cerrito Creek

Region 2

LOE ID:	95316
Pollutant:	Endrin
LOE Subgroup:	Pollutant-Sediment
Matrix:	Sediment
Fraction:	None
Beneficial Use:	Warm Freshwater Habitat
Number of Samples:	1
Number of Exceedances:	0
Data and Information Type:	PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality:	Concentrations of anthracene, fluorene, naphthalene, phenanthrene, benz(a)anthracene, benzo(a)pyrene, chrysene, fluoranthene, pyrene, PAH (total), PCB (total), dieldrin, DDD/DDE/DDT, endrin, heptachlor epoxide, and HCH, gamma in one sediment sample collected in spring 2005 did not exceed the sediment quality guidelines.
Data Reference:	Data collected by the Surface Water Ambient Monitoring Program, San Francisco Bay Regional Water Quality Control Board. Years 4 and 5 Assessment
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	All waters shall be maintained free of toxic substances that are lethal to or that produce other detrimental responses in aquatic organisms.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) - San Francisco Bay Region (Region 2)
Evaluation Guideline:	Sediment Quality Guidelines (MacDonald et al., 2000): PEC (probable effect concentration) Anthracene - 845 ug/kg; Fluorene - 536 ug/kg; Naphthalene - 561 ug/kg; Phenanthrene - 1170 ug/kg; Benz(a)anthracene - 1050 ug/kg; Benzo(a)pyrene - 1450 ug/kg; Chrysene - 1290 ug/kg; Fluoranthene - 2230 ug/kg; Pyrene - 1520 ug/kg; PAH (total) - 22800 ug/kg; PCB (total) - 676 ug/kg; Dieldrin - 61.8 ug/kg; DDD (sum op + pp) - 28 ug/kg; DDE (sum op + pp) - 31.3 ug/kg; DDT (sum op + pp) - 62.9 ug/kg; DDT (total) - 572 ug/kg; Endrin - 207 ug/kg; Heptachlor epoxide - 16 ug/kg; HCH, gamma - 4.99 ug/kg.
Guideline Reference:	Development and evaluation of consensus-based sediment quality guidelines for freshwater ecosystems. Environmental Contamination and Toxicology. 39: 20-31

Spatial Representation:	One sediment sample was collected at a "watershed integrator" site located close to the mouth of Cerrito Creek.
Temporal Representation:	Sediment sample was collected in April of 2005.
Environmental Conditions:	There were no special environmental conditions associated with the sampling event.
QAPP Information:	All samples were collected and analyzed using procedures comparable with the SWAMP Quality Assurance Management Plan (SWRCB, 2002).
QAPP Information Reference(s):	

DECISION ID	60671	Region 2
Cerrito Creek		

Pollutant:	Heptachlor epoxide
Final Listing Decision:	Do Not List on 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision:	New Decision
Revision Status	Original
Impairment from Pollutant or Pollution:	Pollutant

Regional Board Staff Conclusion:

This pollutant is being considered for placement on the CWA section 303(d) List under section 3.1 of the Listing Policy. Under section 3.1 a single line of evidence is necessary to assess listing status.

One line of evidence are available in the administrative record to assess this pollutant. Zero of one samples exceed the guideline.

Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against placing this water segment-pollutant combination on the CWA section 303(d) List.

This conclusion is based on the staff findings that:

1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy.
2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy.
3. Zero of one samples exceed the guideline and this sample size is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating. A minimum of 16 samples is needed to determine if a beneficial use is fully supported using table 3.1.
4. Pursuant to SECTION 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.

Regional Board Staff Decision Recommendation: After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be placed on the section 303(d) list. The readily available data and information is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating.

Line of Evidence (LOE) for Decision ID 60671, Heptachlor epoxide	Region 2
Cerrito Creek	

LOE ID:	95319
Pollutant:	Heptachlor epoxide
LOE Subgroup:	Pollutant-Sediment
Matrix:	Sediment
Fraction:	None
Beneficial Use:	Warm Freshwater Habitat
Number of Samples:	1
Number of Exceedances:	0

Data and Information Type:	PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality:	Concentrations of anthracene, fluorene, naphthalene, phenanthrene, benz(a)anthracene, benzo(a)pyrene, chrysene, fluoranthrene, pyrene, PAH (total), PCB (total), dieldrin, DDD/DDE/DDT, endrin, heptachlor epoxide, and HCH, gamma in one sediment sample collected in spring 2005 did not exceed the sediment quality guidelines.
Data Reference:	Data collected by the Surface Water Ambient Monitoring Program, San Francisco Bay Regional Water Quality Control Board. Years 4 and 5 Assessment
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	All waters shall be maintained free of toxic substances that are lethal to or that produce other detrimental responses in aquatic organisms.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) - San Francisco Bay Region (Region 2)
Evaluation Guideline:	Sediment Quality Guidelines (MacDonald et al., 2000): PEC (probable effect concentration) Anthracene - 845 ug/kg; Fluorene - 536 ug/kg; Naphthalene - 561 ug/kg; Phenanthrene - 1170 ug/kg; Benz(a)anthracene - 1050 ug/kg; Benzo(a)pyrene - 1450 ug/kg; Chrysene - 1290 ug/kg; Fluoranthene - 2230 ug/kg; Pyrene - 1520 ug/kg; PAH (total) - 22800 ug/kg; PCB (total) - 676 ug/kg; Dieldrin - 61.8 ug/kg; DDD (sum op + pp) - 28 ug/kg; DDE (sum op + pp) - 31.3 ug/kg; DDT (sum op + pp) - 62.9 ug/kg; DDT (total) - 572 ug/kg; Endrin - 207 ug/kg; Heptachlor epoxide - 16 ug/kg; HCH, gamma - 4.99 ug/kg.
Guideline Reference:	Development and evaluation of consensus-based sediment quality guidelines for freshwater ecosystems. Environmental Contamination and Toxicology. 39: 20-31
Spatial Representation:	One sediment sample was collected at a "watershed integrator" site located close to the mouth of Cerrito Creek.
Temporal Representation:	Sediment sample was collected in April of 2005.
Environmental Conditions:	There were no special environmental conditions associated with the sampling event.
QAPP Information:	All samples were collected and analyzed using procedures comparable with the SWAMP Quality Assurance Management Plan (SWRCB, 2002).
QAPP Information Reference(s):	

DECISION ID	60736	Region 2
Cerrito Creek		
Pollutant: Final Listing Decision: Last Listing Cycle's Final Listing Decision: Revision Status Impairment from Pollutant or Pollution:	Lead Do Not List on 303(d) list (TMDL required list) New Decision Original Pollutant	
Regional Board Staff Conclusion:	<p>This pollutant is being considered for placement on the CWA section 303(d) List under section 3.1 of the Listing Policy. Under section 3.1 a single line of evidence is necessary to assess listing status.</p> <p>Two lines of evidence are available in the administrative record to assess this pollutant. Zero of three samples exceed the objective.</p> <p>Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against placing this water segment-pollutant combination on the CWA section 303(d) List.</p> <p>This conclusion is based on the staff findings that:</p> <ol style="list-style-type: none"> 1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy. 2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy. 3. Zero of three samples exceed the objective and this sample size is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating. A minimum of 16 samples is needed to determine if a beneficial use is fully supported using table 3.1. 4. Pursuant to SECTION 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met. 	

Regional Board Staff Decision Recommendation: After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be placed on the section 303(d) list. The readily available data and information is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating.

**Line of Evidence (LOE) for Decision ID 60736, Lead
Cerrito Creek**

Region 2

LOE ID: 95333

Pollutant: Lead
LOE Subgroup: Pollutant-Sediment
Matrix: Sediment
Fraction: Total

Beneficial Use: Warm Freshwater Habitat

Number of Samples: 1
Number of Exceedances: 0

Data and Information Type: PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality: Concentrations of arsenic, cadmium, chromium, copper, lead, mercury and zinc in one sediment sample collected in April 2005 did not exceed the sediment quality guidelines.
Data Reference: [Data collected by the Surface Water Ambient Monitoring Program, San Francisco Bay Regional Water Quality Control Board. Years 4 and 5 Assessment](#)

SWAMP Data: SWAMP

Water Quality Objective/Criterion: All waters shall be maintained free of toxic substances that are lethal to or that produce other detrimental responses in aquatic organisms.
Objective/Criterion Reference: [Water Quality Control Plan \(Basin Plan\) - San Francisco Bay Region \(Region 2\)](#)

Evaluation Guideline: Sediment Quality Guidelines (MacDonald et al., 2000): PEC (probable effect concentration) arsenic - 33 mg/kg dw; cadmium - 4.98 mg/kg dw; chromium - 111 mg/kg dw; copper - 149 mg/kg dw; lead - 128 mg/kg dw; mercury - 1.06 mg/kg dw; nickel - 48.6 mg/kg dw; zinc - 459 mg/kg dw.
Guideline Reference: [Development and evaluation of consensus-based sediment quality guidelines for freshwater ecosystems. Environmental Contamination and Toxicology. 39: 20-31](#)

Spatial Representation: One sediment sample was collected at a "watershed integrator" site located close to the mouth of Cerrito Creek.

Temporal Representation: Sediment sample collected in April 2005.

Environmental Conditions: There were no special or unusual environmental conditions associated with the sample collection date or location.

QAPP Information: All samples were collected and analyzed using procedures comparable with the SWAMP Quality Assurance Management Plan (SWRCB, 2002).

QAPP Information Reference(s):

**Line of Evidence (LOE) for Decision ID 60736, Lead
Cerrito Creek**

Region 2

LOE ID: 95349

Pollutant: Lead
LOE Subgroup: Pollutant-Water
Matrix: Water
Fraction: Dissolved

Beneficial Use: Warm Freshwater Habitat

Number of Samples:	3
Number of Exceedances:	0
Data and Information Type:	PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality:	The Cerrito Creek watershed was monitored as part of SWAMP assessment. None of the three samples exceeded the water quality objectives for arsenic, chromium VI, copper, lead, nickel, silver and zinc.
Data Reference:	Data collected by the Surface Water Ambient Monitoring Program, San Francisco Bay Regional Water Quality Control Board. Years 4 and 5 Assessment
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	All waters shall be maintained free of toxic substances that are lethal to or that produce other detrimental responses in aquatic organisms. Table 3-4 in the Basin Plan (2007) lists freshwater water quality objectives for toxic pollutants: arsenic- 150 ug/L, chromium VI- 11 ug/L, copper - 9.0 ug/L, lead - 2.5 ug/L; nickel - 52 ug/L, silver-3.4 ug/L and zinc - 120 ug/L.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) - San Francisco Bay Region (Region 2)
Evaluation Guideline:	
Guideline Reference:	
Spatial Representation:	Data were collected at one sampling location (CER020) on Cerrito Creek (Creekside Park).
Temporal Representation:	Samples were collected during wet (January), spring (April), and dry(June) seasons of 2005.
Environmental Conditions:	There were no unusual environmental conditions associated with the sampling.
QAPP Information:	All samples were collected and analyzed using procedures comparable with the SWAMP Quality Assurance Management Plan (SWRCB, 2002).
QAPP Information Reference(s):	Quality Assurance Management Plan for the State of California's Surface Water Ambient Monitoring Program. Sacramento, CA. State Water Resources Control Board. SWAMP. December 2002 (1st version)

DECISION ID	60672	Region 2
Cerrito Creek		

Pollutant:	Lindane/gamma Hexachlorocyclohexane (gamma-HCH)
Final Listing Decision:	Do Not List on 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision:	New Decision
Revision Status	Original
Impairment from Pollutant or Pollution:	Pollutant
Regional Board Staff Conclusion:	<p>This pollutant is being considered for placement on the CWA section 303(d) List under section 3.1 of the Listing Policy. Under section 3.1 a single line of evidence is necessary to assess listing status.</p> <p>Two lines of evidence are available in the administrative record to assess this pollutant. Zero of three samples exceed the water quality objective for this pollutant.</p> <p>Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against placing this water segment-pollutant combination on the CWA section 303(d) List.</p> <p>This conclusion is based on the staff findings that:</p> <ol style="list-style-type: none"> 1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy. 2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy. 3. Zero of three samples exceed the water quality objective for this pollutant and this sample size is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating. A minimum of 16 samples is needed to determine if a beneficial use is fully

supported using table 3.1.

4. Pursuant to SECTION 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.

Regional Board Staff Decision Recommendation: After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be placed on the section 303(d) list. The readily available data and information is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating.

Line of Evidence (LOE) for Decision ID 60672, Lindane/gamma Hexachlorocyclohexane (gamma-HCH)

Region 2

Cerrito Creek

LOE ID: 95320

Pollutant: Lindane/gamma Hexachlorocyclohexane (gamma-HCH)
LOE Subgroup: Pollutant-Sediment
Matrix: Sediment
Fraction: None

Beneficial Use: Warm Freshwater Habitat

Number of Samples: 1
Number of Exceedances: 0

Data and Information Type: PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality: Concentrations of anthracene, fluorene, naphthalene, phenanthrene, benz(a)anthracene, benzo(a)pyrene, chrysene, fluoranthene, pyrene, PAH (total), PCB (total), dieldrin, DDD/DDE/DDT, endrin, heptachlor epoxide, and HCH, gamma in one sediment sample collected in spring 2005 did not exceed the sediment quality guidelines.

Data Reference: [Data collected by the Surface Water Ambient Monitoring Program, San Francisco Bay Regional Water Quality Control Board. Years 4 and 5 Assessment](#)

SWAMP Data: SWAMP

Water Quality Objective/Criterion: All waters shall be maintained free of toxic substances that are lethal to or that produce other detrimental responses in aquatic organisms.

Objective/Criterion Reference: [Water Quality Control Plan \(Basin Plan\) - San Francisco Bay Region \(Region 2\)](#)

Evaluation Guideline: Sediment Quality Guidelines (MacDonald et al., 2000): PEC (probable effect concentration) Anthracene - 845 ug/kg; Fluorene - 536 ug/kg; Naphthalene - 561 ug/kg; Phenanthrene - 1170 ug/kg; Benz(a)anthracene - 1050 ug/kg; Benzo(a)pyrene - 1450 ug/kg; Chrysene - 1290 ug/kg; Fluoranthene - 2230 ug/kg; Pyrene - 1520 ug/kg; PAH (total) - 22800 ug/kg; PCB (total) - 676 ug/kg; Dieldrin - 61.8 ug/kg; DDD (sum op + pp) - 28 ug/kg; DDE (sum op + pp) - 31.3 ug/kg; DDT (sum op + pp) - 62.9 ug/kg; DDT (total) - 572 ug/kg; Endrin - 207 ug/kg; Heptachlor epoxide - 16 ug/kg; HCH, gamma - 4.99 ug/kg.

Guideline Reference: [Development and evaluation of consensus-based sediment quality guidelines for freshwater ecosystems. Environmental Contamination and Toxicology. 39: 20-31](#)

Spatial Representation: One sediment sample was collected at a "watershed integrator" site located close to the mouth of Cerrito Creek.

Temporal Representation: Sediment sample was collected in April of 2005.

Environmental Conditions: There were no special environmental conditions associated with the sampling event.

QAPP Information: All samples were collected and analyzed using procedures comparable with the SWAMP Quality Assurance Management Plan (SWRCB, 2002).

QAPP Information Reference(s):

Line of Evidence (LOE) for Decision ID 60672, Lindane/gamma Hexachlorocyclohexane (gamma-HCH)

Region 2

Cerrito Creek

LOE ID: 95341

Pollutant: Lindane/gamma Hexachlorocyclohexane (gamma-HCH)
 LOE Subgroup: Pollutant-Water
 Matrix: Water
 Fraction: None

Beneficial Use: Warm Freshwater Habitat

Number of Samples: 3
 Number of Exceedances: 0

Data and Information Type: PHYSICAL/CHEMICAL MONITORING
 Data Used to Assess Water Quality: The Cerrito Creek watershed was monitored as part of SWAMP assessment. None of the three samples exceeded the water quality objectives for PCBs, Chlorpyrifos, Dacthal, diazinon, disulfoton, endosulfan, Lindane/gamma Hexachlorocyclohexane (gamma-HCH), methyl parathion, thiobencarb.

Data Reference: [Data collected by the Surface Water Ambient Monitoring Program, San Francisco Bay Regional Water Quality Control Board. Years 4 and 5 Assessment](#)

SWAMP Data: SWAMP

Water Quality Objective/Criterion: All waters shall be maintained free of toxic substances that are lethal to or that produce other detrimental responses in aquatic organisms. There shall be no chronic toxicity in ambient waters. Chronic toxicity is a detrimental biological effect on growth rate, reproduction, fertilization success, larval development, population abundance, community composition, or any other relevant measure of the health of an organism, population, or community. Diazinon water quality objective, 0.1 ug/L (acute)

Objective/Criterion Reference: [Water Quality Control Plan \(Basin Plan\) - San Francisco Bay Region \(Region 2\)](#)

Evaluation Guideline: PCBs - 0.014 ug/L freshwater continuous Concentration; Chlorpyrifos - 0.015 ug/L (chronic); Dacthal (DCPA) - 14300 ug/L (acute); Disulfoton (Disyston) - 0.05 ug/L (acute); Endosulfan - 0.056 ug/L (chronic)/0.22 ug/L (acute); HCH, gamma-(gamma BHC, Lindane) - 0.95 ug/L (acute); methyl parathion - 0.08 ug/L (acute); Thiobencarb - 3.1 ug/L (acute). Diazinon water quality objective, 0.1 ug/L (acute)

Guideline Reference: [National recommended water quality criteria: 2002. EPA-822-R-02-047 Washington, D.C. USEPA](#)

Spatial Representation: Data were collected at one sampling location (CER020) on Cerrito Creek.
 Temporal Representation: Samples were collected during wet (January), spring (April), and dry(June) seasons of 2005.

Environmental Conditions: There were no unusual or special environmental conditions associated with the sample collection.

QAPP Information: All samples were collected and analyzed using procedures comparable with the SWAMP Quality Assurance Management Plan (SWRCB, 2002).

QAPP Information Reference(s): [Quality Assurance Management Plan for the State of California's Surface Water Ambient Monitoring Program. Sacramento, CA. State Water Resources Control Board. SWAMP. December 2002 \(1st version\)](#)

DECISION ID	60739	Region 2
Cerrito Creek		

Pollutant: Mercury
Final Listing Decision: Do Not List on 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision: New Decision
Revision Status Original
Impairment from Pollutant or Pollution: Pollutant

**Regional Board Staff
Conclusion:**

This pollutant is being considered for placement on the CWA section 303(d) List under section 3.1 of the Listing Policy. Under section 3.1 a single line of evidence is necessary to assess listing status.

One line of evidence is available in the administrative record to assess this pollutant. Zero of one samples exceed the guideline.

Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against placing this water segment-pollutant combination on the CWA section 303(d) List.

This conclusion is based on the staff findings that:

1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy.
2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy.
3. Zero of one samples exceed the guideline and this sample size is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating. A minimum of 16 samples is needed to determine if a beneficial use is fully supported using table 3.1.
4. Pursuant to SECTION 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.

**Regional Board Staff Decision
Recommendation:**

After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be placed on the section 303(d) list. The readily available data and information is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating.

**Line of Evidence (LOE) for Decision ID 60739, Mercury
Cerrito Creek**

Region 2

LOE ID:	95334
Pollutant:	Mercury
LOE Subgroup:	Pollutant-Sediment
Matrix:	Sediment
Fraction:	Total
Beneficial Use:	Warm Freshwater Habitat
Number of Samples:	1
Number of Exceedances:	0
Data and Information Type:	PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality:	Concentrations of arsenic, cadmium, chromium, copper, lead, mercury and zinc in one sediment sample collected in April 2005 did not exceed the sediment quality guidelines.
Data Reference:	Data collected by the Surface Water Ambient Monitoring Program, San Francisco Bay Regional Water Quality Control Board, Years 4 and 5 Assessment
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	All waters shall be maintained free of toxic substances that are lethal to or that produce other detrimental responses in aquatic organisms.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) - San Francisco Bay Region (Region 2)
Evaluation Guideline:	Sediment Quality Guidelines (MacDonald et al., 2000): PEC (probable effect concentration) arsenic - 33 mg/kg dw; cadmium - 4.98 mg/kg dw; chromium - 111 mg/kg dw; copper - 149 mg/kg dw; lead - 128 mg/kg dw; mercury - 1.06 mg/kg dw; nickel - 48.6 mg/kg dw; zinc - 459 mg/kg dw.
Guideline Reference:	Development and evaluation of consensus-based sediment quality guidelines for freshwater ecosystems. Environmental Contamination and Toxicology. 39: 20-31
Spatial Representation:	One sediment sample was collected at a "watershed integrator" site located close to the mouth of Cerrito Creek.
Temporal Representation:	Sediment sample collected in April 2005.

Environmental Conditions:	There were no special or unusual environmental conditions associated with the sample collection date or location.
QAPP Information:	All samples were collected and analyzed using procedures comparable with the SWAMP Quality Assurance Management Plan (SWRCB, 2002).
QAPP Information Reference(s):	

DECISION ID	60805	Region 2
Cerrito Creek		

Pollutant:	Methyl Parathion
Final Listing Decision:	Do Not List on 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision:	New Decision
Revision Status	Original
Impairment from Pollutant or Pollution:	Pollutant

Regional Board Staff Conclusion: This pollutant is being considered for placement on the CWA section 303(d) List under section 3.1 of the Listing Policy. Under section 3.1 a single line of evidence is necessary to assess listing status.

One line of evidence is available in the administrative record to assess this pollutant. Zero of three samples exceed the criterion.

Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against placing this water segment-pollutant combination on the CWA section 303(d) List.

This conclusion is based on the staff findings that:

1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy.
2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy.
3. Zero of three samples exceed the criterion and this sample size is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating. A minimum of 16 samples is needed to determine if a beneficial use is fully supported using table 3.1.
4. Pursuant to SECTION 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.

Regional Board Staff Decision Recommendation:	After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be placed on the section 303(d) list. The readily available data and information is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating.
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Line of Evidence (LOE) for Decision ID 60805, Methyl Parathion	Region 2
Cerrito Creek	

LOE ID:	95342
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Pollutant:	Methyl Parathion
LOE Subgroup:	Pollutant-Water
Matrix:	Water
Fraction:	None

Beneficial Use:	Warm Freshwater Habitat
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Number of Samples:	3
Number of Exceedances:	0

Data and Information Type:	PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality:	The Cerrito Creek watershed was monitored as part of SWAMP assessment. None of the three samples exceeded the water quality objectives for PCBs, Chlorpyrifos, Dacthal,

Data Reference:	diazinon, disulfoton, endosulfan, Lindane/gamma Hexachlorocyclohexane (gamma-HCH), methyl parathion, thiobencarb. Data collected by the Surface Water Ambient Monitoring Program, San Francisco Bay Regional Water Quality Control Board. Years 4 and 5 Assessment
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	All waters shall be maintained free of toxic substances that are lethal to or that produce other detrimental responses in aquatic organisms. There shall be no chronic toxicity in ambient waters. Chronic toxicity is a detrimental biological effect on growth rate, reproduction, fertilization success, larval development, population abundance, community composition, or any other relevant measure of the health of an organism, population, or community. Diazinon water quality objective, 0.1 ug/L (acute)
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) - San Francisco Bay Region (Region 2)
Evaluation Guideline:	PCBs - 0.014 ug/L freshwater continuous Concentration; Chlorpyrifos - 0.015 ug/L (chronic); Dacthal (DCPA) - 14300 ug/L (acute); Disulfoton (Disyston) - 0.05 ug/L (acute); Endosulfan - 0.056 ug/L (chronic)/0.22 ug/L (acute); HCH, gamma-(gamma BHC, Lindane) - 0.95 ug/L (acute); methyl parathion - 0.08 ug/L (acute); Thiobencarb - 3.1 ug/L (acute). Diazinon water quality objective, 0.1 ug/L (acute)
Guideline Reference:	National recommended water quality criteria: 2002. EPA-822-R-02-047 Washington, D.C. USEPA
Spatial Representation:	Data were collected at one sampling location (CER020) on Cerrito Creek.
Temporal Representation:	Samples were collected during wet (January), spring (April), and dry(June) seasons of 2005.
Environmental Conditions:	There were no unusual or special environmental conditions associated with the sample collection.
QAPP Information:	All samples were collected and analyzed using procedures comparable with the SWAMP Quality Assurance Management Plan (SWRCB, 2002).
QAPP Information Reference(s):	Quality Assurance Management Plan for the State of California's Surface Water Ambient Monitoring Program. Sacramento, CA. State Water Resources Control Board. SWAMP. December 2002 (1st version)

DECISION ID	60673	Region 2
Cerrito Creek		
Pollutant:	Naphthalene	
Final Listing Decision:	Do Not List on 303(d) list (TMDL required list)	
Last Listing Cycle's Final Listing Decision:	New Decision	
Revision Status	Original	
Impairment from Pollutant or Pollution:	Pollutant	
Regional Board Staff Conclusion:	<p>This pollutant is being considered for placement on the CWA section 303(d) List under section 3.1 of the Listing Policy. Under section 3.1 a single line of evidence is necessary to assess listing status.</p> <p>One line of evidence are available in the administrative record to assess this pollutant. Zero of one samples exceed the guideline.</p> <p>Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against placing this water segment-pollutant combination on the CWA section 303(d) List.</p> <p>This conclusion is based on the staff findings that:</p> <ol style="list-style-type: none"> 1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy. 2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy. 3. Zero of one samples exceed the guideline and this sample size is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating. A minimum of 16 samples is needed to determine if a beneficial use is fully supported using table 3.1. 	

4. Pursuant to SECTION 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.

Regional Board Staff Decision Recommendation: After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be placed on the section 303(d) list. The readily available data and information is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating.

Line of Evidence (LOE) for Decision ID 60673, Naphthalene

Region 2

Cerrito Creek

LOE ID: 95321

Pollutant: Naphthalene
LOE Subgroup: Pollutant-Sediment
Matrix: Sediment
Fraction: None

Beneficial Use: Warm Freshwater Habitat

Number of Samples: 1
Number of Exceedances: 0

Data and Information Type: PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality: Concentrations of anthracene, fluorene, naphthalene, phenanthrene, benz(a)anthracene, benzo(a)pyrene, chrysene, fluoranthrene, pyrene, PAH (total), PCB (total), dieldrin, DDD/DDE/DDT, endrin, heptachlor epoxide, and HCH, gamma in one sediment sample collected in spring 2005 did not exceed the sediment quality guidelines.

Data Reference: [Data collected by the Surface Water Ambient Monitoring Program, San Francisco Bay Regional Water Quality Control Board. Years 4 and 5 Assessment](#)

SWAMP Data: SWAMP

Water Quality Objective/Criterion: All waters shall be maintained free of toxic substances that are lethal to or that produce other detrimental responses in aquatic organisms.

Objective/Criterion Reference: [Water Quality Control Plan \(Basin Plan\) - San Francisco Bay Region \(Region 2\)](#)

Evaluation Guideline: Sediment Quality Guidelines (MacDonald et al., 2000): PEC (probable effect concentration) Anthracene - 845 ug/kg; Fluorene - 536 ug/kg; Naphthalene - 561 ug/kg; Phenanthrene - 1170 ug/kg; Benz(a)anthracene - 1050 ug/kg; Benzo(a)pyrene - 1450 ug/kg; Chrysene - 1290 ug/kg; Fluoranthene - 2230 ug/kg; Pyrene - 1520 ug/kg; PAH (total) - 22800 ug/kg; PCB (total) - 676 ug/kg; Dieldrin - 61.8 ug/kg; DDD (sum op + pp) - 28 ug/kg; DDE (sum op + pp) - 31.3 ug/kg; DDT (sum op + pp) - 62.9 ug/kg; DDT (total) - 572 ug/kg; Endrin - 207 ug/kg; Heptachlor epoxide - 16 ug/kg; HCH, gamma - 4.99 ug/kg.

Guideline Reference: [Development and evaluation of consensus-based sediment quality guidelines for freshwater ecosystems. Environmental Contamination and Toxicology. 39: 20-31](#)

Spatial Representation: One sediment sample was collected at a "watershed integrator" site located close to the mouth of Cerrito Creek.

Temporal Representation: Sediment sample was collected in April of 2005.

Environmental Conditions: There were no special environmental conditions associated with the sampling event.

QAPP Information: All samples were collected and analyzed using procedures comparable with the SWAMP Quality Assurance Management Plan (SWRCB, 2002).

QAPP Information Reference(s):

DECISION ID

44242

Region 2

Cerrito Creek

Pollutant:

Nickel

Final Listing Decision:	Do Not List on 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision:	Do Not List on 303(d) list (TMDL required list)(2012)
Revision Status	Original
Impairment from Pollutant or Pollution:	Pollutant

Regional Board Staff Conclusion: This pollutant is being considered for placement on the section 303(d) list under section 3.1 of the Listing Policy. Under this section a single line of evidence is necessary to assess listing status. Two lines of evidence are available in the administrative record to assess this pollutant. One of one samples exceeds the water quality objective. Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against placing this water segment-pollutant combination on the section 303(d) list in the Water Quality Limited Segments category. This conclusion is based on the staff findings that: 1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy. 2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy. 3. One out of one sample exceeded the water quality objective, but this sample size is insufficient to determine with the power and confidence of the Listing Policy if standards are not met. A minimum of two samples are needed for application of table 3.1. 4. Pursuant to section 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.

Regional Board Staff Decision Recommendation: This is a decision previously approved by the State Water Resources Control Board and the USEPA. No new data were assessed by the Regional Board for the current. The decision has not changed.

Line of Evidence (LOE) for Decision ID 44242, Nickel Cerrito Creek

Region 2

LOE ID:	95350
Pollutant:	Nickel
LOE Subgroup:	Pollutant-Water
Matrix:	Water
Fraction:	Dissolved
Beneficial Use:	Warm Freshwater Habitat
Number of Samples:	3
Number of Exceedances:	0
Data and Information Type:	PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality:	The Cerrito Creek watershed was monitored as part of SWAMP assessment. None of the three samples exceeded the water quality objectives for arsenic, chromium VI, copper, lead, nickel, silver and zinc.
Data Reference:	Data collected by the Surface Water Ambient Monitoring Program, San Francisco Bay Regional Water Quality Control Board. Years 4 and 5 Assessment
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	All waters shall be maintained free of toxic substances that are lethal to or that produce other detrimental responses in aquatic organisms. Table 3-4 in the Basin Plan (2007) lists freshwater water quality objectives for toxic pollutants: arsenic- 150 ug/L, chromium VI- 11 ug/L, copper - 9.0 ug/L, lead - 2.5 ug/L; nickel - 52 ug/L, silver-3.4 ug/L and zinc - 120 ug/L.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) - San Francisco Bay Region (Region 2)
Evaluation Guideline:	
Guideline Reference:	
Spatial Representation:	Data were collected at one sampling location (CER020) on Cerrito Creek (Creekside Park).
Temporal Representation:	Samples were collected during wet (January), spring (April), and dry(June) seasons of

2005.

Environmental Conditions: There were no unusual environmental conditions associated with the sampling.

QAPP Information: All samples were collected and analyzed using procedures comparable with the SWAMP Quality Assurance Management Plan (SWRCB, 2002).

QAPP Information Reference(s): [Quality Assurance Management Plan for the State of California's Surface Water Ambient Monitoring Program. Sacramento, CA. State Water Resources Control Board. SWAMP. December 2002 \(1st version\).](#)

Line of Evidence (LOE) for Decision ID 44242, Nickel
Cerrito Creek

Region 2

LOE ID: 28758

Pollutant: Nickel

LOE Subgroup: Pollutant-Sediment

Matrix: Sediment

Fraction: Total

Beneficial Use: Warm Freshwater Habitat

Number of Samples: 1

Number of Exceedances: 1

Data and Information Type: PHYSICAL/CHEMICAL MONITORING

Data Used to Assess Water Quality: Concentration of nickel exceeded the PEC value with a sample concentration of 151 mg/kg dw in one sediment sample collected in April 2005 (sediment quality guidelines).

Data Reference: [Data collected by the Surface Water Ambient Monitoring Program, San Francisco Bay Regional Water Quality Control Board. Years 4 and 5 Assessment](#)

SWAMP Data: SWAMP

Water Quality Objective/Criterion: All waters shall be maintained free of toxic substances that are lethal to or that produce other detrimental responses in aquatic organisms.

Objective/Criterion Reference: [Water Quality Control Plan \(Basin Plan\) - San Francisco Bay Region \(Region 2\)](#)

Evaluation Guideline: Sediment Quality Guidelines (MacDonald et al., 2000): PEC (probable effect concentration) nickel - 48.6 mg/kg dw.

Guideline Reference: [Development and evaluation of consensus-based sediment quality guidelines for freshwater ecosystems. Environmental Contamination and Toxicology. 39: 20-31](#)

Spatial Representation: One sediment sample was collected at a "watershed integrator" site located close to the mouth of Cerrito Creek.

Temporal Representation: Sediment sample was collected in April of 2005.

Environmental Conditions:

QAPP Information: All samples were collected and analyzed using procedures comparable with the SWAMP Quality Assurance Management Plan (SWRCB, 2002).

QAPP Information Reference(s):

DECISION ID 43441
Cerrito Creek

Region 2

Pollutant: Oxygen, Dissolved

Final Listing Decision: Do Not List on 303(d) list (TMDL required list)

Last Listing Cycle's Final Listing Decision: Do Not List on 303(d) list (TMDL required list)(2012)

Revision Status: Original

Impairment from Pollutant or Pollution: Pollutant

Regional Board Staff This pollutant is being considered for placement on the section 303(d) list under section 3.2 of the

Conclusion: Listing Policy. Under section 3.2 a single line of evidence is necessary to assess listing status. One line of evidence is available in the administrative record to assess this pollutant. None of the samples exceed the water quality objective. Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against placing this water segment-pollutant combination on the section 303(d) list in the Water Quality Limited Segments category. This conclusion is based on the staff findings that: 1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy. 2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy. 3. None of the four samples exceeded the water quality objectives (Basin Plan) and this does not exceed the allowable frequency listed in Table 3.2 of the Listing Policy. 4. Pursuant to section 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.

Regional Board Staff Decision Recommendation: This is a decision previously approved by the State Water Resources Control Board and the USEPA. No new data were assessed by the Regional Board for the current. The decision has not changed.

**Line of Evidence (LOE) for Decision ID 43441, Oxygen, Dissolved
Cerrito Creek**

Region 2

LOE ID: 28708

Pollutant: Oxygen, Dissolved
LOE Subgroup: Pollutant-Water
Matrix: Water
Fraction: None

Beneficial Use: Cold Freshwater Habitat

Number of Samples: 4
Number of Exceedances: 0

Data and Information Type: PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality: Comprehensive water quality assessment was conducted at Cerrito Creek as part of SWAMP assessment in 2004 and 2005. Continuous field monitoring of temperature, dissolved oxygen, pH, and specific conductance to determine temporal variability in basic water quality at one or two locations. The 7 day average minimum concentration of dissolved oxygen ranged from 7.0 to 10.6 mg/L and varied with season. Minimum dissolved oxygen levels did not fall below the objective of 7 mg/L.

Data Reference: [Data collected by the Surface Water Ambient Monitoring Program, San Francisco Bay Regional Water Quality Control Board. Years 4 and 5 Assessment](#)

SWAMP Data: SWAMP

Water Quality Objective/Criterion: The numeric water quality objective for dissolved oxygen is 7.0 mg/L minimum for waters designated as cold water habitat. The median dissolved oxygen concentration for any three consecutive months shall not be less than 80 percent of the dissolved oxygen content at saturation.

Objective/Criterion Reference: [Water Quality Control Plan \(Basin Plan\) - San Francisco Bay Region \(Region 2\)](#)

Evaluation Guideline:
Guideline Reference:

Spatial Representation: Dissolved oxygen was measured at one site located on the mainstem of Cerrito Creek that was representative of the entire creek length.

Temporal Representation: At all locations the SWAMP performed continuous monitoring of dissolved oxygen at 15 minute intervals lasting 7 days during spring (March 2004), two summer dry seasons (July and September 2004), and winter wet season (January 2005).

Environmental Conditions:
QAPP Information: All samples were collected and analyzed using procedures comparable with the SWAMP Quality Assurance Management Plan (SWRCB 2002).

QAPP Information Reference(s):

DECISION ID	60675	Region 2
Cerrito Creek		

Pollutant:	PCBs (Polychlorinated biphenyls)
Final Listing Decision:	Do Not List on 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision:	New Decision
Revision Status	Original
Impairment from Pollutant or Pollution:	Pollutant

Regional Board Staff Conclusion: This pollutant is being considered for placement on the CWA section 303(d) List under section 3.1 of the Listing Policy. Under section 3.1 a single line of evidence is necessary to assess listing status.

Two lines of evidence are available in the administrative record to assess this pollutant. Zero of three samples exceed the water quality objective.

Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against placing this water segment-pollutant combination on the CWA section 303(d) List.

This conclusion is based on the staff findings that:

1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy.
2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy.
3. Zero of three samples exceed the water quality objective and this sample size is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating. A minimum of 16 samples is needed to determine if a beneficial use is fully supported using table 3.1.
4. Pursuant to SECTION 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.

Regional Board Staff Decision Recommendation: After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be placed on the section 303(d) list. The readily available data and information is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating.

Line of Evidence (LOE) for Decision ID 60675, PCBs (Polychlorinated biphenyls)	Region 2
Cerrito Creek	

LOE ID:	95343
Pollutant:	PCBs (Polychlorinated biphenyls)
LOE Subgroup:	Pollutant-Water
Matrix:	Water
Fraction:	None
Beneficial Use:	Warm Freshwater Habitat
Number of Samples:	3
Number of Exceedances:	0
Data and Information Type:	PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality:	The Cerrito Creek watershed was monitored as part of SWAMP assessment. None of the three samples exceeded the water quality objectives for PCBs, Chlorpyrifos, Dacthal, diazinon, disulfoton, endosulfan, Lindane/gamma Hexachlorocyclohexane (gamma-HCH), methyl parathion, thiobencarb.
Data Reference:	Data collected by the Surface Water Ambient Monitoring Program, San Francisco Bay Regional Water Quality Control Board. Years 4 and 5 Assessment

SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	All waters shall be maintained free of toxic substances that are lethal to or that produce other detrimental responses in aquatic organisms. There shall be no chronic toxicity in ambient waters. Chronic toxicity is a detrimental biological effect on growth rate, reproduction, fertilization success, larval development, population abundance, community composition, or any other relevant measure of the health of an organism, population, or community. Diazinon water quality objective, 0.1 ug/L (acute)
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) - San Francisco Bay Region (Region 2)
Evaluation Guideline:	PCBs - 0.014 ug/L freshwater continuous Concentration; Chlorpyrifos - 0.015 ug/L (chronic); Dacthal (DCPA) - 14300 ug/L (acute); Disulfoton (Disyston) - 0.05 ug/L (acute); Endosulfan - 0.056 ug/L (chronic)/0.22 ug/L (acute); HCH, gamma-(gamma BHC, Lindane) - 0.95 ug/L (acute); methyl parathion - 0.08 ug/L (acute); Thiobencarb - 3.1 ug/L (acute). Diazinon water quality objective, 0.1 ug/L (acute)
Guideline Reference:	National recommended water quality criteria: 2002. EPA-822-R-02-047 Washington, D.C. USEPA
Spatial Representation:	Data were collected at one sampling location (CER020) on Cerrito Creek.
Temporal Representation:	Samples were collected during wet (January), spring (April), and dry(June) seasons of 2005.
Environmental Conditions:	There were no unusual or special environmental conditions associated with the sample collection.
QAPP Information:	All samples were collected and analyzed using procedures comparable with the SWAMP Quality Assurance Management Plan (SWRCB, 2002).
QAPP Information Reference(s):	Quality Assurance Management Plan for the State of California's Surface Water Ambient Monitoring Program. Sacramento, CA. State Water Resources Control Board. SWAMP. December 2002 (1st version)

Line of Evidence (LOE) for Decision ID 60675, PCBs (Polychlorinated biphenyls)

Region 2

Cerrito Creek

LOE ID:	95323
Pollutant:	PCBs (Polychlorinated biphenyls)
LOE Subgroup:	Pollutant-Sediment
Matrix:	Sediment
Fraction:	None
Beneficial Use:	Warm Freshwater Habitat
Number of Samples:	1
Number of Exceedances:	0
Data and Information Type:	PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality:	Concentrations of anthracene, fluorene, naphthalene, phenanthrene, benz(a)anthracene, benzo(a)pyrene, chrysene, fluoranthrene, pyrene, PAH (total), PCB (total), dieldrin, DDD/DDE/DDT, endrin, heptachlor epoxide, and HCH, gamma in one sediment sample collected in spring 2005 did not exceed the sediment quality guidelines.
Data Reference:	Data collected by the Surface Water Ambient Monitoring Program, San Francisco Bay Regional Water Quality Control Board. Years 4 and 5 Assessment
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	All waters shall be maintained free of toxic substances that are lethal to or that produce other detrimental responses in aquatic organisms.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) - San Francisco Bay Region (Region 2)
Evaluation Guideline:	Sediment Quality Guidelines (MacDonald et al., 2000): PEC (probable effect concentration) Anthracene - 845 ug/kg; Fluorene - 536 ug/kg; Naphthalene - 561 ug/kg; Phenanthrene -1170 ug/kg; Benz(a)anthracene - 1050 ug/kg; Benzo(a)pyrene - 1450 ug/kg; Chrysene - 1290 ug/kg; Fluoranthene - 2230 ug/kg; Pyrene - 1520 ug/kg; PAH

(total) - 22800 ug/kg; PCB (total) - 676 ug/kg; Dieldrin - 61.8 ug/kg; DDD (sum op + pp) - 28 ug/kg; DDE (sum op + pp) - 31.3 ug/kg; DDT (sum op + pp) - 62.9 ug/kg; DDT (total) - 572 ug/kg; Endrin - 207 ug/kg; Heptachlor epoxide - 16 ug/kg; HCH, gamma - 4.99 ug/kg. [Development and evaluation of consensus-based sediment quality guidelines for freshwater ecosystems. Environmental Contamination and Toxicology. 39: 20-31](#)

Guideline Reference:

Spatial Representation:

One sediment sample was collected at a "watershed integrator" site located close to the mouth of Cerrito Creek.

Temporal Representation:

Sediment sample was collected in April of 2005.

Environmental Conditions:

There were no special environmental conditions associated with the sampling event.

QAPP Information:

All samples were collected and analyzed using procedures comparable with the SWAMP Quality Assurance Management Plan (SWRCB, 2002).

QAPP Information Reference(s):

DECISION ID	60728	Region 2
Cerrito Creek		

Pollutant: Phenanthrene
Final Listing Decision: Do Not List on 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision: New Decision
Revision Status: Original
Impairment from Pollutant or Pollution: Pollutant

Regional Board Staff Conclusion: This pollutant is being considered for placement on the CWA section 303(d) List under section 3.1 of the Listing Policy. Under section 3.1 a single line of evidence is necessary to assess listing status.

One line of evidence are available in the administrative record to assess this pollutant. Zero of one samples exceed the guideline.

Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against placing this water segment-pollutant combination on the CWA section 303(d) List.

This conclusion is based on the staff findings that:

1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy.
2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy.
3. Zero of one samples exceed the guideline and this sample size is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating. A minimum of 16 samples is needed to determine if a beneficial use is fully supported using table 3.1.
4. Pursuant to SECTION 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.

Regional Board Staff Decision Recommendation: After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be placed on the section 303(d) list. The readily available data and information is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating.

Line of Evidence (LOE) for Decision ID 60728, Phenanthrene	Region 2
Cerrito Creek	

LOE ID: 95324
Pollutant: Phenanthrene
LOE Subgroup: Pollutant-Sediment
Matrix: Sediment
Fraction: None

Beneficial Use:	Warm Freshwater Habitat
Number of Samples:	1
Number of Exceedances:	0
Data and Information Type:	PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality:	Concentrations of anthracene, fluorene, naphthalene, phenanthrene, benz(a)anthracene, benzo(a)pyrene, chrysene, fluoranthrene, pyrene, PAH (total), PCB (total), dieldrin, DDD/DDE/DDT, endrin, heptachlor epoxide, and HCH, gamma in one sediment sample collected in spring 2005 did not exceed the sediment quality guidelines.
Data Reference:	Data collected by the Surface Water Ambient Monitoring Program, San Francisco Bay Regional Water Quality Control Board. Years 4 and 5 Assessment
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	All waters shall be maintained free of toxic substances that are lethal to or that produce other detrimental responses in aquatic organisms.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) - San Francisco Bay Region (Region 2)
Evaluation Guideline:	Sediment Quality Guidelines (MacDonald et al., 2000): PEC (probable effect concentration) Anthracene - 845 ug/kg; Fluorene - 536 ug/kg; Naphthalene - 561 ug/kg; Phenanthrene - 1170 ug/kg; Benz(a)anthracene - 1050 ug/kg; Benzo(a)pyrene - 1450 ug/kg; Chrysene - 1290 ug/kg; Fluoranthene - 2230 ug/kg; Pyrene - 1520 ug/kg; PAH (total) - 22800 ug/kg; PCB (total) - 676 ug/kg; Dieldrin - 61.8 ug/kg; DDD (sum op + pp) - 28 ug/kg; DDE (sum op + pp) - 31.3 ug/kg; DDT (sum op + pp) - 62.9 ug/kg; DDT (total) - 572 ug/kg; Endrin - 207 ug/kg; Heptachlor epoxide - 16 ug/kg; HCH, gamma - 4.99 ug/kg.
Guideline Reference:	Development and evaluation of consensus-based sediment quality guidelines for freshwater ecosystems. Environmental Contamination and Toxicology. 39: 20-31
Spatial Representation:	One sediment sample was collected at a "watershed integrator" site located close to the mouth of Cerrito Creek.
Temporal Representation:	Sediment sample was collected in April of 2005.
Environmental Conditions:	There were no special environmental conditions associated with the sampling event.
QAPP Information:	All samples were collected and analyzed using procedures comparable with the SWAMP Quality Assurance Management Plan (SWRCB, 2002).
QAPP Information Reference(s):	

DECISION ID	60729	Region 2
Cerrito Creek		
Pollutant:	Pyrene	
Final Listing Decision:	Do Not List on 303(d) list (TMDL required list)	
Last Listing Cycle's Final Listing Decision:	New Decision	
Revision Status	Original	
Impairment from Pollutant or Pollution:	Pollutant	
Regional Board Staff Conclusion:	<p>This pollutant is being considered for placement on the CWA section 303(d) List under section 3.1 of the Listing Policy. Under section 3.1 a single line of evidence is necessary to assess listing status.</p> <p>One line of evidence are available in the administrative record to assess this pollutant. Zero of one samples exceed the guideline.</p> <p>Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against placing this water segment-pollutant combination on the CWA section 303(d) List.</p> <p>This conclusion is based on the staff findings that:</p> <ol style="list-style-type: none"> 1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy. 2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy. 	

3. Zero of one samples exceed the guideline and this sample size is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating. A minimum of 16 samples is needed to determine if a beneficial use is fully supported using table 3.1.
4. Pursuant to SECTION 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.

Regional Board Staff Decision Recommendation: After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be placed on the section 303(d) list. The readily available data and information is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating.

**Line of Evidence (LOE) for Decision ID 60729, Pyrene
Cerrito Creek**

Region 2

LOE ID:	95325
Pollutant:	Pyrene
LOE Subgroup:	Pollutant-Sediment
Matrix:	Sediment
Fraction:	None
Beneficial Use:	Warm Freshwater Habitat
Number of Samples:	1
Number of Exceedances:	0
Data and Information Type:	PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality:	Concentrations of anthracene, fluorene, naphthalene, phenanthrene, benz(a)anthracene, benzo(a)pyrene, chrysene, fluoranthene, pyrene, PAH (total), PCB (total), dieldrin, DDD/DDE/DDT, endrin, heptachlor epoxide, and HCH, gamma in one sediment sample collected in spring 2005 did not exceed the sediment quality guidelines.
Data Reference:	Data collected by the Surface Water Ambient Monitoring Program, San Francisco Bay Regional Water Quality Control Board. Years 4 and 5 Assessment
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	All waters shall be maintained free of toxic substances that are lethal to or that produce other detrimental responses in aquatic organisms.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) - San Francisco Bay Region (Region 2)
Evaluation Guideline:	Sediment Quality Guidelines (MacDonald et al., 2000): PEC (probable effect concentration) Anthracene - 845 ug/kg; Fluorene - 536 ug/kg; Naphthalene - 561 ug/kg; Phenanthrene - 1170 ug/kg; Benz(a)anthracene - 1050 ug/kg; Benzo(a)pyrene - 1450 ug/kg; Chrysene - 1290 ug/kg; Fluoranthene - 2230 ug/kg; Pyrene - 1520 ug/kg; PAH (total) - 22800 ug/kg; PCB (total) - 676 ug/kg; Dieldrin - 61.8 ug/kg; DDD (sum op + pp) - 28 ug/kg; DDE (sum op + pp) - 31.3 ug/kg; DDT (sum op + pp) - 62.9 ug/kg; DDT (total) - 572 ug/kg; Endrin - 207 ug/kg; Heptachlor epoxide - 16 ug/kg; HCH, gamma - 4.99 ug/kg.
Guideline Reference:	Development and evaluation of consensus-based sediment quality guidelines for freshwater ecosystems. Environmental Contamination and Toxicology. 39: 20-31
Spatial Representation:	One sediment sample was collected at a "watershed integrator" site located close to the mouth of Cerrito Creek.
Temporal Representation:	Sediment sample was collected in April of 2005.
Environmental Conditions:	There were no special environmental conditions associated with the sampling event.
QAPP Information:	All samples were collected and analyzed using procedures comparable with the SWAMP Quality Assurance Management Plan (SWRCB, 2002).
QAPP Information Reference(s):	

DECISION ID

60807

Region 2

Cerrito Creek

Pollutant: Silver
Final Listing Decision: Do Not List on 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision: New Decision
Revision Status: Original
Impairment from Pollutant or Pollution: Pollutant

Regional Board Staff Conclusion: This pollutant is being considered for placement on the CWA section 303(d) List under section 3.1 of the Listing Policy. Under section 3.1 a single line of evidence is necessary to assess listing status.

One line of evidence is available in the administrative record to assess this pollutant. Zero of three samples exceed the criterion.

Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against placing this water segment-pollutant combination on the CWA section 303(d) List.

This conclusion is based on the staff findings that:

1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy.
2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy.
3. Zero of three samples exceed the criterion and this sample size is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating. A minimum of 16 samples is needed to determine if a beneficial use is fully supported using table 3.1.
4. Pursuant to SECTION 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.

Regional Board Staff Decision Recommendation: After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be placed on the section 303(d) list. The readily available data and information is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating.

Line of Evidence (LOE) for Decision ID 60807, Silver Cerrito Creek

Region 2

LOE ID: 95351

Pollutant: Silver
LOE Subgroup: Pollutant-Water
Matrix: Water
Fraction: Dissolved

Beneficial Use: Warm Freshwater Habitat

Number of Samples: 3
Number of Exceedances: 0

Data and Information Type: PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality: The Cerrito Creek watershed was monitored as part of SWAMP assessment. None of the three samples exceeded the water quality objectives for arsenic, chromium VI, copper, lead, nickel, silver and zinc.

Data Reference: [Data collected by the Surface Water Ambient Monitoring Program, San Francisco Bay Regional Water Quality Control Board. Years 4 and 5 Assessment](#)

SWAMP Data: SWAMP

Water Quality Objective/Criterion: All waters shall be maintained free of toxic substances that are lethal to or that produce other detrimental responses in aquatic organisms. Table 3-4 in the Basin Plan (2007) lists freshwater water quality objectives for toxic pollutants: arsenic- 150 ug/L, chromium VI- 11

ug/L, copper - 9.0 ug/L, lead - 2.5 ug/L; nickel - 52 ug/L, silver-3.4 ug/L and zinc - 120 ug/L.

Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) - San Francisco Bay Region (Region 2)
Evaluation Guideline:	
Guideline Reference:	
Spatial Representation:	Data were collected at one sampling location (CER020) on Cerrito Creek (Creekside Park).
Temporal Representation:	Samples were collected during wet (January), spring (April), and dry(June) seasons of 2005.
Environmental Conditions:	There were no unusual environmental conditions associated with the sampling.
QAPP Information:	All samples were collected and analyzed using procedures comparable with the SWAMP Quality Assurance Management Plan (SWRCB, 2002).
QAPP Information Reference(s):	Quality Assurance Management Plan for the State of California's Surface Water Ambient Monitoring Program. Sacramento, CA. State Water Resources Control Board. SWAMP. December 2002 (1st version)

DECISION ID	43535	Region 2
Cerrito Creek		

Pollutant:	Temperature, water
Final Listing Decision:	Do Not List on 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision:	Do Not List on 303(d) list (TMDL required list)(2012)
Revision Status	Original
Impairment from Pollutant or Pollution:	Pollutant

Regional Board Staff Conclusion:	This pollutant is being considered for placement on the section 303(d) list under section 3.2 of the Listing Policy. Under section 3.2 a single line of evidence is necessary to assess listing status. One line of evidence is available in the administrative record to assess this pollutant. Two of the samples exceed the water quality objective. Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against placing this water segment-pollutant combination on the section 303(d) list in the Water Quality Limited Segments category. This conclusion is based on the staff findings that: 1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy. 2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy. 3. Two of the four samples exceeded An Analysis of the Effects of Temperature on Salmonids of the Pacific Northwest with Implications for Selecting Temperature Criteria. Sustainable Ecosystems Institute, Portland, Oregon Analysis of the Effects of Temperature on Salmonids of the Pacific Northwest with Implications for Selecting Temperature Criteria. Sustainable Ecosystems Institute, Portland, Oregon (Sullivan K., Martin, D.J., Cardwell, R.D., Toll, J.E., Duke, S. 2000.) and this does not exceed the allowable frequency listed in Table 3.2 of the Listing Policy. 4. Pursuant to section 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.
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Regional Board Staff Decision Recommendation:	This is a decision previously approved by the State Water Resources Control Board and the USEPA. No new data were assessed by the Regional Board for the current. The decision has not changed.
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Line of Evidence (LOE) for Decision ID 43535, Temperature, water	Region 2
Cerrito Creek	

LOE ID:	28706
Pollutant:	Temperature, water
LOE Subgroup:	Pollutant-Water
Matrix:	Water
Fraction:	None

Beneficial Use:	Cold Freshwater Habitat
Number of Samples:	4
Number of Exceedances:	2
Data and Information Type:	PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality:	Water quality assessment was conducted at the Cerrito Creek watershed as part of SWAMP study in 2004-2005. Continuous field monitoring at 15 minute increments of temperature, dissolved oxygen, pH and specific conductance was conducted to determine temporal variability in basic water quality at one location. Continuous monitoring sondes were deployed 4 times at 1 monitoring location during wet, spring and two dry seasons. The measured temperatures ranged from 11.2°C to 20.9 °C and varied with season. During both dry season deployments at the monitoring location, the 7-day mean temperature threshold for steelhead was exceeded. In total, the 17 °C criterion for steelhead was exceeded in 2 out of 4.
Data Reference:	Data collected by the Surface Water Ambient Monitoring Program, San Francisco Bay Regional Water Quality Control Board. Years 4 and 5 Assessment
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	Temperature objectives for enclosed bays and estuaries are specified in the "Water Quality Control Plan for Control of Temperature in the Coastal and Interstate Waters and Enclosed Bays of California" including any revisions to the plan. In addition, the following temperature objectives apply to surface waters: The natural receiving water temperature of intrastate waters shall not be altered unless it can be demonstrated to the satisfaction of the Regional Board that such an alteration does not adversely affect beneficial uses. The temperature of any cold or warm freshwater habitat shall not be increased by more than 5°F (2.8°C) above natural receiving water temperature.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) - San Francisco Bay Region (Region 2)
Evaluation Guideline:	Sullivan et al. (2000) reviewed a wide range of studies incorporating information from laboratory-based research, field observations, and risk assessment approaches and developed criteria for assessing temperature risk to aquatic life. The 7-day mean temperature (maximum value of a 7-day moving average of the daily mean temperature) of 14.8°C was established as the upper threshold criterion for coho salmon and 17.0°C for steelhead trout. The risk assessment approach used by Sullivan et al. (2000) suggests that temperatures exceeding the above thresholds will cause a 10% reduction in average growth compared to optimal conditions.
Guideline Reference:	An Analysis of the Effects of Temperature on Salmonids of the Pacific Northwest with Implications for Selecting Temperature Criteria
Spatial Representation:	Temperature was measured at one site located on the mainstem of Cerrito Creek representative of the entire creek length.
Temporal Representation:	At all locations the SWAMP performed continuous monitoring of temperature at 15 minute intervals lasting 7-16 days during spring (March 2004), two summer dry seasons (July and September 2004), and winter wet season (January 2005).
Environmental Conditions:	
QAPP Information:	All samples were collected and analyzed using procedures comparable with the SWAMP Quality Assurance Management Plan (SWRCB 2002).
QAPP Information Reference(s):	

DECISION ID	60806	Region 2
Cerrito Creek		

Pollutant:	Thiobencarb/Bolero
Final Listing Decision:	Do Not List on 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision:	New Decision
Revision Status	Original
Impairment from Pollutant or Pollution:	Pollutant

Regional Board Staff Conclusion:

This pollutant is being considered for placement on the CWA section 303(d) List under section 3.1 of the Listing Policy. Under section 3.1 a single line of evidence is necessary to assess listing status.

One line of evidence is available in the administrative record to assess this pollutant. Zero of three samples exceed the criterion.

Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against placing this water segment-pollutant combination on the CWA section 303(d) List.

This conclusion is based on the staff findings that:

1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy.
2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy.
3. Zero of three samples exceed the criterion and this sample size is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating. A minimum of 16 samples is needed to determine if a beneficial use is fully supported using table 3.1.
4. Pursuant to SECTION 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.

Regional Board Staff Decision Recommendation:

After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be placed on the section 303(d) list. The readily available data and information is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating.

**Line of Evidence (LOE) for Decision ID 60806, Thiobencarb/Bolero
Cerrito Creek**

Region 2

LOE ID:	95344
Pollutant:	Thiobencarb/Bolero
LOE Subgroup:	Pollutant-Water
Matrix:	Water
Fraction:	None
Beneficial Use:	Warm Freshwater Habitat
Number of Samples:	3
Number of Exceedances:	0
Data and Information Type:	PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality:	The Cerrito Creek watershed was monitored as part of SWAMP assessment. None of the three samples exceeded the water quality objectives for PCBs, Chlorpyrifos, Dacthal, diazinon, disulfoton, endosulfan, Lindane/gamma Hexachlorocyclohexane (gamma-HCH), methyl parathion, thiobencarb.
Data Reference:	Data collected by the Surface Water Ambient Monitoring Program, San Francisco Bay Regional Water Quality Control Board. Years 4 and 5 Assessment
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	All waters shall be maintained free of toxic substances that are lethal to or that produce other detrimental responses in aquatic organisms. There shall be no chronic toxicity in ambient waters. Chronic toxicity is a detrimental biological effect on growth rate, reproduction, fertilization success, larval development, population abundance, community composition, or any other relevant measure of the health of an organism, population, or community. Diazinon water quality objective, 0.1 ug/L (acute)
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) - San Francisco Bay Region (Region 2)
Evaluation Guideline:	PCBs - 0.014 ug/L freshwater continuous Concentration; Chlorpyrifos - 0.015 ug/L (chronic); Dacthal (DCPA) - 14300 ug/L (acute); Disulfoton (Disyston) - 0.05 ug/L (acute); Endosulfan - 0.056 ug/L (chronic)/0.22 ug/L (acute); HCH, gamma-(gamma BHC,

Guideline Reference: Lindane) - 0.95 ug/L (acute); methyl parathion - 0.08 ug/L (acute); Thiobencarb - 3.1 ug/L (acute). Diazinon water quality objective, 0.1 ug/L (acute)
[National recommended water quality criteria: 2002. EPA-822-R-02-047 Washington, D.C. USEPA](#)

Spatial Representation: Data were collected at one sampling location (CER020) on Cerrito Creek.

Temporal Representation: Samples were collected during wet (January), spring (April), and dry(June) seasons of 2005.

Environmental Conditions: There were no unusual or special environmental conditions associated with the sample collection.

QAPP Information: All samples were collected and analyzed using procedures comparable with the SWAMP Quality Assurance Management Plan (SWRCB, 2002).

QAPP Information Reference(s): [Quality Assurance Management Plan for the State of California's Surface Water Ambient Monitoring Program. Sacramento, CA. State Water Resources Control Board. SWAMP. December 2002 \(1st version\)](#)

DECISION ID	44110	Region 2
Cerrito Creek		

Pollutant:	Toxicity
Final Listing Decision:	Do Not List on 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision:	Do Not List on 303(d) list (TMDL required list)(2012)
Revision Status	Original
Impairment from Pollutant or Pollution:	Pollutant

Regional Board Staff Conclusion: This pollutant is being considered for placement on the section 303(d) list under section 3.1 of the Listing Policy. Under section 3.1 a single line of evidence is necessary to assess listing status. One line of evidence is available in the administrative record to assess this pollutant. None of the samples exceed the water quality objective. Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against placing this water segment-pollutant combination on the section 303(d) list in the Water Quality Limited Segments category. This conclusion is based on the staff findings that: 1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy. 2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy. 3. None of the three samples exceeded the water quality objectives (Basin Plan)and this does not exceed the allowable frequency listed in Table 3.1 of the Listing Policy. 4. Pursuant to section 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.

Regional Board Staff Decision Recommendation: This is a decision previously approved by the State Water Resources Control Board and the USEPA. No new data were assessed by the Regional Board for the current. The decision has not changed.

Line of Evidence (LOE) for Decision ID 44110, Toxicity	Region 2
Cerrito Creek	

LOE ID:	28821
Pollutant:	Toxicity
LOE Subgroup:	Pollutant-Water
Matrix:	Water
Fraction:	None
Beneficial Use:	Cold Freshwater Habitat
Number of Samples:	3
Number of Exceedances:	0
Data and Information Type:	TOXICITY TESTING

Data Used to Assess Water Quality:	Three samples were collected in 2005 to evaluate water toxicity at one monitoring location near the mouth of Cerrito Creek. The toxicity tests included survival and reproduction of Ceriodaphnia, survival and growth of fathead minnow, and growth of Selenastrum. No toxicity was detected in the tested samples.
Data Reference:	Data collected by the Surface Water Ambient Monitoring Program, San Francisco Bay Regional Water Quality Control Board. Years 4 and 5 Assessment
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	All waters shall be maintained free of toxic substances that are lethal to or that produce other detrimental responses in aquatic organisms. There shall be no chronic toxicity in ambient waters. Chronic toxicity is a detrimental biological effect on growth rate, reproduction, fertilization success, larval development, population abundance, community composition, or any other relevant measure of the health of an organism, population, or community.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) - San Francisco Bay Region (Region 2)
Evaluation Guideline:	Water toxicity was evaluated according to the SWAMP methodology. The U.S.EPA whole effluent toxicity protocol (U.S.EPA 1994) was used to test the effect of water samples on three freshwater test organisms. Statistical evaluation (alpha = 0.05) and a default threshold of 80% of the control value were used to establish whether water exhibited significant toxicity adversely impacting aquatic organisms.
Guideline Reference:	Revised approach to toxicity test acceptability criteria using a statistical performance assessment. Environmental Toxicology and Chemistry, vol. 16, No. 6, pp 1322?1329 Short-Term Methods for Estimating the Chronic Toxicity of Effluents and Receiving Waters to Freshwater Organisms. EPA/600/4-91/002. Third Edition. July 1994
Spatial Representation:	Data were collected at one sampling location, CER020, (Cerrito at Creekside Park) on three (3) occasions, representative of the lower reach of the creek.
Temporal Representation:	SWAMP samples were collected during winter wet season (January), spring season (April), and dry season (June) of 2005.
Environmental Conditions:	
QAPP Information:	All samples were collected and analyzed using procedures comparable with the SWAMP Quality Assurance Management Plan (SWRCB, 2002).
QAPP Information Reference(s):	Quality Assurance Management Plan for the State of California's Surface Water Ambient Monitoring Program. Sacramento, CA. State Water Resources Control Board. SWAMP. December 2002 (1st version)

Line of Evidence (LOE) for Decision ID 44110, Toxicity
Cerrito Creek

Region 2

LOE ID:	28829
Pollutant:	Sediment Toxicity
LOE Subgroup:	Pollutant-Sediment
Matrix:	Sediment
Fraction:	None
Beneficial Use:	Warm Freshwater Habitat
Number of Samples:	1
Number of Exceedances:	0
Data and Information Type:	Toxicity testing of sediments
Data Used to Assess Water Quality:	Data used to evaluate sediment toxicity comprise one sediment sample collected by the SWAMP in 2005. No toxicity or adverse affects were exhibited for Hyallela azteca.
Data Reference:	Data collected by the Surface Water Ambient Monitoring Program, San Francisco Bay Regional Water Quality Control Board. Years 4 and 5 Assessment
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	All waters shall be maintained free of toxic substances that are lethal to or that produce

Objective/Criterion Reference:	<p>other detrimental responses in aquatic organisms.</p> <p>There shall be no chronic toxicity in ambient waters. Chronic toxicity is a detrimental biological effect on growth rate, reproduction, fertilization success, larval development, population abundance, community composition, or any other relevant measure of the health of an organism, population, or community.</p> <p>Water Quality Control Plan (Basin Plan) - San Francisco Bay Region (Region 2)</p>
Evaluation Guideline:	<p>Sediment toxicity was evaluated according to the SWAMP methodology. Sample toxicity was determined by comparing mean organism response in samples and in negative controls. Statistical evaluation ($\alpha = 0.05$) and a default threshold of 80% of the control value were used to establish whether the sediment exhibited significant toxicity adversely impacting aquatic organisms.</p>
Guideline Reference:	<p>Revised approach to toxicity test acceptability criteria using a statistical performance assessment. Environmental Toxicology and Chemistry, vol. 16, No. 6, pp 1322?1329</p>
Spatial Representation:	<p>One sediment sample was collected at a "watershed integrator" site located close to the mouth of Cerrito Creek.</p>
Temporal Representation:	<p>Sample was collected April of 2005.</p>
Environmental Conditions:	
QAPP Information:	<p>Samples were collected and analyzed using procedures comparable with the SWAMP Quality Assurance Management Plan (SWRCB 2002).</p>
QAPP Information Reference(s):	<p>Quality Assurance Management Plan for the State of California's Surface Water Ambient Monitoring Program. Sacramento, CA. State Water Resources Control Board. SWAMP. December 2002 (1st version)</p>

DECISION ID	60751	Region 2
Cerrito Creek		
Pollutant: Final Listing Decision: Last Listing Cycle's Final Listing Decision: Revision Status Impairment from Pollutant or Pollution:	Zinc Do Not List on 303(d) list (TMDL required list) New Decision Original Pollutant	
Regional Board Staff Conclusion:	<p>This pollutant is being considered for placement on the CWA section 303(d) List under section 3.1 of the Listing Policy. Under section 3.1 a single line of evidence is necessary to assess listing status.</p> <p>Two lines of evidence are available in the administrative record to assess this pollutant. Zero of three samples exceed the objective.</p> <p>Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against placing this water segment-pollutant combination on the CWA section 303(d) List.</p> <p>This conclusion is based on the staff findings that:</p> <ol style="list-style-type: none"> 1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy. 2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy. 3. Zero of three samples exceed the objective and this sample size is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating. A minimum of 16 samples is needed to determine if a beneficial use is fully supported using table 3.1. 4. Pursuant to SECTION 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met. 	
Regional Board Staff Decision Recommendation:	<p>After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be placed on the section 303(d) list. The readily available data and information is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating.</p>	

Cerrito Creek

LOE ID:	95335
Pollutant:	Zinc
LOE Subgroup:	Pollutant-Sediment
Matrix:	Sediment
Fraction:	Total
Beneficial Use:	Warm Freshwater Habitat
Number of Samples:	1
Number of Exceedances:	0
Data and Information Type:	PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality:	Concentrations of arsenic, cadmium, chromium, copper, lead, mercury and zinc in one sediment sample collected in April 2005 did not exceed the sediment quality guidelines.
Data Reference:	Data collected by the Surface Water Ambient Monitoring Program, San Francisco Bay Regional Water Quality Control Board. Years 4 and 5 Assessment
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	All waters shall be maintained free of toxic substances that are lethal to or that produce other detrimental responses in aquatic organisms.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) - San Francisco Bay Region (Region 2)
Evaluation Guideline:	Sediment Quality Guidelines (MacDonald et al., 2000): PEC (probable effect concentration) arsenic - 33 mg/kg dw; cadmium - 4.98 mg/kg dw; chromium - 111 mg/kg dw; copper - 149 mg/kg dw; lead - 128 mg/kg dw; mercury - 1.06 mg/kg dw; nickel - 48.6 mg/kg dw; zinc - 459 mg/kg dw.
Guideline Reference:	Development and evaluation of consensus-based sediment quality guidelines for freshwater ecosystems. Environmental Contamination and Toxicology. 39: 20-31
Spatial Representation:	One sediment sample was collected at a "watershed integrator" site located close to the mouth of Cerrito Creek.
Temporal Representation:	Sediment sample collected in April 2005.
Environmental Conditions:	There were no special or unusual environmental conditions associated with the sample collection date or location.
QAPP Information:	All samples were collected and analyzed using procedures comparable with the SWAMP Quality Assurance Management Plan (SWRCB, 2002).
QAPP Information Reference(s):	

Line of Evidence (LOE) for Decision ID 60751, Zinc

Region 2

Cerrito Creek

LOE ID:	95352
Pollutant:	Zinc
LOE Subgroup:	Pollutant-Water
Matrix:	Water
Fraction:	Dissolved
Beneficial Use:	Warm Freshwater Habitat
Number of Samples:	3
Number of Exceedances:	0
Data and Information Type:	PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality:	The Cerrito Creek watershed was monitored as part of SWAMP assessment. None of the three samples exceeded the water quality objectives for arsenic, chromium VI, copper,

Data Reference:	lead, nickel, silver and zinc. Data collected by the Surface Water Ambient Monitoring Program, San Francisco Bay Regional Water Quality Control Board. Years 4 and 5 Assessment
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	All waters shall be maintained free of toxic substances that are lethal to or that produce other detrimental responses in aquatic organisms. Table 3-4 in the Basin Plan (2007) lists freshwater water quality objectives for toxic pollutants: arsenic- 150 ug/L, chromium VI- 11 ug/L, copper - 9.0 ug/L, lead - 2.5 ug/L; nickel - 52 ug/L, silver-3.4 ug/L and zinc - 120 ug/L.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) - San Francisco Bay Region (Region 2)
Evaluation Guideline:	
Guideline Reference:	
Spatial Representation:	Data were collected at one sampling location (CER020) on Cerrito Creek (Creekside Park).
Temporal Representation:	Samples were collected during wet (January), spring (April), and dry(June) seasons of 2005.
Environmental Conditions:	There were no unusual environmental conditions associated with the sampling.
QAPP Information:	All samples were collected and analyzed using procedures comparable with the SWAMP Quality Assurance Management Plan (SWRCB, 2002).
QAPP Information Reference(s):	Quality Assurance Management Plan for the State of California's Surface Water Ambient Monitoring Program, Sacramento, CA. State Water Resources Control Board. SWAMP. December 2002 (1st version)

DECISION ID	43389	Region 2
Cerrito Creek		

Pollutant:	pH
Final Listing Decision:	Do Not List on 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision:	Do Not List on 303(d) list (TMDL required list)(2012)
Revision Status	Original
Impairment from Pollutant or Pollution:	Pollutant
Regional Board Staff Conclusion:	This pollutant is being considered for placement on the section 303(d) list under section 3.2 of the Listing Policy. Under section 3.2 a single line of evidence is necessary to assess listing status. One line of evidence is available in the administrative record to assess this pollutant. None of the samples exceed the water quality objective. Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against placing this water segment-pollutant combination on the section 303(d) list in the Water Quality Limited Segments category. This conclusion is based on the staff findings that: 1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy. 2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy. 3. None of the four samples exceeded the water quality objectives (Basin Plan)and this does not exceed the allowable frequency listed in Table 3.2 of the Listing Policy. 4. Pursuant to section 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.
Regional Board Staff Decision Recommendation:	This is a decision previously approved by the State Water Resources Control Board and the USEPA. No new data were assessed by the Regional Board for the current. The decision has not changed.

Line of Evidence (LOE) for Decision ID 43389, pH	Region 2
Cerrito Creek	

LOE ID: 28705

Pollutant:	pH
LOE Subgroup:	Pollutant-Water
Matrix:	Water
Fraction:	None
Beneficial Use:	Cold Freshwater Habitat
Number of Samples:	4
Number of Exceedances:	0
Data and Information Type:	PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality:	Comprehensive water quality assessment was conducted at Cerrito Creek watershed as part of SWAMP assessment in 2004 and 2005. Continuous field monitoring of temperature, dissolved oxygen, pH, and specific conductance to determine temporal variability in basic water quality at one or two locations. The pH ranged from 7.2 to 8.5 and varied with season. In all 4 samples pH did not exceed the minimum or the maximum levels recommended in the Basin Plan.
Data Reference:	Data collected by the Surface Water Ambient Monitoring Program, San Francisco Bay Regional Water Quality Control Board. Years 4 and 5 Assessment
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	The pH shall not be depressed below 6.5 nor raised above 8.5. This encompasses the pH range usually found in waters within the basin. Controllable water quality factors shall not cause changes greater than 0.5 units in normal ambient pH levels.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) - San Francisco Bay Region (Region 2)
Evaluation Guideline:	
Guideline Reference:	
Spatial Representation:	pH was measured at one site located on the mainstem of Cerrito Creek representative of the entire creek length.
Temporal Representation:	At all locations the SWAMP performed continuous monitoring of pH at 15 minute intervals lasting 7-16 days during spring (March 2004), summer dry seasons (July and September 2004), and winter wet season (January 2005).
Environmental Conditions:	
QAPP Information:	All samples were collected and analyzed using procedures comparable with the SWAMP Quality Assurance Management Plan (SWRCB 2002).
QAPP Information Reference(s):	

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Supporting Information

Regional Board 2 - San Francisco Bay Region

Water Body Name: Codornices Creek
Water Body ID: CAR2033001120080624162950
Water Body Type: River & Stream

DECISION ID 35094 **Region 2**
Codornices Creek

Pollutant: Trash
Final Listing Decision: Do Not Delist from 303(d) list (being addressed with action other than TMDL)
Last Listing Cycle's Final Listing Decision: List on 303(d) list (TMDL required list)(2012)
Revision Status Revised
Sources: Source Unknown
Expected Attainment Date: 2029
Implementation Action Other than TMDL: This trash listing will be addressed by implementing the trash control provisions of the Water Quality Control Plan for Inland Surface Waters, Enclosed Bays, and Estuaries of California through the NPDES MS4 permit applicable to this waterbody.
Impairment from Pollutant or Pollution: Pollutant

Regional Board Staff Conclusion: This pollutant is being considered for placement on the section 303(d) list under section 3.11 of the Listing Policy. Under section 3.11, listing may be proposed based on the situation-specific weight of evidence. One line of evidence is available in the administrative record to assess this pollutant. The line of evidence consists of data from field visits/trash surveys conducted according to the Rapid Trash Assessment (RTA) methodology. Based on the readily available trash assessment data for this waterbody, the weight of evidence indicates that there is sufficient justification available in favor of placing this water segment-pollutant combination to the section 303(d) list in the Water Quality Limited Segments category. This conclusion is based on the staff findings that: 1. Data have been evaluated that supports this decision. 2. The Rapid Trash Assessment methodology results showed that this waterbody had threat to aquatic life parameter scores in the poor category (indicating threat to Wildlife Habitat beneficial uses) on three different dates. 3. This waterbody is considered impaired by trash because there were exceedances of the evaluation guideline (poor condition category for the trash assessment metric) in more than one location or on more than one date. 4. The data used satisfy the data quality requirements of section 6.1.4 of the Policy. 5. The data used satisfy the data quantity requirements of section 6.1 of the Policy. 6. This trash listing will be addressed by implementing the trash control provisions of the Water Quality Control Plan for Inland Surface Waters, Enclosed Bays, and Estuaries of California through the NPDES MS4 permit applicable to this waterbody.

Regional Board Staff Decision Recommendation: After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be removed from the section 303(d) list because applicable water quality standards for the pollutant are being exceeded.

Line of Evidence (LOE) for Decision ID 35094, Trash **Region 2**
Codornices Creek

LOE ID: 5366
Pollutant: Trash
LOE Subgroup: Pollutant-Nuisance
Matrix: Not Specified
Fraction: None

Beneficial Use:	Wildlife Habitat
Number of Samples:	4
Number of Exceedances:	3
Data and Information Type:	Occurrence of conditions judged to cause impairment
Data Used to Assess Water Quality:	Data results were obtained through application the RTA methodology, developed by the Surface Water Ambient Monitoring Program (SWAMP). The RTA documents the total number and characteristics of pieces of trash per one hundred feet of stream or shoreline. The trash assessment protocol involves picking up and tallying all of the trash items found within the defined boundaries of a site. The tally results for level of trash (relating to REC2) and threat to aquatic life (relating to WILD) assessment parameters were considered for the listing determination. These results are available for field visits/trash surveys conducted in March, July, and November 2004 according to the Rapid Trash Assessment methodology. There were exceedances of the evaluation guideline (poor condition category for the trash assessment metric) in more than one location or on more than one date.
Data Reference:	A Rapid Trash Assessment Method Applied to Waters of the San Francisco Bay Region:Trash Measurement in Streams Rapid Trash Assessment (RTA) data collected by the SF Bay Region Surface Water Ambient Monitoring Program from 2002-2005 and method description
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	<p>The Basin Plan prohibits discharge of Rubbish, refuse, bark, sawdust, or other solid wastes into surface waters or at any place where they would contact or where they would be eventually transported to surface waters, including flood plain areas.</p> <p>The Basin Plan has a narrative objective for floating material, Waters shall not contain floating material, including solids, liquids, foams, and scum, in concentrations that cause nuisance or adversely affect beneficial uses.</p> <p>The Basin Plan has a narrative objective for settleable material, Waters shall not contain substances in concentrations that result in the deposition of material that cause nuisance or adversely affect beneficial uses.</p>
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) - San Francisco Bay Region (Region 2)
Evaluation Guideline:	<p>If the Rapid Trash Assessment (RTA) Parameter 1 (Level of Trash) is in the poor condition category (scores 0-5), REC2 is not supported. This level of trash distracts the eye on first glance, making the site unsuitable for recreation. The RTA defines poor condition for this parameter as follows, trash distracts the eye on first glance. Stream, bank surfaces, and immediate riparian zone contain substantial levels of litter and debris (>100 pieces). Evidence of site being used frequently by people: many cans, bottles, and food wrappers, blankets, clothing.</p> <p>If the RTA Parameter 3 (Threat to Aquatic Life) is in the poor condition category (scores 0-5), then WILD is not supported. This level of trash is a large amount (>50 pieces) of transportable, persistent, buoyant litter that is detrimental to aquatic life. The RTA defines poor condition for this parameter as follows, large amount (>50 pieces) of transportable, persistent, buoyant litter such as: hard or soft plastics, balloons, Styrofoam, cigarette butts; toxic items such as batteries, lighters, or spray cans; large clumps of yard waste or dumped leaf litter; or large amount (>50 pieces) of settleable glass or metal.</p>
Guideline Reference:	A Rapid Trash Assessment Method Applied to Waters of the San Francisco Bay Region:Trash Measurement in Streams
Spatial Representation:	RTA data were collected for this waterbody in one location in 2004. This location scored in the poor condition category for the threat to aquatic life parameter.
Temporal Representation:	RTA data were collected for this waterbody in March, July, and November in 2004. Data from all three months scored in the poor condition category for the threat to aquatic life parameter.
Environmental Conditions:	
QAPP Information:	For RTA trash assessment data to be considered, the data must have been collected by

field operators that have received a 2-hour training in the Rapid Trash Assessment methodology.

QAPP Information Reference(s):

DECISION ID	60860	Region 2
Codornices Creek		

Pollutant: Anthracene
Final Listing Decision: Do Not List on 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision: New Decision
Revision Status: Original
Impairment from Pollutant or Pollution: Pollutant

Regional Board Staff Conclusion: This pollutant is being considered for placement on the CWA section 303(d) List under section 3.1 of the Listing Policy. Under section 3.1 a single line of evidence is necessary to assess listing status.

One line of evidence is available in the administrative record to assess this pollutant. Zero of one samples exceed the guideline.

Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against placing this water segment-pollutant combination on the CWA section 303(d) List.

This conclusion is based on the staff findings that:

1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy.
2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy.
3. Zero of one samples exceed the guideline and this sample size is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating. A minimum of 16 samples is needed to determine if a beneficial use is fully supported using table 3.1.
4. Pursuant to SECTION 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.

Regional Board Staff Decision Recommendation: After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be placed on the section 303(d) list. The readily available data and information is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating.

Line of Evidence (LOE) for Decision ID 60860, Anthracene	Region 2
Codornices Creek	

LOE ID: 95373

Pollutant: Anthracene
LOE Subgroup: Pollutant-Sediment
Matrix: Sediment
Fraction: None

Beneficial Use: Warm Freshwater Habitat

Number of Samples: 1
Number of Exceedances: 0

Data and Information Type: PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality: Concentrations of anthracene, fluorene, naphthalene, phenanthrene, benz(a)anthracene, benzo(a)pyrene, chrysene, fluoranthrene, pyrene, PAH (total), PCB (total), dieldrin, DDE/DDT, endrin, heptachlor epoxide, and HCH, gamma in one sediment sample collected in spring 2005 did not exceed the sediment quality guidelines.

Data Reference:	Data collected by the Surface Water Ambient Monitoring Program, San Francisco Bay Regional Water Quality Control Board. Years 4 and 5 Assessment
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	All waters shall be maintained free of toxic substances that are lethal to or that produce other detrimental responses in aquatic organisms.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) - San Francisco Bay Region (Region 2)
Evaluation Guideline:	Sediment Quality Guidelines (MacDonald et al., 2000): PEC (probable effect concentration) Anthracene - 845 ug/kg; Fluorene - 536 ug/kg; Naphthalene - 561 ug/kg; Phenanthrene - 1170 ug/kg; Benz(a)anthracene - 1050 ug/kg; Benzo(a)pyrene - 1450 ug/kg; Chrysene - 1290 ug/kg; Fluoranthene - 2230 ug/kg; Pyrene - 1520 ug/kg; PAH (total) - 22800 ug/kg; PCB (total) - 676 ug/kg; Chlordane - 17.6 ug/kg; Dieldrin - 61.8 ug/kg; DDD (sum op + pp) - 28 ug/kg; DDE (sum op + pp) - 31.3 ug/kg; DDT (sum op + pp) - 62.9 ug/kg; DDT (total) - 572 ug/kg; Endrin - 207 ug/kg; Heptachlor epoxide - 16 ug/kg; HCH, gamma - 4.99 ug/kg.
Guideline Reference:	Development and evaluation of consensus-based sediment quality guidelines for freshwater ecosystems. Environmental Contamination and Toxicology. 39: 20-31
Spatial Representation:	One sediment sample was collected at a "watershed integrator" site located close to the mouth of Codornices Creek.
Temporal Representation:	Sediment sample was collected in April of 2005.
Environmental Conditions:	There were no special environmental conditions associated with the sampling.
QAPP Information:	All samples were collected and analyzed using procedures comparable with the SWAMP Quality Assurance Management Plan (SWRCB, 2002).
QAPP Information Reference(s):	Quality Assurance Management Plan for the State of California's Surface Water Ambient Monitoring Program. Sacramento, CA. State Water Resources Control Board. SWAMP. December 2002 (1st version)

DECISION ID	60848	Region 2
Codornices Creek		
Pollutant:	Arsenic	
Final Listing Decision:	Do Not List on 303(d) list (TMDL required list)	
Last Listing Cycle's Final Listing Decision:	New Decision	
Revision Status	Original	
Impairment from Pollutant or Pollution:	Pollutant	
Regional Board Staff Conclusion:	<p>This pollutant is being considered for placement on the CWA section 303(d) List under section 3.1 of the Listing Policy. Under section 3.1 a single line of evidence is necessary to assess listing status. Two lines of evidence are available in the administrative record to assess this pollutant. Zero of three samples exceed the objective.</p> <p>Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against placing this water segment-pollutant combination on the CWA section 303(d) List.</p> <p>This conclusion is based on the staff findings that:</p> <ol style="list-style-type: none"> 1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy. 2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy. 3. Zero of three samples exceed the objective and this sample size is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating. A minimum of 16 samples is needed to determine if a beneficial use is fully supported using table 3.1. 4. Pursuant to SECTION 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met. 	
Regional Board Staff Decision Recommendation:	After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be placed on the section 303(d) list. The readily available data and	

information is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating.

**Line of Evidence (LOE) for Decision ID 60848, Arsenic
Codornices Creek**

Region 2

LOE ID:	95389
Pollutant:	Arsenic
LOE Subgroup:	Pollutant-Sediment
Matrix:	Sediment
Fraction:	Total
Beneficial Use:	Warm Freshwater Habitat
Number of Samples:	1
Number of Exceedances:	0
Data and Information Type:	PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality:	Concentrations of arsenic, cadmium, copper, lead and zinc in one sediment sample collected in April 2005 did not exceed the sediment quality guidelines.
Data Reference:	Data collected by the Surface Water Ambient Monitoring Program, San Francisco Bay Regional Water Quality Control Board. Years 4 and 5 Assessment
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	All waters shall be maintained free of toxic substances that are lethal to or that produce other detrimental responses in aquatic organisms.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) - San Francisco Bay Region (Region 2)
Evaluation Guideline:	Sediment Quality Guidelines (MacDonald et al., 2000): PEC (probable effect concentration) arsenic - 33 mg/kg dw; cadmium - 4.98 mg/kg dw; copper - 149 mg/kg dw; lead - 128 mg/kg dw; zinc - 459 mg/kg dw.
Guideline Reference:	Development and evaluation of consensus-based sediment quality guidelines for freshwater ecosystems. Environmental Contamination and Toxicology. 39: 20-31
Spatial Representation:	One sediment sample was collected at a "watershed integrator" site located close to the mouth of Codornices Creek.
Temporal Representation:	Sediment sample was collected in April of 2005.
Environmental Conditions:	There were no special environmental conditions associated with the sampling.
QAPP Information:	All samples were collected and analyzed using procedures comparable with the SWAMP Quality Assurance Management Plan (SWRCB, 2002).
QAPP Information Reference(s):	Quality Assurance Management Plan for the State of California's Surface Water Ambient Monitoring Program, Sacramento, CA. State Water Resources Control Board. SWAMP. December 2002 (1st version)

**Line of Evidence (LOE) for Decision ID 60848, Arsenic
Codornices Creek**

Region 2

LOE ID:	95403
Pollutant:	Arsenic
LOE Subgroup:	Pollutant-Water
Matrix:	Water
Fraction:	Dissolved
Beneficial Use:	Warm Freshwater Habitat
Number of Samples:	3
Number of Exceedances:	0

Data and Information Type:	PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality:	The Codornices Creek watershed was monitored as part of SWAMP assessment. None of the three samples exceeded the water quality objectives for arsenic, chromium, copper, lead, nickel, silver and zinc
Data Reference:	Data collected by the Surface Water Ambient Monitoring Program, San Francisco Bay Regional Water Quality Control Board. Years 4 and 5 Assessment
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	All waters shall be maintained free of toxic substances that are lethal to or that produce other detrimental responses in aquatic organisms. Table 3-4 in the Basin Plan (2007) lists freshwater water quality objectives for toxic pollutants: arsenic- 150 ug/L, chromium VI- 11 ug/L, copper - 9.0 ug/L, lead - 2.5 ug/L; nickel - 52 ug/L, silver-3.4 ug/L and zinc - 120 ug/L.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) - San Francisco Bay Region (Region 2)
Evaluation Guideline:	
Guideline Reference:	
Spatial Representation:	Data were collected at one sampling location (COD020) on Codornices Creek at 2nd Street.
Temporal Representation:	Samples were collected during wet (January), spring (April), and dry(June) seasons of 2005.
Environmental Conditions:	There were no special environmental conditions associated with the sampling.
QAPP Information:	All samples were collected and analyzed using procedures comparable with the SWAMP Quality Assurance Management Plan (SWRCB, 2002).
QAPP Information Reference(s):	Quality Assurance Management Plan for the State of California's Surface Water Ambient Monitoring Program. Sacramento, CA. State Water Resources Control Board. SWAMP. December 2002 (1st version)

DECISION ID	60861	Region 2
Codornices Creek		

Pollutant:	Benzo(a)anthracene
Final Listing Decision:	Do Not List on 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision:	New Decision
Revision Status	Original
Impairment from Pollutant or Pollution:	Pollutant
Regional Board Staff Conclusion:	<p>This pollutant is being considered for placement on the CWA section 303(d) List under section 3.1 of the Listing Policy. Under section 3.1 a single line of evidence is necessary to assess listing status.</p> <p>One line of evidence is available in the administrative record to assess this pollutant. Zero of one samples exceed the guideline.</p> <p>Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against placing this water segment-pollutant combination on the CWA section 303(d) List.</p> <p>This conclusion is based on the staff findings that:</p> <ol style="list-style-type: none"> 1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy. 2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy. 3. Zero of one samples exceed the guideline and this sample size is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating. A minimum of 16 samples is needed to determine if a beneficial use is fully supported using table 3.1. 4. Pursuant to SECTION 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.

Regional Board Staff Decision Recommendation: After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be placed on the section 303(d) list. The readily available data and information is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating.

**Line of Evidence (LOE) for Decision ID 60861, Benzo(a)anthracene
Codornices Creek**

Region 2

LOE ID: 95374

Pollutant: Benzo(a)anthracene
LOE Subgroup: Pollutant-Sediment
Matrix: Sediment
Fraction: None

Beneficial Use: Warm Freshwater Habitat

Number of Samples: 1
Number of Exceedances: 0

Data and Information Type: PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality: Concentrations of anthracene, fluorene, naphthalene, phenanthrene, benz(a)anthracene, benzo(a)pyrene, chrysene, fluoranthrene, pyrene, PAH (total), PCB (total), dieldrin, DDE/DDT, endrin, heptachlor epoxide, and HCH, gamma in one sediment sample collected in spring 2005 did not exceed the sediment quality guidelines.

Data Reference: [Data collected by the Surface Water Ambient Monitoring Program, San Francisco Bay Regional Water Quality Control Board. Years 4 and 5 Assessment](#)

SWAMP Data: SWAMP

Water Quality Objective/Criterion: All waters shall be maintained free of toxic substances that are lethal to or that produce other detrimental responses in aquatic organisms.

Objective/Criterion Reference: [Water Quality Control Plan \(Basin Plan\) - San Francisco Bay Region \(Region 2\)](#)

Evaluation Guideline: Sediment Quality Guidelines (MacDonald et al., 2000): PEC (probable effect concentration) Anthracene - 845 ug/kg; Fluorene - 536 ug/kg; Naphthalene - 561 ug/kg; Phenanthrene - 1170 ug/kg; Benz(a)anthracene - 1050 ug/kg; Benzo(a)pyrene - 1450 ug/kg; Chrysene - 1290 ug/kg; Fluoranthene - 2230 ug/kg; Pyrene - 1520 ug/kg; PAH (total) - 22800 ug/kg; PCB (total) - 676 ug/kg; Chlordane - 17.6 ug/kg; Dieldrin - 61.8 ug/kg; DDD (sum op + pp) - 28 ug/kg; DDE (sum op + pp) - 31.3 ug/kg; DDT (sum op + pp) - 62.9 ug/kg; DDT (total) - 572 ug/kg; Endrin - 207 ug/kg; Heptachlor epoxide - 16 ug/kg; HCH, gamma - 4.99 ug/kg.

Guideline Reference: [Development and evaluation of consensus-based sediment quality guidelines for freshwater ecosystems. Environmental Contamination and Toxicology. 39: 20-31](#)

Spatial Representation: One sediment sample was collected at a "watershed integrator" site located close to the mouth of Codornices Creek.

Temporal Representation: Sediment sample was collected in April of 2005.

Environmental Conditions: There were no special environmental conditions associated with the sampling.

QAPP Information: All samples were collected and analyzed using procedures comparable with the SWAMP Quality Assurance Management Plan (SWRCB, 2002).

QAPP Information Reference(s): [Quality Assurance Management Plan for the State of California's Surface Water Ambient Monitoring Program. Sacramento, CA. State Water Resources Control Board. SWAMP. December 2002 \(1st version\)](#)

**DECISION ID 60862
Codornices Creek**

Region 2

Pollutant: Benzo(a)pyrene (3,4-Benzopyrene -7-d)

Final Listing Decision:
Last Listing Cycle's Final Listing Decision:
Revision Status
Impairment from Pollutant or Pollution:

Do Not List on 303(d) list (TMDL required list)

New Decision

Original
Pollutant

Regional Board Staff Conclusion:

This pollutant is being considered for placement on the CWA section 303(d) List under section 3.1 of the Listing Policy. Under section 3.1 a single line of evidence is necessary to assess listing status.

One line of evidence is available in the administrative record to assess this pollutant. Zero of one samples exceed the guideline.

Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against placing this water segment-pollutant combination on the CWA section 303(d) List.

This conclusion is based on the staff findings that:

1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy.
2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy.
3. Zero of one samples exceed the guideline and this sample size is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating. A minimum of 16 samples is needed to determine if a beneficial use is fully supported using table 3.1.
4. Pursuant to SECTION 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.

Regional Board Staff Decision Recommendation:

After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be placed on the section 303(d) list. The readily available data and information is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating.

**Line of Evidence (LOE) for Decision ID 60862, Benzo(a)pyrene (3,4-Benzopyrene -7-d)
Codornices Creek**

Region 2

LOE ID: 95375

Pollutant: Benzo(a)pyrene (3,4-Benzopyrene -7-d)
LOE Subgroup: Pollutant-Sediment
Matrix: Sediment
Fraction: None

Beneficial Use: Warm Freshwater Habitat

Number of Samples: 1
Number of Exceedances: 0

Data and Information Type: PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality: Concentrations of anthracene, fluorene, naphthalene, phenanthrene, benz(a)anthracene, benzo(a)pyrene, chrysene, fluoranthrene, pyrene, PAH (total), PCB (total), dieldrin, DDE/DDT, endrin, heptachlor epoxide, and HCH, gamma in one sediment sample collected in spring 2005 did not exceed the sediment quality guidelines.

Data Reference: [Data collected by the Surface Water Ambient Monitoring Program, San Francisco Bay Regional Water Quality Control Board. Years 4 and 5 Assessment](#)

SWAMP Data: SWAMP

Water Quality Objective/Criterion: All waters shall be maintained free of toxic substances that are lethal to or that produce other detrimental responses in aquatic organisms.

Objective/Criterion Reference: [Water Quality Control Plan \(Basin Plan\) - San Francisco Bay Region \(Region 2\)](#)

Evaluation Guideline: Sediment Quality Guidelines (MacDonald et al., 2000): PEC (probable effect

concentration) Anthracene - 845 ug/kg; Fluorene - 536 ug/kg; Naphthalene - 561 ug/kg; Phenanthrene - 1170 ug/kg; Benz(a)anthracene - 1050 ug/kg; Benzo(a)pyrene - 1450 ug/kg; Chrysene - 1290 ug/kg; Fluoranthene - 2230 ug/kg; Pyrene - 1520 ug/kg; PAH (total) - 22800 ug/kg; PCB (total) - 676 ug/kg; Chlordane - 17.6 ug/kg; Dieldrin - 61.8 ug/kg; DDD (sum op + pp) - 28 ug/kg; DDE (sum op + pp) - 31.3 ug/kg; DDT (sum op + pp) - 62.9 ug/kg; DDT (total) - 572 ug/kg; Endrin - 207 ug/kg; Heptachlor epoxide - 16 ug/kg; HCH, gamma - 4.99 ug/kg.

Guideline Reference:

[Development and evaluation of consensus-based sediment quality guidelines for freshwater ecosystems. Environmental Contamination and Toxicology. 39: 20-31](#)

Spatial Representation:

One sediment sample was collected at a "watershed integrator" site located close to the mouth of Codornices Creek.

Temporal Representation:

Sediment sample was collected in April of 2005.

Environmental Conditions:

There were no special environmental conditions associated with the sampling.

QAPP Information:

All samples were collected and analyzed using procedures comparable with the SWAMP Quality Assurance Management Plan (SWRCB, 2002).

QAPP Information Reference(s):

[Quality Assurance Management Plan for the State of California's Surface Water Ambient Monitoring Program. Sacramento, CA. State Water Resources Control Board. SWAMP. December 2002 \(1st version\)](#)

DECISION ID	60886	Region 2
Codornices Creek		

Pollutant:	Cadmium
Final Listing Decision:	Do Not List on 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision:	New Decision
Revision Status	Original
Impairment from Pollutant or Pollution:	Pollutant

Regional Board Staff Conclusion:

This pollutant is being considered for placement on the CWA section 303(d) List under section 3.1 of the Listing Policy. Under section 3.1 a single line of evidence is necessary to assess listing status. One line of evidence is available in the administrative record to assess this pollutant. Zero of one samples exceed the guideline.

Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against placing this water segment-pollutant combination on the CWA section 303(d) List.

This conclusion is based on the staff findings that:

1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy.
2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy.
3. Zero of one samples exceed the guideline and this sample size is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating. A minimum of 16 samples is needed to determine if a beneficial use is fully supported using table 3.1.
4. Pursuant to SECTION 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.

Regional Board Staff Decision Recommendation:

After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be placed on the section 303(d) list. The readily available data and information is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating.

Line of Evidence (LOE) for Decision ID 60886, Cadmium	Region 2
Codornices Creek	

LOE ID: 95390

Pollutant:	Cadmium
LOE Subgroup:	Pollutant-Sediment
Matrix:	Sediment
Fraction:	Total
Beneficial Use:	Warm Freshwater Habitat
Number of Samples:	1
Number of Exceedances:	0
Data and Information Type:	PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality:	Concentrations of arsenic, cadmium, copper, lead and zinc in one sediment sample collected in April 2005 did not exceed the sediment quality guidelines.
Data Reference:	Data collected by the Surface Water Ambient Monitoring Program, San Francisco Bay Regional Water Quality Control Board. Years 4 and 5 Assessment
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	All waters shall be maintained free of toxic substances that are lethal to or that produce other detrimental responses in aquatic organisms.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) - San Francisco Bay Region (Region 2)
Evaluation Guideline:	Sediment Quality Guidelines (MacDonald et al., 2000): PEC (probable effect concentration) arsenic - 33 mg/kg dw; cadmium - 4.98 mg/kg dw; copper - 149 mg/kg dw; lead - 128 mg/kg dw; zinc - 459 mg/kg dw.
Guideline Reference:	Development and evaluation of consensus-based sediment quality guidelines for freshwater ecosystems. Environmental Contamination and Toxicology. 39: 20-31
Spatial Representation:	One sediment sample was collected at a "watershed integrator" site located close to the mouth of Codornices Creek.
Temporal Representation:	Sediment sample was collected in April of 2005.
Environmental Conditions:	There were no special environmental conditions associated with the sampling.
QAPP Information:	All samples were collected and analyzed using procedures comparable with the SWAMP Quality Assurance Management Plan (SWRCB, 2002).
QAPP Information Reference(s):	Quality Assurance Management Plan for the State of California's Surface Water Ambient Monitoring Program. Sacramento, CA. State Water Resources Control Board. SWAMP. December 2002 (1st version)

DECISION ID	43747	Region 2
Codornices Creek		

Pollutant:	Chlordane
Final Listing Decision:	Do Not List on 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision:	Do Not List on 303(d) list (TMDL required list)(2012)
Revision Status	Original
Impairment from Pollutant or Pollution:	Pollutant
Regional Board Staff Conclusion:	<p>This pollutant is being considered for placement on the section 303(d) list under section 3.1 of the Listing Policy. Under section 3.1 one line of evidence is necessary to assess listing status. One line of evidence is available in the administrative record to assess this pollutant. One of the samples exceed the water quality objective. Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against placing this water segment-pollutant combination on the section 303(d) list in the Water Quality Limited Segments category. This conclusion is based on the staff findings that: 1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy. 2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy. 3. The one sample exceeds the water quality guidelines and this sample size is insufficient to determine with the power and confidence of the Listing Policy if standards are not met. A minimum of two samples is needed for application of table 3.1. 4. Pursuant to SECTION 3.11 of the Listing Policy, no additional data and information are available indicating that</p>

standards are not met.

Regional Board Staff Decision Recommendation: This is a decision previously approved by the State Water Resources Control Board and the USEPA. No new data were assessed by the Regional Board for the current. The decision has not changed.

Line of Evidence (LOE) for Decision ID 43747, Chlordane
Codornices Creek

Region 2

LOE ID: 28775

Pollutant: Chlordane
LOE Subgroup: Pollutant-Sediment
Matrix: Sediment
Fraction: None

Beneficial Use: Warm Freshwater Habitat

Number of Samples: 1
Number of Exceedances: 1

Data and Information Type: PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality: The concentration of chlordane of 24.5 ug/kg in one sediment sample collected in spring 2005 exceeded the PEC (sediment quality guidelines).
Data Reference: [Data collected by the Surface Water Ambient Monitoring Program, San Francisco Bay Regional Water Quality Control Board. Years 4 and 5 Assessment](#)

SWAMP Data: SWAMP

Water Quality Objective/Criterion: All waters shall be maintained free of toxic substances that are lethal to or that produce other detrimental responses in aquatic organisms.
Objective/Criterion Reference: [Water Quality Control Plan \(Basin Plan\) - San Francisco Bay Region \(Region 2\)](#)

Evaluation Guideline: Sediment Quality Guidelines (MacDonald et al., 2000): PEC (probable effect concentration) Chlordane - 17.6 ug/kg.
Guideline Reference: [Development and evaluation of consensus-based sediment quality guidelines for freshwater ecosystems. Environmental Contamination and Toxicology. 39: 20-31](#)

Spatial Representation: One sediment sample was collected at a "watershed integrator" site located close to the mouth of Codornices Creek.
Temporal Representation: Sediment sample was collected in April of 2005.
Environmental Conditions:
QAPP Information: All samples were collected and analyzed using procedures comparable with the SWAMP Quality Assurance Management Plan (SWRCB, 2002).
QAPP Information Reference(s):

DECISION ID 60878

Region 2

Codornices Creek

Pollutant: Chlorpyrifos
Final Listing Decision: Do Not List on 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision: New Decision
Revision Status: Original
Impairment from Pollutant or Pollution: Pollutant

Regional Board Staff Conclusion: This pollutant is being considered for placement on the CWA section 303(d) List under section 3.1 of the Listing Policy. Under section 3.1 a single line of evidence is necessary to assess listing status. One line of evidence is available in the administrative record to assess this pollutant. Zero of three

samples exceed the criterion.

Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against placing this water segment-pollutant combination on the CWA section 303(d) List.

This conclusion is based on the staff findings that:

1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy.
2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy.
3. Zero of three samples exceed the criterion and this sample size is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating. A minimum of 16 samples is needed to determine if a beneficial use is fully supported using table 3.1.
4. Pursuant to SECTION 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.

Regional Board Staff Decision Recommendation: After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be placed on the section 303(d) list. The readily available data and information is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating.

**Line of Evidence (LOE) for Decision ID 60878, Chlorpyrifos
Codornices Creek**

Region 2

LOE ID:	95394
Pollutant:	Chlorpyrifos
LOE Subgroup:	Pollutant-Water
Matrix:	Water
Fraction:	None
Beneficial Use:	Warm Freshwater Habitat
Number of Samples:	3
Number of Exceedances:	0
Data and Information Type:	PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality:	The Codornices Creek watershed was monitored as part of SWAMP assessment. None of the three samples exceeded the water quality objectives for PCBs, Chlorpyrifos, Dacthal, diazinon, disulfoton, endosulfan, Lindane/gamma Hexachlorocyclohexane (gamma-HCH), methyl parathion, thiobencarb.
Data Reference:	Data collected by the Surface Water Ambient Monitoring Program, San Francisco Bay Regional Water Quality Control Board. Years 4 and 5 Assessment
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	All waters shall be maintained free of toxic substances that are lethal to or that produce other detrimental responses in aquatic organisms. There shall be no chronic toxicity in ambient waters. Chronic toxicity is a detrimental biological effect on growth rate, reproduction, fertilization success, larval development, population abundance, community composition, or any other relevant measure of the health of an organism, population, or community. Diazinon water quality objective, 0.1 ug/L (acute)
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) - San Francisco Bay Region (Region 2)
Evaluation Guideline:	PCBs - 0.014 ug/L freshwater continuous Concentration; Chlorpyrifos - 0.015 ug/L (chronic); Dacthal (DCPA) - 14300 ug/L (acute); Disulfoton (Disyston) - 0.05 ug/L (acute); Endosulfan - 0.056 ug/L (chronic)/0.22 ug/L (acute); HCH, gamma-(gamma BHC, Lindane) - 0.95 ug/L (acute); methyl parathion - 0.08 ug/L (acute); Thiobencarb - 3.1 ug/L (acute).
Guideline Reference:	National recommended water quality criteria: 2002. EPA-822-R-02-047 Washington, D.C. USEPA

Spatial Representation:	Data were collected at one sampling location (COD020) in the Cordornices Creek.
Temporal Representation:	Samples were collected during wet (January), spring (April), and dry(June) seasons of 2005.
Environmental Conditions:	There were no special environmental conditions associated with the sampling.
QAPP Information:	All samples were collected and analyzed using procedures comparable with the SWAMP Quality Assurance Management Plan (SWRCB, 2002).
QAPP Information Reference(s):	Quality Assurance Management Plan for the State of California's Surface Water Ambient Monitoring Program. Sacramento, CA. State Water Resources Control Board. SWAMP. December 2002 (1st version).

DECISION ID	43184	Region 2
Codornices Creek		

Pollutant:	Chromium
Final Listing Decision:	Do Not List on 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision:	Do Not List on 303(d) list (TMDL required list)(2012)
Revision Status	Original
Impairment from Pollutant or Pollution:	Pollutant

Regional Board Staff Conclusion: This pollutant is being considered for placement on the CWA section 303(d) List under section 3.1 of the Listing Policy. Under section 3.1 a single line of evidence is necessary to assess listing status. Two lines of evidence are available in the administrative record to assess this pollutant. Zero of three samples exceed the objective.

Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against placing this water segment-pollutant combination on the CWA section 303(d) List.

This conclusion is based on the staff findings that:

1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy.
2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy.
3. Zero of three samples exceed the objective and this sample size is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating. A minimum of 16 samples is needed to determine if a beneficial use is fully supported using table 3.1.
4. Pursuant to SECTION 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.

Regional Board Staff Decision Recommendation:	This is a decision previously approved by the State Water Resources Control Board and the USEPA. No new data were assessed by the Regional Board for the current. The decision has not changed.
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Line of Evidence (LOE) for Decision ID 43184, Chromium	Region 2
Codornices Creek	

LOE ID:	28759
Pollutant:	Chromium (total)
LOE Subgroup:	Pollutant-Sediment
Matrix:	Sediment
Fraction:	Total
Beneficial Use:	Warm Freshwater Habitat
Number of Samples:	1
Number of Exceedances:	1
Data and Information Type:	PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality:	Concentrations of chromium in one sediment sample collected in April 2005 was 123

Data Reference:	mg/kg dw and exceeded the PEC guideline. Data collected by the Surface Water Ambient Monitoring Program, San Francisco Bay Regional Water Quality Control Board. Years 4 and 5 Assessment
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	All waters shall be maintained free of toxic substances that are lethal to or that produce other detrimental responses in aquatic organisms.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) - San Francisco Bay Region (Region 2)
Evaluation Guideline:	Sediment Quality Guidelines (MacDonald et al., 2000): PEC (probable effect concentration) chromium - 111 mg/kg dw.
Guideline Reference:	Development and evaluation of consensus-based sediment quality guidelines for freshwater ecosystems. Environmental Contamination and Toxicology. 39: 20-31
Spatial Representation:	One sediment sample was collected at a "watershed integrator" site located close to the mouth of Codornices Creek.
Temporal Representation:	Sediment sample was collected in April of 2005.
Environmental Conditions:	
QAPP Information:	All samples were collected and analyzed using procedures comparable with the SWAMP Quality Assurance Management Plan (SWRCB, 2002).
QAPP Information Reference(s):	

Line of Evidence (LOE) for Decision ID 43184, Chromium

Region 2

Codornices Creek

LOE ID:	95404
Pollutant:	Chromium
LOE Subgroup:	Pollutant-Water
Matrix:	Water
Fraction:	Dissolved
Beneficial Use:	Warm Freshwater Habitat
Number of Samples:	3
Number of Exceedances:	0
Data and Information Type:	PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality:	The Codornices Creek watershed was monitored as part of SWAMP assessment. None of the three samples exceeded the water quality objectives for arsenic, chromium, copper, lead, nickel, silver and zinc
Data Reference:	Data collected by the Surface Water Ambient Monitoring Program, San Francisco Bay Regional Water Quality Control Board. Years 4 and 5 Assessment
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	All waters shall be maintained free of toxic substances that are lethal to or that produce other detrimental responses in aquatic organisms. Table 3-4 in the Basin Plan (2007) lists freshwater water quality objectives for toxic pollutants: arsenic- 150 ug/L, chromium VI- 11 ug/L, copper - 9.0 ug/L, lead - 2.5 ug/L; nickel - 52 ug/L, silver-3.4 ug/L and zinc - 120 ug/L.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) - San Francisco Bay Region (Region 2)
Evaluation Guideline:	
Guideline Reference:	
Spatial Representation:	Data were collected at one sampling location (COD020) on Codornices Creek at 2nd Street.
Temporal Representation:	Samples were collected during wet (January), spring (April), and dry(June) seasons of 2005.
Environmental Conditions:	There were no special environmental conditions associated with the sampling.

QAPP Information: All samples were collected and analyzed using procedures comparable with the SWAMP Quality Assurance Management Plan (SWRCB, 2002).

QAPP Information Reference(s): [Quality Assurance Management Plan for the State of California's Surface Water Ambient Monitoring Program. Sacramento, CA. State Water Resources Control Board. SWAMP. December 2002 \(1st version\)](#)

DECISION ID	60863	Region 2
Codornices Creek		

Pollutant: Chrysene (C1-C4)
Final Listing Decision: Do Not List on 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision: New Decision
Revision Status: Original
Impairment from Pollutant or Pollution: Pollutant

Regional Board Staff Conclusion: This pollutant is being considered for placement on the CWA section 303(d) List under section 3.1 of the Listing Policy. Under section 3.1 a single line of evidence is necessary to assess listing status.

One line of evidence is available in the administrative record to assess this pollutant. Zero of one samples exceed the guideline.

Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against placing this water segment-pollutant combination on the CWA section 303(d) List.

This conclusion is based on the staff findings that:

1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy.
2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy.
3. Zero of one samples exceed the guideline and this sample size is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating. A minimum of 16 samples is needed to determine if a beneficial use is fully supported using table 3.1.
4. Pursuant to SECTION 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.

Regional Board Staff Decision Recommendation: After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be placed on the section 303(d) list. The readily available data and information is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating.

Line of Evidence (LOE) for Decision ID 60863, Chrysene (C1-C4)	Region 2
Codornices Creek	

LOE ID: 95376

Pollutant: Chrysene (C1-C4)
LOE Subgroup: Pollutant-Sediment
Matrix: Sediment
Fraction: None

Beneficial Use: Warm Freshwater Habitat

Number of Samples: 1
Number of Exceedances: 0

Data and Information Type: PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality: Concentrations of anthracene, fluorene, naphthalene, phenanthrene, benz(a)anthracene, benzo(a)pyrene, chrysene, fluoranthrene, pyrene, PAH (total), PCB (total), dieldrin,

Data Reference:	DDE/DDT, endrin, heptachlor epoxide, and HCH, gamma in one sediment sample collected in spring 2005 did not exceed the sediment quality guidelines. Data collected by the Surface Water Ambient Monitoring Program, San Francisco Bay Regional Water Quality Control Board. Years 4 and 5 Assessment
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	All waters shall be maintained free of toxic substances that are lethal to or that produce other detrimental responses in aquatic organisms.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) - San Francisco Bay Region (Region 2)
Evaluation Guideline:	Sediment Quality Guidelines (MacDonald et al., 2000): PEC (probable effect concentration) Anthracene - 845 ug/kg; Fluorene - 536 ug/kg; Naphthalene - 561 ug/kg; Phenanthrene - 1170 ug/kg; Benz(a)anthracene - 1050 ug/kg; Benzo(a)pyrene - 1450 ug/kg; Chrysene - 1290 ug/kg; Fluoranthene - 2230 ug/kg; Pyrene - 1520 ug/kg; PAH (total) - 22800 ug/kg; PCB (total) - 676 ug/kg; Chlordane - 17.6 ug/kg; Dieldrin - 61.8 ug/kg; DDD (sum op + pp) - 28 ug/kg; DDE (sum op + pp) - 31.3 ug/kg; DDT (sum op + pp) - 62.9 ug/kg; DDT (total) - 572 ug/kg; Endrin - 207 ug/kg; Heptachlor epoxide - 16 ug/kg; HCH, gamma - 4.99 ug/kg.
Guideline Reference:	Development and evaluation of consensus-based sediment quality guidelines for freshwater ecosystems. Environmental Contamination and Toxicology. 39: 20-31
Spatial Representation:	One sediment sample was collected at a "watershed integrator" site located close to the mouth of Codornices Creek.
Temporal Representation:	Sediment sample was collected in April of 2005.
Environmental Conditions:	There were no special environmental conditions associated with the sampling.
QAPP Information:	All samples were collected and analyzed using procedures comparable with the SWAMP Quality Assurance Management Plan (SWRCB, 2002).
QAPP Information Reference(s):	Quality Assurance Management Plan for the State of California's Surface Water Ambient Monitoring Program. Sacramento, CA. State Water Resources Control Board. SWAMP. December 2002 (1st version)

DECISION ID	60887	Region 2
Codornices Creek		
Pollutant:	Copper	
Final Listing Decision:	Do Not List on 303(d) list (TMDL required list)	
Last Listing Cycle's Final Listing Decision:	New Decision	
Revision Status	Original	
Impairment from Pollutant or Pollution:	Pollutant	
Regional Board Staff Conclusion:	<p>This pollutant is being considered for placement on the CWA section 303(d) List under section 3.1 of the Listing Policy. Under section 3.1 a single line of evidence is necessary to assess listing status. Two lines of evidence are available in the administrative record to assess this pollutant. Zero of three samples exceed the objective.</p> <p>Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against placing this water segment-pollutant combination on the CWA section 303(d) List.</p> <p>This conclusion is based on the staff findings that:</p> <ol style="list-style-type: none"> 1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy. 2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy. 3. Zero of three samples exceed the objective and this sample size is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating. A minimum of 16 samples is needed to determine if a beneficial use is fully supported using table 3.1. 4. Pursuant to SECTION 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met. 	

Regional Board Staff Decision Recommendation: After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be placed on the section 303(d) list. The readily available data and information is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating.

**Line of Evidence (LOE) for Decision ID 60887, Copper
Codornices Creek**

Region 2

LOE ID: 95405

Pollutant: Copper
LOE Subgroup: Pollutant-Water
Matrix: Water
Fraction: Dissolved

Beneficial Use: Warm Freshwater Habitat

Number of Samples: 3
Number of Exceedances: 0

Data and Information Type: PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality: The Codornices Creek watershed was monitored as part of SWAMP assessment. None of the three samples exceeded the water quality objectives for arsenic, chromium, copper, lead, nickel, silver and zinc

Data Reference: [Data collected by the Surface Water Ambient Monitoring Program, San Francisco Bay Regional Water Quality Control Board. Years 4 and 5 Assessment](#)

SWAMP Data: SWAMP

Water Quality Objective/Criterion: All waters shall be maintained free of toxic substances that are lethal to or that produce other detrimental responses in aquatic organisms. Table 3-4 in the Basin Plan (2007) lists freshwater water quality objectives for toxic pollutants: arsenic- 150 ug/L, chromium VI- 11 ug/L, copper - 9.0 ug/L, lead - 2.5 ug/L; nickel - 52 ug/L, silver-3.4 ug/L and zinc - 120 ug/L.

Objective/Criterion Reference: [Water Quality Control Plan \(Basin Plan\) - San Francisco Bay Region \(Region 2\)](#)

Evaluation Guideline:
Guideline Reference:

Spatial Representation: Data were collected at one sampling location (COD020) on Codornices Creek at 2nd Street.

Temporal Representation: Samples were collected during wet (January), spring (April), and dry(June) seasons of 2005.

Environmental Conditions:
QAPP Information: There were no special environmental conditions associated with the sampling. All samples were collected and analyzed using procedures comparable with the SWAMP Quality Assurance Management Plan (SWRCB, 2002).

QAPP Information Reference(s): [Quality Assurance Management Plan for the State of California's Surface Water Ambient Monitoring Program. Sacramento, CA. State Water Resources Control Board. SWAMP. December 2002 \(1st version\)](#)

**Line of Evidence (LOE) for Decision ID 60887, Copper
Codornices Creek**

Region 2

LOE ID: 95391

Pollutant: Copper
LOE Subgroup: Pollutant-Sediment
Matrix: Sediment
Fraction: Total

Beneficial Use:	Warm Freshwater Habitat
Number of Samples:	1
Number of Exceedances:	0
Data and Information Type:	PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality:	Concentrations of arsenic, cadmium, copper, lead and zinc in one sediment sample collected in April 2005 did not exceed the sediment quality guidelines.
Data Reference:	Data collected by the Surface Water Ambient Monitoring Program, San Francisco Bay Regional Water Quality Control Board, Years 4 and 5 Assessment
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	All waters shall be maintained free of toxic substances that are lethal to or that produce other detrimental responses in aquatic organisms.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) - San Francisco Bay Region (Region 2)
Evaluation Guideline:	Sediment Quality Guidelines (MacDonald et al., 2000): PEC (probable effect concentration) arsenic - 33 mg/kg dw; cadmium - 4.98 mg/kg dw; copper - 149 mg/kg dw; lead - 128 mg/kg dw; zinc - 459 mg/kg dw.
Guideline Reference:	Development and evaluation of consensus-based sediment quality guidelines for freshwater ecosystems. Environmental Contamination and Toxicology. 39: 20-31
Spatial Representation:	One sediment sample was collected at a "watershed integrator" site located close to the mouth of Codornices Creek.
Temporal Representation:	Sediment sample was collected in April of 2005.
Environmental Conditions:	There were no special environmental conditions associated with the sampling.
QAPP Information:	All samples were collected and analyzed using procedures comparable with the SWAMP Quality Assurance Management Plan (SWRCB, 2002).
QAPP Information Reference(s):	Quality Assurance Management Plan for the State of California's Surface Water Ambient Monitoring Program, Sacramento, CA, State Water Resources Control Board, SWAMP, December 2002 (1st version)

DECISION ID	43582	Region 2
Codornices Creek		

Pollutant:	DDD (Dichlorodiphenyldichloroethane)
Final Listing Decision:	Do Not List on 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision:	Do Not List on 303(d) list (TMDL required list)(2012)
Revision Status	Original
Impairment from Pollutant or Pollution:	Pollutant
Regional Board Staff Conclusion:	This pollutant is being considered for placement on the section 303(d) list under section 3.1 of the Listing Policy. Under section 3.1 a one line of evidence is necessary to assess listing status. One lines of evidence are available in the administrative record to assess this pollutant. One sample exceeded the water quality objective. Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against placing this water segment-pollutant combination on the section 303(d) list in the Water Quality Limited Segments category. This conclusion is based on the staff findings that: 1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy. 2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy. 3. One of one sample exceeded the water quality guidelines and this sample size is insufficient to determine with the power and confidence of the Listing Policy if standards are not met. A minimum of two samples is needed for application of table 3.1. 4. Pursuant to SECTION 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.
Regional Board Staff Decision Recommendation:	This is a decision previously approved by the State Water Resources Control Board and the USEPA. No new data were assessed by the Regional Board for the current. The decision has not changed.

Codornices Creek

LOE ID:	28776
Pollutant:	DDD (Dichlorodiphenyldichloroethane)
LOE Subgroup:	Pollutant-Sediment
Matrix:	Sediment
Fraction:	None
Beneficial Use:	Warm Freshwater Habitat
Number of Samples:	1
Number of Exceedances:	1
Data and Information Type:	PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality:	The sample exceeded the PEC (sediment quality guidelines) for DDD at 40.9 ug/kg in one sediment sample collected in spring 2005.
Data Reference:	Data collected by the Surface Water Ambient Monitoring Program, San Francisco Bay Regional Water Quality Control Board. Years 4 and 5 Assessment
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	All waters shall be maintained free of toxic substances that are lethal to or that produce other detrimental responses in aquatic organisms.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) - San Francisco Bay Region (Region 2)
Evaluation Guideline:	Sediment Quality Guidelines (MacDonald et al., 2000): PEC (probable effect concentration) DDD (sum op + pp) - 28 ug/kg; DDE (sum op + pp) - 31.3 ug/kg; DDT (sum op + pp) - 62.9 ug/kg; DDT (total) - 572 ug/kg.
Guideline Reference:	Development and evaluation of consensus-based sediment quality guidelines for freshwater ecosystems. Environmental Contamination and Toxicology. 39: 20-31
Spatial Representation:	One sediment sample was collected at a "watershed integrator" site located close to the mouth of Codornices Creek.
Temporal Representation:	Sediment sample was collected in April of 2005.
Environmental Conditions:	
QAPP Information:	All samples were collected and analyzed using procedures comparable with the SWAMP Quality Assurance Management Plan (SWRCB, 2002).
QAPP Information Reference(s):	

DECISION ID

60865

Region 2

Codornices Creek

Pollutant:	DDE (Dichlorodiphenyldichloroethylene)
Final Listing Decision:	Do Not List on 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision:	New Decision
Revision Status	Original
Impairment from Pollutant or Pollution:	Pollutant
Regional Board Staff Conclusion:	<p>This pollutant is being considered for placement on the CWA section 303(d) List under section 3.1 of the Listing Policy. Under section 3.1 a single line of evidence is necessary to assess listing status.</p> <p>One line of evidence is available in the administrative record to assess this pollutant. Zero of one samples exceed the guideline.</p> <p>Based on the readily available data and information, the weight of evidence indicates that there is</p>

sufficient justification against placing this water segment-pollutant combination on the CWA section 303(d) List.

This conclusion is based on the staff findings that:

1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy.
2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy.
3. Zero of one samples exceed the guideline and this sample size is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating. A minimum of 16 samples is needed to determine if a beneficial use is fully supported using table 3.1.
4. Pursuant to SECTION 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.

Regional Board Staff Decision Recommendation: After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be placed on the section 303(d) list. The readily available data and information is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating.

Line of Evidence (LOE) for Decision ID 60865, DDE (Dichlorodiphenyldichloroethylene)

Region 2

Codornices Creek

LOE ID:	95377
Pollutant:	DDE (Dichlorodiphenyldichloroethylene)
LOE Subgroup:	Pollutant-Sediment
Matrix:	Sediment
Fraction:	None
Beneficial Use:	Warm Freshwater Habitat
Number of Samples:	1
Number of Exceedances:	0
Data and Information Type:	PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality:	Concentrations of anthracene, fluorene, naphthalene, phenanthrene, benz(a)anthracene, benzo(a)pyrene, chrysene, fluoranthrene, pyrene, PAH (total), PCB (total), dieldrin, DDE/DDT, endrin, heptachlor epoxide, and HCH, gamma in one sediment sample collected in spring 2005 did not exceed the sediment quality guidelines.
Data Reference:	Data collected by the Surface Water Ambient Monitoring Program, San Francisco Bay Regional Water Quality Control Board. Years 4 and 5 Assessment
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	All waters shall be maintained free of toxic substances that are lethal to or that produce other detrimental responses in aquatic organisms.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) - San Francisco Bay Region (Region 2)
Evaluation Guideline:	Sediment Quality Guidelines (MacDonald et al., 2000): PEC (probable effect concentration) Anthracene - 845 ug/kg; Fluorene - 536 ug/kg; Naphthalene - 561 ug/kg; Phenanthrene - 1170 ug/kg; Benz(a)anthracene - 1050 ug/kg; Benzo(a)pyrene - 1450 ug/kg; Chrysene - 1290 ug/kg; Fluoranthene - 2230 ug/kg; Pyrene - 1520 ug/kg; PAH (total) - 22800 ug/kg; PCB (total) - 676 ug/kg; Chlordane - 17.6 ug/kg; Dieldrin - 61.8 ug/kg; DDD (sum op + pp) - 28 ug/kg; DDE (sum op + pp) - 31.3 ug/kg; DDT (sum op + pp) - 62.9 ug/kg; DDT (total) - 572 ug/kg; Endrin - 207 ug/kg; Heptachlor epoxide - 16 ug/kg; HCH, gamma - 4.99 ug/kg.
Guideline Reference:	Development and evaluation of consensus-based sediment quality guidelines for freshwater ecosystems. Environmental Contamination and Toxicology. 39: 20-31
Spatial Representation:	One sediment sample was collected at a "watershed integrator" site located close to the mouth of Codornices Creek.
Temporal Representation:	Sediment sample was collected in April of 2005.
Environmental Conditions:	There were no special environmental conditions associated with the sampling.

QAPP Information: All samples were collected and analyzed using procedures comparable with the SWAMP Quality Assurance Management Plan (SWRCB, 2002).

QAPP Information Reference(s): [Quality Assurance Management Plan for the State of California's Surface Water Ambient Monitoring Program. Sacramento, CA. State Water Resources Control Board. SWAMP. December 2002 \(1st version\)](#)

DECISION ID	60866	Region 2
Codornices Creek		

Pollutant: DDT (Dichlorodiphenyltrichloroethane)
Final Listing Decision: Do Not List on 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision: New Decision
Revision Status: Original
Impairment from Pollutant or Pollution: Pollutant

Regional Board Staff Conclusion: This pollutant is being considered for placement on the CWA section 303(d) List under section 3.1 of the Listing Policy. Under section 3.1 a single line of evidence is necessary to assess listing status.

One line of evidence is available in the administrative record to assess this pollutant. Zero of one samples exceed the guideline.

Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against placing this water segment-pollutant combination on the CWA section 303(d) List.

This conclusion is based on the staff findings that:

1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy.
2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy.
3. Zero of one samples exceed the guideline and this sample size is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating. A minimum of 16 samples is needed to determine if a beneficial use is fully supported using table 3.1.
4. Pursuant to SECTION 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.

Regional Board Staff Decision Recommendation: After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be placed on the section 303(d) list. The readily available data and information is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating.

Line of Evidence (LOE) for Decision ID 60866, DDT (Dichlorodiphenyltrichloroethane)	Region 2
Codornices Creek	

LOE ID: 95378

Pollutant: DDT (Dichlorodiphenyltrichloroethane)
LOE Subgroup: Pollutant-Sediment
Matrix: Sediment
Fraction: None

Beneficial Use: Warm Freshwater Habitat

Number of Samples: 1
Number of Exceedances: 0

Data and Information Type: PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality: Concentrations of anthracene, fluorene, naphthalene, phenanthrene, benz(a)anthracene, benzo(a)pyrene, chrysene, fluoranthrene, pyrene, PAH (total), PCB (total), dieldrin,

Data Reference:	DDE/DDT, endrin, heptachlor epoxide, and HCH, gamma in one sediment sample collected in spring 2005 did not exceed the sediment quality guidelines. Data collected by the Surface Water Ambient Monitoring Program, San Francisco Bay Regional Water Quality Control Board. Years 4 and 5 Assessment
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	All waters shall be maintained free of toxic substances that are lethal to or that produce other detrimental responses in aquatic organisms.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) - San Francisco Bay Region (Region 2)
Evaluation Guideline:	Sediment Quality Guidelines (MacDonald et al., 2000): PEC (probable effect concentration) Anthracene - 845 ug/kg; Fluorene - 536 ug/kg; Naphthalene - 561 ug/kg; Phenanthrene - 1170 ug/kg; Benz(a)anthracene - 1050 ug/kg; Benzo(a)pyrene - 1450 ug/kg; Chrysene - 1290 ug/kg; Fluoranthene - 2230 ug/kg; Pyrene - 1520 ug/kg; PAH (total) - 22800 ug/kg; PCB (total) - 676 ug/kg; Chlordane - 17.6 ug/kg; Dieldrin - 61.8 ug/kg; DDD (sum op + pp) - 28 ug/kg; DDE (sum op + pp) - 31.3 ug/kg; DDT (sum op + pp) - 62.9 ug/kg; DDT (total) - 572 ug/kg; Endrin - 207 ug/kg; Heptachlor epoxide - 16 ug/kg; HCH, gamma - 4.99 ug/kg.
Guideline Reference:	Development and evaluation of consensus-based sediment quality guidelines for freshwater ecosystems. Environmental Contamination and Toxicology. 39: 20-31
Spatial Representation:	One sediment sample was collected at a "watershed integrator" site located close to the mouth of Codornices Creek.
Temporal Representation:	Sediment sample was collected in April of 2005.
Environmental Conditions:	There were no special environmental conditions associated with the sampling.
QAPP Information:	All samples were collected and analyzed using procedures comparable with the SWAMP Quality Assurance Management Plan (SWRCB, 2002).
QAPP Information Reference(s):	Quality Assurance Management Plan for the State of California's Surface Water Ambient Monitoring Program. Sacramento, CA. State Water Resources Control Board. SWAMP. December 2002 (1st version)

DECISION ID	60879	Region 2
Codornices Creek		
Pollutant:	Dacthal	
Final Listing Decision:	Do Not List on 303(d) list (TMDL required list)	
Last Listing Cycle's Final Listing Decision:	New Decision	
Revision Status	Original	
Impairment from Pollutant or Pollution:	Pollutant	
Regional Board Staff Conclusion:	<p>This pollutant is being considered for placement on the CWA section 303(d) List under section 3.1 of the Listing Policy. Under section 3.1 a single line of evidence is necessary to assess listing status. One line of evidence is available in the administrative record to assess this pollutant. Zero of three samples exceed the criterion.</p> <p>Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against placing this water segment-pollutant combination on the CWA section 303(d) List.</p> <p>This conclusion is based on the staff findings that:</p> <ol style="list-style-type: none"> 1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy. 2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy. 3. Zero of three samples exceed the criterion and this sample size is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating. A minimum of 16 samples is needed to determine if a beneficial use is fully supported using table 3.1. 4. Pursuant to SECTION 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met. 	

Regional Board Staff Decision Recommendation: After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be placed on the section 303(d) list. The readily available data and information is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating.

**Line of Evidence (LOE) for Decision ID 60879, Dacthal
Codornices Creek**

Region 2

LOE ID: 95395

Pollutant: Dacthal
LOE Subgroup: Pollutant-Water
Matrix: Water
Fraction: None

Beneficial Use: Warm Freshwater Habitat

Number of Samples: 3
Number of Exceedances: 0

Data and Information Type: PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality: The Codornices Creek watershed was monitored as part of SWAMP assessment. None of the three samples exceeded the water quality objectives for PCBs, Chlorpyrifos, Dacthal, diazinon, disulfoton, endosulfan, Lindane/gamma Hexachlorocyclohexane (gamma-HCH), methyl parathion, thiobencarb.

Data Reference: [Data collected by the Surface Water Ambient Monitoring Program, San Francisco Bay Regional Water Quality Control Board. Years 4 and 5 Assessment](#)

SWAMP Data: SWAMP

Water Quality Objective/Criterion: All waters shall be maintained free of toxic substances that are lethal to or that produce other detrimental responses in aquatic organisms. There shall be no chronic toxicity in ambient waters. Chronic toxicity is a detrimental biological effect on growth rate, reproduction, fertilization success, larval development, population abundance, community composition, or any other relevant measure of the health of an organism, population, or community. Diazinon water quality objective, 0.1 ug/L (acute)

Objective/Criterion Reference: [Water Quality Control Plan \(Basin Plan\) - San Francisco Bay Region \(Region 2\)](#)

Evaluation Guideline: PCBs - 0.014 ug/L freshwater continuous Concentration; Chlorpyrifos - 0.015 ug/L (chronic); Dacthal (DCPA) - 14300 ug/L (acute); Disulfoton (Disyston) - 0.05 ug/L (acute); Endosulfan - 0.056 ug/L (chronic)/0.22 ug/L (acute); HCH, gamma-(gamma BHC, Lindane) - 0.95 ug/L (acute); methyl parathion - 0.08 ug/L (acute); Thiobencarb - 3.1 ug/L (acute).

Guideline Reference: [National recommended water quality criteria: 2002. EPA-822-R-02-047 Washington, D.C. USEPA](#)

Spatial Representation: Data were collected at one sampling location (COD020) in the Codornices Creek.
Temporal Representation: Samples were collected during wet (January), spring (April), and dry(June) seasons of 2005.

Environmental Conditions: There were no special environmental conditions associated with the sampling.
QAPP Information: All samples were collected and analyzed using procedures comparable with the SWAMP Quality Assurance Management Plan (SWRCB, 2002).

QAPP Information Reference(s): [Quality Assurance Management Plan for the State of California's Surface Water Ambient Monitoring Program. Sacramento, CA. State Water Resources Control Board. SWAMP. December 2002 \(1st version\)](#)

**DECISION ID 60881
Codornices Creek**

Region 2

Pollutant:	Diazinon
Final Listing Decision:	Do Not List on 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision:	New Decision
Revision Status	Original
Impairment from Pollutant or Pollution:	Pollutant

Regional Board Staff Conclusion: This pollutant is being considered for placement on the CWA section 303(d) List under section 3.1 of the Listing Policy. Under section 3.1 a single line of evidence is necessary to assess listing status. One line of evidence is available in the administrative record to assess this pollutant. Zero of three samples exceed the criterion.

Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against placing this water segment-pollutant combination on the CWA section 303(d) List.

This conclusion is based on the staff findings that:

1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy.
2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy.
3. Zero of three samples exceed the criterion and this sample size is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating. A minimum of 16 samples is needed to determine if a beneficial use is fully supported using table 3.1.
4. Pursuant to SECTION 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.

Regional Board Staff Decision Recommendation: After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be placed on the section 303(d) list. The readily available data and information is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating.

Line of Evidence (LOE) for Decision ID 60881, Diazinon Codornices Creek

Region 2

LOE ID: 95396

Pollutant:	Diazinon
LOE Subgroup:	Pollutant-Water
Matrix:	Water
Fraction:	None

Beneficial Use: Warm Freshwater Habitat

Number of Samples:	3
Number of Exceedances:	0

Data and Information Type:	PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality:	The Codornices Creek watershed was monitored as part of SWAMP assessment. None of the three samples exceeded the water quality objectives for PCBs, Chlorpyrifos, Dacthal, diazinon, disulfoton, endosulfan, Lindane/gamma Hexachlorocyclohexane (gamma-HCH), methyl parathion, thiobencarb.

Data Reference: [Data collected by the Surface Water Ambient Monitoring Program, San Francisco Bay Regional Water Quality Control Board. Years 4 and 5 Assessment](#)

SWAMP Data: SWAMP

Water Quality Objective/Criterion: All waters shall be maintained free of toxic substances that are lethal to or that produce other detrimental responses in aquatic organisms. There shall be no chronic toxicity in ambient waters. Chronic toxicity is a detrimental biological effect on growth rate, reproduction, fertilization success, larval development, population abundance, community composition, or any other relevant measure of the health of an organism, population, or

Objective/Criterion Reference:	community. Diazinon water quality objective, 0.1 ug/L (acute) Water Quality Control Plan (Basin Plan) - San Francisco Bay Region (Region 2)
Evaluation Guideline:	PCBs - 0.014 ug/L freshwater continuous Concentration; Chlorpyrifos - 0.015 ug/L (chronic); Dacthal (DCPA) - 14300 ug/L (acute); Disulfoton (Disyston) - 0.05 ug/L (acute); Endosulfan - 0.056 ug/L (chronic)/0.22 ug/L (acute); HCH, gamma-(gamma BHC, Lindane) - 0.95 ug/L (acute); methyl parathion - 0.08 ug/L (acute); Thiobencarb - 3.1 ug/L (acute).
Guideline Reference:	National recommended water quality criteria: 2002. EPA-822-R-02-047 Washington, D.C. USEPA
Spatial Representation:	Data were collected at one sampling location (COD020) in the Cordornices Creek.
Temporal Representation:	Samples were collected during wet (January), spring (April), and dry(June) seasons of 2005.
Environmental Conditions:	There were no special environmental conditions associated with the sampling.
QAPP Information:	All samples were collected and analyzed using procedures comparable with the SWAMP Quality Assurance Management Plan (SWRCB, 2002).
QAPP Information Reference(s):	Quality Assurance Management Plan for the State of California's Surface Water Ambient Monitoring Program. Sacramento, CA. State Water Resources Control Board. SWAMP. December 2002 (1st version)

DECISION ID	60868	Region 2
Codornices Creek		
Pollutant:	Dieldrin	
Final Listing Decision:	Do Not List on 303(d) list (TMDL required list)	
Last Listing Cycle's Final Listing Decision:	New Decision	
Revision Status	Original	
Impairment from Pollutant or Pollution:	Pollutant	
Regional Board Staff Conclusion:	<p>This pollutant is being considered for placement on the CWA section 303(d) List under section 3.1 of the Listing Policy. Under section 3.1 a single line of evidence is necessary to assess listing status.</p> <p>One line of evidence is available in the administrative record to assess this pollutant. Zero of one samples exceed the guideline.</p> <p>Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against placing this water segment-pollutant combination on the CWA section 303(d) List.</p> <p>This conclusion is based on the staff findings that:</p> <ol style="list-style-type: none"> 1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy. 2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy. 3. Zero of one samples exceed the guideline and this sample size is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating. A minimum of 16 samples is needed to determine if a beneficial use is fully supported using table 3.1. 4. Pursuant to SECTION 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met. 	
Regional Board Staff Decision Recommendation:	After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be placed on the section 303(d) list. The readily available data and information is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating.	
Line of Evidence (LOE) for Decision ID 60868, Dieldrin		Region 2
Codornices Creek		

LOE ID:	95379
Pollutant:	Dieldrin
LOE Subgroup:	Pollutant-Sediment
Matrix:	Sediment
Fraction:	None
Beneficial Use:	Warm Freshwater Habitat
Number of Samples:	1
Number of Exceedances:	0
Data and Information Type:	PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality:	Concentrations of anthracene, fluorene, naphthalene, phenanthrene, benz(a)anthracene, benzo(a)pyrene, chrysene, fluoranthene, pyrene, PAH (total), PCB (total), dieldrin, DDE/DDT, endrin, heptachlor epoxide, and HCH, gamma in one sediment sample collected in spring 2005 did not exceed the sediment quality guidelines.
Data Reference:	Data collected by the Surface Water Ambient Monitoring Program, San Francisco Bay Regional Water Quality Control Board. Years 4 and 5 Assessment
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	All waters shall be maintained free of toxic substances that are lethal to or that produce other detrimental responses in aquatic organisms.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) - San Francisco Bay Region (Region 2)
Evaluation Guideline:	Sediment Quality Guidelines (MacDonald et al., 2000): PEC (probable effect concentration) Anthracene - 845 ug/kg; Fluorene - 536 ug/kg; Naphthalene - 561 ug/kg; Phenanthrene - 1170 ug/kg; Benz(a)anthracene - 1050 ug/kg; Benzo(a)pyrene - 1450 ug/kg; Chrysene - 1290 ug/kg; Fluoranthene - 2230 ug/kg; Pyrene - 1520 ug/kg; PAH (total) - 22800 ug/kg; PCB (total) - 676 ug/kg; Chlordane - 17.6 ug/kg; Dieldrin - 61.8 ug/kg; DDD (sum op + pp) - 28 ug/kg; DDE (sum op + pp) - 31.3 ug/kg; DDT (sum op + pp) - 62.9 ug/kg; DDT (total) - 572 ug/kg; Endrin - 207 ug/kg; Heptachlor epoxide - 16 ug/kg; HCH, gamma - 4.99 ug/kg.
Guideline Reference:	Development and evaluation of consensus-based sediment quality guidelines for freshwater ecosystems. Environmental Contamination and Toxicology. 39: 20-31
Spatial Representation:	One sediment sample was collected at a "watershed integrator" site located close to the mouth of Codornices Creek.
Temporal Representation:	Sediment sample was collected in April of 2005.
Environmental Conditions:	There were no special environmental conditions associated with the sampling.
QAPP Information:	All samples were collected and analyzed using procedures comparable with the SWAMP Quality Assurance Management Plan (SWRCB, 2002).
QAPP Information Reference(s):	Quality Assurance Management Plan for the State of California's Surface Water Ambient Monitoring Program, Sacramento, CA. State Water Resources Control Board. SWAMP. December 2002 (1st version)

DECISION ID		60882	Region 2
Codornices Creek			
Pollutant:	Disulfoton		
Final Listing Decision:	Do Not List on 303(d) list (TMDL required list)		
Last Listing Cycle's Final Listing Decision:	New Decision		
Revision Status	Original		
Impairment from Pollutant or Pollution:	Pollutant		
Regional Board Staff Conclusion:	This pollutant is being considered for placement on the CWA section 303(d) List under section 3.1 of the Listing Policy. Under section 3.1 a single line of evidence is necessary to assess listing status. One line of evidence is available in the administrative record to assess this pollutant. Zero of three		

samples exceed the criterion.

Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against placing this water segment-pollutant combination on the CWA section 303(d) List.

This conclusion is based on the staff findings that:

1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy.
2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy.
3. Zero of three samples exceed the criterion and this sample size is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating. A minimum of 16 samples is needed to determine if a beneficial use is fully supported using table 3.1.
4. Pursuant to SECTION 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.

Regional Board Staff Decision Recommendation: After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be placed on the section 303(d) list. The readily available data and information is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating.

**Line of Evidence (LOE) for Decision ID 60882, Disulfoton
Codornices Creek**

Region 2

LOE ID:	95397
Pollutant:	Disulfoton
LOE Subgroup:	Pollutant-Water
Matrix:	Water
Fraction:	None
Beneficial Use:	Warm Freshwater Habitat
Number of Samples:	3
Number of Exceedances:	0
Data and Information Type:	PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality:	The Codornices Creek watershed was monitored as part of SWAMP assessment. None of the three samples exceeded the water quality objectives for PCBs, Chlorpyrifos, Dacthal, diazinon, disulfoton, endosulfan, Lindane/gamma Hexachlorocyclohexane (gamma-HCH), methyl parathion, thiobencarb.
Data Reference:	Data collected by the Surface Water Ambient Monitoring Program, San Francisco Bay Regional Water Quality Control Board. Years 4 and 5 Assessment
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	All waters shall be maintained free of toxic substances that are lethal to or that produce other detrimental responses in aquatic organisms. There shall be no chronic toxicity in ambient waters. Chronic toxicity is a detrimental biological effect on growth rate, reproduction, fertilization success, larval development, population abundance, community composition, or any other relevant measure of the health of an organism, population, or community. Diazinon water quality objective, 0.1 ug/L (acute)
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) - San Francisco Bay Region (Region 2)
Evaluation Guideline:	PCBs - 0.014 ug/L freshwater continuous Concentration; Chlorpyrifos - 0.015 ug/L (chronic); Dacthal (DCPA) - 14300 ug/L (acute); Disulfoton (Disyston) - 0.05 ug/L (acute); Endosulfan - 0.056 ug/L (chronic)/0.22 ug/L (acute); HCH, gamma-(gamma BHC, Lindane) - 0.95 ug/L (acute); methyl parathion - 0.08 ug/L (acute); Thiobencarb - 3.1 ug/L (acute).
Guideline Reference:	National recommended water quality criteria: 2002. EPA-822-R-02-047 Washington, D.C. USEPA

Spatial Representation:	Data were collected at one sampling location (COD020) in the Cordornices Creek.
Temporal Representation:	Samples were collected during wet (January), spring (April), and dry(June) seasons of 2005.
Environmental Conditions:	There were no special environmental conditions associated with the sampling.
QAPP Information:	All samples were collected and analyzed using procedures comparable with the SWAMP Quality Assurance Management Plan (SWRCB, 2002).
QAPP Information Reference(s):	Quality Assurance Management Plan for the State of California's Surface Water Ambient Monitoring Program. Sacramento, CA. State Water Resources Control Board. SWAMP. December 2002 (1st version).

DECISION ID	60883	Region 2
Codornices Creek		

Pollutant:	Endosulfan
Final Listing Decision:	Do Not List on 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision:	New Decision
Revision Status	Original
Impairment from Pollutant or Pollution:	Pollutant

Regional Board Staff Conclusion: This pollutant is being considered for placement on the CWA section 303(d) List under section 3.1 of the Listing Policy. Under section 3.1 a single line of evidence is necessary to assess listing status. One line of evidence is available in the administrative record to assess this pollutant. Zero of three samples exceed the criterion.

Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against placing this water segment-pollutant combination on the CWA section 303(d) List.

This conclusion is based on the staff findings that:

1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy.
2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy.
3. Zero of three samples exceed the criterion and this sample size is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating. A minimum of 16 samples is needed to determine if a beneficial use is fully supported using table 3.1.
4. Pursuant to SECTION 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.

Regional Board Staff Decision Recommendation: After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be placed on the section 303(d) list. The readily available data and information is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating.

Line of Evidence (LOE) for Decision ID 60883, Endosulfan	Region 2
Codornices Creek	

LOE ID:	95398
Pollutant:	Endosulfan
LOE Subgroup:	Pollutant-Water
Matrix:	Water
Fraction:	None
Beneficial Use:	Warm Freshwater Habitat
Number of Samples:	3
Number of Exceedances:	0

Data and Information Type:	PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality:	The Codornices Creek watershed was monitored as part of SWAMP assessment. None of the three samples exceeded the water quality objectives for PCBs, Chlorpyrifos, Dacthal, diazinon, disulfoton, endosulfan, Lindane/gamma Hexachlorocyclohexane (gamma-HCH), methyl parathion, thiobencarb.
Data Reference:	Data collected by the Surface Water Ambient Monitoring Program, San Francisco Bay Regional Water Quality Control Board. Years 4 and 5 Assessment
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	All waters shall be maintained free of toxic substances that are lethal to or that produce other detrimental responses in aquatic organisms. There shall be no chronic toxicity in ambient waters. Chronic toxicity is a detrimental biological effect on growth rate, reproduction, fertilization success, larval development, population abundance, community composition, or any other relevant measure of the health of an organism, population, or community. Diazinon water quality objective, 0.1 ug/L (acute)
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) - San Francisco Bay Region (Region 2)
Evaluation Guideline:	PCBs - 0.014 ug/L freshwater continuous Concentration; Chlorpyrifos - 0.015 ug/L (chronic); Dacthal (DCPA) - 14300 ug/L (acute); Disulfoton (Disyston) - 0.05 ug/L (acute); Endosulfan - 0.056 ug/L (chronic)/0.22 ug/L (acute); HCH, gamma-(gamma BHC, Lindane) - 0.95 ug/L (acute); methyl parathion - 0.08 ug/L (acute); Thiobencarb - 3.1 ug/L (acute).
Guideline Reference:	National recommended water quality criteria: 2002. EPA-822-R-02-047 Washington, D.C. USEPA
Spatial Representation:	Data were collected at one sampling location (COD020) in the Codornices Creek.
Temporal Representation:	Samples were collected during wet (January), spring (April), and dry(June) seasons of 2005.
Environmental Conditions:	There were no special environmental conditions associated with the sampling.
QAPP Information:	All samples were collected and analyzed using procedures comparable with the SWAMP Quality Assurance Management Plan (SWRCB, 2002).
QAPP Information Reference(s):	Quality Assurance Management Plan for the State of California's Surface Water Ambient Monitoring Program. Sacramento, CA. State Water Resources Control Board. SWAMP. December 2002 (1st version)

DECISION ID	60869	Region 2
Codornices Creek		

Pollutant:	Endrin
Final Listing Decision:	Do Not List on 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision:	New Decision
Revision Status	Original
Impairment from Pollutant or Pollution:	Pollutant
Regional Board Staff Conclusion:	<p>This pollutant is being considered for placement on the CWA section 303(d) List under section 3.1 of the Listing Policy. Under section 3.1 a single line of evidence is necessary to assess listing status.</p> <p>One line of evidence is available in the administrative record to assess this pollutant. Zero of one samples exceed the guideline.</p> <p>Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against placing this water segment-pollutant combination on the CWA section 303(d) List.</p> <p>This conclusion is based on the staff findings that:</p> <ol style="list-style-type: none"> 1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy. 2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy. 3. Zero of one samples exceed the guideline and this sample size is insufficient to determine, with

the power and confidence of the Listing Policy, the applicable beneficial use support rating. A minimum of 16 samples is needed to determine if a beneficial use is fully supported using table 3.1. 4. Pursuant to SECTION 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.

Regional Board Staff Decision Recommendation: After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be placed on the section 303(d) list. The readily available data and information is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating.

Line of Evidence (LOE) for Decision ID 60869, Endrin

Region 2

Codornices Creek

LOE ID:	95380
Pollutant:	Endrin
LOE Subgroup:	Pollutant-Sediment
Matrix:	Sediment
Fraction:	None
Beneficial Use:	Warm Freshwater Habitat
Number of Samples:	1
Number of Exceedances:	0
Data and Information Type:	PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality:	Concentrations of anthracene, fluorene, naphthalene, phenanthrene, benz(a)anthracene, benzo(a)pyrene, chrysene, fluoranthrene, pyrene, PAH (total), PCB (total), dieldrin, DDE/DDT, endrin, heptachlor epoxide, and HCH, gamma in one sediment sample collected in spring 2005 did not exceed the sediment quality guidelines.
Data Reference:	Data collected by the Surface Water Ambient Monitoring Program, San Francisco Bay Regional Water Quality Control Board. Years 4 and 5 Assessment
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	All waters shall be maintained free of toxic substances that are lethal to or that produce other detrimental responses in aquatic organisms.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) - San Francisco Bay Region (Region 2)
Evaluation Guideline:	Sediment Quality Guidelines (MacDonald et al., 2000): PEC (probable effect concentration) Anthracene - 845 ug/kg; Fluorene - 536 ug/kg; Naphthalene - 561 ug/kg; Phenanthrene - 1170 ug/kg; Benz(a)anthracene - 1050 ug/kg; Benzo(a)pyrene - 1450 ug/kg; Chrysene - 1290 ug/kg; Fluoranthene - 2230 ug/kg; Pyrene - 1520 ug/kg; PAH (total) - 22800 ug/kg; PCB (total) - 676 ug/kg; Chlordane - 17.6 ug/kg; Dieldrin - 61.8 ug/kg; DDD (sum op + pp) - 28 ug/kg; DDE (sum op + pp) - 31.3 ug/kg; DDT (sum op + pp) - 62.9 ug/kg; DDT (total) - 572 ug/kg; Endrin - 207 ug/kg; Heptachlor epoxide - 16 ug/kg; HCH, gamma - 4.99 ug/kg.
Guideline Reference:	Development and evaluation of consensus-based sediment quality guidelines for freshwater ecosystems. Environmental Contamination and Toxicology. 39: 20-31
Spatial Representation:	One sediment sample was collected at a "watershed integrator" site located close to the mouth of Codornices Creek.
Temporal Representation:	Sediment sample was collected in April of 2005.
Environmental Conditions:	There were no special environmental conditions associated with the sampling.
QAPP Information:	All samples were collected and analyzed using procedures comparable with the SWAMP Quality Assurance Management Plan (SWRCB, 2002).
QAPP Information Reference(s):	Quality Assurance Management Plan for the State of California's Surface Water Ambient Monitoring Program. Sacramento, CA. State Water Resources Control Board. SWAMP. December 2002 (1st version)

Pollutant:	Fluoranthene
Final Listing Decision:	Do Not List on 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision:	New Decision
Revision Status	Original
Impairment from Pollutant or Pollution:	Pollutant

Regional Board Staff Conclusion: This pollutant is being considered for placement on the CWA section 303(d) List under section 3.1 of the Listing Policy. Under section 3.1 a single line of evidence is necessary to assess listing status.

One line of evidence is available in the administrative record to assess this pollutant. Zero of one samples exceed the guideline.

Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against placing this water segment-pollutant combination on the CWA section 303(d) List.

This conclusion is based on the staff findings that:

1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy.
2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy.
3. Zero of one samples exceed the guideline and this sample size is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating. A minimum of 16 samples is needed to determine if a beneficial use is fully supported using table 3.1.
4. Pursuant to SECTION 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.

Regional Board Staff Decision Recommendation: After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be placed on the section 303(d) list. The readily available data and information is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating.

Line of Evidence (LOE) for Decision ID 60870, Fluoranthene	Region 2
Codornices Creek	

LOE ID:	95381
Pollutant:	Fluoranthene
LOE Subgroup:	Pollutant-Sediment
Matrix:	Sediment
Fraction:	None
Beneficial Use:	Warm Freshwater Habitat
Number of Samples:	1
Number of Exceedances:	0
Data and Information Type:	PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality:	Concentrations of anthracene, fluorene, naphthalene, phenanthrene, benz(a)anthracene, benzo(a)pyrene, chrysene, fluoranthrene, pyrene, PAH (total), PCB (total), dieldrin, DDE/DDT, endrin, heptachlor epoxide, and HCH, gamma in one sediment sample collected in spring 2005 did not exceed the sediment quality guidelines.
Data Reference:	Data collected by the Surface Water Ambient Monitoring Program, San Francisco Bay Regional Water Quality Control Board. Years 4 and 5 Assessment
SWAMP Data:	SWAMP

Water Quality Objective/Criterion:	All waters shall be maintained free of toxic substances that are lethal to or that produce other detrimental responses in aquatic organisms.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) - San Francisco Bay Region (Region 2)
Evaluation Guideline:	Sediment Quality Guidelines (MacDonald et al., 2000): PEC (probable effect concentration) Anthracene - 845 ug/kg; Fluorene - 536 ug/kg; Naphthalene - 561 ug/kg; Phenanthrene - 1170 ug/kg; Benz(a)anthracene - 1050 ug/kg; Benzo(a)pyrene - 1450 ug/kg; Chrysene - 1290 ug/kg; Fluoranthene - 2230 ug/kg; Pyrene - 1520 ug/kg; PAH (total) - 22800 ug/kg; PCB (total) - 676 ug/kg; Chlordane - 17.6 ug/kg; Dieldrin - 61.8 ug/kg; DDD (sum op + pp) - 28 ug/kg; DDE (sum op + pp) - 31.3 ug/kg; DDT (sum op + pp) - 62.9 ug/kg; DDT (total) - 572 ug/kg; Endrin - 207 ug/kg; Heptachlor epoxide - 16 ug/kg; HCH, gamma - 4.99 ug/kg.
Guideline Reference:	Development and evaluation of consensus-based sediment quality guidelines for freshwater ecosystems. Environmental Contamination and Toxicology. 39: 20-31
Spatial Representation:	One sediment sample was collected at a "watershed integrator" site located close to the mouth of Codornices Creek.
Temporal Representation:	Sediment sample was collected in April of 2005.
Environmental Conditions:	There were no special environmental conditions associated with the sampling.
QAPP Information:	All samples were collected and analyzed using procedures comparable with the SWAMP Quality Assurance Management Plan (SWRCB, 2002).
QAPP Information Reference(s):	Quality Assurance Management Plan for the State of California's Surface Water Ambient Monitoring Program. Sacramento, CA. State Water Resources Control Board. SWAMP. December 2002 (1st version)

DECISION ID	60871	Region 2
Codornices Creek		
Pollutant:	Heptachlor epoxide	
Final Listing Decision:	Do Not List on 303(d) list (TMDL required list)	
Last Listing Cycle's Final Listing Decision:	New Decision	
Revision Status	Original	
Impairment from Pollutant or Pollution:	Pollutant	
Regional Board Staff Conclusion:	<p>This pollutant is being considered for placement on the CWA section 303(d) List under section 3.1 of the Listing Policy. Under section 3.1 a single line of evidence is necessary to assess listing status.</p> <p>One line of evidence is available in the administrative record to assess this pollutant. Zero of one samples exceed the guideline.</p> <p>Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against placing this water segment-pollutant combination on the CWA section 303(d) List.</p> <p>This conclusion is based on the staff findings that:</p> <ol style="list-style-type: none"> 1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy. 2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy. 3. Zero of one samples exceed the guideline and this sample size is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating. A minimum of 16 samples is needed to determine if a beneficial use is fully supported using table 3.1. 4. Pursuant to SECTION 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met. 	
Regional Board Staff Decision Recommendation:	After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be placed on the section 303(d) list. The readily available data and information is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating.	

Codornices Creek

LOE ID: 95382

Pollutant: Heptachlor epoxide
 LOE Subgroup: Pollutant-Sediment
 Matrix: Sediment
 Fraction: None

Beneficial Use: Warm Freshwater Habitat

Number of Samples: 1
 Number of Exceedances: 0

Data and Information Type: PHYSICAL/CHEMICAL MONITORING
 Data Used to Assess Water Quality: Concentrations of anthracene, fluorene, naphthalene, phenanthrene, benz(a)anthracene, benzo(a)pyrene, chrysene, fluoranthrene, pyrene, PAH (total), PCB (total), dieldrin, DDE/DDT, endrin, heptachlor epoxide, and HCH, gamma in one sediment sample collected in spring 2005 did not exceed the sediment quality guidelines.

Data Reference: [Data collected by the Surface Water Ambient Monitoring Program, San Francisco Bay Regional Water Quality Control Board. Years 4 and 5 Assessment](#)

SWAMP Data: SWAMP

Water Quality Objective/Criterion: All waters shall be maintained free of toxic substances that are lethal to or that produce other detrimental responses in aquatic organisms.

Objective/Criterion Reference: [Water Quality Control Plan \(Basin Plan\) - San Francisco Bay Region \(Region 2\)](#)

Evaluation Guideline: Sediment Quality Guidelines (MacDonald et al., 2000): PEC (probable effect concentration) Anthracene - 845 ug/kg; Fluorene - 536 ug/kg; Naphthalene - 561 ug/kg; Phenanthrene - 1170 ug/kg; Benz(a)anthracene - 1050 ug/kg; Benzo(a)pyrene - 1450 ug/kg; Chrysene - 1290 ug/kg; Fluoranthene - 2230 ug/kg; Pyrene - 1520 ug/kg; PAH (total) - 22800 ug/kg; PCB (total) - 676 ug/kg; Chlordane - 17.6 ug/kg; Dieldrin - 61.8 ug/kg; DDD (sum op + pp) - 28 ug/kg; DDE (sum op + pp) - 31.3 ug/kg; DDT (sum op + pp) - 62.9 ug/kg; DDT (total) - 572 ug/kg; Endrin - 207 ug/kg; Heptachlor epoxide - 16 ug/kg; HCH, gamma - 4.99 ug/kg.

Guideline Reference: [Development and evaluation of consensus-based sediment quality guidelines for freshwater ecosystems. Environmental Contamination and Toxicology. 39: 20-31](#)

Spatial Representation: One sediment sample was collected at a "watershed integrator" site located close to the mouth of Codornices Creek.

Temporal Representation: Sediment sample was collected in April of 2005.

Environmental Conditions: There were no special environmental conditions associated with the sampling.

QAPP Information: All samples were collected and analyzed using procedures comparable with the SWAMP Quality Assurance Management Plan (SWRCB, 2002).

QAPP Information Reference(s): [Quality Assurance Management Plan for the State of California's Surface Water Ambient Monitoring Program. Sacramento, CA. State Water Resources Control Board. SWAMP. December 2002 \(1st version\)](#)

DECISION ID 60888**Region 2****Codornices Creek**

Pollutant: Lead
Final Listing Decision: Do Not List on 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision: New Decision
Revision Status: Original
Impairment from Pollutant or Pollution: Pollutant

**Regional Board Staff
Conclusion:**

This pollutant is being considered for placement on the CWA section 303(d) List under section 3.1 of the Listing Policy. Under section 3.1 a single line of evidence is necessary to assess listing status. Two lines of evidence are available in the administrative record to assess this pollutant. Zero of three samples exceed the objective.

Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against placing this water segment-pollutant combination on the CWA section 303(d) List.

This conclusion is based on the staff findings that:

1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy.
2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy.
3. Zero of three samples exceed the objective and this sample size is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating. A minimum of 16 samples is needed to determine if a beneficial use is fully supported using table 3.1.
4. Pursuant to SECTION 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.

**Regional Board Staff Decision
Recommendation:**

After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be placed on the section 303(d) list. The readily available data and information is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating.

**Line of Evidence (LOE) for Decision ID 60888, Lead
Codornices Creek**

Region 2

LOE ID:	95392
Pollutant:	Lead
LOE Subgroup:	Pollutant-Sediment
Matrix:	Sediment
Fraction:	Total
Beneficial Use:	Warm Freshwater Habitat
Number of Samples:	1
Number of Exceedances:	0
Data and Information Type:	PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality:	Concentrations of arsenic, cadmium, copper, lead and zinc in one sediment sample collected in April 2005 did not exceed the sediment quality guidelines.
Data Reference:	Data collected by the Surface Water Ambient Monitoring Program, San Francisco Bay Regional Water Quality Control Board, Years 4 and 5 Assessment
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	All waters shall be maintained free of toxic substances that are lethal to or that produce other detrimental responses in aquatic organisms.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) - San Francisco Bay Region (Region 2)
Evaluation Guideline:	Sediment Quality Guidelines (MacDonald et al., 2000): PEC (probable effect concentration) arsenic - 33 mg/kg dw; cadmium - 4.98 mg/kg dw; copper - 149 mg/kg dw; lead - 128 mg/kg dw; zinc - 459 mg/kg dw.
Guideline Reference:	Development and evaluation of consensus-based sediment quality guidelines for freshwater ecosystems. Environmental Contamination and Toxicology. 39: 20-31
Spatial Representation:	One sediment sample was collected at a "watershed integrator" site located close to the mouth of Codornices Creek.
Temporal Representation:	Sediment sample was collected in April of 2005.
Environmental Conditions:	There were no special environmental conditions associated with the sampling.

QAPP Information: All samples were collected and analyzed using procedures comparable with the SWAMP Quality Assurance Management Plan (SWRCB, 2002).

QAPP Information Reference(s): [Quality Assurance Management Plan for the State of California's Surface Water Ambient Monitoring Program. Sacramento, CA. State Water Resources Control Board. SWAMP. December 2002 \(1st version\)](#)

**Line of Evidence (LOE) for Decision ID 60888, Lead
Codornices Creek**

Region 2

LOE ID: 95406

Pollutant: Lead
LOE Subgroup: Pollutant-Water
Matrix: Water
Fraction: Dissolved

Beneficial Use: Warm Freshwater Habitat

Number of Samples: 3
Number of Exceedances: 0

Data and Information Type: PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality: The Codornices Creek watershed was monitored as part of SWAMP assessment. None of the three samples exceeded the water quality objectives for arsenic, chromium, copper, lead, nickel, silver and zinc

Data Reference: [Data collected by the Surface Water Ambient Monitoring Program, San Francisco Bay Regional Water Quality Control Board. Years 4 and 5 Assessment](#)

SWAMP Data: SWAMP

Water Quality Objective/Criterion: All waters shall be maintained free of toxic substances that are lethal to or that produce other detrimental responses in aquatic organisms. Table 3-4 in the Basin Plan (2007) lists freshwater water quality objectives for toxic pollutants: arsenic- 150 ug/L, chromium VI- 11 ug/L, copper - 9.0 ug/L, lead - 2.5 ug/L; nickel - 52 ug/L, silver-3.4 ug/L and zinc - 120 ug/L.

Objective/Criterion Reference: [Water Quality Control Plan \(Basin Plan\) - San Francisco Bay Region \(Region 2\)](#)

Evaluation Guideline:
Guideline Reference:

Spatial Representation: Data were collected at one sampling location (COD020) on Codornices Creek at 2nd Street.

Temporal Representation: Samples were collected during wet (January), spring (April), and dry(June) seasons of 2005.

Environmental Conditions: There were no special environmental conditions associated with the sampling.

QAPP Information: All samples were collected and analyzed using procedures comparable with the SWAMP Quality Assurance Management Plan (SWRCB, 2002).

QAPP Information Reference(s): [Quality Assurance Management Plan for the State of California's Surface Water Ambient Monitoring Program. Sacramento, CA. State Water Resources Control Board. SWAMP. December 2002 \(1st version\)](#)

**DECISION ID 60872
Codornices Creek**

Region 2

Pollutant: Lindane/gamma Hexachlorocyclohexane (gamma-HCH)
Final Listing Decision: Do Not List on 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision: New Decision
Revision Status: Original
Impairment from Pollutant or Pollutant

Pollution:**Regional Board Staff Conclusion:**

This pollutant is being considered for placement on the CWA section 303(d) List under section 3.1 of the Listing Policy. Under section 3.1 a single line of evidence is necessary to assess listing status.

Two lines of evidence are available in the administrative record to assess this pollutant. Zero of three samples exceed the criterion.

Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against placing this water segment-pollutant combination on the CWA section 303(d) List.

This conclusion is based on the staff findings that:

1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy.
2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy.
3. Zero of three samples exceed the criterion and this sample size is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating. A minimum of 16 samples is needed to determine if a beneficial use is fully supported using table 3.1.
4. Pursuant to SECTION 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.

Regional Board Staff Decision Recommendation:

After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be placed on the section 303(d) list. The readily available data and information is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating.

Line of Evidence (LOE) for Decision ID 60872, Lindane/gamma Hexachlorocyclohexane (gamma-HCH)**Region 2****Codornices Creek**

LOE ID:	95399
Pollutant:	Lindane/gamma Hexachlorocyclohexane (gamma-HCH)
LOE Subgroup:	Pollutant-Water
Matrix:	Water
Fraction:	None
Beneficial Use:	Warm Freshwater Habitat
Number of Samples:	3
Number of Exceedances:	0
Data and Information Type:	PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality:	The Codornices Creek watershed was monitored as part of SWAMP assessment. None of the three samples exceeded the water quality objectives for PCBs, Chlorpyrifos, Dacthal, diazinon, disulfoton, endosulfan, Lindane/gamma Hexachlorocyclohexane (gamma-HCH), methyl parathion, thiobencarb.
Data Reference:	Data collected by the Surface Water Ambient Monitoring Program, San Francisco Bay Regional Water Quality Control Board. Years 4 and 5 Assessment
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	All waters shall be maintained free of toxic substances that are lethal to or that produce other detrimental responses in aquatic organisms. There shall be no chronic toxicity in ambient waters. Chronic toxicity is a detrimental biological effect on growth rate, reproduction, fertilization success, larval development, population abundance, community composition, or any other relevant measure of the health of an organism, population, or community. Diazinon water quality objective, 0.1 ug/L (acute)
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) - San Francisco Bay Region (Region 2)
Evaluation Guideline:	PCBs - 0.014 ug/L freshwater continuous Concentration; Chlorpyrifos - 0.015 ug/L

(chronic); Dacthal (DCPA) - 14300 ug/L (acute); Disulfoton (Disyston) - 0.05 ug/L (acute); Endosulfan - 0.056 ug/L (chronic)/0.22 ug/L (acute); HCH, gamma-(gamma BHC, Lindane) - 0.95 ug/L (acute); methyl parathion - 0.08 ug/L (acute); Thiobencarb - 3.1 ug/L (acute).

Guideline Reference: [National recommended water quality criteria: 2002. EPA-822-R-02-047 Washington, D.C. USEPA](#)

Spatial Representation: Data were collected at one sampling location (COD020) in the Cordornices Creek.

Temporal Representation: Samples were collected during wet (January), spring (April), and dry(June) seasons of 2005.

Environmental Conditions: There were no special environmental conditions associated with the sampling.

QAPP Information: All samples were collected and analyzed using procedures comparable with the SWAMP Quality Assurance Management Plan (SWRCB, 2002).

QAPP Information Reference(s): [Quality Assurance Management Plan for the State of California's Surface Water Ambient Monitoring Program. Sacramento, CA. State Water Resources Control Board. SWAMP. December 2002 \(1st version\)](#)

Line of Evidence (LOE) for Decision ID 60872, Lindane/gamma Hexachlorocyclohexane (gamma-HCH)

Region 2

Codornices Creek

LOE ID: 95383

Pollutant: Lindane/gamma Hexachlorocyclohexane (gamma-HCH)

LOE Subgroup: Pollutant-Sediment

Matrix: Sediment

Fraction: None

Beneficial Use: Warm Freshwater Habitat

Number of Samples: 1

Number of Exceedances: 0

Data and Information Type: PHYSICAL/CHEMICAL MONITORING

Data Used to Assess Water Quality: Concentrations of anthracene, fluorene, naphthalene, phenanthrene, benz(a)anthracene, benzo(a)pyrene, chrysene, fluoranthrene, pyrene, PAH (total), PCB (total), dieldrin, DDE/DDT, endrin, heptachlor epoxide, and HCH, gamma in one sediment sample collected in spring 2005 did not exceed the sediment quality guidelines.

Data Reference: [Data collected by the Surface Water Ambient Monitoring Program, San Francisco Bay Regional Water Quality Control Board. Years 4 and 5 Assessment](#)

SWAMP Data: SWAMP

Water Quality Objective/Criterion: All waters shall be maintained free of toxic substances that are lethal to or that produce other detrimental responses in aquatic organisms.

Objective/Criterion Reference: [Water Quality Control Plan \(Basin Plan\) - San Francisco Bay Region \(Region 2\)](#)

Evaluation Guideline: Sediment Quality Guidelines (MacDonald et al., 2000): PEC (probable effect concentration) Anthracene - 845 ug/kg; Fluorene - 536 ug/kg; Naphthalene - 561 ug/kg; Phenanthrene -1170 ug/kg; Benz(a)anthracene - 1050 ug/kg; Benzo(a)pyrene - 1450 ug/kg; Chrysene - 1290 ug/kg; Fluoranthene - 2230 ug/kg; Pyrene - 1520 ug/kg; PAH (total) - 22800 ug/kg; PCB (total) - 676 ug/kg; Chlordane - 17.6 ug/kg; Dieldrin - 61.8 ug/kg; DDD (sum op + pp) - 28 ug/kg; DDE (sum op + pp) - 31.3 ug/kg; DDT (sum op + pp) - 62.9 ug/kg; DDT (total) - 572 ug/kg; Endrin - 207 ug/kg; Heptachlor epoxide - 16 ug/kg; HCH, gamma - 4.99 ug/kg.

Guideline Reference: [Development and evaluation of consensus-based sediment quality guidelines for freshwater ecosystems. Environmental Contamination and Toxicology. 39: 20-31](#)

Spatial Representation: One sediment sample was collected at a "watershed integrator" site located close to the mouth of Codornices Creek.

Temporal Representation: Sediment sample was collected in April of 2005.

Environmental Conditions: There were no special environmental conditions associated with the sampling.

QAPP Information: All samples were collected and analyzed using procedures comparable with the SWAMP Quality Assurance Management Plan (SWRCB, 2002).

QAPP Information Reference(s): [Quality Assurance Management Plan for the State of California's Surface Water Ambient Monitoring Program. Sacramento, CA. State Water Resources Control Board. SWAMP. December 2002 \(1st version\)](#)

DECISION ID	42882	Region 2
Codornices Creek		

Pollutant: Mercury

Final Listing Decision: Do Not List on 303(d) list (TMDL required list)

Last Listing Cycle's Final Listing Decision: Do Not List on 303(d) list (TMDL required list)(2012)

Revision Status: Original

Impairment from Pollutant or Pollution: Pollutant

Regional Board Staff Conclusion: This pollutant is being considered for placement on the section 303(d) list under section 3.1 of the Listing Policy. Under section 3.1 a one line of evidence is necessary to assess listing status. One line of evidence is available in the administrative record to assess this pollutant. One sample exceeded the water quality objective. Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against placing this water segment-pollutant combination on the section 303(d) list in the Water Quality Limited Segments category. This conclusion is based on the staff findings that: 1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy. 2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy. 3. One of one sample exceeded the water quality guideline and this sample size is insufficient to determine with the power and confidence of the Listing Policy if standards are not met. A minimum of two samples is needed for application of table 3.1. 4. Pursuant to SECTION 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.

Regional Board Staff Decision Recommendation: This is a decision previously approved by the State Water Resources Control Board and the USEPA. No new data were assessed by the Regional Board for the current. The decision has not changed.

Line of Evidence (LOE) for Decision ID 42882, Mercury	Region 2
Codornices Creek	

LOE ID: 28761

Pollutant: Mercury

LOE Subgroup: Pollutant-Sediment

Matrix: Sediment

Fraction: Total

Beneficial Use: Warm Freshwater Habitat

Number of Samples: 1

Number of Exceedances: 1

Data and Information Type: PHYSICAL/CHEMICAL MONITORING

Data Used to Assess Water Quality: Concentrations of mercury in one sediment sample collected in April 2005 exceeded the PEC guideline at a sample concentration of 1.171 mg/kg dw.

Data Reference: [Data collected by the Surface Water Ambient Monitoring Program. San Francisco Bay Regional Water Quality Control Board. Years 4 and 5 Assessment](#)

SWAMP Data: SWAMP

Water Quality Objective/Criterion: All waters shall be maintained free of toxic substances that are lethal to or that produce other detrimental responses in aquatic organisms.

Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) - San Francisco Bay Region (Region 2)
Evaluation Guideline:	Sediment Quality Guidelines (MacDonald et al., 2000): PEC (probable effect concentration) mercury - 1.06 mg/kg dw.
Guideline Reference:	Development and evaluation of consensus-based sediment quality guidelines for freshwater ecosystems. Environmental Contamination and Toxicology. 39: 20-31
Spatial Representation:	One sediment sample was collected at a "watershed integrator" site located close to the mouth of Codornices Creek.
Temporal Representation:	Sediment sample was collected in April of 2005.
Environmental Conditions:	
QAPP Information:	All samples were collected and analyzed using procedures comparable with the SWAMP Quality Assurance Management Plan (SWRCB, 2002).
QAPP Information Reference(s):	

DECISION ID 60884 Region 2	
Codornices Creek	
Pollutant: Final Listing Decision: Last Listing Cycle's Final Listing Decision: Revision Status Impairment from Pollutant or Pollution:	Methyl Parathion Do Not List on 303(d) list (TMDL required list) New Decision Original Pollutant
Regional Board Staff Conclusion:	<p>This pollutant is being considered for placement on the CWA section 303(d) List under section 3.1 of the Listing Policy. Under section 3.1 a single line of evidence is necessary to assess listing status. One line of evidence is available in the administrative record to assess this pollutant. Zero of three samples exceed the criterion.</p> <p>Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against placing this water segment-pollutant combination on the CWA section 303(d) List.</p> <p>This conclusion is based on the staff findings that:</p> <ol style="list-style-type: none"> 1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy. 2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy. 3. Zero of three samples exceed the criterion and this sample size is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating. A minimum of 16 samples is needed to determine if a beneficial use is fully supported using table 3.1. 4. Pursuant to SECTION 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.
Regional Board Staff Decision Recommendation:	After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be placed on the section 303(d) list. The readily available data and information is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating.

Line of Evidence (LOE) for Decision ID 60884, Methyl Parathion Region 2	
Codornices Creek	
LOE ID:	95400
Pollutant:	Methyl Parathion
LOE Subgroup:	Pollutant-Water
Matrix:	Water
Fraction:	None

Beneficial Use:	Warm Freshwater Habitat
Number of Samples:	3
Number of Exceedances:	0
Data and Information Type:	PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality:	The Codornices Creek watershed was monitored as part of SWAMP assessment. None of the three samples exceeded the water quality objectives for PCBs, Chlorpyrifos, Dacthal, diazinon, disulfoton, endosulfan, Lindane/gamma Hexachlorocyclohexane (gamma-HCH), methyl parathion, thiobencarb.
Data Reference:	Data collected by the Surface Water Ambient Monitoring Program, San Francisco Bay Regional Water Quality Control Board. Years 4 and 5 Assessment
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	All waters shall be maintained free of toxic substances that are lethal to or that produce other detrimental responses in aquatic organisms. There shall be no chronic toxicity in ambient waters. Chronic toxicity is a detrimental biological effect on growth rate, reproduction, fertilization success, larval development, population abundance, community composition, or any other relevant measure of the health of an organism, population, or community. Diazinon water quality objective, 0.1 ug/L (acute)
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) - San Francisco Bay Region (Region 2)
Evaluation Guideline:	PCBs - 0.014 ug/L freshwater continuous Concentration; Chlorpyrifos - 0.015 ug/L (chronic); Dacthal (DCPA) - 14300 ug/L (acute); Disulfoton (Disyston) - 0.05 ug/L (acute); Endosulfan - 0.056 ug/L (chronic)/0.22 ug/L (acute); HCH, gamma-(gamma BHC, Lindane) - 0.95 ug/L (acute); methyl parathion - 0.08 ug/L (acute); Thiobencarb - 3.1 ug/L (acute).
Guideline Reference:	National recommended water quality criteria: 2002. EPA-822-R-02-047 Washington, D.C. USEPA
Spatial Representation:	Data were collected at one sampling location (COD020) in the Cordornices Creek.
Temporal Representation:	Samples were collected during wet (January), spring (April), and dry(June) seasons of 2005.
Environmental Conditions:	There were no special environmental conditions associated with the sampling.
QAPP Information:	All samples were collected and analyzed using procedures comparable with the SWAMP Quality Assurance Management Plan (SWRCB, 2002).
QAPP Information Reference(s):	Quality Assurance Management Plan for the State of California's Surface Water Ambient Monitoring Program, Sacramento, CA. State Water Resources Control Board. SWAMP. December 2002 (1st version)

DECISION ID	60873	Region 2
Codornices Creek		
Pollutant:	Naphthalene	
Final Listing Decision:	Do Not List on 303(d) list (TMDL required list)	
Last Listing Cycle's Final Listing Decision:	New Decision	
Revision Status	Original	
Impairment from Pollutant or Pollution:	Pollutant	
Regional Board Staff Conclusion:	<p>This pollutant is being considered for placement on the CWA section 303(d) List under section 3.1 of the Listing Policy. Under section 3.1 a single line of evidence is necessary to assess listing status.</p> <p>One line of evidence is available in the administrative record to assess this pollutant. Zero of one samples exceed the guideline.</p> <p>Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against placing this water segment-pollutant combination on the CWA section 303(d) List.</p>	

This conclusion is based on the staff findings that:

1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy.
2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy.
3. Zero of one samples exceed the guideline and this sample size is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating. A minimum of 16 samples is needed to determine if a beneficial use is fully supported using table 3.1.
4. Pursuant to SECTION 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.

Regional Board Staff Decision Recommendation: After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be placed on the section 303(d) list. The readily available data and information is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating.

Line of Evidence (LOE) for Decision ID 60873, Naphthalene

Region 2

Codornices Creek

LOE ID:	95384
Pollutant:	Naphthalene
LOE Subgroup:	Pollutant-Sediment
Matrix:	Sediment
Fraction:	None
Beneficial Use:	Warm Freshwater Habitat
Number of Samples:	1
Number of Exceedances:	0
Data and Information Type:	PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality:	Concentrations of anthracene, fluorene, naphthalene, phenanthrene, benz(a)anthracene, benzo(a)pyrene, chrysene, fluoranthrene, pyrene, PAH (total), PCB (total), dieldrin, DDE/DDT, endrin, heptachlor epoxide, and HCH, gamma in one sediment sample collected in spring 2005 did not exceed the sediment quality guidelines.
Data Reference:	Data collected by the Surface Water Ambient Monitoring Program, San Francisco Bay Regional Water Quality Control Board. Years 4 and 5 Assessment
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	All waters shall be maintained free of toxic substances that are lethal to or that produce other detrimental responses in aquatic organisms.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) - San Francisco Bay Region (Region 2)
Evaluation Guideline:	Sediment Quality Guidelines (MacDonald et al., 2000): PEC (probable effect concentration) Anthracene - 845 ug/kg; Fluorene - 536 ug/kg; Naphthalene - 561 ug/kg; Phenanthrene - 1170 ug/kg; Benz(a)anthracene - 1050 ug/kg; Benzo(a)pyrene - 1450 ug/kg; Chrysene - 1290 ug/kg; Fluoranthene - 2230 ug/kg; Pyrene - 1520 ug/kg; PAH (total) - 22800 ug/kg; PCB (total) - 676 ug/kg; Chlordane - 17.6 ug/kg; Dieldrin - 61.8 ug/kg; DDD (sum op + pp) - 28 ug/kg; DDE (sum op + pp) - 31.3 ug/kg; DDT (sum op + pp) - 62.9 ug/kg; DDT (total) - 572 ug/kg; Endrin - 207 ug/kg; Heptachlor epoxide - 16 ug/kg; HCH, gamma - 4.99 ug/kg.
Guideline Reference:	Development and evaluation of consensus-based sediment quality guidelines for freshwater ecosystems. Environmental Contamination and Toxicology. 39: 20-31
Spatial Representation:	One sediment sample was collected at a "watershed integrator" site located close to the mouth of Codornices Creek.
Temporal Representation:	Sediment sample was collected in April of 2005.
Environmental Conditions:	There were no special environmental conditions associated with the sampling.
QAPP Information:	All samples were collected and analyzed using procedures comparable with the SWAMP Quality Assurance Management Plan (SWRCB, 2002).

DECISION ID	42883	Region 2
Codornices Creek		

Pollutant: Nickel
Final Listing Decision: Do Not List on 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision: Do Not List on 303(d) list (TMDL required list)(2012)
Revision Status: Original
Impairment from Pollutant or Pollution: Pollutant

Regional Board Staff Conclusion: This pollutant is being considered for placement on the CWA section 303(d) List under section 3.1 of the Listing Policy. Under section 3.1 a single line of evidence is necessary to assess listing status. Two lines of evidence are available in the administrative record to assess this pollutant. Zero of three samples exceed the objective.

Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against placing this water segment-pollutant combination on the CWA section 303(d) List.

This conclusion is based on the staff findings that:

1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy.
2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy.
3. Zero of three samples exceed the objective and this sample size is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating. A minimum of 16 samples is needed to determine if a beneficial use is fully supported using table 3.1.
4. Pu

Regional Board Staff Decision Recommendation: This is a decision previously approved by the State Water Resources Control Board and the USEPA. No new data were assessed by the Regional Board for the current. The decision has not changed.

Line of Evidence (LOE) for Decision ID 42883, Nickel	Region 2
Codornices Creek	

LOE ID: 28760
Pollutant: Nickel
LOE Subgroup: Pollutant-Sediment
Matrix: Sediment
Fraction: Total
Beneficial Use: Warm Freshwater Habitat
Number of Samples: 1
Number of Exceedances: 1
Data and Information Type: PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality: Concentrations of nickel in one sediment sample collected in April 2005 exceeded the PEC guideline at a sample concentration of 74.7 mg/kg dw.
Data Reference: [Data collected by the Surface Water Ambient Monitoring Program, San Francisco Bay Regional Water Quality Control Board, Years 4 and 5 Assessment](#)
SWAMP Data: SWAMP
Water Quality Objective/Criterion: All waters shall be maintained free of toxic substances that are lethal to or that produce

Objective/Criterion Reference:	other detrimental responses in aquatic organisms. Water Quality Control Plan (Basin Plan) - San Francisco Bay Region (Region 2)
Evaluation Guideline:	Sediment Quality Guidelines (MacDonald et al., 2000): PEC (probable effect concentration) nickel - 48.6 mg/kg dw.
Guideline Reference:	Development and evaluation of consensus-based sediment quality guidelines for freshwater ecosystems. Environmental Contamination and Toxicology. 39: 20-31
Spatial Representation:	One sediment sample was collected at a "watershed integrator" site located close to the mouth of Codornices Creek.
Temporal Representation:	Sediment sample was collected in April of 2005.
Environmental Conditions:	
QAPP Information:	All samples were collected and analyzed using procedures comparable with the SWAMP Quality Assurance Management Plan (SWRCB, 2002).
QAPP Information Reference(s):	

**Line of Evidence (LOE) for Decision ID 42883, Nickel
Codornices Creek**

Region 2

LOE ID:	95407
Pollutant:	Nickel
LOE Subgroup:	Pollutant-Water
Matrix:	Water
Fraction:	Dissolved
Beneficial Use:	Warm Freshwater Habitat
Number of Samples:	3
Number of Exceedances:	0
Data and Information Type:	PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality:	The Codornices Creek watershed was monitored as part of SWAMP assessment. None of the three samples exceeded the water quality objectives for arsenic, chromium, copper, lead, nickel, silver and zinc
Data Reference:	Data collected by the Surface Water Ambient Monitoring Program. San Francisco Bay Regional Water Quality Control Board. Years 4 and 5 Assessment
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	All waters shall be maintained free of toxic substances that are lethal to or that produce other detrimental responses in aquatic organisms. Table 3-4 in the Basin Plan (2007) lists freshwater water quality objectives for toxic pollutants: arsenic- 150 ug/L, chromium VI- 11 ug/L, copper - 9.0 ug/L, lead - 2.5 ug/L; nickel - 52 ug/L, silver-3.4 ug/L and zinc - 120 ug/L.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) - San Francisco Bay Region (Region 2)
Evaluation Guideline:	
Guideline Reference:	
Spatial Representation:	Data were collected at one sampling location (COD020) on Codornices Creek at 2nd Street.
Temporal Representation:	Samples were collected during wet (January), spring (April), and dry(June) seasons of 2005.
Environmental Conditions:	There were no special environmental conditions associated with the sampling.
QAPP Information:	All samples were collected and analyzed using procedures comparable with the SWAMP Quality Assurance Management Plan (SWRCB, 2002).
QAPP Information Reference(s):	Quality Assurance Management Plan for the State of California's Surface Water Ambient Monitoring Program. Sacramento, CA. State Water Resources Control Board. SWAMP. December 2002 (1st version)

Pollutant:	Oxygen, Dissolved
Final Listing Decision:	Do Not List on 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision:	Do Not List on 303(d) list (TMDL required list)(2012)
Revision Status	Original
Impairment from Pollutant or Pollution:	Pollutant

Regional Board Staff Conclusion: One line of evidence are available in the administrative record to assess this water body. Based on the readily available data for this water body, the weight of evidence indicates that there is sufficient justification against placing this water segment-pollutant combination on the section 303(d) list in the Water Quality Limited Segments category. This conclusion is based on the staff findings that: 1. The data used satisfy the data quality requirements of section 6.1.4 of the Policy. 2. The data used satisfy the data quantity requirements of section 6.1.5 of the Policy. 3. Dissolved oxygen measurements at 11 continuous deployments exceeded the applicable water quality objectives on three occasions for waters designated as warm water habitat and this does not exceed the allowable frequency listed in Table 3.2 of the Listing Policy. 4. Pursuant to section 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.

Regional Board Staff Decision Recommendation: This is a decision previously approved by the State Water Resources Control Board and the USEPA. No new data were assessed by the Regional Board for the current. The decision has not changed.

Line of Evidence (LOE) for Decision ID 35903, Oxygen, Dissolved	Region 2
Codornices Creek	

LOE ID:	8687
Pollutant:	Low Dissolved Oxygen
LOE Subgroup:	Pollutant-Water
Matrix:	Water
Fraction:	None
Beneficial Use:	Warm Freshwater Habitat
Aquatic Life Use:	Wildlife Habitat
Number of Samples:	11
Number of Exceedances:	3
Data and Information Type:	PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality:	Data used to evaluate dissolved oxygen was collected by SWAMP in 2004. In 3 out of 11 seasonal deployments, minimum dissolved oxygen levels fell below the objective of 5 mg/L. The three deployments where this occurred were dry season deployments in the lower and mid-watershed.
Data Reference:	Data collected by the Surface Water Ambient Monitoring Program, San Francisco Bay Regional Water Quality Control Board. Years 4 and 5 Assessment
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	The numeric water quality objective for dissolved oxygen is 5.0 mg/L minimum for waters designated as warm freshwater habitat. The median dissolved oxygen concentration for any three consecutive months shall not be less than 80 percent of the dissolved oxygen content at saturation.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) - San Francisco Bay Region (Region 2)
Evaluation Guideline:	
Guideline Reference:	

Spatial Representation:	Dissolved oxygen was measured at three sites spanning lower to upper watershed locations on this creek.
Temporal Representation:	The SWAMP Program performed continuous monitoring of dissolved oxygen at 15 minute intervals for periods of 1-2 weeks in two dry seasons and one wet season in 2004.
Environmental Conditions:	The Codornices Creek watershed is highly urbanized, and large portions of the original waterways have been altered or placed in culverts. The creek flows from headwaters in the western slopes of the East Bay ridge, through East Bay cities, into the eastern side of the SF Bay. Sites monitored represent mostly urban land use. The creek is spring fed to a limited extent. However, the adjacent cities often contribute dry weather flows, rendering the creek wet year round.
QAPP Information:	All samples were collected and analyzed using procedures comparable with the SWAMP Quality Assurance Management Plan (SWRCB 2002).
QAPP Information Reference(s):	

DECISION ID 60874 Region 2	
Codornices Creek	
Pollutant: Final Listing Decision: Last Listing Cycle's Final Listing Decision: Revision Status Impairment from Pollutant or Pollution:	PAHs (Polycyclic Aromatic Hydrocarbons) Do Not List on 303(d) list (TMDL required list) New Decision Original Pollutant
Regional Board Staff Conclusion:	<p>This pollutant is being considered for placement on the CWA section 303(d) List under section 3.1 of the Listing Policy. Under section 3.1 a single line of evidence is necessary to assess listing status.</p> <p>One line of evidence is available in the administrative record to assess this pollutant. Zero of one samples exceed the guideline.</p> <p>Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against placing this water segment-pollutant combination on the CWA section 303(d) List.</p> <p>This conclusion is based on the staff findings that:</p> <ol style="list-style-type: none"> 1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy. 2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy. 3. Zero of one samples exceed the guideline and this sample size is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating. A minimum of 16 samples is needed to determine if a beneficial use is fully supported using table 3.1. 4. Pursuant to SECTION 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.
Regional Board Staff Decision Recommendation:	After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be placed on the section 303(d) list. The readily available data and information is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating.

Line of Evidence (LOE) for Decision ID 60874, PAHs (Polycyclic Aromatic Hydrocarbons) Region 2	
Codornices Creek	
LOE ID:	95385
Pollutant: LOE Subgroup: Matrix: Fraction:	PAHs (Polycyclic Aromatic Hydrocarbons) Pollutant-Sediment Sediment None

Beneficial Use:	Warm Freshwater Habitat
Number of Samples:	1
Number of Exceedances:	0
Data and Information Type:	PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality:	Concentrations of anthracene, fluorene, naphthalene, phenanthrene, benz(a)anthracene, benzo(a)pyrene, chrysene, fluoranthrene, pyrene, PAH (total), PCB (total), dieldrin, DDE/DDT, endrin, heptachlor epoxide, and HCH, gamma in one sediment sample collected in spring 2005 did not exceed the sediment quality guidelines.
Data Reference:	Data collected by the Surface Water Ambient Monitoring Program, San Francisco Bay Regional Water Quality Control Board. Years 4 and 5 Assessment
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	All waters shall be maintained free of toxic substances that are lethal to or that produce other detrimental responses in aquatic organisms.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) - San Francisco Bay Region (Region 2)
Evaluation Guideline:	Sediment Quality Guidelines (MacDonald et al., 2000): PEC (probable effect concentration) Anthracene - 845 ug/kg; Fluorene - 536 ug/kg; Naphthalene - 561 ug/kg; Phenanthrene - 1170 ug/kg; Benz(a)anthracene - 1050 ug/kg; Benzo(a)pyrene - 1450 ug/kg; Chrysene - 1290 ug/kg; Fluoranthene - 2230 ug/kg; Pyrene - 1520 ug/kg; PAH (total) - 22800 ug/kg; PCB (total) - 676 ug/kg; Chlordane - 17.6 ug/kg; Dieldrin - 61.8 ug/kg; DDD (sum op + pp) - 28 ug/kg; DDE (sum op + pp) - 31.3 ug/kg; DDT (sum op + pp) - 62.9 ug/kg; DDT (total) - 572 ug/kg; Endrin - 207 ug/kg; Heptachlor epoxide - 16 ug/kg; HCH, gamma - 4.99 ug/kg.
Guideline Reference:	Development and evaluation of consensus-based sediment quality guidelines for freshwater ecosystems. Environmental Contamination and Toxicology. 39: 20-31
Spatial Representation:	One sediment sample was collected at a "watershed integrator" site located close to the mouth of Codornices Creek.
Temporal Representation:	Sediment sample was collected in April of 2005.
Environmental Conditions:	There were no special environmental conditions associated with the sampling.
QAPP Information:	All samples were collected and analyzed using procedures comparable with the SWAMP Quality Assurance Management Plan (SWRCB, 2002).
QAPP Information Reference(s):	Quality Assurance Management Plan for the State of California's Surface Water Ambient Monitoring Program. Sacramento, CA. State Water Resources Control Board. SWAMP. December 2002 (1st version)

DECISION ID	60875	Region 2
Codornices Creek		
Pollutant:	PCBs (Polychlorinated biphenyls)	
Final Listing Decision:	Do Not List on 303(d) list (TMDL required list)	
Last Listing Cycle's Final Listing Decision:	New Decision	
Revision Status	Original	
Impairment from Pollutant or Pollution:	Pollutant	
Regional Board Staff Conclusion:	<p>This pollutant is being considered for placement on the CWA section 303(d) List under section 3.1 of the Listing Policy. Under section 3.1 a single line of evidence is necessary to assess listing status.</p> <p>Two lines of evidence are available in the administrative record to assess this pollutant. Zero of three samples exceed the criterion.</p> <p>Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against placing this water segment-pollutant combination on the CWA section 303(d) List.</p>	

This conclusion is based on the staff findings that:

1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy.
2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy.
3. Zero of three samples exceed the criterion and this sample size is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating. A minimum of 16 samples is needed to determine if a beneficial use is fully supported using table 3.1.
4. Pursuant to SECTION 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.

Regional Board Staff Decision Recommendation: After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be placed on the section 303(d) list. The readily available data and information is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating.

Line of Evidence (LOE) for Decision ID 60875, PCBs (Polychlorinated biphenyls)

Region 2

Codornices Creek

LOE ID:	95386
Pollutant:	PCBs (Polychlorinated biphenyls)
LOE Subgroup:	Pollutant-Sediment
Matrix:	Sediment
Fraction:	None
Beneficial Use:	Warm Freshwater Habitat
Number of Samples:	1
Number of Exceedances:	0
Data and Information Type:	PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality:	Concentrations of anthracene, fluorene, naphthalene, phenanthrene, benz(a)anthracene, benzo(a)pyrene, chrysene, fluoranthrene, pyrene, PAH (total), PCB (total), dieldrin, DDE/DDT, endrin, heptachlor epoxide, and HCH, gamma in one sediment sample collected in spring 2005 did not exceed the sediment quality guidelines.
Data Reference:	Data collected by the Surface Water Ambient Monitoring Program, San Francisco Bay Regional Water Quality Control Board. Years 4 and 5 Assessment
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	All waters shall be maintained free of toxic substances that are lethal to or that produce other detrimental responses in aquatic organisms.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) - San Francisco Bay Region (Region 2)
Evaluation Guideline:	Sediment Quality Guidelines (MacDonald et al., 2000): PEC (probable effect concentration) Anthracene - 845 ug/kg; Fluorene - 536 ug/kg; Naphthalene - 561 ug/kg; Phenanthrene - 1170 ug/kg; Benz(a)anthracene - 1050 ug/kg; Benzo(a)pyrene - 1450 ug/kg; Chrysene - 1290 ug/kg; Fluoranthrene - 2230 ug/kg; Pyrene - 1520 ug/kg; PAH (total) - 22800 ug/kg; PCB (total) - 676 ug/kg; Chlordane - 17.6 ug/kg; Dieldrin - 61.8 ug/kg; DDD (sum op + pp) - 28 ug/kg; DDE (sum op + pp) - 31.3 ug/kg; DDT (sum op + pp) - 62.9 ug/kg; DDT (total) - 572 ug/kg; Endrin - 207 ug/kg; Heptachlor epoxide - 16 ug/kg; HCH, gamma - 4.99 ug/kg.
Guideline Reference:	Development and evaluation of consensus-based sediment quality guidelines for freshwater ecosystems. Environmental Contamination and Toxicology. 39: 20-31
Spatial Representation:	One sediment sample was collected at a "watershed integrator" site located close to the mouth of Codornices Creek.
Temporal Representation:	Sediment sample was collected in April of 2005.
Environmental Conditions:	There were no special environmental conditions associated with the sampling.
QAPP Information:	All samples were collected and analyzed using procedures comparable with the SWAMP Quality Assurance Management Plan (SWRCB, 2002).
QAPP Information Reference(s):	Quality Assurance Management Plan for the State of California's Surface Water Ambient

Line of Evidence (LOE) for Decision ID 60875, PCBs (Polychlorinated biphenyls)

Region 2

Codornices Creek

LOE ID:	95401
Pollutant:	PCBs (Polychlorinated biphenyls)
LOE Subgroup:	Pollutant-Water
Matrix:	Water
Fraction:	None
Beneficial Use:	Warm Freshwater Habitat
Number of Samples:	3
Number of Exceedances:	0
Data and Information Type:	PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality:	The Codornices Creek watershed was monitored as part of SWAMP assessment. None of the three samples exceeded the water quality objectives for PCBs, Chlorpyrifos, Dacthal, diazinon, disulfoton, endosulfan, Lindane/gamma Hexachlorocyclohexane (gamma-HCH), methyl parathion, thiobencarb.
Data Reference:	Data collected by the Surface Water Ambient Monitoring Program, San Francisco Bay Regional Water Quality Control Board. Years 4 and 5 Assessment
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	All waters shall be maintained free of toxic substances that are lethal to or that produce other detrimental responses in aquatic organisms. There shall be no chronic toxicity in ambient waters. Chronic toxicity is a detrimental biological effect on growth rate, reproduction, fertilization success, larval development, population abundance, community composition, or any other relevant measure of the health of an organism, population, or community. Diazinon water quality objective, 0.1 ug/L (acute)
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) - San Francisco Bay Region (Region 2)
Evaluation Guideline:	PCBs - 0.014 ug/L freshwater continuous Concentration; Chlorpyrifos - 0.015 ug/L (chronic); Dacthal (DCPA) - 14300 ug/L (acute); Disulfoton (Disyston) - 0.05 ug/L (acute); Endosulfan - 0.056 ug/L (chronic)/0.22 ug/L (acute); HCH, gamma-(gamma BHC, Lindane) - 0.95 ug/L (acute); methyl parathion - 0.08 ug/L (acute); Thiobencarb - 3.1 ug/L (acute).
Guideline Reference:	National recommended water quality criteria: 2002. EPA-822-R-02-047 Washington, D.C. USEPA
Spatial Representation:	Data were collected at one sampling location (COD020) in the Codornices Creek.
Temporal Representation:	Samples were collected during wet (January), spring (April), and dry(June) seasons of 2005.
Environmental Conditions:	There were no special environmental conditions associated with the sampling.
QAPP Information:	All samples were collected and analyzed using procedures comparable with the SWAMP Quality Assurance Management Plan (SWRCB, 2002).
QAPP Information Reference(s):	Quality Assurance Management Plan for the State of California's Surface Water Ambient Monitoring Program. Sacramento, CA. State Water Resources Control Board. SWAMP. December 2002 (1st version)

DECISION ID

60876

Region 2

Codornices Creek

Pollutant:	Phenanthrene
Final Listing Decision:	Do Not List on 303(d) list (TMDL required list)
Last Listing Cycle's Final	New Decision

Listing Decision:**Revision Status**

Original

Impairment from Pollutant or Pollution:

Pollutant

Regional Board Staff**Conclusion:**

This pollutant is being considered for placement on the CWA section 303(d) List under section 3.1 of the Listing Policy. Under section 3.1 a single line of evidence is necessary to assess listing status.

One line of evidence is available in the administrative record to assess this pollutant. Zero of one samples exceed the guideline.

Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against placing this water segment-pollutant combination on the CWA section 303(d) List.

This conclusion is based on the staff findings that:

1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy.
2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy.
3. Zero of one samples exceed the guideline and this sample size is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating. A minimum of 16 samples is needed to determine if a beneficial use is fully supported using table 3.1.
4. Pursuant to SECTION 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.

Regional Board Staff Decision Recommendation:

After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be placed on the section 303(d) list. The readily available data and information is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating.

Line of Evidence (LOE) for Decision ID 60876, Phenanthrene**Region 2****Codornices Creek**

LOE ID: 95387

Pollutant: Phenanthrene
LOE Subgroup: Pollutant-Sediment
Matrix: Sediment
Fraction: None

Beneficial Use: Warm Freshwater Habitat

Number of Samples: 1
Number of Exceedances: 0

Data and Information Type: PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality: Concentrations of anthracene, fluorene, naphthalene, phenanthrene, benz(a)anthracene, benzo(a)pyrene, chrysene, fluoranthrene, pyrene, PAH (total), PCB (total), dieldrin, DDE/DDT, endrin, heptachlor epoxide, and HCH, gamma in one sediment sample collected in spring 2005 did not exceed the sediment quality guidelines.

Data Reference: [Data collected by the Surface Water Ambient Monitoring Program, San Francisco Bay Regional Water Quality Control Board. Years 4 and 5 Assessment](#)

SWAMP Data: SWAMP

Water Quality Objective/Criterion: All waters shall be maintained free of toxic substances that are lethal to or that produce other detrimental responses in aquatic organisms.

Objective/Criterion Reference: [Water Quality Control Plan \(Basin Plan\) - San Francisco Bay Region \(Region 2\)](#)

Evaluation Guideline: Sediment Quality Guidelines (MacDonald et al., 2000): PEC (probable effect concentration) Anthracene - 845 ug/kg; Fluorene - 536 ug/kg; Naphthalene - 561 ug/kg; Phenanthrene - 1170 ug/kg; Benz(a)anthracene - 1050 ug/kg; Benzo(a)pyrene - 1450

ug/kg; Chrysene - 1290 ug/kg; Fluoranthene - 2230 ug/kg; Pyrene - 1520 ug/kg; PAH (total) - 22800 ug/kg; PCB (total) - 676 ug/kg; Chlordane - 17.6 ug/kg; Dieldrin - 61.8 ug/kg; DDD (sum op + pp) - 28 ug/kg; DDE (sum op + pp) - 31.3 ug/kg; DDT (sum op + pp) - 62.9 ug/kg; DDT (total) - 572 ug/kg; Endrin - 207 ug/kg; Heptachlor epoxide - 16 ug/kg; HCH, gamma - 4.99 ug/kg.

Guideline Reference:

[Development and evaluation of consensus-based sediment quality guidelines for freshwater ecosystems. Environmental Contamination and Toxicology. 39: 20-31](#)

Spatial Representation:

One sediment sample was collected at a "watershed integrator" site located close to the mouth of Codornices Creek.

Temporal Representation:

Sediment sample was collected in April of 2005.

Environmental Conditions:

There were no special environmental conditions associated with the sampling.

QAPP Information:

All samples were collected and analyzed using procedures comparable with the SWAMP Quality Assurance Management Plan (SWRCB, 2002).

QAPP Information Reference(s):

[Quality Assurance Management Plan for the State of California's Surface Water Ambient Monitoring Program. Sacramento, CA. State Water Resources Control Board. SWAMP. December 2002 \(1st version\)](#)

DECISION ID	60877	Region 2
Codornices Creek		

Pollutant:	Pyrene
Final Listing Decision:	Do Not List on 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision:	New Decision
Revision Status	Original
Impairment from Pollutant or Pollution:	Pollutant

Regional Board Staff Conclusion:

This pollutant is being considered for placement on the CWA section 303(d) List under section 3.1 of the Listing Policy. Under section 3.1 a single line of evidence is necessary to assess listing status.

One line of evidence is available in the administrative record to assess this pollutant. Zero of one samples exceed the guideline.

Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against placing this water segment-pollutant combination on the CWA section 303(d) List.

This conclusion is based on the staff findings that:

1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy.
2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy.
3. Zero of one samples exceed the guideline and this sample size is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating. A minimum of 16 samples is needed to determine if a beneficial use is fully supported using table 3.1.
4. Pursuant to SECTION 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.

Regional Board Staff Decision Recommendation:

After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be placed on the section 303(d) list. The readily available data and information is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating.

Line of Evidence (LOE) for Decision ID 60877, Pyrene	Region 2
Codornices Creek	

LOE ID: 95388

Pollutant: Pyrene

LOE Subgroup:	Pollutant-Sediment
Matrix:	Sediment
Fraction:	None
Beneficial Use:	Warm Freshwater Habitat
Number of Samples:	1
Number of Exceedances:	0
Data and Information Type:	PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality:	Concentrations of anthracene, fluorene, naphthalene, phenanthrene, benz(a)anthracene, benzo(a)pyrene, chrysene, fluoranthrene, pyrene, PAH (total), PCB (total), dieldrin, DDE/DDT, endrin, heptachlor epoxide, and HCH, gamma in one sediment sample collected in spring 2005 did not exceed the sediment quality guidelines.
Data Reference:	Data collected by the Surface Water Ambient Monitoring Program, San Francisco Bay Regional Water Quality Control Board. Years 4 and 5 Assessment
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	All waters shall be maintained free of toxic substances that are lethal to or that produce other detrimental responses in aquatic organisms.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) - San Francisco Bay Region (Region 2)
Evaluation Guideline:	Sediment Quality Guidelines (MacDonald et al., 2000): PEC (probable effect concentration) Anthracene - 845 ug/kg; Fluorene - 536 ug/kg; Naphthalene - 561 ug/kg; Phenanthrene - 1170 ug/kg; Benz(a)anthracene - 1050 ug/kg; Benzo(a)pyrene - 1450 ug/kg; Chrysene - 1290 ug/kg; Fluoranthene - 2230 ug/kg; Pyrene - 1520 ug/kg; PAH (total) - 22800 ug/kg; PCB (total) - 676 ug/kg; Chlordane - 17.6 ug/kg; Dieldrin - 61.8 ug/kg; DDD (sum op + pp) - 28 ug/kg; DDE (sum op + pp) - 31.3 ug/kg; DDT (sum op + pp) - 62.9 ug/kg; DDT (total) - 572 ug/kg; Endrin - 207 ug/kg; Heptachlor epoxide - 16 ug/kg; HCH, gamma - 4.99 ug/kg.
Guideline Reference:	Development and evaluation of consensus-based sediment quality guidelines for freshwater ecosystems. Environmental Contamination and Toxicology. 39: 20-31
Spatial Representation:	One sediment sample was collected at a "watershed integrator" site located close to the mouth of Codornices Creek.
Temporal Representation:	Sediment sample was collected in April of 2005.
Environmental Conditions:	There were no special environmental conditions associated with the sampling.
QAPP Information:	All samples were collected and analyzed using procedures comparable with the SWAMP Quality Assurance Management Plan (SWRCB, 2002).
QAPP Information Reference(s):	Quality Assurance Management Plan for the State of California's Surface Water Ambient Monitoring Program. Sacramento, CA. State Water Resources Control Board. SWAMP. December 2002 (1st version)

DECISION ID	60891	Region 2
Codornices Creek		
Pollutant:	Silver	
Final Listing Decision:	Do Not List on 303(d) list (TMDL required list)	
Last Listing Cycle's Final Listing Decision:	New Decision	
Revision Status	Original	
Impairment from Pollutant or Pollution:	Pollutant	
Regional Board Staff Conclusion:	<p>This pollutant is being considered for placement on the CWA section 303(d) List under section 3.1 of the Listing Policy. Under section 3.1 a single line of evidence is necessary to assess listing status. One line of evidence is available in the administrative record to assess this pollutant. Zero of three samples exceed the objective.</p> <p>Based on the readily available data and information, the weight of evidence indicates that there is</p>	

sufficient justification against placing this water segment-pollutant combination on the CWA section 303(d) List.

This conclusion is based on the staff findings that:

1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy.
2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy.
3. Zero of three samples exceed the objective and this sample size is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating. A minimum of 16 samples is needed to determine if a beneficial use is fully supported using table 3.1.
4. Pursuant to SECTION 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.

Regional Board Staff Decision Recommendation: After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be placed on the section 303(d) list. The readily available data and information is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating.

Line of Evidence (LOE) for Decision ID 60891, Silver

Region 2

Codornices Creek

LOE ID:	95408
Pollutant:	Silver
LOE Subgroup:	Pollutant-Water
Matrix:	Water
Fraction:	Dissolved
Beneficial Use:	Warm Freshwater Habitat
Number of Samples:	3
Number of Exceedances:	0
Data and Information Type:	PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality:	The Codornices Creek watershed was monitored as part of SWAMP assessment. None of the three samples exceeded the water quality objectives for arsenic, chromium, copper, lead, nickel, silver and zinc
Data Reference:	Data collected by the Surface Water Ambient Monitoring Program, San Francisco Bay Regional Water Quality Control Board. Years 4 and 5 Assessment
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	All waters shall be maintained free of toxic substances that are lethal to or that produce other detrimental responses in aquatic organisms. Table 3-4 in the Basin Plan (2007) lists freshwater water quality objectives for toxic pollutants: arsenic- 150 ug/L, chromium VI- 11 ug/L, copper - 9.0 ug/L, lead - 2.5 ug/L; nickel - 52 ug/L, silver-3.4 ug/L and zinc - 120 ug/L.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) - San Francisco Bay Region (Region 2)
Evaluation Guideline:	
Guideline Reference:	
Spatial Representation:	Data were collected at one sampling location (COD020) on Codornices Creek at 2nd Street.
Temporal Representation:	Samples were collected during wet (January), spring (April), and dry(June) seasons of 2005.
Environmental Conditions:	There were no special environmental conditions associated with the sampling.
QAPP Information:	All samples were collected and analyzed using procedures comparable with the SWAMP Quality Assurance Management Plan (SWRCB, 2002).
QAPP Information Reference(s):	Quality Assurance Management Plan for the State of California's Surface Water Ambient Monitoring Program, Sacramento, CA. State Water Resources Control Board. SWAMP. December 2002 (1st version)

DECISION ID	60885	Region 2
Codornices Creek		

Pollutant: Thiobencarb/Bolero
Final Listing Decision: Do Not List on 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision: New Decision
Revision Status: Original
Impairment from Pollutant or Pollution: Pollutant

Regional Board Staff Conclusion: This pollutant is being considered for placement on the CWA section 303(d) List under section 3.1 of the Listing Policy. Under section 3.1 a single line of evidence is necessary to assess listing status. One line of evidence is available in the administrative record to assess this pollutant. Zero of three samples exceed the criterion.

Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against placing this water segment-pollutant combination on the CWA section 303(d) List.

This conclusion is based on the staff findings that:
 1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy.
 2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy.
 3. Zero of three samples exceed the criterion and this sample size is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating. A minimum of 16 samples is needed to determine if a beneficial use is fully supported using table 3.1.
 4. Pursuant to SECTION 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.

Regional Board Staff Decision Recommendation: After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be placed on the section 303(d) list. The readily available data and information is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating.

Line of Evidence (LOE) for Decision ID 60885, Thiobencarb/Bolero	Region 2
Codornices Creek	

LOE ID: 95402
Pollutant: Thiobencarb/Bolero
LOE Subgroup: Pollutant-Water
Matrix: Water
Fraction: None
Beneficial Use: Warm Freshwater Habitat
Number of Samples: 3
Number of Exceedances: 0
Data and Information Type: PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality: The Codornices Creek watershed was monitored as part of SWAMP assessment. None of the three samples exceeded the water quality objectives for PCBs, Chlorpyrifos, Dacthal, diazinon, disulfoton, endosulfan, Lindane/gamma Hexachlorocyclohexane (gamma-HCH), methyl parathion, thiobencarb.
Data Reference: [Data collected by the Surface Water Ambient Monitoring Program, San Francisco Bay Regional Water Quality Control Board. Years 4 and 5 Assessment](#)
SWAMP Data: SWAMP

Water Quality Objective/Criterion:	All waters shall be maintained free of toxic substances that are lethal to or that produce other detrimental responses in aquatic organisms. There shall be no chronic toxicity in ambient waters. Chronic toxicity is a detrimental biological effect on growth rate, reproduction, fertilization success, larval development, population abundance, community composition, or any other relevant measure of the health of an organism, population, or community. Diazinon water quality objective, 0.1 ug/L (acute)
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) - San Francisco Bay Region (Region 2)
Evaluation Guideline:	PCBs - 0.014 ug/L freshwater continuous Concentration; Chlorpyrifos - 0.015 ug/L (chronic); Dacthal (DCPA) - 14300 ug/L (acute); Disulfoton (Disyston) - 0.05 ug/L (acute); Endosulfan - 0.056 ug/L (chronic)/0.22 ug/L (acute); HCH, gamma-(gamma BHC, Lindane) - 0.95 ug/L (acute); methyl parathion - 0.08 ug/L (acute); Thiobencarb - 3.1 ug/L (acute).
Guideline Reference:	National recommended water quality criteria: 2002. EPA-822-R-02-047 Washington, D.C. USEPA
Spatial Representation:	Data were collected at one sampling location (COD020) in the Cordornices Creek.
Temporal Representation:	Samples were collected during wet (January), spring (April), and dry(June) seasons of 2005.
Environmental Conditions:	There were no special environmental conditions associated with the sampling.
QAPP Information:	All samples were collected and analyzed using procedures comparable with the SWAMP Quality Assurance Management Plan (SWRCB, 2002).
QAPP Information Reference(s):	Quality Assurance Management Plan for the State of California's Surface Water Ambient Monitoring Program. Sacramento, CA. State Water Resources Control Board. SWAMP. December 2002 (1st version)

DECISION ID	43079	Region 2
Codornices Creek		
Pollutant:	Toxicity	
Final Listing Decision:	Do Not List on 303(d) list (TMDL required list)	
Last Listing Cycle's Final Listing Decision:	Do Not List on 303(d) list (TMDL required list)(2012)	
Revision Status	Original	
Impairment from Pollutant or Pollution:	Pollutant	
Regional Board Staff Conclusion:	<p>This pollutant is being considered for placement on the section 303(d) list under section 3.1 of the Listing Policy. Under section 3.1 a single line of evidence is necessary to assess listing status. One line of evidence are available in the administrative record to assess this pollutant. None of the samples exceed the water quality objective. Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against placing this water segment-pollutant combination on the section 303(d) list in the Water Quality Limited Segments category. This conclusion is based on the staff findings that: 1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy. 2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy. 3. None of three samples exceeded the water quality objective and this does not exceed the allowable frequency listed in Table 3.1 of the Listing Policy. 4. Pursuant to section 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.</p>	
Regional Board Staff Decision Recommendation:	<p>This is a decision previously approved by the State Water Resources Control Board and the USEPA. No new data were assessed by the Regional Board for the current. The decision has not changed.</p>	

Line of Evidence (LOE) for Decision ID 43079, Toxicity	Region 2
Codornices Creek	

LOE ID: 28867

Pollutant:	Sediment Toxicity
LOE Subgroup:	Pollutant-Sediment
Matrix:	Sediment
Fraction:	None
Beneficial Use:	Warm Freshwater Habitat
Number of Samples:	1
Number of Exceedances:	1
Data and Information Type:	TOXICITY TESTING
Data Used to Assess Water Quality:	Data used to evaluate sediment toxicity comprise one sediment sample collected by the SWAMP in spring 2005. This sample displayed statistically significant toxicity during the Hyalella azteca test. Hyalella azteca growth was only 63% of the control.
Data Reference:	Data collected by the Surface Water Ambient Monitoring Program, San Francisco Bay Regional Water Quality Control Board. Years 4 and 5 Assessment
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	All waters shall be maintained free of toxic substances that are lethal to or that produce other detrimental responses in aquatic organisms. There shall be no chronic toxicity in ambient waters. Chronic toxicity is a detrimental biological effect on growth rate, reproduction, fertilization success, larval development, population abundance, community composition, or any other relevant measure of the health of an organism, population, or community.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) - San Francisco Bay Region (Region 2)
Evaluation Guideline:	Sediment toxicity was evaluated according to the SWAMP methodology. Sample toxicity was determined by comparing mean organism response in samples and in negative controls. Statistical evaluation ($\alpha = 0.05$) and a default threshold of 80% of the control value were used to establish whether the sediment exhibited significant toxicity adversely impacting aquatic organisms.
Guideline Reference:	Revised approach to toxicity test acceptability criteria using a statistical performance assessment. Environmental Toxicology and Chemistry, vol. 16, No. 6, pp 1322?1329
Spatial Representation:	Data were collected at one sampling location at the lower part of Codornices Creek.
Temporal Representation:	A sample was collected in spring season (April 2005).
Environmental Conditions:	
QAPP Information:	All samples were collected and analyzed using procedures comparable with the SWAMP Quality Assurance Management Plan (SWRCB, 2002).
QAPP Information Reference(s):	Quality Assurance Management Plan for the State of California's Surface Water Ambient Monitoring Program. Sacramento, CA. State Water Resources Control Board. SWAMP. December 2002 (1st version)

Line of Evidence (LOE) for Decision ID 43079, Toxicity
Codornices Creek

Region 2

LOE ID:	28995
Pollutant:	Toxicity
LOE Subgroup:	Pollutant-Water
Matrix:	Water
Fraction:	None
Beneficial Use:	Warm Freshwater Habitat
Number of Samples:	3
Number of Exceedances:	0
Data and Information Type:	TOXICITY TESTING
Data Used to Assess Water Quality:	Three samples were collected in 2005 to evaluate water toxicity at one monitoring location

	near the mouth of Baxter Creek. The toxicity tests included survival and reproduction of Ceriodaphnia, survival and growth of fathead minnow, and growth of Selenastrum. Selenastrum growth was significantly lower than the control in one of three samples (spring sample). Growth was 44.3 percent of the control for this sample.
Data Reference:	Data collected by the Surface Water Ambient Monitoring Program, San Francisco Bay Regional Water Quality Control Board. Years 4 and 5 Assessment
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	All waters shall be maintained free of toxic substances that are lethal to or that produce other detrimental responses in aquatic organisms. There shall be no chronic toxicity in ambient waters. Chronic toxicity is a detrimental biological effect on growth rate, reproduction, fertilization success, larval development, population abundance, community composition, or any other relevant measure of the health of an organism, population, or community.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) - San Francisco Bay Region (Region 2)
Evaluation Guideline:	Water toxicity was evaluated according to the SWAMP methodology. The U.S.EPA whole effluent toxicity protocol (U.S.EPA 1994) was used to test the effect of water samples on three freshwater test organisms. Statistical evaluation (alpha = 0.05) and a default threshold of 80% of the control value were used to establish whether water exhibited significant toxicity adversely impacting aquatic organisms.
Guideline Reference:	Revised approach to toxicity test acceptability criteria using a statistical performance assessment. Environmental Toxicology and Chemistry, vol. 16, No. 6, pp 1322?1329 Short-Term Methods for Estimating the Chronic Toxicity of Effluents and Receiving Waters to Freshwater Organisms. EPA/600/4-91/002. Third Edition. July 1994
Spatial Representation:	Data were collected at one sampling location, COD020, (Codornices at 2nd Street) on three (3) occasions, representative of the lower reach of the creek.
Temporal Representation:	SWAMP samples were collected during winter wet season (January), spring season (April), and dry season (June) of 2005.
Environmental Conditions:	
QAPP Information:	All samples were collected and analyzed using procedures comparable with the SWAMP Quality Assurance Management Plan (SWRCB, 2002).
QAPP Information Reference(s):	Quality Assurance Management Plan for the State of California's Surface Water Ambient Monitoring Program. Sacramento, CA. State Water Resources Control Board. SWAMP. December 2002 (1st version)

DECISION ID	60889	Region 2
Codornices Creek		
Pollutant:	Zinc	
Final Listing Decision:	Do Not List on 303(d) list (TMDL required list)	
Last Listing Cycle's Final Listing Decision:	New Decision	
Revision Status	Original	
Impairment from Pollutant or Pollution:	Pollutant	
Regional Board Staff Conclusion:	<p>This pollutant is being considered for placement on the CWA section 303(d) List under section 3.1 of the Listing Policy. Under section 3.1 a single line of evidence is necessary to assess listing status. Two lines of evidence are available in the administrative record to assess this pollutant. Zero of three samples exceed the objective.</p> <p>Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against placing this water segment-pollutant combination on the CWA section 303(d) List.</p> <p>This conclusion is based on the staff findings that:</p> <ol style="list-style-type: none"> 1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy. 2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy. 	

3. Zero of three samples exceed the objective and this sample size is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating. A minimum of 16 samples is needed to determine if a beneficial use is fully supported using table 3.1.

4. Pursuant to SECTION 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.

Regional Board Staff Decision Recommendation: After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be placed on the section 303(d) list. The readily available data and information is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating.

Line of Evidence (LOE) for Decision ID 60889, Zinc

Region 2

Codornices Creek

LOE ID: 95409

Pollutant: Zinc
LOE Subgroup: Pollutant-Water
Matrix: Water
Fraction: Dissolved

Beneficial Use: Warm Freshwater Habitat

Number of Samples: 3
Number of Exceedances: 0

Data and Information Type: PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality: The Codornices Creek watershed was monitored as part of SWAMP assessment. None of the three samples exceeded the water quality objectives for arsenic, chromium, copper, lead, nickel, silver and zinc

Data Reference: [Data collected by the Surface Water Ambient Monitoring Program, San Francisco Bay Regional Water Quality Control Board. Years 4 and 5 Assessment](#)

SWAMP Data: SWAMP

Water Quality Objective/Criterion: All waters shall be maintained free of toxic substances that are lethal to or that produce other detrimental responses in aquatic organisms. Table 3-4 in the Basin Plan (2007) lists freshwater water quality objectives for toxic pollutants: arsenic- 150 ug/L, chromium VI- 11 ug/L, copper - 9.0 ug/L, lead - 2.5 ug/L; nickel - 52 ug/L, silver-3.4 ug/L and zinc - 120 ug/L.

Objective/Criterion Reference: [Water Quality Control Plan \(Basin Plan\) - San Francisco Bay Region \(Region 2\)](#)

Evaluation Guideline:
Guideline Reference:

Spatial Representation: Data were collected at one sampling location (COD020) on Codornices Creek at 2nd Street.

Temporal Representation: Samples were collected during wet (January), spring (April), and dry(June) seasons of 2005.

Environmental Conditions: There were no special environmental conditions associated with the sampling.

QAPP Information: All samples were collected and analyzed using procedures comparable with the SWAMP Quality Assurance Management Plan (SWRCB, 2002).

QAPP Information Reference(s): [Quality Assurance Management Plan for the State of California's Surface Water Ambient Monitoring Program. Sacramento, CA. State Water Resources Control Board. SWAMP. December 2002 \(1st version\)](#)

Line of Evidence (LOE) for Decision ID 60889, Zinc

Region 2

Codornices Creek

LOE ID: 95393

Pollutant:	Zinc
LOE Subgroup:	Pollutant-Sediment
Matrix:	Sediment
Fraction:	Total
Beneficial Use:	Warm Freshwater Habitat
Number of Samples:	1
Number of Exceedances:	0
Data and Information Type:	PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality:	Concentrations of arsenic, cadmium, copper, lead and zinc in one sediment sample collected in April 2005 did not exceed the sediment quality guidelines.
Data Reference:	Data collected by the Surface Water Ambient Monitoring Program, San Francisco Bay Regional Water Quality Control Board. Years 4 and 5 Assessment
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	All waters shall be maintained free of toxic substances that are lethal to or that produce other detrimental responses in aquatic organisms.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) - San Francisco Bay Region (Region 2)
Evaluation Guideline:	Sediment Quality Guidelines (MacDonald et al., 2000): PEC (probable effect concentration) arsenic - 33 mg/kg dw; cadmium - 4.98 mg/kg dw; copper - 149 mg/kg dw; lead - 128 mg/kg dw; zinc - 459 mg/kg dw.
Guideline Reference:	Development and evaluation of consensus-based sediment quality guidelines for freshwater ecosystems. Environmental Contamination and Toxicology. 39: 20-31
Spatial Representation:	One sediment sample was collected at a "watershed integrator" site located close to the mouth of Codornices Creek.
Temporal Representation:	Sediment sample was collected in April of 2005.
Environmental Conditions:	There were no special environmental conditions associated with the sampling.
QAPP Information:	All samples were collected and analyzed using procedures comparable with the SWAMP Quality Assurance Management Plan (SWRCB, 2002).
QAPP Information Reference(s):	Quality Assurance Management Plan for the State of California's Surface Water Ambient Monitoring Program. Sacramento, CA. State Water Resources Control Board. SWAMP. December 2002 (1st version)

DECISION ID	43591	Region 2
Codornices Creek		
Pollutant:	pH	
Final Listing Decision:	Do Not List on 303(d) list (TMDL required list)	
Last Listing Cycle's Final Listing Decision:	Do Not List on 303(d) list (TMDL required list)(2012)	
Revision Status	Original	
Impairment from Pollutant or Pollution:	Pollutant	
Regional Board Staff Conclusion:	<p>This pollutant is being considered for placement on the section 303(d) list under section 3.2 of the Listing Policy. Under section 3.2 a single line of evidence is necessary to assess listing status. One line of evidence is available in the administrative record to assess this pollutant. None of the samples exceed the water quality objective. Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against placing this water segment-pollutant combination on the section 303(d) list in the Water Quality Limited Segments category. This conclusion is based on the staff findings that: 1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy. 2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy. 3. None of eleven samples exceeded the water quality objectives and this does not exceed the allowable frequency listed in Table 3.2 of the Listing Policy. 4. Pursuant to section 3.11 of the Listing Policy, no additional data and information are available indicating that</p>	

standards are not met.

Regional Board Staff Decision Recommendation: This is a decision previously approved by the State Water Resources Control Board and the USEPA. No new data were assessed by the Regional Board for the current. The decision has not changed.

Line of Evidence (LOE) for Decision ID 43591, pH

Region 2

Codornices Creek

LOE ID: 28966

Pollutant: pH
LOE Subgroup: Pollutant-Water
Matrix: Water
Fraction: None

Beneficial Use: Warm Freshwater Habitat

Number of Samples: 11
Number of Exceedances: 0

Data and Information Type: PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality: Comprehensive water quality assessment was conducted at Codornices Creek watershed as part of SWAMP assessment in 2004 and 2005. Continuous field monitoring of temperature, dissolved oxygen, pH, and specific conductance to determine temporal variability in basic water quality at one or two locations. The pH ranged from 7.0 to 8.5 and varied with season. The pH did not exceed the maximum or go below the minimum during any sampling event.

Data Reference: [Data collected by the Surface Water Ambient Monitoring Program, San Francisco Bay Regional Water Quality Control Board, Years 4 and 5 Assessment](#)

SWAMP Data: SWAMP

Water Quality Objective/Criterion: The pH shall not be depressed below 6.5 nor raised above 8.5. This encompasses the pH range usually found in waters within the basin. Controllable water quality factors shall not cause changes greater than 0.5 units in normal ambient pH levels.

Objective/Criterion Reference: [Water Quality Control Plan \(Basin Plan\) - San Francisco Bay Region \(Region 2\)](#)

Evaluation Guideline:
Guideline Reference:

Spatial Representation: pH was measured at two or three sites located on the mainstem of Codornices Creek that are representative of the entire creek length.

Temporal Representation: At all locations the SWAMP performed continuous monitoring of pH at 15 minute intervals lasting 7-16 days during spring (March 2004), summer dry seasons (July and September 2004), and winter wet season (January 2005).

Environmental Conditions:

QAPP Information: All samples were collected and analyzed using procedures comparable with the SWAMP Quality Assurance Management Plan (SWRCB 2002).

QAPP Information Reference(s): [Quality Assurance Management Plan for the State of California's Surface Water Ambient Monitoring Program, Sacramento, CA, State Water Resources Control Board, SWAMP, December 2002 \(1st version\)](#)

DECISION ID 35335

Region 2

Codornices Creek

Pollutant: Temperature, water
Final Listing Decision: List on 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision: List on 303(d) list (TMDL required list)(2012)

Revision Status Original
Sources: Source Unknown
Expected TMDL Completion Date: 2021
Impairment from Pollutant or Pollution: Pollutant

Regional Board Staff Conclusion: This pollutant is being considered for listing under section 3.2 of the Listing Policy. Under section 3.2 a single line of evidence is necessary to assess listing status. One line of evidence is available in the administrative record to assess this pollutant. A sufficient number of samples exceed the water quality objective. Based on the readily available data for this water body, the weight of evidence indicates that there is sufficient justification available in favor of adding this water segment-pollutant combination to the section 303(d) list in the Water Quality Limited Segments category. This conclusion is based on the staff findings that: 1. The data concerning current conditions and supporting the listing decision were collected as part of the SWAMP and satisfy the data quality requirements of section 6.1.4 of the Policy. 2. The data used satisfy the data quantity requirements of section 6.1.5 of the Policy. 3. Temperature measurements at 6 out of 11 continuous deployments exceeded the 17 °C evaluation guideline used to interpret the water quality objective for waters designated as cold water habitat and this exceeds the allowable frequency listed in Table 3.2 of the Listing Policy. 4. Pursuant to section 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.

Regional Board Staff Decision Recommendation: This is a decision previously approved by the State Water Resources Control Board and the USEPA. No new data were assessed by the Regional Board for the current. The decision has not changed.

**Line of Evidence (LOE) for Decision ID 35335, Temperature, water
Codornices Creek**

Region 2

LOE ID: 8555

Pollutant: Temperature, water
LOE Subgroup: Pollutant-Water
Matrix: Water
Fraction: None

Beneficial Use: Cold Freshwater Habitat

Number of Samples: 11
Number of Exceedances: 6

Data and Information Type: PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality: Water quality assessment was conducted at the Codornices Creek watershed as part of SWAMP study in 2004-2005. Continuous field monitoring at 15 minute increments of temperature, dissolved oxygen, pH and specific conductance was conducted to determine temporal variability in basic water quality at three locations.

Continuous monitoring sondes were deployed 11 times at 3 monitoring locations during wet, spring and two dry seasons. The measured temperatures ranged from 8.9°C to 21.5 °C and varied with season and location. During both dry season deployments at all 3 monitoring locations the 7-day mean temperature threshold for steelhead was exceeded. In total, the 17 °C criterion was exceeded in 6 out of 11 deployments. The durations of the temperature exceedances ranged from 19 to over 125 hours.

Data Reference: [Data collected by the Surface Water Ambient Monitoring Program, San Francisco Bay Regional Water Quality Control Board. Years 4 and 5 Assessment](#)

SWAMP Data: SWAMP

Water Quality Objective/Criterion: Temperature objectives for enclosed bays and estuaries are specified in the 'Water Quality Control Plan for Control of Temperature in the Coastal and Interstate Waters and Enclosed Bays of California' including any revisions to the plan. In addition, the following temperature objectives apply to surface waters: The natural receiving water temperature of

intrastate waters shall not be altered unless it can be demonstrated to the satisfaction of the Regional Water Board that such alteration in temperature does not adversely affect beneficial uses.

The temperature of any cold or warm freshwater habitat shall not be increased by more than 5°F (2.8°C) above natural receiving water temperature.

Objective/Criterion Reference:

[Water Quality Control Plan \(Basin Plan\) - San Francisco Bay Region \(Region 2\)](#)

Evaluation Guideline:

Sullivan et al. (2000) reviewed a wide range of studies incorporating information from laboratory-based research, field observations, and risk assessment approaches and developed criteria for assessing temperature risk to aquatic life. The 7-day mean temperature (maximum value of the 7-day moving average of the daily mean temperature) of 14.8°C was established as the upper threshold criterion for coho salmon and 17.0°C for steelhead trout. The risk assessment approach used by Sullivan et al. (2000) suggests that temperatures exceeding the above thresholds will cause 10% reduction in average fish growth compared to optimal conditions.

Guideline Reference:

[An Analysis of the Effects of Temperature on Salmonids of the Pacific Northwest with Implications for Selecting Temperature Criteria](#)

Spatial Representation:

Temperature was measured at three sites located on the mainstem of Codornices Creek that are representative of the entire creek length. The highest temperatures were recorded at the most downstream monitoring station in September 2004.

Temporal Representation:

In 2004 and 2005 the SWAMP Program performed continuous monitoring of temperature at 15 minute intervals for periods of 1-2 weeks in each of three different seasons: winter (3 sites), spring (2 sites), and two summer dry seasons (3 sites each season).

Environmental Conditions:

QAPP Information:

All samples were collected and analyzed using procedures comparable with the SWAMP Quality Assurance Management Plan (SWRCB 2002).

QAPP Information Reference(s):

[Quality Assurance Management Plan for the State of California's Surface Water Ambient Monitoring Program. Sacramento, CA. State Water Resources Control Board. SWAMP. December 2002 \(1st version\)](#)

Draft California 2016 Integrated Report (303(d) List/305(b) Report)

Supporting Information

Regional Board 2 - San Francisco Bay Region

Water Body Name: Colma Creek
Water Body ID: CAR2044002020080624163112
Water Body Type: River & Stream

DECISION ID	35076	Region 2
Colma Creek		

Pollutant: Trash
Final Listing Decision: Do Not Delist from 303(d) list (being addressed with action other than TMDL)
Last Listing Cycle's Final Listing Decision: List on 303(d) list (TMDL required list)(2012)
Revision Status: Revised
Sources: Source Unknown
Expected Attainment Date: 2029
Implementation Action Other than TMDL: This trash listing will be addressed by implementing the trash control provisions of the Water Quality Control Plan for Inland Surface Waters, Enclosed Bays, and Estuaries of California through the NPDES MS4 permit applicable to this waterbody.
Impairment from Pollutant or Pollution: Pollutant

Regional Board Staff Conclusion: This pollutant is being considered for removal from the CWA section 303(d) List under section 4.11 of the Listing Policy. Under this section a single line of evidence is necessary to assess listing status.

Four lines of evidence are available in the administrative record to assess pollutant. eleven of eleven samples exceed the evaluation guideline.

Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against removing this water segment-pollutant combination from the CWA section 303(d) List.

This conclusion is based on the staff findings that:

1. Four lines of evidence are available in the administrative record to assess this pollutant. All lines of evidence involve inspection of photographic evidence by Regional Water Board staff trained to conduct the Rapid Trash Assessment (RTA) methodology. The staff inspected these photos and applied the RTA methodology to develop Category 1 (Level of Trash) and Category 3 (Threat to Aquatic Life) scores for each photograph. Based on the readily available photographic evidence for this waterbody, the weight of evidence indicates that there is sufficient justification available in favor of leaving this water segment-pollutant combination on the section 303(d) list in the Water Quality Limited Segments category.
2. Photographic evidence has been evaluated that supports this decision.
3. Applying the Rapid Trash Assessment methodology to the photographic evidence suggests that this waterbody had level of trash parameter scores in the poor category (indicating impairment of non-contact water recreational beneficial uses).
4. This waterbody also had threat to aquatic life parameter scores in the poor category (indicating threat to Wildlife Habitat beneficial uses) in more than one location or on more than one date.
5. This waterbody is considered impaired by trash because there were exceedances of the evaluation guidelines (poor condition category for the trash assessment metrics) in more than one location or on more than one date.
6. Eleven of eleven samples collected exceeded the evaluation guideline.
7. Pursuant to section 4.11 of the Listing Policy, no additional data and information are available indicating that standards are met.

8. The data used satisfy the data quality requirements of section 6.1.4 of the Policy.
9. The data used satisfy the data quantity requirements of section 6.1.5 of the Policy.
10. This trash listing will be addressed by implementing the trash control provisions of the Water Quality Control Plan for Inland Surface Waters, Enclosed Bays, and Estuaries of California through the NPDES MS4 permit applicable to this waterbody.

Regional Board Staff Decision Recommendation: After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be removed from the section 303(d) list because applicable water quality standards for the pollutant are being exceeded.

Line of Evidence (LOE) for Decision ID 35076, Trash

Region 2

Colma Creek

LOE ID:	91315
Pollutant:	Trash
LOE Subgroup:	Pollutant-Nuisance
Matrix:	Not Specified
Fraction:	None
Beneficial Use:	Non-Contact Recreation
Number of Samples:	3
Number of Exceedances:	3
Data and Information Type:	Occurrence of conditions judged to cause impairment
Data Used to Assess Water Quality:	Data available consist of photographic evidence of trash and interpretation of these photos by an experienced trash assessment specialist. Each photograph was analyzed to establish the RTA score for the level of trash and threat to aquatic life parameters, which relate to impairment of REC2 and WILD, respectively. Only those photos clear enough to establish these RTA scores were relied on for the listing determination. These results are available for photos taken on 3/9/07 at Mitchell Avenue and Utah Avenue Bridge, and 12/8/17 and 3/5/08 at Utah Avenue Bridge. at Fruitvale Avenue Bridge Park. This waterbody had level of trash parameter scores in the poor category (indicating impairment of non-contact water recreational beneficial uses).
Data Reference:	Photos of trash in various San Francisco Bay water bodies, Mar. 2007-Mar. 2008
SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	The Basin Plan prohibits discharge of Rubbish, refuse, bark, sawdust, or other solid wastes into surface waters or at any place where they would contact or where they would be eventually transported to surface waters, including flood plain areas. The Basin Plan has a narrative objective for floating material, Waters shall not contain floating material, including solids, liquids, foams, and scum, in concentrations that cause nuisance or adversely affect beneficial uses. The Basin Plan has a narrative objective for settleable material, Waters shall not contain substances in concentrations that result in the deposition of material that cause nuisance or adversely affect beneficial uses.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	If the Rapid Trash Assessment (RTA) Parameter 1 (Level of Trash) is in the poor condition category (scores 0-5), REC2 is not supported. This level of trash distracts the eye on first glance, making the site unsuitable for recreation. The RTA defines poor condition for this parameter as follows, trash distracts the eye on first glance. Stream, bank surfaces, and immediate riparian zone contain substantial levels of litter and debris (>100 pieces). Evidence of site being used frequently by people: many cans, bottles, and food wrappers, blankets, clothing. State Water Board staff trained in the RTA inspected the available photographic evidence and applied the assessment method to determine the Level of Trash score. If the RTA Parameter 3 (Threat to Aquatic Life) is in the poor condition category (scores 0-5), then WILD is not supported. This level of trash is a large amount (>50 pieces) of transportable, persistent, buoyant litter that is detrimental to aquatic life. The RTA defines poor condition for this parameter as follows, large amount

(>50 pieces) of transportable, persistent, buoyant litter such as: hard or soft plastics, balloons, Styrofoam, cigarette butts; toxic items such as batteries, lighters, or spray cans; large clumps of yard waste or dumped leaf litter; or large amount (>50 pieces) of settleable glass or metal. State Water Board staff trained in the RTA inspected the available photographic evidence and applied the assessment method to determine the Threat to Aquatic Life score.

Guideline Reference:

[A Rapid Trash Assessment Method Applied to Waters of the San Francisco Bay Region: Trash Measurement in Streams](#)

Spatial Representation:

Photos taken at Utah Avenue Bridge Park on 3/9/07, 12/18/07, and 3/5/08.

Temporal Representation:

Photos taken at Utah Avenue Bridge Park on 3/9/07, 12/18/07, and 3/5/08.

Environmental Conditions:

Observations during summer and fall months may not be representative of conditions found during the rainy season because the trash discharged during the previous winter are obscured by new vegetation, particularly the cattails.

QAPP Information:

Assessments of the photographic evidence using the RTA were performed by a State Water Board staff person. Assessments based on photographic evidence were only conducted when sufficient reach-scale and close-up photos were available for a site on a specific date. Photos used for the evaluation needed to be numerous enough and clear enough to document the level of trash at the site in a similar way as the assessor would experience during an actual site visit in the field. For example, at a minimum, one reach-scale photograph (showing at least a 100 linear foot section of the waterbody) and two close-up photographs (of representative trash deposits) were required.

QAPP Information Reference(s):

Line of Evidence (LOE) for Decision ID 35076, Trash

Region 2

Colma Creek

LOE ID: 5279

Pollutant: Trash
LOE Subgroup: Pollutant-Nuisance
Matrix: Not Specified
Fraction: None

Beneficial Use: Non-Contact Recreation

Number of Samples: 8
Number of Exceedances: 5

Data and Information Type: Occurrence of conditions judged to cause impairment
Data Used to Assess Water Quality: Data available consist of photographic evidence of trash and interpretation of these photos by an experienced trash assessment specialist. Each photograph was analyzed to establish the RTA score for the level of trash and threat to aquatic life parameters, which relate to impairment of REC2 and WILD, respectively. Only those photos clear enough to establish these RTA scores were relied on for the listing determination. These results are available for the following dates and locations on Colma Creek:
Mitchell Ave. on 12/31/2002, 12/10/03, 1/6/2005, 2/3/2006, 4/1/2006
Utah Ave. Bridge on 1/29/2002, 12/31/2002, 2/3/2006, 4/1/2006
Pedestrian Crossing Bridge on 12/31/2002

This waterbody had level of trash parameter scores in the poor category (indicating impairment of non-contact water recreational beneficial uses) at more than one location and on three different dates.

Data Reference:

[Archive of Trash Photos for Colma Creek submitted for 2008 303\(d\) list consideration Report from Roger James and Larry Kolb containing Trash Photos submitted for consideration in 2008 303\(d\) listing process](#)
[Assessment by Matt Cover of Trash Photos \(submitted to Region 2 in response to 2008 Data Solicitation\)](#)

SWAMP Data: Non-SWAMP

Water Quality Objective/Criterion: The Basin Plan prohibits discharge of Rubbish, refuse, bark, sawdust, or other solid

wastes into surface waters or at any place where they would contact or where they would be eventually transported to surface waters, including flood plain areas.

The Basin Plan has a narrative objective for floating material, Waters shall not contain floating material, including solids, liquids, foams, and scum, in concentrations that cause nuisance or adversely affect beneficial uses.

The Basin Plan has a narrative objective for settleable material, Waters shall not contain substances in concentrations that result in the deposition of material that cause nuisance or adversely affect beneficial uses.

Objective/Criterion Reference:

[Water Quality Control Plan \(Basin Plan\) - San Francisco Bay Region \(Region 2\)](#)

Evaluation Guideline:

If the Rapid Trash Assessment (RTA) Parameter 1 (Level of Trash) is in the poor condition category (scores 0-5), REC2 is not supported. This level of trash distracts the eye on first glance, making the site unsuitable for recreation. The RTA defines poor condition for this parameter as follows, trash distracts the eye on first glance. Stream, bank surfaces, and immediate riparian zone contain substantial levels of litter and debris (>100 pieces). Evidence of site being used frequently by people: many cans, bottles, and food wrappers, blankets, clothing. Regional Water Board staff trained in the RTA inspected the available photographic evidence and applied the assessment method to determine the Level of Trash score.

If the RTA Parameter 3 (Threat to Aquatic Life) is in the poor condition category (scores 0-5), then WILD is not supported. This level of trash is a large amount (>50 pieces) of transportable, persistent, buoyant litter that is detrimental to aquatic life. The RTA defines poor condition for this parameter as follows, large amount (>50 pieces) of transportable, persistent, buoyant litter such as: hard or soft plastics, balloons, Styrofoam, cigarette butts; toxic items such as batteries, lighters, or spray cans; large clumps of yard waste or dumped leaf litter; or large amount (>50 pieces) of settleable glass or metal. Regional Water Board staff trained in the RTA inspected the available photographic evidence and applied the assessment method to determine the Threat to Aquatic Life score.

Guideline Reference:

[A Rapid Trash Assessment Method Applied to Waters of the San Francisco Bay Region: Trash Measurement in Streams](#)

Spatial Representation:

Photographic evidence was analyzed using the RTA methodology for this waterbody for three different locations spanning dates from 2002 through 2006. Two locations scored in the poor condition category for the Level of Trash parameter.

Temporal Representation:

Photographic evidence was collected for this waterbody on six separate dates from 2003 through 2006. Data from three sampling dates scored in the poor condition category for the Level of Trash parameter.

Environmental Conditions:

QAPP Information:

Assessments of the photographic evidence using the RTA were performed by Regional Water Board staff person who was a co-author of the Rapid Trash Assessment methodology.

Assessments based on photographic evidence were only conducted when sufficient reach-scale and close-up photos were available for a site on a specific date. Photos used for the evaluation needed to be numerous enough and clear enough to document the level of trash at the site in a similar way as the assessor would experience during an actual site visit in the field. For example, at a minimum, one reach-scale photograph (showing at least a 100 linear foot section of the waterbody) and two close-up photographs (of representative trash deposits) were required.

QAPP Information Reference(s):

Line of Evidence (LOE) for Decision ID 35076, Trash

Region 2

Colma Creek

LOE ID:

5282

Pollutant:

Trash

LOE Subgroup:

Pollutant-Nuisance

Matrix:

Not Specified

Fraction:	None
Beneficial Use:	Wildlife Habitat
Number of Samples:	8
Number of Exceedances:	8
Data and Information Type:	Occurrence of conditions judged to cause impairment
Data Used to Assess Water Quality:	<p>Data available consist of photographic evidence of trash and interpretation of these photos by an experienced trash assessment specialist. Each photograph was analyzed to establish the RTA score for the level of trash and threat to aquatic life parameters, which relate to impairment of REC2 and WILD, respectively. Only those photos clear enough to establish these RTA scores were relied on for the listing determination. These results are available for the following dates and locations on Colma Creek:</p> <p>Mitchell Ave. on 12/31/2002, 12/10/03, 1/6/2005, 2/3/2006, 4/1/2006</p> <p>Utah Ave. Bridge on 1/29/2002, 12/31/2002, 2/3/2006, 4/1/2006</p> <p>Pedestrian Crossing Bridge on 12/31/2002</p>
Data Reference:	<p>There were exceedances of the evaluation guideline (poor condition category for the trash assessment metric) in more than one location or on more than one date.</p> <p>Archive of Trash Photos for Colma Creek submitted for 2008 303(d) list consideration Report from Roger James and Larry Kolb containing Trash Photos submitted for consideration in 2008 303(d) listing process</p> <p>Assessment by Matt Cover of Trash Photos (submitted to Region 2 in response to 2008 Data Solicitation)</p>
SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	<p>The Basin Plan prohibits discharge of Rubbish, refuse, bark, sawdust, or other solid wastes into surface waters or at any place where they would contact or where they would be eventually transported to surface waters, including flood plain areas.</p> <p>The Basin Plan has a narrative objective for floating material, Waters shall not contain floating material, including solids, liquids, foams, and scum, in concentrations that cause nuisance or adversely affect beneficial uses.</p> <p>The Basin Plan has a narrative objective for settleable material, Waters shall not contain substances in concentrations that result in the deposition of material that cause nuisance or adversely affect beneficial uses.</p>
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) - San Francisco Bay Region (Region 2)
Evaluation Guideline:	<p>If the Rapid Trash Assessment (RTA) Parameter 1 (Level of Trash) is in the poor condition category (scores 0-5), REC2 is not supported. This level of trash distracts the eye on first glance, making the site unsuitable for recreation. The RTA defines poor condition for this parameter as follows, trash distracts the eye on first glance. Stream, bank surfaces, and immediate riparian zone contain substantial levels of litter and debris (>100 pieces). Evidence of site being used frequently by people: many cans, bottles, and food wrappers, blankets, clothing. Regional Water Board staff trained in the RTA inspected the available photographic evidence and applied the assessment method to determine the Level of Trash score.</p> <p>If the RTA Parameter 3 (Threat to Aquatic Life) is in the poor condition category (scores 0-5), then WILD is not supported. This level of trash is a large amount (>50 pieces) of transportable, persistent, buoyant litter that is detrimental to aquatic life. The RTA defines poor condition for this parameter as follows, large amount (>50 pieces) of transportable, persistent, buoyant litter such as: hard or soft plastics, balloons, Styrofoam, cigarette butts; toxic items such as batteries, lighters, or spray cans; large clumps of yard waste or dumped leaf litter; or large amount (>50 pieces) of settleable glass or metal. Regional Water Board staff trained in the RTA inspected the available photographic evidence and applied the assessment method to determine the Threat to Aquatic Life score.</p>
Guideline Reference:	A Rapid Trash Assessment Method Applied to Waters of the San Francisco Bay Region:Trash Measurement in Streams

Spatial Representation:	Photographic evidence was analyzed using the RTA methodology for this waterbody for three different locations spanning dates from 2002 through 2006. Three locations scored in the poor condition category for the threat to aquatic life parameter.
Temporal Representation:	Photographic evidence was collected for this waterbody on six separate dates from 2003 through 2006. Data from six sampling dates scored in the poor condition category for the Transportable, Persistent, Buoyant Litter parameter.
Environmental Conditions:	
QAPP Information:	Assessments of the photographic evidence using the RTA were performed by Regional Water Board staff person who was a co-author of the Rapid Trash Assessment methodology.

Assessments based on photographic evidence were only conducted when sufficient reach-scale and close-up photos were available for a site on a specific date. Photos used for the evaluation needed to be numerous enough and clear enough to document the level of trash at the site in a similar way as the assessor would experience during an actual site visit in the field. For example, at a minimum, one reach-scale photograph (showing at least a 100 linear foot section of the waterbody) and two close-up photographs (of representative trash deposits) were required.

QAPP Information Reference(s):

Line of Evidence (LOE) for Decision ID 35076, Trash Colma Creek

Region 2

LOE ID:	91320
Pollutant:	Trash
LOE Subgroup:	Pollutant-Nuisance
Matrix:	Not Specified
Fraction:	None
Beneficial Use:	Wildlife Habitat
Number of Samples:	3
Number of Exceedances:	3
Data and Information Type:	Occurrence of conditions judged to cause impairment
Data Used to Assess Water Quality:	Data available consist of photographic evidence of trash and interpretation of these photos by an experienced trash assessment specialist. Each photograph was analyzed to establish the RTA score for the level of trash and threat to aquatic life parameters, which relate to impairment of REC2 and WILD, respectively. Only those photos clear enough to establish these RTA scores were relied on for the listing determination. These results are available for photos taken on 3/9/07 at Mitchell Avenue and Utah Avenue Bridge, and 12/8/17 and 3/5/08 at Utah Avenue Bridge. This waterbody had threat to aquatic life parameter scores in the poor category (indicating threat to Wildlife Habitat beneficial uses).
Data Reference:	Photos of trash in various San Francisco Bay water bodies, Mar. 2007-Mar. 2008
SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	Not Recorded Criteria/Objective The Basin Plan prohibits discharge of Rubbish, refuse, bark, sawdust, or other solid wastes into surface waters or at any place where they would contact or where they would be eventually transported to surface waters, including flood plain areas. The Basin Plan has a narrative objective for floating material, Waters shall not contain floating material, including solids, liquids, foams, and scum, in concentrations that cause nuisance or adversely affect beneficial uses. The Basin Plan has a narrative objective for settleable material, Waters shall not contain substances in concentrations that result in the deposition of material that cause nuisance or adversely affect beneficial uses.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	If the Rapid Trash Assessment (RTA) Parameter 1 (Level of Trash) is in the poor condition category (scores 0-5), REC2 is not supported. This level of trash distracts the

eye on first glance, making the site unsuitable for recreation. The RTA defines poor condition for this parameter as follows, trash distracts the eye on first glance. Stream, bank surfaces, and immediate riparian zone contain substantial levels of litter and debris (>100 pieces). Evidence of site being used frequently by people: many cans, bottles, and food wrappers, blankets, clothing. State Water Board staff trained in the RTA inspected the available photographic evidence and applied the assessment method to determine the Level of Trash score. If the RTA Parameter 3 (Threat to Aquatic Life) is in the poor condition category (scores 0-5), then WILD is not supported. This level of trash is a large amount (>50 pieces) of transportable, persistent, buoyant litter that is detrimental to aquatic life. The RTA defines poor condition for this parameter as follows, large amount (>50 pieces) of transportable, persistent, buoyant litter such as: hard or soft plastics, balloons, Styrofoam, cigarette butts; toxic items such as batteries, lighters, or spray cans; large clumps of yard waste or dumped leaf litter; or large amount (>50 pieces) of settleable glass or metal. State Water Board staff trained in the RTA inspected the available photographic evidence and applied the assessment method to determine the Threat to Aquatic Life score.

Guideline Reference:

[A Rapid Trash Assessment Method Applied to Waters of the San Francisco Bay Region: Trash Measurement in Streams](#)

Spatial Representation:

Photos taken at Utah Avenue Bridge Park on 3/9/07, 12/18/07, and 3/5/08.

Temporal Representation:

Photos taken at Utah Avenue Bridge Park on 3/9/07, 12/18/07, and 3/5/08.

Environmental Conditions:

QAPP Information:

Assessments of the photographic evidence using the RTA were performed by a State Water Board staff person. Assessments based on photographic evidence were only conducted when sufficient reach-scale and close-up photos were available for a site on a specific date. Photos used for the evaluation needed to be numerous enough and clear enough to document the level of trash at the site in a similar way as the assessor would experience during an actual site visit in the field. For example, at a minimum, one reach-scale photograph (showing at least a 100 linear foot section of the waterbody) and two close-up photographs (of representative trash deposits) were required.

QAPP Information Reference(s):

Draft California 2016 Integrated Report (303(d) List/305(b) Report)

Supporting Information

Regional Board 2 - San Francisco Bay Region

Water Body Name: Grayson Creek
Water Body ID: CAR2073301020080624163514
Water Body Type: River & Stream

DECISION ID	35500	Region 2
Grayson Creek		

Pollutant: Trash
Final Listing Decision: **Do Not Delist from 303(d) list (being addressed with action other than TMDL)**
Last Listing Cycle's Final Listing Decision: List on 303(d) list (TMDL required list)(2012)
Revision Status Revised
Sources: Source Unknown
Expected Attainment Date: 2029
Implementation Action Other than TMDL: This trash listing will be addressed by implementing the trash control provisions of the Water Quality Control Plan for Inland Surface Waters, Enclosed Bays, and Estuaries of California through the NPDES MS4 permit applicable to this waterbody.
Impairment from Pollutant or Pollution: Pollutant

Regional Board Staff Conclusion: This pollutant is being considered for removal from the CWA section 303(d) List under section 4.11 of the Listing Policy. Under this section a single line of evidence is necessary to assess listing status.

Three lines of evidence are available in the administrative record to assess pollutant. Two of six samples exceed the evaluation guideline.

Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against removing this water segment-pollutant combination from the CWA section 303(d) List.

This conclusion is based on the staff findings that:

1. Three lines of evidence are available in the administrative record to assess this pollutant. All lines of evidence involve inspection of photographic evidence by Regional Water Board staff trained to conduct the Rapid Trash Assessment (RTA) methodology. The staff inspected these photos and applied the RTA methodology to develop Category 1 (Level of Trash) and Category 3 (Threat to Aquatic Life) scores for each photograph. Based on the readily available photographic evidence for this waterbody, the weight of evidence indicates that there is sufficient justification available in favor of leaving this water segment-pollutant combination on the section 303(d) list in the Water Quality Limited Segments category.
2. Photographic evidence has been evaluated that supports this decision.
3. Applying the Rapid Trash Assessment methodology to the photographic evidence suggests that this waterbody had level of trash parameter scores in the poor category (indicating impairment of non-contact water recreational beneficial uses).
4. This waterbody also had threat to aquatic life parameter scores in the poor category (indicating threat to Wildlife Habitat beneficial uses) in more than one location or on more than one date.
5. This waterbody is considered impaired by trash because there were exceedances of the evaluation guidelines (poor condition category for the trash assessment metrics) in more than one location or on more than one date.
6. Two of six samples collected exceeded the evaluation guideline.
7. Pursuant to section 4.11 of the Listing Policy, no additional data and information are available indicating that standards are met.

8. The data used satisfy the data quality requirements of section 6.1.4 of the Policy.
9. The data used satisfy the data quantity requirements of section 6.1.5 of the Policy.
10. This trash listing will be addressed by implementing the trash control provisions of the Water Quality Control Plan for Inland Surface Waters, Enclosed Bays, and Estuaries of California through the NPDES MS4 permit applicable to this waterbody.

Regional Board Staff Decision Recommendation: After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be removed from the section 303(d) list because applicable water quality standards for the pollutant are being exceeded.

**Line of Evidence (LOE) for Decision ID 35500, Trash
Grayson Creek**

Region 2

LOE ID:	91770
Pollutant:	Trash
LOE Subgroup:	Pollutant-Nuisance
Matrix:	Not Specified
Fraction:	None
Beneficial Use:	Wildlife Habitat
Number of Samples:	1
Number of Exceedances:	0
Data and Information Type:	Occurrence of conditions judged to cause impairment
Data Used to Assess Water Quality:	Data available consist of photographic evidence of trash and interpretation of these photos by an experienced trash assessment specialist. Each photograph was analyzed to establish the RTA score for the level of trash and threat to aquatic life parameters, which relate to impairment of REC2 and WILD, respectively. Only those photos clear enough to establish these RTA scores were relied on for the listing determination. These results are available for photos taken on 10/15/07 at Center Avenue to Pacheco Blvd. This waterbody had threat to aquatic life parameter scores in the poor category (indicating threat to Wildlife Habitat beneficial uses).
Data Reference:	Photos of trash in various San Francisco Bay water bodies, Mar. 2007-Mar. 2008
SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	The Basin Plan prohibits discharge of Rubbish, refuse, bark, sawdust, or other solid wastes into surface waters or at any place where they would contact or where they would be eventually transported to surface waters, including flood plain areas. The Basin Plan has a narrative objective for floating material, Waters shall not contain floating material, including solids, liquids, foams, and scum, in concentrations that cause nuisance or adversely affect beneficial uses. The Basin Plan has a narrative objective for settleable material, Waters shall not contain substances in concentrations that result in the deposition of material that cause nuisance or adversely affect beneficial uses.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	If the Rapid Trash Assessment (RTA) Parameter 1 (Level of Trash) is in the poor condition category (scores 0-5), REC2 is not supported. This level of trash distracts the eye on first glance, making the site unsuitable for recreation. The RTA defines poor condition for this parameter as follows, trash distracts the eye on first glance. Stream, bank surfaces, and immediate riparian zone contain substantial levels of litter and debris (>100 pieces). Evidence of site being used frequently by people: many cans, bottles, and food wrappers, blankets, clothing. State Water Board staff trained in the RTA inspected the available photographic evidence and applied the assessment method to determine the Level of Trash score. If the RTA Parameter 3 (Threat to Aquatic Life) is in the poor condition category (scores 0-5), then WILD is not supported. This level of trash is a large amount (>50 pieces) of transportable, persistent, buoyant litter that is detrimental to aquatic life. The RTA defines poor condition for this parameter as follows, large amount (>50 pieces) of transportable, persistent, buoyant litter such as: hard or soft plastics,

balloons, Styrofoam, cigarette butts; toxic items such as batteries, lighters, or spray cans; large clumps of yard waste or dumped leaf litter; or large amount (>50 pieces) of settleable glass or metal. State Water Board staff trained in the RTA inspected the available photographic evidence and applied the assessment method to determine the Threat to Aquatic Life score.

Guideline Reference:

[A Rapid Trash Assessment Method Applied to Waters of the San Francisco Bay Region: Trash Measurement in Streams](#)

Spatial Representation:

All photos were taken at Center Avenue to Pacheco Blvd.

Temporal Representation:

All photos were taken on 10/15/07.

Environmental Conditions:

QAPP Information:

Assessments of the photographic evidence using the RTA were performed by a State Water Board staff person. Assessments based on photographic evidence were only conducted when sufficient reach-scale and close-up photos were available for a site on a specific date. Photos used for the evaluation needed to be numerous enough and clear enough to document the level of trash at the site in a similar way as the assessor would experience during an actual site visit in the field. For example, at a minimum, one reach-scale photograph (showing at least a 100 linear foot section of the waterbody) and two close-up photographs (of representative trash deposits) were required.

QAPP Information Reference(s):

Line of Evidence (LOE) for Decision ID 35500, Trash

Region 2

Grayson Creek

LOE ID: 91771

Pollutant: Trash
LOE Subgroup: Pollutant-Nuisance
Matrix: Not Specified
Fraction: None

Beneficial Use: Non-Contact Recreation

Number of Samples: 1
Number of Exceedances: 1

Data and Information Type: Occurrence of conditions judged to cause impairment
Data Used to Assess Water Quality: Data available consist of photographic evidence of trash and interpretation of these photos by an experienced trash assessment specialist. Each photograph was analyzed to establish the RTA score for the level of trash and threat to aquatic life parameters, which relate to impairment of REC2 and WILD, respectively. Only those photos clear enough to establish these RTA scores were relied on for the listing determination. These results are available for photos taken on 10/15/07 at Center Avenue to Pacheco Blvd. This waterbody had level of trash parameter scores in the poor category (indicating impairment of non-contact water recreational beneficial uses).

Data Reference: [Photos of trash in various San Francisco Bay water bodies, Mar. 2007-Mar. 2008](#)

SWAMP Data: Non-SWAMP

Water Quality Objective/Criterion: The Basin Plan prohibits discharge of Rubbish, refuse, bark, sawdust, or other solid wastes into surface waters or at any place where they would contact or where they would be eventually transported to surface waters, including flood plain areas. The Basin Plan has a narrative objective for floating material, Waters shall not contain floating material, including solids, liquids, foams, and scum, in concentrations that cause nuisance or adversely affect beneficial uses. The Basin Plan has a narrative objective for settleable material, Waters shall not contain substances in concentrations that result in the deposition of material that cause nuisance or adversely affect beneficial uses.

Objective/Criterion Reference: [Water Quality Control Plan \(Basin Plan\) San Francisco Bay Basin \(Region 2\)](#)

Evaluation Guideline: If the Rapid Trash Assessment (RTA) Parameter 1 (Level of Trash) is in the poor condition category (scores 0-5), REC2 is not supported. This level of trash distracts the eye on first glance, making the site unsuitable for recreation. The RTA defines poor

condition for this parameter as follows, trash distracts the eye on first glance. Stream, bank surfaces, and immediate riparian zone contain substantial levels of litter and debris (>100 pieces). Evidence of site being used frequently by people: many cans, bottles, and food wrappers, blankets, clothing. State Water Board staff trained in the RTA inspected the available photographic evidence and applied the assessment method to determine the Level of Trash score. If the RTA Parameter 3 (Threat to Aquatic Life) is in the poor condition category (scores 0-5), then WILD is not supported. This level of trash is a large amount (>50 pieces) of transportable, persistent, buoyant litter that is detrimental to aquatic life. The RTA defines poor condition for this parameter as follows, large amount (>50 pieces) of transportable, persistent, buoyant litter such as: hard or soft plastics, balloons, Styrofoam, cigarette butts; toxic items such as batteries, lighters, or spray cans; large clumps of yard waste or dumped leaf litter; or State Water Board staff trained in the RTA inspected the available photographic evidence and applied the assessment method to determine the Threat to Aquatic Life score.

Guideline Reference:

[A Rapid Trash Assessment Method Applied to Waters of the San Francisco Bay Region: Trash Measurement in Streams](#)

Spatial Representation:

All photos were taken at Center Avenue to Pacheco Blvd on 10/15/07.

Temporal Representation:

All photos were taken at Center Avenue to Pacheco Blvd on 10/15/07.

Environmental Conditions:

QAPP Information:

Assessments of the photographic evidence using the RTA were performed by a State Water Board staff person. Assessments based on photographic evidence were only conducted when sufficient reach-scale and close-up photos were available for a site on a specific date. Photos used for the evaluation needed to be numerous enough and clear enough to document the level of trash at the site in a similar way as the assessor would experience during an actual site visit in the field. For example, at a minimum, one reach-scale photograph (showing at least a 100 linear foot section of the waterbody) and two close-up photographs (of representative trash deposits) were required

QAPP Information Reference(s):

**Line of Evidence (LOE) for Decision ID 35500, Trash
Grayson Creek**

Region 2

LOE ID:

5409

Pollutant:

Trash

LOE Subgroup:

Pollutant-Nuisance

Matrix:

Not Specified

Fraction:

None

Beneficial Use:

Wildlife Habitat

Number of Samples:

5

Number of Exceedances:

2

Data and Information Type:

Occurrence of conditions judged to cause impairment

Data Used to Assess Water Quality:

Data available consist of photographic evidence of trash and interpretation of these photos by an experienced trash assessment specialist. Each photograph was analyzed to establish the RTA score for the level of trash and threat to aquatic life parameters, which relate to impairment of REC2 and WILD, respectively. Only those photos clear enough to establish these RTA scores were relied on for the listing determination. This waterbody had threat to aquatic life parameter scores in the poor category (indicating threat to Wildlife Habitat beneficial uses) at two different locations on two different dates.

Data Reference:

[Archive of Trash Photos for Old Alameda Creek submitted for 2008 303\(d\) list consideration](#)
[Assessment by Matt Cover of Trash Photos \(submitted to Region 2 in response to 2008 Data Solicitation\)](#)
[Archive of Trash Photos for Grayson Creek submitted for 2008 303\(d\) list consideration](#)

SWAMP Data:

Non-SWAMP

Water Quality Objective/Criterion:

The Basin Plan prohibits discharge of Rubbish, refuse, bark, sawdust, or other solid

wastes into surface waters or at any place where they would contact or where they would be eventually transported to surface waters, including flood plain areas.

The Basin Plan has a narrative objective for floating material, Waters shall not contain floating material, including solids, liquids, foams, and scum, in concentrations that cause nuisance or adversely affect beneficial uses.

The Basin Plan has a narrative objective for settleable material, Waters shall not contain substances in concentrations that result in the deposition of material that cause nuisance or adversely affect beneficial uses.

Objective/Criterion Reference:

[Water Quality Control Plan \(Basin Plan\) - San Francisco Bay Region \(Region 2\)](#)

Evaluation Guideline:

If the Rapid Trash Assessment (RTA) Parameter 1 (Level of Trash) is in the poor condition category (scores 0-5), REC2 is not supported. This level of trash distracts the eye on first glance, making the site unsuitable for recreation. The RTA defines poor condition for this parameter as follows, trash distracts the eye on first glance. Stream, bank surfaces, and immediate riparian zone contain substantial levels of litter and debris (>100 pieces). Evidence of site being used frequently by people: many cans, bottles, and food wrappers, blankets, clothing. Regional Water Board staff trained in the RTA inspected the available photographic evidence and applied the assessment method to determine the Level of Trash score.

If the RTA Parameter 3 (Threat to Aquatic Life) is in the poor condition category (scores 0-5), then WILD is not supported. This level of trash is a large amount (>50 pieces) of transportable, persistent, buoyant litter that is detrimental to aquatic life. The RTA defines poor condition for this parameter as follows, large amount (>50 pieces) of transportable, persistent, buoyant litter such as: hard or soft plastics, balloons, Styrofoam, cigarette butts; toxic items such as batteries, lighters, or spray cans; large clumps of yard waste or dumped leaf litter; or large amount (>50 pieces) of settleable glass or metal. Regional Water Board staff trained in the RTA inspected the available photographic evidence and applied the assessment method to determine the Threat to Aquatic Life score.

Guideline Reference:

[A Rapid Trash Assessment Method Applied to Waters of the San Francisco Bay Region: Trash Measurement in Streams](#)

Spatial Representation:

Photographic evidence was analyzed using the RTA methodology for this waterbody for five different locations spanning dates from 2006 through 2007. The assessments were conducted at the following locations: Elinora Drive Bridge, trail between Center Ave. and 2nd Ave., Center Ave. Bridge, Pacheco Blvd., and Imhoff Drive Bridge.

Temporal Representation:

Photographic evidence was collected for this waterbody on four separate dates from 2006 and 2007 including:

Elinora Drive Bridge on 4/3/2006, 1/4/2007, 2/13/2007

Trail between Center Ave. and 2nd Ave. on 4/3/2006, 12/8/2006, 2/13/2007

Center Ave. Bridge on 2/13/2007

Pacheco Blvd. on 1/4/2007

Imhoff Drive Bridge on 4/3/2006

Environmental Conditions:

QAPP Information:

Assessments of the photographic evidence using the RTA were performed by Regional Water Board staff person who was a co-author of the Rapid Trash Assessment methodology.

Assessments based on photographic evidence were only conducted when sufficient reach-scale and close-up photos were available for a site on a specific date. Photos used for the evaluation needed to be numerous enough and clear enough to document the level of trash at the site in a similar way as the assessor would experience during an actual site visit in the field. For example, at a minimum, one reach-scale photograph (showing at least a 100 linear foot section of the waterbody) and two close-up photographs (of representative trash deposits) were required.

QAPP Information Reference(s):

Draft California 2016 Integrated Report (303(d) List/305(b) Report)

Supporting Information

Regional Board 2 - San Francisco Bay Region

Water Body Name: Kirker Creek
Water Body ID: CAR2073104020080624164244
Water Body Type: River & Stream

DECISION ID 35556 **Region 2**
Kirker Creek

Pollutant: Trash
Final Listing Decision: Do Not Delist from 303(d) list (being addressed with action other than TMDL)
Last Listing Cycle's Final Listing Decision: List on 303(d) list (TMDL required list)(2012)
Revision Status: Revised
Sources: Source Unknown
Expected Attainment Date: 2029
Implementation Action Other than TMDL: This trash listing will be addressed by implementing the trash control provisions of the Water Quality Control Plan for Inland Surface Waters, Enclosed Bays, and Estuaries of California through the NPDES MS4 permit applicable to this waterbody.
Impairment from Pollutant or Pollution: Pollutant

Regional Board Staff Conclusion: This pollutant is being considered for placement on the section 303(d) list under section 3.11 of the Listing Policy. Under section 3.11, listing may be proposed based on the situation-specific weight of evidence. One line of evidence is available in the administrative record to assess this pollutant. The line of evidence consists of data from field visits/trash surveys conducted according to the Rapid Trash Assessment (RTA) methodology. Based on the readily available trash assessment data for this waterbody, the weight of evidence indicates that there is sufficient justification available in favor of placing this water segment-pollutant combination to the section 303(d) list in the Water Quality Limited Segments category. This conclusion is based on the staff findings that: 1. Data have been evaluated that supports this decision. 2. The Rapid Trash Assessment methodology results showed that this waterbody had threat to aquatic life parameter scores in the poor category (indicating threat to Wildlife Habitat beneficial uses) at two different locations on two different dates. 3. This waterbody is considered impaired by trash because there were exceedances of the evaluation guideline (poor condition category for the trash assessment metric) in more than one location or on more than one date. 4. The data used satisfy the data quality requirements of section 6.1.4 of the Policy. 5. The data used satisfy the data quantity requirements of section 6.1 of the Policy. 6. This trash listing will be addressed by implementing the trash control provisions of the Water Quality Control Plan for Inland Surface Waters, Enclosed Bays, and Estuaries of California through the NPDES MS4 permit applicable to this waterbody.

Regional Board Staff Decision Recommendation: After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be removed from the section 303(d) list because applicable water quality standards for the pollutant are being exceeded.

Line of Evidence (LOE) for Decision ID 35556, Trash **Region 2**
Kirker Creek

LOE ID: 5410
Pollutant: Trash
LOE Subgroup: Pollutant-Nuisance
Matrix: Not Specified
Fraction: None

Beneficial Use:	Wildlife Habitat
Number of Samples:	6
Number of Exceedances:	5
Data and Information Type:	Occurrence of conditions judged to cause impairment
Data Used to Assess Water Quality:	Data results were obtained through application the RTA methodology, developed by the Surface Water Ambient Monitoring Program (SWAMP). The RTA documents the total number and characteristics of pieces of trash per one hundred feet of stream or shoreline. The trash assessment protocol involves picking up and tallying all of the trash items found within the defined boundaries of a site. The tally results for level of trash (relating to REC2) and threat to aquatic life (relating to WILD) assessment parameters were considered for the listing determination. These results are available for field visits/trash surveys conducted in March and July 2003, and February 2004 according to the Rapid Trash Assessment methodology.
Data Reference:	This waterbody had threat to aquatic life parameter scores in the poor category (indicating threat to Wildlife Habitat beneficial uses) at two different locations on two different dates. A Rapid Trash Assessment Method Applied to Waters of the San Francisco Bay Region:Trash Measurement in Streams Rapid Trash Assessment (RTA) data collected by the SF Bay Region Surface Water Ambient Monitoring Program from 2002-2005 and method description
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	The Basin Plan prohibits discharge of Rubbish, refuse, bark, sawdust, or other solid wastes into surface waters or at any place where they would contact or where they would be eventually transported to surface waters, including flood plain areas. The Basin Plan has a narrative objective for floating material, Waters shall not contain floating material, including solids, liquids, foams, and scum, in concentrations that cause nuisance or adversely affect beneficial uses. The Basin Plan has a narrative objective for settleable material, Waters shall not contain substances in concentrations that result in the deposition of material that cause nuisance or adversely affect beneficial uses.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) - San Francisco Bay Region (Region 2)
Evaluation Guideline:	If the RTA Parameter 3 (Threat to Aquatic Life) is in the poor condition category (scores 0-5), then WILD is not supported. This level of trash is a large amount (>50 pieces) of transportable, persistent, buoyant litter that is detrimental to aquatic life. The RTA defines poor condition for this parameter as follows, large amount (>50 pieces) of transportable, persistent, buoyant litter such as: hard or soft plastics, balloons, Styrofoam, cigarette butts; toxic items such as batteries, lighters, or spray cans; large clumps of yard waste or dumped leaf litter; or large amount (>50 pieces) of settleable glass or metal.
Guideline Reference:	A Rapid Trash Assessment Method Applied to Waters of the San Francisco Bay Region:Trash Measurement in Streams
Spatial Representation:	RTA data were collected for this waterbody in two different locations in 2003 and 2004.
Temporal Representation:	RTA data were collected for this waterbody in March and July in 2003 and February 2004.
Environmental Conditions:	
QAPP Information:	For RTA trash assessment data to be considered, the data must have been collected by field operators that have received a 2-hour training in the Rapid Trash Assessment methodology.
QAPP Information Reference(s):	

DECISION ID	65546	Region 2
Kirker Creek		

Pollutant:	Bifenthrin
Final Listing Decision:	Do Not List on 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision:	New Decision
Revision Status	Revised
Impairment from Pollutant or Pollution:	Pollutant

Regional Board Staff Conclusion:

This pollutant is being considered for placement on the CWA section 303(d) List under section 3.6 of the Listing Policy. Under section 3.6 at least two lines of evidence are necessary to assess listing status for pollutants in sediment, and pollutant concentrations in sediment must be associated with sediment toxicity to justify adding that pollutant to the CWA section 303(d) List.

Two lines of evidence are available in the administrative record to assess this pollutant. Twenty-two of twenty-two samples exceed the sediment chemistry guideline. Sediment toxicity data are associated with this decision but not available for same time period as sediment chemistry data.

Based on the readily available data and information, the weight of evidence indicates that there is insufficient justification for placing this water segment-pollutant combination on the CWA section 303(d) List.

This conclusion is based on the staff findings that:

1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy.
2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy.
3. Twenty-two of twenty-two samples exceed the sediment chemistry guideline and this sample size is sufficient to determine beneficial use support, with the power and confidence of the Listing Policy. A minimum of 16 samples is needed to determine if a beneficial use is fully supported using table 3.1. Sediment toxicity data are not available for the same times and locations of the sediment chemistry. Therefore, a listing decision cannot be made because the sediment chemistry data are insufficient on their own.
4. Pursuant to section 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.

Regional Board Staff Decision Recommendation:

After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be placed on the section 303(d) list. The readily available data and information is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating.

**Line of Evidence (LOE) for Decision ID 65546, Bifenthrin
Kirker Creek**

Region 2

LOE ID:	5345
Pollutant:	Sediment Toxicity
LOE Subgroup:	Pollutant-Sediment
Matrix:	Sediment
Fraction:	None
Beneficial Use:	Warm Freshwater Habitat
Aquatic Life Use:	Unknown
Number of Samples:	3
Number of Exceedances:	3
Data and Information Type:	Toxicity testing of sediments
Data Used to Assess Water Quality:	Data used to evaluate sediment toxicity comprise three sediment samples collected in 2004 to determine pyrethroids toxicity in urban-dominated creeks as described in Amweg et al. (2006). All samples displayed statistically significant toxicity during the 10-day Hyalella azteca test and showed the highest mortality rates among all seven creeks studied in the East Bay area.

Data Reference:	Pyrethroid insecticides and sediment toxicity in urban creeks from California and Tennessee. Environmental Science and Technology. 40(5): 1700-1706
SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	All waters shall be maintained free of toxic substances that are lethal to or that produce other detrimental responses in aquatic organisms. There shall be no chronic toxicity in ambient waters. Chronic toxicity is a detrimental biological effect on growth rate, reproduction, fertilization success, larval development, population abundance, community composition, or any other relevant measure of the health of an organism, population, or community.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) - San Francisco Bay Region (Region 2)
Evaluation Guideline:	Sample toxicity was determined by comparing mean organism response in samples and in negative controls. Statistical evaluation ($\alpha = 0.05$) and a default threshold of 80% of the control value were used to establish whether the sediment exhibited significant toxicity adversely impacting aquatic organisms.
Guideline Reference:	Revised approach to toxicity test acceptability criteria using a statistical performance assessment. Environmental Toxicology and Chemistry. vol. 16. No. 6. pp 1322?1329
Spatial Representation:	Data were collected at sampling locations at the lower part of Kirker Creek.
Temporal Representation:	Samples were collected during spring and summer seasons of 2004. The last sampling event (late October 2004) occurred after the first rain of the season to capture the potential effects of dry season pesticide use.
Environmental Conditions:	Data are representative of the lower watershed (floodway) with the monitoring site located below predominantly residential and industrial areas.
QAPP Information:	Samples were collected and analyzed using procedures comparable with the SWAMP Quality Assurance Management Plan (SWRCB 2002).
QAPP Information Reference(s):	Quality Assurance Management Plan for the State of California's Surface Water Ambient Monitoring Program. Sacramento, CA. State Water Resources Control Board. SWAMP. December 2002 (1st version)

Line of Evidence (LOE) for Decision ID 65546, Bifenthrin

Region 2

Kirker Creek

LOE ID:	90500
Pollutant:	Bifenthrin
LOE Subgroup:	Pollutant-Sediment
Matrix:	Sediment
Fraction:	Total
Beneficial Use:	Cold Freshwater Habitat
Number of Samples:	22
Number of Exceedances:	22
Data and Information Type:	PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality:	A total of 26 individual sediment samples were collected; 4 samples were below both the reporting limit (0.1 ug/kg dry weight) and the organic carbon normalized evaluation guideline (0.043 ug/g OC) and could not be quantified with the level of certainty required by the listing policy. 22 of 22 samples exceeded the evaluation guideline.
Data Reference:	Various Data for Pleasant Grove Creek, Del Puerto Creek and Roseville Area, 2006-2010.
SWAMP Data:	
Water Quality Objective/Criterion:	The narrative objective for pesticides states, "No individual pesticide or combination of pesticides shall be present in concentrations that adversely affect beneficial uses. Discharges shall not result in pesticide concentrations in bottom sediments or aquatic life that adversely affect beneficial uses."
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)

Evaluation Guideline:	The evaluation guideline for bifenthrin, 0.043 ug/g OC, is one-tenth of the median lethal concentration for <i>H. azteca</i> (LC50; 0.43 ug/g OC). The LC50 (0.43 ug/g OC) is the geometric mean of OC normalized LC50 values for bifenthrin from Amweg et al. (2005) and Amweg and Weston (2007).
Guideline Reference:	Use and Toxicity of Pyrethroid Pesticides in the Central Valley, California, USA. Environmental Toxicology and Chemistry, 24:966-972, with erratum 24:No. 5 Whole-sediment toxicity identification evaluation tools for pyrethroid insecticides: I. piperonyl butoxide addition. Environ. Toxicol. Chem. 26:2389-2396.
Spatial Representation:	Sediment samples were collected along Kirker Creek at the following station locations in 2006 and 2007: KC1-KC14; Sites KC9 and KC10 were considered the same site (within 200m) according to the Listing Policy.
Temporal Representation:	The 2006 sediment samples were collected from 05/20/2006 to 05/22/2006; the 2007 sediment samples were collected from 05/12/2007 to 05/14/2007.
Environmental Conditions:	
QAPP Information:	Submitted QA data are acceptable.
QAPP Information Reference(s):	Quality Assurance Project Plan for Pyrethroid Working Group.

Line of Evidence (LOE) for Decision ID 65546, Bifenthrin

Region 2

Kirker Creek

LOE ID:	5341
Pollutant:	Sediment Toxicity
LOE Subgroup:	Pollutant-Sediment
Matrix:	Sediment
Fraction:	None
Beneficial Use:	Warm Freshwater Habitat
Aquatic Life Use:	Unknown
Number of Samples:	1
Number of Exceedances:	1
Data and Information Type:	Toxicity testing of sediments
Data Used to Assess Water Quality:	Data used to evaluate sediment toxicity comprise one sediment sample collected by the SWAMP in 2003. The sample displayed statistically significant toxicity during the 10-day <i>Hyalella azteca</i> test and exhibited 100% mortality.
Data Reference:	Water Quality Monitoring and Bioassessment in Four San Francisco Bay Region Watersheds in 2003-2004: Kirker Creek, Mt. Diablo Creek, Petaluma River, and San Mateo Creek. Surface Water Monitoring Program, San Francisco Bay Regional Water Quality Control Board, Oakland. CA
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	All waters shall be maintained free of toxic substances that are lethal to or that produce other detrimental responses in aquatic organisms. There shall be no chronic toxicity in ambient waters. Chronic toxicity is a detrimental biological effect on growth rate, reproduction, fertilization success, larval development, population abundance, community composition, or any other relevant measure of the health of an organism, population, or community.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) - San Francisco Bay Region (Region 2)
Evaluation Guideline:	Sediment toxicity was evaluated according to the SWAMP methodology. Sample toxicity was determined by comparing mean organism response in samples and in negative controls. Statistical evaluation ($\alpha = 0.05$) and a default threshold of 80% of the control value were used to establish whether the sediment exhibited significant toxicity adversely impacting aquatic organisms.
Guideline Reference:	Revised approach to toxicity test acceptability criteria using a statistical performance assessment. Environmental Toxicology and Chemistry, vol. 16, No. 6, pp 1322?1329
Spatial Representation:	Sample was collected at the lower part of the Kirker Creek watershed.

Temporal Representation:	Sample was collected during spring season of 2003.
Environmental Conditions:	Data are representative of the lower watershed (floodway) with the monitoring site located below predominantly residential and industrial areas.
QAPP Information:	Samples were collected and analyzed using procedures comparable with the SWAMP Quality Assurance Management Plan (SWRCB 2002).
QAPP Information Reference(s):	Quality Assurance Management Plan for the State of California's Surface Water Ambient Monitoring Program. Sacramento, CA. State Water Resources Control Board. SWAMP. December 2002 (1st version).

DECISION ID	65776	Region 2
Kirker Creek		

Pollutant:	Cypermethrin
Final Listing Decision:	Do Not List on 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision:	New Decision
Revision Status	Revised
Impairment from Pollutant or Pollution:	Pollutant

Regional Board Staff Conclusion: This pollutant is being considered for placement on the CWA section 303(d) List under section 3.6 of the Listing Policy. Under section 3.6 at least two lines of evidence are necessary to assess listing status for pollutants in sediment, and pollutant concentrations in sediment must be associated with sediment toxicity to justify adding that pollutant to the CWA section 303(d) List.

Two lines of evidence are available in the administrative record to assess this pollutant. Thirteen of eighteen samples exceed the sediment chemistry guideline. Sediment toxicity data are associated with this decision but are not available for the same time periods and locations as sediment chemistry data.

Based on the readily available data and information, the weight of evidence indicates that there is insufficient justification for placing this water segment-pollutant combination on the CWA section 303(d) List.

This conclusion is based on the staff findings that:

1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy.
2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy.
3. Thirteen of eighteen samples exceed the sediment chemistry guideline and this sample size is sufficient to determine beneficial use support, with the power and confidence of the Listing Policy. A minimum of 16 samples is needed to determine if a beneficial use is fully supported using table 3.1. Sediment toxicity data are not available for the same times and locations of the sediment chemistry. Therefore, a listing decision cannot be made because the sediment chemistry data are insufficient on their own.
4. Pursuant to section 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.

Regional Board Staff Decision Recommendation:	After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be placed on the section 303(d) list. The readily available data and information is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating.
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Line of Evidence (LOE) for Decision ID 65776, Cypermethrin	Region 2
Kirker Creek	

LOE ID:	5341
Pollutant:	Sediment Toxicity
LOE Subgroup:	Pollutant-Sediment
Matrix:	Sediment

Fraction:	None
Beneficial Use:	Warm Freshwater Habitat
Aquatic Life Use:	Unknown
Number of Samples:	1
Number of Exceedances:	1
Data and Information Type:	Toxicity testing of sediments
Data Used to Assess Water Quality:	Data used to evaluate sediment toxicity comprise one sediment sample collected by the SWAMP in 2003. The sample displayed statistically significant toxicity during the 10-day Hyalella azteca test and exhibited 100% mortality.
Data Reference:	Water Quality Monitoring and Bioassessment in Four San Francisco Bay Region Watersheds in 2003-2004: Kirker Creek, Mt. Diablo Creek, Petaluma River, and San Mateo Creek. Surface Water Monitoring Program, San Francisco Bay Regional Water Quality Control Board, Oakland, CA
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	All waters shall be maintained free of toxic substances that are lethal to or that produce other detrimental responses in aquatic organisms. There shall be no chronic toxicity in ambient waters. Chronic toxicity is a detrimental biological effect on growth rate, reproduction, fertilization success, larval development, population abundance, community composition, or any other relevant measure of the health of an organism, population, or community.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) - San Francisco Bay Region (Region 2)
Evaluation Guideline:	Sediment toxicity was evaluated according to the SWAMP methodology. Sample toxicity was determined by comparing mean organism response in samples and in negative controls. Statistical evaluation (alpha = 0.05) and a default threshold of 80% of the control value were used to establish whether the sediment exhibited significant toxicity adversely impacting aquatic organisms.
Guideline Reference:	Revised approach to toxicity test acceptability criteria using a statistical performance assessment. Environmental Toxicology and Chemistry, vol. 16, No. 6, pp 1322?1329
Spatial Representation:	Sample was collected at the lower part of the Kirker Creek watershed.
Temporal Representation:	Sample was collected during spring season of 2003.
Environmental Conditions:	Data are representative of the lower watershed (floodway) with the monitoring site located below predominantly residential and industrial areas.
QAPP Information:	Samples were collected and analyzed using procedures comparable with the SWAMP Quality Assurance Management Plan (SWRCB 2002).
QAPP Information Reference(s):	Quality Assurance Management Plan for the State of California's Surface Water Ambient Monitoring Program. Sacramento, CA. State Water Resources Control Board. SWAMP. December 2002 (1st version)

Line of Evidence (LOE) for Decision ID 65776, Cypermethrin

Region 2

Kirker Creek

LOE ID:	90503
Pollutant:	Cypermethrin
LOE Subgroup:	Pollutant-Sediment
Matrix:	Sediment
Fraction:	Total
Beneficial Use:	Cold Freshwater Habitat
Number of Samples:	18
Number of Exceedances:	13
Data and Information Type:	PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality:	A total of 26 individual sediment samples were collected; 8 samples were below both the

	reporting limit (0.1 ug/kg dry weight) and the organic carbon normalized evaluation guideline (0.03 ug/g OC) and could not be quantified with the level of certainty required by the listing policy. 13 of 18 samples exceeded the evaluation guideline.
Data Reference:	Various Data for Pleasant Grove Creek, Del Puerto Creek and Roseville Area, 2006-2010.
SWAMP Data:	
Water Quality Objective/Criterion:	The narrative objective for pesticides states, "No individual pesticide or combination of pesticides shall be present in concentrations that adversely affect beneficial uses. Discharges shall not result in pesticide concentrations in bottom sediments or aquatic life that adversely affect beneficial uses."
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	The evaluation guideline for cypermethrin, 0.03 ug/g OC, is one-tenth of the median lethal concentration for <i>H. azteca</i> (LC50; 0.3 ug/g OC). The LC50 (0.3 ug/g OC) is the geometric mean of OC normalized LC50 values for cypermethrin from Maund et al. (2002).
Guideline Reference:	Partitioning, bioavailability, and toxicity of the pyrethroid insecticide cypermethrin in sediments. Environmental Toxicology and Chemistry 21:9-15
Spatial Representation:	Sediment samples were collected along Kirker Creek at the following station locations in 2006 and 2007: KC1-KC14; Sites KC9 and KC10 were considered the same site (within 200m) according to the Listing Policy.
Temporal Representation:	The 2006 sediment samples were collected from 05/20/2006 to 05/22/2006; the 2007 sediment samples were collected from 05/12/2007 to 05/14/2007.
Environmental Conditions:	
QAPP Information:	Submitted QA data are acceptable.
QAPP Information Reference(s):	

Line of Evidence (LOE) for Decision ID 65776, Cypermethrin

Region 2

Kirker Creek

LOE ID:	5345
Pollutant:	Sediment Toxicity
LOE Subgroup:	Pollutant-Sediment
Matrix:	Sediment
Fraction:	None
Beneficial Use:	Warm Freshwater Habitat
Aquatic Life Use:	Unknown
Number of Samples:	3
Number of Exceedances:	3
Data and Information Type:	Toxicity testing of sediments
Data Used to Assess Water Quality:	Data used to evaluate sediment toxicity comprise three sediment samples collected in 2004 to determine pyrethroids toxicity in urban-dominated creeks as described in Amweg et al. (2006). All samples displayed statistically significant toxicity during the 10-day <i>Hyalella azteca</i> test and showed the highest mortality rates among all seven creeks studied in the East Bay area.
Data Reference:	Pyrethroid insecticides and sediment toxicity in urban creeks from California and Tennessee. Environmental Science and Technology. 40(5): 1700-1706
SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	All waters shall be maintained free of toxic substances that are lethal to or that produce other detrimental responses in aquatic organisms. There shall be no chronic toxicity in ambient waters. Chronic toxicity is a detrimental biological effect on growth rate, reproduction, fertilization success, larval development, population abundance, community composition, or any other relevant measure of the health of an organism, population, or community.

Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) - San Francisco Bay Region (Region 2)
Evaluation Guideline:	Sample toxicity was determined by comparing mean organism response in samples and in negative controls. Statistical evaluation ($\alpha = 0.05$) and a default threshold of 80% of the control value were used to establish whether the sediment exhibited significant toxicity adversely impacting aquatic organisms.
Guideline Reference:	Revised approach to toxicity test acceptability criteria using a statistical performance assessment. Environmental Toxicology and Chemistry, vol. 16, No. 6, pp 1322?1329
Spatial Representation:	Data were collected at sampling locations at the lower part of Kirker Creek.
Temporal Representation:	Samples were collected during spring and summer seasons of 2004. The last sampling event (late October 2004) occurred after the first rain of the season to capture the potential effects of dry season pesticide use.
Environmental Conditions:	Data are representative of the lower watershed (floodway) with the monitoring site located below predominantly residential and industrial areas.
QAPP Information:	Samples were collected and analyzed using procedures comparable with the SWAMP Quality Assurance Management Plan (SWRCB 2002).
QAPP Information Reference(s):	Quality Assurance Management Plan for the State of California's Surface Water Ambient Monitoring Program. Sacramento, CA. State Water Resources Control Board. SWAMP. December 2002 (1st version)

DECISION ID	65915	Region 2
Kirker Creek		

Pollutant:	Deltamethrin
Final Listing Decision:	Do Not List on 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision:	New Decision
Revision Status	Revised
Impairment from Pollutant or Pollution:	Pollutant

Regional Board Staff Conclusion:	<p>This pollutant is being considered for placement on the CWA section 303(d) List under section 3.6 of the Listing Policy. Under section 3.6 at least two lines of evidence are necessary to assess listing status for pollutants in sediment, and pollutant concentrations in sediment must be associated with sediment toxicity to justify adding that pollutant to the CWA section 303(d) List.</p> <p>Two lines of evidence are available in the administrative record to assess this pollutant. Nine of twenty-one samples exceed the sediment chemistry guideline. Sediment toxicity data are associated with this decision but are not available for the same time periods and locations as sediment chemistry data.</p> <p>Based on the readily available data and information, the weight of evidence indicates that there is insufficient justification for placing this water segment-pollutant combination on the CWA section 303(d) List.</p> <p>This conclusion is based on the staff findings that:</p> <ol style="list-style-type: none"> 1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy. 2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy. 3. Nine of twenty-one samples exceed the sediment chemistry guideline and this sample size is sufficient to determine beneficial use support, with the power and confidence of the Listing Policy. A minimum of 16 samples is needed to determine if a beneficial use is fully supported using table 3.1. Sediment toxicity data are not available for the same times and locations of the sediment chemistry. Therefore, a listing decision cannot be made because the sediment chemistry data are insufficient on their own. 4. Pursuant to section 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.
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Regional Board Staff Decision Recommendation:	After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be placed on the section 303(d) list. The readily available data and information is insufficient to determine, with the power and confidence of the Listing Policy, the
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Line of Evidence (LOE) for Decision ID 65915, Deltamethrin**Region 2****Kirker Creek**

LOE ID:	5341
Pollutant:	Sediment Toxicity
LOE Subgroup:	Pollutant-Sediment
Matrix:	Sediment
Fraction:	None
Beneficial Use:	Warm Freshwater Habitat
Aquatic Life Use:	Unknown
Number of Samples:	1
Number of Exceedances:	1
Data and Information Type:	Toxicity testing of sediments
Data Used to Assess Water Quality:	Data used to evaluate sediment toxicity comprise one sediment sample collected by the SWAMP in 2003. The sample displayed statistically significant toxicity during the 10-day Hyalella azteca test and exhibited 100% mortality.
Data Reference:	Water Quality Monitoring and Bioassessment in Four San Francisco Bay Region Watersheds in 2003-2004: Kirker Creek, Mt. Diablo Creek, Petaluma River, and San Mateo Creek. Surface Water Monitoring Program, San Francisco Bay Regional Water Quality Control Board, Oakland, CA
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	All waters shall be maintained free of toxic substances that are lethal to or that produce other detrimental responses in aquatic organisms. There shall be no chronic toxicity in ambient waters. Chronic toxicity is a detrimental biological effect on growth rate, reproduction, fertilization success, larval development, population abundance, community composition, or any other relevant measure of the health of an organism, population, or community.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) - San Francisco Bay Region (Region 2)
Evaluation Guideline:	Sediment toxicity was evaluated according to the SWAMP methodology. Sample toxicity was determined by comparing mean organism response in samples and in negative controls. Statistical evaluation ($\alpha = 0.05$) and a default threshold of 80% of the control value were used to establish whether the sediment exhibited significant toxicity adversely impacting aquatic organisms.
Guideline Reference:	Revised approach to toxicity test acceptability criteria using a statistical performance assessment. Environmental Toxicology and Chemistry, vol. 16, No. 6, pp 1322?1329
Spatial Representation:	Sample was collected at the lower part of the Kirker Creek watershed.
Temporal Representation:	Sample was collected during spring season of 2003.
Environmental Conditions:	Data are representative of the lower watershed (floodway) with the monitoring site located below predominantly residential and industrial areas.
QAPP Information:	Samples were collected and analyzed using procedures comparable with the SWAMP Quality Assurance Management Plan (SWRCB 2002).
QAPP Information Reference(s):	Quality Assurance Management Plan for the State of California's Surface Water Ambient Monitoring Program. Sacramento, CA. State Water Resources Control Board. SWAMP. December 2002 (1st version)

Line of Evidence (LOE) for Decision ID 65915, Deltamethrin**Region 2****Kirker Creek**

LOE ID:	5345
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Pollutant:	Sediment Toxicity
LOE Subgroup:	Pollutant-Sediment
Matrix:	Sediment
Fraction:	None
Beneficial Use:	Warm Freshwater Habitat
Aquatic Life Use:	Unknown
Number of Samples:	3
Number of Exceedances:	3
Data and Information Type:	Toxicity testing of sediments
Data Used to Assess Water Quality:	Data used to evaluate sediment toxicity comprise three sediment samples collected in 2004 to determine pyrethroids toxicity in urban-dominated creeks as described in Amweg et al. (2006). All samples displayed statistically significant toxicity during the 10-day Hyalella azteca test and showed the highest mortality rates among all seven creeks studied in the East Bay area.
Data Reference:	Pyrethroid insecticides and sediment toxicity in urban creeks from California and Tennessee. Environmental Science and Technology. 40(5): 1700-1706
SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	All waters shall be maintained free of toxic substances that are lethal to or that produce other detrimental responses in aquatic organisms. There shall be no chronic toxicity in ambient waters. Chronic toxicity is a detrimental biological effect on growth rate, reproduction, fertilization success, larval development, population abundance, community composition, or any other relevant measure of the health of an organism, population, or community.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) - San Francisco Bay Region (Region 2)
Evaluation Guideline:	Sample toxicity was determined by comparing mean organism response in samples and in negative controls. Statistical evaluation ($\alpha = 0.05$) and a default threshold of 80% of the control value were used to establish whether the sediment exhibited significant toxicity adversely impacting aquatic organisms.
Guideline Reference:	Revised approach to toxicity test acceptability criteria using a statistical performance assessment. Environmental Toxicology and Chemistry. vol. 16, No. 6, pp 1322?1329
Spatial Representation:	Data were collected at sampling locations at the lower part of Kirker Creek.
Temporal Representation:	Samples were collected during spring and summer seasons of 2004. The last sampling event (late October 2004) occurred after the first rain of the season to capture the potential effects of dry season pesticide use.
Environmental Conditions:	Data are representative of the lower watershed (floodway) with the monitoring site located below predominantly residential and industrial areas.
QAPP Information:	Samples were collected and analyzed using procedures comparable with the SWAMP Quality Assurance Management Plan (SWRCB 2002).
QAPP Information Reference(s):	Quality Assurance Management Plan for the State of California's Surface Water Ambient Monitoring Program. Sacramento, CA. State Water Resources Control Board. SWAMP. December 2002 (1st version)

Line of Evidence (LOE) for Decision ID 65915, Deltamethrin

Region 2

Kirker Creek

LOE ID:	90505
Pollutant:	Deltamethrin
LOE Subgroup:	Pollutant-Sediment
Matrix:	Sediment
Fraction:	Total
Beneficial Use:	Cold Freshwater Habitat
Number of Samples:	21

Number of Exceedances:	9
Data and Information Type:	PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality:	A total of 26 individual sediment samples were collected; 5 samples were below both the reporting limit (0.1 ug/kg dry weight) and the organic carbon normalized evaluation guideline (0.079 ug/g OC) and could not be quantified with the level of certainty required by the listing policy. 9 of 21 samples exceeded the evaluation guideline.
Data Reference:	Various Data for Pleasant Grove Creek, Del Puerto Creek and Roseville Area, 2006-2010.
SWAMP Data:	
Water Quality Objective/Criterion:	The narrative objective for pesticides states, "No individual pesticide or combination of pesticides shall be present in concentrations that adversely affect beneficial uses. Discharges shall not result in pesticide concentrations in bottom sediments or aquatic life that adversely affect beneficial uses."
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	The evaluation guideline for deltamethrin, 0.079 ug/g OC, is one-tenth of the median lethal concentration for <i>H. azteca</i> (LC50; 0.79 ug/g OC). The LC50 (0.79 ug/g OC) is the geometric mean of OC normalized LC50 values for deltamethrin from Amweg et al. (2005).
Guideline Reference:	Use and Toxicity of Pyrethroid Pesticides in the Central Valley, California, USA. Environmental Toxicology and Chemistry, 24:966-972, with erratum 24:No. 5
Spatial Representation:	Sediment samples were collected along Kirker Creek at the following station locations in 2006 and 2007: KC1-KC14; Sites KC9 and KC10 were considered the same site (within 200m) according to the Listing Policy.
Temporal Representation:	The 2006 sediment samples were collected from 05/20/2006 to 05/22/2006; the 2007 sediment samples were collected from 05/12/2007 to 05/14/2007.
Environmental Conditions:	
QAPP Information:	Submitted QA data are acceptable.
QAPP Information Reference(s):	

DECISION ID	65916	Region 2
Kirker Creek		

Pollutant:	Esfenvalerate/Fenvalerate
Final Listing Decision:	Do Not List on 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision:	New Decision
Revision Status	Revised
Impairment from Pollutant or Pollution:	Pollutant
Regional Board Staff Conclusion:	<p>This pollutant is being considered for placement on the CWA section 303(d) List under section 3.6 of the Listing Policy. Under section 3.6 at least two lines of evidence are necessary to assess listing status for pollutants in sediment, and pollutant concentrations in sediment must be associated with sediment toxicity to justify adding that pollutant to the CWA section 303(d) List.</p> <p>One line of evidence is available in the administrative record to assess this pollutant. Zero of twenty-six samples exceed the guideline. Sediment toxicity data are not associated with this decision because they are not relevant to this decision because there are no exceedances based on sediment chemistry.</p> <p>Based on the readily available data and information, the weight of evidence indicates that there is insufficient justification for placing this water segment-pollutant combination on the CWA section 303(d) List.</p> <p>This conclusion is based on the staff findings that:</p> <ol style="list-style-type: none"> 1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy. 2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy.

3. Zero of twenty-six samples exceed the guideline indicating the beneficial use is fully supported using table 3.1.
Sediment toxicity data are not associated with this decision because the sediment chemistry data showed no exceedances.
4. Pursuant to section 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.

Regional Board Staff Decision Recommendation: After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be placed on the section 303(d) list because applicable water quality standards are not being exceeded.

Line of Evidence (LOE) for Decision ID 65916, Esfenvalerate/Fenvalerate

Region 2

Kirker Creek

LOE ID:	90504
Pollutant:	Esfenvalerate/Fenvalerate
LOE Subgroup:	Pollutant-Sediment
Matrix:	Sediment
Fraction:	Total
Beneficial Use:	Cold Freshwater Habitat
Number of Samples:	26
Number of Exceedances:	0
Data and Information Type:	PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality:	A total of 26 individual sediment samples were collected; 0 of 26 exceeded the evaluation guideline (0.15 ug/g OC).
Data Reference:	Various Data for Pleasant Grove Creek, Del Puerto Creek and Roseville Area, 2006-2010.
SWAMP Data:	
Water Quality Objective/Criterion:	The narrative objective for pesticides states, "No individual pesticide or combination of pesticides shall be present in concentrations that adversely affect beneficial uses. Discharges shall not result in pesticide concentrations in bottom sediments or aquatic life that adversely affect beneficial uses."
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	The evaluation guideline for esfenvalerate/fenvalerate, 0.15 ug/g OC, is one-tenth of the median lethal concentration for <i>H. azteca</i> (LC50; 1.5 ug/g OC). The LC50 (1.5 ug/g OC) is the geometric mean of OC normalized LC50 values for esfenvalerate/fenvalerate from Amweg et al. (2005).
Guideline Reference:	Use and Toxicity of Pyrethroid Pesticides in the Central Valley, California, USA. Environmental Toxicology and Chemistry, 24:966-972, with erratum 24:No. 5
Spatial Representation:	Sediment samples were collected along Kirker Creek at the following station locations in 2006 and 2007: KC1-KC14; Sites KC9 and KC10 were considered the same site (within 200m) according to the Listing Policy.
Temporal Representation:	The 2006 sediment samples were collected from 05/20/2006 to 05/22/2006; the 2007 sediment samples were collected from 05/12/2007 to 05/14/2007.
Environmental Conditions:	
QAPP Information:	Submitted QA data are acceptable.
QAPP Information Reference(s):	

DECISION ID

65917

Region 2

Kirker Creek

Pollutant: Fenpropathrin

Final Listing Decision:	Do Not List on 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision:	New Decision
Revision Status	Revised
Impairment from Pollutant or Pollution:	Pollutant

Regional Board Staff Conclusion:

This pollutant is being considered for placement on the CWA section 303(d) List under section 3.6 of the Listing Policy. Under section 3.6 at least two lines of evidence are necessary to assess listing status for pollutants sediment, and pollutant concentrations in sediment must be associated with sediment toxicity to justify adding that pollutant to the CWA section 303(d) List.

One line of evidence is available in the administrative record to assess this pollutant. Zero of twenty-six samples exceed the sediment chemistry evaluation guideline. Sediment toxicity data are not attached because there are no sediment chemistry exceedances.

Based on the readily available data and information, the weight of evidence indicates that there is insufficient justification for placing this water segment-pollutant combination on the CWA section 303(d) List.

This conclusion is based on the staff findings that:

1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy.
2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy.
3. Zero of twenty-six samples exceed the guideline and this sample size is sufficient to determine beneficial use support, with the power and confidence of the Listing Policy.
4. Pursuant to section 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.

Regional Board Staff Decision Recommendation:

After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be placed on the section 303(d) list because applicable water quality standards are not being exceeded.

**Line of Evidence (LOE) for Decision ID 65917, Fenpropathrin
Kirker Creek**

Region 2

LOE ID:	90501
Pollutant:	Fenpropathrin
LOE Subgroup:	Pollutant-Sediment
Matrix:	Sediment
Fraction:	Total
Beneficial Use:	Cold Freshwater Habitat
Number of Samples:	26
Number of Exceedances:	0
Data and Information Type:	PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality:	A total of 26 individual sediment samples were collected; 0 of 26 exceeded the evaluation guideline (0.12 ug/g OC).
Data Reference:	Various Data for Pleasant Grove Creek, Del Puerto Creek and Roseville Area, 2006-2010.
SWAMP Data:	
Water Quality Objective/Criterion:	The narrative objective for pesticides states, "No individual pesticide or combination of pesticides shall be present in concentrations that adversely affect beneficial uses. Discharges shall not result in pesticide concentrations in bottom sediments or aquatic life that adversely affect beneficial uses."
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	The evaluation guideline for fenpropathrin, 0.1 ug/g OC, is one-tenth of the median lethal

Guideline Reference:

concentration for *H. azteca* (LC50; 1 ug/g OC). The LC50 (1 ug/g OC) is the geometric mean of OC normalized LC50 values for fenprothrin from Ding et al. (2011).
[Use and Toxicity of Pyrethroid Pesticides in the Central Valley, California, USA. Environmental Toxicology and Chemistry, 24:966-972, with erratum 24:No. 5](#)
[Toxicity of Sediment-Associated Pesticides to *Chironomus dilutus* and *Hyalella azteca*. Arch. Environ. Contam. Toxicol. 61:83-92.](#)
[Whole-sediment toxicity identification evaluation tools for pyrethroid insecticides: I. piperonyl butoxide addition. Environ. Toxicol. Chem. 26:2389-2396.](#)

Spatial Representation:

Sediment samples were collected along Kirker Creek at the following station locations in 2006 and 2007: KC1-KC14; Sites KC9 and KC10 were considered the same site (within 200m) according to the Listing Policy.

Temporal Representation:

The 2006 sediment samples were collected from 05/20/2006 to 05/22/2006; the 2007 sediment samples were collected from 05/12/2007 to 05/14/2007.

Environmental Conditions:

QAPP Information:

Submitted QA data are acceptable.

QAPP Information Reference(s):

[Quality Assurance Project Plan for Pyrethroid Working Group.](#)

DECISION ID	65918	Region 2
Kirker Creek		

Pollutant:	Permethrin
Final Listing Decision:	Do Not List on 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision:	New Decision
Revision Status	Revised
Impairment from Pollutant or Pollution:	Pollutant

Regional Board Staff Conclusion:

This pollutant is being considered for placement on the CWA section 303(d) List under section 3.6 of the Listing Policy. Under section 3.6 at least two lines of evidence are necessary to assess listing status for pollutants in sediment, and pollutant concentrations in sediment must be associated with sediment toxicity to justify adding that pollutant to the CWA section 303(d) List.

One line of evidence is available in the administrative record to assess this pollutant. Zero of fourteen samples exceed the guideline. Sediment toxicity data are not associated with this decision because they are not relevant to this decision because there is insufficient information based on sediment chemistry.

Based on the readily available data and information, the weight of evidence indicates that there is insufficient justification for placing this water segment-pollutant combination on the CWA section 303(d) List.

This conclusion is based on the staff findings that:

1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy.
2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy.
3. Zero of fourteen samples exceed the guideline and this sample size is insufficient to determine beneficial use support, with the power and confidence of the Listing Policy. A minimum of 16 samples is needed to determine if a beneficial use is fully supported using table 3.1. Sediment toxicity data are not associated with this decision because the sediment chemistry data are insufficient.
4. Pursuant to section 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.

Regional Board Staff Decision Recommendation:	After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be placed on the section 303(d) list because applicable water quality standards are not being exceeded.
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Line of Evidence (LOE) for Decision ID 65918, Permethrin	Region 2
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Kirker Creek

LOE ID:	90502
Pollutant:	Permethrin, total
LOE Subgroup:	Pollutant-Sediment
Matrix:	Sediment
Fraction:	Total
Beneficial Use:	Cold Freshwater Habitat
Number of Samples:	14
Number of Exceedances:	0
Data and Information Type:	PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality:	A total of 26 individual sediment samples were collected; 12 samples were below both the reporting limit (1.0 ug/kg dry weight) and the organic carbon normalized evaluation guideline (0.89 ug/g OC) and could not be quantified with the level of certainty required by the listing policy. 0 of 14 samples exceeded the evaluation guideline.
Data Reference:	Various Data for Pleasant Grove Creek, Del Puerto Creek and Roseville Area, 2006-2010.
SWAMP Data:	
Water Quality Objective/Criterion:	The narrative objective for pesticides states, "No individual pesticide or combination of pesticides shall be present in concentrations that adversely affect beneficial uses. Discharges shall not result in pesticide concentrations in bottom sediments or aquatic life that adversely affect beneficial uses."
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	The evaluation guideline for permethrin, 0.89 ug/g OC, is one-tenth of the median lethal concentration for <i>H. azteca</i> (LC50; 8.9 ug/g OC). The LC50 (8.9 ug/g OC) is the geometric mean of OC normalized LC50 values for permethrin from Amweg et al. (2005).
Guideline Reference:	Use and Toxicity of Pyrethroid Pesticides in the Central Valley, California, USA. Environmental Toxicology and Chemistry, 24:966-972, with erratum 24:No. 5
Spatial Representation:	Sediment samples were collected along Kirker Creek at the following station locations in 2006 and 2007: KC1-KC14; Sites KC9 and KC10 were considered the same site (within 200m) according to the Listing Policy.
Temporal Representation:	The 2006 sediment samples were collected from 05/20/2006 to 05/22/2006; the 2007 sediment samples were collected from 05/12/2007 to 05/14/2007.
Environmental Conditions:	
QAPP Information:	Submitted QA data are acceptable.
QAPP Information Reference(s):	

DECISION ID**44283****Region 2****Kirker Creek**

Pollutant:	Anthracene Benzo(a)anthracene Benzo(a)pyrene (3,4-Benzopyrene -7-d) Chlordane Chrysene (C1-C4) DDD (Dichlorodiphenyldichloroethane) DDE (Dichlorodiphenyldichloroethylene) DDT (Dichlorodiphenyltrichloroethane) Dieldrin Endrin Fluoranthene Fluorene Heptachlor epoxide Lindane/gamma Hexachlorocyclohexane (gamma-HCH) Naphthalene PAHs (Polycyclic Aromatic Hydrocarbons) PCBs (Polychlorinated biphenyls) Phenanthrene Pyrene
Final Listing Decision:	Do Not List on 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision:	Do Not List on 303(d) list (TMDL required list)(2012)
Revision Status	Original
Impairment from Pollutant or Pollution:	Pollutant
Regional Board Staff	These pollutants are being considered for placement on the section 303(d) list under section 3.1 of

Conclusion:	the Listing Policy. Under this section a single line of evidence is necessary to assess listing status. One line of evidence is available in the administrative record to assess these pollutants. Zero samples exceed the water quality objective. Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against placing this water segment-pollutant combination on the section 303(d) list in the Water Quality Limited Segments category. This conclusion is based on the staff findings that: 1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy. 2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy. 3. Zero of one sample exceed the water quality objective, but this sample size is insufficient to determine with the power and confidence of the Listing Policy if standards are not met. A minimum of two samples are needed for application of table 3.1. 4. Pursuant to section 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.
Regional Board Staff Decision Recommendation:	This is a decision previously approved by the State Water Resources Control Board and the USEPA. No new data were assessed by the Regional Board for the current. The decision has not changed.

Line of Evidence (LOE) for Decision ID 44283, Multiple Pollutants

Region 2

Kirker Creek

LOE ID:	28501
Pollutant:	Anthracene Benzo(a)anthracene Benzo(a)pyrene (3,4-Benzopyrene -7-d) Chlordane Chrysene (C1-C4) DDD (Dichlorodiphenyldichloroethane) DDE (Dichlorodiphenyldichloroethylene) DDT (Dichlorodiphenyltrichloroethane) Dieldrin Endrin Fluoranthene Fluorene Heptachlor epoxide Lindane/gamma Hexachlorocyclohexane (gamma-HCH) Naphthalene PAHs (Polycyclic Aromatic Hydrocarbons) PCBs (Polychlorinated biphenyls) Phenanthrene Pyrene
LOE Subgroup:	Pollutant-Sediment
Matrix:	Sediment
Fraction:	None
Beneficial Use:	Warm Freshwater Habitat
Number of Samples:	1
Number of Exceedances:	0
Data and Information Type:	PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality:	Concentrations of anthracene, fluorene, naphthalene, phenanthrene, benz(a)anthracene, benzo(a)pyrene, chrysene, fluoranthene, pyrene, PAH (total), PCB (total), chlordane, dieldrin, DDD/DDE/DDT, endrin, heptachlor epoxide, and HCH, gamma in one sediment sample collected in spring 2003 did not exceed the sediment quality guidelines.
Data Reference:	Water Quality Monitoring and Bioassessment in Four San Francisco Bay Region Watersheds in 2003-2004: Kirker Creek, Mt. Diablo Creek, Petaluma River, and San Mateo Creek. Surface Water Monitoring Program, San Francisco Bay Regional Water Quality Control Board, Oakland. CA
SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	All waters shall be maintained free of toxic substances that are lethal to or that produce other detrimental responses in aquatic organisms.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) - San Francisco Bay Region (Region 2)
Evaluation Guideline:	Sediment Quality Guidelines (MacDonald et al., 2000): PEC (probable effect concentration) Anthracene - 845 ug/kg; Fluorene - 536 ug/kg; Naphthalene - 561 ug/kg; Phenanthrene - 1170 ug/kg; Benz(a)anthracene - 1050 ug/kg; Benzo(a)pyrene - 1450 ug/kg; Chrysene - 1290 ug/kg; Fluoranthene - 2230 ug/kg; Pyrene - 1520 ug/kg; PAH (total) - 22800 ug/kg; PCB (total) - 676 ug/kg; Chlordane - 17.6 ug/kg; Dieldrin - 61.8 ug/kg; DDD (sum op + pp) - 28 ug/kg; DDE (sum op + pp) - 31.3 ug/kg; DDT (sum op + pp) - 62.9 ug/kg; DDT (total) - 572 ug/kg; Endrin - 207 ug/kg; Heptachlor epoxide - 16 ug/kg; HCH, gamma - 4.99 ug/kg.
Guideline Reference:	Development and evaluation of consensus-based sediment quality guidelines for

Spatial Representation: One sediment sample was collected at a "watershed integrator" site located close to the mouth of Kirker Creek.

Temporal Representation: Sediment sample was collected in April of 2003.

Environmental Conditions:

QAPP Information: All samples were collected and analyzed using procedures comparable with the SWAMP Quality Assurance Management Plan (SWRCB, 2002).

QAPP Information Reference(s):

DECISION ID	44335	Region 2
Kirker Creek		

Pollutant: Arsenic | Cadmium | Chromium (total) | Copper | Lead | Mercury | Nickel | Zinc

Final Listing Decision: Do Not List on 303(d) list (TMDL required list)

Last Listing Cycle's Final Listing Decision: Do Not List on 303(d) list (TMDL required list)(2012)

Revision Status Original

Impairment from Pollutant or Pollution: Pollutant

Regional Board Staff Conclusion: These pollutants are being considered for placement on the section 303(d) list under section 3.1 of the Listing Policy. Under this section a single line of evidence is necessary to assess listing status. One line of evidence is available in the administrative record to assess these pollutants. Zero samples exceed the water quality objective. Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against placing this water segment-pollutant combination on the section 303(d) list in the Water Quality Limited Segments category. This conclusion is based on the staff findings that: 1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy. 2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy. 3. Zero of one sample exceed the water quality objective, but this sample size is insufficient to determine with the power and confidence of the Listing Policy if standards are not met. A minimum of two samples are needed for application of table 3.1. 4. Pursuant to section 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.

Regional Board Staff Decision Recommendation: This is a decision previously approved by the State Water Resources Control Board and the USEPA. No new data were assessed by the Regional Board for the current. The decision has not changed.

Line of Evidence (LOE) for Decision ID 44335, Multiple Pollutants	Region 2
Kirker Creek	

LOE ID: 28537

Pollutant: Arsenic | Cadmium | Chromium (total) | Copper | Lead | Mercury | Nickel | Zinc

LOE Subgroup: Pollutant-Sediment

Matrix: Sediment

Fraction: Total

Beneficial Use: Warm Freshwater Habitat

Number of Samples: 1

Number of Exceedances: 0

Data and Information Type: PHYSICAL/CHEMICAL MONITORING

Data Used to Assess Water Quality: Concentrations of arsenic, cadmium, chromium, copper, lead, mercury, nickel and zinc in one sediment sample collected in spring 2003 did not exceed the sediment quality guidelines.

Data Reference: [Water Quality Monitoring and Bioassessment in Four San Francisco Bay Region Watersheds in 2003-2004: Kirker Creek, Mt. Diablo Creek, Petaluma River, and San](#)

SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	All waters shall be maintained free of toxic substances that are lethal to or that produce other detrimental responses in aquatic organisms.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) - San Francisco Bay Region (Region 2)
Evaluation Guideline:	Sediment Quality Guidelines (MacDonald et al., 2000): PEC (probable effect concentration) arsenic - 33 mg/kg dw; cadmium - 4.98 mg/kg dw; chromium - 111 mg/kg dw; copper - 149 mg/kg dw; lead - 128 mg/kg dw; mercury - 1.06 mg/kg dw; nickel - 48.6 mg/kg dw; zinc - 459 mg/kg dw.
Guideline Reference:	Development and evaluation of consensus-based sediment quality guidelines for freshwater ecosystems. Environmental Contamination and Toxicology. 39: 20-31
Spatial Representation:	One sediment sample was collected at a "watershed integrator" site located close to the mouth of Kirker Creek.
Temporal Representation:	Sediment sample was collected in April of 2003.
Environmental Conditions:	
QAPP Information:	All samples were collected and analyzed using procedures comparable with the SWAMP Quality Assurance Management Plan (SWRCB, 2002).
QAPP Information Reference(s):	

DECISION ID	44628	Region 2
Kirker Creek		

Pollutant:	Arsenic Chromium (total) Copper Lead Nickel Silver Zinc
Final Listing Decision:	Do Not List on 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision:	Do Not List on 303(d) list (TMDL required list)(2012)
Revision Status	Original
Impairment from Pollutant or Pollution:	Pollutant

Regional Board Staff Conclusion:	This pollutant is being considered for placement on the section 303(d) list under section 3.1 of the Listing Policy. Under section 3.1 a single line of evidence is necessary to assess listing status. One line of evidence is available in the administrative record to assess this pollutant. None of the samples exceed the water quality objective. Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against placing this water segment-pollutant combination on the section 303(d) list in the Water Quality Limited Segments category. This conclusion is based on the staff findings that: 1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy. 2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy. 3. None of five samples exceeded the water quality objective and this does not exceed the allowable frequency listed in Table 3.1 of the Listing Policy. 4. Pursuant to section 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.
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Regional Board Staff Decision Recommendation:	This is a decision previously approved by the State Water Resources Control Board and the USEPA. No new data were assessed by the Regional Board for the current. The decision has not changed.
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Line of Evidence (LOE) for Decision ID 44628, Multiple Pollutants	Region 2
Kirker Creek	

LOE ID:	28916
Pollutant:	Arsenic Chromium (total) Copper Lead Nickel Silver Zinc
LOE Subgroup:	Pollutant-Water
Matrix:	Water

Fraction:	Dissolved
Beneficial Use:	Warm Freshwater Habitat
Number of Samples:	5
Number of Exceedances:	0
Data and Information Type:	PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality:	The Kirker Creek watershed was monitored as part of SWAMP assessment. None of the three samples exceeded the water quality objectives for arsenic, chromium VI, copper, lead, nickel, silver and zinc. Concentrations of total dissolved chromium were well below the objective for chromium VI.
Data Reference:	Water Quality Monitoring and Bioassessment in Four San Francisco Bay Region Watersheds in 2003-2004: Kirker Creek, Mt. Diablo Creek, Petaluma River, and San Mateo Creek. Surface Water Monitoring Program, San Francisco Bay Regional Water Quality Control Board, Oakland, CA
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	All waters shall be maintained free of toxic substances that are lethal to or that produce other detrimental responses in aquatic organisms. Table 3-4 in the Basin Plan (2007) lists freshwater water quality objectives for toxic pollutants: arsenic- 150 ug/L, chromium VI- 11 ug/L, copper - 9.0 ug/L, lead - 2.5 ug/L; nickel - 52 ug/L, silver-3.4 ug/L and zinc - 120 ug/L.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) - San Francisco Bay Region (Region 2)
Evaluation Guideline:	
Guideline Reference:	
Spatial Representation:	Data were collected at two sampling locations on Kirker Creek - KIR020 (floodway) and KIR115 (Kirker Apartments).
Temporal Representation:	Samples were collected at both sites during spring and wet seasons of the 2003-2004 sampling season.
Environmental Conditions:	
QAPP Information:	All samples were collected and analyzed using procedures comparable with the SWAMP Quality Assurance Management Plan (SWRCB, 2002).
QAPP Information Reference(s):	Quality Assurance Management Plan for the State of California's Surface Water Ambient Monitoring Program. Sacramento, CA. State Water Resources Control Board. SWAMP. December 2002 (1st version)

DECISION ID	43778	Region 2
Kirker Creek		
Pollutant:	Chlorpyrifos	
Final Listing Decision:	Do Not List on 303(d) list (TMDL required list)	
Last Listing Cycle's Final Listing Decision:	Do Not List on 303(d) list (TMDL required list)(2012)	
Revision Status	Original	
Impairment from Pollutant or Pollution:	Pollutant	
Regional Board Staff Conclusion:	This pollutant is being considered for removal from the section 303(d) list under section 3.1 of the Listing Policy. Under this section a single line of evidence is necessary to assess listing status. One line of evidence is available in the administrative record to assess pollutant. One of samples exceed the water quality objective. Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against placing this water segment-pollutant combination from the section 303(d) list. This conclusion is based on the staff findings that: 1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy. 2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy. 3. One of five samples exceeded the water quality objective and this exceeds the allowable frequency listed in Table 3.1 of the Listing Policy. 4. Pursuant to section 3.11 of the Listing Policy, no additional data and information	

are available indicating that standards are met.

Regional Board Staff Decision Recommendation: This is a decision previously approved by the State Water Resources Control Board and the USEPA. No new data were assessed by the Regional Board for the current. The decision has not changed.

Line of Evidence (LOE) for Decision ID 43778, Chlorpyrifos

Region 2

Kirker Creek

LOE ID: 28932

Pollutant: Chlorpyrifos
LOE Subgroup: Pollutant-Water
Matrix: Water
Fraction: Total

Beneficial Use: Warm Freshwater Habitat

Number of Samples: 5
Number of Exceedances: 1

Data and Information Type: PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality: The Kirker Creek watershed was monitored as part of SWAMP assessment. Chlorpyrifos exceeded the chronic threshold during the wet (January) season sampling at KIR020 and KIR115 at sample concentrations of 0.11 and 0.0575 ug/L, respectively.

Data Reference: [Data collected by the Surface Water Ambient Monitoring Program, San Francisco Bay Regional Water Quality Control Board. Years 4 and 5 Assessment](#)

SWAMP Data: SWAMP

Water Quality Objective/Criterion: All waters shall be maintained free of toxic substances that are lethal to or that produce other detrimental responses in aquatic organisms.
Table 3-4 in the Basin Plan (2007) lists freshwater water quality objectives for toxic pollutants: Chlorpyrifos 4-day average (chronic) - 0.0015 ug/L.

Objective/Criterion Reference: [Water Quality Control Plan \(Basin Plan\) - San Francisco Bay Region \(Region 2\) Amendments to the Water Quality Control Plan for the Sacramento River and San Joaquin Rivers Basins for the Control of Diazinon and Chlorpyrifos. June 2006. Final Staff Report](#)

Evaluation Guideline:
Guideline Reference:

Spatial Representation: Data were collected at two sampling locations on Kirker Creek - KIR020 (floodway) and KIR115 (Kirker Apartments).

Temporal Representation: Samples were collected at both sites during spring and wet seasons of the 2003-2004 sampling season. One additional sample was taken at KIR020 during the dry season

Environmental Conditions:
QAPP Information: All samples were collected and analyzed using procedures comparable with the SWAMP Quality Assurance Management Plan (SWRCB, 2002).

QAPP Information Reference(s): [Quality Assurance Management Plan for the State of California's Surface Water Ambient Monitoring Program. Sacramento, CA. State Water Resources Control Board. SWAMP. December 2002 \(1st version\)](#)

DECISION ID

43779

Region 2

Kirker Creek

Pollutant: Dacthal | Disulfoton | Endosulfan | Lindane/gamma Hexachlorocyclohexane (gamma-HCH) | Methyl Parathion | PCBs (Polychlorinated biphenyls) | Thiobencarb/Bolero

Final Listing Decision: Do Not List on 303(d) list (TMDL required list)

Last Listing Cycle's Final Do Not List on 303(d) list (TMDL required list)(2012)

Listing Decision:
Revision Status Original
Impairment from Pollutant or Pollution: Pollutant

Regional Board Staff Conclusion: This pollutant is being considered for placement on the section 303(d) list under section 3.1 of the Listing Policy. Under section 3.1 a single line of evidence is necessary to assess listing status. One line of evidence is available in the administrative record to assess this pollutant. None of the samples exceed the water quality objective. Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against placing this water segment-pollutant combination on the section 303(d) list in the Water Quality Limited Segments category. This conclusion is based on the staff findings that: 1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy. 2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy. 3. None of five samples exceeded the water quality objective and this does not exceed the allowable frequency listed in Table 3.1 of the Listing Policy. 4. Pursuant to section 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.

Regional Board Staff Decision Recommendation: This is a decision previously approved by the State Water Resources Control Board and the USEPA. No new data were assessed by the Regional Board for the current. The decision has not changed.

Line of Evidence (LOE) for Decision ID 43779, Multiple Pollutants

Region 2

Kirker Creek

LOE ID: 28958

Pollutant: Dacthal | Disulfoton | Endosulfan | Lindane/gamma Hexachlorocyclohexane (gamma-HCH) | Methyl Parathion | PCBs (Polychlorinated biphenyls) | Thiobencarb/Bolero

LOE Subgroup: Pollutant-Water

Matrix: Water

Fraction: None

Beneficial Use: Warm Freshwater Habitat

Number of Samples: 5

Number of Exceedances: 0

Data and Information Type: PHYSICAL/CHEMICAL MONITORING

Data Used to Assess Water Quality: The Kirker Creek watershed was monitored as part of SWAMP assessment. None of the three samples exceeded the water quality objectives for PCBs, Dacthal, disulfoton, endosulfan, Lindane/gamma Hexachlorocyclohexane (gamma-HCH), methyl parathion, thiobencarb.

Data Reference: [Data collected by the Surface Water Ambient Monitoring Program, San Francisco Bay Regional Water Quality Control Board, Years 4 and 5 Assessment](#)

SWAMP Data: SWAMP

Water Quality Objective/Criterion: All waters shall be maintained free of toxic substances that are lethal to or that produce other detrimental responses in aquatic organisms.
There shall be no chronic toxicity in ambient waters. Chronic toxicity is a detrimental biological effect on growth rate, reproduction, fertilization success, larval development, population abundance, community composition, or any other relevant measure of the health of an organism, population, or community.

Objective/Criterion Reference: [Water Quality Control Plan \(Basin Plan\) - San Francisco Bay Region \(Region 2\)](#)

Evaluation Guideline: PCBs - 0.014 ug/L freshwater continuous Concentration; Dacthal (DCPA) - 14300 ug/L (acute); Disulfoton (Disyston) - 0.05 ug/L (acute); Endosulfan - 0.056 ug/L (chronic)/0.22 ug/L (acute); HCH, gamma-(gamma BHC, Lindane) - 0.95 ug/L (acute); methyl parathion - 0.08 ug/L (acute); Thiobencarb - 3.1 ug/L (acute).

Guideline Reference: [National recommended water quality criteria: 2002. EPA-822-R-02-047 Washington, D.C. USEPA](#)

Spatial Representation: Data were collected at two sampling locations: KIR020 (Floodway) and KIR115 (Kirker Creek Apartments) on Kirker Creek.

Temporal Representation: Samples were collected during winter (2 samples), spring (2 samples), and one in dry season 2003.

Environmental Conditions:

QAPP Information: All samples were collected and analyzed using procedures comparable with the SWAMP Quality Assurance Management Plan (SWRCB, 2002).

QAPP Information Reference(s): [Quality Assurance Management Plan for the State of California's Surface Water Ambient Monitoring Program, Sacramento, CA, State Water Resources Control Board, SWAMP, December 2002 \(1st version\)](#)

DECISION ID	43814	Region 2
Kirker Creek		

Pollutant: Diazinon

Final Listing Decision: Do Not List on 303(d) list (TMDL required list)

Last Listing Cycle's Final Listing Decision: Do Not List on 303(d) list (TMDL required list)(2012)

Revision Status Original

Impairment from Pollutant or Pollution: Pollutant

Regional Board Staff Conclusion: This pollutant is being considered for placement on the section 303(d) list under section 3.1 of the Listing Policy. Under section 3.1 a single line of evidence is necessary to assess listing status. One line of evidence is available in the administrative record to assess this pollutant. One of the samples exceed the water quality objective. Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against placing this water segment-pollutant combination on the section 303(d) list in the Water Quality Limited Segments category. This conclusion is based on the staff findings that: 1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy. 2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy. 3. One of five samples exceeded the water quality objective and this does not exceed the allowable frequency listed in Table 3.1 of the Listing Policy. 4. Pursuant to section 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.

Regional Board Staff Decision Recommendation: This is a decision previously approved by the State Water Resources Control Board and the USEPA. No new data were assessed by the Regional Board for the current. The decision has not changed.

Line of Evidence (LOE) for Decision ID 43814, Diazinon	Region 2
Kirker Creek	

LOE ID: 28933

Pollutant: Diazinon

LOE Subgroup: Pollutant-Water

Matrix: Water

Fraction: Total

Beneficial Use: Warm Freshwater Habitat

Number of Samples: 5

Number of Exceedances: 1

Data and Information Type: PHYSICAL/CHEMICAL MONITORING

Data Used to Assess Water Quality: The Kirker Creek watershed was monitored as part of SWAMP assessment. Diazinon exceeded the acute threshold during the wet season sampling at KIR020 at a sample concentration of 0.741 ug/L.

Data Reference: [Data collected by the Surface Water Ambient Monitoring Program, San Francisco Bay](#)

SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	All waters shall be maintained free of toxic substances that are lethal to or that produce other detrimental responses in aquatic organisms. Table 3-4 in the Basin Plan (2007) lists freshwater water quality objectives for toxic pollutants: Diazinon 1-hour average (acute) - 0.1 ug/L.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) - San Francisco Bay Region (Region 2) Amendments to the Water Quality Control Plan for the Sacramento River and San Joaquin Rivers Basins for the Control of Diazinon and Chlorpyrifos. June 2006. Final Staff Report
Evaluation Guideline:	
Guideline Reference:	
Spatial Representation:	Data were collected at two sampling locations on Kirker Creek - KIR020 (floodway) and KIR115 (Kirker Apartments).
Temporal Representation:	Samples were collected at both sites during spring and wet seasons of the 2003-2004 sampling season. One additional sample was taken at KIR020 during the dry season
Environmental Conditions:	
QAPP Information:	All samples were collected and analyzed using procedures comparable with the SWAMP Quality Assurance Management Plan (SWRCB, 2002).
QAPP Information Reference(s):	Quality Assurance Management Plan for the State of California's Surface Water Ambient Monitoring Program. Sacramento, CA. State Water Resources Control Board. SWAMP. December 2002 (1st version)

DECISION ID	44271	Region 2
Kirker Creek		

Pollutant:	Escherichia coli (E. coli)
Final Listing Decision:	Do Not List on 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision:	Do Not List on 303(d) list (TMDL required list)(2012)
Revision Status	Original
Impairment from Pollutant or Pollution:	Pollutant

Regional Board Staff Conclusion:	This pollutant is being considered for placement on the section 303(d) list under section 3.2 of the Listing Policy. Under this section a single line of evidence is necessary to assess listing status. One line of evidence is available in the administrative record to assess this pollutant. One out one sample exceeds the water quality objective. Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against placing this water segment-pollutant combination on the section 303(d) list in the Water Quality Limited Segments category. This conclusion is based on the staff findings that: 1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy. 2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy. 3. One out of one samples exceeded the water quality objective, but this sample size is insufficient to determine with the power and confidence of the Listing Policy if standards are not met. A minimum of five samples is needed for application of table 3.2. 4. Pursuant to section 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.
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Regional Board Staff Decision Recommendation:	This is a decision previously approved by the State Water Resources Control Board and the USEPA. No new data were assessed by the Regional Board for the current. The decision has not changed.
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Line of Evidence (LOE) for Decision ID 44271, Escherichia coli (E. coli)	Region 2
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Kirker Creek

LOE ID:	28888
Pollutant:	Escherichia coli (E. coli)
LOE Subgroup:	Pollutant-Water
Matrix:	Water
Fraction:	None
Beneficial Use:	Water Contact Recreation
Number of Samples:	1
Number of Exceedances:	1
Data and Information Type:	PATHOGEN MONITORING
Data Used to Assess Water Quality:	Samples were collected as part of SWAMP sampling in the summer of 2003 at 7-day intervals and the geometric mean of the samples calculated over a five week interval. The geometric mean for the KIR110 location was 384 MPN/100 mL and exceeded the US EPA criteria.
Data Reference:	Water Quality Monitoring and Bioassessment in Four San Francisco Bay Region Watersheds in 2003-2004: Kirker Creek, Mt. Diablo Creek, Petaluma River, and San Mateo Creek. Surface Water Monitoring Program. San Francisco Bay Regional Water Quality Control Board. Oakland. CA
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	Uses of water for recreational activities involving body contact with water where ingestion of water is reasonably possible. These uses include, but are not limited to, swimming, wading, water-skiing, skin and scuba diving, surfing, whitewater activities, fishing, and uses of natural hot springs. Water contact implies a risk of waterborne disease transmission and involves human health; accordingly, criteria required to protect this use are more stringent than those for more casual water-oriented recreation. U.S. EPA water quality criteria for water contact recreation based on the frequency of use a particular area receives - 1986: the E. coli criterion is not to exceed 126 organisms/100 mL. The value is expressed as a 7-day geometric mean based on five or more samples per 30?day period; designated beach (max) 235 MPN/100 mL.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) - San Francisco Bay Region (Region 2) Ambient Water Quality Criteria for Bacteria - 1986. EPA440/5-84-002
Evaluation Guideline:	
Guideline Reference:	
Spatial Representation:	Samples were collected at KIR110 (Buchanan Park).
Temporal Representation:	Sample was collected weekly from 7/21/2003 through 8/18/2003.
Environmental Conditions:	
QAPP Information:	All samples were collected and analyzed using procedures comparable with the SWAMP Quality Assurance Management Plan (SWRCB, 2002).
QAPP Information Reference(s):	Quality Assurance Management Plan for the State of California's Surface Water Ambient Monitoring Program. Sacramento, CA. State Water Resources Control Board. SWAMP. December 2002 (1st version)

DECISION ID

43815

Region 2

Kirker Creek

Pollutant:	Oxygen, Dissolved
Final Listing Decision:	Do Not List on 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision:	Do Not List on 303(d) list (TMDL required list)(2012)
Revision Status	Original

Impairment from Pollutant or Pollution: Pollutant

Regional Board Staff Conclusion:

This pollutant is being considered for placement on the section 303(d) list under section 3.2 of the Listing Policy. Under section 3.2 a single line of evidence is necessary to assess listing status. One line of evidence is available in the administrative record to assess this pollutant. Four of the samples exceed the water quality objective. Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against placing this water segment-pollutant combination on the section 303(d) list in the Water Quality Limited Segments category. This conclusion is based on the staff findings that: 1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy. 2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy. 3. Four of six samples exceeded the water quality objective and this does not exceed the allowable frequency listed in Table 3.2 of the Listing Policy. 4. Pursuant to section 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.

Regional Board Staff Decision Recommendation:

This is a decision previously approved by the State Water Resources Control Board and the USEPA. No new data were assessed by the Regional Board for the current. The decision has not changed.

**Line of Evidence (LOE) for Decision ID 43815, Oxygen, Dissolved
Kirker Creek**

Region 2

LOE ID: 28619

Pollutant: Oxygen, Dissolved
LOE Subgroup: Pollutant-Water
Matrix: Water
Fraction: None

Beneficial Use: Warm Freshwater Habitat

Number of Samples: 6
Number of Exceedances: 4

Data and Information Type: PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality: Comprehensive water quality assessment was conducted at Kirker Creek watershed as part of SWAMP assessment in 2003 and 2004. Continuous field monitoring of temperature, dissolved oxygen, pH, and specific conductance to determine temporal variability in basic water quality at one or two locations. The 7 day average minimum concentration of dissolved oxygen ranged from 2.19 to 8.78 mg/L and varied with season. Minimum dissolved oxygen levels fell below the objective of 5 mg/L during both the spring (March 2003) and summer (July 2003) sampling events. The only values not below was 5.82 and 8.78 mg/L in February 2004 monitoring site.

Data Reference: [Water Quality Monitoring and Bioassessment in Four San Francisco Bay Region Watersheds in 2003-2004: Kirker Creek, Mt. Diablo Creek, Petaluma River, and San Mateo Creek. Surface Water Monitoring Program, San Francisco Bay Regional Water Quality Control Board, Oakland, CA](#)

SWAMP Data: SWAMP

Water Quality Objective/Criterion: The numeric water quality objective for dissolved oxygen is 5.0 mg/L minimum for waters designated as cold water habitat. The median dissolved oxygen concentration for any three consecutive months shall not be less than 80 percent of the dissolved oxygen content at saturation.

Objective/Criterion Reference: [Water Quality Control Plan \(Basin Plan\) - San Francisco Bay Region \(Region 2\)](#)

Evaluation Guideline:
Guideline Reference:

Spatial Representation: Dissolved oxygen was measured at one, two, or three sites located on the mainstem of Kirker Creek that are representative of the entire creek length.

Temporal Representation:	At all locations the SWAMP performed continuous monitoring of dissolved oxygen at 15 minute intervals lasting 1-15 days during spring (March 2003), summer dry season (July 2003), and winter wet season (February 2004).
Environmental Conditions:	
QAPP Information:	All samples were collected and analyzed using procedures comparable with the SWAMP Quality Assurance Management Plan (SWRCB 2002).
QAPP Information Reference(s):	

DECISION ID	43816	Region 2
Kirker Creek		

Pollutant:	Selenium
Final Listing Decision:	Do Not List on 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision:	Do Not List on 303(d) list (TMDL required list)(2012)
Revision Status	Original
Impairment from Pollutant or Pollution:	Pollutant

Regional Board Staff Conclusion: This pollutant is being considered for removal from the section 303(d) list under section 3.1 of the Listing Policy. Under this section a single line of evidence is necessary to assess listing status. One line of evidence is available in the administrative record to assess pollutant. One of the samples exceed the water quality objective. Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against placing this water segment-pollutant combination from the section 303(d) list. This conclusion is based on the staff findings that: 1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy. 2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy. 3. One of five samples exceeded the water quality objective and this exceeds the allowable frequency listed in Table 3.1 of the Listing Policy. 4. Pursuant to section 4.11 of the Listing Policy, no additional data and information are available indicating that standards are met.

Regional Board Staff Decision Recommendation: This is a decision previously approved by the State Water Resources Control Board and the USEPA. No new data were assessed by the Regional Board for the current. The decision has not changed.

Line of Evidence (LOE) for Decision ID 43816, Selenium	Region 2
Kirker Creek	

LOE ID:	28919
Pollutant:	Selenium, Total
LOE Subgroup:	Pollutant-Water
Matrix:	Water
Fraction:	Total
Beneficial Use:	Warm Freshwater Habitat
Number of Samples:	5
Number of Exceedances:	1
Data and Information Type:	PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality:	The Kirker Creek watershed was monitored as part of SWAMP assessment. Selenium exceeded the chronic threshold during the wet season sampling at KIR115 at a sample concentration of 8.1 ug/L.
Data Reference:	Water Quality Monitoring and Bioassessment in Four San Francisco Bay Region Watersheds in 2003-2004: Kirker Creek, Mt. Diablo Creek, Petaluma River, and San Mateo Creek. Surface Water Monitoring Program, San Francisco Bay Regional Water Quality Control Board, Oakland, CA
SWAMP Data:	SWAMP

Water Quality Objective/Criterion:	All waters shall be maintained free of toxic substances that are lethal to or that produce other detrimental responses in aquatic organisms. Freshwater water quality objectives for selenium are 5 ug/L 4-day average (chronic) and 20 ug/L 1-hour (acute).
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) - San Francisco Bay Region (Region 2)
Evaluation Guideline:	
Guideline Reference:	
Spatial Representation:	Data were collected at two sampling locations on Kirker Creek - KIR020 (floodway) and KIR115 (Kirker Apartments).
Temporal Representation:	Samples were collected at both sites during spring and wet seasons of the 2003-2004 sampling season. One additional sample was taken at KIR020 during the dry season
Environmental Conditions:	
QAPP Information:	All samples were collected and analyzed using procedures comparable with the SWAMP Quality Assurance Management Plan (SWRCB, 2002).
QAPP Information Reference(s):	Quality Assurance Management Plan for the State of California's Surface Water Ambient Monitoring Program. Sacramento, CA. State Water Resources Control Board. SWAMP. December 2002 (1st version)

DECISION ID	43604	Region 2
Kirker Creek		

Pollutant:	Temperature, water
Final Listing Decision:	Do Not List on 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision:	Do Not List on 303(d) list (TMDL required list)(2012)
Revision Status	Original
Impairment from Pollutant or Pollution:	Pollutant

Regional Board Staff Conclusion:	This water body is being considered for listing under section 3.2 of the Listing Policy. Under section 3.2 a single line of evidence is necessary to assess listing status. One line of evidence is available in the administrative record to assess this water body. Based on the readily available data for this water body, the weight of evidence indicates that there is sufficient justification against placing this water segment-pollutant combination on the section 303(d) list in the Water Quality Limited Segments category. This conclusion is based on the staff findings that: 1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy. 2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy. 3. Temperature measurements exceeded the evaluation guideline in 2 out of 5 continuous deployments and this does not exceed the allowable frequency listed in Table 3.2 of the Listing Policy. 4. Pursuant to section 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.
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Regional Board Staff Decision Recommendation:	This is a decision previously approved by the State Water Resources Control Board and the USEPA. No new data were assessed by the Regional Board for the current. The decision has not changed.
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Line of Evidence (LOE) for Decision ID 43604, Temperature, water	Region 2
Kirker Creek	

LOE ID:	30221
Pollutant:	Temperature, water
LOE Subgroup:	Pollutant-Water
Matrix:	Water
Fraction:	None
Beneficial Use:	Cold Freshwater Habitat

Number of Samples:	5
Number of Exceedances:	2
Data and Information Type:	PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality:	A water quality assessment was conducted at Kirker Creek as part of SWAMP study in 2003-2004. Continuous field monitoring at 15 minute increments of temperature, dissolved oxygen, pH and specific conductance was conducted to determine temporal variability in basic water quality at one location.
	The estimated 7-day mean temperature was 16.73, 18.32 and 18.57oC in spring, and 12.71oC and 14.53oC during wet season. The 17 °C criterion for steelhead was exceeded in 2 out of 5 samples.
Data Reference:	Water Quality Monitoring and Bioassessment in Four San Francisco Bay Region Watersheds in 2003-2004: Kirker Creek, Mt. Diablo Creek, Petaluma River, and San Mateo Creek. Surface Water Monitoring Program, San Francisco Bay Regional Water Quality Control Board, Oakland, CA
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	Temperature objectives for enclosed bays and estuaries are specified in the "Water Quality Control Plan for Control of Temperature in the Coastal and Interstate Waters and Enclosed Bays of California" including any revisions to the plan. In addition, the following temperature objectives apply to surface waters: The natural receiving water temperature of intrastate waters shall not be altered unless it can be demonstrated to the satisfaction of the Regional Water Board that such alteration in temperature does not adversely affect beneficial uses. The temperature of any cold or warm freshwater habitat shall not be increased by more than 5°F (2.8°C) above natural receiving water temperature.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) - San Francisco Bay Region (Region 2)
Evaluation Guideline:	Sullivan et al. (2000) reviewed a wide range of studies incorporating information from laboratory-based research, field observations, and risk assessment approaches and developed criteria for assessing temperature risk to aquatic life. The 7-day mean temperature (maximum value of the 7-day moving average of the daily mean temperature) of 14.8°C was established as the upper threshold criterion for coho salmon and 17.0°C for steelhead trout. The risk assessment approach used by Sullivan et al. (2000) suggests that temperatures exceeding the above thresholds will cause 10% reduction in average growth compared to optimal conditions.
Guideline Reference:	An Analysis of the Effects of Temperature on Salmonids of the Pacific Northwest with Implications for Selecting Temperature Criteria
Spatial Representation:	Temperature was measured at 3 sites located in the mainstem of Kirker Creek during spring 2003 and at 2 sites in winter 2004.
Temporal Representation:	Temperature was recorded at 15 minute intervals over 7 to 15 days during early spring (March/April 2003), and winter wet season (February 2004).
Environmental Conditions:	
QAPP Information:	All samples were collected and analyzed using procedures comparable with the SWAMP Quality Assurance Management Plan (SWRCB 2002).
QAPP Information Reference(s):	

DECISION ID	43436	Region 2
Kirker Creek		
Pollutant:	pH	
Final Listing Decision:	Do Not List on 303(d) list (TMDL required list)	
Last Listing Cycle's Final Listing Decision:	Do Not List on 303(d) list (TMDL required list)(2012)	
Revision Status	Original	
Impairment from Pollutant or Pollution:	Pollutant	

**Regional Board Staff
Conclusion:**

This pollutant is being considered for placement on the section 303(d) list under section 3.2 of the Listing Policy. Under section 3.2 a single line of evidence is necessary to assess listing status. One line of evidence is available in the administrative record to assess this pollutant. None of the samples exceed the water quality objective. Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against placing this water segment-pollutant combination on the section 303(d) list in the Water Quality Limited Segments category. This conclusion is based on the staff findings that: 1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy. 2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy. 3. None of six samples exceeded the pH objectives and this does not exceed the allowable frequency listed in Table 3.2 of the Listing Policy. 4. Pursuant to section 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.

**Regional Board Staff Decision
Recommendation:**

This is a decision previously approved by the State Water Resources Control Board and the USEPA. No new data were assessed by the Regional Board for the current. The decision has not changed.

**Line of Evidence (LOE) for Decision ID 43436, pH
Kirker Creek**

Region 2

LOE ID:	28701
Pollutant:	pH
LOE Subgroup:	Pollutant-Water
Matrix:	Water
Fraction:	None
Beneficial Use:	Warm Freshwater Habitat
Number of Samples:	6
Number of Exceedances:	0
Data and Information Type:	PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality:	Comprehensive water quality assessment was conducted at Kirker Creek watershed as part of SWAMP assessment in 2003 and 2004. Continuous field monitoring of temperature, dissolved oxygen, pH, and specific conductance to determine temporal variability in basic water quality at one, two or three locations, throughout Kirker Creek, ranging up to 15 days. The pH ranged from 6.71 to 8.16 and did not exceed the maximum or drop below the minimum at any deployment during the sampling season.
Data Reference:	Water Quality Monitoring and Bioassessment in Four San Francisco Bay Region Watersheds in 2003-2004: Kirker Creek, Mt. Diablo Creek, Petaluma River, and San Mateo Creek. Surface Water Monitoring Program, San Francisco Bay Regional Water Quality Control Board, Oakland, CA
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	The pH shall not be depressed below 6.5 nor raised above 8.5. This encompasses the pH range usually found in waters within the basin. Controllable water quality factors shall not cause changes greater than 0.5 units in normal ambient pH levels.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) - San Francisco Bay Region (Region 2)
Evaluation Guideline:	
Guideline Reference:	
Spatial Representation:	pH was measured at one, two, or three sites located on the mainstem of Kirker Creek that are representative of the entire creek length.
Temporal Representation:	At all locations the SWAMP performed continuous monitoring of pH at 15 minute intervals lasting up to 15 days during spring (March 2003), summer dry season (July 2003), and winter wet season (February 2004).
Environmental Conditions:	
QAPP Information:	All samples were collected and analyzed using procedures comparable with the SWAMP Quality Assurance Management Plan (SWRCB 2002).

DECISION ID	42397	Region 2
Kirker Creek		

Pollutant:	Toxicity
Final Listing Decision:	List on 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision:	List on 303(d) list (TMDL required list)(2012)
Revision Status	Original
Sources:	Source Unknown
Expected TMDL Completion Date:	2021
Impairment from Pollutant or Pollution:	Pollutant

Regional Board Staff Conclusion: This pollutant is being considered for listing under section 3.6 of the Listing Policy. Under section 3.6 a single line of evidence is necessary to assess listing status. One line of evidence is available in the administrative record to assess this pollutant. This water body experiences toxicity. Based on the readily available data for this water body, the weight of evidence indicates that there is sufficient justification available in favor of adding this water segment-pollutant combination to the section 303(d) list in the Water Quality Limited Segments category. This conclusion is based on the staff findings that: 1. The data concerning current conditions and supporting the listing decision satisfy the data quality requirements of section 6.1.4 of the Policy. 2. The data used satisfy the data quantity requirements of section 6.1.5 of the Policy. 3. Two out of 5 water samples exhibited significant acute toxicity to Ceriodaphnia and growth of Selenastrum was significantly lower than the control in four out of five samples. The number of samples with detected significant water toxicity exceeds the allowable frequency listed in Table 3.1 of the Listing Policy. 4. Pursuant to section 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.

Regional Board Staff Decision Recommendation: This is a decision previously approved by the State Water Resources Control Board and the USEPA. No new data were assessed by the Regional Board for the current. The decision has not changed.

Line of Evidence (LOE) for Decision ID 42397, Toxicity	Region 2
Kirker Creek	

LOE ID:	5340
Pollutant:	Toxicity
LOE Subgroup:	Pollutant-Water
Matrix:	Water
Fraction:	None
Beneficial Use:	Warm Freshwater Habitat
Number of Samples:	5
Number of Exceedances:	2
Data and Information Type:	Ambient toxicity testing (acute)
Data Used to Assess Water Quality:	Five samples were collected by SWAMP in 2003 to evaluate water toxicity. Two samples collected during winter wet season were acutely toxic to Ceriodaphnia with one sample causing 100% mortality. Selenastrum growth was significantly lower than the control in four out of five samples. On average all samples displayed statistically significant water column toxicity at least to one of the test organisms.
Data Reference:	Water Quality Monitoring and Bioassessment in Four San Francisco Bay Region Watersheds in 2003-2004: Kirker Creek, Mt. Diablo Creek, Petaluma River, and San Mateo Creek. Surface Water Monitoring Program, San Francisco Bay Regional Water Quality Control Board, Oakland, CA

SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	All waters shall be maintained free of toxic substances that are lethal to or that produce other detrimental responses in aquatic organisms. There shall be no chronic toxicity in ambient waters. Chronic toxicity is a detrimental biological effect on growth rate, reproduction, fertilization success, larval development, population abundance, community composition, or any other relevant measure of the health of an organism, population, or community.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) - San Francisco Bay Region (Region 2)
Evaluation Guideline:	Water toxicity was evaluated according to the SWAMP methodology. The U.S.EPA whole effluent toxicity protocol (U.S.EPA 1994) was used to test the effect of water samples on three freshwater test organisms. Statistical evaluation (alpha = 0.05) and a default threshold of 80% of the control value were used to establish whether water exhibited significant toxicity adversely impacting aquatic organisms.
Guideline Reference:	Revised approach to toxicity test acceptability criteria using a statistical performance assessment. Environmental Toxicology and Chemistry, vol. 16, No. 6, pp 1322?1329 Short-Term Methods for Estimating the Chronic Toxicity of Effluents and Receiving Waters to Freshwater Organisms. EPA/600/4-91/002. Third Edition. July 1994
Spatial Representation:	Data were collected at two sampling locations: 1) just below the grazed rangeland in the upper reach of the Creek and 2) at the floodway area draining highly urbanized and industrial parts of the Kirker Creek watershed.
Temporal Representation:	Samples were collected during spring, summer and winter wet seasons of 2003.
Environmental Conditions:	
QAPP Information:	Samples were collected and analyzed using procedures comparable with the SWAMP Quality Assurance Management Plan (SWRCB 2002).
QAPP Information Reference(s):	Quality Assurance Management Plan for the State of California's Surface Water Ambient Monitoring Program. Sacramento, CA. State Water Resources Control Board. SWAMP. December 2002 (1st version)

DECISION ID	44629	Region 2
Kirker Creek		

Pollutant:	Pyrethroids
Final Listing Decision:	List on 303(d) list (being addressed by USEPA approved TMDL)
Last Listing Cycle's Final Listing Decision:	List on 303(d) list (being addressed by USEPA approved TMDL)(2012)
Revision Status	Original
Sources:	Channelization Surface Runoff Urban Runoff--Erosion and Sedimentation
TMDL Name:	San Francisco Bay Urban Creeks Diazinon
TMDL Project Code:	9
Date TMDL Approved by USEPA:	05/16/2007
Impairment from Pollutant or Pollution:	Pollutant
Regional Board Staff Conclusion:	<p>This pollutant is being considered for listing under sections 3.6 of the Listing Policy. Under section 3.6 a single line of evidence is necessary to assess listing status. Three lines of evidence are available in the administrative record to assess this pollutant. This water body experiences sediment toxicity. It has been documented that high concentrations of pyrethroids contribute or are the most likely cause of the toxic effect. Based on the readily available data for this water body, the weight of evidence indicates that there is sufficient justification available in favor of adding this water segment-pollutant combination to the section 303(d) list in the Water Quality Limited Segments category. This conclusion is based on the staff findings that: 1. The data concerning current conditions and supporting the listing decision satisfy the data quality requirements of section 6.1.4 of the Policy. 2. The data used satisfy the data quantity requirements of section 6.1.5 of the Policy. 3. Four sediment samples exhibited significant amphipod toxicity and the benthic community is considered to be degraded. The number of samples with detected significant sediment and water toxicity exceeds the allowable frequency listed in Table 3.1 of the Listing Policy. An additional analysis of toxicity units (TU) indicates that the likely cause of observed sediment toxicity is pyrethroid pesticides. 4. Pursuant</p>

to section 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.

The USEPA final decision was to move this listing to the being addressed by a USEPA approved TMDL portion of the 303(d) list, because the San Francisco Bay Urban Creeks Diazinon TMDL was approved by USEPA on 5/16/07 (USEPA, 2007).

Regional Board Staff Decision Recommendation: This is a decision previously approved by the State Water Resources Control Board and the USEPA. No new data were assessed by the Regional Board for the current. The decision has not changed.

Line of Evidence (LOE) for Decision ID 44629, Pyrethroids

Region 2

Kirker Creek

LOE ID:	5348
Pollutant:	Pyrethroids
LOE Subgroup:	Pollutant-Sediment
Matrix:	Sediment
Fraction:	None
Beneficial Use:	Warm Freshwater Habitat
Aquatic Life Use:	Unknown
Number of Samples:	3
Number of Exceedances:	3
Data and Information Type:	Toxicity testing of sediments
Data Used to Assess Water Quality:	<p>Amweg et al. (2006) interpreted results of toxicity testing and sediment pyrethroid concentrations of seven compounds in three samples from Kirker Creek. Total pyrethroid concentrations at Kirker Creek samples were more than 50% higher than the concentrations detected in other six East Bay area creeks that were studied. The pyrethroid concentrations in Kirker Creek samples ranged from 66.1 to 186.2 ng/g. Also the spring sample contained the highest concentration of any single pyrethroid (deltamethrin) measured reaching the value of 57 ng/g.</p> <p>The Kirker Creek samples had estimated TUs within the range of 5.67-7.2. Based on this analysis the study concluded that there was good evidence for the role of pyrethroids in the observed toxicity.</p>
Data Reference:	Pyrethroid insecticides and sediment toxicity in urban creeks from California and Tennessee. Environmental Science and Technology, 40(5): 1700-1706
SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	<p>All waters shall be maintained free of toxic substances that are lethal to or that produce other detrimental responses in aquatic organisms.</p> <p>There shall be no chronic toxicity in ambient waters. Chronic toxicity is a detrimental biological effect on growth rate, reproduction, fertilization success, larval development, population abundance, community composition, or any other relevant measure of the health of an organism, population, or community.</p>
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) - San Francisco Bay Region (Region 2)
Evaluation Guideline:	<p>Pyrethroid concentration data and analysis of toxicity units (TU) were used to determine whether pyrethroids could be linked to the observed toxicity to <i>Hyaella azteca</i>. Amweg et al. (2006) determined that samples with less than 1 TU were nontoxic and those with TU greater than 2 were consistently toxic.</p>
Guideline Reference:	Pyrethroid insecticides and sediment toxicity in urban creeks from California and Tennessee. Environmental Science and Technology, 40(5): 1700-1706
Spatial Representation:	Data were collected at sampling locations at the lower part of Kirker Creek.
Temporal Representation:	Samples were collected during spring and summer seasons of 2004. The last sampling event (late October 2004) occurred after the first rain of the season to capture the

potential effects of dry season pesticide use.

Environmental Conditions: Data are representative of the lower watershed (floodway) with the monitoring site located below predominantly residential and industrial areas.

QAPP Information: Pyrethroid Insecticides and Sediment Toxicity in Urban Creeks from California and Tennessee, (Amweg et al., 2006).

QAPP Information Reference(s): [Pyrethroid insecticides and sediment toxicity in urban creeks from California and Tennessee. Environmental Science and Technology. 40\(5\): 1700-1706](#)

Line of Evidence (LOE) for Decision ID 44629, Pyrethroids

Region 2

Kirker Creek

LOE ID: 5345

Pollutant: Sediment Toxicity

LOE Subgroup: Pollutant-Sediment

Matrix: Sediment

Fraction: None

Beneficial Use: Warm Freshwater Habitat

Aquatic Life Use: Unknown

Number of Samples: 3

Number of Exceedances: 3

Data and Information Type: Toxicity testing of sediments

Data Used to Assess Water Quality: Data used to evaluate sediment toxicity comprise three sediment samples collected in 2004 to determine pyrethroids toxicity in urban-dominated creeks as described in Amweg et al. (2006). All samples displayed statistically significant toxicity during the 10-day Hyalella azteca test and showed the highest mortality rates among all seven creeks studied in the East Bay area.

Data Reference: [Pyrethroid insecticides and sediment toxicity in urban creeks from California and Tennessee. Environmental Science and Technology. 40\(5\): 1700-1706](#)

SWAMP Data: Non-SWAMP

Water Quality Objective/Criterion: All waters shall be maintained free of toxic substances that are lethal to or that produce other detrimental responses in aquatic organisms. There shall be no chronic toxicity in ambient waters. Chronic toxicity is a detrimental biological effect on growth rate, reproduction, fertilization success, larval development, population abundance, community composition, or any other relevant measure of the health of an organism, population, or community.

Objective/Criterion Reference: [Water Quality Control Plan \(Basin Plan\) - San Francisco Bay Region \(Region 2\)](#)

Evaluation Guideline: Sample toxicity was determined by comparing mean organism response in samples and in negative controls. Statistical evaluation ($\alpha = 0.05$) and a default threshold of 80% of the control value were used to establish whether the sediment exhibited significant toxicity adversely impacting aquatic organisms.

Guideline Reference: [Revised approach to toxicity test acceptability criteria using a statistical performance assessment. Environmental Toxicology and Chemistry. vol. 16, No. 6, pp 1322?1329](#)

Spatial Representation: Data were collected at sampling locations at the lower part of Kirker Creek.

Temporal Representation: Samples were collected during spring and summer seasons of 2004. The last sampling event (late October 2004) occurred after the first rain of the season to capture the potential effects of dry season pesticide use.

Environmental Conditions: Data are representative of the lower watershed (floodway) with the monitoring site located below predominantly residential and industrial areas.

QAPP Information: Samples were collected and analyzed using procedures comparable with the SWAMP Quality Assurance Management Plan (SWRCB 2002).

QAPP Information Reference(s): [Quality Assurance Management Plan for the State of California's Surface Water Ambient Monitoring Program. Sacramento, CA. State Water Resources Control Board. SWAMP. December 2002 \(1st version\)](#)

Kirker Creek

LOE ID:	5341
Pollutant:	Sediment Toxicity
LOE Subgroup:	Pollutant-Sediment
Matrix:	Sediment
Fraction:	None
Beneficial Use:	Warm Freshwater Habitat
Aquatic Life Use:	Unknown
Number of Samples:	1
Number of Exceedances:	1
Data and Information Type:	Toxicity testing of sediments
Data Used to Assess Water Quality:	Data used to evaluate sediment toxicity comprise one sediment sample collected by the SWAMP in 2003. The sample displayed statistically significant toxicity during the 10-day Hyalella azteca test and exhibited 100% mortality.
Data Reference:	Water Quality Monitoring and Bioassessment in Four San Francisco Bay Region Watersheds in 2003-2004: Kirker Creek, Mt. Diablo Creek, Petaluma River, and San Mateo Creek. Surface Water Monitoring Program, San Francisco Bay Regional Water Quality Control Board, Oakland, CA
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	All waters shall be maintained free of toxic substances that are lethal to or that produce other detrimental responses in aquatic organisms. There shall be no chronic toxicity in ambient waters. Chronic toxicity is a detrimental biological effect on growth rate, reproduction, fertilization success, larval development, population abundance, community composition, or any other relevant measure of the health of an organism, population, or community.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) - San Francisco Bay Region (Region 2)
Evaluation Guideline:	Sediment toxicity was evaluated according to the SWAMP methodology. Sample toxicity was determined by comparing mean organism response in samples and in negative controls. Statistical evaluation ($\alpha = 0.05$) and a default threshold of 80% of the control value were used to establish whether the sediment exhibited significant toxicity adversely impacting aquatic organisms.
Guideline Reference:	Revised approach to toxicity test acceptability criteria using a statistical performance assessment. Environmental Toxicology and Chemistry, vol. 16, No. 6, pp 1322?1329
Spatial Representation:	Sample was collected at the lower part of the Kirker Creek watershed.
Temporal Representation:	Sample was collected during spring season of 2003.
Environmental Conditions:	Data are representative of the lower watershed (floodway) with the monitoring site located below predominantly residential and industrial areas.
QAPP Information:	Samples were collected and analyzed using procedures comparable with the SWAMP Quality Assurance Management Plan (SWRCB 2002).
QAPP Information Reference(s):	Quality Assurance Management Plan for the State of California's Surface Water Ambient Monitoring Program. Sacramento, CA. State Water Resources Control Board. SWAMP. December 2002 (1st version)

Draft California 2016 Integrated Report (303(d) List/305(b) Report)

Supporting Information

Regional Board 2 - San Francisco Bay Region

Water Body Name: Morses Gulch Creek
Water Body ID: CAR2013001220080624164407
Water Body Type: River & Stream

DECISION ID 67401 **Region 2**
Morses Gulch Creek

Pollutant: Benthic Community Effects
Final Listing Decision: Do Not List on 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision: New Decision
Revision Status: Revised
Impairment from Pollutant or Pollution: Pollutant

Regional Board Staff Conclusion:

Benthic Community Effects is being considered for placement on the CWA section 303(d) List under sections 3.9 of the Listing Policy. Under section 3.9, an additional line of evidence associating the Benthic Community Effects with a water or sediment concentration of pollutants is necessary to assess listing status. One line of evidence is available in the administrative record. The CSCI score for this site was 1.258288.

Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against placing Benthic Community Effects in this water segment on the CWA section 303(d) List.

This conclusion is based on the staff findings that:

1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy.
2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy.
3. The CSCI score for this site was 1.258288. Additionally, this water body passed several screening criteria and was identified as a reference water body for the purposes of developing the CSCI. The State Water Board has redefined the Integrated Reporting categories in order to make them more reflective of actual water quality conditions in the State. This revision allows for the inclusion of minimally disturbed data reference sites that were identified in the development of the California Stream Condition Index (CSCI) tool into Category 1. Reference sites are the core of the State's statewide biological and habitat assessment program and set the benchmark for biological conditions expected when human activity in the landscape is absent or minimal. Unless there is any additional data showing that beneficial uses in a water body are not being supported, these reference water bodies along with any other bioassessment data sets showing a score of 0.92 or higher will be placed in Category 1 (all core beneficial uses are supported).
4. Pursuant to section 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.

Regional Board Staff Decision Recommendation: After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be placed on the section 303(d) list because applicable water quality standards are not being exceeded.

Line of Evidence (LOE) for Decision ID 67401, Benthic Community Effects **Region 2**
Morses Gulch Creek

LOE ID: 96003
Pollutant: Benthic-Macroinvertebrate Bioassessments
LOE Subgroup: Population/Community Degradation
Matrix: Water

Fraction:	None
Beneficial Use:	Cold Freshwater Habitat
Number of Samples:	1
Number of Exceedances:	0
Data and Information Type:	Benthic macroinvertebrate surveys
Data Used to Assess Water Quality:	The CSCI score for this site is 1.258288 and is therefore meeting the water quality objective for this water body. This water body passed several screening criteria and was identified as a reference water body for the purposes of developing the CSCI. Reference sites where human disturbance is absent or minimal are used to set benchmark expectations for healthy streams. A large set of nearly 600 reference sites representing the broad diversity of natural stream types found across California was used to develop the CSCI.
Data Reference:	RWB2 Reference Study Monitoring 2008
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	All waters shall be maintained free of toxic substances in concentrations that are lethal to or that produce significant alterations in population or community ecology or receiving water biota. In addition, the health and life history characteristics of aquatic organisms in waters affected by controllable water quality factors shall not differ significantly from those for the same waters in areas unaffected by controllable water quality factors.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	The California Stream Condition Index (CSCI) is a biological scoring tool that helps aquatic resource managers translate complex data about benthic macroinvertebrates found living in a stream into an overall measure of stream health. The CSCI score is calculated by comparing the expected condition with actual (observed) results (Rhen, A.C. et al., 2015). CSCI scores range from 0 (highly degraded) to greater than 1 (equivalent to reference). CSCI scoring of biological condition are as follows (per the scientific paper supporting the development of the CSCI scoring tool): greater than or equal to 0.92 = likely intact condition, 0.91 to 0.80 = possibly altered condition, 0.79 to 0.63 = likely altered condition, less than or equal to 0.62 = very likely altered condition. Sites with scores below 0.79 are considered to have exceeded the water quality objective for the aquatic life beneficial use.
Guideline Reference:	The California Stream Condition Index (CSCI): A New Statewide Biological Scoring Tool for Assessing the Health of Freshwater Streams.
Spatial Representation:	Sampling was done at to following station:201MRS020
Temporal Representation:	Sampling was done on 9/13/2010
Environmental Conditions:	
QAPP Information:	Data collected following SWAMP QA protocols.
QAPP Information Reference(s):	Surface Water Ambient Monitoring Program Quality Assurance Program Plan

DECISION ID	36625	Region 2
Morses Gulch Creek		

Pollutant:	Nitrate
Final Listing Decision:	Do Not List on 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision:	Do Not List on 303(d) list (TMDL required list)(2012)
Revision Status	Original
Impairment from Pollutant or Pollution:	Pollutant

Regional Board Staff Conclusion:	This pollutant is being considered for listing under section 3.1 of the Listing Policy. Under section 3.1, water segments shall be evaluated to determine whether the weight of evidence demonstrates that a water quality standard is not attained. One line of evidence is available in the administrative record to assess this water body. Based on the readily available data for this water body, the weight of evidence indicates that there is sufficient justification against placing this water segment-pollutant
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combination on the section 303(d) list in the Water Quality Limited Segments category. This conclusion is based on the staff findings that: 1. The data used satisfy the data quality requirements of section 6.1.4 of the Policy. 2. The data used satisfy the data quantity requirements of section 6.1.5 of the Policy. 3. None of three available concentrations exceeded the water quality guideline and this does not exceed the allowable frequency using Table 3.1 of the Listing Policy. 4. Pursuant to section 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.

Regional Board Staff Decision Recommendation: This is a decision previously approved by the State Water Resources Control Board and the USEPA. No new data were assessed by the Regional Board for the current. The decision has not changed.

Line of Evidence (LOE) for Decision ID 36625, Nitrate

Region 2

Morses Gulch Creek

LOE ID:	23466
Pollutant:	Nitrate
LOE Subgroup:	Pollutant-Water
Matrix:	Water
Fraction:	Dissolved
Beneficial Use:	Cold Freshwater Habitat
Number of Samples:	3
Number of Exceedances:	0
Data and Information Type:	PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality:	Water quality assessment in Morses Gulch Creek was conducted by SWAMP in 2005-2006. Nitrate concentrations (NO ₃ -N) were analyzed three times and ranged from 0.19 to 0.23mg/L. The measured nitrate levels did not exceed the guideline threshold indicative of conditions leading to excessive algal growth, however, no data on algae or macrophytes are available to ensure compliance with the water quality objective.
Data Reference:	Data collected by the Surface Water Ambient Monitoring Program, San Francisco Bay Regional Water Quality Control Board. Years 4 and 5 Assessment
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	Waters shall not contain biostimulatory substances in concentrations that promote aquatic growths to the extent that such growths cause nuisance or adversely affect beneficial uses.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) - San Francisco Bay Region (Region 2)
Evaluation Guideline:	Total nitrogen levels greater than 0.5 mg/L can result in large masses of nuisance algae unless other factors limit algae growth (Bowie et al. 1985; Biggs 2000). Since nitrate is one component of total nitrogen in water, nitrate levels should also be less than 0.5 mg/L.
Guideline Reference:	Eutrophication of streams and rivers: dissolved nutrient-chlorophyll relationships for benthic algae. J. N. Am. Benthol. Soc. 19:17-31 Rates, Constant, and Kinetics Formulations in Surface Water Quality Modeling, 2nd Edition. EPA/600/3-85/040. USEPA Environmental Research Laboratory, Athens, GA
Spatial Representation:	Nitrate was sampled at one monitoring location in the lower reach of Morses Gulch Creek in the close proximity to Bolinas Lagoon.
Temporal Representation:	Water samples were collected for nitrate analyses during spring (April 2005), summer dry season (June 2005) and winter wet season (February 2006).
Environmental Conditions:	Morses Gulch is a small intermittent creek draining to Bolinas Lagoon in West Marin County.
QAPP Information:	All samples were collected and analyzed using procedures comparable with the SWAMP Quality Assurance Management Plan (SWRCB, 2002).
QAPP Information Reference(s):	Quality Assurance Management Plan for the State of California's Surface Water Ambient Monitoring Program, Sacramento, CA. State Water Resources Control Board. SWAMP. December 2002 (1st version)

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Supporting Information

Regional Board 2 - San Francisco Bay Region

Water Body Name: Pine Gulch Creek
Water Body ID: CAR2013001120080624164835
Water Body Type: River & Stream

DECISION ID 44403 **Region 2**
Pine Gulch Creek

Pollutant: Arsenic
Final Listing Decision: Do Not List on 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision: Do Not List on 303(d) list (TMDL required list)(2012)
Revision Status Original
Impairment from Pollutant or Pollution: Pollutant

Regional Board Staff Conclusion: These pollutants are being considered for placement on the section 303(d) list under section 3.1 of the Listing Policy. Under this section a single line of evidence is necessary to assess listing status. Two lines of evidence is available in the administrative record to assess these pollutants. Zero samples exceed the water quality objective. Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against placing this water segment-pollutant combination on the section 303(d) list in the Water Quality Limited Segments category. This conclusion is based on the staff findings that: 1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy. 2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy. 3. Zero of two samples exceed the water quality objective 4. Pursuant to section 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.

Regional Board Staff Decision Recommendation: This is a decision previously approved by the State Water Resources Control Board and the USEPA. No new data were assessed by the Regional Board for the current. The decision has not changed.

Line of Evidence (LOE) for Decision ID 44403, Arsenic **Region 2** **Pine Gulch Creek**

LOE ID: 31419
Pollutant: Arsenic
LOE Subgroup: Pollutant-Sediment
Matrix: Sediment
Fraction: None
Beneficial Use: Cold Freshwater Habitat
Number of Samples: 1
Number of Exceedances: 0
Data and Information Type: PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality: Concentrations of arsenic in one sediment sample collected in April 2005 did not exceed the sediment quality guidelines.
Data Reference: [Data collected by the Surface Water Ambient Monitoring Program, San Francisco Bay Regional Water Quality Control Board. Years 4 and 5 Assessment](#)
SWAMP Data: SWAMP

Water Quality Objective/Criterion:	All waters shall be maintained free of toxic substances that are lethal to or that produce other detrimental responses in aquatic organisms.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) - San Francisco Bay Region (Region 2)
Evaluation Guideline:	Sediment Quality Guidelines (MacDonald et al., 2000): PEC (probable effect concentration) arsenic - 33 mg/kg dw
Guideline Reference:	Development and evaluation of consensus-based sediment quality guidelines for freshwater ecosystems. Environmental Contamination and Toxicology. 39: 20-31
Spatial Representation:	One sediment sample was collected at a "watershed integrator" site (PNG010) located close to the mouth of Pine Gulch Creek.
Temporal Representation:	The sample was taken in spring (4/11/2005) of 2005.
Environmental Conditions:	
QAPP Information:	The QA/QC procedure was in compliant with SWAMP's Quality Assurance Management Plan of 2002.
QAPP Information Reference(s):	

Line of Evidence (LOE) for Decision ID 44403, Arsenic

Region 2

Pine Gulch Creek

LOE ID:	28263
Pollutant:	Cadmium
LOE Subgroup:	Pollutant-Sediment
Matrix:	Sediment
Fraction:	None
Beneficial Use:	Cold Freshwater Habitat
Number of Samples:	1
Number of Exceedances:	0
Data and Information Type:	PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality:	Concentrations of arsenic, cadmium, chromium, copper, lead, mercury, nickel and zinc in one sediment sample collected in April 2005 did not exceed the sediment quality guidelines.
Data Reference:	Data collected by the Surface Water Ambient Monitoring Program. San Francisco Bay Regional Water Quality Control Board. Years 4 and 5 Assessment
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	All waters shall be maintained free of toxic substances that are lethal to or that produce other detrimental responses in aquatic organisms.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) - San Francisco Bay Region (Region 2)
Evaluation Guideline:	Sediment Quality Guidelines (MacDonald et al., 2000): PEC (probable effect concentration) arsenic - 33 mg/kg dw; cadmium - 4.98 mg/kg dw; chromium - 111 mg/kg dw; copper - 149 mg/kg dw; lead - 128 mg/kg dw; mercury - 1.06 mg/kg dw; nickel - 48.6 mg/kg dw; zinc - 459 mg/kg dw.
Guideline Reference:	Development and evaluation of consensus-based sediment quality guidelines for freshwater ecosystems. Environmental Contamination and Toxicology. 39: 20-31
Spatial Representation:	One sediment sample was collected at a "watershed integrator" site (PNG010) located close to the mouth of Pine Gulch Creek.
Temporal Representation:	The sample was taken in spring (4/11/2005) of 2005.
Environmental Conditions:	
QAPP Information:	The QA/QC procedure was in compliant with SWAMP's Quality Assurance Management Plan of 2002.
QAPP Information Reference(s):	

Pollutant:	Arsenic Chromium (total) Copper Lead Mercury Nickel Selenium Silver Zinc
Final Listing Decision:	Do Not List on 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision:	Do Not List on 303(d) list (TMDL required list)(2012)
Revision Status	Original
Impairment from Pollutant or Pollution:	Pollutant

Regional Board Staff Conclusion: This pollutant is being considered for placement on the section 303(d) list under section 3.1 of the Listing Policy. Under section 3.1 a single line of evidence is necessary to assess listing status. One line of evidence is available in the administrative record to assess this pollutant. None of the samples exceed the water quality objectives. Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against placing this water segment-pollutant combination on the section 303(d) list in the Water Quality Limited Segments category. This conclusion is based on the staff findings that: 1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy. 2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy. 3. None of the three samples exceeded the water quality objectives (Basin Plan) and this does not exceed the allowable frequency listed in Table 3.1 of the Listing Policy. 4. Pursuant to section 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.

Regional Board Staff Decision Recommendation: This is a decision previously approved by the State Water Resources Control Board and the USEPA. No new data were assessed by the Regional Board for the current. The decision has not changed.

Line of Evidence (LOE) for Decision ID 43798, Multiple Pollutants	Region 2
Pine Gulch Creek	

LOE ID:	28249
Pollutant:	Arsenic Chromium (total) Copper Lead Mercury Nickel Selenium Silver Zinc
LOE Subgroup:	Pollutant-Water
Matrix:	Water
Fraction:	Dissolved
Beneficial Use:	Cold Freshwater Habitat
Number of Samples:	3
Number of Exceedances:	0
Data and Information Type:	PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality:	Three samples were collected by SWAMP from a monitoring location PNG010 in Pine Gulch Creek. Concentrations of arsenic, chromium, copper, lead, mercury, nickel, selenium, silver and and zinc did not exceed the water quality objectives. Concentrations of total dissolved chromium were well below the objective for chromium VI.
Data Reference:	Data collected by the Surface Water Ambient Monitoring Program. San Francisco Bay Regional Water Quality Control Board. Years 4 and 5 Assessment
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	All waters shall be maintained free of toxic substances that are lethal to or that produce other detrimental responses in aquatic organisms. Table 3-4 in the Basin Plan (2007) lists freshwater water quality objectives for toxic pollutants: arsenic- 150 ug/L, chromium VI- 11 ug/L, copper - 9.0 ug/L, lead - 2.5 ug/L; mercury - 0.025 ug/L, nickel - 52 ug/L, selenium - 5 ug/L, silver-3.4 ug/L and zinc - 120 ug/L.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) - San Francisco Bay Region (Region 2)

Evaluation Guideline:
Guideline Reference:

Spatial Representation:
Temporal Representation:
Environmental Conditions:
QAPP Information:

Samples were taken from one monitoring location PNG010 in Pine Gulch Creek.
Samples were collected on: 4/11/2005, 6/13/2005, and 2/16/2006.

All samples were collected and analyzed using procedures comparable with the SWAMP Quality Assurance Management Plan (SWRCB 2002).

QAPP Information Reference(s):

DECISION ID	34935	Region 2
Pine Gulch Creek		

Pollutant: **Benthic-Macroinvertebrate Bioassessments | Oxygen, Dissolved | Temperature, water**
Final Listing Decision: **Do Not List on 303(d) list (TMDL required list)**
Last Listing Cycle's Final Listing Decision: Do Not List on 303(d) list (TMDL required list)(2012)
Revision Status Original
Impairment from Pollutant or Pollution: Pollutant

Regional Board Staff Conclusion: This water body is being considered for listing under section 3.2 of the Listing Policy. Under section 3.2 a single line of evidence is necessary to assess listing status. Three lines of evidence are available in the administrative record to assess this water body. Based on the readily available data for this water body, the weight of evidence indicates that there is sufficient justification against placing this water segment-pollutant combination on the section 303(d) list in the Water Quality Limited Segments category. This conclusion is based on the staff findings that: 1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy. 2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy. 3. Dissolved oxygen measurements did not exceeded the Basin Plan objectives for waters designated as cold water habitat. Temperature measurements at 1 out of 6 continuous deployments exceeded the 14.8 °C at and this does not exceed the allowable frequency listed in Table 3.2 of the Listing Policy. In addition, the macroinvertebrate data indicated good water quality conditions. 4. Pursuant to section 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.

Regional Board Staff Decision Recommendation: This is a decision previously approved by the State Water Resources Control Board and the USEPA. No new data were assessed by the Regional Board for the current. The decision has not changed.

Line of Evidence (LOE) for Decision ID 34935, Multiple Pollutants	Region 2
Pine Gulch Creek	

LOE ID: 5719
Pollutant: Oxygen, Dissolved
LOE Subgroup: Pollutant-Water
Matrix: Water
Fraction: None
Beneficial Use: Cold Freshwater Habitat
Number of Samples: 6
Number of Exceedances: 0
Data and Information Type: PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality: Water quality assessment was conducted at the Pine Gulch watershed as part of SWAMP study in 2005. Continuous field monitoring at 15 minute increments of temperature, dissolved oxygen, pH and specific conductance was conducted to determine temporal variability in basic water quality at two locations. The 7 day average minimum

	concentrations of dissolved oxygen were between 9.01 and 9.87 mg/L during dry season, 10.0 - 10.48 mg/L during spring season, and 11.24 ? 11.58 mg/L during winter wet season. All DO measurements met the water quality objective of 7 mg/L.
Data Reference:	Data collected by the Surface Water Ambient Monitoring Program, San Francisco Bay Regional Water Quality Control Board. Years 4 and 5 Assessment
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	The numeric water quality objective for dissolved oxygen is 7.0 mg/L minimum for waters designated as cold water habitat. The median dissolved oxygen concentration for any three consecutive months shall not be less than 80 percent of the dissolved oxygen content at saturation.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) - San Francisco Bay Region (Region 2)
Evaluation Guideline:	
Guideline Reference:	
Spatial Representation:	Dissolved oxygen was measured at two sites located on the mainstem of Pine Gulch Creek.
Temporal Representation:	At all monitoring locations the SWAMP Program performed concurrent continuous measurements of dissolved oxygen at 15 minute intervals lasting 6 to 7 days. The measurements were conducted during spring (April 2005), summer dry season (August 2005), and winter wet season (January/February 2006).
Environmental Conditions:	
QAPP Information:	All samples were collected and analyzed using procedures comparable with the SWAMP Quality Assurance Management Plan (SWRCB 2002).
QAPP Information Reference(s):	

Line of Evidence (LOE) for Decision ID 34935, Multiple Pollutants

Region 2

Pine Gulch Creek

LOE ID:	5853
Pollutant:	Benthic-Macroinvertebrate Bioassessments
LOE Subgroup:	Population/Community Degradation
Matrix:	Not Specified
Fraction:	None
Beneficial Use:	Cold Freshwater Habitat
Number of Samples:	2
Number of Exceedances:	0
Data and Information Type:	Benthic macroinvertebrate surveys
Data Used to Assess Water Quality:	Benthic macroinvertebrates were sampled from two sites in the Pine Gulch Creek watershed in April 2005 by the SWAMP program. Benthic macroinvertebrate assemblage metrics were similar to values observed at reference sites in perennial creeks and indicated good conditions. Taxa richness score ranged from 34 to 36 and % sensitive EPT were 30 to 33.
Data Reference:	Data collected by the Surface Water Ambient Monitoring Program, San Francisco Bay Regional Water Quality Control Board. Years 4 and 5 Assessment
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	All waters shall be maintained free of toxic substances in concentrations that are lethal to or that produce significant alterations in population or community ecology or receiving water biota. In addition, the health and life history characteristics of aquatic organisms in waters affected by controllable water quality factors shall not differ significantly from those for the same waters in areas unaffected by controllable water quality factors.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) - San Francisco Bay Region (Region 2)
Evaluation Guideline:	Benthic macroinvertebrate assemblage metric scores that are within the range of scores

for minimally disturbed reference sites indicate no substantial alterations in community ecology. Taxa richness values at reference sites sampled by the SWAMP program between 2001 and 2003 ranged from 28 to 59. Reference conditions determined for perennial streams such as Pine Gulch Creek, usually exhibit taxa richness > 38 and % sensitive EPT > 44. A perennial stream could be described as in - excellent condition - if there is no difference between the metrics measured at the site and those established for reference sites. A perennial stream will be described as in - good condition - if the site metrics indicate minor loss of bio-integrity but still a good structure and function, and sensitive species are present in abundance.

Guideline Reference:

[Water Quality Monitoring and Bioassessment in Nine San Francisco Bay Region Watersheds: Walker Creek, Lagunitas Creek, San Leandro Creek, Wildcat Creek/San Pablo Creek, Suisun Creek, Arroyo Las Positas, Pescadero Creek/Butano Creek, San Gregorio Creek, and Stevens Creek/Permanente Creek, Oakland, CA: Surface Water Ambient Monitoring Program, San Francisco Bay Regional Water Quality Control Board](#)

Spatial Representation:

Benthic macroinvertebrates were measured at two sites located on the mainstem of Pine Gulch Creek.

Temporal Representation:

Benthic macroinvertebrates were sampled once in April 2005.

Environmental Conditions:

QAPP Information:

All samples were collected and analyzed using procedures comparable with the SWAMP Quality Assurance Management Plan (SWRCB 2002).

QAPP Information Reference(s):

Line of Evidence (LOE) for Decision ID 34935, Multiple Pollutants

Region 2

Pine Gulch Creek

LOE ID: 5720

Pollutant: Temperature, water

LOE Subgroup: Pollutant-Water

Matrix: Water

Fraction: None

Beneficial Use: Cold Freshwater Habitat

Number of Samples: 6

Number of Exceedances: 1

Data and Information Type: PHYSICAL/CHEMICAL MONITORING

Data Used to Assess Water Quality: Water quality assessment was conducted at the Pine Gulch watershed as part of SWAMP study in 2005. Continuous field monitoring at 15 minute increments of temperature, dissolved oxygen, pH and specific conductance was conducted to determine temporal variability in basic water quality at two locations.

The measured temperatures ranged from 5.73°C to 29.32 °C and varied with season and location. The 14.8 °C criterion for coho salmon was exceeded in 1 out of 6 continuous temperature deployments and the 17 °C criterion for steelhead was never exceeded.

Data Reference:

[Data collected by the Surface Water Ambient Monitoring Program, San Francisco Bay Regional Water Quality Control Board. Years 4 and 5 Assessment](#)

SWAMP Data:

SWAMP

Water Quality Objective/Criterion:

Temperature objectives for enclosed bays and estuaries are specified in the "Water Quality Control Plan for Control of Temperature in the Coastal and Interstate Waters and Enclosed Bays of California" including any revisions to the plan. In addition, the following temperature objectives apply to surface waters: The natural receiving water temperature of intrastate waters shall not be altered unless it can be demonstrated to the satisfaction of the Regional Water Board that such alteration in temperature does not adversely affect beneficial uses.

The temperature of any cold or warm freshwater habitat shall not be increased by more than 5°F (2.8°C) above natural receiving water temperature.

Objective/Criterion Reference:

[Water Quality Control Plan \(Basin Plan\) - San Francisco Bay Region \(Region 2\)](#)

Evaluation Guideline:	Sullivan et al. (2000) reviewed a wide range of studies incorporating information from laboratory-based research, field observations, and risk assessment approaches and developed criteria for assessing temperature risk to aquatic life. The 7-day mean temperature (maximum value of the 7-day moving average of the daily mean temperature) of 14.8°C was established as the upper threshold criterion for coho salmon and 17.0°C for steelhead trout. The risk assessment approach used by Sullivan et al. (2000) suggests that temperatures exceeding the above thresholds will cause 10% reduction in average growth compared to optimal conditions.
Guideline Reference:	An Analysis of the Effects of Temperature on Salmonids of the Pacific Northwest with Implications for Selecting Temperature Criteria
Spatial Representation:	Temperature was measured at two sites.
Temporal Representation:	Concurrent continuous measurements were conducted at both monitoring locations. Temperature was recorded at 15 minute intervals over 2 to 11 days during spring (April 2005), summer dry season (August 2005), and winter wet season (January/February 2006).
Environmental Conditions:	
QAPP Information:	All samples were collected and analyzed using procedures comparable with the SWAMP Quality Assurance Management Plan (SWRCB 2002).
QAPP Information Reference(s):	

DECISION ID	44559	Region 2
Pine Gulch Creek		

Pollutant:	Chromium
Final Listing Decision:	Do Not List on 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision:	Do Not List on 303(d) list (TMDL required list)(2012)
Revision Status	Original
Impairment from Pollutant or Pollution:	Pollutant

Regional Board Staff Conclusion:	This pollutant is being considered for placement on the section 303(d) list under section 3.1 of the Listing Policy. Under section 3.1 a single line of evidence is necessary to assess listing status. One line of evidence is available in the administrative record to assess this pollutant. The single sample did not exceed the water quality objective. Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against placing this water segment-pollutant combination on the section 303(d) list in the Water Quality Limited Segments category. This conclusion is based on the staff findings that: 1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy. 2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy. 3. None of one sample exceeded the water quality objective and this does not exceed the allowable frequency listed in Table 3.1 of the Listing Policy. 4. Pursuant to section 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.
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Regional Board Staff Decision Recommendation:	This is a decision previously approved by the State Water Resources Control Board and the USEPA. No new data were assessed by the Regional Board for the current. The decision has not changed.
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Line of Evidence (LOE) for Decision ID 44559, Chromium	Region 2
Pine Gulch Creek	

LOE ID:	31420
Pollutant:	Chromium (total)
LOE Subgroup:	Pollutant-Sediment
Matrix:	Sediment
Fraction:	None

Beneficial Use:	Cold Freshwater Habitat
Number of Samples:	1
Number of Exceedances:	0
Data and Information Type:	PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality:	Concentrations of chromium in one sediment sample collected in April 2005 did not exceed the sediment quality guidelines.
Data Reference:	Data collected by the Surface Water Ambient Monitoring Program, San Francisco Bay Regional Water Quality Control Board, Years 4 and 5 Assessment
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	All waters shall be maintained free of toxic substances that are lethal to or that produce other detrimental responses in aquatic organisms.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) - San Francisco Bay Region (Region 2)
Evaluation Guideline:	Sediment Quality Guidelines (MacDonald et al., 2000): PEC (probable effect concentration) chromium - 111 mg/kg dw
Guideline Reference:	Development and evaluation of consensus-based sediment quality guidelines for freshwater ecosystems. Environmental Contamination and Toxicology. 39: 20-31
Spatial Representation:	One sediment sample was collected at a "watershed integrator" site (PNG010) located close to the mouth of Pine Gulch Creek.
Temporal Representation:	The sample was taken in spring (4/11/2005) of 2005.
Environmental Conditions:	
QAPP Information:	The QA/QC procedure was in compliance with SWAMP's Quality Assurance Management Plan of 2002.
QAPP Information Reference(s):	

DECISION ID	44690	Region 2
Pine Gulch Creek		

Pollutant:	Copper
Final Listing Decision:	Do Not List on 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision:	Do Not List on 303(d) list (TMDL required list)(2012)
Revision Status	Original
Impairment from Pollutant or Pollution:	Pollutant

Regional Board Staff Conclusion:	This pollutant is being considered for placement on the section 303(d) list under section 3.1 of the Listing Policy. Under section 3.1 a single line of evidence is necessary to assess listing status. One line of evidence is available in the administrative record to assess this pollutant. None of the samples exceed the water quality objective. Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against placing this water segment-pollutant combination on the section 303(d) list in the Water Quality Limited Segments category. This conclusion is based on the staff findings that: 1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy. 2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy. 3. None of one sample exceeded the water quality objective and this does not exceed the allowable frequency listed in Table 3.1 of the Listing Policy. 4. Pursuant to section 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.
Regional Board Staff Decision Recommendation:	This is a decision previously approved by the State Water Resources Control Board and the USEPA. No new data were assessed by the Regional Board for the current. The decision has not changed.

Line of Evidence (LOE) for Decision ID 44690, Copper	Region 2
Pine Gulch Creek	

LOE ID: 31425

Pollutant: Copper
 LOE Subgroup: Pollutant-Sediment
 Matrix: Sediment
 Fraction: None

Beneficial Use: Cold Freshwater Habitat

Number of Samples: 1
 Number of Exceedances: 0

Data and Information Type: PHYSICAL/CHEMICAL MONITORING
 Data Used to Assess Water Quality: Concentrations of copper in one sediment sample collected in April 2005 did not exceed the sediment quality guidelines.
 Data Reference: [Data collected by the Surface Water Ambient Monitoring Program, San Francisco Bay Regional Water Quality Control Board. Years 4 and 5 Assessment](#)

SWAMP Data: SWAMP

Water Quality Objective/Criterion: All waters shall be maintained free of toxic substances that are lethal to or that produce other detrimental responses in aquatic organisms.
 Objective/Criterion Reference: [Water Quality Control Plan \(Basin Plan\) - San Francisco Bay Region \(Region 2\)](#)

Evaluation Guideline: Sediment Quality Guidelines (MacDonald et al., 2000): PEC (probable effect concentration) copper - 149 mg/kg dw
 Guideline Reference: [Development and evaluation of consensus-based sediment quality guidelines for freshwater ecosystems. Environmental Contamination and Toxicology. 39: 20-31](#)

Spatial Representation: One sediment sample was collected at a "watershed integrator" site (PNG010) located close to the mouth of Pine Gulch Creek.
 Temporal Representation: The sample was taken in spring (4/11/2005) of 2005.
 Environmental Conditions:
 QAPP Information: The QA/QC procedure was in compliant with SWAMP's Quality Assurance Management Plan of 2002.
 QAPP Information Reference(s):

DECISION ID	44688	Region 2
Pine Gulch Creek		

Pollutant: Lead

Final Listing Decision: Do Not List on 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision: Do Not List on 303(d) list (TMDL required list)(2012)
Revision Status: Original
Impairment from Pollutant or Pollution: Pollutant

Regional Board Staff Conclusion: This pollutant is being considered for placement on the section 303(d) list under section 3.1 of the Listing Policy. Under section 3.1 a single line of evidence is necessary to assess listing status. One line of evidence is available in the administrative record to assess this pollutant. None of the samples exceed the water quality objective. Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against placing this water segment-pollutant combination on the section 303(d) list in the Water Quality Limited Segments category. This conclusion is based on the staff findings that: 1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy. 2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy. 3. None of one sample exceeded the water quality objective and this does not exceed the allowable frequency listed in Table 3.1 of the Listing Policy. 4. Pursuant to section 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.

Regional Board Staff Decision Recommendation: This is a decision previously approved by the State Water Resources Control Board and the USEPA. No new data were assessed by the Regional Board for the current. The decision has not changed.

**Line of Evidence (LOE) for Decision ID 44688, Lead
Pine Gulch Creek**

Region 2

LOE ID: 31424

Pollutant: Lead
LOE Subgroup: Pollutant-Sediment
Matrix: Sediment
Fraction: None

Beneficial Use: Cold Freshwater Habitat

Number of Samples: 1
Number of Exceedances: 0

Data and Information Type: PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality: Concentrations of lead in one sediment sample collected in April 2005 did not exceed the sediment quality guidelines.
Data Reference: [Data collected by the Surface Water Ambient Monitoring Program, San Francisco Bay Regional Water Quality Control Board. Years 4 and 5 Assessment](#)

SWAMP Data: SWAMP

Water Quality Objective/Criterion: All waters shall be maintained free of toxic substances that are lethal to or that produce other detrimental responses in aquatic organisms.
Objective/Criterion Reference: [Water Quality Control Plan \(Basin Plan\) - San Francisco Bay Region \(Region 2\)](#)

Evaluation Guideline: Sediment Quality Guidelines (MacDonald et al., 2000): PEC (probable effect concentration) lead - 128 mg/kg dw
Guideline Reference: [Development and evaluation of consensus-based sediment quality guidelines for freshwater ecosystems. Environmental Contamination and Toxicology. 39: 20-31](#)

Spatial Representation: One sediment sample was collected at a "watershed integrator" site (PNG010) located close to the mouth of Pine Gulch Creek.
Temporal Representation: The sample was taken in spring (4/11/2005) of 2005.
Environmental Conditions:
QAPP Information: The QA/QC procedure was in compliant with SWAMP's Quality Assurance Management Plan of 2002.
QAPP Information Reference(s):

**DECISION ID 44687
Pine Gulch Creek**

Region 2

Pollutant: Mercury
Final Listing Decision: Do Not List on 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision: Do Not List on 303(d) list (TMDL required list)(2012)
Revision Status: Original
Impairment from Pollutant or Pollution: Pollutant

Regional Board Staff Conclusion: This pollutant is being considered for placement on the section 303(d) list under section 3.1 of the Listing Policy. Under section 3.1 a single line of evidence is necessary to assess listing status. One line of evidence is available in the administrative record to assess this pollutant. None of the samples exceed the water quality objective. Based on the readily available data and information, the

weight of evidence indicates that there is sufficient justification against placing this water segment-pollutant combination on the section 303(d) list in the Water Quality Limited Segments category. This conclusion is based on the staff findings that: 1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy. 2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy. 3. None of one sample exceeded the water quality objective and this does not exceed the allowable frequency listed in Table 3.1 of the Listing Policy. 4. Pursuant to section 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.

Regional Board Staff Decision Recommendation: This is a decision previously approved by the State Water Resources Control Board and the USEPA. No new data were assessed by the Regional Board for the current. The decision has not changed.

Line of Evidence (LOE) for Decision ID 44687, Mercury

Region 2

Pine Gulch Creek

LOE ID: 31423

Pollutant: Mercury
LOE Subgroup: Pollutant-Sediment
Matrix: Sediment
Fraction: None

Beneficial Use: Cold Freshwater Habitat

Number of Samples: 1
Number of Exceedances: 0

Data and Information Type: PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality: Concentrations of mercury in one sediment sample collected in April 2005 did not exceed the sediment quality guidelines.

Data Reference: [Data collected by the Surface Water Ambient Monitoring Program, San Francisco Bay Regional Water Quality Control Board, Years 4 and 5 Assessment](#)

SWAMP Data: SWAMP

Water Quality Objective/Criterion: All waters shall be maintained free of toxic substances that are lethal to or that produce other detrimental responses in aquatic organisms.

Objective/Criterion Reference: [Water Quality Control Plan \(Basin Plan\) - San Francisco Bay Region \(Region 2\)](#)

Evaluation Guideline: Sediment Quality Guidelines (MacDonald et al., 2000): PEC (probable effect concentration) mercury - 1.06 mg/kg dw

Guideline Reference: [Development and evaluation of consensus-based sediment quality guidelines for freshwater ecosystems. Environmental Contamination and Toxicology. 39: 20-31](#)

Spatial Representation: One sediment sample was collected at a "watershed integrator" site (PNG010) located close to the mouth of Pine Gulch Creek.

Temporal Representation: The sample was taken in spring (4/11/2005) of 2005.

Environmental Conditions:

QAPP Information: The QA/QC procedure was in compliant with SWAMP's Quality Assurance Management Plan of 2002.

QAPP Information Reference(s):

DECISION ID

44594

Region 2

Pine Gulch Creek

Pollutant: Nickel
Final Listing Decision: Do Not List on 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision: Do Not List on 303(d) list (TMDL required list)(2012)

Revision Status Original
Impairment from Pollutant or Pollution: Pollutant

Regional Board Staff Conclusion:

This pollutant is being considered for placement on the section 303(d) list under section 3.1 of the Listing Policy. Under section 3.1 a single line of evidence is necessary to assess listing status. One line of evidence is available in the administrative record to assess this pollutant. None of the samples exceed the water quality objective. Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against placing this water segment-pollutant combination on the section 303(d) list in the Water Quality Limited Segments category. This conclusion is based on the staff findings that: 1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy. 2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy. 3. None of one sample exceeded the water quality objective and this does not exceed the allowable frequency listed in Table 3.1 of the Listing Policy. 4. Pursuant to section 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.

Regional Board Staff Decision Recommendation: This is a decision previously approved by the State Water Resources Control Board and the USEPA. No new data were assessed by the Regional Board for the current. The decision has not changed.

Line of Evidence (LOE) for Decision ID 44594, Nickel

Region 2

Pine Gulch Creek

LOE ID: 31421

Pollutant: Nickel
LOE Subgroup: Pollutant-Sediment
Matrix: Sediment
Fraction: None

Beneficial Use: Cold Freshwater Habitat

Number of Samples: 1
Number of Exceedances: 0

Data and Information Type: PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality: Concentrations of nickel in one sediment sample collected in April 2005 did not exceed the sediment quality guidelines.

Data Reference: [Data collected by the Surface Water Ambient Monitoring Program, San Francisco Bay Regional Water Quality Control Board. Years 4 and 5 Assessment](#)

SWAMP Data: SWAMP

Water Quality Objective/Criterion: All waters shall be maintained free of toxic substances that are lethal to or that produce other detrimental responses in aquatic organisms.

Objective/Criterion Reference: [Water Quality Control Plan \(Basin Plan\) - San Francisco Bay Region \(Region 2\)](#)

Evaluation Guideline: Sediment Quality Guidelines (MacDonald et al., 2000): PEC (probable effect concentration) nickel - 48.6 mg/kg dw

Guideline Reference: [Development and evaluation of consensus-based sediment quality guidelines for freshwater ecosystems. Environmental Contamination and Toxicology. 39: 20-31](#)

Spatial Representation: One sediment sample was collected at a "watershed integrator" site (PNG010) located close to the mouth of Pine Gulch Creek.

Temporal Representation: The sample was taken in spring (4/11/2005) of 2005.

Environmental Conditions:

QAPP Information: The QA/QC procedure was in compliant with SWAMP's Quality Assurance Management Plan of 2002.

QAPP Information Reference(s):

Pollutant:	Toxicity
Final Listing Decision:	Do Not List on 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision:	Do Not List on 303(d) list (TMDL required list)(2012)
Revision Status	Original
Impairment from Pollutant or Pollution:	Pollutant

Regional Board Staff Conclusion: This pollutant is being considered for placement on the section 303(d) list under section 3.1 of the Listing Policy. Under section 3.1 a single line of evidence is necessary to assess listing status. One line of evidence is available in the administrative record to assess this pollutant. None of the samples exceed the water quality objective. Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against placing this water segment-pollutant combination on the section 303(d) list in the Water Quality Limited Segments category. This conclusion is based on the staff findings that: 1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy. 2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy. 3. None of the three samples exceeded the water quality objective (Basin Plan) and this does not exceed the allowable frequency listed in Table 3.1 of the Listing Policy. 4. Pursuant to section 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.

Regional Board Staff Decision Recommendation: This is a decision previously approved by the State Water Resources Control Board and the USEPA. No new data were assessed by the Regional Board for the current. The decision has not changed.

Line of Evidence (LOE) for Decision ID 44619, Toxicity	Region 2
Pine Gulch Creek	

LOE ID:	30325
Pollutant:	Toxicity
LOE Subgroup:	Pollutant-Water
Matrix:	Water
Fraction:	None
Beneficial Use:	Cold Freshwater Habitat
Number of Samples:	3
Number of Exceedances:	0
Data and Information Type:	TOXICITY TESTING
Data Used to Assess Water Quality:	Three samples were collected in April 2005, June 2005 and February 2006 to evaluate water toxicity in Pine Gulch Creek. The toxicity tests included survival and reproduction of Ceriodaphnia, survival and growth of fathead minnow, and growth of Selenastrum. No significant toxicity was observed in this sample.
Data Reference:	Water Quality Monitoring and Bioassessment in Nine San Francisco Bay Region Watersheds: Walker Creek, Lagunitas Creek, San Leandro Creek, Wildcat Creek/San Pablo Creek, Suisun Creek, Arroyo Las Positas, Pescadero Creek/Butano Creek, San Gregorio Creek, and Stevens Creek/Permanente Creek. Oakland, CA: Surface Water Ambient Monitoring Program, San Francisco Bay Regional Water Quality Control Board
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	All waters shall be maintained free of toxic substances that are lethal to or that produce other detrimental responses in aquatic organisms. There shall be no chronic toxicity in ambient waters. Chronic toxicity is a detrimental biological effect on growth rate, reproduction, fertilization success, larval development, population abundance, community composition, or any other relevant measure of the

Objective/Criterion Reference:	health of an organism, population, or community. Water Quality Control Plan (Basin Plan) - San Francisco Bay Region (Region 2)
Evaluation Guideline:	Water toxicity was evaluated according to the SWAMP methodology. The U.S.EPA whole effluent toxicity protocol (U.S.EPA 1994) was used to test the effect of water samples on three freshwater test organisms. Statistical evaluation (alpha = 0.05) and a default threshold of 80% of the control value were used to establish whether water exhibited significant toxicity adversely impacting aquatic organisms.
Guideline Reference:	Revised approach to toxicity test acceptability criteria using a statistical performance assessment. Environmental Toxicology and Chemistry, vol. 16, No. 6, pp 1322?1329 Short-Term Methods for Estimating the Chronic Toxicity of Effluents and Receiving Waters to Freshwater Organisms. EPA/600/4-91/002. Third Edition. July 1994
Spatial Representation:	Toxicity tests were conducted on water sample from monitoring location PGN010 in Pine Gulch Creek.
Temporal Representation:	Toxicity testing was conducted in between April 2005 and February 2006.
Environmental Conditions:	
QAPP Information:	All samples were collected and analyzed using procedures comparable with the SWAMP Quality Assurance Management Plan (SWRCB, 2002).
QAPP Information Reference(s):	Quality Assurance Management Plan for the State of California's Surface Water Ambient Monitoring Program. Sacramento, CA. State Water Resources Control Board. SWAMP. December 2002 (1st version)

Line of Evidence (LOE) for Decision ID 44619, Toxicity

Region 2

Pine Gulch Creek

LOE ID:	30323
Pollutant:	Sediment Toxicity
LOE Subgroup:	Pollutant-Sediment
Matrix:	Sediment
Fraction:	None
Beneficial Use:	Cold Freshwater Habitat
Number of Samples:	1
Number of Exceedances:	0
Data and Information Type:	Toxicity testing of sediments
Data Used to Assess Water Quality:	Data used to evaluate sediment toxicity comprise one sediment sample collected by the SWAMP in 2001. No toxicity or adverse affects were exhibited for Hyallela azteca.
Data Reference:	Water Quality Monitoring and Bioassessment in Nine San Francisco Bay Region Watersheds: Walker Creek, Lagunitas Creek, San Leandro Creek, Wildcat Creek/San Pablo Creek, Suisun Creek, Arroyo Las Positas, Pescadero Creek/Butano Creek, San Gregorio Creek, and Stevens Creek/Permanente Creek. Oakland, CA: Surface Water Ambient Monitoring Program, San Francisco Bay Regional Water Quality Control Board
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	All waters shall be maintained free of toxic substances that are lethal to or that produce other detrimental responses in aquatic organisms. There shall be no chronic toxicity in ambient waters. Chronic toxicity is a detrimental biological effect on growth rate, reproduction, fertilization success, larval development, population abundance, community composition, or any other relevant measure of the health of an organism, population, or community.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) - San Francisco Bay Region (Region 2)
Evaluation Guideline:	Sediment toxicity was evaluated according to the SWAMP methodology. Sample toxicity was determined by comparing mean organism response in samples and in negative controls. Statistical evaluation (alpha = 0.05) and a default threshold of 80% of the control value were used to establish whether the sediment exhibited significant toxicity adversely impacting aquatic organisms.

Guideline Reference: [Revised approach to toxicity test acceptability criteria using a statistical performance assessment. Environmental Toxicology and Chemistry, vol. 16, No. 6, pp 1322?1329](#)

Spatial Representation: One sediment sample was collected at PNG 010 monitoring location on Pine Gulch Creek watershed.

Temporal Representation: Sample was collected in April 2005.

Environmental Conditions:

QAPP Information: Samples were collected and analyzed using procedures comparable with the SWAMP Quality Assurance Management Plan (SWRCB 2002).

QAPP Information Reference(s): [Quality Assurance Management Plan for the State of California's Surface Water Ambient Monitoring Program. Sacramento, CA. State Water Resources Control Board. SWAMP. December 2002 \(1st version\)](#)

DECISION ID	44686	Region 2
Pine Gulch Creek		

Pollutant: Zinc

Final Listing Decision: Do Not List on 303(d) list (TMDL required list)

Last Listing Cycle's Final Listing Decision: Do Not List on 303(d) list (TMDL required list)(2012)

Revision Status: Original

Impairment from Pollutant or Pollution: Pollutant

Regional Board Staff Conclusion: This pollutant is being considered for placement on the section 303(d) list under section 3.1 of the Listing Policy. Under section 3.1 a single line of evidence is necessary to assess listing status. One line of evidence is available in the administrative record to assess this pollutant. [NUMBER] of the samples exceed the water quality objective. Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against placing this water segment-pollutant combination on the section 303(d) list in the Water Quality Limited Segments category. This conclusion is based on the staff findings that: 1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy. 2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy. 3. None of one sample exceeded the water quality objective and this does not exceed the allowable frequency listed in Table 3.1 of the Listing Policy. 4. Pursuant to section 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.

Regional Board Staff Decision Recommendation: This is a decision previously approved by the State Water Resources Control Board and the USEPA. No new data were assessed by the Regional Board for the current. The decision has not changed.

Line of Evidence (LOE) for Decision ID 44686, Zinc	Region 2
Pine Gulch Creek	

LOE ID: 31422

Pollutant: Zinc

LOE Subgroup: Pollutant-Sediment

Matrix: Sediment

Fraction: None

Beneficial Use: Cold Freshwater Habitat

Number of Samples: 1

Number of Exceedances: 0

Data and Information Type: PHYSICAL/CHEMICAL MONITORING

Data Used to Assess Water Quality: Concentrations of zinc in one sediment sample collected in April 2005 did not exceed the sediment quality guidelines.

Data Reference: [Data collected by the Surface Water Ambient Monitoring Program, San Francisco Bay](#)

SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	All waters shall be maintained free of toxic substances that are lethal to or that produce other detrimental responses in aquatic organisms.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) - San Francisco Bay Region (Region 2)
Evaluation Guideline:	Sediment Quality Guidelines (MacDonald et al., 2000): PEC (probable effect concentration) zinc - 459 mg/kg dw.
Guideline Reference:	Development and evaluation of consensus-based sediment quality guidelines for freshwater ecosystems. Environmental Contamination and Toxicology. 39: 20-31
Spatial Representation:	One sediment sample was collected at a "watershed integrator" site (PNG010) located close to the mouth of Pine Gulch Creek.
Temporal Representation:	The sample was taken in spring (4/11/2005) of 2005.
Environmental Conditions:	
QAPP Information:	The QA/QC procedure was in compliant with SWAMP's Quality Assurance Management Plan of 2002.
QAPP Information Reference(s):	

DECISION ID	44620	Region 2
Pine Gulch Creek		

Pollutant:	pH
Final Listing Decision:	Do Not List on 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision:	Do Not List on 303(d) list (TMDL required list)(2012)
Revision Status	Original
Impairment from Pollutant or Pollution:	Pollutant

Regional Board Staff Conclusion:	This pollutant is being considered for placement on the section 303(d) list under section 3.2 of the Listing Policy. Under section 3.2 a single line of evidence is necessary to assess listing status. One line of evidence is available in the administrative record to assess this pollutant. None of the samples exceed the water quality objective. Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against placing this water segment-pollutant combination on the section 303(d) list in the Water Quality Limited Segments category. This conclusion is based on the staff findings that: 1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy. 2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy. 3. None of the six samples exceeded the water quality objective (Baisn Plan) and this does not exceed the allowable frequency listed in Table 3.2 of the Listing Policy. 4. Pursuant to section 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.
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Regional Board Staff Decision Recommendation:	This is a decision previously approved by the State Water Resources Control Board and the USEPA. No new data were assessed by the Regional Board for the current. The decision has not changed.
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Line of Evidence (LOE) for Decision ID 44620, pH	Region 2
Pine Gulch Creek	

LOE ID:	28232
Pollutant:	pH
LOE Subgroup:	Pollutant-Water
Matrix:	Water
Fraction:	None
Beneficial Use:	Cold Freshwater Habitat

Number of Samples:	6
Number of Exceedances:	0
Data and Information Type:	PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality:	Water quality assessment was conducted at the Pine Gulch Creek watershed as part of SWAMP study in 2005-2006. Continuous field monitoring of temperature, dissolved oxygen, pH, and specific conductance to determine temporal variability in basic water quality at two locations on Pine Gulch Creek. Continuous monitoring sondes were deployed 3 times at these monitoring locations during wet, spring and two dry seasons. The pH ranged from 7 to 7.9 and varied with season. All pH measurements were within the recommended range 6.5 to 8.5.
Data Reference:	Data collected by the Surface Water Ambient Monitoring Program, San Francisco Bay Regional Water Quality Control Board. Years 4 and 5 Assessment
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	The pH shall not be depressed below 6.5 nor raised above 8.5. This encompasses the pH range usually found in waters within the basin. Controllable water quality factors shall not cause changes greater than 0.5 units in normal ambient pH levels.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) - San Francisco Bay Region (Region 2)
Evaluation Guideline:	
Guideline Reference:	
Spatial Representation:	Samples were taken from PNG010 and PNG050 monitoring locations.
Temporal Representation:	Samples were taken from PNG010 and PNG050 monitoring locations during spring (April 2005), dry (August 2005), and wet (January-February 2006) seasons. Measurements were conducted at 15-minute increments for approximately 1 to 2 weeks.
Environmental Conditions:	
QAPP Information:	The QA/QC procedure was comparable with SWAMP'S Quality Assurance Management Plan of 2002.
QAPP Information Reference(s):	

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Supporting Information

Regional Board 2 - San Francisco Bay Region

Water Body Name: San Tomas Aquinas Creek
Water Body ID: CAR2055004020080624165713
Water Body Type: River & Stream

DECISION ID 35041 **Region 2**
San Tomas Aquinas Creek

Pollutant: Trash
Final Listing Decision: **Do Not Delist from 303(d) list (being addressed with action other than TMDL)**
Last Listing Cycle's Final Listing Decision: List on 303(d) list (TMDL required list)(2012)
Revision Status Revised
Sources: Source Unknown
Expected Attainment Date: 2029
Implementation Action Other than TMDL: This trash listing will be addressed by implementing the trash control provisions of the Water Quality Control Plan for Inland Surface Waters, Enclosed Bays, and Estuaries of California through the NPDES MS4 permit applicable to this waterbody.
Impairment from Pollutant or Pollution: Pollutant

Regional Board Staff Conclusion: This pollutant is being considered for placement on the section 303(d) list under section 3.11 of the Listing Policy. Under section 3.11, listing may be proposed based on the situation-specific weight of evidence. One line of evidence is available in the administrative record to assess this pollutant. The line of evidence consists of data from field visits/trash surveys conducted according to the Urban Rapid Trash Assessment (URTA) methodology developed by the Santa Clara Valley Urban Runoff Pollution Prevention Program (SCVURPPP). Based on the readily available trash assessment data for this waterbody, the weight of evidence indicates that there is sufficient justification available in favor of placing this water segment-pollutant combination to the section 303(d) list in the Water Quality Limited Segments category. This conclusion is based on the staff findings that: 1. Data have been evaluated that supports this decision. 2. The Urban Rapid Trash Assessment methodology results showed that this waterbody had transportable, Persistent, Buoyant Litter parameter scores in the marginal urban and poor category (indicating threat to Wildlife Habitat beneficial uses) at three locations on two different dates in 2004 and 2006. 3. This waterbody is considered impaired by trash because there were exceedances of the evaluation guideline (poor condition category for the trash assessment metric) in more than one location or on more than one date. 4. The data used satisfy the data quality requirements of section 6.1.4 of the Policy. 5. The data used satisfy the data quantity requirements of section 6.1 of the Policy. 6. This trash listing will be addressed by implementing the trash control provisions of the Water Quality Control Plan for Inland Surface Waters, Enclosed Bays, and Estuaries of California through the NPDES MS4 permit applicable to this waterbody.

Regional Board Staff Decision Recommendation: After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be removed from the section 303(d) list because applicable water quality standards for the pollutant are being exceeded.

Line of Evidence (LOE) for Decision ID 35041, Trash **Region 2**
San Tomas Aquinas Creek

LOE ID: 5536
Pollutant: Trash
LOE Subgroup: Pollutant-Nuisance

Matrix:	Not Specified
Fraction:	None
Beneficial Use:	Wildlife Habitat
Number of Samples:	5
Number of Exceedances:	5
Data and Information Type:	Occurrence of conditions judged to cause impairment
Data Used to Assess Water Quality:	Data results were obtained through application of the Urban Rapid Trash Assessment (URTA) methodology, developed by the Santa Clara Valley Urban Runoff Pollution Prevention Program. The URTA is a modification of the Rapid Trash Assessment (RTA) developed by the Surface Water Ambient Monitoring Program (SWAMP). The URTA method documents the total number and characteristics of pieces of trash per one hundred feet of stream or shoreline. The trash assessment protocol involves picking up and tallying all of the trash items found within the defined boundaries of a site. The tally results for level of trash (relating to REC2) and transportable, persistent, buoyant litter (relating to WILD) assessment parameters were considered for the listing determination. These results are available for visits/trash surveys conducted in December 2004 and October 2006 according to the Urban Rapid Trash Assessment (URTA) methodology. This waterbody had transportable, Persistent, Buoyant Litter parameter scores in the marginal urban and poor category (indicating threat to Wildlife Habitat beneficial uses) at three locations on two different dates in 2004 and 2006.
Data Reference:	Memo: Development of Urban Rapid Trash Assessment Protocol. March 13, 2006 Spreadsheet of Urban Rapid Trash Assessment (URTA) data collected by the Santa Clara Valley Urban Runoff Pollution Prevention Program, 2004-2007
SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	<p>The Basin Plan prohibits discharge of Rubbish, refuse, bark, sawdust, or other solid wastes into surface waters or at any place where they would contact or where they would be eventually transported to surface waters, including flood plain areas.</p> <p>The Basin Plan has a narrative objective for floating material, Waters shall not contain floating material, including solids, liquids, foams, and scum, in concentrations that cause nuisance or adversely affect beneficial uses.</p> <p>The Basin Plan has a narrative objective for settleable material, Waters shall not contain substances in concentrations that result in the deposition of material that cause nuisance or adversely affect beneficial uses.</p>
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) - San Francisco Bay Region (Region 2)
Evaluation Guideline:	If the URTA Parameter 3 (Transportable, Persistent, Buoyant Litter) is in the marginal urban or poor condition category (scores 0-10), then WILD is not supported. The URTA defines marginal urban or poor condition for this parameter as follows. this level of trash is a medium prevalence (76-200 pieces) or large amount (>200 pieces) of transportable, persistent, buoyant litter such as: hard or soft plastics, styrofoam, balloons, cigarette butts. These types of items are all detrimental to aquatic life.
Guideline Reference:	Memo: Development of Urban Rapid Trash Assessment Protocol. March 13, 2006
Spatial Representation:	URTA data were collected for this waterbody in three locations in December 2004 and October 2006.
Temporal Representation:	URTA data were collected for this waterbody on two dates in December 2004 and October 2006.
Environmental Conditions:	
QAPP Information:	Data were collected by trained staff in accordance with URTA methodology developed by SCVURPPP and are deemed reliable and of sufficient quality on which to base listing determinations.
QAPP Information Reference(s):	

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Supporting Information

Regional Board 2 - San Francisco Bay Region

Water Body Name: Sausal Creek
Water Body ID: CAR2042003020080624165925
Water Body Type: River & Stream

DECISION ID 34799 **Region 2**
Sausal Creek

Pollutant: Trash
Final Listing Decision: **Do Not Delist from 303(d) list (being addressed with action other than TMDL)**
Last Listing Cycle's Final Listing Decision: List on 303(d) list (TMDL required list)(2012)
Revision Status Revised
Sources: Source Unknown
Expected Attainment Date: 2029
Implementation Action Other than TMDL: This trash listing will be addressed by implementing the trash control provisions of the Water Quality Control Plan for Inland Surface Waters, Enclosed Bays, and Estuaries of California through the NPDES MS4 permit applicable to this waterbody.
Impairment from Pollutant or Pollution: Pollutant

Regional Board Staff Conclusion: This pollutant is being considered for placement on the section 303(d) list under section 3.11 of the Listing Policy. Under section 3.11, listing may be proposed based on the situation-specific weight of evidence. One line of evidence is available in the administrative record to assess this pollutant. The line of evidence consists of data from field visits/trash surveys conducted according to the Rapid Trash Assessment (RTA) methodology. Based on the readily available trash assessment data for this waterbody, the weight of evidence indicates that there is sufficient justification available in favor of placing this water segment-pollutant combination to the section 303(d) list in the Water Quality Limited Segments category. This conclusion is based on the staff findings that: 1. Data have been evaluated that supports this decision. 2. The Rapid Trash Assessment methodology results showed that this waterbody had threat to aquatic life parameter scores in the poor category (indicating threat to Wildlife Habitat beneficial uses) on three different dates. 3. This waterbody is considered impaired by trash because there were exceedances of the evaluation guideline (poor condition category for the trash assessment metric) in more than one location or on more than one date. 4. The data used satisfy the data quality requirements of section 6.1.4 of the Policy. 5. The data used satisfy the data quantity requirements of section 6.1 of the Policy. 6. This trash listing will be addressed by implementing the trash control provisions of the Water Quality Control Plan for Inland Surface Waters, Enclosed Bays, and Estuaries of California through the NPDES MS4 permit applicable to this waterbody.

Regional Board Staff Decision Recommendation: After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be removed from the section 303(d) list because applicable water quality standards for the pollutant are being exceeded.

Line of Evidence (LOE) for Decision ID 34799, Trash **Region 2**
Sausal Creek

LOE ID: 5369
Pollutant: Trash
LOE Subgroup: Pollutant-Nuisance
Matrix: Not Specified
Fraction: None

Beneficial Use:	Wildlife Habitat
Number of Samples:	3
Number of Exceedances:	3
Data and Information Type:	Occurrence of conditions judged to cause impairment
Data Used to Assess Water Quality:	Data results were obtained through application the RTA methodology, developed by the Surface Water Ambient Monitoring Program (SWAMP). The RTA documents the total number and characteristics of pieces of trash per one hundred feet of stream or shoreline. The trash assessment protocol involves picking up and tallying all of the trash items found within the defined boundaries of a site. The tally results for level of trash (relating to REC2) and threat to aquatic life (relating to WILD) assessment parameters were considered for the listing determination. These results are available for field visits/trash surveys conducted in August and December 2004 and June 2005 according to the Rapid Trash Assessment methodology. This waterbody had threat to aquatic life parameter scores in the poor category (indicating threat to Wildlife Habitat beneficial uses) on three different dates.
Data Reference:	A Rapid Trash Assessment Method Applied to Waters of the San Francisco Bay Region:Trash Measurement in Streams Rapid Trash Assessment (RTA) data collected by the SF Bay Region Surface Water Ambient Monitoring Program from 2002-2005 and method description
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	<p>The Basin Plan prohibits discharge of Rubbish, refuse, bark, sawdust, or other solid wastes into surface waters or at any place where they would contact or where they would be eventually transported to surface waters, including flood plain areas.</p> <p>The Basin Plan has a narrative objective for floating material, Waters shall not contain floating material, including solids, liquids, foams, and scum, in concentrations that cause nuisance or adversely affect beneficial uses.</p> <p>The Basin Plan has a narrative objective for settleable material, Waters shall not contain substances in concentrations that result in the deposition of material that cause nuisance or adversely affect beneficial uses.</p>
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) - San Francisco Bay Region (Region 2)
Evaluation Guideline:	If the Rapid Trash Assessment (RTA) Parameter 1 (Level of Trash) is in the poor condition category (scores 0-5), REC2 is not supported. This level of trash distracts the eye on first glance, making the site unsuitable for recreation. The RTA defines poor condition for this parameter as follows, trash distracts the eye on first glance. Stream, bank surfaces, and immediate riparian zone contain substantial levels of litter and debris (>100 pieces). Evidence of site being used frequently by people: many cans, bottles, and food wrappers, blankets, clothing.
Guideline Reference:	A Rapid Trash Assessment Method Applied to Waters of the San Francisco Bay Region:Trash Measurement in Streams
Spatial Representation:	RTA data were collected for this waterbody in one location in 2004 and 2005. This location scored in the poor condition category for the threat to aquatic life parameter.
Temporal Representation:	RTA data were collected for this waterbody in August and December 2004 and June 2005. Data from all three months scored in the poor condition category for the threat to aquatic life parameter.
Environmental Conditions:	
QAPP Information:	For RTA trash assessment data to be considered, the data must have been collected by field operators that have received a 2-hour training in the Rapid Trash Assessment methodology.
QAPP Information Reference(s):	

Pollutant:	Anthracene Benzo(a)anthracene Benzo(a)pyrene (3,4-Benzopyrene -7-d) Chlordane Chrysene (C1-C4) DDD (Dichlorodiphenyldichloroethane) DDE (Dichlorodiphenyldichloroethylene) DDT (Dichlorodiphenyltrichloroethane) Dieldrin Endrin Fluoranthene Fluorene Heptachlor epoxide Lindane/gamma Hexachlorocyclohexane (gamma-HCH) Naphthalene PAHs (Polycyclic Aromatic Hydrocarbons) PCBs (Polychlorinated biphenyls) Phenanthrene Pyrene
Final Listing Decision:	Do Not List on 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision:	Do Not List on 303(d) list (TMDL required list)(2012)
Revision Status	Original
Impairment from Pollutant or Pollution:	Pollutant
Regional Board Staff Conclusion:	These pollutants are being considered for placement on the section 303(d) list under section 3.1 of the Listing Policy. Under this section a single line of evidence is necessary to assess listing status. One line of evidence is available in the administrative record to assess these pollutants. Zero samples exceed the water quality objective. Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against placing this water segment-pollutant combination on the section 303(d) list in the Water Quality Limited Segments category. This conclusion is based on the staff findings that: 1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy. 2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy. 3. No sample exceeded the water quality objective, but this sample size is insufficient to determine with the power and confidence of the Listing Policy if standards are not met. A minimum of two samples are needed for application of table 3.1. 4. Pursuant to section 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.
Regional Board Staff Decision Recommendation:	This is a decision previously approved by the State Water Resources Control Board and the USEPA. No new data were assessed by the Regional Board for the current. The decision has not changed.

Line of Evidence (LOE) for Decision ID 44301, Multiple Pollutants		Region 2
Sausal Creek		
LOE ID:	28431	
Pollutant:	Anthracene Benzo(a)anthracene Benzo(a)pyrene (3,4-Benzopyrene -7-d) Chlordane Chrysene (C1-C4) DDD (Dichlorodiphenyldichloroethane) DDE (Dichlorodiphenyldichloroethylene) DDT (Dichlorodiphenyltrichloroethane) Dieldrin Endrin Fluoranthene Fluorene Heptachlor epoxide Lindane/gamma Hexachlorocyclohexane (gamma-HCH) Naphthalene PAHs (Polycyclic Aromatic Hydrocarbons) PCBs (Polychlorinated biphenyls) Phenanthrene Pyrene	
LOE Subgroup:	Pollutant-Sediment	
Matrix:	Sediment	
Fraction:	None	
Beneficial Use:	Warm Freshwater Habitat	
Number of Samples:	1	
Number of Exceedances:	0	
Data and Information Type:	PHYSICAL/CHEMICAL MONITORING	
Data Used to Assess Water Quality:	Concentrations of anthracene, fluorene, naphthalene, phenanthrene, benz(a)anthracene, benzo(a)pyrene, chrysene, fluoranthrene, pyrene, PAH (total), PCB (total), chlordane, dieldrin, DDD/DDE/DDT, endrin, heptachlor epoxide, and HCH, gamma in one sediment sample collected in spring 2005 did not exceed the sediment quality guidelines.	
Data Reference:	Data collected by the Surface Water Ambient Monitoring Program, San Francisco Bay Regional Water Quality Control Board. Years 4 and 5 Assessment	
SWAMP Data:	SWAMP	

Water Quality Objective/Criterion:	All waters shall be maintained free of toxic substances that are lethal to or that produce other detrimental responses in aquatic organisms.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) - San Francisco Bay Region (Region 2)
Evaluation Guideline:	Sediment Quality Guidelines (MacDonald et al., 2000): PEC (probable effect concentration) Anthracene - 845 ug/kg; Fluorene - 536 ug/kg; Naphthalene - 561 ug/kg; Phenanthrene - 1170 ug/kg; Benz(a)anthracene - 1050 ug/kg; Benzo(a)pyrene - 1450 ug/kg; Chrysene - 1290 ug/kg; Fluoranthene - 2230 ug/kg; Pyrene - 1520 ug/kg; PAH (total) - 22800 ug/kg; PCB (total) - 676 ug/kg; Chlordane - 17.6 ug/kg; Dieldrin - 61.8 ug/kg; DDD (sum op + pp) - 28 ug/kg; DDE (sum op + pp) - 31.3 ug/kg; DDT (sum op + pp) - 62.9 ug/kg; DDT (total) - 572 ug/kg; Endrin - 207 ug/kg; Heptachlor epoxide - 16 ug/kg; HCH, gamma - 4.99 ug/kg.
Guideline Reference:	Development and evaluation of consensus-based sediment quality guidelines for freshwater ecosystems. Environmental Contamination and Toxicology. 39: 20-31
Spatial Representation:	One sediment sample was collected at a "watershed integrator" site located close to the mouth of Sausal Creek.
Temporal Representation:	Sediment sample was collected in April of 2005.
Environmental Conditions:	
QAPP Information:	All samples were collected and analyzed using procedures comparable with the SWAMP Quality Assurance Management Plan (SWRCB, 2002).
QAPP Information Reference(s):	Quality Assurance Management Plan for the State of California's Surface Water Ambient Monitoring Program. Sacramento, CA. State Water Resources Control Board. SWAMP. December 2002 (1st version)

DECISION ID 44405 Region 2	
Sausal Creek	
Pollutant:	Arsenic Cadmium Chromium (total) Copper Lead Mercury Nickel Zinc
Final Listing Decision:	Do Not List on 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision:	Do Not List on 303(d) list (TMDL required list)(2012)
Revision Status	Original
Impairment from Pollutant or Pollution:	Pollutant
Regional Board Staff Conclusion:	These pollutants are being considered for placement on the section 303(d) list under section 3.1 of the Listing Policy. Under this section a single line of evidence is necessary to assess listing status. One line of evidence is available in the administrative record to assess these pollutants. Zero samples exceed the water quality objective. Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against placing this water segment-pollutant combination on the section 303(d) list in the Water Quality Limited Segments category. This conclusion is based on the staff findings that: 1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy. 2. The data used satisfies the data quality requirements of section 6.1.5 of the Policy. 3. Zero of one sample exceeded the water quality objective, but this sample size is insufficient to determine with the power and confidence of the Listing Policy if standards are not met. A minimum of two samples are needed for application of table 3.1. 4. Pursuant to section 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.
Regional Board Staff Decision Recommendation:	This is a decision previously approved by the State Water Resources Control Board and the USEPA. No new data were assessed by the Regional Board for the current. The decision has not changed.

Line of Evidence (LOE) for Decision ID 44405, Multiple Pollutants Region 2
Sausal Creek

LOE ID:	28430
Pollutant:	Arsenic Cadmium Chromium (total) Copper Lead Mercury Nickel Zinc

LOE Subgroup:	Pollutant-Sediment
Matrix:	Sediment
Fraction:	Total
Beneficial Use:	Warm Freshwater Habitat
Number of Samples:	1
Number of Exceedances:	0
Data and Information Type:	PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality:	Concentrations of arsenic, cadmium, chromium, copper, lead, mercury, nickel and zinc in one sediment sample collected in spring 2005 did not exceed the sediment quality guidelines.
Data Reference:	Data collected by the Surface Water Ambient Monitoring Program, San Francisco Bay Regional Water Quality Control Board. Years 4 and 5 Assessment
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	All waters shall be maintained free of toxic substances that are lethal to or that produce other detrimental responses in aquatic organisms.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) - San Francisco Bay Region (Region 2)
Evaluation Guideline:	Sediment Quality Guidelines (MacDonald et al., 2000): PEC (probable effect concentration) arsenic - 33 mg/kg dw; cadmium - 4.98 mg/kg dw; chromium - 111 mg/kg dw; copper - 149 mg/kg dw; lead - 128 mg/kg dw; mercury - 1.06 mg/kg dw; nickel - 48.6 mg/kg dw; zinc - 459 mg/kg dw.
Guideline Reference:	Development and evaluation of consensus-based sediment quality guidelines for freshwater ecosystems. Environmental Contamination and Toxicology. 39: 20-31
Spatial Representation:	One sediment sample was collected at a "watershed integrator" site located close to the mouth of Sausal Creek.
Temporal Representation:	Sediment sample was collected in April of 2005.
Environmental Conditions:	
QAPP Information:	All samples were collected and analyzed using procedures comparable with the SWAMP Quality Assurance Management Plan (SWRCB, 2002).
QAPP Information Reference(s):	

DECISION ID	43543	Region 2
Sausal Creek		
Pollutant:	Arsenic Chromium (total) Copper Lead Nickel Silver Zinc	
Final Listing Decision:	Do Not List on 303(d) list (TMDL required list)	
Last Listing Cycle's Final Listing Decision:	Do Not List on 303(d) list (TMDL required list)(2012)	
Revision Status	Original	
Impairment from Pollutant or Pollution:	Pollutant	
Regional Board Staff Conclusion:	<p>These pollutants are being considered for placement on the section 303(d) list under section 3.1 of the Listing Policy. Under section 3.1 a single line of evidence is necessary to assess listing status. One line of evidence is available in the administrative record to assess these pollutants. None of the samples exceed the water quality objective. Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against placing this water segment-pollutant combination on the section 303(d) list in the Water Quality Limited Segments category. This conclusion is based on the staff findings that: 1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy. 2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy. 3. None of the three samples exceeded the water quality objectives (Basin Plan) and this does not exceed the allowable frequency listed in Table 3.1 of the Listing Policy. 4. Pursuant to section 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.</p>	

Regional Board Staff Decision Recommendation: This is a decision previously approved by the State Water Resources Control Board and the USEPA. No new data were assessed by the Regional Board for the current. The decision has not changed.

Line of Evidence (LOE) for Decision ID 43543, Multiple Pollutants

Region 2

Sausal Creek

LOE ID: 28837

Pollutant: Arsenic | Chromium (total) | Copper | Lead | Nickel | Silver | Zinc
LOE Subgroup: Pollutant-Water
Matrix: Water
Fraction: Dissolved

Beneficial Use: Warm Freshwater Habitat

Number of Samples: 3
Number of Exceedances: 0

Data and Information Type: PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality: The Sausal Creek watershed was monitored as part of SWAMP assessment. None of the three samples exceeded the water quality objectives for arsenic, chromium VI, copper, lead, nickel, silver and zinc. Concentrations of total dissolved chromium were well below the objective for chromium VI.

Data Reference: [Data collected by the Surface Water Ambient Monitoring Program, San Francisco Bay Regional Water Quality Control Board. Years 4 and 5 Assessment](#)

SWAMP Data: SWAMP

Water Quality Objective/Criterion: All waters shall be maintained free of toxic substances that are lethal to or that produce other detrimental responses in aquatic organisms. Table 3-4 in the Basin Plan (2007) lists freshwater water quality objectives for toxic pollutants: arsenic- 150 ug/L, chromium VI- 11 ug/L, copper - 9.0 ug/L, lead - 2.5 ug/L; nickel - 52 ug/L, silver-3.4 ug/L and zinc - 120 ug/L.

Objective/Criterion Reference: [Water Quality Control Plan \(Basin Plan\) - San Francisco Bay Region \(Region 2\)](#)

Evaluation Guideline:
Guideline Reference:

Spatial Representation: Data were collected at one sampling location (SAU030) at the "watershed integrator" close to the mouth of Sausal Creek.

Temporal Representation: Samples were collected during wet (January), spring (April), and dry(June) seasons of 2005.

Environmental Conditions:
QAPP Information: All samples were collected and analyzed using procedures comparable with the SWAMP Quality Assurance Management Plan (SWRCB, 2002).

QAPP Information Reference(s): [Quality Assurance Management Plan for the State of California's Surface Water Ambient Monitoring Program. Sacramento, CA. State Water Resources Control Board. SWAMP. December 2002 \(1st version\)](#)

DECISION ID

43836

Region 2

Sausal Creek

Pollutant: Chlorpyrifos | Dacthal | Diazinon | Disulfoton | Endosulfan | Lindane/gamma Hexachlorocyclohexane (gamma-HCH) | Methyl Parathion | PCBs (Polychlorinated biphenyls) | Thiobencarb/Bolero

Final Listing Decision: Do Not List on 303(d) list (TMDL required list)

Last Listing Cycle's Final Listing Decision: Do Not List on 303(d) list (TMDL required list)(2012)

Revision Status Original
Impairment from Pollutant or Pollution: Pollutant

Regional Board Staff Conclusion: These pollutants are being considered for placement on the section 303(d) list under section 3.1 of the Listing Policy. Under section 3.1 a single line of evidence is necessary to assess listing status. One line of evidence is available in the administrative record to assess these pollutants. None of the samples exceed the water quality objectives. Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against placing these water segment-pollutant combinations on the section 303(d) list in the Water Quality Limited Segments category. This conclusion is based on the staff findings that: 1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy. 2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy. 3. None of the three samples exceeded the water quality objectives or guidelines and this does not exceed the allowable frequency listed in Table 3.1 of the Listing Policy. 4. Pursuant to section 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.

Regional Board Staff Decision Recommendation: This is a decision previously approved by the State Water Resources Control Board and the USEPA. No new data were assessed by the Regional Board for the current. The decision has not changed.

Line of Evidence (LOE) for Decision ID 43836, Multiple Pollutants

Region 2

Sausal Creek

LOE ID: 28946

Pollutant: Chlorpyrifos | Dacthal | Diazinon | Disulfoton | Endosulfan | Lindane/gamma Hexachlorocyclohexane (gamma-HCH) | Methyl Parathion | PCBs (Polychlorinated biphenyls) | Thiobencarb/Bolero

LOE Subgroup: Pollutant-Water

Matrix: Water

Fraction: None

Beneficial Use: Warm Freshwater Habitat

Number of Samples: 3

Number of Exceedances: 0

Data and Information Type: PHYSICAL/CHEMICAL MONITORING

Data Used to Assess Water Quality: The Sausal Creek watershed was monitored as part of SWAMP assessment. None of the three samples exceeded the water quality objectives for PCBs, Chlorpyrifos, Dacthal, diazinon, disulfoton, endosulfan, Lindane/gamma Hexachlorocyclohexane (gamma-HCH), methyl parathion, thiobencarb.

Data Reference: [Data collected by the Surface Water Ambient Monitoring Program, San Francisco Bay Regional Water Quality Control Board, Years 4 and 5 Assessment](#)

SWAMP Data: SWAMP

Water Quality Objective/Criterion: All waters shall be maintained free of toxic substances that are lethal to or that produce other detrimental responses in aquatic organisms.
There shall be no chronic toxicity in ambient waters. Chronic toxicity is a detrimental biological effect on growth rate, reproduction, fertilization success, larval development, population abundance, community composition, or any other relevant measure of the health of an organism, population, or community.
Diazinon water quality objective, 0.1 ug/L (acute)

Objective/Criterion Reference: [Water Quality Control Plan \(Basin Plan\) - San Francisco Bay Region \(Region 2\)](#)

Evaluation Guideline: PCBs - 0.014 ug/L freshwater continuous Concentration; Chlorpyrifos - 0.015 ug/L (chronic); Dacthal (DCPA) - 14300 ug/L (acute); Disulfoton (Disyston) - 0.05 ug/L (acute); Endosulfan - 0.056 ug/L (chronic)/0.22 ug/L (acute); HCH, gamma-(gamma BHC, Lindane) - 0.95 ug/L (acute); methyl parathion - 0.08 ug/L (acute); Thiobencarb - 3.1 ug/L (acute).

Guideline Reference:	National recommended water quality criteria: 2002. EPA-822-R-02-047 Washington, D.C. USEPA
Spatial Representation:	Data were collected at one sampling location (SAU030) on Sausal Creek.
Temporal Representation:	Samples were collected during wet (January), spring (April), and dry(June) seasons of 2005.
Environmental Conditions:	
QAPP Information:	All samples were collected and analyzed using procedures comparable with the SWAMP Quality Assurance Management Plan (SWRCB, 2002).
QAPP Information Reference(s):	Quality Assurance Management Plan for the State of California's Surface Water Ambient Monitoring Program. Sacramento, CA. State Water Resources Control Board. SWAMP. December 2002 (1st version)

DECISION ID	44416	Region 2
Sausal Creek		
Pollutant:	Escherichia coli (E. coli)	
Final Listing Decision:	Do Not List on 303(d) list (TMDL required list)	
Last Listing Cycle's Final Listing Decision:	Do Not List on 303(d) list (TMDL required list)(2012)	
Revision Status	Original	
Impairment from Pollutant or Pollution:	Pollutant	
Regional Board Staff Conclusion:	This pollutant is being considered for placement on the section 303(d) list under section 3.2 of the Listing Policy. Under this section a single line of evidence is necessary to assess listing status. One line of evidence is available in the administrative record to assess this pollutant. One out of one sample exceeds the water quality objective. Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against placing this water segment-pollutant combination on the section 303(d) list in the Water Quality Limited Segments category. This conclusion is based on the staff findings that: 1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy. 2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy. 3. One out of one samples exceeded the water quality objective, but this sample size is insufficient to determine with the power and confidence of the Listing Policy if standards are not met. A minimum of five samples is needed for application of table 3.2. 4. Pursuant to section 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.	
Regional Board Staff Decision Recommendation:	This is a decision previously approved by the State Water Resources Control Board and the USEPA. No new data were assessed by the Regional Board for the current. The decision has not changed.	

Line of Evidence (LOE) for Decision ID 44416, Escherichia coli (E. coli)	Region 2
Sausal Creek	
LOE ID:	28886
Pollutant:	Escherichia coli (E. coli)
LOE Subgroup:	Pollutant-Water
Matrix:	Water
Fraction:	None
Beneficial Use:	Water Contact Recreation
Number of Samples:	1
Number of Exceedances:	1
Data and Information Type:	PATHOGEN MONITORING
Data Used to Assess Water Quality:	Samples were collected as part of SWAMP sampling in the summer of 2004 at 7-day intervals and the geometric mean of the samples calculated over a five week interval. The

	geometric mean for this location was 164 MNP/100 mL and exceeded the evaluation criterion.
Data Reference:	Data collected by the Surface Water Ambient Monitoring Program, San Francisco Bay Regional Water Quality Control Board. Years 4 and 5 Assessment
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	Uses of water for recreational activities involving body contact with water where ingestion of water is reasonably possible. These uses include, but are not limited to, swimming, wading, water-skiing, skin and scuba diving, surfing, whitewater activities, fishing, and uses of natural hot springs. Water contact implies a risk of waterborne disease transmission and involves human health; accordingly, criteria required to protect this use are more stringent than those for more casual water-oriented recreation. U.S. EPA water quality criteria for water contact recreation based on the frequency of use a particular area receives - 1986: the E. coli criterion is not to exceed 126 organisms/100 mL. The value is expressed as a 7-day geometric mean based on five or more samples per 30?day period; designated beach (max) 235 MPN/100 mL.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) - San Francisco Bay Region (Region 2) Ambient Water Quality Criteria for Bacteria - 1986. EPA440/5-84-002
Evaluation Guideline:	
Guideline Reference:	
Spatial Representation:	Samples were collected at SAU060 (Sausal at Lions Pool).
Temporal Representation:	Samples were collected weekly from 7/20/2004 through 8/17/2004.
Environmental Conditions:	
QAPP Information:	All samples were collected and analyzed using procedures comparable with the SWAMP Quality Assurance Management Plan (SWRCB, 2002).
QAPP Information Reference(s):	Quality Assurance Management Plan for the State of California's Surface Water Ambient Monitoring Program. Sacramento, CA. State Water Resources Control Board. SWAMP. December 2002 (1st version)

DECISION ID	43552	Region 2
Sausal Creek		
Pollutant:	Oxygen, Dissolved	
Final Listing Decision:	Do Not List on 303(d) list (TMDL required list)	
Last Listing Cycle's Final Listing Decision:	Do Not List on 303(d) list (TMDL required list)(2012)	
Revision Status	Original	
Impairment from Pollutant or Pollution:	Pollutant	
Regional Board Staff Conclusion:	This pollutant is being considered for placement on the section 303(d) list under section 3.2 of the Listing Policy. Under section 3.2 a single line of evidence is necessary to assess listing status. Two lines of evidence are available in the administrative record to assess this pollutant. Two of the samples exceed the water quality objective. Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against placing this water segment-pollutant combination on the section 303(d) list in the Water Quality Limited Segments category. This conclusion is based on the staff findings that: 1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy. 2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy. 3. Two of the eleven samples exceeded the water quality objectives (Basin Plan) and this does not exceed the allowable frequency listed in Table 3.2 of the Listing Policy. 4. Pursuant to section 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.	
Regional Board Staff Decision Recommendation:	This is a decision previously approved by the State Water Resources Control Board and the USEPA. No new data were assessed by the Regional Board for the current. The decision has not changed.	

**Line of Evidence (LOE) for Decision ID 43552, Oxygen, Dissolved
Sausal Creek**

Region 2

LOE ID:	28359
Pollutant:	Oxygen, Dissolved
LOE Subgroup:	Pollutant-Water
Matrix:	Water
Fraction:	None
Beneficial Use:	Warm Freshwater Habitat
Number of Samples:	11
Number of Exceedances:	2
Data and Information Type:	PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality:	Comprehensive water quality assessment was conducted at Sausal Creek watershed as part of SWAMP assessment in 2004 and 2005. Continuous field monitoring of temperature, dissolved oxygen, pH, and specific conductance to determine temporal variability in basic water quality at three locations. The 7-day average minimum concentration of dissolved oxygen ranged from 0.9 to 11.5 mg/L and varied with season. Minimum dissolved oxygen levels fell below the objective of 5 mg/L during two deployments at the SAU080 site in May and September 2004. During that period minimum values of DO ranged from 4.0 to 10.7, and 0.3 to 6.8 mg/L, respectively.
Data Reference:	Data collected by the Surface Water Ambient Monitoring Program, San Francisco Bay Regional Water Quality Control Board. Years 4 and 5 Assessment
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	The numeric water quality objective for dissolved oxygen is 5.0 mg/L minimum for waters designated as cold water habitat. The median dissolved oxygen concentration for any three consecutive months shall not be less than 80 percent of the dissolved oxygen content at saturation.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) - San Francisco Bay Region (Region 2)
Evaluation Guideline:	
Guideline Reference:	
Spatial Representation:	Dissolved oxygen was measured at two or three sites located on the mainstem of Sausal Creek that are representative of the entire creek length.
Temporal Representation:	At all locations the SWAMP performed continuous monitoring of dissolved oxygen at 15 minute intervals lasting 7-10 days during spring (May 2004), summer dry seasons (August and September 2004), and winter wet season (February 2005).
Environmental Conditions:	
QAPP Information:	All samples were collected and analyzed using procedures comparable with the SWAMP Quality Assurance Management Plan (SWRCB 2002).
QAPP Information Reference(s):	

**Line of Evidence (LOE) for Decision ID 43552, Oxygen, Dissolved
Sausal Creek**

Region 2

LOE ID:	28356
Pollutant:	Oxygen, Dissolved
LOE Subgroup:	Pollutant-Water
Matrix:	Water
Fraction:	None
Beneficial Use:	Cold Freshwater Habitat

Number of Samples: 11
Number of Exceedances: 2

Data and Information Type: PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality: Comprehensive water quality assessment was conducted at Sausal Creek watershed as part of SWAMP assessment in 2004 and 2005. Continuous field monitoring of temperature, dissolved oxygen, pH, and specific conductance to determine temporal variability in basic water quality at three locations. The 7-day average minimum concentration of dissolved oxygen ranged from 0.9 to 11.5 mg/L and varied with season. Minimum dissolved oxygen levels fell below the objective of 7 mg/L during two deployments at the SAU080 site in May and September 2004. During that period minimum values of DO ranged from 4.0 to 10.7, and 0.3 to 6.8 mg/L, respectively.

Data Reference: [Data collected by the Surface Water Ambient Monitoring Program, San Francisco Bay Regional Water Quality Control Board. Years 4 and 5 Assessment](#)

SWAMP Data: SWAMP

Water Quality Objective/Criterion: The numeric water quality objective for dissolved oxygen is 7.0 mg/L minimum for waters designated as cold water habitat. The median dissolved oxygen concentration for any three consecutive months shall not be less than 80 percent of the dissolved oxygen content at saturation.

Objective/Criterion Reference: [Water Quality Control Plan \(Basin Plan\) - San Francisco Bay Region \(Region 2\)](#)

Evaluation Guideline:
Guideline Reference:

Spatial Representation: Dissolved oxygen was measured at two or three sites located on the mainstem of Sausal Creek that are representative of the entire creek length.

Temporal Representation: At all locations the SWAMP performed continuous monitoring of dissolved oxygen at 15 minute intervals lasting 7-10 days during spring (May 2004), summer dry seasons (August and September 2004), and winter wet season (February 2005).

Environmental Conditions:
QAPP Information: All samples were collected and analyzed using procedures comparable with the SWAMP Quality Assurance Management Plan (SWRCB 2002).

QAPP Information Reference(s):

DECISION ID	44489	Region 2
Sausal Creek		

Pollutant: Temperature, water
Final Listing Decision: Do Not List on 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision: Do Not List on 303(d) list (TMDL required list)(2012)

Revision Status Original
Impairment from Pollutant or Pollution: Pollutant

Regional Board Staff Conclusion: This pollutant is being considered for placement on the section 303(d) list under section 3.2 of the Listing Policy. Under section 3.2 a single line of evidence is necessary to assess listing status. One line of evidence is available in the administrative record to assess this pollutant. Three of the samples exceed the water quality objective. Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against placing this water segment-pollutant combination on the section 303(d) list in the Water Quality Limited Segments category. This conclusion is based on the staff findings that: 1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy. 2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy. 3. Three of the eleven samples exceeded An Analysis of the Effects of Temperature on Salmonids of the Pacific Northwest with Implications for Selecting Temperature Criteria. Sustainable Ecosystems Institute, Portland, OregonAn Analysis of the Effects of Temperature on Salmonids of the Pacific Northwest with Implications for Selecting Temperature Criteria. Sustainable Ecosystems Institute, Portland, Oregon (Sullivan K., Martin, D.J., Cardwell, R.D., Toll, J.E., Duke, S. 2000.) and this does not exceed the allowable frequency listed in Table 3.2 of the

Listing Policy. 4. Pursuant to section 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.

Regional Board Staff Decision Recommendation: This is a decision previously approved by the State Water Resources Control Board and the USEPA. No new data were assessed by the Regional Board for the current. The decision has not changed.

**Line of Evidence (LOE) for Decision ID 44489, Temperature, water
Sausal Creek**

Region 2

LOE ID: 28330

Pollutant: Temperature, water

LOE Subgroup: Pollutant-Water

Matrix: Water

Fraction: None

Beneficial Use: Cold Freshwater Habitat

Number of Samples: 11

Number of Exceedances: 3

Data and Information Type: PHYSICAL/CHEMICAL MONITORING

Data Used to Assess Water Quality: Water quality assessment was conducted at the Sausal Creek watershed as part of SWAMP study in 2004-2005. Continuous field monitoring at 15 minute increments of temperature, dissolved oxygen, pH and specific conductance was conducted to determine temporal variability in basic water quality at three locations. Continuous monitoring sondes were deployed 11 times at 2 or 3 monitoring locations during wet, spring and two dry seasons. The measured temperatures ranged from 8.5°C to 19°C and varied with season and location. During both dry season deployments at all 3 monitoring locations the 7-day mean temperature threshold for steelhead was exceeded. In total, the 17 °C criterion was exceeded in 3 out of 11 deployments.

Data Reference: [Data collected by the Surface Water Ambient Monitoring Program, San Francisco Bay Regional Water Quality Control Board. Years 4 and 5 Assessment](#)

SWAMP Data: SWAMP

Water Quality Objective/Criterion: Temperature objectives for enclosed bays and estuaries are specified in the "Water Quality Control Plan for Control of Temperature in the Coastal and Interstate Waters and Enclosed Bays of California" including any revisions to the plan. In addition, the following temperature objectives apply to surface waters: The natural receiving water temperature of intrastate waters shall not be altered unless it can be demonstrated to the satisfaction of the Regional Board that such an alteration does not adversely affect beneficial uses. The temperature of any cold or warm freshwater habitat shall not be increased by more than 5°F (2.8°C) above natural receiving water temperature.

Objective/Criterion Reference: [Water Quality Control Plan \(Basin Plan\) - San Francisco Bay Region \(Region 2\)](#)

Evaluation Guideline: Sullivan et al. (2000) reviewed a wide range of studies incorporating information from laboratory-based research, field observations, and risk assessment approaches and developed criteria for assessing temperature risk to aquatic life. The 7-day mean temperature (maximum value of a 7-day moving average of the daily mean temperature) of 14.8°C was established as the upper threshold criterion for coho salmon and 17.0°C for steelhead trout. The risk assessment approach used by Sullivan et al. (2000) suggest that temperatures exceeding the above thresholds will cause a 10% reduction in average growth compared to optimal conditions.

Guideline Reference: [An Analysis of the Effects of Temperature on Salmonids of the Pacific Northwest with Implications for Selecting Temperature Criteria](#)

Spatial Representation: Temperature was measured at four sites located on the mainstream of Sausal Creek that are representative of the entire creek length. The highest temperatures were recorded at the downstream station August and September 2004.

Temporal Representation: In 2004 and 2005 the SWAMP Program performed continuous monitoring of temperature

at 15 minute intervals for periods of 1-2 weeks in each of three different seasons: winter (3 sites), spring (2 sites), and two summer dry seasons (3 sites each season).

Environmental Conditions:

QAPP Information:

All samples were collected and analyzed using procedures comparable with the SWAMP Quality Assurance Management Plan (SWRCB 2002).

QAPP Information Reference(s):

DECISION ID	43553	Region 2
Sausal Creek		

Pollutant:	Toxicity
Final Listing Decision:	Do Not List on 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision:	Do Not List on 303(d) list (TMDL required list)(2012)
Revision Status	Original
Impairment from Pollutant or Pollution:	Pollutant

Regional Board Staff Conclusion:	This pollutant is being considered for placement on the section 303(d) list under section 3.1 of the Listing Policy. Under section 3.1 a single line of evidence is necessary to assess listing status. One line of evidence is available in the administrative record to assess this pollutant. None of the samples exceed the water quality objective. Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against placing this water segment-pollutant combination on the section 303(d) list in the Water Quality Limited Segments category. This conclusion is based on the staff findings that: 1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy. 2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy. 3. None of the three samples exceeded the water quality objective (Basin Plan) and this does not exceed the allowable frequency listed in Table 3.1 of the Listing Policy. 4. Pursuant to section 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.
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Regional Board Staff Decision Recommendation:	This is a decision previously approved by the State Water Resources Control Board and the USEPA. No new data were assessed by the Regional Board for the current. The decision has not changed.
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Line of Evidence (LOE) for Decision ID 43553, Toxicity	Region 2
Sausal Creek	

LOE ID:	28779
Pollutant:	Toxicity
LOE Subgroup:	Pollutant-Water
Matrix:	Water
Fraction:	None
Beneficial Use:	Warm Freshwater Habitat
Number of Samples:	3
Number of Exceedances:	0
Data and Information Type:	TOXICITY TESTING
Data Used to Assess Water Quality:	Three samples were collected in 2005 to evaluate water toxicity at one monitoring location near the mouth of Sausal Creek. The toxicity tests included survival and reproduction of Ceriodaphnia, survival and growth of fathead minnow, and growth of Selenastrum. None of the samples exceeded the water quality guidelines.
Data Reference:	Data collected by the Surface Water Ambient Monitoring Program, San Francisco Bay Regional Water Quality Control Board. Years 4 and 5 Assessment
SWAMP Data:	SWAMP

Water Quality Objective/Criterion:	All waters shall be maintained free of toxic substances that are lethal to or that produce other detrimental responses in aquatic organisms. There shall be no chronic toxicity in ambient waters. Chronic toxicity is a detrimental biological effect on growth rate, reproduction, fertilization success, larval development, population abundance, community composition, or any other relevant measure of the health of an organism, population, or community.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) - San Francisco Bay Region (Region 2)
Evaluation Guideline:	Water toxicity was evaluated according to the SWAMP methodology. The U.S.EPA whole effluent toxicity protocol (U.S.EPA 1994) was used to test the effect of water samples on three freshwater test organisms. Statistical evaluation (alpha = 0.05) and a default threshold of 80% of the control value were used to establish whether water exhibited significant toxicity adversely impacting aquatic organisms.
Guideline Reference:	Revised approach to toxicity test acceptability criteria using a statistical performance assessment. Environmental Toxicology and Chemistry, vol. 16, No. 6, pp 1322?1329 Short-Term Methods for Estimating the Chronic Toxicity of Effluents and Receiving Waters to Freshwater Organisms. EPA/600/4-91/002. Third Edition. July 1994
Spatial Representation:	Data were collected at one sampling location, SAU030, (Sausal Creek at E. 22nd) located at the downstream portion of the creek.
Temporal Representation:	SWAMP samples were collected during winter wet season (January), spring season (April), and dry season (June) of 2005.
Environmental Conditions:	
QAPP Information:	All samples were collected and analyzed using procedures comparable with the SWAMP Quality Assurance Management Plan (SWRCB, 2002).
QAPP Information Reference(s):	Quality Assurance Management Plan for the State of California's Surface Water Ambient Monitoring Program. Sacramento, CA. State Water Resources Control Board. SWAMP. December 2002 (1st version)

Line of Evidence (LOE) for Decision ID 43553, Toxicity

Region 2

Sausal Creek

LOE ID:	28863
Pollutant:	Sediment Toxicity
LOE Subgroup:	Pollutant-Sediment
Matrix:	Sediment
Fraction:	None
Beneficial Use:	Warm Freshwater Habitat
Number of Samples:	1
Number of Exceedances:	1
Data and Information Type:	TOXICITY TESTING
Data Used to Assess Water Quality:	Data used to evaluate sediment toxicity comprise one sediment sample collected by the SWAMP in spring 2005. This sample displayed statistically significant toxicity during the Hyalella azteca test. Hyalella azteca growth was only 63% of the control.
Data Reference:	Data collected by the Surface Water Ambient Monitoring Program. San Francisco Bay Regional Water Quality Control Board. Years 4 and 5 Assessment
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	All waters shall be maintained free of toxic substances that are lethal to or that produce other detrimental responses in aquatic organisms. There shall be no chronic toxicity in ambient waters. Chronic toxicity is a detrimental biological effect on growth rate, reproduction, fertilization success, larval development, population abundance, community composition, or any other relevant measure of the health of an organism, population, or community.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) - San Francisco Bay Region (Region 2)

Evaluation Guideline:	Sediment toxicity was evaluated according to the SWAMP methodology. Sample toxicity was determined by comparing mean organism response in samples and in negative controls. Statistical evaluation ($\alpha = 0.05$) and a default threshold of 80% of the control value were used to establish whether the sediment exhibited significant toxicity adversely impacting aquatic organisms.
Guideline Reference:	Revised approach to toxicity test acceptability criteria using a statistical performance assessment. Environmental Toxicology and Chemistry, vol. 16, No. 6, pp 1322?1329
Spatial Representation:	Data were collected at one sampling location at the lower part of Sausal Creek.
Temporal Representation:	A sample was collected in spring season (April 2005).
Environmental Conditions:	
QAPP Information:	All samples were collected and analyzed using procedures comparable with the SWAMP Quality Assurance Management Plan (SWRCB, 2002).
QAPP Information Reference(s):	Quality Assurance Management Plan for the State of California's Surface Water Ambient Monitoring Program. Sacramento, CA. State Water Resources Control Board. SWAMP. December 2002 (1st version)

DECISION ID	43424	Region 2
Sausal Creek		

Pollutant:	pH
Final Listing Decision:	Do Not List on 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision:	Do Not List on 303(d) list (TMDL required list)(2012)
Revision Status	Original
Impairment from Pollutant or Pollution:	Pollutant

Regional Board Staff Conclusion:	This pollutant is being considered for placement on the section 303(d) list under section 3.2 of the Listing Policy. Under section 3.2 a single line of evidence is necessary to assess listing status. One line of evidence is available in the administrative record to assess this pollutant. None of the samples exceed the water quality objective. Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against placing this water segment-pollutant combination on the section 303(d) list in the Water Quality Limited Segments category. This conclusion is based on the staff findings that: 1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy. 2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy. 3. None of the eleven samples exceeded the water quality objective (Basin Plan) and this does not exceed the allowable frequency listed in Table 3.2 of the Listing Policy. 4. Pursuant to section 3.11 of the Listing Policy, no additional data and information are available indicating that standards are
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Regional Board Staff Decision Recommendation:	This is a decision previously approved by the State Water Resources Control Board and the USEPA. No new data were assessed by the Regional Board for the current. The decision has not changed.
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Line of Evidence (LOE) for Decision ID 43424, pH	Region 2
Sausal Creek	

LOE ID:	28710
Pollutant:	pH
LOE Subgroup:	Pollutant-Water
Matrix:	Water
Fraction:	None
Beneficial Use:	Warm Freshwater Habitat
Number of Samples:	11
Number of Exceedances:	0

Data and Information Type:	PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality:	Comprehensive water quality assessment was conducted at Sausal Creek watershed as part of SWAMP assessment in 2004 and 2005. Continuous field monitoring of temperature, dissolved oxygen, pH, and specific conductance to determine temporal variability in basic water quality at one or two locations. The pH ranged from 6.7 to 8.3 and varied with season. The pH did not exceed the maximum or go below the minimum during any sampling event.
Data Reference:	Data collected by the Surface Water Ambient Monitoring Program, San Francisco Bay Regional Water Quality Control Board. Years 4 and 5 Assessment
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	The pH shall not be depressed below 6.5 nor raised above 8.5. This encompasses the pH range usually found in waters within the basin. Controllable water quality factors shall not cause changes greater than 0.5 units in normal ambient pH levels.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) - San Francisco Bay Region (Region 2)
Evaluation Guideline:	
Guideline Reference:	
Spatial Representation:	pH was measured at two or three sites located on the mainstem of Sausal Creek that represent the entire creek length.
Temporal Representation:	At all locations the SWAMP performed continuous monitoring of pH at 15 minute intervals lasting 7-10 days during spring (May 2004), summer dry seasons (August and September 2004), and winter wet season (February 2005).
Environmental Conditions:	
QAPP Information:	All samples were collected and analyzed using procedures comparable with the SWAMP Quality Assurance Management Plan (SWRCB 2002).
QAPP Information Reference(s):	

Draft California 2016 Integrated Report (303(d) List/305(b) Report)

Supporting Information

Regional Board 2 - San Francisco Bay Region

Water Body Name: Silver Creek (Santa Clara County)
Water Body ID: CAR2053008020080624170225
Water Body Type: River & Stream

DECISION ID 35080

Region 2

Silver Creek (Santa Clara County)

Pollutant: Trash
Final Listing Decision: Do Not Delist from 303(d) list (being addressed with action other than TMDL)
Last Listing Cycle's Final Listing Decision: List on 303(d) list (TMDL required list)(2012)
Revision Status: Revised
Sources: Source Unknown
Expected Attainment Date: 2029
Implementation Action Other than TMDL: This trash listing will be addressed by implementing the trash control provisions of the Water Quality Control Plan for Inland Surface Waters, Enclosed Bays, and Estuaries of California through the NPDES MS4 permit applicable to this waterbody.
Impairment from Pollutant or Pollution: Pollutant

Regional Board Staff Conclusion: This pollutant is being considered for placement on the section 303(d) list under section 3.11 of the Listing Policy. Under section 3.11, listing may be proposed based on the situation-specific weight of evidence. One line of evidence is available in the administrative record to assess this pollutant. The line of evidence consists of data from field visits/trash surveys conducted according to the Urban Rapid Trash Assessment (URTA) methodology developed by the Santa Clara Valley Urban Runoff Pollution Prevention Program (SCVURPPP). Based on the readily available trash assessment data for this waterbody, the weight of evidence indicates that there is sufficient justification available in favor of placing this water segment-pollutant combination to the section 303(d) list in the Water Quality Limited Segments category. This conclusion is based on the staff findings that: 1. Data have been evaluated that supports this decision. 2. The Urban Rapid Trash Assessment methodology results showed that this waterbody had transportable, Persistent, Buoyant Litter parameter scores in the marginal urban and poor category (indicating threat to Wildlife Habitat beneficial uses) at two different locations on the only date monitored. 3. This waterbody is considered impaired by trash because there were exceedances of the evaluation guideline (poor condition category for the trash assessment metric) in more than one location or on more than one date. 4. The data used satisfy the data quality requirements of section 6.1.4 of the Policy. 5. The data used satisfy the data quantity requirements of section 6.1 of the Policy. 6. This trash listing will be addressed by implementing the trash control provisions of the Water Quality Control Plan for Inland Surface Waters, Enclosed Bays, and Estuaries of California through the NPDES MS4 permit applicable to this waterbody.

Regional Board Staff Decision Recommendation: After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be removed from the section 303(d) list because applicable water quality standards for the pollutant are being exceeded.

Line of Evidence (LOE) for Decision ID 35080, Trash

Region 2

Silver Creek (Santa Clara County)

LOE ID: 5539

Pollutant: Trash
LOE Subgroup: Pollutant-Nuisance

Matrix:	Not Specified
Fraction:	None
Beneficial Use:	Wildlife Habitat
Number of Samples:	3
Number of Exceedances:	2
Data and Information Type:	Occurrence of conditions judged to cause impairment
Data Used to Assess Water Quality:	Data results were obtained through application of the Urban Rapid Trash Assessment (URTA) methodology, developed by the Santa Clara Valley Urban Runoff Pollution Prevention Program. The URTA is a modification of the Rapid Trash Assessment (RTA) developed by the Surface Water Ambient Monitoring Program (SWAMP). The URTA method documents the total number and characteristics of pieces of trash per one hundred feet of stream or shoreline. The trash assessment protocol involves picking up and tallying all of the trash items found within the defined boundaries of a site. The tally results for level of trash (relating to REC2) and transportable, persistent, buoyant litter (relating to WILD) assessment parameters were considered for the listing determination. These results are available for field visits/trash surveys conducted in March 2005, according to the Urban Rapid Trash Assessment (URTA) methodology. This waterbody had transportable, Persistent, Buoyant Litter parameter scores in the marginal urban and poor category (indicating threat to Wildlife Habitat beneficial uses) at two different locations on the only date monitored.
Data Reference:	Memo: Development of Urban Rapid Trash Assessment Protocol. March 13, 2006 Spreadsheet of Urban Rapid Trash Assessment (URTA) data collected by the Santa Clara Valley Urban Runoff Pollution Prevention Program, 2004-2007
SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	<p>The Basin Plan prohibits discharge of Rubbish, refuse, bark, sawdust, or other solid wastes into surface waters or at any place where they would contact or where they would be eventually transported to surface waters, including flood plain areas.</p> <p>The Basin Plan has a narrative objective for floating material, Waters shall not contain floating material, including solids, liquids, foams, and scum, in concentrations that cause nuisance or adversely affect beneficial uses.</p> <p>The Basin Plan has a narrative objective for settleable material, Waters shall not contain substances in concentrations that result in the deposition of material that cause nuisance or adversely affect beneficial uses.</p>
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) - San Francisco Bay Region (Region 2)
Evaluation Guideline:	If the URTA Parameter 3 (Transportable, Persistent, Buoyant Litter) is in the marginal urban or poor condition category (scores 0-10), then WILD is not supported. The URTA defines marginal urban or poor condition for this parameter as follows. this level of trash is a medium prevalence (76-200 pieces) or large amount (>200 pieces) of transportable, persistent, buoyant litter such as: hard or soft plastics, styrofoam, balloons, cigarette butts. These types of items are all detrimental to aquatic life.
Guideline Reference:	Memo: Development of Urban Rapid Trash Assessment Protocol. March 13, 2006
Spatial Representation:	URTA data were collected for this waterbody in three locations in March 2005.
Temporal Representation:	URTA data were collected for this waterbody on only one date in March 2005.
Environmental Conditions:	
QAPP Information:	Data were collected by trained staff in accordance with URTA methodology developed by SCVURPPP and are deemed reliable and of sufficient quality on which to base listing determinations.
QAPP Information Reference(s):	

Draft California 2016 Integrated Report (303(d) List/305(b) Report)

Supporting Information

Regional Board 2 - San Francisco Bay Region

Water Body Name: Suisun Creek
Water Body ID: CAR2072201220080624165213
Water Body Type: River & Stream

DECISION ID 43880 **Region 2**
Suisun Creek

Pollutant: Ammonia (Unionized) | Nitrogen, ammonia (Total Ammonia)
Final Listing Decision: Do Not List on 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision: Do Not List on 303(d) list (TMDL required list)(2012)
Revision Status Original
Impairment from Pollutant or Pollution: Pollutant

Regional Board Staff Conclusion: These pollutants are being considered for placement on the section 303(d) list under section 3.2 of the Listing Policy. Under section 3.2 a single line of evidence is necessary to assess listing status. One line of evidence is available in the administrative record to assess this pollutant. None of the samples exceed the water quality objective. Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against placing this water segment-pollutant combination on the section 303(d) list in the Water Quality Limited Segments category. This conclusion is based on the staff findings that: 1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy. 2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy. 3. None of eighteen samples exceeded the water quality objective and this does not exceed the allowable frequency listed in Table 3.2 of the Listing Policy. 4. Pursuant to section 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.

Regional Board Staff Decision Recommendation: This is a decision previously approved by the State Water Resources Control Board and the USEPA. No new data were assessed by the Regional Board for the current. The decision has not changed.

Line of Evidence (LOE) for Decision ID 43880, Multiple Pollutants **Region 2**

Suisun Creek

LOE ID: 28064
Pollutant: Ammonia (Unionized) | Nitrogen, ammonia (Total Ammonia)
LOE Subgroup: Pollutant-Water
Matrix: Water
Fraction: None
Beneficial Use: Cold Freshwater Habitat
Number of Samples: 18
Number of Exceedances: 0
Data and Information Type: PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality: Eighteen water samples were assessed for total ammonia and un-ionized ammonia. None of them exceeded the evaluation criteria.
Data Reference: [Water Quality Monitoring and Bioassessment in Nine San Francisco Bay Region Watersheds: Walker Creek, Lagunitas Creek, San Leandro Creek, Wildcat Creek/San Pablo Creek, Suisun Creek, Arroyo Las Positas, Pescadero Creek/Butano Creek, San](#)

SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	All waters shall be maintained free of toxic substances in concentrations that produce detrimental physiological responses in human, plant, animal, or aquatic life. The discharge of wastes shall not cause receiving water to contain concentrations of un-ionized ammonia in excess of 0.025mg/l annual median.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) - San Francisco Bay Region (Region 2)
Evaluation Guideline:	For Total Ammonia: EPA's Lifetime Health advisory level for total ammonia is 30.0 mg/L as stated on page 8 of the 2006 edition of the drinking water standards and health advisories. This Advisory Level is defined as "the concentration of a chemical in drinking water that is not expected to cause any adverse noncarcinogenic effects for up to ten days of exposure."
Guideline Reference:	2006 edition of the drinking water standards and health advisories. EPA 822-R-03-013
Spatial Representation:	Samples were collected from eight monitoring locations (SUI010, SUI020, 207SUI060, SUI110, SUI125, SUI130, SUI180 and SUI210) representative of the entire watershed.
Temporal Representation:	Samples were collected from three seasons, dry, spring and wet seasons.
Environmental Conditions:	
QAPP Information:	The QA was in compliance with SWAMP Quality Assurance Management Plan.
QAPP Information Reference(s):	

DECISION ID	43773	Region 2
Suisun Creek		

Pollutant:	Anthracene Benzo(a)anthracene Benzo(a)pyrene (3,4-Benzopyrene -7-d) Chlordane Chrysene (C1-C4) DDD (Dichlorodiphenyldichloroethane) DDE (Dichlorodiphenyldichloroethylene) DDT (Dichlorodiphenyltrichloroethane) Dieldrin Endrin Fluoranthene Fluorene Heptachlor epoxide Lindane/gamma Hexachlorocyclohexane (gamma-HCH) Naphthalene PAHs (Polycyclic Aromatic Hydrocarbons) PCBs (Polychlorinated biphenyls) Phenanthrene Pyrene
Final Listing Decision:	Do Not List on 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision:	Do Not List on 303(d) list (TMDL required list)(2012)
Revision Status	Original
Impairment from Pollutant or Pollution:	Pollutant
Regional Board Staff Conclusion:	These pollutants are being considered for placement on the section 303(d) list under section 3.1 of the Listing Policy. Under this section a single line of evidence is necessary to assess listing status. One line of evidence is available in the administrative record to assess this pollutant. Zero samples exceed the water quality objective. Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against placing this water segment-pollutant combination on the section 303(d) list in the Water Quality Limited Segments category. This conclusion is based on the staff findings that: 1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy. 2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy. 3. Zero of one sample exceeded the water quality objective, but this sample size is insufficient to determine with the power and confidence of the Listing Policy if standards are not met. A minimum of two samples are needed for application of table 3.1. 4. Pursuant to section 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.
Regional Board Staff Decision Recommendation:	This is a decision previously approved by the State Water Resources Control Board and the USEPA. No new data were assessed by the Regional Board for the current. The decision has not changed.

Line of Evidence (LOE) for Decision ID 43773, Multiple Pollutants	Region 2
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Suisun Creek

LOE ID:	28513
Pollutant:	Anthracene Benzo(a)anthracene Benzo(a)pyrene (3,4-Benzopyrene -7-d) Chlordane Chrysene (C1-C4) DDD (Dichlorodiphenyldichloroethane) DDE (Dichlorodiphenyldichloroethylene) DDT (Dichlorodiphenyltrichloroethane) Dieldrin Endrin Fluoranthene Fluorene Heptachlor epoxide Lindane/gamma Hexachlorocyclohexane (gamma-HCH) Naphthalene PAHs (Polycyclic Aromatic Hydrocarbons) PCBs (Polychlorinated biphenyls) Phenanthrene Pyrene
LOE Subgroup:	Pollutant-Sediment
Matrix:	Sediment
Fraction:	None
Beneficial Use:	Cold Freshwater Habitat
Number of Samples:	1
Number of Exceedances:	0
Data and Information Type:	PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality:	Concentrations of anthracene, fluorene, naphthalene, phenanthrene, benz(a)anthracene, benzo(a)pyrene, chrysene, fluoranthene, pyrene, PAH (total), PCB (total), chlordane, dieldrin, DDD/DDE/DDT, endrin, heptachlor epoxide, and HCH, gamma in one sediment sample collected in spring 2005 did not exceed the sediment quality guidelines.
Data Reference:	Water Quality Monitoring and Bioassessment in Nine San Francisco Bay Region Watersheds: Walker Creek, Lagunitas Creek, San Leandro Creek, Wildcat Creek/San Pablo Creek, Suisun Creek, Arroyo Las Positas, Pescadero Creek/Butano Creek, San Gregorio Creek, and Stevens Creek/Permanente Creek. Oakland, CA: Surface Water Ambient Monitoring Program, San Francisco Bay Regional Water Quality Control Board
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	All waters shall be maintained free of toxic substances that are lethal to or that produce other detrimental responses in aquatic organisms.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) - San Francisco Bay Region (Region 2)
Evaluation Guideline:	Sediment Quality Guidelines (MacDonald et al., 2000): PEC (probable effect concentration) Anthracene - 845 ug/kg; Fluorene - 536 ug/kg; Naphthalene - 561 ug/kg; Phenanthrene -1170 ug/kg; Benz(a)anthracene - 1050 ug/kg; Benzo(a)pyrene - 1450 ug/kg; Chrysene - 1290 ug/kg; Fluoranthene - 2230 ug/kg; Pyrene - 1520 ug/kg; PAH (total) - 22800 ug/kg; PCB (total) - 676 ug/kg; Chlordane - 17.6 ug/kg; Dieldrin - 61.8 ug/kg; DDD (sum op + pp) - 28 ug/kg; DDE (sum op + pp) - 31.3 ug/kg; DDT (sum op + pp) - 62.9 ug/kg; DDT (total) - 572 ug/kg; Endrin - 207 ug/kg; Heptachlor epoxide - 16 ug/kg; HCH, gamma - 4.99 ug/kg.
Guideline Reference:	Development and evaluation of consensus-based sediment quality guidelines for freshwater ecosystems. Environmental Contamination and Toxicology. 39: 20-31
Spatial Representation:	One sediment sample was collected from Suisun Creek at Rockville.
Temporal Representation:	Sediment sample was collected in June of 2002.
Environmental Conditions:	
QAPP Information:	All samples were collected and analyzed using procedures comparable with the SWAMP Quality Assurance Management Plan (SWRCB, 2002).
QAPP Information Reference(s):	

DECISION ID	43774	Region 2
Suisun Creek		

Pollutant:	Arsenic Cadmium Chromium (total) Copper Lead Mercury Nickel Zinc
Final Listing Decision:	Do Not List on 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision:	Do Not List on 303(d) list (TMDL required list)(2012)

Revision Status
Impairment from Pollutant or
Pollution:

Original
Pollutant

Regional Board Staff
Conclusion:

These pollutants are being considered for placement on the section 303(d) list under section 3.1 of the Listing Policy. Under this section a single line of evidence is necessary to assess listing status. One line of evidence is available in the administrative record to assess this pollutant. Zero samples exceed the water quality objective. Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against placing this water segment-pollutant combination on the section 303(d) list in the Water Quality Limited Segments category. This conclusion is based on the staff findings that: 1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy. 2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy. 3. Zero of one sample exceeded the water quality objective, but this sample size is insufficient to determine with the power and confidence of the Listing Policy if standards are not met. A minimum of two samples are needed for application of table 3.1. 4. Pursuant to section 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.

Regional Board Staff Decision
Recommendation:

This is a decision previously approved by the State Water Resources Control Board and the USEPA. No new data were assessed by the Regional Board for the current. The decision has not changed.

Line of Evidence (LOE) for Decision ID 43774, Multiple Pollutants

Region 2

Suisun Creek

LOE ID: 28658

Pollutant: Arsenic | Cadmium | Chromium (total) | Copper | Lead | Mercury | Nickel | Zinc
LOE Subgroup: Pollutant-Sediment
Matrix: Sediment
Fraction: Total

Beneficial Use: Cold Freshwater Habitat

Number of Samples: 1
Number of Exceedances: 0

Data and Information Type: PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality: Concentrations of arsenic, cadmium, chromium, copper, lead, mercury, nickel and zinc in one sediment sample collected in June 2002 did not exceed the sediment quality guidelines.

Data Reference: [Water Quality Monitoring and Bioassessment in Nine San Francisco Bay Region Watersheds: Walker Creek, Lagunitas Creek, San Leandro Creek, Wildcat Creek/San Pablo Creek, Suisun Creek, Arroyo Las Positas, Pescadero Creek/Butano Creek, San Gregorio Creek, and Stevens Creek/Permanente Creek, Oakland, CA: Surface Water Ambient Monitoring Program, San Francisco Bay Regional Water Quality Control Board](#)

SWAMP Data: SWAMP

Water Quality Objective/Criterion: All waters shall be maintained free of toxic substances that are lethal to or that produce other detrimental responses in aquatic organisms.

Objective/Criterion Reference: [Water Quality Control Plan \(Basin Plan\) - San Francisco Bay Region \(Region 2\)](#)

Evaluation Guideline: Sediment Quality Guidelines (MacDonald et al., 2000): PEC (probable effect concentration) arsenic - 33 mg/kg dw; cadmium - 4.98 mg/kg dw; chromium - 111 mg/kg dw; copper - 149 mg/kg dw; lead - 128 mg/kg dw; mercury - 1.06 mg/kg dw; nickel - 48.6 mg/kg dw; zinc - 459 mg/kg dw.

Guideline Reference: [Development and evaluation of consensus-based sediment quality guidelines for freshwater ecosystems. Environmental Contamination and Toxicology. 39: 20-31](#)

Spatial Representation: One sediment sample was collected at a "watershed integrator" site located close to the mouth of Suisun Creek at Rockville.

Temporal Representation:	Sediment sample was collected in June of 2002.
Environmental Conditions:	
QAPP Information:	All samples were collected and analyzed using procedures comparable with the SWAMP Quality Assurance Management Plan (SWRCB, 2002).
QAPP Information Reference(s):	

DECISION ID	43984	Region 2
Suisun Creek		

Pollutant:	Arsenic Chromium (total) Copper Lead Nickel Silver Zinc
Final Listing Decision:	Do Not List on 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision:	Do Not List on 303(d) list (TMDL required list)(2012)
Revision Status	Original
Impairment from Pollutant or Pollution:	Pollutant

Regional Board Staff Conclusion: These pollutants are being considered for placement on the section 303(d) list under section 3.1 of the Listing Policy. Under section 3.1 a single line of evidence is necessary to assess listing status. One line of evidence is available in the administrative record to assess this pollutant. None of the samples exceed the water quality objective. Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against placing this water segment-pollutant combination on the section 303(d) list in the Water Quality Limited Segments category. This conclusion is based on the staff findings that: 1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy. 2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy. 3. None of seven samples exceeded the water quality objective and this does not exceed the allowable frequency listed in Table 3.1 of the Listing Policy. 4. Pursuant to section 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.

Regional Board Staff Decision Recommendation: This is a decision previously approved by the State Water Resources Control Board and the USEPA. No new data were assessed by the Regional Board for the current. The decision has not changed.

Line of Evidence (LOE) for Decision ID 43984, Multiple Pollutants	Region 2
Suisun Creek	

LOE ID:	28859
Pollutant:	Arsenic Chromium (total) Copper Lead Nickel Silver Zinc
LOE Subgroup:	Pollutant-Water
Matrix:	Water
Fraction:	Dissolved
Beneficial Use:	Cold Freshwater Habitat
Number of Samples:	7
Number of Exceedances:	0
Data and Information Type:	PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality:	The Suisun Creek watershed was monitored as part of SWAMP assessment. None of the three samples exceeded the water quality objectives for arsenic, chromium VI, copper, lead, nickel, silver and zinc. Concentrations of total dissolved chromium were well below the objective for chromium VI.
Data Reference:	Water Quality Monitoring and Bioassessment in Nine San Francisco Bay Region Watersheds: Walker Creek, Lagunitas Creek, San Leandro Creek, Wildcat Creek/San Pablo Creek, Suisun Creek, Arroyo Las Positas, Pescadero Creek/Butano Creek, San Gregorio Creek, and Stevens Creek/Permanente Creek. Oakland, CA: Surface Water Ambient Monitoring Program, San Francisco Bay Regional Water Quality Control Board

SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	All waters shall be maintained free of toxic substances that are lethal to or that produce other detrimental responses in aquatic organisms. Table 3-4 in the Basin Plan (2007) lists freshwater water quality objectives for toxic pollutants: arsenic- 150 ug/L, chromium VI- 11 ug/L, copper - 9.0 ug/L, lead - 2.5 ug/L; nickel - 52 ug/L, silver-3.4 ug/L and zinc - 120 ug/L.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) - San Francisco Bay Region (Region 2)
Evaluation Guideline:	
Guideline Reference:	
Spatial Representation:	Data were collected at three or four sampling locations on Suisun Creek - SUI010 (Cordelia), SUI020 (Rockville), SUI060 (Putah South Canal), and SUI110 (Wooden Valley).
Temporal Representation:	Samples were collected during spring (3 sites) and dry (4 sites) seasons of the 2001-2002 sampling season.
Environmental Conditions:	
QAPP Information:	All samples were collected and analyzed using procedures comparable with the SWAMP Quality Assurance Management Plan (SWRCB, 2002).
QAPP Information Reference(s):	Quality Assurance Management Plan for the State of California's Surface Water Ambient Monitoring Program. Sacramento, CA. State Water Resources Control Board. SWAMP. December 2002 (1st version)

DECISION ID	43881	Region 2
Suisun Creek		
Pollutant:	Cadmium	
Final Listing Decision:	Do Not List on 303(d) list (TMDL required list)	
Last Listing Cycle's Final Listing Decision:	Do Not List on 303(d) list (TMDL required list)(2012)	
Revision Status	Original	
Impairment from Pollutant or Pollution:	Pollutant	
Regional Board Staff Conclusion:	This pollutant is being considered for placement on the section 303(d) list under section 3.1 of the Listing Policy. Under section 3.1 a single line of evidence is necessary to assess listing status. One line of evidence is available in the administrative record to assess this pollutant. None of the samples exceed the water quality objective. Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against placing this water segment-pollutant combination on the section 303(d) list in the Water Quality Limited Segments category. This conclusion is based on the staff findings that: 1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy. 2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy. 3. None of seven samples exceeded the water quality objective and this does not exceed the allowable frequency listed in Table 3.1 of the Listing Policy. 4. Pursuant to section 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.	
Regional Board Staff Decision Recommendation:	This is a decision previously approved by the State Water Resources Control Board and the USEPA. No new data were assessed by the Regional Board for the current. The decision has not changed.	

Line of Evidence (LOE) for Decision ID 43881, Cadmium	Region 2
Suisun Creek	
LOE ID:	27995
Pollutant:	Cadmium
LOE Subgroup:	Pollutant-Water

Matrix:	Water
Fraction:	None
Beneficial Use:	Cold Freshwater Habitat
Number of Samples:	7
Number of Exceedances:	0
Data and Information Type:	PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality:	Seven water samples were assessed. The concentration of cadmium in all seven samples did not exceed the water quality objectives.
Data Reference:	Water Quality Monitoring and Bioassessment in Nine San Francisco Bay Region Watersheds: Walker Creek, Lagunitas Creek, San Leandro Creek, Wildcat Creek/San Pablo Creek, Suisun Creek, Arroyo Las Positas, Pescadero Creek/Butano Creek, San Gregorio Creek, and Stevens Creek/Permanente Creek, Oakland, CA: Surface Water Ambient Monitoring Program, San Francisco Bay Regional Water Quality Control Board
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	The Basin Plan states that the objective is expressed by formulas where $H = \ln(\text{hardness})$ as CaCO_3 in mg/l : The four-day average objective for cadmium is $e^{(0.7852H - 3.490)}$. This is 1.1 ug/l at a hardness of 100 mg/l as CaCO_3 . The one hour objective is $e^{(1.128H - 3.828)}$. This is 3.9 ug/l at a hardness of 100 mg/l as CaCO_3 .
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) - San Francisco Bay Region (Region 2)
Evaluation Guideline:	
Guideline Reference:	
Spatial Representation:	The samples were collected at four monitoring location (SUI010, SUI020, SUI060 and SUI110) representative of the entire watershed.
Temporal Representation:	The samples were collected in two seasons: Spring and Dry.
Environmental Conditions:	
QAPP Information:	The QA/QC procedure was in compliance with Surface Water Ambient Monitoring Program's (SWAMP) Quality Assurance Management Plan (QAMP).
QAPP Information Reference(s):	

DECISION ID	43890	Region 2
Suisun Creek		
Pollutant:	Chlorpyrifos Dacthal Diazinon Disulfoton Endosulfan Lindane/gamma Hexachlorocyclohexane (gamma-HCH) Methyl Parathion PCBs (Polychlorinated biphenyls) Thiobencarb/Bolero	
Final Listing Decision:	Do Not List on 303(d) list (TMDL required list)	
Last Listing Cycle's Final Listing Decision:	Do Not List on 303(d) list (TMDL required list)(2012)	
Revision Status	Original	
Impairment from Pollutant or Pollution:	Pollutant	
Regional Board Staff Conclusion:	<p>These pollutants are being considered for placement on the section 303(d) list under section 3.1 of the Listing Policy. Under section 3.1 a single line of evidence is necessary to assess listing status. One line of evidence is available in the administrative record to assess this pollutant. None of the samples exceed the water quality objective. Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against placing this water segment-pollutant combination on the section 303(d) list in the Water Quality Limited Segments category. This conclusion is based on the staff findings that: 1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy. 2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy. 3. [None of four samples exceeded the water quality objective and this does not exceed the allowable frequency listed in Table 3.1 of the Listing Policy. 4. Pursuant to section 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.</p>	

Regional Board Staff Decision Recommendation: This is a decision previously approved by the State Water Resources Control Board and the USEPA. No new data were assessed by the Regional Board for the current. The decision has not changed.

**Line of Evidence (LOE) for Decision ID 43890, Multiple Pollutants
Suisun Creek**

Region 2

LOE ID:	28990
Pollutant:	Chlorpyrifos Dacthal Diazinon Disulfoton Endosulfan Lindane/gamma Hexachlorocyclohexane (gamma-HCH) Methyl Parathion PCBs (Polychlorinated biphenyls) Thiobencarb/Bolero
LOE Subgroup:	Pollutant-Water
Matrix:	Water
Fraction:	None
Beneficial Use:	Cold Freshwater Habitat
Number of Samples:	4
Number of Exceedances:	0
Data and Information Type:	PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality:	The Suisun Creek watershed was monitored as part of SWAMP assessment. None of the four samples exceeded the water quality objectives for PCBs, Chlorpyrifos, Dacthal, diazinon, disulfoton, endosulfan, Lindane/gamma Hexachlorocyclohexane (gamma-HCH), methyl parathion, thiobencarb.
Data Reference:	Water Quality Monitoring and Bioassessment in Nine San Francisco Bay Region Watersheds: Walker Creek, Lagunitas Creek, San Leandro Creek, Wildcat Creek/San Pablo Creek, Suisun Creek, Arroyo Las Positas, Pescadero Creek/Butano Creek, San Gregorio Creek, and Stevens Creek/Permanente Creek, Oakland, CA: Surface Water Ambient Monitoring Program, San Francisco Bay Regional Water Quality Control Board Data collected by the Surface Water Ambient Monitoring Program, San Francisco Bay Regional Water Quality Control Board. Years 4 and 5 Assessment
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	All waters shall be maintained free of toxic substances that are lethal to or that produce other detrimental responses in aquatic organisms. There shall be no chronic toxicity in ambient waters. Chronic toxicity is a detrimental biological effect on growth rate, reproduction, fertilization success, larval development, population abundance, community composition, or any other relevant measure of the health of an organism, population, or community. Diazinon water quality objective, 0.1 ug/L (acute)
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) - San Francisco Bay Region (Region 2)
Evaluation Guideline:	PCBs - 0.014 ug/L freshwater continuous Concentration; Chlorpyrifos - 0.015 ug/L (chronic); Dacthal (DCPA) - 14300 ug/L (acute); Disulfoton (Disyston) - 0.05 ug/L (acute); Endosulfan - 0.056 ug/L (chronic)/0.22 ug/L (acute); HCH, gamma-(gamma BHC, Lindane) - 0.95 ug/L (acute); methyl parathion - 0.08 ug/L (acute); Thiobencarb - 3.1 ug/L (acute).
Guideline Reference:	National recommended water quality criteria: 2002. EPA-822-R-02-047 Washington, D.C. USEPA
Spatial Representation:	Data were collected at three sampling locations: SUI010 (Cordelia), SUI020 (Rockville), and SUI110 (Wooden Valley) in the Suisun Creek.
Temporal Representation:	Samples were collected at one or three locations during spring and dry seasons of the 2001 - 2002 sampling season.
Environmental Conditions:	
QAPP Information:	All samples were collected and analyzed using procedures comparable with the SWAMP Quality Assurance Management Plan (SWRCB, 2002).
QAPP Information Reference(s):	Quality Assurance Management Plan for the State of California's Surface Water Ambient

DECISION ID	43724	Region 2
Suisun Creek		

Pollutant:	Toxicity
Final Listing Decision:	Do Not List on 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision:	Do Not List on 303(d) list (TMDL required list)(2012)
Revision Status	Original
Impairment from Pollutant or Pollution:	Pollutant

Regional Board Staff Conclusion: This pollutant is being considered for placement on the section 303(d) list under section 3.1 of the Listing Policy. Under section 3.1 a single line of evidence is necessary to assess listing status. One line of evidence is available in the administrative record to assess this pollutant. None of the samples exceed the water quality objective. Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against placing this water segment-pollutant combination on the section 303(d) list in the Water Quality Limited Segments category. This conclusion is based on the staff findings that: 1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy. 2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy. 3. None of seven samples exceeded the water quality objective and this does not exceed the allowable frequency listed in Table 3.1 of the Listing Policy. 4. Pursuant to section 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.

Regional Board Staff Decision Recommendation: This is a decision previously approved by the State Water Resources Control Board and the USEPA. No new data were assessed by the Regional Board for the current. The decision has not changed.

Line of Evidence (LOE) for Decision ID 43724, Toxicity	Region 2
Suisun Creek	

LOE ID:	28826
Pollutant:	Toxicity
LOE Subgroup:	Pollutant-Water
Matrix:	Water
Fraction:	None
Beneficial Use:	Cold Freshwater Habitat
Number of Samples:	7
Number of Exceedances:	0
Data and Information Type:	TOXICITY TESTING
Data Used to Assess Water Quality:	Seven samples were collected in 2001 to evaluate water toxicity at four monitoring locations within the Suisun Creek watershed. The toxicity tests included survival and reproduction of Ceriodaphnia, survival and growth of fathead minnow, and growth of Selenastrum. None of the samples exhibited toxicity.
Data Reference:	Water Quality Monitoring and Bioassessment in Nine San Francisco Bay Region Watersheds: Walker Creek, Lagunitas Creek, San Leandro Creek, Wildcat Creek/San Pablo Creek, Suisun Creek, Arroyo Las Positas, Pescadero Creek/Butano Creek, San Gregorio Creek, and Stevens Creek/Permanente Creek, Oakland, CA: Surface Water Ambient Monitoring Program, San Francisco Bay Regional Water Quality Control Board
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	All waters shall be maintained free of toxic substances that are lethal to or that produce

Objective/Criterion Reference:	<p>other detrimental responses in aquatic organisms.</p> <p>There shall be no chronic toxicity in ambient waters. Chronic toxicity is a detrimental biological effect on growth rate, reproduction, fertilization success, larval development, population abundance, community composition, or any other relevant measure of the health of an organism, population, or community.</p> <p>Water Quality Control Plan (Basin Plan) - San Francisco Bay Region (Region 2)</p>
Evaluation Guideline:	<p>Water toxicity was evaluated according to the SWAMP methodology. The U.S.EPA whole effluent toxicity protocol (U.S.EPA 1994) was used to test the effect of water samples on three freshwater test organisms. Statistical evaluation (alpha = 0.05) and a default threshold of 80% of the control value were used to establish whether water exhibited significant toxicity adversely impacting aquatic organisms.</p>
Guideline Reference:	<p>Revised approach to toxicity test acceptability criteria using a statistical performance assessment. Environmental Toxicology and Chemistry, vol. 16, No. 6, pp 1322?1329</p> <p>Short-Term Methods for Estimating the Chronic Toxicity of Effluents and Receiving Waters to Freshwater Organisms. EPA/600/4-91/002. Third Edition. July 1994</p>
Spatial Representation:	<p>Data were collected at four sampling locations - SUI010 (Cordelia), SUI020 (Rockville), SUI060 (Putah South Canal), and SUI110 (Wooden Valley) on one or two occasions, representative of all of Suisun Creek, from the confluence of Wooden Valley Creek to the mouth of Suisun Creek.</p>
Temporal Representation:	<p>SWAMP samples were collected during dry (4 sites) and spring seasons (3 site) of 2001.</p>
Environmental Conditions:	
QAPP Information:	<p>All samples were collected and analyzed using procedures comparable with the SWAMP Quality Assurance Management Plan (SWRCB, 2002).</p>
QAPP Information Reference(s):	<p>Quality Assurance Management Plan for the State of California's Surface Water Ambient Monitoring Program. Sacramento, CA. State Water Resources Control Board. SWAMP. December 2002 (1st version)</p>

Line of Evidence (LOE) for Decision ID 43724, Toxicity

Region 2

Suisun Creek

LOE ID:	28834
Pollutant:	Sediment Toxicity
LOE Subgroup:	Pollutant-Sediment
Matrix:	Sediment
Fraction:	None
Beneficial Use:	Cold Freshwater Habitat
Number of Samples:	1
Number of Exceedances:	0
Data and Information Type:	Toxicity testing of sediments
Data Used to Assess Water Quality:	<p>Data used to evaluate sediment toxicity comprise one sediment sample collected by the SWAMP in 2001. No toxicity or adverse affects were exhibited for <i>Hyalloa azteca</i>.</p>
Data Reference:	<p>Water Quality Monitoring and Bioassessment in Nine San Francisco Bay Region Watersheds: Walker Creek, Lagunitas Creek, San Leandro Creek, Wildcat Creek/San Pablo Creek, Suisun Creek, Arroyo Las Positas, Pescadero Creek/Butano Creek, San Gregorio Creek, and Stevens Creek/Permanente Creek. Oakland, CA: Surface Water Ambient Monitoring Program, San Francisco Bay Regional Water Quality Control Board</p>
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	<p>All waters shall be maintained free of toxic substances that are lethal to or that produce other detrimental responses in aquatic organisms.</p> <p>There shall be no chronic toxicity in ambient waters. Chronic toxicity is a detrimental biological effect on growth rate, reproduction, fertilization success, larval development, population abundance, community composition, or any other relevant measure of the health of an organism, population, or community.</p>
Objective/Criterion Reference:	<p>Water Quality Control Plan (Basin Plan) - San Francisco Bay Region (Region 2)</p>

Evaluation Guideline:	Sediment toxicity was evaluated according to the SWAMP methodology. Sample toxicity was determined by comparing mean organism response in samples and in negative controls. Statistical evaluation ($\alpha = 0.05$) and a default threshold of 80% of the control value were used to establish whether the sediment exhibited significant toxicity adversely impacting aquatic organisms.
Guideline Reference:	Revised approach to toxicity test acceptability criteria using a statistical performance assessment. Environmental Toxicology and Chemistry, vol. 16, No. 6, pp 1322?1329
Spatial Representation:	One sediment sample was collected at a "watershed integrator" site located close to the mouth of Suisun Creek watershed (Rockville).
Temporal Representation:	Sample was collected in 2001.
Environmental Conditions:	
QAPP Information:	Samples were collected and analyzed using procedures comparable with the SWAMP Quality Assurance Management Plan (SWRCB 2002).
QAPP Information Reference(s):	Quality Assurance Management Plan for the State of California's Surface Water Ambient Monitoring Program. Sacramento, CA. State Water Resources Control Board. SWAMP. December 2002 (1st version)

DECISION ID	43789	Region 2
Suisun Creek		

Pollutant:	pH
Final Listing Decision:	Do Not List on 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision:	Do Not List on 303(d) list (TMDL required list)(2012)
Revision Status	Original
Impairment from Pollutant or Pollution:	Pollutant

Regional Board Staff Conclusion:	This pollutant is being considered for placement on the section 303(d) list under section 3.2 of the Listing Policy. Under section 3.2 a single line of evidence is necessary to assess listing status. One line of evidence is available in the administrative record to assess this pollutant. Four of the samples exceed the water quality objective. Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against placing this water segment-pollutant combination on the section 303(d) list in the Water Quality Limited Segments category. This conclusion is based on the staff findings that: 1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy. 2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy. 3. Four of twenty one samples exceeded the water quality objective and this does not exceed the allowable frequency listed in Table 3.2 of the Listing Policy. 4. Pursuant to section 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.
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Regional Board Staff Decision Recommendation:	This is a decision previously approved by the State Water Resources Control Board and the USEPA. No new data were assessed by the Regional Board for the current. The decision has not changed.
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Line of Evidence (LOE) for Decision ID 43789, pH	Region 2
Suisun Creek	

LOE ID:	29007
Pollutant:	pH
LOE Subgroup:	Pollutant-Water
Matrix:	Water
Fraction:	None
Beneficial Use:	Cold Freshwater Habitat
Number of Samples:	21

Number of Exceedances:	4
Data and Information Type:	PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality:	Water quality assessment was conducted at the Suisun Creek watershed as part of SWAMP study in 2002. Continuous field monitoring at 15 minute increments of temperature, dissolved oxygen, pH and specific conductance was conducted to determine temporal variability in basic water quality at between three and seven sites. Continuous monitoring sondes were deployed 21 times at 3 to 7 monitoring locations during wet, spring and two dry seasons. The pH ranged from 6.68 to 8.64. The pH exceeded the threshold in 4 out of 21 deployments, but not drop below the appropriate water quality threshold during any sampling event during the 2002 season.
Data Reference:	Water Quality Monitoring and Bioassessment in Nine San Francisco Bay Region Watersheds: Walker Creek, Lagunitas Creek, San Leandro Creek, Wildcat Creek/San Pablo Creek, Suisun Creek, Arroyo Las Positas, Pescadero Creek/Butano Creek, San Gregorio Creek, and Stevens Creek/Permanente Creek, Oakland, CA: Surface Water Ambient Monitoring Program, San Francisco Bay Regional Water Quality Control Board
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	The pH shall not be depressed below 6.5 nor raised above 8.5. This encompasses the pH range usually found in waters within the basin. Controllable water quality factors shall not cause changes greater than 0.5 units in normal ambient pH levels.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) - San Francisco Bay Region (Region 2)
Evaluation Guideline:	
Guideline Reference:	
Spatial Representation:	pH was measured at between three and seven sites located on the mainstream of Suisun Creek that are representative of the entire creek length.
Temporal Representation:	In 2002 the SWAMP Program performed continuous monitoring of pH at 15 minute intervals for periods of 1-2 weeks in each of four times: winter (3 sites), spring (7 sites), and two summer dry season (6, 5 sites).
Environmental Conditions:	
QAPP Information:	All samples were collected and analyzed using procedures comparable with the SWAMP Quality Assurance Management Plan (SWRCB, 2002).
QAPP Information Reference(s):	Quality Assurance Management Plan for the State of California's Surface Water Ambient Monitoring Program, Sacramento, CA, State Water Resources Control Board, SWAMP, December 2002 (1st version)

DECISION ID	34233	Region 2
Suisun Creek		

Pollutant:	Oxygen, Dissolved
Final Listing Decision:	List on 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision:	List on 303(d) list (TMDL required list)(2012)
Revision Status	Original
Sources:	Source Unknown
Expected TMDL Completion Date:	2021
Impairment from Pollutant or Pollution:	Pollutant
Regional Board Staff Conclusion:	This pollutant is being considered for listing under section 3.2 of the Listing Policy. Under section 3.2 a single line of evidence is necessary to assess listing status. One line of evidence is available in the administrative record to assess this pollutant. A sufficient number of samples exceeds the water quality objective. Based on the readily available data for this water body, the weight of evidence indicates that there is sufficient justification available in favor of adding this water segment-pollutant combination to the section 303(d) list in the Water Quality Limited Segments category. This conclusion is based on the staff findings that: 1. The data concerning current conditions and supporting the listing decision were collected as part of the SWAMP and satisfy the data quality

requirements of section 6.1.4 of the Policy. 2. The data used satisfy the data quantity requirements of section 6.1.5 of the Policy. 3. Dissolved oxygen measurements at 6 of all 20 continuous deployments were below the Basin Plan objective for waters designated as cold water habitat and this exceeds the allowable frequency listed in Table 3.2 of the Listing Policy. 4. Pursuant to section 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.

Regional Board Staff Decision Recommendation: This is a decision previously approved by the State Water Resources Control Board and the USEPA. No new data were assessed by the Regional Board for the current. The decision has not changed.

**Line of Evidence (LOE) for Decision ID 34233, Oxygen, Dissolved
Suisun Creek**

Region 2

LOE ID: 5179

Pollutant: Low Dissolved Oxygen

LOE Subgroup: Pollutant-Water

Matrix: Water

Fraction: None

Beneficial Use: Cold Freshwater Habitat

Aquatic Life Use: Wildlife Habitat

Number of Samples: 20

Number of Exceedances: 6

Data and Information Type: PHYSICAL/CHEMICAL MONITORING

Data Used to Assess Water Quality: Comprehensive water quality assessment was conducted at the Suisun Creek watershed as part of SWAMP assessment. Continuous field monitoring of temperature, dissolved oxygen, pH and specific conductance was conducted to determine temporal variability in basic water quality at six locations. The detected concentrations of dissolved oxygen ranged from 3.9 to 16.26 mg/L and varied with season and location.

Minimum dissolved oxygen concentrations in spring fell below 9 mg/L at all six monitoring sites. In 6 out of 20 deployments, 7-day average minimum dissolved oxygen levels fell below the objective of 7 mg/L. Minimum values of DO ranging from 3.9 to 6.62 mg/L occurred during summer dry season of 2002. The median percent saturation also fell below 80 percent in the dry season measurements.

Data Reference: [Water Quality Monitoring and Bioassessment in Nine San Francisco Bay Region Watersheds: Walker Creek, Lagunitas Creek, San Leandro Creek, Wildcat Creek/San Pablo Creek, Suisun Creek, Arroyo Las Positas, Pescadero Creek/Butano Creek, San Gregorio Creek, and Stevens Creek/Permanente Creek. Oakland, CA: Surface Water Ambient Monitoring Program, San Francisco Bay Regional Water Quality Control Board](#)

SWAMP Data: SWAMP

Water Quality Objective/Criterion: The numeric water quality objective for dissolved oxygen is 7.0 mg/L minimum for waters designated as cold water habitat. The median dissolved oxygen concentration for any three consecutive months shall not be less than 80 percent of the dissolved oxygen content at saturation.

Objective/Criterion Reference: [Water Quality Control Plan \(Basin Plan\) - San Francisco Bay Region \(Region 2\)](#)

Evaluation Guideline:

Guideline Reference:

Spatial Representation: Dissolved oxygen was measured at six sites. Four of these sites were located on the mainstem of Suisun Creek, with the two remaining sites located on Wooden Valley Creek the major tributary. The lowest dissolved oxygen levels were measured at the confluence of Wooden Valley Creek and Suisun Creek. Low dissolved oxygen levels also occurred in the lower reach of Suisun Creek during the summer dry season.

Temporal Representation: In 2002 the SWAMP Program performed continuous monitoring of dissolved oxygen at 15 minute intervals for periods of 1-2 weeks in each of four different seasons: winter (2

Environmental Conditions: sites), spring (7 sites), summer dry season (6 sites), and late summer (5 sites). Suisun Creek supports steelhead trout and is considered an anchor watershed and essential creek for steelhead population.

QAPP Information: All samples were collected and analyzed using procedures comparable with the SWAMP Quality Assurance Management Plan (SWRCB 2002).

QAPP Information Reference(s): [Quality Assurance Management Plan for the State of California's Surface Water Ambient Monitoring Program. Sacramento, CA. State Water Resources Control Board. SWAMP. December 2002 \(1st version\).](#)

DECISION ID	33818	Region 2
Suisun Creek		

Pollutant: Temperature, water

Final Listing Decision: List on 303(d) list (TMDL required list)

Last Listing Cycle's Final Listing Decision: List on 303(d) list (TMDL required list)(2012)

Revision Status Original

Sources: Source Unknown

Expected TMDL Completion Date: 2021

Impairment from Pollutant or Pollution: Pollutant

Regional Board Staff Conclusion: This pollutant is being considered for listing under section 3.2 of the Listing Policy. Under section 3.2 a single line of evidence is necessary to assess listing status. One line of evidence is available in the administrative record to assess this pollutant. A sufficient number of samples exceed the water quality objective. Based on the readily available data for this water body, the weight of evidence indicates that there is sufficient justification available in favor of adding this water segment-pollutant combination to the section 303(d) list in the Water Quality Limited Segments category. This conclusion is based on the staff findings that: 1. The data concerning current conditions and supporting the listing decision were collected as part of the SWAMP and satisfy the data quality requirements of section 6.1.4 of the Policy. 2. The data used satisfy the data quantity requirements of section 6.1.5 of the Policy. 3. Temperature measurements at 6 out of 15 continuous deployments exceeded the 17°C evaluation guideline used to interpret the water quality objective for waters designated as cold water habitat and this exceeds the allowable frequency listed in Table 3.2 of the Listing Policy. 4. Pursuant to section 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.

Regional Board Staff Decision Recommendation: This is a decision previously approved by the State Water Resources Control Board and the USEPA. No new data were assessed by the Regional Board for the current. The decision has not changed.

Line of Evidence (LOE) for Decision ID 33818, Temperature, water	Region 2
Suisun Creek	

LOE ID: 5180

Pollutant: Temperature, water

LOE Subgroup: Pollutant-Water

Matrix: Water

Fraction: None

Beneficial Use: Cold Freshwater Habitat

Aquatic Life Use: Wildlife Habitat

Number of Samples: 15

Number of Exceedances: 6

Data and Information Type: PHYSICAL/CHEMICAL MONITORING

Data Used to Assess Water Quality: Comprehensive water quality assessment was conducted at the Suisun Creek watershed

as part of SWAMP assessment. Continuous field monitoring at 15 minute increments of temperature, dissolved oxygen, pH and specific conductance was conducted to determine temporal variability in basic water quality at seven locations.

The measured temperatures ranged from 5.73°C to 29.32°C and varied with season and location. The 14.8°C criterion for coho salmon was exceeded in 10 out of 15 continuous temperature deployments. Suisun Creek supports steelhead trout and the 17°C criterion for steelhead was exceeded in 6 out of 15 deployments.

High water temperatures exceeding 24 °C, that is a maximum short exposure temperature for survival of salmonids (EPA 1977) were also measured at two monitoring locations at the mainstem of Suisun Creek and at two locations at the Wooden Valley Creek, the main tributary. At the monitoring site in the lower reach of the Suisun Creek high temperature persisted for up to 11 hours while at the confluence of Wooden Valley Creek with Suisun Creek the high temperatures lasted for over 12 hours.

Data Reference:

[Water Quality Monitoring and Bioassessment in Nine San Francisco Bay Region Watersheds: Walker Creek, Lagunitas Creek, San Leandro Creek, Wildcat Creek/San Pablo Creek, Suisun Creek, Arroyo Las Positas, Pescadero Creek/Butano Creek, San Gregorio Creek, and Stevens Creek/Permanente Creek. Oakland, CA: Surface Water Ambient Monitoring Program, San Francisco Bay Regional Water Quality Control Board](#)

SWAMP Data:

SWAMP

Water Quality Objective/Criterion:

Temperature objectives for enclosed bays and estuaries are specified in the "Water Quality Control Plan for Control of Temperature in the Coastal and Interstate Waters and Enclosed Bays of California" including any revisions to the plan. In addition, the following temperature objectives apply to surface waters: The natural receiving water temperature of intrastate waters shall not be altered unless it can be demonstrated to the satisfaction of the Regional Water Board that such alteration in temperature does not adversely affect beneficial uses.

The temperature of any cold or warm freshwater habitat shall not be increased by more than 5°F (2.8°C) above natural receiving water temperature.

Objective/Criterion Reference:

[Water Quality Control Plan \(Basin Plan\) - San Francisco Bay Region \(Region 2\)](#)

Evaluation Guideline:

Sullivan et al. (2000) reviewed a wide range of studies incorporating information from laboratory-based research, field observations, and risk assessment approaches and developed criteria for assessing temperature risk to aquatic life. The 7-day mean temperature (maximum value of the 7-day moving average of the daily mean temperature) of 14.8°C was established as the upper threshold criterion for coho salmon and 17.0°C for steelhead trout. The risk assessment approach used by Sullivan et al. (2000) suggests that temperatures exceeding the above thresholds will cause 10% reduction in average growth compared to optimal conditions.

Guideline Reference:

[An Analysis of the Effects of Temperature on Salmonids of the Pacific Northwest with Implications for Selecting Temperature Criteria](#)

Spatial Representation:

Temperature was measured at seven sites. Four of these sites were located on the mainstem of Suisun Creek, with the three remaining sites located on Wooden Valley Creek the major tributary. The highest temperatures were measured at the confluence of Wooden Valley Creek and Suisun Creek. High temperatures also occurred in the lower reach of Suisun Creek during the summer dry season.

Temporal Representation:

In 2002 the SWAMP Program performed continuous monitoring of temperature at 15 minute intervals for periods of 1-2 weeks in each of four different seasons: winter (2 sites), spring (7 sites), summer dry season (6 sites), and late summer (5 sites).

Environmental Conditions:

Suisun Creek supports steelhead trout and is considered an anchor watershed and essential creek for steelhead population.

QAPP Information:

All samples were collected and analyzed using procedures comparable with the SWAMP Quality Assurance Management Plan (SWRCB 2002).

QAPP Information Reference(s):

[Quality Assurance Management Plan for the State of California's Surface Water Ambient Monitoring Program. Sacramento, CA. State Water Resources Control Board. SWAMP. December 2002 \(1st version\)](#)

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Supporting Information

Regional Board 2 - San Francisco Bay Region

Water Body Name: Audubon Canyon
Water Body ID: CAR2013001220080626101412
Water Body Type: River & Stream

DECISION ID 44360 **Region 2**
Audubon Canyon

Pollutant: Escherichia coli (E. coli)
Final Listing Decision: Do Not List on 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision: Do Not List on 303(d) list (TMDL required list)(2012)
Revision Status Original
Impairment from Pollutant or Pollution: Pollutant

Regional Board Staff Conclusion: This pollutant is being considered for placement on the section 303(d) list under section 3.2 of the Listing Policy. Under this section a single line of evidence is necessary to assess listing status. One line of evidence is available in the administrative record to assess this pollutant. None of the samples exceed the water quality objective. Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against placing this water segment-pollutant combination on the section 303(d) list in the Water Quality Limited Segments category. This conclusion is based on the staff findings that: 1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy. 2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy. 3. Zero of one sample exceeded the water quality objective, but this sample size is insufficient to determine with the power and confidence of the Listing Policy if standards are not met. A minimum of five samples is needed for application of table 3.2. 4. Pursuant to section 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.

Regional Board Staff Decision Recommendation: This is a decision previously approved by the State Water Resources Control Board and the USEPA. No new data were assessed by the Regional Board for the current. The decision has not changed.

Line of Evidence (LOE) for Decision ID 44360, Escherichia coli (E. coli) **Region 2**
Audubon Canyon

LOE ID: 28929

Pollutant: Escherichia coli (E. coli)
LOE Subgroup: Pollutant-Water
Matrix: Water
Fraction: None

Beneficial Use: Water Contact Recreation

Number of Samples: 1
Number of Exceedances: 0

Data and Information Type: PATHOGEN MONITORING
Data Used to Assess Water Quality: Samples were collected as part of SWAMP sampling in the summer of 2005 at 7-day intervals and the geometric mean of the samples calculated over a five week interval. The geometric mean for this location was 23 MPN/100 mL. None of the five week samples were over the steady state value of 126 MPN/100 mL.

Data Reference:	Data collected by the Surface Water Ambient Monitoring Program, San Francisco Bay Regional Water Quality Control Board. Years 4 and 5 Assessment
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	<p>Uses of water for recreational activities involving body contact with water where ingestion of water is reasonably possible. These uses include, but are not limited to, swimming, wading, water-skiing, skin and scuba diving, surfing, whitewater activities, fishing, and uses of natural hot springs.</p> <p>Water contact implies a risk of waterborne disease transmission and involves human health; accordingly, criteria required to protect this use are more stringent than those for more casual water-oriented recreation.</p> <p>U.S. EPA water quality criteria for water contact recreation based on the frequency of use a particular area receives - 1986: the E. coli criterion is not to exceed 126 organisms/100 mL. The value is expressed as a 7-day geometric mean based on five or more samples per 30?day period; designated beach (max) 235 MPN/100 mL.</p>
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) - San Francisco Bay Region (Region 2) Ambient Water Quality Criteria for Bacteria - 1986. EPA440/5-84-002
Evaluation Guideline:	
Guideline Reference:	
Spatial Representation:	Samples were collected at AUD020 on Audubon Canyon Creek.
Temporal Representation:	Samples were collected weekly from 7/12/2005 through 8/09/2005.
Environmental Conditions:	
QAPP Information:	All samples were collected and analyzed using procedures comparable with the SWAMP Quality Assurance Management Plan (SWRCB, 2002).
QAPP Information Reference(s):	Quality Assurance Management Plan for the State of California's Surface Water Ambient Monitoring Program, Sacramento, CA. State Water Resources Control Board. SWAMP. December 2002 (1st version)

DECISION ID	36611	Region 2
Audubon Canyon		

Pollutant:	Nitrate
Final Listing Decision:	Do Not List on 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision:	Do Not List on 303(d) list (TMDL required list)(2012)
Revision Status	Original
Impairment from Pollutant or Pollution:	Pollutant
Regional Board Staff Conclusion:	<p>This pollutant is being considered for listing under section 3.1 of the Listing Policy. One line of evidence is available in the administrative record to assess this water body. Based on the readily available data for this water body, the weight of evidence indicates that there is sufficient justification against placing this water segment-pollutant combination on the section 303(d) list in the Water Quality Limited Segments category. This conclusion is based on the staff findings that: 1. The data used satisfy the data quality requirements of section 6.1.4 of the Policy. 2. The data used satisfy the data quantity requirements of section 6.1.5 of the Policy. 3. None of three available concentrations exceeded the water quality guideline and this does not exceed the allowable frequency using Table 3.1 of the Listing Policy. 4. Pursuant to section 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.</p>
Regional Board Staff Decision Recommendation:	<p>This is a decision previously approved by the State Water Resources Control Board and the USEPA. No new data were assessed by the Regional Board for the current. The decision has not changed.</p>

Line of Evidence (LOE) for Decision ID 36611, Nitrate	Region 2
Audubon Canyon	

LOE ID:	23464
Pollutant:	Nitrate
LOE Subgroup:	Pollutant-Water
Matrix:	Water
Fraction:	Dissolved
Beneficial Use:	Cold Freshwater Habitat
Number of Samples:	3
Number of Exceedances:	0
Data and Information Type:	PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality:	Water quality assessment in Audubon Canyon Creek was conducted by SWAMP in 2005-2006. Nitrate concentrations (NO ₃ -N) were analyzed three times and ranged from 0.08 to 0.17mg/L. The measured nitrate levels did not exceed the guideline threshold indicative of conditions leading to excessive algal growth, however, no data on algae or macrophytes are available to ensure compliance with the water quality objective.
Data Reference:	Data collected by the Surface Water Ambient Monitoring Program, San Francisco Bay Regional Water Quality Control Board. Years 4 and 5 Assessment
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	Waters shall not contain biostimulatory substances in concentrations that promote aquatic growths to the extent that such growths cause nuisance or adversely affect beneficial uses.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) - San Francisco Bay Region (Region 2)
Evaluation Guideline:	Total nitrogen levels greater than 0.5 mg/L can result in large masses of nuisance algae unless other factors limit algae growth (Bowie et al. 1985; Biggs 2000). Since nitrate is one component of total nitrogen in water, nitrate levels should also be less than 0.5 mg/L.
Guideline Reference:	Eutrophication of streams and rivers: dissolved nutrient-chlorophyll relationships for benthic algae. J. N. Am. Benthol. Soc. 19:17-31 Rates, Constant, and Kinetics Formulations in Surface Water Quality Modeling, 2nd Edition. EPA/600/3-85/040. USEPA Environmental Research Laboratory, Athens, GA
Spatial Representation:	Nitrate was sampled at one monitoring location in the lower reach of Audubon Canyon Creek in the close proximity to Bolinas Lagoon.
Temporal Representation:	Water samples were collected for nitrate analyses during spring (April 2005), summer dry season (June 2005) and winter wet season (February 2006).
Environmental Conditions:	Audubon Canyon is a small intermittent creek draining to Bolinas Lagoon in West Marin County.
QAPP Information:	All samples were collected and analyzed using procedures comparable with the SWAMP Quality Assurance Management Plan (SWRCB, 2002).
QAPP Information Reference(s):	Quality Assurance Management Plan for the State of California's Surface Water Ambient Monitoring Program. Sacramento, CA. State Water Resources Control Board. SWAMP. December 2002 (1st version)

Draft California 2016 Integrated Report (303(d) List/305(b) Report)

Supporting Information

Regional Board 2 - San Francisco Bay Region

Water Body Name: Baxter Creek (Contra Costa County)
Water Body ID: CAR2066001320080626144111
Water Body Type: River & Stream

DECISION ID 35258 **Region 2**
Baxter Creek (Contra Costa County)

Pollutant: Trash
Final Listing Decision: Do Not Delist from 303(d) list (being addressed with action other than TMDL)
Last Listing Cycle's Final Listing Decision: List on 303(d) list (TMDL required list)(2012)
Revision Status Revised
Sources: Source Unknown
Expected Attainment Date: 2029
Implementation Action Other than TMDL: This trash listing will be addressed by implementing the trash control provisions of the Water Quality Control Plan for Inland Surface Waters, Enclosed Bays, and Estuaries of California through the NPDES MS4 permit applicable to this waterbody.
Impairment from Pollutant or Pollution: Pollutant

Regional Board Staff Conclusion: This pollutant is being considered for placement on the section 303(d) list under section 3.11 of the Listing Policy. Under section 3.11, listing may be proposed based on the situation-specific weight of evidence. Two lines of evidence is available in the administrative record to assess this pollutant. The lines of evidence consist of interpretation of data from field visits/trash surveys conducted according to the Rapid Trash Assessment (RTA) methodology to assess both non-contact recreation and wildlife beneficial uses. Based on the readily available trash assessment data for this waterbody, the weight of evidence indicates that there is sufficient justification available in favor of placing this water segment-pollutant combination to the section 303(d) list in the Water Quality Limited Segments category. This conclusion is based on the staff findings that: 1. Data have been evaluated that supports this decision. 2. The Rapid Trash Assessment methodology results showed that this waterbody had level of trash parameter scores in the poor category (indicating impairment of non-contact water recreational beneficial uses) at two locations on five different dates. This waterbody also had threat to aquatic life parameter scores in the poor category (indicating threat to Wildlife Habitat beneficial uses) at three different locations on five different dates. 3. This waterbody is considered impaired by trash because there were exceedances of the evaluation guideline (poor condition category for the trash assessment metrics) in more than one location or on more than one date. 4. The data used satisfy the data quality requirements of section 6.1.4 of the Policy. 5. The data used satisfy the data quantity requirements of section 6.1 of the Policy. 6. This trash listing will be addressed by implementing the trash control provisions of the Water Quality Control Plan for Inland Surface Waters, Enclosed Bays, and Estuaries of California through the NPDES MS4 permit applicable to this waterbody.

Regional Board Staff Decision Recommendation: After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be removed from the section 303(d) list because applicable water quality standards for the pollutant are being exceeded.

Line of Evidence (LOE) for Decision ID 35258, Trash **Region 2**
Baxter Creek (Contra Costa County)

LOE ID: 5212

Pollutant: Trash

LOE Subgroup:	Pollutant-Nuisance
Matrix:	Not Specified
Fraction:	None
Beneficial Use:	Non-Contact Recreation
Number of Samples:	11
Number of Exceedances:	5
Data and Information Type:	Occurrence of conditions judged to cause impairment
Data Used to Assess Water Quality:	Data results were obtained through application the RTA methodology, developed by the Surface Water Ambient Monitoring Program (SWAMP). The RTA documents the total number and characteristics of pieces of trash per one hundred feet of stream or shoreline. The trash assessment protocol involves picking up and tallying all of the trash items found within the defined boundaries of a site. The tally results for level of trash (relating to REC2) and threat to aquatic life (relating to WILD) assessment parameters were considered for the listing determination. These results are available for field visits/trash surveys conducted in March, July, and November 2004 and June and August 2005 according to the Rapid Trash Assessment methodology. There were exceedances of the evaluation guideline (poor condition category for the trash assessment metric) in more than one location or on more than one date.
Data Reference:	A Rapid Trash Assessment Method Applied to Waters of the San Francisco Bay Region:Trash Measurement in Streams Rapid Trash Assessment (RTA) data collected by the SF Bay Region Surface Water Ambient Monitoring Program from 2002-2005 and method description
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	<p>The Basin Plan prohibits discharge of Rubbish, refuse, bark, sawdust, or other solid wastes into surface waters or at any place where they would contact or where they would be eventually transported to surface waters, including flood plain areas.</p> <p>The Basin Plan has a narrative objective for floating material, Waters shall not contain floating material, including solids, liquids, foams, and scum, in concentrations that cause nuisance or adversely affect beneficial uses.</p> <p>The Basin Plan has a narrative objective for settleable material, Waters shall not contain substances in concentrations that result in the deposition of material that cause nuisance or adversely affect beneficial uses.</p>
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) - San Francisco Bay Region (Region 2)
Evaluation Guideline:	<p>If the Rapid Trash Assessment (RTA) Parameter 1 (Level of Trash) is in the poor condition category? (scores 0-5), REC2 is not supported. This level of trash distracts the eye on first glance, making the site unsuitable for recreation. The RTA defines poor condition for this parameter as follows, trash distracts the eye on first glance. Stream, bank surfaces, and immediate riparian zone contain substantial levels of litter and debris (>100 pieces). Evidence of site being used frequently by people: many cans, bottles, and food wrappers, blankets, clothing.</p> <p>If the RTA Parameter 3 (Threat to Aquatic Life) is in the poor condition category (scores 0-5), then WILD is not supported. This level of trash is a large amount (>50 pieces) of transportable, persistent, buoyant litter that is detrimental to aquatic life. The RTA defines poor condition for this parameter as follows, large amount (>50 pieces) of transportable, persistent, buoyant litter such as: hard or soft plastics, balloons, Styrofoam, cigarette butts; toxic items such as batteries, lighters, or spray cans; large clumps of yard waste or dumped leaf litter; or large amount (>50 pieces) of settleable glass or metal.</p>
Guideline Reference:	A Rapid Trash Assessment Method Applied to Waters of the San Francisco Bay Region:Trash Measurement in Streams
Spatial Representation:	RTA data were collected for this waterbody in three different locations in 2004 and 2005. Two locations scored in the poor condition category for the Level of Trash parameter associated with this beneficial use.
Temporal Representation:	RTA data were collected for this waterbody in March, July, and November in 2004 and

June and August 2005.

Environmental Conditions:

QAPP Information:

For RTA trash assessment data to be considered, the data must have been collected by field operators that have received a 2-hour training in the Rapid Trash Assessment methodology.

QAPP Information Reference(s):

Line of Evidence (LOE) for Decision ID 35258, Trash

Region 2

Baxter Creek (Contra Costa County)

LOE ID: 5276

Pollutant: Trash

LOE Subgroup: Pollutant-Nuisance

Matrix: Not Specified

Fraction: None

Beneficial Use: Wildlife Habitat

Number of Samples: 11

Number of Exceedances: 11

Data and Information Type:

Data Used to Assess Water Quality: Occurrence of conditions judged to cause impairment
Data results were obtained through application the RTA methodology, developed by the Surface Water Ambient Monitoring Program (SWAMP). The RTA documents the total number and characteristics of pieces of trash per one hundred feet of stream or shoreline. The trash assessment protocol involves picking up and tallying all of the trash items found within the defined boundaries of a site. The tally results for level of trash (relating to REC2) and threat to aquatic life (relating to WILD) assessment parameters were considered for the listing determination. These results are available for field visits/trash surveys conducted in March, July, and November 2004 and June and August 2005 according to the Rapid Trash Assessment methodology. There were exceedances of the evaluation guideline (poor condition category for the trash assessment metric) in more than one location or on more than one date.

Data Reference:

[A Rapid Trash Assessment Method Applied to Waters of the San Francisco Bay Region: Trash Measurement in Streams](#)
[Rapid Trash Assessment \(RTA\) data collected by the SF Bay Region Surface Water Ambient Monitoring Program from 2002-2005 and method description](#)

SWAMP Data: SWAMP

Water Quality Objective/Criterion:

The Basin Plan prohibits discharge of Rubbish, refuse, bark, sawdust, or other solid wastes into surface waters or at any place where they would contact or where they would be eventually transported to surface waters, including flood plain areas.

The Basin Plan has a narrative objective for floating material, Waters shall not contain floating material, including solids, liquids, foams, and scum, in concentrations that cause nuisance or adversely affect beneficial uses.

The Basin Plan has a narrative objective for settleable material, Waters shall not contain substances in concentrations that result in the deposition of material that cause nuisance or adversely affect beneficial uses.

Objective/Criterion Reference:

[Water Quality Control Plan \(Basin Plan\) - San Francisco Bay Region \(Region 2\)](#)

Evaluation Guideline:

If the Rapid Trash Assessment (RTA) Parameter 1 (Level of Trash) is in the poor condition category (scores 0-5), REC2 is not supported. This level of trash distracts the eye on first glance, making the site unsuitable for recreation. The RTA defines poor condition for this parameter as follows, trash distracts the eye on first glance. Stream, bank surfaces, and immediate riparian zone contain substantial levels of litter and debris (>100 pieces). Evidence of site being used frequently by people: many cans, bottles, and food wrappers, blankets, clothing.

If the RTA Parameter 3 (Threat to Aquatic Life) is in the poor condition category (scores 0-5), then WILD is not supported. This level of trash is a large amount (>50 pieces) of transportable, persistent, buoyant litter that is detrimental to aquatic life. The RTA defines poor condition for this parameter as follows, large amount (>50 pieces) of transportable, persistent, buoyant litter such as: hard or soft plastics, balloons, Styrofoam, cigarette butts; toxic items such as batteries, lighters, or spray cans; large clumps of yard waste or dumped leaf litter; or large amount (>50 pieces) of settleable glass or metal.

Guideline Reference:

[A Rapid Trash Assessment Method Applied to Waters of the San Francisco Bay Region: Trash Measurement in Streams](#)

Spatial Representation:

RTA data were collected for this waterbody in three different locations in 2004 and 2005. Three locations scored in the poor condition category for the Threat to Aquatic Life parameter associated with this beneficial use.

Temporal Representation:

RTA data were collected for this waterbody in March, July, and November in 2004 and June and August 2005.

Environmental Conditions:

QAPP Information:

For RTA trash assessment data to be considered, the data must have been collected by field operators that have received a 2-hour training in the Rapid Trash Assessment methodology.

QAPP Information Reference(s):

DECISION ID	44562	Region 2
Baxter Creek (Contra Costa County)		

Pollutant: Anthracene | Benzo(a)anthracene | Benzo(a)pyrene (3,4-Benzopyrene -7-d) | Chrysene (C1-C4) | DDD (Dichlorodiphenyldichloroethane) | DDE (Dichlorodiphenyldichloroethylene) | DDT (Dichlorodiphenyltrichloroethane) | Dieldrin | Endrin | Fluoranthene | Fluorene | Heptachlor epoxide | Lindane/gamma Hexachlorocyclohexane (gamma-HCH) | Naphthalene | PAHs (Polycyclic Aromatic Hydrocarbons) | PCBs (Polychlorinated biphenyls) | Phenanthrene | Pyrene

Final Listing Decision: Do Not List on 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision: Do Not List on 303(d) list (TMDL required list)(2012)

Revision Status Original
Impairment from Pollutant or Pollution: Pollutant

Regional Board Staff Conclusion: These pollutants are being considered for placement on the section 303(d) list under section 3.1 of the Listing Policy. Under this section a single line of evidence is necessary to assess listing status. One line of evidence is available in the administrative record to assess these pollutants. Zero samples exceed the water quality objective. Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against placing this water segment-pollutant combination on the section 303(d) list in the Water Quality Limited Segments category. This conclusion is based on the staff findings that: 1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy. 2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy. 3. Zero of one sample exceed the water quality objective, but this sample size is insufficient to determine with the power and confidence of the Listing Policy if standards are not met. A minimum of two samples are needed for application of table 3.1. 4. Pursuant to section 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.

Regional Board Staff Decision Recommendation: This is a decision previously approved by the State Water Resources Control Board and the USEPA. No new data were assessed by the Regional Board for the current. The decision has not changed.

Line of Evidence (LOE) for Decision ID 44562, Multiple Pollutants	Region 2
Baxter Creek (Contra Costa County)	

LOE ID: 28638

Pollutant:	Anthracene Benzo(a)anthracene Benzo(a)pyrene (3,4-Benzopyrene -7-d) Chrysene (C1-C4) DDD (Dichlorodiphenyldichloroethane) DDE (Dichlorodiphenyldichloroethylene) DDT (Dichlorodiphenyltrichloroethane) Dieldrin Endrin Fluoranthene Fluorene Heptachlor epoxide Lindane/gamma Hexachlorocyclohexane (gamma-HCH) Naphthalene PAHs (Polycyclic Aromatic Hydrocarbons) PCBs (Polychlorinated biphenyls) Phenanthrene Pyrene
LOE Subgroup:	Pollutant-Sediment
Matrix:	Sediment
Fraction:	None
Beneficial Use:	Warm Freshwater Habitat
Number of Samples:	1
Number of Exceedances:	0
Data and Information Type:	PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality:	Concentrations of anthracene, fluorene, naphthalene, phenanthrene, benz(a)anthracene, benzo(a)pyrene, chrysene, fluoranthene, pyrene, PAH (total), PCB (total), dieldrin, DDD/DDE/DDT, endrin, heptachlor epoxide, and HCH, gamma in one sediment sample collected in spring 2005 did not exceed the sediment quality guidelines.
Data Reference:	Data collected by the Surface Water Ambient Monitoring Program, San Francisco Bay Regional Water Quality Control Board. Years 4 and 5 Assessment
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	All waters shall be maintained free of toxic substances that are lethal to or that produce other detrimental responses in aquatic organisms.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) - San Francisco Bay Region (Region 2)
Evaluation Guideline:	Sediment Quality Guidelines (MacDonald et al., 2000): PEC (probable effect concentration) Anthracene - 845 ug/kg; Fluorene - 536 ug/kg; Naphthalene - 561 ug/kg; Phenanthrene - 1170 ug/kg; Benz(a)anthracene - 1050 ug/kg; Benzo(a)pyrene - 1450 ug/kg; Chrysene - 1290 ug/kg; Fluoranthene - 2230 ug/kg; Pyrene - 1520 ug/kg; PAH (total) - 22800 ug/kg; PCB (total) - 676 ug/kg; Chlordane - 17.6 ug/kg; Dieldrin - 61.8 ug/kg; DDD (sum op + pp) - 28 ug/kg; DDE (sum op + pp) - 31.3 ug/kg; DDT (sum op + pp) - 62.9 ug/kg; DDT (total) - 572 ug/kg; Endrin - 207 ug/kg; Heptachlor epoxide - 16 ug/kg; HCH, gamma - 4.99 ug/kg.
Guideline Reference:	Development and evaluation of consensus-based sediment quality guidelines for freshwater ecosystems. Environmental Contamination and Toxicology. 39: 20-31
Spatial Representation:	One sediment sample was collected at a "watershed integrator" site located close to the mouth of Baxter Creek.
Temporal Representation:	Sediment sample was collected in April of 2005.
Environmental Conditions:	
QAPP Information:	All samples were collected and analyzed using procedures comparable with the SWAMP Quality Assurance Management Plan (SWRCB, 2002).
QAPP Information Reference(s):	

DECISION ID	43820	Region 2
Baxter Creek (Contra Costa County)		

Pollutant:	Arsenic Cadmium Copper Lead Mercury Zinc
Final Listing Decision:	Do Not List on 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision:	Do Not List on 303(d) list (TMDL required list)(2012)
Revision Status	Original
Impairment from Pollutant or Pollution:	Pollutant

Regional Board Staff Conclusion:	These pollutants are being considered for placement on the section 303(d) list under section 3.1 of the Listing Policy. Under this section a single line of evidence is necessary to assess listing status.
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One line of evidence is available in the administrative record to assess these pollutants. Zero samples exceed the water quality objective. Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against placing this water segment-pollutant combination on the section 303(d) list in the Water Quality Limited Segments category. This conclusion is based on the staff findings that: 1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy. 2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy. 3. Zero of one sample exceed the water quality objective, but this sample size is insufficient to determine with the power and confidence of the Listing Policy if standards are not met. A minimum of two samples are needed for application of table 3.1. 4. Pursuant to section 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.

Regional Board Staff Decision Recommendation: This is a decision previously approved by the State Water Resources Control Board and the USEPA. No new data were assessed by the Regional Board for the current. The decision has not changed.

Line of Evidence (LOE) for Decision ID 43820, Multiple Pollutants

Region 2

Baxter Creek (Contra Costa County)

LOE ID:	28637
Pollutant:	Arsenic Cadmium Copper Lead Mercury Zinc
LOE Subgroup:	Pollutant-Sediment
Matrix:	Sediment
Fraction:	Total
Beneficial Use:	Warm Freshwater Habitat
Number of Samples:	1
Number of Exceedances:	0
Data and Information Type:	PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality:	Concentrations of arsenic, cadmium, copper, lead, mercury and zinc in one sediment sample collected in April 2005 did not exceed the sediment quality guidelines.
Data Reference:	Data collected by the Surface Water Ambient Monitoring Program, San Francisco Bay Regional Water Quality Control Board. Years 4 and 5 Assessment
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	All waters shall be maintained free of toxic substances that are lethal to or that produce other detrimental responses in aquatic organisms.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) - San Francisco Bay Region (Region 2)
Evaluation Guideline:	Sediment Quality Guidelines (MacDonald et al., 2000): PEC (probable effect concentration) arsenic - 33 mg/kg dw; cadmium - 4.98 mg/kg dw; chromium - 111 mg/kg dw; copper - 149 mg/kg dw; lead - 128 mg/kg dw; mercury - 1.06 mg/kg dw; nickel - 48.6 mg/kg dw; zinc - 459 mg/kg dw.
Guideline Reference:	Development and evaluation of consensus-based sediment quality guidelines for freshwater ecosystems. Environmental Contamination and Toxicology. 39: 20-31
Spatial Representation:	One sediment sample was collected at a "watershed integrator" site located close to the mouth of Baxter Creek.
Temporal Representation:	Sediment sample was collected in April of 2005.
Environmental Conditions:	
QAPP Information:	All samples were collected and analyzed using procedures comparable with the SWAMP Quality Assurance Management Plan (SWRCB, 2002).
QAPP Information Reference(s):	

DECISION ID 43053

Region 2

Baxter Creek (Contra Costa County)

Pollutant:	Arsenic Chromium (total) Copper Lead Nickel Silver Zinc
Final Listing Decision:	Do Not List on 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision:	Do Not List on 303(d) list (TMDL required list)(2012)
Revision Status	Original
Impairment from Pollutant or Pollution:	Pollutant

Regional Board Staff Conclusion: These pollutants are being considered for placement on the section 303(d) list under section 3.1 of the Listing Policy. Under section 3.1 a single line of evidence is necessary to assess listing status. One lines of evidence are available in the administrative record to assess these pollutants. None of the samples exceed the water quality objective. Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against placing this water segment-pollutant combination on the section 303(d) list in the Water Quality Limited Segments category. This conclusion is based on the staff findings that: 1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy. 2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy. 3. None of the three samples exceeded the water quality guideline and this does not exceed the allowable frequency listed in Table 3.1 of the Listing Policy. 4. Pursuant to section 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.

Regional Board Staff Decision Recommendation: This is a decision previously approved by the State Water Resources Control Board and the USEPA. No new data were assessed by the Regional Board for the current. The decision has not changed.

Line of Evidence (LOE) for Decision ID 43053, Multiple Pollutants Baxter Creek (Contra Costa County)

Region 2

LOE ID:	28839
Pollutant:	Arsenic Chromium (total) Copper Lead Nickel Silver Zinc
LOE Subgroup:	Pollutant-Water
Matrix:	Water
Fraction:	Dissolved
Beneficial Use:	Warm Freshwater Habitat
Number of Samples:	3
Number of Exceedances:	0
Data and Information Type:	PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality:	The Baxter Creek watershed was monitored as part of SWAMP assessment. None of the three samples exceeded the water quality objectives for arsenic, chromium VI, copper, lead, nickel, silver and zinc. Concentrations of total dissolved chromium were well below the objective for chromium VI.
Data Reference:	Data collected by the Surface Water Ambient Monitoring Program, San Francisco Bay Regional Water Quality Control Board. Years 4 and 5 Assessment
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	All waters shall be maintained free of toxic substances that are lethal to or that produce other detrimental responses in aquatic organisms. Table 3-4 in the Basin Plan (2007) lists freshwater water quality objectives for toxic pollutants: arsenic- 150 ug/L, chromium VI- 11 ug/L, copper - 9.0 ug/L, lead - 2.5 ug/L; nickel - 52 ug/L, silver-3.4 ug/L and zinc - 120 ug/L.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) - San Francisco Bay Region (Region 2)
Evaluation Guideline:	
Guideline Reference:	

Spatial Representation:	Data were collected at one sampling location (BAX030) on Baxter Creek (Baxter at Booker).
Temporal Representation:	Samples were collected during wet (January), spring (April), and dry(June) seasons of 2005.
Environmental Conditions:	
QAPP Information:	All samples were collected and analyzed using procedures comparable with the SWAMP Quality Assurance Management Plan (SWRCB, 2002).
QAPP Information Reference(s):	Quality Assurance Management Plan for the State of California's Surface Water Ambient Monitoring Program. Sacramento, CA. State Water Resources Control Board. SWAMP. December 2002 (1st version).

DECISION ID	43821	Region 2
Baxter Creek (Contra Costa County)		

Pollutant:	Chlordane
Final Listing Decision:	Do Not List on 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision:	Do Not List on 303(d) list (TMDL required list)(2012)
Revision Status	Original
Impairment from Pollutant or Pollution:	Pollutant

Regional Board Staff Conclusion:	This pollutant is being considered for placement on the section 303(d) list under section 3.1 of the Listing Policy. Under this section a single line of evidence is necessary to assess listing status. One line of evidence is available in the administrative record to assess this pollutant. One sample exceeds the water quality objective. Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against placing this water segment-pollutant combination on the section 303(d) list in the Water Quality Limited Segments category. This conclusion is based on the staff findings that: 1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy. 2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy. 3. One out of one sample exceeded the water quality objective, but this sample size is insufficient to determine with the power and confidence of the Listing Policy if standards are not met. A minimum of two samples are needed for application of table 3.1. 4. Pursuant to section 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.
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Regional Board Staff Decision Recommendation:	This is a decision previously approved by the State Water Resources Control Board and the USEPA. No new data were assessed by the Regional Board for the current. The decision has not changed.
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Line of Evidence (LOE) for Decision ID 43821, Chlordane	Region 2
Baxter Creek (Contra Costa County)	

LOE ID:	28773
Pollutant:	Chlordane
LOE Subgroup:	Pollutant-Sediment
Matrix:	Sediment
Fraction:	None
Beneficial Use:	Warm Freshwater Habitat
Number of Samples:	1
Number of Exceedances:	1
Data and Information Type:	PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality:	The sample exceeded the PEC (sediment quality guidelines) for chlordane at a concentration of 19.93 ug/kg in one sediment sample collected in spring 2005.
Data Reference:	Data collected by the Surface Water Ambient Monitoring Program, San Francisco Bay Regional Water Quality Control Board. Years 4 and 5 Assessment

SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	All waters shall be maintained free of toxic substances that are lethal to or that produce other detrimental responses in aquatic organisms.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) - San Francisco Bay Region (Region 2)
Evaluation Guideline:	Sediment Quality Guidelines (MacDonald et al., 2000): PEC (probable effect concentration) Chlordane - 17.6 ug/kg.
Guideline Reference:	Development and evaluation of consensus-based sediment quality guidelines for freshwater ecosystems. Environmental Contamination and Toxicology. 39: 20-31
Spatial Representation:	One sediment sample was collected at a "watershed integrator" site located close to the mouth of Baxter Creek.
Temporal Representation:	Sediment sample was collected in April of 2005.
Environmental Conditions:	
QAPP Information:	All samples were collected and analyzed using procedures comparable with the SWAMP Quality Assurance Management Plan (SWRCB, 2002).
QAPP Information Reference(s):	

DECISION ID	44727	Region 2
Baxter Creek (Contra Costa County)		

Pollutant:	Chlorpyrifos Dacthal Diazinon Disulfoton Endosulfan Lindane/gamma Hexachlorocyclohexane (gamma-HCH) Methyl Parathion PCBs (Polychlorinated biphenyls) Thiobencarb/Bolero
Final Listing Decision:	Do Not List on 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision:	Do Not List on 303(d) list (TMDL required list)(2012)
Revision Status	Original
Impairment from Pollutant or Pollution:	Pollutant
Regional Board Staff Conclusion:	These pollutant are being considered for placement on the section 303(d) list under section 3.1 of the Listing Policy. Under section 3.1 a single line of evidence is necessary to assess listing status. One line of evidence is available in the administrative record to assess these pollutants. None of the samples exceed the water quality objective. Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against placing this water segment-pollutant combination on the section 303(d) list in the Water Quality Limited Segments category. This conclusion is based on the staff findings that: 1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy. 2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy. 3. None of the three samples exceeded the water quality objectives (Basin Plan) the Central Valley Water Quality Control Board Basin Plan and this does not exceed the allowable frequency listed in Table 3.1 of the Listing Policy. 4. Pursuant to section 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.
Regional Board Staff Decision Recommendation:	This is a decision previously approved by the State Water Resources Control Board and the USEPA. No new data were assessed by the Regional Board for the current. The decision has not changed.

Line of Evidence (LOE) for Decision ID 44727, Multiple Pollutants	Region 2
Baxter Creek (Contra Costa County)	

LOE ID:	28956
Pollutant:	Chlorpyrifos Dacthal Diazinon Disulfoton Endosulfan Lindane/gamma Hexachlorocyclohexane (gamma-HCH) Methyl Parathion PCBs (Polychlorinated biphenyls) Thiobencarb/Bolero
LOE Subgroup:	Pollutant-Water
Matrix:	Water

Fraction:	None
Beneficial Use:	Warm Freshwater Habitat
Number of Samples:	3
Number of Exceedances:	0
Data and Information Type:	PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality:	The Baxter Creek watershed was monitored as part of SWAMP assessment. None of the three samples exceeded the water quality objectives for PCBs, Chlorpyrifos, Dacthal, diazinon, disulfoton, endosulfan, Lindane/gamma Hexachlorocyclohexane (gamma-HCH), methyl parathion, thiobencarb.
Data Reference:	Data collected by the Surface Water Ambient Monitoring Program, San Francisco Bay Regional Water Quality Control Board. Years 4 and 5 Assessment
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	All waters shall be maintained free of toxic substances that are lethal to or that produce other detrimental responses in aquatic organisms. There shall be no chronic toxicity in ambient waters. Chronic toxicity is a detrimental biological effect on growth rate, reproduction, fertilization success, larval development, population abundance, community composition, or any other relevant measure of the health of an organism, population, or community. Diazinon water quality objective, 0.1 ug/L (acute)
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) - San Francisco Bay Region (Region 2)
Evaluation Guideline:	PCBs - 0.014 ug/L freshwater continuous Concentration; Chlorpyrifos - 0.015 ug/L (chronic); Dacthal (DCPA) - 14300 ug/L (acute); Disulfoton (Disyston) - 0.05 ug/L (acute); Endosulfan - 0.056 ug/L (chronic)/0.22 ug/L (acute); HCH, gamma-(gamma BHC, Lindane) - 0.95 ug/L (acute); methyl parathion - 0.08 ug/L (acute); Thiobencarb - 3.1 ug/L (acute).
Guideline Reference:	National recommended water quality criteria: 2002. EPA-822-R-02-047 Washington, D.C. USEPA
Spatial Representation:	Data were collected at one sampling location (BAX030) on Baxter Creek.
Temporal Representation:	Samples were collected during wet (January), spring (April), and dry(June) seasons of 2005.
Environmental Conditions:	
QAPP Information:	All samples were collected and analyzed using procedures comparable with the SWAMP Quality Assurance Management Plan (SWRCB, 2002).
QAPP Information Reference(s):	Quality Assurance Management Plan for the State of California's Surface Water Ambient Monitoring Program. Sacramento, CA. State Water Resources Control Board. SWAMP. December 2002 (1st version)

DECISION ID	43822	Region 2
Baxter Creek (Contra Costa County)		

Pollutant:	Chromium
Final Listing Decision:	Do Not List on 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision:	Do Not List on 303(d) list (TMDL required list)(2012)
Revision Status	Original
Impairment from Pollutant or Pollution:	Pollutant
Regional Board Staff Conclusion:	This pollutant is being considered for placement on the section 303(d) list under section 3.1 of the Listing Policy. Under this section a single line of evidence is necessary to assess listing status. One line of evidence is available in the administrative record to assess this pollutant. One sample exceeds the water quality objective. Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against placing this water segment-pollutant combination on the section 303(d) list in the Water Quality Limited Segments category. This

conclusion is based on the staff findings that: 1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy. 2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy. 3. One out of one sample exceeded the water quality objective, but this sample size is insufficient to determine with the power and confidence of the Listing Policy if standards are not met. A minimum of two samples are needed for application of table 3.1. 4. Pursuant to section 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.

Regional Board Staff Decision Recommendation: This is a decision previously approved by the State Water Resources Control Board and the USEPA. No new data were assessed by the Regional Board for the current. The decision has not changed.

**Line of Evidence (LOE) for Decision ID 43822, Chromium
Baxter Creek (Contra Costa County)**

Region 2

LOE ID: 28755

Pollutant: Chromium (total)
LOE Subgroup: Pollutant-Sediment
Matrix: Sediment
Fraction: Total

Beneficial Use: Warm Freshwater Habitat

Number of Samples: 1
Number of Exceedances: 1

Data and Information Type: PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality: Concentration of chromium in one sediment sample collected in April 2005 exceeded the sediment quality guidelines. Chromium exceeded the PEC value with a sample concentration of 283 mg/kg dw.

Data Reference: [Data collected by the Surface Water Ambient Monitoring Program, San Francisco Bay Regional Water Quality Control Board, Years 4 and 5 Assessment](#)

SWAMP Data: SWAMP

Water Quality Objective/Criterion: All waters shall be maintained free of toxic substances that are lethal to or that produce other detrimental responses in aquatic organisms.

Objective/Criterion Reference: [Water Quality Control Plan \(Basin Plan\) - San Francisco Bay Region \(Region 2\)](#)

Evaluation Guideline: Sediment Quality Guidelines (MacDonald et al., 2000): PEC (probable effect concentration) chromium - 111 mg/kg dw.

Guideline Reference: [Development and evaluation of consensus-based sediment quality guidelines for freshwater ecosystems. Environmental Contamination and Toxicology. 39: 20-31](#)

Spatial Representation: One sediment sample was collected at a "watershed integrator" site located close to the mouth of Baxter Creek.

Temporal Representation: Sediment sample was collected in April of 2005.

Environmental Conditions:

QAPP Information: All samples were collected and analyzed using procedures comparable with the SWAMP Quality Assurance Management Plan (SWRCB, 2002).

QAPP Information Reference(s):

**DECISION ID 44205
Baxter Creek (Contra Costa County)**

Region 2

Pollutant: Escherichia coli (E. coli)
Final Listing Decision: Do Not List on 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision: Do Not List on 303(d) list (TMDL required list)(2012)

Revision Status Original
Impairment from Pollutant or Pollution: Pollutant

Regional Board Staff Conclusion:

This pollutant is being considered for placement on the section 303(d) list under section 3.2 of the Listing Policy. Under this section a single line of evidence is necessary to assess listing status. One line of evidence is available in the administrative record to assess this pollutant. One sample exceeds the water quality objective. Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against placing this water segment-pollutant combination on the section 303(d) list in the Water Quality Limited Segments category. This conclusion is based on the staff findings that: 1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy. 2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy. 3. One out of one sample exceeds the water quality objective, but this sample size is insufficient to determine with the power and confidence of the Listing Policy if standards are not met. A minimum of five samples is needed for application of table 3.2. 4. Pursuant to section 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.

Regional Board Staff Decision Recommendation: This is a decision previously approved by the State Water Resources Control Board and the USEPA. No new data were assessed by the Regional Board for the current. The decision has not changed.

Line of Evidence (LOE) for Decision ID 44205, Escherichia coli (E. coli)

Region 2

Baxter Creek (Contra Costa County)

LOE ID: 28887

Pollutant: Escherichia coli (E. coli)
LOE Subgroup: Pollutant-Water
Matrix: Water
Fraction: None

Beneficial Use: Water Contact Recreation

Number of Samples: 1
Number of Exceedances: 1

Data and Information Type: PATHOGEN MONITORING
Data Used to Assess Water Quality: Samples were collected as part of SWAMP sampling in the summer of 2004 at 7-day intervals and the geometric mean of the samples calculated over a five week interval. The geometric mean for this location was 1525 MNPN/100 mL.

Data Reference: [Water Quality Monitoring and Bioassessment in Nine San Francisco Bay Region Watersheds: Walker Creek, Lagunitas Creek, San Leandro Creek, Wildcat Creek/San Pablo Creek, Suisun Creek, Arroyo Las Positas, Pescadero Creek/Butano Creek, San Gregorio Creek, and Stevens Creek/Permanente Creek, Oakland, CA: Surface Water Ambient Monitoring Program, San Francisco Bay Regional Water Quality Control Board](#)

SWAMP Data: SWAMP

Water Quality Objective/Criterion: Uses of water for recreational activities involving body contact with water where ingestion of water is reasonably possible. These uses include, but are not limited to, swimming, wading, water-skiing, skin and scuba diving, surfing, whitewater activities, fishing, and uses of natural hot springs.

Water contact implies a risk of waterborne disease transmission and involves human health; accordingly, criteria required to protect this use are more stringent than those for more casual water-oriented recreation.
U.S. EPA water quality criteria for water contact recreation based on the frequency of use a particular area receives - 1986: the E. coli criterion is not to exceed 126 organisms/100 mL. The value is expressed as a 7-day geometric mean based on five or more samples per 30?day period; designated beach (max) 235 MPN/100 mL.

Objective/Criterion Reference: [Water Quality Control Plan \(Basin Plan\) - San Francisco Bay Region \(Region 2\)](#)

Evaluation Guideline:

Guideline Reference:

Spatial Representation:

Samples were collected at BAX030 (Baxter at Booker).

Temporal Representation:

Samples were collected weekly from 7/20/2004 through 8/17/2004.

Environmental Conditions:

QAPP Information:

All samples were collected and analyzed using procedures comparable with the SWAMP Quality Assurance Management Plan (SWRCB, 2002).

QAPP Information Reference(s):

[Quality Assurance Management Plan for the State of California's Surface Water Ambient Monitoring Program. Sacramento, CA. State Water Resources Control Board. SWAMP. December 2002 \(1st version\).](#)

DECISION ID 44418 **Region 2**

Baxter Creek (Contra Costa County)

Pollutant: Nickel

Final Listing Decision: Do Not List on 303(d) list (TMDL required list)

Last Listing Cycle's Final Listing Decision: Do Not List on 303(d) list (TMDL required list)(2012)

Revision Status Original

Impairment from Pollutant or Pollution: Pollutant

Regional Board Staff

Conclusion:

This pollutant is being considered for placement on the section 303(d) list under section 3.1 of the Listing Policy. Under this section a single line of evidence is necessary to assess listing status. One line of evidence is available in the administrative record to assess this pollutant. One sample exceeds the water quality objective. Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against placing this water segment-pollutant combination on the section 303(d) list in the Water Quality Limited Segments category. This conclusion is based on the staff findings that: 1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy. 2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy. 3. One out of one sample exceeded the water quality objective, but this sample size is insufficient to determine with the power and confidence of the Listing Policy if standards are not met. A minimum of two samples are needed for application of table 3.1. 4. Pursuant to section 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.

Regional Board Staff Decision Recommendation: This is a decision previously approved by the State Water Resources Control Board and the USEPA. No new data were assessed by the Regional Board for the current. The decision has not changed.

Line of Evidence (LOE) for Decision ID 44418, Nickel **Region 2**

Baxter Creek (Contra Costa County)

LOE ID: 28756

Pollutant: Nickel

LOE Subgroup: Pollutant-Sediment

Matrix: Sediment

Fraction: Total

Beneficial Use: Warm Freshwater Habitat

Number of Samples: 1

Number of Exceedances: 1

Data and Information Type: PHYSICAL/CHEMICAL MONITORING

Data Used to Assess Water Quality: Concentration of Nickel in one sediment sample collected in April 2005 exceeded the

Data Reference:	sediment quality guidelines. Nickel exceeded the PEC value with a sample concentration of 247 mg/kg dw. Data collected by the Surface Water Ambient Monitoring Program, San Francisco Bay Regional Water Quality Control Board. Years 4 and 5 Assessment
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	All waters shall be maintained free of toxic substances that are lethal to or that produce other detrimental responses in aquatic organisms.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) - San Francisco Bay Region (Region 2)
Evaluation Guideline:	Sediment Quality Guidelines (MacDonald et al., 2000): PEC (probable effect concentration) nickel - 48.6 mg/kg dw.
Guideline Reference:	Development and evaluation of consensus-based sediment quality guidelines for freshwater ecosystems. Environmental Contamination and Toxicology. 39: 20-31
Spatial Representation:	One sediment sample was collected at a "watershed integrator" site located close to the mouth of Baxter Creek.
Temporal Representation:	Sediment sample was collected in April of 2005.
Environmental Conditions:	
QAPP Information:	All samples were collected and analyzed using procedures comparable with the SWAMP Quality Assurance Management Plan (SWRCB, 2002).
QAPP Information Reference(s):	

DECISION ID	43147	Region 2
Baxter Creek (Contra Costa County)		

Pollutant:	Oxygen, Dissolved
Final Listing Decision:	Do Not List on 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision:	Do Not List on 303(d) list (TMDL required list)(2012)
Revision Status	Original
Impairment from Pollutant or Pollution:	Pollutant

Regional Board Staff Conclusion:	This pollutant is being considered for placement on the section 303(d) list under section 3.2 of the Listing Policy. Under section 3.2 a single line of evidence is necessary to assess listing status. Two lines of evidence are available in the administrative record to assess this pollutant. Three of the samples exceed the water quality objective. Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against placing this water segment-pollutant combination on the section 303(d) list in the Water Quality Limited Segments category. This conclusion is based on the staff findings that: 1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy. 2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy. 3. Three of six samples exceeded the water quality objectives (basin plan) and this does not exceed the allowable frequency listed in Table 3.2 of the Listing Policy. 4. Pursuant to section 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.
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Regional Board Staff Decision Recommendation:	This is a decision previously approved by the State Water Resources Control Board and the USEPA. No new data were assessed by the Regional Board for the current. The decision has not changed.
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Line of Evidence (LOE) for Decision ID 43147, Oxygen, Dissolved	Region 2
Baxter Creek (Contra Costa County)	

LOE ID:	28560
Pollutant:	Oxygen, Dissolved
LOE Subgroup:	Pollutant-Water
Matrix:	Water

Fraction:	None
Beneficial Use:	Warm Freshwater Habitat
Number of Samples:	6
Number of Exceedances:	3
Data and Information Type:	PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality:	Comprehensive water quality assessment was conducted at Baxter Creek watershed as part of SWAMP assessment in 2004 and 2005. Continuous field monitoring of temperature, dissolved oxygen, pH, and specific conductance to determine temporal variability in basic water quality at one or two locations. The 7 day average minimum concentration of dissolved oxygen ranged from 1.2 to 15.6 mg/L and varied with season. Minimum dissolved oxygen levels fell below the objective of 5 mg/L once in each in March, July and September 2004. During that period minimum values of DO were 2.6, 3.4, and 3.7 mg/L, respectively.
Data Reference:	Data collected by the Surface Water Ambient Monitoring Program, San Francisco Bay Regional Water Quality Control Board. Years 4 and 5 Assessment
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	The numeric water quality objective for dissolved oxygen is 5.0 mg/L minimum for waters designated as warm water habitat. The median dissolved oxygen concentration for any three consecutive months shall not be less than 80 percent of the dissolved oxygen content at saturation.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) - San Francisco Bay Region (Region 2)
Evaluation Guideline:	
Guideline Reference:	
Spatial Representation:	Dissolved oxygen was measured at one or two sites located on the mainstem of Baxter Creek that are representative of the entire creek length.
Temporal Representation:	At all locations the SWAMP performed continuous monitoring of dissolved oxygen at 15 minute intervals lasting 6-16 days during spring (March 2004), summer dry seasons (July and September 2004), and winter wet season (January 2005).
Environmental Conditions:	
QAPP Information:	All samples were collected and analyzed using procedures comparable with the SWAMP Quality Assurance Management Plan (SWRCB 2002).
QAPP Information Reference(s):	

**Line of Evidence (LOE) for Decision ID 43147, Oxygen, Dissolved
Baxter Creek (Contra Costa County)**

Region 2

LOE ID:	28715
Pollutant:	Oxygen, Dissolved
LOE Subgroup:	Pollutant-Water
Matrix:	Water
Fraction:	None
Beneficial Use:	Cold Freshwater Habitat
Number of Samples:	6
Number of Exceedances:	3
Data and Information Type:	PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality:	Comprehensive water quality assessment was conducted at Baxter Creek watershed as part of SWAMP assessment in 2004 and 2005. Continuous field monitoring of temperature, dissolved oxygen, pH, and specific conductance to determine temporal variability in basic water quality at one or two locations. The 7 day average minimum concentration of dissolved oxygen ranged from 2.6 to 10.9 mg/L and varied with season. Minimum dissolved oxygen levels fell below the objective of 7 mg/L once in each in

Data Reference:	March, July and September 2004. During that period average minimum values of DO were 2.6, 3.4, and 3.7 mg/L, respectively. Data collected by the Surface Water Ambient Monitoring Program, San Francisco Bay Regional Water Quality Control Board. Years 4 and 5 Assessment
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	The numeric water quality objective for dissolved oxygen is 7.0 mg/L minimum for waters designated as cold water habitat. The median dissolved oxygen concentration for any three consecutive months shall not be less than 80 percent of the dissolved oxygen content at saturation.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) - San Francisco Bay Region (Region 2)
Evaluation Guideline:	
Guideline Reference:	
Spatial Representation:	Dissolved oxygen was measured at one or two locations, depending on the season, and located on the mainstem of Baxter Creek that are representative of the entire creek length.
Temporal Representation:	At all locations the SWAMP performed continuous monitoring of dissolved oxygen at 15 minute intervals lasting 6-16 days during spring (March 2004), summer dry seasons (July and September 2004), and winter wet season (January 2005).
Environmental Conditions:	
QAPP Information:	All samples were collected and analyzed using procedures comparable with the SWAMP Quality Assurance Management Plan (SWRCB 2002).
QAPP Information Reference(s):	

DECISION ID	43148	Region 2
Baxter Creek (Contra Costa County)		

Pollutant:	Temperature, water
Final Listing Decision:	Do Not List on 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision:	Do Not List on 303(d) list (TMDL required list)(2012)
Revision Status	Original
Impairment from Pollutant or Pollution:	Pollutant
Regional Board Staff Conclusion:	This pollutant is being considered for placement on the section 303(d) list under section 3.2 of the Listing Policy. Under section 3.2 a single line of evidence is necessary to assess listing status. One line of evidence is available in the administrative record to assess this pollutant. Two of the samples exceed the water quality objective. Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against placing this water segment-pollutant combination on the section 303(d) list in the Water Quality Limited Segments category. This conclusion is based on the staff findings that: 1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy. 2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy. 3. Two of the six samples exceeded the An Analysis of the Effects of Temperature on Salmonids of the Pacific Northwest with Implications for Selecting Temperature Criteria. Sustainable Ecosystems Institute, Portland, Oregon Analysis of the Effects of Temperature on Salmonids of the Pacific Northwest with Implications for Selecting Temperature Criteria. Sustainable Ecosystems Institute, Portland, Oregon (Sullivan K., Martin, D.J., Cardwell, R.D., Toll, J.E., Duke, S. 2000.) and this does not exceed the allowable frequency listed in Table 3.2 of the Listing Policy.4. Pursuant to section 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.
Regional Board Staff Decision Recommendation:	This is a decision previously approved by the State Water Resources Control Board and the USEPA. No new data were assessed by the Regional Board for the current. The decision has not changed.

Line of Evidence (LOE) for Decision ID 43148, Temperature, water	Region 2
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Baxter Creek (Contra Costa County)

LOE ID:	28343
Pollutant:	Temperature, water
LOE Subgroup:	Pollutant-Water
Matrix:	Water
Fraction:	None
Beneficial Use:	Cold Freshwater Habitat
Number of Samples:	6
Number of Exceedances:	2
Data and Information Type:	PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality:	Water quality assessment was conducted at the Baxter Creek watershed as part of SWAMP study in 2004-2005. Continuous field monitoring at 15 minute increments of temperature, dissolved oxygen, pH and specific conductance was conducted to determine temporal variability in basic water quality at three locations. Continuous monitoring sondes were deployed 6 times at 2 monitoring locations during wet, spring and dry seasons. The measured temperatures ranged from 10.3°C to 22.5 °C and varied with season and location. During both dry season deployments at all 3 monitoring locations the 7-day mean temperature threshold for steelhead was exceeded. In total, the 17 °C criterion was exceeded in 2 out of 6 deployments. .
Data Reference:	Data collected by the Surface Water Ambient Monitoring Program, San Francisco Bay Regional Water Quality Control Board. Years 4 and 5 Assessment
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	Temperature objectives for enclosed bays and estuaries are specified in the "Water Quality Control Plan for Control of Temperature in the Coastal and Interstate Waters and Enclosed Bays of California" including any revisions to the plan. In addition, the following temperature objectives apply to surface waters: The natural receiving water temperature of intrastate waters shall not be altered unless it can be demonstrated to the satisfaction of the Regional Board that such an alteration does not adversely affect beneficial uses. The temperature of any cold or warm freshwater habitat shall not be increased by more than 5°F (2.8°C) above natural receiving water temperature.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) - San Francisco Bay Region (Region 2)
Evaluation Guideline:	Sullivan et al. (2000) reviewed a wide range of studies incorporating information from laboratory-based research, field observations, and risk assessment approaches and developed criteria for assessing temperature risk to aquatic life. The 7-day mean temperature (maximum value of a 7-day moving average of the daily mean temperature) of 14.8°C was established as the upper threshold criterion for coho salmon and 17.0°C for steelhead trout. The risk assessment approach used by Sullivan et al. (2000) suggests that temperatures exceeding the above thresholds will cause a 10% reduction in average growth compared to optimal conditions.
Guideline Reference:	An Analysis of the Effects of Temperature on Salmonids of the Pacific Northwest with Implications for Selecting Temperature Criteria
Spatial Representation:	Temperature was measured at three sites located on the mainstem of Baxter Creek that are representative of the entire creek length. The highest temperatures were recorded in July and September 2004.
Temporal Representation:	In 2004 and 2005 the SWAMP Program performed continuous monitoring of temperature at 15 minute intervals for periods of 1-2 weeks in each of three different seasons: summer (1 site), spring (2 sites), and fall (1 site).
Environmental Conditions:	
QAPP Information:	All samples were collected and analyzed using procedures comparable with the SWAMP Quality Assurance Management Plan (SWRCB 2002).
QAPP Information Reference(s):	

Pollutant:	Toxicity
Final Listing Decision:	Do Not List on 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision:	Do Not List on 303(d) list (TMDL required list)(2012)
Revision Status	Original
Impairment from Pollutant or Pollution:	Pollutant

Regional Board Staff Conclusion: This pollutant is being considered for placement on the section 303(d) list under section 3.1 of the Listing Policy. Under section 3.1 a single line of evidence is necessary to assess listing status. One line of evidence is available in the administrative record to assess this pollutant. None of the samples exceed the water quality objective. Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against placing this water segment-pollutant combination on the section 303(d) list in the Water Quality Limited Segments category. This conclusion is based on the staff findings that: 1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy. 2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy. 3. Zero of the three samples exceeded the water quality guideline and this does not exceed the allowable frequency listed in Table 3.1 of the Listing Policy. 4. Pursuant to section 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.

Regional Board Staff Decision Recommendation: This is a decision previously approved by the State Water Resources Control Board and the USEPA. No new data were assessed by the Regional Board for the current. The decision has not changed.

Line of Evidence (LOE) for Decision ID 43158, Toxicity	Region 2
Baxter Creek (Contra Costa County)	

LOE ID:	28820
Pollutant:	Toxicity
LOE Subgroup:	Pollutant-Water
Matrix:	Water
Fraction:	None
Beneficial Use:	Cold Freshwater Habitat
Number of Samples:	3
Number of Exceedances:	0
Data and Information Type:	TOXICITY TESTING
Data Used to Assess Water Quality:	Three samples were collected in 2005 to evaluate water toxicity at one monitoring location near the mouth of Baxter Creek. The toxicity tests included survival and reproduction of Ceriodaphnia, survival and growth of fathead minnow, and growth of Selenastrum. No toxicity was detected in three samples tested.
Data Reference:	Water Quality Monitoring and Bioassessment in Four San Francisco Bay Region Watersheds in 2003-2004: Kirker Creek, Mt. Diablo Creek, Petaluma River, and San Mateo Creek, Surface Water Monitoring Program, San Francisco Bay Regional Water Quality Control Board, Oakland, CA
SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	All waters shall be maintained free of toxic substances that are lethal to or that produce other detrimental responses in aquatic organisms. There shall be no chronic toxicity in ambient waters. Chronic toxicity is a detrimental biological effect on growth rate, reproduction, fertilization success, larval development, population abundance, community composition, or any other relevant measure of the health of an organism, population, or community.

Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) - San Francisco Bay Region (Region 2)
Evaluation Guideline:	Water toxicity was evaluated according to the SWAMP methodology. The U.S.EPA whole effluent toxicity protocol (U.S.EPA 1994) was used to test the effect of water samples on three freshwater test organisms. Statistical evaluation ($\alpha = 0.05$) and a default threshold of 80% of the control value were used to establish whether water exhibited significant toxicity adversely impacting aquatic organisms.
Guideline Reference:	Revised approach to toxicity test acceptability criteria using a statistical performance assessment. Environmental Toxicology and Chemistry, vol. 16, No. 6, pp 1322?1329 Short-Term Methods for Estimating the Chronic Toxicity of Effluents and Receiving Waters to Freshwater Organisms. EPA/600/4-91/002. Third Edition. July 1994
Spatial Representation:	Data were collected at one sampling location, BAX030, (Baxter at Booker) on three (3) occasions, representative of the lower reach of the creek.
Temporal Representation:	SWAMP samples were collected during winter wet season (January), spring season (April), and dry season (June) of 2005.
Environmental Conditions:	
QAPP Information:	All samples were collected and analyzed using procedures comparable with the SWAMP Quality Assurance Management Plan (SWRCB, 2002).
QAPP Information Reference(s):	Quality Assurance Management Plan for the State of California's Surface Water Ambient Monitoring Program. Sacramento, CA. State Water Resources Control Board. SWAMP. December 2002 (1st version)

Line of Evidence (LOE) for Decision ID 43158, Toxicity
Baxter Creek (Contra Costa County)

Region 2

LOE ID:	28866
Pollutant:	Sediment Toxicity
LOE Subgroup:	Pollutant-Sediment
Matrix:	Sediment
Fraction:	None
Beneficial Use:	Warm Freshwater Habitat
Number of Samples:	1
Number of Exceedances:	1
Data and Information Type:	TOXICITY TESTING
Data Used to Assess Water Quality:	Data used to evaluate sediment toxicity comprise one sediment sample collected by the SWAMP in spring 2005. This sample displayed statistically significant toxicity during the Hyalella azteca test. Hyalella azteca growth was only 53% of the control.
Data Reference:	Data collected by the Surface Water Ambient Monitoring Program, San Francisco Bay Regional Water Quality Control Board. Years 4 and 5 Assessment
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	All waters shall be maintained free of toxic substances that are lethal to or that produce other detrimental responses in aquatic organisms. There shall be no chronic toxicity in ambient waters. Chronic toxicity is a detrimental biological effect on growth rate, reproduction, fertilization success, larval development, population abundance, community composition, or any other relevant measure of the health of an organism, population, or community.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) - San Francisco Bay Region (Region 2)
Evaluation Guideline:	Sediment toxicity was evaluated according to the SWAMP methodology. Sample toxicity was determined by comparing mean organism response in samples and in negative controls. Statistical evaluation ($\alpha = 0.05$) and a default threshold of 80% of the control value were used to establish whether the sediment exhibited significant toxicity adversely impacting aquatic organisms.
Guideline Reference:	Revised approach to toxicity test acceptability criteria using a statistical performance

Spatial Representation: Data were collected at one sampling location at the lower part of Baxter Creek.
Temporal Representation: A sample was collected in spring season (April 2005).
Environmental Conditions:
QAPP Information: All samples were collected and analyzed using procedures comparable with the SWAMP Quality Assurance Management Plan (SWRCB, 2002).
QAPP Information Reference(s): [Quality Assurance Management Plan for the State of California's Surface Water Ambient Monitoring Program. Sacramento, CA. State Water Resources Control Board. SWAMP. December 2002 \(1st version\).](#)

DECISION ID	43603	Region 2
Baxter Creek (Contra Costa County)		

Pollutant:	pH
Final Listing Decision:	Do Not List on 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision:	Do Not List on 303(d) list (TMDL required list)(2012)
Revision Status	Original
Impairment from Pollutant or Pollution:	Pollutant

Regional Board Staff Conclusion: This pollutant is being considered for placement on the section 303(d) list under section 3.2 of the Listing Policy. Under section 3.2 a single line of evidence is necessary to assess listing status. One line of evidence is available in the administrative record to assess this pollutant. Two of the samples exceed the water quality objective. Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against placing this water segment-pollutant combination on the section 303(d) list in the Water Quality Limited Segments category. This conclusion is based on the staff findings that: 1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy. 2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy. 3. Two of the six samples exceeded the water quality objectives and this does not exceed the allowable frequency listed in Table 3.2 of the Listing Policy. 4. Pursuant to section 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.

Regional Board Staff Decision Recommendation: This is a decision previously approved by the State Water Resources Control Board and the USEPA. No new data were assessed by the Regional Board for the current. The decision has not changed.

Line of Evidence (LOE) for Decision ID 43603, pH	Region 2
Baxter Creek (Contra Costa County)	

LOE ID:	28545
Pollutant:	pH
LOE Subgroup:	Pollutant-Water
Matrix:	Water
Fraction:	None
Beneficial Use:	Cold Freshwater Habitat
Number of Samples:	6
Number of Exceedances:	2
Data and Information Type:	PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality:	Comprehensive water quality assessment was conducted at Baxter Creek watershed as part of SWAMP assessment in 2004 and 2005. Continuous field monitoring of temperature, dissolved oxygen, pH, and specific conductance to determine temporal variability in basic water quality at one or two locations. The pH ranged from 7.0 to 8.6 and varied with season. The pH exceeded the maximum, (at 8.6) on two occasions, both

Data Reference:	at the lowest sampling location, in March 2004 and January 2005, respectively. Data collected by the Surface Water Ambient Monitoring Program. San Francisco Bay Regional Water Quality Control Board. Years 4 and 5 Assessment
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	The pH shall not be depressed below 6.5 nor raised above 8.5. This encompasses the pH range usually found in waters within the basin. Controllable water quality factors shall not cause changes greater than 0.5 units in normal ambient pH levels.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) - San Francisco Bay Region (Region 2)
Evaluation Guideline:	
Guideline Reference:	
Spatial Representation:	pH was measured at one or two sites located on the mainstem of Baxter Creek that are representative of the entire creek length.
Temporal Representation:	At all locations the SWAMP performed continuous monitoring of pH at 15 minute intervals lasting 6-16 days during spring (March 2004), summer dry seasons (July and September 2004), and winter wet season (January 2005).
Environmental Conditions:	
QAPP Information:	All samples were collected and analyzed using procedures comparable with the SWAMP Quality Assurance Management Plan (SWRCB 2002).
QAPP Information Reference(s):	

Draft California 2016 Integrated Report (303(d) List/305(b) Report)

Supporting Information

Regional Board 2 - San Francisco Bay Region

Water Body Name: Damon Slough
Water Body ID: CAR2042004020080626134918
Water Body Type: River & Stream

DECISION ID	35108	Region 2
Damon Slough		

Pollutant: Trash
Final Listing Decision: **Do Not Delist from 303(d) list (being addressed with action other than TMDL)**
Last Listing Cycle's Final Listing Decision: List on 303(d) list (TMDL required list)(2012)
Revision Status Revised
Sources: Source Unknown
Expected Attainment Date: 2029
Implementation Action Other than TMDL: This trash listing will be addressed by implementing the trash control provisions of the Water Quality Control Plan for Inland Surface Waters, Enclosed Bays, and Estuaries of California through the NPDES MS4 permit applicable to this waterbody.
Impairment from Pollutant or Pollution: Pollutant

Regional Board Staff Conclusion: This pollutant is being considered for removal from the CWA section 303(d) List under section 4.11 of the Listing Policy. Under this section a single line of evidence is necessary to assess listing status.

Four lines of evidence are available in the administrative record to assess pollutant. Seventeen of seventeen samples exceed the evaluation guideline.

Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against removing this water segment-pollutant combination from the CWA section 303(d) List.

This conclusion is based on the staff findings that:

1. Four lines of evidence are available in the administrative record to assess this pollutant. All lines of evidence involve inspection of photographic evidence by Regional Water Board staff trained to conduct the Rapid Trash Assessment (RTA) methodology. The staff inspected these photos and applied the RTA methodology to develop Category 1 (Level of Trash) and Category 3 (Threat to Aquatic Life) scores for each photograph. Based on the readily available photographic evidence for this waterbody, the weight of evidence indicates that there is sufficient justification available in favor of leaving this water segment-pollutant combination on the section 303(d) list in the Water Quality Limited Segments category.
2. Photographic evidence has been evaluated that supports this decision.
3. Applying the Rapid Trash Assessment methodology to the photographic evidence suggests that this waterbody had level of trash parameter scores in the poor category (indicating impairment of non-contact water recreational beneficial uses).
4. This waterbody also had threat to aquatic life parameter scores in the poor category (indicating threat to Wildlife Habitat beneficial uses) in more than one location or on more than one date.
5. This waterbody is considered impaired by trash because there were exceedances of the evaluation guidelines (poor condition category for the trash assessment metrics) in more than one location or on more than one date.
6. Seventeen of seventeen samples collected exceeded the evaluation guideline.
7. Pursuant to section 4.11 of the Listing Policy, no additional data and information are available indicating that standards are met.

8. The data used satisfy the data quality requirements of section 6.1.4 of the Policy.
9. The data used satisfy the data quantity requirements of section 6.1.5 of the Policy.
10. This trash listing will be addressed by implementing the trash control provisions of the Water Quality Control Plan for Inland Surface Waters, Enclosed Bays, and Estuaries of California through the NPDES MS4 permit applicable to this waterbody.

Regional Board Staff Decision Recommendation: After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be removed from the section 303(d) list because applicable water quality standards for the pollutant are being exceeded.

**Line of Evidence (LOE) for Decision ID 35108, Trash
Damon Slough**

Region 2

LOE ID:	5408
Pollutant:	Trash
LOE Subgroup:	Pollutant-Nuisance
Matrix:	Not Specified
Fraction:	None
Beneficial Use:	Non-Contact Recreation
Number of Samples:	16
Number of Exceedances:	12
Data and Information Type:	Occurrence of conditions judged to cause impairment
Data Used to Assess Water Quality:	<p>Data available consist of photographic evidence of trash and interpretation of these photos by an experienced trash assessment specialist. Each photograph was analyzed to establish the RTA score for the level of trash and threat to aquatic life parameters, which relate to impairment of REC2 and WILD, respectively. Only those photos clear enough to establish these RTA scores were relied on for the listing determination. These results are available for the following dates and locations on Damon Slough:</p> <p>Damon Slough on 12/20/02, 1/1/97, 3/10/99, 12/10/03, 12/16/04, 1/5/05, 12/19/05, 1/11/06, 3/29/06, 4/1/06, and 2/23/07</p> <p>Coliseum on 12/19/05, 1/11/06, 3/29/06, 4/11/06, and 2/23/07</p> <p>San Leandro Channel and Bay on 1/5/05 and 1/11/06</p> <p>This waterbody had level of trash parameter scores in the poor category (indicating impairment of non-contact water recreational beneficial uses) at three locations on nine different dates.</p>
Data Reference:	<p>Report from Roger James and Larry Kolb containing Trash Photos submitted for consideration in 2008 303(d) listing process</p> <p>Assessment by Matt Cover of Trash Photos (submitted to Region 2 in response to 2008 Data Solicitation)</p> <p>Archive of Trash Photos for Damon Slough submitted for 2008 303(d) list consideration</p>
SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	<p>The Basin Plan prohibits discharge of Rubbish, refuse, bark, sawdust, or other solid wastes into surface waters or at any place where they would contact or where they would be eventually transported to surface waters, including flood plain areas.</p> <p>The Basin Plan has a narrative objective for floating material, Waters shall not contain floating material, including solids, liquids, foams, and scum, in concentrations that cause nuisance or adversely affect beneficial uses.</p> <p>The Basin Plan has a narrative objective for settleable material, Waters shall not contain substances in concentrations that result in the deposition of material that cause nuisance or adversely affect beneficial uses.</p>
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) - San Francisco Bay Region (Region 2)

Evaluation Guideline:	<p>If the Rapid Trash Assessment (RTA) Parameter 1 (Level of Trash) is in the poor condition category (scores 0-5), REC2 is not supported. This level of trash distracts the eye on first glance, making the site unsuitable for recreation. The RTA defines poor condition for this parameter as follows, trash distracts the eye on first glance. Stream, bank surfaces, and immediate riparian zone contain substantial levels of litter and debris (>100 pieces). Evidence of site being used frequently by people: many cans, bottles, and food wrappers, blankets, clothing. Regional Water Board staff trained in the RTA inspected the available photographic evidence and applied the assessment method to determine the Level of Trash score.</p> <p>If the RTA Parameter 3 (Threat to Aquatic Life) is in the poor condition category (scores 0-5), then WILD is not supported. This level of trash is a large amount (>50 pieces) of transportable, persistent, buoyant litter that is detrimental to aquatic life. The RTA defines poor condition for this parameter as follows, large amount (>50 pieces) of transportable, persistent, buoyant litter such as: hard or soft plastics, balloons, Styrofoam, cigarette butts; toxic items such as batteries, lighters, or spray cans; large clumps of yard waste or dumped leaf litter; or large amount (>50 pieces) of settleable glass or metal. Regional Water Board staff trained in the RTA inspected the available photographic evidence and applied the assessment method to determine the Threat to Aquatic Life score.</p>
Guideline Reference:	A Rapid Trash Assessment Method Applied to Waters of the San Francisco Bay Region:Trash Measurement in Streams
Spatial Representation:	Photographic evidence was analyzed using the RTA methodology for this waterbody for three different locations spanning dates from 2001 through 2007.
Temporal Representation:	Photographic evidence was collected for this waterbody on ten separate dates from 1997 through 2007.
Environmental Conditions:	
QAPP Information:	<p>Assessments of the photographic evidence using the RTA were performed by Regional Water Board staff person who was a co-author of the Rapid Trash Assessment methodology.</p> <p>Assessments based on photographic evidence were only conducted when sufficient reach-scale and close-up photos were available for a site on a specific date. Photos used for the evaluation needed to be numerous enough and clear enough to document the level of trash at the site in a similar way as the assessor would experience during an actual site visit in the field. For example, at a minimum, one reach-scale photograph (showing at least a 100 linear foot section of the waterbody) and two close-up photographs (of representative trash deposits) were required.</p>
QAPP Information Reference(s):	

Line of Evidence (LOE) for Decision ID 35108, Trash
Damon Slough

Region 2

LOE ID:	91622
Pollutant:	Trash
LOE Subgroup:	Pollutant-Nuisance
Matrix:	Not Specified
Fraction:	None
Beneficial Use:	Wildlife Habitat
Number of Samples:	1
Number of Exceedances:	1
Data and Information Type:	Occurrence of conditions judged to cause impairment
Data Used to Assess Water Quality:	Data available consist of photographic evidence of trash and interpretation of these photos by an experienced trash assessment specialist. Each photograph was analyzed to establish the RTA score for the level of trash and threat to aquatic life parameters, which relate to impairment of REC2 and WILD, respectively. Only those photos clear enough to establish these RTA scores were relied on for the listing determination. These results are available for photos taken on 11/28/07 at East of Coliseum Complex. This waterbody had

	threat to aquatic life parameter scores in the poor category (indicating threat to Wildlife Habitat beneficial uses).
Data Reference:	Photos of trash in various San Francisco Bay water bodies, Mar. 2007-Mar. 2008
SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	The Basin Plan prohibits discharge of Rubbish, refuse, bark, sawdust, or other solid wastes into surface waters or at any place where they would contact or where they would be eventually transported to surface waters, including flood plain areas. The Basin Plan has a narrative objective for floating material, Waters shall not contain floating material, including solids, liquids, foams, and scum, in concentrations that cause nuisance or adversely affect beneficial uses. The Basin Plan has a narrative objective for settleable material, Waters shall not contain substances in concentrations that result in the deposition of material that cause nuisance or adversely affect beneficial uses.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	If the Rapid Trash Assessment (RTA) Parameter 1 (Level of Trash) is in the poor condition category (scores 0-5), REC2 is not supported. This level of trash distracts the eye on first glance, making the site unsuitable for recreation. The RTA defines poor condition for this parameter as follows, trash distracts the eye on first glance. Stream, bank surfaces, and immediate riparian zone contain substantial levels of litter and debris (>100 pieces). Evidence of site being used frequently by people: many cans, bottles, and food wrappers, blankets, clothing. State Water Board staff trained in the RTA inspected the available photographic evidence and applied the assessment method to determine the Level of Trash score. If the RTA Parameter 3 (Threat to Aquatic Life) is in the poor condition category (scores 0-5), then WILD is not supported. This level of trash is a large amount (>50 pieces) of transportable, persistent, buoyant litter that is detrimental to aquatic life. The RTA defines poor condition for this parameter as follows, large amount (>50 pieces) of transportable, persistent, buoyant litter such as: hard or soft plastics, balloons, Styrofoam, cigarette butts; toxic items such as batteries, lighters, or spray cans; large clumps of yard waste or dumped leaf litter; or large amount (>50 pieces) of settleable glass or metal. State Water Board staff trained in the RTA inspected the available photographic evidence and applied the assessment method to determine the Threat to Aquatic Life score.
Guideline Reference:	A Rapid Trash Assessment Method Applied to Waters of the San Francisco Bay Region:Trash Measurement in Streams
Spatial Representation:	All photos were taken at the East of Coliseum Complex on 11/28/07.
Temporal Representation:	All photos were taken at the East of Coliseum Complex on 11/28/07
Environmental Conditions:	
QAPP Information:	Assessments of the photographic evidence using the RTA were performed by a State Water Board staff person. Assessments based on photographic evidence were only conducted when sufficient reach-scale and close-up photos were available for a site on a specific date. Photos used for the evaluation needed to be numerous enough and clear enough to document the level of trash at the site in a similar way as the assessor would experience during an actual site visit in the field. For example, at a minimum, one reach-scale photograph (showing at least a 100 linear foot section of the waterbody) and two close-up photographs (of representative trash deposits) were required.
QAPP Information Reference(s):	

Line of Evidence (LOE) for Decision ID 35108, Trash

Region 2

Damon Slough

LOE ID:	91621
Pollutant:	Trash
LOE Subgroup:	Pollutant-Nuisance
Matrix:	Not Specified
Fraction:	None
Beneficial Use:	Non-Contact Recreation

Number of Samples:	1
Number of Exceedances:	1
Data and Information Type:	Occurrence of conditions judged to cause impairment
Data Used to Assess Water Quality:	Data available consist of photographic evidence of trash and interpretation of these photos by an experienced trash assessment specialist. Each photograph was analyzed to establish the RTA score for the level of trash and threat to aquatic life parameters, which relate to impairment of REC2 and WILD, respectively. Only those photos clear enough to establish these RTA scores were relied on for the listing determination. These results are available for photos taken on 11/28/07 at East of Coliseum Complex. This waterbody had level of trash parameter scores in the poor category (indicating impairment of non-contact water recreational beneficial uses).
Data Reference:	Photos of trash in various San Francisco Bay water bodies, Mar. 2007-Mar. 2008
SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	The Basin Plan prohibits discharge of Rubbish, refuse, bark, sawdust, or other solid wastes into surface waters or at any place where they would contact or where they would be eventually transported to surface waters, including flood plain areas. The Basin Plan has a narrative objective for floating material, Waters shall not contain floating material, including solids, liquids, foams, and scum, in concentrations that cause nuisance or adversely affect beneficial uses. The Basin Plan has a narrative objective for settleable material, Waters shall not contain substances in concentrations that result in the deposition of material that cause nuisance or adversely affect beneficial uses.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	If the Rapid Trash Assessment (RTA) Parameter 1 (Level of Trash) is in the poor condition category (scores 0-5), REC2 is not supported. This level of trash distracts the eye on first glance, making the site unsuitable for recreation. The RTA defines poor condition for this parameter as follows, trash distracts the eye on first glance. Stream, bank surfaces, and immediate riparian zone contain substantial levels of litter and debris (>100 pieces). Evidence of site being used frequently by people: many cans, bottles, and food wrappers, blankets, clothing. State Water Board staff trained in the RTA inspected the available photographic evidence and applied the assessment method to determine the Level of Trash score. If the RTA Parameter 3 (Threat to Aquatic Life) is in the poor condition category (scores 0-5), then WILD is not supported. This level of trash is a large amount (>50 pieces) of transportable, persistent, buoyant litter that is detrimental to aquatic life. The RTA defines poor condition for this parameter as follows, large amount (>50 pieces) of transportable, persistent, buoyant litter such as: hard or soft plastics, balloons, Styrofoam, cigarette butts; toxic items such as batteries, lighters, or spray cans; large clumps of yard waste or dumped leaf litter; or large amount (>50 pieces) of settleable glass or metal. State Water Board staff trained in the RTA inspected the available photographic evidence and applied the assessment method to determine the Threat to Aquatic Life score.
Guideline Reference:	A Rapid Trash Assessment Method Applied to Waters of the San Francisco Bay Region:Trash Measurement in Streams
Spatial Representation:	All photos were taken at the East side of Coliseum Complex on 11/28/07.
Temporal Representation:	All photos were taken at the East side of Coliseum Complex on 11/28/07.
Environmental Conditions:	
QAPP Information:	Assessments of the photographic evidence using the RTA were performed by a State Water Board staff person. Assessments based on photographic evidence were only conducted when sufficient reach-scale and close-up photos were available for a site on a specific date. Photos used for the evaluation needed to be numerous enough and clear enough to document the level of trash at the site in a similar way as the assessor would experience during an actual site visit in the field. For example, at a minimum, one reach-scale photograph (showing at least a 100 linear foot section of the waterbody) and two close-up photographs (of representative trash deposits) were required.
QAPP Information Reference(s):	

**Line of Evidence (LOE) for Decision ID 35108, Trash
Damon Slough**

Region 2

LOE ID:	5407
Pollutant:	Trash
LOE Subgroup:	Pollutant-Nuisance
Matrix:	Not Specified
Fraction:	None
Beneficial Use:	Wildlife Habitat
Number of Samples:	16
Number of Exceedances:	16
Data and Information Type:	Occurrence of conditions judged to cause impairment
Data Used to Assess Water Quality:	<p>Data available consist of photographic evidence of trash and interpretation of these photos by an experienced trash assessment specialist. Each photograph was analyzed to establish the RTA score for the level of trash and threat to aquatic life parameters, which relate to impairment of REC2 and WILD, respectively. Only those photos clear enough to establish these RTA scores were relied on for the listing determination. These results are available for the following dates and locations on Damon Slough:</p> <p>Damon Slough on 12/20/02, 1/1/97, 3/10/99, 12/10/03, 12/16/04, 1/5/05, 12/19/05, 1/11/06, 3/29/06, 4/1/06, and 2/23/07</p> <p>Coliseum on 12/19/05, 1/11/06, 3/29/06, 4/11/06, and 2/23/07</p> <p>San Leandro Channel and Bay on 1/5/05 and 1/11/06</p>
Data Reference:	<p>This waterbody had threat to aquatic life parameter scores in the poor category (indicating threat to Wildlife Habitat beneficial uses) at three different locations on ten different dates.</p> <p>Report from Roger James and Larry Kolb containing Trash Photos submitted for consideration in 2008 303(d) listing process</p> <p>Assessment by Matt Cover of Trash Photos (submitted to Region 2 in response to 2008 Data Solicitation)</p> <p>Archive of Trash Photos for Damon Slough submitted for 2008 303(d) list consideration</p>
SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	<p>The Basin Plan prohibits discharge of Rubbish, refuse, bark, sawdust, or other solid wastes into surface waters or at any place where they would contact or where they would be eventually transported to surface waters, including flood plain areas.</p> <p>The Basin Plan has a narrative objective for floating material, Waters shall not contain floating material, including solids, liquids, foams, and scum, in concentrations that cause nuisance or adversely affect beneficial uses.</p> <p>The Basin Plan has a narrative objective for settleable material, Waters shall not contain substances in concentrations that result in the deposition of material that cause nuisance or adversely affect beneficial uses.</p>
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) - San Francisco Bay Region (Region 2)
Evaluation Guideline:	<p>If the Rapid Trash Assessment (RTA) Parameter 1 (Level of Trash) is in the poor condition category (scores 0-5), REC2 is not supported. This level of trash distracts the eye on first glance, making the site unsuitable for recreation. The RTA defines poor condition for this parameter as follows, trash distracts the eye on first glance. Stream, bank surfaces, and immediate riparian zone contain substantial levels of litter and debris (>100 pieces). Evidence of site being used frequently by people: many cans, bottles, and food wrappers, blankets, clothing. Regional Water Board staff trained in the RTA inspected the available photographic evidence and applied the assessment method to determine the Level of Trash score.</p> <p>If the RTA Parameter 3 (Threat to Aquatic Life) is in the poor condition category (scores 0-5), then WILD is not supported. This level of trash is a large amount (>50 pieces) of transportable, persistent, buoyant litter that is detrimental to aquatic life. The RTA defines poor condition for this parameter as follows, large amount (>50 pieces) of transportable, persistent, buoyant litter such as: hard or soft plastics, balloons, Styrofoam, cigarette butts;</p>

toxic items such as batteries, lighters, or spray cans; large clumps of yard waste or dumped leaf litter; or large amount (>50 pieces) of settleable glass or metal. Regional Water Board staff trained in the RTA inspected the available photographic evidence and applied the assessment method to determine the Threat to Aquatic Life score.

Guideline Reference:

[A Rapid Trash Assessment Method Applied to Waters of the San Francisco Bay Region: Trash Measurement in Streams](#)

Spatial Representation:

Photographic evidence was analyzed using the RTA methodology for this waterbody for three different locations spanning dates from 2001 through 2007.

Temporal Representation:

Photographic evidence was collected for this waterbody on ten separate dates from 1997 through 2007.

Environmental Conditions:

QAPP Information:

Assessments of the photographic evidence using the RTA were performed by Regional Water Board staff person who was a co-author of the Rapid Trash Assessment methodology.

Assessments based on photographic evidence were only conducted when sufficient reach-scale and close-up photos were available for a site on a specific date. Photos used for the evaluation needed to be numerous enough and clear enough to document the level of trash at the site in a similar way as the assessor would experience during an actual site visit in the field. For example, at a minimum, one reach-scale photograph (showing at least a 100 linear foot section of the waterbody) and two close-up photographs (of representative trash deposits) were required.

QAPP Information Reference(s):

Draft California 2016 Integrated Report (303(d) List/305(b) Report)

Supporting Information

Regional Board 2 - San Francisco Bay Region

Water Body Name: Easkoot Creek
Water Body ID: CAR2013001220080626140517
Water Body Type: River & Stream

DECISION ID 44208 **Region 2**
Easkoot Creek

Pollutant: Arsenic
Final Listing Decision: Do Not List on 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision: Do Not List on 303(d) list (TMDL required list)(2012)
Revision Status Original
Impairment from Pollutant or Pollution: Pollutant

Regional Board Staff Conclusion: This pollutant is being considered for placement on the section 303(d) list under section 3.1 of the Listing Policy. Under this section a single line of evidence is necessary to assess listing status. Two lines of evidence are available in the administrative record to assess this pollutant. One sample exceeds the water quality objective. Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against placing this water segment-pollutant combination on the section 303(d) list in the Water Quality Limited Segments category. This conclusion is based on the staff findings that: 1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy. 2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy. 3. One out of four samples exceeded the water quality objective and this does not exceed the allowable frequency listed in Table 3.1 of the Listing Policy. 4. Pursuant to section 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.

Regional Board Staff Decision Recommendation: This is a decision previously approved by the State Water Resources Control Board and the USEPA. No new data were assessed by the Regional Board for the current. The decision has not changed.

Line of Evidence (LOE) for Decision ID 44208, Arsenic **Region 2**
Easkoot Creek

LOE ID: 28284
Pollutant: Arsenic
LOE Subgroup: Pollutant-Sediment
Matrix: Sediment
Fraction: None
Beneficial Use: Cold Freshwater Habitat
Number of Samples: 1
Number of Exceedances: 1
Data and Information Type: PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality: One samples was collected by SWAMP in April 11, 2005 to determine the concentrations of arsenic in sediment. The concentration of arsenic in the sample was 42.8 mg/kg and exceeded the PEC threshold.
Data Reference: [Data collected by the Surface Water Ambient Monitoring Program, San Francisco Bay Regional Water Quality Control Board. Years 4 and 5 Assessment](#)

SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	All waters shall be maintained free of toxic substances that are lethal to or that produce other detrimental responses in aquatic organisms.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) - San Francisco Bay Region (Region 2)
Evaluation Guideline:	Sediment Quality Guidelines (MacDonald et al., 2000): PEC (probable effect concentration) arsenic - 33 mg/kg dw.
Guideline Reference:	Development and evaluation of consensus-based sediment quality guidelines for freshwater ecosystems. Environmental Contamination and Toxicology. 39: 20-31
Spatial Representation:	The sample was taken from one monitoring location EAS020 in Easkoot Creek.
Temporal Representation:	The sample was collected in spring (4/11/2005) of 2005.
Environmental Conditions:	
QAPP Information:	The QA/QC procedure was in compliant with SWAMP's Quality Assurance Management Plan of 2002.
QAPP Information Reference(s):	Quality Assurance Management Plan for the State of California's Surface Water Ambient Monitoring Program. Sacramento, CA. State Water Resources Control Board. SWAMP. December 2002 (1st version)

Line of Evidence (LOE) for Decision ID 44208, Arsenic
Easkoot Creek

Region 2

LOE ID:	31413
Pollutant:	Arsenic
LOE Subgroup:	Pollutant-Water
Matrix:	Water
Fraction:	Dissolved
Beneficial Use:	Cold Freshwater Habitat
Number of Samples:	3
Number of Exceedances:	0
Data and Information Type:	PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality:	Three samples were collected by SWAMP from a monitoring location EAS020 in Easkoot Creek. Concentrations of arsenic did not exceed the water quality objectives.
Data Reference:	Data collected by the Surface Water Ambient Monitoring Program, San Francisco Bay Regional Water Quality Control Board. Years 4 and 5 Assessment
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	All waters shall be maintained free of toxic substances that are lethal to or that produce other detrimental responses in aquatic organisms. Table 3-4 in the Basin Plan (2007) lists freshwater water quality objectives for toxic pollutants: arsenic- 150 ug/L,
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) - San Francisco Bay Region (Region 2)
Evaluation Guideline:	
Guideline Reference:	
Spatial Representation:	Samples were taken from one monitoring location EAS020 in Easkoot Creek.
Temporal Representation:	Samples were collected on: 4/11/2005, 6/13/2005, and 2/16/2006.
Environmental Conditions:	
QAPP Information:	All samples were collected and analyzed using procedures comparable with the SWAMP Quality Assurance Management Plan (SWRCB 2002).
QAPP Information Reference(s):	

DECISION ID

34854

Region 2

Easkoot Creek

Pollutant:	Benthic Community Effects
Final Listing Decision:	Do Not List on 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision:	Do Not List on 303(d) list (TMDL required list)(2012)
Revision Status	Original
Impairment from Pollutant or Pollution:	Pollutant

Regional Board Staff Conclusion: This water body is being considered for listing under section 3.2 of the Listing Policy. Under section 3.2 a single line of evidence is necessary to assess listing status. Three lines of evidence are available in the administrative record to assess this water body. Based on the readily available data for this water body, the weight of evidence indicates that there is sufficient justification against placing this water segment-pollutant combination on the section 303(d) list in the Water Quality Limited Segments category. This conclusion is based on the staff findings that: 1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy. 2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy. 3. Dissolved oxygen and temperature measurements exceeded the Basin Plan objectives for waters designated as cold water habitat at 1 of 6 continuous deployments and this does not exceed the allowable frequency listed in Table 3.2 of the Listing Policy. In addition, the macroinvertebrate data indicated good water quality conditions. 4. Pursuant to section 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.

Regional Board Staff Decision Recommendation: This is a decision previously approved by the State Water Resources Control Board and the USEPA. No new data were assessed by the Regional Board for the current. The decision has not changed.

Line of Evidence (LOE) for Decision ID 34854, Benthic Community Effects

Region 2

Easkoot Creek

LOE ID:	5723
Pollutant:	Oxygen, Dissolved
LOE Subgroup:	Pollutant-Water
Matrix:	Water
Fraction:	None
Beneficial Use:	Cold Freshwater Habitat
Number of Samples:	6
Number of Exceedances:	1
Data and Information Type:	PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality:	Comprehensive water quality assessment was conducted at the Easkoot Creek watershed as part of SWAMP assessment in 2005. Continuous field monitoring of temperature, dissolved oxygen, pH and specific conductance was conducted to determine temporal variability in basic water quality at two locations. The 7 day average minimum concentrations of dissolved oxygen ranged from 6.33 to 11.15 mg/L and varied with season. Minimum dissolved oxygen levels fell below the objective of 7 mg/L only once during the dry season in August 2005. During that period minimum values of DO ranged from 5.1 to 6.94 mg/L.
Data Reference:	Data collected by the Surface Water Ambient Monitoring Program, San Francisco Bay Regional Water Quality Control Board. Years 4 and 5 Assessment
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	The numeric water quality objective for dissolved oxygen is 7.0 mg/L minimum for waters designated as cold water habitat. The median dissolved oxygen concentration for any three consecutive months shall not be less than 80 percent of the dissolved oxygen

Objective/Criterion Reference:	content at saturation. Water Quality Control Plan (Basin Plan) - San Francisco Bay Region (Region 2)
Evaluation Guideline:	
Guideline Reference:	
Spatial Representation:	Dissolved oxygen was measured at two sites. One site was located on the mainstem of Easkoot Creek just above the tidal influence and one on Fitzhenry Creek a small tributary. The lowest dissolved oxygen levels were measured at the downstream location in Easkoot Creek.
Temporal Representation:	At both locations the SWAMP Program performed continuous monitoring of dissolved oxygen at 15 minute intervals lasting 6 to 7 days during spring (April 2005), summer dry season (August 2005), and winter wet season (January 2006).
Environmental Conditions:	
QAPP Information:	All samples were collected and analyzed using procedures comparable with the SWAMP Quality Assurance Management Plan (SWRCB 2002).
QAPP Information Reference(s):	

Line of Evidence (LOE) for Decision ID 34854, Benthic Community Effects

Region 2

Easkoot Creek

LOE ID:	5852
Pollutant:	Benthic-Macroinvertebrate Bioassessments
LOE Subgroup:	Population/Community Degradation
Matrix:	Not Specified
Fraction:	None
Beneficial Use:	Cold Freshwater Habitat
Number of Samples:	2
Number of Exceedances:	0
Data and Information Type:	Benthic macroinvertebrate surveys
Data Used to Assess Water Quality:	Benthic macroinvertebrates were sampled from two sites in the Easkoot Creek watershed in April 2005 by the SWAMP program. Benthic macroinvertebrate assemblage metrics were similar to values observed at reference sites in perennial creeks and indicated good conditions. Taxa richness score was 26 and % sensitive EPT was 14.
Data Reference:	Data collected by the Surface Water Ambient Monitoring Program, San Francisco Bay Regional Water Quality Control Board. Years 4 and 5 Assessment
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	All waters shall be maintained free of toxic substances in concentrations that are lethal to or that produce significant alterations in population or community ecology or receiving water biota. In addition, the health and life history characteristics of aquatic organisms in waters affected by controllable water quality factors shall not differ significantly from those for the same waters in areas unaffected by controllable water quality factors.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) - San Francisco Bay Region (Region 2)
Evaluation Guideline:	Benthic macroinvertebrate assemblage metric scores that are within the range of scores for minimally disturbed reference sites indicate no substantial alterations in community ecology. Taxa richness values at reference sites sampled by the SWAMP program between 2001 and 2003 ranged from 28 to 59. Reference conditions determined for perennial streams such as Easkoot Creek, usually exhibit taxa richness > 38 and % sensitive EPT > 44. A perennial stream could be described as in - excellent condition - if there is no difference between the metrics measured at the site and those established for reference sites. A perennial stream will be described as in - good condition - if the site metrics indicate minor loss of bio-integrity but still a good structure and function, and sensitive species are present in abundance.
Guideline Reference:	Water Quality Monitoring and Bioassessment in Nine San Francisco Bay Region Watersheds: Walker Creek, Lagunitas Creek, San Leandro Creek, Wildcat Creek/San

Spatial Representation: Benthic macroinvertebrates were measured at two sites. One site was located on the mainstem of Easkoot Creek just above the tidal influence and one on Fitzhenry Creek - a small tributary.

Temporal Representation: Benthic macroinvertebrates were sampled in April, 2005.

Environmental Conditions:

QAPP Information: All samples were collected and analyzed using procedures comparable with the SWAMP Quality Assurance Management Plan (SWRCB 2002).

QAPP Information Reference(s):

Line of Evidence (LOE) for Decision ID 34854, Benthic Community Effects

Region 2

Easkoot Creek

LOE ID: 5722

Pollutant: Temperature, water

LOE Subgroup: Pollutant-Water

Matrix: Water

Fraction: None

Beneficial Use: Cold Freshwater Habitat

Number of Samples: 6

Number of Exceedances: 1

Data and Information Type: PHYSICAL/CHEMICAL MONITORING

Data Used to Assess Water Quality: Water quality assessment was conducted at the Easkoot Creek watershed as part of SWAMP study in 2005. Continuous field monitoring at 15 minute increments of temperature, dissolved oxygen, pH and specific conductance was conducted to determine temporal variability in basic water quality at two locations.

The estimated 7-day mean temperatures ranged from 10.64°C to 15.81 °C and varied with season and location. The 14.8 °C criterion for coho salmon was exceeded in 1 out of 6 continuous temperature deployments during the dry summer season at the downstream reach of the creek. The 17 °C criterion for steelhead was never exceeded.

Data Reference: [Data collected by the Surface Water Ambient Monitoring Program, San Francisco Bay Regional Water Quality Control Board. Years 4 and 5 Assessment](#)

SWAMP Data: SWAMP

Water Quality Objective/Criterion: Temperature objectives for enclosed bays and estuaries are specified in the "Water Quality Control Plan for Control of Temperature in the Coastal and Interstate Waters and Enclosed Bays of California" including any revisions to the plan. In addition, the following temperature objectives apply to surface waters: The natural receiving water temperature of intrastate waters shall not be altered unless it can be demonstrated to the satisfaction of the Regional Water Board that such alteration in temperature does not adversely affect beneficial uses.

The temperature of any cold or warm freshwater habitat shall not be increased by more than 5°F (2.8°C) above natural receiving water temperature.

Objective/Criterion Reference: [Water Quality Control Plan \(Basin Plan\) - San Francisco Bay Region \(Region 2\)](#)

Evaluation Guideline: Sullivan et al. (2000) reviewed a wide range of studies incorporating information from laboratory-based research, field observations, and risk assessment approaches and developed criteria for assessing temperature risk to aquatic life. The 7-day mean temperature (maximum value of the 7-day moving average of the daily mean temperature) of 14.8°C was established as the upper threshold criterion for coho salmon and 17.0°C for steelhead trout. The risk assessment approach used by Sullivan et al. (2000) suggests that temperatures exceeding the above thresholds will cause 10% reduction in average growth compared to optimal conditions.

Guideline Reference:	An Analysis of the Effects of Temperature on Salmonids of the Pacific Northwest with Implications for Selecting Temperature Criteria
Spatial Representation:	Temperature was measured at two sites. One site was located on the mainstem of Easkoot Creek just above the tidal influence and one on Fitzhenry Creek a small tributary. The high temperatures were detected at the downstream location in Easkoot Creek.
Temporal Representation:	Concurrent continuous measurements were conducted at both monitoring locations. Temperature was recorded at 15 minute intervals over 6 to 7 days during spring (April 2005), summer dry season (August 2005), and winter wet season (January 2006).
Environmental Conditions:	
QAPP Information:	All samples were collected and analyzed using procedures comparable with the SWAMP Quality Assurance Management Plan (SWRCB 2002).
QAPP Information Reference(s):	

DECISION ID	44313	Region 2
Easkoot Creek		

Pollutant:	Cadmium Copper Lead Zinc
Final Listing Decision:	Do Not List on 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision:	Do Not List on 303(d) list (TMDL required list)(2012)
Revision Status	Original
Impairment from Pollutant or Pollution:	Pollutant

Regional Board Staff Conclusion:	These pollutants are being considered for placement on the section 303(d) list under section 3.1 of the Listing Policy. Under this section a single line of evidence is necessary to assess listing status. One line of evidence is available in the administrative record to assess these pollutants. Zero samples exceed the water quality objective. Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against placing this water segment-pollutant combination on the section 303(d) list in the Water Quality Limited Segments category. This conclusion is based on the staff findings that: 1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy. 2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy. 3. Zero of one sample exceed the water quality objective, but this sample size is insufficient to determine with the power and confidence of the Listing Policy if standards are not met. A minimum of two samples are needed for application of table 3.1. 4. Pursuant to section 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.
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Regional Board Staff Decision Recommendation:	This is a decision previously approved by the State Water Resources Control Board and the USEPA. No new data were assessed by the Regional Board for the current. The decision has not changed.
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Line of Evidence (LOE) for Decision ID 44313, Multiple Pollutants	Region 2
Easkoot Creek	

LOE ID:	28270
Pollutant:	Cadmium Copper Lead Zinc
LOE Subgroup:	Pollutant-Sediment
Matrix:	Sediment
Fraction:	None
Beneficial Use:	Cold Freshwater Habitat
Number of Samples:	1
Number of Exceedances:	0
Data and Information Type:	PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality:	One sample was collected by SWAMP in April 11, 2005 to determine the concentrations

Data Reference:	of these metals in sediment. The sample did not exceed the PEC for any of these metals. Data collected by the Surface Water Ambient Monitoring Program, San Francisco Bay Regional Water Quality Control Board. Years 4 and 5 Assessment
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	All waters shall be maintained free of toxic substances that are lethal to or that produce other detrimental responses in aquatic organisms.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) - San Francisco Bay Region (Region 2)
Evaluation Guideline:	Sediment Quality Guidelines (MacDonald et al., 2000): PEC (probable effect concentration) cadmium - 4.98 mg/kg; copper - 149 mg/kg; lead - 128 mg/kg; zinc - 459 mg/kg.
Guideline Reference:	Development and evaluation of consensus-based sediment quality guidelines for freshwater ecosystems. Environmental Contamination and Toxicology. 39: 20-31
Spatial Representation:	The sample was taken from one monitoring location EAS020 of Easkoot Creek.
Temporal Representation:	The sample was taken in spring (4/11/2005) of 2005.
Environmental Conditions:	
QAPP Information:	All samples were collected and analyzed using procedures comparable with the SWAMP Quality Assurance Management Plan (SWRCB 2002).
QAPP Information Reference(s):	Quality Assurance Management Plan for the State of California's Surface Water Ambient Monitoring Program, Sacramento, CA. State Water Resources Control Board. SWAMP. December 2002 (1st version)

DECISION ID	44314	Region 2
Easkoot Creek		

Pollutant:	Chromium
Final Listing Decision:	Do Not List on 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision:	Do Not List on 303(d) list (TMDL required list)(2012)
Revision Status	Original
Impairment from Pollutant or Pollution:	Pollutant
Regional Board Staff Conclusion:	This pollutant is being considered for placement on the section 303(d) list under section 3.1 of the Listing Policy. Under this section a single line of evidence is necessary to assess listing status. Two lines of evidence is available in the administrative record to assess this pollutant. One out of one sample exceeded the water quality objective. Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against placing this water segment-pollutant combination on the section 303(d) list in the Water Quality Limited Segments category. This conclusion is based on the staff findings that: 1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy. 2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy. 3. One out of four samples exceeded the water quality objective and this does not exceed the allowable frequency listed in Table 3.1 of the Listing Policy. 4. Pursuant to section 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.
Regional Board Staff Decision Recommendation:	This is a decision previously approved by the State Water Resources Control Board and the USEPA. No new data were assessed by the Regional Board for the current. The decision has not changed.

Line of Evidence (LOE) for Decision ID 44314, Chromium	Region 2
Easkoot Creek	

LOE ID:	31414
Pollutant:	Chromium (total)
LOE Subgroup:	Pollutant-Water

Matrix:	Water
Fraction:	Dissolved
Beneficial Use:	Cold Freshwater Habitat
Number of Samples:	3
Number of Exceedances:	0
Data and Information Type:	PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality:	Three samples were collected by SWAMP from a monitoring location EAS020 in Easkoot Creek. Concentrations of total dissolved chromium were well below the objective for chromium VI.
Data Reference:	Data collected by the Surface Water Ambient Monitoring Program, San Francisco Bay Regional Water Quality Control Board. Years 4 and 5 Assessment
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	All waters shall be maintained free of toxic substances that are lethal to or that produce other detrimental responses in aquatic organisms. Table 3-4 in the Basin Plan (2007) lists freshwater water quality objectives for toxic pollutants: chromium VI- 11 ug/L,
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) - San Francisco Bay Region (Region 2)
Evaluation Guideline:	
Guideline Reference:	
Spatial Representation:	Samples were taken from one monitoring location EAS020 in Easkoot Creek.
Temporal Representation:	Samples were collected on: 4/11/2005, 6/13/2005, and 2/16/2006.
Environmental Conditions:	
QAPP Information:	All samples were collected and analyzed using procedures comparable with the SWAMP Quality Assurance Management Plan (SWRCB 2002).
QAPP Information Reference(s):	

Line of Evidence (LOE) for Decision ID 44314, Chromium
Easkoot Creek

Region 2

LOE ID:	28281
Pollutant:	Chromium (total)
LOE Subgroup:	Pollutant-Sediment
Matrix:	Sediment
Fraction:	None
Beneficial Use:	Cold Freshwater Habitat
Number of Samples:	1
Number of Exceedances:	1
Data and Information Type:	PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality:	One samples was collected by SWAMP in April 11, 2005 to determine the concentrations of chromium in sediment. The concentration of chromium in the sample was 125 mg/kg and exceeded the PEC threshold.
Data Reference:	Data collected by the Surface Water Ambient Monitoring Program, San Francisco Bay Regional Water Quality Control Board. Years 4 and 5 Assessment
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	All waters shall be maintained free of toxic substances that are lethal to or that produce other detrimental responses in aquatic organisms.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) - San Francisco Bay Region (Region 2)
Evaluation Guideline:	Sediment Quality Guidelines (MacDonald et al., 2000): PEC (probable effect

Guideline Reference:	concentration) chromium - 111 mg/kg dw. Development and evaluation of consensus-based sediment quality guidelines for freshwater ecosystems. Environmental Contamination and Toxicology. 39: 20-31
Spatial Representation:	The sample was taken from one monitoring location EAS020 in Easkoot Creek.
Temporal Representation:	The sample was taken in spring (4/11/2005) of 2005.
Environmental Conditions:	
QAPP Information:	The QA/QC procedure was in compliant with SWAMP's Quality Assurance Management Plan of 2002.
QAPP Information Reference(s):	Quality Assurance Management Plan for the State of California's Surface Water Ambient Monitoring Program. Sacramento, CA. State Water Resources Control Board. SWAMP. December 2002 (1st version)

DECISION ID	44723	Region 2
Easkoot Creek		

Pollutant:	Copper
Final Listing Decision:	Do Not List on 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision:	Do Not List on 303(d) list (TMDL required list)(2012)
Revision Status	Original
Impairment from Pollutant or Pollution:	Pollutant

Regional Board Staff Conclusion:	This pollutant is being considered for placement on the section 303(d) list under section 3.1 of the Listing Policy. Under section 3.1 a single line of evidence is necessary to assess listing status. One line of evidence is available in the administrative record to assess this pollutant. None of three samples exceed the water quality objective. Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against placing this water segment-pollutant combination on the section 303(d) list in the Water Quality Limited Segments category. This conclusion is based on the staff findings that: 1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy. 2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy. 3. None of the 3 samples exceeded the objective, and this does not exceed the allowable frequency listed in Table 3.1 of the Listing Policy. 4. Pursuant to section 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.
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Regional Board Staff Decision Recommendation:	This is a decision previously approved by the State Water Resources Control Board and the USEPA. No new data were assessed by the Regional Board for the current. The decision has not changed.
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Line of Evidence (LOE) for Decision ID 44723, Copper	Region 2
Easkoot Creek	

LOE ID:	31415
Pollutant:	Copper
LOE Subgroup:	Pollutant-Water
Matrix:	Water
Fraction:	Dissolved
Beneficial Use:	Cold Freshwater Habitat
Number of Samples:	3
Number of Exceedances:	0
Data and Information Type:	PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality:	Three samples were collected by SWAMP from a monitoring location EAS020 in Easkoot Creek. Concentrations of copper did not exceed the water quality objectives.
Data Reference:	Data collected by the Surface Water Ambient Monitoring Program, San Francisco Bay

SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	All waters shall be maintained free of toxic substances that are lethal to or that produce other detrimental responses in aquatic organisms. Table 3-4 in the Basin Plan (2007) lists freshwater water quality objectives for toxic pollutants: copper 149 mg/kg
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) - San Francisco Bay Region (Region 2)
Evaluation Guideline:	
Guideline Reference:	
Spatial Representation:	Samples were taken from one monitoring location EAS020 in Easkoot Creek.
Temporal Representation:	Samples were collected on: 4/11/2005, 6/13/2005, and 2/16/2006.
Environmental Conditions:	
QAPP Information:	All samples were collected and analyzed using procedures comparable with the SWAMP Quality Assurance Management Plan (SWRCB 2002).
QAPP Information Reference(s):	

DECISION ID	44523	Region 2
Easkoot Creek		

Pollutant:	Lead
Final Listing Decision:	Do Not List on 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision:	Do Not List on 303(d) list (TMDL required list)(2012)
Revision Status	Original
Impairment from Pollutant or Pollution:	Pollutant

Regional Board Staff Conclusion:	This pollutant is being considered for placement on the section 303(d) list under section 3.1 of the Listing Policy. Under section 3.1 a single line of evidence is necessary to assess listing status. One line of evidence is available in the administrative record to assess this pollutant. None of the samples exceed the water quality objective. Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against placing this water segment-pollutant combination on the section 303(d) list in the Water Quality Limited Segments category. This conclusion is based on the staff findings that: 1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy. 2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy. 3. None of 3 samples exceeded the water quality objective and this does not exceed the allowable frequency listed in Table 3.1 of the Listing Policy. 4. Pursuant to section 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.
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Regional Board Staff Decision Recommendation:	This is a decision previously approved by the State Water Resources Control Board and the USEPA. No new data were assessed by the Regional Board for the current. The decision has not changed.
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Line of Evidence (LOE) for Decision ID 44523, Lead	Region 2
Easkoot Creek	

LOE ID:	31416
Pollutant:	Lead
LOE Subgroup:	Pollutant-Water
Matrix:	Water
Fraction:	Dissolved
Beneficial Use:	Cold Freshwater Habitat

Number of Samples:	3
Number of Exceedances:	0
Data and Information Type:	PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality:	Three samples were collected by SWAMP from a monitoring location EAS020 in Easkoot Creek. Concentrations of lead did not exceed the water quality objectives. Concentrations of total dissolved chromium were well below the objective for chromium VI.
Data Reference:	Data collected by the Surface Water Ambient Monitoring Program, San Francisco Bay Regional Water Quality Control Board, Years 4 and 5 Assessment
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	All waters shall be maintained free of toxic substances that are lethal to or that produce other detrimental responses in aquatic organisms. Table 3-4 in the Basin Plan (2007) lists freshwater water quality objectives for toxic pollutants: lead - 2.5 ug/L
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) - San Francisco Bay Region (Region 2)
Evaluation Guideline:	
Guideline Reference:	
Spatial Representation:	Samples were taken from one monitoring location EAS020 in Easkoot Creek.
Temporal Representation:	Samples were collected on: 4/11/2005, 6/13/2005, and 2/16/2006.
Environmental Conditions:	
QAPP Information:	All samples were collected and analyzed using procedures comparable with the SWAMP Quality Assurance Management Plan (SWRCB 2002).
QAPP Information Reference(s):	

DECISION ID		60901	Region 2
Easkoot Creek			
Pollutant:	Mercury		
Final Listing Decision:	Do Not List on 303(d) list (TMDL required list)		
Last Listing Cycle's Final Listing Decision:	New Decision		
Revision Status	Original		
Impairment from Pollutant or Pollution:	Pollutant		
Regional Board Staff Conclusion:	<p>This pollutant is being considered for placement on the CWA section 303(d) List under section 3.1 of the Listing Policy. Under section 3.1 a single line of evidence is necessary to assess listing status. One line of evidence is available in the administrative record to assess this pollutant. Zero of three samples exceed the objective.</p> <p>Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against placing this water segment-pollutant combination on the CWA section 303(d) List.</p> <p>This conclusion is based on the staff findings that:</p> <ol style="list-style-type: none"> 1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy. 2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy. 3. Zero of three samples exceed the objective and this sample size is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating. A minimum of 16 samples is needed to determine if a beneficial use is fully supported using table 3.1. 4. Pursuant to SECTION 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met. 		
Regional Board Staff Decision Recommendation:	After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be placed on the section 303(d) list. The readily available data and information is insufficient to determine, with the power and confidence of the Listing Policy, the		

Line of Evidence (LOE) for Decision ID 60901, Mercury**Region 2****Easkoot Creek**

LOE ID:	95419
Pollutant:	Mercury
LOE Subgroup:	Pollutant-Water
Matrix:	Water
Fraction:	Dissolved
Beneficial Use:	Cold Freshwater Habitat
Number of Samples:	3
Number of Exceedances:	0
Data and Information Type:	PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality:	Three samples were collected by SWAMP from a monitoring location EAS020 in Easkoot Creek. Concentrations of mercury, selenium, and silver did not exceed the water quality objectives.
Data Reference:	Data collected by the Surface Water Ambient Monitoring Program, San Francisco Bay Regional Water Quality Control Board. Years 4 and 5 Assessment
SWAMP Data:	
Water Quality Objective/Criterion:	All waters shall be maintained free of toxic substances that are lethal to or that produce other detrimental responses in aquatic organisms. Table 3-4 in the Basin Plan (2007) lists freshwater water quality objectives for toxic pollutants: mercury - 0.025 ug/L, selenium - 5 ug/L, silver-3.4 ug/L
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) - San Francisco Bay Region (Region 2)
Evaluation Guideline:	
Guideline Reference:	
Spatial Representation:	Samples were taken from one monitoring location EAS020 in Easkoot Creek.
Temporal Representation:	Samples were collected on: 4/11/2005, 6/13/2005, and 2/16/2006.
Environmental Conditions:	Staff are not aware of any special environmental conditions associated with sample collection.
QAPP Information:	All samples were collected and analyzed using procedures comparable with the SWAMP Quality Assurance Management Plan (SWRCB 2002).
QAPP Information Reference(s):	Quality Assurance Management Plan for the State of California's Surface Water Ambient Monitoring Program, Sacramento, CA. State Water Resources Control Board. SWAMP. December 2002 (1st version)

DECISION ID**44315****Region 2****Easkoot Creek**

Pollutant:	Nickel
Final Listing Decision:	Do Not List on 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision:	Do Not List on 303(d) list (TMDL required list)(2012)
Revision Status	Original
Impairment from Pollutant or Pollution:	Pollutant
Regional Board Staff Conclusion:	This pollutant is being considered for placement on the section 303(d) list under section 3.1 of the Listing Policy. Under this section a single line of evidence is necessary to assess listing status. Two lines of evidence are available in the administrative record to assess this pollutant. One out of one

sample exceeded the water quality objective. Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against placing this water segment-pollutant combination on the section 303(d) list in the Water Quality Limited Segments category. This conclusion is based on the staff findings that: 1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy. 2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy. 3. One out of four samples exceeded the water quality objective, and this does not exceed the allowable frequency listed in Table 3.1 of the Listing Policy. 4. Pursuant to section 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.

Regional Board Staff Decision Recommendation: This is a decision previously approved by the State Water Resources Control Board and the USEPA. No new data were assessed by the Regional Board for the current. The decision has not changed.

Line of Evidence (LOE) for Decision ID 44315, Nickel

Region 2

Easkoot Creek

LOE ID: 31417

Pollutant: Nickel
 LOE Subgroup: Pollutant-Water
 Matrix: Water
 Fraction: Dissolved

Beneficial Use: Cold Freshwater Habitat

Number of Samples: 3
 Number of Exceedances: 0

Data and Information Type: PHYSICAL/CHEMICAL MONITORING
 Data Used to Assess Water Quality: Three samples were collected by SWAMP from a monitoring location EAS020 in Easkoot Creek. Concentrations nickel did not exceed the water quality objectives. Concentrations of total dissolved chromium were well below the objective for chromium VI.

Data Reference: [Data collected by the Surface Water Ambient Monitoring Program, San Francisco Bay Regional Water Quality Control Board. Years 4 and 5 Assessment](#)

SWAMP Data: SWAMP

Water Quality Objective/Criterion: All waters shall be maintained free of toxic substances that are lethal to or that produce other detrimental responses in aquatic organisms. Table 3-4 in the Basin Plan (2007) lists freshwater water quality objectives for toxic pollutants: nickel - 52 ug/L

Objective/Criterion Reference: [Water Quality Control Plan \(Basin Plan\) - San Francisco Bay Region \(Region 2\)](#)

Evaluation Guideline:
 Guideline Reference:

Spatial Representation: Samples were taken from one monitoring location EAS020 in Easkoot Creek.
 Temporal Representation: Samples were collected on: 4/11/2005, 6/13/2005, and 2/16/2006.
 Environmental Conditions:
 QAPP Information: All samples were collected and analyzed using procedures comparable with the SWAMP Quality Assurance Management Plan (SWRCB 2002).
 QAPP Information Reference(s):

Line of Evidence (LOE) for Decision ID 44315, Nickel

Region 2

Easkoot Creek

LOE ID: 28283

Pollutant: Nickel

LOE Subgroup:	Pollutant-Sediment
Matrix:	Sediment
Fraction:	None
Beneficial Use:	Cold Freshwater Habitat
Number of Samples:	1
Number of Exceedances:	1
Data and Information Type:	PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality:	One sample was collected by SWAMP in April 11, 2005 to determine the concentration of Nickel in sediment. The concentration of nickel in the sample was 106 mg/kg and exceeded the PEC threshold.
Data Reference:	Data collected by the Surface Water Ambient Monitoring Program, San Francisco Bay Regional Water Quality Control Board. Years 4 and 5 Assessment
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	All waters shall be maintained free of toxic substances that are lethal to or that produce other detrimental responses in aquatic organisms.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) - San Francisco Bay Region (Region 2)
Evaluation Guideline:	Sediment Quality Guidelines (MacDonald et al., 2000): PEC (probable effect concentration) nickel - 48.6 mg/kg dw.
Guideline Reference:	Development and evaluation of consensus-based sediment quality guidelines for freshwater ecosystems. Environmental Contamination and Toxicology. 39: 20-31
Spatial Representation:	The sample was taken from one monitoring location EAS020 in Easkoot Creek.
Temporal Representation:	The sample was collected in spring (4/11/2005) of 2005.
Environmental Conditions:	
QAPP Information:	All samples were collected and analyzed using procedures comparable with the SWAMP Quality Assurance Management Plan (SWRCB 2002).
QAPP Information Reference(s):	Quality Assurance Management Plan for the State of California's Surface Water Ambient Monitoring Program. Sacramento, CA. State Water Resources Control Board. SWAMP. December 2002 (1st version)

DECISION ID	60902	Region 2
Easkoot Creek		

Pollutant:	Selenium
Final Listing Decision:	Do Not List on 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision:	New Decision
Revision Status	Original
Impairment from Pollutant or Pollution:	Pollutant
Regional Board Staff Conclusion:	<p>This pollutant is being considered for placement on the CWA section 303(d) List under section 3.1 of the Listing Policy. Under section 3.1 a single line of evidence is necessary to assess listing status. One line of evidence is available in the administrative record to assess this pollutant. Zero of three samples exceed the objective.</p> <p>Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against placing this water segment-pollutant combination on the CWA section 303(d) List.</p> <p>This conclusion is based on the staff findings that:</p> <ol style="list-style-type: none"> 1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy. 2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy. 3. Zero of three samples exceed the objective and this sample size is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating. A

minimum of 16 samples is needed to determine if a beneficial use is fully supported using table 3.1. 4. Pursuant to SECTION 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.

Regional Board Staff Decision Recommendation: After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be placed on the section 303(d) list. The readily available data and information is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating.

Line of Evidence (LOE) for Decision ID 60902, Selenium

Region 2

Easkoot Creek

LOE ID: 95421

Pollutant: Selenium
LOE Subgroup: Pollutant-Water
Matrix: Water
Fraction: Dissolved

Beneficial Use: Cold Freshwater Habitat

Number of Samples: 3
Number of Exceedances: 0

Data and Information Type: PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality: Three samples were collected by SWAMP from a monitoring location EAS020 in Easkoot Creek. Concentrations of mercury, selenium, and silver did not exceed the water quality objectives.

Data Reference: [Data collected by the Surface Water Ambient Monitoring Program. San Francisco Bay Regional Water Quality Control Board. Years 4 and 5 Assessment](#)

SWAMP Data:

Water Quality Objective/Criterion: All waters shall be maintained free of toxic substances that are lethal to or that produce other detrimental responses in aquatic organisms. Table 3-4 in the Basin Plan (2007) lists freshwater water quality objectives for toxic pollutants: mercury - 0.025 ug/L, selenium - 5 ug/L, silver-3.4 ug/L

Objective/Criterion Reference: [Water Quality Control Plan \(Basin Plan\) - San Francisco Bay Region \(Region 2\)](#)

Evaluation Guideline:
Guideline Reference:

Spatial Representation: Samples were taken from one monitoring location EAS020 in Easkoot Creek.
Temporal Representation: Samples were collected on: 4/11/2005, 6/13/2005, and 2/16/2006.
Environmental Conditions: Staff are not aware of any special environmental conditions associated with sample collection.

QAPP Information: All samples were collected and analyzed using procedures comparable with the SWAMP Quality Assurance Management Plan (SWRCB 2002).

QAPP Information Reference(s): [Quality Assurance Management Plan for the State of California's Surface Water Ambient Monitoring Program. Sacramento, CA. State Water Resources Control Board. SWAMP. December 2002 \(1st version\)](#)

DECISION ID

60903

Region 2

Easkoot Creek

Pollutant: Silver
Final Listing Decision: Do Not List on 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision: New Decision

Revision Status
Impairment from Pollutant or
Pollution:

Original
Pollutant

Regional Board Staff
Conclusion:

This pollutant is being considered for placement on the CWA section 303(d) List under section 3.1 of the Listing Policy. Under section 3.1 a single line of evidence is necessary to assess listing status. One line of evidence is available in the administrative record to assess this pollutant. Zero of three samples exceed the objective.

Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against placing this water segment-pollutant combination on the CWA section 303(d) List.

This conclusion is based on the staff findings that:

1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy.
2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy.
3. Zero of three samples exceed the objective and this sample size is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating. A minimum of 16 samples is needed to determine if a beneficial use is fully supported using table 3.1.
4. Pursuant to SECTION 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.

Regional Board Staff Decision
Recommendation:

After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be placed on the section 303(d) list. The readily available data and information is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating.

Line of Evidence (LOE) for Decision ID 60903, Silver
Easkoot Creek

Region 2

LOE ID: 95422

Pollutant: Silver
LOE Subgroup: Pollutant-Water
Matrix: Water
Fraction: Dissolved

Beneficial Use: Cold Freshwater Habitat

Number of Samples: 3
Number of Exceedances: 0

Data and Information Type: PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality: Three samples were collected by SWAMP from a monitoring location EAS020 in Easkoot Creek. Concentrations of mercury, selenium, and silver did not exceed the water quality objectives.

Data Reference: [Data collected by the Surface Water Ambient Monitoring Program, San Francisco Bay Regional Water Quality Control Board. Years 4 and 5 Assessment](#)

SWAMP Data:

Water Quality Objective/Criterion: All waters shall be maintained free of toxic substances that are lethal to or that produce other detrimental responses in aquatic organisms. Table 3-4 in the Basin Plan (2007) lists freshwater water quality objectives for toxic pollutants: mercury - 0.025 ug/L, selenium - 5 ug/L, silver-3.4 ug/L

Objective/Criterion Reference: [Water Quality Control Plan \(Basin Plan\) - San Francisco Bay Region \(Region 2\)](#)

Evaluation Guideline:
Guideline Reference:

Spatial Representation: Samples were taken from one monitoring location EAS020 in Easkoot Creek.

Temporal Representation:	Samples were collected on: 4/11/2005, 6/13/2005, and 2/16/2006.
Environmental Conditions:	Staff are not aware of any special environmental conditions associated with sample collection.
QAPP Information:	All samples were collected and analyzed using procedures comparable with the SWAMP Quality Assurance Management Plan (SWRCB 2002).
QAPP Information Reference(s):	Quality Assurance Management Plan for the State of California's Surface Water Ambient Monitoring Program. Sacramento, CA. State Water Resources Control Board. SWAMP. December 2002 (1st version).

DECISION ID	43813	Region 2
Easkoot Creek		

Pollutant:	Toxicity
Final Listing Decision:	Do Not List on 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision:	Do Not List on 303(d) list (TMDL required list)(2012)
Revision Status	Original
Impairment from Pollutant or Pollution:	Pollutant

Regional Board Staff Conclusion: This pollutant is being considered for placement on the section 303(d) list under section 3.1 of the Listing Policy. Under section 3.1 a single line of evidence is necessary to assess listing status. Two lines of evidence are available in the administrative record to assess this pollutant. None of the samples exceed the water quality objective. Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against placing this water segment-pollutant combination on the section 303(d) list in the Water Quality Limited Segments category. This conclusion is based on the staff findings that: 1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy. 2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy. 3. None of the three samples exceeded the water quality objective (Basin Plan) and this does not exceed the allowable frequency listed in Table 3.1 of the Listing Policy. 4. Pursuant to section 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.

Regional Board Staff Decision Recommendation: This is a decision previously approved by the State Water Resources Control Board and the USEPA. No new data were assessed by the Regional Board for the current. The decision has not changed.

Line of Evidence (LOE) for Decision ID 43813, Toxicity	Region 2
Easkoot Creek	

LOE ID:	28267
Pollutant:	Toxicity
LOE Subgroup:	Pollutant-Sediment
Matrix:	Sediment
Fraction:	None
Beneficial Use:	Cold Freshwater Habitat
Number of Samples:	1
Number of Exceedances:	0
Data and Information Type:	Toxicity testing of sediments
Data Used to Assess Water Quality:	One sample was collected by SWAMP in April 11, 2005 to evaluate sediment toxicity. Toxicity was not detected. The sample has not displayed statistically significant difference from the control.
Data Reference:	Data collected by the Surface Water Ambient Monitoring Program. San Francisco Bay Regional Water Quality Control Board. Years 4 and 5 Assessment
SWAMP Data:	SWAMP

Water Quality Objective/Criterion:	All waters shall be maintained free of toxic substances that are lethal to or that produce other detrimental responses in aquatic organisms. There shall be no chronic toxicity in ambient waters. Chronic toxicity is a detrimental biological effect on growth rate, reproduction, fertilization success, larval development, population abundance, community composition, or any other relevant measure of the health of an organism, population, or community.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) - San Francisco Bay Region (Region 2)
Evaluation Guideline:	Sediment toxicity was evaluated according to the SWAMP methodology. Toxicity was determined by comparing mean organism response in samples and negative controls. Statistical evaluation ($\alpha = 0.05$) and a default threshold of 80% of the control value were used to establish whether water exhibited significant toxicity adversely impacting aquatic organisms.
Guideline Reference:	Revised approach to toxicity test acceptability criteria using a statistical performance assessment. Environmental Toxicology and Chemistry, vol. 16, No. 6, pp 1322?1329
Spatial Representation:	The sample taken from one monitoring location EAS020 in Easkoot Creek.
Temporal Representation:	The sample was taken in spring (4/11/2005) of 2005.
Environmental Conditions:	
QAPP Information:	All samples were collected and analyzed using procedures comparable with the SWAMP Quality Assurance Management Plan (SWRCB 2002).
QAPP Information Reference(s):	

Line of Evidence (LOE) for Decision ID 43813, Toxicity Easkoot Creek

Region 2

LOE ID:	28264
Pollutant:	Toxicity
LOE Subgroup:	Pollutant-Water
Matrix:	Water
Fraction:	None
Beneficial Use:	Cold Freshwater Habitat
Number of Samples:	3
Number of Exceedances:	0
Data and Information Type:	TOXICITY TESTING
Data Used to Assess Water Quality:	Three samples were collected by SWAMP in 2005-2006 to evaluate water toxicity. No samples were toxic. No samples displayed statistically significant difference from the control.
Data Reference:	Data collected by the Surface Water Ambient Monitoring Program. San Francisco Bay Regional Water Quality Control Board. Years 4 and 5 Assessment
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	All waters shall be maintained free of toxic substances that are lethal to or that produce other detrimental responses in aquatic organisms. There shall be no chronic toxicity in ambient waters. Chronic toxicity is a detrimental biological effect on growth rate, reproduction, fertilization success, larval development, population abundance, community composition, or any other relevant measure of the health of an organism, population, or community.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) - San Francisco Bay Region (Region 2)
Evaluation Guideline:	Water toxicity was evaluated according to the SWAMP methodology. The U.S.EPA whole effluent toxicity protocol (U.S.EPA 1994) was used to test the effect of water samples on three freshwater test organisms. Statistical evaluation ($\alpha = 0.05$) and a default threshold of 80% of the control value were used to establish whether water exhibited significant toxicity adversely impacting aquatic organisms.
Guideline Reference:	Revised approach to toxicity test acceptability criteria using a statistical performance

Spatial Representation: Samples were taken from one monitoring location EAS020 in Easkoot Creek.
 Temporal Representation: Samples were taken from water Year 2005-2006 in spring, dry and wet seasons.
 Environmental Conditions:
 QAPP Information: All samples were collected and analyzed using procedures comparable with the SWAMP Quality Assurance Management Plan (SWRCB 2002).
 QAPP Information Reference(s):

DECISION ID	44524	Region 2
Easkoot Creek		

Pollutant: Zinc
Final Listing Decision: Do Not List on 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision: Do Not List on 303(d) list (TMDL required list)(2012)
Revision Status Original
Impairment from Pollutant or Pollution: Pollutant

Regional Board Staff Conclusion: This pollutant is being considered for placement on the section 303(d) list under section 3.1 of the Listing Policy. Under section 3.1 a single line of evidence is necessary to assess listing status. One line of evidence is available in the administrative record to assess this pollutant. None of the samples exceed the water quality objective. Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against placing this water segment-pollutant combination on the section 303(d) list in the Water Quality Limited Segments category. This conclusion is based on the staff findings that: 1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy. 2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy. 3. None of 3 samples exceeded the water quality objective and this does not exceed the allowable frequency listed in Table 3.1 of the Listing Policy. 4. Pursuant to section 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.

Regional Board Staff Decision Recommendation: This is a decision previously approved by the State Water Resources Control Board and the USEPA. No new data were assessed by the Regional Board for the current. The decision has not changed.

Line of Evidence (LOE) for Decision ID 44524, Zinc	Region 2
Easkoot Creek	

LOE ID: 31418
 Pollutant: Zinc
 LOE Subgroup: Pollutant-Water
 Matrix: Water
 Fraction: Dissolved
 Beneficial Use: Cold Freshwater Habitat
 Number of Samples: 3
 Number of Exceedances: 0
 Data and Information Type: PHYSICAL/CHEMICAL MONITORING
 Data Used to Assess Water Quality: Three samples were collected by SWAMP from a monitoring location EAS020 in Easkoot Creek. Concentrations zinc did not exceed the water quality objectives. Concentrations of total dissolved chromium were well below the objective for chromium VI.
 Data Reference: [Data collected by the Surface Water Ambient Monitoring Program, San Francisco Bay](#)

SWAMP Data: SWAMP

Water Quality Objective/Criterion: All waters shall be maintained free of toxic substances that are lethal to or that produce other detrimental responses in aquatic organisms.
Table 3-4 in the Basin Plan (2007) lists freshwater water quality objectives for toxic pollutants: zinc - 120 ug/L.

Objective/Criterion Reference: [Water Quality Control Plan \(Basin Plan\) - San Francisco Bay Region \(Region 2\)](#)

Evaluation Guideline:
Guideline Reference:

Spatial Representation: Samples were taken from one monitoring location EAS020 in Easkoot Creek.
Temporal Representation: Samples were collected on: 4/11/2005, 6/13/2005, and 2/16/2006.
Environmental Conditions:
QAPP Information: All samples were collected and analyzed using procedures comparable with the SWAMP Quality Assurance Management Plan (SWRCB 2002).

QAPP Information Reference(s):

DECISION ID	44454	Region 2
Easkoot Creek		

Pollutant: pH
Final Listing Decision: Do Not List on 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision: Do Not List on 303(d) list (TMDL required list)(2012)
Revision Status Original
Impairment from Pollutant or Pollution: Pollutant

Regional Board Staff Conclusion: This pollutant is being considered for placement on the section 303(d) list under section 3.2 of the Listing Policy. Under section 3.2 a single line of evidence is necessary to assess listing status. One line of evidence is available in the administrative record to assess this pollutant. One of the samples exceed the water quality objective. Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against placing this water segment-pollutant combination on the section 303(d) list in the Water Quality Limited Segments category. This conclusion is based on the staff findings that: 1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy. 2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy. 3. One of the six samples exceeded the water quality objectives (Basin Plan) and this does not exceed the allowable frequency listed in Table 3.2 of the Listing Policy. 4. Pursuant to section 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.

Regional Board Staff Decision Recommendation: This is a decision previously approved by the State Water Resources Control Board and the USEPA. No new data were assessed by the Regional Board for the current. The decision has not changed.

Line of Evidence (LOE) for Decision ID 44454, pH	Region 2
Easkoot Creek	

LOE ID: 28234

Pollutant: pH
 LOE Subgroup: Pollutant-Water
 Matrix: Water
 Fraction: None

Beneficial Use: Cold Freshwater Habitat

Number of Samples:	6
Number of Exceedances:	1
Data and Information Type:	PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality:	Six water samples from two monitoring locations (EAS020 & EAS050) were used to assess the data. One exceedance was detected in the wet season.
Data Reference:	Data collected by the Surface Water Ambient Monitoring Program, San Francisco Bay Regional Water Quality Control Board. Years 4 and 5 Assessment
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	The pH shall not be depressed below 6.5 nor raised above 8.5. This encompasses the pH range usually found in waters within the basin. Controllable water quality factors shall not cause changes greater than 0.5 units in normal ambient pH levels.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) - San Francisco Bay Region (Region 2)
Evaluation Guideline:	
Guideline Reference:	
Spatial Representation:	Samples were collected at two monitoring locations (EAS020 and EAS050).
Temporal Representation:	Samples were collected during spring, dry, and wet seasons in 2004-2005. Continuous monitoring was conducted between 4/22/05 and 4/29/05.
Environmental Conditions:	
QAPP Information:	The QA/QC procedure was comparable with SWAMP'S Quality Assurance Management Plan of 2002.
QAPP Information Reference(s):	

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Supporting Information

Regional Board 2 - San Francisco Bay Region

Water Body Name: Lobos Creek
Water Body ID: CAR2034001020080626104718
Water Body Type: River & Stream

DECISION ID 44249 **Region 2**
Lobos Creek

Pollutant: Arsenic | Cadmium | Copper | Lead | Mercury | Nickel | Zinc
Final Listing Decision: Do Not List on 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision: Do Not List on 303(d) list (TMDL required list)(2012)
Revision Status Original
Impairment from Pollutant or Pollution: Pollutant

Regional Board Staff Conclusion: These pollutants are being considered for placement on the section 303(d) list under section 3.1 of the Listing Policy. Under this section a single line of evidence is necessary to assess listing status. One line of evidence is available in the administrative record to assess these pollutants. Zero samples exceed the water quality objective. Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against placing this water segment-pollutant combination on the section 303(d) list in the Water Quality Limited Segments category. This conclusion is based on the staff findings that: 1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy. 2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy. 3. Zero of one sample exceed the water quality objective, but this sample size is insufficient to determine with the power and confidence of the Listing Policy if standards are not met. A minimum of two samples are needed for application of table 3.1. 4. Pursuant to section 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.

Regional Board Staff Decision Recommendation: This is a decision previously approved by the State Water Resources Control Board and the USEPA. No new data were assessed by the Regional Board for the current. The decision has not changed.

Line of Evidence (LOE) for Decision ID 44249, Multiple Pollutants **Region 2**

Lobos Creek

LOE ID: 28728
Pollutant: Arsenic | Cadmium | Copper | Lead | Mercury | Nickel | Zinc
LOE Subgroup: Pollutant-Sediment
Matrix: Sediment
Fraction: None
Beneficial Use: Warm Freshwater Habitat
Number of Samples: 1
Number of Exceedances: 0
Data and Information Type: PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality: Concentrations of arsenic, cadmium, copper, lead, mercury, nickel and zinc in one sediment sample collected in April 2005 did not exceed the sediment quality guidelines.
Data Reference: [Data collected by the Surface Water Ambient Monitoring Program, San Francisco Bay Regional Water Quality Control Board. Years 4 and 5 Assessment](#)

SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	All waters shall be maintained free of toxic substances that are lethal to or that produce other detrimental responses in aquatic organisms.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) - San Francisco Bay Region (Region 2)
Evaluation Guideline:	Sediment Quality Guidelines (MacDonald et al., 2000): PEC (probable effect concentration) arsenic - 33 mg/kg dw; cadmium - 4.98 mg/kg dw; copper - 149 mg/kg dw; lead - 128 mg/kg dw; mercury - 1.06 mg/kg dw; nickel - 48.6 mg/kg dw; zinc - 459 mg/kg dw.
Guideline Reference:	Development and evaluation of consensus-based sediment quality guidelines for freshwater ecosystems. Environmental Contamination and Toxicology. 39: 20-31
Spatial Representation:	One sediment sample was collected in Lobos Creek.
Temporal Representation:	Sediment sample was collected in April of 2005.
Environmental Conditions:	
QAPP Information:	All samples were collected and analyzed using procedures comparable with the SWAMP Quality Assurance Management Plan (SWRCB, 2002).
QAPP Information Reference(s):	

DECISION ID	43482	Region 2
Lobos Creek		

Pollutant:	Arsenic Chromium (total) Copper Lead Nickel Silver Zinc
Final Listing Decision:	Do Not List on 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision:	Do Not List on 303(d) list (TMDL required list)(2012)
Revision Status	Original
Impairment from Pollutant or Pollution:	Pollutant

Regional Board Staff Conclusion:	These pollutants are being considered for placement on the section 303(d) list under section 3.1 of the Listing Policy. Under section 3.1 a single line of evidence is necessary to assess listing status. One line of evidence is available in the administrative record to assess this pollutant. None of the samples exceed the water quality objective. Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against placing this water segment-pollutant combination on the section 303(d) list in the Water Quality Limited Segments category. This conclusion is based on the staff findings that: 1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy. 2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy. 3. None of three samples exceeded the water quality objective and this does not exceed the allowable frequency listed in Table 3.1 of the Listing Policy. 4. Pursuant to section 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.
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Regional Board Staff Decision Recommendation:	This is a decision previously approved by the State Water Resources Control Board and the USEPA. No new data were assessed by the Regional Board for the current. The decision has not changed.
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Line of Evidence (LOE) for Decision ID 43482, Multiple Pollutants	Region 2
Lobos Creek	

LOE ID:	28848
Pollutant:	Arsenic Chromium (total) Copper Lead Nickel Silver Zinc
LOE Subgroup:	Pollutant-Water
Matrix:	Water
Fraction:	Dissolved
Beneficial Use:	Warm Freshwater Habitat

Number of Samples:	3
Number of Exceedances:	0
Data and Information Type:	PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality:	The Lobos Creek watershed was monitored as part of SWAMP assessment. None of the three samples exceeded the water quality objectives for arsenic, chromium VI, copper, lead, nickel, silver and zinc. Concentrations of total dissolved chromium were well below the objective for chromium VI.
Data Reference:	Data collected by the Surface Water Ambient Monitoring Program, San Francisco Bay Regional Water Quality Control Board. Years 4 and 5 Assessment
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	All waters shall be maintained free of toxic substances that are lethal to or that produce other detrimental responses in aquatic organisms. Table 3-4 in the Basin Plan (2007) lists freshwater water quality objectives for toxic pollutants: arsenic- 150 ug/L, chromium VI- 11 ug/L, copper - 9.0 ug/L, lead - 2.5 ug/L; nickel - 52 ug/L, silver-3.4 ug/L and zinc - 120 ug/L.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) - San Francisco Bay Region (Region 2)
Evaluation Guideline:	
Guideline Reference:	
Spatial Representation:	Data were collected at one sampling location (LOB020) on Lobos Creek.
Temporal Representation:	Samples were collected during wet (January), spring (April), and dry (June) seasons of 2005.
Environmental Conditions:	
QAPP Information:	All samples were collected and analyzed using procedures comparable with the SWAMP Quality Assurance Management Plan (SWRCB, 2002).
QAPP Information Reference(s):	Quality Assurance Management Plan for the State of California's Surface Water Ambient Monitoring Program. Sacramento, CA. State Water Resources Control Board. SWAMP. December 2002 (1st version)

DECISION ID	43982	Region 2
Lobos Creek		
Pollutant:	Chlorpyrifos Dacthal Diazinon Disulfoton Endosulfan Lindane/gamma Hexachlorocyclohexane (gamma-HCH) Methyl Parathion PCBs (Polychlorinated biphenyls) Thiobencarb/Bolero	
Final Listing Decision:	Do Not List on 303(d) list (TMDL required list)	
Last Listing Cycle's Final Listing Decision:	Do Not List on 303(d) list (TMDL required list)(2012)	
Revision Status	Original	
Impairment from Pollutant or Pollution:	Pollutant	
Regional Board Staff Conclusion:	This pollutant is being considered for placement on the section 303(d) list under section 3.1 of the Listing Policy. Under section 3.1 a single line of evidence is necessary to assess listing status. One line of evidence is available in the administrative record to assess this pollutant. None of the samples exceed the water quality objective. Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against placing this water segment-pollutant combination on the section 303(d) list in the Water Quality Limited Segments category. This conclusion is based on the staff findings that: 1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy. 2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy. 3. None of three samples exceeded the water quality objective and this does not exceed the allowable frequency listed in Table 3.1 of the Listing Policy. 4. Pursuant to section 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.	

Regional Board Staff Decision Recommendation: This is a decision previously approved by the State Water Resources Control Board and the USEPA. No new data were assessed by the Regional Board for the current. The decision has not changed.

Line of Evidence (LOE) for Decision ID 43982, Multiple Pollutants

Region 2

Lobos Creek

LOE ID:	28979
Pollutant:	Chlorpyrifos Dacthal Diazinon Disulfoton Endosulfan Lindane/gamma Hexachlorocyclohexane (gamma-HCH) Methyl Parathion PCBs (Polychlorinated biphenyls) Thiobencarb/Bolero
LOE Subgroup:	Pollutant-Water
Matrix:	Water
Fraction:	None
Beneficial Use:	Warm Freshwater Habitat
Number of Samples:	3
Number of Exceedances:	0
Data and Information Type:	PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality:	Lobos Creek was monitored as part of SWAMP assessment. None of the three samples exceeded the water quality objectives for PCBs, Chlorpyrifos, Dacthal, diazinon, disulfoton, endosulfan, Lindane/gamma Hexachlorocyclohexane (gamma-HCH), methyl parathion, thiobencarb.
Data Reference:	Data collected by the Surface Water Ambient Monitoring Program, San Francisco Bay Regional Water Quality Control Board. Years 4 and 5 Assessment
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	All waters shall be maintained free of toxic substances that are lethal to or that produce other detrimental responses in aquatic organisms. Table 3-4 in the Basin Plan (2007) lists freshwater water quality objectives for toxic pollutants: PCBs - 0.014 ug/L freshwater continuous Concentration; Chlorpyrifos - 0.015 ug/L (chronic); Dacthal (DCPA) - 14300 ug/L (acute); Diazinon - 0.1 ug/L (acute); Disulfoton (Disyston) - 0.05 ug/L (acute); Endosulfan - 0.056 ug/L (chronic)/0.22 ug/L (acute); HCH, gamma-(gamma BHC, Lindane) - 0.95 ug/L (acute); methyl parathion - 0.08 ug/L (acute); Thiobencarb - 3.1 ug/L (acute).
Objective/Criterion Reference:	Water Quality Standards 2000. Establishment of numeric criteria for priority toxic pollutants for the State of California: Rules and regulations. Federal Register Vol. 65, No. 97. Washington, D.C.: Environmental Protection Agency Water Quality Control Plan (Basin Plan) - San Francisco Bay Region (Region 2) Water Quality Control Plan for the California Regional Water Quality Control Board Central Valley Region, Sacramento and San Joaquin River Basins. 4th ed Hazard Assessment of the Insecticide Methyl Parathion to Aquatic Organisms in the Sacramento River System. California Department of Fish and Game. Environmental Services Division. Administrative Report 92-1 Hazard Assessment of the Rice Herbicides Molinate and Thiobencarb to Aquatic Organisms in the Sacramento River System. Administrative Report 90-1. California Department of Fish and Game. Environmental Services Division
Evaluation Guideline:	
Guideline Reference:	
Spatial Representation:	Data were collected at one sampling location (LOB020, Lobos below Lincoln) on Lobos Creek.
Temporal Representation:	Samples were collected during spring (April), and dry (June) seasons of 2005 and in the wet season (February) of 2006.
Environmental Conditions:	
QAPP Information:	All samples were collected and analyzed using procedures comparable with the SWAMP Quality Assurance Management Plan (SWRCB, 2002).

DECISION ID	44175	Region 2
Lobos Creek		

Pollutant: Chromium
Final Listing Decision: Do Not List on 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision: Do Not List on 303(d) list (TMDL required list)(2012)
Revision Status: Original
Impairment from Pollutant or Pollution: Pollutant

Regional Board Staff Conclusion: This pollutant is being considered for placement on the section 303(d) list under section 3.1 of the Listing Policy. Under this section a single line of evidence is necessary to assess listing status. One line of evidence is available in the administrative record to assess this pollutant. One sample exceeds the water quality objective. Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against placing this water segment-pollutant combination on the section 303(d) list in the Water Quality Limited Segments category. This conclusion is based on the staff findings that: 1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy. 2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy. 3. One out of one sample exceeded the water quality objective, but this sample size is insufficient to determine with the power and confidence of the Listing Policy if standards are not met. A minimum of two samples are needed for application of table 3.1. 4. Pursuant to section 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.

Regional Board Staff Decision Recommendation: This is a decision previously approved by the State Water Resources Control Board and the USEPA. No new data were assessed by the Regional Board for the current. The decision has not changed.

Line of Evidence (LOE) for Decision ID 44175, Chromium	Region 2
Lobos Creek	

LOE ID: 28771
Pollutant: Chromium (total)
LOE Subgroup: Pollutant-Sediment
Matrix: Sediment
Fraction: None
Beneficial Use: Warm Freshwater Habitat
Number of Samples: 1
Number of Exceedances: 1
Data and Information Type: PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality: Chromium concentration in sediment sample collected in spring 2005 was 183 mg/kg and exceeded the sediment quality guideline.
Data Reference: [Data collected by the Surface Water Ambient Monitoring Program, San Francisco Bay Regional Water Quality Control Board, Years 4 and 5 Assessment](#)
SWAMP Data: SWAMP
Water Quality Objective/Criterion: All waters shall be maintained free of toxic substances that are lethal to or that produce other detrimental responses in aquatic organisms.
Objective/Criterion Reference: [Water Quality Control Plan \(Basin Plan\) - San Francisco Bay Region \(Region 2\)](#)

Evaluation Guideline:	Sediment Quality Guidelines (MacDonald et al., 2000): PEC (probable effect concentration) for chromium is 111mg/kg.
Guideline Reference:	Development and evaluation of consensus-based sediment quality guidelines for freshwater ecosystems. Environmental Contamination and Toxicology. 39: 20-31
Spatial Representation:	One sediment sample was collected on Lobos Creek.
Temporal Representation:	Sample was collected in spring 2005.
Environmental Conditions:	
QAPP Information:	All samples were collected and analyzed using procedures comparable with the SWAMP Quality Assurance Management Plan (SWRCB, 2002).
QAPP Information Reference(s):	

DECISION ID	43842	Region 2
Lobos Creek		

Pollutant:	Mercury
Final Listing Decision:	Do Not List on 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision:	Do Not List on 303(d) list (TMDL required list)(2012)
Revision Status	Original
Impairment from Pollutant or Pollution:	Pollutant

Regional Board Staff Conclusion:	This pollutant is being considered for placement on the section 303(d) list under section 3.1 of the Listing Policy. Under section 3.1 a single line of evidence is necessary to assess listing status. One line of evidence is available in the administrative record to assess this pollutant. None of the samples exceed the water quality objective. Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against placing this water segment-pollutant combination on the section 303(d) list in the Water Quality Limited Segments category. This conclusion is based on the staff findings that: 1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy. 2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy. 3. None of three samples exceeded the water quality objective and this does not exceed the allowable frequency listed in Table 3.1 of the Listing Policy. 4. Pursuant to section 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.
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Regional Board Staff Decision Recommendation:	This is a decision previously approved by the State Water Resources Control Board and the USEPA. No new data were assessed by the Regional Board for the current. The decision has not changed.
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Line of Evidence (LOE) for Decision ID 43842, Mercury	Region 2
Lobos Creek	

LOE ID:	28849
Pollutant:	Mercury
LOE Subgroup:	Pollutant-Water
Matrix:	Water
Fraction:	Total
Beneficial Use:	Warm Freshwater Habitat
Number of Samples:	3
Number of Exceedances:	0
Data and Information Type:	PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality:	Lobos Creek was monitored as part of SWAMP assessment. None of the three samples exceeded the water quality objectives for mercury.
Data Reference:	Data collected by the Surface Water Ambient Monitoring Program, San Francisco Bay Regional Water Quality Control Board. Years 4 and 5 Assessment

SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	All waters shall be maintained free of toxic substances that are lethal to or that produce other detrimental responses in aquatic organisms. Table 3-4 in the Basin Plan (2007) lists freshwater water quality objectives for toxic pollutants: mercury- 2.4 ug/L
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) - San Francisco Bay Region (Region 2)
Evaluation Guideline:	
Guideline Reference:	
Spatial Representation:	Data were collected at one sampling location (LOB020) on Lobos Creek.
Temporal Representation:	Samples were collected during wet (January), spring (April), and dry (June) seasons of 2005.
Environmental Conditions:	
QAPP Information:	All samples were collected and analyzed using procedures comparable with the SWAMP Quality Assurance Management Plan (SWRCB, 2002).
QAPP Information Reference(s):	Quality Assurance Management Plan for the State of California's Surface Water Ambient Monitoring Program. Sacramento, CA. State Water Resources Control Board. SWAMP. December 2002 (1st version)

DECISION ID	43981	Region 2
Lobos Creek		

Pollutant:	Oxygen, Dissolved
Final Listing Decision:	Do Not List on 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision:	Do Not List on 303(d) list (TMDL required list)(2012)
Revision Status	Original
Impairment from Pollutant or Pollution:	Pollutant

Regional Board Staff Conclusion:	This pollutant is being considered for placement on the section 303(d) list under section 3.2 of the Listing Policy. Under this section a single line of evidence is necessary to assess listing status. One line of evidence is available in the administrative record to assess this pollutant. None of the samples exceed the water quality objective. Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against placing this water segment-pollutant combination on the section 303(d) list in the Water Quality Limited Segments category. This conclusion is based on the staff findings that: 1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy. 2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy. 3. None of three samples exceeded the water quality objective, but this sample size is insufficient to determine with the power and confidence of the Listing Policy if standards are not met. A minimum of five samples is needed for application of table 3.2. 4. Pursuant to section 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.
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Regional Board Staff Decision Recommendation:	This is a decision previously approved by the State Water Resources Control Board and the USEPA. No new data were assessed by the Regional Board for the current. The decision has not changed.
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Line of Evidence (LOE) for Decision ID 43981, Oxygen, Dissolved	Region 2
Lobos Creek	

LOE ID:	28897
Pollutant:	Oxygen, Dissolved
LOE Subgroup:	Pollutant-Water
Matrix:	Water
Fraction:	None

Beneficial Use:	Warm Freshwater Habitat
Number of Samples:	3
Number of Exceedances:	0
Data and Information Type:	PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality:	Water quality assessment was conducted at Lobos Creek as part of SWAMP assessment in 2005 and 2006. Continuous field monitoring of temperature, dissolved oxygen, pH, and specific conductance to determine temporal variability in basic water quality at one or two locations. The 7 day average minimum concentration of dissolved oxygen ranged from 7.9 to 8.9 mg/L and varied with season. Minimum dissolved oxygen levels never fell below the objective of 5 mg/L.
Data Reference:	Data collected by the Surface Water Ambient Monitoring Program, San Francisco Bay Regional Water Quality Control Board. Years 4 and 5 Assessment
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	The numeric water quality objective for dissolved oxygen is 5.0 mg/L minimum for waters designated as warm water habitat. The median dissolved oxygen concentration for any three consecutive months shall not be less than 80 percent of the dissolved oxygen content at saturation.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) - San Francisco Bay Region (Region 2)
Evaluation Guideline:	
Guideline Reference:	
Spatial Representation:	Dissolved oxygen was measured at one site located on the mainstem of Lobos Creek (LOB020).
Temporal Representation:	SWAMP performed continuous monitoring of dissolved oxygen at 15 minute intervals lasting 8-13 days during spring (May 2005), summer dry seasons (August 2005), and winter wet season (February 2006).
Environmental Conditions:	
QAPP Information:	All samples were collected and analyzed using procedures comparable with the SWAMP Quality Assurance Management Plan (SWRCB 2002).
QAPP Information Reference(s):	

DECISION ID	35809	Region 2
Lobos Creek		
Pollutant:	Toxicity	
Final Listing Decision:	Do Not List on 303(d) list (TMDL required list)	
Last Listing Cycle's Final Listing Decision:	Do Not List on 303(d) list (TMDL required list)(2012)	
Revision Status	Original	
Impairment from Pollutant or Pollution:	Pollutant	
Regional Board Staff Conclusion:	<p>This pollutant is being considered for listing under section 3.6 of the Listing Policy. Under section 3.6 a single line of evidence is necessary to assess listing status. One line of evidence is available in the administrative record to assess toxicity in Lobos Creek. One of three water samples exhibited limited toxicity. Based on the readily available data for this water body, the weight of evidence indicates that there is sufficient justification available against placing this water segment-pollutant combination on the section 303(d) list in the Water Quality Limited Segments category. This conclusion is based on the staff findings that: 1. The data concerning current conditions and supporting the listing decision satisfy the data quality requirements of section 6.1.4 of the Policy. 2. The data used satisfy the data quantity requirements of section 6.1.5 of the Policy. 3. Water toxicity was observed in one of three samples and this does not exceed the allowable frequency listed in Table 3.1 of the Listing Policy or demonstrate with confidence that standards are not met. 4. Pursuant to section 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.</p>	

Regional Board Staff Decision Recommendation: This is a decision previously approved by the State Water Resources Control Board and the USEPA. No new data were assessed by the Regional Board for the current. The decision has not changed.

Line of Evidence (LOE) for Decision ID 35809, Toxicity

Region 2

Lobos Creek

LOE ID: 21284

Pollutant: Sediment Toxicity
LOE Subgroup: Pollutant-Sediment
Matrix: Sediment
Fraction: None

Beneficial Use: Warm Freshwater Habitat

Number of Samples: 1
Number of Exceedances: 1

Data and Information Type: TOXICITY TESTING
Data Used to Assess Water Quality: Data used to evaluate sediment toxicity comprise one sediment sample collected by the SWAMP in spring 2005. This sample displayed statistically significant toxicity during the Hyalella azteca test. Hyalella azteca growth was only 76% of the control.

Data Reference: [Data collected by the Surface Water Ambient Monitoring Program, San Francisco Bay Regional Water Quality Control Board. Years 4 and 5 Assessment](#)

SWAMP Data: SWAMP

Water Quality Objective/Criterion: All waters shall be maintained free of toxic substances that are lethal to or that produce other detrimental responses in aquatic organisms.

Objective/Criterion Reference: There shall be no chronic toxicity in ambient waters. Chronic toxicity is a detrimental biological effect on growth rate, reproduction, fertilization success, larval development, population abundance, community composition, or any other relevant measure of the health of an organism, population, or community.
[Water Quality Control Plan \(Basin Plan\) - San Francisco Bay Region \(Region 2\)](#)

Evaluation Guideline: Sediment toxicity was evaluated according to the SWAMP methodology. Sample toxicity was determined by comparing mean organism response in samples and in negative controls. Statistical evaluation ($\alpha = 0.05$) and a default threshold of 80% of the control value were used to establish whether the sediment exhibited significant toxicity adversely impacting aquatic organisms.

Guideline Reference: [Revised approach to toxicity test acceptability criteria using a statistical performance assessment. Environmental Toxicology and Chemistry, vol. 16, No. 6, pp 1322?1329](#)

Spatial Representation: Data were collected at one sampling location at the lower part of Lobos Creek.
Temporal Representation: A sample was collected in spring season (April 2005).
Environmental Conditions:
QAPP Information: All samples were collected and analyzed using procedures comparable with the SWAMP Quality Assurance Management Plan (SWRCB, 2002).
QAPP Information Reference(s): [Quality Assurance Management Plan for the State of California's Surface Water Ambient Monitoring Program. Sacramento, CA. State Water Resources Control Board. SWAMP. December 2002 \(1st version\)](#)

Line of Evidence (LOE) for Decision ID 35809, Toxicity

Region 2

Lobos Creek

LOE ID: 21282

Pollutant: Toxicity

LOE Subgroup:	Pollutant-Water
Matrix:	Water
Fraction:	None
Beneficial Use:	Warm Freshwater Habitat
Number of Samples:	3
Number of Exceedances:	1
Data and Information Type:	TOXICITY TESTING
Data Used to Assess Water Quality:	Three samples were collected to evaluate water toxicity. Selenastrum growth was significantly lower (64.8%) than the control in one sample collected during winter wet season in February 2006. This sample displayed statistically significant water column toxicity.
Data Reference:	Data collected by the Surface Water Ambient Monitoring Program, San Francisco Bay Regional Water Quality Control Board. Years 4 and 5 Assessment
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	All waters shall be maintained free of toxic substances that are lethal to or that produce other detrimental responses in aquatic organisms.
Objective/Criterion Reference:	There shall be no chronic toxicity in ambient waters. Chronic toxicity is a detrimental biological effect on growth rate, reproduction, fertilization success, larval development, population abundance, community composition, or any other relevant measure of the health of an organism, population, or community. Water Quality Control Plan (Basin Plan) - San Francisco Bay Region (Region 2)
Evaluation Guideline:	Water toxicity was evaluated according to the SWAMP methodology. The U.S.EPA whole effluent toxicity protocol (U.S.EPA 1994) was used to test the effect of water samples on three freshwater test organisms. Statistical evaluation (alpha = 0.05) and a default threshold of 80% of the control value were used to establish whether water exhibited significant toxicity adversely impacting aquatic organisms.
Guideline Reference:	Revised approach to toxicity test acceptability criteria using a statistical performance assessment. Environmental Toxicology and Chemistry, vol. 16, No. 6, pp 1322?1329 Short-Term Methods for Estimating the Chronic Toxicity of Effluents and Receiving Waters to Freshwater Organisms. EPA/600/4-91/002. Third Edition. July 1994
Spatial Representation:	Data were collected at one sampling location at the lower part of Lobos Creek.
Temporal Representation:	Samples were collected in spring season (April 2005), dry season (June 2005) and winter wet season (February 2006).
Environmental Conditions:	
QAPP Information:	All samples were collected and analyzed using procedures comparable with the SWAMP Quality Assurance Management Plan (SWRCB, 2002).
QAPP Information Reference(s):	Quality Assurance Management Plan for the State of California's Surface Water Ambient Monitoring Program. Sacramento, CA. State Water Resources Control Board. SWAMP. December 2002 (1st version)

DECISION ID	43983	Region 2
Lobos Creek		

Pollutant:	pH
Final Listing Decision:	Do Not List on 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision:	Do Not List on 303(d) list (TMDL required list)(2012)
Revision Status	Original
Impairment from Pollutant or Pollution:	Pollutant

Regional Board Staff Conclusion:	This pollutant is being considered for placement on the section 303(d) list under section 3.2 of the Listing Policy. Under this section a single line of evidence is necessary to assess listing status. One
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line of evidence is available in the administrative record to assess this pollutant. None of the samples exceed the water quality objective. Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against placing this water segment-pollutant combination on the section 303(d) list in the Water Quality Limited Segments category. This conclusion is based on the staff findings that: 1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy. 2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy. 3. Zero of three samples exceeded the water quality objective, but this sample size is insufficient to determine with the power and confidence of the Listing Policy if standards are not met. A minimum of five samples is needed for application of table 3.2. 4. Pursuant to section 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.

Regional Board Staff Decision Recommendation: This is a decision previously approved by the State Water Resources Control Board and the USEPA. No new data were assessed by the Regional Board for the current. The decision has not changed.

Line of Evidence (LOE) for Decision ID 43983, pH

Region 2

Lobos Creek

LOE ID:	28796
Pollutant:	pH
LOE Subgroup:	Pollutant-Water
Matrix:	Water
Fraction:	None
Beneficial Use:	Warm Freshwater Habitat
Number of Samples:	3
Number of Exceedances:	0
Data and Information Type:	PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality:	Water quality assessment was conducted at Lobos Creek as part of SWAMP assessment in 2005 and 2006. Continuous field monitoring of temperature, dissolved oxygen, pH, and specific conductance to determine temporal variability in basic water quality at one or two locations. The pH ranged from 7.2 to 7.8 and varied with season. All pH values fell within the acceptable range of criteria.
Data Reference:	Data collected by the Surface Water Ambient Monitoring Program, San Francisco Bay Regional Water Quality Control Board. Years 4 and 5 Assessment
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	The pH shall not be depressed below 6.5 nor raised above 8.5. This encompasses the pH range usually found in waters within the basin. Controllable water quality factors shall not cause changes greater than 0.5 units in normal ambient pH levels.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) - San Francisco Bay Region (Region 2)
Evaluation Guideline:	
Guideline Reference:	
Spatial Representation:	Three water column pH samples from LOB020 monitoring location were measured from this site. This site is located on the mainstem of Lobos Creek.
Temporal Representation:	pH samples were collected during three site visits. LOB020 was sampled during spring (May 2005), summer dry season (August 2005), and winter wet season (February 2006). SWAMP performed continuous monitoring of pH at 15 minute intervals lasting 8-13 days.
Environmental Conditions:	
QAPP Information:	All samples were collected and analyzed using procedures comparable with the SWAMP Quality Assurance Management Plan (SWRCB 2002).
QAPP Information Reference(s):	

Draft California 2016 Integrated Report (303(d) List/305(b) Report)

Supporting Information

Regional Board 2 - San Francisco Bay Region

Water Body Name: Rindler Creek
Water Body ID: CAR206500712008062611147
Water Body Type: River & Stream

DECISION ID 35097 **Region 2**
Rindler Creek

Pollutant: Trash
Final Listing Decision: **Do Not Delist from 303(d) list (being addressed with action other than TMDL)**
Last Listing Cycle's Final Listing Decision: List on 303(d) list (TMDL required list)(2012)
Revision Status Revised
Sources: Source Unknown
Expected Attainment Date: 2029
Implementation Action Other than TMDL: This trash listing will be addressed by implementing the trash control provisions of the Water Quality Control Plan for Inland Surface Waters, Enclosed Bays, and Estuaries of California through the NPDES MS4 permit applicable to this waterbody.
Impairment from Pollutant or Pollution: Pollutant

Regional Board Staff Conclusion: This pollutant is being considered for placement on the section 303(d) list under section 3.11 of the Listing Policy. Under section 3.11, listing may be proposed based on the situation-specific weight of evidence. Two lines of evidence are available in the administrative record to assess this pollutant in this waterbody. One line of evidence concerns the non-contact recreation beneficial use, and the second concerns the wildlife habitat beneficial use. Both lines of evidence rely on inspection of photographic evidence by Regional Water Board staff trained to conduct the Rapid Trash Assessment (RTA) methodology. The staff inspected these photos and applied the RTA methodology to develop Category 1 (Level of Trash) and Category 3 (Threat to Aquatic Life) scores for each photograph. Based on the readily available photographic evidence for this waterbody, the weight of evidence indicates that there is sufficient justification available in favor of placing this water segment-pollutant combination to the section 303(d) list in the Water Quality Limited Segments category. This conclusion is based on the staff findings that: 1. Photographic evidence has been evaluated that supports this decision. 2. Applying the Rapid Trash Assessment methodology to the photographic evidence suggests that this waterbody had level of trash parameter scores in the poor category (indicating impairment of non-contact water recreational beneficial uses) at two locations and on two different dates. This waterbody also had threat to aquatic life parameter scores in the poor category (indicating threat to Wildlife Habitat beneficial uses) at two different locations on two different dates. 3. This waterbody is considered impaired by trash because there were exceedances of the evaluation guidelines (poor condition category for the trash assessment metrics) in more than one location or on more than one date. 4. The data used satisfy the data quality requirements of section 6.1.4 of the Policy. 5. The data used satisfy the data quantity requirements of section 6.1 of the Policy.

6. This trash listing will be addressed by implementing the trash control provisions of the Water Quality Control Plan for Inland Surface Waters, Enclosed Bays, and Estuaries of California through the NPDES MS4 permit applicable to this waterbody.

Regional Board Staff Decision Recommendation: After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be removed from the section 303(d) list because applicable water quality standards for the pollutant are being exceeded.

Line of Evidence (LOE) for Decision ID 35097, Trash **Region 2**
Rindler Creek

LOE ID:	5506
Pollutant:	Trash
LOE Subgroup:	Pollutant-Nuisance
Matrix:	Not Specified
Fraction:	None
Beneficial Use:	Non-Contact Recreation
Number of Samples:	3
Number of Exceedances:	3
Data and Information Type:	Occurrence of conditions judged to cause impairment
Data Used to Assess Water Quality:	<p>Data available consist of photographic evidence of trash and interpretation of these photos by an experienced trash assessment specialist. Each photograph was analyzed to establish the RTA score for the level of trash and threat to aquatic life parameters, which relate to impairment of REC2 and WILD, respectively. Only those photos clear enough to establish these RTA scores were relied on for the listing determination. These results are available for the following dates and locations on Rindler Creek:</p> <p>Rindler Creek at Admiral Callaghan Lane and Columbus Parkway on 5/14/2003</p> <p>At Fairgrounds Drive on 5/14/03 and 4/1/2006.</p> <p>This waterbody had level of trash parameter scores in the poor category (indicating impairment of non-contact water recreational beneficial uses) at two locations and on two different dates.</p>
Data Reference:	<p>Report from Roger James and Larry Kolb containing Trash Photos submitted for consideration in 2008 303(d) listing process</p> <p>Assessment by Matt Cover of Trash Photos (submitted to Region 2 in response to 2008 Data Solicitation)</p> <p>Archive of Trash Photos for Rindler Creek submitted for 2008 303(d) list consideration</p>
SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	<p>The Basin Plan prohibits discharge of Rubbish, refuse, bark, sawdust, or other solid wastes into surface waters or at any place where they would contact or where they would be eventually transported to surface waters, including flood plain areas.</p> <p>The Basin Plan has a narrative objective for floating material, Waters shall not contain floating material, including solids, liquids, foams, and scum, in concentrations that cause nuisance or adversely affect beneficial uses.</p> <p>The Basin Plan has a narrative objective for settleable material, Waters shall not contain substances in concentrations that result in the deposition of material that cause nuisance or adversely affect beneficial uses.</p>
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) - San Francisco Bay Region (Region 2)
Evaluation Guideline:	<p>If the Rapid Trash Assessment (RTA) Parameter 1 (Level of Trash) is in the poor condition category (scores 0-5), REC2 is not supported. This level of trash distracts the eye on first glance, making the site unsuitable for recreation. The RTA defines poor condition for this parameter as follows, trash distracts the eye on first glance. Stream, bank surfaces, and immediate riparian zone contain substantial levels of litter and debris (>100 pieces). Evidence of site being used frequently by people: many cans, bottles, and food wrappers, blankets, clothing. Regional Water Board staff trained in the RTA inspected the available photographic evidence and applied the assessment method to determine the Level of Trash score.</p> <p>If the RTA Parameter 3 (Threat to Aquatic Life) is in the poor condition category (scores 0-5), then WILD is not supported. This level of trash is a large amount (>50 pieces) of transportable, persistent, buoyant litter that is detrimental to aquatic life. The RTA defines poor condition for this parameter as follows, large amount (>50 pieces) of transportable, persistent, buoyant litter such as: hard or soft plastics, balloons, Styrofoam, cigarette butts; toxic items such as batteries, lighters, or spray cans; large clumps of yard waste or</p>

Guideline Reference:	<p>dumped leaf litter; or large amount (>50 pieces) of settleable glass or metal. Regional Water Board staff trained in the RTA inspected the available photographic evidence and applied the assessment method to determine the Threat to Aquatic Life score.</p> <p>A Rapid Trash Assessment Method Applied to Waters of the San Francisco Bay Region:Trash Measurement in Streams</p>
Spatial Representation:	Photographic evidence was analyzed using the RTA methodology for this waterbody for two locations in 2003 and 2006.
Temporal Representation:	Photographic evidence was collected for this waterbody on two separate dates in 2003 and 2006.
Environmental Conditions:	
QAPP Information:	<p>Assessments of the photographic evidence using the RTA were performed by Regional Water Board staff person who was a co-author of the Rapid Trash Assessment methodology.</p> <p>Assessments based on photographic evidence were only conducted when sufficient reach-scale and close-up photos were available for a site on a specific date. Photos used for the evaluation needed to be numerous enough and clear enough to document the level of trash at the site in a similar way as the assessor would experience during an actual site visit in the field. For example, at a minimum, one reach-scale photograph (showing at least a 100 linear foot section of the waterbody) and two close-up photographs (of representative trash deposits) were required.</p>
QAPP Information Reference(s):	

Line of Evidence (LOE) for Decision ID 35097, Trash Rindler Creek

Region 2

LOE ID:	5504
Pollutant:	Trash
LOE Subgroup:	Pollutant-Nuisance
Matrix:	Not Specified
Fraction:	None
Beneficial Use:	Wildlife Habitat
Number of Samples:	3
Number of Exceedances:	3
Data and Information Type:	Occurrence of conditions judged to cause impairment
Data Used to Assess Water Quality:	<p>Data available consist of photographic evidence of trash and interpretation of these photos by an experienced trash assessment specialist. Each photograph was analyzed to establish the RTA score for the level of trash and threat to aquatic life parameters, which relate to impairment of REC2 and WILD, respectively. Only those photos clear enough to establish these RTA scores were relied on for the listing determination. These results are available for the following dates and locations on Rindler Creek:</p> <p>Rindler Creek at (Admiral Callaghan Lane and Columbus Parkway) on 5/14/2003 and At Fairgrounds Drive on 5/14/2003 and 4/1/2006.</p> <p>This waterbody had threat to aquatic life parameter scores in the poor category (indicating threat to Wildlife Habitat beneficial uses) at two different locations and on two different dates.</p>
Data Reference:	<p>Report from Roger James and Larry Kolb containing Trash Photos submitted for consideration in 2008 303(d) listing process</p> <p>Assessment by Matt Cover of Trash Photos (submitted to Region 2 in response to 2008 Data Solicitation)</p> <p>Archive of Trash Photos for Rindler Creek submitted for 2008 303(d) list consideration</p>
SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	The Basin Plan prohibits discharge of Rubbish, refuse, bark, sawdust, or other solid wastes into surface waters or at any place where they would contact or where they would

be eventually transported to surface waters, including flood plain areas.

The Basin Plan has a narrative objective for floating material, Waters shall not contain floating material, including solids, liquids, foams, and scum, in concentrations that cause nuisance or adversely affect beneficial uses.

The Basin Plan has a narrative objective for settleable material, Waters shall not contain substances in concentrations that result in the deposition of material that cause nuisance or adversely affect beneficial uses.

Objective/Criterion Reference:

[Water Quality Control Plan \(Basin Plan\) - San Francisco Bay Region \(Region 2\)](#)

Evaluation Guideline:

If the Rapid Trash Assessment (RTA) Parameter 1 (Level of Trash) is in the poor condition category (scores 0-5), REC2 is not supported. This level of trash distracts the eye on first glance, making the site unsuitable for recreation. The RTA defines poor condition for this parameter as follows, trash distracts the eye on first glance. Stream, bank surfaces, and immediate riparian zone contain substantial levels of litter and debris (>100 pieces). Evidence of site being used frequently by people: many cans, bottles, and food wrappers, blankets, clothing. Regional Water Board staff trained in the RTA inspected the available photographic evidence and applied the assessment method to determine the Level of Trash score.

If the RTA Parameter 3 (Threat to Aquatic Life) is in the poor condition category (scores 0-5), then WILD is not supported. This level of trash is a large amount (>50 pieces) of transportable, persistent, buoyant litter that is detrimental to aquatic life. The RTA defines poor condition for this parameter as follows, large amount (>50 pieces) of transportable, persistent, buoyant litter such as: hard or soft plastics, balloons, Styrofoam, cigarette butts; toxic items such as batteries, lighters, or spray cans; large clumps of yard waste or dumped leaf litter; or large amount (>50 pieces) of settleable glass or metal. Regional Water Board staff trained in the RTA inspected the available photographic evidence and applied the assessment method to determine the Threat to Aquatic Life score.

Guideline Reference:

[A Rapid Trash Assessment Method Applied to Waters of the San Francisco Bay Region: Trash Measurement in Streams](#)

Spatial Representation:

Photographic evidence was analyzed using the RTA methodology for this waterbody for two different locations in 2003 and 2006.

Temporal Representation:

Photographic evidence was collected for this waterbody on two separate dates in 2003 and 2006.

Environmental Conditions:

QAPP Information:

Assessments of the photographic evidence using the RTA were performed by Regional Water Board staff person who was a co-author of the Rapid Trash Assessment methodology.

Assessments based on photographic evidence were only conducted when sufficient reach-scale and close-up photos were available for a site on a specific date. Photos used for the evaluation needed to be numerous enough and clear enough to document the level of trash at the site in a similar way as the assessor would experience during an actual site visit in the field. For example, at a minimum, one reach-scale photograph (showing at least a 100 linear foot section of the waterbody) and two close-up photographs (of representative trash deposits) were required.

QAPP Information Reference(s):

DECISION ID	65671	Region 2
Rindler Creek		

Pollutant:	Bifenthrin
Final Listing Decision:	Do Not List on 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision:	New Decision
Revision Status	Revised
Impairment from Pollutant or Pollution:	Pollutant

Regional Board Staff Conclusion:

This pollutant is being considered for placement on the CWA section 303(d) List under section 3.6 of the Listing Policy.

One line of evidence is available in the administrative record to assess this pollutant. The one sample did not exceed the evaluation guideline for bifenthrin.

Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against placing this water segment-pollutant combination on the CWA section 303(d) List.

This conclusion is based on the staff findings that:

1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy.
2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy.
3. The one sample did not exceed the evaluation guideline for bifenthrin, and this sample size is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating.
4. Pursuant to Section 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.

Regional Board Staff Decision Recommendation:

After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be placed on the section 303(d) list. The readily available data and information is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating.

**Line of Evidence (LOE) for Decision ID 65671, Bifenthrin
Rindler Creek**

Region 2

LOE ID:	92709
Pollutant:	Bifenthrin
LOE Subgroup:	Pollutant-Sediment
Matrix:	Sediment
Fraction:	Total
Beneficial Use:	Cold Freshwater Habitat
Number of Samples:	1
Number of Exceedances:	0
Data and Information Type:	PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality:	Water Board staff assessed SWAMP data for Rindler Creek to determine beneficial use support and results are as follows: 0 of 1 samples exceed the criterion for Bifenthrin.
Data Reference:	Statewide Project Urban Pyrethroid Status Monitoring
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	San Francisco Bay Basin Water Quality Control Plan 2007: All waters shall be maintained free of toxic substances in concentrations which are toxic to, or which produce detrimental physiological responses in, human, plant, animal, or aquatic life.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	The evaluation guideline for bifenthrin is the median lethal concentration (LC50) of 0.43 ug/g and is normalized by the percentage of organic carbon in the sediment sample. The LC50 0.43 ug/g is the geometric mean of LC50 values for bifenthrin from Amweg et al. (2005) and Amweg and Weston (2007).
Guideline Reference:	Use and Toxicity of Pyrethroid Pesticides in the Central Valley, California, USA. Environmental Toxicology and Chemistry, 24:966-972, with erratum 24:No. 5 Whole-sediment toxicity identification evaluation tools for pyrethroid insecticides: I. piperonyl butoxide addition. Environ. Toxicol. Chem. 26:2389-2396.

Spatial Representation:	Data for this line of evidence for Rindler Creek was collected at 1 monitoring site [Blue Rock Springs @ Columbus station (206SUP004).]
Temporal Representation:	Data was collected on a single day 12/28/2006.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	The SWAMP QAPP (2008) was followed.
QAPP Information Reference(s):	Quality Assurance Management Plan for the State of California's Surface Water Ambient Monitoring Program. Sacramento, CA. State Water Resources Control Board. SWAMP. December 2002 (1st version).

DECISION ID	65672	Region 2
Rindler Creek		

Pollutant:	Chlordane
Final Listing Decision:	Do Not List on 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision:	New Decision
Revision Status	Revised
Impairment from Pollutant or Pollution:	Pollutant
Regional Board Staff Conclusion:	<p>This pollutant is being considered for placement on the CWA section 303(d) List under section 3.6 of the Listing Policy.</p> <p>One line of evidence is available in the administrative record to assess this pollutant. The one sample did not exceed the evaluation guideline for chlordane.</p> <p>Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against placing this water segment-pollutant combination on the CWA section 303(d) List.</p> <p>This conclusion is based on the staff findings that:</p> <ol style="list-style-type: none"> 1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy. 2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy. 3. The one sample did not exceed the evaluation guideline for chlordane. <p>and this sample size is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating.</p> <ol style="list-style-type: none"> 4. Pursuant to Section 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.
Regional Board Staff Decision Recommendation:	After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be placed on the section 303(d) list. The readily available data and information is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating.

Line of Evidence (LOE) for Decision ID 65672, Chlordane	Region 2
Rindler Creek	

LOE ID:	90725
Pollutant:	Chlordane
LOE Subgroup:	Pollutant-Sediment
Matrix:	Sediment
Fraction:	Total
Beneficial Use:	Cold Freshwater Habitat
Number of Samples:	1
Number of Exceedances:	0

Data and Information Type:	PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality:	0 of 1 samples collected exceeded the criteria for chlordane concentration (Sum of trans-Chlordane, cis-Chlordane, cis-Nonachlor, trans-Nonachlor, and Oxychlordane).
Data Reference:	Statewide Project Urban Pyrethroid Status Monitoring
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	All waters shall be maintained free of toxic substances in concentrations that are lethal to or that produce other detrimental responses in aquatic organisms. Waters shall not contain substances in concentrations that result in the deposition of material that causes nuisance or adversely affects beneficial uses. (Water Quality Control Plan for the San Francisco Bay Basin).
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) - San Francisco Bay Region (Region 2)
Evaluation Guideline:	The Probable Effect Concentration for Chlordane in freshwater sediments is 17.6 ug/kg(MacDonald et al. 2000).
Guideline Reference:	Development and evaluation of consensus-based sediment quality guidelines for freshwater ecosystems. Environmental Contamination and Toxicology. 39: 20-31
Spatial Representation:	Data were collected at the following station 206SUP004 (Blue Rock Springs @ Columbus).
Temporal Representation:	The samples were collected on 12/28/2006.
Environmental Conditions:	
QAPP Information:	The SWAMP QAPP (2006) was followed.
QAPP Information Reference(s):	Surface Water Ambient Monitoring Program Quality Assurance Program Plan

DECISION ID	65673	Region 2
Rindler Creek		

Pollutant:	Chlorpyrifos
Final Listing Decision:	Do Not List on 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision:	New Decision
Revision Status	Revised
Impairment from Pollutant or Pollution:	Pollutant

Regional Board Staff Conclusion: This pollutant is being considered for placement on the CWA section 303(d) List under section 3.6 of the Listing Policy.

One line of evidence is available in the administrative record to assess this pollutant. The one sample result was not used in the assessment because the sample was non-detect and the laboratory data method detection limit was above the guideline and therefore the results could not be quantified with the level of certainty required by the Listing Policy.

Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against placing this water segment-pollutant combination on the CWA section 303(d) List.

This conclusion is based on the staff findings that:

1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy.
2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy.
3. The one sample result was not used in the assessment because the sample was non-detect and the laboratory data method detection limit was above the guideline and therefore the results could not be quantified with the level of certainty required by the Listing Policy.
4. Pursuant to Section 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.

Regional Board Staff Decision Recommendation: After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be placed on the section 303(d) list. The readily available data and information is insufficient to determine, with the power and confidence of the Listing Policy, the

Line of Evidence (LOE) for Decision ID 65673, Chlorpyrifos**Region 2****Rindler Creek**

LOE ID:	92710
Pollutant:	Chlorpyrifos
LOE Subgroup:	Pollutant-Sediment
Matrix:	Sediment
Fraction:	Total
Beneficial Use:	Cold Freshwater Habitat
Number of Samples:	0
Number of Exceedances:	0
Data and Information Type:	PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality:	One of one sample result was not used in the assessment because the sample was non-detect and the laboratory data method detection limit was above the guideline and therefore the results could not be quantified with the level of certainty required by the Listing Policy.
Data Reference:	Statewide Project Urban Pyrethroid Status Monitoring
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	San Francisco Bay Basin Water Quality Control Plan 2007: All waters shall be maintained free of toxic substances in concentrations which are toxic to, or which produce detrimental physiological responses in, human, plant, animal, or aquatic life.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	There is no chlorpyrifos evaluation guideline specific to "sediment, interstitial water" (pore water). The following evaluation guideline was used to evaluate an exceedance in water quality standards: the freshwater criterion continuous concentration to protect aquatic organisms is 0.015 ug/L (Siepmann and Finlayson 2000, with minor corrections to significant figures as described in Beaulaurier et al., 2005).?
Guideline Reference:	Water quality criteria for diazinon and chlorpyrifos. Administrative Report 00-3. Rancho Cordova, CA: Pesticide Investigations Unit, Office of Spills and Response. CA Department of Fish and Game (with minor corrections to significant figures as described in Beaulaurier et al., 2005).
Spatial Representation:	Data for this line of evidence for Rindler Creek was collected at 1 monitoring site [Blue Rock Springs @ Columbus station (206SUP004).]
Temporal Representation:	Data was collected on a single day 12/28/2006.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	The SWAMP QAPP (2008) was followed.
QAPP Information Reference(s):	Quality Assurance Management Plan for the State of California's Surface Water Ambient Monitoring Program. Sacramento, CA. State Water Resources Control Board. SWAMP. December 2002 (1st version)

DECISION ID**65674****Region 2****Rindler Creek**

Pollutant:	Cyfluthrin
Final Listing Decision:	Do Not List on 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision:	New Decision
Revision Status	Revised
Impairment from Pollutant or	Pollutant

Pollution:**Regional Board Staff Conclusion:**

This pollutant is being considered for placement on the CWA section 303(d) List under section 3.6 of the Listing Policy.

One line of evidence is available in the administrative record to assess this pollutant. The single sample does not exceed the criterion for Cyfluthrin, total.

Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against placing this water segment-pollutant combination on the CWA section 303(d) List.

This conclusion is based on the staff findings that:

1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy.
2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy.
3. The single sample does not exceed the criterion for Cyfluthrin, total and this sample size is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating.
4. Pursuant to SECTION 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.

Regional Board Staff Decision Recommendation:

After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be placed on the section 303(d) list. The readily available data and information is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating.

Line of Evidence (LOE) for Decision ID 65674, Cyfluthrin**Region 2****Rindler Creek**

LOE ID:	92711
Pollutant:	Cyfluthrin
LOE Subgroup:	Pollutant-Sediment
Matrix:	Sediment
Fraction:	Total
Beneficial Use:	Cold Freshwater Habitat
Number of Samples:	1
Number of Exceedances:	0
Data and Information Type:	PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality:	Water Board staff assessed SWAMP data for Rindler Creek to determine beneficial use support and results are as follows: 0 of 1 samples exceed the criterion for Cyfluthrin, total.
Data Reference:	Statewide Project Urban Pyrethroid Status Monitoring
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	San Francisco Bay Basin Water Quality Control Plan 2007: All waters shall be maintained free of toxic substances in concentrations which are toxic to, or which produce detrimental physiological responses in, human, plant, animal, or aquatic life.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	The evaluation guideline for cyfluthrin is the median lethal concentration (LC50) of 1.1 ug/g and is normalized by the percentage of organic carbon in the sediment sample. The LC50 1.1 ug/g is the geometric mean of LC50 values for cyfluthrin from Amweg et al. (2005).
Guideline Reference:	Use and Toxicity of Pyrethroid Pesticides in the Central Valley, California, USA. Environmental Toxicology and Chemistry, 24:966-972, with erratum 24:No. 5
Spatial Representation:	Data for this line of evidence for Rindler Creek was collected at 1 monitoring site [Blue

Temporal Representation:
Environmental Conditions:
QAPP Information:
QAPP Information Reference(s):

Rock Springs @ Columbus station (206SUP004).]
Data was collected on a single day 12/28/2006.
Staff is not aware of any special conditions that might affect interpretation of the data.
The SWAMP QAPP (2008) was followed.
[Quality Assurance Management Plan for the State of California's Surface Water Ambient Monitoring Program. Sacramento, CA. State Water Resources Control Board. SWAMP. December 2002 \(1st version\).](#)

DECISION ID 65675		Region 2
Rindler Creek		
Pollutant:	Cyhalothrin, Lambda	
Final Listing Decision:	Do Not List on 303(d) list (TMDL required list)	
Last Listing Cycle's Final Listing Decision:	New Decision	
Revision Status	Revised	
Impairment from Pollutant or Pollution:	Pollutant	
Regional Board Staff Conclusion:	<p>This pollutant is being considered for placement on the CWA section 303(d) List under section 3.6 of the Listing Policy.</p> <p>One line of evidence is available in the administrative record to assess this pollutant. The single sample did not exceed the evaluation guideline for lambda-cyhalothrin.</p> <p>Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against placing this water segment-pollutant combination on the CWA section 303(d) List.</p> <p>This conclusion is based on the staff findings that:</p> <ol style="list-style-type: none">1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy.2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy.3. The single sample did not exceed the evaluation guideline for lambda-cyhalothrin and this sample size is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating.4. Pursuant to SECTION 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.	
Regional Board Staff Decision Recommendation:	After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be placed on the section 303(d) list. The readily available data and information is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating.	

Line of Evidence (LOE) for Decision ID 65675, Cyhalothrin, Lambda		Region 2
Rindler Creek		
LOE ID:	92712	
Pollutant:	Cyhalothrin, Lambda	
LOE Subgroup:	Pollutant-Sediment	
Matrix:	Sediment	
Fraction:	Total	
Beneficial Use:	Cold Freshwater Habitat	
Number of Samples:	1	
Number of Exceedances:	0	
Data and Information Type:	PHYSICAL/CHEMICAL MONITORING	

Data Used to Assess Water Quality:	Water Board staff assessed SWAMP data for Rindler Creek to determine beneficial use support and results are as follows: 0 of 1 samples exceed the criterion for Cyhalothrin, lambda, total.
Data Reference:	Statewide Project Urban Pyrethroid Status Monitoring
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	San Francisco Bay Basin Water Quality Control Plan 2007: All waters shall be maintained free of toxic substances in concentrations which are toxic to, or which produce detrimental physiological responses in, human, plant, animal, or aquatic life.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	The evaluation guideline for lambda-cyhalothrin is the median lethal concentration (LC50) of 0.44 ug/g and is normalized by the percentage of organic carbon in the sediment sample. The LC50 0.44 ug/g is the geometric mean of LC50 values for lambda-cyhalothrin from Amweg et al. (2005).
Guideline Reference:	Use and Toxicity of Pyrethroid Pesticides in the Central Valley, California, USA. Environmental Toxicology and Chemistry, 24:966-972, with erratum 24:No. 5
Spatial Representation:	Data for this line of evidence for Rindler Creek was collected at 1 monitoring site [Blue Rock Springs @ Columbus station (206SUP004).]
Temporal Representation:	Data was collected on a single day 12/28/2006.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	The SWAMP QAPP (2008) was followed.
QAPP Information Reference(s):	Quality Assurance Management Plan for the State of California's Surface Water Ambient Monitoring Program. Sacramento, CA. State Water Resources Control Board. SWAMP. December 2002 (1st version)

DECISION ID	65676	Region 2
Rindler Creek		
Pollutant:	Cypermethrin	
Final Listing Decision:	Do Not List on 303(d) list (TMDL required list)	
Last Listing Cycle's Final Listing Decision:	New Decision	
Revision Status	Revised	
Impairment from Pollutant or Pollution:	Pollutant	
Regional Board Staff Conclusion:	<p>This pollutant is being considered for placement on the CWA section 303(d) List under section 3.6 of the Listing Policy.</p> <p>One line of evidence is available in the administrative record to assess this pollutant. The single sample does not exceed the evaluation guideline for Cypermethrin.</p> <p>Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against placing this water segment-pollutant combination on the CWA section 303(d) List.</p> <p>This conclusion is based on the staff findings that:</p> <ol style="list-style-type: none"> 1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy. 2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy. 3. The single sample does not exceed the evaluation guideline for Cypermethrin but this sample size is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating. 4. Pursuant to SECTION 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met. 	
Regional Board Staff Decision Recommendation:	After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be placed on the section 303(d) list. The readily available data and information is insufficient to determine, with the power and confidence of the Listing Policy, the	

Line of Evidence (LOE) for Decision ID 65676, Cypermethrin**Region 2****Rindler Creek**

LOE ID:	92713
Pollutant:	Cypermethrin
LOE Subgroup:	Pollutant-Sediment
Matrix:	Sediment
Fraction:	Total
Beneficial Use:	Cold Freshwater Habitat
Number of Samples:	1
Number of Exceedances:	0
Data and Information Type:	PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality:	Water Board staff assessed SWAMP data for Rindler Creek to determine beneficial use support and results are as follows: 0 of 1 samples exceed the criterion for Cypermethrin, total.
Data Reference:	Statewide Project Urban Pyrethroid Status Monitoring
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	San Francisco Bay Basin Water Quality Control Plan 2007: All waters shall be maintained free of toxic substances in concentrations which are toxic to, or which produce detrimental physiological responses in, human, plant, animal, or aquatic life.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	The evaluation guideline for cypermethrin is the median lethal concentration (LC50) of 0.3 ug/g and is normalized by the percentage of organic carbon in the sediment sample. The LC50 0.3 ug/g is the geometric mean of LC50 values for cypermethrin from Maund et al. (2002).
Guideline Reference:	Partitioning, bioavailability, and toxicity of the pyrethroid insecticide cypermethrin in sediments. Environmental Toxicology and Chemistry 21:9-15
Spatial Representation:	Data for this line of evidence for Rindler Creek was collected at 1 monitoring site [Blue Rock Springs @ Columbus station (206SUP004).]
Temporal Representation:	Data was collected on a single day 12/28/2006.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	The SWAMP QAPP (2008) was followed.
QAPP Information Reference(s):	Quality Assurance Management Plan for the State of California's Surface Water Ambient Monitoring Program. Sacramento, CA. State Water Resources Control Board. SWAMP. December 2002 (1st version)

DECISION ID**65677****Region 2****Rindler Creek**

Pollutant:	DDD (Dichlorodiphenyldichloroethane)
Final Listing Decision:	Do Not List on 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision:	New Decision
Revision Status	Revised
Impairment from Pollutant or Pollution:	Pollutant
Regional Board Staff Conclusion:	This pollutant is being considered for placement on the CWA section 303(d) List under section 3.6 of the Listing Policy.

One line of evidence is available in the administrative record to assess this pollutant. The single sample does not exceed the evaluation guideline for DDD.

Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against placing this water segment-pollutant combination on the CWA section 303(d) List.

This conclusion is based on the staff findings that:

1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy.
2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy.
3. The single sample does not exceed the evaluation guideline for DDD and this sample size is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating.
4. Pursuant to SECTION 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.

Regional Board Staff Decision Recommendation: After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be placed on the section 303(d) list. The readily available data and information is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating.

Line of Evidence (LOE) for Decision ID 65677, DDD (Dichlorodiphenyldichloroethane)

Region 2

Rindler Creek

LOE ID:	92638
Pollutant:	DDD (Dichlorodiphenyldichloroethane)
LOE Subgroup:	Pollutant-Sediment
Matrix:	Sediment
Fraction:	Total
Beneficial Use:	Cold Freshwater Habitat
Number of Samples:	1
Number of Exceedances:	0
Data and Information Type:	PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality:	Water Board staff assessed SWAMP data for Rindler Creek to determine beneficial use support and results are as follows: 0 of 1 samples exceed the criterion for DDD.
Data Reference:	Statewide Project Urban Pyrethroid Status Monitoring
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	San Francisco Bay Basin Water Quality Control Plan 2007: All waters shall be maintained free of toxic substances in concentrations which are toxic to, or which produce detrimental physiological responses in, human, plant, animal, or aquatic life.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	In freshwater sediments the probable effect concentration (predictive of sediment toxicity for sediment-dwelling organisms) for sum of DDD is 28.0 ug/Kg dry weight (MacDonald et al. 2000).
Guideline Reference:	Development and evaluation of consensus-based sediment quality guidelines for freshwater ecosystems. Environmental Contamination and Toxicology. 39: 20-31
Spatial Representation:	Data for this line of evidence for Rindler Creek was collected at 1 monitoring site [Blue Rock Springs @ Columbus station (206SUP004).]
Temporal Representation:	Data was collected on a single day 12/28/2006.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	The SWAMP QAPP (2008) was followed.
QAPP Information Reference(s):	Quality Assurance Management Plan for the State of California's Surface Water Ambient

DECISION ID	65678	Region 2
Rindler Creek		

Pollutant: DDE (Dichlorodiphenyldichloroethylene)
Final Listing Decision: Do Not List on 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision: New Decision
Revision Status: Revised
Impairment from Pollutant or Pollution: Pollutant

Regional Board Staff Conclusion: This pollutant is being considered for placement on the CWA section 303(d) List under section 3.6 of the Listing Policy.

One line of evidence is available in the administrative record to assess this pollutant. The single sample does not exceed the evaluation guideline for DDE.

Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against placing this water segment-pollutant combination on the CWA section 303(d) List.

This conclusion is based on the staff findings that:

1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy.
2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy.
3. The single sample does not exceed the evaluation guideline for DDE and this sample size is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating.
4. Pursuant to SECTION 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.

Regional Board Staff Decision Recommendation: After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be placed on the section 303(d) list. The readily available data and information is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating.

Line of Evidence (LOE) for Decision ID 65678, DDE (Dichlorodiphenyldichloroethylene)	Region 2
Rindler Creek	

LOE ID: 92639

Pollutant: DDE (Dichlorodiphenyldichloroethylene)
LOE Subgroup: Pollutant-Sediment
Matrix: Sediment
Fraction: Total

Beneficial Use: Cold Freshwater Habitat

Number of Samples: 1
Number of Exceedances: 0

Data and Information Type: PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality: Water Board staff assessed SWAMP data for Rindler Creek to determine beneficial use support and results are as follows: 0 of 1 samples exceed the criterion for DDE.

Data Reference: [Statewide Project Urban Pyrethroid Status Monitoring](#)

SWAMP Data: SWAMP

Water Quality Objective/Criterion:	San Francisco Bay Basin Water Quality Control Plan 2007: All waters shall be maintained free of toxic substances in concentrations which are toxic to, or which produce detrimental physiological responses in, human, plant, animal, or aquatic life.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	In freshwater sediments the probable effect concentration (predictive of sediment toxicity for sediment-dwelling organisms) for sum of DDE is 31.3 ug/Kg dry weight (MacDonald et al. 2000).
Guideline Reference:	Development and evaluation of consensus-based sediment quality guidelines for freshwater ecosystems. Environmental Contamination and Toxicology. 39: 20-31
Spatial Representation:	Data for this line of evidence for Rindler Creek was collected at 1 monitoring site [Blue Rock Springs @ Columbus station (206SUP004).]
Temporal Representation:	Data was collected on a single day 12/28/2006.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	The SWAMP QAPP (2008) was followed.
QAPP Information Reference(s):	Quality Assurance Management Plan for the State of California's Surface Water Ambient Monitoring Program. Sacramento, CA. State Water Resources Control Board. SWAMP. December 2002 (1st version)

DECISION ID 65679 Region 2	
Rindler Creek	
Pollutant: Final Listing Decision: Last Listing Cycle's Final Listing Decision: Revision Status Impairment from Pollutant or Pollution:	DDT (Dichlorodiphenyltrichloroethane) Do Not List on 303(d) list (TMDL required list) New Decision Revised Pollutant
Regional Board Staff Conclusion:	<p>This pollutant is being considered for placement on the CWA section 303(d) List under section 3.6 of the Listing Policy.</p> <p>One line of evidence is available in the administrative record to assess this pollutant. The single sample did not exceed the evaluation guideline for DDT.</p> <p>Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against placing this water segment-pollutant combination on the CWA section 303(d) List.</p> <p>This conclusion is based on the staff findings that:</p> <ol style="list-style-type: none"> 1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy. 2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy. 3. The single sample did not exceed the evaluation guideline for DDT but this sample size is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating. 4. Pursuant to SECTION 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.
Regional Board Staff Decision Recommendation:	After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be placed on the section 303(d) list. The readily available data and information is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating.
Line of Evidence (LOE) for Decision ID 65679, DDT (Dichlorodiphenyltrichloroethane) Region 2	
Rindler Creek	

LOE ID:	92640
Pollutant:	DDT (Dichlorodiphenyltrichloroethane)
LOE Subgroup:	Pollutant-Sediment
Matrix:	Sediment
Fraction:	Total
Beneficial Use:	Cold Freshwater Habitat
Number of Samples:	1
Number of Exceedances:	0
Data and Information Type:	PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality:	Water Board staff assessed SWAMP data for Rindler Creek to determine beneficial use support and results are as follows: 0 of 1 samples exceed the criterion for DDT.
Data Reference:	Statewide Project Urban Pyrethroid Status Monitoring
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	San Francisco Bay Basin Water Quality Control Plan 2007: All waters shall be maintained free of toxic substances in concentrations which are toxic to, or which produce detrimental physiological responses in, human, plant, animal, or aquatic life.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	In freshwater sediments the probable effect concentration (predictive of sediment toxicity for sediment-dwelling organisms) for sum of DDT is 62.9 ug/Kg dry weight (MacDonald et al. 2000).
Guideline Reference:	Development and evaluation of consensus-based sediment quality guidelines for freshwater ecosystems. Environmental Contamination and Toxicology. 39: 20-31
Spatial Representation:	Data for this line of evidence for Rindler Creek was collected at 1 monitoring site [Blue Rock Springs @ Columbus station (206SUP004).]
Temporal Representation:	Data was collected on a single day 12/28/2006.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	The SWAMP QAPP (2008) was followed.
QAPP Information Reference(s):	Quality Assurance Management Plan for the State of California's Surface Water Ambient Monitoring Program. Sacramento, CA. State Water Resources Control Board. SWAMP. December 2002 (1st version).

Line of Evidence (LOE) for Decision ID 65679, DDT (Dichlorodiphenyltrichloroethane)

Region 2

Rindler Creek

LOE ID:	92652
Pollutant:	Total DDT (sum of 4,4'- and 2,4'- isomers of DDT, DDE, and DDD)
LOE Subgroup:	Pollutant-Sediment
Matrix:	Sediment
Fraction:	Total
Beneficial Use:	Cold Freshwater Habitat
Number of Samples:	1
Number of Exceedances:	0
Data and Information Type:	PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality:	Water Board staff assessed SWAMP data for Rindler Creek to determine beneficial use support and results are as follows: 0 of 1 samples exceed the criterion for DDT, Total.
Data Reference:	Statewide Project Urban Pyrethroid Status Monitoring
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	San Francisco Bay Basin Water Quality Control Plan 2007: All waters shall be maintained

Objective/Criterion Reference:	free of toxic substances in concentrations which are toxic to, or which produce detrimental physiological responses in, human, plant, animal, or aquatic life. Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	In freshwater sediments the probable effect concentration (predictive of sediment toxicity for sediment-dwelling organisms) for total DDTs is 572 ug/Kg dry weight (MacDonald et al. 2000).
Guideline Reference:	Development and evaluation of consensus-based sediment quality guidelines for freshwater ecosystems. Environmental Contamination and Toxicology. 39: 20-31
Spatial Representation:	Data for this line of evidence for Rindler Creek was collected at 1 monitoring site [Blue Rock Springs @ Columbus station (206SUP004).]
Temporal Representation:	Data was collected on a single day 12/28/2006.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	The SWAMP QAPP (2008) was followed.
QAPP Information Reference(s):	Quality Assurance Management Plan for the State of California's Surface Water Ambient Monitoring Program. Sacramento, CA. State Water Resources Control Board. SWAMP. December 2002 (1st version)

DECISION ID 65680 Region 2	
Rindler Creek	
Pollutant: Final Listing Decision: Last Listing Cycle's Final Listing Decision: Revision Status Impairment from Pollutant or Pollution:	Deltamethrin Do Not List on 303(d) list (TMDL required list) New Decision Revised Pollutant
Regional Board Staff Conclusion:	<p>This pollutant is being considered for placement on the CWA section 303(d) List under section 3.6 of the Listing Policy.</p> <p>One line of evidence is available in the administrative record to assess this pollutant. The single sample did not exceed the evaluation guideline for deltamethrin.</p> <p>Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against placing this water segment-pollutant combination on the CWA section 303(d) List.</p> <p>This conclusion is based on the staff findings that:</p> <ol style="list-style-type: none"> 1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy. 2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy. 3. The single sample did not exceed the evaluation guideline for deltamethrin but this sample size is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating. 4. Pursuant to SECTION 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.
Regional Board Staff Decision Recommendation:	After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be placed on the section 303(d) list. The readily available data and information is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating.

Line of Evidence (LOE) for Decision ID 65680, Deltamethrin Region 2	
Rindler Creek	
LOE ID:	92641

Pollutant:	Deltamethrin
LOE Subgroup:	Pollutant-Sediment
Matrix:	Sediment
Fraction:	Total
Beneficial Use:	Cold Freshwater Habitat
Number of Samples:	1
Number of Exceedances:	0
Data and Information Type:	PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality:	Water Board staff assessed SWAMP data for Rindler Creek to determine beneficial use support and results are as follows: 0 of 1 samples exceed the criterion for Deltamethrin.
Data Reference:	Statewide Project Urban Pyrethroid Status Monitoring
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	San Francisco Bay Basin Water Quality Control Plan 2007: All waters shall be maintained free of toxic substances in concentrations which are toxic to, or which produce detrimental physiological responses in, human, plant, animal, or aquatic life.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	The evaluation guideline for deltamethrin is the median lethal concentration (LC50) of 0.79 ug/g and is normalized by the percentage of organic carbon in the sediment sample. The LC50 0.79 ug/g is the geometric mean of LC50 values for deltamethrin from Amweg et al. (2005).
Guideline Reference:	Use and Toxicity of Pyrethroid Pesticides in the Central Valley, California, USA. Environmental Toxicology and Chemistry, 24:966-972, with erratum 24:No. 5
Spatial Representation:	Data for this line of evidence for Rindler Creek was collected at 1 monitoring site [Blue Rock Springs @ Columbus station (206SUP004).]
Temporal Representation:	Data was collected on a single day 12/28/2006.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	The SWAMP QAPP (2008) was followed.
QAPP Information Reference(s):	Quality Assurance Management Plan for the State of California's Surface Water Ambient Monitoring Program. Sacramento, CA. State Water Resources Control Board. SWAMP. December 2002 (1st version)

DECISION ID	65681	Region 2
Rindler Creek		

Pollutant:	Diazinon
Final Listing Decision:	Do Not List on 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision:	New Decision
Revision Status	Revised
Impairment from Pollutant or Pollution:	Pollutant
Regional Board Staff Conclusion:	<p>This pollutant is being considered for placement on the CWA section 303(d) List under section 3.1 of the Listing Policy.</p> <p>One line of evidence is available in the administrative record to assess this pollutant. The single sample did not exceed the evaluation guideline for diazinon.</p> <p>Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against placing this water segment-pollutant combination on the CWA section 303(d) List.</p> <p>This conclusion is based on the staff findings that:</p> <ol style="list-style-type: none"> 1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy.

2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy.
3. The single sample did not exceed the evaluation guideline for diazinon but this sample size is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating.
4. Pursuant to Section 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.

Regional Board Staff Decision Recommendation: After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be placed on the section 303(d) list. The readily available data and information is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating.

Line of Evidence (LOE) for Decision ID 65681, Diazinon

Region 2

Rindler Creek

LOE ID: 92642

Pollutant: Diazinon
LOE Subgroup: Pollutant-Sediment
Matrix: Sediment
Fraction: Total

Beneficial Use: Cold Freshwater Habitat

Number of Samples: 1
Number of Exceedances: 0

Data and Information Type: PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality: Water Board staff assessed SWAMP data for Rindler Creek to determine beneficial use support and results are as follows: 0 of 1 samples exceed the criterion for Diazinon.

Data Reference: [Statewide Project Urban Pyrethroid Status Monitoring](#)

SWAMP Data: SWAMP

Water Quality Objective/Criterion: San Francisco Bay Basin Water Quality Control Plan 2007: All waters shall be maintained free of toxic substances in concentrations which are toxic to, or which produce detrimental physiological responses in, human, plant, animal, or aquatic life.

Objective/Criterion Reference: [Water Quality Control Plan \(Basin Plan\) San Francisco Bay Basin \(Region 2\)](#)

Evaluation Guideline: There is no diazinon evaluation guideline specific to "sediment, interstitial water" (pore water). The following evaluation guideline was used to evaluate an exceedance in water quality standards: the freshwater chronic value for diazinon is 0.1 ug/L, expressed as a continuous concentration (Finlayson, 2004).?

Guideline Reference: [Toxicity of Sediment-Associated Pesticides to Chironomus dilutus and Hyalella azteca. Arch. Environ. Contam. Toxicol. 61:83?92.](#)

Spatial Representation: Data for this line of evidence for Rindler Creek was collected at 1 monitoring site [Blue Rock Springs @ Columbus station (206SUP004).]

Temporal Representation: Data was collected on a single day 12/28/2006.

Environmental Conditions: Staff is not aware of any special conditions that might affect interpretation of the data.

QAPP Information: The SWAMP QAPP (2008) was followed.

QAPP Information Reference(s): [Quality Assurance Management Plan for the State of California's Surface Water Ambient Monitoring Program. Sacramento, CA. State Water Resources Control Board. SWAMP. December 2002 \(1st version\)](#)

DECISION ID

65682

Region 2

Rindler Creek

Pollutant:

Dieldrin

Final Listing Decision:
Last Listing Cycle's Final Listing Decision:
Revision Status
Impairment from Pollutant or Pollution:

Do Not List on 303(d) list (TMDL required list)

New Decision

Revised
Pollutant

Regional Board Staff Conclusion:

This pollutant is being considered for placement on the CWA section 303(d) List under section 3.6 of the Listing Policy.

One line of evidence is available in the administrative record to assess this pollutant. The single sample did not exceed the evaluation guideline for dieldrin.

Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against placing this water segment-pollutant combination on the CWA section 303(d) List.

This conclusion is based on the staff findings that:

1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy.
2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy.
3. The single sample did not exceed the evaluation guideline for dieldrin but this sample size is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating.
4. Pursuant to SECTION 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.

Regional Board Staff Decision Recommendation:

After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be placed on the section 303(d) list. The readily available data and information is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating.

Line of Evidence (LOE) for Decision ID 65682, Dieldrin

Region 2

Rindler Creek

LOE ID: 92643

Pollutant: Dieldrin
LOE Subgroup: Pollutant-Sediment
Matrix: Sediment
Fraction: Total

Beneficial Use: Cold Freshwater Habitat

Number of Samples: 1
Number of Exceedances: 0

Data and Information Type: PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality: Water Board staff assessed SWAMP data for Rindler Creek to determine beneficial use support and results are as follows: 0 of 1 samples exceed the criterion for Dieldrin.

Data Reference: [Statewide Project Urban Pyrethroid Status Monitoring](#)

SWAMP Data: SWAMP

Water Quality Objective/Criterion: San Francisco Bay Basin Water Quality Control Plan 2007: All waters shall be maintained free of toxic substances in concentrations which are toxic to, or which produce detrimental physiological responses in, human, plant, animal, or aquatic life.

Objective/Criterion Reference: [Water Quality Control Plan \(Basin Plan\) San Francisco Bay Basin \(Region 2\)](#)

Evaluation Guideline: In freshwater sediments the probable effect concentration (predictive of sediment toxicity for sediment-dwelling organisms) for dieldrin is 61.8 ug/Kg dry weight (MacDonald et al. 2000).

Guideline Reference: [Development and evaluation of consensus-based sediment quality guidelines for freshwater ecosystems. Environmental Contamination and Toxicology. 39: 20-31](#)

Spatial Representation: Data for this line of evidence for Rindler Creek was collected at 1 monitoring site [Blue Rock Springs @ Columbus station (206SUP004).]

Temporal Representation: Data was collected on a single day 12/28/2006.

Environmental Conditions: Staff is not aware of any special conditions that might affect interpretation of the data.

QAPP Information: The SWAMP QAPP (2008) was followed.

QAPP Information Reference(s): [Quality Assurance Management Plan for the State of California's Surface Water Ambient Monitoring Program. Sacramento, CA. State Water Resources Control Board. SWAMP. December 2002 \(1st version\)](#)

DECISION ID	65683	Region 2
Rindler Creek		

Pollutant:	Endrin
Final Listing Decision:	Do Not List on 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision:	New Decision
Revision Status	Revised
Impairment from Pollutant or Pollution:	Pollutant
Regional Board Staff Conclusion:	<p>This pollutant is being considered for placement on the CWA section 303(d) List under section 3.6 of the Listing Policy.</p> <p>One line of evidence is available in the administrative record to assess this pollutant. The single sample did not exceed the evaluation guideline for endrin.</p> <p>Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against placing this water segment-pollutant combination on the CWA section 303(d) List.</p> <p>This conclusion is based on the staff findings that:</p> <ol style="list-style-type: none"> 1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy. 2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy. 3. The single sample did not exceed the evaluation guideline for endrin but this sample size is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating. 4. Pursuant to SECTION 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.
Regional Board Staff Decision Recommendation:	After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be placed on the section 303(d) list. The readily available data and information is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating.

Line of Evidence (LOE) for Decision ID 65683, Endrin	Region 2
Rindler Creek	

LOE ID:	92644
Pollutant:	Endrin
LOE Subgroup:	Pollutant-Sediment
Matrix:	Sediment
Fraction:	Total
Beneficial Use:	Cold Freshwater Habitat

Number of Samples:	1
Number of Exceedances:	0
Data and Information Type:	PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality:	Water Board staff assessed SWAMP data for Rindler Creek to determine beneficial use support and results are as follows: 0 of 1 samples exceed the criterion for Endrin.
Data Reference:	Statewide Project Urban Pyrethroid Status Monitoring
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	San Francisco Bay Basin Water Quality Control Plan 2007: All waters shall be maintained free of toxic substances in concentrations which are toxic to, or which produce detrimental physiological responses in, human, plant, animal, or aquatic life.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	In freshwater sediments the probable effect concentration (predictive of sediment toxicity for sediment-dwelling organisms) for endrin is 207 ug/Kg dry weight (MacDonald et al. 2000).
Guideline Reference:	Development and evaluation of consensus-based sediment quality guidelines for freshwater ecosystems. Environmental Contamination and Toxicology. 39: 20-31
Spatial Representation:	Data for this line of evidence for Rindler Creek was collected at 1 monitoring site [Blue Rock Springs @ Columbus station (206SUP004).]
Temporal Representation:	Data was collected on a single day 12/28/2006.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	The SWAMP QAPP (2008) was followed.
QAPP Information Reference(s):	Quality Assurance Management Plan for the State of California's Surface Water Ambient Monitoring Program. Sacramento, CA. State Water Resources Control Board. SWAMP. December 2002 (1st version)

DECISION ID	65684	Region 2
Rindler Creek		

Pollutant:	Esfenvalerate/Fenvalerate
Final Listing Decision:	Do Not List on 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision:	New Decision
Revision Status	Revised
Impairment from Pollutant or Pollution:	Pollutant

Regional Board Staff Conclusion: This pollutant is being considered for placement on the CWA section 303(d) List under section 3.6 of the Listing Policy.

One line of evidence is available in the administrative record to assess this pollutant. The single sample did not exceed the evaluation guideline for esfenvalerate/fenvalerate

Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against placing this water segment-pollutant combination on the CWA section 303(d) List.

This conclusion is based on the staff findings that:

1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy.
2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy.
3. The single sample did not exceed the evaluation guideline for esfenvalerate/fenvalerate but this sample size is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating.
4. Pursuant to SECTION 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.

Regional Board Staff Decision After review of the available data and information, RWQCB staff concludes that the water body-

Recommendation: pollutant combination should not be placed on the section 303(d) list because applicable water quality standards are not being exceeded.

Line of Evidence (LOE) for Decision ID 65684, Esfenvalerate/Fenvalerate

Region 2

Rindler Creek

LOE ID: 92645

Pollutant: Esfenvalerate/Fenvalerate
LOE Subgroup: Pollutant-Sediment
Matrix: Sediment
Fraction: Total

Beneficial Use: Cold Freshwater Habitat

Number of Samples: 1
Number of Exceedances: 0

Data and Information Type: PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality: Water Board staff assessed SWAMP data for Rindler Creek to determine beneficial use support and results are as follows: 0 of 1 samples exceed the criterion for Esfenvalerate/Fenvalerate, total.

Data Reference: [Statewide Project Urban Pyrethroid Status Monitoring](#)

SWAMP Data: SWAMP

Water Quality Objective/Criterion: San Francisco Bay Basin Water Quality Control Plan 2007: All waters shall be maintained free of toxic substances in concentrations which are toxic to, or which produce detrimental physiological responses in, human, plant, animal, or aquatic life.

Objective/Criterion Reference: [Water Quality Control Plan \(Basin Plan\) San Francisco Bay Basin \(Region 2\)](#)

Evaluation Guideline: The evaluation guideline for esfenvalerate/fenvalerate is the median lethal concentration (LC50) of 1.5 ug/g and is normalized by the percentage of organic carbon in the sediment sample. The LC50 1.5 ug/g is the geometric mean of LC50 values for esfenvalerate/fenvalerate from Amweg et al. (2005).

Guideline Reference: [Use and Toxicity of Pyrethroid Pesticides in the Central Valley, California, USA. Environmental Toxicology and Chemistry, 24:966-972, with erratum 24:No. 5](#)

Spatial Representation: Data for this line of evidence for Rindler Creek was collected at 1 monitoring site [Blue Rock Springs @ Columbus station (206SUP004).]

Temporal Representation: Data was collected on a single day 12/28/2006.

Environmental Conditions: Staff is not aware of any special conditions that might affect interpretation of the data.

QAPP Information: The SWAMP QAPP (2008) was followed.

QAPP Information Reference(s): [Quality Assurance Management Plan for the State of California's Surface Water Ambient Monitoring Program. Sacramento, CA. State Water Resources Control Board. SWAMP. December 2002 \(1st version\)](#)

DECISION ID

65685

Region 2

Rindler Creek

Pollutant: Fenpropathrin
Final Listing Decision: Do Not List on 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision: New Decision
Revision Status: Revised
Impairment from Pollutant or Pollution: Pollutant

Regional Board Staff This pollutant is being considered for placement on the CWA section 303(d) List under section 3.6 of

Conclusion:

the Listing Policy.

One line of evidence is available in the administrative record to assess this pollutant. The single sample did not exceed the evaluation guideline for fenpropathrin.

Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against placing this water segment-pollutant combination on the CWA section 303(d) List.

This conclusion is based on the staff findings that:

1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy.
2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy.
3. The single sample did not exceed the evaluation guideline for fenpropathrin but this sample size is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating.
4. Pursuant to SECTION 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.

Regional Board Staff Decision Recommendation:

After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be placed on the section 303(d) list. The readily available data and information is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating.

**Line of Evidence (LOE) for Decision ID 65685, Fenpropathrin
Rindler Creek**
Region 2

LOE ID:	92646
Pollutant:	Fenpropathrin
LOE Subgroup:	Pollutant-Sediment
Matrix:	Sediment
Fraction:	Total
Beneficial Use:	Cold Freshwater Habitat
Number of Samples:	1
Number of Exceedances:	0
Data and Information Type:	PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality:	Water Board staff assessed SWAMP data for Rindler Creek to determine beneficial use support and results are as follows: 0 of 1 samples exceed the criterion for Fenpropathrin.
Data Reference:	Statewide Project Urban Pyrethroid Status Monitoring
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	San Francisco Bay Basin Water Quality Control Plan 2007: All waters shall be maintained free of toxic substances in concentrations which are toxic to, or which produce detrimental physiological responses in, human, plant, animal, or aquatic life.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	The evaluation guideline for fenpropathrin is the median lethal concentration (LC50) of 1 ug/g and is normalized by the percentage of organic carbon in the sediment sample. The LC50 1 ug/g is the geometric mean of LC50 values for fenpropathrin from Ding et al. (2011).
Guideline Reference:	Toxicity of Sediment-Associated Pesticides to Chironomus dilutus and Hyalella azteca. Arch. Environ. Contam. Toxicol. 61:83?92.
Spatial Representation:	Data for this line of evidence for Rindler Creek was collected at 1 monitoring site [Blue Rock Springs @ Columbus station (206SUP004).]
Temporal Representation:	Data was collected on a single day 12/28/2006.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.

QAPP Information:
QAPP Information Reference(s):

The SWAMP QAPP (2008) was followed.
[Quality Assurance Management Plan for the State of California's Surface Water Ambient Monitoring Program. Sacramento, CA. State Water Resources Control Board. SWAMP. December 2002 \(1st version\).](#)

DECISION ID	65702	Region 2
Rindler Creek		

Pollutant: **Fipronil**
Final Listing Decision: **Do Not List on 303(d) list (TMDL required list)**
Last Listing Cycle's Final Listing Decision: New Decision
Revision Status: Revised
Impairment from Pollutant or Pollution: Pollutant

Regional Board Staff Conclusion: This pollutant is being considered for placement on the CWA section 303(d) List under section 3.6 of the Listing Policy.

One line of evidence is available in the administrative record to assess this pollutant. The single sample result was not used in the assessment because the laboratory data was non-detect and staff determined that the organic carbon normalized method detection limit was above the guideline and therefore the results could not be quantified with the level of certainty required by the Listing Policy.

Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against placing this water segment-pollutant combination on the CWA section 303(d) List.

This conclusion is based on the staff findings that:

1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy.
2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy.
3. The single sample result was not used in the assessment because the laboratory data was non-detect and staff determined that the organic carbon normalized method detection limit was above the guideline and therefore the results could not be quantified with the level of certainty required by the Listing Policy and this is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating.
4. Pursuant to SECTION 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.

Regional Board Staff Decision Recommendation: After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be placed on the section 303(d) list. The readily available data and information is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating.

Line of Evidence (LOE) for Decision ID 65702, Fipronil	Region 2
Rindler Creek	

LOE ID: 92647
Pollutant: Fipronil
LOE Subgroup: Pollutant-Sediment
Matrix: Sediment
Fraction: Total
Beneficial Use: Cold Freshwater Habitat
Number of Samples: 0
Number of Exceedances: 0

Data and Information Type:	PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality:	One of one sample result was not used in the assessment because the laboratory data was non-detect and staff determined that the organic carbon normalized method detection limit was above the guideline and therefore the results could not be quantified with the level of certainty required by the Listing Policy.
Data Reference:	Statewide Project Urban Pyrethroid Status Monitoring
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	San Francisco Bay Basin Water Quality Control Plan 2007: All waters shall be maintained free of toxic substances in concentrations which are toxic to, or which produce detrimental physiological responses in, human, plant, animal, or aquatic life.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	The evaluation guideline for fipronil is the median lethal concentration (LC50) of 0.13 ug/g and is normalized by the percentage of organic carbon in the sediment sample (Maul et al. 2008).
Guideline Reference:	Effect of sediment-associated pyrethroids, fipronil, and metabolites on Chironomus tentans growth rate, body mass, condition index, immobilization, and survival. Environ. Toxicol. Chem. 27(12):2582-2590.
Spatial Representation:	Data for this line of evidence for Rindler Creek was collected at 1 monitoring site [Blue Rock Springs @ Columbus station (206SUP004).]
Temporal Representation:	Data was collected on a single day 12/28/2006.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	The SWAMP QAPP (2008) was followed.
QAPP Information Reference(s):	Quality Assurance Management Plan for the State of California's Surface Water Ambient Monitoring Program. Sacramento, CA. State Water Resources Control Board. SWAMP. December 2002 (1st version)

DECISION ID	65706	Region 2
Rindler Creek		

Pollutant:	Fipronil Sulfide
Final Listing Decision:	Do Not List on 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision:	New Decision
Revision Status	Revised
Impairment from Pollutant or Pollution:	Pollutant
Regional Board Staff Conclusion:	<p>This pollutant is being considered for placement on the CWA section 303(d) List under section 3.6 of the Listing Policy.</p> <p>One line of evidence is available in the administrative record to assess this pollutant. The single sample result was not used in the assessment because the laboratory data was non-detect and staff determined that the organic carbon normalized method detection limit was above the guideline and therefore the results could not be quantified with the level of certainty required by the Listing Policy.</p> <p>Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against placing this water segment-pollutant combination on the CWA section 303(d) List.</p> <p>This conclusion is based on the staff findings that:</p> <ol style="list-style-type: none"> 1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy. 2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy. 3. The single sample result was not used in the assessment because the laboratory data was non-detect and staff determined that the organic carbon normalized method detection limit was above the guideline and therefore the results could not be quantified with the level of certainty required by the Listing Policy. and this is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating.

4. Pursuant to SECTION 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.

Regional Board Staff Decision Recommendation: After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be placed on the section 303(d) list. The readily available data and information is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating.

Line of Evidence (LOE) for Decision ID 65706, Fipronil Sulfide

Region 2

Rindler Creek

LOE ID: 92648

Pollutant: Fipronil Sulfide
LOE Subgroup: Pollutant-Sediment
Matrix: Sediment
Fraction: Total

Beneficial Use: Cold Freshwater Habitat

Number of Samples: 0
Number of Exceedances: 0

Data and Information Type: PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality: One of one sample result was not used in the assessment because the laboratory data was non-detect and staff determined that the organic carbon normalized method detection limit was above the guideline and therefore the results could not be quantified with the level of certainty required by the Listing Policy.

Data Reference: [Statewide Project Urban Pyrethroid Status Monitoring](#)

SWAMP Data: SWAMP

Water Quality Objective/Criterion: San Francisco Bay Basin Water Quality Control Plan 2007: All waters shall be maintained free of toxic substances in concentrations which are toxic to, or which produce detrimental physiological responses in, human, plant, animal, or aquatic life.

Objective/Criterion Reference: [Water Quality Control Plan \(Basin Plan\) San Francisco Bay Basin \(Region 2\)](#)

Evaluation Guideline: The evaluation guideline for fipronil sulfide is the median lethal concentration (LC50) of 0.16 ug/g and is normalized by the percentage of organic carbon in the sediment sample (Maul et al. 2008).

Guideline Reference: [Effect of sediment-associated pyrethroids, fipronil, and metabolites on Chironomus tentans growth rate, body mass, condition index, immobilization, and survival. Environ. Toxicol. Chem. 27\(12\):2582-2590.](#)

Spatial Representation: Data for this line of evidence for Rindler Creek was collected at 1 monitoring site [Blue Rock Springs @ Columbus station (206SUP004).]

Temporal Representation: Data was collected on a single day 12/28/2006.

Environmental Conditions: Staff is not aware of any special conditions that might affect interpretation of the data.

QAPP Information: The SWAMP QAPP (2008) was followed.

QAPP Information Reference(s): [Quality Assurance Management Plan for the State of California's Surface Water Ambient Monitoring Program. Sacramento, CA. State Water Resources Control Board. SWAMP. December 2002 \(1st version\)](#)

DECISION ID

65707

Region 2

Rindler Creek

Pollutant: Fipronil Sulfone
Final Listing Decision: Do Not List on 303(d) list (TMDL required list)
Last Listing Cycle's Final New Decision

Listing Decision:**Revision Status**

Revised

Impairment from Pollutant or Pollution:

Pollutant

Regional Board Staff**Conclusion:**

This pollutant is being considered for placement on the CWA section 303(d) List under section 3.6 of the Listing Policy.

One line of evidence is available in the administrative record to assess this pollutant. The single sample result was not used in the assessment because the laboratory data was non-detect and staff determined that the organic carbon normalized method detection limit was above the guideline and therefore the results could not be quantified with the level of certainty required by the Listing Policy.

Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against placing this water segment-pollutant combination on the CWA section 303(d) List.

This conclusion is based on the staff findings that:

1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy.
2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy.
3. The single sample result was not used in the assessment because the laboratory data was non-detect and staff determined that the organic carbon normalized method detection limit was above the guideline and therefore the results could not be quantified with the level of certainty required by the Listing Policy. This is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating.
4. Pursuant to SECTION 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.

Regional Board Staff Decision Recommendation:

After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be placed on the section 303(d) list. The readily available data and information is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating.

Line of Evidence (LOE) for Decision ID 65707, Fipronil Sulfone**Region 2****Rindler Creek**

LOE ID: 92649

Pollutant: Fipronil Sulfone
LOE Subgroup: Pollutant-Sediment
Matrix: Sediment
Fraction: Total

Beneficial Use: Cold Freshwater Habitat

Number of Samples: 0
Number of Exceedances: 0

Data and Information Type: PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality: One of one sample result was not used in the assessment because the laboratory data was non-detect and staff determined that the organic carbon normalized method detection limit was above the guideline and therefore the results could not be quantified with the level of certainty required by the Listing Policy.

Data Reference: [Statewide Project Urban Pyrethroid Status Monitoring](#)

SWAMP Data: SWAMP

Water Quality Objective/Criterion: San Francisco Bay Basin Water Quality Control Plan 2007: All waters shall be maintained free of toxic substances in concentrations which are toxic to, or which produce detrimental physiological responses in, human, plant, animal, or aquatic life.

Objective/Criterion Reference: [Water Quality Control Plan \(Basin Plan\) San Francisco Bay Basin \(Region 2\)](#)

Evaluation Guideline:	The evaluation guideline for fipronil sulfone is the median lethal concentration (LC50) of 0.12 ug/g and is normalized by the percentage of organic carbon in the sediment sample (Maul et al. 2008).
Guideline Reference:	Effect of sediment-associated pyrethroids, fipronil, and metabolites on Chironomus tentans growth rate, body mass, condition index, immobilization, and survival. Environ. Toxicol. Chem. 27(12):2582-2590.
Spatial Representation:	Data for this line of evidence for Rindler Creek was collected at 1 monitoring site [Blue Rock Springs @ Columbus station (206SUP004).]
Temporal Representation:	Data was collected on a single day 12/28/2006.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	The SWAMP QAPP (2008) was followed.
QAPP Information Reference(s):	Quality Assurance Management Plan for the State of California's Surface Water Ambient Monitoring Program. Sacramento, CA. State Water Resources Control Board. SWAMP. December 2002 (1st version)

DECISION ID	65686	Region 2
Rindler Creek		

Pollutant:	Lindane/gamma Hexachlorocyclohexane (gamma-HCH)
Final Listing Decision:	Do Not List on 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision:	New Decision
Revision Status	Revised
Impairment from Pollutant or Pollution:	Pollutant
Regional Board Staff Conclusion:	<p>This pollutant is being considered for placement on the CWA section 303(d) List under section 3.6 of the Listing Policy.</p> <p>A single line of evidence is available in the administrative record to assess this pollutant. The single sample does not exceed the evaluation guideline for Lindane (gamma-HCH).</p> <p>Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against placing this water segment-pollutant combination on the CWA section 303(d) List.</p> <p>This conclusion is based on the staff findings that:</p> <ol style="list-style-type: none"> 1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy. 2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy. 3. The single sample does not exceed the evaluation guideline for Lindane (gamma-HCH) but this sample size is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating. 4. Pursuant to SECTION 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.
Regional Board Staff Decision Recommendation:	After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be placed on the section 303(d) list. The readily available data and information is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating.

Line of Evidence (LOE) for Decision ID 65686, Lindane/gamma Hexachlorocyclohexane (gamma-HCH)	Region 2
Rindler Creek	

LOE ID:	92650
Pollutant:	Lindane/gamma Hexachlorocyclohexane (gamma-HCH)

LOE Subgroup:	Pollutant-Sediment
Matrix:	Sediment
Fraction:	Total
Beneficial Use:	Cold Freshwater Habitat
Number of Samples:	1
Number of Exceedances:	0
Data and Information Type:	PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality:	Water Board staff assessed SWAMP data for Rindler Creek to determine beneficial use support and results are as follows: 0 of 1 samples exceed the criterion for HCH, gamma.
Data Reference:	Statewide Project Urban Pyrethroid Status Monitoring
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	San Francisco Bay Basin Water Quality Control Plan 2007: All waters shall be maintained free of toxic substances in concentrations which are toxic to, or which produce detrimental physiological responses in, human, plant, animal, or aquatic life.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	In freshwater sediments the probable effect concentration (predictive of sediment toxicity for sediment-dwelling organisms) for Lindane (gamma-HCH) is 4.99 ug/Kg dry weight (MacDonald et al. 2000).
Guideline Reference:	Development and evaluation of consensus-based sediment quality guidelines for freshwater ecosystems. Environmental Contamination and Toxicology. 39: 20-31
Spatial Representation:	Data for this line of evidence for Rindler Creek was collected at 1 monitoring site [Blue Rock Springs @ Columbus station (206SUP004).]
Temporal Representation:	Data was collected on a single day 12/28/2006.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	The SWAMP QAPP (2008) was followed.
QAPP Information Reference(s):	Quality Assurance Management Plan for the State of California's Surface Water Ambient Monitoring Program. Sacramento, CA. State Water Resources Control Board. SWAMP. December 2002 (1st version)

DECISION ID	65687	Region 2
Rindler Creek		

Pollutant:	Permethrin
Final Listing Decision:	Do Not List on 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision:	New Decision
Revision Status	Revised
Impairment from Pollutant or Pollution:	Pollutant
Regional Board Staff Conclusion:	<p>This pollutant is being considered for placement on the CWA section 303(d) List under section 3.6 of the Listing Policy.</p> <p>One lines of evidence is available in the administrative record to assess this pollutant. The single sample does not exceed the evaluation guideline for permethrin.</p> <p>Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against placing this water segment-pollutant combination on the CWA section 303(d) List.</p> <p>This conclusion is based on the staff findings that:</p> <ol style="list-style-type: none"> 1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy. 2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy. 3. The single sample does not exceed the evaluation guideline for permethrin but this sample size is

insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating.

4. Pursuant to SECTION 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.

Regional Board Staff Decision Recommendation: After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be placed on the section 303(d) list. The readily available data and information is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating.

**Line of Evidence (LOE) for Decision ID 65687, Permethrin
Rindler Creek**

Region 2

LOE ID: 92651

Pollutant: Permethrin, total
LOE Subgroup: Pollutant-Sediment
Matrix: Sediment
Fraction: Total

Beneficial Use: Cold Freshwater Habitat

Number of Samples: 1
Number of Exceedances: 0

Data and Information Type: PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality: Water Board staff assessed SWAMP data for Rindler Creek to determine beneficial use support and results are as follows: 0 of 1 samples exceed the criterion for Permethrin, Total.

Data Reference: [Statewide Project Urban Pyrethroid Status Monitoring](#)

SWAMP Data: SWAMP

Water Quality Objective/Criterion: San Francisco Bay Basin Water Quality Control Plan 2007: All waters shall be maintained free of toxic substances in concentrations which are toxic to, or which produce detrimental physiological responses in, human, plant, animal, or aquatic life.

Objective/Criterion Reference: [Water Quality Control Plan \(Basin Plan\) San Francisco Bay Basin \(Region 2\)](#)

Evaluation Guideline: The evaluation guideline for permethrin is the median lethal concentration (LC50) of 8.9 ug/g and is normalized by the percentage of organic carbon in the sediment sample. The LC50 8.9 ug/g is the geometric mean of LC50 values for permethrin from Amweg et al. (2005).

Guideline Reference: [Use and Toxicity of Pyrethroid Pesticides in the Central Valley, California, USA. Environmental Toxicology and Chemistry, 24:966-972, with erratum 24:No. 5](#)

Spatial Representation: Data for this line of evidence for Rindler Creek was collected at 1 monitoring site [Blue Rock Springs @ Columbus station (206SUP004).]

Temporal Representation: Data was collected on a single day 12/28/2006.

Environmental Conditions: Staff is not aware of any special conditions that might affect interpretation of the data.

QAPP Information: The SWAMP QAPP (2008) was followed.

QAPP Information Reference(s): [Quality Assurance Management Plan for the State of California's Surface Water Ambient Monitoring Program. Sacramento, CA. State Water Resources Control Board. SWAMP. December 2002 \(1st version\)](#)

DECISION ID 65688
Rindler Creek

Region 2

Pollutant: Toxicity
Final Listing Decision: Do Not List on 303(d) list (TMDL required list)

Last Listing Cycle's Final Listing Decision: Revision Status Impairment from Pollutant or Pollution:

New Decision

Revised

Pollutant

Regional Board Staff Conclusion:

This pollutant is being considered for placement on the CWA section 303(d) List under section 3.6 of the Listing Policy.

One line of evidence is available in the administrative record to assess this pollutant. The single sample exceeds the evaluation guideline for sediment toxicity.

Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against placing this water segment-pollutant combination on the CWA section 303(d) List.

This conclusion is based on the staff findings that:

1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy.
2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy.
3. The single sample exceeds the evaluation guideline for sediment toxicity. but this sample size is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating.
4. Pursuant to SECTION 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.

Regional Board Staff Decision Recommendation:

After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be placed on the section 303(d) list. The readily available data and information is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating.

Line of Evidence (LOE) for Decision ID 65688, Toxicity

Region 2

Rindler Creek

LOE ID: 90510

Pollutant: Toxicity
LOE Subgroup: Toxicity
Matrix: Sediment
Fraction: None

Beneficial Use: Cold Freshwater Habitat

Number of Samples: 1
Number of Exceedances: 1

Data and Information Type: TOXICITY TESTING
Data Used to Assess Water Quality: One sample was collected to evaluate sediment toxicity. The sample exhibited significant toxicity. The toxicity test included survival and growth of *Hyalella azteca*. One sample can have multiple toxicity test results but will be counted only once. One sample is defined as being collected on the same day at the same location with the same lab sample id (if provided).

Data Reference: [Statewide Project Urban Pyrethroid Status Monitoring](#)

SWAMP Data: SWAMP

Water Quality Objective/Criterion: All waters shall be maintained free of toxic substances in concentrations that are toxic to, or that produce detrimental physiological responses in, human, plant, animal, or aquatic life. Region 2 Basin Plan.

Objective/Criterion Reference: [Water Quality Control Plan \(Basin Plan\) - San Francisco Bay Region \(Region 2\)](#)

Evaluation Guideline: Toxicity is defined as a statistically significant effect in the sample exposure compared to

the control using EPA-recommended hypothesis testing. For SWAMP data exceedances are counted with the significant effect code SL. SL is defined as the result being significant compared to the negative control based on a statistical test, less than stated the alpha level, AND less than the evaluation threshold.

Guideline Reference:

[Methods for Measuring the Toxicity and Bioaccumulation of Sediment-associated Contaminants with Freshwater Invertebrates, Second Edition. U.S. Environmental Protection Agency Office of Research and Development, Duluth, MI , U.S. Environmental Protection Agency Office of Water, Washington, DC EPA-600/R-99/064](#)

Spatial Representation:

The sample was collected at station 206SUP004.

Temporal Representation:

The sample was collected in December 2006.

Environmental Conditions:

QAPP Information:

All data was collected following the Standard Operating Procedures and Data Quality Objectives outlined in the SWAMP QAMP, (Puckett, 2002). QA data are included in submission.

QAPP Information Reference(s):

[Surface Water Ambient Monitoring Program Quality Assurance Program Plan](#)

Draft California 2016 Integrated Report (303(d) List/305(b) Report)

Supporting Information

Regional Board 2 - San Francisco Bay Region

Water Body Name: Strawberry Creek (Alameda County)
Water Body ID: CAR2033001020080626110746
Water Body Type: River & Stream

DECISION ID 35586 **Region 2**
Strawberry Creek (Alameda County)

Pollutant: Trash
Final Listing Decision: Do Not Delist from 303(d) list (being addressed with action other than TMDL)
Last Listing Cycle's Final Listing Decision: List on 303(d) list (TMDL required list)(2012)
Revision Status Revised
Sources: Source Unknown
Expected Attainment Date: 2029
Implementation Action Other than TMDL: This trash listing will be addressed by implementing the trash control provisions of the Water Quality Control Plan for Inland Surface Waters, Enclosed Bays, and Estuaries of California through the NPDES MS4 permit applicable to this waterbody.
Impairment from Pollutant or Pollution: Pollutant

Regional Board Staff Conclusion: This pollutant is being considered for placement on the section 303(d) list under section 3.11 of the Listing Policy. Under section 3.11, listing may be proposed based on the situation-specific weight of evidence. Two lines of evidence is available in the administrative record to assess this pollutant. Both lines of evidence rely on data from field visits/trash surveys conducted according to the Rapid Trash Assessment (RTA) methodology. Based on the readily available trash assessment data for this waterbody, the weight of evidence indicates that there is sufficient justification available in favor of placing this water segment-pollutant combination to the section 303(d) list in the Water Quality Limited Segments category. This conclusion is based on the staff findings that: 1. Data have been evaluated that supports this decision. 2. The Rapid Trash Assessment methodology results showed that this waterbody had ?level of trash? parameter scores in the poor category (indicating impairment of non-contact water recreational beneficial uses) at one location on three different dates. This waterbody also had threat to aquatic life parameter scores in the poor category (indicating threat to Wildlife Habitat beneficial uses) at one location on three different dates. 3. This waterbody is considered impaired by trash because there were exceedances of the evaluation guidelines (poor condition category for the trash assessment metrics) in more than one location or on more than one date. 4. The data used satisfy the data quality requirements of section 6.1.4 of the Policy. 5. The data used satisfy the data quantity requirements of section 6.1 of the Policy. 6. This trash listing will be addressed by implementing the trash control provisions of the Water Quality Control Plan for Inland Surface Waters, Enclosed Bays, and Estuaries of California through the NPDES MS4 permit applicable to this waterbody.

Regional Board Staff Decision Recommendation: After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be removed from the section 303(d) list because applicable water quality standards for the pollutant are being exceeded.

Line of Evidence (LOE) for Decision ID 35586, Trash **Region 2**
Strawberry Creek (Alameda County)

LOE ID: 5411
Pollutant: Trash
LOE Subgroup: Pollutant-Nuisance

Matrix:	Not Specified
Fraction:	None
Beneficial Use:	Wildlife Habitat
Number of Samples:	3
Number of Exceedances:	3
Data and Information Type:	Occurrence of conditions judged to cause impairment
Data Used to Assess Water Quality:	Data results were obtained through application the RTA methodology, developed by the Surface Water Ambient Monitoring Program (SWAMP). The RTA documents the total number and characteristics of pieces of trash per one hundred feet of stream or shoreline. The trash assessment protocol involves picking up and tallying all of the trash items found within the defined boundaries of a site. The tally results for level of trash (relating to REC2) and threat to aquatic life (relating to WILD) assessment parameters were considered for the listing determination. These results are available for field visits/trash surveys conducted in March, August, and December 2004 according to the Rapid Trash Assessment (RTA) methodology. This waterbody had threat to aquatic life parameter scores in the poor category (indicating threat to Wildlife Habitat beneficial uses) at one location on three different dates.
Data Reference:	A Rapid Trash Assessment Method Applied to Waters of the San Francisco Bay Region:Trash Measurement in Streams Rapid Trash Assessment (RTA) data collected by the SF Bay Region Surface Water Ambient Monitoring Program from 2002-2005 and method description
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	<p>The Basin Plan prohibits discharge of Rubbish, refuse, bark, sawdust, or other solid wastes into surface waters or at any place where they would contact or where they would be eventually transported to surface waters, including flood plain areas.</p> <p>The Basin Plan has a narrative objective for floating material, Waters shall not contain floating material, including solids, liquids, foams, and scum, in concentrations that cause nuisance or adversely affect beneficial uses.</p> <p>The Basin Plan has a narrative objective for settleable material, Waters shall not contain substances in concentrations that result in the deposition of material that cause nuisance or adversely affect beneficial uses.</p>
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) - San Francisco Bay Region (Region 2)
Evaluation Guideline:	If the RTA Parameter 3 (Threat to Aquatic Life) is in the poor condition category (scores 0-5), then WILD is not supported. This level of trash is a large amount (>50 pieces) of transportable, persistent, buoyant litter that is detrimental to aquatic life. The RTA defines poor condition for this parameter as follows, large amount (>50 pieces) of transportable, persistent, buoyant litter such as: hard or soft plastics, balloons, Styrofoam, cigarette butts; toxic items such as batteries, lighters, or spray cans; large clumps of yard waste or dumped leaf litter; or large amount (>50 pieces) of settleable glass or metal.
Guideline Reference:	A Rapid Trash Assessment Method Applied to Waters of the San Francisco Bay Region:Trash Measurement in Streams
Spatial Representation:	RTA data were collected for this waterbody in one location in 2004.
Temporal Representation:	RTA data were collected for this waterbody in March, August, and December in 2004.
Environmental Conditions:	
QAPP Information:	For RTA trash assessment data to be considered, the data must have been collected by field operators that have received a 2-hour training in the Rapid Trash Assessment methodology.
QAPP Information Reference(s):	

**Line of Evidence (LOE) for Decision ID 35586, Trash
Strawberry Creek (Alameda County)**

Region 2

LOE ID: 5412

Pollutant:	Trash
LOE Subgroup:	Pollutant-Nuisance
Matrix:	Not Specified
Fraction:	None
Beneficial Use:	Non-Contact Recreation
Number of Samples:	3
Number of Exceedances:	2
Data and Information Type:	Occurrence of conditions judged to cause impairment
Data Used to Assess Water Quality:	Data results were obtained through application the RTA methodology, developed by the Surface Water Ambient Monitoring Program (SWAMP). The RTA documents the total number and characteristics of pieces of trash per one hundred feet of stream or shoreline. The trash assessment protocol involves picking up and tallying all of the trash items found within the defined boundaries of a site. The tally results for level of trash (relating to REC2) and threat to aquatic life (relating to WILD) assessment parameters were considered for the listing determination. These results are available for field visits/trash surveys conducted in March, August, and December 2004 according to the Rapid Trash Assessment (RTA) methodology. This waterbody had level of trash parameter scores in the poor category (indicating impairment of non-contact water recreational beneficial uses) at one location on three different dates.
Data Reference:	A Rapid Trash Assessment Method Applied to Waters of the San Francisco Bay Region:Trash Measurement in Streams Rapid Trash Assessment (RTA) data collected by the SF Bay Region Surface Water Ambient Monitoring Program from 2002-2005 and method description
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	<p>The Basin Plan prohibits discharge of Rubbish, refuse, bark, sawdust, or other solid wastes into surface waters or at any place where they would contact or where they would be eventually transported to surface waters, including flood plain areas.</p> <p>The Basin Plan has a narrative objective for floating material, Waters shall not contain floating material, including solids, liquids, foams, and scum, in concentrations that cause nuisance or adversely affect beneficial uses.</p> <p>The Basin Plan has a narrative objective for settleable material, Waters shall not contain substances in concentrations that result in the deposition of material that cause nuisance or adversely affect beneficial uses.</p>
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) - San Francisco Bay Region (Region 2)
Evaluation Guideline:	If the Rapid Trash Assessment (RTA) Parameter 1 (Level of Trash) is in the poor condition category (scores 0-5), REC2 is not supported. This level of trash distracts the eye on first glance, making the site unsuitable for recreation. The RTA defines poor condition for this parameter as follows, trash distracts the eye on first glance. Stream, bank surfaces, and immediate riparian zone contain substantial levels of litter and debris (>100 pieces). Evidence of site being used frequently by people: many cans, bottles, and food wrappers, blankets, clothing.
Guideline Reference:	A Rapid Trash Assessment Method Applied to Waters of the San Francisco Bay Region:Trash Measurement in Streams
Spatial Representation:	RTA data were collected for this waterbody in one location in 2004.
Temporal Representation:	RTA data were collected for this waterbody in March, August, and December in 2004.
Environmental Conditions:	
QAPP Information:	For RTA trash assessment data to be considered, the data must have been collected by field operators that have received a 2-hour training in the Rapid Trash Assessment methodology.
QAPP Information Reference(s):	

Strawberry Creek (Alameda County)

Pollutant:	Anthracene Benzo(a)anthracene Benzo(a)pyrene (3,4-Benzopyrene -7-d) Chlordane Chrysene (C1-C4) DDD (Dichlorodiphenyldichloroethane) DDE (Dichlorodiphenyldichloroethylene) DDT (Dichlorodiphenyltrichloroethane) Dieldrin Endrin Fluoranthene Fluorene Heptachlor epoxide Lindane/gamma Hexachlorocyclohexane (gamma-HCH) Naphthalene PAHs (Polycyclic Aromatic Hydrocarbons) PCBs (Polychlorinated biphenyls) Phenanthrene Pyrene
Final Listing Decision:	Do Not List on 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision:	Do Not List on 303(d) list (TMDL required list)(2012)
Revision Status	Original
Impairment from Pollutant or Pollution:	Pollutant
Regional Board Staff Conclusion:	<p>These pollutants are being considered for placement on the section 303(d) list under section 3.1 of the Listing Policy. Under this section a single line of evidence is necessary to assess listing status. One line of evidence is available in the administrative record to assess these pollutants. Zero samples exceed the water quality objective. Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against placing this water segment-pollutant combination on the section 303(d) list in the Water Quality Limited Segments category. This conclusion is based on the staff findings that: 1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy. 2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy. 3. Zero of one sample exceed the water quality objective, but this sample size is insufficient to determine with the power and confidence of the Listing Policy if standards are not met. A minimum of two samples are needed for application of table 3.1. 4. Pursuant to section 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.</p>
Regional Board Staff Decision Recommendation:	<p>This is a decision previously approved by the State Water Resources Control Board and the USEPA. No new data were assessed by the Regional Board for the current. The decision has not changed.</p>

Line of Evidence (LOE) for Decision ID 44374, Multiple Pollutants

Region 2

Strawberry Creek (Alameda County)

LOE ID:	28495
Pollutant:	Anthracene Benzo(a)anthracene Benzo(a)pyrene (3,4-Benzopyrene -7-d) Chlordane Chrysene (C1-C4) DDD (Dichlorodiphenyldichloroethane) DDE (Dichlorodiphenyldichloroethylene) DDT (Dichlorodiphenyltrichloroethane) Dieldrin Endrin Fluoranthene Fluorene Heptachlor epoxide Lindane/gamma Hexachlorocyclohexane (gamma-HCH) Naphthalene PAHs (Polycyclic Aromatic Hydrocarbons) PCBs (Polychlorinated biphenyls) Phenanthrene Pyrene
LOE Subgroup:	Pollutant-Sediment
Matrix:	Sediment
Fraction:	None
Beneficial Use:	Warm Freshwater Habitat
Number of Samples:	1
Number of Exceedances:	0
Data and Information Type:	PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality:	Concentrations of anthracene, fluorene, naphthalene, phenanthrene, benz(a)anthracene, benzo(a)pyrene, chrysene, fluoranthrene, pyrene, PAH (total), PCB (total), chlordane, dieldrin, DDD/DDE/DDT, endrin, heptachlor epoxide, and HCH, gamma in one sediment sample collected in spring 2005 did not exceed the sediment quality guidelines.
Data Reference:	Data collected by the Surface Water Ambient Monitoring Program, San Francisco Bay Regional Water Quality Control Board. Years 4 and 5 Assessment

SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	All waters shall be maintained free of toxic substances that are lethal to or that produce other detrimental responses in aquatic organisms.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) - San Francisco Bay Region (Region 2)
Evaluation Guideline:	Sediment Quality Guidelines (MacDonald et al., 2000): PEC (probable effect concentration) Anthracene - 845 ug/kg; Fluorene - 536 ug/kg; Naphthalene - 561 ug/kg; Phenanthrene - 1170 ug/kg; Benz(a)anthracene - 1050 ug/kg; Benzo(a)pyrene - 1450 ug/kg; Chrysene - 1290 ug/kg; Fluoranthene - 2230 ug/kg; Pyrene - 1520 ug/kg; PAH (total) - 22800 ug/kg; PCB (total) - 676 ug/kg; Chlordane - 17.6 ug/kg; Dieldrin - 61.8 ug/kg; DDD (sum op + pp) - 28 ug/kg; DDE (sum op + pp) - 31.3 ug/kg; DDT (sum op + pp) - 62.9 ug/kg; DDT (total) - 572 ug/kg; Endrin - 207 ug/kg; Heptachlor epoxide - 16 ug/kg; HCH, gamma - 4.99 ug/kg.
Guideline Reference:	Development and evaluation of consensus-based sediment quality guidelines for freshwater ecosystems. Environmental Contamination and Toxicology. 39: 20-31
Spatial Representation:	One sediment sample was collected at a "watershed integrator" site located close to the mouth of Strawberry Creek.
Temporal Representation:	Sediment sample was collected in April of 2005.
Environmental Conditions:	
QAPP Information:	All samples were collected and analyzed using procedures comparable with the SWAMP Quality Assurance Management Plan (SWRCB, 2002).
QAPP Information Reference(s):	

DECISION ID	44375	Region 2
Strawberry Creek (Alameda County)		
Pollutant:	Arsenic Cadmium Chromium (total) Copper Lead Mercury Zinc	
Final Listing Decision:	Do Not List on 303(d) list (TMDL required list)	
Last Listing Cycle's Final Listing Decision:	Do Not List on 303(d) list (TMDL required list)(2012)	
Revision Status	Original	
Impairment from Pollutant or Pollution:	Pollutant	
Regional Board Staff Conclusion:	<p>These pollutants are being considered for placement on the section 303(d) list under section 3.1 of the Listing Policy. Under this section a single line of evidence is necessary to assess listing status. One line of evidence is available in the administrative record to assess these pollutants. Zero samples exceed the water quality objective. Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against placing this water segment-pollutant combination on the section 303(d) list in the Water Quality Limited Segments category. This conclusion is based on the staff findings that: 1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy. 2. The data used satisfies the data quality requirements of section 6.1.5 of the Policy. 3. Zero of one sample exceed the water quality objective, but this sample size is insufficient to determine with the power and confidence of the Listing Policy if standards are not met. A minimum of two samples are needed for application of table 3.1. 4. Pursuant to section 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.</p>	
Regional Board Staff Decision Recommendation:	<p>This is a decision previously approved by the State Water Resources Control Board and the USEPA. No new data were assessed by the Regional Board for the current. The decision has not changed.</p>	

Line of Evidence (LOE) for Decision ID 44375, Multiple Pollutants	Region 2
Strawberry Creek (Alameda County)	
LOE ID:	28636
Pollutant:	Arsenic Cadmium Chromium (total) Copper Lead Mercury Zinc

LOE Subgroup:	Pollutant-Sediment
Matrix:	Sediment
Fraction:	Total
Beneficial Use:	Warm Freshwater Habitat
Number of Samples:	1
Number of Exceedances:	0
Data and Information Type:	PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality:	Concentrations of arsenic, cadmium, chromium, copper, lead, mercury and zinc in one sediment sample collected in April 2005 did not exceed the sediment quality guidelines.
Data Reference:	Data collected by the Surface Water Ambient Monitoring Program, San Francisco Bay Regional Water Quality Control Board. Years 4 and 5 Assessment
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	All waters shall be maintained free of toxic substances that are lethal to or that produce other detrimental responses in aquatic organisms.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) - San Francisco Bay Region (Region 2)
Evaluation Guideline:	Sediment Quality Guidelines (MacDonald et al., 2000): PEC (probable effect concentration) arsenic - 33 mg/kg dw; cadmium - 4.98 mg/kg dw; chromium - 111 mg/kg dw; copper - 149 mg/kg dw; lead - 128 mg/kg dw; mercury - 1.06 mg/kg dw; nickel - 48.6 mg/kg dw; zinc - 459 mg/kg dw.
Guideline Reference:	Development and evaluation of consensus-based sediment quality guidelines for freshwater ecosystems. Environmental Contamination and Toxicology. 39: 20-31
Spatial Representation:	One sediment sample was collected at a "watershed integrator" site located close to the mouth of Strawberry Creek.
Temporal Representation:	Sediment sample was collected in April of 2005.
Environmental Conditions:	
QAPP Information:	All samples were collected and analyzed using procedures comparable with the SWAMP Quality Assurance Management Plan (SWRCB, 2002).
QAPP Information Reference(s):	

DECISION ID	44113	Region 2
Strawberry Creek (Alameda County)		

Pollutant:	Arsenic Chromium (total) Copper Lead Nickel Silver Zinc
Final Listing Decision:	Do Not List on 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision:	Do Not List on 303(d) list (TMDL required list)(2012)
Revision Status	Original
Impairment from Pollutant or Pollution:	Pollutant

Regional Board Staff Conclusion:	<p>These pollutants are being considered for placement on the section 303(d) list under section 3.1 of the Listing Policy. Under section 3.1 a single line of evidence is necessary to assess listing status. One line of evidence is available in the administrative record to assess these pollutants. None of the samples exceed the water quality objective. Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against placing this water segment-pollutant combination on the section 303(d) list in the Water Quality Limited Segments category. This conclusion is based on the staff findings that: 1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy. 2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy. 3. None of the three samples exceeded the water quality objectives (Basin Plan) and this does not exceed the allowable frequency listed in Table 3.1 of the Listing Policy. 4. Pursuant to section 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.</p>
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Regional Board Staff Decision This is a decision previously approved by the State Water Resources Control Board and the USEPA.

Recommendation: No new data were assessed by the Regional Board for the current. The decision has not changed.

Line of Evidence (LOE) for Decision ID 44113, Multiple Pollutants
Strawberry Creek (Alameda County)

Region 2

LOE ID:	28838
Pollutant:	Arsenic Chromium (total) Copper Lead Nickel Silver Zinc
LOE Subgroup:	Pollutant-Water
Matrix:	Water
Fraction:	Dissolved
Beneficial Use:	Warm Freshwater Habitat
Number of Samples:	3
Number of Exceedances:	0
Data and Information Type:	PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality:	The Strawberry Creek watershed was monitored as part of SWAMP assessment. None of the three samples exceeded the water quality objectives for arsenic, chromium VI, copper, lead, nickel, silver and zinc. Concentrations of total dissolved chromium were well below the objective for chromium VI.
Data Reference:	Data collected by the Surface Water Ambient Monitoring Program, San Francisco Bay Regional Water Quality Control Board. Years 4 and 5 Assessment
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	All waters shall be maintained free of toxic substances that are lethal to or that produce other detrimental responses in aquatic organisms. Table 3-4 in the Basin Plan (2007) lists freshwater water quality objectives for toxic pollutants: arsenic- 150 ug/L, chromium VI- 11 ug/L, copper - 9.0 ug/L, lead - 2.5 ug/L; nickel - 52 ug/L, silver-3.4 ug/L and zinc - 120 ug/L.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) - San Francisco Bay Region (Region 2)
Evaluation Guideline:	
Guideline Reference:	
Spatial Representation:	Data were collected at one sampling location (STW010) on Strawberry Creek at Strawberry Creek Park.
Temporal Representation:	Samples were collected during wet (January), spring (April), and dry(June) seasons of 2005.
Environmental Conditions:	
QAPP Information:	All samples were collected and analyzed using procedures comparable with the SWAMP Quality Assurance Management Plan (SWRCB, 2002).
QAPP Information Reference(s):	Quality Assurance Management Plan for the State of California's Surface Water Ambient Monitoring Program. Sacramento, CA. State Water Resources Control Board. SWAMP. December 2002 (1st version)

DECISION ID 44556
Strawberry Creek (Alameda County)

Region 2

Pollutant:	Chlorpyrifos Dacthal Diazinon Disulfoton Endosulfan Lindane/gamma Hexachlorocyclohexane (gamma-HCH) Methyl Parathion PCBs (Polychlorinated biphenyls) Thiobencarb/Bolero
Final Listing Decision:	Do Not List on 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision:	Do Not List on 303(d) list (TMDL required list)(2012)
Revision Status	Original

Impairment from Pollutant or Pollution: Pollutant

Regional Board Staff Conclusion:

These pollutants are being considered for placement on the section 303(d) list under section 3.1 of the Listing Policy. Under section 3.1 a single line of evidence is necessary to assess listing status. One line of evidence is available in the administrative record to assess these pollutants. None of the samples exceed the water quality objective. Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against placing this water segment-pollutant combination on the section 303(d) list in the Water Quality Limited Segments category. This conclusion is based on the staff findings that: 1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy. 2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy. 3. None of the three samples exceeded the water quality objectives (Basin Plan) and the Central Valley Regional Water Quality Control Board Basin Plan and this does not exceed the allowable frequency listed in Table 3.1 of the Listing Policy. 4. Pursuant to section 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.

Regional Board Staff Decision Recommendation: This is a decision previously approved by the State Water Resources Control Board and the USEPA. No new data were assessed by the Regional Board for the current. The decision has not changed.

Line of Evidence (LOE) for Decision ID 44556, Multiple Pollutants

Region 2

Strawberry Creek (Alameda County)

LOE ID: 28955

Pollutant: Chlorpyrifos | Dacthal | Diazinon | Disulfoton | Endosulfan | Lindane/gamma Hexachlorocyclohexane (gamma-HCH) | Methyl Parathion | PCBs (Polychlorinated biphenyls) | Thiobencarb/Bolero

LOE Subgroup: Pollutant-Water

Matrix: Water

Fraction: None

Beneficial Use: Warm Freshwater Habitat

Number of Samples: 3

Number of Exceedances: 0

Data and Information Type: PHYSICAL/CHEMICAL MONITORING

Data Used to Assess Water Quality: The Strawberry Creek watershed was monitored as part of SWAMP assessment. None of the three samples exceeded the water quality objectives for PCBs, Chlorpyrifos, Dacthal, diazinon, disulfoton, endosulfan, Lindane/gamma Hexachlorocyclohexane (gamma-HCH), methyl parathion, thiobencarb.

Data Reference: [Data collected by the Surface Water Ambient Monitoring Program, San Francisco Bay Regional Water Quality Control Board, Years 4 and 5 Assessment](#)

SWAMP Data: SWAMP

Water Quality Objective/Criterion: All waters shall be maintained free of toxic substances that are lethal to or that produce other detrimental responses in aquatic organisms.
There shall be no chronic toxicity in ambient waters. Chronic toxicity is a detrimental biological effect on growth rate, reproduction, fertilization success, larval development, population abundance, community composition, or any other relevant measure of the health of an organism, population, or community.
Diazinon water quality objective, 0.1 ug/L (acute)

Objective/Criterion Reference: [Water Quality Control Plan \(Basin Plan\) - San Francisco Bay Region \(Region 2\)](#)

Evaluation Guideline: PCBs - 0.014 ug/L freshwater continuous Concentration; Chlorpyrifos - 0.015 ug/L (chronic); Dacthal (DCPA) - 14300 ug/L (acute); Disulfoton (Disyston) - 0.05 ug/L (acute); Endosulfan - 0.056 ug/L (chronic)/0.22 ug/L (acute); HCH, gamma-(gamma BHC, Lindane) - 0.95 ug/L (acute); methyl parathion - 0.08 ug/L (acute); Thiobencarb - 3.1 ug/L (acute).

Guideline Reference:	National recommended water quality criteria: 2002. EPA-822-R-02-047 Washington, D.C. USEPA
Spatial Representation:	Data were collected at one sampling location (STW010) on Strawberry Creek.
Temporal Representation:	Samples were collected during wet (January), spring (April), and dry(June) seasons of 2005.
Environmental Conditions:	
QAPP Information:	All samples were collected and analyzed using procedures comparable with the SWAMP Quality Assurance Management Plan (SWRCB, 2002).
QAPP Information Reference(s):	Quality Assurance Management Plan for the State of California's Surface Water Ambient Monitoring Program. Sacramento, CA. State Water Resources Control Board. SWAMP. December 2002 (1st version)

DECISION ID 44417		Region 2
Strawberry Creek (Alameda County)		
Pollutant:	Nickel	
Final Listing Decision:	Do Not List on 303(d) list (TMDL required list)	
Last Listing Cycle's Final Listing Decision:	Do Not List on 303(d) list (TMDL required list)(2012)	
Revision Status	Original	
Impairment from Pollutant or Pollution:	Pollutant	
Regional Board Staff Conclusion:	<p>This pollutant is being considered for placement on the section 303(d) list under section 3.1 of the Listing Policy. Under this section a single line of evidence is necessary to assess listing status. One line of evidence is available in the administrative record to assess this pollutant. One sample exceeds the water quality objective. Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against placing this water segment-pollutant combination on the section 303(d) list in the Water Quality Limited Segments category. This conclusion is based on the staff findings that: 1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy. 2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy. 3. One out of one sample exceeded the water quality objective, but this sample size is insufficient to determine with the power and confidence of the Listing Policy if standards are not met. A minimum of two samples are needed for application of table 3.1. 4. Pursuant to section 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.</p>	
Regional Board Staff Decision Recommendation:	<p>This is a decision previously approved by the State Water Resources Control Board and the USEPA. No new data were assessed by the Regional Board for the current. The decision has not changed.</p>	

Line of Evidence (LOE) for Decision ID 44417, Nickel		Region 2
Strawberry Creek (Alameda County)		
LOE ID:	28768	
Pollutant:	Nickel	
LOE Subgroup:	Pollutant-Sediment	
Matrix:	Sediment	
Fraction:	Total	
Beneficial Use:	Warm Freshwater Habitat	
Number of Samples:	1	
Number of Exceedances:	1	
Data and Information Type:	PHYSICAL/CHEMICAL MONITORING	
Data Used to Assess Water Quality:	Nickel exceeded the PEC (sediment quality guidelines) at a sample concentration of 105 mg/kg dw in one sediment sample collected in April 2005.	

Data Reference:	Data collected by the Surface Water Ambient Monitoring Program, San Francisco Bay Regional Water Quality Control Board. Years 4 and 5 Assessment
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	All waters shall be maintained free of toxic substances that are lethal to or that produce other detrimental responses in aquatic organisms.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) - San Francisco Bay Region (Region 2)
Evaluation Guideline:	Sediment Quality Guidelines (MacDonald et al., 2000): PEC (threshold effect concentration) nickel - 48.6 mg/kg dw.
Guideline Reference:	Development and evaluation of consensus-based sediment quality guidelines for freshwater ecosystems. Environmental Contamination and Toxicology. 39: 20-31
Spatial Representation:	One sediment sample was collected at a "watershed integrator" site located close to the mouth of Strawberry Creek.
Temporal Representation:	Sediment sample was collected in April of 2005.
Environmental Conditions:	
QAPP Information:	All samples were collected and analyzed using procedures comparable with the SWAMP Quality Assurance Management Plan (SWRCB, 2002).
QAPP Information Reference(s):	

DECISION ID	44027	Region 2
Strawberry Creek (Alameda County)		

Pollutant:	Oxygen, Dissolved
Final Listing Decision:	Do Not List on 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision:	Do Not List on 303(d) list (TMDL required list)(2012)
Revision Status	Original
Impairment from Pollutant or Pollution:	Pollutant

Regional Board Staff Conclusion:	This pollutant is being considered for placement on the section 303(d) list under section 3.2 of the Listing Policy. Under section 3.2 a single line of evidence is necessary to assess listing status. Two lines of evidence are available in the administrative record to assess this pollutant. None of the samples exceed the water quality objective. Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against placing this water segment-pollutant combination on the section 303(d) list in the Water Quality Limited Segments category. This conclusion is based on the staff findings that: 1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy. 2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy. 3. None of the five samples exceeded the water quality objectives (Basin Plan) and this does not exceed the allowable frequency listed in Table 3.2 of the Listing Policy. 4. Pursuant to section 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.
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Regional Board Staff Decision Recommendation:	This is a decision previously approved by the State Water Resources Control Board and the USEPA. No new data were assessed by the Regional Board for the current. The decision has not changed.
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Line of Evidence (LOE) for Decision ID 44027, Oxygen, Dissolved	Region 2
Strawberry Creek (Alameda County)	

LOE ID:	28889
Pollutant:	Oxygen, Dissolved
LOE Subgroup:	Pollutant-Water
Matrix:	Water
Fraction:	None

Beneficial Use:	Cold Freshwater Habitat
Number of Samples:	5
Number of Exceedances:	0
Data and Information Type:	PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality:	Water quality assessment was conducted at Strawberry Creek watershed as part of SWAMP assessment in 2004 and 2005. Continuous field monitoring of temperature, dissolved oxygen, pH, and specific conductance to determine temporal variability in basic water quality at three locations. The 7-day average minimum concentration of dissolved oxygen ranged from 7.8 to 10.4 mg/L and varied with season. All samples were above the water quality objectives.
Data Reference:	Data collected by the Surface Water Ambient Monitoring Program, San Francisco Bay Regional Water Quality Control Board. Years 4 and 5 Assessment
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	The numeric water quality objective for dissolved oxygen is 7.0 mg/L minimum for waters designated as cold water habitat. The median dissolved oxygen concentration for any three consecutive months shall not be less than 80 percent of the dissolved oxygen content at saturation.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) - San Francisco Bay Region (Region 2)
Evaluation Guideline:	
Guideline Reference:	
Spatial Representation:	Dissolved oxygen was measured at two sites located on the mainstem of Strawberry Creek that are representative of the entire creek length.
Temporal Representation:	At both locations the SWAMP performed continuous monitoring of dissolved oxygen at 15 minute intervals lasting 7-8 days during spring (March 2004), summer dry seasons (July 2004), and winter wet season (January 2005).
Environmental Conditions:	
QAPP Information:	All samples were collected and analyzed using procedures comparable with the SWAMP Quality Assurance Management Plan (SWRCB 2002).
QAPP Information Reference(s):	

**Line of Evidence (LOE) for Decision ID 44027, Oxygen, Dissolved
Strawberry Creek (Alameda County)**

Region 2

LOE ID:	28890
Pollutant:	Oxygen, Dissolved
LOE Subgroup:	Pollutant-Water
Matrix:	Water
Fraction:	None
Beneficial Use:	Warm Freshwater Habitat
Number of Samples:	5
Number of Exceedances:	0
Data and Information Type:	PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality:	Water quality assessment was conducted at Strawberry Creek watershed as part of SWAMP assessment in 2004 and 2005. Continuous field monitoring of temperature, dissolved oxygen, pH, and specific conductance to determine temporal variability in basic water quality at three locations. The 7 day average minimum concentration of dissolved oxygen ranged from 7.8 to 10.4 mg/L and varied with season. All samples recorded dissolved oxygen levels above the objective of 5.0 mg/L.
Data Reference:	Data collected by the Surface Water Ambient Monitoring Program, San Francisco Bay Regional Water Quality Control Board. Years 4 and 5 Assessment
SWAMP Data:	SWAMP

Water Quality Objective/Criterion: The numeric water quality objective for dissolved oxygen is 5.0 mg/L minimum for waters designated as warm water habitat. The median dissolved oxygen concentration for any three consecutive months shall not be less than 80 percent of the dissolved oxygen content at saturation.

Objective/Criterion Reference: [Water Quality Control Plan \(Basin Plan\) - San Francisco Bay Region \(Region 2\)](#)

Evaluation Guideline:
Guideline Reference:

Spatial Representation: Dissolved oxygen was measured at two sites located on the mainstem of Strawberry Creek that are representative of the entire creek length.

Temporal Representation: At both locations the SWAMP performed continuous monitoring of dissolved oxygen at 15 minute intervals lasting 7-8 days during spring (March 2004), summer dry seasons (July 2004), and winter wet season (January 2005).

Environmental Conditions:
QAPP Information: All samples were collected and analyzed using procedures comparable with the SWAMP Quality Assurance Management Plan (SWRCB 2002).

QAPP Information Reference(s):

DECISION ID	43524	Region 2
Strawberry Creek (Alameda County)		

Pollutant: Temperature, water

Final Listing Decision: Do Not List on 303(d) list (TMDL required list)

Last Listing Cycle's Final Listing Decision: Do Not List on 303(d) list (TMDL required list)(2012)

Revision Status Original

Impairment from Pollutant or Pollution: Pollutant

Regional Board Staff Conclusion: This pollutant is being considered for placement on the section 303(d) list under section 3.2 of the Listing Policy. Under section 3.2 a single line of evidence is necessary to assess listing status. One line of evidence is available in the administrative record to assess this pollutant. Two of the samples exceed the water quality objective. Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against placing this water segment-pollutant combination on the section 303(d) list in the Water Quality Limited Segments category. This conclusion is based on the staff findings that: 1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy. 2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy. 3. Two of the six samples exceeded the An Analysis of the Effects of Temperature on Salmonids of the Pacific Northwest with Implications for Selecting Temperature Criteria. Sustainable Ecosystems Institute, Portland, Oregon Analysis of the Effects of Temperature on Salmonids of the Pacific Northwest with Implications for Selecting Temperature Criteria. Sustainable Ecosystems Institute, Portland, Oregon (Sullivan K., Martin, D.J., Cardwell, R.D., Toll, J.E., Duke, S. 2000.) and this does not exceed the allowable frequency listed in Table 3.2 of the Listing Policy. 4. Pursuant to section 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.

Regional Board Staff Decision Recommendation: This is a decision previously approved by the State Water Resources Control Board and the USEPA. No new data were assessed by the Regional Board for the current. The decision has not changed.

Line of Evidence (LOE) for Decision ID 43524, Temperature, water	Region 2
Strawberry Creek (Alameda County)	

LOE ID: 28333

Pollutant: Temperature, water

LOE Subgroup: Pollutant-Water

Matrix: Water

Fraction:	None
Beneficial Use:	Cold Freshwater Habitat
Number of Samples:	6
Number of Exceedances:	2
Data and Information Type:	PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality:	Water quality assessment was conducted at the Strawberry Creek watershed as part of SWAMP study in 2004-2005. Continuous field monitoring at 15 minute increments of temperature, dissolved oxygen, pH and specific conductance was conducted to determine temporal variability in basic water quality at two locations. Continuous monitoring sondes were deployed 6 times at 2 monitoring locations during wet, spring and one dry season. The measured temperatures ranged from 11.5°C to 20 °C and varied with season and location. During the dry season deployment at both monitoring locations the 7-day mean temperature threshold for steelhead was exceeded. In total, the 17 °C criterion was exceeded in 2 out of 6 deployments.
Data Reference:	Data collected by the Surface Water Ambient Monitoring Program, San Francisco Bay Regional Water Quality Control Board. Years 4 and 5 Assessment
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	Temperature objectives for enclosed bays and estuaries are specified in the "Water Quality Control Plan for Control of Temperature in the Coastal and Interstate Waters and Enclosed Bays of California" including any revisions to the plan. In addition, the following temperature objectives apply to surface waters: The natural receiving water temperature of intrastate waters shall not be altered unless it can be demonstrated to the satisfaction of the Regional Board that such an alteration does not adversely affect beneficial uses. The temperature of any cold or warm freshwater habitat shall not be increased by more than 5°F (2.8°C) above natural receiving water temperature.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) - San Francisco Bay Region (Region 2)
Evaluation Guideline:	Sullivan et al. (2000) reviewed a wide range of studies incorporating information from laboratory-based research, field observations, and risk assessment approaches and developed criteria for assessing temperature risk to aquatic life. The 7-day mean temperature (maximum value of a 7-day moving average of the daily mean temperature) of 14.8°C was established as the upper threshold criterion for coho salmon and 17.0°C for steelhead trout. The risk assessment approach used by Sullivan et al. (2000) suggest that temperatures exceeding the above thresholds will cause a 10% reduction in average growth compared to optimal conditions.
Guideline Reference:	An Analysis of the Effects of Temperature on Salmonids of the Pacific Northwest with Implications for Selecting Temperature Criteria
Spatial Representation:	Temperature was measured at two sites located on the mainstem of Strawberry Creek that are representative of the entire creek length. The highest temperatures were recorded at both monitoring stations in July 2004
Temporal Representation:	In 2004 and 2005 the SWAMP Program performed continuous monitoring of temperature at 15 minute intervals for periods of 1-2 weeks in each of three different seasons: winter (2 sites), spring (2 sites), and one summer dry season (2 sites).
Environmental Conditions:	
QAPP Information:	All samples were collected and analyzed using procedures comparable with the SWAMP Quality Assurance Management Plan (SWRCB 2002).
QAPP Information Reference(s):	

DECISION ID	43505	Region 2
Strawberry Creek (Alameda County)		

Pollutant:	Toxicity
Final Listing Decision:	Do Not List on 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision:	Do Not List on 303(d) list (TMDL required list)(2012)

Revision Status Original
Impairment from Pollutant or Pollution: Pollutant

Regional Board Staff Conclusion:

This pollutant is being considered for placement on the section 303(d) list under section 3.1 of the Listing Policy. Under section 3.1 a single line of evidence is necessary to assess listing status. One line of evidence is available in the administrative record to assess this pollutant. None of the samples exceed the water quality objective. Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against placing this water segment-pollutant combination on the section 303(d) list in the Water Quality Limited Segments category. This conclusion is based on the staff findings that: 1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy. 2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy. 3. None of the three samples exceeded the water quality objectives (Basin Plan) and this does not exceed the allowable frequency listed in Table 3.1 of the Listing Policy. 4. Pursuant to section 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.

Regional Board Staff Decision Recommendation: This is a decision previously approved by the State Water Resources Control Board and the USEPA. No new data were assessed by the Regional Board for the current. The decision has not changed.

Line of Evidence (LOE) for Decision ID 43505, Toxicity
Strawberry Creek (Alameda County)

Region 2

LOE ID:	28864
Pollutant:	Sediment Toxicity
LOE Subgroup:	Pollutant-Sediment
Matrix:	Sediment
Fraction:	None
Beneficial Use:	Warm Freshwater Habitat
Number of Samples:	1
Number of Exceedances:	1
Data and Information Type:	TOXICITY TESTING
Data Used to Assess Water Quality:	Data used to evaluate sediment toxicity comprise one sediment sample collected by the SWAMP in spring 2005. This sample displayed statistically significant toxicity during the Hyalella azteca test. Hyalella azteca growth was only 74% of the control.
Data Reference:	Data collected by the Surface Water Ambient Monitoring Program, San Francisco Bay Regional Water Quality Control Board. Years 4 and 5 Assessment
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	All waters shall be maintained free of toxic substances that are lethal to or that produce other detrimental responses in aquatic organisms. There shall be no chronic toxicity in ambient waters. Chronic toxicity is a detrimental biological effect on growth rate, reproduction, fertilization success, larval development, population abundance, community composition, or any other relevant measure of the health of an organism, population, or community.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) - San Francisco Bay Region (Region 2)
Evaluation Guideline:	Sediment toxicity was evaluated according to the SWAMP methodology. Sample toxicity was determined by comparing mean organism response in samples and in negative controls. Statistical evaluation (alpha = 0.05) and a default threshold of 80% of the control value were used to establish whether the sediment exhibited significant toxicity adversely impacting aquatic organisms.
Guideline Reference:	Revised approach to toxicity test acceptability criteria using a statistical performance assessment. Environmental Toxicology and Chemistry, vol. 16, No. 6, pp 1322?1329

Spatial Representation:	Data were collected at one sampling location at the lower part of Strawberry Creek.
Temporal Representation:	A sample was collected in spring season (April 2005).
Environmental Conditions:	
QAPP Information:	All samples were collected and analyzed using procedures comparable with the SWAMP Quality Assurance Management Plan (SWRCB, 2002).
QAPP Information Reference(s):	Quality Assurance Management Plan for the State of California's Surface Water Ambient Monitoring Program. Sacramento, CA. State Water Resources Control Board. SWAMP. December 2002 (1st version).

Line of Evidence (LOE) for Decision ID 43505, Toxicity

Region 2

Strawberry Creek (Alameda County)

LOE ID:	28819
Pollutant:	Toxicity
LOE Subgroup:	Pollutant-Water
Matrix:	Water
Fraction:	None
Beneficial Use:	Warm Freshwater Habitat
Number of Samples:	3
Number of Exceedances:	0
Data and Information Type:	TOXICITY TESTING
Data Used to Assess Water Quality:	Three samples were collected in 2005 to evaluate water toxicity at one monitoring location near the mouth of Strawberry Creek. The toxicity tests included survival and reproduction of Ceriodaphnia, survival and growth of fathead minnow, and growth of Selenastrum. None of the samples showed toxicity.
Data Reference:	Data collected by the Surface Water Ambient Monitoring Program. San Francisco Bay Regional Water Quality Control Board. Years 4 and 5 Assessment
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	All waters shall be maintained free of toxic substances that are lethal to or that produce other detrimental responses in aquatic organisms. There shall be no chronic toxicity in ambient waters. Chronic toxicity is a detrimental biological effect on growth rate, reproduction, fertilization success, larval development, population abundance, community composition, or any other relevant measure of the health of an organism, population, or community.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) - San Francisco Bay Region (Region 2)
Evaluation Guideline:	Water toxicity was evaluated according to the SWAMP methodology. The U.S.EPA whole effluent toxicity protocol (U.S.EPA 1994) was used to test the effect of water samples on three freshwater test organisms. Statistical evaluation (alpha = 0.05) and a default threshold of 80% of the control value were used to establish whether water exhibited significant toxicity adversely impacting aquatic organisms.
Guideline Reference:	Revised approach to toxicity test acceptability criteria using a statistical performance assessment. Environmental Toxicology and Chemistry. vol. 16. No. 6. pp 1322?1329 Short-Term Methods for Estimating the Chronic Toxicity of Effluents and Receiving Waters to Freshwater Organisms. EPA/600/4-91/002. Third Edition. July 1994
Spatial Representation:	Data were collected at one sampling location, STW010, (Strawberry Creek Park) on three (3) occasions, representative of the lower reach of the creek.
Temporal Representation:	SWAMP samples were collected during winter wet season (January), spring season (April), and dry season (June) of 2005.
Environmental Conditions:	
QAPP Information:	All samples were collected and analyzed using procedures comparable with the SWAMP Quality Assurance Management Plan (SWRCB, 2002).
QAPP Information Reference(s):	Quality Assurance Management Plan for the State of California's Surface Water Ambient Monitoring Program. Sacramento, CA. State Water Resources Control Board. SWAMP. December 2002 (1st version).

DECISION ID	43528	Region 2
Strawberry Creek (Alameda County)		

Pollutant: pH
Final Listing Decision: Do Not List on 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision: Do Not List on 303(d) list (TMDL required list)(2012)
Revision Status: Original
Impairment from Pollutant or Pollution: Pollutant

Regional Board Staff Conclusion: This pollutant is being considered for placement on the section 303(d) list under section 3.2 of the Listing Policy. Under section 3.2 a single line of evidence is necessary to assess listing status. One line of evidence is available in the administrative record to assess this pollutant. None of the samples exceed the water quality objective. Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against placing this water segment-pollutant combination on the section 303(d) list in the Water Quality Limited Segments category. This conclusion is based on the staff findings that: 1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy. 2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy. 3. None of six samples exceeded the water quality objective (Basin Plan) and this does not exceed the allowable frequency listed in Table 3.2 of the Listing Policy. 4. Pursuant to section 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.

Regional Board Staff Decision Recommendation: This is a decision previously approved by the State Water Resources Control Board and the USEPA. No new data were assessed by the Regional Board for the current. The decision has not changed.

Line of Evidence (LOE) for Decision ID 43528, pH	Region 2
Strawberry Creek (Alameda County)	

LOE ID: 28712
Pollutant: pH
LOE Subgroup: Pollutant-Water
Matrix: Water
Fraction: None
Beneficial Use: Cold Freshwater Habitat
Number of Samples: 6
Number of Exceedances: 0
Data and Information Type: PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality: Water quality assessment was conducted at the Strawberry Creek watershed as part of SWAMP study in 2004-2005. Continuous field monitoring at 15 minute increments of temperature, dissolved oxygen, pH and specific conductance was conducted to determine temporal variability in basic water quality at two locations. Continuous monitoring sondes were deployed 6 times at 2 monitoring locations during wet, spring and one dry season. The measured pH ranged from 7.0 to 8.5 and varied with season and location. The pH did not exceed the maximum or fall below the minimum during any sampling event.
Data Reference: [Data collected by the Surface Water Ambient Monitoring Program, San Francisco Bay Regional Water Quality Control Board. Years 4 and 5 Assessment](#)
SWAMP Data: SWAMP
Water Quality Objective/Criterion: The pH shall not be depressed below 6.5 nor raised above 8.5. This encompasses the pH range usually found in waters within the basin. Controllable water quality factors shall not cause changes greater than 0.5 units in normal ambient pH levels.

Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) - San Francisco Bay Region (Region 2)
Evaluation Guideline:	
Guideline Reference:	
Spatial Representation:	pH was measured at two sites located on the mainstem of Strawberry Creek that are representative of the entire creek length.
Temporal Representation:	At all locations the SWAMP performed continuous monitoring of pH at 15 minute intervals lasting 7-8 days during spring (March 2004), summer dry season (July 2004), and winter wet season (January 2005).
Environmental Conditions:	
QAPP Information:	All samples were collected and analyzed using procedures comparable with the SWAMP Quality Assurance Management Plan (SWRCB 2002).
QAPP Information Reference(s):	

Draft California 2016 Integrated Report (303(d) List/305(b) Report)

Supporting Information

Regional Board 2 - San Francisco Bay Region

Water Body Name: Tennessee Valley Creek
Water Body ID: CAR2013001420080626103904
Water Body Type: River & Stream

DECISION ID 34964 **Region 2**
Tennessee Valley Creek

Pollutant: Benthic-Macroinvertebrate Bioassessments | Oxygen, Dissolved | Temperature, water
Final Listing Decision: Do Not List on 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision: Do Not List on 303(d) list (TMDL required list)(2012)
Revision Status Original
Impairment from Pollutant or Pollution: Pollutant

Regional Board Staff Conclusion: This water body is being considered for listing under section 3.2 of the Listing Policy. Under section 3.2 a single line of evidence is necessary to assess listing status. Three lines of evidence are available in the administrative record to assess this water body. Based on the readily available data for this water body, the weight of evidence indicates that there is sufficient justification against placing this water segment-pollutant combination on the section 303(d) list in the Water Quality Limited Segments category. This conclusion is based on the staff findings that: 1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy. 2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy. 3. Dissolved oxygen and temperature measurements did not exceed the Basin Plan objectives for waters designated as cold water habitat and this does not exceed the allowable frequency listed in Table 3.2 of the Listing Policy. In addition, the macroinvertebrate data indicated excellent water quality conditions. 4. Pursuant to section 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.

Regional Board Staff Decision Recommendation: This is a decision previously approved by the State Water Resources Control Board and the USEPA. No new data were assessed by the Regional Board for the current. The decision has not changed.

Line of Evidence (LOE) for Decision ID 34964, Multiple Pollutants **Region 2**
Tennessee Valley Creek

LOE ID: 5718
Pollutant: Temperature, water
LOE Subgroup: Pollutant-Water
Matrix: Water
Fraction: None
Beneficial Use: Cold Freshwater Habitat
Number of Samples: 3
Number of Exceedances: 0
Data and Information Type: PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality: Water quality assessment was conducted at Tennessee Valley Creek as part of SWAMP study in 2005. Continuous field monitoring at 15 minute increments of temperature, dissolved oxygen, pH and specific conductance was conducted to determine temporal variability in basic water quality at one location.

Data Reference:	<p>The estimated 7-day mean temperature was 12.52°C in spring, 14.18°C during dry summer season, and 10.3 °C during wet season. The 14.8 °C criterion for coho salmon and the 17 °C criterion for steelhead were never exceeded.</p> <p>Data collected by the Surface Water Ambient Monitoring Program, San Francisco Bay Regional Water Quality Control Board. Years 4 and 5 Assessment</p>
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	<p>Temperature objectives for enclosed bays and estuaries are specified in the "Water Quality Control Plan for Control of Temperature in the Coastal and Interstate Waters and Enclosed Bays of California" including any revisions to the plan. In addition, the following temperature objectives apply to surface waters: The natural receiving water temperature of intrastate waters shall not be altered unless it can be demonstrated to the satisfaction of the Regional Water Board that such alteration in temperature does not adversely affect beneficial uses.</p> <p>The temperature of any cold or warm freshwater habitat shall not be increased by more than 5°F (2.8°C) above natural receiving water temperature.</p>
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) - San Francisco Bay Region (Region 2)
Evaluation Guideline:	<p>Sullivan et al. (2000) reviewed a wide range of studies incorporating information from laboratory-based research, field observations, and risk assessment approaches and developed criteria for assessing temperature risk to aquatic life. The 7-day mean temperature (maximum value of the 7-day moving average of the daily mean temperature) of 14.8°C was established as the upper threshold criterion for coho salmon and 17.0°C for steelhead trout. The risk assessment approach used by Sullivan et al. (2000) suggests that temperatures exceeding the above thresholds will cause 10% reduction in average growth compared to optimal conditions.</p>
Guideline Reference:	An Analysis of the Effects of Temperature on Salmonids of the Pacific Northwest with Implications for Selecting Temperature Criteria
Spatial Representation:	Temperature was measured at one site located in the NW part of the Golden Gate National Recreation Area.
Temporal Representation:	Temperature was recorded at 15 minute intervals over 6 to 7 days during spring (April 2005), summer dry season (August 2005), and winter wet season (January 2006).
Environmental Conditions:	
QAPP Information:	All samples were collected and analyzed using procedures comparable with the SWAMP Quality Assurance Management Plan (SWRCB 2002).
QAPP Information Reference(s):	

Line of Evidence (LOE) for Decision ID 34964, Multiple Pollutants
Tennessee Valley Creek

Region 2

LOE ID:	5855
Pollutant:	Benthic-Macroinvertebrate Bioassessments
LOE Subgroup:	Population/Community Degradation
Matrix:	Not Specified
Fraction:	None
Beneficial Use:	Cold Freshwater Habitat
Number of Samples:	1
Number of Exceedances:	0
Data and Information Type:	Benthic macroinvertebrate surveys
Data Used to Assess Water Quality:	<p>Benthic macroinvertebrates were sampled from one site in the Tennessee Valley Creek watershed in April 2005 by the SWAMP program. The flow in the creek is intermittent. Benthic macroinvertebrate assemblage metrics were no different to values observed at reference sites in ephemeral creeks and indicated excellent conditions. Taxa richness score and % sensitive EPT were both 27 and the combined Human Disturbance Index was 0.</p>

Data Reference:	Data collected by the Surface Water Ambient Monitoring Program, San Francisco Bay Regional Water Quality Control Board. Years 4 and 5 Assessment
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	All waters shall be maintained free of toxic substances in concentrations that are lethal to or that produce significant alterations in population or community ecology or receiving water biota. In addition, the health and life history characteristics of aquatic organisms in waters affected by controllable water quality factors shall not differ significantly from those for the same waters in areas unaffected by controllable water quality factors.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) - San Francisco Bay Region (Region 2)
Evaluation Guideline:	Benthic macroinvertebrate assemblage metric scores that are within the range of scores for minimally disturbed reference sites indicate no substantial alterations in community ecology. Taxa richness values at reference sites sampled by the SWAMP program between 2001 and 2003 ranged from 28 to 59. Reference conditions determined for ephemeral streams, such as Tennessee Valley Creek, usually exhibit taxa richness > 28 and % sensitive EPT > 21. An ephemeral stream could be described as in - excellent condition - if there is no difference between the metrics measured at the site and those established for reference sites. An ephemeral stream will be described as in - good condition - if the site metrics indicate minor loss of bio-integrity but still a good structure and function, and sensitive species are present in abundance.
Guideline Reference:	Water Quality Monitoring and Bioassessment in Nine San Francisco Bay Region Watersheds: Walker Creek, Lagunitas Creek, San Leandro Creek, Wildcat Creek/San Pablo Creek, Suisun Creek, Arroyo Las Positas, Pescadero Creek/Butano Creek, San Gregorio Creek, and Stevens Creek/Permanente Creek. Oakland, CA: Surface Water Ambient Monitoring Program, San Francisco Bay Regional Water Quality Control Board
Spatial Representation:	Benthic macroinvertebrates were sampled from one site located in the NW part of the Golden Gate National Recreation Area.
Temporal Representation:	Benthic macroinvertebrates were sampled once in April, 2005.
Environmental Conditions:	
QAPP Information:	All samples were collected and analyzed using procedures comparable with the SWAMP Quality Assurance Management Plan (SWRCB 2002).
QAPP Information Reference(s):	

Line of Evidence (LOE) for Decision ID 34964, Multiple Pollutants

Region 2

Tennessee Valley Creek

LOE ID:	5717
Pollutant:	Oxygen, Dissolved
LOE Subgroup:	Pollutant-Water
Matrix:	Water
Fraction:	None
Beneficial Use:	Cold Freshwater Habitat
Number of Samples:	3
Number of Exceedances:	0
Data and Information Type:	PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality:	Water quality assessment was conducted at Tennessee Valley Creek as part of SWAMP study in 2005. Continuous field monitoring at 15 minute increments of temperature, dissolved oxygen, pH and specific conductance was conducted to determine temporal variability in basic water quality at one location. The 7 day average minimum concentration of dissolved oxygen was 8 mg/L during dry season, 10.26 mg/L during spring season, and 10.77 mg/L during winter wet season. All DO measurements met the water quality objective of 7 mg/L.
Data Reference:	Data collected by the Surface Water Ambient Monitoring Program, San Francisco Bay Regional Water Quality Control Board. Years 4 and 5 Assessment

SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	The numeric water quality objective for dissolved oxygen is 7.0 mg/L minimum for waters designated as cold water habitat. The median dissolved oxygen concentration for any three consecutive months shall not be less than 80 percent of the dissolved oxygen content at saturation.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) - San Francisco Bay Region (Region 2)
Evaluation Guideline:	
Guideline Reference:	
Spatial Representation:	Dissolved oxygen concentrations were measured at one site located in the NW part of the Golden Gate National Recreation Area.
Temporal Representation:	DO was recorded at 15 minute intervals over 6 to 7 days during spring (April 2005), summer dry season (August 2005), and winter wet season (January 2006).
Environmental Conditions:	
QAPP Information:	All samples were collected and analyzed using procedures comparable with the SWAMP Quality Assurance Management Plan (SWRCB 2002).
QAPP Information Reference(s):	

DECISION ID	43608	Region 2
Tennessee Valley Creek		

Pollutant:	pH
Final Listing Decision:	Do Not List on 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision:	Do Not List on 303(d) list (TMDL required list)(2012)
Revision Status	Original
Impairment from Pollutant or Pollution:	Pollutant

Regional Board Staff Conclusion:	This pollutant is being considered for placement on the section 303(d) list under section 3.2 of the Listing Policy. Under section 3.2 a single line of evidence is necessary to assess listing status. One line of evidence is available in the administrative record to assess this pollutant. None of the samples exceed the water quality objective. Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against placing this water segment-pollutant combination on the section 303(d) list in the Water Quality Limited Segments category. This conclusion is based on the staff findings that: 1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy. 2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy. 3. None of the three samples exceeded the water quality objectives (Basin Plan) and this does not exceed the allowable frequency listed in Table 3.2 of the Listing Policy. A minimum of five samples is needed. 4. Pursuant to section 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.
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Regional Board Staff Decision Recommendation:	This is a decision previously approved by the State Water Resources Control Board and the USEPA. No new data were assessed by the Regional Board for the current. The decision has not changed.
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Line of Evidence (LOE) for Decision ID 43608, pH	Region 2
Tennessee Valley Creek	

LOE ID:	28231
Pollutant:	pH
LOE Subgroup:	Pollutant-Water
Matrix:	Water
Fraction:	None
Beneficial Use:	Cold Freshwater Habitat

Number of Samples:	3
Number of Exceedances:	0
Data and Information Type:	PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality:	Water quality assessment was conducted at the Tennessee Creek watershed as part of SWAMP study in 2005-2006. Continuous field monitoring at 15 minute increments of temperature, dissolved oxygen, pH and specific conductance was conducted to determine temporal variability in basic water quality at between three and seven sites. Continuous monitoring sondes were deployed 3 times at one monitoring site during wet, spring and dry season of 2005-2006. pH ranged from 6.9 to 8.1 and did not exceed the recommended range.
Data Reference:	Data collected by the Surface Water Ambient Monitoring Program, San Francisco Bay Regional Water Quality Control Board. Years 4 and 5 Assessment
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	The pH shall not be depressed below 6.5 nor raised above 8.5. This encompasses the pH range usually found in waters within the basin. Controllable water quality factors shall not cause changes greater than 0.5 units in normal ambient pH levels.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) - San Francisco Bay Region (Region 2)
Evaluation Guideline:	
Guideline Reference:	
Spatial Representation:	Monitoring was conducted at TVY030 site.
Temporal Representation:	In 2005-2006 the SWAMP Program performed continuous monitoring of pH at 15-minute intervals lasting approximately one week during spring (April 2005), summer (August 2005) and winter wet season (January 2006).
Environmental Conditions:	
QAPP Information:	The QA/QC procedure was comparable with SWAMP'S Quality Assurance Management Plan of 2002.
QAPP Information Reference(s):	

Draft California 2016 Integrated Report (303(d) List/305(b) Report)

Supporting Information

Regional Board 2 - San Francisco Bay Region

Water Body Name: Webb Creek
Water Body ID: CAR2013001220080626103512
Water Body Type: River & Stream

DECISION ID 34965 **Region 2**
Webb Creek

Pollutant: Benthic-Macroinvertebrate Bioassessments | Oxygen, Dissolved | Temperature, water
Final Listing Decision: Do Not List on 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision: Do Not List on 303(d) list (TMDL required list)(2012)
Revision Status Original
Impairment from Pollutant or Pollution: Pollutant

Regional Board Staff Conclusion: This water body is being considered for listing under section 3.2 of the Listing Policy. Under section 3.2 a single line of evidence is necessary to assess listing status. Three lines of evidence are available in the administrative record to assess this water body. Based on the readily available data for this water body, the weight of evidence indicates that there is sufficient justification against placing this water segment-pollutant combination on the section 303(d) list in the Water Quality Limited Segments category. This conclusion is based on the staff findings that: 1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy. 2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy. 3. Temperature and dissolved oxygen measurements at all 3 continuous deployments did not exceed the applicable water quality objectives for waters designated as cold water habitat and this does not exceed the allowable frequency listed in Table 3.2 of the Listing Policy. In addition, the macroinvertebrate data indicated excellent water quality conditions. 4. Pursuant to section 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.

Regional Board Staff Decision Recommendation: This is a decision previously approved by the State Water Resources Control Board and the USEPA. No new data were assessed by the Regional Board for the current. The decision has not changed.

Line of Evidence (LOE) for Decision ID 34965, Multiple Pollutants **Region 2**

Webb Creek

LOE ID: 5856
Pollutant: Benthic-Macroinvertebrate Bioassessments
LOE Subgroup: Population/Community Degradation
Matrix: Water
Fraction: None

Beneficial Use: Cold Freshwater Habitat

Number of Samples: 1
Number of Exceedances: 0

Data and Information Type: Benthic macroinvertebrate surveys
Data Used to Assess Water Quality: Benthic macroinvertebrates were sampled from one site in the Webb Creek watershed in April 2005 by the SWAMP program. Benthic macroinvertebrate assemblage metrics were no different to values observed at reference sites in perennial creeks and indicated excellent conditions. Taxa richness score was 39 and % sensitive EPT was 26.

Data Reference:	Data collected by the Surface Water Ambient Monitoring Program, San Francisco Bay Regional Water Quality Control Board. Years 4 and 5 Assessment
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	All waters shall be maintained free of toxic substances in concentrations that are lethal to or that produce significant alterations in population or community ecology or receiving water biota. In addition, the health and life history characteristics of aquatic organisms in waters affected by controllable water quality factors shall not differ significantly from those for the same waters in areas unaffected by controllable water quality factors.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) - San Francisco Bay Region (Region 2)
Evaluation Guideline:	Benthic macroinvertebrate assemblage metric scores that are within the range of scores for minimally disturbed reference sites indicate no substantial alterations in community ecology. Taxa richness values at reference sites sampled by the SWAMP program between 2001 and 2003 ranged from 28 to 59. Reference conditions determined for perennial streams such as Webb Creek, usually exhibit taxa richness > 38 and % sensitive EPT > 44. A perennial stream could be described as in - excellent condition - if there is no difference between the metrics measured at the site and those established for reference sites. A perennial stream will be described as in - good condition - if the site metrics indicate minor loss of bio-integrity but still a good structure and function, and sensitive species are present in abundance.
Guideline Reference:	Water Quality Monitoring and Bioassessment in Nine San Francisco Bay Region Watersheds: Walker Creek, Lagunitas Creek, San Leandro Creek, Wildcat Creek/San Pablo Creek, Suisun Creek, Arroyo Las Positas, Pescadero Creek/Butano Creek, San Gregorio Creek, and Stevens Creek/Permanente Creek. Oakland, CA: Surface Water Ambient Monitoring Program, San Francisco Bay Regional Water Quality Control Board
Spatial Representation:	Benthic macroinvertebrates were sampled from one site located upstream from Hwy 1.
Temporal Representation:	Benthic macroinvertebrates were sampled once in April, 2005.
Environmental Conditions:	
QAPP Information:	All samples were collected and analyzed using procedures comparable with the SWAMP Quality Assurance Management Plan (SWRCB 2002).
QAPP Information Reference(s):	

Line of Evidence (LOE) for Decision ID 34965, Multiple Pollutants

Region 2

Webb Creek

LOE ID:	5715
Pollutant:	Temperature, water
LOE Subgroup:	Pollutant-Water
Matrix:	Water
Fraction:	None
Beneficial Use:	Cold Freshwater Habitat
Number of Samples:	3
Number of Exceedances:	0
Data and Information Type:	PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality:	<p>Water quality assessment was conducted at Webb Creek as part of SWAMP study in 2005. Continuous field monitoring at 15 minute increments of temperature, dissolved oxygen, pH and specific conductance was conducted to determine temporal variability in basic water quality at one location.</p> <p>The estimated 7-day mean temperature was 11.79°C in spring, 13.69°C during dry summer season, and 10.51 °C during wet season. The 14.8 °C criterion for coho salmon and the 17 °C criterion for steelhead were never exceeded.</p>
Data Reference:	Data collected by the Surface Water Ambient Monitoring Program, San Francisco Bay Regional Water Quality Control Board. Years 4 and 5 Assessment

SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	<p>Temperature objectives for enclosed bays and estuaries are specified in the "Water Quality Control Plan for Control of Temperature in the Coastal and Interstate Waters and Enclosed Bays of California" including any revisions to the plan. In addition, the following temperature objectives apply to surface waters: The natural receiving water temperature of intrastate waters shall not be altered unless it can be demonstrated to the satisfaction of the Regional Water Board that such alteration in temperature does not adversely affect beneficial uses.</p> <p>The temperature of any cold or warm freshwater habitat shall not be increased by more than 5°F (2.8°C) above natural receiving water temperature.</p>
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) - San Francisco Bay Region (Region 2)
Evaluation Guideline:	Sullivan et al. (2000) reviewed a wide range of studies incorporating information from laboratory-based research, field observations, and risk assessment approaches and developed criteria for assessing temperature risk to aquatic life. The 7-day mean temperature (maximum value of the 7-day moving average of the daily mean temperature) of 14.8°C was established as the upper threshold criterion for coho salmon and 17.0°C for steelhead trout. The risk assessment approach used by Sullivan et al. (2000) suggests that temperatures exceeding the above thresholds will cause 10% reduction in average growth compared to optimal conditions.
Guideline Reference:	An Analysis of the Effects of Temperature on Salmonids of the Pacific Northwest with Implications for Selecting Temperature Criteria
Spatial Representation:	Temperature was measured at one site located just upstream from Hwy 1.
Temporal Representation:	Temperature was recorded at 15 minute intervals over 6 to 7 days during spring (April 2005), summer dry season (August 2005), and winter wet season (January 2006).
Environmental Conditions:	
QAPP Information:	All samples were collected and analyzed using procedures comparable with the SWAMP Quality Assurance Management Plan (SWRCB 2002).
QAPP Information Reference(s):	

Line of Evidence (LOE) for Decision ID 34965, Multiple Pollutants

Region 2

Webb Creek

LOE ID:	5716
Pollutant:	Oxygen, Dissolved
LOE Subgroup:	Pollutant-Water
Matrix:	Water
Fraction:	None
Beneficial Use:	Cold Freshwater Habitat
Number of Samples:	3
Number of Exceedances:	0
Data and Information Type:	PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality:	<p>Water quality assessment was conducted at Webb Creek as part of SWAMP study in 2005. Continuous field monitoring at 15 minute increments of temperature, dissolved oxygen, pH and specific conductance was conducted to determine temporal variability in basic water quality at one location.</p> <p>The 7 day average minimum concentration of dissolved oxygen was 10.72 mg/L during dry season, 11.66 mg/L during spring season, and 11.4 mg/L during winter wet season. All DO measurements met the water quality objective of 7 mg/L.</p>
Data Reference:	Data collected by the Surface Water Ambient Monitoring Program, San Francisco Bay Regional Water Quality Control Board, Years 4 and 5 Assessment
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	The numeric water quality objective for dissolved oxygen is 7.0 mg/L minimum for waters

designated as cold water habitat. The median dissolved oxygen concentration for any three consecutive months shall not be less than 80 percent of the dissolved oxygen content at saturation.

Objective/Criterion Reference:

[Water Quality Control Plan \(Basin Plan\) - San Francisco Bay Region \(Region 2\)](#)

Evaluation Guideline:

Guideline Reference:

Spatial Representation:

Dissolved oxygen concentrations were measured at one site located just upstream from Hwy 1.

Temporal Representation:

DO was recorded at 15 minute intervals over 6 to 7 days during spring (April 2005), summer dry season (August 2005), and winter wet season (January 2006).

Environmental Conditions:

QAPP Information:

All samples were collected and analyzed using procedures comparable with the SWAMP Quality Assurance Management Plan (SWRCB 2002).

QAPP Information Reference(s):

DECISION ID

43531

Region 2

Webb Creek

Pollutant:

pH

Final Listing Decision:

Do Not List on 303(d) list (TMDL required list)

Last Listing Cycle's Final

Do Not List on 303(d) list (TMDL required list)(2012)

Listing Decision:

Revision Status

Original

Impairment from Pollutant or

Pollutant

Pollution:

Regional Board Staff

Conclusion:

This pollutant is being considered for placement on the section 303(d) list under section 3.2 of the Listing Policy. Under section 3.2 a single line of evidence is necessary to assess listing status. One line of evidence is available in the administrative record to assess this pollutant. None of the samples exceed the water quality objective. Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against placing this water segment-pollutant combination on the section 303(d) list in the Water Quality Limited Segments category. This conclusion is based on the staff findings that: 1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy. 2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy. 3. None of the three samples exceeded the water quality objective (Basin Plan) and this does not exceed the allowable frequency listed in Table 3.2 of the Listing Policy. A minimum of five samples is needed. 4. Pursuant to section 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.

Regional Board Staff Decision

Recommendation:

This is a decision previously approved by the State Water Resources Control Board and the USEPA. No new data were assessed by the Regional Board for the current. The decision has not changed.

Line of Evidence (LOE) for Decision ID 43531, pH

Region 2

Webb Creek

LOE ID:

28226

Pollutant:

pH

LOE Subgroup:

Pollutant-Water

Matrix:

Water

Fraction:

None

Beneficial Use:

Cold Freshwater Habitat

Number of Samples:

3

Number of Exceedances:

0

Data and Information Type:	PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality:	In 2005 the SWAMP Program performed continuous monitoring of pH at 15-minute intervals at one monitoring site in Webb Creek. All pH measurements were within the recommended range.
Data Reference:	Data collected by the Surface Water Ambient Monitoring Program, San Francisco Bay Regional Water Quality Control Board. Years 4 and 5 Assessment
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	The pH shall not be depressed below 6.5 nor raised above 8.5. This encompasses the pH range usually found in waters within the basin. Controllable water quality factors shall not cause changes greater than 0.5 units in normal ambient pH levels.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) - San Francisco Bay Region (Region 2)
Evaluation Guideline:	
Guideline Reference:	
Spatial Representation:	Measurements were taken at the WBB010 monitoring location.
Temporal Representation:	pH was recorded during spring, dry, and wet season of 2005-2006 monitoring period.
Environmental Conditions:	
QAPP Information:	The QA/QC procedure was comparable with SWAMP'S Quality Assurance Management Plan of 2002.
QAPP Information Reference(s):	

Draft California 2016 Integrated Report (303(d) List/305(b) Report)

Supporting Information

Regional Board 2 - San Francisco Bay Region

Water Body Name: Almaden Lake
Water Body ID: CAL2054005020080714115011
Water Body Type: Lake & Reservoir

DECISION ID	35039	Region 2
Almaden Lake		

Pollutant: Mercury
Final Listing Decision: Do Not Delist from 303(d) list (being addressed with USEPA approved TMDL)
Last Listing Cycle's Final Listing Decision: List on 303(d) list (TMDL required list)(2012)
Revision Status Revised
Sources: Atmospheric Deposition | Mine Tailings
TMDL Name: Guadalupe River Watershed Mercury
TMDL Project Code: 11
Date TMDL Approved by USEPA: 06/01/2010
Impairment from Pollutant or Pollution: Pollutant

Regional Board Staff Conclusion: This pollutant is being considered for removal on the CWA section 303(d) List under sections 2.2 and 4.5 of the Listing Policy.

Two lines of evidence are available in the administrative record to assess this pollutant.

Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against removing this water segment-pollutant combination from the CWA section 303(d) List. There is sufficient justification to place it in the Being Addressed portion of the CWA 303(d) List because a TMDL has been completed and approved by RWQCB and USEPA, and is expected to result in attainment of the standard.

This conclusion is based on the staff findings that:

1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy.
2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy.
3. Twenty of twenty samples exceeded the objective and these exceed the allowable frequency listed in Table 4.1 of the Listing Policy.
4. The Guadalupe River Watershed mercury TMDL was approved by USEPA on 6/1/2010.
5. Pursuant to section 4.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.

Regional Board Staff Decision Recommendation: After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be removed from the section 303(d) list because applicable water quality standards for the pollutant are being exceeded.

Line of Evidence (LOE) for Decision ID 35039, Mercury	Region 2
Almaden Lake	

LOE ID: 5738
Pollutant: Mercury
LOE Subgroup: Pollutant-Tissue
Matrix: Tissue

Fraction:	None
Beneficial Use:	Commercial or recreational collection of fish, shellfish, or organisms
Number of Samples:	20
Number of Exceedances:	20
Data and Information Type:	Fish tissue analysis
Data Used to Assess Water Quality:	The 20 fish tissue samples were collected in 2004 to support development of the Guadalupe River watershed mercury TMDL. The fish were all largemouth bass ranging in lengths from 305 to 520 mm and weighing between 490 and 2380 grams. The mercury concentrations ranged from 1.1 to 3.78 mg/kg. All 20 fish tissue samples exceeded the criterion.
Data Reference:	Technical Memorandum 5.3.2 Data Collection Report, Volume II, prepared by TetraTech Inc. Prepared for Santa Clara Valley Water District. February 8, 2005
SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	The Basin Plan contains the following objective: Many pollutants can accumulate on particles, in sediment, or bioaccumulate in fish and other aquatic organisms. Controllable water quality factors shall not cause a detrimental increase in concentrations of toxic substances found in bottom sediments or aquatic life. Effects on aquatic organisms, wildlife, and human health will be considered.
Objective/Criterion Reference:	In 2001, U.S. EPA adopted a fish tissue methylmercury criterion of 0.3 mg/kg (in whole fish) for the protection of human health. Water Quality Criterion For The Protection of Human Health: Methylmercury 2002 303(d) List Update Reference # 87 Water Quality Control Plan (Basin Plan) - San Francisco Bay Region (Region 2)
Evaluation Guideline:	
Guideline Reference:	Water Quality Criterion For The Protection of Human Health: Methylmercury 2002 303(d) List Update Reference # 87
Spatial Representation:	These fish were caught throughout the reservoir, and fish of this size integrate spatially because they consume prey from a wide spatial range.
Temporal Representation:	Fish tissue data were collected for this waterbody in late summer 2004. These adult fish integrate mercury concentrations over several years.
Environmental Conditions:	
QAPP Information:	There is a well-developed QA plan for these data Tetra Tech, Inc. (Tetra Tech) 2003. Technical Memorandum 7.4.2, Quality Assurance Plan, Prepared for Santa Clara Valley Water District. June 13.
QAPP Information Reference(s):	Technical Memorandum 7.4.2. Quality Assurance Plan. Prepared for Santa Clara Valley Water District. June 13

Line of Evidence (LOE) for Decision ID 35039, Mercury

Region 2

Almaden Lake

LOE ID:	91030
Pollutant:	Mercury
LOE Subgroup:	Pollutant-Tissue
Matrix:	Tissue
Fraction:	Fish fillet
Beneficial Use:	Commercial or recreational collection of fish, shellfish, or organisms
Number of Samples:	1
Number of Exceedances:	1
Data and Information Type:	Fish tissue analysis
Data Used to Assess Water Quality:	State Water Board staff assessed SWAMP data for Almaden Lake to determine beneficial

use support and results are as follows: 1 of 1 samples exceed the criterion for Mercury. Composites were generated from largemouth bass (11 composites - 1 fish per composite) and common carp (2 composites - 5 fish per composite). Composites were not spatially independent (as defined in the Listing Policy) and so were averaged by species. The 1 sample for largemouth bass exceeded the criterion. One largemouth bass and two common carp composites could not be used in the assessment due to total fish lengths that did not fall within lengths noted in the guideline.

Data Reference:

[Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Survey. A Report of the Surface Water Ambient Monitoring Program \(SWAMP\). California State Water Resources Control Board, Sacramento, CA Statewide Lakes Sportfish Contamination Study 2007 2008](#)
[Contaminants in Fish from California Lakes and Reservoirs, 2007-2008: Summary Report on a Two-Year Screening Survey](#)
[Cruise report for the Surface Water Ambient Monitoring Program \(SWAMP\) bioaccumulation screening study in California lakes and reservoirs year two \(FY 07-08\). Sampling dates: April 2008 - November 2008.](#)

SWAMP Data:

SWAMP

Water Quality Objective/Criterion:

Water Quality Control Plan for the San Francisco Bay Basin (2013): Controllable water quality factors shall not cause a detrimental increase in concentrations of toxic substances found in bottom sediments or aquatic life. Effects on aquatic organisms, wildlife, and human health will be considered.

Objective/Criterion Reference:

[Water Quality Control Plan \(Basin Plan\) San Francisco Bay Basin \(Region 2\)](#)

Evaluation Guideline:

The USEPA 304(a) recommended water quality criterion for concentrations of methylmercury in fish tissue of trophic level 4 fish (150 - 500 mm; fillet wet weight) is 0.2 mg/kg. This assumes a consumption rate of 32 g/day. (USEPA, 2001)

Guideline Reference:

[Water Quality Criterion for the Protection of Human Health: Methylmercury. Final. United States Environmental Protection Agency Office of Science and Technology Office of Water. EPA-823-R-01-001. January 2001](#)

Spatial Representation:

Data for this assessment unit was collected by one monitoring project: (SWB_FishLk)

Temporal Representation:

Data was collected on a single day 10/21/2008.

Environmental Conditions:

Staff is not aware of any special conditions that might affect interpretation of the data.

QAPP Information:

Samples were collected, processed, and analyzed in accordance with the methods described in Quality Assurance Project Plan "Screening Study of Bioaccumulation in California Lakes and Reservoirs." (SWAMP, 2008).

QAPP Information Reference(s):

[Quality Assurance Project Plan Screening Study of Bioaccumulation in California Lakes and Reservoirs. Moss Landing Marine Labs. Prepared for SWAMP BOG, 49 pages plus appendices and attachments](#)

DECISION ID		61187	Region 2
Almaden Lake			
Pollutant:	Aldrin		
Final Listing Decision:	Do Not List on 303(d) list (TMDL required list)		
Last Listing Cycle's Final Listing Decision:	New Decision		
Revision Status	Revised		
Impairment from Pollutant or Pollution:	Pollutant		
Regional Board Staff Conclusion:	<p>This pollutant is being considered for placement on the CWA section 303(d) List under section 3.1 of the Listing Policy. Under section 3.1 a single line of evidence is necessary to assess listing status. Two lines of evidence are available in the administrative record to assess this pollutant. Zero of one samples exceed the guideline.</p> <p>Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against placing this water segment-pollutant combination on the CWA section 303(d) List.</p>		

This conclusion is based on the staff findings that:

1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy.
2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy.
3. Zero of one samples exceed the guideline and this sample size is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating. A minimum of 16 samples is needed to determine if a beneficial use is fully supported using table 3.1.
4. Pursuant to SECTION 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.

Regional Board Staff Decision Recommendation: After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be placed on the section 303(d) list. The readily available data and information is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating.

Line of Evidence (LOE) for Decision ID 61187, Aldrin

Region 2

Almaden Lake

LOE ID: 91021

Pollutant: Aldrin
LOE Subgroup: Pollutant-Tissue
Matrix: Tissue
Fraction: Fish fillet

Beneficial Use: Warm Freshwater Habitat

Number of Samples: 1
Number of Exceedances: 0

Data and Information Type: Fish tissue analysis
Data Used to Assess Water Quality: State Water Board staff assessed SWAMP data for Almaden Lake to determine beneficial use support and results are as follows: 0 of 1 samples exceed the criterion for Aldrin. Two composites (5 fish per composite) were generated from one species: Common Carp. Composites were not spatially independent (as defined in the Listing Policy) and so were averaged. Details of the compositing protocol can be found in the March 2009 report entitled: "Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Study" (SWAMP, 2009).

Data Reference: [Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Survey. A Report of the Surface Water Ambient Monitoring Program \(SWAMP\). California State Water Resources Control Board, Sacramento, CA Statewide Lakes Sportfish Contamination Study 2007 2008](#)
[Contaminants in Fish from California Lakes and Reservoirs, 2007-2008: Summary Report on a Two-Year Screening Survey](#)
[Cruise report for the Surface Water Ambient Monitoring Program \(SWAMP\) bioaccumulation screening study in California lakes and reservoirs year two \(FY 07-08\). Sampling dates: April 2008 - November 2008.](#)

SWAMP Data: SWAMP

Water Quality Objective/Criterion: Water Quality Control Plan for the San Francisco Bay Basin: Controllable water quality factors shall not cause a detrimental increase in concentrations of toxic substances found in bottom sediments or aquatic life. Effects on aquatic organisms, wildlife, and human health will be considered.

Objective/Criterion Reference: [Water Quality Control Plan \(Basin Plan\) San Francisco Bay Basin \(Region 2\)](#)

Evaluation Guideline: National Academy of Science guidelines (NAS 1972) establish a maximum Aldrin concentration of 100 ug/Kg (wet weight) in tissue samples for protection of aquatic life from bioaccumulation of toxic substances.

Guideline Reference: [National Academy of Sciences. Water Quality Criteria 1972. EPA-R3-73-033. Washington, D.C.: U.S. Environmental Protection Agency](#)

Spatial Representation:	Data for this assessment unit was collected by one monitoring project: (SWB_FishLk)
Temporal Representation:	Data was collected on a single day 10/21/2008.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	Samples were collected, processed, and analyzed in accordance with the methods described in Quality Assurance Project Plan "Screening Study of Bioaccumulation in California Lakes and Reservoirs." (SWAMP, 2008).
QAPP Information Reference(s):	Quality Assurance Project Plan Screening Study of Bioaccumulation in California Lakes and Reservoirs. Moss Landing Marine Labs. Prepared for SWAMP BOG. 49 pages plus appendices and attachments

Line of Evidence (LOE) for Decision ID 61187, Aldrin

Region 2

Almaden Lake

LOE ID:	91022
Pollutant:	Aldrin
LOE Subgroup:	Pollutant-Tissue
Matrix:	Tissue
Fraction:	Fish fillet
Beneficial Use:	Cold Freshwater Habitat
Number of Samples:	1
Number of Exceedances:	0
Data and Information Type:	Fish tissue analysis
Data Used to Assess Water Quality:	State Water Board staff assessed SWAMP data for Almaden Lake to determine beneficial use support and results are as follows: 0 of 1 samples exceed the criterion for Aldrin. Two composites (5 fish per composite) were generated from one species: Common Carp. Composites were not spatially independent (as defined in the Listing Policy) and so were averaged. Details of the compositing protocol can be found in the March 2009 report entitled: "Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Study" (SWAMP, 2009).
Data Reference:	Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Survey. A Report of the Surface Water Ambient Monitoring Program (SWAMP). California State Water Resources Control Board, Sacramento, CA Statewide Lakes Sportfish Contamination Study 2007 2008 Contaminants in Fish from California Lakes and Reservoirs, 2007-2008: Summary Report on a Two-Year Screening Survey Cruise report for the Surface Water Ambient Monitoring Program (SWAMP) bioaccumulation screening study in California lakes and reservoirs year two (FY 07-08). Sampling dates: April 2008 - November 2008.
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	Water Quality Control Plan for the San Francisco Bay Basin: Controllable water quality factors shall not cause a detrimental increase in concentrations of toxic substances found in bottom sediments or aquatic life. Effects on aquatic organisms, wildlife, and human health will be considered.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	National Academy of Science guidelines (NAS 1972) establish a maximum Aldrin concentration of 100 ug/Kg (wet weight) in tissue samples for protection of aquatic life from bioaccumulation of toxic substances.
Guideline Reference:	National Academy of Sciences. Water Quality Criteria 1972. EPA-R3-73-033. Washington, D.C.: U.S. Environmental Protection Agency
Spatial Representation:	Data for this assessment unit was collected by one monitoring project: (SWB_FishLk)
Temporal Representation:	Data was collected on a single day 10/21/2008.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	Samples were collected, processed, and analyzed in accordance with the methods

QAPP Information Reference(s):

described in Quality Assurance Project Plan "Screening Study of Bioaccumulation in California Lakes and Reservoirs." (SWAMP, 2008).
[Quality Assurance Project Plan Screening Study of Bioaccumulation in California Lakes and Reservoirs. Moss Landing Marine Labs. Prepared for SWAMP BOG. 49 pages plus appendices and attachments](#)

DECISION ID	61188	Region 2
Almaden Lake		

Pollutant:	Chlordane
Final Listing Decision:	Do Not List on 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision:	New Decision
Revision Status	Revised
Impairment from Pollutant or Pollution:	Pollutant

Regional Board Staff Conclusion: This pollutant is being considered for placement on the CWA section 303(d) List under section 3.1 of the Listing Policy. Under section 3.1 a single line of evidence is necessary to assess listing status. Three lines of evidence are available in the administrative record to assess this pollutant. One of one samples exceed the guideline.

Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against placing this water segment-pollutant combination on the CWA section 303(d) List.

This conclusion is based on the staff findings that:

1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy.
2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy.
3. One of one samples exceed the guideline and this sample size is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating. A minimum of 16 samples is needed to determine if a beneficial use is fully supported using table 3.1.
4. Pursuant to SECTION 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.

Regional Board Staff Decision Recommendation: After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be placed on the section 303(d) list. The readily available data and information is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating.

Line of Evidence (LOE) for Decision ID 61188, Chlordane	Region 2
Almaden Lake	

LOE ID:	91023
Pollutant:	Chlordane
LOE Subgroup:	Pollutant-Tissue
Matrix:	Tissue
Fraction:	Fish fillet
Beneficial Use:	Warm Freshwater Habitat
Number of Samples:	1
Number of Exceedances:	0
Data and Information Type:	Fish tissue analysis
Data Used to Assess Water Quality:	State Water Board staff assessed SWAMP data for Almaden Lake to determine beneficial use support and results are as follows: 0 of 1 samples exceed the criterion for Chlordane, Total. Two composites (5 fish per composite) were generated from one species: Common

	Carp. Composites were not spatially independent (as defined in the Listing Policy) and so were averaged. Details of the compositing protocol can be found in the March 2009 report entitled: "Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Study" (SWAMP, 2009). Total chlordane was calculated as the sum of the following chlordane isomers: cis- and trans-chlordane, cis- and trans-nonachlor, and oxychlordane.
Data Reference:	Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Survey. A Report of the Surface Water Ambient Monitoring Program (SWAMP). California State Water Resources Control Board, Sacramento, CA Statewide Lakes Sportfish Contamination Study 2007 2008 Contaminants in Fish from California Lakes and Reservoirs, 2007-2008: Summary Report on a Two-Year Screening Survey Cruise report for the Surface Water Ambient Monitoring Program (SWAMP) bioaccumulation screening study in California lakes and reservoirs year two (FY 07-08). Sampling dates: April 2008 - November 2008.
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	Water Quality Control Plan for the San Francisco Bay Basin: Controllable water quality factors shall not cause a detrimental increase in concentrations of toxic substances found in bottom sediments or aquatic life. Effects on aquatic organisms, wildlife, and human health will be considered.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	National Academy of Science guidelines (NAS 1972) establish a maximum total Chlordane concentration of 100 ug/Kg (wet weight) in tissue samples for protection of aquatic life from bioaccumulation of toxic substances.
Guideline Reference:	National Academy of Sciences. Water Quality Criteria 1972. EPA-R3-73-033. Washington, D.C.: U.S. Environmental Protection Agency
Spatial Representation:	Data for this assessment unit was collected by one monitoring project: (SWB_FishLk)
Temporal Representation:	Data was collected on a single day 10/21/2008.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	Samples were collected, processed, and analyzed in accordance with the methods described in Quality Assurance Project Plan "Screening Study of Bioaccumulation in California Lakes and Reservoirs." (SWAMP, 2008).
QAPP Information Reference(s):	Quality Assurance Project Plan Screening Study of Bioaccumulation in California Lakes and Reservoirs. Moss Landing Marine Labs. Prepared for SWAMP BOG, 49 pages plus appendices and attachments

Line of Evidence (LOE) for Decision ID 61188, Chlordane

Region 2

Almaden Lake

LOE ID:	91024
Pollutant:	Chlordane
LOE Subgroup:	Pollutant-Tissue
Matrix:	Tissue
Fraction:	Fish fillet
Beneficial Use:	Cold Freshwater Habitat
Number of Samples:	1
Number of Exceedances:	0
Data and Information Type:	Fish tissue analysis
Data Used to Assess Water Quality:	State Water Board staff assessed SWAMP data for Almaden Lake to determine beneficial use support and results are as follows: 0 of 1 samples exceed the criterion for Chlordane, Total. Two composites (5 fish per composite) were generated from one species: Common Carp. Composites were not spatially independent (as defined in the Listing Policy) and so were averaged. Details of the compositing protocol can be found in the March 2009 report entitled: "Contaminants in Fish from California Lakes and Reservoirs: Technical Report on

Data Reference:	<p>Year One of a Two-Year Screening Study" (SWAMP, 2009). Total chlordane was calculated as the sum of the following chlordane isomers: cis- and trans-chlordane, cis- and trans-nonachlor, and oxychlordane.</p> <p>Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Survey. A Report of the Surface Water Ambient Monitoring Program (SWAMP). California State Water Resources Control Board, Sacramento, CA Statewide Lakes Sportfish Contamination Study 2007 2008</p> <p>Contaminants in Fish from California Lakes and Reservoirs, 2007-2008: Summary Report on a Two-Year Screening Survey</p> <p>Cruise report for the Surface Water Ambient Monitoring Program (SWAMP) bioaccumulation screening study in California lakes and reservoirs year two (FY 07-08). Sampling dates: April 2008 - November 2008.</p>
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	Water Quality Control Plan for the San Francisco Bay Basin: Controllable water quality factors shall not cause a detrimental increase in concentrations of toxic substances found in bottom sediments or aquatic life. Effects on aquatic organisms, wildlife, and human health will be considered.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	National Academy of Science guidelines (NAS 1972) establish a maximum total Chlordane concentration of 100 ug/Kg (wet weight) in tissue samples for protection of aquatic life from bioaccumulation of toxic substances.
Guideline Reference:	National Academy of Sciences. Water Quality Criteria 1972. EPA-R3-73-033. Washington, D.C.: U.S. Environmental Protection Agency
Spatial Representation:	Data for this assessment unit was collected by one monitoring project: (SWB_FishLk)
Temporal Representation:	Data was collected on a single day 10/21/2008.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	Samples were collected, processed, and analyzed in accordance with the methods described in Quality Assurance Project Plan "Screening Study of Bioaccumulation in California Lakes and Reservoirs." (SWAMP, 2008).
QAPP Information Reference(s):	Quality Assurance Project Plan Screening Study of Bioaccumulation in California Lakes and Reservoirs. Moss Landing Marine Labs. Prepared for SWAMP BOG. 49 pages plus appendices and attachments

Line of Evidence (LOE) for Decision ID 61188, Chlordane

Region 2

Almaden Lake

LOE ID:	91025
Pollutant:	Chlordane
LOE Subgroup:	Pollutant-Tissue
Matrix:	Tissue
Fraction:	Fish fillet
Beneficial Use:	Commercial or recreational collection of fish, shellfish, or organisms
Number of Samples:	1
Number of Exceedances:	1
Data and Information Type:	Fish tissue analysis
Data Used to Assess Water Quality:	State Water Board staff assessed SWAMP data for Almaden Lake to determine beneficial use support and results are as follows: 1 of 1 samples exceed the criterion for Chlordane, Total. Two composites (5 fish per composite) were generated from one species: Common Carp. Composites were not spatially independent (as defined in the Listing Policy) and so were averaged. Details of the compositing protocol can be found in the March 2009 report entitled: "Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Study" (SWAMP, 2009). Total chlordane was calculated as the sum of the following chlordane isomers: cis- and trans-chlordane, cis- and trans-nonachlor, and oxychlordane.

Data Reference:	Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Survey. A Report of the Surface Water Ambient Monitoring Program (SWAMP). California State Water Resources Control Board, Sacramento, CA Statewide Lakes Sportfish Contamination Study 2007 2008 Contaminants in Fish from California Lakes and Reservoirs, 2007-2008: Summary Report on a Two-Year Screening Survey Cruise report for the Surface Water Ambient Monitoring Program (SWAMP) bioaccumulation screening study in California lakes and reservoirs year two (FY 07-08). Sampling dates: April 2008 - November 2008.
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	Water Quality Control Plan for the San Francisco Bay Basin: Controllable water quality factors shall not cause a detrimental increase in concentrations of toxic substances found in bottom sediments or aquatic life. Effects on aquatic organisms, wildlife, and human health will be considered.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	The modified OEHHA Fish Contaminant Goal for total chlordane in fish tissue is 3.9 ppb. This screening level assumes an average body weight of 70 kg and a consumption rate of 32 g/day for a 30 year exposure over a 70-year lifetime. This constituent is a carcinogen therefore the risk level is set to one in a million. A cooking reduction factor of 1 is applied for skin-off fillets. (Klasing, S., and R. Brodberg, 2008)
Guideline Reference:	Development of Fish Contaminant Goals and Advisory Tissue Levels for Common Contaminants in California Sport Fish: Chlordane, DDTs, Dieldrin, Methylmercury, PCBs, Selenium, and Toxaphene
Spatial Representation:	Data for this assessment unit was collected by one monitoring project: (SWB_FishLk)
Temporal Representation:	Data was collected on a single day 10/21/2008.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	Samples were collected, processed, and analyzed in accordance with the methods described in Quality Assurance Project Plan "Screening Study of Bioaccumulation in California Lakes and Reservoirs." (SWAMP, 2008).
QAPP Information Reference(s):	Quality Assurance Project Plan Screening Study of Bioaccumulation in California Lakes and Reservoirs. Moss Landing Marine Labs. Prepared for SWAMP BOG. 49 pages plus appendices and attachments

DECISION ID	61207	Region 2
Almaden Lake		

Pollutant:	DDT (Dichlorodiphenyltrichloroethane)
Final Listing Decision:	Do Not List on 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision:	New Decision
Revision Status	Revised
Impairment from Pollutant or Pollution:	Pollutant
Regional Board Staff Conclusion:	<p>This pollutant is being considered for placement on the CWA section 303(d) List under section 3.1 of the Listing Policy. Under section 3.1 a single line of evidence is necessary to assess listing status. Three lines of evidence are available in the administrative record to assess this pollutant. One of one samples exceed the guideline.</p> <p>Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against placing this water segment-pollutant combination on the CWA section 303(d) List.</p> <p>This conclusion is based on the staff findings that:</p> <ol style="list-style-type: none"> 1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy. 2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy. 3. One of one samples exceed the guideline and this sample size is insufficient to determine, with

the power and confidence of the Listing Policy, the applicable beneficial use support rating. A minimum of 16 samples is needed to determine if a beneficial use is fully supported using table 3.1. 4. Pursuant to SECTION 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.

Regional Board Staff Decision Recommendation: After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be placed on the section 303(d) list. The readily available data and information is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating.

Line of Evidence (LOE) for Decision ID 61207, DDT (Dichlorodiphenyltrichloroethane)

Region 2

Almaden Lake

LOE ID:	91037
Pollutant:	Total DDT (sum of 4,4'- and 2,4'- isomers of DDT, DDE, and DDD)
LOE Subgroup:	Pollutant-Tissue
Matrix:	Tissue
Fraction:	Fish fillet
Beneficial Use:	Warm Freshwater Habitat
Number of Samples:	1
Number of Exceedances:	0
Data and Information Type:	Fish tissue analysis
Data Used to Assess Water Quality:	State Water Board staff assessed SWAMP data for Almaden Lake to determine beneficial use support and results are as follows: 0 of 1 samples exceed the criterion for DDT, Total. Two composites (5 fish per composite) were generated from one species: Common Carp. Composites were not spatially independent (as defined in the Listing Policy) and so were averaged. Details of the compositing protocol can be found in the March 2009 report entitled: "Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Study" (SWAMP, 2009). Total DDT was calculated as the sum of 4,4'- and 2,4'- isomers of DDT, DDE, and DDD.
Data Reference:	Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Survey. A Report of the Surface Water Ambient Monitoring Program (SWAMP). California State Water Resources Control Board, Sacramento, CA Statewide Lakes Sportfish Contamination Study 2007 2008 Contaminants in Fish from California Lakes and Reservoirs, 2007-2008: Summary Report on a Two-Year Screening Survey Cruise report for the Surface Water Ambient Monitoring Program (SWAMP) bioaccumulation screening study in California lakes and reservoirs year two (FY 07-08). Sampling dates: April 2008 - November 2008.
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	Water Quality Control Plan for the San Francisco Bay Basin: Controllable water quality factors shall not cause a detrimental increase in concentrations of toxic substances found in bottom sediments or aquatic life. Effects on aquatic organisms, wildlife, and human health will be considered.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	National Academy of Science guidelines (NAS 1972) establish a maximum total DDT concentration of 1000 ug/Kg (wet weight) in tissue samples for protection of aquatic life from bioaccumulation of toxic substances.
Guideline Reference:	National Academy of Sciences. Water Quality Criteria 1972. EPA-R3-73-033. Washington, D.C.: U.S. Environmental Protection Agency
Spatial Representation:	Data for this assessment unit was collected by one monitoring project: (SWB_FishLk)
Temporal Representation:	Data was collected on a single day 10/21/2008.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.

QAPP Information: Samples were collected, processed, and analyzed in accordance with the methods described in Quality Assurance Project Plan "Screening Study of Bioaccumulation in California Lakes and Reservoirs." (SWAMP, 2008).

QAPP Information Reference(s): [Quality Assurance Project Plan Screening Study of Bioaccumulation in California Lakes and Reservoirs. Moss Landing Marine Labs. Prepared for SWAMP BOG. 49 pages plus appendices and attachments](#)

Line of Evidence (LOE) for Decision ID 61207, DDT (Dichlorodiphenyltrichloroethane)

Region 2

Almaden Lake

LOE ID: 91038

Pollutant: Total DDT (sum of 4,4'- and 2,4'- isomers of DDT, DDE, and DDD)

LOE Subgroup: Pollutant-Tissue

Matrix: Tissue

Fraction: Fish fillet

Beneficial Use: Cold Freshwater Habitat

Number of Samples: 1

Number of Exceedances: 0

Data and Information Type: Fish tissue analysis

Data Used to Assess Water Quality: State Water Board staff assessed SWAMP data for Almaden Lake to determine beneficial use support and results are as follows: 0 of 1 samples exceed the criterion for DDT, Total. Two composites (5 fish per composite) were generated from one species: Common Carp. Composites were not spatially independent (as defined in the Listing Policy) and so were averaged. Details of the compositing protocol can be found in the March 2009 report entitled: "Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Study" (SWAMP, 2009). Total DDT was calculated as the sum of 4,4'- and 2,4'- isomers of DDT, DDE, and DDD.

Data Reference: [Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Survey. A Report of the Surface Water Ambient Monitoring Program \(SWAMP\). California State Water Resources Control Board, Sacramento, CA Statewide Lakes Sportfish Contamination Study 2007 2008](#)
[Contaminants in Fish from California Lakes and Reservoirs, 2007-2008: Summary Report on a Two-Year Screening Survey](#)
[Cruise report for the Surface Water Ambient Monitoring Program \(SWAMP\) bioaccumulation screening study in California lakes and reservoirs year two \(FY 07-08\). Sampling dates: April 2008 - November 2008.](#)

SWAMP Data: SWAMP

Water Quality Objective/Criterion: Water Quality Control Plan for the San Francisco Bay Basin: Controllable water quality factors shall not cause a detrimental increase in concentrations of toxic substances found in bottom sediments or aquatic life. Effects on aquatic organisms, wildlife, and human health will be considered.

Objective/Criterion Reference: [Water Quality Control Plan \(Basin Plan\) San Francisco Bay Basin \(Region 2\)](#)

Evaluation Guideline: National Academy of Science guidelines (NAS 1972) establish a maximum total DDT concentration of 1000 ug/Kg (wet weight) in tissue samples for protection of aquatic life from bioaccumulation of toxic substances.

Guideline Reference: [National Academy of Sciences. Water Quality Criteria 1972. EPA-R3-73-033. Washington, D.C.: U.S. Environmental Protection Agency](#)

Spatial Representation: Data for this assessment unit was collected by one monitoring project: (SWB_FishLk)

Temporal Representation: Data was collected on a single day 10/21/2008.

Environmental Conditions: Staff is not aware of any special conditions that might affect interpretation of the data.

QAPP Information: Samples were collected, processed, and analyzed in accordance with the methods described in Quality Assurance Project Plan "Screening Study of Bioaccumulation in California Lakes and Reservoirs." (SWAMP, 2008).

QAPP Information Reference(s): [Quality Assurance Project Plan Screening Study of Bioaccumulation in California Lakes](#)

Line of Evidence (LOE) for Decision ID 61207, DDT (Dichlorodiphenyltrichloroethane)

Region 2

Almaden Lake

LOE ID:	91035
Pollutant:	Total DDT (sum of 4,4'- and 2,4'- isomers of DDT, DDE, and DDD)
LOE Subgroup:	Pollutant-Tissue
Matrix:	Tissue
Fraction:	Fish fillet
Beneficial Use:	Commercial or recreational collection of fish, shellfish, or organisms
Number of Samples:	1
Number of Exceedances:	1
Data and Information Type:	Fish tissue analysis
Data Used to Assess Water Quality:	State Water Board staff assessed SWAMP data for Almaden Lake to determine beneficial use support and results are as follows: 1 of 1 samples exceed the criterion for DDT, Total. Two composites (5 fish per composite) were generated from one species: Common Carp. Composites were not spatially independent (as defined in the Listing Policy) and so were averaged. Details of the compositing protocol can be found in the March 2009 report entitled: "Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Study" (SWAMP, 2009). Total DDT was calculated as the sum of 4,4'- and 2,4'- isomers of DDT, DDE, and DDD.
Data Reference:	Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Survey. A Report of the Surface Water Ambient Monitoring Program (SWAMP). California State Water Resources Control Board, Sacramento, CA Statewide Lakes Sportfish Contamination Study 2007 2008 Contaminants in Fish from California Lakes and Reservoirs, 2007-2008: Summary Report on a Two-Year Screening Survey Cruise report for the Surface Water Ambient Monitoring Program (SWAMP) bioaccumulation screening study in California lakes and reservoirs year two (FY 07-08). Sampling dates: April 2008 - November 2008.
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	Water Quality Control Plan for the San Francisco Bay Basin: Controllable water quality factors shall not cause a detrimental increase in concentrations of toxic substances found in bottom sediments or aquatic life. Effects on aquatic organisms, wildlife, and human health will be considered.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	The modified OEHHA Fish Contaminant Goal for total DDT in fish tissue is 15 ppb. This screening level assumes an average body weight of 70 kg and a consumption rate of 32 g/day for a 30 year exposure over a 70-year lifetime. This constituent is a carcinogen therefore the risk level is set to one in a million. A cooking reduction factor of 1 is applied for skin-off fillets. (Klasing, S., and R. Brodberg, 2008)
Guideline Reference:	Development of Fish Contaminant Goals and Advisory Tissue Levels for Common Contaminants in California Sport Fish: Chlordane, DDTs, Dieldrin, Methylmercury, PCBs, Selenium, and Toxaphene
Spatial Representation:	Data for this assessment unit was collected by one monitoring project: (SWB_FishLk)
Temporal Representation:	Data was collected on a single day 10/21/2008.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	Samples were collected, processed, and analyzed in accordance with the methods described in Quality Assurance Project Plan "Screening Study of Bioaccumulation in California Lakes and Reservoirs." (SWAMP, 2008).
QAPP Information Reference(s):	Quality Assurance Project Plan Screening Study of Bioaccumulation in California Lakes and Reservoirs. Moss Landing Marine Labs. Prepared for SWAMP BOG, 49 pages plus

DECISION ID	61189	Region 2
Almaden Lake		

Pollutant: Dieldrin
Final Listing Decision: Do Not List on 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision: New Decision
Revision Status: Revised
Impairment from Pollutant or Pollution: Pollutant

Regional Board Staff Conclusion: This pollutant is being considered for placement on the CWA section 303(d) List under section 3.1 of the Listing Policy. Under section 3.1 a single line of evidence is necessary to assess listing status. Three lines of evidence are available in the administrative record to assess this pollutant. One of one samples exceed the guideline.

Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against placing this water segment-pollutant combination on the CWA section 303(d) List.

This conclusion is based on the staff findings that:

1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy.
2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy.
3. One of one samples exceed the guideline and this sample size is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating. A minimum of 16 samples is needed to determine if a beneficial use is fully supported using table 3.1.
4. Pursuant to SECTION 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.

Regional Board Staff Decision Recommendation: After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be placed on the section 303(d) list. The readily available data and information is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating.

Line of Evidence (LOE) for Decision ID 61189, Dieldrin	Region 2
Almaden Lake	

LOE ID: 91028

Pollutant: Dieldrin
LOE Subgroup: Pollutant-Tissue
Matrix: Tissue
Fraction: Fish fillet

Beneficial Use: Commercial or recreational collection of fish, shellfish, or organisms

Number of Samples: 1
Number of Exceedances: 1

Data and Information Type: Fish tissue analysis
Data Used to Assess Water Quality: State Water Board staff assessed SWAMP data for Almaden Lake to determine beneficial use support and results are as follows: 1 of 1 samples exceed the criterion for Dieldrin. Two composites (5 fish per composite) were generated from one species: Common Carp. Composites were not spatially independent (as defined in the Listing Policy) and so were averaged. Details of the compositing protocol can be found in the March 2009 report entitled: "Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Study" (SWAMP, 2009).

Data Reference:	Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Survey. A Report of the Surface Water Ambient Monitoring Program (SWAMP). California State Water Resources Control Board, Sacramento, CA Statewide Lakes Sportfish Contamination Study 2007 2008 Contaminants in Fish from California Lakes and Reservoirs, 2007-2008: Summary Report on a Two-Year Screening Survey Cruise report for the Surface Water Ambient Monitoring Program (SWAMP) bioaccumulation screening study in California lakes and reservoirs year two (FY 07-08). Sampling dates: April 2008 - November 2008.
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	Water Quality Control Plan for the San Francisco Bay Basin: Controllable water quality factors shall not cause a detrimental increase in concentrations of toxic substances found in bottom sediments or aquatic life. Effects on aquatic organisms, wildlife, and human health will be considered.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	The modified OEHHA Fish Contaminant Goal for dieldrin in fish tissue is 0.32 ppb. This screening level assumes an average body weight of 70 kg and a consumption rate of 32 g/day for a 30 year exposure over a 70-year lifetime. This constituent is a carcinogen therefore the risk level is set to one in a million. A cooking reduction factor of 1 is applied for skin-off fillets. (Klasing, S., and R. Brodberg, 2008)
Guideline Reference:	Development of Fish Contaminant Goals and Advisory Tissue Levels for Common Contaminants in California Sport Fish: Chlordane, DDTs, Dieldrin, Methylmercury, PCBs, Selenium, and Toxaphene
Spatial Representation:	Data for this assessment unit was collected by one monitoring project: (SWB_FishLk)
Temporal Representation:	Data was collected on a single day 10/21/2008.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	Samples were collected, processed, and analyzed in accordance with the methods described in Quality Assurance Project Plan "Screening Study of Bioaccumulation in California Lakes and Reservoirs." (SWAMP, 2008).
QAPP Information Reference(s):	Quality Assurance Project Plan Screening Study of Bioaccumulation in California Lakes and Reservoirs. Moss Landing Marine Labs. Prepared for SWAMP BOG. 49 pages plus appendices and attachments

Line of Evidence (LOE) for Decision ID 61189, Dieldrin

Region 2

Almaden Lake

LOE ID:	91026
Pollutant:	Dieldrin
LOE Subgroup:	Pollutant-Tissue
Matrix:	Tissue
Fraction:	Fish fillet
Beneficial Use:	Warm Freshwater Habitat
Number of Samples:	1
Number of Exceedances:	0
Data and Information Type:	Fish tissue analysis
Data Used to Assess Water Quality:	State Water Board staff assessed SWAMP data for Almaden Lake to determine beneficial use support and results are as follows: 0 of 1 samples exceed the criterion for Dieldrin. Two composites (5 fish per composite) were generated from one species: Common Carp. Composites were not spatially independent (as defined in the Listing Policy) and so were averaged. Details of the compositing protocol can be found in the March 2009 report entitled: "Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Study" (SWAMP, 2009).
Data Reference:	Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Survey. A Report of the Surface Water Ambient Monitoring

[Program \(SWAMP\). California State Water Resources Control Board, Sacramento, CA Statewide Lakes Sportfish Contamination Study 2007 2008](#)
[Contaminants in Fish from California Lakes and Reservoirs, 2007-2008: Summary Report on a Two-Year Screening Survey](#)
[Cruise report for the Surface Water Ambient Monitoring Program \(SWAMP\) bioaccumulation screening study in California lakes and reservoirs year two \(FY 07-08\). Sampling dates: April 2008 - November 2008.](#)

SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	Water Quality Control Plan for the San Francisco Bay Basin: Controllable water quality factors shall not cause a detrimental increase in concentrations of toxic substances found in bottom sediments or aquatic life. Effects on aquatic organisms, wildlife, and human health will be considered.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	National Academy of Science guidelines (NAS 1972) establish a maximum Dieldrin concentration of 100 ug/Kg (wet weight) in tissue samples for protection of aquatic life from bioaccumulation of toxic substances.
Guideline Reference:	National Academy of Sciences. Water Quality Criteria 1972. EPA-R3-73-033. Washington, D.C.: U.S. Environmental Protection Agency
Spatial Representation:	Data for this assessment unit was collected by one monitoring project: (SWB_FishLk)
Temporal Representation:	Data was collected on a single day 10/21/2008.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	Samples were collected, processed, and analyzed in accordance with the methods described in Quality Assurance Project Plan "Screening Study of Bioaccumulation in California Lakes and Reservoirs." (SWAMP, 2008).
QAPP Information Reference(s):	Quality Assurance Project Plan Screening Study of Bioaccumulation in California Lakes and Reservoirs. Moss Landing Marine Labs. Prepared for SWAMP BOG. 49 pages plus appendices and attachments

Line of Evidence (LOE) for Decision ID 61189, Dieldrin

Region 2

Almaden Lake

LOE ID:	91027
Pollutant:	Dieldrin
LOE Subgroup:	Pollutant-Tissue
Matrix:	Tissue
Fraction:	Fish fillet
Beneficial Use:	Cold Freshwater Habitat
Number of Samples:	1
Number of Exceedances:	0
Data and Information Type:	Fish tissue analysis
Data Used to Assess Water Quality:	State Water Board staff assessed SWAMP data for Almaden Lake to determine beneficial use support and results are as follows: 0 of 1 samples exceed the criterion for Dieldrin. Two composites (5 fish per composite) were generated from one species: Common Carp. Composites were not spatially independent (as defined in the Listing Policy) and so were averaged. Details of the compositing protocol can be found in the March 2009 report entitled: "Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Study" (SWAMP, 2009).
Data Reference:	Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Survey. A Report of the Surface Water Ambient Monitoring Program (SWAMP). California State Water Resources Control Board, Sacramento, CA Statewide Lakes Sportfish Contamination Study 2007 2008 Contaminants in Fish from California Lakes and Reservoirs, 2007-2008: Summary Report on a Two-Year Screening Survey Cruise report for the Surface Water Ambient Monitoring Program (SWAMP)

[bioaccumulation screening study in California lakes and reservoirs year two \(FY 07-08\). Sampling dates: April 2008 - November 2008.](#)

SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	Water Quality Control Plan for the San Francisco Bay Basin: Controllable water quality factors shall not cause a detrimental increase in concentrations of toxic substances found in bottom sediments or aquatic life. Effects on aquatic organisms, wildlife, and human health will be considered.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	National Academy of Science guidelines (NAS 1972) establish a maximum Dieldrin concentration of 100 ug/Kg (wet weight) in tissue samples for protection of aquatic life from bioaccumulation of toxic substances.
Guideline Reference:	National Academy of Sciences. Water Quality Criteria 1972. EPA-R3-73-033. Washington, D.C.: U.S. Environmental Protection Agency
Spatial Representation:	Data for this assessment unit was collected by one monitoring project: (SWB_FishLk)
Temporal Representation:	Data was collected on a single day 10/21/2008.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	Samples were collected, processed, and analyzed in accordance with the methods described in Quality Assurance Project Plan "Screening Study of Bioaccumulation in California Lakes and Reservoirs." (SWAMP, 2008).
QAPP Information Reference(s):	Quality Assurance Project Plan Screening Study of Bioaccumulation in California Lakes and Reservoirs. Moss Landing Marine Labs. Prepared for SWAMP BOG. 49 pages plus appendices and attachments

DECISION ID	61191	Region 2
Almaden Lake		

Pollutant:	Endosulfan
Final Listing Decision:	Do Not List on 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision:	New Decision
Revision Status	Revised
Impairment from Pollutant or Pollution:	Pollutant
Regional Board Staff Conclusion:	<p>This pollutant is being considered for placement on the CWA section 303(d) List under section 3.1 of the Listing Policy. Under section 3.1 a single line of evidence is necessary to assess listing status. Three lines of evidence are available in the administrative record to assess this pollutant. Zero of one samples exceed the guideline.</p> <p>Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against placing this water segment-pollutant combination on the CWA section 303(d) List.</p> <p>This conclusion is based on the staff findings that:</p> <ol style="list-style-type: none">1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy.2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy.3. Zero of one samples exceed the guideline and this sample size is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating. A minimum of 16 samples is needed to determine if a beneficial use is fully supported using table 3.1.4. Pursuant to SECTION 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.
Regional Board Staff Decision Recommendation:	After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be placed on the section 303(d) list. The readily available data and information is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating.

Almaden Lake

LOE ID:	91015
Pollutant:	Endosulfan
LOE Subgroup:	Pollutant-Tissue
Matrix:	Tissue
Fraction:	Fish fillet
Beneficial Use:	Commercial or recreational collection of fish, shellfish, or organisms
Number of Samples:	1
Number of Exceedances:	0
Data and Information Type:	Fish tissue analysis
Data Used to Assess Water Quality:	State Water Board staff assessed SWAMP data for Almaden Lake to determine beneficial use support and results are as follows: 0 of 1 samples exceed the criterion for Endosulfan I. Two composites (5 fish per composite) were generated from one species: Common Carp. Composites were not spatially independent (as defined in the Listing Policy) and so were averaged. Details of the compositing protocol can be found in the March 2009 report entitled: "Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Study" (SWAMP, 2009).
Data Reference:	Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Survey. A Report of the Surface Water Ambient Monitoring Program (SWAMP). California State Water Resources Control Board, Sacramento, CA Statewide Lakes Sportfish Contamination Study 2007 2008 Contaminants in Fish from California Lakes and Reservoirs, 2007-2008: Summary Report on a Two-Year Screening Survey Cruise report for the Surface Water Ambient Monitoring Program (SWAMP) bioaccumulation screening study in California lakes and reservoirs year two (FY 07-08). Sampling dates: April 2008 - November 2008.
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	Water Quality Control Plan for the San Francisco Bay Basin: Controllable water quality factors shall not cause a detrimental increase in concentrations of toxic substances found in bottom sediments or aquatic life. Effects on aquatic organisms, wildlife, and human health will be considered.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	The modified OEHHA Fish Contaminant Goal for endosulfan (I and II) in fish tissue is 13,000 ppb. This screening level assumes an average body weight of 70 kg and a consumption rate of 32 g/day. A cooking reduction factor of 1 is applied for skin-off fillets. (Klasing, S., and R. Brodberg, 2008; USEPA, 2000)
Guideline Reference:	Development of Fish Contaminant Goals and Advisory Tissue Levels for Common Contaminants in California Sport Fish: Chlordane, DDTs, Dieldrin, Methylmercury, PCBs, Selenium, and Toxaphene Guidance for Assessing Chemical Contaminant Data for Use In Fish Advisories Volume 1: Fish Sampling and Analysis
Spatial Representation:	Data for this assessment unit was collected by one monitoring project: (SWB_FishLk)
Temporal Representation:	Data was collected on a single day 10/21/2008.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	Samples were collected, processed, and analyzed in accordance with the methods described in Quality Assurance Project Plan "Screening Study of Bioaccumulation in California Lakes and Reservoirs." (SWAMP, 2008).
QAPP Information Reference(s):	Quality Assurance Project Plan Screening Study of Bioaccumulation in California Lakes and Reservoirs. Moss Landing Marine Labs. Prepared for SWAMP BOG, 49 pages plus appendices and attachments

Almaden Lake

LOE ID:	91014
Pollutant:	Endosulfan
LOE Subgroup:	Pollutant-Tissue
Matrix:	Tissue
Fraction:	Fish fillet
Beneficial Use:	Cold Freshwater Habitat
Number of Samples:	1
Number of Exceedances:	0
Data and Information Type:	Fish tissue analysis
Data Used to Assess Water Quality:	State Water Board staff assessed SWAMP data for Almaden Lake to determine beneficial use support and results are as follows: 0 of 1 samples exceed the criterion for Endosulfan I. Two composites (5 fish per composite) were generated from one species: Common Carp. Composites were not spatially independent (as defined in the Listing Policy) and so were averaged. Details of the compositing protocol can be found in the March 2009 report entitled: "Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Study" (SWAMP, 2009).
Data Reference:	Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Survey. A Report of the Surface Water Ambient Monitoring Program (SWAMP). California State Water Resources Control Board, Sacramento, CA Statewide Lakes Sportfish Contamination Study 2007 2008 Contaminants in Fish from California Lakes and Reservoirs, 2007-2008: Summary Report on a Two-Year Screening Survey Cruise report for the Surface Water Ambient Monitoring Program (SWAMP) bioaccumulation screening study in California lakes and reservoirs year two (FY 07-08). Sampling dates: April 2008 - November 2008.
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	Water Quality Control Plan for the San Francisco Bay Basin: Controllable water quality factors shall not cause a detrimental increase in concentrations of toxic substances found in bottom sediments or aquatic life. Effects on aquatic organisms, wildlife, and human health will be considered.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	National Academy of Science guidelines (NAS 1972) establish a maximum Endosulfan, Total concentration of 100 ug/Kg (wet weight) in tissue samples for protection of aquatic life from bioaccumulation of toxic substances.
Guideline Reference:	National Academy of Sciences. Water Quality Criteria 1972. EPA-R3-73-033. Washington, D.C.: U.S. Environmental Protection Agency
Spatial Representation:	Data for this assessment unit was collected by one monitoring project: (SWB_FishLk)
Temporal Representation:	Data was collected on a single day 10/21/2008.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	Samples were collected, processed, and analyzed in accordance with the methods described in Quality Assurance Project Plan "Screening Study of Bioaccumulation in California Lakes and Reservoirs." (SWAMP, 2008).
QAPP Information Reference(s):	Quality Assurance Project Plan Screening Study of Bioaccumulation in California Lakes and Reservoirs. Moss Landing Marine Labs. Prepared for SWAMP BOG, 49 pages plus appendices and attachments

Almaden Lake

LOE ID: 91013

Pollutant:	Endosulfan
LOE Subgroup:	Pollutant-Tissue
Matrix:	Tissue
Fraction:	Fish fillet
Beneficial Use:	Warm Freshwater Habitat
Number of Samples:	1
Number of Exceedances:	0
Data and Information Type:	Fish tissue analysis
Data Used to Assess Water Quality:	State Water Board staff assessed SWAMP data for Almaden Lake to determine beneficial use support and results are as follows: 0 of 1 samples exceed the criterion for Endosulfan I. Two composites (5 fish per composite) were generated from one species: Common Carp. Composites were not spatially independent (as defined in the Listing Policy) and so were averaged. Details of the compositing protocol can be found in the March 2009 report entitled: "Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Study" (SWAMP, 2009).
Data Reference:	Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Survey. A Report of the Surface Water Ambient Monitoring Program (SWAMP). California State Water Resources Control Board, Sacramento, CA Statewide Lakes Sportfish Contamination Study 2007 2008 Contaminants in Fish from California Lakes and Reservoirs, 2007-2008: Summary Report on a Two-Year Screening Survey Cruise report for the Surface Water Ambient Monitoring Program (SWAMP) bioaccumulation screening study in California lakes and reservoirs year two (FY 07-08). Sampling dates: April 2008 - November 2008.
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	Water Quality Control Plan for the San Francisco Bay Basin: Controllable water quality factors shall not cause a detrimental increase in concentrations of toxic substances found in bottom sediments or aquatic life. Effects on aquatic organisms, wildlife, and human health will be considered.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	National Academy of Science guidelines (NAS 1972) establish a maximum Endosulfan, Total concentration of 100 ug/Kg (wet weight) in tissue samples for protection of aquatic life from bioaccumulation of toxic substances.
Guideline Reference:	National Academy of Sciences. Water Quality Criteria 1972. EPA-R3-73-033. Washington, D.C.: U.S. Environmental Protection Agency
Spatial Representation:	Data for this assessment unit was collected by one monitoring project: (SWB_FishLk)
Temporal Representation:	Data was collected on a single day 10/21/2008.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	Samples were collected, processed, and analyzed in accordance with the methods described in Quality Assurance Project Plan "Screening Study of Bioaccumulation in California Lakes and Reservoirs." (SWAMP, 2008).
QAPP Information Reference(s):	Quality Assurance Project Plan Screening Study of Bioaccumulation in California Lakes and Reservoirs. Moss Landing Marine Labs. Prepared for SWAMP BOG. 49 pages plus appendices and attachments

DECISION ID	61192	Region 2
Almaden Lake		

Pollutant:	Endrin
Final Listing Decision:	Do Not List on 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision:	New Decision
Revision Status	Revised

Impairment from Pollutant or Pollution: Pollutant

Regional Board Staff Conclusion:

This pollutant is being considered for placement on the CWA section 303(d) List under section 3.1 of the Listing Policy. Under section 3.1 a single line of evidence is necessary to assess listing status. Three lines of evidence are available in the administrative record to assess this pollutant. Zero of one samples exceed the guideline.

Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against placing this water segment-pollutant combination on the CWA section 303(d) List.

This conclusion is based on the staff findings that:

1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy.
2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy.
3. Zero of one samples exceed the guideline and this sample size is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating. A minimum of 16 samples is needed to determine if a beneficial use is fully supported using table 3.1.
4. Pursuant to SECTION 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.

Regional Board Staff Decision Recommendation:

After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be placed on the section 303(d) list. The readily available data and information is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating.

Line of Evidence (LOE) for Decision ID 61192, Endrin

Region 2

Almaden Lake

LOE ID: 91018

Pollutant: Endrin
LOE Subgroup: Pollutant-Tissue
Matrix: Tissue
Fraction: Fish fillet

Beneficial Use: Commercial or recreational collection of fish, shellfish, or organisms

Number of Samples: 1
Number of Exceedances: 0

Data and Information Type: Fish tissue analysis

Data Used to Assess Water Quality: State Water Board staff assessed SWAMP data for Almaden Lake to determine beneficial use support and results are as follows: 0 of 1 samples exceed the criterion for Endrin. Two composites (5 fish per composite) were generated from one species: Common Carp. Composites were not spatially independent (as defined in the Listing Policy) and so were averaged. Details of the compositing protocol can be found in the March 2009 report entitled: "Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Study" (SWAMP, 2009).

Data Reference: [Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Survey. A Report of the Surface Water Ambient Monitoring Program \(SWAMP\). California State Water Resources Control Board, Sacramento, CA Statewide Lakes Sportfish Contamination Study 2007 2008](#)
[Contaminants in Fish from California Lakes and Reservoirs, 2007-2008: Summary Report on a Two-Year Screening Survey](#)
[Cruise report for the Surface Water Ambient Monitoring Program \(SWAMP\) bioaccumulation screening study in California lakes and reservoirs year two \(FY 07-08\). Sampling dates: April 2008 - November 2008.](#)

SWAMP Data: SWAMP

Water Quality Objective/Criterion:	Water Quality Control Plan for the San Francisco Bay Basin: Controllable water quality factors shall not cause a detrimental increase in concentrations of toxic substances found in bottom sediments or aquatic life. Effects on aquatic organisms, wildlife, and human health will be considered.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	The modified OEHHA Fish Contaminant Goal for endrin in fish tissue is 660 ppb. This screening level assumes an average body weight of 70 kg and a consumption rate of 32 g/day. A cooking reduction factor of 1 is applied for skin-off fillets. (Klasing, S., and R. Brodberg, 2008; USEPA, 2000)
Guideline Reference:	Development of Fish Contaminant Goals and Advisory Tissue Levels for Common Contaminants in California Sport Fish: Chlordane, DDTs, Dieldrin, Methylmercury, PCBs, Selenium, and Toxaphene Guidance for Assessing Chemical Contaminant Data for Use In Fish Advisories Volume 1: Fish Sampling and Analysis
Spatial Representation:	Data for this assessment unit was collected by one monitoring project: (SWB_FishLk)
Temporal Representation:	Data was collected on a single day 10/21/2008.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	Samples were collected, processed, and analyzed in accordance with the methods described in Quality Assurance Project Plan "Screening Study of Bioaccumulation in California Lakes and Reservoirs." (SWAMP, 2008).
QAPP Information Reference(s):	Quality Assurance Project Plan Screening Study of Bioaccumulation in California Lakes and Reservoirs. Moss Landing Marine Labs. Prepared for SWAMP BOG. 49 pages plus appendices and attachments

Line of Evidence (LOE) for Decision ID 61192, Endrin

Region 2

Almaden Lake

LOE ID:	91016
Pollutant:	Endrin
LOE Subgroup:	Pollutant-Tissue
Matrix:	Tissue
Fraction:	Fish fillet
Beneficial Use:	Warm Freshwater Habitat
Number of Samples:	1
Number of Exceedances:	0
Data and Information Type:	Fish tissue analysis
Data Used to Assess Water Quality:	State Water Board staff assessed SWAMP data for Almaden Lake to determine beneficial use support and results are as follows: 0 of 1 samples exceed the criterion for Endrin. Two composites (5 fish per composite) were generated from one species: Common Carp. Composites were not spatially independent (as defined in the Listing Policy) and so were averaged. Details of the compositing protocol can be found in the March 2009 report entitled: "Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Study" (SWAMP, 2009).
Data Reference:	Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Survey. A Report of the Surface Water Ambient Monitoring Program (SWAMP). California State Water Resources Control Board, Sacramento, CA Statewide Lakes Sportfish Contamination Study 2007 2008 Contaminants in Fish from California Lakes and Reservoirs, 2007-2008: Summary Report on a Two-Year Screening Survey Cruise report for the Surface Water Ambient Monitoring Program (SWAMP) bioaccumulation screening study in California lakes and reservoirs year two (FY 07-08). Sampling dates: April 2008 - November 2008.
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	Water Quality Control Plan for the San Francisco Bay Basin: Controllable water quality

factors shall not cause a detrimental increase in concentrations of toxic substances found in bottom sediments or aquatic life. Effects on aquatic organisms, wildlife, and human health will be considered.

Objective/Criterion Reference:

[Water Quality Control Plan \(Basin Plan\) San Francisco Bay Basin \(Region 2\)](#)

Evaluation Guideline:

National Academy of Science guidelines (NAS 1972) establish a maximum Endrin concentration of 100 ug/Kg (wet weight) in tissue samples for protection of aquatic life from bioaccumulation of toxic substances.

Guideline Reference:

[National Academy of Sciences. Water Quality Criteria 1972. EPA-R3-73-033. Washington, D.C.: U.S. Environmental Protection Agency](#)

Spatial Representation:

Data for this assessment unit was collected by one monitoring project: (SWB_FishLk)

Temporal Representation:

Data was collected on a single day 10/21/2008.

Environmental Conditions:

Staff is not aware of any special conditions that might affect interpretation of the data.

QAPP Information:

Samples were collected, processed, and analyzed in accordance with the methods described in Quality Assurance Project Plan "Screening Study of Bioaccumulation in California Lakes and Reservoirs." (SWAMP, 2008).

QAPP Information Reference(s):

[Quality Assurance Project Plan Screening Study of Bioaccumulation in California Lakes and Reservoirs. Moss Landing Marine Labs. Prepared for SWAMP BOG. 49 pages plus appendices and attachments](#)

Line of Evidence (LOE) for Decision ID 61192, Endrin

Region 2

Almaden Lake

LOE ID: 91017

Pollutant: Endrin
LOE Subgroup: Pollutant-Tissue
Matrix: Tissue
Fraction: Fish fillet

Beneficial Use: Cold Freshwater Habitat

Number of Samples: 1
Number of Exceedances: 0

Data and Information Type: Fish tissue analysis
Data Used to Assess Water Quality: State Water Board staff assessed SWAMP data for Almaden Lake to determine beneficial use support and results are as follows: 0 of 1 samples exceed the criterion for Endrin. Two composites (5 fish per composite) were generated from one species: Common Carp. Composites were not spatially independent (as defined in the Listing Policy) and so were averaged. Details of the compositing protocol can be found in the March 2009 report entitled: "Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Study" (SWAMP, 2009).

Data Reference: [Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Survey. A Report of the Surface Water Ambient Monitoring Program \(SWAMP\). California State Water Resources Control Board, Sacramento, CA Statewide Lakes Sportfish Contamination Study 2007 2008](#)
[Contaminants in Fish from California Lakes and Reservoirs. 2007-2008: Summary Report on a Two-Year Screening Survey](#)
[Cruise report for the Surface Water Ambient Monitoring Program \(SWAMP\) bioaccumulation screening study in California lakes and reservoirs year two \(FY 07-08\). Sampling dates: April 2008 - November 2008.](#)

SWAMP Data: SWAMP

Water Quality Objective/Criterion: Water Quality Control Plan for the San Francisco Bay Basin: Controllable water quality factors shall not cause a detrimental increase in concentrations of toxic substances found in bottom sediments or aquatic life. Effects on aquatic organisms, wildlife, and human health will be considered.

Objective/Criterion Reference: [Water Quality Control Plan \(Basin Plan\) San Francisco Bay Basin \(Region 2\)](#)

Evaluation Guideline:	National Academy of Science guidelines (NAS 1972) establish a maximum Endrin concentration of 100 ug/Kg (wet weight) in tissue samples for protection of aquatic life from bioaccumulation of toxic substances.
Guideline Reference:	National Academy of Sciences. Water Quality Criteria 1972. EPA-R3-73-033. Washington, D.C.: U.S. Environmental Protection Agency
Spatial Representation:	Data for this assessment unit was collected by one monitoring project: (SWB_FishLk)
Temporal Representation:	Data was collected on a single day 10/21/2008.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	Samples were collected, processed, and analyzed in accordance with the methods described in Quality Assurance Project Plan "Screening Study of Bioaccumulation in California Lakes and Reservoirs." (SWAMP, 2008).
QAPP Information Reference(s):	Quality Assurance Project Plan Screening Study of Bioaccumulation in California Lakes and Reservoirs. Moss Landing Marine Labs. Prepared for SWAMP BOG, 49 pages plus appendices and attachments

DECISION ID	61196	Region 2
Almaden Lake		

Pollutant:	Heptachlor epoxide
Final Listing Decision:	Do Not List on 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision:	New Decision
Revision Status	Revised
Impairment from Pollutant or Pollution:	Pollutant
Regional Board Staff Conclusion:	<p>This pollutant is being considered for placement on the CWA section 303(d) List under section 3.1 of the Listing Policy. Under section 3.1 a single line of evidence is necessary to assess listing status. Three lines of evidence are available in the administrative record to assess this pollutant. Zero of one samples exceed the guideline.</p> <p>Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against placing this water segment-pollutant combination on the CWA section 303(d) List.</p> <p>This conclusion is based on the staff findings that:</p> <ol style="list-style-type: none"> 1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy. 2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy. 3. Zero of one samples exceed the guideline and this sample size is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating. A minimum of 16 samples is needed to determine if a beneficial use is fully supported using table 3.1. 4. Pursuant to SECTION 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.
Regional Board Staff Decision Recommendation:	After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be placed on the section 303(d) list. The readily available data and information is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating.

Line of Evidence (LOE) for Decision ID 61196, Heptachlor epoxide	Region 2
Almaden Lake	

LOE ID:	91041
Pollutant:	Heptachlor epoxide
LOE Subgroup:	Pollutant-Tissue
Matrix:	Tissue
Fraction:	Fish fillet

Beneficial Use:	Commercial or recreational collection of fish, shellfish, or organisms
Number of Samples:	0
Number of Exceedances:	0
Data and Information Type:	Fish tissue analysis
Data Used to Assess Water Quality:	State Water Board staff assessed SWAMP data for Almaden Lake to determine beneficial use support and results are as follows: 0 of 0 samples exceed the criterion for Heptachlor epoxide. Two compositse (5 fish per composite) were generated from one species: Common Carp. Composites were not spatially independent (as defined in the Listing Policy) and so were averaged. Details of the compositing protocol can be found in the March 2009 report entitled: "Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Study" (SWAMP, 2009). One composite was not used in the assessment because the laboratory data reporting limit(s) was above the objective and therefore the results could not be quantified with the level of certainty required by the Listing Policy.
Data Reference:	Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Survey. A Report of the Surface Water Ambient Monitoring Program (SWAMP). California State Water Resources Control Board, Sacramento, CA Statewide Lakes Sportfish Contamination Study 2007 2008 Contaminants in Fish from California Lakes and Reservoirs, 2007-2008: Summary Report on a Two-Year Screening Survey Cruise report for the Surface Water Ambient Monitoring Program (SWAMP) bioaccumulation screening study in California lakes and reservoirs year two (FY 07-08). Sampling dates: April 2008 - November 2008.
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	Water Quality Control Plan for the San Francisco Bay Basin: Controllable water quality factors shall not cause a detrimental increase in concentrations of toxic substances found in bottom sediments or aquatic life. Effects on aquatic organisms, wildlife, and human health will be considered.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	The modified OEHHA Fish Contaminant Goal for heptachlor epoxide in fish tissue is 0.93 ppb. This screening level assumes an average body weight of 70 kg and a consumption rate of 32 g/day for a 30 year exposure over a 70-year lifetime. This constituent is a carcinogen therefore the risk level is set to one in a million. A cooking reduction factor of 1 is applied for skin-off fillets. (Klasing, S., and R. Brodberg, 2008; OEHHA, 1999)
Guideline Reference:	Development of Fish Contaminant Goals and Advisory Tissue Levels for Common Contaminants in California Sport Fish: Chlordane, DDTs, Dieldrin, Methylmercury, PCBs, Selenium, and Toxaphene Public Health Goal for Heptachlor and Heptachlor Epoxide in Drinking Water
Spatial Representation:	Data for this assessment unit was collected by one monitoring project: (SWB_FishLk)
Temporal Representation:	Data was collected on a single day 10/21/2008.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	Samples were collected, processed, and analyzed in accordance with the methods described in Quality Assurance Project Plan "Screening Study of Bioaccumulation in California Lakes and Reservoirs." (SWAMP, 2008).
QAPP Information Reference(s):	Quality Assurance Project Plan Screening Study of Bioaccumulation in California Lakes and Reservoirs. Moss Landing Marine Labs. Prepared for SWAMP BOG. 49 pages plus appendices and attachments

Line of Evidence (LOE) for Decision ID 61196, Heptachlor epoxide

Region 2

Almaden Lake

LOE ID:	91039
Pollutant:	Heptachlor epoxide
LOE Subgroup:	Pollutant-Tissue

Matrix:	Tissue
Fraction:	Fish fillet
Beneficial Use:	Warm Freshwater Habitat
Number of Samples:	1
Number of Exceedances:	0
Data and Information Type:	Fish tissue analysis
Data Used to Assess Water Quality:	State Water Board staff assessed SWAMP data for Almaden Lake to determine beneficial use support and results are as follows: 0 of 1 samples exceed the criterion for Heptachlor epoxide. Two composites (5 fish per composite) were generated from one species: Common Carp. Composites were not spatially independent (as defined in the Listing Policy) and so were averaged. Details of the compositing protocol can be found in the March 2009 report entitled: "Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Study" (SWAMP, 2009).
Data Reference:	Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Survey. A Report of the Surface Water Ambient Monitoring Program (SWAMP). California State Water Resources Control Board, Sacramento, CA Statewide Lakes Sportfish Contamination Study 2007 2008 Contaminants in Fish from California Lakes and Reservoirs, 2007-2008: Summary Report on a Two-Year Screening Survey Cruise report for the Surface Water Ambient Monitoring Program (SWAMP) bioaccumulation screening study in California lakes and reservoirs year two (FY 07-08). Sampling dates: April 2008 - November 2008.
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	Water Quality Control Plan for the San Francisco Bay Basin: Controllable water quality factors shall not cause a detrimental increase in concentrations of toxic substances found in bottom sediments or aquatic life. Effects on aquatic organisms, wildlife, and human health will be considered.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	National Academy of Science guidelines (NAS 1972) establish a maximum Heptachlor Epoxide concentration of 100 ug/Kg (wet weight) in tissue samples for protection of aquatic life from bioaccumulation of toxic substances.
Guideline Reference:	National Academy of Sciences. Water Quality Criteria 1972. EPA-R3-73-033. Washington, D.C.: U.S. Environmental Protection Agency
Spatial Representation:	Data for this assessment unit was collected by one monitoring project: (SWB_FishLk)
Temporal Representation:	Data was collected on a single day 10/21/2008.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	Samples were collected, processed, and analyzed in accordance with the methods described in Quality Assurance Project Plan "Screening Study of Bioaccumulation in California Lakes and Reservoirs." (SWAMP, 2008).
QAPP Information Reference(s):	Quality Assurance Project Plan Screening Study of Bioaccumulation in California Lakes and Reservoirs. Moss Landing Marine Labs. Prepared for SWAMP BOG. 49 pages plus appendices and attachments

Line of Evidence (LOE) for Decision ID 61196, Heptachlor epoxide

Region 2

Almaden Lake

LOE ID:	91040
Pollutant:	Heptachlor epoxide
LOE Subgroup:	Pollutant-Tissue
Matrix:	Tissue
Fraction:	Fish fillet
Beneficial Use:	Cold Freshwater Habitat

Number of Samples:	1
Number of Exceedances:	0
Data and Information Type:	Fish tissue analysis
Data Used to Assess Water Quality:	State Water Board staff assessed SWAMP data for Almaden Lake to determine beneficial use support and results are as follows: 0 of 1 samples exceed the criterion for Heptachlor epoxide. Two composites (5 fish per composite) were generated from one species: Common Carp. Composites were not spatially independent (as defined in the Listing Policy) and so were averaged. Details of the compositing protocol can be found in the March 2009 report entitled: "Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Study" (SWAMP, 2009).
Data Reference:	Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Survey. A Report of the Surface Water Ambient Monitoring Program (SWAMP). California State Water Resources Control Board, Sacramento, CA Statewide Lakes Sportfish Contamination Study 2007 2008 Contaminants in Fish from California Lakes and Reservoirs, 2007-2008: Summary Report on a Two-Year Screening Survey Cruise report for the Surface Water Ambient Monitoring Program (SWAMP) bioaccumulation screening study in California lakes and reservoirs year two (FY 07-08). Sampling dates: April 2008 - November 2008.
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	Water Quality Control Plan for the San Francisco Bay Basin: Controllable water quality factors shall not cause a detrimental increase in concentrations of toxic substances found in bottom sediments or aquatic life. Effects on aquatic organisms, wildlife, and human health will be considered.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	National Academy of Science guidelines (NAS 1972) establish a maximum Heptachlor Epoxide concentration of 100 ug/Kg (wet weight) in tissue samples for protection of aquatic life from bioaccumulation of toxic substances.
Guideline Reference:	National Academy of Sciences. Water Quality Criteria 1972. EPA-R3-73-033. Washington, D.C.: U.S. Environmental Protection Agency
Spatial Representation:	Data for this assessment unit was collected by one monitoring project: (SWB_FishLk)
Temporal Representation:	Data was collected on a single day 10/21/2008.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	Samples were collected, processed, and analyzed in accordance with the methods described in Quality Assurance Project Plan "Screening Study of Bioaccumulation in California Lakes and Reservoirs." (SWAMP, 2008).
QAPP Information Reference(s):	Quality Assurance Project Plan Screening Study of Bioaccumulation in California Lakes and Reservoirs. Moss Landing Marine Labs. Prepared for SWAMP BOG. 49 pages plus appendices and attachments

DECISION ID	61197	Region 2
Almaden Lake		
Pollutant:	Hexachlorobenzene/ HCB	
Final Listing Decision:	Do Not List on 303(d) list (TMDL required list)	
Last Listing Cycle's Final Listing Decision:	New Decision	
Revision Status	Revised	
Impairment from Pollutant or Pollution:	Pollutant	
Regional Board Staff Conclusion:	This pollutant is being considered for placement on the CWA section 303(d) List under section 3.1 of the Listing Policy. Under section 3.1 a single line of evidence is necessary to assess listing status. One line of evidence is available in the administrative record to assess this pollutant. Zero of one samples exceed the guideline.	

Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against placing this water segment-pollutant combination on the CWA section 303(d) List.

This conclusion is based on the staff findings that:

1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy.
2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy.
3. Zero of one samples exceed the guideline and this sample size is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating. A minimum of 16 samples is needed to determine if a beneficial use is fully supported using table 3.1.
4. Pursuant to SECTION 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.

Regional Board Staff Decision Recommendation: After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be placed on the section 303(d) list. The readily available data and information is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating.

Line of Evidence (LOE) for Decision ID 61197, Hexachlorobenzene/ HCB

Region 2

Almaden Lake

LOE ID:	91042
Pollutant:	Hexachlorobenzene/ HCB
LOE Subgroup:	Pollutant-Tissue
Matrix:	Tissue
Fraction:	Fish fillet
Beneficial Use:	Commercial or recreational collection of fish, shellfish, or organisms
Number of Samples:	1
Number of Exceedances:	0
Data and Information Type:	Fish tissue analysis
Data Used to Assess Water Quality:	State Water Board staff assessed SWAMP data for Almaden Lake to determine beneficial use support and results are as follows: 0 of 1 samples exceed the criterion for Hexachlorobenzene. Two composites (5 fish per composite) were generated from one species: Common Carp. Composites were not spatially independent (as defined in the Listing Policy) and so were averaged. Details of the compositing protocol can be found in the March 2009 report entitled: "Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Study" (SWAMP, 2009).
Data Reference:	Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Survey. A Report of the Surface Water Ambient Monitoring Program (SWAMP). California State Water Resources Control Board, Sacramento, CA Statewide Lakes Sportfish Contamination Study 2007 2008 Contaminants in Fish from California Lakes and Reservoirs, 2007-2008: Summary Report on a Two-Year Screening Survey Cruise report for the Surface Water Ambient Monitoring Program (SWAMP) bioaccumulation screening study in California lakes and reservoirs year two (FY 07-08). Sampling dates: April 2008 - November 2008.
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	Water Quality Control Plan for the San Francisco Bay Basin: Controllable water quality factors shall not cause a detrimental increase in concentrations of toxic substances found in bottom sediments or aquatic life. Effects on aquatic organisms, wildlife, and human health will be considered.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	The modified OEHHA Fish Contaminant Goal for hexachlorobenzene in fish tissue is 2.8

Guideline Reference:	ppb. This screening level assumes an average body weight of 70 kg and a consumption rate of 32 g/day for a 30 year exposure over a 70-year lifetime. This constituent is a carcinogen therefore the risk level is set to one in a million. A cooking reduction factor of 1 is applied for skin-off fillets. (Klasing, S., and R. Brodberg, 2008; OEHHA, 2005) Development of Fish Contaminant Goals and Advisory Tissue Levels for Common Contaminants in California Sport Fish: Chlordane, DDTs, Dieldrin, Methylmercury, PCBs, Selenium, and Toxaphene Air Toxics Hotspots Program Risk Assessment Guidelines. Part II Technical Support Document for Describing Available Cancer Potency Values.
Spatial Representation:	Data for this assessment unit was collected by one monitoring project: (SWB_FishLk)
Temporal Representation:	Data was collected on a single day 10/21/2008.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	Samples were collected, processed, and analyzed in accordance with the methods described in Quality Assurance Project Plan "Screening Study of Bioaccumulation in California Lakes and Reservoirs." (SWAMP, 2008).
QAPP Information Reference(s):	Quality Assurance Project Plan Screening Study of Bioaccumulation in California Lakes and Reservoirs. Moss Landing Marine Labs. Prepared for SWAMP BOG. 49 pages plus appendices and attachments

DECISION ID	61198	Region 2
Almaden Lake		

Pollutant:	Lindane/gamma Hexachlorocyclohexane (gamma-HCH)
Final Listing Decision:	Do Not List on 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision:	New Decision
Revision Status	Revised
Impairment from Pollutant or Pollution:	Pollutant

Regional Board Staff Conclusion: This pollutant is being considered for placement on the CWA section 303(d) List under section 3.1 of the Listing Policy. Under section 3.1 a single line of evidence is necessary to assess listing status. Three lines of evidence are available in the administrative record to assess this pollutant. Zero of one samples exceed the guideline.

Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against placing this water segment-pollutant combination on the CWA section 303(d) List.

This conclusion is based on the staff findings that:

1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy.
2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy.
3. Zero of one samples exceed the guideline and this sample size is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating. A minimum of 16 samples is needed to determine if a beneficial use is fully supported using table 3.1.
4. Pursuant to SECTION 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.

Regional Board Staff Decision Recommendation: After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be placed on the section 303(d) list. The readily available data and information is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating.

Line of Evidence (LOE) for Decision ID 61198, Lindane/gamma Hexachlorocyclohexane (gamma-HCH)	Region 2
Almaden Lake	

LOE ID: 91043

Pollutant:	Lindane/gamma Hexachlorocyclohexane (gamma-HCH)
LOE Subgroup:	Pollutant-Tissue
Matrix:	Tissue
Fraction:	Fish fillet
Beneficial Use:	Warm Freshwater Habitat
Number of Samples:	1
Number of Exceedances:	0
Data and Information Type:	Fish tissue analysis
Data Used to Assess Water Quality:	State Water Board staff assessed SWAMP data for Almaden Lake to determine beneficial use support and results are as follows: 0 of 1 samples exceed the criterion for HCH, gamma. Two composites (5 fish per composite) were generated from one species: Common Carp. Composites were not spatially independent (as defined in the Listing Policy) and so were averaged. Details of the compositing protocol can be found in the March 2009 report entitled: "Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Study" (SWAMP, 2009).
Data Reference:	Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Survey. A Report of the Surface Water Ambient Monitoring Program (SWAMP). California State Water Resources Control Board, Sacramento, CA Statewide Lakes Sportfish Contamination Study 2007 2008 Contaminants in Fish from California Lakes and Reservoirs, 2007-2008: Summary Report on a Two-Year Screening Survey Cruise report for the Surface Water Ambient Monitoring Program (SWAMP) bioaccumulation screening study in California lakes and reservoirs year two (FY 07-08). Sampling dates: April 2008 - November 2008.
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	Water Quality Control Plan for the San Francisco Bay Basin: Controllable water quality factors shall not cause a detrimental increase in concentrations of toxic substances found in bottom sediments or aquatic life. Effects on aquatic organisms, wildlife, and human health will be considered.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	The modified OEHHA Fish Contaminant Goal for lindane in fish tissue is 4.6 ppb. This screening level assumes an average body weight of 70 kg and a consumption rate of 32 g/day for a 30 year exposure over a 70-year lifetime. This constituent is a carcinogen therefore the risk level is set to one in a million. A cooking reduction factor of 1 is applied for skin-off fillets. (Klasing, S., and R. Brodberg, 2008; OEHHA, 2005)
Guideline Reference:	National Academy of Sciences. Water Quality Criteria 1972. EPA-R3-73-033. Washington, D.C.: U.S. Environmental Protection Agency
Spatial Representation:	Data for this assessment unit was collected by one monitoring project: (SWB_FishLk)
Temporal Representation:	Data was collected on a single day 10/21/2008.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	Samples were collected, processed, and analyzed in accordance with the methods described in Quality Assurance Project Plan "Screening Study of Bioaccumulation in California Lakes and Reservoirs." (SWAMP, 2008).
QAPP Information Reference(s):	Quality Assurance Project Plan Screening Study of Bioaccumulation in California Lakes and Reservoirs. Moss Landing Marine Labs. Prepared for SWAMP BOG. 49 pages plus appendices and attachments

Line of Evidence (LOE) for Decision ID 61198, Lindane/gamma Hexachlorocyclohexane (gamma-HCH)

Region 2

Almaden Lake

LOE ID:	91044
Pollutant:	Lindane/gamma Hexachlorocyclohexane (gamma-HCH)

LOE Subgroup:	Pollutant-Tissue
Matrix:	Tissue
Fraction:	Fish fillet
Beneficial Use:	Commercial or recreational collection of fish, shellfish, or organisms
Number of Samples:	1
Number of Exceedances:	0
Data and Information Type:	Fish tissue analysis
Data Used to Assess Water Quality:	State Water Board staff assessed SWAMP data for Almaden Lake to determine beneficial use support and results are as follows: 0 of 1 samples exceed the criterion for HCH, gamma. Two composites (5 fish per composite) were generated from one species: Common Carp. Composites were not spatially independent (as defined in the Listing Policy) and so were averaged. Details of the compositing protocol can be found in the March 2009 report entitled: "Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Study" (SWAMP, 2009).
Data Reference:	Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Survey. A Report of the Surface Water Ambient Monitoring Program (SWAMP). California State Water Resources Control Board, Sacramento, CA Statewide Lakes Sportfish Contamination Study 2007 2008 Contaminants in Fish from California Lakes and Reservoirs, 2007-2008: Summary Report on a Two-Year Screening Survey Cruise report for the Surface Water Ambient Monitoring Program (SWAMP) bioaccumulation screening study in California lakes and reservoirs year two (FY 07-08). Sampling dates: April 2008 - November 2008.
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	Water Quality Control Plan for the San Francisco Bay Basin: Controllable water quality factors shall not cause a detrimental increase in concentrations of toxic substances found in bottom sediments or aquatic life. Effects on aquatic organisms, wildlife, and human health will be considered.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	The modified OEHHA Fish Contaminant Goal for lindane in fish tissue is 4.6 ppb. This screening level assumes an average body weight of 70 kg and a consumption rate of 32 g/day for a 30 year exposure over a 70-year lifetime. This constituent is a carcinogen therefore the risk level is set to one in a million. A cooking reduction factor of 1 is applied for skin-off fillets.
Guideline Reference:	Development of Fish Contaminant Goals and Advisory Tissue Levels for Common Contaminants in California Sport Fish: Chlordane, DDTs, Dieldrin, Methylmercury, PCBs, Selenium, and Toxaphene Air Toxics Hotspots Program Risk Assessment Guidelines. Part II Technical Support Document for Describing Available Cancer Potency Values.
Spatial Representation:	Data for this assessment unit was collected by one monitoring project: (SWB_FishLk)
Temporal Representation:	Data was collected on a single day 10/21/2008.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	Samples were collected, processed, and analyzed in accordance with the methods described in Quality Assurance Project Plan "Screening Study of Bioaccumulation in California Lakes and Reservoirs." (SWAMP, 2008).
QAPP Information Reference(s):	Quality Assurance Project Plan Screening Study of Bioaccumulation in California Lakes and Reservoirs. Moss Landing Marine Labs. Prepared for SWAMP BOG, 49 pages plus appendices and attachments

Line of Evidence (LOE) for Decision ID 61198, Lindane/gamma Hexachlorocyclohexane (gamma-HCH)

Region 2

Almaden Lake

LOE ID: 91029

Pollutant:	Lindane/gamma Hexachlorocyclohexane (gamma-HCH)
LOE Subgroup:	Pollutant-Tissue
Matrix:	Tissue
Fraction:	Fish fillet
Beneficial Use:	Cold Freshwater Habitat
Number of Samples:	1
Number of Exceedances:	0
Data and Information Type:	Fish tissue analysis
Data Used to Assess Water Quality:	State Water Board staff assessed SWAMP data for Almaden Lake to determine beneficial use support and results are as follows: 0 of 1 samples exceed the criterion for HCH, gamma. Two composites (5 fish per composite) were generated from one species: Common Carp. Composites were not spatially independent (as defined in the Listing Policy) and so were averaged. Details of the compositing protocol can be found in the March 2009 report entitled: "Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Study" (SWAMP, 2009).
Data Reference:	Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Survey. A Report of the Surface Water Ambient Monitoring Program (SWAMP). California State Water Resources Control Board, Sacramento, CA Statewide Lakes Sportfish Contamination Study 2007 2008 Contaminants in Fish from California Lakes and Reservoirs, 2007-2008: Summary Report on a Two-Year Screening Survey Cruise report for the Surface Water Ambient Monitoring Program (SWAMP) bioaccumulation screening study in California lakes and reservoirs year two (FY 07-08). Sampling dates: April 2008 - November 2008.
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	Water Quality Control Plan for the San Francisco Bay Basin: Controllable water quality factors shall not cause a detrimental increase in concentrations of toxic substances found in bottom sediments or aquatic life. Effects on aquatic organisms, wildlife, and human health will be considered.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	The modified OEHHA Fish Contaminant Goal for lindane in fish tissue is 4.6 ppb. This screening level assumes an average body weight of 70 kg and a consumption rate of 32 g/day for a 30 year exposure over a 70-year lifetime. This constituent is a carcinogen therefore the risk level is set to one in a million. A cooking reduction factor of 1 is applied for skin-off fillets. (Klasing, S., and R. Brodberg, 2008; OEHHA, 2005)
Guideline Reference:	National Academy of Sciences. Water Quality Criteria 1972. EPA-R3-73-033. Washington, D.C.: U.S. Environmental Protection Agency
Spatial Representation:	Data for this assessment unit was collected by one monitoring project: (SWB_FishLk)
Temporal Representation:	Data was collected on a single day 10/21/2008.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	Samples were collected, processed, and analyzed in accordance with the methods described in Quality Assurance Project Plan "Screening Study of Bioaccumulation in California Lakes and Reservoirs." (SWAMP, 2008).
QAPP Information Reference(s):	Quality Assurance Project Plan Screening Study of Bioaccumulation in California Lakes and Reservoirs. Moss Landing Marine Labs. Prepared for SWAMP BOG. 49 pages plus appendices and attachments

DECISION ID	61204	Region 2
Almaden Lake		

Pollutant:	Mirex
Final Listing Decision:	Do Not List on 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision:	New Decision

Revision Status
Impairment from Pollutant or
Pollution:

Revised
Pollutant

Regional Board Staff
Conclusion:

This pollutant is being considered for placement on the CWA section 303(d) List under section 3.1 of the Listing Policy. Under section 3.1 a single line of evidence is necessary to assess listing status. One line of evidence is available in the administrative record to assess this pollutant. Zero of zero samples exceed the guideline.

Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against placing this water segment-pollutant combination on the CWA section 303(d) List.

This conclusion is based on the staff findings that:

1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy.
2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy.
3. Zero of zero samples exceed the guideline and this sample size is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating. A minimum of 16 samples is needed to determine if a beneficial use is fully supported using table 3.1.
4. Pursuant to SECTION 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.

Regional Board Staff Decision
Recommendation:

After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be placed on the section 303(d) list. The readily available data and information is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating.

Line of Evidence (LOE) for Decision ID 61204, Mirex

Region 2

Almaden Lake

LOE ID: 91031

Pollutant: Mirex
LOE Subgroup: Pollutant-Tissue
Matrix: Tissue
Fraction: Fish fillet

Beneficial Use: Commercial or recreational collection of fish, shellfish, or organisms

Number of Samples: 0
Number of Exceedances: 0

Data and Information Type: Fish tissue analysis
Data Used to Assess Water Quality: State Water Board staff assessed SWAMP data for Almaden Lake to determine beneficial use support and results are as follows: 0 of 0 samples exceed the criterion for Mirex. Two composites (5 fish per composite) were generated from one species: Common Carp. Details of the compositing protocol can be found in the March 2009 report entitled: "Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Study" (SWAMP, 2009). One composite was not used in the assessment because the laboratory data reporting limit(s) was above the objective and therefore the results could not be quantified with the level of certainty required by the Listing Policy.

Data Reference: [Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Survey. A Report of the Surface Water Ambient Monitoring Program \(SWAMP\). California State Water Resources Control Board, Sacramento, CA Statewide Lakes Sportfish Contamination Study 2007 2008](#)
[Contaminants in Fish from California Lakes and Reservoirs, 2007-2008: Summary Report on a Two-Year Screening Survey](#)
[Cruise report for the Surface Water Ambient Monitoring Program \(SWAMP\) bioaccumulation screening study in California lakes and reservoirs year two \(FY 07-08\). Sampling dates: April 2008 - November 2008.](#)

SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	Water Quality Control Plan for the San Francisco Bay Basin: Controllable water quality factors shall not cause a detrimental increase in concentrations of toxic substances found in bottom sediments or aquatic life. Effects on aquatic organisms, wildlife, and human health will be considered.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	The modified OEHHA Fish Contaminant Goal for mirex in fish tissue is 0.28 ppb. This screening level assumes an average body weight of 70 kg and a consumption rate of 32 g/day. A cooking reduction factor of 1 is applied for skin-off fillets. (Klasing, S., and R. Brodberg, 2008; OEHHA, 1992)
Guideline Reference:	Development of Fish Contaminant Goals and Advisory Tissue Levels for Common Contaminants in California Sport Fish: Chlordane, DDTs, Dieldrin, Methylmercury, PCBs, Selenium, and Toxaphene Expedited Cancer Potency Values and Proposed Regulatory Levels for Certain Proposition 65 Carcinogens.
Spatial Representation:	Data for this assessment unit was collected by one monitoring project: (SWB_FishLk)
Temporal Representation:	Data was collected on a single day 10/21/2008.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	Samples were collected, processed, and analyzed in accordance with the methods described in Quality Assurance Project Plan "Screening Study of Bioaccumulation in California Lakes and Reservoirs." (SWAMP, 2008).
QAPP Information Reference(s):	Quality Assurance Project Plan Screening Study of Bioaccumulation in California Lakes and Reservoirs. Moss Landing Marine Labs. Prepared for SWAMP BOG, 49 pages plus appendices and attachments

DECISION ID	61205	Region 2
Almaden Lake		
Pollutant:	PCBs (Polychlorinated biphenyls)	
Final Listing Decision:	Do Not List on 303(d) list (TMDL required list)	
Last Listing Cycle's Final Listing Decision:	New Decision	
Revision Status	Revised	
Impairment from Pollutant or Pollution:	Pollutant	
Regional Board Staff Conclusion:	<p>This pollutant is being considered for placement on the CWA section 303(d) List under section 3.1 of the Listing Policy. Under section 3.1 a single line of evidence is necessary to assess listing status. Three lines of evidence are available in the administrative record to assess this pollutant. One of one samples exceed the guideline.</p> <p>Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against placing this water segment-pollutant combination on the CWA section 303(d) List.</p> <p>This conclusion is based on the staff findings that:</p> <ol style="list-style-type: none"> 1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy. 2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy. 3. One of one samples exceed the guideline and this sample size is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating. A minimum of 16 samples is needed to determine if a beneficial use is fully supported using table 3.1. 4. Pursuant to SECTION 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met. 	
Regional Board Staff Decision Recommendation:	After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be placed on the section 303(d) list. The readily available data and information is insufficient to determine, with the power and confidence of the Listing Policy, the	

Line of Evidence (LOE) for Decision ID 61205, PCBs (Polychlorinated biphenyls)**Region 2****Almaden Lake**

LOE ID:	91034
Pollutant:	PCBs (Polychlorinated biphenyls)
LOE Subgroup:	Pollutant-Tissue
Matrix:	Tissue
Fraction:	Fish fillet
Beneficial Use:	Commercial or recreational collection of fish, shellfish, or organisms
Number of Samples:	1
Number of Exceedances:	1
Data and Information Type:	Fish tissue analysis
Data Used to Assess Water Quality:	State Water Board staff assessed SWAMP data for Almaden Lake to determine beneficial use support and results are as follows: 1 of 1 samples exceed the criterion for PCB, Total. One composite (5 fish per composite) was generated from one species: Common Carp. Details of the compositing protocol can be found in the March 2009 report entitled: "Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Study" (SWAMP, 2009). Total PCB was assessed for as follows: PCB aroclors and congeners were summed separately and the sum that yielded the highest value was used for the assessment.
Data Reference:	Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Survey. A Report of the Surface Water Ambient Monitoring Program (SWAMP). California State Water Resources Control Board, Sacramento, CA Statewide Lakes Sportfish Contamination Study 2007 2008 Contaminants in Fish from California Lakes and Reservoirs, 2007-2008: Summary Report on a Two-Year Screening Survey Cruise report for the Surface Water Ambient Monitoring Program (SWAMP) bioaccumulation screening study in California lakes and reservoirs year two (FY 07-08). Sampling dates: April 2008 - November 2008.
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	Water Quality Control Plan for the San Francisco Bay Basin (2013): Controllable water quality factors shall not cause a detrimental increase in concentrations of toxic substances found in bottom sediments or aquatic life. Effects on aquatic organisms, wildlife, and human health will be considered.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	The modified OEHHA Fish Contaminant Goal for polychlorinated biphenyls in fish tissue is 2.6 ppb. This screening level assumes an average body weight of 70 kg and a consumption rate of 32 g/day for a 30 year exposure over a 70-year lifetime. This constituent is a carcinogen therefore the risk level is set to one in a million. A cooking reduction factor of 1 is applied for skin-off fillets. (Klasing, S., and R. Brodberg, 2008)
Guideline Reference:	Development of Fish Contaminant Goals and Advisory Tissue Levels for Common Contaminants in California Sport Fish: Chlordane, DDTs, Dieldrin, Methylmercury, PCBs, Selenium, and Toxaphene
Spatial Representation:	Data for this assessment unit was collected by one monitoring project: (SWB_FishLk)
Temporal Representation:	Data was collected on a single day 10/21/2008.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	Samples were collected, processed, and analyzed in accordance with the methods described in Quality Assurance Project Plan "Screening Study of Bioaccumulation in California Lakes and Reservoirs." (SWAMP, 2008).
QAPP Information Reference(s):	Quality Assurance Project Plan Screening Study of Bioaccumulation in California Lakes and Reservoirs. Moss Landing Marine Labs. Prepared for SWAMP BOG, 49 pages plus

Line of Evidence (LOE) for Decision ID 61205, PCBs (Polychlorinated biphenyls)**Region 2****Almaden Lake**

LOE ID:	91033
Pollutant:	PCBs (Polychlorinated biphenyls)
LOE Subgroup:	Pollutant-Tissue
Matrix:	Tissue
Fraction:	Fish fillet
Beneficial Use:	Cold Freshwater Habitat
Number of Samples:	1
Number of Exceedances:	0
Data and Information Type:	Fish tissue analysis
Data Used to Assess Water Quality:	State Water Board staff assessed SWAMP data for Almaden Lake to determine beneficial use support and results are as follows: 0 of 1 samples exceed the criterion for PCB, Total. One composite (5 fish per composite) was generated from one species: Common Carp. Details of the compositing protocol can be found in the March 2009 report entitled: "Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Study" (SWAMP, 2009). Total PCB was assessed for as follows: PCB aroclors and congeners were summed separately and the sum that yielded the highest value was used for the assessment.
Data Reference:	Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Survey. A Report of the Surface Water Ambient Monitoring Program (SWAMP). California State Water Resources Control Board, Sacramento, CA Statewide Lakes Sportfish Contamination Study 2007 2008 Contaminants in Fish from California Lakes and Reservoirs, 2007-2008: Summary Report on a Two-Year Screening Survey Cruise report for the Surface Water Ambient Monitoring Program (SWAMP) bioaccumulation screening study in California lakes and reservoirs year two (FY 07-08). Sampling dates: April 2008 - November 2008.
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	Water Quality Control Plan for the San Francisco Bay Basin (2013): Controllable water quality factors shall not cause a detrimental increase in concentrations of toxic substances found in bottom sediments or aquatic life. Effects on aquatic organisms, wildlife, and human health will be considered.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	National Academy of Science guidelines (NAS 1972) establish a maximum total PCB concentration of 500 ug/Kg (wet weight) in tissue samples for protection of aquatic life from bioaccumulation of toxic substances.
Guideline Reference:	National Academy of Sciences. Water Quality Criteria 1972. EPA-R3-73-033. Washington, D.C.: U.S. Environmental Protection Agency
Spatial Representation:	Data for this assessment unit was collected by one monitoring project: (SWB_FishLk)
Temporal Representation:	Data was collected on a single day 10/21/2008.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	Samples were collected, processed, and analyzed in accordance with the methods described in Quality Assurance Project Plan "Screening Study of Bioaccumulation in California Lakes and Reservoirs." (SWAMP, 2008).
QAPP Information Reference(s):	Quality Assurance Project Plan Screening Study of Bioaccumulation in California Lakes and Reservoirs. Moss Landing Marine Labs. Prepared for SWAMP BOG, 49 pages plus appendices and attachments

Line of Evidence (LOE) for Decision ID 61205, PCBs (Polychlorinated biphenyls)**Region 2**

Almaden Lake

LOE ID:	91032
Pollutant:	PCBs (Polychlorinated biphenyls)
LOE Subgroup:	Pollutant-Tissue
Matrix:	Tissue
Fraction:	Fish fillet
Beneficial Use:	Warm Freshwater Habitat
Number of Samples:	1
Number of Exceedances:	0
Data and Information Type:	Fish tissue analysis
Data Used to Assess Water Quality:	State Water Board staff assessed SWAMP data for Almaden Lake to determine beneficial use support and results are as follows: 0 of 1 samples exceed the criterion for PCB, Total. Two composites (5 fish per composite) were generated from one species: Common Carp. Composites were not spatially independent (as defined in the Listing Policy) and so were averaged. Details of the compositing protocol can be found in the March 2009 report entitled: "Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Study" (SWAMP, 2009). Total PCB was assessed for as follows: PCB aroclors and congeners were summed separately and the sum that yielded the highest value was used for the assessment.
Data Reference:	Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Survey. A Report of the Surface Water Ambient Monitoring Program (SWAMP). California State Water Resources Control Board, Sacramento, CA Statewide Lakes Sportfish Contamination Study 2007 2008 Contaminants in Fish from California Lakes and Reservoirs, 2007-2008: Summary Report on a Two-Year Screening Survey Cruise report for the Surface Water Ambient Monitoring Program (SWAMP) bioaccumulation screening study in California lakes and reservoirs year two (FY 07-08). Sampling dates: April 2008 - November 2008.
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	Water Quality Control Plan for the San Francisco Bay Basin (2013): Controllable water quality factors shall not cause a detrimental increase in concentrations of toxic substances found in bottom sediments or aquatic life. Effects on aquatic organisms, wildlife, and human health will be considered.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	National Academy of Science guidelines (NAS 1972) establish a maximum total PCB concentration of 500 ug/Kg (wet weight) in tissue samples for protection of aquatic life from bioaccumulation of toxic substances.
Guideline Reference:	National Academy of Sciences. Water Quality Criteria 1972. EPA-R3-73-033. Washington, D.C.: U.S. Environmental Protection Agency
Spatial Representation:	Data for this assessment unit was collected by one monitoring project: (SWB_FishLk)
Temporal Representation:	Data was collected on a single day 10/21/2008.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	Samples were collected, processed, and analyzed in accordance with the methods described in Quality Assurance Project Plan "Screening Study of Bioaccumulation in California Lakes and Reservoirs." (SWAMP, 2008).
QAPP Information Reference(s):	Quality Assurance Project Plan Screening Study of Bioaccumulation in California Lakes and Reservoirs. Moss Landing Marine Labs. Prepared for SWAMP BOG. 49 pages plus appendices and attachments

DECISION ID
Almaden Lake

61193

Region 2

Pollutant:	Heptachlor
Final Listing Decision:	Do Not List on 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision:	New Decision
Revision Status	Original
Impairment from Pollutant or Pollution:	Pollutant

Regional Board Staff Conclusion: This pollutant is being considered for placement on the CWA section 303(d) List under section 3.1 of the Listing Policy. Under section 3.1 a single line of evidence is necessary to assess listing status. Two lines of evidence are available in the administrative record to assess this pollutant. Zero of one samples exceed the guideline.

Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against placing this water segment-pollutant combination on the CWA section 303(d) List.

This conclusion is based on the staff findings that:

1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy.
2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy.
3. Zero of one samples exceed the guideline and this sample size is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating. A minimum of 16 samples is needed to determine if a beneficial use is fully supported using table 3.1.
4. Pursuant to SECTION 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.

Regional Board Staff Decision Recommendation: After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be placed on the section 303(d) list. The readily available data and information is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating.

Line of Evidence (LOE) for Decision ID 61193, Heptachlor Almaden Lake

Region 2

LOE ID: 91019

Pollutant:	Heptachlor
LOE Subgroup:	Pollutant-Tissue
Matrix:	Tissue
Fraction:	Fish fillet

Beneficial Use: Warm Freshwater Habitat

Number of Samples:	1
Number of Exceedances:	0

Data and Information Type: Fish tissue analysis

Data Used to Assess Water Quality: State Water Board staff assessed SWAMP data for Almaden Lake to determine beneficial use support and results are as follows: 0 of 1 samples exceed the criterion for Heptachlor. Two composites (5 fish per composite) were generated from one species: Common Carp. Composites were not spatially independent (as defined in the Listing Policy) and so were averaged. Details of the compositing protocol can be found in the March 2009 report entitled: "Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Study" (SWAMP, 2009).

Data Reference: [Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Survey. A Report of the Surface Water Ambient Monitoring Program \(SWAMP\). California State Water Resources Control Board, Sacramento, CA Statewide Lakes Sportfish Contamination Study 2007 2008](#)
[Contaminants in Fish from California Lakes and Reservoirs, 2007-2008: Summary Report on a Two-Year Screening Survey](#)
[Cruise report for the Surface Water Ambient Monitoring Program \(SWAMP\)](#)

[bioaccumulation screening study in California lakes and reservoirs year two \(FY 07-08\). Sampling dates: April 2008 - November 2008.](#)

SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	Water Quality Control Plan for the San Francisco Bay Basin: Controllable water quality factors shall not cause a detrimental increase in concentrations of toxic substances found in bottom sediments or aquatic life. Effects on aquatic organisms, wildlife, and human health will be considered.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	National Academy of Science guidelines (NAS 1972) establish a maximum Heptachlor concentration of 100 ug/Kg (wet weight) in tissue samples for protection of aquatic life from bioaccumulation of toxic substances.
Guideline Reference:	National Academy of Sciences. Water Quality Criteria 1972. EPA-R3-73-033. Washington, D.C.: U.S. Environmental Protection Agency
Spatial Representation:	Data for this assessment unit was collected by one monitoring project: (SWB_FishLk)
Temporal Representation:	Data was collected on a single day 10/21/2008.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	Samples were collected, processed, and analyzed in accordance with the methods described in Quality Assurance Project Plan "Screening Study of Bioaccumulation in California Lakes and Reservoirs." (SWAMP, 2008).
QAPP Information Reference(s):	Quality Assurance Project Plan Screening Study of Bioaccumulation in California Lakes and Reservoirs. Moss Landing Marine Labs. Prepared for SWAMP BOG. 49 pages plus appendices and attachments

Line of Evidence (LOE) for Decision ID 61193, Heptachlor

Region 2

Almaden Lake

LOE ID:	91020
Pollutant:	Heptachlor
LOE Subgroup:	Pollutant-Tissue
Matrix:	Tissue
Fraction:	Fish fillet
Beneficial Use:	Cold Freshwater Habitat
Number of Samples:	1
Number of Exceedances:	0
Data and Information Type:	Fish tissue analysis
Data Used to Assess Water Quality:	State Water Board staff assessed SWAMP data for Almaden Lake to determine beneficial use support and results are as follows: 0 of 1 samples exceed the criterion for Heptachlor. Two composites (5 fish per composite) were generated from one species: Common Carp. Composites were not spatially independent (as defined in the Listing Policy) and so were averaged. Details of the compositing protocol can be found in the March 2009 report entitled: "Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Study" (SWAMP, 2009).
Data Reference:	Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Survey. A Report of the Surface Water Ambient Monitoring Program (SWAMP). California State Water Resources Control Board, Sacramento, CA Statewide Lakes Sportfish Contamination Study 2007 2008 Contaminants in Fish from California Lakes and Reservoirs, 2007-2008: Summary Report on a Two-Year Screening Survey Cruise report for the Surface Water Ambient Monitoring Program (SWAMP) bioaccumulation screening study in California lakes and reservoirs year two (FY 07-08). Sampling dates: April 2008 - November 2008.
SWAMP Data:	SWAMP

Water Quality Objective/Criterion:	Water Quality Control Plan for the San Francisco Bay Basin: Controllable water quality factors shall not cause a detrimental increase in concentrations of toxic substances found in bottom sediments or aquatic life. Effects on aquatic organisms, wildlife, and human health will be considered.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	National Academy of Science guidelines (NAS 1972) establish a maximum Heptachlor concentration of 100 ug/Kg (wet weight) in tissue samples for protection of aquatic life from bioaccumulation of toxic substances.
Guideline Reference:	National Academy of Sciences. Water Quality Criteria 1972. EPA-R3-73-033. Washington, D.C.: U.S. Environmental Protection Agency
Spatial Representation:	Data for this assessment unit was collected by one monitoring project: (SWB_FishLk)
Temporal Representation:	Data was collected on a single day 10/21/2008.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	Samples were collected, processed, and analyzed in accordance with the methods described in Quality Assurance Project Plan "Screening Study of Bioaccumulation in California Lakes and Reservoirs." (SWAMP, 2008).
QAPP Information Reference(s):	Quality Assurance Project Plan Screening Study of Bioaccumulation in California Lakes and Reservoirs. Moss Landing Marine Labs. Prepared for SWAMP BOG. 49 pages plus appendices and attachments

DECISION ID	61206	Region 2
Almaden Lake		

Pollutant:	Selenium
Final Listing Decision:	Do Not List on 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision:	New Decision
Revision Status	Original
Impairment from Pollutant or Pollution:	Pollutant

Regional Board Staff Conclusion:	<p>This pollutant is being considered for placement on the CWA section 303(d) List under section 3.1 of the Listing Policy. Under section 3.1 a single line of evidence is necessary to assess listing status.</p> <p>One line of evidence is available in the administrative record to assess this pollutant. Zero of one samples exceed the guideline.</p> <p>Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against placing this water segment-pollutant combination on the CWA section 303(d) List.</p> <p>This conclusion is based on the staff findings that:</p> <ol style="list-style-type: none"> 1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy. 2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy. 3. Zero of one samples exceed the guideline and this sample size is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating. A minimum of 16 samples is needed to determine if a beneficial use is fully supported using table 3.1. 4. Pursuant to SECTION 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.
Regional Board Staff Decision Recommendation:	After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be placed on the section 303(d) list. The readily available data and information is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating.

Line of Evidence (LOE) for Decision ID 61206, Selenium	Region 2
Almaden Lake	

LOE ID:	91036
Pollutant:	Selenium
LOE Subgroup:	Pollutant-Tissue
Matrix:	Tissue
Fraction:	Fish fillet
Beneficial Use:	Commercial or recreational collection of fish, shellfish, or organisms
Number of Samples:	1
Number of Exceedances:	0
Data and Information Type:	Fish tissue analysis
Data Used to Assess Water Quality:	State Water Board staff assessed SWAMP data for Almaden Lake to determine beneficial use support and results are as follows: 0 of 1 samples exceed the criterion for Selenium. One composite (5 fish per composite) was generated from one species: Common Carp. Details of the compositing protocol can be found in the March 2009 report entitled: "Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Study" (SWAMP, 2009).
Data Reference:	Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Survey. A Report of the Surface Water Ambient Monitoring Program (SWAMP). California State Water Resources Control Board, Sacramento, CA Statewide Lakes Sportfish Contamination Study 2007 2008 Contaminants in Fish from California Lakes and Reservoirs, 2007-2008: Summary Report on a Two-Year Screening Survey Cruise report for the Surface Water Ambient Monitoring Program (SWAMP) bioaccumulation screening study in California lakes and reservoirs year two (FY 07-08). Sampling dates: April 2008 - November 2008.
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	Water Quality Control Plan for the San Francisco Bay Basin (2013): Controllable water quality factors shall not cause a detrimental increase in concentrations of toxic substances found in bottom sediments or aquatic life. Effects on aquatic organisms, wildlife, and human health will be considered.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	The OEHHA Fish Contaminant Goal for selenium in fish tissue is 7.4 ppm. This screening level assumes an average body weight of 70 kg and a consumption rate of 32 g/day. A background dietary consumption rate of 0.114 mg/day is applied for this micronutrient. (Klasing, S., and R. Brodberg, 2008)
Guideline Reference:	Development of Fish Contaminant Goals and Advisory Tissue Levels for Common Contaminants in California Sport Fish: Chlordane, DDTs, Dieldrin, Methylmercury, PCBs, Selenium, and Toxaphene
Spatial Representation:	Data for this assessment unit was collected by one monitoring project: (SWB_FishLk)
Temporal Representation:	Data was collected on a single day 10/21/2008.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	Samples were collected, processed, and analyzed in accordance with the methods described in Quality Assurance Project Plan "Screening Study of Bioaccumulation in California Lakes and Reservoirs." (SWAMP, 2008).
QAPP Information Reference(s):	Quality Assurance Project Plan Screening Study of Bioaccumulation in California Lakes and Reservoirs. Moss Landing Marine Labs. Prepared for SWAMP BOG, 49 pages plus appendices and attachments

Draft California 2016 Integrated Report (303(d) List/305(b) Report)

Supporting Information

Regional Board 2 - San Francisco Bay Region

Water Body Name: Redwood Creek (Marin County)
Water Body ID: CAR2013001320080714110732
Water Body Type: River & Stream

DECISION ID 65790 **Region 2**
Redwood Creek (Marin County)

Pollutant: Alkalinity as CaCO₃
Final Listing Decision: Do Not List on 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision: New Decision
Revision Status Revised
Impairment from Pollutant or Pollution: Pollutant

Regional Board Staff Conclusion: This pollutant is being considered for placement on the CWA section 303(d) List under section 3.1 of the Listing Policy. Under section 3.1 a single line of evidence is necessary to assess listing status.

Two lines of evidence are available in the administrative record to assess this pollutant. Three sample results were not used in the assessment because the laboratory data reporting limit(s) was above the objective and therefore the results could not be quantified with the level of certainty required by the Listing Policy.

Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against placing this water segment-pollutant combination on the CWA section 303(d) List.

This conclusion is based on the staff findings that:

1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy.
2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy.
3. Three sample results were not used in the assessment because the laboratory data reporting limit(s) was above the objective and therefore the results could not be quantified with the level of certainty required by the Listing Policy.
4. Pursuant to SECTION 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.

Regional Board Staff Decision Recommendation: After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be placed on the section 303(d) list. The readily available data and information is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating.

Line of Evidence (LOE) for Decision ID 65790, Alkalinity as CaCO₃ **Region 2**
Redwood Creek (Marin County)

LOE ID: 92653
Pollutant: Alkalinity as CaCO₃
LOE Subgroup: Pollutant-Water
Matrix: Water
Fraction: Total
Beneficial Use: Warm Freshwater Habitat

Number of Samples:	0
Number of Exceedances:	0
Data and Information Type:	PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality:	State Water Board staff assessed SWAMP data for Redwood Creek (Marin County) to determine beneficial use support and results are as follows: 0 of 0 samples exceed the criterion for Alkalinity as CaCO ₃ . Three sample results were not used in the assessment because the laboratory data reporting limit(s) was above the objective and therefore the results could not be quantified with the level of certainty required by the Listing Policy.
Data Reference:	RWB2 Reference Study Monitoring 2008
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	Surface?waters?shall?not?contain?concentrations?of?chemical?constituents?in?amounts?that?adversely?affect?any?designated?beneficial?use.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	The Alkalinity as CaCO ₃ criteria for the protection of freshwater aquatic life is 20000 ug/L (National Recommended Water Quality Criteria, 2009).
Guideline Reference:	National Recommended Water Quality Criteria. United States Environmental Protection Agency. Office of Water. Office of Science and Technology
Spatial Representation:	Data for this line of evidence for Redwood Creek (Marin County) was collected at 1 monitoring site [Redwood at ped bridge in Frank Valley - approx 1 mile upstream of Hwy 1 - 201RDW080]
Temporal Representation:	Data was collected over the time period 5/7/2008-8/12/2008.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	The SWAMP QAPP (2008) was followed.
QAPP Information Reference(s):	Surface Water Ambient Monitoring Program Quality Assurance Program Plan

Line of Evidence (LOE) for Decision ID 65790, Alkalinity as CaCO₃

Region 2

Redwood Creek (Marin County)

LOE ID:	92654
Pollutant:	Alkalinity as CaCO ₃
LOE Subgroup:	Pollutant-Water
Matrix:	Water
Fraction:	Total
Beneficial Use:	Cold Freshwater Habitat
Number of Samples:	3
Number of Exceedances:	0
Data and Information Type:	PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality:	State Water Board staff assessed SWAMP data for Redwood Creek (Marin County) to determine beneficial use support and results are as follows: 0 of 0 samples exceed the criterion for Alkalinity as CaCO ₃ . Three sample results were not used in the assessment because the laboratory data reporting limit(s) was above the objective and therefore the results could not be quantified with the level of certainty required by the Listing Policy.
Data Reference:	RWB2 Reference Study Monitoring 2008
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	Surface?waters?shall?not?contain?concentrations?of?chemical?constituents?in?amounts?that?adversely?affect?any?designated?beneficial?use.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)

Evaluation Guideline:	The Alkalinity as CaCO ₃ criteria for the protection of freshwater aquatic life is 20000 ug/L (National Recommended Water Quality Criteria, 2009).
Guideline Reference:	National Recommended Water Quality Criteria. United States Environmental Protection Agency. Office of Water. Office of Science and Technology
Spatial Representation:	Data for this line of evidence for Redwood Creek (Marin County) was collected at 1 monitoring site [Redwood at ped bridge in Frank Valley - approx 1 mile upstream of Hwy 1 - 201RDW080]
Temporal Representation:	Data was collected over the time period 5/7/2008-8/12/2008.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	The SWAMP QAPP (2008) was followed.
QAPP Information Reference(s):	Surface Water Ambient Monitoring Program Quality Assurance Program Plan

DECISION ID 65791 Region 2	
Redwood Creek (Marin County)	
Pollutant:	Ammonia (Unionized)
Final Listing Decision:	Do Not List on 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision:	New Decision
Revision Status	Revised
Impairment from Pollutant or Pollution:	Pollutant
Regional Board Staff Conclusion:	<p>This pollutant is being considered for placement on the CWA section 303(d) List under section 3.1 of the Listing Policy. Under section 3.1 a single line of evidence is necessary to assess listing status.</p> <p>One line of evidence is available in the administrative record to assess this pollutant. The two samples did not exceed the evaluation guideline for ammonia.</p> <p>Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against placing this water segment-pollutant combination on the CWA section 303(d) List in the Water Quality Limited Segments category.</p> <p>This conclusion is based on the staff findings that:</p> <ol style="list-style-type: none"> 1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy. 2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy. 3. The two samples did not exceed the evaluation guideline for ammonia and this does not exceed the allowable frequency listed in Table 3.1 of the Listing Policy. 4. Pursuant to section 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.
Regional Board Staff Decision Recommendation:	After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be placed on the section 303(d) list because applicable water quality standards are not being exceeded.

Line of Evidence (LOE) for Decision ID 65791, Ammonia (Unionized) Region 2	
Redwood Creek (Marin County)	
LOE ID:	92660
Pollutant:	Ammonia (Unionized)
LOE Subgroup:	Pollutant-Water
Matrix:	Water
Fraction:	Total
Beneficial Use:	Fish Spawning
Number of Samples:	2

Number of Exceedances:	0
Data and Information Type:	PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality:	0 of 2 samples exceed the Annual Median for Un-ionized Ammonia (as N). Un-ionized ammonia (as N) was calculated from Total Ammonia (as N) from monthly samples reported in the data. The Annual Median of these Un-ionized ammonia (as N) values was then established and compared to the Annual Median for Un-ionized Ammonia (as N) at 0.025 mg/L in the RB2 Basin Plan. The data was reported as non-detects or as underneath the quantitation limit. These non-detects and values under the quantitation limit are less than or equal to the water quality standard, the value will be considered as meeting the water quality standard, objective, criterion, or evaluation guideline.
Data Reference:	RWB2 Reference Study Monitoring 2008
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	Water Quality Control Plan, San Francisco Bay Region (SFBRWQCB 2011): All waters shall be maintained free of toxic substances in concentrations that are toxic to, or that produce detrimental physiological responses in human, plant, animal, or aquatic life.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	
Guideline Reference:	
Spatial Representation:	Samples were collected at 201RDW080 (Redwood at ped bridge in Frank Valley - approx 1 mile upstream of Hwy 1).
Temporal Representation:	Samples collected on 5/14/2008, 6/23/2008, 8/12/2008, 10/8/2008, 12/10/2008 and 2/11/2009.
Environmental Conditions:	
QAPP Information:	SWAMP QAPP (2008) was followed.
QAPP Information Reference(s):	Surface Water Ambient Monitoring Program Quality Assurance Program Plan

DECISION ID	66836	Region 2
Redwood Creek (Marin County)		

Pollutant:	Benthic Community Effects
Final Listing Decision:	Do Not List on 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision:	New Decision
Revision Status	Revised
Impairment from Pollutant or Pollution:	Pollutant

Regional Board Staff Conclusion: Benthic Community Effects is being considered for placement on the CWA section 303(d) List under sections 3.9 of the Listing Policy. Under section 3.9, an additional line of evidence associating the Benthic Community Effects with a water or sediment concentration of pollutants is necessary to assess listing status. One line of evidence is/are available in the administrative record to assess this indicator. The single sample does not exceed the evaluation guideline.

Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against placing Benthic Community Effects in this water segment on the CWA section 303(d) List.

This conclusion is based on the staff findings that:

1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy.
2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy.
3. The single sample does not exceed the California Stream Condition Index (CSCI) but this sample size is insufficient to determine with the power and confidence of the Listing Policy whether standards are or are not met.
4. Pursuant to section 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.

Regional Board Staff Decision Recommendation: After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be placed on the section 303(d) list. The readily available data and information is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating.

**Line of Evidence (LOE) for Decision ID 66836, Benthic Community Effects
Redwood Creek (Marin County)**

Region 2

LOE ID: 90516

Pollutant: Benthic-Macroinvertebrate Bioassessments
LOE Subgroup: Population/Community Degradation
Matrix: Water
Fraction: None

Beneficial Use: Cold Freshwater Habitat

Number of Samples: 1
Number of Exceedances: 0

Data and Information Type: Benthic macroinvertebrate surveys
Data Used to Assess Water Quality: The CSCI score for this site was 1.02 and therefore is meeting the water quality objective for this water body.
Data Reference: [RWB2 Reference Study Monitoring 2008](#)

SWAMP Data: SWAMP

Water Quality Objective/Criterion: All waters shall be maintained free of toxic substances in concentrations that are lethal to or that produce significant alterations in population or community ecology or receiving water biota. In addition, the health and life history characteristics of aquatic organisms in waters affected by controllable water quality factors shall not differ significantly from those for the same waters in areas unaffected by controllable water quality factors. Region 2 Basin Plan.
Objective/Criterion Reference: [Water Quality Control Plan \(Basin Plan\) San Francisco Bay Basin \(Region 2\)](#)

Evaluation Guideline: The California Stream Condition Index (CSCI) is a biological scoring tool that helps aquatic resource managers translate complex data about benthic macroinvertebrates found living in a stream into an overall measure of stream health. The CSCI score is calculated by comparing the expected condition with actual (observed) results (Rhen, A.C. et al., 2015). CSCI scores range from 0 (highly degraded) to greater than 1 (equivalent to reference). CSCI scoring of biological condition are as follows (per the scientific paper supporting the development of the CSCI scoring tool): greater than or equal to 0.92 = likely intact condition, 0.91 to 0.80 = possibly altered condition, 0.79 to 0.63 = likely altered condition, less than or equal to 0.62 = very likely altered condition. Sites with scores below 0.79 are considered to have exceeded the water quality objective for the aquatic life beneficial use.
Guideline Reference: [The California Stream Condition Index \(CSCI\): A New Statewide Biological Scoring Tool for Assessing the Health of Freshwater Streams.](#)

Spatial Representation: The sample was collected at Redwood at ped bridge in Frank Valley (RDW080) - approx 1 mile upstream of Hwy 1.

Temporal Representation: The sample was collected May 28, 2008.

Environmental Conditions:

QAPP Information: The sample was collected for the RWB2 Reference Study Monitoring 2008.
QAPP Information Reference(s): [Surface Water Ambient Monitoring Program Quality Assurance Program Plan](#)

**DECISION ID 65793
Redwood Creek (Marin County)**

Region 2

Pollutant: Nitrate/Nitrite (Nitrite + Nitrate as N)

Final Listing Decision:	Do Not List on 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision:	New Decision
Revision Status	Revised
Impairment from Pollutant or Pollution:	Pollutant

Regional Board Staff Conclusion: This pollutant is being considered for placement on the CWA section 303(d) List under section 3.1 of the Listing Policy. Under section 3.1 a single line of evidence is necessary to assess listing status.

One line of evidence is available in the administrative record to assess this pollutant. None of 6 samples exceed the water quality objective for Nitrate + Nitrite (as N).

Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against placing this water segment-pollutant combination on the CWA section 303(d) List in the Water Quality Limited Segments category.

This conclusion is based on the staff findings that:

1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy.
2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy.
3. None of 6 samples exceed the water quality objective for Nitrate + Nitrite (as N) and this does not exceed the allowable frequency listed in Table 3.1 of the Listing Policy.
4. Pursuant to section 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.

Regional Board Staff Decision Recommendation: After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be placed on the section 303(d) list because applicable water quality standards are not being exceeded.

Line of Evidence (LOE) for Decision ID 65793, Nitrate/Nitrite (Nitrite + Nitrate as N)
Redwood Creek (Marin County)

Region 2

LOE ID:	92663
Pollutant:	Nitrate/Nitrite (Nitrite + Nitrate as N)
LOE Subgroup:	Pollutant-Water
Matrix:	Water
Fraction:	Total
Beneficial Use:	Municipal & Domestic Supply
Number of Samples:	6
Number of Exceedances:	0
Data and Information Type:	PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality:	0 of 6 samples exceed the water quality objective for Nitrate + Nitrite (as N). The Nitrate + Nitrite (as N) MCL objective is 10 mg/L.
Data Reference:	RWB2 Reference Study Monitoring 2008
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	Water Quality Control Plan, San Francisco Bay Region (SFBRWQCB 2011): Waters designated for MUN shall not contain concentrations of chemical constituents in excess of the MCL specified in Title 22 of the California Code of Regulations. The Nitrate + Nitrite (as N) MCL is 10 mg/L.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2) Maximum Contaminant Levels for organic and inorganic chemicals. CCR
Evaluation Guideline:	
Guideline Reference:	

Spatial Representation:	Samples were collected at 201RDW080 (Redwood at ped bridge in Frank Valley - approx 1 mile upstream of Hwy 1).
Temporal Representation:	Samples collected on 5/14/2008, 6/23/2008, 8/12/2008, 10/8/2008, 12/10/2008 and 2/11/2009.
Environmental Conditions:	
QAPP Information:	SWAMP QAPP (2008) was followed.
QAPP Information Reference(s):	Surface Water Ambient Monitoring Program Quality Assurance Program Plan

DECISION ID	65794	Region 2
Redwood Creek (Marin County)		

Pollutant:	Nitrogen, ammonia (Total Ammonia)
Final Listing Decision:	Do Not List on 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision:	New Decision
Revision Status	Revised
Impairment from Pollutant or Pollution:	Pollutant

Regional Board Staff Conclusion: This pollutant is being considered for placement on the CWA section 303(d) List under section 3.1 of the Listing Policy. Under section 3.1 a single line of evidence is necessary to assess listing status.

Two lines of evidence are available in the administrative record to assess this pollutant. None of the of 6 samples exceed the criterion for Ammonia as N, Total.

Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against placing this water segment-pollutant combination on the CWA section 303(d) List in the Water Quality Limited Segments category.

This conclusion is based on the staff findings that:

1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy.
2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy.
3. None of the of 6 samples exceed the criterion for Ammonia as N, Total and this does not exceed the allowable frequency listed in Table 3.1 of the Listing Policy.
4. Pursuant to section 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.

Regional Board Staff Decision Recommendation: After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be placed on the section 303(d) list because applicable water quality standards are not being exceeded.

Line of Evidence (LOE) for Decision ID 65794, Nitrogen, ammonia (Total Ammonia)	Region 2
Redwood Creek (Marin County)	

LOE ID: 92662

Pollutant:	Nitrogen, ammonia (Total Ammonia)
LOE Subgroup:	Pollutant-Water
Matrix:	Water
Fraction:	Total

Beneficial Use: Cold Freshwater Habitat

Number of Samples:	6
Number of Exceedances:	0

Data and Information Type:	PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality:	State Water Board staff assessed SWAMP data for Redwood Creek (Marin County) to determine beneficial use support and results are as follows: 0 of 6 samples exceed the

Data Reference:	<p>criterion for Ammonia as N, Total.</p> <p>RWB2 Reference Study Monitoring 2008</p>
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	<p>Surface?waters?shall?not?contain?concentrations?of?chemical?constituents?in?amounts?that?</p> <p>adversely?affect?any?designated?beneficial?use.</p>
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	<p>Aquatic Life Ambient Water Quality Criteria for Ammonia ? Freshwater (USEPA 2013): the 30-day rolling average concentration (criterion continuous concentration or CCC) of total ammonia nitrogen(in mg TAN/L) in freshwater are not to be exceeded more than once every three years on average. The CCC values are based on pH and temperature. The CCC formula is found on page 46 and the table of CCC values is on page 49.</p>
Guideline Reference:	Aquatic Life Ambient Water Quality Criteria for Ammonia - Freshwater 2013
Spatial Representation:	Data for this line of evidence for Redwood Creek (Marin County) was collected at 1 monitoring site [Redwood at ped bridge in Frank Valley - approx 1 mile upstream of Hwy 1 - 201RDW080]
Temporal Representation:	Data was collected over the time period 5/14/2008-2/11/2009.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	The SWAMP QAPP (2008) was followed.
QAPP Information Reference(s):	Surface Water Ambient Monitoring Program Quality Assurance Program Plan

Line of Evidence (LOE) for Decision ID 65794, Nitrogen, ammonia (Total Ammonia)
Redwood Creek (Marin County)

Region 2

LOE ID:	92661
Pollutant:	Nitrogen, ammonia (Total Ammonia)
LOE Subgroup:	Pollutant-Water
Matrix:	Water
Fraction:	Total
Beneficial Use:	Warm Freshwater Habitat
Number of Samples:	6
Number of Exceedances:	0
Data and Information Type:	PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality:	State Water Board staff assessed SWAMP data for Redwood Creek (Marin County) to determine beneficial use support and results are as follows: 0 of 6 samples exceed the criterion for Ammonia as N, Total.
Data Reference:	RWB2 Reference Study Monitoring 2008
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	<p>Surface?waters?shall?not?contain?concentrations?of?chemical?constituents?in?amounts?that?</p> <p>adversely?affect?any?designated?beneficial?use.</p>
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	<p>Aquatic Life Ambient Water Quality Criteria for Ammonia ? Freshwater (USEPA 2013): the 30-day rolling average concentration (criterion continuous concentration or CCC) of total ammonia nitrogen(in mg TAN/L) in freshwater are not to be exceeded more than once every three years on average. The CCC values are based on pH and temperature. The CCC formula is found on page 46 and the table of CCC values is on page 49.</p>
Guideline Reference:	Aquatic Life Ambient Water Quality Criteria for Ammonia - Freshwater 2013
Spatial Representation:	Data for this line of evidence for Redwood Creek (Marin County) was collected at 1 monitoring site [Redwood at ped bridge in Frank Valley - approx 1 mile upstream of Hwy

Temporal Representation:	1 - 201RDW080]
Environmental Conditions:	Data was collected over the time period 5/14/2008-2/11/2009.
QAPP Information:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information Reference(s):	The SWAMP QAPP (2008) was followed. Surface Water Ambient Monitoring Program Quality Assurance Program Plan

DECISION ID	66837	Region 2
Redwood Creek (Marin County)		

Pollutant:	Oxygen, Dissolved
Final Listing Decision:	Do Not List on 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision:	New Decision
Revision Status	Revised
Impairment from Pollutant or Pollution:	Pollutant

Regional Board Staff Conclusion: This pollutant is being considered for placement on the CWA section 303(d) List under section 3.2 of the Listing Policy. Under section 3.2 a single line of evidence is necessary to assess listing status. Two lines of evidence are available in the administrative record to assess this pollutant. One of twelve samples exceed the objective.

Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against placing this water segment-pollutant combination on the CWA section 303(d) List.

This conclusion is based on the staff findings that:

1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy.
2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy.
3. One of twelve samples exceed the objective and this sample size is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating. A minimum of 26 samples is needed to determine if a beneficial use is fully supported using table 3.2.
4. Pursuant to SECTION 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.

Regional Board Staff Decision Recommendation: After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be placed on the section 303(d) list. The readily available data and information is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating.

Line of Evidence (LOE) for Decision ID 66837, Oxygen, Dissolved	Region 2
Redwood Creek (Marin County)	

LOE ID:	5755
Pollutant:	Oxygen, Dissolved
LOE Subgroup:	Pollutant-Water
Matrix:	Water
Fraction:	None
Beneficial Use:	Cold Freshwater Habitat
Number of Samples:	12
Number of Exceedances:	1
Data and Information Type:	PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality:	Comprehensive water quality assessment was conducted at the Redwood Creek watershed as part of SWAMP assessment in 2005. Continuous field monitoring of temperature, dissolved oxygen, pH and specific conductance was conducted to determine

temporal variability in basic water quality at four locations. The 7 day average minimum concentrations of dissolved oxygen were between 6.74 and 9.81 mg/L during dry season, 9.03 -10.72 during spring season, and 10.38 ? 11.8 during winter wet season.

Minimum dissolved oxygen levels fell below the objective of 7 mg/L only once during the dry season in August 2005. The below objective concentrations were detected in Green Gulch, one out of 4 monitoring points in the Redwood Creek watershed, located just upstream from the confluence with Redwood Creek. During that period minimum values of DO ranged from 4.74 to 7.95 mg/L.

Data Reference:	Data collected by the Surface Water Ambient Monitoring Program, San Francisco Bay Regional Water Quality Control Board. Years 4 and 5 Assessment
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	The numeric water quality objective for dissolved oxygen is 7.0 mg/L minimum for waters designated as cold water habitat. The median dissolved oxygen concentration for any three consecutive months shall not be less than 80 percent of the dissolved oxygen content at saturation.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) - San Francisco Bay Region (Region 2)
Evaluation Guideline:	
Guideline Reference:	
Spatial Representation:	Dissolved oxygen was measured at four sites. Three of these sites were located on the mainstem of Redwood Creek, with the remaining site located on Green Gulch -a small tributary.
Temporal Representation:	At all monitoring locations the SWAMP Program performed concurrent continuous measurements of dissolved oxygen at 15 minute intervals lasting 6 to 12 days. The measurements were conducted during late spring (May 2005), summer dry season (August 2005), and winter wet season (February 2006).
Environmental Conditions:	
QAPP Information:	All samples were collected and analyzed using procedures comparable with the SWAMP Quality Assurance Management Plan (SWRCB 2002).
QAPP Information Reference(s):	

Line of Evidence (LOE) for Decision ID 66837, Oxygen, Dissolved
Redwood Creek (Marin County)

Region 2

LOE ID:	92664
Pollutant:	Oxygen, Dissolved
LOE Subgroup:	Pollutant-Water
Matrix:	Water
Fraction:	Dissolved
Beneficial Use:	Cold Freshwater Habitat
Number of Samples:	7
Number of Exceedances:	0
Data and Information Type:	PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality:	Zero of the 7 samples collected exceeded the objective.
Data Reference:	RWB2 Reference Study Monitoring 2008
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	The minimum dissolved oxygen content of non-tidal water bodies designated as Cold water habitat is 7.0 mg/L.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	
Guideline Reference:	

Spatial Representation:	Samples were collected from the Redwood at ped bridge in Frank Valley - approx 1 mile upstream of Hwy 1 station (201RDW080).
Temporal Representation:	Samples were collected on the following dates: 5/7/2008 5/14/2008 6/23/2008 8/12/2008 10/8/2008 12/10/2008 2/11/2009
Environmental Conditions:	
QAPP Information:	The SWAMP QAPP (2008) was followed.
QAPP Information Reference(s):	

DECISION ID	66838	Region 2
Redwood Creek (Marin County)		

Pollutant:	Temperature, water
Final Listing Decision:	Do Not List on 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision:	New Decision
Revision Status	Revised
Impairment from Pollutant or Pollution:	Pollutant

Regional Board Staff Conclusion: This pollutant is being considered for placement on the CWA section 303(d) List under section 3.2 of the Listing Policy. Under section 3.2 a single line of evidence is necessary to assess listing status.

One line of evidence is available in the administrative record to assess this pollutant. One of twenty-six samples exceed the objective.

Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against placing this water segment-pollutant combination on the CWA section 303(d) List.

This conclusion is based on the staff findings that:

1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy.
2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy.
3. One of twenty-six samples exceed the objective and this does not exceed the allowable frequency listed in Table 3.2 of the Listing Policy.
4. Pursuant to section 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.

Regional Board Staff Decision Recommendation: After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be placed on the section 303(d) list because applicable water quality standards are not being exceeded.

Line of Evidence (LOE) for Decision ID 66838, Temperature, water	Region 2
Redwood Creek (Marin County)	

LOE ID:	92675
Pollutant:	Temperature, water
LOE Subgroup:	Pollutant-Water
Matrix:	Water
Fraction:	None
Beneficial Use:	Cold Freshwater Habitat
Number of Samples:	7
Number of Exceedances:	0
Data and Information Type:	PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality:	State Water Board staff assessed SWAMP data for Redwood Creek (Marin County) to

	determine beneficial use support and results are as follows: 0 of 7 samples exceed the criterion for Water Temperature. RWB2 Reference Study Monitoring 2008
Data Reference:	
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	The natural receiving water temperature of inland surface waters shall not be altered unless it can be demonstrated to the satisfaction of the Regional Board that such alteration in temperature does not adversely affect beneficial uses. (Water Quality Control Plan, San Francisco Bay Basin, Chapter III Water Quality Objectives.)
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	Inland Fishes of California (Moyle 1976) states that for rainbow trout the optimum range for growth and completion of most life stages is 13-21 degrees C (page 129).
Guideline Reference:	Inland Fishes of California
Spatial Representation:	Data for this line of evidence for Redwood Creek (Marin County) was collected at 1 monitoring site [Redwood at ped bridge in Frank Valley - approx 1 mile upstream of Hwy 1 - 201RDW080]
Temporal Representation:	Data was collected over the time period 5/7/2008-2/11/2009.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	The SWAMP QAPP (2008) was followed.
QAPP Information Reference(s):	Surface Water Ambient Monitoring Program Quality Assurance Program Plan

**Line of Evidence (LOE) for Decision ID 66838, Temperature, water
Redwood Creek (Marin County)**

Region 2

LOE ID:	5752
Pollutant:	Temperature, water
LOE Subgroup:	Pollutant-Water
Matrix:	Water
Fraction:	None
Beneficial Use:	Cold Freshwater Habitat
Number of Samples:	12
Number of Exceedances:	1
Data and Information Type:	PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality:	Comprehensive water quality assessment was conducted at the Redwood Creek watershed as part of SWAMP assessment in 2005. Continuous field monitoring at 15 minute increments of temperature, dissolved oxygen, pH and specific conductance was conducted to determine temporal variability in basic water quality at four locations. The estimated 7-day mean temperatures ranged from 12.08°C to 15.47 °C and varied with season and location. The 14.8 °C criterion for coho salmon was exceeded in 1 out of 12 continuous temperature deployments during the dry summer season at the downstream reach of the creek. The 17 °C criterion for steelhead was never exceeded.
Data Reference:	Data collected by the Surface Water Ambient Monitoring Program, San Francisco Bay Regional Water Quality Control Board. Years 4 and 5 Assessment
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	Temperature objectives for enclosed bays and estuaries are specified in the "Water Quality Control Plan for Control of Temperature in the Coastal and Interstate Waters and Enclosed Bays of California" including any revisions to the plan. In addition, the following temperature objectives apply to surface waters: The natural receiving water temperature of intrastate waters shall not be altered unless it can be demonstrated to the satisfaction of the Regional Water Board that such alteration in temperature does not adversely affect beneficial uses. The temperature of any cold or warm freshwater habitat shall not be increased by more

Objective/Criterion Reference:	than 5°F (2.8°C) above natural receiving water temperature. Water Quality Control Plan (Basin Plan) - San Francisco Bay Region (Region 2)
Evaluation Guideline:	Sullivan et al. (2000) reviewed a wide range of studies incorporating information from laboratory-based research, field observations, and risk assessment approaches and developed criteria for assessing temperature risk to aquatic life. The 7-day mean temperature (maximum value of the 7-day moving average of the daily mean temperature) of 14.8°C was established as the upper threshold criterion for coho salmon and 17.0°C for steelhead trout. The risk assessment approach used by Sullivan et al. (2000) suggests that temperatures exceeding the above thresholds will cause 10% reduction in average growth compared to optimal conditions.
Guideline Reference:	An Analysis of the Effects of Temperature on Salmonids of the Pacific Northwest with Implications for Selecting Temperature Criteria
Spatial Representation:	Temperature was measured at four sites. Three of these sites were located on the mainstem of Redwood Creek, with the remaining site located on Green Gulch - a small tributary.
Temporal Representation:	Concurrent continuous measurements were conducted at both monitoring locations. Temperature was recorded at 15 minute intervals over 6 to 12 days during late spring (May 2005), summer dry season (August 2005), and winter wet season (January/February 2006).
Environmental Conditions:	
QAPP Information:	All samples were collected and analyzed using procedures comparable with the SWAMP Quality Assurance Management Plan (SWRCB 2002).
QAPP Information Reference(s):	

**Line of Evidence (LOE) for Decision ID 66838, Temperature, water
Redwood Creek (Marin County)**

Region 2

LOE ID:	92676
Pollutant:	Temperature, water
LOE Subgroup:	Pollutant-Water
Matrix:	Water
Fraction:	None
Beneficial Use:	Cold Freshwater Habitat
Number of Samples:	7
Number of Exceedances:	0
Data and Information Type:	PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality:	Zero of the 7 samples collected exceeded the evaluation guideline.
Data Reference:	RWB2 Reference Study Monitoring 2008
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	Water Quality Control Plan, San Francisco Bay Region: The natural receiving water temperature of inland surface waters shall not be altered unless it can be demonstrated to the satisfaction of the Regional Board that such alteration in temperature does not adversely affect beneficial uses.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	According to Carter (2008) the lethal threshold for juvenile steelhead growth & rearing is 24 degrees Celsius (C).
Guideline Reference:	Effects of Temperature, Dissolved Oxygen/Total Dissolved Gas, Ammonia, and pH on Salmonids. Implications for California's North Coast TMDLs. California Regional Water Quality Control Board, North Coast Region
Spatial Representation:	Grab samples were collected at the Redwood at ped bridge in Frank Valley - approx 1 mile upstream of Hwy 1 station (201RDW080).
Temporal Representation:	Grab samples were collected on the following dates: 5/7/2008 5/14/2008 6/23/2008

Environmental Conditions:
 QAPP Information:
 QAPP Information Reference(s):

The SWAMP QAPP was followed.

DECISION ID	43755	Region 2
Redwood Creek (Marin County)		

Pollutant: pH
Final Listing Decision: Do Not List on 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision: Do Not List on 303(d) list (TMDL required list)(2012)
Revision Status: Revised
Impairment from Pollutant or Pollution: Pollutant

Regional Board Staff Conclusion: This pollutant is being considered for placement on the CWA section 303(d) List under section 3.2 of the Listing Policy. Under section 3.2 a single line of evidence is necessary to assess listing status.

Five lines of evidence are available in the administrative record to assess this pollutant. Zero of twenty-six samples exceed the objective.

Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against placing this water segment-pollutant combination on the CWA section 303(d) List.

This conclusion is based on the staff findings that:

1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy.
2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy.
3. Zero of twenty-six samples exceed the objective and this does not exceed the allowable frequency listed in Table 3.2 of the Listing Policy.
4. Pursuant to section 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.

Regional Board Staff Decision Recommendation: After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be placed on the section 303(d) list because applicable water quality standards are not being exceeded.

Line of Evidence (LOE) for Decision ID 43755, pH	Region 2
Redwood Creek (Marin County)	

LOE ID: 92673

Pollutant: pH
LOE Subgroup: Pollutant-Water
Matrix: Water
Fraction: None

Beneficial Use: Agricultural Supply

Number of Samples: 7
Number of Exceedances: 0

Data and Information Type: PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality: State Water Board staff assessed SWAMP data for Redwood Creek (Marin County) to determine beneficial use support and results are as follows: 0 of 7 samples exceed the criterion for pH.

Data Reference: [RWB2 Reference Study Monitoring 2008](#)

SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	Water Quality Control Plan, San Francisco Bay Basin, Chapter III Water Quality Objectives, Section 3.3.22 Constituents of Concern for Municipal and Agricultural Water Supplies states: At a minimum, surface waters designated for use as agricultural supply (AGR) shall not contain concentrations of constituents in excess of the levels specified in Table 3-6. The limit for pH ranges from 4.5-9.0.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	
Guideline Reference:	
Spatial Representation:	Data for this line of evidence for Redwood Creek (Marin County) was collected at 1 monitoring site [Redwood at ped bridge in Frank Valley - approx 1 mile upstream of Hwy 1 - 201RDW080]
Temporal Representation:	Data was collected over the time period 5/7/2008-2/11/2009.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	The SWAMP QAPP (2008) was followed.
QAPP Information Reference(s):	Surface Water Ambient Monitoring Program Quality Assurance Program Plan

Line of Evidence (LOE) for Decision ID 43755, pH

Region 2

Redwood Creek (Marin County)

LOE ID:	92674
Pollutant:	pH
LOE Subgroup:	Pollutant-Water
Matrix:	Water
Fraction:	None
Beneficial Use:	Cold Freshwater Habitat
Number of Samples:	7
Number of Exceedances:	0
Data and Information Type:	PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality:	0 of 7 samples exceed the water quality objective.
Data Reference:	RWB2 Reference Study Monitoring 2008
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	Water Quality Control Plan, San Francisco Bay Region (SFBRWQCB 2011): In inland surface waters the pH shall not be depressed below 6.5 nor raised above 8.5.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	
Guideline Reference:	
Spatial Representation:	Samples were collected at 201RDW080 (Redwood at ped bridge in Frank Valley - approx 1 mile upstream of Hwy 1).
Temporal Representation:	Samples collected on 5/7/2008, 5/14/2008, 6/23/2008, 8/12/2008, 10/8/2008, 12/10/2008 and 2/11/2009.
Environmental Conditions:	
QAPP Information:	SWAMP QAPP (2008) was followed.
QAPP Information Reference(s):	Surface Water Ambient Monitoring Program Quality Assurance Program Plan

Line of Evidence (LOE) for Decision ID 43755, pH

Region 2

Redwood Creek (Marin County)

LOE ID:	92672
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Pollutant:	pH
LOE Subgroup:	Pollutant-Water
Matrix:	Water
Fraction:	None
Beneficial Use:	Cold Freshwater Habitat
Number of Samples:	7
Number of Exceedances:	0
Data and Information Type:	PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality:	State Water Board staff assessed SWAMP data for Redwood Creek (Marin County) to determine beneficial use support and results are as follows: 0 of 7 samples exceed the criterion for pH.
Data Reference:	RWB2 Reference Study Monitoring 2008
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	The Water Quality Control Plan for the San Francisco Bay Region's water quality objective for all surface waters states the following: The pH shall not be depressed below 6.5 nor raised above 8.5. This encompasses the pH range usually found in waters within the basin. Controllable water quality factors shall not cause changes greater than 0.5 units in normal ambient pH levels.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	
Guideline Reference:	
Spatial Representation:	Data for this line of evidence for Redwood Creek (Marin County) was collected at 1 monitoring site [Redwood at ped bridge in Frank Valley - approx 1 mile upstream of Hwy 1 - 201RDW080]
Temporal Representation:	Data was collected over the time period 5/7/2008-2/11/2009.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	The SWAMP QAPP (2008) was followed.
QAPP Information Reference(s):	Surface Water Ambient Monitoring Program Quality Assurance Program Plan

Line of Evidence (LOE) for Decision ID 43755, pH

Region 2

Redwood Creek (Marin County)

LOE ID:	92671
Pollutant:	pH
LOE Subgroup:	Pollutant-Water
Matrix:	Water
Fraction:	None
Beneficial Use:	Warm Freshwater Habitat
Number of Samples:	7
Number of Exceedances:	0
Data and Information Type:	PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality:	State Water Board staff assessed SWAMP data for Redwood Creek (Marin County) to determine beneficial use support and results are as follows: 0 of 7 samples exceed the criterion for pH.
Data Reference:	RWB2 Reference Study Monitoring 2008
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	The Water Quality Control Plan for the San Francisco Bay Region's water quality objective for all surface waters states the following: The pH shall not be depressed below 6.5 nor raised above 8.5. This encompasses the pH range usually found in waters within

the basin. Controllable water quality factors shall not cause changes greater than 0.5 units in normal ambient pH levels.

Objective/Criterion Reference: [Water Quality Control Plan \(Basin Plan\) San Francisco Bay Basin \(Region 2\)](#)

Evaluation Guideline:

Guideline Reference:

Spatial Representation:

Data for this line of evidence for Redwood Creek (Marin County) was collected at 1 monitoring site [Redwood at ped bridge in Frank Valley - approx 1 mile upstream of Hwy 1 - 201RDW080]

Temporal Representation:

Data was collected over the time period 5/7/2008-2/11/2009.

Environmental Conditions:

Staff is not aware of any special conditions that might affect interpretation of the data.

QAPP Information:

The SWAMP QAPP (2008) was followed.

QAPP Information Reference(s):

[Surface Water Ambient Monitoring Program Quality Assurance Program Plan](#)

Line of Evidence (LOE) for Decision ID 43755, pH

Region 2

Redwood Creek (Marin County)

LOE ID: 28233

Pollutant: pH
LOE Subgroup: Pollutant-Water
Matrix: Water
Fraction: None

Beneficial Use: Cold Freshwater Habitat

Number of Samples: 12
Number of Exceedances: 0

Data and Information Type:
Data Used to Assess Water Quality:

PHYSICAL/CHEMICAL MONITORING
Water quality assessment was conducted at the Redwood Creek watershed as part of SWAMP study in 2004-2005. Continuous field monitoring of temperature, dissolved oxygen, pH, and specific conductance to determine temporal variability in basic water quality at one or two locations on Redwood Creek. Continuous monitoring sondes were deployed 12 times at 4 monitoring locations during wet, spring and dry seasons. The pH ranged from 6.9 to 8.0 and varied with season. The pH did not exceed the allowable thresholds.

Data Reference: [Data collected by the Surface Water Ambient Monitoring Program, San Francisco Bay Regional Water Quality Control Board. Years 4 and 5 Assessment](#)

SWAMP Data: SWAMP

Water Quality Objective/Criterion: The pH shall not be depressed below 6.5 nor raised above 8.5. This encompasses the pH range usually found in waters within the basin. Controllable water quality factors shall not cause changes greater than 0.5 units in normal ambient pH levels.

Objective/Criterion Reference: [Water Quality Control Plan \(Basin Plan\) - San Francisco Bay Region \(Region 2\)](#)

Evaluation Guideline:

Guideline Reference:

Spatial Representation:

Samples were taken from RDW040, RDW060, RDW100 & RDW120 monitoring locations.

Temporal Representation:

Samples were taken from RDW040, RDW060, RDW100 & RDW120 monitoring locations during spring (May 2005), dry (August 2005), and wet (January - February 2006) seasons. Measurements were conducted at 15-minute increments for approximately 1 to 2 weeks.

Environmental Conditions:

QAPP Information:

The QA/QC procedure was comparable with SWAMP'S Quality Assurance Management Plan of 2002.

QAPP Information Reference(s):

DECISION ID

44304

Region 2

Redwood Creek (Marin County)

Pollutant: Escherichia coli (E. coli)
Final Listing Decision: Do Not List on 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision: Do Not List on 303(d) list (TMDL required list)(2012)
Revision Status: Original
Impairment from Pollutant or Pollution: Pollutant

Regional Board Staff Conclusion: This pollutant is being considered for placement on the section 303(d) list under section 3.2 of the Listing Policy. Under this section a single line of evidence is necessary to assess listing status. One line of evidence is available in the administrative record to assess this pollutant. None of the samples exceed the water quality objective. Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against placing this water segment-pollutant combination on the section 303(d) list in the Water Quality Limited Segments category. This conclusion is based on the staff findings that: 1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy. 2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy. 3. Zero of one sample exceeded the water quality objective, but this sample size is insufficient to determine with the power and confidence of the Listing Policy if standards are not met. A minimum of five samples is needed for application of table 3.2. 4. Pursuant to section 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.

Regional Board Staff Decision Recommendation: This is a decision previously approved by the State Water Resources Control Board and the USEPA. No new data were assessed by the Regional Board for the current. The decision has not changed.

Line of Evidence (LOE) for Decision ID 44304, Escherichia coli (E. coli)

Region 2

Redwood Creek (Marin County)

LOE ID: 28288

Pollutant: Escherichia coli (E. coli)
LOE Subgroup: Pollutant-Water
Matrix: Water
Fraction: None

Beneficial Use: Water Contact Recreation

Number of Samples: 1
Number of Exceedances: 0

Data and Information Type: PATHOGEN MONITORING
Data Used to Assess Water Quality: Samples were collected as part of SWAMP sampling in the summer of 2004 at 7-day intervals and the geometric mean of the samples calculated over a five week interval. The geometric mean was 120MPN/100ML and less than the standard 126MPN/100ML. *Note- MPN is most probable number.

Data Reference: [Data collected by the Surface Water Ambient Monitoring Program, San Francisco Bay Regional Water Quality Control Board. Years 4 and 5 Assessment](#)

SWAMP Data: SWAMP

Water Quality Objective/Criterion: U.S. EPA water quality criteria for water contact recreation based on the frequency of use a particular area receives - 1986: the E. coli criterion is not to exceed 126 organisms/100 mL. The value is expressed as a 7-day geometric mean based on five or more samples per 30?day period; designated beach (max) 235 MPN/100 mL.

Objective/Criterion Reference: [Ambient Water Quality Criteria for Bacteria - 1986. EPA440/5-84-002](#)

Evaluation Guideline:
Guideline Reference:

Spatial Representation:	Samples were taken at one monitoring location (RDW010) in Redwood Creek.
Temporal Representation:	Five samples were collected on 7/20/04, 7/27/07, 8/3/04, 8/10/04 and 8/17/04.
Environmental Conditions:	
QAPP Information:	The QA/QC procedure was comparable with SWAMP'S Quality Assurance Management Plan of 2002.
QAPP Information Reference(s):	

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Supporting Information

Regional Board 2 - San Francisco Bay Region

Water Body Name: Rodeo Creek (Marin County)
Water Body ID: CAR2013001420080714111405
Water Body Type: River & Stream

DECISION ID 34966 **Region 2**
Rodeo Creek (Marin County)

Pollutant: Benthic-Macroinvertebrate Bioassessments | Oxygen, Dissolved | Temperature, water
Final Listing Decision: Do Not List on 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision: Do Not List on 303(d) list (TMDL required list)(2012)
Revision Status Original
Impairment from Pollutant or Pollution: Pollutant

Regional Board Staff Conclusion: This water body is being considered for listing under section 3.2 of the Listing Policy. Under section 3.2 a single line of evidence is necessary to assess listing status. Three lines of evidence are available in the administrative record to assess this water body. Based on the readily available data for this water body, the weight of evidence indicates that there is sufficient justification against placing this water segment-pollutant combination on the section 303(d) list in the Water Quality Limited Segments category. This conclusion is based on the staff findings that: 1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy. 2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy. 3. Temperature and dissolved oxygen measurements at all 3 continuous deployments did not exceed the applicable water quality objectives for waters designated as cold water habitat and this does not exceed the allowable frequency listed in Table 3.2 of the Listing Policy. In addition, the macroinvertebrate data indicated good water quality conditions. 4. Pursuant to section 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.

Regional Board Staff Decision Recommendation: This is a decision previously approved by the State Water Resources Control Board and the USEPA. No new data were assessed by the Regional Board for the current. The decision has not changed.

Line of Evidence (LOE) for Decision ID 34966, Multiple Pollutants **Region 2**
Rodeo Creek (Marin County)

LOE ID: 5759
Pollutant: Temperature, water
LOE Subgroup: Pollutant-Water
Matrix: Water
Fraction: None
Beneficial Use: Cold Freshwater Habitat
Number of Samples: 3
Number of Exceedances: 0

Data and Information Type: PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality: A water quality assessment was conducted at Rodeo Creek as part of SWAMP study in 2005. Continuous field monitoring at 15 minute increments of temperature, dissolved oxygen, pH and specific conductance was conducted to determine temporal variability in basic water quality at one location.

	The estimated 7-day mean temperature was 13.43 in spring, 13.27°C during dry summer season, and 10.47 °C during wet season. The 14.8 °C criterion for coho salmon and the 17 °C criterion for steelhead were never exceeded.
Data Reference:	Data collected by the Surface Water Ambient Monitoring Program, San Francisco Bay Regional Water Quality Control Board. Years 4 and 5 Assessment
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	Temperature objectives for enclosed bays and estuaries are specified in the "Water Quality Control Plan for Control of Temperature in the Coastal and Interstate Waters and Enclosed Bays of California" including any revisions to the plan. In addition, the following temperature objectives apply to surface waters: The natural receiving water temperature of intrastate waters shall not be altered unless it can be demonstrated to the satisfaction of the Regional Water Board that such alteration in temperature does not adversely affect beneficial uses. The temperature of any cold or warm freshwater habitat shall not be increased by more than 5°F (2.8°C) above natural receiving water temperature.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) - San Francisco Bay Region (Region 2)
Evaluation Guideline:	Sullivan et al. (2000) reviewed a wide range of studies incorporating information from laboratory-based research, field observations, and risk assessment approaches and developed criteria for assessing temperature risk to aquatic life. The 7-day mean temperature (maximum value of the 7-day moving average of the daily mean temperature) of 14.8°C was established as the upper threshold criterion for coho salmon and 17.0°C for steelhead trout. The risk assessment approach used by Sullivan et al. (2000) suggests that temperatures exceeding the above thresholds will cause 10% reduction in average growth compared to optimal conditions.
Guideline Reference:	An Analysis of the Effects of Temperature on Salmonids of the Pacific Northwest with Implications for Selecting Temperature Criteria
Spatial Representation:	Temperature was measured at one site located in the Golden Gate National Recreation Area upstream from Rodeo Lake.
Temporal Representation:	Temperature was recorded at 15 minute intervals over 9 to 21 days during late spring (June 2005), summer dry season (September 2005), and winter wet season (February 2006).
Environmental Conditions:	
QAPP Information:	All samples were collected and analyzed using procedures comparable with the SWAMP Quality Assurance Management Plan (SWRCB 2002).
QAPP Information Reference(s):	

Line of Evidence (LOE) for Decision ID 34966, Multiple Pollutants
Rodeo Creek (Marin County)

Region 2

LOE ID:	5760
Pollutant:	Oxygen, Dissolved
LOE Subgroup:	Pollutant-Water
Matrix:	Water
Fraction:	None
Beneficial Use:	Cold Freshwater Habitat
Number of Samples:	3
Number of Exceedances:	0
Data and Information Type:	PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality:	Water quality assessment was conducted at Rodeo Creek as part of SWAMP study in 2005. Continuous field monitoring at 15 minute increments of temperature, dissolved oxygen, pH and specific conductance was conducted to determine temporal variability in basic water quality at one location.

Data Reference:	The 7 day average minimum concentration of dissolved oxygen was 8.83 mg/L during dry season, 9.08 mg/L during spring season, and 11.03 mg/L during winter wet season. All DO measurements met the water quality objective of 7 mg/L. Data collected by the Surface Water Ambient Monitoring Program, San Francisco Bay Regional Water Quality Control Board. Years 4 and 5 Assessment
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	The numeric water quality objective for dissolved oxygen is 7.0 mg/L minimum for waters designated as cold water habitat. The median dissolved oxygen concentration for any three consecutive months shall not be less than 80 percent of the dissolved oxygen content at saturation.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) - San Francisco Bay Region (Region 2)
Evaluation Guideline:	
Guideline Reference:	
Spatial Representation:	Dissolved oxygen concentrations were measured at one site located in the Golden Gate National Recreation Area upstream from Rodeo Lake.
Temporal Representation:	DO was recorded at 15 minute intervals over 9 to 21 days during late spring (June 2005), summer dry season (September 2005), and winter wet season (February 2006).
Environmental Conditions:	
QAPP Information:	All samples were collected and analyzed using procedures comparable with the SWAMP Quality Assurance Management Plan (SWRCB 2002).
QAPP Information Reference(s):	

Line of Evidence (LOE) for Decision ID 34966, Multiple Pollutants
Rodeo Creek (Marin County)

Region 2

LOE ID:	5857
Pollutant:	Benthic-Macroinvertebrate Bioassessments
LOE Subgroup:	Population/Community Degradation
Matrix:	Water
Fraction:	None
Beneficial Use:	Cold Freshwater Habitat
Number of Samples:	2
Number of Exceedances:	0
Data and Information Type:	Benthic macroinvertebrate surveys
Data Used to Assess Water Quality:	Benthic macroinvertebrates were sampled from two sites in the Rodeo Creek watershed in May 2005 by the SWAMP program. Benthic macroinvertebrate assemblage metrics were similar to values observed at reference sites in perennial creeks and indicated good conditions. Taxa richness score ranged from 22 to 28 and % sensitive EPT were 37 to 38.
Data Reference:	Data collected by the Surface Water Ambient Monitoring Program, San Francisco Bay Regional Water Quality Control Board. Years 4 and 5 Assessment
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	All waters shall be maintained free of toxic substances in concentrations that are lethal to or that produce significant alterations in population or community ecology or receiving water biota. In addition, the health and life history characteristics of aquatic organisms in waters affected by controllable water quality factors shall not differ significantly from those for the same waters in areas unaffected by controllable water quality factors.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) - San Francisco Bay Region (Region 2)
Evaluation Guideline:	Benthic macroinvertebrate assemblage metric scores that are within the range of scores for minimally disturbed reference sites indicate no substantial alterations in community ecology. Taxa richness values at reference sites sampled by the SWAMP program between 2001 and 2003 ranged from 28 to 59. Reference conditions determined for

perennial streams such as Rodeo Creek, usually exhibit taxa richness > 38 and % sensitive EPT > 44. A perennial stream could be described as in - excellent condition - if there is no difference between the metrics measured at the site and those established for reference sites. A perennial stream will be described as in - good condition - if the site metrics indicate minor loss of bio-integrity but still a good structure and function, and sensitive species are present in abundance.

Guideline Reference:

[Water Quality Monitoring and Bioassessment in Nine San Francisco Bay Region Watersheds: Walker Creek, Lagunitas Creek, San Leandro Creek, Wildcat Creek/San Pablo Creek, Suisun Creek, Arroyo Las Positas, Pescadero Creek/Butano Creek, San Gregorio Creek, and Stevens Creek/Permanente Creek, Oakland, CA: Surface Water Ambient Monitoring Program, San Francisco Bay Regional Water Quality Control Board](#)

Spatial Representation:

Benthic macroinvertebrates were sampled from two sites. One site was located on the mainstem of Rodeo Creek upstream from the confluence with Gerbode Creek, a tributary that was also sampled.

Temporal Representation:

Benthic macroinvertebrates were sampled in May 2005.

Environmental Conditions:

QAPP Information:

All samples were collected and analyzed using procedures comparable with the SWAMP Quality Assurance Management Plan (SWRCB 2002).

QAPP Information Reference(s):

DECISION ID	43856	Region 2
Rodeo Creek (Marin County)		

Pollutant:	Escherichia coli (E. coli)
Final Listing Decision:	Do Not List on 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision:	Do Not List on 303(d) list (TMDL required list)(2012)
Revision Status	Original
Impairment from Pollutant or Pollution:	Pollutant

Regional Board Staff Conclusion:

This pollutant is being considered for placement on the section 303(d) list under section 3.2 of the Listing Policy. Under this section a single line of evidence is necessary to assess listing status. One line of evidence is available in the administrative record to assess this pollutant. None of the samples exceed the water quality objective. Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against placing this water segment-pollutant combination on the section 303(d) list in the Water Quality Limited Segments category. This conclusion is based on the staff findings that: 1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy. 2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy. 3. Zero of one sample exceeded the water quality objective, but this sample size is insufficient to determine with the power and confidence of the Listing Policy if standards are not met. A minimum of five samples is needed for application of table 3.2. 4. Pursuant to section 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.

Regional Board Staff Decision Recommendation:

This is a decision previously approved by the State Water Resources Control Board and the USEPA. No new data were assessed by the Regional Board for the current. The decision has not changed.

Line of Evidence (LOE) for Decision ID 43856, Escherichia coli (E. coli)	Region 2
Rodeo Creek (Marin County)	

LOE ID:	28289
Pollutant:	Escherichia coli (E. coli)
LOE Subgroup:	Pollutant-Water
Matrix:	Water
Fraction:	None

Beneficial Use:	Water Contact Recreation
Number of Samples:	1
Number of Exceedances:	0
Data and Information Type:	PATHOGEN MONITORING
Data Used to Assess Water Quality:	Samples were collected as part of SWAMP sampling in the summer of 2005 at 7-day intervals at one location and the geometric mean of the samples calculated over a five week interval. The geometric mean for the ROD035 location was 120MPN/100ML and did not exceed the US EPA criteria. *Note- MPN is most probable number.
Data Reference:	Data collected by the Surface Water Ambient Monitoring Program, San Francisco Bay Regional Water Quality Control Board. Years 4 and 5 Assessment
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	Uses of water for recreational activities involving body contact with water where ingestion of water is reasonably possible. These uses include, but are not limited to, swimming, wading, water-skiing, skin and scuba diving, surfing, whitewater activities, fishing, and uses of natural hot springs. Water contact implies a risk of waterborne disease transmission and involves human health; accordingly, criteria required to protect this use are more stringent than those for more casual water-oriented recreation. U.S. EPA water quality criteria for water contact recreation based on the frequency of use a particular area receives - 1986: the E. coli criterion is not to exceed 126 organisms/100 mL. The value is expressed as a 7-day geometric mean based on five or more samples per 30?day period; designated beach (max) 235 MPN/100 mL.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) - San Francisco Bay Region (Region 2) Ambient Water Quality Criteria for Bacteria - 1986. EPA440/5-84-002
Evaluation Guideline:	
Guideline Reference:	
Spatial Representation:	Samples were taken at one location ROD035 monitoring location in Rodeo Creek.
Temporal Representation:	The ROD035 site was tested on 7/12/05,7/19/05, 7/26/05, 8/2/05, 8/09/05.
Environmental Conditions:	
QAPP Information:	All samples were collected and analyzed using procedures comparable with the SWAMP Quality Assurance Management Plan (SWRCB 2002).
QAPP Information Reference(s):	

DECISION ID	43885	Region 2
Rodeo Creek (Marin County)		
Pollutant:	pH	
Final Listing Decision:	Do Not List on 303(d) list (TMDL required list)	
Last Listing Cycle's Final Listing Decision:	Do Not List on 303(d) list (TMDL required list)(2012)	
Revision Status	Original	
Impairment from Pollutant or Pollution:	Pollutant	
Regional Board Staff Conclusion:	This pollutant is being considered for placement on the section 303(d) list under section 3.2 of the Listing Policy. Under section 3.2 a single line of evidence is necessary to assess listing status. One line of evidence is available in the administrative record to assess this pollutant. One of the samples exceed the water quality objective. Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against placing this water segment-pollutant combination on the section 303(d) list in the Water Quality Limited Segments category. This conclusion is based on the staff findings that: 1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy. 2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy. 3. One of the nine samples exceeded the water quality objectives (Basin Plan) and this does not exceed the allowable frequency listed in Table 3.2 of the Listing Policy. 4. Pursuant to section 3.11 of the Listing Policy, no additional data and information are	

available indicating that standards are not met.

Regional Board Staff Decision Recommendation: This is a decision previously approved by the State Water Resources Control Board and the USEPA. No new data were assessed by the Regional Board for the current. The decision has not changed.

**Line of Evidence (LOE) for Decision ID 43885, pH
Rodeo Creek (Marin County)**

Region 2

LOE ID:	28235
Pollutant:	pH
LOE Subgroup:	Pollutant-Water
Matrix:	Water
Fraction:	None
Beneficial Use:	Cold Freshwater Habitat
Number of Samples:	9
Number of Exceedances:	1
Data and Information Type:	PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality:	Water quality assessment was conducted at the Rodeo Creek watershed as part of SWAMP study in 2004-2005. Continuous field monitoring of temperature, dissolved oxygen, pH, and specific conductance to determine temporal variability in basic water quality at one or two locations on Rodeo Creek. Continuous monitoring sondes were deployed 9 times at 3 monitoring locations during wet, spring and dry seasons. The pH ranged from 6.4 to 7.4 and varied with season. The pH was below the minimum allowable threshold once during dry season monitoring in at ROD030.
Data Reference:	Data collected by the Surface Water Ambient Monitoring Program, San Francisco Bay Regional Water Quality Control Board. Years 4 and 5 Assessment
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	The pH shall not be depressed below 6.5 nor raised above 8.5. This encompasses the pH range usually found in waters within the basin. Controllable water quality factors shall not cause changes greater than 0.5 units in normal ambient pH levels.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) - San Francisco Bay Region (Region 2)
Evaluation Guideline:	
Guideline Reference:	
Spatial Representation:	Samples were taken from ROD030, ROD040, & ROD050 monitoring locations.
Temporal Representation:	Samples were taken from ROD030, ROD040, & ROD050 monitoring locations during spring (June 2005), dry (September 2005), and wet (February 2006) seasons. Measurements were conducted at 15-minute increments for approximately 1 to 2 weeks.
Environmental Conditions:	
QAPP Information:	The QA/QC procedure was comparable with SWAMP'S Quality Assurance Management Plan of 2002.
QAPP Information Reference(s):	

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Supporting Information

Regional Board 2 - San Francisco Bay Region

Water Body Name: Glen Echo Creek
Water Body ID: CAR2042004020080817194904
Water Body Type: River & Stream

DECISION ID 44522 **Region 2**
Glen Echo Creek

Pollutant: Arsenic
Final Listing Decision: Do Not List on 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision: Do Not List on 303(d) list (TMDL required list)(2012)
Revision Status Original
Impairment from Pollutant or Pollution: Pollutant

Regional Board Staff Conclusion: This pollutant is being considered for listing under section 3.1 of the Listing Policy. Under section 3.1 a single line of evidence is necessary to assess listing status. A single line of evidence is available for each pollutant in the administrative record. Concentrations of dissolved zinc, copper, lead and nickel do not exceed water quality standards. Based on the limited available data for this water body, the weight of evidence indicates that there is insufficient justification for placing this water segment-pollutant combination on the section 303(d) list in the Water Quality Limited Segments category. This conclusion is based on the staff findings that: 1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy. 2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy. 3. Concentrations of dissolved zinc, copper, lead and nickel in all three samples do not exceed water quality standards and this does not exceed the allowable frequency listed in Table 3.1 of the Listing Policy. 4. Pursuant to section 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.

Regional Board Staff Decision Recommendation: This is a decision previously approved by the State Water Resources Control Board and the USEPA. No new data were assessed by the Regional Board for the current. The decision has not changed.

Line of Evidence (LOE) for Decision ID 44522, Arsenic **Region 2**
Glen Echo Creek

LOE ID: 31402
Pollutant: Arsenic
LOE Subgroup: Pollutant-Sediment
Matrix: Sediment
Fraction: None
Beneficial Use: Warm Freshwater Habitat
Number of Samples: 1
Number of Exceedances: 0
Data and Information Type: PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality: Concentrations of arsenic, in one sediment sample collected in spring 2005 did not exceed the sediment quality guidelines.
Data Reference: [Data collected by the Surface Water Ambient Monitoring Program, San Francisco Bay Regional Water Quality Control Board. Years 4 and 5 Assessment](#)

SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	All waters shall be maintained free of toxic substances that are lethal to or that produce other detrimental responses in aquatic organisms.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) - San Francisco Bay Region (Region 2)
Evaluation Guideline:	Sediment Quality Guidelines (MacDonald et al., 2000): PEC (probable effect concentration) arsenic - 33 mg/kg dw
Guideline Reference:	Development and evaluation of consensus-based sediment quality guidelines for freshwater ecosystems. Environmental Contamination and Toxicology. 39: 20-31
Spatial Representation:	Data were collected at a sampling location at the lower part of Glen Echo Creek upstream from the confluence with Lake Merritt.
Temporal Representation:	Sample was collected in spring 2005.
Environmental Conditions:	
QAPP Information:	All samples were collected and analyzed using procedures comparable with the SWAMP Quality Assurance Management Plan (SWRCB, 2002).
QAPP Information Reference(s):	

DECISION ID	44504	Region 2
Glen Echo Creek		

Pollutant:	Cadmium
Final Listing Decision:	Do Not List on 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision:	Do Not List on 303(d) list (TMDL required list)(2012)
Revision Status	Original
Impairment from Pollutant or Pollution:	Pollutant

Regional Board Staff Conclusion:	This pollutant is being considered for listing under section 3.1 of the Listing Policy. Under section 3.1 a single line of evidence is necessary to assess listing status. One line of evidence is available in the administrative record to assess metal concentrations in sediment in Glen Echo Creek. Based on the readily available data for this water body, the weight of evidence indicates that there is sufficient justification available against placing this water segment-pollutant combination on the section 303(d) list in the Water Quality Limited Segments category. This conclusion is based on the staff findings that: 1. The data concerning current conditions and supporting the listing decision satisfy the data quality requirements of section 6.1.4 of the Policy. 2. The data used satisfy the data quantity requirements of section 6.1.5 of the Policy. 3. Metal concentrations were analyzed in one sediment sample. The single cadmium sample did not exceed sediment quality guidelines and this does not exceed the allowable frequency listed in Table 3.1 of the Listing Policy. The sample size is insufficient to determine with the power and confidence of the Listing Policy if standards are not met. 4. Pursuant to section 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.
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Regional Board Staff Decision Recommendation:	This is a decision previously approved by the State Water Resources Control Board and the USEPA. No new data were assessed by the Regional Board for the current. The decision has not changed.
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Line of Evidence (LOE) for Decision ID 44504, Cadmium	Region 2
Glen Echo Creek	

LOE ID:	31403
Pollutant:	Cadmium
LOE Subgroup:	Pollutant-Sediment
Matrix:	Sediment
Fraction:	None
Beneficial Use:	Warm Freshwater Habitat

Number of Samples:	1
Number of Exceedances:	0
Data and Information Type:	PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality:	Concentrations of cadmium in one sediment sample collected in spring 2005 did not exceed the sediment quality guidelines.
Data Reference:	Data collected by the Surface Water Ambient Monitoring Program, San Francisco Bay Regional Water Quality Control Board. Years 4 and 5 Assessment
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	All waters shall be maintained free of toxic substances that are lethal to or that produce other detrimental responses in aquatic organisms.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) - San Francisco Bay Region (Region 2)
Evaluation Guideline:	Sediment Quality Guidelines (MacDonald et al., 2000): PEC (probable effect concentration) cadmium - 4.98 mg/kg dw;
Guideline Reference:	Development and evaluation of consensus-based sediment quality guidelines for freshwater ecosystems. Environmental Contamination and Toxicology. 39: 20-31
Spatial Representation:	Data were collected at a sampling location at the lower part of Glen Echo Creek upstream from the confluence with Lake Merritt.
Temporal Representation:	Sample was collected in spring 2005.
Environmental Conditions:	
QAPP Information:	All samples were collected and analyzed using procedures comparable with the SWAMP Quality Assurance Management Plan (SWRCB, 2002).
QAPP Information Reference(s):	

DECISION ID	43993	Region 2
Glen Echo Creek		
Pollutant:	Chlordane	
Final Listing Decision:	Do Not List on 303(d) list (TMDL required list)	
Last Listing Cycle's Final Listing Decision:	Do Not List on 303(d) list (TMDL required list)(2012)	
Revision Status	Original	
Impairment from Pollutant or Pollution:	Pollutant	
Regional Board Staff Conclusion:	<p>This pollutant is being considered for placement on the section 303(d) list under section 3.1 of the Listing Policy. Under this section a single line of evidence is necessary to assess listing status. One line of evidence is available in the administrative record to assess this pollutant. One sample exceeds the water quality objective. Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against placing this water segment-pollutant combination on the section 303(d) list in the Water Quality Limited Segments category. This conclusion is based on the staff findings that: 1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy. 2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy. 3. One out of one sample exceeded the water quality objective, but this sample size is insufficient to determine with the power and confidence of the Listing Policy if standards are not met. A minimum of two samples are needed for application of table 3.1. 4. Pursuant to section 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.</p>	
Regional Board Staff Decision Recommendation:	<p>This is a decision previously approved by the State Water Resources Control Board and the USEPA. No new data were assessed by the Regional Board for the current. The decision has not changed.</p>	

Line of Evidence (LOE) for Decision ID 43993, Chlordane	Region 2
Glen Echo Creek	

LOE ID: 28774

Pollutant: Chlordane
 LOE Subgroup: Pollutant-Sediment
 Matrix: Sediment
 Fraction: None

Beneficial Use: Warm Freshwater Habitat

Number of Samples: 1
 Number of Exceedances: 1

Data and Information Type: PHYSICAL/CHEMICAL MONITORING
 Data Used to Assess Water Quality: Chlordane concentration in sediment sample collected in spring 2005 was 25.7 ug/kg and exceeded the PEC quality guideline.
 Data Reference: [Data collected by the Surface Water Ambient Monitoring Program, San Francisco Bay Regional Water Quality Control Board. Years 4 and 5 Assessment](#)

SWAMP Data: SWAMP

Water Quality Objective/Criterion: All waters shall be maintained free of toxic substances that are lethal to or that produce other detrimental responses in aquatic organisms.
 Objective/Criterion Reference: [Water Quality Control Plan \(Basin Plan\) - San Francisco Bay Region \(Region 2\)](#)

Evaluation Guideline: Sediment Quality Guidelines (MacDonald et al., 2000): PEC (probable effect concentration) for Chlordane - 17.6 ug/kg
 Guideline Reference: [Development and evaluation of consensus-based sediment quality guidelines for freshwater ecosystems. Environmental Contamination and Toxicology. 39: 20-31](#)

Spatial Representation: One sediment sample was collected at a "watershed integrator" site located close to the mouth of Glen Echo Creek.
 Temporal Representation: Sediment sample was collected in April 2005.
 Environmental Conditions:
 QAPP Information: All samples were collected and analyzed using procedures comparable with the SWAMP Quality Assurance Management Plan (SWRCB, 2002).
 QAPP Information Reference(s):

DECISION ID	60910	Region 2
Glen Echo Creek		

Pollutant: Chlorpyrifos
Final Listing Decision: Do Not List on 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision: New Decision
Revision Status: Original
Impairment from Pollutant or Pollution: Pollutant

Regional Board Staff Conclusion:

This pollutant is being considered for placement on the CWA section 303(d) List under section 3.1 of the Listing Policy. Under section 3.1 a single line of evidence is necessary to assess listing status. One line of evidence is available in the administrative record to assess this pollutant. Zero of three samples exceed the criterion.

Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against placing this water segment-pollutant combination on the CWA section 303(d) List.

This conclusion is based on the staff findings that:

1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy.
2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy.

3. Zero of three samples exceed the criterion and this sample size is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating. A minimum of 16 samples is needed to determine if a beneficial use is fully supported using table 3.1.
4. Pursuant to SECTION 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.

Regional Board Staff Decision Recommendation: This is a decision previously approved by the State Water Resources Control Board and the USEPA. No new data were assessed by the Regional Board for the current cycle. The decision has not changed.

**Line of Evidence (LOE) for Decision ID 60910, Chlorpyrifos
Glen Echo Creek**

Region 2

LOE ID:	95436
Pollutant:	Chlorpyrifos
LOE Subgroup:	Pollutant-Water
Matrix:	Water
Fraction:	None
Beneficial Use:	Warm Freshwater Habitat
Number of Samples:	3
Number of Exceedances:	0
Data and Information Type:	PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality:	The Glen Echo Creek was monitored as part of SWAMP assessment. None of the three samples exceeded the water quality objectives for PCBs, Chlorpyrifos, Dacthal, diazinon, disulfoton, endosulfan, Lindane/gamma Hexachlorocyclohexane (gamma-HCH), methyl parathion, thiobencarb.
Data Reference:	Data collected by the Surface Water Ambient Monitoring Program, San Francisco Bay Regional Water Quality Control Board. Years 4 and 5 Assessment
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	All waters shall be maintained free of toxic substances that are lethal to or that produce other detrimental responses in aquatic organisms. There shall be no chronic toxicity in ambient waters. Chronic toxicity is a detrimental biological effect on growth rate, reproduction, fertilization success, larval development, population abundance, community composition, or any other relevant measure of the health of an organism, population, or community. Diazinon water quality objective, 0.1 ug/L (acute)
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) - San Francisco Bay Region (Region 2)
Evaluation Guideline:	PCBs - 0.014 ug/L freshwater continuous Concentration; Chlorpyrifos - 0.015 ug/L (chronic); Dacthal (DCPA) - 14300 ug/L (acute); Disulfoton (Disyston) - 0.05 ug/L (acute); Endosulfan - 0.056 ug/L (chronic)/0.22 ug/L (acute); HCH, gamma-(gamma BHC, Lindane) - 0.95 ug/L (acute); methyl parathion - 0.08 ug/L (acute); Thiobencarb - 3.1 ug/L (acute).
Guideline Reference:	Pollutants of concern in Puget Sound. EPA 910/9-91-003. Seattle, WA: U.S. Environmental Protection Agency
Spatial Representation:	Data were collected at one sampling location (LME100, Glen Echo at 29th Street) on Glen Echo Creek.
Temporal Representation:	Samples were collected during wet (January), spring (April), and dry(June) seasons of 2005.
Environmental Conditions:	Staff are not aware of any special environmental conditions associated with the sampling.
QAPP Information:	All samples were collected and analyzed using procedures comparable with the SWAMP Quality Assurance Management Plan (SWRCB, 2002).
QAPP Information Reference(s):	Quality Assurance Management Plan for the State of California's Surface Water Ambient Monitoring Program. Sacramento, CA. State Water Resources Control Board. SWAMP. December 2002 (1st version)

DECISION ID	44479	Region 2
Glen Echo Creek		

Pollutant: Copper
Final Listing Decision: Do Not List on 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision: Do Not List on 303(d) list (TMDL required list)(2012)
Revision Status: Original
Impairment from Pollutant or Pollution: Pollutant

Regional Board Staff Conclusion: This pollutant is being considered for listing under section 3.1 of the Listing Policy. Under section 3.1 a single line of evidence is necessary to assess listing status. One line of evidence is available in the administrative record to assess metal concentrations in sediment in Glen Echo Creek. Based on the readily available data for this water body, the weight of evidence indicates that there is sufficient justification available against placing this water segment-pollutant combination on the section 303(d) list in the Water Quality Limited Segments category. This conclusion is based on the staff findings that: 1. The data concerning current conditions and supporting the listing decision satisfy the data quality requirements of section 6.1.4 of the Policy. 2. The data used satisfy the data quantity requirements of section 6.1.5 of the Policy. 3. Metal concentrations were analyzed in one sediment sample. The single copper sample did not exceed the sediment quality guidelines and this does not exceed the allowable frequency listed in Table 3.1 of the Listing Policy. The sample size is insufficient to determine with the power and confidence of the Listing Policy if standards are not met. 4. Pursuant to section 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.

Regional Board Staff Decision Recommendation: This is a decision previously approved by the State Water Resources Control Board and the USEPA. No new data were assessed by the Regional Board for the current. The decision has not changed.

Line of Evidence (LOE) for Decision ID 44479, Copper	Region 2
Glen Echo Creek	

LOE ID: 31404
Pollutant: Copper
LOE Subgroup: Pollutant-Sediment
Matrix: Sediment
Fraction: None
Beneficial Use: Warm Freshwater Habitat
Number of Samples: 1
Number of Exceedances: 0
Data and Information Type: PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality: Concentrations of copper in one sediment sample collected in spring 2005 did not exceed the sediment quality guidelines.
Data Reference: [Data collected by the Surface Water Ambient Monitoring Program, San Francisco Bay Regional Water Quality Control Board, Years 4 and 5 Assessment](#)
SWAMP Data: SWAMP
Water Quality Objective/Criterion: All waters shall be maintained free of toxic substances that are lethal to or that produce other detrimental responses in aquatic organisms.
Objective/Criterion Reference: [Water Quality Control Plan \(Basin Plan\) - San Francisco Bay Region \(Region 2\)](#)
Evaluation Guideline: Sediment Quality Guidelines (MacDonald et al., 2000): PEC (probable effect concentration) copper: 149 mg/kg dw;

Guideline Reference:	Development and evaluation of consensus-based sediment quality guidelines for freshwater ecosystems. Environmental Contamination and Toxicology. 39: 20-31
Spatial Representation:	Data were collected at a sampling location at the lower part of Glen Echo Creek upstream from the confluence with Lake Merritt.
Temporal Representation:	Sample was collected in spring 2005.
Environmental Conditions:	
QAPP Information:	All samples were collected and analyzed using procedures comparable with the SWAMP Quality Assurance Management Plan (SWRCB, 2002).
QAPP Information Reference(s):	

DECISION ID	60905	Region 2
Glen Echo Creek		

Pollutant:	DDD (Dichlorodiphenyldichloroethane)
Final Listing Decision:	Do Not List on 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision:	New Decision
Revision Status	Original
Impairment from Pollutant or Pollution:	Pollutant
Regional Board Staff Conclusion:	<p>This pollutant is being considered for placement on the CWA section 303(d) List under section 3.1 of the Listing Policy. Under section 3.1 a single line of evidence is necessary to assess listing status. One line of evidence is available in the administrative record to assess this pollutant. Zero of one samples exceed the guideline.</p> <p>Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against placing this water segment-pollutant combination on the CWA section 303(d) List.</p> <p>This conclusion is based on the staff findings that:</p> <ol style="list-style-type: none"> 1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy. 2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy. 3. Zero of one samples exceed the guideline and this sample size is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating. A minimum of 16 samples is needed to determine if a beneficial use is fully supported using table 3.1. 4. Pursuant to SECTION 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.
Regional Board Staff Decision Recommendation:	This is a decision previously approved by the State Water Resources Control Board and the USEPA. No new data were assessed by the Regional Board for the current cycle. The decision has not changed.

Line of Evidence (LOE) for Decision ID 60905, DDD (Dichlorodiphenyldichloroethane)	Region 2
Glen Echo Creek	

LOE ID:	95430
Pollutant:	DDD (Dichlorodiphenyldichloroethane)
LOE Subgroup:	Pollutant-Sediment
Matrix:	Sediment
Fraction:	None
Beneficial Use:	Warm Freshwater Habitat
Number of Samples:	1
Number of Exceedances:	0

Data and Information Type:	PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality:	Concentrations of dieldrin, DDD/DDE/DDT, and heptachlor epoxide in one sediment sample collected in spring 2005 did not exceed the sediment quality guidelines.
Data Reference:	Data collected by the Surface Water Ambient Monitoring Program, San Francisco Bay Regional Water Quality Control Board. Years 4 and 5 Assessment
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	All waters shall be maintained free of toxic substances that are lethal to or that produce other detrimental responses in aquatic organisms.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) - San Francisco Bay Region (Region 2)
Evaluation Guideline:	Sediment Quality Guidelines (MacDonald et al., 2000): PEC (probable effect concentration) Dieldrin - 1.8 ug/kg; DDD (sum op + pp) - 28 ug/kg; DDE (sum op + pp) - 31.3 ug/kg; DDT (sum op + pp) - 62.9 ug/kg; DDT (total) - 572 ug/kg; Heptachlor epoxide - 16 ug/kg;.
Guideline Reference:	Development and evaluation of consensus-based sediment quality guidelines for freshwater ecosystems. Environmental Contamination and Toxicology. 39: 20-31
Spatial Representation:	One sediment sample was collected at a "watershed integrator" site located close to the mouth of Glen Echo Creek.
Temporal Representation:	Sediment sample was collected in April of 2005.
Environmental Conditions:	Staff are not aware of any special environmental conditions associated with the sampling.
QAPP Information:	All samples were collected and analyzed using procedures comparable with the SWAMP Quality Assurance Management Plan (SWRCB, 2002).
QAPP Information Reference(s):	Quality Assurance Management Plan for the State of California's Surface Water Ambient Monitoring Program. Sacramento, CA. State Water Resources Control Board. SWAMP. December 2002 (1st version)

DECISION ID	60906	Region 2
Glen Echo Creek		
Pollutant:	DDE (Dichlorodiphenyldichloroethylene)	
Final Listing Decision:	Do Not List on 303(d) list (TMDL required list)	
Last Listing Cycle's Final Listing Decision:	New Decision	
Revision Status	Original	
Impairment from Pollutant or Pollution:	Pollutant	
Regional Board Staff Conclusion:	<p>This pollutant is being considered for placement on the CWA section 303(d) List under section 3.1 of the Listing Policy. Under section 3.1 a single line of evidence is necessary to assess listing status. One line of evidence is available in the administrative record to assess this pollutant. Zero of one samples exceed the guideline.</p> <p>Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against placing this water segment-pollutant combination on the CWA section 303(d) List.</p> <p>This conclusion is based on the staff findings that:</p> <ol style="list-style-type: none"> 1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy. 2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy. 3. Zero of one samples exceed the guideline and this sample size is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating. A minimum of 16 samples is needed to determine if a beneficial use is fully supported using table 3.1. 4. Pursuant to SECTION 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met. 	
Regional Board Staff Decision Recommendation:	This is a decision previously approved by the State Water Resources Control Board and the USEPA. No new data were assessed by the Regional Board for the current cycle. The decision has not changed.	

Line of Evidence (LOE) for Decision ID 60906, DDE (Dichlorodiphenyldichloroethylene)**Region 2****Glen Echo Creek**

LOE ID:	95432
Pollutant:	DDE (Dichlorodiphenyldichloroethylene)
LOE Subgroup:	Pollutant-Sediment
Matrix:	Sediment
Fraction:	None
Beneficial Use:	Warm Freshwater Habitat
Number of Samples:	1
Number of Exceedances:	0
Data and Information Type:	PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality:	Concentrations of dieldrin, DDD/DDE/DDT, and heptachlor epoxide in one sediment sample collected in spring 2005 did not exceed the sediment quality guidelines.
Data Reference:	Data collected by the Surface Water Ambient Monitoring Program, San Francisco Bay Regional Water Quality Control Board. Years 4 and 5 Assessment
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	All waters shall be maintained free of toxic substances that are lethal to or that produce other detrimental responses in aquatic organisms.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) - San Francisco Bay Region (Region 2)
Evaluation Guideline:	Sediment Quality Guidelines (MacDonald et al., 2000): PEC (probable effect concentration) Dieldrin - 1.8 ug/kg; DDD (sum op + pp) - 28 ug/kg; DDE (sum op + pp) - 31.3 ug/kg; DDT (sum op + pp) - 62.9 ug/kg; DDT (total) - 572 ug/kg; Heptachlor epoxide - 16 ug/kg;.
Guideline Reference:	Development and evaluation of consensus-based sediment quality guidelines for freshwater ecosystems. Environmental Contamination and Toxicology. 39: 20-31
Spatial Representation:	One sediment sample was collected at a "watershed integrator" site located close to the mouth of Glen Echo Creek.
Temporal Representation:	Sediment sample was collected in April of 2005.
Environmental Conditions:	Staff are not aware of any special environmental conditions associated with the sampling.
QAPP Information:	All samples were collected and analyzed using procedures comparable with the SWAMP Quality Assurance Management Plan (SWRCB, 2002).
QAPP Information Reference(s):	Quality Assurance Management Plan for the State of California's Surface Water Ambient Monitoring Program, Sacramento, CA. State Water Resources Control Board. SWAMP. December 2002 (1st version)

DECISION ID**60907****Region 2****Glen Echo Creek**

Pollutant:	DDT (Dichlorodiphenyltrichloroethane)
Final Listing Decision:	Do Not List on 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision:	New Decision
Revision Status	Original
Impairment from Pollutant or Pollution:	Pollutant
Regional Board Staff Conclusion:	This pollutant is being considered for placement on the CWA section 303(d) List under section 3.1 of the Listing Policy. Under section 3.1 a single line of evidence is necessary to assess listing status. One line of evidence is available in the administrative record to assess this pollutant. Zero of one

samples exceed the guideline.

Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against placing this water segment-pollutant combination on the CWA section 303(d) List.

This conclusion is based on the staff findings that:

1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy.
2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy.
3. Zero of one samples exceed the guideline and this sample size is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating. A minimum of 16 samples is needed to determine if a beneficial use is fully supported using table 3.1.
4. Pursuant to SECTION 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.

Regional Board Staff Decision Recommendation: This is a decision previously approved by the State Water Resources Control Board and the USEPA. No new data were assessed by the Regional Board for the current cycle. The decision has not changed.

Line of Evidence (LOE) for Decision ID 60907, DDT (Dichlorodiphenyltrichloroethane)

Region 2

Glen Echo Creek

LOE ID:	95433
Pollutant:	DDT (Dichlorodiphenyltrichloroethane)
LOE Subgroup:	Pollutant-Sediment
Matrix:	Sediment
Fraction:	None
Beneficial Use:	Warm Freshwater Habitat
Number of Samples:	1
Number of Exceedances:	0
Data and Information Type:	PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality:	Concentrations of dieldrin, DDD/DDE/DDT, and heptachlor epoxide in one sediment sample collected in spring 2005 did not exceed the sediment quality guidelines.
Data Reference:	Data collected by the Surface Water Ambient Monitoring Program, San Francisco Bay Regional Water Quality Control Board. Years 4 and 5 Assessment
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	All waters shall be maintained free of toxic substances that are lethal to or that produce other detrimental responses in aquatic organisms.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) - San Francisco Bay Region (Region 2)
Evaluation Guideline:	Sediment Quality Guidelines (MacDonald et al., 2000): PEC (probable effect concentration) Dieldrin - 1.8 ug/kg; DDD (sum op + pp) - 28 ug/kg; DDE (sum op + pp) - 31.3 ug/kg; DDT (sum op + pp) - 62.9 ug/kg; DDT (total) - 572 ug/kg; Heptachlor epoxide - 16 ug/kg;.
Guideline Reference:	Development and evaluation of consensus-based sediment quality guidelines for freshwater ecosystems. Environmental Contamination and Toxicology. 39: 20-31
Spatial Representation:	One sediment sample was collected at a "watershed integrator" site located close to the mouth of Glen Echo Creek.
Temporal Representation:	Sediment sample was collected in April of 2005.
Environmental Conditions:	Staff are not aware of any special environmental conditions associated with the sampling.
QAPP Information:	All samples were collected and analyzed using procedures comparable with the SWAMP Quality Assurance Management Plan (SWRCB, 2002).
QAPP Information Reference(s):	Quality Assurance Management Plan for the State of California's Surface Water Ambient Monitoring Program. Sacramento, CA. State Water Resources Control Board. SWAMP.

DECISION ID	60911	Region 2
Glen Echo Creek		

Pollutant: Dacthal
Final Listing Decision: Do Not List on 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision: New Decision
Revision Status: Original
Impairment from Pollutant or Pollution: Pollutant

Regional Board Staff Conclusion: This pollutant is being considered for placement on the CWA section 303(d) List under section 3.1 of the Listing Policy. Under section 3.1 a single line of evidence is necessary to assess listing status. One line of evidence is available in the administrative record to assess this pollutant. Zero of three samples exceed the criterion.

Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against placing this water segment-pollutant combination on the CWA section 303(d) List.

This conclusion is based on the staff findings that:

1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy.
2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy.
3. Zero of three samples exceed the criterion and this sample size is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating. A minimum of 16 samples is needed to determine if a beneficial use is fully supported using table 3.1.
4. Pursuant to SECTION 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.

Regional Board Staff Decision Recommendation: This is a decision previously approved by the State Water Resources Control Board and the USEPA. No new data were assessed by the Regional Board for the current cycle. The decision has not changed.

Line of Evidence (LOE) for Decision ID 60911, Dacthal	Region 2
Glen Echo Creek	

LOE ID: 95438
Pollutant: Dacthal
LOE Subgroup: Pollutant-Water
Matrix: Water
Fraction: None
Beneficial Use: Warm Freshwater Habitat
Number of Samples: 3
Number of Exceedances: 0
Data and Information Type: PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality: The Glen Echo Creek was monitored as part of SWAMP assessment. None of the three samples exceeded the water quality objectives for PCBs, Chlorpyrifos, Dacthal, diazinon, disulfoton, endosulfan, Lindane/gamma Hexachlorocyclohexane (gamma-HCH), methyl parathion, thiobencarb.
Data Reference: [Data collected by the Surface Water Ambient Monitoring Program, San Francisco Bay Regional Water Quality Control Board. Years 4 and 5 Assessment](#)
SWAMP Data: SWAMP

Water Quality Objective/Criterion:	All waters shall be maintained free of toxic substances that are lethal to or that produce other detrimental responses in aquatic organisms. There shall be no chronic toxicity in ambient waters. Chronic toxicity is a detrimental biological effect on growth rate, reproduction, fertilization success, larval development, population abundance, community composition, or any other relevant measure of the health of an organism, population, or community. Diazinon water quality objective, 0.1 ug/L (acute)
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) - San Francisco Bay Region (Region 2)
Evaluation Guideline:	PCBs - 0.014 ug/L freshwater continuous Concentration; Chlorpyrifos - 0.015 ug/L (chronic); Dacthal (DCPA) - 14300 ug/L (acute); Disulfoton (Disyston) - 0.05 ug/L (acute); Endosulfan - 0.056 ug/L (chronic)/0.22 ug/L (acute); HCH, gamma-(gamma BHC, Lindane) - 0.95 ug/L (acute); methyl parathion - 0.08 ug/L (acute); Thiobencarb - 3.1 ug/L (acute).
Guideline Reference:	Pollutants of concern in Puget Sound. EPA 910/9-91-003. Seattle, WA: U.S. Environmental Protection Agency
Spatial Representation:	Data were collected at one sampling location (LME100, Glen Echo at 29th Street) on Glen Echo Creek.
Temporal Representation:	Samples were collected during wet (January), spring (April), and dry(June) seasons of 2005.
Environmental Conditions:	Staff are not aware of any special environmental conditions associated with the sampling.
QAPP Information:	All samples were collected and analyzed using procedures comparable with the SWAMP Quality Assurance Management Plan (SWRCB, 2002).
QAPP Information Reference(s):	Quality Assurance Management Plan for the State of California's Surface Water Ambient Monitoring Program. Sacramento, CA. State Water Resources Control Board. SWAMP. December 2002 (1st version)

DECISION ID	60912	Region 2
Glen Echo Creek		
Pollutant:	Diazinon	
Final Listing Decision:	Do Not List on 303(d) list (TMDL required list)	
Last Listing Cycle's Final Listing Decision:	New Decision	
Revision Status	Original	
Impairment from Pollutant or Pollution:	Pollutant	
Regional Board Staff Conclusion:	<p>This pollutant is being considered for placement on the CWA section 303(d) List under section 3.1 of the Listing Policy. Under section 3.1 a single line of evidence is necessary to assess listing status. One line of evidence is available in the administrative record to assess this pollutant. Zero of three samples exceed the criterion.</p> <p>Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against placing this water segment-pollutant combination on the CWA section 303(d) List.</p> <p>This conclusion is based on the staff findings that:</p> <ol style="list-style-type: none"> 1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy. 2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy. 3. Zero of three samples exceed the criterion and this sample size is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating. A minimum of 16 samples is needed to determine if a beneficial use is fully supported using table 3.1. 4. Pursuant to SECTION 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met. 	
Regional Board Staff Decision Recommendation:	This is a decision previously approved by the State Water Resources Control Board and the USEPA. No new data were assessed by the Regional Board for the current cycle. The decision has not changed.	

Glen Echo Creek

LOE ID:	95439
Pollutant:	Diazinon
LOE Subgroup:	Pollutant-Water
Matrix:	Water
Fraction:	None
Beneficial Use:	Warm Freshwater Habitat
Number of Samples:	3
Number of Exceedances:	0
Data and Information Type:	PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality:	The Glen Echo Creek was monitored as part of SWAMP assessment. None of the three samples exceeded the water quality objectives for PCBs, Chlorpyrifos, Dacthal, diazinon, disulfoton, endosulfan, Lindane/gamma Hexachlorocyclohexane (gamma-HCH), methyl parathion, thiobencarb.
Data Reference:	Data collected by the Surface Water Ambient Monitoring Program, San Francisco Bay Regional Water Quality Control Board. Years 4 and 5 Assessment
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	All waters shall be maintained free of toxic substances that are lethal to or that produce other detrimental responses in aquatic organisms. There shall be no chronic toxicity in ambient waters. Chronic toxicity is a detrimental biological effect on growth rate, reproduction, fertilization success, larval development, population abundance, community composition, or any other relevant measure of the health of an organism, population, or community. Diazinon water quality objective, 0.1 ug/L (acute)
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) - San Francisco Bay Region (Region 2)
Evaluation Guideline:	PCBs - 0.014 ug/L freshwater continuous Concentration; Chlorpyrifos - 0.015 ug/L (chronic); Dacthal (DCPA) - 14300 ug/L (acute); Disulfoton (Disyston) - 0.05 ug/L (acute); Endosulfan - 0.056 ug/L (chronic)/0.22 ug/L (acute); HCH, gamma-(gamma BHC, Lindane) - 0.95 ug/L (acute); methyl parathion - 0.08 ug/L (acute); Thiobencarb - 3.1 ug/L (acute).
Guideline Reference:	Pollutants of concern in Puget Sound. EPA 910/9-91-003. Seattle, WA: U.S. Environmental Protection Agency
Spatial Representation:	Data were collected at one sampling location (LME100, Glen Echo at 29th Street) on Glen Echo Creek.
Temporal Representation:	Samples were collected during wet (January), spring (April), and dry(June) seasons of 2005.
Environmental Conditions:	Staff are not aware of any special environmental conditions associated with the sampling.
QAPP Information:	All samples were collected and analyzed using procedures comparable with the SWAMP Quality Assurance Management Plan (SWRCB, 2002).
QAPP Information Reference(s):	Quality Assurance Management Plan for the State of California's Surface Water Ambient Monitoring Program. Sacramento, CA. State Water Resources Control Board. SWAMP. December 2002 (1st version)

DECISION ID

60908

Region 2

Glen Echo Creek

Pollutant:	Dieldrin
Final Listing Decision:	Do Not List on 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision:	New Decision

Revision Status
Impairment from Pollutant or
Pollution:

Original
Pollutant

Regional Board Staff
Conclusion:

This pollutant is being considered for placement on the CWA section 303(d) List under section 3.1 of the Listing Policy. Under section 3.1 a single line of evidence is necessary to assess listing status. One line of evidence is available in the administrative record to assess this pollutant. Zero of one samples exceed the guideline.

Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against placing this water segment-pollutant combination on the CWA section 303(d) List.

This conclusion is based on the staff findings that:

1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy.
2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy.
3. Zero of one samples exceed the guideline and this sample size is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating. A minimum of 16 samples is needed to determine if a beneficial use is fully supported using table 3.1.
4. Pursuant to SECTION 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.

Regional Board Staff Decision
Recommendation:

This is a decision previously approved by the State Water Resources Control Board and the USEPA. No new data were assessed by the Regional Board for the current cycle. The decision has not changed.

Line of Evidence (LOE) for Decision ID 60908, Dieldrin

Region 2

Glen Echo Creek

LOE ID:	95434
Pollutant:	Dieldrin
LOE Subgroup:	Pollutant-Sediment
Matrix:	Sediment
Fraction:	None
Beneficial Use:	Warm Freshwater Habitat
Number of Samples:	1
Number of Exceedances:	0
Data and Information Type:	PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality:	Concentrations of dieldrin, DDD/DDE/DDT, and heptachlor epoxide in one sediment sample collected in spring 2005 did not exceed the sediment quality guidelines.
Data Reference:	Data collected by the Surface Water Ambient Monitoring Program, San Francisco Bay Regional Water Quality Control Board. Years 4 and 5 Assessment
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	All waters shall be maintained free of toxic substances that are lethal to or that produce other detrimental responses in aquatic organisms.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) - San Francisco Bay Region (Region 2)
Evaluation Guideline:	Sediment Quality Guidelines (MacDonald et al., 2000): PEC (probable effect concentration) Dieldrin - 1.8 ug/kg; DDD (sum op + pp) - 28 ug/kg; DDE (sum op + pp) - 31.3 ug/kg; DDT (sum op + pp) - 62.9 ug/kg; DDT (total) - 572 ug/kg; Heptachlor epoxide - 16 ug/kg;.
Guideline Reference:	Development and evaluation of consensus-based sediment quality guidelines for freshwater ecosystems. Environmental Contamination and Toxicology. 39: 20-31
Spatial Representation:	One sediment sample was collected at a "watershed integrator" site located close to the

Temporal Representation:	mouth of Glen Echo Creek.
Environmental Conditions:	Sediment sample was collected in April of 2005.
QAPP Information:	Staff are not aware of any special environmental conditions associated with the sampling. All samples were collected and analyzed using procedures comparable with the SWAMP Quality Assurance Management Plan (SWRCB, 2002).
QAPP Information Reference(s):	Quality Assurance Management Plan for the State of California's Surface Water Ambient Monitoring Program. Sacramento, CA. State Water Resources Control Board. SWAMP. December 2002 (1st version).

DECISION ID	60913	Region 2
Glen Echo Creek		

Pollutant:	Disulfoton
Final Listing Decision:	Do Not List on 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision:	New Decision
Revision Status	Original
Impairment from Pollutant or Pollution:	Pollutant

Regional Board Staff Conclusion: This pollutant is being considered for placement on the CWA section 303(d) List under section 3.1 of the Listing Policy. Under section 3.1 a single line of evidence is necessary to assess listing status. One line of evidence is available in the administrative record to assess this pollutant. Zero of three samples exceed the criterion.

Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against placing this water segment-pollutant combination on the CWA section 303(d) List.

This conclusion is based on the staff findings that:

1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy.
2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy.
3. Zero of three samples exceed the criterion and this sample size is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating. A minimum of 16 samples is needed to determine if a beneficial use is fully supported using table 3.1.
4. Pursuant to SECTION 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.

Regional Board Staff Decision Recommendation:	This is a decision previously approved by the State Water Resources Control Board and the USEPA. No new data were assessed by the Regional Board for the current cycle. The decision has not changed.
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Line of Evidence (LOE) for Decision ID 60913, Disulfoton		Region 2
Glen Echo Creek		

LOE ID:	95440
Pollutant:	Disulfoton
LOE Subgroup:	Pollutant-Water
Matrix:	Water
Fraction:	None
Beneficial Use:	Warm Freshwater Habitat

Number of Samples:	3
Number of Exceedances:	0

Data and Information Type:	PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality:	The Glen Echo Creek was monitored as part of SWAMP assessment. None of the three

Data Reference:	<p>samples exceeded the water quality objectives for PCBs, Chlorpyrifos, Dacthal, diazinon, disulfoton, endosulfan, Lindane/gamma Hexachlorocyclohexane (gamma-HCH), methyl parathion, thiobencarb.</p> <p>Data collected by the Surface Water Ambient Monitoring Program, San Francisco Bay Regional Water Quality Control Board. Years 4 and 5 Assessment</p>
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	All waters shall be maintained free of toxic substances that are lethal to or that produce other detrimental responses in aquatic organisms. There shall be no chronic toxicity in ambient waters. Chronic toxicity is a detrimental biological effect on growth rate, reproduction, fertilization success, larval development, population abundance, community composition, or any other relevant measure of the health of an organism, population, or community. Diazinon water quality objective, 0.1 ug/L (acute)
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) - San Francisco Bay Region (Region 2)
Evaluation Guideline:	PCBs - 0.014 ug/L freshwater continuous Concentration; Chlorpyrifos - 0.015 ug/L (chronic); Dacthal (DCPA) - 14300 ug/L (acute); Disulfoton (Disyston) - 0.05 ug/L (acute); Endosulfan - 0.056 ug/L (chronic)/0.22 ug/L (acute); HCH, gamma-(gamma BHC, Lindane) - 0.95 ug/L (acute); methyl parathion - 0.08 ug/L (acute); Thiobencarb - 3.1 ug/L (acute).
Guideline Reference:	Pollutants of concern in Puget Sound. EPA 910/9-91-003. Seattle, WA: U.S. Environmental Protection Agency
Spatial Representation:	Data were collected at one sampling location (LME100, Glen Echo at 29th Street) on Glen Echo Creek.
Temporal Representation:	Samples were collected during wet (January), spring (April), and dry(June) seasons of 2005.
Environmental Conditions:	Staff are not aware of any special environmental conditions associated with the sampling.
QAPP Information:	All samples were collected and analyzed using procedures comparable with the SWAMP Quality Assurance Management Plan (SWRCB, 2002).
QAPP Information Reference(s):	Quality Assurance Management Plan for the State of California's Surface Water Ambient Monitoring Program. Sacramento, CA. State Water Resources Control Board. SWAMP. December 2002 (1st version)

DECISION ID		60914	Region 2
Glen Echo Creek			
Pollutant:	Endosulfan		
Final Listing Decision:	Do Not List on 303(d) list (TMDL required list)		
Last Listing Cycle's Final Listing Decision:	New Decision		
Revision Status	Original		
Impairment from Pollutant or Pollution:	Pollutant		
Regional Board Staff Conclusion:	<p>This pollutant is being considered for placement on the CWA section 303(d) List under section 3.1 of the Listing Policy. Under section 3.1 a single line of evidence is necessary to assess listing status. One line of evidence is available in the administrative record to assess this pollutant. Zero of three samples exceed the criterion.</p> <p>Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against placing this water segment-pollutant combination on the CWA section 303(d) List.</p> <p>This conclusion is based on the staff findings that:</p> <ol style="list-style-type: none"> 1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy. 2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy. 3. Zero of three samples exceed the criterion and this sample size is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating. A minimum of 16 samples is needed to determine if a beneficial use is fully supported using table 3.1. 		

4. Pursuant to SECTION 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.

Regional Board Staff Decision Recommendation: This is a decision previously approved by the State Water Resources Control Board and the USEPA. No new data were assessed by the Regional Board for the current cycle. The decision has not changed.

**Line of Evidence (LOE) for Decision ID 60914, Endosulfan
Glen Echo Creek**

Region 2

LOE ID:	95441
Pollutant:	Endosulfan
LOE Subgroup:	Pollutant-Water
Matrix:	Water
Fraction:	None
Beneficial Use:	Warm Freshwater Habitat
Number of Samples:	3
Number of Exceedances:	0
Data and Information Type:	PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality:	The Glen Echo Creek was monitored as part of SWAMP assessment. None of the three samples exceeded the water quality objectives for PCBs, Chlorpyrifos, Dacthal, diazinon, disulfoton, endosulfan, Lindane/gamma Hexachlorocyclohexane (gamma-HCH), methyl parathion, thiobencarb.
Data Reference:	Data collected by the Surface Water Ambient Monitoring Program, San Francisco Bay Regional Water Quality Control Board, Years 4 and 5 Assessment
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	All waters shall be maintained free of toxic substances that are lethal to or that produce other detrimental responses in aquatic organisms. There shall be no chronic toxicity in ambient waters. Chronic toxicity is a detrimental biological effect on growth rate, reproduction, fertilization success, larval development, population abundance, community composition, or any other relevant measure of the health of an organism, population, or community. Diazinon water quality objective, 0.1 ug/L (acute)
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) - San Francisco Bay Region (Region 2)
Evaluation Guideline:	PCBs - 0.014 ug/L freshwater continuous Concentration; Chlorpyrifos - 0.015 ug/L (chronic); Dacthal (DCPA) - 14300 ug/L (acute); Disulfoton (Disyston) - 0.05 ug/L (acute); Endosulfan - 0.056 ug/L (chronic)/0.22 ug/L (acute); HCH, gamma-(gamma BHC, Lindane) - 0.95 ug/L (acute); methyl parathion - 0.08 ug/L (acute); Thiobencarb - 3.1 ug/L (acute).
Guideline Reference:	Pollutants of concern in Puget Sound. EPA 910/9-91-003. Seattle, WA: U.S. Environmental Protection Agency
Spatial Representation:	Data were collected at one sampling location (LME100, Glen Echo at 29th Street) on Glen Echo Creek.
Temporal Representation:	Samples were collected during wet (January), spring (April), and dry(June) seasons of 2005.
Environmental Conditions:	Staff are not aware of any special environmental conditions associated with the sampling.
QAPP Information:	All samples were collected and analyzed using procedures comparable with the SWAMP Quality Assurance Management Plan (SWRCB, 2002).
QAPP Information Reference(s):	Quality Assurance Management Plan for the State of California's Surface Water Ambient Monitoring Program, Sacramento, CA. State Water Resources Control Board. SWAMP. December 2002 (1st version)

DECISION ID

43851

Region 2

Pollutant: Escherichia coli (E. coli)
Final Listing Decision: Do Not List on 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision: Do Not List on 303(d) list (TMDL required list)(2012)
Revision Status: Original
Impairment from Pollutant or Pollution: Pollutant

Regional Board Staff Conclusion: This pollutant is being considered for placement on the section 303(d) list under section 3.2 of the Listing Policy. Under this section a single line of evidence is necessary to assess listing status. One line of evidence is available in the administrative record to assess this pollutant. One out of one sample exceeds the water quality objective. Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against placing this water segment-pollutant combination on the section 303(d) list in the Water Quality Limited Segments category. This conclusion is based on the staff findings that: 1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy. 2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy. 3. One out of one sample exceeds the water quality objective, but this sample size is insufficient to determine with the power and confidence of the Listing Policy if standards are not met. A minimum of five samples is needed for application of table 3.2. 4. Pursuant to section 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.

Regional Board Staff Decision Recommendation: This is a decision previously approved by the State Water Resources Control Board and the USEPA. No new data were assessed by the Regional Board for the current. The decision has not changed.

Line of Evidence (LOE) for Decision ID 43851, Escherichia coli (E. coli)

Region 2

Glen Echo Creek

LOE ID: 28970

Pollutant: Escherichia coli (E. coli)
 LOE Subgroup: Pollutant-Water
 Matrix: Water
 Fraction: None

Beneficial Use: Water Contact Recreation

Number of Samples: 1
 Number of Exceedances: 1

Data and Information Type: PATHOGEN MONITORING
 Data Used to Assess Water Quality: Samples were collected as part of SWAMP sampling in the summer of 2004 at 7-day intervals at one location. The geometric mean of the samples calculated over a five week interval exceeded the 126MPN/100mL with values of 3739 MPN/100 mL. *Note- MPN is most probable number

Data Reference: [Data collected by the Surface Water Ambient Monitoring Program, San Francisco Bay Regional Water Quality Control Board. Years 4 and 5 Assessment](#)

SWAMP Data: SWAMP

Water Quality Objective/Criterion: Uses of water for recreational activities involving body contact with water where ingestion of water is reasonably possible. These uses include, but are not limited to, swimming, wading, water-skiing, skin and scuba diving, surfing, whitewater activities, fishing, and uses of natural hot springs.
 Water contact implies a risk of waterborne disease transmission and involves human health; accordingly, criteria required to protect this use are more stringent than those for more casual water-oriented recreation.
 U.S. EPA water quality criteria for water contact recreation based on the frequency of use a particular area receives - 1986: the E. coli criterion is not to exceed 126 organisms/100

Objective/Criterion Reference: mL. The value is expressed as a 7-day geometric mean based on five or more samples per 30?day period; designated beach (max) 235 MPN/100 mL.
[Water Quality Control Plan \(Basin Plan\) - San Francisco Bay Region \(Region 2\)](#)
[Ambient Water Quality Criteria for Bacteria - 1986. EPA440/5-84-002](#)

Evaluation Guideline:
Guideline Reference:

Spatial Representation: Samples were collected at LME130 (Oak Glen Park).
Temporal Representation: Samples were collected weekly from 7/20/2004 through 8/17/2004.
Environmental Conditions:
QAPP Information: All samples were collected and analyzed using procedures comparable with the SWAMP Quality Assurance Management Plan (SWRCB, 2002).
QAPP Information Reference(s): [Quality Assurance Management Plan for the State of California's Surface Water Ambient Monitoring Program. Sacramento, CA. State Water Resources Control Board. SWAMP. December 2002 \(1st version\)](#)

DECISION ID	60909	Region 2
Glen Echo Creek		

Pollutant: Heptachlor epoxide
Final Listing Decision: Do Not List on 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision: New Decision
Revision Status Original
Impairment from Pollutant or Pollution: Pollutant

Regional Board Staff Conclusion: This pollutant is being considered for placement on the CWA section 303(d) List under section 3.1 of the Listing Policy. Under section 3.1 a single line of evidence is necessary to assess listing status. One line of evidence is available in the administrative record to assess this pollutant. Zero of one samples exceed the guideline.

Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against placing this water segment-pollutant combination on the CWA section 303(d) List.

This conclusion is based on the staff findings that:

1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy.
2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy.
3. Zero of one samples exceed the guideline and this sample size is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating. A minimum of 16 samples is needed to determine if a beneficial use is fully supported using table 3.1.
4. Pursuant to SECTION 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.

Regional Board Staff Decision Recommendation: This is a decision previously approved by the State Water Resources Control Board and the USEPA. No new data were assessed by the Regional Board for the current cycle. The decision has not changed.

Line of Evidence (LOE) for Decision ID 60909, Heptachlor epoxide	Region 2
Glen Echo Creek	

LOE ID: 95435

Pollutant: Heptachlor epoxide
LOE Subgroup: Pollutant-Sediment
Matrix: Sediment
Fraction: None

Beneficial Use:	Warm Freshwater Habitat
Number of Samples:	1
Number of Exceedances:	0
Data and Information Type:	PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality:	Concentrations of dieldrin, DDD/DDE/DDT, and heptachlor epoxide in one sediment sample collected in spring 2005 did not exceed the sediment quality guidelines.
Data Reference:	Data collected by the Surface Water Ambient Monitoring Program, San Francisco Bay Regional Water Quality Control Board. Years 4 and 5 Assessment
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	All waters shall be maintained free of toxic substances that are lethal to or that produce other detrimental responses in aquatic organisms.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) - San Francisco Bay Region (Region 2)
Evaluation Guideline:	Sediment Quality Guidelines (MacDonald et al., 2000): PEC (probable effect concentration) Dieldrin - 1.8 ug/kg; DDD (sum op + pp) - 28 ug/kg; DDE (sum op + pp) - 31.3 ug/kg; DDT (sum op + pp) - 62.9 ug/kg; DDT (total) - 572 ug/kg; Heptachlor epoxide - 16 ug/kg;.
Guideline Reference:	Development and evaluation of consensus-based sediment quality guidelines for freshwater ecosystems. Environmental Contamination and Toxicology. 39: 20-31
Spatial Representation:	One sediment sample was collected at a "watershed integrator" site located close to the mouth of Glen Echo Creek.
Temporal Representation:	Sediment sample was collected in April of 2005.
Environmental Conditions:	Staff are not aware of any special environmental conditions associated with the sampling.
QAPP Information:	All samples were collected and analyzed using procedures comparable with the SWAMP Quality Assurance Management Plan (SWRCB, 2002).
QAPP Information Reference(s):	Quality Assurance Management Plan for the State of California's Surface Water Ambient Monitoring Program. Sacramento, CA. State Water Resources Control Board. SWAMP. December 2002 (1st version)

DECISION ID	44515	Region 2
Glen Echo Creek		
Pollutant:	Lead	
Final Listing Decision:	Do Not List on 303(d) list (TMDL required list)	
Last Listing Cycle's Final Listing Decision:	Do Not List on 303(d) list (TMDL required list)(2012)	
Revision Status	Original	
Impairment from Pollutant or Pollution:	Pollutant	
Regional Board Staff Conclusion:	<p>This pollutant is being considered for listing under section 3.1 of the Listing Policy. Under section 3.1 a single line of evidence is necessary to assess listing status. One line of evidence is available in the administrative record to assess metal concentrations in sediment in Glen Echo Creek. Based on the readily available data for this water body, the weight of evidence indicates that there is sufficient justification available against placing this water segment-pollutant combination on the section 303(d) list in the Water Quality Limited Segments category. This conclusion is based on the staff findings that: 1. The data concerning current conditions and supporting the listing decision satisfy the data quality requirements of section 6.1.4 of the Policy. 2. The data used satisfy the data quantity requirements of section 6.1.5 of the Policy. 3. Metal concentrations were analyzed in one sediment sample. The single lead sample did not exceed the sediment quality guidelines and this does not exceed the allowable frequency listed in Table 3.1 of the Listing Policy. The sample size is insufficient to determine with the power and confidence of the Listing Policy if standards are not met. 4. Pursuant to section 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.</p>	

Regional Board Staff Decision Recommendation: This is a decision previously approved by the State Water Resources Control Board and the USEPA. No new data were assessed by the Regional Board for the current. The decision has not changed.

**Line of Evidence (LOE) for Decision ID 44515, Lead
Glen Echo Creek**

Region 2

LOE ID: 31405

Pollutant: Lead
LOE Subgroup: Pollutant-Sediment
Matrix: Sediment
Fraction: None

Beneficial Use: Warm Freshwater Habitat

Number of Samples: 1
Number of Exceedances: 0

Data and Information Type: PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality: Concentrations of lead in one sediment sample collected in spring 2005 did not exceed the sediment quality guidelines.
Data Reference: [Data collected by the Surface Water Ambient Monitoring Program, San Francisco Bay Regional Water Quality Control Board. Years 4 and 5 Assessment](#)

SWAMP Data: SWAMP

Water Quality Objective/Criterion: All waters shall be maintained free of toxic substances that are lethal to or that produce other detrimental responses in aquatic organisms.
Objective/Criterion Reference: [Water Quality Control Plan \(Basin Plan\) - San Francisco Bay Region \(Region 2\)](#)

Evaluation Guideline: Sediment Quality Guidelines (MacDonald et al., 2000): PEC (probable effect concentration) lead: 128 mg/kg dw;
Guideline Reference: [Development and evaluation of consensus-based sediment quality guidelines for freshwater ecosystems. Environmental Contamination and Toxicology. 39: 20-31](#)

Spatial Representation: Data were collected at a sampling location at the lower part of Glen Echo Creek upstream from the confluence with Lake Merritt.
Temporal Representation: Sample was collected in spring 2005.
Environmental Conditions:
QAPP Information: All samples were collected and analyzed using procedures comparable with the SWAMP Quality Assurance Management Plan (SWRCB, 2002).
QAPP Information Reference(s):

**DECISION ID 60915
Glen Echo Creek**

Region 2

Pollutant: Lindane/gamma Hexachlorocyclohexane (gamma-HCH)
Final Listing Decision: Do Not List on 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision: New Decision
Revision Status: Original
Impairment from Pollutant or Pollution: Pollutant

Regional Board Staff Conclusion: This pollutant is being considered for placement on the CWA section 303(d) List under section 3.1 of the Listing Policy. Under section 3.1 a single line of evidence is necessary to assess listing status. One line of evidence is available in the administrative record to assess this pollutant. Zero of three samples exceed the criterion.

Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against placing this water segment-pollutant combination on the CWA section 303(d) List.

This conclusion is based on the staff findings that:

1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy.
2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy.
3. Zero of three samples exceed the criterion and this sample size is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating. A minimum of 16 samples is needed to determine if a beneficial use is fully supported using table 3.1.
4. Pursuant to SECTION 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.

Regional Board Staff Decision Recommendation: This is a decision previously approved by the State Water Resources Control Board and the USEPA. No new data were assessed by the Regional Board for the current cycle. The decision has not changed.

Line of Evidence (LOE) for Decision ID 60915, Lindane/gamma Hexachlorocyclohexane

(gamma-HCH)

Region 2

Glen Echo Creek

LOE ID: 95442

Pollutant: Lindane/gamma Hexachlorocyclohexane (gamma-HCH)

LOE Subgroup: Pollutant-Water

Matrix: Water

Fraction: None

Beneficial Use: Warm Freshwater Habitat

Number of Samples: 3

Number of Exceedances: 0

Data and Information Type: PHYSICAL/CHEMICAL MONITORING

Data Used to Assess Water Quality: The Glen Echo Creek was monitored as part of SWAMP assessment. None of the three samples exceeded the water quality objectives for PCBs, Chlorpyrifos, Dacthal, diazinon, disulfoton, endosulfan, Lindane/gamma Hexachlorocyclohexane (gamma-HCH), methyl parathion, thiobencarb.

Data Reference: [Data collected by the Surface Water Ambient Monitoring Program, San Francisco Bay Regional Water Quality Control Board. Years 4 and 5 Assessment](#)

SWAMP Data: SWAMP

Water Quality Objective/Criterion: All waters shall be maintained free of toxic substances that are lethal to or that produce other detrimental responses in aquatic organisms. There shall be no chronic toxicity in ambient waters. Chronic toxicity is a detrimental biological effect on growth rate, reproduction, fertilization success, larval development, population abundance, community composition, or any other relevant measure of the health of an organism, population, or community. Diazinon water quality objective, 0.1 ug/L (acute)

Objective/Criterion Reference: [Water Quality Control Plan \(Basin Plan\) - San Francisco Bay Region \(Region 2\)](#)

Evaluation Guideline: PCBs - 0.014 ug/L freshwater continuous Concentration; Chlorpyrifos - 0.015 ug/L (chronic); Dacthal (DCPA) - 14300 ug/L (acute); Disulfoton (Disyston) - 0.05 ug/L (acute); Endosulfan - 0.056 ug/L (chronic)/0.22 ug/L (acute); HCH, gamma-(gamma BHC, Lindane) - 0.95 ug/L (acute); methyl parathion - 0.08 ug/L (acute); Thiobencarb - 3.1 ug/L (acute).

Guideline Reference: [Pollutants of concern in Puget Sound. EPA 910/9-91-003. Seattle, WA: U.S. Environmental Protection Agency](#)

Spatial Representation: Data were collected at one sampling location (LME100, Glen Echo at 29th Street) on Glen Echo Creek.

Temporal Representation:	Samples were collected during wet (January), spring (April), and dry(June) seasons of 2005.
Environmental Conditions:	Staff are not aware of any special environmental conditions associated with the sampling.
QAPP Information:	All samples were collected and analyzed using procedures comparable with the SWAMP Quality Assurance Management Plan (SWRCB, 2002).
QAPP Information Reference(s):	Quality Assurance Management Plan for the State of California's Surface Water Ambient Monitoring Program. Sacramento, CA. State Water Resources Control Board. SWAMP. December 2002 (1st version).

DECISION ID	44535	Region 2
Glen Echo Creek		

Pollutant:	Mercury
Final Listing Decision:	Do Not List on 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision:	Do Not List on 303(d) list (TMDL required list)(2012)
Revision Status	Original
Impairment from Pollutant or Pollution:	Pollutant

Regional Board Staff Conclusion: This pollutant is being considered for listing under section 3.1 of the Listing Policy. Under section 3.1 a single line of evidence is necessary to assess listing status. One line of evidence is available in the administrative record to assess metal concentrations in sediment in Glen Echo Creek. Based on the readily available data for this water body, the weight of evidence indicates that there is sufficient justification available against placing this water segment-pollutant combination on the section 303(d) list in the Water Quality Limited Segments category. This conclusion is based on the staff findings that: 1. The data concerning current conditions and supporting the listing decision satisfy the data quality requirements of section 6.1.4 of the Policy. 2. The data used satisfy the data quantity requirements of section 6.1.5 of the Policy. 3. Metal concentrations were analyzed in one sediment sample. The single mercury sample did not exceed the sediment quality guidelines and this does not exceed the allowable frequency listed in Table 3.1 of the Listing Policy. The sample size is insufficient to determine with the power and confidence of the Listing Policy if standards are not met. 4. Pursuant to section 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.

Regional Board Staff Decision Recommendation: This is a decision previously approved by the State Water Resources Control Board and the USEPA. No new data were assessed by the Regional Board for the current. The decision has not changed.

Line of Evidence (LOE) for Decision ID 44535, Mercury	Region 2
Glen Echo Creek	

LOE ID:	31406
Pollutant:	Mercury
LOE Subgroup:	Pollutant-Sediment
Matrix:	Sediment
Fraction:	None
Beneficial Use:	Warm Freshwater Habitat
Number of Samples:	1
Number of Exceedances:	0
Data and Information Type:	PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality:	Concentrations of mercury in one sediment sample collected in spring 2005 did not exceed the sediment quality guidelines.
Data Reference:	Data collected by the Surface Water Ambient Monitoring Program, San Francisco Bay Regional Water Quality Control Board. Years 4 and 5 Assessment

SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	All waters shall be maintained free of toxic substances that are lethal to or that produce other detrimental responses in aquatic organisms.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) - San Francisco Bay Region (Region 2)
Evaluation Guideline:	Sediment Quality Guidelines (MacDonald et al., 2000): PEC (probable effect concentration) mercury: 1.06 mg/kg dw;
Guideline Reference:	Development and evaluation of consensus-based sediment quality guidelines for freshwater ecosystems. Environmental Contamination and Toxicology. 39: 20-31
Spatial Representation:	Data were collected at a sampling location at the lower part of Glen Echo Creek upstream from the confluence with Lake Merritt.
Temporal Representation:	Sample was collected in spring 2005.
Environmental Conditions:	
QAPP Information:	All samples were collected and analyzed using procedures comparable with the SWAMP Quality Assurance Management Plan (SWRCB, 2002).
QAPP Information Reference(s):	

DECISION ID	60916	Region 2
Glen Echo Creek		

Pollutant:	Methyl Parathion
Final Listing Decision:	Do Not List on 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision:	New Decision
Revision Status	Original
Impairment from Pollutant or Pollution:	Pollutant

Regional Board Staff Conclusion:	<p>This pollutant is being considered for placement on the CWA section 303(d) List under section 3.1 of the Listing Policy. Under section 3.1 a single line of evidence is necessary to assess listing status. One line of evidence is available in the administrative record to assess this pollutant. Zero of three samples exceed the criterion.</p> <p>Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against placing this water segment-pollutant combination on the CWA section 303(d) List.</p> <p>This conclusion is based on the staff findings that:</p> <ol style="list-style-type: none"> 1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy. 2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy. 3. Zero of three samples exceed the criterion and this sample size is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating. A minimum of 16 samples is needed to determine if a beneficial use is fully supported using table 3.1. 4. Pursuant to SECTION 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.
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Regional Board Staff Decision Recommendation:	This is a decision previously approved by the State Water Resources Control Board and the USEPA. No new data were assessed by the Regional Board for the current cycle. The decision has not changed.
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Line of Evidence (LOE) for Decision ID 60916, Methyl Parathion	Region 2
Glen Echo Creek	

LOE ID:	95443
Pollutant:	Methyl Parathion
LOE Subgroup:	Pollutant-Water

Matrix:	Water
Fraction:	None
Beneficial Use:	Warm Freshwater Habitat
Number of Samples:	3
Number of Exceedances:	0
Data and Information Type:	PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality:	The Glen Echo Creek was monitored as part of SWAMP assessment. None of the three samples exceeded the water quality objectives for PCBs, Chlorpyrifos, Dacthal, diazinon, disulfoton, endosulfan, Lindane/gamma Hexachlorocyclohexane (gamma-HCH), methyl parathion, thiobencarb.
Data Reference:	Data collected by the Surface Water Ambient Monitoring Program, San Francisco Bay Regional Water Quality Control Board. Years 4 and 5 Assessment
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	All waters shall be maintained free of toxic substances that are lethal to or that produce other detrimental responses in aquatic organisms. There shall be no chronic toxicity in ambient waters. Chronic toxicity is a detrimental biological effect on growth rate, reproduction, fertilization success, larval development, population abundance, community composition, or any other relevant measure of the health of an organism, population, or community. Diazinon water quality objective, 0.1 ug/L (acute)
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) - San Francisco Bay Region (Region 2)
Evaluation Guideline:	PCBs - 0.014 ug/L freshwater continuous Concentration; Chlorpyrifos - 0.015 ug/L (chronic); Dacthal (DCPA) - 14300 ug/L (acute); Disulfoton (Disyston) - 0.05 ug/L (acute); Endosulfan - 0.056 ug/L (chronic)/0.22 ug/L (acute); HCH, gamma-(gamma BHC, Lindane) - 0.95 ug/L (acute); methyl parathion - 0.08 ug/L (acute); Thiobencarb - 3.1 ug/L (acute).
Guideline Reference:	Pollutants of concern in Puget Sound. EPA 910/9-91-003. Seattle, WA: U.S. Environmental Protection Agency
Spatial Representation:	Data were collected at one sampling location (LME100, Glen Echo at 29th Street) on Glen Echo Creek.
Temporal Representation:	Samples were collected during wet (January), spring (April), and dry(June) seasons of 2005.
Environmental Conditions:	Staff are not aware of any special environmental conditions associated with the sampling.
QAPP Information:	All samples were collected and analyzed using procedures comparable with the SWAMP Quality Assurance Management Plan (SWRCB, 2002).
QAPP Information Reference(s):	Quality Assurance Management Plan for the State of California's Surface Water Ambient Monitoring Program. Sacramento, CA. State Water Resources Control Board. SWAMP. December 2002 (1st version)

DECISION ID	44407	Region 2
Glen Echo Creek		
Pollutant:	Nickel	
Final Listing Decision:	Do Not List on 303(d) list (TMDL required list)	
Last Listing Cycle's Final Listing Decision:	Do Not List on 303(d) list (TMDL required list)(2012)	
Revision Status	Original	
Impairment from Pollutant or Pollution:	Pollutant	
Regional Board Staff Conclusion:	This pollutant is being considered for listing under section 3.1 of the Listing Policy. Under section 3.1 a single line of evidence is necessary to assess listing status. One line of evidence is available in the administrative record to assess metal concentrations in sediment in Glen Echo Creek. Based on the readily available data for this water body, the weight of evidence indicates that there is sufficient justification available against placing this water segment-pollutant combination on the section 303(d)	

list in the Water Quality Limited Segments category. This conclusion is based on the staff findings that: 1. The data concerning current conditions and supporting the listing decision satisfy the data quality requirements of section 6.1.4 of the Policy. 2. The data used satisfy the data quantity requirements of section 6.1.5 of the Policy. 3. Metal concentrations were analyzed in one sediment sample. The single nickel sample exceeded the sediment quality guidelines and this does not exceed the allowable frequency listed in Table 3.1 of the Listing Policy. The sample size is insufficient to determine with the power and confidence of the Listing Policy if standards are not met. 4. Pursuant to section 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.

Regional Board Staff Decision Recommendation: This is a decision previously approved by the State Water Resources Control Board and the USEPA. No new data were assessed by the Regional Board for the current. The decision has not changed.

**Line of Evidence (LOE) for Decision ID 44407, Nickel
Glen Echo Creek**

Region 2

LOE ID: 8965

Pollutant: Nickel (sediment)
LOE Subgroup: Pollutant-Sediment
Matrix: Sediment
Fraction: None

Beneficial Use: Warm Freshwater Habitat

Number of Samples: 1
Number of Exceedances: 1

Data and Information Type: PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality: Nickel concentration in sediment sample collected in spring 2005 was 62.5 mg/kg and exceeded the sediment quality guideline.

Data Reference: [Data collected by the Surface Water Ambient Monitoring Program, San Francisco Bay Regional Water Quality Control Board, Years 4 and 5 Assessment](#)

SWAMP Data: SWAMP

Water Quality Objective/Criterion: All waters shall be maintained free of toxic substances that are lethal to or that produce other detrimental responses in aquatic organisms.

Objective/Criterion Reference: [Water Quality Control Plan \(Basin Plan\) - San Francisco Bay Region \(Region 2\)](#)

Evaluation Guideline: Sediment Quality Guidelines (MacDonald et al., 2000): PEC (probable effect concentration) for nickel - 48.6 mg/kg

Guideline Reference: [Development and evaluation of consensus-based sediment quality guidelines for freshwater ecosystems. Environmental Contamination and Toxicology. 39: 20-31](#)

Spatial Representation: Data were collected at a sampling location at the lower part of Glen Echo Creek upstream from the confluence with Lake Merritt.

Temporal Representation: Sample was collected in spring 2005.

Environmental Conditions:

QAPP Information: All samples were collected and analyzed using procedures comparable with the SWAMP Quality Assurance Management Plan (SWRCB, 2002).

QAPP Information Reference(s):

**DECISION ID 43837
Glen Echo Creek**

Region 2

Pollutant: Oxygen, Dissolved
Final Listing Decision: Do Not List on 303(d) list (TMDL required list)
Last Listing Cycle's Final Do Not List on 303(d) list (TMDL required list)(2012)

Listing Decision:
Revision Status Original
Impairment from Pollutant or Pollution: Pollutant

Regional Board Staff Conclusion: This pollutant is being considered for placement on the section 303(d) list under section 3.2 of the Listing Policy. Under this section a single line of evidence is necessary to assess listing status. One line of evidence is available in the administrative record to assess this pollutant. None of the samples exceed the water quality objective. Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against placing this water segment-pollutant combination on the section 303(d) list in the Water Quality Limited Segments category. This conclusion is based on the staff findings that: 1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy. 2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy. 3. Zero of four samples exceeded the water quality objective, but this sample size is insufficient to determine with the power and confidence of the Listing Policy if standards are not met. A minimum of five samples is needed for application of table 3.2. 4. Pursuant to section 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.

Regional Board Staff Decision Recommendation: This is a decision previously approved by the State Water Resources Control Board and the USEPA. No new data were assessed by the Regional Board for the current. The decision has not changed.

**Line of Evidence (LOE) for Decision ID 43837, Oxygen, Dissolved
Glen Echo Creek**

Region 2

LOE ID: 28899

Pollutant: Oxygen, Dissolved
LOE Subgroup: Pollutant-Water
Matrix: Water
Fraction: None

Beneficial Use: Warm Freshwater Habitat

Number of Samples: 4
Number of Exceedances: 0

Data and Information Type: PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality: Comprehensive water quality assessment was conducted at Glen Echo Creek as part of SWAMP assessment in 2004 and 2005. Continuous field monitoring of temperature, dissolved oxygen, pH, and specific conductance to determine temporal variability in basic water quality at one or two locations. The 7 day average minimum concentration of dissolved oxygen ranged from 7.3 to 10.6 mg/L and varied with season. Minimum dissolved oxygen levels did not fall below the objective of 5 mg/L.

Data Reference: [Data collected by the Surface Water Ambient Monitoring Program, San Francisco Bay Regional Water Quality Control Board. Years 4 and 5 Assessment](#)

SWAMP Data: SWAMP

Water Quality Objective/Criterion: The numeric water quality objective for dissolved oxygen is 5.0 mg/L minimum for waters designated as warm water habitat. The median dissolved oxygen concentration for any three consecutive months shall not be less than 80 percent of the dissolved oxygen content at saturation.

Objective/Criterion Reference: [Water Quality Control Plan \(Basin Plan\) - San Francisco Bay Region \(Region 2\)](#)

Evaluation Guideline:
Guideline Reference:

Spatial Representation: Dissolved oxygen was measured at two sites (LME100 Glen Echo at 29th Street and LME130 Oak Glen Park) located on the mainstem of Glen EchoCreek.

Temporal Representation: SWAMP performed continuous monitoring of dissolved oxygen at 15 minute intervals

lasting 7 days at LME100 during spring (April 2004), two summer dry seasons (July 2004), and winter wet season (February 2005). LME130 was only sampled during the winter wet season.

Environmental Conditions:

QAPP Information:

All samples were collected and analyzed using procedures comparable with the SWAMP Quality Assurance Management Plan (SWRCB 2002).

QAPP Information Reference(s):

DECISION ID	60917	Region 2
Glen Echo Creek		

Pollutant:	PCBs (Polychlorinated biphenyls)
Final Listing Decision:	Do Not List on 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision:	New Decision
Revision Status	Original
Impairment from Pollutant or Pollution:	Pollutant

Regional Board Staff Conclusion: This pollutant is being considered for placement on the CWA section 303(d) List under section 3.1 of the Listing Policy. Under section 3.1 a single line of evidence is necessary to assess listing status. One line of evidence is available in the administrative record to assess this pollutant. Zero of three samples exceed the criterion.

Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against placing this water segment-pollutant combination on the CWA section 303(d) List.

This conclusion is based on the staff findings that:

1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy.
2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy.
3. Zero of three samples exceed the criterion and this sample size is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating. A minimum of 16 samples is needed to determine if a beneficial use is fully supported using table 3.1.
4. Pursuant to SECTION 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.

Regional Board Staff Decision Recommendation: This is a decision previously approved by the State Water Resources Control Board and the USEPA. No new data were assessed by the Regional Board for the current cycle. The decision has not changed.

Line of Evidence (LOE) for Decision ID 60917, PCBs (Polychlorinated biphenyls)	Region 2
Glen Echo Creek	

LOE ID: 95444

Pollutant:	PCBs (Polychlorinated biphenyls)
LOE Subgroup:	Pollutant-Water
Matrix:	Water
Fraction:	None

Beneficial Use: Warm Freshwater Habitat

Number of Samples:	3
Number of Exceedances:	0

Data and Information Type:	PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality:	The Glen Echo Creek was monitored as part of SWAMP assessment. None of the three samples exceeded the water quality objectives for PCBs, Chlorpyrifos, Dacthal, diazinon,

Data Reference:	disulfoton, endosulfan, Lindane/gamma Hexachlorocyclohexane (gamma-HCH), methyl parathion, thiobencarb. Data collected by the Surface Water Ambient Monitoring Program, San Francisco Bay Regional Water Quality Control Board. Years 4 and 5 Assessment
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	All waters shall be maintained free of toxic substances that are lethal to or that produce other detrimental responses in aquatic organisms. There shall be no chronic toxicity in ambient waters. Chronic toxicity is a detrimental biological effect on growth rate, reproduction, fertilization success, larval development, population abundance, community composition, or any other relevant measure of the health of an organism, population, or community. Diazinon water quality objective, 0.1 ug/L (acute)
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) - San Francisco Bay Region (Region 2)
Evaluation Guideline:	PCBs - 0.014 ug/L freshwater continuous Concentration; Chlorpyrifos - 0.015 ug/L (chronic); Dacthal (DCPA) - 14300 ug/L (acute); Disulfoton (Disyston) - 0.05 ug/L (acute); Endosulfan - 0.056 ug/L (chronic)/0.22 ug/L (acute); HCH, gamma-(gamma BHC, Lindane) - 0.95 ug/L (acute); methyl parathion - 0.08 ug/L (acute); Thiobencarb - 3.1 ug/L (acute).
Guideline Reference:	Pollutants of concern in Puget Sound. EPA 910/9-91-003. Seattle, WA: U.S. Environmental Protection Agency
Spatial Representation:	Data were collected at one sampling location (LME100, Glen Echo at 29th Street) on Glen Echo Creek.
Temporal Representation:	Samples were collected during wet (January), spring (April), and dry(June) seasons of 2005.
Environmental Conditions:	Staff are not aware of any special environmental conditions associated with the sampling.
QAPP Information:	All samples were collected and analyzed using procedures comparable with the SWAMP Quality Assurance Management Plan (SWRCB, 2002).
QAPP Information Reference(s):	Quality Assurance Management Plan for the State of California's Surface Water Ambient Monitoring Program. Sacramento, CA. State Water Resources Control Board. SWAMP. December 2002 (1st version)

DECISION ID	44086	Region 2
Glen Echo Creek		
Pollutant:	Temperature, water	
Final Listing Decision:	Do Not List on 303(d) list (TMDL required list)	
Last Listing Cycle's Final Listing Decision:	Do Not List on 303(d) list (TMDL required list)(2012)	
Revision Status	Original	
Impairment from Pollutant or Pollution:	Pollutant	
Regional Board Staff Conclusion:	<p>This pollutant is being considered for placement on the section 303(d) list under section 3.2 of the Listing Policy. Under this section a single line of evidence is necessary to assess listing status. One line of evidence is available in the administrative record to assess this pollutant. None of the samples exceed the water quality objective. Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against placing this water segment-pollutant combination on the section 303(d) list in the Water Quality Limited Segments category. This conclusion is based on the staff findings that: 1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy. 2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy. 3. Zero of four samples exceeded the water quality objective, but this sample size is insufficient to determine with the power and confidence of the Listing Policy if standards are not met. A minimum of five samples is needed for application of table 3.2. 4. Pursuant to section 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.</p>	
Regional Board Staff Decision Recommendation:	<p>This is a decision previously approved by the State Water Resources Control Board and the USEPA. No new data were assessed by the Regional Board for the current. The decision has not changed.</p>	

**Line of Evidence (LOE) for Decision ID 44086, Temperature, water
Glen Echo Creek**

Region 2

LOE ID:	28874
Pollutant:	Temperature, water
LOE Subgroup:	Pollutant-Water
Matrix:	Water
Fraction:	None
Beneficial Use:	Cold Freshwater Habitat
Number of Samples:	4
Number of Exceedances:	1
Data and Information Type:	PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality:	Water quality assessment was conducted at the Glen Echo Creek watershed as part of SWAMP study in 2004-2005. Continuous field monitoring at 15 minute increments of temperature, dissolved oxygen, pH and specific conductance was conducted to determine temporal variability in basic water quality at two locations. Continuous monitoring sondes were deployed 4 times at 2 monitoring locations during wet, spring and dry seasons. The measured temperatures ranged from 10.2oC to 18.6oC and varied with season and location. During the dry season (Summer) deployments at one monitoring location (LIM100) the 7-day mean temperature threshold for steelhead was exceeded with a temperature of 17.7 °C in July 2004. In total, the 17 °C criterion was exceeded in 1 out of 4 deployments.
Data Reference:	Data collected by the Surface Water Ambient Monitoring Program, San Francisco Bay Regional Water Quality Control Board. Years 4 and 5 Assessment
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	Temperature objectives for enclosed bays and estuaries are specified in the "Water Quality Control Plan for Control of Temperature in the Coastal and Interstate Waters and Enclosed Bays of California" including any revisions to the plan. In addition, the following temperature objectives apply to surface waters: The natural receiving water temperature of intrastate waters shall not be altered unless it can be demonstrated to the satisfaction of the Regional Board that such an alteration does not adversely affect beneficial uses. The temperature of any cold or warm freshwater habitat shall not be increased by more than 5°F (2.8°C) above natural receiving water temperature.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) - San Francisco Bay Region (Region 2)
Evaluation Guideline:	Sullivan et al. (2000) reviewed a wide range of studies incorporating information from laboratory-based research, field observations, and risk assessment approaches and developed criteria for assessing temperature risk to aquatic life. The 7-day mean temperature (maximum value of a 7-day moving average of the daily mean temperature) of 14.8°C was established as the upper threshold criterion for coho salmon and 17.0°C for steelhead trout. The risk assessment approach used by Sullivan et al. (2000) suggests that temperatures exceeding the above thresholds will cause a 10% reduction in average growth compared to optimal conditions.
Guideline Reference:	An Analysis of the Effects of Temperature on Salmonids of the Pacific Northwest with Implications for Selecting Temperature Criteria
Spatial Representation:	Temperature was measured at two sites (LIM100 and LIM130). LIM100 (Glen Echo at 29th Street) and LIM130 are located on the mainstem of Glen Echo Creek. The highest temperatures of 18.6 °C was recorded in July 2004 on LIM100.
Temporal Representation:	In 2004 and 2005 the SWAMP Program performed continuous monitoring of temperature at 15 minute intervals for periods of 1 week in each of three different seasons: summer (1 site in July 2004), spring (1 site in April 2004), and winter (2 sites in February 2005).
Environmental Conditions:	
QAPP Information:	All samples were collected and analyzed using procedures comparable with the SWAMP

QAPP Information Reference(s):

DECISION ID	60918	Region 2
Glen Echo Creek		

Pollutant: Thiobencarb/Bolero
Final Listing Decision: Do Not List on 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision: New Decision
Revision Status: Original
Impairment from Pollutant or Pollution: Pollutant

Regional Board Staff Conclusion: This pollutant is being considered for placement on the CWA section 303(d) List under section 3.1 of the Listing Policy. Under section 3.1 a single line of evidence is necessary to assess listing status. One line of evidence is available in the administrative record to assess this pollutant. Zero of three samples exceed the criterion.

Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against placing this water segment-pollutant combination on the CWA section 303(d) List.

This conclusion is based on the staff findings that:

1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy.
2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy.
3. Zero of three samples exceed the criterion and this sample size is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating. A minimum of 16 samples is needed to determine if a beneficial use is fully supported using table 3.1.
4. Pursuant to SECTION 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.

Regional Board Staff Decision Recommendation: This is a decision previously approved by the State Water Resources Control Board and the USEPA. No new data were assessed by the Regional Board for the current cycle. The decision has not changed.

Line of Evidence (LOE) for Decision ID 60918, Thiobencarb/Bolero	Region 2
Glen Echo Creek	

LOE ID: 95445
Pollutant: Thiobencarb/Bolero
LOE Subgroup: Pollutant-Water
Matrix: Water
Fraction: None
Beneficial Use: Warm Freshwater Habitat
Number of Samples: 3
Number of Exceedances: 0
Data and Information Type: PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality: The Glen Echo Creek was monitored as part of SWAMP assessment. None of the three samples exceeded the water quality objectives for PCBs, Chlorpyrifos, Dacthal, diazinon, disulfoton, endosulfan, Lindane/gamma Hexachlorocyclohexane (gamma-HCH), methyl parathion, thiobencarb.
Data Reference: [Data collected by the Surface Water Ambient Monitoring Program, San Francisco Bay Regional Water Quality Control Board. Years 4 and 5 Assessment](#)

SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	All waters shall be maintained free of toxic substances that are lethal to or that produce other detrimental responses in aquatic organisms. There shall be no chronic toxicity in ambient waters. Chronic toxicity is a detrimental biological effect on growth rate, reproduction, fertilization success, larval development, population abundance, community composition, or any other relevant measure of the health of an organism, population, or community. Diazinon water quality objective, 0.1 ug/L (acute)
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) - San Francisco Bay Region (Region 2)
Evaluation Guideline:	PCBs - 0.014 ug/L freshwater continuous Concentration; Chlorpyrifos - 0.015 ug/L (chronic); Dacthal (DCPA) - 14300 ug/L (acute); Disulfoton (Disyston) - 0.05 ug/L (acute); Endosulfan - 0.056 ug/L (chronic)/0.22 ug/L (acute); HCH, gamma-(gamma BHC, Lindane) - 0.95 ug/L (acute); methyl parathion - 0.08 ug/L (acute); Thiobencarb - 3.1 ug/L (acute).
Guideline Reference:	Pollutants of concern in Puget Sound. EPA 910/9-91-003. Seattle, WA: U.S. Environmental Protection Agency
Spatial Representation:	Data were collected at one sampling location (LME100, Glen Echo at 29th Street) on Glen Echo Creek.
Temporal Representation:	Samples were collected during wet (January), spring (April), and dry(June) seasons of 2005.
Environmental Conditions:	Staff are not aware of any special environmental conditions associated with the sampling.
QAPP Information:	All samples were collected and analyzed using procedures comparable with the SWAMP Quality Assurance Management Plan (SWRCB, 2002).
QAPP Information Reference(s):	Quality Assurance Management Plan for the State of California's Surface Water Ambient Monitoring Program. Sacramento, CA. State Water Resources Control Board. SWAMP. December 2002 (1st version)

DECISION ID	43480	Region 2
Glen Echo Creek		
Pollutant:	Toxicity	
Final Listing Decision:	Do Not List on 303(d) list (TMDL required list)	
Last Listing Cycle's Final Listing Decision:	Do Not List on 303(d) list (TMDL required list)(2012)	
Revision Status	Original	
Impairment from Pollutant or Pollution:	Pollutant	
Regional Board Staff Conclusion:	This pollutant is being considered for placement on the section 303(d) list under section 3.1 of the Listing Policy. Under section 3.1 a single line of evidence is necessary to assess listing status. One line of evidence is available in the administrative record to assess this pollutant. None of the samples exceed the water quality objective. Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against placing this water segment-pollutant combination on the section 303(d) list in the Water Quality Limited Segments category. This conclusion is based on the staff findings that: 1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy. 2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy. 3. None of Three samples exceeded the water quality objective and this does not exceed the allowable frequency listed in Table 3.1 of the Listing Policy. 4. Pursuant to section 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.	
Regional Board Staff Decision Recommendation:	This is a decision previously approved by the State Water Resources Control Board and the USEPA. No new data were assessed by the Regional Board for the current. The decision has not changed.	
Line of Evidence (LOE) for Decision ID 43480, Toxicity		Region 2
Glen Echo Creek		

LOE ID:	28823
Pollutant:	Toxicity
LOE Subgroup:	Pollutant-Water
Matrix:	Water
Fraction:	None
Beneficial Use:	Warm Freshwater Habitat
Number of Samples:	3
Number of Exceedances:	0
Data and Information Type:	TOXICITY TESTING
Data Used to Assess Water Quality:	Three samples were collected in 2005 to evaluate water toxicity at one monitoring location on Glen Echo Creek. The toxicity tests included survival and reproduction of Ceriodaphnia, survival and growth of fathead minnow, and growth of Selenastrum. There were no exceedances.
Data Reference:	Data collected by the Surface Water Ambient Monitoring Program, San Francisco Bay Regional Water Quality Control Board. Years 4 and 5 Assessment
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	All waters shall be maintained free of toxic substances that are lethal to or that produce other detrimental responses in aquatic organisms. There shall be no chronic toxicity in ambient waters. Chronic toxicity is a detrimental biological effect on growth rate, reproduction, fertilization success, larval development, population abundance, community composition, or any other relevant measure of the health of an organism, population, or community.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) - San Francisco Bay Region (Region 2)
Evaluation Guideline:	Water toxicity was evaluated according to the SWAMP methodology. The U.S.EPA whole effluent toxicity protocol (U.S.EPA 1994) was used to test the effect of water samples on three freshwater test organisms. Statistical evaluation (alpha = 0.05) and a default threshold of 80% of the control value were used to establish whether water exhibited significant toxicity adversely impacting aquatic organisms.
Guideline Reference:	Revised approach to toxicity test acceptability criteria using a statistical performance assessment. Environmental Toxicology and Chemistry, vol. 16, No. 6, pp 1322?1329 Short-Term Methods for Estimating the Chronic Toxicity of Effluents and Receiving Waters to Freshwater Organisms. EPA/600/4-91/002. Third Edition. July 1994
Spatial Representation:	Data were collected at one sampling location, LME100, on three (3) occasions.
Temporal Representation:	SWAMP samples were collected during winter wet season (January), spring season (April), and dry season (June) of 2005.
Environmental Conditions:	
QAPP Information:	All samples were collected and analyzed using procedures comparable with the SWAMP Quality Assurance Management Plan (SWRCB, 2002).
QAPP Information Reference(s):	Quality Assurance Management Plan for the State of California's Surface Water Ambient Monitoring Program. Sacramento, CA. State Water Resources Control Board. SWAMP. December 2002 (1st version)

Line of Evidence (LOE) for Decision ID 43480, Toxicity

Region 2

Glen Echo Creek

LOE ID:	8960
Pollutant:	Sediment Toxicity
LOE Subgroup:	Pollutant-Sediment
Matrix:	Sediment
Fraction:	None
Beneficial Use:	Warm Freshwater Habitat

Number of Samples:	1
Number of Exceedances:	0
Data and Information Type:	TOXICITY TESTING
Data Used to Assess Water Quality:	Data used to evaluate sediment toxicity comprise one sediment sample collected by the SWAMP in 2005. The sample did not exhibit amphipod toxicity.
Data Reference:	Data collected by the Surface Water Ambient Monitoring Program, San Francisco Bay Regional Water Quality Control Board. Years 4 and 5 Assessment
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	All waters shall be maintained free of toxic substances that are lethal to or that produce other detrimental responses in aquatic organisms. There shall be no chronic toxicity in ambient waters. Chronic toxicity is a detrimental biological effect on growth rate, reproduction, fertilization success, larval development, population abundance, community composition, or any other relevant measure of the health of an organism, population, or community.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) - San Francisco Bay Region (Region 2)
Evaluation Guideline:	Sediment toxicity data were evaluated according to the SWAMP methodology. Sample toxicity was determined by comparing mean organism response in samples and in negative controls. Statistical evaluation and a default threshold of 80% of the control value were used to establish whether the sediment exhibited significant toxicity adversely impacting aquatic organisms.
Guideline Reference:	Revised approach to toxicity test acceptability criteria using a statistical performance assessment. Environmental Toxicology and Chemistry, vol. 16, No. 6, pp 1322?1329
Spatial Representation:	Data were collected at a sampling location at the lower part of Glen Echo Creek upstream from the confluence with Lake Merritt.
Temporal Representation:	Sample was collected in spring 2005.
Environmental Conditions:	
QAPP Information:	All samples were collected and analyzed using procedures comparable with the SWAMP Quality Assurance Management Plan (SWRCB, 2002).
QAPP Information Reference(s):	

DECISION ID	44668	Region 2
Glen Echo Creek		
Pollutant:	pH	
Final Listing Decision:	Do Not List on 303(d) list (TMDL required list)	
Last Listing Cycle's Final Listing Decision:	Do Not List on 303(d) list (TMDL required list)(2012)	
Revision Status	Original	
Impairment from Pollutant or Pollution:	Pollutant	
Regional Board Staff Conclusion:	<p>This pollutant is being considered for placement on the section 303(d) list under section 3.2 of the Listing Policy. Under this section a single line of evidence is necessary to assess listing status. One line of evidence is available in the administrative record to assess this pollutant. None of the samples exceed the water quality objective. Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against placing this water segment-pollutant combination on the section 303(d) list in the Water Quality Limited Segments category. This conclusion is based on the staff findings that: 1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy. 2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy. 3. Zero of four samples exceeded the water quality objective, but this sample size is insufficient to determine with the power and confidence of the Listing Policy if standards are not met. A minimum of five samples is needed for application of table 3.2. 4. Pursuant to section 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met</p>	

Regional Board Staff Decision Recommendation: This is a decision previously approved by the State Water Resources Control Board and the USEPA. No new data were assessed by the Regional Board for the current. The decision has not changed.

Line of Evidence (LOE) for Decision ID 44668, pH

Region 2

Glen Echo Creek

LOE ID: 28794

Pollutant: pH
LOE Subgroup: Pollutant-Water
Matrix: Water
Fraction: None

Beneficial Use: Warm Freshwater Habitat

Number of Samples: 4
Number of Exceedances: 0

Data and Information Type: PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality: Comprehensive water quality assessment was conducted at Glen Echo Creek as part of SWAMP assessment in 2004 and 2005. Continuous field monitoring of temperature, dissolved oxygen, pH, and specific conductance to determine temporal variability in basic water quality at one or two locations. The pH ranged from 7.3 to 8.4 and varied with season. All pH values fell within the acceptable range of criteria.

Data Reference: [Data collected by the Surface Water Ambient Monitoring Program, San Francisco Bay Regional Water Quality Control Board. Years 4 and 5 Assessment](#)

SWAMP Data: SWAMP

Water Quality Objective/Criterion: The pH shall not be depressed below 6.5 nor raised above 8.5. This encompasses the pH range usually found in waters within the basin. Controllable water quality factors shall not cause changes greater than 0.5 units in normal ambient pH levels.

Objective/Criterion Reference: [Water Quality Control Plan \(Basin Plan\) - San Francisco Bay Region \(Region 2\)](#)

Evaluation Guideline:
Guideline Reference:

Spatial Representation: Four water column pH samples from LME100 and LME130 monitoring locations were measured at both of these sites located on the mainstem of Glen Echo Creek that are representative of the entire creek length.

Temporal Representation: pH samples were collected during four site visits. LME100 was sampled during spring (April 2004), summer dry season (July 2004), and winter wet season (January 2005). LME130 was sampled during winter wet season (January 2005). SWAMP performed continuous monitoring of pH at 15 minute intervals lasting 6-8 days during site visits.

Environmental Conditions:

QAPP Information: All samples were collected and analyzed using procedures comparable with the SWAMP Quality Assurance Management Plan (SWRCB 2002).

QAPP Information Reference(s):

Draft California 2016 Integrated Report (303(d) List/305(b) Report)

Supporting Information

Regional Board 2 - San Francisco Bay Region

Water Body Name: Arroyo Viejo Creek
Water Body ID: CAR2042004020080817193604
Water Body Type: River & Stream

DECISION ID 41041 **Region 2**
Arroyo Viejo Creek

Pollutant: Arsenic | Cadmium | Chromium (total) | Copper | Lead | Mercury | Nickel (sediment) | Sediment Toxicity | Zinc
Final Listing Decision: Do Not List on 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision: Do Not List on 303(d) list (TMDL required list)(2012)
Revision Status Original
Impairment from Pollutant or Pollution: Pollutant

Regional Board Staff Conclusion: This pollutant is being considered for listing under sections 3.1 and 3.6 of the Listing Policy. Under section 3.6 a single line of evidence is necessary to assess listing status. Multiple lines of evidence are available in the administrative record to assess toxicity in Arroyo Viejo Creek. Based on the readily available data for this water body, the weight of evidence indicates that there is sufficient justification available against placing this water segment-pollutant combination on the section 303(d) list in the Water Quality Limited Segments category. This conclusion is based on the staff findings that:

1. The data concerning current conditions and supporting the listing decision satisfy the data quality requirements of section 6.1.4 of the Policy.
2. The data used satisfy the data quantity requirements of section 6.1.5 of the Policy.
3. Amphipod toxicity has been observed in the sample analyzed and one sample has shown exceedances of probable effect concentrations for nickel. All other metal concentrations in sediment do not exceed sediment quality guidelines. The number of exceedances does not meet the requirements listed in Table 3.1 and the sample size is insufficient to determine with the power and confidence of the Listing Policy if standards are not met.
4. Pursuant to section 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.

Regional Board Staff Decision Recommendation: This is a decision previously approved by the State Water Resources Control Board and the USEPA. No new data were assessed by the Regional Board for the current. The decision has not changed.

Line of Evidence (LOE) for Decision ID 41041, Multiple Pollutants **Region 2**
Arroyo Viejo Creek

LOE ID: 21287
Pollutant: Sediment Toxicity
LOE Subgroup: Pollutant-Sediment
Matrix: Sediment
Fraction: None
Beneficial Use: Warm Freshwater Habitat
Number of Samples: 1
Number of Exceedances: 1

Data and Information Type:	TOXICITY TESTING
Data Used to Assess Water Quality:	Data used to evaluate sediment toxicity comprise one sediment sample collected by the SWAMP in spring 2005. This sample displayed statistically significant toxicity during the Hyalella azteca test. Hyalella azteca growth was only 64% of the control.
Data Reference:	Data collected by the Surface Water Ambient Monitoring Program, San Francisco Bay Regional Water Quality Control Board. Years 4 and 5 Assessment
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	All waters shall be maintained free of toxic substances that are lethal to or that produce other detrimental responses in aquatic organisms. There shall be no chronic toxicity in ambient waters. Chronic toxicity is a detrimental biological effect on growth rate, reproduction, fertilization success, larval development, population abundance, community composition, or any other relevant measure of the health of an organism, population, or community.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) - San Francisco Bay Region (Region 2)
Evaluation Guideline:	Sediment toxicity data were evaluated according to the SWAMP methodology. Sample toxicity was determined by comparing mean organism response in samples and in negative controls. Statistical evaluation and a default threshold of 80% of the control value were used to establish whether the sediment exhibited significant toxicity adversely impacting aquatic organisms.
Guideline Reference:	Revised approach to toxicity test acceptability criteria using a statistical performance assessment. Environmental Toxicology and Chemistry, vol. 16, No. 6, pp 1322?1329
Spatial Representation:	Data were collected at a sampling location at the lower part of Arroyo Viejo Creek upstream from the confluence with Lion Creek in south-east Oakland.
Temporal Representation:	Sample was collected in April 2005.
Environmental Conditions:	
QAPP Information:	All samples were collected and analyzed using procedures comparable with the SWAMP Quality Assurance Management Plan (SWRCB, 2002).
QAPP Information Reference(s):	Quality Assurance Management Plan for the State of California's Surface Water Ambient Monitoring Program. Sacramento, CA. State Water Resources Control Board. SWAMP. December 2002 (1st version)

Line of Evidence (LOE) for Decision ID 41041, Multiple Pollutants

Region 2

Arroyo Viejo Creek

LOE ID:	21293
Pollutant:	Nickel (sediment)
LOE Subgroup:	Pollutant-Sediment
Matrix:	Sediment
Fraction:	None
Beneficial Use:	Warm Freshwater Habitat
Number of Samples:	1
Number of Exceedances:	1
Data and Information Type:	PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality:	Nickel concentration in sediment sample collected in spring 2005 was 95.5 mg/kg and exceeded the sediment quality guideline.
Data Reference:	Data collected by the Surface Water Ambient Monitoring Program, San Francisco Bay Regional Water Quality Control Board. Years 4 and 5 Assessment
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	All waters shall be maintained free of toxic substances that are lethal to or that produce other detrimental responses in aquatic organisms.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) - San Francisco Bay Region (Region 2)

Evaluation Guideline:	Sediment Quality Guidelines (MacDonald et al., 2000): PEC (probable effect concentration) for nickel - 48.6 mg/kg
Guideline Reference:	Development and evaluation of consensus-based sediment quality guidelines for freshwater ecosystems. Environmental Contamination and Toxicology. 39: 20-31
Spatial Representation:	Data were collected at a sampling location at the lower part of Arroyo Viejo Creek upstream from the confluence with Lion Creek in south-east Oakland.
Temporal Representation:	Sample was collected in spring April 2005.
Environmental Conditions:	
QAPP Information:	All samples were collected and analyzed using procedures comparable with the SWAMP Quality Assurance Management Plan (SWRCB, 2002).
QAPP Information Reference(s):	Quality Assurance Management Plan for the State of California's Surface Water Ambient Monitoring Program. Sacramento, CA. State Water Resources Control Board. SWAMP. December 2002 (1st version)

Line of Evidence (LOE) for Decision ID 41041, Multiple Pollutants

Region 2

Arroyo Viejo Creek

LOE ID:	26207
Pollutant:	Arsenic Cadmium Chromium (total) Copper Lead Mercury Zinc
LOE Subgroup:	Pollutant-Sediment
Matrix:	Sediment
Fraction:	None
Beneficial Use:	Warm Freshwater Habitat
Number of Samples:	1
Number of Exceedances:	0
Data and Information Type:	PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality:	Concentrations of arsenic, cadmium, chromium, copper, lead, mercury and zinc in one sediment sample collected in spring 2005 did not exceed the sediment quality guidelines.
Data Reference:	Data collected by the Surface Water Ambient Monitoring Program. San Francisco Bay Regional Water Quality Control Board. Years 4 and 5 Assessment
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	All waters shall be maintained free of toxic substances that are lethal to or that produce other detrimental responses in aquatic organisms.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) - San Francisco Bay Region (Region 2)
Evaluation Guideline:	Sediment Quality Guidelines (MacDonald et al., 2000): PEC (threshold effect concentration) arsenic - 33 mg/kg dw; cadmium - 4.98 mg/kg dw; chromium - 111 mg/kg dw; copper - 149 mg/kg dw; lead - 128 mg/kg dw; mercury - 1.06 mg/kg dw; zinc - 459 mg/kg dw.
Guideline Reference:	Development and evaluation of consensus-based sediment quality guidelines for freshwater ecosystems. Environmental Contamination and Toxicology. 39: 20-31
Spatial Representation:	Data were collected at a sampling location at the lower part of Arroyo Viejo Creek upstream from the confluence with Lion Creek in south-east Oakland.
Temporal Representation:	Sample was collected in spring 2005.
Environmental Conditions:	
QAPP Information:	All samples were collected and analyzed using procedures comparable with the SWAMP Quality Assurance Management Plan (SWRCB, 2002).
QAPP Information Reference(s):	

DECISION ID

43601

Region 2

Arroyo Viejo Creek

Pollutant:	Arsenic Chromium (total) Copper Lead Nickel Silver Zinc
Final Listing Decision:	Do Not List on 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision:	Do Not List on 303(d) list (TMDL required list)(2012)
Revision Status	Original
Impairment from Pollutant or Pollution:	Pollutant

Regional Board Staff Conclusion: This pollutant is being considered for placement on the section 303(d) list under section 3.1 of the Listing Policy. Under section 3.1 a single line of evidence is necessary to assess listing status. One line of evidence is available in the administrative record to assess this pollutant. None of the samples exceed the water quality objective. Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against placing this water segment-pollutant combination on the section 303(d) list in the Water Quality Limited Segments category. This conclusion is based on the staff findings that:

1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy.
2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy.
3. None of three samples exceeded the water quality objectives and this does not exceed the allowable frequency listed in Table 3.1 of the Listing Policy.
4. Pursuant to section 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.

Regional Board Staff Decision Recommendation: This is a decision previously approved by the State Water Resources Control Board and the USEPA. No new data were assessed by the Regional Board for the current. The decision has not changed.

Line of Evidence (LOE) for Decision ID 43601, Multiple Pollutants

Region 2

Arroyo Viejo Creek

LOE ID:	28855
Pollutant:	Arsenic Chromium (total) Copper Lead Nickel Silver Zinc
LOE Subgroup:	Pollutant-Water
Matrix:	Water
Fraction:	Dissolved
Beneficial Use:	Warm Freshwater Habitat
Number of Samples:	3
Number of Exceedances:	0
Data and Information Type:	PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality:	<p>The Arroyo Viejo Creek watershed was monitored as part of SWAMP assessment. None of the three samples exceeded the water quality objectives for arsenic, chromium VI, copper, lead, nickel, silver and zinc.</p> <p>* Chromium data are for all chromium species (mostly III+VI); the Objectives are for chromium VI</p> <p>* If all chromium species combined do not exceed WQOs, one component would not exceed it either</p>
Data Reference:	Data collected by the Surface Water Ambient Monitoring Program, San Francisco Bay Regional Water Quality Control Board. Years 4 and 5 Assessment
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	<p>All waters shall be maintained free of toxic substances that are lethal to or that produce other detrimental responses in aquatic organisms.</p> <p>Table 3-4 in the Basin Plan (2007) lists freshwater water quality objectives for toxic pollutants: arsenic- 150 ug/L, chromium VI- 11 ug/L, copper - 9.0 ug/L, lead - 2.5 ug/L; nickel - 52 ug/L, silver-3.4 ug/L and zinc - 120 ug/L.</p>
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) - San Francisco Bay Region (Region 2)

Evaluation Guideline:

Guideline Reference:

Spatial Representation:

Temporal Representation:

Environmental Conditions:

QAPP Information:

QAPP Information Reference(s):

Data were collected at one sampling location (AVJ020) on Arroyo Viejo Creek.

Samples were collected during wet (January), spring (April), and dry (June) seasons of 2005.

All samples were collected and analyzed using procedures comparable with the SWAMP Quality Assurance Management Plan (SWRCB, 2002).

[Quality Assurance Management Plan for the State of California's Surface Water Ambient Monitoring Program, Sacramento, CA. State Water Resources Control Board. SWAMP. December 2002 \(1st version\)](#)

DECISION ID	44059	Region 2
Arroyo Viejo Creek		

Pollutant:	Chlordane DDD (Dichlorodiphenyldichloroethane) DDE (Dichlorodiphenyldichloroethylene) DDT (Dichlorodiphenyltrichloroethane) Dieldrin Heptachlor epoxide
Final Listing Decision:	Do Not List on 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision:	Do Not List on 303(d) list (TMDL required list)(2012)
Revision Status	Original
Impairment from Pollutant or Pollution:	Pollutant
Regional Board Staff Conclusion:	<p>These pollutants are being considered for placement on the section 303(d) list under section 3.1 of the Listing Policy. Under this section a single line of evidence is necessary to assess listing status. One line of evidence is available in the administrative record to assess these pollutants. Zero samples exceed the water quality objective. Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against placing this water segment-pollutant combination on the section 303(d) list in the Water Quality Limited Segments category. This conclusion is based on the staff findings that:</p> <ol style="list-style-type: none">1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy.2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy.3. Zero of one sample exceed the water quality objective, but this sample size is insufficient to determine with the power and confidence of the Listing Policy if standards are not met. A minimum of two samples are needed for application of table 3.1.4. Pursuant to section 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.
Regional Board Staff Decision Recommendation:	<p>This is a decision previously approved by the State Water Resources Control Board and the USEPA. No new data were assessed by the Regional Board for the current. The decision has not changed.</p>

Line of Evidence (LOE) for Decision ID 44059, Multiple Pollutants	Region 2
Arroyo Viejo Creek	

LOE ID:	28709
Pollutant:	Chlordane DDD (Dichlorodiphenyldichloroethane) DDE (Dichlorodiphenyldichloroethylene) DDT (Dichlorodiphenyltrichloroethane) Dieldrin Heptachlor epoxide
LOE Subgroup:	Pollutant-Sediment
Matrix:	Sediment
Fraction:	None
Beneficial Use:	Warm Freshwater Habitat
Number of Samples:	1
Number of Exceedances:	0

Data and Information Type:	PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality:	Concentrations of chlordane, dieldrin, DDD/DDE/DDT, and heptachlor epoxide in one sediment sample collected in spring 2005 did not exceed the sediment quality guidelines.
Data Reference:	Data collected by the Surface Water Ambient Monitoring Program, San Francisco Bay Regional Water Quality Control Board. Years 4 and 5 Assessment
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	All waters shall be maintained free of toxic substances that are lethal to or that produce other detrimental responses in aquatic organisms.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) - San Francisco Bay Region (Region 2)
Evaluation Guideline:	Sediment Quality Guidelines (MacDonald et al., 2000): PEC (probable effect concentration) Chlordane - 17.6 ug/kg; Dieldrin - 1.8 ug/kg; DDD (sum op + pp) - 28 ug/kg; DDE (sum op + pp) - 31.3 ug/kg; DDT (sum op + pp) - 62.9 ug/kg; DDT (total) - 572 ug/kg; Heptachlor epoxide - 16 ug/kg;.
Guideline Reference:	Development and evaluation of consensus-based sediment quality guidelines for freshwater ecosystems. Environmental Contamination and Toxicology. 39: 20-31
Spatial Representation:	One sediment sample was collected at a "watershed integrator" site located close to the mouth of Arroyo Viejo Creek.
Temporal Representation:	Sediment sample was collected in April of 2005.
Environmental Conditions:	
QAPP Information:	All samples were collected and analyzed using procedures comparable with the SWAMP Quality Assurance Management Plan (SWRCB, 2002).
QAPP Information Reference(s):	

DECISION ID	34922	Region 2
Arroyo Viejo Creek		
Pollutant:	Chlorpyrifos Dacthal Diazinon Disulfoton Endosulfan Lindane/gamma Hexachlorocyclohexane (gamma-HCH) Methyl Parathion PCBs (Polychlorinated biphenyls) Thiobencarb/Bolero	
Final Listing Decision:	Do Not List on 303(d) list (TMDL required list)	
Last Listing Cycle's Final Listing Decision:	Do Not List on 303(d) list (TMDL required list)(2012)	
Revision Status	Original	
Impairment from Pollutant or Pollution:	Pollutant	
Regional Board Staff Conclusion:	<p>This pollutant is being considered for placement on the section 303(d) list under section 3.1 of the Listing Policy. Under section 3.1 a single line of evidence is necessary to assess listing status. One line of evidence is available in the administrative record to assess this pollutant. None of the samples exceed the water quality objective. Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against placing this water segment-pollutant combination on the section 303(d) list in the Water Quality Limited Segments category. This conclusion is based on the staff findings that:</p> <ol style="list-style-type: none"> 1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy. 2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy. 3. None of three samples exceeded the water quality objective and this does not exceed the allowable frequency listed in Table 3.1 of the Listing Policy. 4. Pursuant to section 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met. 	
Regional Board Staff Decision Recommendation:	<p>This is a decision previously approved by the State Water Resources Control Board and the USEPA. No new data were assessed by the Regional Board for the current. The decision has not changed.</p>	
Line of Evidence (LOE) for Decision ID 34922, Multiple Pollutants		Region 2

Arroyo Viejo Creek

LOE ID:	28976
Pollutant:	Chlorpyrifos Dacthal Diazinon Disulfoton Endosulfan Lindane/gamma Hexachlorocyclohexane (gamma-HCH) Methyl Parathion PCBs (Polychlorinated biphenyls) Thiobencarb/Bolero
LOE Subgroup:	Pollutant-Water
Matrix:	Water
Fraction:	None
Beneficial Use:	Warm Freshwater Habitat
Number of Samples:	3
Number of Exceedances:	0
Data and Information Type:	PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality:	The Arroyo Viejo Creek was monitored as part of SWAMP assessment. None of the three samples exceeded the water quality objectives for PCBs, Chlorpyrifos, Dacthal, diazinon, disulfoton, endosulfan, Lindane/gamma Hexachlorocyclohexane (gamma-HCH), methyl parathion, thiobencarb.
Data Reference:	Data collected by the Surface Water Ambient Monitoring Program, San Francisco Bay Regional Water Quality Control Board. Years 4 and 5 Assessment
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	All waters shall be maintained free of toxic substances that are lethal to or that produce other detrimental responses in aquatic organisms. There shall be no chronic toxicity in ambient waters. Chronic toxicity is a detrimental biological effect on growth rate, reproduction, fertilization success, larval development, population abundance, community composition, or any other relevant measure of the health of an organism, population, or community. Diazinon water quality objective, 0.1 ug/L (acute)
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) - San Francisco Bay Region (Region 2)
Evaluation Guideline:	PCBs - 0.014 ug/L freshwater continuous Concentration; Chlorpyrifos - 0.015 ug/L (chronic); Dacthal (DCPA) - 14300 ug/L (acute); Disulfoton (Disyston) - 0.05 ug/L (acute); Endosulfan - 0.056 ug/L (chronic)/0.22 ug/L (acute); HCH, gamma-(gamma BHC, Lindane) - 0.95 ug/L (acute); methyl parathion - 0.08 ug/L (acute); Thiobencarb - 3.1 ug/L (acute).
Guideline Reference:	National recommended water quality criteria: 2002. EPA-822-R-02-047 Washington, D.C. USEPA
Spatial Representation:	Data were collected at one sampling location (AVJ020, Arroyo Viejo Rec. Center) on Arroyo Viejo Creek.
Temporal Representation:	Samples were collected during wet (January), spring (April), and dry (June) seasons of 2005.
Environmental Conditions:	
QAPP Information:	All samples were collected and analyzed using procedures comparable with the SWAMP Quality Assurance Management Plan (SWRCB, 2002).
QAPP Information Reference(s):	Quality Assurance Management Plan for the State of California's Surface Water Ambient Monitoring Program. Sacramento, CA. State Water Resources Control Board. SWAMP. December 2002 (1st version)

DECISION ID**43481****Region 2****Arroyo Viejo Creek**

Pollutant:	Escherichia coli (E. coli)
Final Listing Decision:	Do Not List on 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision:	Do Not List on 303(d) list (TMDL required list)(2012)

Revision Status Original
Impairment from Pollutant or Pollution: Pollutant

Regional Board Staff Conclusion: This pollutant is being considered for placement on the section 303(d) list under section 3.2 of the Listing Policy. Under this section a single line of evidence is necessary to assess listing status. One line of evidence is available in the administrative record to assess this pollutant. Two of the samples exceed the water quality objective. Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against placing this water segment-pollutant combination on the section 303(d) list in the Water Quality Limited Segments category. This conclusion is based on the staff findings that: 1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy. 2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy. 3. Two of three samples exceeded the water quality objective, but this sample size is insufficient to determine with the power and confidence of the Listing Policy if standards are not met. A minimum of five samples is needed for application of table 3.2. 4. Pursuant to section 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.

Regional Board Staff Decision Recommendation: This is a decision previously approved by the State Water Resources Control Board and the USEPA. No new data were assessed by the Regional Board for the current. The decision has not changed.

Line of Evidence (LOE) for Decision ID 43481, Escherichia coli (E. coli)

Region 2

Arroyo Viejo Creek

LOE ID: 28930

Pollutant: Escherichia coli (E. coli)
LOE Subgroup: Pollutant-Water
Matrix: Water
Fraction: None

Beneficial Use: Water Contact Recreation

Number of Samples: 3
Number of Exceedances: 2

Data and Information Type: PATHOGEN MONITORING
Data Used to Assess Water Quality: Samples were collected as part of SWAMP monitoring in the summer of 2004 at 7-day intervals in three locations and the geometric mean of the samples calculated over a five week interval. The geometric mean for two locations exceeded the 126MPN/100mL with values of 599 MPN/100 mL and 166 MPN/100 mL. One geometric mean did not exceed the 126 MPN/100mL with a value of 36 MPN/100mL.

Data Reference: [Data collected by the Surface Water Ambient Monitoring Program, San Francisco Bay Regional Water Quality Control Board, Years 4 and 5 Assessment](#)

SWAMP Data: SWAMP

Water Quality Objective/Criterion: Uses of water for recreational activities involving body contact with water where ingestion of water is reasonably possible. These uses include, but are not limited to, swimming, wading, water-skiing, skin and scuba diving, surfing, whitewater activities, fishing, and uses of natural hot springs.
Water contact implies a risk of waterborne disease transmission and involves human health; accordingly, criteria required to protect this use are more stringent than those for more casual water-oriented recreation.
U.S. EPA water quality criteria for water contact recreation based on the frequency of use a particular area receives - 1986: the E. coli criterion is not to exceed 126 organisms/100 mL. The value is expressed as a 7-day geometric mean based on five or more samples per 30?day period; designated beach (max) 235 MPN/100 mL.

Objective/Criterion Reference: [Water Quality Control Plan \(Basin Plan\) - San Francisco Bay Region \(Region 2\)](#)
[Ambient Water Quality Criteria for Bacteria - 1986, EPA440/5-84-002](#)

Evaluation Guideline:

Guideline Reference:

Spatial Representation:

Samples were collected at AVJ020 (Arroyo Viejo Rec. Center), AVJ130 (Knowland Park Zoo) and AVJ140.

Temporal Representation:

Samples were collected weekly from 7/20/2004 through 8/17/2004.

Environmental Conditions:

QAPP Information:

All samples were collected and analyzed using procedures comparable with the SWAMP Quality Assurance Management Plan (SWRCB, 2002).

QAPP Information Reference(s):

[Quality Assurance Management Plan for the State of California's Surface Water Ambient Monitoring Program. Sacramento, CA. State Water Resources Control Board. SWAMP. December 2002 \(1st version\).](#)

DECISION ID

44111

Region 2

Arroyo Viejo Creek

Pollutant:

Mercury

Final Listing Decision:

Do Not List on 303(d) list (TMDL required list)

Last Listing Cycle's Final

Do Not List on 303(d) list (TMDL required list)(2012)

Listing Decision:

Revision Status

Original

**Impairment from Pollutant or
Pollution:**

Pollutant

Regional Board Staff

Conclusion:

This pollutant is being considered for placement on the section 303(d) list under section 3.1 of the Listing Policy. Under section 3.1 a single line of evidence is necessary to assess listing status. One line of evidence is available in the administrative record to assess this pollutant. None of the samples exceed the water quality objective. Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against placing this water segment-pollutant combination on the section 303(d) list in the Water Quality Limited Segments category. This conclusion is based on the staff findings that: 1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy. 2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy. 3. None of Three samples exceeded the water quality objective and this does not exceed the allowable frequency listed in Table 3.1 of the Listing Policy. 4. Pursuant to section 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.

Regional Board Staff Decision

Recommendation:

This is a decision previously approved by the State Water Resources Control Board and the USEPA. No new data were assessed by the Regional Board for the current. The decision has not changed.

Line of Evidence (LOE) for Decision ID 44111, Mercury

Region 2

Arroyo Viejo Creek

LOE ID:

28853

Pollutant:

Mercury

LOE Subgroup:

Pollutant-Water

Matrix:

Water

Fraction:

Total

Beneficial Use:

Warm Freshwater Habitat

Number of Samples:

3

Number of Exceedances:

0

Data and Information Type:

PHYSICAL/CHEMICAL MONITORING

Data Used to Assess Water Quality:

The Arroyo Viejo watershed was monitored as part of SWAMP assessment. None of the three samples exceeded the water quality objectives for mercury.

Data Reference:

[Data collected by the Surface Water Ambient Monitoring Program, San Francisco Bay](#)

SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	All waters shall be maintained free of toxic substances that are lethal to or that produce other detrimental responses in aquatic organisms. Table 3-4 in the Basin Plan (2007) lists freshwater water quality objectives for toxic pollutants: mercury- 2.4 ug/L
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) - San Francisco Bay Region (Region 2)
Evaluation Guideline:	Mercury is being evaluated against the acute objective (acute WQ Objectives refer to 1-hour average), which is 2.4 ug/L. Because mercury is analyzed as total, the chronic objective (chronic WQ Objectives refer to 4-day average) is not applicable for this comparison.
Guideline Reference:	Water Quality Control Plan (Basin Plan) - San Francisco Bay Region (Region 2)
Spatial Representation:	Data were collected at one sampling location (AVJ020) on Arroyo Viejo Creek.
Temporal Representation:	Samples were collected during wet (January), spring (April), and dry (June) seasons of 2005.
Environmental Conditions:	
QAPP Information:	All samples were collected and analyzed using procedures comparable with the SWAMP Quality Assurance Management Plan (SWRCB, 2002).
QAPP Information Reference(s):	Quality Assurance Management Plan for the State of California's Surface Water Ambient Monitoring Program. Sacramento, CA. State Water Resources Control Board. SWAMP. December 2002 (1st version)

DECISION ID	44127	Region 2
Arroyo Viejo Creek		

Pollutant:	Nickel
Final Listing Decision:	Do Not List on 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision:	Do Not List on 303(d) list (TMDL required list)(2012)
Revision Status	Original
Impairment from Pollutant or Pollution:	Pollutant
Regional Board Staff Conclusion:	This pollutant is being considered for placement on the section 303(d) list under section 3.1 of the Listing Policy. Under this section a single line of evidence is necessary to assess listing status. One line of evidence is available in the administrative record to assess this pollutant. One sample exceeds the water quality objective. Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against placing this water segment-pollutant combination on the section 303(d) list in the Water Quality Limited Segments category. This conclusion is based on the staff findings that: 1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy. 2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy. 3. One out of one sample exceeded the water quality objective, but this sample size is insufficient to determine with the power and confidence of the Listing Policy if standards are not met. A minimum of two samples are needed for application of table 3.1. 4. Pursuant to section 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.
Regional Board Staff Decision Recommendation:	This is a decision previously approved by the State Water Resources Control Board and the USEPA. No new data were assessed by the Regional Board for the current. The decision has not changed.

Line of Evidence (LOE) for Decision ID 44127, Nickel	Region 2
Arroyo Viejo Creek	

LOE ID: 28750

Pollutant:	Nickel
LOE Subgroup:	Pollutant-Sediment
Matrix:	Sediment
Fraction:	None
Beneficial Use:	Warm Freshwater Habitat
Number of Samples:	1
Number of Exceedances:	1
Data and Information Type:	PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality:	Concentrations of nickel was 95.5 mg/kg dw in April 2005 and exceeded the PEC sediment quality guideline.
Data Reference:	Data collected by the Surface Water Ambient Monitoring Program, San Francisco Bay Regional Water Quality Control Board. Years 4 and 5 Assessment
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	All waters shall be maintained free of toxic substances that are lethal to or that produce other detrimental responses in aquatic organisms.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) - San Francisco Bay Region (Region 2)
Evaluation Guideline:	Sediment Quality Guidelines (MacDonald et al., 2000): PEC (threshold effect concentration) nickel - 48.6 mg/kg dw.
Guideline Reference:	Development and evaluation of consensus-based sediment quality guidelines for freshwater ecosystems. Environmental Contamination and Toxicology. 39: 20-31
Spatial Representation:	One sediment sample was collected at a "watershed integrator" site located close to the mouth of Arroyo Viejo Creek.
Temporal Representation:	Sediment sample was collected in April of 2005.
Environmental Conditions:	
QAPP Information:	All samples were collected and analyzed using procedures comparable with the SWAMP Quality Assurance Management Plan (SWRCB, 2002).
QAPP Information Reference(s):	

DECISION ID	43490	Region 2
Arroyo Viejo Creek		
Pollutant:	Oxygen, Dissolved	
Final Listing Decision:	Do Not List on 303(d) list (TMDL required list)	
Last Listing Cycle's Final Listing Decision:	Do Not List on 303(d) list (TMDL required list)(2012)	
Revision Status	Original	
Impairment from Pollutant or Pollution:	Pollutant	
Regional Board Staff Conclusion:	<p>This pollutant is being considered for placement on the section 303(d) list under section 3.2 of the Listing Policy. Under section 3.2 a single line of evidence is necessary to assess listing status. Two lines of evidence are available in the administrative record to assess this pollutant. Two of the samples exceed the water quality objectives for WARM and COLD beneficial uses. Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against placing this water segment-pollutant combination on the section 303(d) list in the Water Quality Limited Segments category. This conclusion is based on the staff findings that: 1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy. 2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy. 3. Two of nine samples exceeded the water quality objective and this does not exceed the allowable frequency listed in Table 3.2 of the Listing Policy. 4. Pursuant to section 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.</p>	
Regional Board Staff Decision Recommendation:	<p>This is a decision previously approved by the State Water Resources Control Board and the USEPA. No new data were assessed by the Regional Board for the current. The decision has not changed.</p>	

Line of Evidence (LOE) for Decision ID 43490, Oxygen, Dissolved**Region 2****Arroyo Viejo Creek**

LOE ID:	28894
Pollutant:	Oxygen, Dissolved
LOE Subgroup:	Pollutant-Water
Matrix:	Water
Fraction:	None
Beneficial Use:	Warm Freshwater Habitat
Number of Samples:	9
Number of Exceedances:	2
Data and Information Type:	PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality:	Comprehensive water quality assessment was conducted at Arroyo Viejo Creek watershed as part of SWAMP assessment in 2004 and 2005. Continuous field monitoring of temperature, dissolved oxygen, pH, and specific conductance to determine temporal variability in basic water quality at one or two locations. The 7 day average minimum concentration of dissolved oxygen ranged from 0.7 to 10.6 mg/L and varied with season. Minimum dissolved oxygen levels fell below the objective of 5 mg/L twice in August 2004. During that period minimum values of DO were 0.7 and 4.8 mg/L.
Data Reference:	Data collected by the Surface Water Ambient Monitoring Program, San Francisco Bay Regional Water Quality Control Board. Years 4 and 5 Assessment
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	The numeric water quality objective for dissolved oxygen is 5.0 mg/L minimum for waters designated as warm water habitat. The median dissolved oxygen concentration for any three consecutive months shall not be less than 80 percent of the dissolved oxygen content at saturation.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) - San Francisco Bay Region (Region 2)
Evaluation Guideline:	
Guideline Reference:	
Spatial Representation:	Dissolved oxygen was measured at three sites located on the mainstem of Arroyo Viejo Creek (AVJ020 and AVJ110) and at AVJ130 in the upper watershed that is on Rifle Range Ranch Creek.
Temporal Representation:	At all locations the SWAMP performed continuous monitoring of dissolved oxygen at 15 minute intervals lasting 6-16 days during spring (April 2004), summer dry seasons (August 2004), and winter wet season (February 2005).
Environmental Conditions:	
QAPP Information:	All samples were collected and analyzed using procedures comparable with the SWAMP Quality Assurance Management Plan (SWRCB 2002).
QAPP Information Reference(s):	

Line of Evidence (LOE) for Decision ID 43490, Oxygen, Dissolved**Region 2****Arroyo Viejo Creek**

LOE ID:	28892
Pollutant:	Oxygen, Dissolved
LOE Subgroup:	Pollutant-Water
Matrix:	Water
Fraction:	None
Beneficial Use:	Cold Freshwater Habitat

Number of Samples:	9
Number of Exceedances:	2
Data and Information Type:	PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality:	Comprehensive water quality assessment was conducted at Arroyo Viejo Creek watershed as part of SWAMP assessment in 2004 and 2005. Continuous field monitoring of temperature, dissolved oxygen, pH, and specific conductance to determine temporal variability in basic water quality at three locations. The 7 day average minimum concentration of dissolved oxygen ranged from 0.7 to 10.6 mg/L and varied with season. Minimum dissolved oxygen levels fell below the objective of 7 mg/L twice in August 2004. During that period average minimum values of DO were 0.7 and 4.8 mg/L.
Data Reference:	Data collected by the Surface Water Ambient Monitoring Program, San Francisco Bay Regional Water Quality Control Board. Years 4 and 5 Assessment
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	The numeric water quality objective for dissolved oxygen is 7.0 mg/L minimum for waters designated as cold water habitat. The median dissolved oxygen concentration for any three consecutive months shall not be less than 80 percent of the dissolved oxygen content at saturation.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) - San Francisco Bay Region (Region 2)
Evaluation Guideline:	
Guideline Reference:	
Spatial Representation:	Dissolved oxygen was measured at three sites located on the mainstem of Arroyo Viejo Creek (AVJ020 Arroyo Viejo Rec. Center, AVJ110 Rifle Range) and AVJ 130 Knowland Park Zoo is located in the upper watershed on Rifle Range Branch Creek.
Temporal Representation:	At all locations the SWAMP performed continuous monitoring of dissolved oxygen at 15 minute intervals lasting 7-8 days during spring (April 2004), summer dry seasons (August 2004), and winter wet season (February 2005).
Environmental Conditions:	
QAPP Information:	All samples were collected and analyzed using procedures comparable with the SWAMP Quality Assurance Management Plan (SWRCB 2002).
QAPP Information Reference(s):	

DECISION ID	44077	Region 2
Arroyo Viejo Creek		
Pollutant:	Temperature, water	
Final Listing Decision:	Do Not List on 303(d) list (TMDL required list)	
Last Listing Cycle's Final Listing Decision:	Do Not List on 303(d) list (TMDL required list)(2012)	
Revision Status	Original	
Impairment from Pollutant or Pollution:	Pollutant	
Regional Board Staff Conclusion:	<p>This pollutant is being considered for placement on the section 303(d) list under section 3.2 of the Listing Policy. Under section 3.2 a single line of evidence is necessary to assess listing status. One line of evidence is available in the administrative record to assess this pollutant. Two of the samples exceed the water quality objective. Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against placing this water segment-pollutant combination on the section 303(d) list in the Water Quality Limited Segments category. This conclusion is based on the staff findings that: 1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy. 2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy. 3. Two of Nine samples exceeded the water quality objective and this does not exceed the allowable frequency listed in Table 3.2 of the Listing Policy. 4. Pursuant to section 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.</p>	

Regional Board Staff Decision Recommendation: This is a decision previously approved by the State Water Resources Control Board and the USEPA. No new data were assessed by the Regional Board for the current. The decision has not changed.

**Line of Evidence (LOE) for Decision ID 44077, Temperature, water
Arroyo Viejo Creek**

Region 2

LOE ID:	28286
Pollutant:	Temperature, water
LOE Subgroup:	Pollutant-Water
Matrix:	Water
Fraction:	None
Beneficial Use:	Cold Freshwater Habitat
Number of Samples:	9
Number of Exceedances:	2
Data and Information Type:	PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality:	<p>Water quality assessment was conducted at the Arroyo Viejo watershed as part of SWAMP study in 2004-2005. Continuous field monitoring at 15 minute increments of temperature, dissolved oxygen, pH and specific conductance was conducted to determine temporal variability in basic water quality at three locations.</p> <p>Continuous monitoring sondes were deployed 9 times at 3 monitoring locations during wet, spring and summer dry season. The measured temperatures ranged from 9.2°C to 21.3 °C and varied with season and location. During the dry season deployments 2 of 3 monitoring locations the 7-day mean temperature threshold for steelhead was exceeded. The locations with the exceedances are: AVJ020 (Arroyo Viejo Rec. Center) and AVJ130 (Knowland Park Zoo.) In total, the 17 °C criterion was exceeded in 2 out of 9 deployments.</p>
Data Reference:	Data collected by the Surface Water Ambient Monitoring Program, San Francisco Bay Regional Water Quality Control Board. Years 4 and 5 Assessment
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	<p>Temperature objectives for enclosed bays and estuaries are specified in the 'Water Quality Control Plan for Control of Temperature in the Coastal and Interstate Waters and Enclosed Bays of California' including any revisions to the plan. In addition, the following temperature objectives apply to surface waters: The natural receiving water temperature of intrastate waters shall not be altered unless it can be demonstrated to the satisfaction of the Regional Water Board that such alteration in temperature does not adversely affect beneficial uses.</p> <p>The temperature of any cold or warm freshwater habitat shall not be increased by more than 5°F (2.8°C) above natural receiving water temperature.</p>
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) - San Francisco Bay Region (Region 2)
Evaluation Guideline:	<p>Sullivan et al. (2000) reviewed a wide range of studies incorporating information from laboratory-based research, field observations, and risk assessment approaches and developed criteria for assessing temperature risk to aquatic life. The 7-day mean temperature (maximum value of the 7-day moving average of the daily mean temperature) of 14.8°C was established as the upper threshold criterion for coho salmon and 17.0°C for steelhead trout. The risk assessment approach used by Sullivan et al. (2000) suggests that temperatures exceeding the above thresholds will cause 10% reduction in average fish growth compared to optimal conditions.</p>
Guideline Reference:	An Analysis of the Effects of Temperature on Salmonids of the Pacific Northwest with Implications for Selecting Temperature Criteria
Spatial Representation:	<p>Temperature was measured at three sites. Two of the sites were located on the mainstem of Arroyo Viejo Creek that are representative of the entire creek length. The third site was located on the Rifle Range Branch tributary of Arroyo Viejo Creek. The highest</p>

Temporal Representation:	temperatures were recorded at the most downstream monitoring station in August 2004. In 2004 and 2005 the SWAMP Program performed continuous monitoring of temperature at 15 minute intervals for periods of 6-7 days in each of three different seasons: winter (3 sites), spring (3 sites), and one summer dry season (3 sites).
Environmental Conditions:	
QAPP Information:	All samples were collected and analyzed using procedures comparable with the SWAMP Quality Assurance Management Plan (SWRCB 2002).
QAPP Information Reference(s):	Quality Assurance Management Plan for the State of California's Surface Water Ambient Monitoring Program. Sacramento, CA. State Water Resources Control Board. SWAMP. December 2002 (1st version).

DECISION ID	43210	Region 2
Arroyo Viejo Creek		

Pollutant:	Toxicity
Final Listing Decision:	Do Not List on 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision:	Do Not List on 303(d) list (TMDL required list)(2012)
Revision Status	Original
Impairment from Pollutant or Pollution:	Pollutant
Regional Board Staff Conclusion:	This pollutant is being considered for placement on the section 303(d) list under section 3.1 of the Listing Policy. Under section 3.1 a single line of evidence is necessary to assess listing status. One line of evidence is available in the administrative record to assess this pollutant. One of the samples exceed the water quality objective. Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against placing this water segment-pollutant combination on the section 303(d) list in the Water Quality Limited Segments category. This conclusion is based on the staff findings that: 1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy. 2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy. 3. One of 3 samples exceeded the water quality guideline and this does not exceed the allowable frequency listed in Table 3.1 of the Listing Policy. 4. Pursuant to section 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.
Regional Board Staff Decision Recommendation:	This is a decision previously approved by the State Water Resources Control Board and the USEPA. No new data were assessed by the Regional Board for the current. The decision has not changed.

Line of Evidence (LOE) for Decision ID 43210, Toxicity	Region 2
Arroyo Viejo Creek	

LOE ID:	28901
Pollutant:	Toxicity
LOE Subgroup:	Pollutant-Water
Matrix:	Water
Fraction:	None
Beneficial Use:	Warm Freshwater Habitat
Number of Samples:	3
Number of Exceedances:	1
Data and Information Type:	Ambient toxicity testing (acute)
Data Used to Assess Water Quality:	Three samples were collected by SWAMP in 2005 to evaluate water toxicity. One of the 3 samples caused a statistically-significant reproductive effect in Ceriodaphnia, and none of the samples caused mortality. In all three samples there was no significant reduction in the growth of Pimephales promelas and no significant impairment of Selenastrum growth.
Data Reference:	Data collected by the Surface Water Ambient Monitoring Program, San Francisco Bay

SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	All waters shall be maintained free of toxic substances that are lethal to or that produce other detrimental responses in aquatic organisms. There shall be no chronic toxicity in ambient waters. Chronic toxicity is a detrimental biological effect on growth rate, reproduction, fertilization success, larval development, population abundance, community composition, or any other relevant measure of the health of an organism, population, or community.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) - San Francisco Bay Region (Region 2)
Evaluation Guideline:	Water toxicity was evaluated according to the SWAMP methodology. The U.S.EPA whole effluent toxicity protocol (U.S.EPA 1994) was used to test the effect of water samples on three freshwater test organisms. Statistical evaluation (alpha = 0.05) and a default threshold of 80% of the control value were used to establish whether water exhibited significant toxicity adversely impacting aquatic organisms.
Guideline Reference:	Revised approach to toxicity test acceptability criteria using a statistical performance assessment. Environmental Toxicology and Chemistry. vol. 16. No. 6. pp 1322?1329 Short-Term Methods for Estimating the Chronic Toxicity of Effluents and Receiving Waters to Freshwater Organisms. EPA/600/4-91/002. Third Edition. July 1994
Spatial Representation:	Data were collected at one sampling location (AVJ020 Arroyo Viejo Rec. Center on Arroyo Viejo Creek.
Temporal Representation:	Samples were collected during winter wet, spring, and summer dry seasons of 2005.
Environmental Conditions:	
QAPP Information:	Samples were collected and analyzed using procedures comparable with the SWAMP Quality Assurance Management Plan (SWRCB 2002).
QAPP Information Reference(s):	Quality Assurance Management Plan for the State of California's Surface Water Ambient Monitoring Program. Sacramento, CA. State Water Resources Control Board. SWAMP. December 2002 (1st version)

DECISION ID	43255	Region 2
Arroyo Viejo Creek		

Pollutant:	pH
Final Listing Decision:	Do Not List on 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision:	Do Not List on 303(d) list (TMDL required list)(2012)
Revision Status	Original
Impairment from Pollutant or Pollution:	Pollutant

Regional Board Staff Conclusion:	This pollutant is being considered for placement on the section 303(d) list under section 3.2 of the Listing Policy. Under section 3.2 a single line of evidence is necessary to assess listing status. One line of evidence is available in the administrative record to assess this pollutant. None of the samples exceed the water quality objective. Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against placing this water segment-pollutant combination on the section 303(d) list in the Water Quality Limited Segments category. This conclusion is based on the staff findings that: 1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy. 2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy. 3. Zero of nine samples exceeded the water quality objective and this does not exceed the allowable frequency listed in Table 3.2 of the Listing Policy. 4. Pursuant to section 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.
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Regional Board Staff Decision Recommendation:	This is a decision previously approved by the State Water Resources Control Board and the USEPA. No new data were assessed by the Regional Board for the current. The decision has not changed.
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Line of Evidence (LOE) for Decision ID 43255, pH	Region 2
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Arroyo Viejo Creek

LOE ID:	28795
Pollutant:	pH
LOE Subgroup:	Pollutant-Water
Matrix:	Water
Fraction:	None
Beneficial Use:	Warm Freshwater Habitat
Number of Samples:	9
Number of Exceedances:	0
Data and Information Type:	PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality:	Comprehensive water quality assessment was conducted at Arroyo Viejo Creek as part of SWAMP assessment in 2004 and 2005. Continuous field monitoring of temperature, dissolved oxygen, pH, and specific conductance to determine temporal variability in basic water quality at one or two locations. The pH ranged from 6.7 to 8.4 and varied with season. All pH values fell within the acceptable range of criteria.
Data Reference:	Data collected by the Surface Water Ambient Monitoring Program, San Francisco Bay Regional Water Quality Control Board. Years 4 and 5 Assessment
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	The Basin Plan specifies that pH shall not be depressed below 6.5 nor raised above 8.5. This encompasses the pH range usually found in waters within the basin. Controllable water quality factors shall not cause changes greater than 0.5 units in normal ambient pH levels.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) - San Francisco Bay Region (Region 2)
Evaluation Guideline:	
Guideline Reference:	
Spatial Representation:	Nine water column pH samples from AVJ020, AVJ110 and AVJ130 (three each) monitoring locations were measured these sites located on the mainstem of Arroyo Viejo Creek that are representative of the upper half of the creek length.
Temporal Representation:	pH samples were collected during nine site visits. AVJ020, AVJ110 and AVJ130 were each sampled during spring (April 2004), summer dry season (August 2004), and winter wet season (February 2005). SWAMP performed continuous monitoring of pH at 15 minute intervals lasting 7-8 days during site visits.
Environmental Conditions:	
QAPP Information:	All samples were collected and analyzed using procedures comparable with the SWAMP Quality Assurance Management Plan (SWRCB 2002).
QAPP Information Reference(s):	

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Supporting Information

Regional Board 2 - San Francisco Bay Region

Water Body Name: Peralta Creek
Water Body ID: CAR2042004020080817191851
Water Body Type: River & Stream

DECISION ID	60566	Region 2
Peralta Creek		

Pollutant: Diazinon
Final Listing Decision: Do Not List on 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision: New Decision
Revision Status: Revised
Impairment from Pollutant or Pollution: Pollutant

Regional Board Staff Conclusion: This pollutant is being considered for placement on the CWA section 303(d) List under section 3.6 of the Listing Policy. Under section 3.6 at least two lines of evidence are necessary to assess listing status for pollutants in sediment, and pollutant concentrations in sediment must be associated with sediment toxicity to justify adding that pollutant to the CWA section 303(d) List.

One line of evidence is available in the administrative record to assess this pollutant. One of three samples exceed the sediment chemistry guideline. Sediment toxicity data are associated with this decision but are not available for the same time periods and locations as sediment chemistry data.

Based on the readily available data and information, the weight of evidence indicates that there is insufficient justification for placing this water segment-pollutant combination on the CWA section 303(d) List.

This conclusion is based on the staff findings that:

1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy.
2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy.
3. One of three samples exceed the sediment chemistry guideline and this sample size is sufficient to determine beneficial use support, with the power and confidence of the Listing Policy. A minimum of 16 samples is needed to determine if a beneficial use is fully supported using table 3.1. Sediment toxicity data are not available for the same times and locations of the sediment chemistry. Therefore, a listing decision cannot be made because the sediment chemistry data are insufficient on their own.
4. Pursuant to section 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.

Regional Board Staff Decision Recommendation: After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be placed on the section 303(d) list. The readily available data and information is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating.

Line of Evidence (LOE) for Decision ID 60566, Diazinon	Region 2
Peralta Creek	

LOE ID: 8977
Pollutant: Diazinon
LOE Subgroup: Pollutant-Sediment

Matrix:	Sediment
Fraction:	None
Beneficial Use:	Warm Freshwater Habitat
Number of Samples:	3
Number of Exceedances:	1
Data and Information Type:	PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality:	Diazinon concentration in one (January 2005) of three samples exceeded 0.1 ug/L.
Data Reference:	Data collected by the Surface Water Ambient Monitoring Program, San Francisco Bay Regional Water Quality Control Board. Years 4 and 5 Assessment
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	All waters shall be maintained free of toxic substances that are lethal to or that produce other detrimental responses in aquatic organisms. There shall be no chronic toxicity in ambient waters. Chronic toxicity is a detrimental biological effect on growth rate, reproduction, fertilization success, larval development, population abundance, community composition, or any other relevant measure of the health of an organism, population, or community.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) - San Francisco Bay Region (Region 2)
Evaluation Guideline:	The TMDL for diazinon in urban creeks established diazinon concentration target of less than 0.1 ug/L expressed as a one-hour average.
Guideline Reference:	Water Quality Control Plan (Basin Plan) - San Francisco Bay Region (Region 2)
Spatial Representation:	Data were collected at a sampling location at the lower part of Peralta Creek North of Hwy 185.
Temporal Representation:	Samples were collected in January (we season) and June (dry season) of 2005.
Environmental Conditions:	
QAPP Information:	All samples were collected and analyzed using procedures comparable with the SWAMP Quality Assurance Management Plan (SWRCB, 2002).
QAPP Information Reference(s):	

DECISION ID	60567	Region 2
Peralta Creek		
Pollutant:	Pyrethroids	
Final Listing Decision:	Do Not List on 303(d) list (TMDL required list)	
Last Listing Cycle's Final Listing Decision:	New Decision	
Revision Status	Revised	
Impairment from Pollutant or Pollution:	Pollutant	
Regional Board Staff Conclusion:	<p>This pollutant is being considered for placement on the CWA section 303(d) List under section 3.6 of the Listing Policy. Under section 3.6 at least two lines of evidence are necessary to assess listing status for pollutants in sediment, and pollutant concentrations in sediment must be associated with sediment toxicity to justify adding that pollutant to the CWA section 303(d) List.</p> <p>One line of evidence is available in the administrative record to assess this pollutant. One of one samples exceed the sediment chemistry guideline. Sediment toxicity data are associated with this decision but are not available for the same time periods and locations as sediment chemistry data.</p> <p>Based on the readily available data and information, the weight of evidence indicates that there is insufficient justification for placing this water segment-pollutant combination on the CWA section 303(d) List.</p> <p>This conclusion is based on the staff findings that:</p> <ol style="list-style-type: none"> 1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy. 	

2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy.
3. One of one samples exceed the sediment chemistry guideline and this sample size is sufficient to determine beneficial use support, with the power and confidence of the Listing Policy. A minimum of 16 samples is needed to determine if a beneficial use is fully supported using table 3.1. Sediment toxicity data are not available for the same times and locations of the sediment chemistry. Therefore, a listing decision cannot be made because the sediment chemistry data are insufficient on their own.
4. Pursuant to section 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.

Regional Board Staff Decision Recommendation: After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be placed on the section 303(d) list. The readily available data and information is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating.

Line of Evidence (LOE) for Decision ID 60567, Pyrethroids

Region 2

Peralta Creek

LOE ID:	8975
Pollutant:	Pyrethroids
LOE Subgroup:	Pollutant-Sediment
Matrix:	Sediment
Fraction:	None
Beneficial Use:	Warm Freshwater Habitat
Number of Samples:	1
Number of Exceedances:	1
Data and Information Type:	Toxicity testing of sediments
Data Used to Assess Water Quality:	Data used to evaluate pyrethroid toxicity comprise one sediment sample collected by the SWAMP in 2005. The pyrethroid concentration in the Peralta Creek sample exceeded 28TU but the growth and survival of <i>Hyalella azteca</i> was unaffected.
Data Reference:	Data collected by the Surface Water Ambient Monitoring Program, San Francisco Bay Regional Water Quality Control Board. Years 4 and 5 Assessment
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	All waters shall be maintained free of toxic substances that are lethal to or that produce other detrimental responses in aquatic organisms.
Objective/Criterion Reference:	There shall be no chronic toxicity in ambient waters. Chronic toxicity is a detrimental biological effect on growth rate, reproduction, fertilization success, larval development, population abundance, community composition, or any other relevant measure of the health of an organism, population, or community. Water Quality Control Plan (Basin Plan) - San Francisco Bay Region (Region 2)
Evaluation Guideline:	Amweg et al. (2006) interpreted results of toxicity testing and sediment pyrethroid concentrations in urban creeks in California. Pyrethroid concentration data and analysis of toxicity units (TU) were used to determine whether pyrethroids could be linked to the observed toxicity to <i>Hyalella azteca</i> . The results indicated that samples with less than 1 TU were nontoxic and those with TU greater than 2 were consistently toxic.
Guideline Reference:	Pyrethroid insecticides and sediment toxicity in urban creeks from California and Tennessee. Environmental Science and Technology, 40(5): 1700-1706
Spatial Representation:	Data were collected at a sampling location at the lower part of Peralta Creek North of Hwy 185.
Temporal Representation:	Sample was collected in spring 2005.
Environmental Conditions:	
QAPP Information:	All samples were collected and analyzed using procedures comparable with the SWAMP

QAPP Information Reference(s):

DECISION ID	44437	Region 2
Peralta Creek		

Pollutant: Arsenic
Final Listing Decision: Do Not List on 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision: Do Not List on 303(d) list (TMDL required list)(2012)
Revision Status: Original
Impairment from Pollutant or Pollution: Pollutant

Regional Board Staff Conclusion: This pollutant are being considered for placement on the section 303(d) list under section 3.1 of the Listing Policy. Under this section a single line of evidence is necessary to assess listing status. One line of evidence is available in the administrative record to assess these pollutants. Zero samples exceed the water quality objective. Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against placing this water segment-pollutant combination on the section 303(d) list in the Water Quality Limited Segments category. This conclusion is based on the staff findings that: 1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy. 2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy. 3. Zero of one sample exceed the water quality objective, but this sample size is insufficient to determine with the power and confidence of the Listing Policy if standards are not met. A minimum of two samples are needed for application of table 3.1. 4. Pursuant to section 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.

Regional Board Staff Decision Recommendation: This is a decision previously approved by the State Water Resources Control Board and the USEPA. No new data were assessed by the Regional Board for the current. The decision has not changed.

Line of Evidence (LOE) for Decision ID 44437, Arsenic	Region 2
Peralta Creek	

LOE ID: 31407
Pollutant: Arsenic
LOE Subgroup: Pollutant-Sediment
Matrix: Sediment
Fraction: None
Beneficial Use: Warm Freshwater Habitat
Number of Samples: 1
Number of Exceedances: 0
Data and Information Type: PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality: Concentration of arsenic,in one sediment sample collected in April 2005 did not exceed the sediment quality guidelines.
Data Reference: [Data collected by the Surface Water Ambient Monitoring Program, San Francisco Bay Regional Water Quality Control Board. Years 4 and 5 Assessment](#)
SWAMP Data: SWAMP
Water Quality Objective/Criterion: All waters shall be maintained free of toxic substances that are lethal to or that produce other detrimental responses in aquatic organisms.
Objective/Criterion Reference: [Water Quality Control Plan \(Basin Plan\) - San Francisco Bay Region \(Region 2\)](#)
Evaluation Guideline: Sediment Quality Guidelines (MacDonald et al., 2000): PEC (probable effect

concentration) arsenic - 33 mg/kg dw

Guideline Reference: [Development and evaluation of consensus-based sediment quality guidelines for freshwater ecosystems. Environmental Contamination and Toxicology. 39: 20-31](#)

Spatial Representation: One sediment sample was collected in Peralta Creek.

Temporal Representation: Sediment sample was collected in April of 2005.

Environmental Conditions:

QAPP Information: All samples were collected and analyzed using procedures comparable with the SWAMP Quality Assurance Management Plan (SWRCB, 2002).

QAPP Information Reference(s):

DECISION ID	44087	Region 2
Peralta Creek		

Pollutant: Arsenic | Chromium (total) | Copper | Lead | Nickel | Silver | Zinc

Final Listing Decision: Do Not List on 303(d) list (TMDL required list)

Last Listing Cycle's Final Listing Decision: Do Not List on 303(d) list (TMDL required list)(2012)

Revision Status Original

Impairment from Pollutant or Pollution: Pollutant

Regional Board Staff Conclusion: These pollutants are being considered for placement on the section 303(d) list under section 3.1 of the Listing Policy. Under section 3.1 a single line of evidence is necessary to assess listing status. One line of evidence is available in the administrative record to assess this pollutant. None of the samples exceed the water quality objective. Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against placing this water segment-pollutant combination on the section 303(d) list in the Water Quality Limited Segments category. This conclusion is based on the staff findings that: 1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy. 2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy. 3. Zero of three samples exceeded the water quality objective and this does not exceed the allowable frequency listed in Table 3.1 of the Listing Policy. 4. Pursuant to section 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.

Regional Board Staff Decision Recommendation: This is a decision previously approved by the State Water Resources Control Board and the USEPA. No new data were assessed by the Regional Board for the current. The decision has not changed.

Line of Evidence (LOE) for Decision ID 44087, Multiple Pollutants	Region 2
Peralta Creek	

LOE ID: 28830

Pollutant: Arsenic | Chromium (total) | Copper | Lead | Nickel | Silver | Zinc

LOE Subgroup: Pollutant-Water

Matrix: Water

Fraction: Dissolved

Beneficial Use: Warm Freshwater Habitat

Number of Samples: 3

Number of Exceedances: 0

Data and Information Type: PHYSICAL/CHEMICAL MONITORING

Data Used to Assess Water Quality: The Peralta Creek watershed was monitored as part of SWAMP assessment. None of the three samples exceeded the water quality objectives for arsenic, chromium VI, copper, lead, nickel, silver and zinc. Concentrations of total dissolved chromium were well below the objective for chromium VI.

Data Reference:	Data collected by the Surface Water Ambient Monitoring Program, San Francisco Bay Regional Water Quality Control Board. Years 4 and 5 Assessment
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	All waters shall be maintained free of toxic substances that are lethal to or that produce other detrimental responses in aquatic organisms. Table 3-4 in the Basin Plan (2007) lists freshwater water quality objectives for toxic pollutants: arsenic- 150 ug/L, chromium VI- 11 ug/L, copper - 9.0 ug/L, lead - 2.5 ug/L; nickel - 52 ug/L, silver-3.4 ug/L and zinc - 120 ug/L.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) - San Francisco Bay Region (Region 2)
Evaluation Guideline:	
Guideline Reference:	
Spatial Representation:	Data were collected at one sampling location (PRL020) on Peralta Creek.
Temporal Representation:	Samples were collected during wet (January), spring (April), and dry (June) seasons of 2005.
Environmental Conditions:	
QAPP Information:	All samples were collected and analyzed using procedures comparable with the SWAMP Quality Assurance Management Plan (SWRCB, 2002).
QAPP Information Reference(s):	Quality Assurance Management Plan for the State of California's Surface Water Ambient Monitoring Program, Sacramento, CA. State Water Resources Control Board. SWAMP. December 2002 (1st version)

DECISION ID	43043	Region 2
Peralta Creek		
Pollutant:	Cadmium	
Final Listing Decision:	Do Not List on 303(d) list (TMDL required list)	
Last Listing Cycle's Final Listing Decision:	Do Not List on 303(d) list (TMDL required list)(2012)	
Revision Status	Original	
Impairment from Pollutant or Pollution:	Pollutant	
Regional Board Staff Conclusion:	This pollutant are being considered for placement on the section 303(d) list under section 3.1 of the Listing Policy. Under this section a single line of evidence is necessary to assess listing status. One line of evidence is available in the administrative record to assess these pollutants. Zero samples exceed the water quality objective. Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against placing this water segment-pollutant combination on the section 303(d) list in the Water Quality Limited Segments category. This conclusion is based on the staff findings that: 1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy. 2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy. 3. Zero of one sample exceed the water quality objective, but this sample size is insufficient to determine with the power and confidence of the Listing Policy if standards are not met. A minimum of two samples are needed for application of table 3.1. 4. Pursuant to section 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.	
Regional Board Staff Decision Recommendation:	This is a decision previously approved by the State Water Resources Control Board and the USEPA. No new data were assessed by the Regional Board for the current. The decision has not changed.	

Line of Evidence (LOE) for Decision ID 43043, Cadmium	Region 2
Peralta Creek	
LOE ID:	31408
Pollutant:	Cadmium

LOE Subgroup:	Pollutant-Sediment
Matrix:	Sediment
Fraction:	None
Beneficial Use:	Warm Freshwater Habitat
Number of Samples:	1
Number of Exceedances:	0
Data and Information Type:	PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality:	Concentration of cadmium in one sediment sample collected in April 2005 did not exceed the sediment quality guidelines.
Data Reference:	Data collected by the Surface Water Ambient Monitoring Program, San Francisco Bay Regional Water Quality Control Board. Years 4 and 5 Assessment
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	All waters shall be maintained free of toxic substances that are lethal to or that produce other detrimental responses in aquatic organisms.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) - San Francisco Bay Region (Region 2)
Evaluation Guideline:	Sediment Quality Guidelines (MacDonald et al., 2000): PEC (probable effect concentration) cadmium: 4.98 mg/kg
Guideline Reference:	Development and evaluation of consensus-based sediment quality guidelines for freshwater ecosystems. Environmental Contamination and Toxicology. 39: 20-31
Spatial Representation:	One sediment sample was collected in Peralta Creek.
Temporal Representation:	Sediment sample was collected in April of 2005.
Environmental Conditions:	
QAPP Information:	All samples were collected and analyzed using procedures comparable with the SWAMP Quality Assurance Management Plan (SWRCB, 2002).
QAPP Information Reference(s):	

DECISION ID	43850	Region 2
Peralta Creek		
Pollutant:	Chlordane DDD (Dichlorodiphenyldichloroethane) DDE (Dichlorodiphenyldichloroethylene) DDT (Dichlorodiphenyltrichloroethane) Dieldrin Heptachlor epoxide	
Final Listing Decision:	Do Not List on 303(d) list (TMDL required list)	
Last Listing Cycle's Final Listing Decision:	Do Not List on 303(d) list (TMDL required list)(2012)	
Revision Status	Original	
Impairment from Pollutant or Pollution:	Pollutant	
Regional Board Staff Conclusion:	<p>These pollutants are being considered for placement on the section 303(d) list under section 3.1 of the Listing Policy. Under this section a single line of evidence is necessary to assess listing status. One line of evidence is available in the administrative record to assess these pollutants. Zero samples exceed the water quality objective. Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against placing this water segment-pollutant combination on the section 303(d) list in the Water Quality Limited Segments category. This conclusion is based on the staff findings that: 1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy. 2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy. 3. Zero of one sample exceed the water quality objective, but this sample size is insufficient to determine with the power and confidence of the Listing Policy if standards are not met. A minimum of two samples are needed for application of table 3.1. 4. Pursuant to section 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.</p>	
Regional Board Staff Decision Recommendation:	<p>This is a decision previously approved by the State Water Resources Control Board and the USEPA. No new data were assessed by the Regional Board for the current. The decision has not changed.</p>	

Line of Evidence (LOE) for Decision ID 43850, Multiple Pollutants**Region 2****Peralta Creek**

LOE ID:	28725
Pollutant:	Chlordane DDD (Dichlorodiphenyldichloroethane) DDE (Dichlorodiphenyldichloroethylene) DDT (Dichlorodiphenyltrichloroethane) Dieldrin Heptachlor epoxide
LOE Subgroup:	Pollutant-Sediment
Matrix:	Sediment
Fraction:	None
Beneficial Use:	Warm Freshwater Habitat
Number of Samples:	1
Number of Exceedances:	0
Data and Information Type:	PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality:	Concentrations of chlordane, dieldrin, DDD/DDE/DDT, and heptachlor epoxide in one sediment sample collected in spring 2005 did not exceed the sediment quality guidelines.
Data Reference:	Data collected by the Surface Water Ambient Monitoring Program, San Francisco Bay Regional Water Quality Control Board. Years 4 and 5 Assessment
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	All waters shall be maintained free of toxic substances that are lethal to or that produce other detrimental responses in aquatic organisms.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) - San Francisco Bay Region (Region 2)
Evaluation Guideline:	Sediment Quality Guidelines (MacDonald et al., 2000): PEC (probable effect concentration) Chlordane - 17.6 ug/kg; Dieldrin - 1.8 ug/kg; DDD (sum op + pp) - 28 ug/kg; DDE (sum op + pp) - 31.3 ug/kg; DDT (sum op + pp) - 62.9 ug/kg; DDT (total) - 572 ug/kg; Heptachlor epoxide - 16 ug/kg.
Guideline Reference:	Development and evaluation of consensus-based sediment quality guidelines for freshwater ecosystems. Environmental Contamination and Toxicology. 39: 20-31
Spatial Representation:	One sediment sample was collected at a "watershed integrator" site located close to the mouth of Peralta Creek.
Temporal Representation:	Sediment sample was collected in April of 2005.
Environmental Conditions:	
QAPP Information:	All samples were collected and analyzed using procedures comparable with the SWAMP Quality Assurance Management Plan (SWRCB, 2002).
QAPP Information Reference(s):	

DECISION ID**44124****Region 2****Peralta Creek**

Pollutant:	Chromium
Final Listing Decision:	Do Not List on 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision:	Do Not List on 303(d) list (TMDL required list)(2012)
Revision Status	Original
Impairment from Pollutant or Pollution:	Pollutant
Regional Board Staff Conclusion:	This pollutant is being considered for placement on the section 303(d) list under section 3.1 of the Listing Policy. Under this section a single line of evidence is necessary to assess listing status. One line of evidence is available in the administrative record to assess this pollutant. One sample

exceeds the water quality objective. Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against placing this water segment-pollutant combination on the section 303(d) list in the Water Quality Limited Segments category. This conclusion is based on the staff findings that: 1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy. 2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy. 3. One out of one sample exceeded the water quality objective, but this sample size is insufficient to determine with the power and confidence of the Listing Policy if standards are not met. A minimum of two samples are needed for application of table 3.1. 4. Pursuant to section 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.

Regional Board Staff Decision Recommendation: This is a decision previously approved by the State Water Resources Control Board and the USEPA. No new data were assessed by the Regional Board for the current. The decision has not changed.

Line of Evidence (LOE) for Decision ID 44124, Chromium

Region 2

Peralta Creek

LOE ID:	28762
Pollutant:	Chromium (total)
LOE Subgroup:	Pollutant-Sediment
Matrix:	Sediment
Fraction:	None
Beneficial Use:	Warm Freshwater Habitat
Number of Samples:	1
Number of Exceedances:	1
Data and Information Type:	PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality:	Chromium concentration in one sediment sample collected in spring 2005 was 203 mg/kg and exceeded the sediment quality guideline.
Data Reference:	Data collected by the Surface Water Ambient Monitoring Program, San Francisco Bay Regional Water Quality Control Board. Years 4 and 5 Assessment
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	All waters shall be maintained free of toxic substances that are lethal to or that produce other detrimental responses in aquatic organisms.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) - San Francisco Bay Region (Region 2)
Evaluation Guideline:	Sediment Quality Guidelines (MacDonald et al., 2000): PEC (probable effect concentration) for chromium 111mg/kg.
Guideline Reference:	Development and evaluation of consensus-based sediment quality guidelines for freshwater ecosystems. Environmental Contamination and Toxicology. 39: 20-31
Spatial Representation:	One sediment sample was collected at a "watershed integrator" site located close to the mouth of Peralta Creek.
Temporal Representation:	Sample was collected in spring 2005.
Environmental Conditions:	
QAPP Information:	All samples were collected and analyzed using procedures comparable with the SWAMP Quality Assurance Management Plan (SWRCB, 2002).
QAPP Information Reference(s):	

DECISION ID

44439

Region 2

Peralta Creek

Pollutant: Copper
Final Listing Decision: Do Not List on 303(d) list (TMDL required list)

Last Listing Cycle's Final Listing Decision: Do Not List on 303(d) list (TMDL required list)(2012)

Revision Status: Original
Impairment from Pollutant or Pollution: Pollutant

Regional Board Staff Conclusion: This pollutant are being considered for placement on the section 303(d) list under section 3.1 of the Listing Policy. Under this section a single line of evidence is necessary to assess listing status. One line of evidence is available in the administrative record to assess these pollutants. Zero samples exceed the water quality objective. Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against placing this water segment-pollutant combination on the section 303(d) list in the Water Quality Limited Segments category. This conclusion is based on the staff findings that: 1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy. 2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy. 3. Zero of one sample exceed the water quality objective, but this sample size is insufficient to determine with the power and confidence of the Listing Policy if standards are not met. A minimum of two samples are needed for application of table 3.1. 4. Pursuant to section 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.

Regional Board Staff Decision Recommendation: This is a decision previously approved by the State Water Resources Control Board and the USEPA. No new data were assessed by the Regional Board for the current. The decision has not changed.

Line of Evidence (LOE) for Decision ID 44439, Copper
Peralta Creek

Region 2

LOE ID: 31410

Pollutant: Copper
LOE Subgroup: Pollutant-Sediment
Matrix: Sediment
Fraction: None

Beneficial Use: Warm Freshwater Habitat

Number of Samples: 1
Number of Exceedances: 0

Data and Information Type: PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality: Concentration of copper in one sediment sample collected in April 2005 did not exceed the sediment quality guidelines.

Data Reference: [Data collected by the Surface Water Ambient Monitoring Program, San Francisco Bay Regional Water Quality Control Board, Years 4 and 5 Assessment](#)

SWAMP Data: SWAMP

Water Quality Objective/Criterion: All waters shall be maintained free of toxic substances that are lethal to or that produce other detrimental responses in aquatic organisms.

Objective/Criterion Reference: [Water Quality Control Plan \(Basin Plan\) - San Francisco Bay Region \(Region 2\)](#)

Evaluation Guideline: Sediment Quality Guidelines (MacDonald et al., 2000): PEC (probable effect concentration) copper: 149 mg/kg

Guideline Reference: [Development and evaluation of consensus-based sediment quality guidelines for freshwater ecosystems. Environmental Contamination and Toxicology. 39: 20-31](#)

Spatial Representation: One sediment sample was collected in Peralta Creek.
Temporal Representation: Sediment sample was collected in April of 2005.
Environmental Conditions:

QAPP Information: All samples were collected and analyzed using procedures comparable with the SWAMP Quality Assurance Management Plan (SWRCB, 2002).

QAPP Information Reference(s):

DECISION ID	44125	Region 2
Peralta Creek		

Pollutant: Disulfoton
Final Listing Decision: Do Not List on 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision: Do Not List on 303(d) list (TMDL required list)(2012)
Revision Status: Original
Impairment from Pollutant or Pollution: Pollutant

Regional Board Staff Conclusion: This pollutant is being considered for placement on the section 303(d) list under section 3.1 of the Listing Policy. Under this section a single line of evidence is necessary to assess listing status. One line of evidence is available in the administrative record to assess this pollutant. Zero samples exceeds the water quality objective. Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against placing this water segment-pollutant combination on the section 303(d) list in the Water Quality Limited Segments category. This conclusion is based on the staff findings that: 1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy. 2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy. 3. Zero out of one sample exceeded the water quality objective, but this sample size is insufficient to determine with the power and confidence of the Listing Policy if standards are not met. A minimum of two samples are needed for application of table 3.1. 4. Pursuant to section 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.

Regional Board Staff Decision Recommendation: This is a decision previously approved by the State Water Resources Control Board and the USEPA. No new data were assessed by the Regional Board for the current. The decision has not changed.

Line of Evidence (LOE) for Decision ID 44125, Disulfoton	Region 2
Peralta Creek	

LOE ID: 28983
Pollutant: Disulfoton
LOE Subgroup: Pollutant-Water
Matrix: Water
Fraction: None
Beneficial Use: Warm Freshwater Habitat
Number of Samples: 1
Number of Exceedances: 0
Data and Information Type: PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality: Peralta Creek was monitored as part of SWAMP assessment. None of the three samples exceeded the water quality objectives for disulfoton.
Data Reference: [Data collected by the Surface Water Ambient Monitoring Program, San Francisco Bay Regional Water Quality Control Board, Years 4 and 5 Assessment](#)
SWAMP Data: SWAMP
Water Quality Objective/Criterion: All waters shall be maintained free of toxic substances that are lethal to or that produce other detrimental responses in aquatic organisms. There shall be no chronic toxicity in ambient waters. Chronic toxicity is a detrimental biological effect on growth rate, reproduction, fertilization success, larval development, population abundance, community composition, or any other relevant measure of the health of an organism, population, or community.
Objective/Criterion Reference: [Water Quality Control Plan \(Basin Plan\) - San Francisco Bay Region \(Region 2\)](#)

Evaluation Guideline:	Disulfoton (Disyston) - 0.05 ug/L (acute);
Guideline Reference:	National recommended water quality criteria: 2002. EPA-822-R-02-047 Washington, D.C. USEPA
Spatial Representation:	Data were collected at one sampling location (PRL020, Cesar Chavez Park) on Peralta Creek.
Temporal Representation:	Sample was collected during the dry(June) season of 2005.
Environmental Conditions:	
QAPP Information:	All samples were collected and analyzed using procedures comparable with the SWAMP Quality Assurance Management Plan (SWRCB, 2002).
QAPP Information Reference(s):	Quality Assurance Management Plan for the State of California's Surface Water Ambient Monitoring Program. Sacramento, CA. State Water Resources Control Board. SWAMP. December 2002 (1st version)

DECISION ID	44126	Region 2
Peralta Creek		

Pollutant:	Escherichia coli (E. coli)
Final Listing Decision:	Do Not List on 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision:	Do Not List on 303(d) list (TMDL required list)(2012)
Revision Status	Original
Impairment from Pollutant or Pollution:	Pollutant

Regional Board Staff Conclusion:	This pollutant is being considered for placement on the section 303(d) list under section 3.2 of the Listing Policy. Under this section a single line of evidence is necessary to assess listing status. One line of evidence is available in the administrative record to assess this pollutant. One of one samples exceed the water quality objective. Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against placing this water segment-pollutant combination on the section 303(d) list in the Water Quality Limited Segments category. This conclusion is based on the staff findings that: 1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy. 2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy. 3. One out of one samples exceeded the water quality objective, but this sample size is insufficient to determine with the power and confidence of the Listing Policy if standards are not met. A minimum of five samples is needed for application of table 3.2. 4. Pursuant to section 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.
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Regional Board Staff Decision Recommendation:	This is a decision previously approved by the State Water Resources Control Board and the USEPA. No new data were assessed by the Regional Board for the current. The decision has not changed.
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Line of Evidence (LOE) for Decision ID 44126, Escherichia coli (E. coli)	Region 2
Peralta Creek	

LOE ID:	28974
Pollutant:	Escherichia coli (E. coli)
LOE Subgroup:	Pollutant-Water
Matrix:	Water
Fraction:	None
Beneficial Use:	Water Contact Recreation
Number of Samples:	1
Number of Exceedances:	1
Data and Information Type:	PATHOGEN MONITORING

Data Used to Assess Water Quality:	Samples were collected as part of SWAMP sampling in the summer of 2004 at 7-day intervals at one location and the geometric mean of the samples calculated over a five week interval. The geometric mean for the PRL020 location was 805 MPN/100 mL and exceeded the US EPA criteria. *Note- MPN is most probable number
Data Reference:	Data collected by the Surface Water Ambient Monitoring Program, San Francisco Bay Regional Water Quality Control Board. Years 4 and 5 Assessment
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	<p>Uses of water for recreational activities involving body contact with water where ingestion of water is reasonably possible. These uses include, but are not limited to, swimming, wading, water-skiing, skin and scuba diving, surfing, whitewater activities, fishing, and uses of natural hot springs.</p> <p>Water contact implies a risk of waterborne disease transmission and involves human health; accordingly, criteria required to protect this use are more stringent than those for more casual water-oriented recreation.</p> <p>U.S. EPA water quality criteria for water contact recreation based on the frequency of use a particular area receives - 1986: the E. coli criterion is not to exceed 126 organisms/100 mL. The value is expressed as a 7-day geometric mean based on five or more samples per 30?day period; designated beach (max) 235 MPN/100 mL.</p>
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) - San Francisco Bay Region (Region 2) Ambient Water Quality Criteria for Bacteria - 1986. EPA440/5-84-002
Evaluation Guideline:	
Guideline Reference:	
Spatial Representation:	Samples were collected at at the "watershed integrator" most downstream location in Peralta Creek.
Temporal Representation:	Samples were collected weekly from 7/20/2004 through 8/17/2004.
Environmental Conditions:	
QAPP Information:	All samples were collected and analyzed using procedures comparable with the SWAMP Quality Assurance Management Plan (SWRCB, 2002).
QAPP Information Reference(s):	Quality Assurance Management Plan for the State of California's Surface Water Ambient Monitoring Program. Sacramento, CA. State Water Resources Control Board. SWAMP. December 2002 (1st version)

DECISION ID	44438	Region 2
Peralta Creek		
Pollutant:	Lead	
Final Listing Decision:	Do Not List on 303(d) list (TMDL required list)	
Last Listing Cycle's Final Listing Decision:	Do Not List on 303(d) list (TMDL required list)(2012)	
Revision Status	Original	
Impairment from Pollutant or Pollution:	Pollutant	
Regional Board Staff Conclusion:	<p>This pollutant are being considered for placement on the section 303(d) list under section 3.1 of the Listing Policy. Under this section a single line of evidence is necessary to assess listing status. One line of evidence is available in the administrative record to assess these pollutants. Zero samples exceed the water quality objective. Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against placing this water segment-pollutant combination on the section 303(d) list in the Water Quality Limited Segments category. This conclusion is based on the staff findings that: 1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy. 2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy. 3. Zero of one sample exceed the water quality objective, but this sample size is insufficient to determine with the power and confidence of the Listing Policy if standards are not met. A minimum of two samples are needed for application of table 3.1. 4. Pursuant to section 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.</p>	

Regional Board Staff Decision Recommendation: This is a decision previously approved by the State Water Resources Control Board and the USEPA. No new data were assessed by the Regional Board for the current. The decision has not changed.

Line of Evidence (LOE) for Decision ID 44438, Lead

Region 2

Peralta Creek

LOE ID: 31409

Pollutant: Lead
LOE Subgroup: Pollutant-Sediment
Matrix: Sediment
Fraction: None

Beneficial Use: Warm Freshwater Habitat

Number of Samples: 1
Number of Exceedances: 0

Data and Information Type: PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality: Concentration of lead in one sediment sample collected in April 2005 did not exceed the sediment quality guidelines.
Data Reference: [Data collected by the Surface Water Ambient Monitoring Program, San Francisco Bay Regional Water Quality Control Board. Years 4 and 5 Assessment](#)

SWAMP Data: SWAMP

Water Quality Objective/Criterion: All waters shall be maintained free of toxic substances that are lethal to or that produce other detrimental responses in aquatic organisms.
Objective/Criterion Reference: [Water Quality Control Plan \(Basin Plan\) - San Francisco Bay Region \(Region 2\)](#)

Evaluation Guideline: Sediment Quality Guidelines (MacDonald et al., 2000): PEC (probable effect concentration) lead: 128 mg/kg
Guideline Reference: [Development and evaluation of consensus-based sediment quality guidelines for freshwater ecosystems. Environmental Contamination and Toxicology. 39: 20-31](#)

Spatial Representation: One sediment sample was collected in Peralta Creek.
Temporal Representation: Sediment sample was collected in April of 2005.
Environmental Conditions:
QAPP Information: All samples were collected and analyzed using procedures comparable with the SWAMP Quality Assurance Management Plan (SWRCB, 2002).
QAPP Information Reference(s):

DECISION ID

44050

Region 2

Peralta Creek

Pollutant: Mercury
Final Listing Decision: Do Not List on 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision: Do Not List on 303(d) list (TMDL required list)(2012)
Revision Status Original
Impairment from Pollutant or Pollution: Pollutant

Regional Board Staff Conclusion: This pollutant is being considered for placement on the section 303(d) list under section 3.1 of the Listing Policy. Under section 3.1 a single line of evidence is necessary to assess listing status. Two lines of evidence are available in the administrative record to assess this pollutant. None of the samples exceed the water quality objective. Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against placing this water segment-pollutant combination on the section 303(d) list in the Water Quality Limited Segments category. This

conclusion is based on the staff findings that: 1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy. 2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy. 3. None of the four samples exceeded the water quality objective and this does not exceed the allowable frequency listed in Table 3.1 of the Listing Policy. 4. Pursuant to section 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.

Regional Board Staff Decision Recommendation: This is a decision previously approved by the State Water Resources Control Board and the USEPA. No new data were assessed by the Regional Board for the current. The decision has not changed.

Line of Evidence (LOE) for Decision ID 44050, Mercury

Region 2

Peralta Creek

LOE ID: 31412

Pollutant: Mercury
LOE Subgroup: Pollutant-Sediment
Matrix: Sediment
Fraction: None

Beneficial Use: Warm Freshwater Habitat

Number of Samples: 1
Number of Exceedances: 0

Data and Information Type: PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality: Concentration of mercury in one sediment sample collected in April 2005 did not exceed the sediment quality guidelines.

Data Reference: [Data collected by the Surface Water Ambient Monitoring Program, San Francisco Bay Regional Water Quality Control Board, Years 4 and 5 Assessment](#)

SWAMP Data: SWAMP

Water Quality Objective/Criterion: All waters shall be maintained free of toxic substances that are lethal to or that produce other detrimental responses in aquatic organisms.

Objective/Criterion Reference: [Water Quality Control Plan \(Basin Plan\) - San Francisco Bay Region \(Region 2\)](#)

Evaluation Guideline: Sediment Quality Guidelines (MacDonald et al., 2000): PEC (probable effect concentration) mercury: 1.06 mg/kg dw.

Guideline Reference: [Development and evaluation of consensus-based sediment quality guidelines for freshwater ecosystems. Environmental Contamination and Toxicology. 39: 20-31](#)

Spatial Representation: One sediment sample was collected in Peralta Creek.
Temporal Representation: Sediment sample was collected in April of 2005.

Environmental Conditions:
QAPP Information: All samples were collected and analyzed using procedures comparable with the SWAMP Quality Assurance Management Plan (SWRCB, 2002).

QAPP Information Reference(s):

Line of Evidence (LOE) for Decision ID 44050, Mercury

Region 2

Peralta Creek

LOE ID: 28847

Pollutant: Mercury
LOE Subgroup: Pollutant-Water
Matrix: Water
Fraction: Total

Beneficial Use: Warm Freshwater Habitat

Number of Samples:	3
Number of Exceedances:	0
Data and Information Type:	PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality:	The Peralta Creek watershed was monitored as part of SWAMP assessment. None of the three samples exceeded the water quality objectives for mercury.
Data Reference:	Data collected by the Surface Water Ambient Monitoring Program, San Francisco Bay Regional Water Quality Control Board. Years 4 and 5 Assessment
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	All waters shall be maintained free of toxic substances that are lethal to or that produce other detrimental responses in aquatic organisms. Table 3-4 in the Basin Plan (2007) lists freshwater water quality objectives for toxic pollutants: mercury- 2.4 ug/L
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) - San Francisco Bay Region (Region 2)
Evaluation Guideline:	
Guideline Reference:	
Spatial Representation:	Data were collected at one sampling location (PRL020) on Peralta Creek.
Temporal Representation:	Samples were collected during wet (January), spring (April), and dry (June) seasons of 2005.
Environmental Conditions:	
QAPP Information:	All samples were collected and analyzed using procedures comparable with the SWAMP Quality Assurance Management Plan (SWRCB, 2002).
QAPP Information Reference(s):	Quality Assurance Management Plan for the State of California's Surface Water Ambient Monitoring Program, Sacramento, CA. State Water Resources Control Board. SWAMP. December 2002 (1st version)

DECISION ID	44350	Region 2
Peralta Creek		

Pollutant:	Nickel
Final Listing Decision:	Do Not List on 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision:	Do Not List on 303(d) list (TMDL required list)(2012)
Revision Status	Original
Impairment from Pollutant or Pollution:	Pollutant

Regional Board Staff Conclusion:	This pollutant is being considered for placement on the section 303(d) list under section 3.1 of the Listing Policy. Under this section a single line of evidence is necessary to assess listing status. One line of evidence is available in the administrative record to assess this pollutant. One sample exceeds the water quality objective. Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against placing this water segment-pollutant combination on the section 303(d) list in the Water Quality Limited Segments category. This conclusion is based on the staff findings that: 1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy. 2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy. 3. One out of one sample exceeded the water quality objective, but this sample size is insufficient to determine with the power and confidence of the Listing Policy if standards are not met. A minimum of two samples are needed for application of table 3.1. 4. Pursuant to section 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.
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Regional Board Staff Decision Recommendation:	This is a decision previously approved by the State Water Resources Control Board and the USEPA. No new data were assessed by the Regional Board for the current. The decision has not changed.
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Line of Evidence (LOE) for Decision ID 44350, Nickel	Region 2
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Peralta Creek

LOE ID:	28757
Pollutant:	Nickel
LOE Subgroup:	Pollutant-Sediment
Matrix:	Sediment
Fraction:	None
Beneficial Use:	Warm Freshwater Habitat
Number of Samples:	1
Number of Exceedances:	1
Data and Information Type:	PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality:	Nickel concentration in sediment sample collected in spring 2005 was 269 mg/kg and exceeded the sediment quality guideline.
Data Reference:	Data collected by the Surface Water Ambient Monitoring Program, San Francisco Bay Regional Water Quality Control Board, Years 4 and 5 Assessment
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	All waters shall be maintained free of toxic substances that are lethal to or that produce other detrimental responses in aquatic organisms.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) - San Francisco Bay Region (Region 2)
Evaluation Guideline:	Sediment Quality Guidelines (MacDonald et al., 2000): PEC (probable effect concentration) for nickel - 48.6 mg/kg
Guideline Reference:	Development and evaluation of consensus-based sediment quality guidelines for freshwater ecosystems. Environmental Contamination and Toxicology. 39: 20-31
Spatial Representation:	One sediment sample was collected at a "watershed integrator" site located close to the mouth of Peralta Creek.
Temporal Representation:	Sample was collected in spring 2005.
Environmental Conditions:	
QAPP Information:	All samples were collected and analyzed using procedures comparable with the SWAMP Quality Assurance Management Plan (SWRCB, 2002).
QAPP Information Reference(s):	

DECISION ID	44051	Region 2
Peralta Creek		

Pollutant:	Oxygen, Dissolved
Final Listing Decision:	Do Not List on 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision:	Do Not List on 303(d) list (TMDL required list)(2012)
Revision Status	Original
Impairment from Pollutant or Pollution:	Pollutant
Regional Board Staff Conclusion:	This pollutant is being considered for placement on the section 303(d) list under section 3.2 of the Listing Policy. Under section 3.2 a single line of evidence is necessary to assess listing status. One line of evidence is available in the administrative record to assess this pollutant. One of the samples exceed the water quality objective. Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against placing this water segment-pollutant combination on the section 303(d) list in the Water Quality Limited Segments category. This conclusion is based on the staff findings that: 1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy. 2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy. 3. One of six samples exceeded the water quality objective and this does not exceed the allowable frequency listed in Table 3.2 of the Listing Policy. 4. Pursuant to section 3.11 of the Listing Policy, no additional data and information are available indicating that

standards are not met.

Regional Board Staff Decision Recommendation: This is a decision previously approved by the State Water Resources Control Board and the USEPA. No new data were assessed by the Regional Board for the current. The decision has not changed.

**Line of Evidence (LOE) for Decision ID 44051, Oxygen, Dissolved
Peralta Creek**

Region 2

LOE ID: 28895

Pollutant: Oxygen, Dissolved
LOE Subgroup: Pollutant-Water
Matrix: Water
Fraction: None

Beneficial Use: Cold Freshwater Habitat

Number of Samples: 6
Number of Exceedances: 1

Data and Information Type: PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality: Water quality assessment was conducted at Peralta Creek watershed as part of SWAMP assessment in 2004 and 2005. Continuous field monitoring of temperature, dissolved oxygen, pH, and specific conductance to determine temporal variability in basic water quality at two locations. The 7 day average minimum concentration of dissolved oxygen ranged from 5.4 to 9.9 mg/L and varied with season. Minimum dissolved oxygen levels fell below the objective of 7 mg/L once in August 2004. During that period average minimum values of DO were 5.4 mg/L.

Data Reference: [Data collected by the Surface Water Ambient Monitoring Program, San Francisco Bay Regional Water Quality Control Board. Years 4 and 5 Assessment](#)

SWAMP Data: SWAMP

Water Quality Objective/Criterion: The numeric water quality objective for dissolved oxygen is 7.0 mg/L minimum for waters designated as cold water habitat. The median dissolved oxygen concentration for any three consecutive months shall not be less than 80 percent of the dissolved oxygen content at saturation.

Objective/Criterion Reference: [Water Quality Control Plan \(Basin Plan\) - San Francisco Bay Region \(Region 2\)](#)

Evaluation Guideline:
Guideline Reference:

Spatial Representation: Dissolved oxygen was measured at two sites located on the mainstem of Peralta Creek (PRL020, Casar Chavez Park), and PRL080 (Peralta at Rettig).

Temporal Representation: At both locations the SWAMP performed continuous monitoring of dissolved oxygen at 15 minute intervals lasting 7-8 days during spring (April 2004), summer dry seasons (August 2004), and winter wet season (February 2005).

Environmental Conditions:
QAPP Information: All samples were collected and analyzed using procedures comparable with the SWAMP Quality Assurance Management Plan (SWRCB 2002).

QAPP Information Reference(s):

**DECISION ID 44052
Peralta Creek**

Region 2

Pollutant: Temperature, water
Final Listing Decision: Do Not List on 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision: Do Not List on 303(d) list (TMDL required list)(2012)

Revision Status Original
Impairment from Pollutant or Pollution: Pollutant

Regional Board Staff Conclusion: This pollutant is being considered for placement on the section 303(d) list under section 3.2 of the Listing Policy. Under section 3.2 a single line of evidence is necessary to assess listing status. One line of evidence is available in the administrative record to assess this pollutant. Two of the samples exceed the water quality objective. Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against placing this water segment-pollutant combination on the section 303(d) list in the Water Quality Limited Segments category. This conclusion is based on the staff findings that: 1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy. 2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy. 3. Two of six samples exceeded the water quality objective and this does not exceed the allowable frequency listed in Table 3.2 of the Listing Policy. 4. Pursuant to section 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.

Regional Board Staff Decision Recommendation: This is a decision previously approved by the State Water Resources Control Board and the USEPA. No new data were assessed by the Regional Board for the current. The decision has not changed.

Line of Evidence (LOE) for Decision ID 44052, Temperature, water
Peralta Creek

Region 2

LOE ID: 28862

Pollutant: Temperature, water
LOE Subgroup: Pollutant-Water
Matrix: Water
Fraction: None

Beneficial Use: Cold Freshwater Habitat

Number of Samples: 6
Number of Exceedances: 2

Data and Information Type: PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality: Water quality assessment was conducted at the Peralta Creek watershed as part of SWAMP study in 2004-2005. Continuous field monitoring at 15 minute increments of temperature, dissolved oxygen, pH and specific conductance was conducted to determine temporal variability in basic water quality at two locations. Continuous monitoring sondes were deployed 6 times at 2 monitoring locations during wet, spring and dry seasons. The measured temperatures ranged from 11.3oC to 22.5oC and varied with season and location. During the dry season (Summer) the 7-day mean temperature threshold for steelhead was exceeded at both monitoring locations. PRL020 exceeded the 7 day mean with temperatures of 19.2oC in August 2004 and PRL080 exceeded with temperatures of 18.6oC in August 2004. In total, the 17oC criterion was exceeded in 2 out of 6 deployments.

Data Reference: [Data collected by the Surface Water Ambient Monitoring Program, San Francisco Bay Regional Water Quality Control Board. Years 4 and 5 Assessment](#)

SWAMP Data: SWAMP

Water Quality Objective/Criterion: Temperature objectives for enclosed bays and estuaries are specified in the "Water Quality Control Plan for Control of Temperature in the Coastal and Interstate Waters and Enclosed Bays of California" including any revisions to the plan. In addition, the following temperature objectives apply to surface waters: The natural receiving water temperature of intrastate waters shall not be altered unless it can be demonstrated to the satisfaction of the Regional Board that such an alteration does not adversely affect beneficial uses. The temperature of any cold or warm freshwater habitat shall not be increased by more than 5°F (2.8°C) above natural receiving water temperature.

Objective/Criterion Reference: [Water Quality Control Plan \(Basin Plan\) - San Francisco Bay Region \(Region 2\)](#)

Evaluation Guideline:	Sullivan et al. (2000) reviewed a wide range of studies incorporating information from laboratory-based research, field observations, and risk assessment approaches and developed criteria for assessing temperature risk to aquatic life. The 7-day mean temperature (maximum value of a 7-day moving average of the daily mean temperature) of 14.8°C was established as the upper threshold criterion for coho salmon and 17.0°C for steelhead trout. The risk assessment approach used by Sullivan et al. (2000) suggests that temperatures exceeding the above thresholds will cause a 10% reduction in average growth compared to optimal conditions.
Guideline Reference:	An Analysis of the Effects of Temperature on Salmonids of the Pacific Northwest with Implications for Selecting Temperature Criteria
Spatial Representation:	Temperature was measured at two sites (PRL020 Cesar Chavez Park and PRL080 Peralta at Rettig) located on the mainstem of Peralta Creek.
Temporal Representation:	In 2004 and 2005 the SWAMP Program performed continuous monitoring of temperature at 15 minute intervals for periods of 1 week in each of three different seasons: summer (2 sites in August), spring (2 sites), and winter (2 sites).
Environmental Conditions:	
QAPP Information:	All samples were collected and analyzed using procedures comparable with the SWAMP Quality Assurance Management Plan (SWRCB 2002).
QAPP Information Reference(s):	

DECISION ID	43841	Region 2
Peralta Creek		

Pollutant:	Toxicity
Final Listing Decision:	Do Not List on 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision:	Do Not List on 303(d) list (TMDL required list)(2012)
Revision Status	Original
Impairment from Pollutant or Pollution:	Pollutant

Regional Board Staff Conclusion:	This pollutant is being considered for placement on the section 303(d) list under section 3.1 of the Listing Policy. Under section 3.1 a single line of evidence is necessary to assess listing status. One line of evidence is available in the administrative record to assess this pollutant. None of the samples exceed the water quality objective. Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against placing this water segment-pollutant combination on the section 303(d) list in the Water Quality Limited Segments category. This conclusion is based on the staff findings that: 1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy. 2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy. 3. None of three samples exceeded the water quality objective and this does not exceed the allowable frequency listed in Table 3.1 of the Listing Policy. 4. Pursuant to section 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.
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Regional Board Staff Decision Recommendation:	This is a decision previously approved by the State Water Resources Control Board and the USEPA. No new data were assessed by the Regional Board for the current. The decision has not changed.
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Line of Evidence (LOE) for Decision ID 43841, Toxicity	Region 2
Peralta Creek	

LOE ID:	8974
Pollutant:	Sediment Toxicity
LOE Subgroup:	Pollutant-Sediment
Matrix:	Sediment
Fraction:	None

Beneficial Use:	Warm Freshwater Habitat
Number of Samples:	1
Number of Exceedances:	0
Data and Information Type:	TOXICITY TESTING
Data Used to Assess Water Quality:	Data used to evaluate sediment toxicity comprise one sediment sample collected by the SWAMP in 2005. The sample did not exhibit amphipod toxicity.
Data Reference:	Data collected by the Surface Water Ambient Monitoring Program, San Francisco Bay Regional Water Quality Control Board. Years 4 and 5 Assessment
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	All waters shall be maintained free of toxic substances that are lethal to or that produce other detrimental responses in aquatic organisms. There shall be no chronic toxicity in ambient waters. Chronic toxicity is a detrimental biological effect on growth rate, reproduction, fertilization success, larval development, population abundance, community composition, or any other relevant measure of the health of an organism, population, or community.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) - San Francisco Bay Region (Region 2)
Evaluation Guideline:	Sediment toxicity data were evaluated according to the SWAMP methodology. Sample toxicity was determined by comparing mean organism response in samples and in negative controls. Statistical evaluation and a default threshold of 80% of the control value were used to establish whether the sediment exhibited significant toxicity adversely impacting aquatic organisms.
Guideline Reference:	Revised approach to toxicity test acceptability criteria using a statistical performance assessment. Environmental Toxicology and Chemistry, vol. 16, No. 6, pp 1322?1329
Spatial Representation:	Data were collected at a sampling location at the lower part of Peralta Creek North of Hwy 185.
Temporal Representation:	Sample was collected in spring 2005.
Environmental Conditions:	
QAPP Information:	All samples were collected and analyzed using procedures comparable with the SWAMP Quality Assurance Management Plan (SWRCB, 2002).
QAPP Information Reference(s):	

Line of Evidence (LOE) for Decision ID 43841, Toxicity

Region 2

Peralta Creek

LOE ID:	28827
Pollutant:	Toxicity
LOE Subgroup:	Pollutant-Water
Matrix:	Water
Fraction:	None
Beneficial Use:	Warm Freshwater Habitat
Number of Samples:	3
Number of Exceedances:	0
Data and Information Type:	TOXICITY TESTING
Data Used to Assess Water Quality:	Three samples were collected in 2005 to evaluate water toxicity at one monitoring location in Peralta Creek. The toxicity tests included survival and reproduction of Ceriodaphnia, survival and growth of fathead minnow, and growth of Selenastrum. No significant toxicity was observed in these sample.
Data Reference:	Data collected by the Surface Water Ambient Monitoring Program, San Francisco Bay Regional Water Quality Control Board. Years 4 and 5 Assessment
SWAMP Data:	SWAMP

Water Quality Objective/Criterion:	All waters shall be maintained free of toxic substances that are lethal to or that produce other detrimental responses in aquatic organisms. There shall be no chronic toxicity in ambient waters. Chronic toxicity is a detrimental biological effect on growth rate, reproduction, fertilization success, larval development, population abundance, community composition, or any other relevant measure of the health of an organism, population, or community.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) - San Francisco Bay Region (Region 2)
Evaluation Guideline:	Water toxicity was evaluated according to the SWAMP methodology. The U.S.EPA whole effluent toxicity protocol (U.S.EPA 1994) was used to test the effect of water samples on three freshwater test organisms. Statistical evaluation (alpha = 0.05) and a default threshold of 80% of the control value were used to establish whether water exhibited significant toxicity adversely impacting aquatic organisms.
Guideline Reference:	Revised approach to toxicity test acceptability criteria using a statistical performance assessment. Environmental Toxicology and Chemistry, vol. 16, No. 6, pp 1322?1329 Short-Term Methods for Estimating the Chronic Toxicity of Effluents and Receiving Waters to Freshwater Organisms. EPA/600/4-91/002. Third Edition. July 1994
Spatial Representation:	Data were collected at one sampling location at the lower reach of the creek.
Temporal Representation:	SWAMP samples were collected during winter wet season (January), spring season (April), and dry season (June) of 2005.
Environmental Conditions:	
QAPP Information:	All samples were collected and analyzed using procedures comparable with the SWAMP Quality Assurance Management Plan (SWRCB, 2002).
QAPP Information Reference(s):	Quality Assurance Management Plan for the State of California's Surface Water Ambient Monitoring Program. Sacramento, CA. State Water Resources Control Board. SWAMP. December 2002 (1st version)

DECISION ID 44722 Region 2	
Peralta Creek	
Pollutant:	Zinc
Final Listing Decision:	Do Not List on 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision:	Do Not List on 303(d) list (TMDL required list)(2012)
Revision Status	Original
Impairment from Pollutant or Pollution:	Pollutant
Regional Board Staff Conclusion:	This pollutant are being considered for placement on the section 303(d) list under section 3.1 of the Listing Policy. Under this section a single line of evidence is necessary to assess listing status. One line of evidence is available in the administrative record to assess these pollutants. Zero samples exceed the water quality objective. Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against placing this water segment-pollutant combination on the section 303(d) list in the Water Quality Limited Segments category. This conclusion is based on the staff findings that: 1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy. 2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy. 3. Zero of one sample exceed the water quality objective, but this sample size is insufficient to determine with the power and confidence of the Listing Policy if standards are not met. A minimum of two samples are needed for application of table 3.1. 4. Pursuant to section 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.
Regional Board Staff Decision Recommendation:	This is a decision previously approved by the State Water Resources Control Board and the USEPA. No new data were assessed by the Regional Board for the current. The decision has not changed.

Line of Evidence (LOE) for Decision ID 44722, Zinc Region 2	
Peralta Creek	

LOE ID:	31411
Pollutant:	Zinc
LOE Subgroup:	Pollutant-Sediment
Matrix:	Sediment
Fraction:	None
Beneficial Use:	Warm Freshwater Habitat
Number of Samples:	1
Number of Exceedances:	0
Data and Information Type:	PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality:	Concentration of zinc in one sediment sample collected in April 2005 did not exceed the sediment quality guidelines.
Data Reference:	Data collected by the Surface Water Ambient Monitoring Program, San Francisco Bay Regional Water Quality Control Board. Years 4 and 5 Assessment
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	All waters shall be maintained free of toxic substances that are lethal to or that produce other detrimental responses in aquatic organisms.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) - San Francisco Bay Region (Region 2)
Evaluation Guideline:	Sediment Quality Guidelines (MacDonald et al., 2000): PEC (probable effect concentration) zinc: 459 mg/kg dw.
Guideline Reference:	Development and evaluation of consensus-based sediment quality guidelines for freshwater ecosystems. Environmental Contamination and Toxicology. 39: 20-31
Spatial Representation:	One sediment sample was collected in Peralta Creek.
Temporal Representation:	Sediment sample was collected in April of 2005.
Environmental Conditions:	
QAPP Information:	All samples were collected and analyzed using procedures comparable with the SWAMP Quality Assurance Management Plan (SWRCB, 2002).
QAPP Information Reference(s):	

DECISION ID	43919	Region 2
Peralta Creek		

Pollutant:	pH
Final Listing Decision:	Do Not List on 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision:	Do Not List on 303(d) list (TMDL required list)(2012)
Revision Status	Original
Impairment from Pollutant or Pollution:	Pollutant

Regional Board Staff Conclusion: This pollutant is being considered for placement on the section 303(d) list under section 3.2 of the Listing Policy. Under section 3.2 a single line of evidence is necessary to assess listing status. One line of evidence is available in the administrative record to assess this pollutant. One of the samples exceed the water quality objective. Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against placing this water segment-pollutant combination on the section 303(d) list in the Water Quality Limited Segments category. This conclusion is based on the staff findings that: 1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy. 2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy. 3. One of six samples exceeded the water quality objective and this does not exceed the allowable frequency listed in Table 3.2 of the Listing Policy. 4. Pursuant to section 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.

Regional Board Staff Decision This is a decision previously approved by the State Water Resources Control Board and the USEPA.

Recommendation: No new data were assessed by the Regional Board for the current. The decision has not changed.

Line of Evidence (LOE) for Decision ID 43919, pH

Region 2

Peralta Creek

LOE ID: 28791

Pollutant: pH
LOE Subgroup: Pollutant-Water
Matrix: Water
Fraction: None

Beneficial Use: Warm Freshwater Habitat

Number of Samples: 6
Number of Exceedances: 1

Data and Information Type: PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality: Comprehensive water quality assessment was conducted at Peralta Creek watershed as part of SWAMP assessment in 2004 and 2005. Continuous field monitoring of temperature, dissolved oxygen, pH, and specific conductance to determine temporal variability in basic water quality at one or two locations. The pH ranged from 7.3 to 8.8 and varied with season. The pH exceeded the maximum, (at 8.8) on one occasion, at the PRL020 sampling location in Spring 2004.

Data Reference: [Data collected by the Surface Water Ambient Monitoring Program, San Francisco Bay Regional Water Quality Control Board. Years 4 and 5 Assessment](#)

SWAMP Data: SWAMP

Water Quality Objective/Criterion: The pH shall not be depressed below 6.5 nor raised above 8.5. This encompasses the pH range usually found in waters within the basin. Controllable water quality factors shall not cause changes greater than 0.5 units in normal ambient pH levels.

Objective/Criterion Reference: [Water Quality Control Plan \(Basin Plan\) - San Francisco Bay Region \(Region 2\)](#)

Evaluation Guideline:
Guideline Reference:

Spatial Representation: Continuous measurements were conducted at two sampling sites at PRL020 Cesar Chavez Park and PRL080 Peralta at Rettig (three each) located on the mainstem of Peralta Creek.

Temporal Representation: SWAMP Program performed continuous monitoring of pH at 15 minute intervals for periods of 7 to 8 days. PRL020 and PRL080 were sampled during spring (April 2004), summer dry season (August 2004), and winter wet season (February 2005).

Environmental Conditions:

QAPP Information: All samples were collected and analyzed using procedures comparable with the SWAMP Quality Assurance Management Plan (SWRCB 2002).

QAPP Information Reference(s):

Draft California 2016 Integrated Report (303(d) List/305(b) Report)

Supporting Information

Regional Board 2 - San Francisco Bay Region

Water Body Name: Temescal Creek
Water Body ID: CAR2033001020080817192619
Water Body Type: River & Stream

DECISION ID 43920 **Region 2**
Temescal Creek

Pollutant: Chlorpyrifos | Dacthal | Diazinon | Disulfoton | Endosulfan | Lindane/gamma Hexachlorocyclohexane (gamma-HCH) | Methyl Parathion | PCBs (Polychlorinated biphenyls) | Thiobencarb/Bolero
Final Listing Decision: Do Not List on 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision: Do Not List on 303(d) list (TMDL required list)(2012)
Revision Status Original
Impairment from Pollutant or Pollution: Pollutant

Regional Board Staff Conclusion: This pollutant is being considered for placement on the section 303(d) list under section 3.1 of the Listing Policy. Under section 3.1 a single line of evidence is necessary to assess listing status. One line of evidence is available in the administrative record to assess this pollutant. None of the samples exceed the water quality objective. Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against placing this water segment-pollutant combination on the section 303(d) list in the Water Quality Limited Segments category. This conclusion is based on the staff findings that: 1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy. 2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy. 3. None of three samples exceeded the water quality objective and this does not exceed the allowable frequency listed in Table 3.1 of the Listing Policy. 4. Pursuant to section 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.

Regional Board Staff Decision Recommendation: This is a decision previously approved by the State Water Resources Control Board and the USEPA. No new data were assessed by the Regional Board for the current. The decision has not changed.

Line of Evidence (LOE) for Decision ID 43920, Multiple Pollutants **Region 2**

Temescal Creek

LOE ID: 28981
Pollutant: Chlorpyrifos | Dacthal | Diazinon | Disulfoton | Endosulfan | Lindane/gamma Hexachlorocyclohexane (gamma-HCH) | Methyl Parathion | PCBs (Polychlorinated biphenyls) | Thiobencarb/Bolero
LOE Subgroup: Pollutant-Water
Matrix: Water
Fraction: None
Beneficial Use: Warm Freshwater Habitat
Number of Samples: 3
Number of Exceedances: 0
Data and Information Type: PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality: Temescal Creek was monitored as part of SWAMP assessment. None of the three

	<p>samples exceeded the water quality objectives for PCBs, Chlorpyrifos, Dacthal, diazinon, disulfoton, endosulfan, Lindane/gamma Hexachlorocyclohexane (gamma-HCH), methyl parathion, thiobencarb.</p>
Data Reference:	Data collected by the Surface Water Ambient Monitoring Program, San Francisco Bay Regional Water Quality Control Board. Years 4 and 5 Assessment
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	<p>All waters shall be maintained free of toxic substances that are lethal to or that produce other detrimental responses in aquatic organisms.</p> <p>There shall be no chronic toxicity in ambient waters. Chronic toxicity is a detrimental biological effect on growth rate, reproduction, fertilization success, larval development, population abundance, community composition, or any other relevant measure of the health of an organism, population, or community.</p> <p>Diazinon water quality objective, 0.1 ug/L (acute)</p>
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) - San Francisco Bay Region (Region 2)
Evaluation Guideline:	<p>PCBs - 0.014 ug/L freshwater continuous Concentration; Chlorpyrifos - 0.015 ug/L (chronic); Dacthal (DCPA) - 14300 ug/L (acute); Disulfoton (Disyston) - 0.05 ug/L (acute); Endosulfan - 0.056 ug/L (chronic)/0.22 ug/L (acute); HCH, gamma-(gamma BHC, Lindane) - 0.95 ug/L (acute); methyl parathion - 0.08 ug/L (acute); Thiobencarb - 3.1 ug/L (acute).</p>
Guideline Reference:	National recommended water quality criteria: 2002. EPA-822-R-02-047 Washington, D.C. USEPA
Spatial Representation:	Data were collected at one sampling location (TEM090, above Lake Temescal) on Temescal Creek.
Temporal Representation:	Samples were collected during wet (January), spring (April), and dry(June) seasons of 2005.
Environmental Conditions:	
QAPP Information:	All samples were collected and analyzed using procedures comparable with the SWAMP Quality Assurance Management Plan (SWRCB, 2002).
QAPP Information Reference(s):	Quality Assurance Management Plan for the State of California's Surface Water Ambient Monitoring Program. Sacramento, CA. State Water Resources Control Board. SWAMP. December 2002 (1st version)

DECISION ID		35808	Region 2
Temescal Creek			
Pollutant:	Copper Lead Nickel Zinc		
Final Listing Decision:	Do Not List on 303(d) list (TMDL required list)		
Last Listing Cycle's Final Listing Decision:	Do Not List on 303(d) list (TMDL required list)(2012)		
Revision Status	Original		
Impairment from Pollutant or Pollution:	Pollutant		
Regional Board Staff Conclusion:	<p>This pollutant is being considered for listing under section 3.1 of the Listing Policy. Under section 3.1 a single line of evidence is necessary to assess listing status. A single line of evidence is available for each pollutant in the administrative record. Concentrations of dissolved zinc, copper, lead and nickel do not exceed water quality standards. Based on the limited available data for this water body, the weight of evidence indicates that there is insufficient justification for placing this water segment-pollutant combination on the section 303(d) list in the Water Quality Limited Segments category. This conclusion is based on the staff findings that: 1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy. 2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy. 3. Concentrations of dissolved zinc, copper, lead and nickel do not exceed water quality standards and this does not exceed the allowable frequency listed in Table 3.1 of the Listing Policy. 4. Pursuant to section 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.</p>		
Regional Board Staff Decision	This is a decision previously approved by the State Water Resources Control Board and the USEPA.		

Recommendation: No new data were assessed by the Regional Board for the current. The decision has not changed.

Line of Evidence (LOE) for Decision ID 35808, Multiple Pollutants

Region 2

Temescal Creek

LOE ID: 21294

Pollutant: Copper | Lead | Nickel | Zinc
LOE Subgroup: Pollutant-Water
Matrix: Water
Fraction: Dissolved

Beneficial Use: Warm Freshwater Habitat

Number of Samples: 3
Number of Exceedances: 0

Data and Information Type: PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality: The Temescal Creek watershed was monitored as part of SWAMP assessment. None of the three samples exceeded the water quality objectives for copper, lead, nickel and zinc.
Data Reference: [Data collected by the Surface Water Ambient Monitoring Program, San Francisco Bay Regional Water Quality Control Board. Years 4 and 5 Assessment](#)

SWAMP Data: SWAMP

Water Quality Objective/Criterion: All waters shall be maintained free of toxic substances that are lethal to or that produce other detrimental responses in aquatic organisms.
Table 3-4 in the Basin Plan (2007) lists freshwater water quality objectives for toxic pollutants: copper - 9.0 ug/L; lead - 2.5 ug/L; nickel - 52 ug/L and zinc - 120 ug/L.
Objective/Criterion Reference: [Water Quality Control Plan \(Basin Plan\) - San Francisco Bay Region \(Region 2\)](#)

Evaluation Guideline:
Guideline Reference:

Spatial Representation: Data were collected at one sampling location just upstream from Lake Temescal (west of Hwy 13).
Temporal Representation: Samples were collected during spring, dry and wet season of 2004-2005.
Environmental Conditions:
QAPP Information: All samples were collected and analyzed using procedures comparable with the SWAMP Quality Assurance Management Plan (SWRCB, 2002).
QAPP Information Reference(s): [Quality Assurance Management Plan for the State of California's Surface Water Ambient Monitoring Program, Sacramento, CA. State Water Resources Control Board. SWAMP. December 2002 \(1st version\)](#)

DECISION ID

44140

Region 2

Temescal Creek

Pollutant: Escherichia coli (E. coli)
Final Listing Decision: Do Not List on 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision: Do Not List on 303(d) list (TMDL required list)(2012)
Revision Status Original
Impairment from Pollutant or Pollution: Pollutant

Regional Board Staff Conclusion: This pollutant is being considered for placement on the section 303(d) list under section 3.2 of the Listing Policy. Under this section a single line of evidence is necessary to assess listing status. One line of evidence is available in the administrative record to assess this pollutant. One out of one samples exceed the water quality objective. Based on the readily available data and information, the

weight of evidence indicates that there is sufficient justification against placing this water segment-pollutant combination on the section 303(d) list in the Water Quality Limited Segments category. This conclusion is based on the staff findings that: 1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy. 2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy. 3. One out of one samples exceeded the water quality objective, but this sample size is insufficient to determine with the power and confidence of the Listing Policy if standards are not met. A minimum of five samples is needed for application of table 3.2. 4. Pursuant to section 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.

Regional Board Staff Decision Recommendation: This is a decision previously approved by the State Water Resources Control Board and the USEPA. No new data were assessed by the Regional Board for the current. The decision has not changed.

Line of Evidence (LOE) for Decision ID 44140, Escherichia coli (E. coli)

Region 2

Temescal Creek

LOE ID:	28975
Pollutant:	Escherichia coli (E. coli)
LOE Subgroup:	Pollutant-Water
Matrix:	Water
Fraction:	None
Beneficial Use:	Water Contact Recreation
Number of Samples:	1
Number of Exceedances:	1
Data and Information Type:	PATHOGEN MONITORING
Data Used to Assess Water Quality:	Samples were collected as part of SWAMP sampling in the summer of 2004 at 7-day intervals at one location and the geometric mean of the samples calculated over a five week interval. The geometric mean in one sample (TEM050) exceeded the 126 MPN/100mL with values of 1116 MPN/100 mL. *Note- MPN is most probable number.
Data Reference:	Data collected by the Surface Water Ambient Monitoring Program, San Francisco Bay Regional Water Quality Control Board. Years 4 and 5 Assessment
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	Uses of water for recreational activities involving body contact with water where ingestion of water is reasonably possible. These uses include, but are not limited to, swimming, wading, water-skiing, skin and scuba diving, surfing, whitewater activities, fishing, and uses of natural hot springs. Water contact implies a risk of waterborne disease transmission and involves human health; accordingly, criteria required to protect this use are more stringent than those for more casual water-oriented recreation. U.S. EPA water quality criteria for water contact recreation based on the frequency of use a particular area receives - 1986: the E. coli criterion is not to exceed 126 organisms/100 mL. The value is expressed as a 7-day geometric mean based on five or more samples per 30?day period; designated beach (max) 235 MPN/100 mL.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) - San Francisco Bay Region (Region 2) Ambient Water Quality Criteria for Bacteria - 1986. EPA440/5-84-002
Evaluation Guideline:	
Guideline Reference:	
Spatial Representation:	Samples were collected at TEM050.
Temporal Representation:	Samples were collected weekly from 7/20/2004 through 8/17/2004.
Environmental Conditions:	
QAPP Information:	All samples were collected and analyzed using procedures comparable with the SWAMP Quality Assurance Management Plan (SWRCB, 2002).
QAPP Information Reference(s):	Quality Assurance Management Plan for the State of California's Surface Water Ambient

DECISION ID	44029	Region 2
Temescal Creek		

Pollutant: Oxygen, Dissolved
Final Listing Decision: Do Not List on 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision: Do Not List on 303(d) list (TMDL required list)(2012)
Revision Status: Original
Impairment from Pollutant or Pollution: Pollutant

Regional Board Staff Conclusion: This pollutant is being considered for placement on the section 303(d) list under section 3.2 of the Listing Policy. Under section 3.2 a single line of evidence is necessary to assess listing status. One line of evidence is available in the administrative record to assess this pollutant. None of the samples exceed the water quality objective. Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against placing this water segment-pollutant combination on the section 303(d) list in the Water Quality Limited Segments category. This conclusion is based on the staff findings that: 1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy. 2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy. 3. None of nine samples exceeded the water quality objective and this does not exceed the allowable frequency listed in Table 3.2 of the Listing Policy. 4. Pursuant to section 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.

Regional Board Staff Decision Recommendation: This is a decision previously approved by the State Water Resources Control Board and the USEPA. No new data were assessed by the Regional Board for the current. The decision has not changed.

Line of Evidence (LOE) for Decision ID 44029, Oxygen, Dissolved	Region 2
Temescal Creek	

LOE ID: 28898

Pollutant: Oxygen, Dissolved
LOE Subgroup: Pollutant-Water
Matrix: Water
Fraction: None

Beneficial Use: Warm Freshwater Habitat

Number of Samples: 9
Number of Exceedances: 0

Data and Information Type: PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality: Water quality assessment was conducted at Temescal Creek as part of SWAMP assessment in 2004 and 2005. Continuous field monitoring of temperature, dissolved oxygen, pH, and specific conductance to determine temporal variability in basic water quality at two locations. The 7-day average minimum concentration of dissolved oxygen ranged from 6.1 to 11.0 mg/L and varied with season. Minimum dissolved oxygen levels did not fall below the objective of 5 mg/L.

Data Reference: [Data collected by the Surface Water Ambient Monitoring Program. San Francisco Bay Regional Water Quality Control Board. Years 4 and 5 Assessment](#)

SWAMP Data: SWAMP

Water Quality Objective/Criterion: The numeric water quality objective for dissolved oxygen is 5.0 mg/L minimum for waters designated as cold water habitat. The median dissolved oxygen concentration for any

Objective/Criterion Reference:	three consecutive months shall not be less than 80 percent of the dissolved oxygen content at saturation. Water Quality Control Plan (Basin Plan) - San Francisco Bay Region (Region 2)
Evaluation Guideline:	
Guideline Reference:	
Spatial Representation:	Dissolved oxygen was measured at two sites located on the mainstem of Temescal Creek (TEM060 (Birch Court), and TEM090 (above Lake Temescal)).
Temporal Representation:	SWAMP performed continuous monitoring of dissolved oxygen at 15 minute intervals lasting 7-10 days during spring (May 2004 at both sites), summer dry seasons (July at both sites and August 2004 at one site), and winter wet season (February 2005 at both sites).
Environmental Conditions:	
QAPP Information:	All samples were collected and analyzed using procedures comparable with the SWAMP Quality Assurance Management Plan (SWRCB 2002).
QAPP Information Reference(s):	

DECISION ID	43246	Region 2
Temescal Creek		

Pollutant:	Temperature, water
Final Listing Decision:	Do Not List on 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision:	Do Not List on 303(d) list (TMDL required list)(2012)
Revision Status	Original
Impairment from Pollutant or Pollution:	Pollutant

Regional Board Staff Conclusion:	This pollutant is being considered for placement on the section 303(d) list under section 3.2 of the Listing Policy. Under section 3.2 a single line of evidence is necessary to assess listing status. One line of evidence is available in the administrative record to assess this pollutant. Four of the samples exceed the water quality objective. Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against placing this water segment-pollutant combination on the section 303(d) list in the Water Quality Limited Segments category. This conclusion is based on the staff findings that: 1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy. 2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy. 3. Four of nine samples exceeded the water quality objective and this does not exceed the allowable frequency listed in Table 3.2 of the Listing Policy. 4. Pursuant to section 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.
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Regional Board Staff Decision Recommendation:	This is a decision previously approved by the State Water Resources Control Board and the USEPA. No new data were assessed by the Regional Board for the current. The decision has not changed.
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Line of Evidence (LOE) for Decision ID 43246, Temperature, water	Region 2
Temescal Creek	

LOE ID:	28861
Pollutant:	Temperature, water
LOE Subgroup:	Pollutant-Water
Matrix:	Water
Fraction:	None
Beneficial Use:	Cold Freshwater Habitat
Number of Samples:	9
Number of Exceedances:	4

Data and Information Type: Data Used to Assess Water Quality:	<p>PHYSICAL/CHEMICAL MONITORING</p> <p>Water quality assessment was conducted at the Temescal Creek watershed as part of SWAMP study in 2004-2005. Continuous field monitoring at 15 minute increments of temperature, dissolved oxygen, pH and specific conductance was conducted to determine temporal variability in basic water quality at two locations. Continuous monitoring sondes were deployed 9 times at 2 monitoring locations during wet, spring and dry seasons. The measured temperatures ranged from 11.4°C to 19.3 °C and varied with season and location. During both dry season (Summer and Fall) deployments at both monitoring locations the 7-day mean temperature threshold for steelhead was exceeded. TEM060 exceeded the 7-day mean with temperatures of 18.6 oC in July and September 2004 and TEM090 exceeded with temperatures of 17.3 oC in August and 17.2 oC in September 2004. In total, the 17 oC criterion for steelhead was exceeded in 4 out of 9 deployments.</p>
Data Reference:	Data collected by the Surface Water Ambient Monitoring Program, San Francisco Bay Regional Water Quality Control Board. Years 4 and 5 Assessment
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	Temperature objectives for enclosed bays and estuaries are specified in the "Water Quality Control Plan for Control of Temperature in the Coastal and Interstate Waters and Enclosed Bays of California" including any revisions to the plan. In addition, the following temperature objectives apply to surface waters: The natural receiving water temperature of intrastate waters shall not be altered unless it can be demonstrated to the satisfaction of the Regional Board that such an alteration does not adversely affect beneficial uses. The temperature of any cold or warm freshwater habitat shall not be increased by more than 5°F (2.8°C) above natural receiving water temperature.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) - San Francisco Bay Region (Region 2)
Evaluation Guideline:	Sullivan et al. (2000) reviewed a wide range of studies incorporating information from laboratory-based research, field observations, and risk assessment approaches and developed criteria for assessing temperature risk to aquatic life. The 7-day mean temperature (maximum value of a 7-day moving average of the daily mean temperature) of 14.8°C was established as the upper threshold criterion for coho salmon and 17.0°C for steelhead trout. The risk assessment approach used by Sullivan et al. (2000) suggests that temperatures exceeding the above thresholds will cause a 10% reduction in average growth compared to optimal conditions.
Guideline Reference:	An Analysis of the Effects of Temperature on Salmonids of the Pacific Northwest with Implications for Selecting Temperature Criteria
Spatial Representation:	Temperature was measured at two sites (TEM060 Birch Court and TEM090 above Lake Temescal) located on the main stem of Temescal Creek, one above and one below Lake Temescal. The highest temperatures of 19.2 °C and 19.3 °C were recorded at TEM060 in July and September 2004 respectively.
Temporal Representation:	In 2004 and 2005 the SWAMP Program performed continuous monitoring of temperature at 15 minute intervals for periods of 1 week to 11 days in each of four different seasons: summer (2 sites in July and 1 site in August), spring (2 sites), fall (2 sites) and winter (2 sites).
Environmental Conditions:	
QAPP Information:	All samples were collected and analyzed using procedures comparable with the SWAMP Quality Assurance Management Plan (SWRCB 2002).
QAPP Information Reference(s):	

DECISION ID	42309	Region 2
Temescal Creek		

Pollutant:	Toxicity
Final Listing Decision:	Do Not List on 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision:	Do Not List on 303(d) list (TMDL required list)(2012)
Revision Status	Original
Impairment from Pollutant or	Pollutant

Pollution:**Regional Board Staff Conclusion:**

This pollutant is being considered for listing under section 3.6 of the Listing Policy. Under section 3.6 a single line of evidence is necessary to assess listing status. One line of evidence is available in the administrative record to assess toxicity in Temescal Creek. One of three water samples exhibits limited toxicity. Based on the readily available data for this water body, the weight of evidence indicates that there is sufficient justification available against placing this water segment-pollutant combination on the section 303(d) list in the Water Quality Limited Segments category. This conclusion is based on the staff findings that: 1. The data concerning current conditions and supporting the listing decision satisfy the data quality requirements of section 6.1.4 of the Policy. 2. The data used satisfy the data quantity requirements of section 6.1.5 of the Policy. 3. Water toxicity was observed in one of three samples and this does not exceed the allowable frequency listed in Table 3.1 of the Listing Policy. 4. Pursuant to section 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.

Regional Board Staff Decision Recommendation:

This is a decision previously approved by the State Water Resources Control Board and the USEPA. No new data were assessed by the Regional Board for the current. The decision has not changed.

Line of Evidence (LOE) for Decision ID 42309, Toxicity**Region 2****Temescal Creek**

LOE ID: 21295

Pollutant: Toxicity
LOE Subgroup: Pollutant-Water
Matrix: Water
Fraction: None

Beneficial Use: Warm Freshwater Habitat

Number of Samples: 3
Number of Exceedances: 1

Data and Information Type: TOXICITY TESTING
Data Used to Assess Water Quality: Three samples were collected by SWAMP to evaluate water toxicity. Pimephales promelas growth was lower (74.6%) than the control in one sample collected during dry season in June 2005. The result is considered not environmentally significant because mean larvae weight of test organisms was greater than 0.25 mg and the overall growth was higher than 70% of the control.

Data Reference: [Data collected by the Surface Water Ambient Monitoring Program, San Francisco Bay Regional Water Quality Control Board. Years 4 and 5 Assessment](#)

SWAMP Data: SWAMP

Water Quality Objective/Criterion: All waters shall be maintained free of toxic substances that are lethal to or that produce other detrimental responses in aquatic organisms.

Objective/Criterion Reference: There shall be no chronic toxicity in ambient waters. Chronic toxicity is a detrimental biological effect on growth rate, reproduction, fertilization success, larval development, population abundance, community composition, or any other relevant measure of the health of an organism, population, or community.
[Water Quality Control Plan \(Basin Plan\) - San Francisco Bay Region \(Region 2\)](#)

Evaluation Guideline: Water toxicity was evaluated according to the SWAMP methodology. The U.S.EPA whole effluent toxicity protocol (U.S.EPA 1994) was used to test the effect of water samples on three freshwater test organisms. Statistical evaluation (alpha = 0.05) and a default threshold of 80% of the control value were used to establish whether water exhibited significant toxicity adversely impacting aquatic organisms.

Guideline Reference: [Revised approach to toxicity test acceptability criteria using a statistical performance assessment. Environmental Toxicology and Chemistry, vol. 16, No. 6, pp 1322?1329](#)
[Short-Term Methods for Estimating the Chronic Toxicity of Effluents and Receiving](#)

Spatial Representation:	Data were collected at one sampling location just upstream from Lake Temescal (west of Hwy 13).
Temporal Representation:	Samples were collected in wet winter season (January 2005), spring season (April 2005) and dry summer season (June 2005).
Environmental Conditions:	
QAPP Information:	All samples were collected and analyzed using procedures comparable with the SWAMP Quality Assurance Management Plan (SWRCB, 2002).
QAPP Information Reference(s):	Quality Assurance Management Plan for the State of California's Surface Water Ambient Monitoring Program. Sacramento, CA. State Water Resources Control Board. SWAMP. December 2002 (1st version)

DECISION ID	44377	Region 2
Temescal Creek		

Pollutant:	pH
Final Listing Decision:	Do Not List on 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision:	Do Not List on 303(d) list (TMDL required list)(2012)
Revision Status	Original
Impairment from Pollutant or Pollution:	Pollutant
Regional Board Staff Conclusion:	This pollutant is being considered for placement on the section 303(d) list under section 3.2 of the Listing Policy. Under section 3.2 a single line of evidence is necessary to assess listing status. One lines of evidence are available in the administrative record to assess this pollutant. One of the samples exceed the water quality objective. Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against placing this water segment-pollutant combination on the section 303(d) list in the Water Quality Limited Segments category. This conclusion is based on the staff findings that: 1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy. 2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy. 3. One of nine samples exceeded the water quality objective and this does not exceed the allowable frequency listed in Table 3.2 of the Listing Policy. 4. Pursuant to section 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.
Regional Board Staff Decision Recommendation:	This is a decision previously approved by the State Water Resources Control Board and the USEPA. No new data were assessed by the Regional Board for the current. The decision has not changed.

Line of Evidence (LOE) for Decision ID 44377, pH	Region 2
Temescal Creek	

LOE ID:	28778
Pollutant:	pH
LOE Subgroup:	Pollutant-Water
Matrix:	Water
Fraction:	None
Beneficial Use:	Warm Freshwater Habitat
Number of Samples:	9
Number of Exceedances:	1
Data and Information Type:	PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality:	Water quality assessment was conducted at Temescal Creek as part of SWAMP assessment in 2004 and 2005. Continuous field monitoring of temperature, dissolved oxygen, pH, and specific conductance to determine temporal variability in basic water

quality at one or two locations. The pH ranged from 7.0 to 9.1 and varied with season. The pH exceeded the maximum, (at 9.1) on one occasion, at the TEM060 sampling location in winter 2005.

Data Reference:

[Data collected by the Surface Water Ambient Monitoring Program, San Francisco Bay Regional Water Quality Control Board. Years 4 and 5 Assessment](#)

SWAMP Data:

SWAMP

Water Quality Objective/Criterion:

The pH shall not be depressed below 6.5 nor raised above 8.5. This encompasses the pH range usually found in waters within the basin. Controllable water quality factors shall not cause changes greater than 0.5 units in normal ambient pH levels.

Objective/Criterion Reference:

[Water Quality Control Plan \(Basin Plan\) - San Francisco Bay Region \(Region 2\)](#)

Evaluation Guideline:

Guideline Reference:

Spatial Representation:

pH was measured at TEM060 (Birch Court) and TEM090 (above Lake Temescal) monitoring sites.

Temporal Representation:

TEM060 was sampled during spring (May 2004), summer dry season (July 2004), fall (September 2004) and winter wet season (January 2005). TEM090 was sampled during spring (May 2004), summer dry seasons (July and August 2004), fall (September 2004) and winter wet season (January 2005). SWAMP performed continuous monitoring of pH at 15 minute intervals lasting 7-11 days during site visits.

Environmental Conditions:

QAPP Information:

All samples were collected and analyzed using procedures comparable with the SWAMP Quality Assurance Management Plan (SWRCB 2002).

QAPP Information Reference(s):

Draft California 2016 Integrated Report (303(d) List/305(b) Report)

Supporting Information

Regional Board 2 - San Francisco Bay Region

Water Body Name: Lion Creek
Water Body ID: CAR2042004020081028144719
Water Body Type: River & Stream

DECISION ID 43470 **Region 2**
Lion Creek

Pollutant: Escherichia coli (E. coli)
Final Listing Decision: Do Not List on 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision: Do Not List on 303(d) list (TMDL required list)(2012)
Revision Status Original
Impairment from Pollutant or Pollution: Pollutant

Regional Board Staff Conclusion: This pollutant is being considered for placement on the section 303(d) list under section 3.2 of the Listing Policy. Under this section a single line of evidence is necessary to assess listing status. One line of evidence is available in the administrative record to assess this pollutant. One of the samples exceed the water quality objective. Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against placing this water segment-pollutant combination on the section 303(d) list in the Water Quality Limited Segments category. This conclusion is based on the staff findings that: 1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy. 2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy. 3. One of two samples exceeded the water quality objective, but this sample size is insufficient to determine with the power and confidence of the Listing Policy if standards are not met. A minimum of five samples is needed for application of table 3.2. 4. Pursuant to section 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.

Regional Board Staff Decision Recommendation: This is a decision previously approved by the State Water Resources Control Board and the USEPA. No new data were assessed by the Regional Board for the current. The decision has not changed.

Line of Evidence (LOE) for Decision ID 43470, Escherichia coli (E. coli) **Region 2**
Lion Creek

LOE ID: 28973
Pollutant: Escherichia coli (E. coli)
LOE Subgroup: Pollutant-Water
Matrix: Water
Fraction: None
Beneficial Use: Water Contact Recreation
Number of Samples: 2
Number of Exceedances: 1
Data and Information Type: PATHOGEN MONITORING
Data Used to Assess Water Quality: Samples were collected as part of SWAMP sampling in the summer of 2004 at 7-day intervals at one location and the geometric mean of the samples was calculated over a five week interval. The geometric mean in one sample (LIO130) exceeded the 126 MPN/100mL with values of 252 MPN/100 mL. *Note- MPN is most probable number

Data Reference:	Data collected by the Surface Water Ambient Monitoring Program, San Francisco Bay Regional Water Quality Control Board. Years 4 and 5 Assessment
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	<p>Uses of water for recreational activities involving body contact with water where ingestion of water is reasonably possible. These uses include, but are not limited to, swimming, wading, water-skiing, skin and scuba diving, surfing, whitewater activities, fishing, and uses of natural hot springs.</p> <p>Water contact implies a risk of waterborne disease transmission and involves human health; accordingly, criteria required to protect this use are more stringent than those for more casual water-oriented recreation.</p> <p>U.S. EPA water quality criteria for water contact recreation based on the frequency of use a particular area receives - 1986: the E. coli criterion is not to exceed 126 organisms/100 mL. The value is expressed as a 7-day geometric mean based on five or more samples per 30?day period; designated beach (max) 235 MPN/100 mL.</p>
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) - San Francisco Bay Region (Region 2) Ambient Water Quality Criteria for Bacteria - 1986. EPA440/5-84-002
Evaluation Guideline:	
Guideline Reference:	
Spatial Representation:	Samples were collected at LIO070 and LIO130 (Horseshoe Creek Tributary).
Temporal Representation:	Samples were collected weekly from 7/20/2004 through 8/17/2004.
Environmental Conditions:	
QAPP Information:	All samples were collected and analyzed using procedures comparable with the SWAMP Quality Assurance Management Plan (SWRCB, 2002).
QAPP Information Reference(s):	Quality Assurance Management Plan for the State of California's Surface Water Ambient Monitoring Program, Sacramento, CA. State Water Resources Control Board. SWAMP. December 2002 (1st version)

DECISION ID	37397	Region 2
Lion Creek		

Pollutant:	Oxygen, Dissolved
Final Listing Decision:	Do Not List on 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision:	Do Not List on 303(d) list (TMDL required list)(2012)
Revision Status	Original
Impairment from Pollutant or Pollution:	Pollutant
Regional Board Staff Conclusion:	<p>This pollutant is being considered for listing under section 3.2 of the Listing Policy. Under section 3.2 a single line of evidence is necessary to assess listing status. One line of evidence is available in the administrative record to assess this pollutant. Based on the readily available data for this water body, the weight of evidence indicates that there is sufficient justification available against placing this water segment-pollutant combination on the section 303(d) list in the Water Quality Limited Segments category. This conclusion is based on the staff findings that: 1. The data used satisfy the data quality requirements of section 6.1.4 of the Policy. 2. The data used satisfy the data quantity requirements of section 6.1.5 of the Policy. 3. Dissolved oxygen measurements at seven continuous deployments did not exceed the applicable water quality objectives for waters designated as warm water habitat and this does not exceed the allowable frequency listed in Table 3.2 of the Listing Policy. 4. Pursuant to section 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.</p>
Regional Board Staff Decision Recommendation:	<p>This is a decision previously approved by the State Water Resources Control Board and the USEPA. No new data were assessed by the Regional Board for the current. The decision has not changed.</p>

Line of Evidence (LOE) for Decision ID 37397, Oxygen, Dissolved	Region 2
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Lion Creek

LOE ID:	23498
Pollutant:	Low Dissolved Oxygen
LOE Subgroup:	Pollutant-Water
Matrix:	Water
Fraction:	None
Beneficial Use:	Warm Freshwater Habitat
Number of Samples:	7
Number of Exceedances:	0
Data and Information Type:	PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality:	<p>A water quality assessment was conducted in Lion Creek as part of SWAMP study in 2004- 2005. Continuous field monitoring at 15 minute increments of temperature, dissolved oxygen, pH and specific conductance was conducted to determine temporal variability in basic water quality at three locations.</p> <p>The 7 day average minimum concentration of dissolved oxygen was 5.3 mg/L during summer dry season, 8.8 mg/L during spring season, and 10.7 mg/L during winter wet season. Dissolved oxygen measurements during 7 deployments met the water quality objective of 5 mg/L.</p>
Data Reference:	Data collected by the Surface Water Ambient Monitoring Program, San Francisco Bay Regional Water Quality Control Board. Years 4 and 5 Assessment
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	The numeric water quality objective for dissolved oxygen is 5.0 mg/L minimum for waters designated as warm water habitat. The median dissolved oxygen concentration for any three consecutive months shall not be less than 80 percent of the dissolved oxygen content at saturation.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) - San Francisco Bay Region (Region 2)
Evaluation Guideline:	
Guideline Reference:	
Spatial Representation:	Dissolved oxygen concentrations were measured at three monitoring sites. Two of these sites are located just below the western slopes of the East Bay ridge and one site is located at the lower reach of the creek which is adjacent to urban area just west of Hwy 185.
Temporal Representation:	Dissolved oxygen was recorded at 15 minute intervals over 6 to 7 days during spring (May 2004), summer dry season (August 2004), and winter wet season (February 2005).
Environmental Conditions:	
QAPP Information:	All samples were collected and analyzed using procedures comparable with the SWAMP Quality Assurance Management Plan (SWRCB 2002).
QAPP Information Reference(s):	Quality Assurance Management Plan for the State of California's Surface Water Ambient Monitoring Program, Sacramento, CA. State Water Resources Control Board. SWAMP. December 2002 (1st version)

DECISION ID	43471	Region 2
Lion Creek		

Pollutant:	Temperature, water
Final Listing Decision:	Do Not List on 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision:	Do Not List on 303(d) list (TMDL required list)(2012)
Revision Status	Original
Impairment from Pollutant or Pollution:	Pollutant

**Regional Board Staff
Conclusion:**

This pollutant is being considered for placement on the section 303(d) list under section 3.2 of the Listing Policy. Under section 3.2 a single line of evidence is necessary to assess listing status. One line of evidence is available in the administrative record to assess this pollutant. One of the samples exceed the water quality objective. Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against placing this water segment-pollutant combination on the section 303(d) list in the Water Quality Limited Segments category. This conclusion is based on the staff findings that: 1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy. 2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy. 3. One of seven samples exceeded the water quality objective and this does not exceed the allowable frequency listed in Table 3.2 of the Listing Policy. 4. Pursuant to section 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.

**Regional Board Staff Decision
Recommendation:**

This is a decision previously approved by the State Water Resources Control Board and the USEPA. No new data were assessed by the Regional Board for the current. The decision has not changed.

**Line of Evidence (LOE) for Decision ID 43471, Temperature, water
Lion Creek**

Region 2

LOE ID: 28865

Pollutant: Temperature, water
LOE Subgroup: Pollutant-Water
Matrix: Water
Fraction: None

Beneficial Use: Cold Freshwater Habitat

Number of Samples: 7
Number of Exceedances: 1

Data and Information Type: PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality: Water quality assessment was conducted at the Lion Creek watershed as part of SWAMP study in 2004-2005. Continuous field monitoring at 15 minute increments of temperature, dissolved oxygen, pH and specific conductance was conducted to determine temporal variability in basic water quality at two locations. Continuous monitoring sondes were deployed 7 times at 3 monitoring locations during wet, spring and dry seasons. The measured temperatures ranged from 10.6 °C to 19.2 °C and varied with season and location. During the dry season (Summer) at one monitoring location the 7-day mean temperature threshold for steelhead was exceeded. LIO080 exceeded the 7 day mean with a temperature of 18.0 °C in August 2004. In total, the 17 °C criterion was exceeded in 1 out of 7 deployments.

Data Reference: [Data collected by the Surface Water Ambient Monitoring Program, San Francisco Bay Regional Water Quality Control Board, Years 4 and 5 Assessment](#)

SWAMP Data: SWAMP

Water Quality Objective/Criterion: Temperature objectives for enclosed bays and estuaries are specified in the "Water Quality Control Plan for Control of Temperature in the Coastal and Interstate Waters and Enclosed Bays of California" including any revisions to the plan. In addition, the following temperature objectives apply to surface waters: The natural receiving water temperature of intrastate waters shall not be altered unless it can be demonstrated to the satisfaction of the Regional Board that such an alteration does not adversely affect beneficial uses. The temperature of any cold or warm freshwater habitat shall not be increased by more than 5°F (2.8°C) above natural receiving water temperature.

Objective/Criterion Reference: [Water Quality Control Plan \(Basin Plan\) - San Francisco Bay Region \(Region 2\)](#)

Evaluation Guideline: Sullivan et al. (2000) reviewed a wide range of studies incorporating information from laboratory-based research, field observations, and risk assessment approaches and developed criteria for assessing temperature risk to aquatic life. The 7-day mean temperature (maximum value of a 7-day moving average of the daily mean temperature)

of 14.8°C was established as the upper threshold criterion for coho salmon and 17.0°C for steelhead trout. The risk assessment approach used by Sullivan et al. (2000) suggests that temperatures exceeding the above thresholds will cause a 10% reduction in average growth compared to optimal conditions.

Guideline Reference:

[An Analysis of the Effects of Temperature on Salmonids of the Pacific Northwest with Implications for Selecting Temperature Criteria](#)

Spatial Representation:

Temperature was measured at three sites (LIO080 Mills College at Alumni House, LIO090 Mills College above Aliso and LIO130 Horseshoe Creek Tributary). The highest temperatures of 19.2 °C was recorded in May 2004 on LIO080.

Temporal Representation:

In 2004 and 2005 the SWAMP Program performed continuous monitoring of temperature at 15 minute intervals for periods of 1 week in each of three different seasons: summer (2 sites in August 2004), spring (2 sites in May 2004), and winter (3 sites in February 2005).

Environmental Conditions:

QAPP Information:

All samples were collected and analyzed using procedures comparable with the SWAMP Quality Assurance Management Plan (SWRCB 2002).

QAPP Information Reference(s):

Draft California 2016 Integrated Report (303(d) List/305(b) Report)

Supporting Information

Regional Board 2 - San Francisco Bay Region

Water Body Name: San Mateo Creek, Lower
Water Body ID: CAR2044003320090202015405
Water Body Type: River & Stream

DECISION ID 66136 **Region 2**
San Mateo Creek, Lower

Pollutant: Anthracene
Final Listing Decision: Do Not List on 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision: New Decision
Revision Status Revised
Impairment from Pollutant or Pollution: Pollutant

Regional Board Staff Conclusion: This pollutant is being considered for placement on the CWA section 303(d) List under section 3.1 of the Listing Policy. Under section 3.1 a single line(s) of evidence are necessary to assess listing status.

One lines of evidence are available in the administrative record to assess this pollutant. Zero of the one samples exceed the objective for Anthracene.

Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against placing this water segment-pollutant combination on the CWA section 303(d) List.

This conclusion is based on the staff findings that:

1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy.
2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy.
3. Zero of one samples exceeded the objective for Anthracene and this sample size is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating. A minimum of 16 samples is needed to determine if a beneficial use is fully supported using table 3.1.
4. Pursuant to SECTION 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.

Regional Board Staff Decision Recommendation: After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be placed on the section 303(d) list. The readily available data and information is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating.

Line of Evidence (LOE) for Decision ID 66136, Anthracene **Region 2**
San Mateo Creek, Lower

LOE ID: 93102
Pollutant: Anthracene
LOE Subgroup: Pollutant-Sediment
Matrix: Sediment
Fraction: Total
Beneficial Use: Cold Freshwater Habitat

Number of Samples:	1
Number of Exceedances:	0
Data and Information Type:	PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality:	Water Board staff assessed SWAMP data for San Mateo Creek, Lower to determine beneficial use support and results are as follows: 0 of 1 samples exceed the criterion for Anthracene.
Data Reference:	Statewide Stream Pollution Trends Study 2008
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	San Francisco Bay Basin Water Quality Control Plan 2007: All waters shall be maintained free of toxic substances in concentrations which are toxic to, or which produce detrimental physiological responses in, human, plant, animal, or aquatic life.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	In freshwater sediments the probable effect concentration (predictive of sediment toxicity for sediment-dwelling organisms) for anthracene is 845 ug/Kg dry weight (MacDonald et al. 2000).
Guideline Reference:	Development and evaluation of consensus-based sediment quality guidelines for freshwater ecosystems. Environmental Contamination and Toxicology. 39: 20-31
Spatial Representation:	Data for this line of evidence for San Mateo Creek, Lower was collected at 1 monitoring site [San Mateo Creek at Gateway Park station (204SMA020)]
Temporal Representation:	Data was collected on a single day 6/18/2008.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	SWAMP data collected before September 2008 followed the QAMP (2002), however there may have been overlap in QA with SWAMP QAPP (2008).
QAPP Information Reference(s):	Quality Assurance Management Plan for the State of California's Surface Water Ambient Monitoring Program. Sacramento, CA. State Water Resources Control Board. SWAMP. December 2002 (1st version) Surface Water Ambient Monitoring Program Quality Assurance Program Plan

DECISION ID	66137	Region 2
San Mateo Creek, Lower		

Pollutant:	Arsenic
Final Listing Decision:	Do Not List on 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision:	New Decision
Revision Status	Revised
Impairment from Pollutant or Pollution:	Pollutant
Regional Board Staff Conclusion:	<p>This pollutant is being considered for placement on the CWA section 303(d) List under section 3.6 of the Listing Policy. Under section 3.6 a single line(s) of evidence are necessary to assess listing status.</p> <p>One lines of evidence are available in the administrative record to assess this pollutant. Zero of the one samples exceed the objective for arsenic.</p> <p>Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against placing this water segment-pollutant combination on the CWA section 303(d) List.</p> <p>This conclusion is based on the staff findings that:</p> <ol style="list-style-type: none"> 1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy. 2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy. 3. Zero of one samples exceeded the objective for arsenic and this sample size is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support

rating. A minimum of 16 samples is needed to determine if a beneficial use is fully supported using table 3.1.

4. Pursuant to SECTION 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.

Regional Board Staff Decision Recommendation: After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be placed on the section 303(d) list. The readily available data and information is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating.

Line of Evidence (LOE) for Decision ID 66137, Arsenic

Region 2

San Mateo Creek, Lower

LOE ID:	93103
Pollutant:	Arsenic
LOE Subgroup:	Pollutant-Sediment
Matrix:	Sediment
Fraction:	Total
Beneficial Use:	Cold Freshwater Habitat
Number of Samples:	1
Number of Exceedances:	0
Data and Information Type:	PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality:	Water Board staff assessed SWAMP data for San Mateo Creek, Lower to determine beneficial use support and results are as follows: 0 of 1 samples exceed the criterion for Arsenic.
Data Reference:	Statewide Stream Pollution Trends Study 2008
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	San Francisco Bay Basin Water Quality Control Plan 2007: All waters shall be maintained free of toxic substances in concentrations which are toxic to, or which produce detrimental physiological responses in, human, plant, animal, or aquatic life.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	In freshwater sediments the probable effect concentration (predictive of sediment toxicity for sediment-dwelling organisms) for arsenic is 33 mg/Kg dry weight (MacDonald et al. 2000).
Guideline Reference:	Development and evaluation of consensus-based sediment quality guidelines for freshwater ecosystems. Environmental Contamination and Toxicology. 39: 20-31
Spatial Representation:	Data for this line of evidence for San Mateo Creek, Lower was collected at 1 monitoring site [San Mateo Creek at Gateway Park station (204SMA020)]
Temporal Representation:	Data was collected on a single day 6/18/2008.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	SWAMP data collected before September 2008 followed the QAMP (2002), however there may have been overlap in QA with SWAMP QAPP (2008).
QAPP Information Reference(s):	Quality Assurance Management Plan for the State of California's Surface Water Ambient Monitoring Program. Sacramento, CA. State Water Resources Control Board. SWAMP. December 2002 (1st version) Surface Water Ambient Monitoring Program Quality Assurance Program Plan

DECISION ID

66138

Region 2

San Mateo Creek, Lower

Pollutant:

Benzo(a)anthracene

Final Listing Decision:
Last Listing Cycle's Final Listing Decision:
Revision Status
Impairment from Pollutant or Pollution:

Do Not List on 303(d) list (TMDL required list)
New Decision

Revised
Pollutant

Regional Board Staff Conclusion:

This pollutant is being considered for placement on the CWA section 303(d) List under section 3.6 of the Listing Policy. Under section 3.6 a single line(s) of evidence are necessary to assess listing status.

One lines of evidence are available in the administrative record to assess this pollutant. Zero of the one samples exceed the objective for Benzo(a)anthracene.

Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against placing this water segment-pollutant combination on the CWA section 303(d) List.

This conclusion is based on the staff findings that:

1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy.
2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy.
3. Zero of one samples exceeded the objective for Benzo(a)anthracene and this sample size is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating. A minimum of 16 samples is needed to determine if a beneficial use is fully supported using table 3.1.
4. Pursuant to SECTION 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.

Regional Board Staff Decision Recommendation:

After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be placed on the section 303(d) list. The readily available data and information is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating.

Line of Evidence (LOE) for Decision ID 66138, Benzo(a)anthracene
San Mateo Creek, Lower

Region 2

LOE ID: 93104

Pollutant: Benzo(a)anthracene
LOE Subgroup: Pollutant-Sediment
Matrix: Sediment
Fraction: Total

Beneficial Use: Cold Freshwater Habitat

Number of Samples: 1
Number of Exceedances: 0

Data and Information Type: PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality: Water Board staff assessed SWAMP data for San Mateo Creek, Lower to determine beneficial use support and results are as follows: 0 of 1 samples exceed the criterion for Benzo(a)anthracene.

Data Reference: [Statewide Stream Pollution Trends Study 2008](#)

SWAMP Data: SWAMP

Water Quality Objective/Criterion: San Francisco Bay Basin Water Quality Control Plan 2007: All waters shall be maintained free of toxic substances in concentrations which are toxic to, or which produce detrimental physiological responses in, human, plant, animal, or aquatic life.

Objective/Criterion Reference: [Water Quality Control Plan \(Basin Plan\) San Francisco Bay Basin \(Region 2\)](#)

Evaluation Guideline:	In freshwater sediments the probable effect concentration (predictive of sediment toxicity for sediment-dwelling organisms) for Benzo(a)anthracene is 1050 ug/Kg dry weight (MacDonald et al. 2000).
Guideline Reference:	Development and evaluation of consensus-based sediment quality guidelines for freshwater ecosystems. Environmental Contamination and Toxicology. 39: 20-31
Spatial Representation:	Data for this line of evidence for San Mateo Creek, Lower was collected at 1 monitoring site [San Mateo Creek at Gateway Park station (204SMA020)]
Temporal Representation:	Data was collected on a single day 6/18/2008.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	SWAMP data collected before September 2008 followed the QAMP (2002), however there may have been overlap in QA with SWAMP QAPP (2008).
QAPP Information Reference(s):	Quality Assurance Management Plan for the State of California's Surface Water Ambient Monitoring Program. Sacramento, CA. State Water Resources Control Board. SWAMP. December 2002 (1st version) Surface Water Ambient Monitoring Program Quality Assurance Program Plan

DECISION ID	66139	Region 2
San Mateo Creek, Lower		
Pollutant:	Benzo(a)pyrene (3,4-Benzopyrene -7-d)	
Final Listing Decision:	Do Not List on 303(d) list (TMDL required list)	
Last Listing Cycle's Final Listing Decision:	New Decision	
Revision Status	Revised	
Impairment from Pollutant or Pollution:	Pollutant	
Regional Board Staff Conclusion:	<p>This pollutant is being considered for placement on the CWA section 303(d) List under section 3.6 of the Listing Policy. Under section 3.6 a single line(s) of evidence are necessary to assess listing status.</p> <p>One lines of evidence are available in the administrative record to assess this pollutant. Zero of the one samples exceed the objective for Benzo(a)pyrene (3,4-Benzopyrene -7-d).</p> <p>Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against placing this water segment-pollutant combination on the CWA section 303(d) List.</p> <p>This conclusion is based on the staff findings that:</p> <ol style="list-style-type: none"> 1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy. 2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy. 3. Zero of one samples exceeded the objective for Benzo(a)pyrene (3,4-Benzopyrene -7-d) and this sample size is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating. A minimum of 16 samples is needed to determine if a beneficial use is fully supported using table 3.1. 4. Pursuant to SECTION 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met. 	
Regional Board Staff Decision Recommendation:	After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be placed on the section 303(d) list. The readily available data and information is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating.	

Line of Evidence (LOE) for Decision ID 66139, Benzo(a)pyrene (3,4-Benzopyrene -7-d)	Region 2
San Mateo Creek, Lower	

LOE ID: 93105

Pollutant:	Benzo(a)pyrene (3,4-Benzopyrene -7-d)
LOE Subgroup:	Pollutant-Sediment
Matrix:	Sediment
Fraction:	Total
Beneficial Use:	Cold Freshwater Habitat
Number of Samples:	1
Number of Exceedances:	0
Data and Information Type:	PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality:	Water Board staff assessed SWAMP data for San Mateo Creek, Lower to determine beneficial use support and results are as follows: 0 of 1 samples exceed the criterion for Benzo(a)pyrene.
Data Reference:	Statewide Stream Pollution Trends Study 2008
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	San Francisco Bay Basin Water Quality Control Plan 2007: All waters shall be maintained free of toxic substances in concentrations which are toxic to, or which produce detrimental physiological responses in, human, plant, animal, or aquatic life.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	In freshwater sediments the probable effects level (predictive of sediment toxicity for sediment-dwelling organisms) for Benzo(a)Pyrene is 1450 ug/Kg dry weight (Macdonald et al. 2000)
Guideline Reference:	Development and evaluation of consensus-based sediment quality guidelines for freshwater ecosystems. Environmental Contamination and Toxicology. 39: 20-31
Spatial Representation:	Data for this line of evidence for San Mateo Creek, Lower was collected at 1 monitoring site [San Mateo Creek at Gateway Park station (204SMA020)]
Temporal Representation:	Data was collected on a single day 6/18/2008.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	SWAMP data collected before September 2008 followed the QAMP (2002), however there may have been overlap in QA with SWAMP QAPP (2008).
QAPP Information Reference(s):	Quality Assurance Management Plan for the State of California's Surface Water Ambient Monitoring Program. Sacramento, CA. State Water Resources Control Board. SWAMP. December 2002 (1st version). Surface Water Ambient Monitoring Program Quality Assurance Program Plan

DECISION ID	66140	Region 2
San Mateo Creek, Lower		
Pollutant:	Bifenthrin	
Final Listing Decision:	Do Not List on 303(d) list (TMDL required list)	
Last Listing Cycle's Final Listing Decision:	New Decision	
Revision Status	Revised	
Impairment from Pollutant or Pollution:	Pollutant	
Regional Board Staff Conclusion:	<p>This pollutant is being considered for placement on the CWA section 303(d) List under section 3.6 of the Listing Policy. Under section 3.6 a single line(s) of evidence are necessary to assess listing status.</p> <p>One lines of evidence are available in the administrative record to assess this pollutant. Zero of the one samples exceed the objective for Bifenthrin.</p> <p>Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against placing this water segment-pollutant combination on the CWA section 303(d) List.</p>	

This conclusion is based on the staff findings that:

1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy.
2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy.
3. Zero of one samples exceeded the objective for Bifenthrin and this sample size is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating. A minimum of 16 samples is needed to determine if a beneficial use is fully supported using table 3.2.
4. Pursuant to SECTION 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.

Regional Board Staff Decision Recommendation: After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be placed on the section 303(d) list. The readily available data and information is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating.

**Line of Evidence (LOE) for Decision ID 66140, Bifenthrin
San Mateo Creek, Lower**

Region 2

LOE ID:	93106
Pollutant:	Bifenthrin
LOE Subgroup:	Pollutant-Sediment
Matrix:	Sediment
Fraction:	Total
Beneficial Use:	Cold Freshwater Habitat
Number of Samples:	1
Number of Exceedances:	0
Data and Information Type:	PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality:	Water Board staff assessed SWAMP data for San Mateo Creek, Lower to determine beneficial use support and results are as follows: 0 of 1 samples exceed the criterion for Bifenthrin.
Data Reference:	Statewide Stream Pollution Trends Study 2008
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	San Francisco Bay Basin Water Quality Control Plan 2007: All waters shall be maintained free of toxic substances in concentrations which are toxic to, or which produce detrimental physiological responses in, human, plant, animal, or aquatic life.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	The evaluation guideline for bifenthrin is the median lethal concentration (LC50) of 0.43 ug/g and is normalized by the percentage of organic carbon in the sediment sample. The LC50 0.43 ug/g is the geometric mean of LC50 values for bifenthrin from Amweg et al. (2005) and Amweg and Weston (2007).
Guideline Reference:	Use and Toxicity of Pyrethroid Pesticides in the Central Valley, California, USA. Environmental Toxicology and Chemistry, 24:966-972, with erratum 24:No. 5 Whole-sediment toxicity identification evaluation tools for pyrethroid insecticides: I. piperonyl butoxide addition. Environ. Toxicol. Chem. 26:2389-2396.
Spatial Representation:	Data for this line of evidence for San Mateo Creek, Lower was collected at 1 monitoring site [San Mateo Creek at Gateway Park station (204SMA020)]
Temporal Representation:	Data was collected on a single day 6/18/2008.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	SWAMP data collected before September 2008 followed the QAMP (2002), however there may have been overlap in QA with SWAMP QAPP (2008).
QAPP Information Reference(s):	Quality Assurance Management Plan for the State of California's Surface Water Ambient Monitoring Program. Sacramento, CA. State Water Resources Control Board. SWAMP.

DECISION ID	66142	Region 2
San Mateo Creek, Lower		

Pollutant:	Cadmium
Final Listing Decision:	Do Not List on 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision:	New Decision
Revision Status	Revised
Impairment from Pollutant or Pollution:	Pollutant

Regional Board Staff Conclusion: This pollutant is being considered for placement on the CWA section 303(d) List under section 3.1 of the Listing Policy. Under section 3.1 a single line(s) of evidence are necessary to assess listing status.

One lines of evidence are available in the administrative record to assess this pollutant. Zero] of the one samples exceed the objective for Cadmium.

Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against placing this water segment-pollutant combination on the CWA section 303(d) List.

This conclusion is based on the staff findings that:

1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy.
2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy.
3. Zero of one samples exceeded the objective for Cadmium and this sample size is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating. A minimum of 16 samples is needed to determine if a beneficial use is fully supported using table 3.1.
4. Pursuant to SECTION 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.

Regional Board Staff Decision Recommendation: After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be placed on the section 303(d) list. The readily available data and information is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating.

Line of Evidence (LOE) for Decision ID 66142, Cadmium	Region 2
San Mateo Creek, Lower	

LOE ID:	93107
Pollutant:	Cadmium
LOE Subgroup:	Pollutant-Sediment
Matrix:	Sediment
Fraction:	Total
Beneficial Use:	Cold Freshwater Habitat
Number of Samples:	1
Number of Exceedances:	0
Data and Information Type:	PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality:	Water Board staff assessed SWAMP data for San Mateo Creek, Lower to determine beneficial use support and results are as follows: 0 of 1 samples exceed the criterion for Cadmium.

Data Reference:	Statewide Stream Pollution Trends Study 2008
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	San Francisco Bay Basin Water Quality Control Plan 2007: All waters shall be maintained free of toxic substances in concentrations which are toxic to, or which produce detrimental physiological responses in, human, plant, animal, or aquatic life.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	In freshwater sediments the probable effect concentration (predictive of sediment toxicity for sediment-dwelling organisms) for cadmium is 4.98 mg/Kg dry weight (MacDonald et al. 2000).
Guideline Reference:	Development and evaluation of consensus-based sediment quality guidelines for freshwater ecosystems. Environmental Contamination and Toxicology. 39: 20-31
Spatial Representation:	Data for this line of evidence for San Mateo Creek, Lower was collected at 1 monitoring site [San Mateo Creek at Gateway Park station (204SMA020)]
Temporal Representation:	Data was collected on a single day 6/18/2008.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	SWAMP data collected before September 2008 followed the QAMP (2002), however there may have been overlap in QA with SWAMP QAPP (2008).
QAPP Information Reference(s):	Quality Assurance Management Plan for the State of California's Surface Water Ambient Monitoring Program. Sacramento, CA. State Water Resources Control Board. SWAMP. December 2002 (1st version) Surface Water Ambient Monitoring Program Quality Assurance Program Plan

DECISION ID	66143	Region 2
San Mateo Creek, Lower		

Pollutant:	Chlordane
Final Listing Decision:	Do Not List on 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision:	New Decision
Revision Status	Revised
Impairment from Pollutant or Pollution:	Pollutant
Regional Board Staff Conclusion:	<p>This pollutant is being considered for placement on the CWA section 303(d) List under section 3.1 of the Listing Policy. Under section 3.1 a single line(s) of evidence are necessary to assess listing status.</p> <p>One lines of evidence are available in the administrative record to assess this pollutant. One of the one samples exceed the objective for Chlordane.</p> <p>Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against placing this water segment-pollutant combination on the CWA section 303(d) List.</p> <p>This conclusion is based on the staff findings that:</p> <ol style="list-style-type: none"> 1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy. 2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy. 3. One of one samples exceeded the objective for Chlordane and this sample size is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating. A minimum of 16 samples is needed to determine if a beneficial use is fully supported using table 3.1. 4. Pursuant to SECTION 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.
Regional Board Staff Decision Recommendation:	After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be placed on the section 303(d) list. The readily available data and information is insufficient to determine, with the power and confidence of the Listing Policy, the

Line of Evidence (LOE) for Decision ID 66143, Chlordane**Region 2****San Mateo Creek, Lower**

LOE ID:	90714
Pollutant:	Chlordane
LOE Subgroup:	Pollutant-Sediment
Matrix:	Sediment
Fraction:	Total
Beneficial Use:	Cold Freshwater Habitat
Number of Samples:	1
Number of Exceedances:	1
Data and Information Type:	PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality:	1 of 1 samples collected exceeded the criteria for chlordane concentration (Sum of trans-Chlordane, cis-Chlordane, cis-Nonachlor, trans-Nonachlor, and Oxychlordane).
Data Reference:	Statewide Stream Pollution Trends Study 2008
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	All waters shall be maintained free of toxic substances in concentrations that are lethal to or that produce other detrimental responses in aquatic organisms. Waters shall not contain substances in concentrations that result in the deposition of material that causes nuisance or adversely affects beneficial uses. (Water Quality Control Plan for the San Francisco Bay Basin).
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) - San Francisco Bay Region (Region 2)
Evaluation Guideline:	The Probable Effect Concentration for Chlordane in freshwater sediments is 17.6 ug/kg(MacDonald et al. 2000).
Guideline Reference:	Development and evaluation of consensus-based sediment quality guidelines for freshwater ecosystems. Environmental Contamination and Toxicology. 39: 20-31
Spatial Representation:	Data were collected at the following station 204SMA020 (San Mateo Creek at Gateway Park).
Temporal Representation:	The samples were collected on 6/18/2008.
Environmental Conditions:	
QAPP Information:	The SWAMP QAPP (2008) was followed.
QAPP Information Reference(s):	Surface Water Ambient Monitoring Program Quality Assurance Program Plan

DECISION ID**44032****Region 2****San Mateo Creek, Lower**

Pollutant:	Chlorpyrifos
Final Listing Decision:	Do Not List on 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision:	Do Not List on 303(d) list (TMDL required list)(2012)
Revision Status	Revised
Impairment from Pollutant or Pollution:	Pollutant

Regional Board Staff Conclusion:

This pollutant is being considered for placement on the CWA section 303(d) List under section 3.1 of the Listing Policy. Under section 3.1 a single line of evidence is necessary to assess listing status. Two lines of evidence are available in the administrative record to assess this pollutant. One of three samples exceed the guideline.

Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against placing this water segment-pollutant combination on the CWA section 303(d) List.

This conclusion is based on the staff findings that:

1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy.
2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy.
3. One of three samples exceed the guideline and this sample size is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating. A minimum of 16 samples is needed to determine if a beneficial use is fully supported using table 3.1.
4. Pursuant to SECTION 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.

Regional Board Staff Decision Recommendation: After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be placed on the section 303(d) list because applicable water quality standards are not being exceeded.

Line of Evidence (LOE) for Decision ID 44032, Chlorpyrifos

Region 2

San Mateo Creek, Lower

LOE ID:	29025
Pollutant:	Chlorpyrifos
LOE Subgroup:	Pollutant-Water
Matrix:	Water
Fraction:	None
Beneficial Use:	Warm Freshwater Habitat
Number of Samples:	3
Number of Exceedances:	1
Data and Information Type:	PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality:	The San Mateo Creek watershed was monitored as part of SWAMP assessment. One of the three samples exceeded the water quality objective for chlorpyrifos with a sample concentration of 0.0751 ug/L.
Data Reference:	Water Quality Monitoring and Bioassessment in Four San Francisco Bay Region Watersheds in 2003-2004: Kirker Creek, Mt. Diablo Creek, Petaluma River, and San Mateo Creek. Surface Water Monitoring Program, San Francisco Bay Regional Water Quality Control Board, Oakland. CA
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	All waters shall be maintained free of toxic substances that are lethal to or that produce other detrimental responses in aquatic organisms. Table 3-4 in the Basin Plan (2007) lists freshwater water quality objectives for toxic pollutants: Chlorpyrifos - 0.015 ug/L (chronic).
Objective/Criterion Reference:	Water Quality Standards 2000. Establishment of numeric criteria for priority toxic pollutants for the State of California: Rules and regulations. Federal Register Vol. 65, No. 97. Washington, D.C.: Environmental Protection Agency Water Quality Control Plan (Basin Plan) - San Francisco Bay Region (Region 2) Water Quality Control Plan for the California Regional Water Quality Control Board Central Valley Region, Sacramento and San Joaquin River Basins. 4th ed Hazard Assessment of the Insecticide Methyl Parathion to Aquatic Organisms in the Sacramento River System. California Department of Fish and Game. Environmental Services Division. Administrative Report 92-1 Hazard Assessment of the Rice Herbicides Molinate and Thiobencarb to Aquatic Organisms in the Sacramento River System. Administrative Report 90-1. California Department of Fish and Game. Environmental Services Division
Evaluation Guideline:	

Guideline Reference:

Spatial Representation:

Temporal Representation:

Environmental Conditions:

QAPP Information:

QAPP Information Reference(s):

Data were collected at one sampling location: SMA020 (Gateway Park).

Samples were collected during winter (January), spring (April), and dry (June) seasons of 2003.

All samples were collected and analyzed using procedures comparable with the SWAMP Quality Assurance Management Plan (SWRCB, 2002).

[Quality Assurance Management Plan for the State of California's Surface Water Ambient Monitoring Program. Sacramento, CA. State Water Resources Control Board. SWAMP. December 2002 \(1st version\)](#)

Line of Evidence (LOE) for Decision ID 44032, Chlorpyrifos

Region 2

San Mateo Creek, Lower

LOE ID: 93108

Pollutant: Chlorpyrifos

LOE Subgroup: Pollutant-Sediment

Matrix: Sediment

Fraction: Total

Beneficial Use: Cold Freshwater Habitat

Number of Samples: 1

Number of Exceedances: 0

Data and Information Type:

Data Used to Assess Water Quality:

PHYSICAL/CHEMICAL MONITORING

Water Board staff assessed SWAMP data for San Mateo Creek, Lower to determine beneficial use support and results are as follows: 0 of 1 samples exceed the criterion for Chlorpyrifos.

Data Reference:

[Statewide Stream Pollution Trends Study 2008](#)

SWAMP Data:

SWAMP

Water Quality Objective/Criterion:

San Francisco Bay Basin Water Quality Control Plan 2007: All waters shall be maintained free of toxic substances in concentrations which are toxic to, or which produce detrimental physiological responses in, human, plant, animal, or aquatic life.

Objective/Criterion Reference:

[Water Quality Control Plan \(Basin Plan\) San Francisco Bay Basin \(Region 2\)](#)

Evaluation Guideline:

The evaluation guideline for chlorpyrifos is the median lethal concentration (LC50) of 1.77 ug/g and is normalized by the percentage of organic carbon in the sediment sample (Amweg and Weston, 2007).

Guideline Reference:

[Whole-sediment toxicity identification evaluation tools for pyrethroid insecticides: I. piperonyl butoxide addition. Environ. Toxicol. Chem. 26:2389-2396.](#)

Spatial Representation:

Data for this line of evidence for San Mateo Creek, Lower was collected at 1 monitoring site [San Mateo Creek at Gateway Park station (204SMA020)]

Temporal Representation:

Data was collected on a single day 6/18/2008.

Environmental Conditions:

Staff is not aware of any special conditions that might affect interpretation of the data.

QAPP Information:

SWAMP data collected before September 2008 followed the QAMP (2002), however there may have been overlap in QA with SWAMP QAPP (2008).

QAPP Information Reference(s):

[Quality Assurance Management Plan for the State of California's Surface Water Ambient Monitoring Program. Sacramento, CA. State Water Resources Control Board. SWAMP. December 2002 \(1st version\)](#)
[Surface Water Ambient Monitoring Program Quality Assurance Program Plan](#)

DECISION ID

44033

Region 2

San Mateo Creek, Lower

Pollutant:	Chromium
Final Listing Decision:	Do Not List on 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision:	Do Not List on 303(d) list (TMDL required list)(2012)
Revision Status	Revised
Impairment from Pollutant or Pollution:	Pollutant

Regional Board Staff Conclusion: This pollutant is being considered for placement on the CWA section 303(d) List under sections 3.1 and 3.6 of the Listing Policy. Under section 3.6 at least two lines of evidence are necessary to assess listing status for pollutants sediment, and pollutant concentrations in sediment must be associated with sediment toxicity to justify adding that pollutant to the CWA section 303(d) List.

2 lines of evidence are available in the administrative record to assess this pollutant. 2 of the 2 samples exceed the sediment chemistry guideline. 6 of 6 samples exhibited sediment toxicity guideline. However, only one of the sediment chemistry exceedances has a corresponding toxicity exceedance, and the waterbody is already listed for toxicity.

Based on the readily available data and information, the weight of evidence indicates that there is not sufficient justification for placing this water segment-pollutant combination on the CWA section 303(d) List for this pollutant.

This conclusion is based on the staff findings that:

1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy.
2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy.
3. 2 of the 2 samples exceed the sediment chemistry evaluation guideline. There is associated sediment toxicity data with only one of the sediment chemistry exceedances as required by Section 3.6 of the Listing Policy and this sample size is not to determine beneficial use support, with the power and confidence of the Listing Policy..
4. Pursuant to section 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.

Regional Board Staff Decision Recommendation: After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be placed on the section 303(d) list. The readily available data and information is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating.

Line of Evidence (LOE) for Decision ID 44033, Chromium San Mateo Creek, Lower

Region 2

LOE ID:	28767
Pollutant:	Chromium (total)
LOE Subgroup:	Pollutant-Sediment
Matrix:	Sediment
Fraction:	Total
Beneficial Use:	Cold Freshwater Habitat
Number of Samples:	1
Number of Exceedances:	1
Data and Information Type:	PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality:	Chromium exceeded the PEC level with a sample concentration of 183 mg/kg dw in one sediment sample collected in spring 2003 (sediment quality guidelines).
Data Reference:	Water Quality Monitoring and Bioassessment in Four San Francisco Bay Region Watersheds in 2003-2004: Kirker Creek, Mt. Diablo Creek, Petaluma River, and San Mateo Creek. Surface Water Monitoring Program, San Francisco Bay Regional Water Quality Control Board, Oakland, CA
SWAMP Data:	Non-SWAMP

Water Quality Objective/Criterion:	All waters shall be maintained free of toxic substances that are lethal to or that produce other detrimental responses in aquatic organisms.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) - San Francisco Bay Region (Region 2)
Evaluation Guideline:	Sediment Quality Guidelines (MacDonald et al., 2000): PEC (probable effect concentration) chromium - 111 mg/kg dw.
Guideline Reference:	Development and evaluation of consensus-based sediment quality guidelines for freshwater ecosystems. Environmental Contamination and Toxicology. 39: 20-31
Spatial Representation:	One sediment sample was collected at a "watershed integrator" site located close to the mouth of San Mateo Creek.
Temporal Representation:	Sediment sample was collected in April of 2003.
Environmental Conditions:	
QAPP Information:	All samples were collected and analyzed using procedures comparable with the SWAMP Quality Assurance Management Plan (SWRCB, 2002).
QAPP Information Reference(s):	

Line of Evidence (LOE) for Decision ID 44033, Chromium

Region 2

San Mateo Creek, Lower

LOE ID:	93109
Pollutant:	Chromium
LOE Subgroup:	Pollutant-Sediment
Matrix:	Sediment
Fraction:	Total
Beneficial Use:	Cold Freshwater Habitat
Number of Samples:	1
Number of Exceedances:	1
Data and Information Type:	PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality:	Water Board staff assessed SWAMP data for San Mateo Creek, Lower to determine beneficial use support and results are as follows: 1 of 1 samples exceed the criterion for Chromium.
Data Reference:	Statewide Stream Pollution Trends Study 2008
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	San Francisco Bay Basin Water Quality Control Plan 2007: All waters shall be maintained free of toxic substances in concentrations which are toxic to, or which produce detrimental physiological responses in, human, plant, animal, or aquatic life.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	In freshwater sediments the probable effect concentration (predictive of sediment toxicity for sediment-dwelling organisms) for chromium is 111 mg/Kg dry weight (MacDonald et al. 2000).
Guideline Reference:	Development and evaluation of consensus-based sediment quality guidelines for freshwater ecosystems. Environmental Contamination and Toxicology. 39: 20-31
Spatial Representation:	Data for this line of evidence for San Mateo Creek, Lower was collected at 1 monitoring site [San Mateo Creek at Gateway Park station (204SMA020)]
Temporal Representation:	Data was collected on a single day 6/18/2008.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	SWAMP data collected before September 2008 followed the QAMP (2002), however there may have been overlap in QA with SWAMP QAPP (2008).
QAPP Information Reference(s):	Quality Assurance Management Plan for the State of California's Surface Water Ambient Monitoring Program. Sacramento, CA. State Water Resources Control Board. SWAMP. December 2002 (1st version) Surface Water Ambient Monitoring Program Quality Assurance Program Plan

Line of Evidence (LOE) for Decision ID 44033, Chromium
San Mateo Creek, Lower

Region 2

LOE ID:	93100
Pollutant:	Toxicity
LOE Subgroup:	Toxicity
Matrix:	Sediment
Fraction:	None
Beneficial Use:	Cold Freshwater Habitat
Number of Samples:	1
Number of Exceedances:	1
Data and Information Type:	TOXICITY TESTING
Data Used to Assess Water Quality:	One sample was collected to evaluate sediment toxicity. The sample exhibited significant toxicity. The toxicity test included survival and growth of <i>Hyalella azteca</i> . One sample can have multiple toxicity test results but will be counted only once. One sample is defined as being collected on the same day at the same location with the same lab sample id (if provided).
Data Reference:	Statewide Stream Pollution Trends Study 2008
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	All waters shall be maintained free of toxic substances in concentrations that are toxic to, or that produce detrimental physiological responses in, human, plant, animal, or aquatic life. Region 2 Basin Plan.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) - San Francisco Bay Region (Region 2)
Evaluation Guideline:	Toxicity is defined as a statistically significant effect in the sample exposure compared to the control using EPA-recommended hypothesis testing. . For SWAMP data exceedances are counted with the significant effect code SL. SL is defined as the result being significant compared to the negative control based on a statistical test, less than stated the alpha level, AND less than the evaluation threshold.
Guideline Reference:	Methods for Measuring the Toxicity and Bioaccumulation of Sediment-associated Contaminants with Freshwater Invertebrates, Second Edition. U.S. Environmental Protection Agency Office of Research and Development, Duluth, MI . U.S. Environmental Protection Agency Office of Water, Washington, DC EPA-600/R-99/064
Spatial Representation:	The sample was collected at station 204SMA020.
Temporal Representation:	The sample was collected in June 2008.
Environmental Conditions:	
QAPP Information:	All data was collected following the Standard Operating Procedures and Data Quality Objectives outlined in the SWAMP QAPP, (Puckett, 2002). QA data are included in submission.
QAPP Information Reference(s):	

Line of Evidence (LOE) for Decision ID 44033, Chromium
San Mateo Creek, Lower

Region 2

LOE ID:	26766
Pollutant:	Sediment Toxicity
LOE Subgroup:	Toxicity
Matrix:	Sediment
Fraction:	None
Beneficial Use:	Wildlife Habitat

Number of Samples:	4
Number of Exceedances:	4
Data and Information Type:	Toxicity testing of sediments
Data Used to Assess Water Quality:	Data used to evaluate sediment toxicity comprise four sediment samples collected as part of a PRISM grant (Lowe et al., 2007) in 2004-2005. All samples were toxic to both freshwater and estuarine amphipods during sampling events and exhibited the lowest per cent survival and highest contaminant concentrations compared to other six tributaries studied.
Data Reference:	Final Project Report: Investigations of Sources and Effects of Pyrethroid Pesticides in Watersheds of the San Francisco Bay Estuary. Proposition 13 PRISM Grant # 041355520. SFEI Contribution #523. San Francisco Estuary Institute, Oakland, CA Water Quality Monitoring and Bioassessment in Four San Francisco Bay Region Watersheds in 2003-2004: Kirker Creek, Mt. Diablo Creek, Petaluma River, and San Mateo Creek. Surface Water Monitoring Program, San Francisco Bay Regional Water Quality Control Board, Oakland, CA
SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	All waters shall be maintained free of toxic substances that are lethal to or that produce other detrimental responses in aquatic organisms. There shall be no chronic toxicity in ambient waters. Chronic toxicity is a detrimental biological effect on growth rate, reproduction, fertilization success, larval development, population abundance, community composition, or any other relevant measure of the health of an organism, population, or community.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) - San Francisco Bay Region (Region 2)
Evaluation Guideline:	Sediment toxicity data were evaluated according to the SWAMP methodology. Sample toxicity was determined by comparing mean organism response in samples and in negative controls. Statistical evaluation and a default threshold of 80% of the control value were used to establish whether the sediment exhibited significant toxicity adversely impacting aquatic organisms.
Guideline Reference:	Revised approach to toxicity test acceptability criteria using a statistical performance assessment. Environmental Toxicology and Chemistry, vol. 16, No. 6, pp 1322?1329
Spatial Representation:	Data were collected at a sampling location at the lower part of San Mateo Creek within tidal reach (2 samples) and at the upper location that at the time of sampling represented the freshwater part of the watershed (2 samples).
Temporal Representation:	Samples were collected during winter season of 2004 and late spring of 2005. The winter sampling (November 2004) occurred after the first rain of the season to capture the potential effects of dry season pesticide use. The late spring sampling (April 2005) coincided with the presumption of increased pesticide application in urban and agricultural areas.
Environmental Conditions:	Data are representative of the lower watershed downstream from Mud Dam with the monitoring site located in the densely urbanized areas.
QAPP Information:	Data were collected and analyzed using procedures comparable with the SWAMP Quality Assurance Management Plan (SWRCB 2002).
QAPP Information Reference(s):	

Line of Evidence (LOE) for Decision ID 44033, Chromium
San Mateo Creek, Lower

Region 2

LOE ID:	26765
Pollutant:	Sediment Toxicity
LOE Subgroup:	Toxicity
Matrix:	Sediment
Fraction:	None
Beneficial Use:	Wildlife Habitat
Number of Samples:	1

Number of Exceedances:	1
Data and Information Type:	Toxicity testing of sediments
Data Used to Assess Water Quality:	<p>Data used to evaluate sediment toxicity comprise one sediment sample collected by the SWAMP in 2003. The sample was toxic to Hyalella (survival was only 18% of control) in the bulk sediment toxicity test and chronic growth was also significantly affected (28.9% of control).</p> <p>Comprehensive water quality assessment was conducted at seven monitoring sites in the San Mateo Creek watershed as part of SWAMP assessment. The aim of the monitoring was to determine patterns of water quality, protection of beneficial uses and potential impacts of land use and water management. Sampled parameters included physical and biological indicators, conventional water quality, water metals and toxicity as well as sediment metals and toxicity.</p> <p>SWAMP sediment sample was collected at the tidally influenced urban segment of San Mateo Creek.</p>
Data Reference:	Water Quality Monitoring and Bioassessment in Four San Francisco Bay Region Watersheds in 2003-2004: Kirker Creek, Mt. Diablo Creek, Petaluma River, and San Mateo Creek. Surface Water Monitoring Program. San Francisco Bay Regional Water Quality Control Board, Oakland, CA
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	<p>All waters shall be maintained free of toxic substances that are lethal to or that produce other detrimental responses in aquatic organisms.</p> <p>There shall be no chronic toxicity in ambient waters. Chronic toxicity is a detrimental biological effect on growth rate, reproduction, fertilization success, larval development, population abundance, community composition, or any other relevant measure of the health of an organism, population, or community.</p>
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) - San Francisco Bay Region (Region 2)
Evaluation Guideline:	Sediment toxicity data were evaluated according to the SWAMP methodology. Sample toxicity was determined by comparing mean organism response in samples and in negative controls. Statistical evaluation and a default threshold of 80% of the control value were used to establish whether the sediment exhibited significant toxicity adversely impacting aquatic organisms.
Guideline Reference:	Revised approach to toxicity test acceptability criteria using a statistical performance assessment. Environmental Toxicology and Chemistry, vol. 16, No. 6, pp 1322?1329
Spatial Representation:	Data were collected at a sampling location at the lower part of San Mateo Creek within tidal reach.
Temporal Representation:	Sample was collected during spring season of 2003.
Environmental Conditions:	Data are representative of the lower watershed downstream from Mud Dam with the monitoring site located in the densely urbanized areas.
QAPP Information:	Data were collected and analyzed using procedures comparable with the SWAMP Quality Assurance Management Plan (SWRCB 2002).
QAPP Information Reference(s):	Quality Assurance Management Plan for the State of California's Surface Water Ambient Monitoring Program. Sacramento, CA. State Water Resources Control Board. SWAMP. December 2002 (1st version)

Line of Evidence (LOE) for Decision ID 44033, Chromium
San Mateo Creek, Lower

Region 2

LOE ID:	28854
Pollutant:	Arsenic Chromium (total) Copper Lead Nickel Silver Zinc
LOE Subgroup:	Pollutant-Water
Matrix:	Water
Fraction:	Dissolved
Beneficial Use:	Cold Freshwater Habitat
Number of Samples:	3

Number of Exceedances:	0
Data and Information Type:	PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality:	The San Mateo Creek watershed was monitored as part of SWAMP assessment. None of the three samples exceeded the water quality objectives for arsenic, chromium VI, copper, lead, nickel, silver and zinc. Concentrations of total dissolved chromium were well below the objective for chromium VI.
Data Reference:	Water Quality Monitoring and Bioassessment in Four San Francisco Bay Region Watersheds in 2003-2004: Kirker Creek, Mt. Diablo Creek, Petaluma River, and San Mateo Creek. Surface Water Monitoring Program, San Francisco Bay Regional Water Quality Control Board, Oakland, CA
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	All waters shall be maintained free of toxic substances that are lethal to or that produce other detrimental responses in aquatic organisms. Table 3-4 in the Basin Plan (2007) lists freshwater water quality objectives for toxic pollutants: arsenic- 150 ug/L, chromium VI- 11 ug/L, copper - 9.0 ug/L, lead - 2.5 ug/L; nickel - 52 ug/L, silver-3.4 ug/L and zinc - 120 ug/L.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) - San Francisco Bay Region (Region 2)
Evaluation Guideline:	
Guideline Reference:	
Spatial Representation:	Data were collected at one most downstream sampling location in San Mateo Creek - SMA020 (Gateway Park).
Temporal Representation:	Samples were collected locations during wet, spring and dry seasons of the 2003-2004 sampling season.
Environmental Conditions:	
QAPP Information:	All samples were collected and analyzed using procedures comparable with the SWAMP Quality Assurance Management Plan (SWRCB, 2002).
QAPP Information Reference(s):	Quality Assurance Management Plan for the State of California's Surface Water Ambient Monitoring Program. Sacramento, CA. State Water Resources Control Board. SWAMP. December 2002 (1st version)

DECISION ID	66144	Region 2
San Mateo Creek, Lower		
Pollutant:	Chrysene (C1-C4)	
Final Listing Decision:	Do Not List on 303(d) list (TMDL required list)	
Last Listing Cycle's Final Listing Decision:	New Decision	
Revision Status	Revised	
Impairment from Pollutant or Pollution:	Pollutant	
Regional Board Staff Conclusion:	<p>This pollutant is being considered for placement on the CWA section 303(d) List under section 3.6 of the Listing Policy. Under section 3.6 a single line(s) of evidence are necessary to assess listing status.</p> <p>One line of evidence are available in the administrative record to assess this pollutant. Zero of the one samples exceed the objective for Chrysene (C1-C4).</p> <p>Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against placing this water segment-pollutant combination on the CWA section 303(d) List.</p> <p>This conclusion is based on the staff findings that:</p> <ol style="list-style-type: none"> 1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy. 2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy. 	

3. Zero of one samples exceeded the objective for Chrysene (C1-C4) and this sample size is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating. A minimum of 16 samples is needed to determine if a beneficial use is fully supported using table 3.1.
4. Pursuant to SECTION 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.

Regional Board Staff Decision Recommendation: After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be placed on the section 303(d) list. The readily available data and information is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating.

Line of Evidence (LOE) for Decision ID 66144, Chrysene (C1-C4)
San Mateo Creek, Lower

Region 2

LOE ID:	93110
Pollutant:	Chrysene (C1-C4)
LOE Subgroup:	Pollutant-Sediment
Matrix:	Sediment
Fraction:	Total
Beneficial Use:	Cold Freshwater Habitat
Number of Samples:	1
Number of Exceedances:	0
Data and Information Type:	PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality:	Water Board staff assessed SWAMP data for San Mateo Creek, Lower to determine beneficial use support and results are as follows: 0 of 1 samples exceed the criterion for Chrysene.
Data Reference:	Statewide Stream Pollution Trends Study 2008
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	San Francisco Bay Basin Water Quality Control Plan 2007: All waters shall be maintained free of toxic substances in concentrations which are toxic to, or which produce detrimental physiological responses in, human, plant, animal, or aquatic life.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	In freshwater sediments the probable effects level (predictive of sediment toxicity for sediment-dwelling organisms) for Chrysene is 1290 ug/Kg dry weight (Macdonald et al. 2000)
Guideline Reference:	Development and evaluation of consensus-based sediment quality guidelines for freshwater ecosystems. Environmental Contamination and Toxicology. 39: 20-31
Spatial Representation:	Data for this line of evidence for San Mateo Creek, Lower was collected at 1 monitoring site [San Mateo Creek at Gateway Park station (204SMA020)]
Temporal Representation:	Data was collected on a single day 6/18/2008.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	SWAMP data collected before September 2008 followed the QAMP (2002), however there may have been overlap in QA with SWAMP QAPP (2008).
QAPP Information Reference(s):	Quality Assurance Management Plan for the State of California's Surface Water Ambient Monitoring Program. Sacramento, CA. State Water Resources Control Board. SWAMP. December 2002 (1st version) Surface Water Ambient Monitoring Program Quality Assurance Program Plan

DECISION ID 66145
San Mateo Creek, Lower

Region 2

Pollutant:	Copper
Final Listing Decision:	Do Not List on 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision:	New Decision
Revision Status	Revised
Impairment from Pollutant or Pollution:	Pollutant

Regional Board Staff Conclusion: This pollutant is being considered for placement on the CWA section 303(d) List under section 3.6 of the Listing Policy. Under section 3.6 a single line(s) of evidence are necessary to assess listing status.

One lines of evidence are available in the administrative record to assess this pollutant. Zero of the one samples exceed the objective for Copper.

Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against placing this water segment-pollutant combination on the CWA section 303(d) List.

This conclusion is based on the staff findings that:

1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy.
2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy.
3. Zero of one samples exceeded the objective for Copper and this sample size is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating. A minimum of 16 samples is needed to determine if a beneficial use is fully supported using table 3.1.
4. Pursuant to SECTION 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.

Regional Board Staff Decision Recommendation: After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be placed on the section 303(d) list. The readily available data and information is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating.

Line of Evidence (LOE) for Decision ID 66145, Copper San Mateo Creek, Lower

Region 2

LOE ID:	93111
Pollutant:	Copper
LOE Subgroup:	Pollutant-Sediment
Matrix:	Sediment
Fraction:	Total
Beneficial Use:	Cold Freshwater Habitat
Number of Samples:	1
Number of Exceedances:	0
Data and Information Type:	PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality:	Water Board staff assessed SWAMP data for San Mateo Creek, Lower to determine beneficial use support and results are as follows: 0 of 1 samples exceed the criterion for Copper.
Data Reference:	Statewide Stream Pollution Trends Study 2008
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	San Francisco Bay Basin Water Quality Control Plan 2007: All waters shall be maintained free of toxic substances in concentrations which are toxic to, or which produce detrimental physiological responses in, human, plant, animal, or aquatic life.

Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	In freshwater sediments the probable effect concentration (predictive of sediment toxicity for sediment-dwelling organisms) for copper is 149 mg/Kg dry weight (MacDonald et al. 2000).
Guideline Reference:	Development and evaluation of consensus-based sediment quality guidelines for freshwater ecosystems. Environmental Contamination and Toxicology. 39: 20-31
Spatial Representation:	Data for this line of evidence for San Mateo Creek, Lower was collected at 1 monitoring site [San Mateo Creek at Gateway Park station (204SMA020)]
Temporal Representation:	Data was collected on a single day 6/18/2008.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	SWAMP data collected before September 2008 followed the QAMP (2002), however there may have been overlap in QA with SWAMP QAPP (2008).
QAPP Information Reference(s):	Quality Assurance Management Plan for the State of California's Surface Water Ambient Monitoring Program. Sacramento, CA. State Water Resources Control Board. SWAMP. December 2002 (1st version) Surface Water Ambient Monitoring Program Quality Assurance Program Plan

DECISION ID	66147	Region 2
San Mateo Creek, Lower		

Pollutant:	Cyfluthrin
Final Listing Decision:	Do Not List on 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision:	New Decision
Revision Status	Revised
Impairment from Pollutant or Pollution:	Pollutant
Regional Board Staff Conclusion:	<p>This pollutant is being considered for placement on the CWA section 303(d) List under section 3.6 of the Listing Policy. Under section 3.6 a single line(s) of evidence are necessary to assess listing status.</p> <p>One lines of evidence are available in the administrative record to assess this pollutant. Zero of the one samples exceed the objective for Cyfluthrin.</p> <p>Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against placing this water segment-pollutant combination on the CWA section 303(d) List.</p> <p>This conclusion is based on the staff findings that:</p> <ol style="list-style-type: none"> 1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy. 2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy. 3. Zero of one samples exceeded the objective for Cyfluthrin and this sample size is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating. A minimum of 26 samples is needed to determine if a beneficial use is fully supported using table 3.2. 4. Pursuant to SECTION 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.
Regional Board Staff Decision Recommendation:	After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be placed on the section 303(d) list. The readily available data and information is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating.

Line of Evidence (LOE) for Decision ID 66147, Cyfluthrin	Region 2
San Mateo Creek, Lower	

LOE ID:	93112
Pollutant:	Cyfluthrin
LOE Subgroup:	Pollutant-Sediment
Matrix:	Sediment
Fraction:	Total
Beneficial Use:	Cold Freshwater Habitat
Number of Samples:	1
Number of Exceedances:	0
Data and Information Type:	PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality:	Water Board staff assessed SWAMP data for San Mateo Creek, Lower to determine beneficial use support and results are as follows: 0 of 1 samples exceed the criterion for Cyfluthrin, total.
Data Reference:	Statewide Stream Pollution Trends Study 2008
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	San Francisco Bay Basin Water Quality Control Plan 2007: All waters shall be maintained free of toxic substances in concentrations which are toxic to, or which produce detrimental physiological responses in, human, plant, animal, or aquatic life.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	The evaluation guideline for cyfluthrin is the median lethal concentration (LC50) of 1.1 ug/g and is normalized by the percentage of organic carbon in the sediment sample. The LC50 1.1 ug/g is the geometric mean of LC50 values for cyfluthrin from Amweg et al. (2005).
Guideline Reference:	Use and Toxicity of Pyrethroid Pesticides in the Central Valley, California, USA. Environmental Toxicology and Chemistry, 24:966-972, with erratum 24:No. 5
Spatial Representation:	Data for this line of evidence for San Mateo Creek, Lower was collected at 1 monitoring site [San Mateo Creek at Gateway Park station (204SMA020)]
Temporal Representation:	Data was collected on a single day 6/18/2008.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	SWAMP data collected before September 2008 followed the QAMP (2002), however there may have been overlap in QA with SWAMP QAPP (2008).
QAPP Information Reference(s):	Quality Assurance Management Plan for the State of California's Surface Water Ambient Monitoring Program. Sacramento, CA. State Water Resources Control Board. SWAMP. December 2002 (1st version). Surface Water Ambient Monitoring Program Quality Assurance Program Plan

DECISION ID	66148	Region 2
San Mateo Creek, Lower		
Pollutant:	Cyhalothrin, Lambda	
Final Listing Decision:	Do Not List on 303(d) list (TMDL required list)	
Last Listing Cycle's Final Listing Decision:	New Decision	
Revision Status	Revised	
Impairment from Pollutant or Pollution:	Pollutant	
Regional Board Staff Conclusion:	<p>This pollutant is being considered for placement on the CWA section 303(d) List under section 3.6 of the Listing Policy. Under section 3.6 a single line(s) of evidence are necessary to assess listing status.</p> <p>One lines of evidence are available in the administrative record to assess this pollutant. Zero of the one samples exceed the objective for Cyhalothrin, Lambda.</p>	

Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against placing this water segment-pollutant combination on the CWA section 303(d) List.

This conclusion is based on the staff findings that:

1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy.
2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy.
3. Zero of one samples exceeded the objective for Cyhalothrin, Lambda and this sample size is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating. A minimum of 26 samples is needed to determine if a beneficial use is fully supported using table 3.2.
4. Pursuant to SECTION 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.

Regional Board Staff Decision Recommendation: After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be placed on the section 303(d) list. The readily available data and information is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating.

**Line of Evidence (LOE) for Decision ID 66148, Cyhalothrin, Lambda
San Mateo Creek, Lower**

Region 2

LOE ID:	93113
Pollutant:	Cyhalothrin, Lambda
LOE Subgroup:	Pollutant-Sediment
Matrix:	Sediment
Fraction:	Total
Beneficial Use:	Cold Freshwater Habitat
Number of Samples:	1
Number of Exceedances:	0
Data and Information Type:	PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality:	Water Board staff assessed SWAMP data for San Mateo Creek, Lower to determine beneficial use support and results are as follows: 0 of 1 samples exceed the criterion for Cyhalothrin, lambda, total.
Data Reference:	Statewide Stream Pollution Trends Study 2008
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	San Francisco Bay Basin Water Quality Control Plan 2007: All waters shall be maintained free of toxic substances in concentrations which are toxic to, or which produce detrimental physiological responses in, human, plant, animal, or aquatic life.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	The evaluation guideline for lambda-cyhalothrin is the median lethal concentration (LC50) of 0.44 ug/g and is normalized by the percentage of organic carbon in the sediment sample. The LC50 0.44 ug/g is the geometric mean of LC50 values for lambda-cyhalothrin from Amweg et al. (2005).
Guideline Reference:	Use and Toxicity of Pyrethroid Pesticides in the Central Valley, California, USA. Environmental Toxicology and Chemistry, 24:966-972, with erratum 24:No. 5
Spatial Representation:	Data for this line of evidence for San Mateo Creek, Lower was collected at 1 monitoring site [San Mateo Creek at Gateway Park station (204SMA020)]
Temporal Representation:	Data was collected on a single day 6/18/2008.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	SWAMP data collected before September 2008 followed the QAMP (2002), however there may have been overlap in QA with SWAMP QAPP (2008).
QAPP Information Reference(s):	Quality Assurance Management Plan for the State of California's Surface Water Ambient

DECISION ID	66149	Region 2
San Mateo Creek, Lower		

Pollutant: Cypermethrin
Final Listing Decision: Do Not List on 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision: New Decision
Revision Status: Revised
Impairment from Pollutant or Pollution: Pollutant

Regional Board Staff Conclusion: This pollutant is being considered for placement on the CWA section 303(d) List under section 3.6 of the Listing Policy. Under section 3.6 a single line(s) of evidence are necessary to assess listing status.

One lines of evidence are available in the administrative record to assess this pollutant. Zero of the one samples exceed the objective of Cypermethrin.

Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against placing this water segment-pollutant combination on the CWA section 303(d) List.

This conclusion is based on the staff findings that:

1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy.
2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy.
3. Zero of one samples exceeded the objective of Cypermethrin and this sample size is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating. A minimum of 26 samples is needed to determine if a beneficial use is fully supported using table 3.2.
4. Pursuant to SECTION 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.

Regional Board Staff Decision Recommendation: After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be placed on the section 303(d) list. The readily available data and information is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating.

Line of Evidence (LOE) for Decision ID 66149, Cypermethrin	Region 2
San Mateo Creek, Lower	

LOE ID: 93114
Pollutant: Cypermethrin
LOE Subgroup: Pollutant-Sediment
Matrix: Sediment
Fraction: Total
Beneficial Use: Cold Freshwater Habitat
Number of Samples: 1
Number of Exceedances: 0

Data and Information Type: PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality: Water Board staff assessed SWAMP data for San Mateo Creek, Lower to determine beneficial use support and results are as follows: 0 of 1 samples exceed the criterion for

Data Reference:	Cypermethrin, total. Statewide Stream Pollution Trends Study 2008
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	San Francisco Bay Basin Water Quality Control Plan 2007: All waters shall be maintained free of toxic substances in concentrations which are toxic to, or which produce detrimental physiological responses in, human, plant, animal, or aquatic life.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	The evaluation guideline for cypermethrin is the median lethal concentration (LC50) of 0.3 ug/g and is normalized by the percentage of organic carbon in the sediment sample. The LC50 0.3 ug/g is the geometric mean of LC50 values for cypermethrin from Maund et al. (2002).
Guideline Reference:	Partitioning, bioavailability, and toxicity of the pyrethroid insecticide cypermethrin in sediments. Environmental Toxicology and Chemistry 21:9-15
Spatial Representation:	Data for this line of evidence for San Mateo Creek, Lower was collected at 1 monitoring site [San Mateo Creek at Gateway Park station (204SMA020)]
Temporal Representation:	Data was collected on a single day 6/18/2008.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	SWAMP data collected before September 2008 followed the QAMP (2002), however there may have been overlap in QA with SWAMP QAPP (2008).
QAPP Information Reference(s):	Quality Assurance Management Plan for the State of California's Surface Water Ambient Monitoring Program. Sacramento, CA. State Water Resources Control Board. SWAMP. December 2002 (1st version) Surface Water Ambient Monitoring Program Quality Assurance Program Plan

DECISION ID	66153	Region 2
San Mateo Creek, Lower		

Pollutant:	DDD (Dichlorodiphenyldichloroethane)
Final Listing Decision:	Do Not List on 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision:	New Decision
Revision Status	Revised
Impairment from Pollutant or Pollution:	Pollutant
Regional Board Staff Conclusion:	<p>This pollutant is being considered for placement on the CWA section 303(d) List under section 3.6 of the Listing Policy. Under section 3.6 a single line(s) of evidence are necessary to assess listing status.</p> <p>One lines of evidence are available in the administrative record to assess this pollutant. One of the one samples exceed the guideline for DDD (Dichlorodiphenyldichloroethane).</p> <p>Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against placing this water segment-pollutant combination on the CWA section 303(d) List.</p> <p>This conclusion is based on the staff findings that:</p> <ol style="list-style-type: none"> 1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy. 2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy. 3. One of one samples exceeded the DDD (Dichlorodiphenyldichloroethane) and this sample size is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating. A minimum of 16 samples is needed to determine if a beneficial use is fully supported using table 3.1. 4. Pursuant to SECTION 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.
Regional Board Staff Decision	After review of the available data and information, RWQCB staff concludes that the water body-

Recommendation: pollutant combination should not be placed on the section 303(d) list. The readily available data and information is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating.

Line of Evidence (LOE) for Decision ID 66153, DDD (Dichlorodiphenyldichloroethane)

Region 2

San Mateo Creek, Lower

LOE ID: 93115

Pollutant: DDD (Dichlorodiphenyldichloroethane)
LOE Subgroup: Pollutant-Sediment
Matrix: Sediment
Fraction: Total

Beneficial Use: Cold Freshwater Habitat

Number of Samples: 1
Number of Exceedances: 1

Data and Information Type: PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality: Water Board staff assessed SWAMP data for San Mateo Creek, Lower to determine beneficial use support and results are as follows: 1 of 1 samples exceed the criterion for DDD.

Data Reference: [Statewide Stream Pollution Trends Study 2008](#)

SWAMP Data: SWAMP

Water Quality Objective/Criterion: San Francisco Bay Basin Water Quality Control Plan 2007: All waters shall be maintained free of toxic substances in concentrations which are toxic to, or which produce detrimental physiological responses in, human, plant, animal, or aquatic life.

Objective/Criterion Reference: [Water Quality Control Plan \(Basin Plan\) San Francisco Bay Basin \(Region 2\)](#)

Evaluation Guideline: In freshwater sediments the probable effect concentration (predictive of sediment toxicity for sediment-dwelling organisms) for sum of DDD is 28.0 ug/Kg dry weight (MacDonald et al. 2000).

Guideline Reference: [Development and evaluation of consensus-based sediment quality guidelines for freshwater ecosystems. Environmental Contamination and Toxicology. 39: 20-31](#)

Spatial Representation: Data for this line of evidence for San Mateo Creek, Lower was collected at 1 monitoring site [San Mateo Creek at Gateway Park station (204SMA020)]

Temporal Representation: Data was collected on a single day 6/18/2008.

Environmental Conditions: Staff is not aware of any special conditions that might affect interpretation of the data.

QAPP Information: SWAMP data collected before September 2008 followed the QAMP (2002), however there may have been overlap in QA with SWAMP QAPP (2008).

QAPP Information Reference(s): [Quality Assurance Management Plan for the State of California's Surface Water Ambient Monitoring Program. Sacramento, CA. State Water Resources Control Board. SWAMP. December 2002 \(1st version\)](#)
[Surface Water Ambient Monitoring Program Quality Assurance Program Plan](#)

DECISION ID 66158

Region 2

San Mateo Creek, Lower

Pollutant: DDE (Dichlorodiphenyldichloroethylene)
Final Listing Decision: Do Not List on 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision: New Decision
Revision Status: Revised
Impairment from Pollutant or Pollution: Pollutant

Regional Board Staff Conclusion:

This pollutant is being considered for placement on the CWA section 303(d) List under section 3.6 of the Listing Policy. Under section 3.6 a single line(s) of evidence are necessary to assess listing status.

One line of evidence are available in the administrative record to assess this pollutant. Zero of the one samples exceed the guideline for DDE (Dichlorodiphenyldichloroethylene).

Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against placing this water segment-pollutant combination on the CWA section 303(d) List.

This conclusion is based on the staff findings that:

1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy.
2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy.
3. One of one samples exceeded the guideline for DDE (Dichlorodiphenyldichloroethylene) and this sample size is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating. A minimum of 16 samples is needed to determine if a beneficial use is fully supported using table 3.1.
4. Pursuant to SECTION 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.

Regional Board Staff Decision Recommendation:

After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be placed on the section 303(d) list. The readily available data and information is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating.

Line of Evidence (LOE) for Decision ID 66158, DDE (Dichlorodiphenyldichloroethylene)

Region 2

San Mateo Creek, Lower

LOE ID:	93116
Pollutant:	DDE (Dichlorodiphenyldichloroethylene)
LOE Subgroup:	Pollutant-Sediment
Matrix:	Sediment
Fraction:	Total
Beneficial Use:	Cold Freshwater Habitat
Number of Samples:	1
Number of Exceedances:	1
Data and Information Type:	PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality:	Water Board staff assessed SWAMP data for San Mateo Creek, Lower to determine beneficial use support and results are as follows: 1 of 1 samples exceed the criterion for DDE.
Data Reference:	Statewide Stream Pollution Trends Study 2008
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	San Francisco Bay Basin Water Quality Control Plan 2007: All waters shall be maintained free of toxic substances in concentrations which are toxic to, or which produce detrimental physiological responses in, human, plant, animal, or aquatic life.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	In freshwater sediments the probable effect concentration (predictive of sediment toxicity for sediment-dwelling organisms) for sum of DDE is 31.3 ug/Kg dry weight (MacDonald et al. 2000).
Guideline Reference:	Development and evaluation of consensus-based sediment quality guidelines for freshwater ecosystems. Environmental Contamination and Toxicology. 39: 20-31

Spatial Representation:	Data for this line of evidence for San Mateo Creek, Lower was collected at 1 monitoring site [San Mateo Creek at Gateway Park station (204SMA020)]
Temporal Representation:	Data was collected on a single day 6/18/2008.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	SWAMP data collected before September 2008 followed the QAMP (2002), however there may have been overlap in QA with SWAMP QAPP (2008).
QAPP Information Reference(s):	Quality Assurance Management Plan for the State of California's Surface Water Ambient Monitoring Program. Sacramento, CA. State Water Resources Control Board. SWAMP. December 2002 (1st version). Surface Water Ambient Monitoring Program Quality Assurance Program Plan

DECISION ID	66161	Region 2
San Mateo Creek, Lower		

Pollutant:	DDT (Dichlorodiphenyltrichloroethane)
Final Listing Decision:	Do Not List on 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision:	New Decision
Revision Status	Revised
Impairment from Pollutant or Pollution:	Pollutant
Regional Board Staff Conclusion:	<p>This pollutant is being considered for placement on the CWA section 303(d) List under section 3.6 of the Listing Policy. Under section 3.6 a single line(s) of evidence are necessary to assess listing status.</p> <p>Two lines of evidence are available in the administrative record to assess this pollutant. Zero of the one sample exceed the guideline for DDT (Dichlorodiphenyltrichloroethane).</p> <p>Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against placing this water segment-pollutant combination on the CWA section 303(d) List.</p> <p>This conclusion is based on the staff findings that:</p> <ol style="list-style-type: none"> 1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy. 2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy. 3. Zero of one samples exceeded the guideline for DDT (Dichlorodiphenyltrichloroethane) and this sample size is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating. A minimum of 16 samples is needed to determine if a beneficial use is fully supported using table 3.1. 4. Pursuant to SECTION 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.
Regional Board Staff Decision Recommendation:	After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be placed on the section 303(d) list. The readily available data and information is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating.

Line of Evidence (LOE) for Decision ID 66161, DDT (Dichlorodiphenyltrichloroethane)	Region 2
San Mateo Creek, Lower	

LOE ID:	93099
Pollutant:	Total DDT (sum of 4,4'- and 2,4'- isomers of DDT, DDE, and DDD)
LOE Subgroup:	Pollutant-Sediment
Matrix:	Sediment
Fraction:	Total
Beneficial Use:	Cold Freshwater Habitat

Number of Samples:	1
Number of Exceedances:	0
Data and Information Type:	PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality:	Water Board staff assessed SWAMP data for San Mateo Creek, Lower to determine beneficial use support and results are as follows: 0 of 1 samples exceed the criterion for DDT, Total.
Data Reference:	Statewide Stream Pollution Trends Study 2008
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	San Francisco Bay Basin Water Quality Control Plan 2007: All waters shall be maintained free of toxic substances in concentrations which are toxic to, or which produce detrimental physiological responses in, human, plant, animal, or aquatic life.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	In freshwater sediments the probable effect concentration (predictive of sediment toxicity for sediment-dwelling organisms) for total DDTs is 572 ug/Kg dry weight (MacDonald et al. 2000).
Guideline Reference:	Development and evaluation of consensus-based sediment quality guidelines for freshwater ecosystems. Environmental Contamination and Toxicology. 39: 20-31
Spatial Representation:	Data for this line of evidence for San Mateo Creek, Lower was collected at 1 monitoring site [San Mateo Creek at Gateway Park station (204SMA020)]
Temporal Representation:	Data was collected on a single day 6/18/2008.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	SWAMP data collected before September 2008 followed the QAMP (2002), however there may have been overlap in QA with SWAMP QAPP (2008).
QAPP Information Reference(s):	Quality Assurance Management Plan for the State of California's Surface Water Ambient Monitoring Program. Sacramento, CA. State Water Resources Control Board. SWAMP. December 2002 (1st version) Surface Water Ambient Monitoring Program Quality Assurance Program Plan

Line of Evidence (LOE) for Decision ID 66161, DDT (Dichlorodiphenyltrichloroethane)
San Mateo Creek, Lower

Region 2

LOE ID:	93117
Pollutant:	DDT (Dichlorodiphenyltrichloroethane)
LOE Subgroup:	Pollutant-Sediment
Matrix:	Sediment
Fraction:	Total
Beneficial Use:	Cold Freshwater Habitat
Number of Samples:	1
Number of Exceedances:	0
Data and Information Type:	PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality:	Water Board staff assessed SWAMP data for San Mateo Creek, Lower to determine beneficial use support and results are as follows: 0 of 1 samples exceed the criterion for DDT.
Data Reference:	Statewide Stream Pollution Trends Study 2008
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	San Francisco Bay Basin Water Quality Control Plan 2007: All waters shall be maintained free of toxic substances in concentrations which are toxic to, or which produce detrimental physiological responses in, human, plant, animal, or aquatic life.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)

Evaluation Guideline:	In freshwater sediments the probable effect concentration (predictive of sediment toxicity for sediment-dwelling organisms) for sum of DDT is 62.9 ug/Kg dry weight (MacDonald et al. 2000).
Guideline Reference:	Development and evaluation of consensus-based sediment quality guidelines for freshwater ecosystems. Environmental Contamination and Toxicology. 39: 20-31
Spatial Representation:	Data for this line of evidence for San Mateo Creek, Lower was collected at 1 monitoring site [San Mateo Creek at Gateway Park station (204SMA020)]
Temporal Representation:	Data was collected on a single day 6/18/2008.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	SWAMP data collected before September 2008 followed the QAMP (2002), however there may have been overlap in QA with SWAMP QAPP (2008).
QAPP Information Reference(s):	Quality Assurance Management Plan for the State of California's Surface Water Ambient Monitoring Program. Sacramento, CA. State Water Resources Control Board. SWAMP. December 2002 (1st version) Surface Water Ambient Monitoring Program Quality Assurance Program Plan

DECISION ID	66162	Region 2
San Mateo Creek, Lower		
Pollutant:	Deltamethrin	
Final Listing Decision:	Do Not List on 303(d) list (TMDL required list)	
Last Listing Cycle's Final Listing Decision:	New Decision	
Revision Status	Revised	
Impairment from Pollutant or Pollution:	Pollutant	
Regional Board Staff Conclusion:	<p>This pollutant is being considered for placement on the CWA section 303(d) List under section 3.6 of the Listing Policy. Under section 3.6 a single line(s) of evidence are necessary to assess listing status.</p> <p>One lines of evidence are available in the administrative record to assess this pollutant. Zero of the one samples exceed the guideline for Deltamethrin.</p> <p>Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against placing this water segment-pollutant combination on the CWA section 303(d) List.</p> <p>This conclusion is based on the staff findings that:</p> <ol style="list-style-type: none"> 1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy. 2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy. 3. Zero of one sample exceeded the guideline for Deltamethrin] and this sample size is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating. A minimum of 26 samples is needed to determine if a beneficial use is fully supported using table 3.2. 4. Pursuant to SECTION 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met. 	
Regional Board Staff Decision Recommendation:	After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be placed on the section 303(d) list. The readily available data and information is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating.	

Line of Evidence (LOE) for Decision ID 66162, Deltamethrin	Region 2
San Mateo Creek, Lower	

LOE ID: 93118

Pollutant:	Deltamethrin
LOE Subgroup:	Pollutant-Sediment
Matrix:	Sediment
Fraction:	Total
Beneficial Use:	Cold Freshwater Habitat
Number of Samples:	1
Number of Exceedances:	0
Data and Information Type:	PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality:	Water Board staff assessed SWAMP data for San Mateo Creek, Lower to determine beneficial use support and results are as follows: 0 of 1 samples exceed the criterion for Deltamethrin.
Data Reference:	Statewide Stream Pollution Trends Study 2008
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	San Francisco Bay Basin Water Quality Control Plan 2007: All waters shall be maintained free of toxic substances in concentrations which are toxic to, or which produce detrimental physiological responses in, human, plant, animal, or aquatic life.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	The evaluation guideline for deltamethrin is the median lethal concentration (LC50) of 0.79 ug/g and is normalized by the percentage of organic carbon in the sediment sample. The LC50 0.79 ug/g is the geometric mean of LC50 values for deltamethrin from Amweg et al. (2005).
Guideline Reference:	Use and Toxicity of Pyrethroid Pesticides in the Central Valley, California, USA. Environmental Toxicology and Chemistry, 24:966-972, with erratum 24:No. 5
Spatial Representation:	Data for this line of evidence for San Mateo Creek, Lower was collected at 1 monitoring site [San Mateo Creek at Gateway Park station (204SMA020)]
Temporal Representation:	Data was collected on a single day 6/18/2008.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	SWAMP data collected before September 2008 followed the QAMP (2002), however there may have been overlap in QA with SWAMP QAPP (2008).
QAPP Information Reference(s):	Quality Assurance Management Plan for the State of California's Surface Water Ambient Monitoring Program. Sacramento, CA. State Water Resources Control Board. SWAMP. December 2002 (1st version). Surface Water Ambient Monitoring Program Quality Assurance Program Plan

DECISION ID	66230	Region 2
San Mateo Creek, Lower		

Pollutant:	Diazinon
Final Listing Decision:	Do Not List on 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision:	New Decision
Revision Status	Revised
Impairment from Pollutant or Pollution:	Pollutant
Regional Board Staff Conclusion:	<p>This pollutant is being considered for placement on the CWA section 303(d) List under section 3.6 of the Listing Policy. Under section 3.6 a single line(s) of evidence are necessary to assess listing status.</p> <p>One line of evidence are available in the administrative record to assess this pollutant. Zero of the one samples exceed the guideline for Diazinon.</p> <p>Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against placing this water segment-pollutant combination on the CWA section</p>

303(d) List.

This conclusion is based on the staff findings that:

1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy.
2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy.
3. Zero of one samples exceeded the guideline for Diazinon and this sample size is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating. A minimum of 16 samples is needed to determine if a beneficial use is fully supported using table 3.1.
4. Pursuant to SECTION 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.

Regional Board Staff Decision Recommendation: After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be placed on the section 303(d) list. The readily available data and information is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating.

Line of Evidence (LOE) for Decision ID 66230, Diazinon

Region 2

San Mateo Creek, Lower

LOE ID:	93119
Pollutant:	Diazinon
LOE Subgroup:	Pollutant-Sediment
Matrix:	Sediment
Fraction:	Total
Beneficial Use:	Cold Freshwater Habitat
Number of Samples:	1
Number of Exceedances:	0
Data and Information Type:	PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality:	Water Board staff assessed SWAMP data for San Mateo Creek, Lower to determine beneficial use support and results are as follows: 0 of 1 samples exceed the criterion for Diazinon.
Data Reference:	Statewide Stream Pollution Trends Study 2008
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	San Francisco Bay Basin Water Quality Control Plan 2007: All waters shall be maintained free of toxic substances in concentrations which are toxic to, or which produce detrimental physiological responses in, human, plant, animal, or aquatic life.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	The evaluation guideline for diazinon is the median lethal concentration (LC50) of 11 ug/g and is normalized by the percentage of organic carbon in the sediment sample. The LC50 11 ug/g is the geometric mean of LC50 values for diazinon from Ding et al. (2011).
Guideline Reference:	Toxicity of Sediment-Associated Pesticides to Chironomus dilutus and Hyalella azteca. Arch. Environ. Contam. Toxicol. 61:83?92.
Spatial Representation:	Data for this line of evidence for San Mateo Creek, Lower was collected at 1 monitoring site [San Mateo Creek at Gateway Park station (204SMA020)]
Temporal Representation:	Data was collected on a single day 6/18/2008.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	SWAMP data collected before September 2008 followed the QAMP (2002), however there may have been overlap in QA with SWAMP QAPP (2008).
QAPP Information Reference(s):	Quality Assurance Management Plan for the State of California's Surface Water Ambient Monitoring Program. Sacramento, CA. State Water Resources Control Board. SWAMP. December 2002 (1st version). Surface Water Ambient Monitoring Program Quality Assurance Program Plan

DECISION ID	66231	Region 2
San Mateo Creek, Lower		

Pollutant:	Dieldrin
Final Listing Decision:	Do Not List on 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision:	New Decision
Revision Status	Revised
Impairment from Pollutant or Pollution:	Pollutant
Regional Board Staff Conclusion:	<p>This pollutant is being considered for placement on the CWA section 303(d) List under section 3.6 of the Listing Policy. Under section 3.6 a single line(s) of evidence are necessary to assess listing status.</p> <p>One line of evidence are available in the administrative record to assess this pollutant. Zero of the one samples exceed the guideline for Dieldrin.</p> <p>Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against placing this water segment-pollutant combination on the CWA section 303(d) List.</p> <p>This conclusion is based on the staff findings that:</p> <ol style="list-style-type: none"> 1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy. 2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy. 3. Zero of 1 samples exceeded the guideline for Dieldrin and this sample size is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating. A minimum of 16 samples is needed to determine if a beneficial use is fully supported using table 3.1. 4. Pursuant to SECTION 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.
Regional Board Staff Decision Recommendation:	After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be placed on the section 303(d) list. The readily available data and information is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating.

Line of Evidence (LOE) for Decision ID 66231, Dieldrin	Region 2
San Mateo Creek, Lower	

LOE ID:	93120
Pollutant:	Dieldrin
LOE Subgroup:	Pollutant-Sediment
Matrix:	Sediment
Fraction:	Total
Beneficial Use:	Cold Freshwater Habitat
Number of Samples:	1
Number of Exceedances:	0
Data and Information Type:	PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality:	Water Board staff assessed SWAMP data for San Mateo Creek, Lower to determine beneficial use support and results are as follows: 0 of 1 samples exceed the criterion for Dieldrin.
Data Reference:	Statewide Stream Pollution Trends Study 2008

SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	San Francisco Bay Basin Water Quality Control Plan 2007: All waters shall be maintained free of toxic substances in concentrations which are toxic to, or which produce detrimental physiological responses in, human, plant, animal, or aquatic life.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	In freshwater sediments the probable effect concentration (predictive of sediment toxicity for sediment-dwelling organisms) for dieldrin is 61.8 ug/Kg dry weight (MacDonald et al. 2000).
Guideline Reference:	Development and evaluation of consensus-based sediment quality guidelines for freshwater ecosystems. Environmental Contamination and Toxicology. 39: 20-31
Spatial Representation:	Data for this line of evidence for San Mateo Creek, Lower was collected at 1 monitoring site [San Mateo Creek at Gateway Park station (204SMA020)]
Temporal Representation:	Data was collected on a single day 6/18/2008.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	SWAMP data collected before September 2008 followed the QAMP (2002), however there may have been overlap in QA with SWAMP QAPP (2008).
QAPP Information Reference(s):	Quality Assurance Management Plan for the State of California's Surface Water Ambient Monitoring Program. Sacramento, CA. State Water Resources Control Board. SWAMP. December 2002 (1st version) Surface Water Ambient Monitoring Program Quality Assurance Program Plan

DECISION ID	66233	Region 2
San Mateo Creek, Lower		
Pollutant:	Endrin	
Final Listing Decision:	Do Not List on 303(d) list (TMDL required list)	
Last Listing Cycle's Final Listing Decision:	New Decision	
Revision Status	Revised	
Impairment from Pollutant or Pollution:	Pollutant	
Regional Board Staff Conclusion:	<p>This pollutant is being considered for placement on the CWA section 303(d) List under section 3.6 of the Listing Policy. Under section 3.6 a single line(s) of evidence are necessary to assess listing status.</p> <p>One line of evidence are available in the administrative record to assess this pollutant. Zero of the one samples exceed the guideline for Endrin.</p> <p>Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against placing this water segment-pollutant combination on the CWA section 303(d) List.</p> <p>This conclusion is based on the staff findings that:</p> <ol style="list-style-type: none"> 1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy. 2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy. 3. Zero of One samples exceeded the guideline for Endrin and this sample size is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating. A minimum of 16 samples is needed to determine if a beneficial use is fully supported using table 3.1. 4. Pursuant to SECTION 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met. 	
Regional Board Staff Decision Recommendation:	After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be placed on the section 303(d) list. The readily available data and information is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating.	

San Mateo Creek, Lower

LOE ID:	93121
Pollutant:	Endrin
LOE Subgroup:	Pollutant-Sediment
Matrix:	Sediment
Fraction:	Total
Beneficial Use:	Cold Freshwater Habitat
Number of Samples:	1
Number of Exceedances:	0
Data and Information Type:	PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality:	Water Board staff assessed SWAMP data for San Mateo Creek, Lower to determine beneficial use support and results are as follows: 0 of 1 samples exceed the criterion for Endrin.
Data Reference:	Statewide Stream Pollution Trends Study 2008
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	San Francisco Bay Basin Water Quality Control Plan 2007: All waters shall be maintained free of toxic substances in concentrations which are toxic to, or which produce detrimental physiological responses in, human, plant, animal, or aquatic life.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	In freshwater sediments the probable effect concentration (predictive of sediment toxicity for sediment-dwelling organisms) for endrin is 207 ug/Kg dry weight (MacDonald et al. 2000).
Guideline Reference:	Development and evaluation of consensus-based sediment quality guidelines for freshwater ecosystems. Environmental Contamination and Toxicology. 39: 20-31
Spatial Representation:	Data for this line of evidence for San Mateo Creek, Lower was collected at 1 monitoring site [San Mateo Creek at Gateway Park station (204SMA020)]
Temporal Representation:	Data was collected on a single day 6/18/2008.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	SWAMP data collected before September 2008 followed the QAMP (2002), however there may have been overlap in QA with SWAMP QAPP (2008).
QAPP Information Reference(s):	Quality Assurance Management Plan for the State of California's Surface Water Ambient Monitoring Program. Sacramento, CA. State Water Resources Control Board. SWAMP. December 2002 (1st version) Surface Water Ambient Monitoring Program Quality Assurance Program Plan

DECISION ID 66236

Region 2

San Mateo Creek, Lower

Pollutant:	Esfenvalerate/Fenvalerate
Final Listing Decision:	Do Not List on 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision:	New Decision
Revision Status	Revised
Impairment from Pollutant or Pollution:	Pollutant
Regional Board Staff Conclusion:	This pollutant is being considered for placement on the CWA section 303(d) List under section 3.6 of the Listing Policy. Under section 3.6 a single line(s) of evidence are necessary to assess listing status.

One line of evidence are available in the administrative record to assess this pollutant. Zero of the one samples exceed the guideline for Esfenvalerate/Fenvalerate.

Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against placing this water segment-pollutant combination on the CWA section 303(d) List.

This conclusion is based on the staff findings that:

1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy.
2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy.
3. Zero of one samples exceeded the guideline for Esfenvalerate/Fenvalerate and this sample size is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating. A minimum of 26 samples is needed to determine if a beneficial use is fully supported using table 3.2.
4. Pursuant to SECTION 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.

Regional Board Staff Decision Recommendation: After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be placed on the section 303(d) list. The readily available data and information is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating.

**Line of Evidence (LOE) for Decision ID 66236, Esfenvalerate/Fenvalerate
San Mateo Creek, Lower**

Region 2

LOE ID:	93122
Pollutant:	Esfenvalerate/Fenvalerate
LOE Subgroup:	Pollutant-Sediment
Matrix:	Sediment
Fraction:	Total
Beneficial Use:	Cold Freshwater Habitat
Number of Samples:	1
Number of Exceedances:	0
Data and Information Type:	PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality:	Water Board staff assessed SWAMP data for San Mateo Creek, Lower to determine beneficial use support and results are as follows: 0 of 1 samples exceed the criterion for Esfenvalerate/Fenvalerate, total.
Data Reference:	Statewide Stream Pollution Trends Study 2008
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	San Francisco Bay Basin Water Quality Control Plan 2007: All waters shall be maintained free of toxic substances in concentrations which are toxic to, or which produce detrimental physiological responses in, human, plant, animal, or aquatic life.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	The evaluation guideline for esfenvalerate/fenvalerate is the median lethal concentration (LC50) of 1.5 ug/g and is normalized by the percentage of organic carbon in the sediment sample. The LC50 1.5 ug/g is the geometric mean of LC50 values for esfenvalerate/fenvalerate from Amweg et al. (2005).
Guideline Reference:	Use and Toxicity of Pyrethroid Pesticides in the Central Valley, California, USA. Environmental Toxicology and Chemistry, 24:966-972, with erratum 24:No. 5
Spatial Representation:	Data for this line of evidence for San Mateo Creek, Lower was collected at 1 monitoring site [San Mateo Creek at Gateway Park station (204SMA020)]
Temporal Representation:	Data was collected on a single day 6/18/2008.

Environmental Conditions: Staff is not aware of any special conditions that might affect interpretation of the data.

QAPP Information: SWAMP data collected before September 2008 followed the QAMP (2002), however there may have been overlap in QA with SWAMP QAPP (2008).

QAPP Information Reference(s): [Quality Assurance Management Plan for the State of California's Surface Water Ambient Monitoring Program. Sacramento, CA. State Water Resources Control Board. SWAMP. December 2002 \(1st version\)](#)
[Surface Water Ambient Monitoring Program Quality Assurance Program Plan](#)

DECISION ID	66256	Region 2
San Mateo Creek, Lower		

Pollutant: Fenpropathrin

Final Listing Decision: Do Not List on 303(d) list (TMDL required list)

Last Listing Cycle's Final Listing Decision: New Decision

Revision Status: Revised

Impairment from Pollutant or Pollution: Pollutant

Regional Board Staff Conclusion:

This pollutant is being considered for placement on the CWA section 303(d) List under section 3.6 of the Listing Policy. Under section 3.6 a single line(s) of evidence are necessary to assess listing status.

One line of evidence are available in the administrative record to assess this pollutant. Zero of the one samples exceed the guideline for Fenpropathrin.

Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against placing this water segment-pollutant combination on the CWA section 303(d) List.

This conclusion is based on the staff findings that:

1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy.
2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy.
3. Zero of one samples exceeded the guideline for Fenpropathrin and this sample size is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating. A minimum of 26 samples is needed to determine if a beneficial use is fully supported using table 3.2.
4. Pursuant to SECTION 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.

Regional Board Staff Decision Recommendation: After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be placed on the section 303(d) list. The readily available data and information is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating.

Line of Evidence (LOE) for Decision ID 66256, Fenpropathrin	Region 2
San Mateo Creek, Lower	

LOE ID: 93086

Pollutant: Fenpropathrin

LOE Subgroup: Pollutant-Sediment

Matrix: Sediment

Fraction: Total

Beneficial Use: Cold Freshwater Habitat

Number of Samples: 1

Number of Exceedances: 0

Data and Information Type:	PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality:	Water Board staff assessed SWAMP data for San Mateo Creek, Lower to determine beneficial use support and results are as follows: 0 of 1 samples exceed the criterion for Fenpropathrin.
Data Reference:	Statewide Stream Pollution Trends Study 2008
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	San Francisco Bay Basin Water Quality Control Plan 2007: All waters shall be maintained free of toxic substances in concentrations which are toxic to, or which produce detrimental physiological responses in, human, plant, animal, or aquatic life.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	The evaluation guideline for fenpropathrin is the median lethal concentration (LC50) of 1 ug/g and is normalized by the percentage of organic carbon in the sediment sample. The LC50 1 ug/g is the geometric mean of LC50 values for fenpropathrin from Ding et al. (2011).
Guideline Reference:	Toxicity of Sediment-Associated Pesticides to Chironomus dilutus and Hyalella azteca. Arch. Environ. Contam. Toxicol. 61:83?92.
Spatial Representation:	Data for this line of evidence for San Mateo Creek, Lower was collected at 1 monitoring site [San Mateo Creek at Gateway Park station (204SMA020)]
Temporal Representation:	Data was collected on a single day 6/18/2008.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	SWAMP data collected before September 2008 followed the QAMP (2002), however there may have been overlap in QA with SWAMP QAPP (2008).
QAPP Information Reference(s):	Quality Assurance Management Plan for the State of California's Surface Water Ambient Monitoring Program. Sacramento, CA. State Water Resources Control Board. SWAMP. December 2002 (1st version) Surface Water Ambient Monitoring Program Quality Assurance Program Plan

DECISION ID	66329	Region 2
San Mateo Creek, Lower		

Pollutant:	Fluoranthene
Final Listing Decision:	Do Not List on 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision:	New Decision
Revision Status	Revised
Impairment from Pollutant or Pollution:	Pollutant
Regional Board Staff Conclusion:	<p>This pollutant is being considered for placement on the CWA section 303(d) List under section 3.6 of the Listing Policy. Under section 3.6 a single line(s) of evidence are necessary to assess listing status.</p> <p>One lines of evidence are available in the administrative record to assess this pollutant. Zero out of one samples exceed the guideline for Fluoranthene.</p> <p>Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against placing this water segment-pollutant combination on the CWA section 303(d) List.</p> <p>This conclusion is based on the staff findings that:</p> <ol style="list-style-type: none"> 1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy. 2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy. 3. Zero of one samples exceeded the guideline for Fluoranthene and this sample size is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating. A minimum of 26 samples is needed to determine if a beneficial use is fully supported using table 3.2.

4. Pursuant to SECTION 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.

Regional Board Staff Decision Recommendation: After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be placed on the section 303(d) list. The readily available data and information is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating.

Line of Evidence (LOE) for Decision ID 66329, Fluoranthene

Region 2

San Mateo Creek, Lower

LOE ID: 93087

Pollutant: Fluoranthene
LOE Subgroup: Pollutant-Sediment
Matrix: Sediment
Fraction: Total

Beneficial Use: Cold Freshwater Habitat

Number of Samples: 1
Number of Exceedances: 0

Data and Information Type: PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality: Water Board staff assessed SWAMP data for San Mateo Creek, Lower to determine beneficial use support and results are as follows: 0 of 1 samples exceed the criterion for Fluoranthene.

Data Reference: [Statewide Stream Pollution Trends Study 2008](#)

SWAMP Data: SWAMP

Water Quality Objective/Criterion: San Francisco Bay Basin Water Quality Control Plan 2007: All waters shall be maintained free of toxic substances in concentrations which are toxic to, or which produce detrimental physiological responses in, human, plant, animal, or aquatic life.

Objective/Criterion Reference: [Water Quality Control Plan \(Basin Plan\) San Francisco Bay Basin \(Region 2\)](#)

Evaluation Guideline: In freshwater sediments the probable effects level (predictive of sediment toxicity for sediment-dwelling organisms) for Fluoranthene is 2,230 ug/Kg dry weight (Macdonald et al. 2000)

Guideline Reference: [Development and evaluation of consensus-based sediment quality guidelines for freshwater ecosystems. Environmental Contamination and Toxicology. 39: 20-31](#)

Spatial Representation: Data for this line of evidence for San Mateo Creek, Lower was collected at 1 monitoring site [San Mateo Creek at Gateway Park station (204SMA020)]

Temporal Representation: Data was collected on a single day 6/18/2008.

Environmental Conditions: Staff is not aware of any special conditions that might affect interpretation of the data.

QAPP Information: SWAMP data collected before September 2008 followed the QAMP (2002), however there may have been overlap in QA with SWAMP QAPP (2008).

QAPP Information Reference(s): [Quality Assurance Management Plan for the State of California's Surface Water Ambient Monitoring Program. Sacramento, CA. State Water Resources Control Board. SWAMP. December 2002 \(1st version\)](#)
[Surface Water Ambient Monitoring Program Quality Assurance Program Plan](#)

DECISION ID

66284

Region 2

San Mateo Creek, Lower

Pollutant: Fluorene
Final Listing Decision: Do Not List on 303(d) list (TMDL required list)
Last Listing Cycle's Final New Decision

Listing Decision:**Revision Status**

Revised

Impairment from Pollutant or Pollution:

Pollutant

Regional Board Staff**Conclusion:**

This pollutant is being considered for placement on the CWA section 303(d) List under section 3.6 of the Listing Policy. Under section 3.6 a single line(s) of evidence are necessary to assess listing status.

One line of evidence are available in the administrative record to assess this pollutant. Zero of the one samples exceed the guideline for Fluorene.

Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against placing this water segment-pollutant combination on the CWA section 303(d) List.

This conclusion is based on the staff findings that:

1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy.
2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy.
3. Zero of one samples exceeded the guideline for Fluorene and this sample size is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating. A minimum of 16 samples is needed to determine if a beneficial use is fully supported using table 3.1.
4. Pursuant to SECTION 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.

Regional Board Staff Decision Recommendation:

After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be placed on the section 303(d) list. The readily available data and information is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating.

Line of Evidence (LOE) for Decision ID 66284, Fluorene**Region 2****San Mateo Creek, Lower**

LOE ID: 93088

Pollutant: Fluorene
LOE Subgroup: Pollutant-Sediment
Matrix: Sediment
Fraction: Total

Beneficial Use: Cold Freshwater Habitat

Number of Samples: 1
Number of Exceedances: 0

Data and Information Type: PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality: Water Board staff assessed SWAMP data for San Mateo Creek, Lower to determine beneficial use support and results are as follows: 0 of 1 samples exceed the criterion for Fluorene.

Data Reference: [Statewide Stream Pollution Trends Study 2008](#)

SWAMP Data: SWAMP

Water Quality Objective/Criterion: San Francisco Bay Basin Water Quality Control Plan 2007: All waters shall be maintained free of toxic substances in concentrations which are toxic to, or which produce detrimental physiological responses in, human, plant, animal, or aquatic life.

Objective/Criterion Reference: [Water Quality Control Plan \(Basin Plan\) San Francisco Bay Basin \(Region 2\)](#)

Evaluation Guideline: In freshwater sediments the probable effect concentration (predictive of sediment toxicity for sediment-dwelling organisms) for fluorene is 536 ug/Kg dry weight (MacDonald et al.

Guideline Reference:	2000). Development and evaluation of consensus-based sediment quality guidelines for freshwater ecosystems. Environmental Contamination and Toxicology. 39: 20-31
Spatial Representation:	Data for this line of evidence for San Mateo Creek, Lower was collected at 1 monitoring site [San Mateo Creek at Gateway Park station (204SMA020)]
Temporal Representation:	Data was collected on a single day 6/18/2008.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	SWAMP data collected before September 2008 followed the QAMP (2002), however there may have been overlap in QA with SWAMP QAPP (2008).
QAPP Information Reference(s):	Quality Assurance Management Plan for the State of California's Surface Water Ambient Monitoring Program. Sacramento, CA. State Water Resources Control Board. SWAMP. December 2002 (1st version). Surface Water Ambient Monitoring Program Quality Assurance Program Plan

DECISION ID 66285 Region 2	
San Mateo Creek, Lower	
Pollutant:	Lead
Final Listing Decision:	Do Not List on 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision:	New Decision
Revision Status	Revised
Impairment from Pollutant or Pollution:	Pollutant
Regional Board Staff Conclusion:	<p>This pollutant is being considered for placement on the CWA section 303(d) List under section 3.6 of the Listing Policy. Under section 3.6 a single line(s) of evidence are necessary to assess listing status.</p> <p>One line of evidence are available in the administrative record to assess this pollutant. Zero of the one samples exceed the guideline for Lead.</p> <p>Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against placing this water segment-pollutant combination on the CWA section 303(d) List.</p> <p>This conclusion is based on the staff findings that:</p> <ol style="list-style-type: none"> 1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy. 2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy. 3. Zero of one samples exceeded the guideline for Lead and this sample size is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating. A minimum of 16 samples is needed to determine if a beneficial use is fully supported using table 3.1. 4. Pursuant to SECTION 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.
Regional Board Staff Decision Recommendation:	After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be placed on the section 303(d) list. The readily available data and information is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating.

Line of Evidence (LOE) for Decision ID 66285, Lead Region 2	
San Mateo Creek, Lower	
LOE ID:	93089
Pollutant:	Lead
LOE Subgroup:	Pollutant-Sediment

Matrix:	Sediment
Fraction:	Total
Beneficial Use:	Cold Freshwater Habitat
Number of Samples:	1
Number of Exceedances:	0
Data and Information Type:	PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality:	Water Board staff assessed SWAMP data for San Mateo Creek, Lower to determine beneficial use support and results are as follows: 0 of 1 samples exceed the criterion for Lead.
Data Reference:	Statewide Stream Pollution Trends Study 2008
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	San Francisco Bay Basin Water Quality Control Plan 2007: All waters shall be maintained free of toxic substances in concentrations which are toxic to, or which produce detrimental physiological responses in, human, plant, animal, or aquatic life.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	In freshwater sediments the probable effect concentration (predictive of sediment toxicity for sediment-dwelling organisms) for lead is 128 mg/Kg dry weight (MacDonald et al. 2000).
Guideline Reference:	Development and evaluation of consensus-based sediment quality guidelines for freshwater ecosystems. Environmental Contamination and Toxicology. 39: 20-31
Spatial Representation:	Data for this line of evidence for San Mateo Creek, Lower was collected at 1 monitoring site [San Mateo Creek at Gateway Park station (204SMA020)]
Temporal Representation:	Data was collected on a single day 6/18/2008.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	SWAMP data collected before September 2008 followed the QAMP (2002), however there may have been overlap in QA with SWAMP QAPP (2008).
QAPP Information Reference(s):	Quality Assurance Management Plan for the State of California's Surface Water Ambient Monitoring Program. Sacramento, CA. State Water Resources Control Board. SWAMP. December 2002 (1st version) Surface Water Ambient Monitoring Program Quality Assurance Program Plan

DECISION ID	66286	Region 2
San Mateo Creek, Lower		

Pollutant:	Lindane/gamma Hexachlorocyclohexane (gamma-HCH)
Final Listing Decision:	Do Not List on 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision:	New Decision
Revision Status	Revised
Impairment from Pollutant or Pollution:	Pollutant
Regional Board Staff Conclusion:	<p>This pollutant is being considered for placement on the CWA section 303(d) List under section 3.6 of the Listing Policy. Under section 3.6 a single line(s) of evidence are necessary to assess listing status.</p> <p>One line of evidence are available in the administrative record to assess this pollutant. Zero of the one samples exceed the guideline for Lindane/gamma Hexachlorocyclohexane (gamma-HCH).</p> <p>Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against placing this water segment-pollutant combination on the CWA section 303(d) List.</p> <p>This conclusion is based on the staff findings that:</p>

1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy.
2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy.
3. Zero of one samples exceeded the guideline for Lindane/gamma Hexachlorocyclohexane (gamma-HCH) and this sample size is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating. A minimum of 26 samples is needed to determine if a beneficial use is fully supported using table 3.2.
4. Pursuant to SECTION 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.

Regional Board Staff Decision Recommendation: After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be placed on the section 303(d) list. The readily available data and information is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating.

Line of Evidence (LOE) for Decision ID 66286, Lindane/gamma Hexachlorocyclohexane (gamma-HCH)

Region 2

San Mateo Creek, Lower

LOE ID:	93090
Pollutant:	Lindane/gamma Hexachlorocyclohexane (gamma-HCH)
LOE Subgroup:	Pollutant-Sediment
Matrix:	Sediment
Fraction:	Total
Beneficial Use:	Cold Freshwater Habitat
Number of Samples:	1
Number of Exceedances:	0
Data and Information Type:	PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality:	Water Board staff assessed SWAMP data for San Mateo Creek, Lower to determine beneficial use support and results are as follows: 0 of 1 samples exceed the criterion for HCH, gamma.
Data Reference:	Statewide Stream Pollution Trends Study 2008
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	San Francisco Bay Basin Water Quality Control Plan 2007: All waters shall be maintained free of toxic substances in concentrations which are toxic to, or which produce detrimental physiological responses in, human, plant, animal, or aquatic life.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	In freshwater sediments the probable effect concentration (predictive of sediment toxicity for sediment-dwelling organisms) for Lindane (gamma-HCH) is 4.99 ug/Kg dry weight (MacDonald et al. 2000).
Guideline Reference:	Development and evaluation of consensus-based sediment quality guidelines for freshwater ecosystems. Environmental Contamination and Toxicology. 39: 20-31
Spatial Representation:	Data for this line of evidence for San Mateo Creek, Lower was collected at 1 monitoring site [San Mateo Creek at Gateway Park station (204SMA020)]
Temporal Representation:	Data was collected on a single day 6/18/2008.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	SWAMP data collected before September 2008 followed the QAMP (2002), however there may have been overlap in QA with SWAMP QAPP (2008).
QAPP Information Reference(s):	Quality Assurance Management Plan for the State of California's Surface Water Ambient Monitoring Program. Sacramento, CA. State Water Resources Control Board. SWAMP. December 2002 (1st version) Surface Water Ambient Monitoring Program Quality Assurance Program Plan

Pollutant:	Mercury
Final Listing Decision:	Do Not List on 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision:	New Decision
Revision Status	Revised
Impairment from Pollutant or Pollution:	Pollutant

Regional Board Staff Conclusion: This pollutant is being considered for placement on the CWA section 303(d) List under section 3.6 of the Listing Policy. Under section 3.6 a single line(s) of evidence are necessary to assess listing status.

One line of evidence are available in the administrative record to assess this pollutant. Zero of the one samples exceed the guideline for Mercury.

Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against placing this water segment-pollutant combination on the CWA section 303(d) List.

This conclusion is based on the staff findings that:

1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy.
2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy.
3. Zero of one samples exceeded the guideline for Mercury and this sample size is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating. A minimum of 16 samples is needed to determine if a beneficial use is fully supported using table 3.1.
4. Pursuant to SECTION 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.

Regional Board Staff Decision Recommendation: After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be placed on the section 303(d) list. The readily available data and information is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating.

Line of Evidence (LOE) for Decision ID 66287, Mercury	Region 2
San Mateo Creek, Lower	

LOE ID:	93091
Pollutant:	Mercury
LOE Subgroup:	Pollutant-Sediment
Matrix:	Sediment
Fraction:	Total
Beneficial Use:	Cold Freshwater Habitat
Number of Samples:	1
Number of Exceedances:	0
Data and Information Type:	PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality:	Water Board staff assessed SWAMP data for San Mateo Creek, Lower to determine beneficial use support and results are as follows: 0 of 1 samples exceed the criterion for Mercury.
Data Reference:	Statewide Stream Pollution Trends Study 2008
SWAMP Data:	SWAMP

Water Quality Objective/Criterion:	San Francisco Bay Basin Water Quality Control Plan 2007: All waters shall be maintained free of toxic substances in concentrations which are toxic to, or which produce detrimental physiological responses in, human, plant, animal, or aquatic life.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	In freshwater sediments the probable effect concentration (predictive of sediment toxicity for sediment-dwelling organisms) for mercury is 1.06 mg/Kg dry weight (MacDonald et al. 2000).
Guideline Reference:	Development and evaluation of consensus-based sediment quality guidelines for freshwater ecosystems. Environmental Contamination and Toxicology. 39: 20-31
Spatial Representation:	Data for this line of evidence for San Mateo Creek, Lower was collected at 1 monitoring site [San Mateo Creek at Gateway Park station (204SMA020)]
Temporal Representation:	Data was collected on a single day 6/18/2008.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	SWAMP data collected before September 2008 followed the QAMP (2002), however there may have been overlap in QA with SWAMP QAPP (2008).
QAPP Information Reference(s):	Quality Assurance Management Plan for the State of California's Surface Water Ambient Monitoring Program. Sacramento, CA. State Water Resources Control Board. SWAMP. December 2002 (1st version) Surface Water Ambient Monitoring Program Quality Assurance Program Plan

DECISION ID 66288		Region 2
San Mateo Creek, Lower		
Pollutant:	Methyl Parathion	
Final Listing Decision:	Do Not List on 303(d) list (TMDL required list)	
Last Listing Cycle's Final Listing Decision:	New Decision	
Revision Status	Revised	
Impairment from Pollutant or Pollution:	Pollutant	
Regional Board Staff Conclusion:	<p>This pollutant is being considered for placement on the CWA section 303(d) List under section 3.6 of the Listing Policy. Under section 3.6 a single line(s) of evidence are necessary to assess listing status.</p> <p>One lines of evidence are available in the administrative record to assess this pollutant. Zero of the one samples exceed the guideline for Methyl Parathion.</p> <p>Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against placing this water segment-pollutant combination on the CWA section 303(d) List.</p> <p>This conclusion is based on the staff findings that:</p> <ol style="list-style-type: none"> 1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy. 2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy. 3. Zero of one samples exceeded the guideline for Methyl Parathion and this sample size is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating. A minimum of 16 samples is needed to determine if a beneficial use is fully supported using table 3.1. 4. Pursuant to SECTION 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met. 	
Regional Board Staff Decision Recommendation:	After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be placed on the section 303(d) list. The readily available data and information is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating.	
Line of Evidence (LOE) for Decision ID 66288, Methyl Parathion		Region 2

San Mateo Creek, Lower

LOE ID:	93092
Pollutant:	Methyl Parathion
LOE Subgroup:	Pollutant-Sediment
Matrix:	Sediment
Fraction:	Total
Beneficial Use:	Cold Freshwater Habitat
Number of Samples:	1
Number of Exceedances:	0
Data and Information Type:	PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality:	Water Board staff assessed SWAMP data for San Mateo Creek, Lower to determine beneficial use support and results are as follows: 0 of 1 samples exceed the criterion for Parathion, Methyl.
Data Reference:	Statewide Stream Pollution Trends Study 2008
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	San Francisco Bay Basin Water Quality Control Plan 2007: All waters shall be maintained free of toxic substances in concentrations which are toxic to, or which produce detrimental physiological responses in, human, plant, animal, or aquatic life.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	The evaluation guideline for methyl parathion is the median lethal concentration (LC50) of 6 ug/g and is normalized by the percentage of organic carbon in the sediment sample. The LC50 6 ug/g is the geometric mean of LC50 values for methyl parathion from Ding et al. (2011).
Guideline Reference:	Toxicity of Sediment-Associated Pesticides to Chironomus dilutus and Hyalella azteca. Arch. Environ. Contam. Toxicol. 61:83?92.
Spatial Representation:	Data for this line of evidence for San Mateo Creek, Lower was collected at 1 monitoring site [San Mateo Creek at Gateway Park station (204SMA020)]
Temporal Representation:	Data was collected on a single day 6/18/2008.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	SWAMP data collected before September 2008 followed the QAMP (2002), however there may have been overlap in QA with SWAMP QAPP (2008).
QAPP Information Reference(s):	Quality Assurance Management Plan for the State of California's Surface Water Ambient Monitoring Program. Sacramento, CA. State Water Resources Control Board. SWAMP. December 2002 (1st version) Surface Water Ambient Monitoring Program Quality Assurance Program Plan

DECISION ID	66289	Region 2
San Mateo Creek, Lower		
Pollutant:	Naphthalene	
Final Listing Decision:	Do Not List on 303(d) list (TMDL required list)	
Last Listing Cycle's Final Listing Decision:	New Decision	
Revision Status	Revised	
Impairment from Pollutant or Pollution:	Pollutant	
Regional Board Staff Conclusion:	This pollutant is being considered for placement on the CWA section 303(d) List under section 3.6 of the Listing Policy. Under section 3.6 a single line(s) of evidence are necessary to assess listing status. One line of evidence are available in the administrative record to assess this pollutant. Zero of the	

one samples exceed the guideline for Naphthalene.

Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against placing this water segment-pollutant combination on the CWA section 303(d) List.

This conclusion is based on the staff findings that:

1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy.
2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy.
3. Zero of the one samples exceeded the guideline for Naphthalene and this sample size is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating. A minimum of 26 samples is needed to determine if a beneficial use is fully supported using table 3.2.
4. Pursuant to SECTION 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.

Regional Board Staff Decision Recommendation: After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be placed on the section 303(d) list. The readily available data and information is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating.

**Line of Evidence (LOE) for Decision ID 66289, Naphthalene
San Mateo Creek, Lower**

Region 2

LOE ID:	93093
Pollutant:	Naphthalene
LOE Subgroup:	Pollutant-Sediment
Matrix:	Sediment
Fraction:	Total
Beneficial Use:	Cold Freshwater Habitat
Number of Samples:	1
Number of Exceedances:	0
Data and Information Type:	PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality:	Water Board staff assessed SWAMP data for San Mateo Creek, Lower to determine beneficial use support and results are as follows: 0 of 1 samples exceed the criterion for Naphthalene.
Data Reference:	Statewide Stream Pollution Trends Study 2008
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	San Francisco Bay Basin Water Quality Control Plan 2007: All waters shall be maintained free of toxic substances in concentrations which are toxic to, or which produce detrimental physiological responses in, human, plant, animal, or aquatic life.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	In freshwater sediments the probable effect concentration (predictive of sediment toxicity for sediment-dwelling organisms) for naphthalene is 561 ug/Kg dry weight (MacDonald et al. 2000).
Guideline Reference:	Development and evaluation of consensus-based sediment quality guidelines for freshwater ecosystems. Environmental Contamination and Toxicology. 39: 20-31
Spatial Representation:	Data for this line of evidence for San Mateo Creek, Lower was collected at 1 monitoring site [San Mateo Creek at Gateway Park station (204SMA020)]
Temporal Representation:	Data was collected on a single day 6/18/2008.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	SWAMP data collected before September 2008 followed the QAMP (2002), however there may have been overlap in QA with SWAMP QAPP (2008).

DECISION ID	43961	Region 2
San Mateo Creek, Lower		

Pollutant: Nickel
Final Listing Decision: Do Not List on 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision: Do Not List on 303(d) list (TMDL required list)(2012)
Revision Status: Revised
Impairment from Pollutant or Pollution: Pollutant

Regional Board Staff Conclusion: This pollutant is being considered for placement on the CWA section 303(d) List under section 3.6 of the Listing Policy. Under section 3.6 at least two lines of evidence are necessary to assess listing status for pollutants sediment, and pollutant concentrations in sediment must be associated with sediment toxicity to justify adding that pollutant to the CWA section 303(d) List.

Two lines of evidence are available in the administrative record to assess this pollutant. 2 of the two samples exceed the Guideline. 0 of 0 samples exhibited sediment toxicity. There are no sediment toxicity samples available collected at the same time and location as the sediment chemistry data.

Based on the readily available data and information, the weight of evidence indicates that there is insufficient justification for placing this water segment-pollutant combination on the CWA section 303(d) List.

This conclusion is based on the staff findings that:

1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy.
2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy.
3. 2 of the 2 samples exceed the guideline and this sample size is not sufficient to determine beneficial use support, with the power and confidence of the Listing Policy. There is not an associated sediment toxicity data as required by Section 3.6 of the Listing Policy.
4. Pursuant to section 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.

Regional Board Staff Decision Recommendation: After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be placed on the section 303(d) list. The readily available data and information is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating.

Line of Evidence (LOE) for Decision ID 43961, Nickel	Region 2
San Mateo Creek, Lower	

LOE ID: 93094

Pollutant: Nickel
LOE Subgroup: Pollutant-Sediment
Matrix: Sediment
Fraction: Total

Beneficial Use: Cold Freshwater Habitat

Number of Samples: 1
Number of Exceedances: 1

Data and Information Type: PHYSICAL/CHEMICAL MONITORING

Data Used to Assess Water Quality:	Water Board staff assessed SWAMP data for San Mateo Creek, Lower to determine beneficial use support and results are as follows: 1 of 1 samples exceed the criterion for Nickel.
Data Reference:	Statewide Stream Pollution Trends Study 2008
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	San Francisco Bay Basin Water Quality Control Plan 2007: All waters shall be maintained free of toxic substances in concentrations which are toxic to, or which produce detrimental physiological responses in, human, plant, animal, or aquatic life.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	In freshwater sediments the probable effect concentration (predictive of sediment toxicity for sediment-dwelling organisms) for nickel is 48.6 mg/Kg dry weight (MacDonald et al. 2000).
Guideline Reference:	Development and evaluation of consensus-based sediment quality guidelines for freshwater ecosystems. Environmental Contamination and Toxicology. 39: 20-31
Spatial Representation:	Data for this line of evidence for San Mateo Creek, Lower was collected at 1 monitoring site [San Mateo Creek at Gateway Park station (204SMA020)]
Temporal Representation:	Data was collected on a single day 6/18/2008.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	SWAMP data collected before September 2008 followed the QAMP (2002), however there may have been overlap in QA with SWAMP QAPP (2008).
QAPP Information Reference(s):	Quality Assurance Management Plan for the State of California's Surface Water Ambient Monitoring Program. Sacramento, CA. State Water Resources Control Board. SWAMP. December 2002 (1st version). Surface Water Ambient Monitoring Program Quality Assurance Program Plan

Line of Evidence (LOE) for Decision ID 43961, Nickel

Region 2

San Mateo Creek, Lower

LOE ID:	28766
Pollutant:	Nickel
LOE Subgroup:	Pollutant-Sediment
Matrix:	Sediment
Fraction:	Total
Beneficial Use:	Cold Freshwater Habitat
Number of Samples:	1
Number of Exceedances:	1
Data and Information Type:	PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality:	Nickel exceeded the PEC level with a sample concentration of 188 mg/kg dw in one sediment sample collected in spring 2003 (sediment quality guidelines).
Data Reference:	Water Quality Monitoring and Bioassessment in Four San Francisco Bay Region Watersheds in 2003-2004: Kirker Creek, Mt. Diablo Creek, Petaluma River, and San Mateo Creek. Surface Water Monitoring Program, San Francisco Bay Regional Water Quality Control Board, Oakland, CA
SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	All waters shall be maintained free of toxic substances that are lethal to or that produce other detrimental responses in aquatic organisms.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) - San Francisco Bay Region (Region 2)
Evaluation Guideline:	Sediment Quality Guidelines (MacDonald et al., 2000): PEC (threshold effect concentration) nickel - 48.6 mg/kg dw.
Guideline Reference:	Development and evaluation of consensus-based sediment quality guidelines for freshwater ecosystems. Environmental Contamination and Toxicology. 39: 20-31

Spatial Representation:	One sediment sample was collected at a "watershed integrator" site located close to the mouth of San Mateo Creek.
Temporal Representation:	Sediment sample was collected in April of 2003.
Environmental Conditions:	
QAPP Information:	All samples were collected and analyzed using procedures comparable with the SWAMP Quality Assurance Management Plan (SWRCB, 2002).
QAPP Information Reference(s):	

DECISION ID	66290	Region 2
San Mateo Creek, Lower		

Pollutant:	PAHs (Polycyclic Aromatic Hydrocarbons)
Final Listing Decision:	Do Not List on 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision:	New Decision
Revision Status	Revised
Impairment from Pollutant or Pollution:	Pollutant
Regional Board Staff Conclusion:	<p>This pollutant is being considered for placement on the CWA section 303(d) List under section 3.6 of the Listing Policy. Under section 3.6 a single line(s) of evidence are necessary to assess listing status.</p> <p>One lines of evidence are available in the administrative record to assess this pollutant. Zero of the one samples exceed the guideline for PAHs (Polycyclic Aromatic Hydrocarbons).</p> <p>Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against placing this water segment-pollutant combination on the CWA section 303(d) List.</p> <p>This conclusion is based on the staff findings that:</p> <ol style="list-style-type: none"> 1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy. 2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy. 3. Zero of the one samples exceeded the guideline for PAHs (Polycyclic Aromatic Hydrocarbons) and this sample size is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating. A minimum of 26 samples is needed to determine if a beneficial use is fully supported using table 3.2. 4. Pursuant to SECTION 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.
Regional Board Staff Decision Recommendation:	After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be placed on the section 303(d) list. The readily available data and information is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating.

Line of Evidence (LOE) for Decision ID 66290, PAHs (Polycyclic Aromatic Hydrocarbons)	Region 2
San Mateo Creek, Lower	

LOE ID:	93095
Pollutant:	PAHs (Polycyclic Aromatic Hydrocarbons)
LOE Subgroup:	Pollutant-Sediment
Matrix:	Sediment
Fraction:	Total
Beneficial Use:	Cold Freshwater Habitat
Number of Samples:	1

Number of Exceedances:	0
Data and Information Type:	PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality:	Water Board staff assessed SWAMP data for San Mateo Creek, Lower to determine beneficial use support and results are as follows: 0 of 1 samples exceed the criterion for PAHs (Polycyclic Aromatic Hydrocarbons).
Data Reference:	Statewide Stream Pollution Trends Study 2008
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	San Francisco Bay Basin Water Quality Control Plan 2007: All waters shall be maintained free of toxic substances in concentrations which are toxic to, or which produce detrimental physiological responses in, human, plant, animal, or aquatic life.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	In freshwater sediments the probable effects level (predictive of sediment toxicity for sediment-dwelling organisms) for PAH, Total is 22,800 ug/Kg dry weight (Macdonald et al. 2000)
Guideline Reference:	Development and evaluation of consensus-based sediment quality guidelines for freshwater ecosystems. Environmental Contamination and Toxicology. 39: 20-31
Spatial Representation:	Data for this line of evidence for San Mateo Creek, Lower was collected at 1 monitoring site [San Mateo Creek at Gateway Park station (204SMA020)]
Temporal Representation:	Data was collected on a single day 6/18/2008.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	SWAMP data collected before September 2008 followed the QAMP (2002), however there may have been overlap in QA with SWAMP QAPP (2008).
QAPP Information Reference(s):	Quality Assurance Management Plan for the State of California's Surface Water Ambient Monitoring Program. Sacramento, CA. State Water Resources Control Board. SWAMP. December 2002 (1st version) Surface Water Ambient Monitoring Program Quality Assurance Program Plan

DECISION ID	66291	Region 2
San Mateo Creek, Lower		

Pollutant:	PCBs (Polychlorinated biphenyls)
Final Listing Decision:	Do Not List on 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision:	New Decision
Revision Status	Revised
Impairment from Pollutant or Pollution:	Pollutant
Regional Board Staff Conclusion:	<p>This pollutant is being considered for placement on the CWA section 303(d) List under section 3.6 of the Listing Policy. Under section 3.6 a single line(s) of evidence are necessary to assess listing status.</p> <p>One lines of evidence are available in the administrative record to assess this pollutant. Zero of the one samples exceed the guideline for PCBs (Polychlorinated biphenyls).</p> <p>Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against placing this water segment-pollutant combination on the CWA section 303(d) List.</p> <p>This conclusion is based on the staff findings that:</p> <ol style="list-style-type: none"> 1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy. 2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy. 3. Zero of the one samples exceeded the guideline for PCBs (Polychlorinated biphenyls) and this sample size is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating. A minimum of 16 samples is needed to determine if a beneficial use is fully supported using table 3.1.

4. Pursuant to SECTION 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.

Regional Board Staff Decision Recommendation: After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be placed on the section 303(d) list. The readily available data and information is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating.

Line of Evidence (LOE) for Decision ID 66291, PCBs (Polychlorinated biphenyls)	Region 2
San Mateo Creek, Lower	

LOE ID:	90582
Pollutant:	PCBs (Polychlorinated biphenyls)
LOE Subgroup:	Pollutant-Sediment
Matrix:	Sediment
Fraction:	Total
Beneficial Use:	Cold Freshwater Habitat
Number of Samples:	1
Number of Exceedances:	0
Data and Information Type:	PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality:	Zero of 1 sample collected for Total PCBs exceeded the evaluation guideline.
Data Reference:	Statewide Stream Pollution Trends Study 2008
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	Waters shall not contain substances in concentrations that result in the deposition of material that causes nuisance or adversely affects beneficial uses (Water Quality Control Plan for the San Francisco Bay Region).
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) - San Francisco Bay Region (Region 2)
Evaluation Guideline:	In freshwater sediments the probable effect concentration (predictive of sediment toxicity) for total PCB is 676 ug/Kg dry weight (MacDonald et al. 2000).
Guideline Reference:	Development and evaluation of consensus-based sediment quality guidelines for freshwater ecosystems. Environmental Contamination and Toxicology. 39: 20-31
Spatial Representation:	Data were collected at the following station 204SLE030 (San Leandro Creek at Empire Road).
Temporal Representation:	The samples were collected on 6/18/2008.
Environmental Conditions:	
QAPP Information:	The SWAMP QAPP (2008) was followed.
QAPP Information Reference(s):	Surface Water Ambient Monitoring Program Quality Assurance Program Plan

DECISION ID	66292	Region 2
San Mateo Creek, Lower		

Pollutant:	Permethrin
Final Listing Decision:	Do Not List on 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision:	New Decision
Revision Status	Revised
Impairment from Pollutant or Pollution:	Pollutant

Regional Board Staff Conclusion: This pollutant is being considered for placement on the CWA section 303(d) List under section 3.6 of the Listing Policy. Under section 3.6 a single line(s) of evidence are necessary to assess listing

status.

One lines of evidence are available in the administrative record to assess this pollutant. Zero fo the one samples exceed the guideline for Permethrin, total.

Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against placing this water segment-pollutant combination on the CWA section 303(d) List.

This conclusion is based on the staff findings that:

1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy.
2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy.
3. Zero of one samples exceeded the guideline for Permethrin, total and this sample size is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating. A minimum of 26 samples is needed to determine if a beneficial use is fully supported using table 3.2.
4. Pursuant to SECTION 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.

Regional Board Staff Decision Recommendation: After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be placed on the section 303(d) list. The readily available data and information is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating.

**Line of Evidence (LOE) for Decision ID 66292, Permethrin
San Mateo Creek, Lower**

Region 2

LOE ID:	93096
Pollutant:	Permethrin, total
LOE Subgroup:	Pollutant-Sediment
Matrix:	Sediment
Fraction:	Total
Beneficial Use:	Cold Freshwater Habitat
Number of Samples:	1
Number of Exceedances:	0
Data and Information Type:	PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality:	Water Board staff assessed SWAMP data for San Mateo Creek, Lower to determine beneficial use support and results are as follows: 0 of 1 samples exceed the criterion for Permethrin, Total.
Data Reference:	Statewide Stream Pollution Trends Study 2008
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	San Francisco Bay Basin Water Quality Control Plan 2007: All waters shall be maintained free of toxic substances in concentrations which are toxic to, or which produce detrimental physiological responses in, human, plant, animal, or aquatic life.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	The evaluation guideline for permethrin is the median lethal concentration (LC50) of 8.9 ug/g and is normalized by the percentage of organic carbon in the sediment sample. The LC50 8.9 ug/g is the geometric mean of LC50 values for permethrin from Amweg et al. (2005).
Guideline Reference:	Use and Toxicity of Pyrethroid Pesticides in the Central Valley, California, USA. Environmental Toxicology and Chemistry, 24:966-972, with erratum 24:No. 5
Spatial Representation:	Data for this line of evidence for San Mateo Creek, Lower was collected at 1 monitoring site [San Mateo Creek at Gateway Park station (204SMA020)]

Temporal Representation:	Data was collected on a single day 6/18/2008.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	SWAMP data collected before September 2008 followed the QAMP (2002), however there may have been overlap in QA with SWAMP QAPP (2008).
QAPP Information Reference(s):	Quality Assurance Management Plan for the State of California's Surface Water Ambient Monitoring Program. Sacramento, CA. State Water Resources Control Board. SWAMP. December 2002 (1st version) Surface Water Ambient Monitoring Program Quality Assurance Program Plan

DECISION ID	66293	Region 2
San Mateo Creek, Lower		

Pollutant:	Phenanthrene
Final Listing Decision:	Do Not List on 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision:	New Decision
Revision Status	Revised
Impairment from Pollutant or Pollution:	Pollutant

Regional Board Staff Conclusion: This pollutant is being considered for placement on the CWA section 303(d) List under section 3.6 of the Listing Policy. Under section 3.6 a single line(s) of evidence are necessary to assess listing status.

One lines of evidence are available in the administrative record to assess this pollutant. Zero fo the one samples exceed the guideline for Phenanthrene.

Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against placing this water segment-pollutant combination on the CWA section 303(d) List.

This conclusion is based on the staff findings that:

1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy.
2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy.
3. Zero of the one samples exceeded the guideline for Phenanthrene and this sample size is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating. A minimum of 16 samples is needed to determine if a beneficial use is fully supported using table 3.1.
4. Pursuant to SECTION 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.

Regional Board Staff Decision Recommendation:	After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be placed on the section 303(d) list. The readily available data and information is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating.
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Line of Evidence (LOE) for Decision ID 66293, Phenanthrene		Region 2
San Mateo Creek, Lower		

LOE ID:	93097
Pollutant:	Phenanthrene
LOE Subgroup:	Pollutant-Sediment
Matrix:	Sediment
Fraction:	Total
Beneficial Use:	Cold Freshwater Habitat
Number of Samples:	1

Number of Exceedances:	0
Data and Information Type:	PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality:	Water Board staff assessed SWAMP data for San Mateo Creek, Lower to determine beneficial use support and results are as follows: 0 of 1 samples exceed the criterion for Phenanthrene.
Data Reference:	Statewide Stream Pollution Trends Study 2008
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	San Francisco Bay Basin Water Quality Control Plan 2007: All waters shall be maintained free of toxic substances in concentrations which are toxic to, or which produce detrimental physiological responses in, human, plant, animal, or aquatic life.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	In freshwater sediments the probable effects level (predictive of sediment toxicity for sediment-dwelling organisms) for Phenanthrene is 1170 ug/Kg dry weight (Macdonald et al. 2000)
Guideline Reference:	Development and evaluation of consensus-based sediment quality guidelines for freshwater ecosystems. Environmental Contamination and Toxicology. 39: 20-31
Spatial Representation:	Data for this line of evidence for San Mateo Creek, Lower was collected at 1 monitoring site [San Mateo Creek at Gateway Park station (204SMA020)]
Temporal Representation:	Data was collected on a single day 6/18/2008.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	SWAMP data collected before September 2008 followed the QAMP (2002), however there may have been overlap in QA with SWAMP QAPP (2008).
QAPP Information Reference(s):	Quality Assurance Management Plan for the State of California's Surface Water Ambient Monitoring Program. Sacramento, CA. State Water Resources Control Board. SWAMP. December 2002 (1st version) Surface Water Ambient Monitoring Program Quality Assurance Program Plan

DECISION ID	66294	Region 2
San Mateo Creek, Lower		

Pollutant:	Pyrene
Final Listing Decision:	Do Not List on 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision:	New Decision
Revision Status	Revised
Impairment from Pollutant or Pollution:	Pollutant

Regional Board Staff Conclusion:	<p>This pollutant is being considered for placement on the CWA section 303(d) List under section 3.6 of the Listing Policy. Under section 3.6 a single line(s) of evidence are necessary to assess listing status.</p> <p>One lines of evidence are available in the administrative record to assess this pollutant. Zero of the one samples exceed the guideline for Pyrene.</p> <p>Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against placing this water segment-pollutant combination on the CWA section 303(d) List.</p> <p>This conclusion is based on the staff findings that:</p> <ol style="list-style-type: none"> 1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy. 2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy. 3. Zero of the one samples exceeded the guideline for Pyrene and this sample size is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating. A minimum of 16 samples is needed to determine if a beneficial use is fully supported using table 3.1.
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4. Pursuant to SECTION 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.

Regional Board Staff Decision Recommendation: After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be placed on the section 303(d) list. The readily available data and information is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating.

Line of Evidence (LOE) for Decision ID 66294, Pyrene

Region 2

San Mateo Creek, Lower

LOE ID: 93098

Pollutant: Pyrene
LOE Subgroup: Pollutant-Sediment
Matrix: Sediment
Fraction: Total

Beneficial Use: Cold Freshwater Habitat

Number of Samples: 1
Number of Exceedances: 0

Data and Information Type: PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality: Water Board staff assessed SWAMP data for San Mateo Creek, Lower to determine beneficial use support and results are as follows: 0 of 1 samples exceed the criterion for Pyrene.

Data Reference: [Statewide Stream Pollution Trends Study 2008](#)

SWAMP Data: SWAMP

Water Quality Objective/Criterion: San Francisco Bay Basin Water Quality Control Plan 2007: All waters shall be maintained free of toxic substances in concentrations which are toxic to, or which produce detrimental physiological responses in, human, plant, animal, or aquatic life.

Objective/Criterion Reference: [Water Quality Control Plan \(Basin Plan\) San Francisco Bay Basin \(Region 2\)](#)

Evaluation Guideline: In freshwater sediments the probable effects level (predictive of sediment toxicity for sediment-dwelling organisms) for Pyrene is 1520 ug/Kg dry weight (Macdonald et al. 2000)

Guideline Reference: [Development and evaluation of consensus-based sediment quality guidelines for freshwater ecosystems. Environmental Contamination and Toxicology. 39: 20-31](#)

Spatial Representation: Data for this line of evidence for San Mateo Creek, Lower was collected at 1 monitoring site [San Mateo Creek at Gateway Park station (204SMA020)]

Temporal Representation: Data was collected on a single day 6/18/2008.

Environmental Conditions: Staff is not aware of any special conditions that might affect interpretation of the data.

QAPP Information: SWAMP data collected before September 2008 followed the QAMP (2002), however there may have been overlap in QA with SWAMP QAPP (2008).

QAPP Information Reference(s): [Quality Assurance Management Plan for the State of California's Surface Water Ambient Monitoring Program. Sacramento, CA. State Water Resources Control Board. SWAMP. December 2002 \(1st version\)](#)
[Surface Water Ambient Monitoring Program Quality Assurance Program Plan](#)

DECISION ID

66296

Region 2

San Mateo Creek, Lower

Pollutant: Zinc
Final Listing Decision: Do Not List on 303(d) list (TMDL required list)
Last Listing Cycle's Final New Decision

Listing Decision:**Revision Status**

Revised

Impairment from Pollutant or Pollution:

Pollutant

Regional Board Staff**Conclusion:**

This pollutant is being considered for placement on the CWA section 303(d) List under section 3.6 of the Listing Policy. Under section 3.6 a single line(s) of evidence are necessary to assess listing status.

One lines of evidence are available in the administrative record to assess this pollutant. Zero of the one samples exceed the guideline for Zinc.

Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against placing this water segment-pollutant combination on the CWA section 303(d) List.

This conclusion is based on the staff findings that:

1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy.
2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy.
3. Zero of the one samples exceeded the guideline for Zinc and this sample size is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating. A minimum of 16 samples is needed to determine if a beneficial use is fully supported using table 3.1.
4. Pursuant to SECTION 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.

Regional Board Staff Decision Recommendation:

After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be placed on the section 303(d) list. The readily available data and information is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating.

Line of Evidence (LOE) for Decision ID 66296, Zinc**Region 2****San Mateo Creek, Lower**

LOE ID: 93101

Pollutant: Zinc
LOE Subgroup: Pollutant-Sediment
Matrix: Sediment
Fraction: Total

Beneficial Use: Cold Freshwater Habitat

Number of Samples: 1
Number of Exceedances: 0

Data and Information Type: PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality: Water Board staff assessed SWAMP data for San Mateo Creek, Lower to determine beneficial use support and results are as follows: 0 of 1 samples exceed the criterion for Zinc.

Data Reference: [Statewide Stream Pollution Trends Study 2008](#)

SWAMP Data: SWAMP

Water Quality Objective/Criterion: San Francisco Bay Basin Water Quality Control Plan 2007: All waters shall be maintained free of toxic substances in concentrations which are toxic to, or which produce detrimental physiological responses in, human, plant, animal, or aquatic life.

Objective/Criterion Reference: [Water Quality Control Plan \(Basin Plan\) San Francisco Bay Basin \(Region 2\)](#)

Evaluation Guideline: In freshwater sediments the probable effect concentration (predictive of sediment toxicity for sediment-dwelling organisms) for zinc is 459 mg/Kg dry weight (MacDonald et al.

Guideline Reference:	2000). Development and evaluation of consensus-based sediment quality guidelines for freshwater ecosystems. Environmental Contamination and Toxicology. 39: 20-31
Spatial Representation:	Data for this line of evidence for San Mateo Creek, Lower was collected at 1 monitoring site [San Mateo Creek at Gateway Park station (204SMA020)]
Temporal Representation:	Data was collected on a single day 6/18/2008.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	SWAMP data collected before September 2008 followed the QAMP (2002), however there may have been overlap in QA with SWAMP QAPP (2008).
QAPP Information Reference(s):	Quality Assurance Management Plan for the State of California's Surface Water Ambient Monitoring Program. Sacramento, CA. State Water Resources Control Board. SWAMP. December 2002 (1st version). Surface Water Ambient Monitoring Program Quality Assurance Program Plan

DECISION ID 44070		Region 2
San Mateo Creek, Lower		
Pollutant:	Toxicity	
Final Listing Decision:	List on 303(d) list (TMDL required list)	
Last Listing Cycle's Final Listing Decision:	Do Not List on 303(d) list (TMDL required list)(2012)	
Revision Status	Revised	
Sources:	Source Unknown	
Expected TMDL Completion Date:	2029	
Impairment from Pollutant or Pollution:	Pollutant	
Regional Board Staff Conclusion:	<p>This pollutant is being considered for placement on the CWA section 303(d) List under section 3.6 of the Listing Policy. Under section 3.6 a single line of evidence is necessary to assess listing status.</p> <p>Four lines of evidence are available in the administrative record to assess this pollutant. Five of five samples exceed the guideline.</p> <p>Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification in favor of placing this water segment-pollutant combination on the CWA section 303(d) List.</p> <p>This conclusion is based on the staff findings that:</p> <ol style="list-style-type: none"> 1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy. 2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy. 3. Five of five samples exceed the guideline and this exceeds the allowable frequency listed in Table 3.1 of the Listing Policy. 4. Pursuant to section 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met. 	
Regional Board Staff Decision Recommendation:	<p>After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should be placed on the section 303(d) list because applicable water quality standards are exceeded and a pollutant contributes to or causes the problem.</p> <p>This waterbody was already listed for sediment toxicity in a previous listing round. Thus, this is not a new listing. The previous decision field is in error because it is referring to the previous decision for water toxicity. Now that water and sediment toxicity are combined, the current listing will be for toxicity, but it is important to keep in mind that the toxicity is for the sediment compartment.</p>	
Line of Evidence (LOE) for Decision ID 44070, Toxicity		Region 2
San Mateo Creek, Lower		

LOE ID:	93100
Pollutant:	Toxicity
LOE Subgroup:	Toxicity
Matrix:	Sediment
Fraction:	None
Beneficial Use:	Cold Freshwater Habitat
Number of Samples:	1
Number of Exceedances:	1
Data and Information Type:	TOXICITY TESTING
Data Used to Assess Water Quality:	One sample was collected to evaluate sediment toxicity. The sample exhibited significant toxicity. The toxicity test included survival and growth of <i>Hyalella azteca</i> . One sample can have multiple toxicity test results but will be counted only once. One sample is defined as being collected on the same day at the same location with the same lab sample id (if provided).
Data Reference:	Statewide Stream Pollution Trends Study 2008
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	All waters shall be maintained free of toxic substances in concentrations that are toxic to, or that produce detrimental physiological responses in, human, plant, animal, or aquatic life. Region 2 Basin Plan.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) - San Francisco Bay Region (Region 2)
Evaluation Guideline:	Toxicity is defined as a statistically significant effect in the sample exposure compared to the control using EPA-recommended hypothesis testing. . For SWAMP data exceedances are counted with the significant effect code SL. SL is defined as the result being significant compared to the negative control based on a statistical test, less than stated the alpha level, AND less than the evaluation threshold.
Guideline Reference:	Methods for Measuring the Toxicity and Bioaccumulation of Sediment-associated Contaminants with Freshwater Invertebrates, Second Edition. U.S. Environmental Protection Agency Office of Research and Development, Duluth, MI . U.S. Environmental Protection Agency Office of Water, Washington, DC EPA-600/R-99/064
Spatial Representation:	The sample was collected at station 204SMA020.
Temporal Representation:	The sample was collected in June 2008.
Environmental Conditions:	
QAPP Information:	All data was collected following the Standard Operating Procedures and Data Quality Objectives outlined in the SWAMP QAMP, (Puckett, 2002). QA data are included in submission.
QAPP Information Reference(s):	

Line of Evidence (LOE) for Decision ID 44070, Toxicity
San Mateo Creek, Lower

Region 2

LOE ID:	26765
Pollutant:	Sediment Toxicity
LOE Subgroup:	Toxicity
Matrix:	Sediment
Fraction:	None
Beneficial Use:	Wildlife Habitat
Number of Samples:	1
Number of Exceedances:	1
Data and Information Type:	Toxicity testing of sediments
Data Used to Assess Water Quality:	Data used to evaluate sediment toxicity comprise one sediment sample collected by the

SWAMP in 2003. The sample was toxic to Hyalella (survival was only 18% of control) in the bulk sediment toxicity test and chronic growth was also significantly affected (28.9% of control).

Comprehensive water quality assessment was conducted at seven monitoring sites in the San Mateo Creek watershed as part of SWAMP assessment. The aim of the monitoring was to determine patterns of water quality, protection of beneficial uses and potential impacts of land use and water management. Sampled parameters included physical and biological indicators, conventional water quality, water metals and toxicity as well as sediment metals and toxicity.

SWAMP sediment sample was collected at the tidally influenced urban segment of San Mateo Creek.

Data Reference:

[Water Quality Monitoring and Bioassessment in Four San Francisco Bay Region Watersheds in 2003-2004: Kirker Creek, Mt. Diablo Creek, Petaluma River, and San Mateo Creek. Surface Water Monitoring Program, San Francisco Bay Regional Water Quality Control Board, Oakland, CA](#)

SWAMP Data:

SWAMP

Water Quality Objective/Criterion:

All waters shall be maintained free of toxic substances that are lethal to or that produce other detrimental responses in aquatic organisms.

There shall be no chronic toxicity in ambient waters. Chronic toxicity is a detrimental biological effect on growth rate, reproduction, fertilization success, larval development, population abundance, community composition, or any other relevant measure of the health of an organism, population, or community.

Objective/Criterion Reference:

[Water Quality Control Plan \(Basin Plan\) - San Francisco Bay Region \(Region 2\)](#)

Evaluation Guideline:

Sediment toxicity data were evaluated according to the SWAMP methodology. Sample toxicity was determined by comparing mean organism response in samples and in negative controls. Statistical evaluation and a default threshold of 80% of the control value were used to establish whether the sediment exhibited significant toxicity adversely impacting aquatic organisms.

Guideline Reference:

[Revised approach to toxicity test acceptability criteria using a statistical performance assessment. Environmental Toxicology and Chemistry, vol. 16, No. 6, pp 1322?1329](#)

Spatial Representation:

Data were collected at a sampling location at the lower part of San Mateo Creek within tidal reach.

Temporal Representation:

Sample was collected during spring season of 2003.

Environmental Conditions:

Data are representative of the lower watershed downstream from Mud Dam with the monitoring site located in the densely urbanized areas.

QAPP Information:

Data were collected and analyzed using procedures comparable with the SWAMP Quality Assurance Management Plan (SWRCB 2002).

QAPP Information Reference(s):

[Quality Assurance Management Plan for the State of California's Surface Water Ambient Monitoring Program. Sacramento, CA. State Water Resources Control Board. SWAMP. December 2002 \(1st version\)](#)

Line of Evidence (LOE) for Decision ID 44070, Toxicity

Region 2

San Mateo Creek, Lower

LOE ID:

29029

Pollutant:

Toxicity

LOE Subgroup:

Pollutant-Water

Matrix:

Water

Fraction:

None

Beneficial Use:

Cold Freshwater Habitat

Number of Samples:

3

Number of Exceedances:

1

Data and Information Type:

TOXICITY TESTING

Data Used to Assess Water Quality:

Three samples were collected in 2003 to evaluate water toxicity at one monitoring location

	in San Mateo Creek Lower. The toxicity tests included survival and reproduction of Ceriodaphnia, survival and growth of fathead minnow, and growth of Selenastrum. Statistically significant chronic effects on Pimephales survival was observed in 1 out of 3 samples collected during spring season.
Data Reference:	Water Quality Monitoring and Bioassessment in Four San Francisco Bay Region Watersheds in 2003-2004: Kirker Creek, Mt. Diablo Creek, Petaluma River, and San Mateo Creek. Surface Water Monitoring Program, San Francisco Bay Regional Water Quality Control Board, Oakland, CA
SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	All waters shall be maintained free of toxic substances that are lethal to or that produce other detrimental responses in aquatic organisms. There shall be no chronic toxicity in ambient waters. Chronic toxicity is a detrimental biological effect on growth rate, reproduction, fertilization success, larval development, population abundance, community composition, or any other relevant measure of the health of an organism, population, or community.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) - San Francisco Bay Region (Region 2)
Evaluation Guideline:	Water toxicity was evaluated according to the SWAMP methodology. The U.S.EPA whole effluent toxicity protocol (U.S.EPA 1994) was used to test the effect of water samples on three freshwater test organisms. Statistical evaluation (alpha = 0.05) and a default threshold of 80% of the control value were used to establish whether water exhibited significant toxicity adversely impacting aquatic organisms.
Guideline Reference:	Revised approach to toxicity test acceptability criteria using a statistical performance assessment. Environmental Toxicology and Chemistry, vol. 16, No. 6, pp 1322?1329 Short-Term Methods for Estimating the Chronic Toxicity of Effluents and Receiving Waters to Freshwater Organisms. EPA/600/4-91/002. Third Edition. July 1994
Spatial Representation:	Data were collected at one sampling location, SMA020, on three (3) occasions, representative of the lower reach of the creek.
Temporal Representation:	SWAMP samples were collected during winter wet season (January), spring season (April), and dry season (June) of 2003.
Environmental Conditions:	
QAPP Information:	All samples were collected and analyzed using procedures comparable with the SWAMP Quality Assurance Management Plan (SWRCB, 2002).
QAPP Information Reference(s):	Quality Assurance Management Plan for the State of California's Surface Water Ambient Monitoring Program. Sacramento, CA. State Water Resources Control Board. SWAMP. December 2002 (1st version)

Line of Evidence (LOE) for Decision ID 44070, Toxicity
San Mateo Creek, Lower

Region 2

LOE ID:	26766
Pollutant:	Sediment Toxicity
LOE Subgroup:	Toxicity
Matrix:	Sediment
Fraction:	None
Beneficial Use:	Wildlife Habitat
Number of Samples:	4
Number of Exceedances:	4
Data and Information Type:	Toxicity testing of sediments
Data Used to Assess Water Quality:	Data used to evaluate sediment toxicity comprise four sediment samples collected as part of a PRISM grant (Lowe et al., 2007) in 2004-2005. All samples were toxic to both freshwater and estuarine amphipods during sampling events and exhibited the lowest per cent survival and highest contaminant concentrations compared to other six tributaries studied.
Data Reference:	Final Project Report: Investigations of Sources and Effects of Pyrethroid Pesticides in

[Watersheds of the San Francisco Bay Estuary. Proposition 13 PRISM Grant # 041355520. SFEI Contribution #523. San Francisco Estuary Institute. Oakland, CA](#)
[Water Quality Monitoring and Bioassessment in Four San Francisco Bay Region Watersheds in 2003-2004: Kirker Creek, Mt. Diablo Creek, Petaluma River, and San Mateo Creek. Surface Water Monitoring Program, San Francisco Bay Regional Water Quality Control Board, Oakland, CA](#)

SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	All waters shall be maintained free of toxic substances that are lethal to or that produce other detrimental responses in aquatic organisms. There shall be no chronic toxicity in ambient waters. Chronic toxicity is a detrimental biological effect on growth rate, reproduction, fertilization success, larval development, population abundance, community composition, or any other relevant measure of the health of an organism, population, or community.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) - San Francisco Bay Region (Region 2)
Evaluation Guideline:	Sediment toxicity data were evaluated according to the SWAMP methodology. Sample toxicity was determined by comparing mean organism response in samples and in negative controls. Statistical evaluation and a default threshold of 80% of the control value were used to establish whether the sediment exhibited significant toxicity adversely impacting aquatic organisms.
Guideline Reference:	Revised approach to toxicity test acceptability criteria using a statistical performance assessment. Environmental Toxicology and Chemistry, vol. 16, No. 6, pp 1322?1329
Spatial Representation:	Data were collected at a sampling location at the lower part of San Mateo Creek within tidal reach (2 samples) and at the upper location that at the time of sampling represented the freshwater part of the watershed (2 samples).
Temporal Representation:	Samples were collected during winter season of 2004 and late spring of 2005. The winter sampling (November 2004) occurred after the first rain of the season to capture the potential effects of dry season pesticide use. The late spring sampling (April 2005) coincided with the presumption of increased pesticide application in urban and agricultural areas.
Environmental Conditions:	Data are representative of the lower watershed downstream from Mud Dam with the monitoring site located in the densely urbanized areas.
QAPP Information:	Data were collected and analyzed using procedures comparable with the SWAMP Quality Assurance Management Plan (SWRCB 2002).
QAPP Information Reference(s):	

DECISION ID	44305	Region 2
San Mateo Creek, Lower		

Pollutant:	Anthracene Benzo(a)anthracene Benzo(a)pyrene (3,4-Benzopyrene -7-d) Chlordane Chrysene (C1-C4) DDD (Dichlorodiphenyldichloroethane) DDE (Dichlorodiphenyldichloroethylene) DDT (Dichlorodiphenyltrichloroethane) Dieldrin Endrin Fluoranthene Fluorene Heptachlor epoxide Lindane/gamma Hexachlorocyclohexane (gamma-HCH) Naphthalene PAHs (Polycyclic Aromatic Hydrocarbons) PCBs (Polychlorinated biphenyls) Phenanthrene Pyrene
Final Listing Decision:	Do Not List on 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision:	Do Not List on 303(d) list (TMDL required list)(2012)
Revision Status	Original
Impairment from Pollutant or Pollution:	Pollutant
Regional Board Staff Conclusion:	These pollutants are being considered for placement on the section 303(d) list under section 3.1 of the Listing Policy. Under this section a single line of evidence is necessary to assess listing status. One line of evidence is available in the administrative record to assess these pollutants. Zero samples exceed the water quality objective. Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against placing this water segment-pollutant combination on the section 303(d) list in the Water Quality Limited Segments category. This

conclusion is based on the staff findings that: 1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy. 2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy. 3. Zero of one sample exceed the water quality objective, but this sample size is insufficient to determine with the power and confidence of the Listing Policy if standards are not met. A minimum of two samples are needed for application of table 3.1. 4. Pursuant to section 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.

Regional Board Staff Decision Recommendation: This is a decision previously approved by the State Water Resources Control Board and the USEPA. No new data were assessed by the Regional Board for the current. The decision has not changed.

Line of Evidence (LOE) for Decision ID 44305, Multiple Pollutants

Region 2

San Mateo Creek, Lower

LOE ID:	28509
Pollutant:	Anthracene Benzo(a)anthracene Benzo(a)pyrene (3,4-Benzopyrene -7-d) Chlordane Chrysene (C1-C4) DDD (Dichlorodiphenyldichloroethane) DDE (Dichlorodiphenyldichloroethylene) DDT (Dichlorodiphenyltrichloroethane) Dieldrin Endrin Fluoranthene Fluorene Heptachlor epoxide Lindane/gamma Hexachlorocyclohexane (gamma-HCH) Naphthalene PAHs (Polycyclic Aromatic Hydrocarbons) PCBs (Polychlorinated biphenyls) Phenanthrene Pyrene
LOE Subgroup:	Pollutant-Sediment
Matrix:	Sediment
Fraction:	None
Beneficial Use:	Cold Freshwater Habitat
Number of Samples:	1
Number of Exceedances:	0
Data and Information Type:	PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality:	Concentrations of anthracene, fluorene, naphthalene, phenanthrene, benz(a)anthracene, benzo(a)pyrene, chrysene, fluoranthene, pyrene, PAH (total), PCB (total), chlordane, dieldrin, DDD/DDE/DDT, endrin, heptachlor epoxide, and HCH, gamma in one sediment sample collected in spring 2005 did not exceed the sediment quality guidelines.
Data Reference:	Water Quality Monitoring and Bioassessment in Four San Francisco Bay Region Watersheds in 2003-2004: Kirker Creek, Mt. Diablo Creek, Petaluma River, and San Mateo Creek. Surface Water Monitoring Program, San Francisco Bay Regional Water Quality Control Board, Oakland, CA
SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	All waters shall be maintained free of toxic substances that are lethal to or that produce other detrimental responses in aquatic organisms.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) - San Francisco Bay Region (Region 2)
Evaluation Guideline:	Sediment Quality Guidelines (MacDonald et al., 2000): PEC (probable effect concentration) Anthracene - 845 ug/kg; Fluorene - 536 ug/kg; Naphthalene - 561 ug/kg; Phenanthrene -1170 ug/kg; Benz(a)anthracene - 1050 ug/kg; Benzo(a)pyrene - 1450 ug/kg; Chrysene - 1290 ug/kg; Fluoranthene - 2230 ug/kg; Pyrene - 1520 ug/kg; PAH (total) - 22800 ug/kg; PCB (total) - 676 ug/kg; Chlordane - 17.6 ug/kg; Dieldrin - 61.8 ug/kg; DDD (sum op + pp) - 28 ug/kg; DDE (sum op + pp) - 31.3 ug/kg; DDT (sum op + pp) - 62.9 ug/kg; DDT (total) - 572 ug/kg; Endrin - 207 ug/kg; Heptachlor epoxide - 16 ug/kg; HCH, gamma - 4.99 ug/kg.
Guideline Reference:	Development and evaluation of consensus-based sediment quality guidelines for freshwater ecosystems. Environmental Contamination and Toxicology. 39: 20-31
Spatial Representation:	One sediment sample was collected at a "watershed integrator" site close to the mouth of San Mateo Creek (Gateway Park).
Temporal Representation:	Sediment sample was collected in April of 2003.

Environmental Conditions:

QAPP Information:

All samples were collected and analyzed using procedures comparable with the SWAMP Quality Assurance Management Plan (SWRCB, 2002).

QAPP Information Reference(s):

DECISION ID	44306	Region 2
San Mateo Creek, Lower		

Pollutant: Arsenic | Cadmium | Copper | Lead | Mercury | Zinc
Final Listing Decision: Do Not List on 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision: Do Not List on 303(d) list (TMDL required list)(2012)
Revision Status Original
Impairment from Pollutant or Pollution: Pollutant

Regional Board Staff Conclusion: These pollutants are being considered for placement on the section 303(d) list under section 3.1 of the Listing Policy. Under this section a single line of evidence is necessary to assess listing status. One line of evidence is available in the administrative record to assess these pollutants. Zero samples exceed the water quality objective. Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against placing this water segment-pollutant combination on the section 303(d) list in the Water Quality Limited Segments category. This conclusion is based on the staff findings that: 1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy. 2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy. 3. Zero of one sample exceed the water quality objective, but this sample size is insufficient to determine with the power and confidence of the Listing Policy if standards are not met. A minimum of two samples are needed for application of table 3.1. 4. Pursuant to section 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.

Regional Board Staff Decision Recommendation: This is a decision previously approved by the State Water Resources Control Board and the USEPA. No new data were assessed by the Regional Board for the current. The decision has not changed.

Line of Evidence (LOE) for Decision ID 44306, Multiple Pollutants	Region 2
San Mateo Creek, Lower	

LOE ID: 28540

Pollutant: Arsenic | Cadmium | Copper | Lead | Mercury | Zinc
LOE Subgroup: Pollutant-Sediment
Matrix: Sediment
Fraction: Total

Beneficial Use: Cold Freshwater Habitat

Number of Samples: 1
Number of Exceedances: 0

Data and Information Type: PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality: Concentrations of arsenic, cadmium, copper, lead, mercury and zinc in one sediment sample collected in spring 2003 did not exceed the sediment quality guidelines.
Data Reference: [Water Quality Monitoring and Bioassessment in Four San Francisco Bay Region Watersheds in 2003-2004: Kirker Creek, Mt. Diablo Creek, Petaluma River, and San Mateo Creek, Surface Water Monitoring Program, San Francisco Bay Regional Water Quality Control Board, Oakland, CA](#)

SWAMP Data: Non-SWAMP

Water Quality Objective/Criterion: All waters shall be maintained free of toxic substances that are lethal to or that produce

Objective/Criterion Reference:	other detrimental responses in aquatic organisms. Water Quality Control Plan (Basin Plan) - San Francisco Bay Region (Region 2)
Evaluation Guideline:	Sediment Quality Guidelines (MacDonald et al., 2000): PEC (probable effect concentration) arsenic - 33 mg/kg dw; cadmium - 4.98 mg/kg dw; copper - 149 mg/kg dw; lead - 128 mg/kg dw; mercury - 1.06 mg/kg dw; zinc - 459 mg/kg dw.
Guideline Reference:	Development and evaluation of consensus-based sediment quality guidelines for freshwater ecosystems. Environmental Contamination and Toxicology. 39: 20-31
Spatial Representation:	One sediment sample was collected at a "watershed integrator" site located close to the mouth of San Mateo Creek.
Temporal Representation:	Sediment sample was collected in April of 2003.
Environmental Conditions:	
QAPP Information:	All samples were collected and analyzed using procedures comparable with the SWAMP Quality Assurance Management Plan (SWRCB, 2002).
QAPP Information Reference(s):	

DECISION ID	44080	Region 2
San Mateo Creek, Lower		

Pollutant:	Arsenic Chromium (total) Copper Lead Nickel Silver Zinc
Final Listing Decision:	Do Not List on 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision:	Do Not List on 303(d) list (TMDL required list)(2012)
Revision Status	Original
Impairment from Pollutant or Pollution:	Pollutant

Regional Board Staff Conclusion:	This pollutant is being considered for placement on the section 303(d) list under section 3.1 of the Listing Policy. Under section 3.1 a single line of evidence is necessary to assess listing status. One lines of evidence is available in the administrative record to assess this pollutant. None of the samples exceed the water quality objective. Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against placing this water segment-pollutant combination on the section 303(d) list in the Water Quality Limited Segments category. This conclusion is based on the staff findings that: 1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy. 2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy. 3. None of three samples exceeded the water quality guidelines and this does not exceed the allowable frequency listed in Table 3.1 of the Listing Policy. 4. Pursuant to section 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.
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Regional Board Staff Decision Recommendation:	This is a decision previously approved by the State Water Resources Control Board and the USEPA. No new data were assessed by the Regional Board for the current. The decision has not changed.
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Line of Evidence (LOE) for Decision ID 44080, Multiple Pollutants	Region 2
San Mateo Creek, Lower	

LOE ID:	28854
Pollutant:	Arsenic Chromium (total) Copper Lead Nickel Silver Zinc
LOE Subgroup:	Pollutant-Water
Matrix:	Water
Fraction:	Dissolved
Beneficial Use:	Cold Freshwater Habitat
Number of Samples:	3
Number of Exceedances:	0

Data and Information Type:	PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality:	The San Mateo Creek watershed was monitored as part of SWAMP assessment. None of the three samples exceeded the water quality objectives for arsenic, chromium VI, copper, lead, nickel, silver and zinc. Concentrations of total dissolved chromium were well below the objective for chromium VI.
Data Reference:	Water Quality Monitoring and Bioassessment in Four San Francisco Bay Region Watersheds in 2003-2004: Kirker Creek, Mt. Diablo Creek, Petaluma River, and San Mateo Creek. Surface Water Monitoring Program, San Francisco Bay Regional Water Quality Control Board, Oakland. CA
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	All waters shall be maintained free of toxic substances that are lethal to or that produce other detrimental responses in aquatic organisms. Table 3-4 in the Basin Plan (2007) lists freshwater water quality objectives for toxic pollutants: arsenic- 150 ug/L, chromium VI- 11 ug/L, copper - 9.0 ug/L, lead - 2.5 ug/L; nickel - 52 ug/L, silver-3.4 ug/L and zinc - 120 ug/L.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) - San Francisco Bay Region (Region 2)
Evaluation Guideline:	
Guideline Reference:	
Spatial Representation:	Data were collected at one most downstream sampling location in San Mateo Creek - SMA020 (Gateway Park).
Temporal Representation:	Samples were collected locations during wet, spring and dry seasons of the 2003-2004 sampling season.
Environmental Conditions:	
QAPP Information:	All samples were collected and analyzed using procedures comparable with the SWAMP Quality Assurance Management Plan (SWRCB, 2002).
QAPP Information Reference(s):	Quality Assurance Management Plan for the State of California's Surface Water Ambient Monitoring Program. Sacramento, CA. State Water Resources Control Board. SWAMP. December 2002 (1st version)

DECISION ID	43952	Region 2
San Mateo Creek, Lower		

Pollutant:	Dacthal Disulfoton Endosulfan Lindane/gamma Hexachlorocyclohexane (gamma-HCH) Methyl Parathion PCBs (Polychlorinated biphenyls) Thiobencarb/Bolero
Final Listing Decision:	Do Not List on 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision:	Do Not List on 303(d) list (TMDL required list)(2012)
Revision Status	Original
Impairment from Pollutant or Pollution:	Pollutant
Regional Board Staff Conclusion:	This pollutant is being considered for placement on the section 303(d) list under section 3.1 of the Listing Policy. Under section 3.1 a single line of evidence is necessary to assess listing status. One line of evidence is available in the administrative record to assess this pollutant. None of the samples exceed the water quality objective. Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against placing this water segment-pollutant combination on the section 303(d) list in the Water Quality Limited Segments category. This conclusion is based on the staff findings that: 1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy. 2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy. 3. None of three samples exceeded the water quality guidelines and this does not exceed the allowable frequency listed in Table 3.1 of the Listing Policy. 4. Pursuant to section 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.
Regional Board Staff Decision Recommendation:	This is a decision previously approved by the State Water Resources Control Board and the USEPA. No new data were assessed by the Regional Board for the current. The decision has not changed.

Line of Evidence (LOE) for Decision ID 43952, Multiple Pollutants**Region 2****San Mateo Creek, Lower**

LOE ID:	29024
Pollutant:	Dacthal Disulfoton Endosulfan Lindane/gamma Hexachlorocyclohexane (gamma-HCH) Methyl Parathion PCBs (Polychlorinated biphenyls) Thiobencarb/Bolero
LOE Subgroup:	Pollutant-Water
Matrix:	Water
Fraction:	None
Beneficial Use:	Warm Freshwater Habitat
Number of Samples:	3
Number of Exceedances:	0
Data and Information Type:	PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality:	The San Mateo Creek watershed was monitored as part of SWAMP assessment. None of the three samples exceeded the water quality objectives for PCBs, Dacthal, disulfoton, endosulfan, Lindane/gamma Hexachlorocyclohexane (gamma-HCH), methyl parathion, thiobencarb.
Data Reference:	Water Quality Monitoring and Bioassessment in Four San Francisco Bay Region Watersheds in 2003-2004: Kirker Creek, Mt. Diablo Creek, Petaluma River, and San Mateo Creek. Surface Water Monitoring Program, San Francisco Bay Regional Water Quality Control Board, Oakland, CA
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	All waters shall be maintained free of toxic substances that are lethal to or that produce other detrimental responses in aquatic organisms. There shall be no chronic toxicity in ambient waters. Chronic toxicity is a detrimental biological effect on growth rate, reproduction, fertilization success, larval development, population abundance, community composition, or any other relevant measure of the health of an organism, population, or community.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) - San Francisco Bay Region (Region 2)
Evaluation Guideline:	PCBs - 0.014 ug/L freshwater continuous Concentration; Chlorpyrifos - 0.015 ug/L (chronic); Dacthal (DCPA) - 14300 ug/L (acute); Disulfoton (Disyston) - 0.05 ug/L (acute); Endosulfan - 0.056 ug/L (chronic)/0.22 ug/L (acute); HCH, gamma-(gamma BHC, Lindane) - 0.95 ug/L (acute); methyl parathion - 0.08 ug/L (acute); Thiobencarb - 3.1 ug/L (acute).
Guideline Reference:	National recommended water quality criteria: 2002. EPA-822-R-02-047 Washington, D.C. USEPA
Spatial Representation:	Data were collected at one sampling location: SMA020 (Gateway Park).
Temporal Representation:	Samples were collected during winter (January), spring (April), and one dry (June) seasons of 2003.
Environmental Conditions:	
QAPP Information:	All samples were collected and analyzed using procedures comparable with the SWAMP Quality Assurance Management Plan (SWRCB, 2002).
QAPP Information Reference(s):	Quality Assurance Management Plan for the State of California's Surface Water Ambient Monitoring Program. Sacramento, CA. State Water Resources Control Board. SWAMP. December 2002 (1st version)

DECISION ID**44048****Region 2****San Mateo Creek, Lower****Pollutant:** **Escherichia coli (E. coli)**

Final Listing Decision:	Do Not List on 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision:	Do Not List on 303(d) list (TMDL required list)(2012)
Revision Status	Original
Impairment from Pollutant or Pollution:	Pollutant

Regional Board Staff Conclusion: This pollutant is being considered for placement on the section 303(d) list under section 3.3 of the Listing Policy. Under section 3.3 a single line of evidence is necessary to assess listing status. One line of evidence is available in the administrative record to assess this pollutant. Three out of three samples exceed the water quality objective. Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against placing this water segment-pollutant combination on the section 303(d) list in the Water Quality Limited Segments category. This conclusion is based on the staff findings that: 1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy. 2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy. 3. Three of three samples exceeded the number of Escherichia coli (E. Coli) counts and this does not exceed the allowable frequency listed in Table 3.2 of the Listing Policy. 4. Pursuant to section 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.

Regional Board Staff Decision Recommendation: This is a decision previously approved by the State Water Resources Control Board and the USEPA. No new data were assessed by the Regional Board for the current. The decision has not changed.

Line of Evidence (LOE) for Decision ID 44048, Escherichia coli (E. coli) San Mateo Creek, Lower

Region 2

LOE ID:	29018
Pollutant:	Escherichia coli (E. coli)
LOE Subgroup:	Pollutant-Water
Matrix:	Water
Fraction:	None
Beneficial Use:	Non-Contact Recreation
Number of Samples:	3
Number of Exceedances:	3
Data and Information Type:	PATHOGEN MONITORING
Data Used to Assess Water Quality:	Samples were collected as part of SWAMP sampling in the summer of 2003 at 7-day intervals and the geometric mean of the samples calculated over a five week interval. Samples were collected at three locations: SMA020, SMA060, and SMA080. The geometric mean for SMA020 was 403 MPN/100 mL, for SMA060 was 1234 MPN/100 mL, and for SMA080 was 1668 MPN/100 mL, all exceed the 126 MPN/100ml criteria.
Data Reference:	Water Quality Monitoring and Bioassessment in Four San Francisco Bay Region Watersheds in 2003-2004: Kirker Creek, Mt. Diablo Creek, Petaluma River, and San Mateo Creek. Surface Water Monitoring Program, San Francisco Bay Regional Water Quality Control Board, Oakland, CA
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	Uses of water for recreational activities involving body contact with water where ingestion of water is reasonably possible. These uses include, but are not limited to, swimming, wading, water-skiing, skin and scuba diving, surfing, whitewater activities, fishing, and uses of natural hot springs. Water contact implies a risk of waterborne disease transmission and involves human health; accordingly, criteria required to protect this use are more stringent than those for more casual water-oriented recreation. U.S. EPA water quality criteria for water contact recreation based on the frequency of use a particular area receives - 1986: the E. coli criterion is not to exceed 126 organisms/100

Objective/Criterion Reference:	mL. The value is expressed as a 7-day geometric mean based on five or more samples per 30?day period; designated beach (max) 235 MPN/100 mL. Water Quality Control Plan (Basin Plan) - San Francisco Bay Region (Region 2) Ambient Water Quality Criteria for Bacteria - 1986. EPA440/5-84-002
Evaluation Guideline:	
Guideline Reference:	
Spatial Representation:	Samples were collected at SMA020 (Gateway Park), SMA060 (Arroyo Court Park), and SMA080 (Sierra Drive).
Temporal Representation:	Samples were collected weekly from 7/21/2003 through 8/18/2003.
Environmental Conditions:	
QAPP Information:	All samples were collected and analyzed using procedures comparable with the SWAMP Quality Assurance Management Plan (SWRCB, 2002).
QAPP Information Reference(s):	Quality Assurance Management Plan for the State of California's Surface Water Ambient Monitoring Program. Sacramento, CA. State Water Resources Control Board. SWAMP. December 2002 (1st version)

DECISION ID 43904 Region 2	
San Mateo Creek, Lower	
Pollutant:	Oxygen, Dissolved
Final Listing Decision:	Do Not List on 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision:	Do Not List on 303(d) list (TMDL required list)(2012)
Revision Status	Original
Impairment from Pollutant or Pollution:	Pollutant
Regional Board Staff Conclusion:	This pollutant is being considered for placement on the section 303(d) list under section 3.2 of the Listing Policy. Under section 3.2 a single line of evidence is necessary to assess listing status. Two lines of evidence are available in the administrative record to assess this pollutant. Four of the samples exceed the water quality objective. Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against placing this water segment-pollutant combination on the section 303(d) list in the Water Quality Limited Segments category. This conclusion is based on the staff findings that: 1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy. 2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy. 3. Four of fourteen samples exceeded the water quality guidelines and this sample size is insufficient to determine with the power and confidence of the Listing Policy if standards are not met. A minimum of five samples is needed for application of table 3.2. 4. Pursuant to SECTION 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.
Regional Board Staff Decision Recommendation:	This is a decision previously approved by the State Water Resources Control Board and the USEPA. No new data were assessed by the Regional Board for the current. The decision has not changed.

Line of Evidence (LOE) for Decision ID 43904, Oxygen, Dissolved Region 2	
San Mateo Creek, Lower	
LOE ID:	28621
Pollutant:	Oxygen, Dissolved
LOE Subgroup:	Pollutant-Water
Matrix:	Water
Fraction:	None
Beneficial Use:	Warm Freshwater Habitat
Number of Samples:	14

Number of Exceedances:	3
Data and Information Type: Data Used to Assess Water Quality:	PHYSICAL/CHEMICAL MONITORING Comprehensive water quality assessment was conducted at San Mateo Creek watershed as part of SWAMP assessment in 2003 and 2004. Continuous field monitoring of temperature, dissolved oxygen, pH, and specific conductance to determine temporal variability in basic water quality at one or two locations. The 7 day average minimum concentration of dissolved oxygen ranged from 0.86 to 12.09 mg/L and varied with season. Minimum dissolved oxygen levels fell below the objective of 5 mg/L at one location each in spring (March 2003), the summer (August 2003) and the fall (October 2003) sampling events. The 7 day average concentration levels were 1.0, 0.86, and 2.69 mg/L DO, respectively, at the lower monitoring sites.
Data Reference:	Water Quality Monitoring and Bioassessment in Four San Francisco Bay Region Watersheds in 2003-2004: Kirker Creek, Mt. Diablo Creek, Petaluma River, and San Mateo Creek. Surface Water Monitoring Program, San Francisco Bay Regional Water Quality Control Board, Oakland, CA
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	The numeric water quality objective for dissolved oxygen is 5.0 mg/L minimum for waters designated as warm water habitat. The median dissolved oxygen concentration for any three consecutive months shall not be less than 80 percent of the dissolved oxygen content at saturation.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) - San Francisco Bay Region (Region 2)
Evaluation Guideline: Guideline Reference:	
Spatial Representation:	Dissolved oxygen was measured at three sites (SMA020, SMA060, and SMA120) located on the mainstem of San Mateo Creek Lower and one site (SMA110) located at the confluence of Polhemus Creek and San Mateo Creek.
Temporal Representation:	At all locations the SWAMP performed continuous monitoring of dissolved oxygen at 15 minute intervals lasting 7-20 days during spring (March 2003), summer and fall dry seasons (July, October 2003), and winter wet season (February 2004).
Environmental Conditions: QAPP Information:	All samples were collected and analyzed using procedures comparable with the SWAMP Quality Assurance Management Plan (SWRCB 2002).
QAPP Information Reference(s):	

Line of Evidence (LOE) for Decision ID 43904, Oxygen, Dissolved
San Mateo Creek, Lower

Region 2

LOE ID:	28623
Pollutant:	Oxygen, Dissolved
LOE Subgroup:	Pollutant-Water
Matrix:	Water
Fraction:	None
Beneficial Use:	Cold Freshwater Habitat
Number of Samples:	14
Number of Exceedances:	4
Data and Information Type: Data Used to Assess Water Quality:	PHYSICAL/CHEMICAL MONITORING Comprehensive water quality assessment was conducted at San Mateo Creek watershed as part of SWAMP assessment in 2003 and 2004. Continuous field monitoring of temperature, dissolved oxygen, pH, and specific conductance to determine temporal variability in basic water quality at one or two locations. The 7 day average minimum concentration of dissolved oxygen ranged from 0.86 to 12.09 mg/L and varied with season. Minimum dissolved oxygen levels fell below the objective of 7 mg/L at one location in spring (March 2003), two in the summer (August 2003) and one in the fall

Data Reference:	(October 2003) sampling events. The 7 day average concentration levels were 1.0, 0.86, 6.10, and 2.69 mg/L DO, respectively, at the lower monitoring sites. Water Quality Monitoring and Bioassessment in Four San Francisco Bay Region Watersheds in 2003-2004: Kirker Creek, Mt. Diablo Creek, Petaluma River, and San Mateo Creek. Surface Water Monitoring Program, San Francisco Bay Regional Water Quality Control Board, Oakland, CA
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	The numeric water quality objective for dissolved oxygen is 7.0 mg/L minimum for waters designated as cold water habitat. The median dissolved oxygen concentration for any three consecutive months shall not be less than 80 percent of the dissolved oxygen content at saturation.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) - San Francisco Bay Region (Region 2)
Evaluation Guideline:	
Guideline Reference:	
Spatial Representation:	Dissolved oxygen was measured at three sites (SMA020, SMA060, and SMA120) located on the mainstem of San Mateo Creek Lower and one site (SMA110) located at the confluence of Polhemus Creek and San Mateo Creek.
Temporal Representation:	At all locations the SWAMP performed continuous monitoring of dissolved oxygen at 15 minute intervals lasting 7-20 days during spring (March 2003), summer and fall dry season (July and October 2003), and winter wet season (February 2004).
Environmental Conditions:	
QAPP Information:	All samples were collected and analyzed using procedures comparable with the SWAMP Quality Assurance Management Plan (SWRCB 2002).
QAPP Information Reference(s):	

DECISION ID	43962	Region 2
San Mateo Creek, Lower		
Pollutant:	Temperature, water	
Final Listing Decision:	Do Not List on 303(d) list (TMDL required list)	
Last Listing Cycle's Final Listing Decision:	Do Not List on 303(d) list (TMDL required list)(2012)	
Revision Status	Original	
Impairment from Pollutant or Pollution:	Pollutant	
Regional Board Staff Conclusion:	This pollutant is being considered for placement on the section 303(d) list under section 3.2 of the Listing Policy. Under section 3.2 a single line of evidence is necessary to assess listing status. One lines of evidence are available in the administrative record to assess this pollutant. Three of the samples exceed the water quality objective. Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against placing this water segment-pollutant combination on the section 303(d) list in the Water Quality Limited Segments category. This conclusion is based on the staff findings that: 1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy. 2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy. 3. Three of fifteen samples exceeded the water quality guidelines and this sample size is insufficient to determine with the power and confidence of the Listing Policy if standards are not met. A minimum of five samples is needed for application of table 3.2. 4. Pursuant to SECTION 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.	
Regional Board Staff Decision Recommendation:	This is a decision previously approved by the State Water Resources Control Board and the USEPA. No new data were assessed by the Regional Board for the current. The decision has not changed.	
Line of Evidence (LOE) for Decision ID 43962, Temperature, water		Region 2
San Mateo Creek, Lower		

LOE ID:	29030
Pollutant:	Temperature, water
LOE Subgroup:	Pollutant-Water
Matrix:	Water
Fraction:	None
Beneficial Use:	Cold Freshwater Habitat
Number of Samples:	15
Number of Exceedances:	3
Data and Information Type:	PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality:	Water quality assessment was conducted at the San Mateo Creek watershed as part of SWAMP study in 2003-2004. Continuous field monitoring at 15 minute increments of temperature, dissolved oxygen, pH and specific conductance was conducted to determine temporal variability in basic water quality at three to four locations. Continuous monitoring sondes were deployed 15 times at monitoring locations during wet, spring and two dry seasons. The measured temperatures ranged from 6.76°C to 24.86°C and varied with season. During the three of the four summer season deployments, the 7-day mean temperature threshold for steelhead was exceeded. In total, the 17 °C criterion was exceeded in 3 out of 15 deployments.
Data Reference:	Water Quality Monitoring and Bioassessment in Four San Francisco Bay Region Watersheds in 2003-2004: Kirker Creek, Mt. Diablo Creek, Petaluma River, and San Mateo Creek. Surface Water Monitoring Program, San Francisco Bay Regional Water Quality Control Board, Oakland, CA
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	Temperature objectives for enclosed bays and estuaries are specified in the "Water Quality Control Plan for Control of Temperature in the Coastal and Interstate Waters and Enclosed Bays of California" including any revisions to the plan. In addition, the following temperature objectives apply to surface waters: The natural receiving water temperature of intrastate waters shall not be altered unless it can be demonstrated to the satisfaction of the Regional Board that such an alteration does not adversely affect beneficial uses. The temperature of any cold or warm freshwater habitat shall not be increased by more than 5°F (2.8°C) above natural receiving water temperature.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) - San Francisco Bay Region (Region 2)
Evaluation Guideline:	Sullivan et al. (2000) reviewed a wide range of studies incorporating information from laboratory-based research, field observations, and risk assessment approaches and developed criteria for assessing temperature risk to aquatic life. The 7-day mean temperature (maximum value of a 7-day moving average of the daily mean temperature) of 14.8°C was established as the upper threshold criterion for coho salmon and 17.0°C for steelhead trout. The risk assessment approach used by Sullivan et al. (2000) suggests that temperatures exceeding the above thresholds will cause a 10% reduction in average growth compared to optimal conditions.
Guideline Reference:	An Analysis of the Effects of Temperature on Salmonids of the Pacific Northwest with Implications for Selecting Temperature Criteria
Spatial Representation:	Continuous field monitoring at 15 minute increments of temperature was performed at three sites (SMA020, SMA060, and SMA120) located on the mainstem of San Mateo Creek Lower and one site (SMA110) located at the confluence of Polhemus Creek and San Mateo Creek.
Temporal Representation:	At all locations the SWAMP performed continuous monitoring of temperature at 15 minute intervals lasting 1-2 weeks during spring (April 2003), summer and fall dry seasons (August and October 2003), and winter wet season (February 2004).
Environmental Conditions:	
QAPP Information:	All samples were collected and analyzed using procedures comparable with the SWAMP Quality Assurance Management Plan (SWRCB 2002).
QAPP Information Reference(s):	Quality Assurance Management Plan for the State of California's Surface Water Ambient Monitoring Program. Sacramento, CA. State Water Resources Control Board. SWAMP.

DECISION ID	43988	Region 2
San Mateo Creek, Lower		

Pollutant: pH
Final Listing Decision: Do Not List on 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision: Do Not List on 303(d) list (TMDL required list)(2012)
Revision Status: Original
Impairment from Pollutant or Pollution: Pollutant

Regional Board Staff Conclusion: This pollutant is being considered for placement on the section 303(d) list under section 3.2 of the Listing Policy. Under section 3.2 a single line of evidence is necessary to assess listing status. One line of evidence is available in the administrative record to assess this pollutant. One of the samples exceeds the water quality objective. Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against placing this water segment-pollutant combination on the section 303(d) list in the Water Quality Limited Segments category. This conclusion is based on the staff findings that: 1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy. 2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy. 3. One of fifteen samples exceeded the water quality objectives and this does not exceed the allowable frequency listed in Table 3.2 of the Listing Policy. 4. Pursuant to section 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.

Regional Board Staff Decision Recommendation: This is a decision previously approved by the State Water Resources Control Board and the USEPA. No new data were assessed by the Regional Board for the current. The decision has not changed.

Line of Evidence (LOE) for Decision ID 43988, pH	Region 2
San Mateo Creek, Lower	

LOE ID: 29039
Pollutant: pH
LOE Subgroup: Pollutant-Water
Matrix: Water
Fraction: None
Beneficial Use: Cold Freshwater Habitat
Number of Samples: 15
Number of Exceedances: 1
Data and Information Type: PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality: Comprehensive water quality assessment was conducted at San Mateo Creek watershed as part of SWAMP assessment in 2003 and 2004. Continuous field monitoring of temperature, dissolved oxygen, pH, and specific conductance to determine temporal variability in basic water quality at three to four locations, throughout San Mateo Creek, ranging from 1-15 days. The pH ranged from 7.01 to 8.51 and varied with season. There was one exceedence.
Data Reference: [Water Quality Monitoring and Bioassessment in Four San Francisco Bay Region Watersheds in 2003-2004: Kirker Creek, Mt. Diablo Creek, Petaluma River, and San Mateo Creek. Surface Water Monitoring Program. San Francisco Bay Regional Water Quality Control Board. Oakland. CA](#)
SWAMP Data: SWAMP
Water Quality Objective/Criterion: The pH shall not be depressed below 6.5 nor raised above 8.5. This encompasses the pH

range usually found in waters within the basin. Controllable water quality factors shall not cause changes greater than 0.5 units in normal ambient pH levels.

Objective/Criterion Reference:

[Water Quality Control Plan \(Basin Plan\) - San Francisco Bay Region \(Region 2\)](#)

Evaluation Guideline:

Guideline Reference:

Spatial Representation:

pH was measured at three sites (SMA020, SMA060, and SMA120) located on the mainstem of San Mateo Creek Lower and one site (SMA110) located at the confluence of Polhemus Creek and San Mateo Creek.

Temporal Representation:

At all locations the SWAMP performed continuous monitoring of pH at 15 minute intervals lasting 1-15 days during spring (March 2003), summer and fall dry seasons (August and October 2003), and winter wet season (February 2004).

Environmental Conditions:

QAPP Information:

All samples were collected and analyzed using procedures comparable with the SWAMP Quality Assurance Management Plan (SWRCB 2002)..

QAPP Information Reference(s):

[Quality Assurance Management Plan for the State of California's Surface Water Ambient Monitoring Program. Sacramento, CA. State Water Resources Control Board. SWAMP. December 2002 \(1st version\)](#)

Draft California 2016 Integrated Report (303(d) List/305(b) Report)

Supporting Information

Regional Board 2 - San Francisco Bay Region

Water Body Name: Old Alameda Creek
Water Body ID: CAR2042004020090201230919
Water Body Type: River & Stream

DECISION ID	42437	Region 2
Old Alameda Creek		

Pollutant: Trash
Final Listing Decision: Do Not Delist from 303(d) list (being addressed with action other than TMDL)
Last Listing Cycle's Final Listing Decision: List on 303(d) list (TMDL required list)(2012)
Revision Status: Revised
Sources: Source Unknown
Expected Attainment Date: 2029
Implementation Action Other than TMDL: This trash listing will be addressed by implementing the trash control provisions of the Water Quality Control Plan for Inland Surface Waters, Enclosed Bays, and Estuaries of California through the NPDES MS4 permit applicable to this waterbody.
Impairment from Pollutant or Pollution: Pollutant

Regional Board Staff Conclusion: This pollutant is being considered for placement on the section 303(d) list under section 3.11 of the Listing Policy. Under section 3.11, listing may be proposed based on the situation-specific weight of evidence. Two lines of evidence are available in the administrative record to assess this pollutant. Both lines of evidence consist of inspection of photographic evidence by Regional Water Board staff trained to conduct the Rapid Trash Assessment (RTA) methodology. One line of evidence concerns the non-contact recreation beneficial use, and the other line of evidence concerns the wildlife beneficial use. The staff inspected these photos and applied the RTA methodology to develop Category 1 (Level of Trash) and Category 3 (Threat to Aquatic Life) scores for each photograph. Based on the readily available photographic evidence for this waterbody, the weight of evidence indicates that there is sufficient justification available in favor of placing this water segment-pollutant combination to the section 303(d) list in the Water Quality Limited Segments category. This conclusion is based on the staff findings that: 1. Photographic evidence has been evaluated that supports this decision. 2. Applying the Rapid Trash Assessment methodology to the photographic evidence suggests that this waterbody had level of trash parameter scores in the poor category (indicating impairment of non-contact water recreational beneficial uses) at two locations on a single date. This waterbody also had threat to aquatic life parameter scores in the poor category (indicating threat to Wildlife Habitat beneficial uses) at two different locations on a single date. 3. This waterbody is considered impaired by trash because there were exceedances of the evaluation guideline (poor condition category for the trash assessment metrics) in more than one location or on more than one date. 4. The data used satisfy the data quality requirements of section 6.1.4 of the Policy. 5. The data used satisfy the data quantity requirements of section 6.1 of the Policy. 6. This trash listing will be addressed by implementing the trash control provisions of the Water Quality Control Plan for Inland Surface Waters, Enclosed Bays, and Estuaries of California through the NPDES MS4 permit applicable to this waterbody.

Regional Board Staff Decision Recommendation: After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be removed from the section 303(d) list because applicable water quality standards for the pollutant are being exceeded.

Line of Evidence (LOE) for Decision ID 42437, Trash	Region 2
Old Alameda Creek	

LOE ID:	26772
Pollutant:	Trash
LOE Subgroup:	Pollutant-Nuisance
Matrix:	Not Specified
Fraction:	None
Beneficial Use:	Non-Contact Recreation
Number of Samples:	2
Number of Exceedances:	2
Data and Information Type:	Occurrence of conditions judged to cause impairment
Data Used to Assess Water Quality:	<p>Data available consist of photographic evidence of trash and interpretation of these photos by an experienced trash assessment specialist. Each photograph was analyzed to establish the RTA score for the level of trash and threat to aquatic life parameters, which relate to impairment of REC2 and WILD, respectively. Only those photos clear enough to establish these RTA scores were relied on for the listing determination. Valid results are available for Old Alameda Creek: Hesperian Blvd. on 1/11/2006, and Ahern Ave. on 1/11/2006.</p> <p>There were exceedances of the evaluation guideline (poor condition category for the trash assessment metric) at both of these locations.</p>
Data Reference:	<p>Report from Roger James and Larry Kolb containing Trash Photos submitted for consideration in 2008 303(d) listing process</p> <p>Archive of Trash Photos for Old Alameda Creek submitted for 2008 303(d) list consideration</p> <p>Assessment by Matt Cover of Trash Photos (submitted to Region 2 in response to 2008 Data Solicitation)</p>
SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	<p>The Basin Plan prohibits discharge of: rubbish, refuse, bark, sawdust, or other solid wastes into surface waters or at any place where they would contact or where they would be eventually transported to surface waters, including flood plain areas.</p> <p>The Basin Plan has a narrative objective for floating material, Waters shall not contain floating material, including solids, liquids, foams, and scum, in concentrations that cause nuisance or adversely affect beneficial uses.</p> <p>The Basin Plan has a narrative objective for settleable material, ?Waters shall not contain substances in concentrations that result in the deposition of material that cause nuisance or adversely affect beneficial uses.?</p>
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) - San Francisco Bay Region (Region 2)
Evaluation Guideline:	<p>If the Rapid Trash Assessment (RTA) Parameter 1 (Level of Trash) is in the poor condition category (scores 0-5), REC2 is not supported. This level of trash: distracts the eye on first glance, making the site unsuitable for recreation. The RTA defines poor condition for this parameter as follows, trash distracts the eye on first glance. Stream, bank surfaces, and immediate riparian zone contain substantial levels of litter and debris (>100 pieces). Evidence of site being used frequently by people: many cans, bottles, and food wrappers, blankets, clothing. Regional Water Board staff trained in the RTA inspected the available photographic evidence and applied the assessment method to determine the Level of Trash score.</p> <p>If the RTA Parameter 3 (Threat to Aquatic Life) is in the poor condition category (scores 0-5), then WILD is not supported. This level of trash is a large amount (>50 pieces) of transportable, persistent, buoyant litter that is detrimental to aquatic life. The RTA defines poor condition for this parameter as follows, large amount (>50 pieces) of transportable, persistent, buoyant litter such as: hard or soft plastics, balloons, Styrofoam, cigarette butts; toxic items such as batteries, lighters, or spray cans; large clumps of yard waste or dumped leaf litter; or large amount (>50 pieces) of settleable glass or metal. Regional Water Board staff trained in the RTA inspected the available photographic evidence and</p>

Guideline Reference:	applied the assessment method to determine the Threat to Aquatic Life score. A Rapid Trash Assessment Method Applied to Waters of the San Francisco Bay Region:Trash Measurement in Streams
Spatial Representation:	Photographic evidence was analyzed using the RTA methodology for this waterbody for two different locations in 2006. Both locations scored in the poor condition category for the Level of Trash parameter.
Temporal Representation:	Photographic evidence was collected for this waterbody in 2006.
Environmental Conditions:	
QAPP Information:	Assessments of the photographic evidence using the RTA were performed by Regional Water Board staff person who was a co-author of the Rapid Trash Assessment methodology. Assessments based on photographic evidence were only conducted when sufficient reach-scale and close-up photos were available for a site on a specific date. Photos used for the evaluation needed to be numerous enough and clear enough to document the level of trash at the site in a similar way as the assessor would experience during an actual site visit in the field. For example, at a minimum, one reach-scale photograph (showing at least a 100 linear foot section of the waterbody) and two close-up photographs (of representative trash deposits) were required.
QAPP Information Reference(s):	

**Line of Evidence (LOE) for Decision ID 42437, Trash
Old Alameda Creek**

Region 2

LOE ID:	26773
Pollutant:	Trash
LOE Subgroup:	Pollutant-Nuisance
Matrix:	Not Specified
Fraction:	None
Beneficial Use:	Wildlife Habitat
Number of Samples:	2
Number of Exceedances:	2
Data and Information Type:	Occurrence of conditions judged to cause impairment
Data Used to Assess Water Quality:	Data available consist of photographic evidence of trash and interpretation of these photos by an experienced trash assessment specialist. Each photograph was analyzed to establish the RTA score for the level of trash and threat to aquatic life parameters, which relate to impairment of REC2 and WILD, respectively. Only those photos clear enough to establish these RTA scores were relied on for the listing determination. These results are available for the following dates and locations on Old Alameda Creek: Hesperian Blvd. and Ahern Ave. on 1/11/2006. There were exceedances of the evaluation guideline (poor condition category for the trash assessment metric) in both of these locations on this date. (Hesperian and Ahern on 1/11/2006)
Data Reference:	Report from Roger James and Larry Kolb containing Trash Photos submitted for consideration in 2008 303(d) listing process Archive of Trash Photos for Old Alameda Creek submitted for 2008 303(d) list consideration Assessment by Matt Cover of Trash Photos (submitted to Region 2 in response to 2008 Data Solicitation)
SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	The Basin Plan prohibits discharge of rubbish, refuse, bark, sawdust, or other solid wastes into surface waters or at any place where they would contact or where they would be eventually transported to surface waters, including flood plain areas. The Basin Plan has a narrative objective for floating material, ?Waters shall not contain

floating material, including solids, liquids, foams, and scum, in concentrations that cause nuisance or adversely affect beneficial uses.?

The Basin Plan has a narrative objective for settleable material, ?Waters shall not contain substances in concentrations that result in the deposition of material that cause nuisance or adversely affect beneficial uses.?

Objective/Criterion Reference:

[Water Quality Control Plan \(Basin Plan\) - San Francisco Bay Region \(Region 2\)](#)

Evaluation Guideline:

If the Rapid Trash Assessment (RTA) Parameter 1 (Level of Trash) is in the poor condition category (scores 0-5), REC2 is not supported. This level of trash distracts the eye on first glance, making the site unsuitable for recreation. The RTA defines poor condition for this parameter as follows, trash distracts the eye on first glance. Stream, bank surfaces, and immediate riparian zone contain substantial levels of litter and debris (>100 pieces). Evidence of site being used frequently by people: many cans, bottles, and food wrappers, blankets, clothing. Regional Water Board staff trained in the RTA inspected the available photographic evidence and applied the assessment method to determine the Level of Trash score.

If the RTA Parameter 3 (Threat to Aquatic Life) is in the poor condition category (scores 0-5), then WILD is not supported. This level of trash is a large amount (>50 pieces) of transportable, persistent, buoyant litter that is detrimental to aquatic life. The RTA defines poor condition for this parameter as follows, large amount (>50 pieces) of transportable, persistent, buoyant litter such as: hard or soft plastics, balloons, Styrofoam, cigarette butts; toxic items such as batteries, lighters, or spray cans; large clumps of yard waste or dumped leaf litter; or large amount (>50 pieces) of settleable glass or metal. Regional Water Board staff trained in the RTA inspected the available photographic evidence and applied the assessment method to determine the Threat to Aquatic Life score.

Guideline Reference:

[A Rapid Trash Assessment Method Applied to Waters of the San Francisco Bay Region: Trash Measurement in Streams](#)

Spatial Representation:

Photographic evidence was analyzed using the RTA methodology for this waterbody for two different locations in 2006.

Temporal Representation:

Photographic evidence was collected for this waterbody in 2006.

Environmental Conditions:

QAPP Information:

Assessments of the photographic evidence using the RTA were performed by Regional Water Board staff person who was a co-author of the Rapid Trash Assessment methodology.

Assessments based on photographic evidence were only conducted when sufficient reach-scale and close-up photos were available for a site on a specific date. Photos used for the evaluation needed to be numerous enough and clear enough to document the level of trash at the site in a similar way as the assessor would experience during an actual site visit in the field. For example, at a minimum, one reach-scale photograph (showing at least a 100 linear foot section of the waterbody) and two close-up photographs (of representative trash deposits) were required.

QAPP Information Reference(s):

Draft California 2016 Integrated Report (303(d) List/305(b) Report)

Supporting Information

Regional Board 2 - San Francisco Bay Region

Water Body Name: Islais Creek, Upper
Water Body ID: CAR2021001020090507135759
Water Body Type: River & Stream

DECISION ID 60919 **Region 2**
Islais Creek, Upper

Pollutant: Anthracene
Final Listing Decision: Do Not List on 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision: New Decision
Revision Status Original
Impairment from Pollutant or Pollution: Pollutant

Regional Board Staff Conclusion: This pollutant is being considered for placement on the CWA section 303(d) List under section 3.1 of the Listing Policy. Under section 3.1 a single line of evidence is necessary to assess listing status. One line of evidence is available in the administrative record to assess this pollutant. Zero of one samples exceed the guideline.

Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against placing this water segment-pollutant combination on the CWA section 303(d) List.

This conclusion is based on the staff findings that:

1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy.
2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy.
3. Zero of one samples exceed the guideline and this sample size is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating. A minimum of 16 samples is needed to determine if a beneficial use is fully supported using table 3.1.
4. Pursuant to SECTION 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.

Regional Board Staff Decision Recommendation: This is a decision previously approved by the State Water Resources Control Board and the USEPA. No new data were assessed by the Regional Board for the current cycle. The decision has not changed.

Line of Evidence (LOE) for Decision ID 60919, Anthracene **Region 2**
Islais Creek, Upper

LOE ID: 95446
Pollutant: Anthracene
LOE Subgroup: Pollutant-Sediment
Matrix: Sediment
Fraction: None
Beneficial Use: Warm Freshwater Habitat
Number of Samples: 1
Number of Exceedances: 0

Data and Information Type:	PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality:	Concentrations of anthracene, fluorene, naphthalene, phenanthrene, benz(a)anthracene, benzo(a)pyrene, chrysene, fluoranthrene, pyrene, PAH (total), PCB (total), chlordane, dieldrin, DDD/DDE/DDT, endrin, heptachlor epoxide, and HCH, gamma in one sediment sample collected in spring 2005 did not exceed the sediment quality guidelines.
Data Reference:	Data collected by the Surface Water Ambient Monitoring Program, San Francisco Bay Regional Water Quality Control Board. Years 4 and 5 Assessment
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	All waters shall be maintained free of toxic substances that are lethal to or that produce other detrimental responses in aquatic organisms.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) - San Francisco Bay Region (Region 2)
Evaluation Guideline:	Sediment Quality Guidelines (MacDonald et al., 2000): PEC (probable effect concentration) Anthracene - 845 ug/kg; Fluorene - 536 ug/kg; Naphthalene - 561 ug/kg; Phenanthrene - 1170 ug/kg; Benz(a)anthracene - 1050 ug/kg; Benzo(a)pyrene - 1450 ug/kg; Chrysene - 1290 ug/kg; Fluoranthene - 2230 ug/kg; Pyrene - 1520 ug/kg; PAH (total) - 22800 ug/kg; PCB (total) - 676 ug/kg; Chlordane - 17.6 ug/kg; Dieldrin - 61.8 ug/kg; DDD (sum op + pp) - 28 ug/kg; DDE (sum op + pp) - 31.3 ug/kg; DDT (sum op + pp) - 62.9 ug/kg; DDT (total) - 572 ug/kg; Endrin - 207 ug/kg; Heptachlor epoxide - 16 ug/kg; HCH, gamma - 4.99 ug/kg.
Guideline Reference:	Development and evaluation of consensus-based sediment quality guidelines for freshwater ecosystems. Environmental Contamination and Toxicology. 39: 20-31
Spatial Representation:	One sediment sample was collected at a "watershed integrator" site located close to the mouth of Islais Creek.
Temporal Representation:	Sediment sample was collected in April of 2005.
Environmental Conditions:	Staff are not aware of any special environmental conditions associated with the sampling.
QAPP Information:	All samples were collected and analyzed using procedures comparable with the SWAMP Quality Assurance Management Plan (SWRCB, 2002).
QAPP Information Reference(s):	Quality Assurance Management Plan for the State of California's Surface Water Ambient Monitoring Program. Sacramento, CA. State Water Resources Control Board. SWAMP. December 2002 (1st version)

DECISION ID	44330	Region 2
Islais Creek, Upper		
Pollutant:	Arsenic Copper Lead Silver Zinc	
Final Listing Decision:	Do Not List on 303(d) list (TMDL required list)	
Last Listing Cycle's Final Listing Decision:	Do Not List on 303(d) list (TMDL required list)(2012)	
Revision Status	Original	
Impairment from Pollutant or Pollution:	Pollutant	
Regional Board Staff Conclusion:	<p>These pollutants are being considered for placement on the section 303(d) list under section 3.1 of the Listing Policy. Under this section a single line of evidence is necessary to assess listing status. One line of evidence is available in the administrative record to assess this pollutant. None of the samples exceed the water quality objective. Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against placing this water segment-pollutant combination on the section 303(d) list in the Water Quality Limited Segments category. This conclusion is based on the staff findings that: 1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy. 2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy. 3. Zero of one sample exceeded the water quality objective, but this sample size is insufficient to determine with the power and confidence of the Listing Policy if standards are not met. A minimum of two samples are needed for application of table 3.1. 4. Pursuant to section 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.</p>	
Regional Board Staff Decision	This is a decision previously approved by the State Water Resources Control Board and the USEPA.	

Recommendation: No new data were assessed by the Regional Board for the current. The decision has not changed.

Line of Evidence (LOE) for Decision ID 44330, Multiple Pollutants

Region 2

Islais Creek, Upper

LOE ID:	29257
Pollutant:	Arsenic Copper Lead Silver Zinc
LOE Subgroup:	Pollutant-Sediment
Matrix:	Sediment
Fraction:	None
Beneficial Use:	Warm Freshwater Habitat
Number of Samples:	1
Number of Exceedances:	0
Data and Information Type:	PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality:	The Islais Creek watershed was monitored as part of SWAMP assessment. Concentrations of arsenic, cadmium, copper, lead, mercury and zinc in one sediment sample collected in spring 2005 did not exceed the sediment quality guidelines.
Data Reference:	Data collected by the Surface Water Ambient Monitoring Program, San Francisco Bay Regional Water Quality Control Board. Years 4 and 5 Assessment
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	All waters shall be maintained free of toxic substances that are lethal to or that produce other detrimental responses in aquatic organisms.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) - San Francisco Bay Region (Region 2)
Evaluation Guideline:	Sediment Quality Guidelines (MacDonald et al., 2000): PEC (probable effect concentration) arsenic - 33 mg/kg dw; cadmium - 4.98 mg/kg dw; copper - 149 mg/kg dw; lead - 128 mg/kg dw; mercury - 1.06 mg/kg dw; zinc - 459 mg/kg dw.
Guideline Reference:	Development and evaluation of consensus-based sediment quality guidelines for freshwater ecosystems. Environmental Contamination and Toxicology. 39: 20-31
Spatial Representation:	Data were collected at one sampling location (ISL050) on Islais Creek.
Temporal Representation:	Sample was collected during spring (April) season of 2005.
Environmental Conditions:	
QAPP Information:	All samples were collected and analyzed using procedures comparable with the SWAMP Quality Assurance Management Plan (SWRCB, 2002).
QAPP Information Reference(s):	Quality Assurance Management Plan for the State of California's Surface Water Ambient Monitoring Program, Sacramento, CA. State Water Resources Control Board. SWAMP. December 2002 (1st version)

DECISION ID

60920

Region 2

Islais Creek, Upper

Pollutant:	Benzo(a)anthracene
Final Listing Decision:	Do Not List on 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision:	New Decision
Revision Status	Original
Impairment from Pollutant or Pollution:	Pollutant
Regional Board Staff Conclusion:	This pollutant is being considered for placement on the CWA section 303(d) List under section 3.1 of the Listing Policy. Under section 3.1 a single line of evidence is necessary to assess listing status. One line of evidence is available in the administrative record to assess this pollutant. Zero of one

samples exceed the guideline.

Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against placing this water segment-pollutant combination on the CWA section 303(d) List.

This conclusion is based on the staff findings that:

1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy.
2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy.
3. Zero of one samples exceed the guideline and this sample size is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating. A minimum of 16 samples is needed to determine if a beneficial use is fully supported using table 3.1.
4. Pursuant to SECTION 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.

Regional Board Staff Decision Recommendation: This is a decision previously approved by the State Water Resources Control Board and the USEPA. No new data were assessed by the Regional Board for the current cycle. The decision has not changed.

**Line of Evidence (LOE) for Decision ID 60920, Benzo(a)anthracene
Islais Creek, Upper**

Region 2

LOE ID:	95447
Pollutant:	Benzo(a)anthracene
LOE Subgroup:	Pollutant-Sediment
Matrix:	Sediment
Fraction:	None
Beneficial Use:	Warm Freshwater Habitat
Number of Samples:	1
Number of Exceedances:	0
Data and Information Type:	PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality:	Concentrations of anthracene, fluorene, naphthalene, phenanthrene, benz(a)anthracene, benzo(a)pyrene, chrysene, fluoranthrene, pyrene, PAH (total), PCB (total), chlordane, dieldrin, DDD/DDE/DDT, endrin, heptachlor epoxide, and HCH, gamma in one sediment sample collected in spring 2005 did not exceed the sediment quality guidelines.
Data Reference:	Data collected by the Surface Water Ambient Monitoring Program, San Francisco Bay Regional Water Quality Control Board. Years 4 and 5 Assessment
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	All waters shall be maintained free of toxic substances that are lethal to or that produce other detrimental responses in aquatic organisms.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) - San Francisco Bay Region (Region 2)
Evaluation Guideline:	Sediment Quality Guidelines (MacDonald et al., 2000): PEC (probable effect concentration) Anthracene - 845 ug/kg; Fluorene - 536 ug/kg; Naphthalene - 561 ug/kg; Phenanthrene - 1170 ug/kg; Benz(a)anthracene - 1050 ug/kg; Benzo(a)pyrene - 1450 ug/kg; Chrysene - 1290 ug/kg; Fluoranthene - 2230 ug/kg; Pyrene - 1520 ug/kg; PAH (total) - 22800 ug/kg; PCB (total) - 676 ug/kg; Chlordane - 17.6 ug/kg; Dieldrin - 61.8 ug/kg; DDD (sum op + pp) - 28 ug/kg; DDE (sum op + pp) - 31.3 ug/kg; DDT (sum op + pp) - 62.9 ug/kg; DDT (total) - 572 ug/kg; Endrin - 207 ug/kg; Heptachlor epoxide - 16 ug/kg; HCH, gamma - 4.99 ug/kg.
Guideline Reference:	Development and evaluation of consensus-based sediment quality guidelines for freshwater ecosystems. Environmental Contamination and Toxicology. 39: 20-31
Spatial Representation:	One sediment sample was collected at a "watershed integrator" site located close to the mouth of Islais Creek.

Temporal Representation:	Sediment sample was collected in April of 2005.
Environmental Conditions:	Staff are not aware of any special environmental conditions associated with the sampling.
QAPP Information:	All samples were collected and analyzed using procedures comparable with the SWAMP Quality Assurance Management Plan (SWRCB, 2002).
QAPP Information Reference(s):	Quality Assurance Management Plan for the State of California's Surface Water Ambient Monitoring Program. Sacramento, CA. State Water Resources Control Board. SWAMP. December 2002 (1st version)

DECISION ID	60921	Region 2
Islais Creek, Upper		

Pollutant:	Benzo(a)pyrene (3,4-Benzopyrene -7-d)
Final Listing Decision:	Do Not List on 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision:	New Decision
Revision Status	Original
Impairment from Pollutant or Pollution:	Pollutant

Regional Board Staff Conclusion: This pollutant is being considered for placement on the CWA section 303(d) List under section 3.1 of the Listing Policy. Under section 3.1 a single line of evidence is necessary to assess listing status. One line of evidence is available in the administrative record to assess this pollutant. Zero of one samples exceed the guideline.

Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against placing this water segment-pollutant combination on the CWA section 303(d) List.

This conclusion is based on the staff findings that:

1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy.
2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy.
3. Zero of one samples exceed the guideline and this sample size is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating. A minimum of 16 samples is needed to determine if a beneficial use is fully supported using table 3.1.
4. Pursuant to SECTION 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.

Regional Board Staff Decision Recommendation:	This is a decision previously approved by the State Water Resources Control Board and the USEPA. No new data were assessed by the Regional Board for the current cycle. The decision has not changed.
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Line of Evidence (LOE) for Decision ID 60921, Benzo(a)pyrene (3,4-Benzopyrene -7-d)		Region 2
Islais Creek, Upper		

LOE ID:	95448
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Pollutant:	Benzo(a)pyrene (3,4-Benzopyrene -7-d)
LOE Subgroup:	Pollutant-Sediment
Matrix:	Sediment
Fraction:	None

Beneficial Use:	Warm Freshwater Habitat
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Number of Samples:	1
Number of Exceedances:	0

Data and Information Type:	PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality:	Concentrations of anthracene, fluorene, naphthalene, phenanthrene, benz(a)anthracene, benzo(a)pyrene, chrysene, fluoranthrene, pyrene, PAH (total), PCB (total), chlordane,

Data Reference:	dieldrin, DDD/DDE/DDT, endrin, heptachlor epoxide, and HCH, gamma in one sediment sample collected in spring 2005 did not exceed the sediment quality guidelines. Data collected by the Surface Water Ambient Monitoring Program, San Francisco Bay Regional Water Quality Control Board. Years 4 and 5 Assessment
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	All waters shall be maintained free of toxic substances that are lethal to or that produce other detrimental responses in aquatic organisms.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) - San Francisco Bay Region (Region 2)
Evaluation Guideline:	Sediment Quality Guidelines (MacDonald et al., 2000): PEC (probable effect concentration) Anthracene - 845 ug/kg; Fluorene - 536 ug/kg; Naphthalene - 561 ug/kg; Phenanthrene - 1170 ug/kg; Benz(a)anthracene - 1050 ug/kg; Benzo(a)pyrene - 1450 ug/kg; Chrysene - 1290 ug/kg; Fluoranthene - 2230 ug/kg; Pyrene - 1520 ug/kg; PAH (total) - 22800 ug/kg; PCB (total) - 676 ug/kg; Chlordane - 17.6 ug/kg; Dieldrin - 61.8 ug/kg; DDD (sum op + pp) - 28 ug/kg; DDE (sum op + pp) - 31.3 ug/kg; DDT (sum op + pp) - 62.9 ug/kg; DDT (total) - 572 ug/kg; Endrin - 207 ug/kg; Heptachlor epoxide - 16 ug/kg; HCH, gamma - 4.99 ug/kg.
Guideline Reference:	Development and evaluation of consensus-based sediment quality guidelines for freshwater ecosystems. Environmental Contamination and Toxicology. 39: 20-31
Spatial Representation:	One sediment sample was collected at a "watershed integrator" site located close to the mouth of Islais Creek.
Temporal Representation:	Sediment sample was collected in April of 2005.
Environmental Conditions:	Staff are not aware of any special environmental conditions associated with the sampling.
QAPP Information:	All samples were collected and analyzed using procedures comparable with the SWAMP Quality Assurance Management Plan (SWRCB, 2002).
QAPP Information Reference(s):	Quality Assurance Management Plan for the State of California's Surface Water Ambient Monitoring Program. Sacramento, CA. State Water Resources Control Board. SWAMP. December 2002 (1st version)

DECISION ID 60977 Region 2	
Islais Creek, Upper	
Pollutant:	Chlordane
Final Listing Decision:	Do Not List on 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision:	New Decision
Revision Status	Original
Impairment from Pollutant or Pollution:	Pollutant
Regional Board Staff Conclusion:	<p>This pollutant is being considered for placement on the CWA section 303(d) List under section 3.1 of the Listing Policy. Under section 3.1 a single line of evidence is necessary to assess listing status. One line of evidence is available in the administrative record to assess this pollutant. Zero of one samples exceed the guideline.</p> <p>Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against placing this water segment-pollutant combination on the CWA section 303(d) List.</p> <p>This conclusion is based on the staff findings that:</p> <ol style="list-style-type: none"> 1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy. 2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy. 3. Zero of one samples exceed the guideline and this sample size is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating. A minimum of 16 samples is needed to determine if a beneficial use is fully supported using table 3.1. 4. Pursuant to SECTION 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.

Regional Board Staff Decision Recommendation: This is a decision previously approved by the State Water Resources Control Board and the USEPA. No new data were assessed by the Regional Board for the current cycle. The decision has not changed.

Line of Evidence (LOE) for Decision ID 60977, Chlordane
Islais Creek, Upper

Region 2

LOE ID: 95449

Pollutant: Chlordane
LOE Subgroup: Pollutant-Sediment
Matrix: Sediment
Fraction: None

Beneficial Use: Warm Freshwater Habitat

Number of Samples: 1
Number of Exceedances: 0

Data and Information Type: PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality: Concentrations of anthracene, fluorene, naphthalene, phenanthrene, benz(a)anthracene, benzo(a)pyrene, chrysene, fluoranthene, pyrene, PAH (total), PCB (total), chlordane, dieldrin, DDD/DDE/DDT, endrin, heptachlor epoxide, and HCH, gamma in one sediment sample collected in spring 2005 did not exceed the sediment quality guidelines.

Data Reference: [Data collected by the Surface Water Ambient Monitoring Program, San Francisco Bay Regional Water Quality Control Board. Years 4 and 5 Assessment](#)

SWAMP Data: SWAMP

Water Quality Objective/Criterion: All waters shall be maintained free of toxic substances that are lethal to or that produce other detrimental responses in aquatic organisms.

Objective/Criterion Reference: [Water Quality Control Plan \(Basin Plan\) - San Francisco Bay Region \(Region 2\)](#)

Evaluation Guideline: Sediment Quality Guidelines (MacDonald et al., 2000): PEC (probable effect concentration) Anthracene - 845 ug/kg; Fluorene - 536 ug/kg; Naphthalene - 561 ug/kg; Phenanthrene - 1170 ug/kg; Benz(a)anthracene - 1050 ug/kg; Benzo(a)pyrene - 1450 ug/kg; Chrysene - 1290 ug/kg; Fluoranthene - 2230 ug/kg; Pyrene - 1520 ug/kg; PAH (total) - 22800 ug/kg; PCB (total) - 676 ug/kg; Chlordane - 17.6 ug/kg; Dieldrin - 61.8 ug/kg; DDD (sum op + pp) - 28 ug/kg; DDE (sum op + pp) - 31.3 ug/kg; DDT (sum op + pp) - 62.9 ug/kg; DDT (total) - 572 ug/kg; Endrin - 207 ug/kg; Heptachlor epoxide - 16 ug/kg; HCH, gamma - 4.99 ug/kg.

Guideline Reference: [Development and evaluation of consensus-based sediment quality guidelines for freshwater ecosystems. Environmental Contamination and Toxicology. 39: 20-31](#)

Spatial Representation: One sediment sample was collected at a "watershed integrator" site located close to the mouth of Islais Creek.

Temporal Representation: Sediment sample was collected in April of 2005.

Environmental Conditions: Staff are not aware of any special environmental conditions associated with the sampling.

QAPP Information: All samples were collected and analyzed using procedures comparable with the SWAMP Quality Assurance Management Plan (SWRCB, 2002).

QAPP Information Reference(s): [Quality Assurance Management Plan for the State of California's Surface Water Ambient Monitoring Program. Sacramento, CA. State Water Resources Control Board. SWAMP. December 2002 \(1st version\)](#)

DECISION ID 43757
Islais Creek, Upper

Region 2

Pollutant: Chromium
Final Listing Decision: Do Not List on 303(d) list (TMDL required list)

Last Listing Cycle's Final Listing Decision: Do Not List on 303(d) list (TMDL required list)(2012)

Revision Status: Original
Impairment from Pollutant or Pollution: Pollutant

Regional Board Staff Conclusion: This pollutant is being considered for placement on the section 303(d) list under section 3.1 of the Listing Policy. Under this section a single line of evidence is necessary to assess listing status. One line of evidence is available in the administrative record to assess this pollutant. One sample exceeds the water quality objective. Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against placing this water segment-pollutant combination on the section 303(d) list in the Water Quality Limited Segments category. This conclusion is based on the staff findings that: 1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy. 2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy. 3. One of one sample exceeded the water quality objective, but this sample size is insufficient to determine with the power and confidence of the Listing Policy if standards are not met. A minimum of two samples are needed for application of table 3.1. 4. Pursuant to section 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.

Regional Board Staff Decision Recommendation: This is a decision previously approved by the State Water Resources Control Board and the USEPA. No new data were assessed by the Regional Board for the current. The decision has not changed.

Line of Evidence (LOE) for Decision ID 43757, Chromium
Islais Creek, Upper

Region 2

LOE ID: 29258

Pollutant: Chromium (total)
LOE Subgroup: Pollutant-Sediment
Matrix: Sediment
Fraction: None

Beneficial Use: Warm Freshwater Habitat

Number of Samples: 1
Number of Exceedances: 1

Data and Information Type: PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality: The Islais Creek watershed was monitored as part of SWAMP assessment. Concentration of chromium in one sediment sample collected in spring 2005 exceeded the sediment quality guidelines.

Data Reference: [Data collected by the Surface Water Ambient Monitoring Program, San Francisco Bay Regional Water Quality Control Board, Years 4 and 5 Assessment](#)

SWAMP Data: SWAMP

Water Quality Objective/Criterion: All waters shall be maintained free of toxic substances that are lethal to or that produce other detrimental responses in aquatic organisms.

Objective/Criterion Reference: [Water Quality Control Plan \(Basin Plan\) - San Francisco Bay Region \(Region 2\)](#)

Evaluation Guideline: Sediment Quality Guidelines (MacDonald et al., 2000): PEC (probable effect concentration) chromium - 111 mg/kg dw.

Guideline Reference: [Development and evaluation of consensus-based sediment quality guidelines for freshwater ecosystems. Environmental Contamination and Toxicology. 39: 20-31](#)

Spatial Representation: Data were collected at one sampling location (ISL050) on Islais Creek.

Temporal Representation: Sample was collected during spring (April) season of 2005.

Environmental Conditions:

QAPP Information: All samples were collected and analyzed using procedures comparable with the SWAMP Quality Assurance Management Plan (SWRCB, 2002).

DECISION ID	60989	Region 2
Islais Creek, Upper		

Pollutant: Chrysene (C1-C4)
Final Listing Decision: Do Not List on 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision: New Decision
Revision Status: Original
Impairment from Pollutant or Pollution: Pollutant

Regional Board Staff Conclusion: This pollutant is being considered for placement on the CWA section 303(d) List under section 3.1 of the Listing Policy. Under section 3.1 a single line of evidence is necessary to assess listing status. One line of evidence is available in the administrative record to assess this pollutant. Zero of one samples exceed the guideline.

Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against placing this water segment-pollutant combination on the CWA section 303(d) List.

This conclusion is based on the staff findings that:

1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy.
2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy.
3. Zero of one samples exceed the guideline and this sample size is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating. A minimum of 16 samples is needed to determine if a beneficial use is fully supported using table 3.1.
4. Pursuant to SECTION 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.

Regional Board Staff Decision Recommendation: This is a decision previously approved by the State Water Resources Control Board and the USEPA. No new data were assessed by the Regional Board for the current cycle. The decision has not changed.

Line of Evidence (LOE) for Decision ID 60989, Chrysene (C1-C4)	Region 2
Islais Creek, Upper	

LOE ID: 95450
Pollutant: Chrysene (C1-C4)
LOE Subgroup: Pollutant-Sediment
Matrix: Sediment
Fraction: None
Beneficial Use: Warm Freshwater Habitat
Number of Samples: 1
Number of Exceedances: 0
Data and Information Type: PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality: Concentrations of anthracene, fluorene, naphthalene, phenanthrene, benz(a)anthracene, benzo(a)pyrene, chrysene, fluoranthrene, pyrene, PAH (total), PCB (total), chlordane, dieldrin, DDD/DDE/DDT, endrin, heptachlor epoxide, and HCH, gamma in one sediment sample collected in spring 2005 did not exceed the sediment quality guidelines.
Data Reference: [Data collected by the Surface Water Ambient Monitoring Program, San Francisco Bay Regional Water Quality Control Board. Years 4 and 5 Assessment](#)

SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	All waters shall be maintained free of toxic substances that are lethal to or that produce other detrimental responses in aquatic organisms.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) - San Francisco Bay Region (Region 2)
Evaluation Guideline:	Sediment Quality Guidelines (MacDonald et al., 2000): PEC (probable effect concentration) Anthracene - 845 ug/kg; Fluorene - 536 ug/kg; Naphthalene - 561 ug/kg; Phenanthrene - 1170 ug/kg; Benz(a)anthracene - 1050 ug/kg; Benzo(a)pyrene - 1450 ug/kg; Chrysene - 1290 ug/kg; Fluoranthene - 2230 ug/kg; Pyrene - 1520 ug/kg; PAH (total) - 22800 ug/kg; PCB (total) - 676 ug/kg; Chlordane - 17.6 ug/kg; Dieldrin - 61.8 ug/kg; DDD (sum op + pp) - 28 ug/kg; DDE (sum op + pp) - 31.3 ug/kg; DDT (sum op + pp) - 62.9 ug/kg; DDT (total) - 572 ug/kg; Endrin - 207 ug/kg; Heptachlor epoxide - 16 ug/kg; HCH, gamma - 4.99 ug/kg.
Guideline Reference:	Development and evaluation of consensus-based sediment quality guidelines for freshwater ecosystems. Environmental Contamination and Toxicology. 39: 20-31
Spatial Representation:	One sediment sample was collected at a "watershed integrator" site located close to the mouth of Islais Creek.
Temporal Representation:	Sediment sample was collected in April of 2005.
Environmental Conditions:	Staff are not aware of any special environmental conditions associated with the sampling.
QAPP Information:	All samples were collected and analyzed using procedures comparable with the SWAMP Quality Assurance Management Plan (SWRCB, 2002).
QAPP Information Reference(s):	Quality Assurance Management Plan for the State of California's Surface Water Ambient Monitoring Program. Sacramento, CA. State Water Resources Control Board. SWAMP. December 2002 (1st version)

DECISION ID 60994 Region 2	
Islais Creek, Upper	
Pollutant:	DDD (Dichlorodiphenyldichloroethane)
Final Listing Decision:	Do Not List on 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision:	New Decision
Revision Status	Original
Impairment from Pollutant or Pollution:	Pollutant
Regional Board Staff Conclusion:	<p>This pollutant is being considered for placement on the CWA section 303(d) List under section 3.1 of the Listing Policy. Under section 3.1 a single line of evidence is necessary to assess listing status. One line of evidence is available in the administrative record to assess this pollutant. Zero of one samples exceed the guideline.</p> <p>Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against placing this water segment-pollutant combination on the CWA section 303(d) List.</p> <p>This conclusion is based on the staff findings that:</p> <ol style="list-style-type: none"> 1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy. 2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy. 3. Zero of one samples exceed the guideline and this sample size is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating. A minimum of 16 samples is needed to determine if a beneficial use is fully supported using table 3.1. 4. Pursuant to SECTION 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.
Regional Board Staff Decision Recommendation:	This is a decision previously approved by the State Water Resources Control Board and the USEPA. No new data were assessed by the Regional Board for the current cycle. The decision has not changed.

Islais Creek, Upper

LOE ID:	95451
Pollutant:	DDD (Dichlorodiphenyldichloroethane)
LOE Subgroup:	Pollutant-Sediment
Matrix:	Sediment
Fraction:	None
Beneficial Use:	Warm Freshwater Habitat
Number of Samples:	1
Number of Exceedances:	0
Data and Information Type:	PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality:	Concentrations of anthracene, fluorene, naphthalene, phenanthrene, benz(a)anthracene, benzo(a)pyrene, chrysene, fluoranthrene, pyrene, PAH (total), PCB (total), chlordane, dieldrin, DDD/DDE/DDT, endrin, heptachlor epoxide, and HCH, gamma in one sediment sample collected in spring 2005 did not exceed the sediment quality guidelines.
Data Reference:	Data collected by the Surface Water Ambient Monitoring Program, San Francisco Bay Regional Water Quality Control Board. Years 4 and 5 Assessment
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	All waters shall be maintained free of toxic substances that are lethal to or that produce other detrimental responses in aquatic organisms.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) - San Francisco Bay Region (Region 2)
Evaluation Guideline:	Sediment Quality Guidelines (MacDonald et al., 2000): PEC (probable effect concentration) Anthracene - 845 ug/kg; Fluorene - 536 ug/kg; Naphthalene - 561 ug/kg; Phenanthrene - 1170 ug/kg; Benz(a)anthracene - 1050 ug/kg; Benzo(a)pyrene - 1450 ug/kg; Chrysene - 1290 ug/kg; Fluoranthene - 2230 ug/kg; Pyrene - 1520 ug/kg; PAH (total) - 22800 ug/kg; PCB (total) - 676 ug/kg; Chlordane - 17.6 ug/kg; Dieldrin - 61.8 ug/kg; DDD (sum op + pp) - 28 ug/kg; DDE (sum op + pp) - 31.3 ug/kg; DDT (sum op + pp) - 62.9 ug/kg; DDT (total) - 572 ug/kg; Endrin - 207 ug/kg; Heptachlor epoxide - 16 ug/kg; HCH, gamma - 4.99 ug/kg.
Guideline Reference:	Development and evaluation of consensus-based sediment quality guidelines for freshwater ecosystems. Environmental Contamination and Toxicology. 39: 20-31
Spatial Representation:	One sediment sample was collected at a "watershed integrator" site located close to the mouth of Islais Creek.
Temporal Representation:	Sediment sample was collected in April of 2005.
Environmental Conditions:	Staff are not aware of any special environmental conditions associated with the sampling.
QAPP Information:	All samples were collected and analyzed using procedures comparable with the SWAMP Quality Assurance Management Plan (SWRCB, 2002).
QAPP Information Reference(s):	Quality Assurance Management Plan for the State of California's Surface Water Ambient Monitoring Program. Sacramento, CA. State Water Resources Control Board. SWAMP. December 2002 (1st version)

DECISION ID

60995

Region 2

Islais Creek, Upper

Pollutant:	DDE (Dichlorodiphenyldichloroethylene)
Final Listing Decision:	Do Not List on 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision:	New Decision
Revision Status	Original
Impairment from Pollutant or	Pollutant

Pollution:**Regional Board Staff Conclusion:**

This pollutant is being considered for placement on the CWA section 303(d) List under section 3.1 of the Listing Policy. Under section 3.1 a single line of evidence is necessary to assess listing status. One line of evidence is available in the administrative record to assess this pollutant. Zero of one samples exceed the guideline.

Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against placing this water segment-pollutant combination on the CWA section 303(d) List.

This conclusion is based on the staff findings that:

1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy.
2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy.
3. Zero of one samples exceed the guideline and this sample size is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating. A minimum of 16 samples is needed to determine if a beneficial use is fully supported using table 3.1.
4. Pursuant to SECTION 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.

Regional Board Staff Decision Recommendation:

This is a decision previously approved by the State Water Resources Control Board and the USEPA. No new data were assessed by the Regional Board for the current cycle. The decision has not changed.

Line of Evidence (LOE) for Decision ID 60995, DDE (Dichlorodiphenyldichloroethylene)**Region 2****Islais Creek, Upper**

LOE ID: 95452

Pollutant: DDE (Dichlorodiphenyldichloroethylene)
LOE Subgroup: Pollutant-Sediment
Matrix: Sediment
Fraction: None

Beneficial Use: Warm Freshwater Habitat

Number of Samples: 1
Number of Exceedances: 0

Data and Information Type: PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality: Concentrations of anthracene, fluorene, naphthalene, phenanthrene, benz(a)anthracene, benzo(a)pyrene, chrysene, fluoranthene, pyrene, PAH (total), PCB (total), chlordan, dieldrin, DDD/DDE/DDT, endrin, heptachlor epoxide, and HCH, gamma in one sediment sample collected in spring 2005 did not exceed the sediment quality guidelines.

Data Reference: [Data collected by the Surface Water Ambient Monitoring Program, San Francisco Bay Regional Water Quality Control Board. Years 4 and 5 Assessment](#)

SWAMP Data: SWAMP

Water Quality Objective/Criterion: All waters shall be maintained free of toxic substances that are lethal to or that produce other detrimental responses in aquatic organisms.

Objective/Criterion Reference: [Water Quality Control Plan \(Basin Plan\) - San Francisco Bay Region \(Region 2\)](#)

Evaluation Guideline: Sediment Quality Guidelines (MacDonald et al., 2000): PEC (probable effect concentration) Anthracene - 845 ug/kg; Fluorene - 536 ug/kg; Naphthalene - 561 ug/kg; Phenanthrene - 1170 ug/kg; Benz(a)anthracene - 1050 ug/kg; Benzo(a)pyrene - 1450 ug/kg; Chrysene - 1290 ug/kg; Fluoranthene - 2230 ug/kg; Pyrene - 1520 ug/kg; PAH (total) - 22800 ug/kg; PCB (total) - 676 ug/kg; Chlordane - 17.6 ug/kg; Dieldrin - 61.8 ug/kg; DDD (sum op + pp) - 28 ug/kg; DDE (sum op + pp) - 31.3 ug/kg; DDT (sum op + pp) - 62.9 ug/kg; DDT (total) - 572 ug/kg; Endrin - 207 ug/kg; Heptachlor epoxide - 16 ug/kg; HCH, gamma - 4.99 ug/kg.

Guideline Reference:	Development and evaluation of consensus-based sediment quality guidelines for freshwater ecosystems. Environmental Contamination and Toxicology. 39: 20-31
Spatial Representation:	One sediment sample was collected at a "watershed integrator" site located close to the mouth of Islais Creek.
Temporal Representation:	Sediment sample was collected in April of 2005.
Environmental Conditions:	Staff are not aware of any special environmental conditions associated with the sampling.
QAPP Information:	All samples were collected and analyzed using procedures comparable with the SWAMP Quality Assurance Management Plan (SWRCB, 2002).
QAPP Information Reference(s):	Quality Assurance Management Plan for the State of California's Surface Water Ambient Monitoring Program. Sacramento, CA. State Water Resources Control Board. SWAMP. December 2002 (1st version)

DECISION ID 60996 Region 2	
Islais Creek, Upper	
Pollutant: Final Listing Decision: Last Listing Cycle's Final Listing Decision: Revision Status Impairment from Pollutant or Pollution:	DDT (Dichlorodiphenyltrichloroethane) Do Not List on 303(d) list (TMDL required list) New Decision Original Pollutant
Regional Board Staff Conclusion:	<p>This pollutant is being considered for placement on the CWA section 303(d) List under section 3.1 of the Listing Policy. Under section 3.1 a single line of evidence is necessary to assess listing status. One line of evidence is available in the administrative record to assess this pollutant. Zero of one samples exceed the guideline.</p> <p>Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against placing this water segment-pollutant combination on the CWA section 303(d) List.</p> <p>This conclusion is based on the staff findings that:</p> <ol style="list-style-type: none"> 1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy. 2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy. 3. Zero of one samples exceed the guideline and this sample size is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating. A minimum of 16 samples is needed to determine if a beneficial use is fully supported using table 3.1. 4. Pursuant to SECTION 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.
Regional Board Staff Decision Recommendation:	<p>This is a decision previously approved by the State Water Resources Control Board and the USEPA. No new data were assessed by the Regional Board for the current cycle. The decision has not changed.</p>

Line of Evidence (LOE) for Decision ID 60996, DDT (Dichlorodiphenyltrichloroethane) Region 2	
Islais Creek, Upper	
LOE ID:	95453
Pollutant: LOE Subgroup: Matrix: Fraction:	DDT (Dichlorodiphenyltrichloroethane) Pollutant-Sediment Sediment None
Beneficial Use:	Warm Freshwater Habitat
Number of Samples:	1

Number of Exceedances:	0
Data and Information Type:	PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality:	Concentrations of anthracene, fluorene, naphthalene, phenanthrene, benz(a)anthracene, benzo(a)pyrene, chrysene, fluoranthrene, pyrene, PAH (total), PCB (total), chlordane, dieldrin, DDD/DDE/DDT, endrin, heptachlor epoxide, and HCH, gamma in one sediment sample collected in spring 2005 did not exceed the sediment quality guidelines.
Data Reference:	Data collected by the Surface Water Ambient Monitoring Program, San Francisco Bay Regional Water Quality Control Board. Years 4 and 5 Assessment
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	All waters shall be maintained free of toxic substances that are lethal to or that produce other detrimental responses in aquatic organisms.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) - San Francisco Bay Region (Region 2)
Evaluation Guideline:	Sediment Quality Guidelines (MacDonald et al., 2000): PEC (probable effect concentration) Anthracene - 845 ug/kg; Fluorene - 536 ug/kg; Naphthalene - 561 ug/kg; Phenanthrene - 1170 ug/kg; Benz(a)anthracene - 1050 ug/kg; Benzo(a)pyrene - 1450 ug/kg; Chrysene - 1290 ug/kg; Fluoranthene - 2230 ug/kg; Pyrene - 1520 ug/kg; PAH (total) - 22800 ug/kg; PCB (total) - 676 ug/kg; Chlordane - 17.6 ug/kg; Dieldrin - 61.8 ug/kg; DDD (sum op + pp) - 28 ug/kg; DDE (sum op + pp) - 31.3 ug/kg; DDT (sum op + pp) - 62.9 ug/kg; DDT (total) - 572 ug/kg; Endrin - 207 ug/kg; Heptachlor epoxide - 16 ug/kg; HCH, gamma - 4.99 ug/kg.
Guideline Reference:	Development and evaluation of consensus-based sediment quality guidelines for freshwater ecosystems. Environmental Contamination and Toxicology. 39: 20-31
Spatial Representation:	One sediment sample was collected at a "watershed integrator" site located close to the mouth of Islais Creek.
Temporal Representation:	Sediment sample was collected in April of 2005.
Environmental Conditions:	Staff are not aware of any special environmental conditions associated with the sampling.
QAPP Information:	All samples were collected and analyzed using procedures comparable with the SWAMP Quality Assurance Management Plan (SWRCB, 2002).
QAPP Information Reference(s):	Quality Assurance Management Plan for the State of California's Surface Water Ambient Monitoring Program. Sacramento, CA. State Water Resources Control Board. SWAMP. December 2002 (1st version)

DECISION ID	60997	Region 2
Islais Creek, Upper		
Pollutant:	Dieldrin	
Final Listing Decision:	Do Not List on 303(d) list (TMDL required list)	
Last Listing Cycle's Final Listing Decision:	New Decision	
Revision Status	Original	
Impairment from Pollutant or Pollution:	Pollutant	
Regional Board Staff Conclusion:	<p>This pollutant is being considered for placement on the CWA section 303(d) List under section 3.1 of the Listing Policy. Under section 3.1 a single line of evidence is necessary to assess listing status. One line of evidence is available in the administrative record to assess this pollutant. Zero of one samples exceed the guideline.</p> <p>Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against placing this water segment-pollutant combination on the CWA section 303(d) List.</p> <p>This conclusion is based on the staff findings that:</p> <ol style="list-style-type: none"> 1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy. 2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy. 3. Zero of one samples exceed the guideline and this sample size is insufficient to determine, with 	

the power and confidence of the Listing Policy, the applicable beneficial use support rating. A minimum of 16 samples is needed to determine if a beneficial use is fully supported using table 3.1. 4. Pursuant to SECTION 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.

Regional Board Staff Decision Recommendation: This is a decision previously approved by the State Water Resources Control Board and the USEPA. No new data were assessed by the Regional Board for the current cycle. The decision has not changed.

Line of Evidence (LOE) for Decision ID 60997, Dieldrin

Region 2

Islais Creek, Upper

LOE ID: 95454

Pollutant: Dieldrin
LOE Subgroup: Pollutant-Sediment
Matrix: Sediment
Fraction: None

Beneficial Use: Warm Freshwater Habitat

Number of Samples: 1
Number of Exceedances: 0

Data and Information Type: PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality: Concentrations of anthracene, fluorene, naphthalene, phenanthrene, benz(a)anthracene, benzo(a)pyrene, chrysene, fluoranthrene, pyrene, PAH (total), PCB (total), chlordane, dieldrin, DDD/DDE/DDT, endrin, heptachlor epoxide, and HCH, gamma in one sediment sample collected in spring 2005 did not exceed the sediment quality guidelines.

Data Reference: [Data collected by the Surface Water Ambient Monitoring Program, San Francisco Bay Regional Water Quality Control Board. Years 4 and 5 Assessment](#)

SWAMP Data: SWAMP

Water Quality Objective/Criterion: All waters shall be maintained free of toxic substances that are lethal to or that produce other detrimental responses in aquatic organisms.

Objective/Criterion Reference: [Water Quality Control Plan \(Basin Plan\) - San Francisco Bay Region \(Region 2\)](#)

Evaluation Guideline: Sediment Quality Guidelines (MacDonald et al., 2000): PEC (probable effect concentration) Anthracene - 845 ug/kg; Fluorene - 536 ug/kg; Naphthalene - 561 ug/kg; Phenanthrene - 1170 ug/kg; Benz(a)anthracene - 1050 ug/kg; Benzo(a)pyrene - 1450 ug/kg; Chrysene - 1290 ug/kg; Fluoranthene - 2230 ug/kg; Pyrene - 1520 ug/kg; PAH (total) - 22800 ug/kg; PCB (total) - 676 ug/kg; Chlordane - 17.6 ug/kg; Dieldrin - 61.8 ug/kg; DDD (sum op + pp) - 28 ug/kg; DDE (sum op + pp) - 31.3 ug/kg; DDT (sum op + pp) - 62.9 ug/kg; DDT (total) - 572 ug/kg; Endrin - 207 ug/kg; Heptachlor epoxide - 16 ug/kg; HCH, gamma - 4.99 ug/kg.

Guideline Reference: [Development and evaluation of consensus-based sediment quality guidelines for freshwater ecosystems. Environmental Contamination and Toxicology. 39: 20-31](#)

Spatial Representation: One sediment sample was collected at a "watershed integrator" site located close to the mouth of Islais Creek.

Temporal Representation: Sediment sample was collected in April of 2005.

Environmental Conditions: Staff are not aware of any special environmental conditions associated with the sampling.

QAPP Information: All samples were collected and analyzed using procedures comparable with the SWAMP Quality Assurance Management Plan (SWRCB, 2002).

QAPP Information Reference(s): [Quality Assurance Management Plan for the State of California's Surface Water Ambient Monitoring Program, Sacramento, CA. State Water Resources Control Board. SWAMP. December 2002 \(1st version\)](#)

DECISION ID

60998

Region 2

Islais Creek, Upper

Pollutant:	Endrin
Final Listing Decision:	Do Not List on 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision:	New Decision
Revision Status	Original
Impairment from Pollutant or Pollution:	Pollutant

Regional Board Staff Conclusion: This pollutant is being considered for placement on the CWA section 303(d) List under section 3.1 of the Listing Policy. Under section 3.1 a single line of evidence is necessary to assess listing status. One line of evidence is available in the administrative record to assess this pollutant. Zero of one samples exceed the guideline.

Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against placing this water segment-pollutant combination on the CWA section 303(d) List.

This conclusion is based on the staff findings that:

1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy.
2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy.
3. Zero of one samples exceed the guideline and this sample size is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating. A minimum of 16 samples is needed to determine if a beneficial use is fully supported using table 3.1.
4. Pursuant to SECTION 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.

Regional Board Staff Decision Recommendation: This is a decision previously approved by the State Water Resources Control Board and the USEPA. No new data were assessed by the Regional Board for the current cycle. The decision has not changed.

Line of Evidence (LOE) for Decision ID 60998, Endrin

Region 2

Islais Creek, Upper

LOE ID:	95455
Pollutant:	Endrin
LOE Subgroup:	Pollutant-Sediment
Matrix:	Sediment
Fraction:	None
Beneficial Use:	Warm Freshwater Habitat
Number of Samples:	1
Number of Exceedances:	0
Data and Information Type:	PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality:	Concentrations of anthracene, fluorene, naphthalene, phenanthrene, benz(a)anthracene, benzo(a)pyrene, chrysene, fluoranthrene, pyrene, PAH (total), PCB (total), chlordane, dieldrin, DDD/DDE/DDT, endrin, heptachlor epoxide, and HCH, gamma in one sediment sample collected in spring 2005 did not exceed the sediment quality guidelines.
Data Reference:	Data collected by the Surface Water Ambient Monitoring Program, San Francisco Bay Regional Water Quality Control Board. Years 4 and 5 Assessment
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	All waters shall be maintained free of toxic substances that are lethal to or that produce other detrimental responses in aquatic organisms.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) - San Francisco Bay Region (Region 2)

Evaluation Guideline:	Sediment Quality Guidelines (MacDonald et al., 2000): PEC (probable effect concentration) Anthracene - 845 ug/kg; Fluorene - 536 ug/kg; Naphthalene - 561 ug/kg; Phenanthrene - 1170 ug/kg; Benz(a)anthracene - 1050 ug/kg; Benzo(a)pyrene - 1450 ug/kg; Chrysene - 1290 ug/kg; Fluoranthene - 2230 ug/kg; Pyrene - 1520 ug/kg; PAH (total) - 22800 ug/kg; PCB (total) - 676 ug/kg; Chlordane - 17.6 ug/kg; Dieldrin - 61.8 ug/kg; DDD (sum op + pp) - 28 ug/kg; DDE (sum op + pp) - 31.3 ug/kg; DDT (sum op + pp) - 62.9 ug/kg; DDT (total) - 572 ug/kg; Endrin - 207 ug/kg; Heptachlor epoxide - 16 ug/kg; HCH, gamma - 4.99 ug/kg.
Guideline Reference:	Development and evaluation of consensus-based sediment quality guidelines for freshwater ecosystems. Environmental Contamination and Toxicology. 39: 20-31
Spatial Representation:	One sediment sample was collected at a "watershed integrator" site located close to the mouth of Islais Creek.
Temporal Representation:	Sediment sample was collected in April of 2005.
Environmental Conditions:	Staff are not aware of any special environmental conditions associated with the sampling.
QAPP Information:	All samples were collected and analyzed using procedures comparable with the SWAMP Quality Assurance Management Plan (SWRCB, 2002).
QAPP Information Reference(s):	Quality Assurance Management Plan for the State of California's Surface Water Ambient Monitoring Program. Sacramento, CA. State Water Resources Control Board. SWAMP. December 2002 (1st version)

DECISION ID	44270	Region 2
Islais Creek, Upper		

Pollutant:	Escherichia coli (E. coli)
Final Listing Decision:	Do Not List on 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision:	Do Not List on 303(d) list (TMDL required list)(2012)
Revision Status	Original
Impairment from Pollutant or Pollution:	Pollutant

Regional Board Staff Conclusion:	This pollutant is being considered for placement on the section 303(d) list under section 3.2 of the Listing Policy. Under this section a single line of evidence is necessary to assess listing status. One line of evidence is available in the administrative record to assess this pollutant. One sample exceeded the water quality objective. Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against placing this water segment-pollutant combination on the section 303(d) list in the Water Quality Limited Segments category. This conclusion is based on the staff findings that: 1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy. 2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy. 3. One of one sample exceeded the water quality objective, but this sample size is insufficient to determine with the power and confidence of the Listing Policy if standards are not met. A minimum of five samples is needed for application of table 3.2. 4. Pursuant to section 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.
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Regional Board Staff Decision Recommendation:	This is a decision previously approved by the State Water Resources Control Board and the USEPA. No new data were assessed by the Regional Board for the current. The decision has not changed.
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Line of Evidence (LOE) for Decision ID 44270, Escherichia coli (E. coli)	Region 2
Islais Creek, Upper	

LOE ID:	29256
Pollutant:	Escherichia coli (E. coli)
LOE Subgroup:	Pollutant-Water
Matrix:	Water
Fraction:	None

Beneficial Use:	Water Contact Recreation
Number of Samples:	1
Number of Exceedances:	1
Data and Information Type:	PATHOGEN MONITORING
Data Used to Assess Water Quality:	Samples were collected as part of SWAMP sampling in the summer of 2005 at 7-day intervals and the geometric mean of the samples calculated over a five week interval. The geometric mean for this location was 962 MNP/100 mL. and exceeded the applicable guideline of 126 MPN/100 mL.
Data Reference:	Data collected by the Surface Water Ambient Monitoring Program, San Francisco Bay Regional Water Quality Control Board. Years 4 and 5 Assessment
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	Uses of water for recreational activities involving body contact with water where ingestion of water is reasonably possible. These uses include, but are not limited to, swimming, wading, water-skiing, skin and scuba diving, surfing, whitewater activities, fishing, and uses of natural hot springs. Water contact implies a risk of waterborne disease transmission and involves human health; accordingly, criteria required to protect this use are more stringent than those for more casual water-oriented recreation. U.S. EPA water quality criteria for water contact recreation based on the frequency of use a particular area receives - 1986: the E. coli criterion is not to exceed 126 organisms/100 mL. The value is expressed as a 7-day geometric mean based on five or more samples per 30?day period; designated beach (max) 235 MPN/100 mL.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) - San Francisco Bay Region (Region 2) Ambient Water Quality Criteria for Bacteria - 1986. EPA440/5-84-002
Evaluation Guideline:	
Guideline Reference:	
Spatial Representation:	Samples were collected at ISL050 (Glen Canyon Park).
Temporal Representation:	Samples were collected weekly from 7/12/2005 through 8/9/2005.
Environmental Conditions:	
QAPP Information:	All samples were collected and analyzed using procedures comparable with the SWAMP Quality Assurance Management Plan (SWRCB, 2002).
QAPP Information Reference(s):	Quality Assurance Management Plan for the State of California's Surface Water Ambient Monitoring Program. Sacramento, CA. State Water Resources Control Board. SWAMP. December 2002 (1st version)

DECISION ID	60999	Region 2
Islais Creek, Upper		
Pollutant:	Fluoranthene	
Final Listing Decision:	Do Not List on 303(d) list (TMDL required list)	
Last Listing Cycle's Final Listing Decision:	New Decision	
Revision Status	Original	
Impairment from Pollutant or Pollution:	Pollutant	
Regional Board Staff Conclusion:	<p>This pollutant is being considered for placement on the CWA section 303(d) List under section 3.1 of the Listing Policy. Under section 3.1 a single line of evidence is necessary to assess listing status. One line of evidence is available in the administrative record to assess this pollutant. Zero of one samples exceed the guideline.</p> <p>Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against placing this water segment-pollutant combination on the CWA section 303(d) List.</p>	

This conclusion is based on the staff findings that:

1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy.
2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy.
3. Zero of one samples exceed the guideline and this sample size is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating. A minimum of 16 samples is needed to determine if a beneficial use is fully supported using table 3.1.
4. Pursuant to SECTION 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.

Regional Board Staff Decision Recommendation: This is a decision previously approved by the State Water Resources Control Board and the USEPA. No new data were assessed by the Regional Board for the current cycle. The decision has not changed.

**Line of Evidence (LOE) for Decision ID 60999, Fluoranthene
Islais Creek, Upper**

Region 2

LOE ID:	95456
Pollutant:	Fluoranthene
LOE Subgroup:	Pollutant-Sediment
Matrix:	Sediment
Fraction:	None
Beneficial Use:	Warm Freshwater Habitat
Number of Samples:	1
Number of Exceedances:	0
Data and Information Type:	PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality:	Concentrations of anthracene, fluorene, naphthalene, phenanthrene, benz(a)anthracene, benzo(a)pyrene, chrysene, fluoranthrene, pyrene, PAH (total), PCB (total), chlordane, dieldrin, DDD/DDE/DDT, endrin, heptachlor epoxide, and HCH, gamma in one sediment sample collected in spring 2005 did not exceed the sediment quality guidelines.
Data Reference:	Data collected by the Surface Water Ambient Monitoring Program, San Francisco Bay Regional Water Quality Control Board. Years 4 and 5 Assessment
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	All waters shall be maintained free of toxic substances that are lethal to or that produce other detrimental responses in aquatic organisms.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) - San Francisco Bay Region (Region 2)
Evaluation Guideline:	Sediment Quality Guidelines (MacDonald et al., 2000): PEC (probable effect concentration) Anthracene - 845 ug/kg; Fluorene - 536 ug/kg; Naphthalene - 561 ug/kg; Phenanthrene - 1170 ug/kg; Benz(a)anthracene - 1050 ug/kg; Benzo(a)pyrene - 1450 ug/kg; Chrysene - 1290 ug/kg; Fluoranthene - 2230 ug/kg; Pyrene - 1520 ug/kg; PAH (total) - 22800 ug/kg; PCB (total) - 676 ug/kg; Chlordane - 17.6 ug/kg; Dieldrin - 61.8 ug/kg; DDD (sum op + pp) - 28 ug/kg; DDE (sum op + pp) - 31.3 ug/kg; DDT (sum op + pp) - 62.9 ug/kg; DDT (total) - 572 ug/kg; Endrin - 207 ug/kg; Heptachlor epoxide - 16 ug/kg; HCH, gamma - 4.99 ug/kg.
Guideline Reference:	Development and evaluation of consensus-based sediment quality guidelines for freshwater ecosystems. Environmental Contamination and Toxicology. 39: 20-31
Spatial Representation:	One sediment sample was collected at a "watershed integrator" site located close to the mouth of Islais Creek.
Temporal Representation:	Sediment sample was collected in April of 2005.
Environmental Conditions:	Staff are not aware of any special environmental conditions associated with the sampling.
QAPP Information:	All samples were collected and analyzed using procedures comparable with the SWAMP Quality Assurance Management Plan (SWRCB, 2002).
QAPP Information Reference(s):	Quality Assurance Management Plan for the State of California's Surface Water Ambient

DECISION ID	61001	Region 2
Islais Creek, Upper		

Pollutant: Heptachlor epoxide
Final Listing Decision: Do Not List on 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision: New Decision
Revision Status: Original
Impairment from Pollutant or Pollution: Pollutant

Regional Board Staff Conclusion: This pollutant is being considered for placement on the CWA section 303(d) List under section 3.1 of the Listing Policy. Under section 3.1 a single line of evidence is necessary to assess listing status. One line of evidence is available in the administrative record to assess this pollutant. Zero of one samples exceed the guideline.

Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against placing this water segment-pollutant combination on the CWA section 303(d) List.

This conclusion is based on the staff findings that:

1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy.
2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy.
3. Zero of one samples exceed the guideline and this sample size is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating. A minimum of 16 samples is needed to determine if a beneficial use is fully supported using table 3.1.
4. Pursuant to SECTION 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.

Regional Board Staff Decision Recommendation: This is a decision previously approved by the State Water Resources Control Board and the USEPA. No new data were assessed by the Regional Board for the current cycle. The decision has not changed.

Line of Evidence (LOE) for Decision ID 61001, Heptachlor epoxide	Region 2
Islais Creek, Upper	

LOE ID: 95457

Pollutant: Heptachlor epoxide
LOE Subgroup: Pollutant-Sediment
Matrix: Sediment
Fraction: None

Beneficial Use: Warm Freshwater Habitat

Number of Samples: 1
Number of Exceedances: 0

Data and Information Type: PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality: Concentrations of anthracene, fluorene, naphthalene, phenanthrene, benz(a)anthracene, benzo(a)pyrene, chrysene, fluoranthrene, pyrene, PAH (total), PCB (total), chlordane, dieldrin, DDD/DDE/DDT, endrin, heptachlor epoxide, and HCH, gamma in one sediment sample collected in spring 2005 did not exceed the sediment quality guidelines.

Data Reference: [Data collected by the Surface Water Ambient Monitoring Program, San Francisco Bay Regional Water Quality Control Board. Years 4 and 5 Assessment](#)

SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	All waters shall be maintained free of toxic substances that are lethal to or that produce other detrimental responses in aquatic organisms.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) - San Francisco Bay Region (Region 2)
Evaluation Guideline:	Sediment Quality Guidelines (MacDonald et al., 2000): PEC (probable effect concentration) Anthracene - 845 ug/kg; Fluorene - 536 ug/kg; Naphthalene - 561 ug/kg; Phenanthrene - 1170 ug/kg; Benz(a)anthracene - 1050 ug/kg; Benzo(a)pyrene - 1450 ug/kg; Chrysene - 1290 ug/kg; Fluoranthene - 2230 ug/kg; Pyrene - 1520 ug/kg; PAH (total) - 22800 ug/kg; PCB (total) - 676 ug/kg; Chlordane - 17.6 ug/kg; Dieldrin - 61.8 ug/kg; DDD (sum op + pp) - 28 ug/kg; DDE (sum op + pp) - 31.3 ug/kg; DDT (sum op + pp) - 62.9 ug/kg; DDT (total) - 572 ug/kg; Endrin - 207 ug/kg; Heptachlor epoxide - 16 ug/kg; HCH, gamma - 4.99 ug/kg.
Guideline Reference:	Development and evaluation of consensus-based sediment quality guidelines for freshwater ecosystems. Environmental Contamination and Toxicology. 39: 20-31
Spatial Representation:	One sediment sample was collected at a "watershed integrator" site located close to the mouth of Islais Creek.
Temporal Representation:	Sediment sample was collected in April of 2005.
Environmental Conditions:	Staff are not aware of any special environmental conditions associated with the sampling.
QAPP Information:	All samples were collected and analyzed using procedures comparable with the SWAMP Quality Assurance Management Plan (SWRCB, 2002).
QAPP Information Reference(s):	Quality Assurance Management Plan for the State of California's Surface Water Ambient Monitoring Program. Sacramento, CA. State Water Resources Control Board. SWAMP. December 2002 (1st version)

DECISION ID		61003	Region 2
Islais Creek, Upper			
Pollutant:	Lindane/gamma Hexachlorocyclohexane (gamma-HCH)		
Final Listing Decision:	Do Not List on 303(d) list (TMDL required list)		
Last Listing Cycle's Final Listing Decision:	New Decision		
Revision Status	Original		
Impairment from Pollutant or Pollution:	Pollutant		
Regional Board Staff Conclusion:	<p>This pollutant is being considered for placement on the CWA section 303(d) List under section 3.1 of the Listing Policy. Under section 3.1 a single line of evidence is necessary to assess listing status. One line of evidence is available in the administrative record to assess this pollutant. Zero of one samples exceed the guideline.</p> <p>Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against placing this water segment-pollutant combination on the CWA section 303(d) List.</p> <p>This conclusion is based on the staff findings that:</p> <ol style="list-style-type: none"> 1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy. 2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy. 3. Zero of one samples exceed the guideline and this sample size is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating. A minimum of 16 samples is needed to determine if a beneficial use is fully supported using table 3.1. 4. Pursuant to SECTION 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met. 		
Regional Board Staff Decision Recommendation:	This is a decision previously approved by the State Water Resources Control Board and the USEPA. No new data were assessed by the Regional Board for the current cycle. The decision has not changed.		

Islais Creek, Upper

LOE ID:	95458
Pollutant:	Lindane/gamma Hexachlorocyclohexane (gamma-HCH)
LOE Subgroup:	Pollutant-Sediment
Matrix:	Sediment
Fraction:	None
Beneficial Use:	Warm Freshwater Habitat
Number of Samples:	1
Number of Exceedances:	0
Data and Information Type:	PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality:	Concentrations of anthracene, fluorene, naphthalene, phenanthrene, benz(a)anthracene, benzo(a)pyrene, chrysene, fluoranthrene, pyrene, PAH (total), PCB (total), chlordane, dieldrin, DDD/DDE/DDT, endrin, heptachlor epoxide, and HCH, gamma in one sediment sample collected in spring 2005 did not exceed the sediment quality guidelines.
Data Reference:	Data collected by the Surface Water Ambient Monitoring Program, San Francisco Bay Regional Water Quality Control Board. Years 4 and 5 Assessment
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	All waters shall be maintained free of toxic substances that are lethal to or that produce other detrimental responses in aquatic organisms.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) - San Francisco Bay Region (Region 2)
Evaluation Guideline:	Sediment Quality Guidelines (MacDonald et al., 2000): PEC (probable effect concentration) Anthracene - 845 ug/kg; Fluorene - 536 ug/kg; Naphthalene - 561 ug/kg; Phenanthrene - 1170 ug/kg; Benz(a)anthracene - 1050 ug/kg; Benzo(a)pyrene - 1450 ug/kg; Chrysene - 1290 ug/kg; Fluoranthene - 2230 ug/kg; Pyrene - 1520 ug/kg; PAH (total) - 22800 ug/kg; PCB (total) - 676 ug/kg; Chlordane - 17.6 ug/kg; Dieldrin - 61.8 ug/kg; DDD (sum op + pp) - 28 ug/kg; DDE (sum op + pp) - 31.3 ug/kg; DDT (sum op + pp) - 62.9 ug/kg; DDT (total) - 572 ug/kg; Endrin - 207 ug/kg; Heptachlor epoxide - 16 ug/kg; HCH, gamma - 4.99 ug/kg.
Guideline Reference:	Development and evaluation of consensus-based sediment quality guidelines for freshwater ecosystems. Environmental Contamination and Toxicology. 39: 20-31
Spatial Representation:	One sediment sample was collected at a "watershed integrator" site located close to the mouth of Islais Creek.
Temporal Representation:	Sediment sample was collected in April of 2005.
Environmental Conditions:	Staff are not aware of any special environmental conditions associated with the sampling.
QAPP Information:	All samples were collected and analyzed using procedures comparable with the SWAMP Quality Assurance Management Plan (SWRCB, 2002).
QAPP Information Reference(s):	Quality Assurance Management Plan for the State of California's Surface Water Ambient Monitoring Program. Sacramento, CA. State Water Resources Control Board. SWAMP. December 2002 (1st version)

DECISION ID

61004

Region 2

Islais Creek, Upper

Pollutant:	Naphthalene
Final Listing Decision:	Do Not List on 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision:	New Decision
Revision Status	Original
Impairment from Pollutant or	Pollutant

Pollution:**Regional Board Staff Conclusion:**

This pollutant is being considered for placement on the CWA section 303(d) List under section 3.1 of the Listing Policy. Under section 3.1 a single line of evidence is necessary to assess listing status. One line of evidence is available in the administrative record to assess this pollutant. Zero of one samples exceed the guideline.

Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against placing this water segment-pollutant combination on the CWA section 303(d) List.

This conclusion is based on the staff findings that:

1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy.
2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy.
3. Zero of one samples exceed the guideline and this sample size is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating. A minimum of 16 samples is needed to determine if a beneficial use is fully supported using table 3.1.
4. Pursuant to SECTION 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.

Regional Board Staff Decision Recommendation:

This is a decision previously approved by the State Water Resources Control Board and the USEPA. No new data were assessed by the Regional Board for the current cycle. The decision has not changed.

Line of Evidence (LOE) for Decision ID 61004, Naphthalene**Region 2****Islais Creek, Upper**

LOE ID:	95459
Pollutant:	Naphthalene
LOE Subgroup:	Pollutant-Sediment
Matrix:	Sediment
Fraction:	None
Beneficial Use:	Warm Freshwater Habitat
Number of Samples:	1
Number of Exceedances:	0
Data and Information Type:	PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality:	Concentrations of anthracene, fluorene, naphthalene, phenanthrene, benz(a)anthracene, benzo(a)pyrene, chrysene, fluoranthene, pyrene, PAH (total), PCB (total), chlordan, dieldrin, DDD/DDE/DDT, endrin, heptachlor epoxide, and HCH, gamma in one sediment sample collected in spring 2005 did not exceed the sediment quality guidelines.
Data Reference:	Data collected by the Surface Water Ambient Monitoring Program, San Francisco Bay Regional Water Quality Control Board. Years 4 and 5 Assessment
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	All waters shall be maintained free of toxic substances that are lethal to or that produce other detrimental responses in aquatic organisms.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) - San Francisco Bay Region (Region 2)
Evaluation Guideline:	Sediment Quality Guidelines (MacDonald et al., 2000): PEC (probable effect concentration) Anthracene - 845 ug/kg; Fluorene - 536 ug/kg; Naphthalene - 561 ug/kg; Phenanthrene - 1170 ug/kg; Benz(a)anthracene - 1050 ug/kg; Benzo(a)pyrene - 1450 ug/kg; Chrysene - 1290 ug/kg; Fluoranthene - 2230 ug/kg; Pyrene - 1520 ug/kg; PAH (total) - 22800 ug/kg; PCB (total) - 676 ug/kg; Chlordane - 17.6 ug/kg; Dieldrin - 61.8 ug/kg; DDD (sum op + pp) - 28 ug/kg; DDE (sum op + pp) - 31.3 ug/kg; DDT (sum op + pp) - 62.9 ug/kg; DDT (total) - 572 ug/kg; Endrin - 207 ug/kg; Heptachlor epoxide - 16 ug/kg; HCH, gamma - 4.99 ug/kg.

Guideline Reference:	Development and evaluation of consensus-based sediment quality guidelines for freshwater ecosystems. Environmental Contamination and Toxicology. 39: 20-31
Spatial Representation:	One sediment sample was collected at a "watershed integrator" site located close to the mouth of Islais Creek.
Temporal Representation:	Sediment sample was collected in April of 2005.
Environmental Conditions:	Staff are not aware of any special environmental conditions associated with the sampling.
QAPP Information:	All samples were collected and analyzed using procedures comparable with the SWAMP Quality Assurance Management Plan (SWRCB, 2002).
QAPP Information Reference(s):	Quality Assurance Management Plan for the State of California's Surface Water Ambient Monitoring Program. Sacramento, CA. State Water Resources Control Board. SWAMP. December 2002 (1st version)

DECISION ID	43758	Region 2
Islais Creek, Upper		
Pollutant:	Nickel	
Final Listing Decision:	Do Not List on 303(d) list (TMDL required list)	
Last Listing Cycle's Final Listing Decision:	Do Not List on 303(d) list (TMDL required list)(2012)	
Revision Status	Original	
Impairment from Pollutant or Pollution:	Pollutant	
Regional Board Staff Conclusion:	<p>This pollutant is being considered for placement on the section 303(d) list under section 3.1 of the Listing Policy. Under this section a single line of evidence is necessary to assess listing status. One line of evidence is available in the administrative record to assess this pollutant. One sample exceed the water quality objective. Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against placing this water segment-pollutant combination on the section 303(d) list in the Water Quality Limited Segments category. This conclusion is based on the staff findings that: 1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy. 2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy. 3. One of one sample exceeded the water quality objective, but this sample size is insufficient to determine with the power and confidence of the Listing Policy if standards are not met. A minimum of two samples are needed for application of table 3.1. 4. Pursuant to section 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.</p>	
Regional Board Staff Decision Recommendation:	<p>This is a decision previously approved by the State Water Resources Control Board and the USEPA. No new data were assessed by the Regional Board for the current. The decision has not changed.</p>	

Line of Evidence (LOE) for Decision ID 43758, Nickel	Region 2
Islais Creek, Upper	
LOE ID:	29259
Pollutant:	Nickel
LOE Subgroup:	Pollutant-Sediment
Matrix:	Sediment
Fraction:	None
Beneficial Use:	Warm Freshwater Habitat
Number of Samples:	1
Number of Exceedances:	1
Data and Information Type:	PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality:	The Islais Creek watershed was monitored as part of SWAMP assessment. Concentration of nickel in one sediment sample collected in spring 2005 exceeded the sediment quality

Data Reference:	guidelines. Data collected by the Surface Water Ambient Monitoring Program. San Francisco Bay Regional Water Quality Control Board. Years 4 and 5 Assessment
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	All waters shall be maintained free of toxic substances that are lethal to or that produce other detrimental responses in aquatic organisms.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) - San Francisco Bay Region (Region 2)
Evaluation Guideline:	Sediment Quality Guidelines (MacDonald et al., 2000): PEC (probable effect concentration) nickel - 48.6 mg/kg dw.
Guideline Reference:	Development and evaluation of consensus-based sediment quality guidelines for freshwater ecosystems. Environmental Contamination and Toxicology. 39: 20-31
Spatial Representation:	Data were collected at one sampling location (ISL050) on Islais Creek.
Temporal Representation:	Sample was collected during spring (April) season of 2005.
Environmental Conditions:	
QAPP Information:	All samples were collected and analyzed using procedures comparable with the SWAMP Quality Assurance Management Plan (SWRCB, 2002).
QAPP Information Reference(s):	Quality Assurance Management Plan for the State of California's Surface Water Ambient Monitoring Program. Sacramento, CA. State Water Resources Control Board. SWAMP. December 2002 (1st version)

DECISION ID	43786	Region 2
Islais Creek, Upper		

Pollutant:	Oxygen, Dissolved
Final Listing Decision:	Do Not List on 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision:	Do Not List on 303(d) list (TMDL required list)(2012)
Revision Status	Original
Impairment from Pollutant or Pollution:	Pollutant
Regional Board Staff Conclusion:	This pollutant is being considered for placement on the section 303(d) list under section 3.2 of the Listing Policy. Under this section a single line of evidence is necessary to assess listing status. One line of evidence is available in the administrative record to assess this pollutant. None of the samples exceed the water quality objective. Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against placing this water segment-pollutant combination on the section 303(d) list in the Water Quality Limited Segments category. This conclusion is based on the staff findings that: 1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy. 2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy. 3. Zero of two samples exceeded the water quality objective, but this sample size is insufficient to determine with the power and confidence of the Listing Policy if standards are not met. A minimum of five samples is needed for application of table 3.2. 4. Pursuant to section 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.
Regional Board Staff Decision Recommendation:	This is a decision previously approved by the State Water Resources Control Board and the USEPA. No new data were assessed by the Regional Board for the current. The decision has not changed.

Line of Evidence (LOE) for Decision ID 43786, Oxygen, Dissolved	Region 2
Islais Creek, Upper	

LOE ID:	29261
Pollutant:	Oxygen, Dissolved
LOE Subgroup:	Pollutant-Water

Matrix:	Water
Fraction:	None
Beneficial Use:	Cold Freshwater Habitat
Number of Samples:	2
Number of Exceedances:	0
Data and Information Type:	PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality:	Water quality assessment was conducted at Islais Creek watershed as part of SWAMP assessment in 2005 and 2006. Continuous field monitoring of temperature, dissolved oxygen, pH, and specific conductance to determine temporal variability in basic water quality at one location. The 7 day average dissolved oxygen level ranged from 7.9 to 9.9 mg/L and varied with season. The 7 day average DO did not drop below the minimum at any deployment during the sampling season.
Data Reference:	Data collected by the Surface Water Ambient Monitoring Program, San Francisco Bay Regional Water Quality Control Board. Years 4 and 5 Assessment
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	The numeric water quality objective for dissolved oxygen is 7.0 mg/L minimum for waters designated as cold water habitat. The median dissolved oxygen concentration for any three consecutive months shall not be less than 80 percent of the dissolved oxygen content at saturation.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) - San Francisco Bay Region (Region 2)
Evaluation Guideline:	
Guideline Reference:	
Spatial Representation:	Dissolved oxygen was measured at one site ISL050 (Glen Canyon Park) located on the mainstem of Islais Creek representative of the entire creek length.
Temporal Representation:	The SWAMP performed continuous monitoring of dissolved oxygen at 15 minute intervals lasting 8-12 days during spring (May 2005), and winter wet season (January 2006).
Environmental Conditions:	
QAPP Information:	All samples were collected and analyzed using procedures comparable with the SWAMP Quality Assurance Management Plan (SWRCB 2002).
QAPP Information Reference(s):	Quality Assurance Management Plan for the State of California's Surface Water Ambient Monitoring Program, Sacramento, CA. State Water Resources Control Board. SWAMP. December 2002 (1st version)

DECISION ID	61006	Region 2
Islais Creek, Upper		
Pollutant:	PAHs (Polycyclic Aromatic Hydrocarbons)	
Final Listing Decision:	Do Not List on 303(d) list (TMDL required list)	
Last Listing Cycle's Final Listing Decision:	New Decision	
Revision Status	Original	
Impairment from Pollutant or Pollution:	Pollutant	
Regional Board Staff Conclusion:	<p>This pollutant is being considered for placement on the CWA section 303(d) List under section 3.1 of the Listing Policy. Under section 3.1 a single line of evidence is necessary to assess listing status. One line of evidence is available in the administrative record to assess this pollutant. Zero of one samples exceed the guideline.</p> <p>Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against placing this water segment-pollutant combination on the CWA section 303(d) List.</p> <p>This conclusion is based on the staff findings that:</p>	

1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy.
2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy.
3. Zero of one samples exceed the guideline and this sample size is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating. A minimum of 16 samples is needed to determine if a beneficial use is fully supported using table 3.1.
4. Pursuant to SECTION 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.

Regional Board Staff Decision Recommendation: This is a decision previously approved by the State Water Resources Control Board and the USEPA. No new data were assessed by the Regional Board for the current cycle. The decision has not changed.

Line of Evidence (LOE) for Decision ID 61006, PAHs (Polycyclic Aromatic Hydrocarbons)

Region 2

Islais Creek, Upper

LOE ID:	95460
Pollutant:	PAHs (Polycyclic Aromatic Hydrocarbons)
LOE Subgroup:	Pollutant-Sediment
Matrix:	Sediment
Fraction:	None
Beneficial Use:	Warm Freshwater Habitat
Number of Samples:	1
Number of Exceedances:	0
Data and Information Type:	PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality:	Concentrations of anthracene, fluorene, naphthalene, phenanthrene, benz(a)anthracene, benzo(a)pyrene, chrysene, fluoranthene, pyrene, PAH (total), PCB (total), chlordane, dieldrin, DDD/DDE/DDT, endrin, heptachlor epoxide, and HCH, gamma in one sediment sample collected in spring 2005 did not exceed the sediment quality guidelines.
Data Reference:	Data collected by the Surface Water Ambient Monitoring Program, San Francisco Bay Regional Water Quality Control Board. Years 4 and 5 Assessment
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	All waters shall be maintained free of toxic substances that are lethal to or that produce other detrimental responses in aquatic organisms.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) - San Francisco Bay Region (Region 2)
Evaluation Guideline:	Sediment Quality Guidelines (MacDonald et al., 2000): PEC (probable effect concentration) Anthracene - 845 ug/kg; Fluorene - 536 ug/kg; Naphthalene - 561 ug/kg; Phenanthrene - 1170 ug/kg; Benz(a)anthracene - 1050 ug/kg; Benzo(a)pyrene - 1450 ug/kg; Chrysene - 1290 ug/kg; Fluoranthene - 2230 ug/kg; Pyrene - 1520 ug/kg; PAH (total) - 22800 ug/kg; PCB (total) - 676 ug/kg; Chlordane - 17.6 ug/kg; Dieldrin - 61.8 ug/kg; DDD (sum op + pp) - 28 ug/kg; DDE (sum op + pp) - 31.3 ug/kg; DDT (sum op + pp) - 62.9 ug/kg; DDT (total) - 572 ug/kg; Endrin - 207 ug/kg; Heptachlor epoxide - 16 ug/kg; HCH, gamma - 4.99 ug/kg.
Guideline Reference:	Development and evaluation of consensus-based sediment quality guidelines for freshwater ecosystems. Environmental Contamination and Toxicology. 39: 20-31
Spatial Representation:	One sediment sample was collected at a "watershed integrator" site located close to the mouth of Islais Creek.
Temporal Representation:	Sediment sample was collected in April of 2005.
Environmental Conditions:	Staff are not aware of any special environmental conditions associated with the sampling.
QAPP Information:	All samples were collected and analyzed using procedures comparable with the SWAMP Quality Assurance Management Plan (SWRCB, 2002).
QAPP Information Reference(s):	Quality Assurance Management Plan for the State of California's Surface Water Ambient Monitoring Program. Sacramento, CA. State Water Resources Control Board. SWAMP. December 2002 (1st version)

DECISION ID	61008	Region 2
Islais Creek, Upper		

Pollutant: PCBs (Polychlorinated biphenyls)
Final Listing Decision: Do Not List on 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision: New Decision
Revision Status: Original
Impairment from Pollutant or Pollution: Pollutant

Regional Board Staff Conclusion: This pollutant is being considered for placement on the CWA section 303(d) List under section 3.1 of the Listing Policy. Under section 3.1 a single line of evidence is necessary to assess listing status. One line of evidence is available in the administrative record to assess this pollutant. Zero of one samples exceed the guideline.

Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against placing this water segment-pollutant combination on the CWA section 303(d) List.

This conclusion is based on the staff findings that:

1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy.
2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy.
3. Zero of one samples exceed the guideline and this sample size is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating. A minimum of 16 samples is needed to determine if a beneficial use is fully supported using table 3.1.
4. Pursuant to SECTION 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.

Regional Board Staff Decision Recommendation: This is a decision previously approved by the State Water Resources Control Board and the USEPA. No new data were assessed by the Regional Board for the current cycle. The decision has not changed.

Line of Evidence (LOE) for Decision ID 61008, PCBs (Polychlorinated biphenyls)	Region 2
Islais Creek, Upper	

LOE ID: 95461
Pollutant: PCBs (Polychlorinated biphenyls)
LOE Subgroup: Pollutant-Sediment
Matrix: Sediment
Fraction: None
Beneficial Use: Warm Freshwater Habitat
Number of Samples: 1
Number of Exceedances: 0
Data and Information Type: PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality: Concentrations of anthracene, fluorene, naphthalene, phenanthrene, benz(a)anthracene, benzo(a)pyrene, chrysene, fluoranthrene, pyrene, PAH (total), PCB (total), chlordane, dieldrin, DDD/DDE/DDT, endrin, heptachlor epoxide, and HCH, gamma in one sediment sample collected in spring 2005 did not exceed the sediment quality guidelines.
Data Reference: [Data collected by the Surface Water Ambient Monitoring Program, San Francisco Bay Regional Water Quality Control Board. Years 4 and 5 Assessment](#)
SWAMP Data: SWAMP

Water Quality Objective/Criterion:	All waters shall be maintained free of toxic substances that are lethal to or that produce other detrimental responses in aquatic organisms.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) - San Francisco Bay Region (Region 2)
Evaluation Guideline:	Sediment Quality Guidelines (MacDonald et al., 2000): PEC (probable effect concentration) Anthracene - 845 ug/kg; Fluorene - 536 ug/kg; Naphthalene - 561 ug/kg; Phenanthrene - 1170 ug/kg; Benz(a)anthracene - 1050 ug/kg; Benzo(a)pyrene - 1450 ug/kg; Chrysene - 1290 ug/kg; Fluoranthene - 2230 ug/kg; Pyrene - 1520 ug/kg; PAH (total) - 22800 ug/kg; PCB (total) - 676 ug/kg; Chlordane - 17.6 ug/kg; Dieldrin - 61.8 ug/kg; DDD (sum op + pp) - 28 ug/kg; DDE (sum op + pp) - 31.3 ug/kg; DDT (sum op + pp) - 62.9 ug/kg; DDT (total) - 572 ug/kg; Endrin - 207 ug/kg; Heptachlor epoxide - 16 ug/kg; HCH, gamma - 4.99 ug/kg.
Guideline Reference:	Development and evaluation of consensus-based sediment quality guidelines for freshwater ecosystems. Environmental Contamination and Toxicology. 39: 20-31
Spatial Representation:	One sediment sample was collected at a "watershed integrator" site located close to the mouth of Islais Creek.
Temporal Representation:	Sediment sample was collected in April of 2005.
Environmental Conditions:	Staff are not aware of any special environmental conditions associated with the sampling.
QAPP Information:	All samples were collected and analyzed using procedures comparable with the SWAMP Quality Assurance Management Plan (SWRCB, 2002).
QAPP Information Reference(s):	Quality Assurance Management Plan for the State of California's Surface Water Ambient Monitoring Program. Sacramento, CA. State Water Resources Control Board. SWAMP. December 2002 (1st version)

DECISION ID 61009 Region 2	
Islais Creek, Upper	
Pollutant: Final Listing Decision: Last Listing Cycle's Final Listing Decision: Revision Status Impairment from Pollutant or Pollution:	Phenanthrene Do Not List on 303(d) list (TMDL required list) New Decision Original Pollutant
Regional Board Staff Conclusion:	<p>This pollutant is being considered for placement on the CWA section 303(d) List under section 3.1 of the Listing Policy. Under section 3.1 a single line of evidence is necessary to assess listing status. One line of evidence is available in the administrative record to assess this pollutant. Zero of one samples exceed the guideline.</p> <p>Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against placing this water segment-pollutant combination on the CWA section 303(d) List.</p> <p>This conclusion is based on the staff findings that:</p> <ol style="list-style-type: none"> 1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy. 2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy. 3. Zero of one samples exceed the guideline and this sample size is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating. A minimum of 16 samples is needed to determine if a beneficial use is fully supported using table 3.1. 4. Pursuant to SECTION 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.
Regional Board Staff Decision Recommendation:	This is a decision previously approved by the State Water Resources Control Board and the USEPA. No new data were assessed by the Regional Board for the current cycle. The decision has not changed.
Line of Evidence (LOE) for Decision ID 61009, Phenanthrene Region 2	

Islais Creek, Upper

LOE ID:	95462
Pollutant:	Phenanthrene
LOE Subgroup:	Pollutant-Sediment
Matrix:	Sediment
Fraction:	None
Beneficial Use:	Warm Freshwater Habitat
Number of Samples:	1
Number of Exceedances:	0
Data and Information Type:	PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality:	Concentrations of anthracene, fluorene, naphthalene, phenanthrene, benz(a)anthracene, benzo(a)pyrene, chrysene, fluoranthrene, pyrene, PAH (total), PCB (total), chlordane, dieldrin, DDD/DDE/DDT, endrin, heptachlor epoxide, and HCH, gamma in one sediment sample collected in spring 2005 did not exceed the sediment quality guidelines.
Data Reference:	Data collected by the Surface Water Ambient Monitoring Program, San Francisco Bay Regional Water Quality Control Board. Years 4 and 5 Assessment
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	All waters shall be maintained free of toxic substances that are lethal to or that produce other detrimental responses in aquatic organisms.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) - San Francisco Bay Region (Region 2)
Evaluation Guideline:	Sediment Quality Guidelines (MacDonald et al., 2000): PEC (probable effect concentration) Anthracene - 845 ug/kg; Fluorene - 536 ug/kg; Naphthalene - 561 ug/kg; Phenanthrene - 1170 ug/kg; Benz(a)anthracene - 1050 ug/kg; Benzo(a)pyrene - 1450 ug/kg; Chrysene - 1290 ug/kg; Fluoranthene - 2230 ug/kg; Pyrene - 1520 ug/kg; PAH (total) - 22800 ug/kg; PCB (total) - 676 ug/kg; Chlordane - 17.6 ug/kg; Dieldrin - 61.8 ug/kg; DDD (sum op + pp) - 28 ug/kg; DDE (sum op + pp) - 31.3 ug/kg; DDT (sum op + pp) - 62.9 ug/kg; DDT (total) - 572 ug/kg; Endrin - 207 ug/kg; Heptachlor epoxide - 16 ug/kg; HCH, gamma - 4.99 ug/kg.
Guideline Reference:	Development and evaluation of consensus-based sediment quality guidelines for freshwater ecosystems. Environmental Contamination and Toxicology. 39: 20-31
Spatial Representation:	One sediment sample was collected at a "watershed integrator" site located close to the mouth of Islais Creek.
Temporal Representation:	Sediment sample was collected in April of 2005.
Environmental Conditions:	Staff are not aware of any special environmental conditions associated with the sampling.
QAPP Information:	All samples were collected and analyzed using procedures comparable with the SWAMP Quality Assurance Management Plan (SWRCB, 2002).
QAPP Information Reference(s):	Quality Assurance Management Plan for the State of California's Surface Water Ambient Monitoring Program. Sacramento, CA. State Water Resources Control Board. SWAMP. December 2002 (1st version)

DECISION ID	61011	Region 2
Islais Creek, Upper		
Pollutant:	Pyrene	
Final Listing Decision:	Do Not List on 303(d) list (TMDL required list)	
Last Listing Cycle's Final Listing Decision:	New Decision	
Revision Status	Original	
Impairment from Pollutant or Pollution:	Pollutant	
Regional Board Staff	This pollutant is being considered for placement on the CWA section 303(d) List under section 3.1 of	

Conclusion:	<p>the Listing Policy. Under section 3.1 a single line of evidence is necessary to assess listing status. One line of evidence is available in the administrative record to assess this pollutant. Zero of one samples exceed the guideline.</p> <p>Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against placing this water segment-pollutant combination on the CWA section 303(d) List.</p> <p>This conclusion is based on the staff findings that:</p> <ol style="list-style-type: none"> 1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy. 2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy. 3. Zero of one samples exceed the guideline and this sample size is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating. A minimum of 16 samples is needed to determine if a beneficial use is fully supported using table 3.1. 4. Pursuant to SECTION 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.
Regional Board Staff Decision Recommendation:	<p>This is a decision previously approved by the State Water Resources Control Board and the USEPA. No new data were assessed by the Regional Board for the current cycle. The decision has not changed.</p>

Line of Evidence (LOE) for Decision ID 61011, Pyrene

Region 2

Islais Creek, Upper

LOE ID:	95463
Pollutant:	Pyrene
LOE Subgroup:	Pollutant-Sediment
Matrix:	Sediment
Fraction:	None
Beneficial Use:	Warm Freshwater Habitat
Number of Samples:	1
Number of Exceedances:	0
Data and Information Type:	PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality:	Concentrations of anthracene, fluorene, naphthalene, phenanthrene, benz(a)anthracene, benzo(a)pyrene, chrysene, fluoranthrene, pyrene, PAH (total), PCB (total), chlordan, dieldrin, DDD/DDE/DDT, endrin, heptachlor epoxide, and HCH, gamma in one sediment sample collected in spring 2005 did not exceed the sediment quality guidelines.
Data Reference:	Data collected by the Surface Water Ambient Monitoring Program, San Francisco Bay Regional Water Quality Control Board, Years 4 and 5 Assessment
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	All waters shall be maintained free of toxic substances that are lethal to or that produce other detrimental responses in aquatic organisms.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) - San Francisco Bay Region (Region 2)
Evaluation Guideline:	Sediment Quality Guidelines (MacDonald et al., 2000): PEC (probable effect concentration) Anthracene - 845 ug/kg; Fluorene - 536 ug/kg; Naphthalene - 561 ug/kg; Phenanthrene - 1170 ug/kg; Benz(a)anthracene - 1050 ug/kg; Benzo(a)pyrene - 1450 ug/kg; Chrysene - 1290 ug/kg; Fluoranthene - 2230 ug/kg; Pyrene - 1520 ug/kg; PAH (total) - 22800 ug/kg; PCB (total) - 676 ug/kg; Chlordane - 17.6 ug/kg; Dieldrin - 61.8 ug/kg; DDD (sum op + pp) - 28 ug/kg; DDE (sum op + pp) - 31.3 ug/kg; DDT (sum op + pp) - 62.9 ug/kg; DDT (total) - 572 ug/kg; Endrin - 207 ug/kg; Heptachlor epoxide - 16 ug/kg; HCH, gamma - 4.99 ug/kg.
Guideline Reference:	Development and evaluation of consensus-based sediment quality guidelines for freshwater ecosystems, Environmental Contamination and Toxicology. 39: 20-31

Spatial Representation:	One sediment sample was collected at a "watershed integrator" site located close to the mouth of Islais Creek.
Temporal Representation:	Sediment sample was collected in April of 2005.
Environmental Conditions:	Staff are not aware of any special environmental conditions associated with the sampling.
QAPP Information:	All samples were collected and analyzed using procedures comparable with the SWAMP Quality Assurance Management Plan (SWRCB, 2002).
QAPP Information Reference(s):	Quality Assurance Management Plan for the State of California's Surface Water Ambient Monitoring Program. Sacramento, CA. State Water Resources Control Board. SWAMP. December 2002 (1st version).

DECISION ID	43787	Region 2
Islais Creek, Upper		

Pollutant:	Temperature, water
Final Listing Decision:	Do Not List on 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision:	Do Not List on 303(d) list (TMDL required list)(2012)
Revision Status	Original
Impairment from Pollutant or Pollution:	Pollutant

Regional Board Staff Conclusion: This pollutant is being considered for placement on the section 303(d) list under section 3.2 of the Listing Policy. Under this section a single line of evidence is necessary to assess listing status. One line of evidence is available in the administrative record to assess this pollutant. None of the samples exceed the water quality objective. Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against placing this water segment-pollutant combination on the section 303(d) list in the Water Quality Limited Segments category. This conclusion is based on the staff findings that: 1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy. 2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy. 3. Zero of two samples exceeded the water quality objective, but this sample size is insufficient to determine with the power and confidence of the Listing Policy if standards are not met. A minimum of five samples is needed for application of table 3.2. 4. Pursuant to section 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.

Regional Board Staff Decision Recommendation: This is a decision previously approved by the State Water Resources Control Board and the USEPA. No new data were assessed by the Regional Board for the current. The decision has not changed.

Line of Evidence (LOE) for Decision ID 43787, Temperature, water	Region 2
Islais Creek, Upper	

LOE ID:	29262
Pollutant:	Temperature, water
LOE Subgroup:	Pollutant-Water
Matrix:	Water
Fraction:	None
Beneficial Use:	Cold Freshwater Habitat
Number of Samples:	2
Number of Exceedances:	0
Data and Information Type:	PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality:	Water quality assessment was conducted at Islais Creek watershed as part of SWAMP assessment in 2005 and 2006. Continuous field monitoring of temperature, dissolved oxygen, pH, and specific conductance to determine temporal variability in basic water quality at one location. The temperature did not exceed the 17.0°C at either deployment during the sampling season.

Data Reference:	Data collected by the Surface Water Ambient Monitoring Program, San Francisco Bay Regional Water Quality Control Board. Years 4 and 5 Assessment
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	Temperature objectives for enclosed bays and estuaries are specified in the "Water Quality Control Plan for Control of Temperature in the Coastal and Interstate Waters and Enclosed Bays of California" including any revisions to the plan. In addition, the following temperature objectives apply to surface waters: The natural receiving water temperature of intrastate waters shall not be altered unless it can be demonstrated to the satisfaction of the Regional Board that such an alteration does not adversely affect beneficial uses. The temperature of any cold or warm freshwater habitat shall not be increased by more than 5°F (2.8°C) above natural receiving water temperature.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) - San Francisco Bay Region (Region 2)
Evaluation Guideline:	Sullivan et al. (2000) reviewed a wide range of studies incorporating information from laboratory-based research, field observations, and risk assessment approaches and developed criteria for assessing temperature risk to aquatic life. The 7-day mean temperature (maximum value of a 7-day moving average of the daily mean temperature) of 14.8°C was established as the upper threshold criterion for coho salmon and 17.0°C for steelhead trout. The risk assessment approach used by Sullivan et al. (2000) suggests that temperatures exceeding the above thresholds will cause a 10% reduction in average growth compared to optimal conditions.
Guideline Reference:	An Analysis of the Effects of Temperature on Salmonids of the Pacific Northwest with Implications for Selecting Temperature Criteria
Spatial Representation:	Temperature was measured at one site ISL050 (Glen Canyon Park) located on the mainstem of Islais Creek representative of the entire creek length.
Temporal Representation:	The SWAMP performed continuous monitoring of dissolved oxygen at 15 minute intervals lasting 8-12 days during spring (May 2005), and winter wet season (January 2006).
Environmental Conditions:	
QAPP Information:	All samples were collected and analyzed using procedures comparable with the SWAMP Quality Assurance Management Plan (SWRCB 2002).
QAPP Information Reference(s):	Quality Assurance Management Plan for the State of California's Surface Water Ambient Monitoring Program. Sacramento, CA. State Water Resources Control Board. SWAMP. December 2002 (1st version)

DECISION ID	44348	Region 2
Islais Creek, Upper		
Pollutant:	Toxicity	
Final Listing Decision:	Do Not List on 303(d) list (TMDL required list)	
Last Listing Cycle's Final Listing Decision:	Do Not List on 303(d) list (TMDL required list)(2012)	
Revision Status	Original	
Impairment from Pollutant or Pollution:	Pollutant	
Regional Board Staff Conclusion:	<p>This pollutant is being considered for placement on the section 303(d) list under section 3.6 of the Listing Policy. Under this section a single line of evidence is necessary to assess listing status. One line of evidence is available in the administrative record to assess this pollutant. One sample exceeds the water quality objective. Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against placing this water segment-pollutant combination on the section 303(d) list in the Water Quality Limited Segments category. This conclusion is based on the staff findings that: 1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy. 2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy. 3. One of one sample exceeded the water quality objective, but this sample size is insufficient to determine with the power and confidence of the Listing Policy if standards are not met. A minimum of two samples are needed for application of table 3.1. 4. Pursuant to section 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.</p>	

Regional Board Staff Decision Recommendation: This is a decision previously approved by the State Water Resources Control Board and the USEPA. No new data were assessed by the Regional Board for the current. The decision has not changed.

Line of Evidence (LOE) for Decision ID 44348, Toxicity
Islais Creek, Upper

Region 2

LOE ID: 29263

Pollutant: Sediment Toxicity
LOE Subgroup: Pollutant-Sediment
Matrix: Sediment
Fraction: None

Beneficial Use: Warm Freshwater Habitat

Number of Samples: 1
Number of Exceedances: 1

Data and Information Type: TOXICITY TESTING
Data Used to Assess Water Quality: Data used to evaluate sediment toxicity comprise one sediment sample collected by the SWAMP in spring 2005. The sample displayed slight toxicity to growth of *Hyalella azteca* at 73 percent of the control.

Data Reference: [Data collected by the Surface Water Ambient Monitoring Program, San Francisco Bay Regional Water Quality Control Board. Years 4 and 5 Assessment](#)

SWAMP Data: SWAMP

Water Quality Objective/Criterion: All waters shall be maintained free of toxic substances that are lethal to or that produce other detrimental responses in aquatic organisms.

Objective/Criterion Reference: There shall be no chronic toxicity in ambient waters. Chronic toxicity is a detrimental biological effect on growth rate, reproduction, fertilization success, larval development, population abundance, community composition, or any other relevant measure of the health of an organism, population, or community.
[Water Quality Control Plan \(Basin Plan\) - San Francisco Bay Region \(Region 2\)](#)

Evaluation Guideline: Sediment toxicity was evaluated according to the SWAMP methodology. Sample toxicity was determined by comparing mean organism response in samples and in negative controls. Statistical evaluation ($\alpha = 0.05$) and a default threshold of 80% of the control value were used to establish whether the sediment exhibited significant toxicity adversely impacting aquatic organisms.

Guideline Reference: [Revised approach to toxicity test acceptability criteria using a statistical performance assessment. Environmental Toxicology and Chemistry, vol. 16, No. 6, pp 1322?1329](#)

Spatial Representation: Data were collected at one sampling location at the lower part of Islais Creek.
Temporal Representation: A sample was collected in spring season (April 2005).
Environmental Conditions:
QAPP Information: All samples were collected and analyzed using procedures comparable with the SWAMP Quality Assurance Management Plan (SWRCB, 2002).
QAPP Information Reference(s): [Quality Assurance Management Plan for the State of California's Surface Water Ambient Monitoring Program. Sacramento, CA. State Water Resources Control Board. SWAMP. December 2002 \(1st version\)](#)

DECISION ID 44478
Islais Creek, Upper

Region 2

Pollutant: pH
Final Listing Decision: Do Not List on 303(d) list (TMDL required list)

Last Listing Cycle's Final Listing Decision:
Revision Status
Impairment from Pollutant or Pollution:

Do Not List on 303(d) list (TMDL required list)(2012)
Original
Pollutant

Regional Board Staff Conclusion:

This pollutant is being considered for placement on the section 303(d) list under section 3.2 of the Listing Policy. Under this section a single line of evidence is necessary to assess listing status. One line of evidence is available in the administrative record to assess this pollutant. None of the samples exceed the water quality objective. Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against placing this water segment-pollutant combination on the section 303(d) list in the Water Quality Limited Segments category. This conclusion is based on the staff findings that: 1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy. 2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy. 3. Zero of two samples exceeded the water quality objective, but this sample size is insufficient to determine with the power and confidence of the Listing Policy if standards are not met. A minimum of five samples is needed for application of table 3.2. 4. Pursuant to section 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.

Regional Board Staff Decision Recommendation:

This is a decision previously approved by the State Water Resources Control Board and the USEPA. No new data were assessed by the Regional Board for the current. The decision has not changed.

Line of Evidence (LOE) for Decision ID 44478, pH
Islais Creek, Upper

Region 2

LOE ID: 29260

Pollutant: pH
LOE Subgroup: Pollutant-Water
Matrix: Water
Fraction: None

Beneficial Use: Warm Freshwater Habitat

Number of Samples: 2
Number of Exceedances: 0

Data and Information Type: PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality: Water quality assessment was conducted at Islais Creek watershed as part of SWAMP assessment in 2005 and 2006. Continuous field monitoring of temperature, dissolved oxygen, pH, and specific conductance to determine temporal variability in basic water quality at one location. The pH ranged from 7.1 to 8.0 and varied with season. The pH did not exceed the maximum or drop below the minimum at any deployment during the sampling season.

Data Reference: [Data collected by the Surface Water Ambient Monitoring Program, San Francisco Bay Regional Water Quality Control Board. Years 4 and 5 Assessment](#)

SWAMP Data: SWAMP

Water Quality Objective/Criterion: The pH shall not be depressed below 6.5 nor raised above 8.5. This encompasses the pH range usually found in waters within the basin. Controllable water quality factors shall not cause changes greater than 0.5 units in normal ambient pH levels.

Objective/Criterion Reference: [Water Quality Control Plan \(Basin Plan\) - San Francisco Bay Region \(Region 2\)](#)

Evaluation Guideline:
Guideline Reference:

Spatial Representation: pH was measured at one site ISL050 (Glen Canyon Park) located on the mainstem of Islais Creek representative of the entire creek length.

Temporal Representation: The SWAMP performed continuous monitoring of pH at 15 minute intervals lasting 8-12

days during spring (May 2005), and winter wet season (January 2006).

Environmental Conditions:

QAPP Information:

All samples were collected and analyzed using procedures comparable with the SWAMP Quality Assurance Management Plan (SWRCB 2002).

QAPP Information Reference(s):

[Quality Assurance Management Plan for the State of California's Surface Water Ambient Monitoring Program. Sacramento, CA. State Water Resources Control Board. SWAMP. December 2002 \(1st version\).](#)

Draft California 2016 Integrated Report (303(d) List/305(b) Report)

Supporting Information

Regional Board 2 - San Francisco Bay Region

Water Body Name: Briones Reservoir
Water Body ID: CAL2066001120091208101107
Water Body Type: Lake & Reservoir

DECISION ID 61371 **Region 2**
Briones Reservoir

Pollutant: Aldrin
Final Listing Decision: Do Not List on 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision: New Decision
Revision Status Revised
Impairment from Pollutant or Pollution: Pollutant

Regional Board Staff Conclusion: This pollutant is being considered for placement on the CWA section 303(d) List under section 3.5 of the Listing Policy. Under section 3.5 a single line of evidence is necessary to assess listing status. Two lines of evidence are available in the administrative record to assess this pollutant. Zero of one samples exceed the guideline.

Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against placing this water segment-pollutant combination on the CWA section 303(d) List.

This conclusion is based on the staff findings that:

1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy.
2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy.
3. Zero of one samples exceed the guideline and this sample size is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating. A minimum of 16 samples is needed to determine if a beneficial use is fully supported using table 3.1.
4. Pursuant to SECTION 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.

Regional Board Staff Decision Recommendation: After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be placed on the section 303(d) list. The readily available data and information is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating.

Line of Evidence (LOE) for Decision ID 61371, Aldrin **Region 2**
Briones Reservoir

LOE ID: 91125
Pollutant: Aldrin
LOE Subgroup: Pollutant-Tissue
Matrix: Tissue
Fraction: Fish fillet
Beneficial Use: Warm Freshwater Habitat
Number of Samples: 1
Number of Exceedances: 0

Data and Information Type:	Fish tissue analysis
Data Used to Assess Water Quality:	State Water Board staff assessed SWAMP data for Briones Reservoir to determine beneficial use support and results are as follows: 0 of 1 samples exceed the criterion for Aldrin. One composite (5 fish per composite) was generated from one species: Largemouth Bass. Details of the compositing protocol can be found in the March 2009 report entitled: "Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Study" (SWAMP, 2009).
Data Reference:	Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Survey. A Report of the Surface Water Ambient Monitoring Program (SWAMP). California State Water Resources Control Board, Sacramento, CA Cruise Report for the Surface Waters Ambient Monitoring Program (SWAMP) Bioaccumulation Screening Study in California Lakes and Reservoirs, Sampling Dates: June 2007- March 2008 Statewide Lakes Sportfish Contamination Study 2007 2008 Contaminants in Fish from California Lakes and Reservoirs, 2007-2008: Summary Report on a Two-Year Screening Survey
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	Water Quality Control Plan for the San Francisco Bay Basin: Controllable water quality factors shall not cause a detrimental increase in concentrations of toxic substances found in bottom sediments or aquatic life. Effects on aquatic organisms, wildlife, and human health will be considered.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	National Academy of Science guidelines (NAS 1972) establish a maximum Aldrin concentration of 100 ug/Kg (wet weight) in tissue samples for protection of aquatic life from bioaccumulation of toxic substances.
Guideline Reference:	National Academy of Sciences. Water Quality Criteria 1972. EPA-R3-73-033. Washington, D.C.: U.S. Environmental Protection Agency
Spatial Representation:	Data for this assessment unit was collected by one monitoring project: (SWB_FishLk)
Temporal Representation:	Data was collected on a single day 11/20/2007.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	Samples were collected, processed, and analyzed in accordance with the methods described in Quality Assurance Project Plan "Screening Study of Bioaccumulation in California Lakes and Reservoirs." (SWAMP, 2008).
QAPP Information Reference(s):	Quality Assurance Project Plan Screening Study of Bioaccumulation in California Lakes and Reservoirs. Moss Landing Marine Labs. Prepared for SWAMP BOG, 49 pages plus appendices and attachments

Line of Evidence (LOE) for Decision ID 61371, Aldrin	Region 2
Briones Reservoir	

LOE ID:	91126
Pollutant:	Aldrin
LOE Subgroup:	Pollutant-Tissue
Matrix:	Tissue
Fraction:	Fish fillet
Beneficial Use:	Cold Freshwater Habitat
Number of Samples:	1
Number of Exceedances:	0
Data and Information Type:	Fish tissue analysis
Data Used to Assess Water Quality:	State Water Board staff assessed SWAMP data for Briones Reservoir to determine beneficial use support and results are as follows: 0 of 1 samples exceed the criterion for Aldrin. One composite (5 fish per composite) was generated from one species: Largemouth Bass. Details of the compositing protocol can be found in the March 2009

Data Reference:	<p>report entitled: "Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Study" (SWAMP, 2009).</p> <p>Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Survey. A Report of the Surface Water Ambient Monitoring Program (SWAMP). California State Water Resources Control Board, Sacramento, CA</p> <p>Cruise Report for the Surface Waters Ambient Monitoring Program (SWAMP)</p> <p>Bioaccumulation Screening Study in California Lakes and Reservoirs. Sampling Dates: June 2007- March 2008</p> <p>Statewide Lakes Sportfish Contamination Study 2007 2008</p> <p>Contaminants in Fish from California Lakes and Reservoirs, 2007-2008: Summary Report on a Two-Year Screening Survey</p>
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	Water Quality Control Plan for the San Francisco Bay Basin: Controllable water quality factors shall not cause a detrimental increase in concentrations of toxic substances found in bottom sediments or aquatic life. Effects on aquatic organisms, wildlife, and human health will be considered.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	National Academy of Science guidelines (NAS 1972) establish a maximum Aldrin concentration of 100 ug/Kg (wet weight) in tissue samples for protection of aquatic life from bioaccumulation of toxic substances.
Guideline Reference:	National Academy of Sciences. Water Quality Criteria 1972. EPA-R3-73-033. Washington, D.C.: U.S. Environmental Protection Agency
Spatial Representation:	Data for this assessment unit was collected by one monitoring project: (SWB_FishLk)
Temporal Representation:	Data was collected on a single day 11/20/2007.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	Samples were collected, processed, and analyzed in accordance with the methods described in Quality Assurance Project Plan "Screening Study of Bioaccumulation in California Lakes and Reservoirs." (SWAMP, 2008).
QAPP Information Reference(s):	Quality Assurance Project Plan Screening Study of Bioaccumulation in California Lakes and Reservoirs. Moss Landing Marine Labs. Prepared for SWAMP BOG. 49 pages plus appendices and attachments

DECISION ID		61372	Region 2
Briones Reservoir			
Pollutant:	Chlordane		
Final Listing Decision:	Do Not List on 303(d) list (TMDL required list)		
Last Listing Cycle's Final Listing Decision:	New Decision		
Revision Status	Revised		
Impairment from Pollutant or Pollution:	Pollutant		
Regional Board Staff Conclusion:	<p>This pollutant is being considered for placement on the CWA section 303(d) List under section 3.5 of the Listing Policy. Under section 3.5 a single line of evidence is necessary to assess listing status. Three lines of evidence are available in the administrative record to assess this pollutant. Zero of one samples exceed the guideline.</p> <p>Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against placing this water segment-pollutant combination on the CWA section 303(d) List.</p> <p>This conclusion is based on the staff findings that:</p> <ol style="list-style-type: none"> 1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy. 2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy. 3. Zero of one samples exceed the guideline and this sample size is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating. A 		

minimum of 16 samples is needed to determine if a beneficial use is fully supported using table 3.1. 4. Pursuant to SECTION 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.

Regional Board Staff Decision Recommendation: After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be placed on the section 303(d) list. The readily available data and information is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating.

Line of Evidence (LOE) for Decision ID 61372, Chlordane

Region 2

Briones Reservoir

LOE ID:	91127
Pollutant:	Chlordane
LOE Subgroup:	Pollutant-Tissue
Matrix:	Tissue
Fraction:	Fish fillet
Beneficial Use:	Warm Freshwater Habitat
Number of Samples:	1
Number of Exceedances:	0
Data and Information Type:	Fish tissue analysis
Data Used to Assess Water Quality:	State Water Board staff assessed SWAMP data for Briones Reservoir to determine beneficial use support and results are as follows: 0 of 1 samples exceed the criterion for Chlordane, Total. One composite (5 fish per composite) was generated from one species: Largemouth Bass. Details of the compositing protocol can be found in the March 2009 report entitled: "Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Study" (SWAMP, 2009). Total chlordane was calculated as the sum of the following chlordane isomers: cis- and trans-chlordane, cis- and trans-nonachlor, and oxychlordane.
Data Reference:	Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Survey. A Report of the Surface Water Ambient Monitoring Program (SWAMP). California State Water Resources Control Board, Sacramento, CA Cruise Report for the Surface Waters Ambient Monitoring Program (SWAMP) Bioaccumulation Screening Study in California Lakes and Reservoirs. Sampling Dates: June 2007- March 2008 Statewide Lakes Sportfish Contamination Study 2007 2008 Contaminants in Fish from California Lakes and Reservoirs, 2007-2008: Summary Report on a Two-Year Screening Survey
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	Water Quality Control Plan for the San Francisco Bay Basin: Controllable water quality factors shall not cause a detrimental increase in concentrations of toxic substances found in bottom sediments or aquatic life. Effects on aquatic organisms, wildlife, and human health will be considered.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	National Academy of Science guidelines (NAS 1972) establish a maximum total Chlordane concentration of 100 ug/Kg (wet weight) in tissue samples for protection of aquatic life from bioaccumulation of toxic substances.
Guideline Reference:	National Academy of Sciences. Water Quality Criteria 1972. EPA-R3-73-033. Washington, D.C.: U.S. Environmental Protection Agency
Spatial Representation:	Data for this assessment unit was collected by one monitoring project: (SWB_FishLk)
Temporal Representation:	Data was collected on a single day 11/20/2007.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	Samples were collected, processed, and analyzed in accordance with the methods

QAPP Information Reference(s):	described in Quality Assurance Project Plan "Screening Study of Bioaccumulation in California Lakes and Reservoirs." (SWAMP, 2008). Quality Assurance Project Plan Screening Study of Bioaccumulation in California Lakes and Reservoirs. Moss Landing Marine Labs. Prepared for SWAMP BOG, 49 pages plus appendices and attachments
Line of Evidence (LOE) for Decision ID 61372, Chlordane	
Briones Reservoir	
LOE ID:	91128
Pollutant:	Chlordane
LOE Subgroup:	Pollutant-Tissue
Matrix:	Tissue
Fraction:	Fish fillet
Beneficial Use:	Cold Freshwater Habitat
Number of Samples:	1
Number of Exceedances:	0
Data and Information Type:	Fish tissue analysis
Data Used to Assess Water Quality:	State Water Board staff assessed SWAMP data for Briones Reservoir to determine beneficial use support and results are as follows: 0 of 1 samples exceed the criterion for Chlordane, Total. One composite (5 fish per composite) was generated from one species: Largemouth Bass. Details of the compositing protocol can be found in the March 2009 report entitled: "Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Study" (SWAMP, 2009). Total chlordane was calculated as the sum of the following chlordane isomers: cis- and trans-chlordane, cis- and trans-nonachlor, and oxychlordane.
Data Reference:	Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Survey. A Report of the Surface Water Ambient Monitoring Program (SWAMP). California State Water Resources Control Board, Sacramento, CA Cruise Report for the Surface Waters Ambient Monitoring Program (SWAMP) Bioaccumulation Screening Study in California Lakes and Reservoirs, Sampling Dates: June 2007- March 2008 Statewide Lakes Sportfish Contamination Study 2007 2008 Contaminants in Fish from California Lakes and Reservoirs, 2007-2008: Summary Report on a Two-Year Screening Survey
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	Water Quality Control Plan for the San Francisco Bay Basin: Controllable water quality factors shall not cause a detrimental increase in concentrations of toxic substances found in bottom sediments or aquatic life. Effects on aquatic organisms, wildlife, and human health will be considered.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	National Academy of Science guidelines (NAS 1972) establish a maximum total Chlordane concentration of 100 ug/Kg (wet weight) in tissue samples for protection of aquatic life from bioaccumulation of toxic substances.
Guideline Reference:	National Academy of Sciences. Water Quality Criteria 1972. EPA-R3-73-033. Washington, D.C.: U.S. Environmental Protection Agency
Spatial Representation:	Data for this assessment unit was collected by one monitoring project: (SWB_FishLk)
Temporal Representation:	Data was collected on a single day 11/20/2007.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	Samples were collected, processed, and analyzed in accordance with the methods described in Quality Assurance Project Plan "Screening Study of Bioaccumulation in California Lakes and Reservoirs." (SWAMP, 2008).
QAPP Information Reference(s):	Quality Assurance Project Plan Screening Study of Bioaccumulation in California Lakes and Reservoirs. Moss Landing Marine Labs. Prepared for SWAMP BOG, 49 pages plus

Line of Evidence (LOE) for Decision ID 61372, Chlordane**Region 2****Briones Reservoir**

LOE ID:	91129
Pollutant:	Chlordane
LOE Subgroup:	Pollutant-Tissue
Matrix:	Tissue
Fraction:	Fish fillet
Beneficial Use:	Commercial or recreational collection of fish, shellfish, or organisms
Number of Samples:	1
Number of Exceedances:	0
Data and Information Type:	Fish tissue analysis
Data Used to Assess Water Quality:	State Water Board staff assessed SWAMP data for Briones Reservoir to determine beneficial use support and results are as follows: 0 of 1 samples exceed the criterion for Chlordane, Total. One composite (5 fish per composite) was generated from one species: Largemouth Bass. Details of the compositing protocol can be found in the March 2009 report entitled: "Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Study" (SWAMP, 2009). Total chlordane was calculated as the sum of the following chlordane isomers: cis- and trans-chlordane, cis- and trans-nonachlor, and oxychlordane.
Data Reference:	Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Survey. A Report of the Surface Water Ambient Monitoring Program (SWAMP). California State Water Resources Control Board, Sacramento, CA Cruise Report for the Surface Waters Ambient Monitoring Program (SWAMP) Bioaccumulation Screening Study in California Lakes and Reservoirs. Sampling Dates: June 2007- March 2008 Statewide Lakes Sportfish Contamination Study 2007 2008 Contaminants in Fish from California Lakes and Reservoirs, 2007-2008: Summary Report on a Two-Year Screening Survey
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	Water Quality Control Plan for the San Francisco Bay Basin: Controllable water quality factors shall not cause a detrimental increase in concentrations of toxic substances found in bottom sediments or aquatic life. Effects on aquatic organisms, wildlife, and human health will be considered.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	The modified OEHHA Fish Contaminant Goal for total chlordane in fish tissue is 3.9 ppb. This screening level assumes an average body weight of 70 kg and a consumption rate of 32 g/day for a 30 year exposure over a 70-year lifetime. This constituent is a carcinogen therefore the risk level is set to one in a million. A cooking reduction factor of 1 is applied for skin-off fillets. (Klasing, S., and R. Brodberg, 2008)
Guideline Reference:	Development of Fish Contaminant Goals and Advisory Tissue Levels for Common Contaminants in California Sport Fish: Chlordane, DDTs, Dieldrin, Methylmercury, PCBs, Selenium, and Toxaphene
Spatial Representation:	Data for this assessment unit was collected by one monitoring project: (SWB_FishLk)
Temporal Representation:	Data was collected on a single day 11/20/2007.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	Samples were collected, processed, and analyzed in accordance with the methods described in Quality Assurance Project Plan "Screening Study of Bioaccumulation in California Lakes and Reservoirs." (SWAMP, 2008).
QAPP Information Reference(s):	Quality Assurance Project Plan Screening Study of Bioaccumulation in California Lakes and Reservoirs. Moss Landing Marine Labs. Prepared for SWAMP BOG, 49 pages plus appendices and attachments

DECISION ID	61384	Region 2
Briones Reservoir		

Pollutant: DDT (Dichlorodiphenyltrichloroethane)
Final Listing Decision: Do Not List on 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision: New Decision
Revision Status: Revised
Impairment from Pollutant or Pollution: Pollutant

Regional Board Staff Conclusion: This pollutant is being considered for placement on the CWA section 303(d) List under section 3.5 of the Listing Policy. Under section 3.5 a single line of evidence is necessary to assess listing status. Three lines of evidence are available in the administrative record to assess this pollutant. Zero of one samples exceed the guideline.

Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against placing this water segment-pollutant combination on the CWA section 303(d) List.

This conclusion is based on the staff findings that:

1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy.
2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy.
3. Zero of one samples exceed the guideline and this sample size is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating. A minimum of 16 samples is needed to determine if a beneficial use is fully supported using table 3.1.
4. Pursuant to SECTION 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.

Regional Board Staff Decision Recommendation: After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be placed on the section 303(d) list. The readily available data and information is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating.

Line of Evidence (LOE) for Decision ID 61384, DDT (Dichlorodiphenyltrichloroethane)	Region 2
Briones Reservoir	

LOE ID: 91155
Pollutant: Total DDT (sum of 4,4'- and 2,4'- isomers of DDT, DDE, and DDD)
LOE Subgroup: Pollutant-Tissue
Matrix: Tissue
Fraction: Fish fillet
Beneficial Use: Cold Freshwater Habitat
Number of Samples: 1
Number of Exceedances: 0
Data and Information Type: Fish tissue analysis
Data Used to Assess Water Quality: State Water Board staff assessed SWAMP data for Briones Reservoir to determine beneficial use support and results are as follows: 0 of 1 samples exceed the criterion for DDT, Total. One composite (5 fish per composite) was generated from one species: Largemouth Bass. Details of the compositing protocol can be found in the March 2009 report entitled: "Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Study" (SWAMP, 2009). Total DDT was calculated as the sum of 4,4'- and 2,4'- isomers of DDT, DDE, and DDD.
Data Reference: [Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year](#)

[One of a Two-Year Screening Survey. A Report of the Surface Water Ambient Monitoring Program \(SWAMP\). California State Water Resources Control Board, Sacramento, CA](#)
[Cruise Report for the Surface Waters Ambient Monitoring Program \(SWAMP\)](#)
[Bioaccumulation Screening Study in California Lakes and Reservoirs, Sampling Dates: June 2007- March 2008](#)
[Statewide Lakes Sportfish Contamination Study 2007 2008](#)
[Contaminants in Fish from California Lakes and Reservoirs, 2007-2008: Summary Report on a Two-Year Screening Survey](#)

SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	Water Quality Control Plan for the San Francisco Bay Basin: Controllable water quality factors shall not cause a detrimental increase in concentrations of toxic substances found in bottom sediments or aquatic life. Effects on aquatic organisms, wildlife, and human health will be considered.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	National Academy of Science guidelines (NAS 1972) establish a maximum total DDT concentration of 1000 ug/Kg (wet weight) in tissue samples for protection of aquatic life from bioaccumulation of toxic substances.
Guideline Reference:	National Academy of Sciences. Water Quality Criteria 1972. EPA-R3-73-033. Washington, D.C.: U.S. Environmental Protection Agency
Spatial Representation:	Data for this assessment unit was collected by one monitoring project: (SWB_FishLk)
Temporal Representation:	Data was collected on a single day 11/20/2007.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	Samples were collected, processed, and analyzed in accordance with the methods described in Quality Assurance Project Plan "Screening Study of Bioaccumulation in California Lakes and Reservoirs." (SWAMP, 2008).
QAPP Information Reference(s):	Quality Assurance Project Plan Screening Study of Bioaccumulation in California Lakes and Reservoirs. Moss Landing Marine Labs. Prepared for SWAMP BOG. 49 pages plus appendices and attachments

Line of Evidence (LOE) for Decision ID 61384, DDT (Dichlorodiphenyltrichloroethane)

Region 2

Briones Reservoir

LOE ID:	91154
Pollutant:	Total DDT (sum of 4,4'- and 2,4'- isomers of DDT, DDE, and DDD)
LOE Subgroup:	Pollutant-Tissue
Matrix:	Tissue
Fraction:	Fish fillet
Beneficial Use:	Warm Freshwater Habitat
Number of Samples:	1
Number of Exceedances:	0
Data and Information Type:	Fish tissue analysis
Data Used to Assess Water Quality:	State Water Board staff assessed SWAMP data for Briones Reservoir to determine beneficial use support and results are as follows: 0 of 1 samples exceed the criterion for DDT, Total. One composite (5 fish per composite) was generated from one species: Largemouth Bass. Details of the compositing protocol can be found in the March 2009 report entitled: "Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Study" (SWAMP, 2009). Total DDT was calculated as the sum of 4,4'- and 2,4'- isomers of DDT, DDE, and DDD.
Data Reference:	Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Survey. A Report of the Surface Water Ambient Monitoring Program (SWAMP). California State Water Resources Control Board, Sacramento, CA Cruise Report for the Surface Waters Ambient Monitoring Program (SWAMP) Bioaccumulation Screening Study in California Lakes and Reservoirs, Sampling Dates: June 2007- March 2008

SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	Water Quality Control Plan for the San Francisco Bay Basin: Controllable water quality factors shall not cause a detrimental increase in concentrations of toxic substances found in bottom sediments or aquatic life. Effects on aquatic organisms, wildlife, and human health will be considered.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	National Academy of Science guidelines (NAS 1972) establish a maximum total DDT concentration of 1000 ug/Kg (wet weight) in tissue samples for protection of aquatic life from bioaccumulation of toxic substances.
Guideline Reference:	National Academy of Sciences. Water Quality Criteria 1972. EPA-R3-73-033. Washington, D.C.: U.S. Environmental Protection Agency
Spatial Representation:	Data for this assessment unit was collected by one monitoring project: (SWB_FishLk)
Temporal Representation:	Data was collected on a single day 11/20/2007.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	Samples were collected, processed, and analyzed in accordance with the methods described in Quality Assurance Project Plan "Screening Study of Bioaccumulation in California Lakes and Reservoirs." (SWAMP, 2008).
QAPP Information Reference(s):	Quality Assurance Project Plan Screening Study of Bioaccumulation in California Lakes and Reservoirs. Moss Landing Marine Labs. Prepared for SWAMP BOG, 49 pages plus appendices and attachments

Line of Evidence (LOE) for Decision ID 61384, DDT (Dichlorodiphenyltrichloroethane)

Region 2

Briones Reservoir

LOE ID:	91156
Pollutant:	Total DDT (sum of 4,4'- and 2,4'- isomers of DDT, DDE, and DDD)
LOE Subgroup:	Pollutant-Tissue
Matrix:	Tissue
Fraction:	Fish fillet
Beneficial Use:	Commercial or recreational collection of fish, shellfish, or organisms
Number of Samples:	1
Number of Exceedances:	0
Data and Information Type:	Fish tissue analysis
Data Used to Assess Water Quality:	State Water Board staff assessed SWAMP data for Briones Reservoir to determine beneficial use support and results are as follows: 0 of 1 samples exceed the criterion for DDT, Total. One composite (5 fish per composite) was generated from one species: Largemouth Bass. Details of the compositing protocol can be found in the March 2009 report entitled: "Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Study" (SWAMP, 2009). Total DDT was calculated as the sum of 4,4'- and 2,4'- isomers of DDT, DDE, and DDD.
Data Reference:	Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Survey. A Report of the Surface Water Ambient Monitoring Program (SWAMP). California State Water Resources Control Board, Sacramento, CA Cruise Report for the Surface Waters Ambient Monitoring Program (SWAMP) Bioaccumulation Screening Study in California Lakes and Reservoirs. Sampling Dates: June 2007- March 2008 Statewide Lakes Sportfish Contamination Study 2007 2008 Contaminants in Fish from California Lakes and Reservoirs, 2007-2008: Summary Report on a Two-Year Screening Survey

SWAMP Data:	SWAMP
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Water Quality Objective/Criterion:	Water Quality Control Plan for the San Francisco Bay Basin: Controllable water quality factors shall not cause a detrimental increase in concentrations of toxic substances found in bottom sediments or aquatic life. Effects on aquatic organisms, wildlife, and human health will be considered.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	The modified OEHHA Fish Contaminant Goal for total DDT in fish tissue is 15 ppb. This screening level assumes an average body weight of 70 kg and a consumption rate of 32 g/day for a 30 year exposure over a 70-year lifetime. This constituent is a carcinogen therefore the risk level is set to one in a million. A cooking reduction factor of 1 is applied for skin-off fillets. (Klasing, S., and R. Brodberg, 2008)
Guideline Reference:	Development of Fish Contaminant Goals and Advisory Tissue Levels for Common Contaminants in California Sport Fish: Chlordane, DDTs, Dieldrin, Methylmercury, PCBs, Selenium, and Toxaphene
Spatial Representation:	Data for this assessment unit was collected by one monitoring project: (SWB_FishLk)
Temporal Representation:	Data was collected on a single day 11/20/2007.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	Samples were collected, processed, and analyzed in accordance with the methods described in Quality Assurance Project Plan "Screening Study of Bioaccumulation in California Lakes and Reservoirs." (SWAMP, 2008).
QAPP Information Reference(s):	Quality Assurance Project Plan Screening Study of Bioaccumulation in California Lakes and Reservoirs. Moss Landing Marine Labs. Prepared for SWAMP BOG. 49 pages plus appendices and attachments

DECISION ID 61373 Region 2	
Briones Reservoir	
Pollutant: Final Listing Decision: Last Listing Cycle's Final Listing Decision: Revision Status Impairment from Pollutant or Pollution:	Dieldrin Do Not List on 303(d) list (TMDL required list) New Decision Revised Pollutant
Regional Board Staff Conclusion:	<p>This pollutant is being considered for placement on the CWA section 303(d) List under section 3.5 of the Listing Policy. Under section 3.5 a single line of evidence is necessary to assess listing status. Three lines of evidence are available in the administrative record to assess this pollutant. Zero of one samples exceed the guideline.</p> <p>Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against placing this water segment-pollutant combination on the CWA section 303(d) List.</p> <p>This conclusion is based on the staff findings that:</p> <ol style="list-style-type: none"> 1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy. 2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy. 3. Zero of one samples exceed the guideline and this sample size is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating. A minimum of 16 samples is needed to determine if a beneficial use is fully supported using table 3.1. 4. Pursuant to SECTION 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.
Regional Board Staff Decision Recommendation:	After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be placed on the section 303(d) list. The readily available data and information is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating.

Briones Reservoir

LOE ID:	91132
Pollutant:	Dieldrin
LOE Subgroup:	Pollutant-Tissue
Matrix:	Tissue
Fraction:	Fish fillet
Beneficial Use:	Commercial or recreational collection of fish, shellfish, or organisms
Number of Samples:	0
Number of Exceedances:	0
Data and Information Type:	Fish tissue analysis
Data Used to Assess Water Quality:	State Water Board staff assessed SWAMP data for Briones Reservoir to determine beneficial use support and results are as follows: 0 of 0 samples exceed the criterion for Dieldrin. One composite (5 fish per composite) was generated from one species: Largemouth Bass. Details of the compositing protocol can be found in the March 2009 report entitled: "Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Study" (SWAMP, 2009). One composite was not used in the assessment because the laboratory data reporting limit(s) was above the objective and therefore the results could not be quantified with the level of certainty required by the Listing Policy.
Data Reference:	Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Survey. A Report of the Surface Water Ambient Monitoring Program (SWAMP). California State Water Resources Control Board, Sacramento, CA Cruise Report for the Surface Waters Ambient Monitoring Program (SWAMP) Bioaccumulation Screening Study in California Lakes and Reservoirs, Sampling Dates: June 2007- March 2008 Statewide Lakes Sportfish Contamination Study 2007 2008 Contaminants in Fish from California Lakes and Reservoirs, 2007-2008: Summary Report on a Two-Year Screening Survey
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	Water Quality Control Plan for the San Francisco Bay Basin: Controllable water quality factors shall not cause a detrimental increase in concentrations of toxic substances found in bottom sediments or aquatic life. Effects on aquatic organisms, wildlife, and human health will be considered.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	The modified OEHHA Fish Contaminant Goal for dieldrin in fish tissue is 0.32 ppb. This screening level assumes an average body weight of 70 kg and a consumption rate of 32 g/day for a 30 year exposure over a 70-year lifetime. This constituent is a carcinogen therefore the risk level is set to one in a million. A cooking reduction factor of 1 is applied for skin-off fillets. (Klasing, S., and R. Brodberg, 2008)
Guideline Reference:	Development of Fish Contaminant Goals and Advisory Tissue Levels for Common Contaminants in California Sport Fish: Chlordane, DDTs, Dieldrin, Methylmercury, PCBs, Selenium, and Toxaphene
Spatial Representation:	Data for this assessment unit was collected by one monitoring project: (SWB_FishLk)
Temporal Representation:	Data was collected on a single day 11/20/2007.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	Samples were collected, processed, and analyzed in accordance with the methods described in Quality Assurance Project Plan "Screening Study of Bioaccumulation in California Lakes and Reservoirs." (SWAMP, 2008).
QAPP Information Reference(s):	Quality Assurance Project Plan Screening Study of Bioaccumulation in California Lakes and Reservoirs. Moss Landing Marine Labs. Prepared for SWAMP BOG. 49 pages plus appendices and attachments

Briones Reservoir

LOE ID:	91130
Pollutant:	Dieldrin
LOE Subgroup:	Pollutant-Tissue
Matrix:	Tissue
Fraction:	Fish fillet
Beneficial Use:	Warm Freshwater Habitat
Number of Samples:	1
Number of Exceedances:	0
Data and Information Type:	Fish tissue analysis
Data Used to Assess Water Quality:	State Water Board staff assessed SWAMP data for Briones Reservoir to determine beneficial use support and results are as follows: 0 of 1 samples exceed the criterion for Dieldrin. One composite (5 fish per composite) was generated from one species: Largemouth Bass. Details of the compositing protocol can be found in the March 2009 report entitled: "Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Study" (SWAMP, 2009).
Data Reference:	Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Survey. A Report of the Surface Water Ambient Monitoring Program (SWAMP). California State Water Resources Control Board, Sacramento, CA Cruise Report for the Surface Waters Ambient Monitoring Program (SWAMP) Bioaccumulation Screening Study in California Lakes and Reservoirs, Sampling Dates: June 2007- March 2008 Statewide Lakes Sportfish Contamination Study 2007 2008 Contaminants in Fish from California Lakes and Reservoirs, 2007-2008: Summary Report on a Two-Year Screening Survey
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	Water Quality Control Plan for the San Francisco Bay Basin: Controllable water quality factors shall not cause a detrimental increase in concentrations of toxic substances found in bottom sediments or aquatic life. Effects on aquatic organisms, wildlife, and human health will be considered.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	National Academy of Science guidelines (NAS 1972) establish a maximum Dieldrin concentration of 100 ug/Kg (wet weight) in tissue samples for protection of aquatic life from bioaccumulation of toxic substances.
Guideline Reference:	National Academy of Sciences. Water Quality Criteria 1972. EPA-R3-73-033. Washington, D.C.: U.S. Environmental Protection Agency
Spatial Representation:	Data for this assessment unit was collected by one monitoring project: (SWB_FishLk)
Temporal Representation:	Data was collected on a single day 11/20/2007.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	Samples were collected, processed, and analyzed in accordance with the methods described in Quality Assurance Project Plan "Screening Study of Bioaccumulation in California Lakes and Reservoirs." (SWAMP, 2008).
QAPP Information Reference(s):	Quality Assurance Project Plan Screening Study of Bioaccumulation in California Lakes and Reservoirs. Moss Landing Marine Labs. Prepared for SWAMP BOG, 49 pages plus appendices and attachments

Briones Reservoir

LOE ID: 91131

Pollutant:	Dieldrin
LOE Subgroup:	Pollutant-Tissue
Matrix:	Tissue
Fraction:	Fish fillet
Beneficial Use:	Cold Freshwater Habitat
Number of Samples:	1
Number of Exceedances:	0
Data and Information Type:	Fish tissue analysis
Data Used to Assess Water Quality:	State Water Board staff assessed SWAMP data for Briones Reservoir to determine beneficial use support and results are as follows: 0 of 1 samples exceed the criterion for Dieldrin. One composite (5 fish per composite) was generated from one species: Largemouth Bass. Details of the compositing protocol can be found in the March 2009 report entitled: "Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Study" (SWAMP, 2009).
Data Reference:	Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Survey. A Report of the Surface Water Ambient Monitoring Program (SWAMP). California State Water Resources Control Board, Sacramento, CA Cruise Report for the Surface Waters Ambient Monitoring Program (SWAMP) Bioaccumulation Screening Study in California Lakes and Reservoirs, Sampling Dates: June 2007- March 2008 Statewide Lakes Sportfish Contamination Study 2007 2008 Contaminants in Fish from California Lakes and Reservoirs, 2007-2008: Summary Report on a Two-Year Screening Survey
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	Water Quality Control Plan for the San Francisco Bay Basin: Controllable water quality factors shall not cause a detrimental increase in concentrations of toxic substances found in bottom sediments or aquatic life. Effects on aquatic organisms, wildlife, and human health will be considered.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	National Academy of Science guidelines (NAS 1972) establish a maximum Dieldrin concentration of 100 ug/Kg (wet weight) in tissue samples for protection of aquatic life from bioaccumulation of toxic substances.
Guideline Reference:	National Academy of Sciences. Water Quality Criteria 1972. EPA-R3-73-033. Washington, D.C.: U.S. Environmental Protection Agency
Spatial Representation:	Data for this assessment unit was collected by one monitoring project: (SWB_FishLk)
Temporal Representation:	Data was collected on a single day 11/20/2007.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	Samples were collected, processed, and analyzed in accordance with the methods described in Quality Assurance Project Plan "Screening Study of Bioaccumulation in California Lakes and Reservoirs." (SWAMP, 2008).
QAPP Information Reference(s):	Quality Assurance Project Plan Screening Study of Bioaccumulation in California Lakes and Reservoirs. Moss Landing Marine Labs. Prepared for SWAMP BOG. 49 pages plus appendices and attachments

DECISION ID	61374	Region 2
Briones Reservoir		

Pollutant:	Endosulfan
Final Listing Decision:	Do Not List on 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision:	New Decision
Revision Status	Revised
Impairment from Pollutant or Pollution:	Pollutant

**Regional Board Staff
Conclusion:**

This pollutant is being considered for placement on the CWA section 303(d) List under section 3.5 of the Listing Policy. Under section 3.5 a single line of evidence is necessary to assess listing status. Three lines of evidence are available in the administrative record to assess this pollutant. Zero of one samples exceed the guideline.

Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against placing this water segment-pollutant combination on the CWA section 303(d) List.

This conclusion is based on the staff findings that:

1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy.
2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy.
3. Zero of one samples exceed the guideline and this sample size is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating. A minimum of 16 samples is needed to determine if a beneficial use is fully supported using table 3.1.
4. Pursuant to SECTION 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.

**Regional Board Staff Decision
Recommendation:**

After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be placed on the section 303(d) list. The readily available data and information is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating.

**Line of Evidence (LOE) for Decision ID 61374, Endosulfan
Briones Reservoir**

Region 2

LOE ID:	91133
Pollutant:	Endosulfan
LOE Subgroup:	Pollutant-Tissue
Matrix:	Tissue
Fraction:	Fish fillet
Beneficial Use:	Cold Freshwater Habitat
Number of Samples:	1
Number of Exceedances:	0
Data and Information Type:	Fish tissue analysis
Data Used to Assess Water Quality:	State Water Board staff assessed SWAMP data for Briones Reservoir to determine beneficial use support and results are as follows: 0 of 1 samples exceed the criterion for Endosulfan I. One composite (5 fish per composite) was generated from one species: Largemouth Bass. Details of the compositing protocol can be found in the March 2009 report entitled: "Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Study" (SWAMP, 2009).
Data Reference:	Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Survey. A Report of the Surface Water Ambient Monitoring Program (SWAMP). California State Water Resources Control Board, Sacramento, CA Cruise Report for the Surface Waters Ambient Monitoring Program (SWAMP) Bioaccumulation Screening Study in California Lakes and Reservoirs, Sampling Dates: June 2007- March 2008 Statewide Lakes Sportfish Contamination Study 2007 2008 Contaminants in Fish from California Lakes and Reservoirs, 2007-2008: Summary Report on a Two-Year Screening Survey
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	Water Quality Control Plan for the San Francisco Bay Basin: Controllable water quality factors shall not cause a detrimental increase in concentrations of toxic substances found in bottom sediments or aquatic life. Effects on aquatic organisms, wildlife, and human

Objective/Criterion Reference:	health will be considered. Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	National Academy of Science guidelines (NAS 1972) establish a maximum Endosulfan, Total concentration of 100 ug/Kg (wet weight) in tissue samples for protection of aquatic life from bioaccumulation of toxic substances.
Guideline Reference:	National Academy of Sciences. Water Quality Criteria 1972. EPA-R3-73-033. Washington, D.C.: U.S. Environmental Protection Agency
Spatial Representation:	Data for this assessment unit was collected by one monitoring project: (SWB_FishLk)
Temporal Representation:	Data was collected on a single day 11/20/2007.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	Samples were collected, processed, and analyzed in accordance with the methods described in Quality Assurance Project Plan "Screening Study of Bioaccumulation in California Lakes and Reservoirs." (SWAMP, 2008).
QAPP Information Reference(s):	Quality Assurance Project Plan Screening Study of Bioaccumulation in California Lakes and Reservoirs. Moss Landing Marine Labs. Prepared for SWAMP BOG. 49 pages plus appendices and attachments

Line of Evidence (LOE) for Decision ID 61374, Endosulfan

Region 2

Briones Reservoir

LOE ID:	91134
Pollutant:	Endosulfan
LOE Subgroup:	Pollutant-Tissue
Matrix:	Tissue
Fraction:	Fish fillet
Beneficial Use:	Warm Freshwater Habitat
Number of Samples:	1
Number of Exceedances:	0
Data and Information Type:	Fish tissue analysis
Data Used to Assess Water Quality:	State Water Board staff assessed SWAMP data for Briones Reservoir to determine beneficial use support and results are as follows: 0 of 1 samples exceed the criterion for Endosulfan I. One composite (5 fish per composite) was generated from one species: Largemouth Bass. Details of the compositing protocol can be found in the March 2009 report entitled: "Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Study" (SWAMP, 2009).
Data Reference:	Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Survey. A Report of the Surface Water Ambient Monitoring Program (SWAMP). California State Water Resources Control Board, Sacramento, CA Cruise Report for the Surface Waters Ambient Monitoring Program (SWAMP) Bioaccumulation Screening Study in California Lakes and Reservoirs, Sampling Dates: June 2007- March 2008 Statewide Lakes Sportfish Contamination Study 2007 2008 Contaminants in Fish from California Lakes and Reservoirs, 2007-2008: Summary Report on a Two-Year Screening Survey
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	Water Quality Control Plan for the San Francisco Bay Basin: Controllable water quality factors shall not cause a detrimental increase in concentrations of toxic substances found in bottom sediments or aquatic life. Effects on aquatic organisms, wildlife, and human health will be considered.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	National Academy of Science guidelines (NAS 1972) establish a maximum Endosulfan, Total concentration of 100 ug/Kg (wet weight) in tissue samples for protection of aquatic life from bioaccumulation of toxic substances.

Guideline Reference:	National Academy of Sciences. Water Quality Criteria 1972. EPA-R3-73-033. Washington, D.C.: U.S. Environmental Protection Agency
Spatial Representation:	Data for this assessment unit was collected by one monitoring project: (SWB_FishLk)
Temporal Representation:	Data was collected on a single day 11/20/2007.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	Samples were collected, processed, and analyzed in accordance with the methods described in Quality Assurance Project Plan "Screening Study of Bioaccumulation in California Lakes and Reservoirs." (SWAMP, 2008).
QAPP Information Reference(s):	Quality Assurance Project Plan Screening Study of Bioaccumulation in California Lakes and Reservoirs. Moss Landing Marine Labs. Prepared for SWAMP BOG. 49 pages plus appendices and attachments

Line of Evidence (LOE) for Decision ID 61374, Endosulfan
Briones Reservoir

Region 2

LOE ID:	91135
Pollutant:	Endosulfan
LOE Subgroup:	Pollutant-Tissue
Matrix:	Tissue
Fraction:	Fish fillet
Beneficial Use:	Commercial or recreational collection of fish, shellfish, or organisms
Number of Samples:	1
Number of Exceedances:	0
Data and Information Type:	Fish tissue analysis
Data Used to Assess Water Quality:	State Water Board staff assessed SWAMP data for Briones Reservoir to determine beneficial use support and results are as follows: 0 of 1 samples exceed the criterion for Endosulfan I. One composite (5 fish per composite) was generated from one species: Largemouth Bass. Details of the compositing protocol can be found in the March 2009 report entitled: "Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Study" (SWAMP, 2009).
Data Reference:	Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Survey. A Report of the Surface Water Ambient Monitoring Program (SWAMP). California State Water Resources Control Board, Sacramento, CA Cruise Report for the Surface Waters Ambient Monitoring Program (SWAMP) Bioaccumulation Screening Study in California Lakes and Reservoirs, Sampling Dates: June 2007- March 2008 Statewide Lakes Sportfish Contamination Study 2007 2008 Contaminants in Fish from California Lakes and Reservoirs, 2007-2008: Summary Report on a Two-Year Screening Survey
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	Water Quality Control Plan for the San Francisco Bay Basin: Controllable water quality factors shall not cause a detrimental increase in concentrations of toxic substances found in bottom sediments or aquatic life. Effects on aquatic organisms, wildlife, and human health will be considered.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	The modified OEHHA Fish Contaminant Goal for endosulfan (I and II) in fish tissue is 13,000 ppb. This screening level assumes an average body weight of 70 kg and a consumption rate of 32 g/day. A cooking reduction factor of 1 is applied for skin-off fillets. (Klasing, S., and R. Brodberg, 2008; USEPA, 2000)
Guideline Reference:	Development of Fish Contaminant Goals and Advisory Tissue Levels for Common Contaminants in California Sport Fish: Chlordane, DDTs, Dieldrin, Methylmercury, PCBs, Selenium, and Toxaphene Guidance for Assessing Chemical Contaminant Data for Use In Fish Advisories Volume 1: Fish Sampling and Analysis

Spatial Representation:	Data for this assessment unit was collected by one monitoring project: (SWB_FishLk)
Temporal Representation:	Data was collected on a single day 11/20/2007.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	Samples were collected, processed, and analyzed in accordance with the methods described in Quality Assurance Project Plan "Screening Study of Bioaccumulation in California Lakes and Reservoirs." (SWAMP, 2008).
QAPP Information Reference(s):	Quality Assurance Project Plan Screening Study of Bioaccumulation in California Lakes and Reservoirs. Moss Landing Marine Labs. Prepared for SWAMP BOG. 49 pages plus appendices and attachments

DECISION ID	61375	Region 2
Briones Reservoir		

Pollutant: Final Listing Decision: Last Listing Cycle's Final Listing Decision: Revision Status Impairment from Pollutant or Pollution:	Endrin Do Not List on 303(d) list (TMDL required list) New Decision Revised Pollutant
Regional Board Staff Conclusion:	<p>This pollutant is being considered for placement on the CWA section 303(d) List under section 3.5 of the Listing Policy. Under section 3.5 a single line of evidence is necessary to assess listing status. Three lines of evidence are available in the administrative record to assess this pollutant. Zero of one samples exceed the guideline.</p> <p>Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against placing this water segment-pollutant combination on the CWA section 303(d) List.</p> <p>This conclusion is based on the staff findings that:</p> <ol style="list-style-type: none"> 1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy. 2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy. 3. Zero of one samples exceed the guideline and this sample size is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating. A minimum of 16 samples is needed to determine if a beneficial use is fully supported using table 3.1. 4. Pursuant to SECTION 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met. <p>After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be placed on the section 303(d) list. The readily available data and information is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating.</p>
Regional Board Staff Decision Recommendation:	<p>After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be placed on the section 303(d) list. The readily available data and information is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating.</p>

Line of Evidence (LOE) for Decision ID 61375, Endrin	Region 2
Briones Reservoir	

LOE ID:	91136
Pollutant:	Endrin
LOE Subgroup:	Pollutant-Tissue
Matrix:	Tissue
Fraction:	Fish fillet
Beneficial Use:	Warm Freshwater Habitat
Number of Samples:	1
Number of Exceedances:	0

Data and Information Type:	Fish tissue analysis
Data Used to Assess Water Quality:	State Water Board staff assessed SWAMP data for Briones Reservoir to determine beneficial use support and results are as follows: 0 of 1 samples exceed the criterion for Endrin. One composite (5 fish per composite) was generated from one species: Largemouth Bass. Details of the compositing protocol can be found in the March 2009 report entitled: "Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Study" (SWAMP, 2009).
Data Reference:	Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Survey. A Report of the Surface Water Ambient Monitoring Program (SWAMP). California State Water Resources Control Board, Sacramento, CA Cruise Report for the Surface Waters Ambient Monitoring Program (SWAMP) Bioaccumulation Screening Study in California Lakes and Reservoirs, Sampling Dates: June 2007- March 2008 Statewide Lakes Sportfish Contamination Study 2007 2008 Contaminants in Fish from California Lakes and Reservoirs, 2007-2008: Summary Report on a Two-Year Screening Survey
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	Water Quality Control Plan for the San Francisco Bay Basin: Controllable water quality factors shall not cause a detrimental increase in concentrations of toxic substances found in bottom sediments or aquatic life. Effects on aquatic organisms, wildlife, and human health will be considered.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	National Academy of Science guidelines (NAS 1972) establish a maximum Endrin concentration of 100 ug/Kg (wet weight) in tissue samples for protection of aquatic life from bioaccumulation of toxic substances.
Guideline Reference:	National Academy of Sciences. Water Quality Criteria 1972. EPA-R3-73-033. Washington, D.C.: U.S. Environmental Protection Agency
Spatial Representation:	Data for this assessment unit was collected by one monitoring project: (SWB_FishLk)
Temporal Representation:	Data was collected on a single day 11/20/2007.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	Samples were collected, processed, and analyzed in accordance with the methods described in Quality Assurance Project Plan "Screening Study of Bioaccumulation in California Lakes and Reservoirs." (SWAMP, 2008).
QAPP Information Reference(s):	Quality Assurance Project Plan Screening Study of Bioaccumulation in California Lakes and Reservoirs. Moss Landing Marine Labs. Prepared for SWAMP BOG, 49 pages plus appendices and attachments

Line of Evidence (LOE) for Decision ID 61375, Endrin	Region 2
Briones Reservoir	

LOE ID:	91137
Pollutant:	Endrin
LOE Subgroup:	Pollutant-Tissue
Matrix:	Tissue
Fraction:	Fish fillet
Beneficial Use:	Cold Freshwater Habitat
Number of Samples:	1
Number of Exceedances:	0
Data and Information Type:	Fish tissue analysis
Data Used to Assess Water Quality:	State Water Board staff assessed SWAMP data for Briones Reservoir to determine beneficial use support and results are as follows: 0 of 1 samples exceed the criterion for Endrin. One composite (5 fish per composite) was generated from one species: Largemouth Bass. Details of the compositing protocol can be found in the March 2009

Data Reference:	<p>report entitled: "Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Study" (SWAMP, 2009).</p> <p>Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Survey. A Report of the Surface Water Ambient Monitoring Program (SWAMP). California State Water Resources Control Board, Sacramento, CA</p> <p>Cruise Report for the Surface Waters Ambient Monitoring Program (SWAMP)</p> <p>Bioaccumulation Screening Study in California Lakes and Reservoirs. Sampling Dates: June 2007- March 2008</p> <p>Statewide Lakes Sportfish Contamination Study 2007 2008</p> <p>Contaminants in Fish from California Lakes and Reservoirs, 2007-2008: Summary Report on a Two-Year Screening Survey</p>
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	Water Quality Control Plan for the San Francisco Bay Basin: Controllable water quality factors shall not cause a detrimental increase in concentrations of toxic substances found in bottom sediments or aquatic life. Effects on aquatic organisms, wildlife, and human health will be considered.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	National Academy of Science guidelines (NAS 1972) establish a maximum Endrin concentration of 100 ug/Kg (wet weight) in tissue samples for protection of aquatic life from bioaccumulation of toxic substances.
Guideline Reference:	National Academy of Sciences. Water Quality Criteria 1972. EPA-R3-73-033. Washington, D.C.: U.S. Environmental Protection Agency
Spatial Representation:	Data for this assessment unit was collected by one monitoring project: (SWB_FishLk)
Temporal Representation:	Data was collected on a single day 11/20/2007.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	Samples were collected, processed, and analyzed in accordance with the methods described in Quality Assurance Project Plan "Screening Study of Bioaccumulation in California Lakes and Reservoirs." (SWAMP, 2008).
QAPP Information Reference(s):	Quality Assurance Project Plan Screening Study of Bioaccumulation in California Lakes and Reservoirs. Moss Landing Marine Labs. Prepared for SWAMP BOG. 49 pages plus appendices and attachments

Line of Evidence (LOE) for Decision ID 61375, Endrin

Region 2

Briones Reservoir

LOE ID:	91138
Pollutant:	Endrin
LOE Subgroup:	Pollutant-Tissue
Matrix:	Tissue
Fraction:	Fish fillet
Beneficial Use:	Commercial or recreational collection of fish, shellfish, or organisms
Number of Samples:	1
Number of Exceedances:	0
Data and Information Type:	Fish tissue analysis
Data Used to Assess Water Quality:	State Water Board staff assessed SWAMP data for Briones Reservoir to determine beneficial use support and results are as follows: 0 of 1 samples exceed the criterion for Endrin. One composite (5 fish per composite) was generated from one species: Largemouth Bass. Details of the compositing protocol can be found in the March 2009 report entitled: "Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Study" (SWAMP, 2009).
Data Reference:	Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Survey. A Report of the Surface Water Ambient Monitoring Program (SWAMP). California State Water Resources Control Board, Sacramento, CA
	Cruise Report for the Surface Waters Ambient Monitoring Program (SWAMP)

[Bioaccumulation Screening Study in California Lakes and Reservoirs, Sampling Dates: June 2007- March 2008](#)
[Statewide Lakes Sportfish Contamination Study 2007 2008](#)
[Contaminants in Fish from California Lakes and Reservoirs, 2007-2008: Summary Report on a Two-Year Screening Survey](#)

SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	Water Quality Control Plan for the San Francisco Bay Basin: Controllable water quality factors shall not cause a detrimental increase in concentrations of toxic substances found in bottom sediments or aquatic life. Effects on aquatic organisms, wildlife, and human health will be considered.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	The modified OEHHA Fish Contaminant Goal for endrin in fish tissue is 660 ppb. This screening level assumes an average body weight of 70 kg and a consumption rate of 32 g/day. A cooking reduction factor of 1 is applied for skin-off fillets. (Klasing, S., and R. Brodberg, 2008; USEPA, 2000)
Guideline Reference:	Development of Fish Contaminant Goals and Advisory Tissue Levels for Common Contaminants in California Sport Fish: Chlordane, DDTs, Dieldrin, Methylmercury, PCBs, Selenium, and Toxaphene Guidance for Assessing Chemical Contaminant Data for Use In Fish Advisories Volume 1: Fish Sampling and Analysis
Spatial Representation:	Data for this assessment unit was collected by one monitoring project: (SWB_FishLk)
Temporal Representation:	Data was collected on a single day 11/20/2007.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	Samples were collected, processed, and analyzed in accordance with the methods described in Quality Assurance Project Plan "Screening Study of Bioaccumulation in California Lakes and Reservoirs." (SWAMP, 2008).
QAPP Information Reference(s):	Quality Assurance Project Plan Screening Study of Bioaccumulation in California Lakes and Reservoirs. Moss Landing Marine Labs. Prepared for SWAMP BOG. 49 pages plus appendices and attachments

DECISION ID	61376	Region 2
Briones Reservoir		

Pollutant:	Heptachlor
Final Listing Decision:	Do Not List on 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision:	New Decision
Revision Status	Revised
Impairment from Pollutant or Pollution:	Pollutant
Regional Board Staff Conclusion:	<p>This pollutant is being considered for placement on the CWA section 303(d) List under section 3.5 of the Listing Policy. Under section 3.5 a single line of evidence is necessary to assess listing status. Two lines of evidence are available in the administrative record to assess this pollutant. Zero of one samples exceed the guideline.</p> <p>Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against placing this water segment-pollutant combination on the CWA section 303(d) List.</p> <p>This conclusion is based on the staff findings that:</p> <ol style="list-style-type: none"> 1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy. 2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy. 3. Zero of one samples exceed the guideline and this sample size is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating. A minimum of 16 samples is needed to determine if a beneficial use is fully supported using table 3.1. 4. Pursuant to SECTION 3.11 of the Listing Policy, no additional data and information are available

indicating that standards are not met.

Regional Board Staff Decision Recommendation: After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be placed on the section 303(d) list. The readily available data and information is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating.

**Line of Evidence (LOE) for Decision ID 61376, Heptachlor
Briones Reservoir**

Region 2

LOE ID:	91140
Pollutant:	Heptachlor
LOE Subgroup:	Pollutant-Tissue
Matrix:	Tissue
Fraction:	Fish fillet
Beneficial Use:	Cold Freshwater Habitat
Number of Samples:	1
Number of Exceedances:	0
Data and Information Type:	Fish tissue analysis
Data Used to Assess Water Quality:	State Water Board staff assessed SWAMP data for Briones Reservoir to determine beneficial use support and results are as follows: 0 of 1 samples exceed the criterion for Heptachlor. One composite (5 fish per composite) was generated from one species: Largemouth Bass. Details of the compositing protocol can be found in the March 2009 report entitled: "Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Study" (SWAMP, 2009).
Data Reference:	Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Survey. A Report of the Surface Water Ambient Monitoring Program (SWAMP). California State Water Resources Control Board, Sacramento, CA Cruise Report for the Surface Waters Ambient Monitoring Program (SWAMP) Bioaccumulation Screening Study in California Lakes and Reservoirs, Sampling Dates: June 2007- March 2008 Statewide Lakes Sportfish Contamination Study 2007 2008 Contaminants in Fish from California Lakes and Reservoirs, 2007-2008: Summary Report on a Two-Year Screening Survey
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	Water Quality Control Plan for the San Francisco Bay Basin: Controllable water quality factors shall not cause a detrimental increase in concentrations of toxic substances found in bottom sediments or aquatic life. Effects on aquatic organisms, wildlife, and human health will be considered.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	National Academy of Science guidelines (NAS 1972) establish a maximum Heptachlor concentration of 100 ug/Kg (wet weight) in tissue samples for protection of aquatic life from bioaccumulation of toxic substances.
Guideline Reference:	National Academy of Sciences. Water Quality Criteria 1972. EPA-R3-73-033. Washington, D.C.: U.S. Environmental Protection Agency
Spatial Representation:	Data for this assessment unit was collected by one monitoring project: (SWB_FishLk)
Temporal Representation:	Data was collected on a single day 11/20/2007.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	Samples were collected, processed, and analyzed in accordance with the methods described in Quality Assurance Project Plan "Screening Study of Bioaccumulation in California Lakes and Reservoirs." (SWAMP, 2008).
QAPP Information Reference(s):	Quality Assurance Project Plan Screening Study of Bioaccumulation in California Lakes and Reservoirs. Moss Landing Marine Labs. Prepared for SWAMP BOG, 49 pages plus

Line of Evidence (LOE) for Decision ID 61376, Heptachlor

Region 2

Briones Reservoir

LOE ID:	91139
Pollutant:	Heptachlor
LOE Subgroup:	Pollutant-Tissue
Matrix:	Tissue
Fraction:	Fish fillet
Beneficial Use:	Warm Freshwater Habitat
Number of Samples:	1
Number of Exceedances:	0
Data and Information Type:	Fish tissue analysis
Data Used to Assess Water Quality:	State Water Board staff assessed SWAMP data for Briones Reservoir to determine beneficial use support and results are as follows: 0 of 1 samples exceed the criterion for Heptachlor. One composite (5 fish per composite) was generated from one species: Largemouth Bass. Details of the compositing protocol can be found in the March 2009 report entitled: "Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Study" (SWAMP, 2009).
Data Reference:	Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Survey. A Report of the Surface Water Ambient Monitoring Program (SWAMP). California State Water Resources Control Board, Sacramento, CA Cruise Report for the Surface Waters Ambient Monitoring Program (SWAMP) Bioaccumulation Screening Study in California Lakes and Reservoirs, Sampling Dates: June 2007- March 2008 Statewide Lakes Sportfish Contamination Study 2007 2008 Contaminants in Fish from California Lakes and Reservoirs, 2007-2008: Summary Report on a Two-Year Screening Survey
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	Water Quality Control Plan for the San Francisco Bay Basin: Controllable water quality factors shall not cause a detrimental increase in concentrations of toxic substances found in bottom sediments or aquatic life. Effects on aquatic organisms, wildlife, and human health will be considered.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	National Academy of Science guidelines (NAS 1972) establish a maximum Heptachlor concentration of 100 ug/Kg (wet weight) in tissue samples for protection of aquatic life from bioaccumulation of toxic substances.
Guideline Reference:	National Academy of Sciences. Water Quality Criteria 1972. EPA-R3-73-033. Washington, D.C.: U.S. Environmental Protection Agency
Spatial Representation:	Data for this assessment unit was collected by one monitoring project: (SWB_FishLk)
Temporal Representation:	Data was collected on a single day 11/20/2007.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	Samples were collected, processed, and analyzed in accordance with the methods described in Quality Assurance Project Plan "Screening Study of Bioaccumulation in California Lakes and Reservoirs." (SWAMP, 2008).
QAPP Information Reference(s):	Quality Assurance Project Plan Screening Study of Bioaccumulation in California Lakes and Reservoirs. Moss Landing Marine Labs. Prepared for SWAMP BOG. 49 pages plus appendices and attachments

DECISION ID

61377

Region 2

Briones Reservoir

Pollutant:	Heptachlor epoxide
Final Listing Decision:	Do Not List on 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision:	New Decision
Revision Status	Revised
Impairment from Pollutant or Pollution:	Pollutant

Regional Board Staff Conclusion: This pollutant is being considered for placement on the CWA section 303(d) List under section 3.5 of the Listing Policy. Under section 3.5 a single line of evidence is necessary to assess listing status. Three lines of evidence are available in the administrative record to assess this pollutant. Zero of one samples exceed the guideline.

Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against placing this water segment-pollutant combination on the CWA section 303(d) List.

This conclusion is based on the staff findings that:

1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy.
2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy.
3. Zero of one samples exceed the guideline and this sample size is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating. A minimum of 16 samples is needed to determine if a beneficial use is fully supported using table 3.1.
4. Pursuant to SECTION 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.

Regional Board Staff Decision Recommendation: After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be placed on the section 303(d) list. The readily available data and information is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating.

Line of Evidence (LOE) for Decision ID 61377, Heptachlor epoxide Briones Reservoir

Region 2

LOE ID:	91142
Pollutant:	Heptachlor epoxide
LOE Subgroup:	Pollutant-Tissue
Matrix:	Tissue
Fraction:	Fish fillet
Beneficial Use:	Cold Freshwater Habitat
Number of Samples:	1
Number of Exceedances:	0
Data and Information Type:	Fish tissue analysis
Data Used to Assess Water Quality:	State Water Board staff assessed SWAMP data for Briones Reservoir to determine beneficial use support and results are as follows: 0 of 1 samples exceed the criterion for Heptachlor epoxide. One composite (5 fish per composite) was generated from one species: Largemouth Bass. Details of the compositing protocol can be found in the March 2009 report entitled: "Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Study" (SWAMP, 2009).
Data Reference:	Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Survey. A Report of the Surface Water Ambient Monitoring Program (SWAMP). California State Water Resources Control Board, Sacramento, CA Cruise Report for the Surface Waters Ambient Monitoring Program (SWAMP) Bioaccumulation Screening Study in California Lakes and Reservoirs, Sampling Dates: June 2007- March 2008 Statewide Lakes Sportfish Contamination Study 2007 2008

SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	Water Quality Control Plan for the San Francisco Bay Basin: Controllable water quality factors shall not cause a detrimental increase in concentrations of toxic substances found in bottom sediments or aquatic life. Effects on aquatic organisms, wildlife, and human health will be considered.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	National Academy of Science guidelines (NAS 1972) establish a maximum Heptachlor Epoxide concentration of 100 ug/Kg (wet weight) in tissue samples for protection of aquatic life from bioaccumulation of toxic substances.
Guideline Reference:	National Academy of Sciences. Water Quality Criteria 1972. EPA-R3-73-033. Washington, D.C.: U.S. Environmental Protection Agency
Spatial Representation:	Data for this assessment unit was collected by one monitoring project: (SWB_FishLk)
Temporal Representation:	Data was collected on a single day 11/20/2007.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	Samples were collected, processed, and analyzed in accordance with the methods described in Quality Assurance Project Plan "Screening Study of Bioaccumulation in California Lakes and Reservoirs." (SWAMP, 2008).
QAPP Information Reference(s):	Quality Assurance Project Plan Screening Study of Bioaccumulation in California Lakes and Reservoirs. Moss Landing Marine Labs. Prepared for SWAMP BOG, 49 pages plus appendices and attachments

Line of Evidence (LOE) for Decision ID 61377, Heptachlor epoxide

Region 2

Briones Reservoir

LOE ID:	91141
Pollutant:	Heptachlor epoxide
LOE Subgroup:	Pollutant-Tissue
Matrix:	Tissue
Fraction:	Fish fillet
Beneficial Use:	Warm Freshwater Habitat
Number of Samples:	1
Number of Exceedances:	0
Data and Information Type:	Fish tissue analysis
Data Used to Assess Water Quality:	State Water Board staff assessed SWAMP data for Briones Reservoir to determine beneficial use support and results are as follows: 0 of 1 samples exceed the criterion for Heptachlor epoxide. One composite (5 fish per composite) was generated from one species: Largemouth Bass. Details of the compositing protocol can be found in the March 2009 report entitled: "Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Study" (SWAMP, 2009).
Data Reference:	Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Survey. A Report of the Surface Water Ambient Monitoring Program (SWAMP). California State Water Resources Control Board, Sacramento, CA Cruise Report for the Surface Waters Ambient Monitoring Program (SWAMP) Bioaccumulation Screening Study in California Lakes and Reservoirs. Sampling Dates: June 2007- March 2008 Statewide Lakes Sportfish Contamination Study 2007 2008 Contaminants in Fish from California Lakes and Reservoirs, 2007-2008: Summary Report on a Two-Year Screening Survey

SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	Water Quality Control Plan for the San Francisco Bay Basin: Controllable water quality

Objective/Criterion Reference:	factors shall not cause a detrimental increase in concentrations of toxic substances found in bottom sediments or aquatic life. Effects on aquatic organisms, wildlife, and human health will be considered. Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	National Academy of Science guidelines (NAS 1972) establish a maximum Heptachlor Epoxide concentration of 100 ug/Kg (wet weight) in tissue samples for protection of aquatic life from bioaccumulation of toxic substances.
Guideline Reference:	National Academy of Sciences. Water Quality Criteria 1972. EPA-R3-73-033. Washington, D.C.: U.S. Environmental Protection Agency
Spatial Representation:	Data for this assessment unit was collected by one monitoring project: (SWB_FishLk)
Temporal Representation:	Data was collected on a single day 11/20/2007.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	Samples were collected, processed, and analyzed in accordance with the methods described in Quality Assurance Project Plan "Screening Study of Bioaccumulation in California Lakes and Reservoirs." (SWAMP, 2008).
QAPP Information Reference(s):	Quality Assurance Project Plan Screening Study of Bioaccumulation in California Lakes and Reservoirs. Moss Landing Marine Labs. Prepared for SWAMP BOG. 49 pages plus appendices and attachments

Line of Evidence (LOE) for Decision ID 61377, Heptachlor epoxide

Region 2

Briones Reservoir

LOE ID:	91143
Pollutant:	Heptachlor epoxide
LOE Subgroup:	Pollutant-Tissue
Matrix:	Tissue
Fraction:	Fish fillet
Beneficial Use:	Commercial or recreational collection of fish, shellfish, or organisms
Number of Samples:	0
Number of Exceedances:	0
Data and Information Type:	Fish tissue analysis
Data Used to Assess Water Quality:	State Water Board staff assessed SWAMP data for Briones Reservoir to determine beneficial use support and results are as follows: 0 of 0 samples exceed the criterion for Heptachlor epoxide. One composite (5 fish per composite) was generated from one species: Largemouth Bass. Details of the compositing protocol can be found in the March 2009 report entitled: "Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Study" (SWAMP, 2009). One composite was not used in the assessment because the laboratory data reporting limit(s) was above the objective and therefore the results could not be quantified with the level of certainty required by the Listing Policy.
Data Reference:	Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Survey. A Report of the Surface Water Ambient Monitoring Program (SWAMP). California State Water Resources Control Board, Sacramento, CA Cruise Report for the Surface Waters Ambient Monitoring Program (SWAMP) Bioaccumulation Screening Study in California Lakes and Reservoirs. Sampling Dates: June 2007- March 2008 Statewide Lakes Sportfish Contamination Study 2007 2008 Contaminants in Fish from California Lakes and Reservoirs, 2007-2008: Summary Report on a Two-Year Screening Survey
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	Water Quality Control Plan for the San Francisco Bay Basin: Controllable water quality factors shall not cause a detrimental increase in concentrations of toxic substances found in bottom sediments or aquatic life. Effects on aquatic organisms, wildlife, and human health will be considered.

Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	The modified OEHHA Fish Contaminant Goal for heptachlor epoxide in fish tissue is 0.93 ppb. This screening level assumes an average body weight of 70 kg and a consumption rate of 32 g/day for a 30 year exposure over a 70-year lifetime. This constituent is a carcinogen therefore the risk level is set to one in a million. A cooking reduction factor of 1 is applied for skin-off fillets. (Klasing, S., and R. Brodberg, 2008; OEHHA, 1999)
Guideline Reference:	Development of Fish Contaminant Goals and Advisory Tissue Levels for Common Contaminants in California Sport Fish: Chlordane, DDTs, Dieldrin, Methylmercury, PCBs, Selenium, and Toxaphene Public Health Goal for Heptachlor and Heptachlor Epoxide in Drinking Water
Spatial Representation:	Data for this assessment unit was collected by one monitoring project: (SWB_FishLk)
Temporal Representation:	Data was collected on a single day 11/20/2007.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	Samples were collected, processed, and analyzed in accordance with the methods described in Quality Assurance Project Plan "Screening Study of Bioaccumulation in California Lakes and Reservoirs." (SWAMP, 2008).
QAPP Information Reference(s):	Quality Assurance Project Plan Screening Study of Bioaccumulation in California Lakes and Reservoirs. Moss Landing Marine Labs. Prepared for SWAMP BOG. 49 pages plus appendices and attachments

DECISION ID 61378 Region 2	
Briones Reservoir	
Pollutant:	Hexachlorobenzene/ HCB
Final Listing Decision:	Do Not List on 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision:	New Decision
Revision Status	Revised
Impairment from Pollutant or Pollution:	Pollutant
Regional Board Staff Conclusion:	<p>This pollutant is being considered for placement on the CWA section 303(d) List under section 3.5 of the Listing Policy. Under section 3.5 a single line of evidence is necessary to assess listing status. One line of evidence is available in the administrative record to assess this pollutant. Zero of one samples exceed the guideline.</p> <p>Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against placing this water segment-pollutant combination on the CWA section 303(d) List.</p> <p>This conclusion is based on the staff findings that:</p> <ol style="list-style-type: none"> 1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy. 2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy. 3. Zero of one samples exceed the guideline and this sample size is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating. A minimum of 16 samples is needed to determine if a beneficial use is fully supported using table 3.1. 4. Pursuant to SECTION 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.
Regional Board Staff Decision Recommendation:	After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be placed on the section 303(d) list. The readily available data and information is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating.

Line of Evidence (LOE) for Decision ID 61378, Hexachlorobenzene/ HCB Region 2	
Briones Reservoir	

LOE ID:	91144
Pollutant:	Hexachlorobenzene/ HCB
LOE Subgroup:	Pollutant-Tissue
Matrix:	Tissue
Fraction:	Fish fillet
Beneficial Use:	Commercial or recreational collection of fish, shellfish, or organisms
Number of Samples:	1
Number of Exceedances:	0
Data and Information Type:	Fish tissue analysis
Data Used to Assess Water Quality:	State Water Board staff assessed SWAMP data for Briones Reservoir to determine beneficial use support and results are as follows: 0 of 1 samples exceed the criterion for Hexachlorobenzene. One composite (5 fish per composite) was generated from one species: Largemouth Bass. Details of the compositing protocol can be found in the March 2009 report entitled: "Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Study" (SWAMP, 2009).
Data Reference:	Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Survey. A Report of the Surface Water Ambient Monitoring Program (SWAMP). California State Water Resources Control Board, Sacramento, CA Cruise Report for the Surface Waters Ambient Monitoring Program (SWAMP) Bioaccumulation Screening Study in California Lakes and Reservoirs. Sampling Dates: June 2007- March 2008 Statewide Lakes Sportfish Contamination Study 2007 2008 Contaminants in Fish from California Lakes and Reservoirs, 2007-2008: Summary Report on a Two-Year Screening Survey
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	Water Quality Control Plan for the San Francisco Bay Basin: Controllable water quality factors shall not cause a detrimental increase in concentrations of toxic substances found in bottom sediments or aquatic life. Effects on aquatic organisms, wildlife, and human health will be considered.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	The modified OEHHA Fish Contaminant Goal for hexachlorobenzene in fish tissue is 2.8 ppb. This screening level assumes an average body weight of 70 kg and a consumption rate of 32 g/day for a 30 year exposure over a 70-year lifetime. This constituent is a carcinogen therefore the risk level is set to one in a million. A cooking reduction factor of 1 is applied for skin-off fillets. (Klasing, S., and R. Brodberg, 2008; OEHHA, 2005)
Guideline Reference:	Development of Fish Contaminant Goals and Advisory Tissue Levels for Common Contaminants in California Sport Fish: Chlordane, DDTs, Dieldrin, Methylmercury, PCBs, Selenium, and Toxaphene Air Toxics Hotspots Program Risk Assessment Guidelines. Part II Technical Support Document for Describing Available Cancer Potency Values.
Spatial Representation:	Data for this assessment unit was collected by one monitoring project: (SWB_FishLk)
Temporal Representation:	Data was collected on a single day 11/20/2007.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	Samples were collected, processed, and analyzed in accordance with the methods described in Quality Assurance Project Plan "Screening Study of Bioaccumulation in California Lakes and Reservoirs." (SWAMP, 2008).
QAPP Information Reference(s):	Quality Assurance Project Plan Screening Study of Bioaccumulation in California Lakes and Reservoirs. Moss Landing Marine Labs. Prepared for SWAMP BOG, 49 pages plus appendices and attachments

DECISION ID	61379	Region 2
Briones Reservoir		

Pollutant:	Lindane/gamma Hexachlorocyclohexane (gamma-HCH)
Final Listing Decision:	Do Not List on 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision:	New Decision
Revision Status	Revised
Impairment from Pollutant or Pollution:	Pollutant

Regional Board Staff Conclusion: This pollutant is being considered for placement on the CWA section 303(d) List under section 3.5 of the Listing Policy. Under section 3.5 a single line of evidence is necessary to assess listing status. Three lines of evidence are available in the administrative record to assess this pollutant. Zero of one samples exceed the guideline.

Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against placing this water segment-pollutant combination on the CWA section 303(d) List.

This conclusion is based on the staff findings that:

1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy.
2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy.
3. Zero of one samples exceed the guideline and this sample size is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating. A minimum of 16 samples is needed to determine if a beneficial use is fully supported using table 3.1.
4. Pursuant to SECTION 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.

Regional Board Staff Decision Recommendation: After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be placed on the section 303(d) list. The readily available data and information is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating.

Line of Evidence (LOE) for Decision ID 61379, Lindane/gamma Hexachlorocyclohexane (gamma-HCH)

Region 2

Briones Reservoir

LOE ID: 91147

Pollutant:	Lindane/gamma Hexachlorocyclohexane (gamma-HCH)
LOE Subgroup:	Pollutant-Tissue
Matrix:	Tissue
Fraction:	Fish fillet

Beneficial Use: Cold Freshwater Habitat

Number of Samples:	1
Number of Exceedances:	0

Data and Information Type:	Fish tissue analysis
Data Used to Assess Water Quality:	State Water Board staff assessed SWAMP data for Briones Reservoir to determine beneficial use support and results are as follows: 0 of 1 samples exceed the criterion for HCH, gamma. One composite (5 fish per composite) was generated from one species: Largemouth Bass. Details of the compositing protocol can be found in the March 2009 report entitled: "Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Study" (SWAMP, 2009).

Data Reference: [Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Survey. A Report of the Surface Water Ambient Monitoring Program \(SWAMP\). California State Water Resources Control Board, Sacramento, CA](#)
[Cruise Report for the Surface Waters Ambient Monitoring Program \(SWAMP\)](#)
[Bioaccumulation Screening Study in California Lakes and Reservoirs, Sampling Dates: June 2007- March 2008](#)
[Statewide Lakes Sportfish Contamination Study 2007 2008](#)

SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	Water Quality Control Plan for the San Francisco Bay Basin: Controllable water quality factors shall not cause a detrimental increase in concentrations of toxic substances found in bottom sediments or aquatic life. Effects on aquatic organisms, wildlife, and human health will be considered.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	The modified OEHHA Fish Contaminant Goal for lindane in fish tissue is 4.6 ppb. This screening level assumes an average body weight of 70 kg and a consumption rate of 32 g/day for a 30 year exposure over a 70-year lifetime. This constituent is a carcinogen therefore the risk level is set to one in a million. A cooking reduction factor of 1 is applied for skin-off fillets. (Klasing, S., and R. Brodberg, 2008; OEHHA, 2005)
Guideline Reference:	National Academy of Sciences. Water Quality Criteria 1972. EPA-R3-73-033. Washington, D.C.: U.S. Environmental Protection Agency
Spatial Representation:	Data for this assessment unit was collected by one monitoring project: (SWB_FishLk)
Temporal Representation:	Data was collected on a single day 11/20/2007.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	Samples were collected, processed, and analyzed in accordance with the methods described in Quality Assurance Project Plan "Screening Study of Bioaccumulation in California Lakes and Reservoirs." (SWAMP, 2008).
QAPP Information Reference(s):	Quality Assurance Project Plan Screening Study of Bioaccumulation in California Lakes and Reservoirs. Moss Landing Marine Labs. Prepared for SWAMP BOG, 49 pages plus appendices and attachments

Line of Evidence (LOE) for Decision ID 61379, Lindane/gamma Hexachlorocyclohexane (gamma-HCH)

Region 2

Briones Reservoir

LOE ID:	91146
Pollutant:	Lindane/gamma Hexachlorocyclohexane (gamma-HCH)
LOE Subgroup:	Pollutant-Tissue
Matrix:	Tissue
Fraction:	Fish fillet
Beneficial Use:	Commercial or recreational collection of fish, shellfish, or organisms
Number of Samples:	1
Number of Exceedances:	0
Data and Information Type:	Fish tissue analysis
Data Used to Assess Water Quality:	State Water Board staff assessed SWAMP data for Briones Reservoir to determine beneficial use support and results are as follows: 0 of 1 samples exceed the criterion for HCH, gamma. One composite (5 fish per composite) was generated from one species: Largemouth Bass. Details of the compositing protocol can be found in the March 2009 report entitled: "Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Study" (SWAMP, 2009).
Data Reference:	Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Survey. A Report of the Surface Water Ambient Monitoring Program (SWAMP). California State Water Resources Control Board, Sacramento, CA Cruise Report for the Surface Waters Ambient Monitoring Program (SWAMP) Bioaccumulation Screening Study in California Lakes and Reservoirs. Sampling Dates: June 2007- March 2008 Statewide Lakes Sportfish Contamination Study 2007 2008 Contaminants in Fish from California Lakes and Reservoirs, 2007-2008: Summary Report on a Two-Year Screening Survey

SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	Water Quality Control Plan for the San Francisco Bay Basin: Controllable water quality factors shall not cause a detrimental increase in concentrations of toxic substances found in bottom sediments or aquatic life. Effects on aquatic organisms, wildlife, and human health will be considered.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	The modified OEHHA Fish Contaminant Goal for lindane in fish tissue is 4.6 ppb. This screening level assumes an average body weight of 70 kg and a consumption rate of 32 g/day for a 30 year exposure over a 70-year lifetime. This constituent is a carcinogen therefore the risk level is set to one in a million. A cooking reduction factor of 1 is applied for skin-off fillets.
Guideline Reference:	Development of Fish Contaminant Goals and Advisory Tissue Levels for Common Contaminants in California Sport Fish: Chlordane, DDTs, Dieldrin, Methylmercury, PCBs, Selenium, and Toxaphene Air Toxics Hotspots Program Risk Assessment Guidelines. Part II Technical Support Document for Describing Available Cancer Potency Values.
Spatial Representation:	Data for this assessment unit was collected by one monitoring project: (SWB_FishLk)
Temporal Representation:	Data was collected on a single day 11/20/2007.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	Samples were collected, processed, and analyzed in accordance with the methods described in Quality Assurance Project Plan "Screening Study of Bioaccumulation in California Lakes and Reservoirs." (SWAMP, 2008).
QAPP Information Reference(s):	Quality Assurance Project Plan Screening Study of Bioaccumulation in California Lakes and Reservoirs. Moss Landing Marine Labs. Prepared for SWAMP BOG, 49 pages plus appendices and attachments

Line of Evidence (LOE) for Decision ID 61379, Lindane/gamma Hexachlorocyclohexane (gamma-HCH)

Region 2

Briones Reservoir

LOE ID:	91145
Pollutant:	Lindane/gamma Hexachlorocyclohexane (gamma-HCH)
LOE Subgroup:	Pollutant-Tissue
Matrix:	Tissue
Fraction:	Fish fillet
Beneficial Use:	Warm Freshwater Habitat
Number of Samples:	1
Number of Exceedances:	0
Data and Information Type:	Fish tissue analysis
Data Used to Assess Water Quality:	State Water Board staff assessed SWAMP data for Briones Reservoir to determine beneficial use support and results are as follows: 0 of 1 samples exceed the criterion for HCH, gamma. One composite (5 fish per composite) was generated from one species: Largemouth Bass. Details of the compositing protocol can be found in the March 2009 report entitled: "Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Study" (SWAMP, 2009).
Data Reference:	Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Survey. A Report of the Surface Water Ambient Monitoring Program (SWAMP). California State Water Resources Control Board, Sacramento, CA Cruise Report for the Surface Waters Ambient Monitoring Program (SWAMP) Bioaccumulation Screening Study in California Lakes and Reservoirs. Sampling Dates: June 2007- March 2008 Statewide Lakes Sportfish Contamination Study 2007 2008 Contaminants in Fish from California Lakes and Reservoirs, 2007-2008: Summary Report on a Two-Year Screening Survey

SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	Water Quality Control Plan for the San Francisco Bay Basin: Controllable water quality factors shall not cause a detrimental increase in concentrations of toxic substances found in bottom sediments or aquatic life. Effects on aquatic organisms, wildlife, and human health will be considered.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	The modified OEHHA Fish Contaminant Goal for lindane in fish tissue is 4.6 ppb. This screening level assumes an average body weight of 70 kg and a consumption rate of 32 g/day for a 30 year exposure over a 70-year lifetime. This constituent is a carcinogen therefore the risk level is set to one in a million. A cooking reduction factor of 1 is applied for skin-off fillets. (Klasing, S., and R. Brodberg, 2008; OEHHA, 2005)
Guideline Reference:	National Academy of Sciences. Water Quality Criteria 1972. EPA-R3-73-033. Washington, D.C.: U.S. Environmental Protection Agency
Spatial Representation:	Data for this assessment unit was collected by one monitoring project: (SWB_FishLk)
Temporal Representation:	Data was collected on a single day 11/20/2007.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	Samples were collected, processed, and analyzed in accordance with the methods described in Quality Assurance Project Plan "Screening Study of Bioaccumulation in California Lakes and Reservoirs." (SWAMP, 2008).
QAPP Information Reference(s):	Quality Assurance Project Plan Screening Study of Bioaccumulation in California Lakes and Reservoirs. Moss Landing Marine Labs. Prepared for SWAMP BOG. 49 pages plus appendices and attachments

DECISION ID		61381	Region 2
Briones Reservoir			
Pollutant:	Mirex		
Final Listing Decision:	Do Not List on 303(d) list (TMDL required list)		
Last Listing Cycle's Final Listing Decision:	New Decision		
Revision Status	Revised		
Impairment from Pollutant or Pollution:	Pollutant		
Regional Board Staff Conclusion:	<p>This pollutant is being considered for placement on the CWA section 303(d) List under section 3.5 of the Listing Policy. Under section 3.5 a single line of evidence is necessary to assess listing status. One line of evidence is available in the administrative record to assess this pollutant. Zero of zero samples exceed the guideline.</p> <p>Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against placing this water segment-pollutant combination on the CWA section 303(d) List.</p> <p>This conclusion is based on the staff findings that:</p> <ol style="list-style-type: none"> 1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy. 2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy. 3. Zero of zero samples exceed the guideline and this sample size is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating. A minimum of 16 samples is needed to determine if a beneficial use is fully supported using table 3.1. 4. Pursuant to SECTION 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met. 		
Regional Board Staff Decision Recommendation:	After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be placed on the section 303(d) list. The readily available data and information is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating.		

Briones Reservoir

LOE ID:	91149
Pollutant:	Mirex
LOE Subgroup:	Pollutant-Tissue
Matrix:	Tissue
Fraction:	Fish fillet
Beneficial Use:	Commercial or recreational collection of fish, shellfish, or organisms
Number of Samples:	0
Number of Exceedances:	0
Data and Information Type:	Fish tissue analysis
Data Used to Assess Water Quality:	State Water Board staff assessed SWAMP data for Briones Reservoir to determine beneficial use support and results are as follows: 0 of 0 samples exceed the criterion for Mirex. One composite (5 fish per composite) was generated from one species: Largemouth Bass. Details of the compositing protocol can be found in the March 2009 report entitled: "Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Study" (SWAMP, 2009). One composite was not used in the assessment because the laboratory data reporting limit(s) was above the objective and therefore the results could not be quantified with the level of certainty required by the Listing Policy.
Data Reference:	Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Survey. A Report of the Surface Water Ambient Monitoring Program (SWAMP). California State Water Resources Control Board, Sacramento, CA Cruise Report for the Surface Waters Ambient Monitoring Program (SWAMP) Bioaccumulation Screening Study in California Lakes and Reservoirs, Sampling Dates: June 2007- March 2008 Statewide Lakes Sportfish Contamination Study 2007 2008 Contaminants in Fish from California Lakes and Reservoirs, 2007-2008: Summary Report on a Two-Year Screening Survey
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	Water Quality Control Plan for the San Francisco Bay Basin: Controllable water quality factors shall not cause a detrimental increase in concentrations of toxic substances found in bottom sediments or aquatic life. Effects on aquatic organisms, wildlife, and human health will be considered.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	The modified OEHHA Fish Contaminant Goal for mirex in fish tissue is 0.28 ppb. This screening level assumes an average body weight of 70 kg and a consumption rate of 32 g/day. A cooking reduction factor of 1 is applied for skin-off fillets. (Klasing, S., and R. Brodberg, 2008; OEHHA, 1992)
Guideline Reference:	Development of Fish Contaminant Goals and Advisory Tissue Levels for Common Contaminants in California Sport Fish: Chlordane, DDTs, Dieldrin, Methylmercury, PCBs, Selenium, and Toxaphene Expedited Cancer Potency Values and Proposed Regulatory Levels for Certain Proposition 65 Carcinogens.
Spatial Representation:	Data for this assessment unit was collected by one monitoring project: (SWB_FishLk)
Temporal Representation:	Data was collected on a single day 11/20/2007.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	Samples were collected, processed, and analyzed in accordance with the methods described in Quality Assurance Project Plan "Screening Study of Bioaccumulation in California Lakes and Reservoirs." (SWAMP, 2008).
QAPP Information Reference(s):	Quality Assurance Project Plan Screening Study of Bioaccumulation in California Lakes and Reservoirs. Moss Landing Marine Labs. Prepared for SWAMP BOG, 49 pages plus appendices and attachments

DECISION ID	61382	Region 2
Briones Reservoir		

Pollutant:	PCBs (Polychlorinated biphenyls)
Final Listing Decision:	Do Not List on 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision:	New Decision
Revision Status	Revised
Impairment from Pollutant or Pollution:	Pollutant

Regional Board Staff Conclusion:	<p>This pollutant is being considered for placement on the CWA section 303(d) List under section 3.5 of the Listing Policy. Under section 3.5 a single line of evidence is necessary to assess listing status. Three lines of evidence are available in the administrative record to assess this pollutant. Zero of one samples exceed the guideline.</p> <p>Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against placing this water segment-pollutant combination on the CWA section 303(d) List.</p> <p>This conclusion is based on the staff findings that:</p> <ol style="list-style-type: none"> 1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy. 2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy. 3. Zero of one samples exceed the guideline and this sample size is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating. A minimum of 16 samples is needed to determine if a beneficial use is fully supported using table 3.1. 4. Pursuant to SECTION 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.
Regional Board Staff Decision Recommendation:	<p>After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be placed on the section 303(d) list. The readily available data and information is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating.</p>

Line of Evidence (LOE) for Decision ID 61382, PCBs (Polychlorinated biphenyls)	Region 2
Briones Reservoir	

LOE ID:	91151
Pollutant:	PCBs (Polychlorinated biphenyls)
LOE Subgroup:	Pollutant-Tissue
Matrix:	Tissue
Fraction:	Fish fillet
Beneficial Use:	Cold Freshwater Habitat
Number of Samples:	1
Number of Exceedances:	0
Data and Information Type:	Fish tissue analysis
Data Used to Assess Water Quality:	<p>State Water Board staff assessed SWAMP data for Briones Reservoir to determine beneficial use support and results are as follows: 0 of 1 samples exceed the criterion for PCB, Total. One composite (5 fish per composite) was generated from one species: Largemouth Bass. Details of the compositing protocol can be found in the March 2009 report entitled: "Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Study" (SWAMP, 2009). Total PCB was assessed for as follows: PCB aroclors and congeners were summed separately and the sum that yielded the highest value was used for the assessment.</p>

Data Reference:	Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Survey. A Report of the Surface Water Ambient Monitoring Program (SWAMP). California State Water Resources Control Board, Sacramento, CA Cruise Report for the Surface Waters Ambient Monitoring Program (SWAMP) Bioaccumulation Screening Study in California Lakes and Reservoirs. Sampling Dates: June 2007- March 2008 Statewide Lakes Sportfish Contamination Study 2007 2008 Contaminants in Fish from California Lakes and Reservoirs, 2007-2008: Summary Report on a Two-Year Screening Survey
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	Water Quality Control Plan for the San Francisco Bay Basin (2013): Controllable water quality factors shall not cause a detrimental increase in concentrations of toxic substances found in bottom sediments or aquatic life. Effects on aquatic organisms, wildlife, and human health will be considered.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	National Academy of Science guidelines (NAS 1972) establish a maximum total PCB concentration of 500 ug/Kg (wet weight) in tissue samples for protection of aquatic life from bioaccumulation of toxic substances.
Guideline Reference:	National Academy of Sciences. Water Quality Criteria 1972. EPA-R3-73-033. Washington, D.C.: U.S. Environmental Protection Agency
Spatial Representation:	Data for this assessment unit was collected by one monitoring project: (SWB_FishLk)
Temporal Representation:	Data was collected on a single day 11/20/2007.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	Samples were collected, processed, and analyzed in accordance with the methods described in Quality Assurance Project Plan "Screening Study of Bioaccumulation in California Lakes and Reservoirs." (SWAMP, 2008).
QAPP Information Reference(s):	Quality Assurance Project Plan Screening Study of Bioaccumulation in California Lakes and Reservoirs. Moss Landing Marine Labs. Prepared for SWAMP BOG. 49 pages plus appendices and attachments

Line of Evidence (LOE) for Decision ID 61382, PCBs (Polychlorinated biphenyls)

Region 2

Briones Reservoir

LOE ID:	91152
Pollutant:	PCBs (Polychlorinated biphenyls)
LOE Subgroup:	Pollutant-Tissue
Matrix:	Tissue
Fraction:	Fish fillet
Beneficial Use:	Commercial or recreational collection of fish, shellfish, or organisms
Number of Samples:	1
Number of Exceedances:	0
Data and Information Type:	Fish tissue analysis
Data Used to Assess Water Quality:	State Water Board staff assessed SWAMP data for Briones Reservoir to determine beneficial use support and results are as follows: 0 of 1 samples exceed the criterion for PCB, Total. One composite (5 fish per composite) was generated from one species: Largemouth Bass. Details of the compositing protocol can be found in the March 2009 report entitled: "Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Study" (SWAMP, 2009). Total PCB was assessed for as follows: PCB aroclors and congeners were summed separately and the sum that yielded the highest value was used for the assessment.
Data Reference:	Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Survey. A Report of the Surface Water Ambient Monitoring Program (SWAMP). California State Water Resources Control Board, Sacramento, CA Cruise Report for the Surface Waters Ambient Monitoring Program (SWAMP)

[Bioaccumulation Screening Study in California Lakes and Reservoirs, Sampling Dates: June 2007- March 2008](#)
[Statewide Lakes Sportfish Contamination Study 2007 2008](#)
[Contaminants in Fish from California Lakes and Reservoirs, 2007-2008: Summary Report on a Two-Year Screening Survey](#)

SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	Water Quality Control Plan for the San Francisco Bay Basin (2013): Controllable water quality factors shall not cause a detrimental increase in concentrations of toxic substances found in bottom sediments or aquatic life. Effects on aquatic organisms, wildlife, and human health will be considered.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	The modified OEHHA Fish Contaminant Goal for polychlorinated biphenyls in fish tissue is 2.6 ppb. This screening level assumes an average body weight of 70 kg and a consumption rate of 32 g/day for a 30 year exposure over a 70-year lifetime. This constituent is a carcinogen therefore the risk level is set to one in a million. A cooking reduction factor of 1 is applied for skin-off fillets. (Klasing, S., and R. Brodberg, 2008)
Guideline Reference:	Development of Fish Contaminant Goals and Advisory Tissue Levels for Common Contaminants in California Sport Fish: Chlordane, DDTs, Dieldrin, Methylmercury, PCBs, Selenium, and Toxaphene
Spatial Representation:	Data for this assessment unit was collected by one monitoring project: (SWB_FishLk)
Temporal Representation:	Data was collected on a single day 11/20/2007.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	Samples were collected, processed, and analyzed in accordance with the methods described in Quality Assurance Project Plan "Screening Study of Bioaccumulation in California Lakes and Reservoirs." (SWAMP, 2008).
QAPP Information Reference(s):	Quality Assurance Project Plan Screening Study of Bioaccumulation in California Lakes and Reservoirs. Moss Landing Marine Labs. Prepared for SWAMP BOG. 49 pages plus appendices and attachments

Line of Evidence (LOE) for Decision ID 61382, PCBs (Polychlorinated biphenyls)

Region 2

Briones Reservoir

LOE ID:	91150
Pollutant:	PCBs (Polychlorinated biphenyls)
LOE Subgroup:	Pollutant-Tissue
Matrix:	Tissue
Fraction:	Fish fillet
Beneficial Use:	Warm Freshwater Habitat
Number of Samples:	1
Number of Exceedances:	0
Data and Information Type:	Fish tissue analysis
Data Used to Assess Water Quality:	State Water Board staff assessed SWAMP data for Briones Reservoir to determine beneficial use support and results are as follows: 0 of 1 samples exceed the criterion for PCB, Total. One composite (5 fish per composite) was generated from one species: Largemouth Bass. Details of the compositing protocol can be found in the March 2009 report entitled: "Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Study" (SWAMP, 2009). Total PCB was assessed for as follows: PCB aroclors and congeners were summed separately and the sum that yielded the highest value was used for the assessment.
Data Reference:	Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Survey. A Report of the Surface Water Ambient Monitoring Program (SWAMP). California State Water Resources Control Board, Sacramento, CA Cruise Report for the Surface Waters Ambient Monitoring Program (SWAMP) Bioaccumulation Screening Study in California Lakes and Reservoirs, Sampling Dates:

[June 2007- March 2008](#)
[Statewide Lakes Sportfish Contamination Study 2007 2008](#)
[Contaminants in Fish from California Lakes and Reservoirs, 2007-2008: Summary Report on a Two-Year Screening Survey](#)

SWAMP Data: SWAMP

Water Quality Objective/Criterion: Water Quality Control Plan for the San Francisco Bay Basin (2013): Controllable water quality factors shall not cause a detrimental increase in concentrations of toxic substances found in bottom sediments or aquatic life. Effects on aquatic organisms, wildlife, and human health will be considered.

Objective/Criterion Reference: [Water Quality Control Plan \(Basin Plan\) San Francisco Bay Basin \(Region 2\)](#)

Evaluation Guideline: National Academy of Science guidelines (NAS 1972) establish a maximum total PCB concentration of 500 ug/Kg (wet weight) in tissue samples for protection of aquatic life from bioaccumulation of toxic substances.

Guideline Reference: [National Academy of Sciences. Water Quality Criteria 1972. EPA-R3-73-033. Washington, D.C.: U.S. Environmental Protection Agency](#)

Spatial Representation: Data for this assessment unit was collected by one monitoring project: (SWB_FishLk)

Temporal Representation: Data was collected on a single day 11/20/2007.

Environmental Conditions: Staff is not aware of any special conditions that might affect interpretation of the data.

QAPP Information: Samples were collected, processed, and analyzed in accordance with the methods described in Quality Assurance Project Plan "Screening Study of Bioaccumulation in California Lakes and Reservoirs." (SWAMP, 2008).

QAPP Information Reference(s): [Quality Assurance Project Plan Screening Study of Bioaccumulation in California Lakes and Reservoirs. Moss Landing Marine Labs. Prepared for SWAMP BOG, 49 pages plus appendices and attachments](#)

DECISION ID	61383	Region 2
Briones Reservoir		

Pollutant: Selenium

Final Listing Decision: Do Not List on 303(d) list (TMDL required list)

Last Listing Cycle's Final Listing Decision: New Decision

Revision Status: Revised

Impairment from Pollutant or Pollution: Pollutant

Regional Board Staff Conclusion: This pollutant is being considered for placement on the CWA section 303(d) List under section 3.5 of the Listing Policy. Under section 3.5 a single line of evidence is necessary to assess listing status. One line of evidence is available in the administrative record to assess this pollutant. Zero of one samples exceed the guideline.

Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against placing this water segment-pollutant combination on the CWA section 303(d) List.

This conclusion is based on the staff findings that:

1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy.
2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy.
3. Zero of one samples exceed the guideline and this sample size is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating. A minimum of 16 samples is needed to determine if a beneficial use is fully supported using table 3.1.
4. Pursuant to SECTION 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.

Regional Board Staff Decision Recommendation: After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be placed on the section 303(d) list. The readily available data and information is insufficient to determine, with the power and confidence of the Listing Policy, the

Line of Evidence (LOE) for Decision ID 61383, Selenium**Region 2****Briones Reservoir**

LOE ID:	91153
Pollutant:	Selenium
LOE Subgroup:	Pollutant-Tissue
Matrix:	Tissue
Fraction:	Fish fillet
Beneficial Use:	Commercial or recreational collection of fish, shellfish, or organisms
Number of Samples:	1
Number of Exceedances:	0
Data and Information Type:	Fish tissue analysis
Data Used to Assess Water Quality:	State Water Board staff assessed SWAMP data for Briones Reservoir to determine beneficial use support and results are as follows: 0 of 1 samples exceed the criterion for Selenium. One composite (5 fish per composite) was generated from one species: Largemouth Bass. Details of the compositing protocol can be found in the March 2009 report entitled: "Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Study" (SWAMP, 2009).
Data Reference:	Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Survey. A Report of the Surface Water Ambient Monitoring Program (SWAMP). California State Water Resources Control Board, Sacramento, CA Cruise Report for the Surface Waters Ambient Monitoring Program (SWAMP) Bioaccumulation Screening Study in California Lakes and Reservoirs. Sampling Dates: June 2007- March 2008 Statewide Lakes Sportfish Contamination Study 2007 2008 Contaminants in Fish from California Lakes and Reservoirs, 2007-2008: Summary Report on a Two-Year Screening Survey
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	Water Quality Control Plan for the San Francisco Bay Basin (2013): Controllable water quality factors shall not cause a detrimental increase in concentrations of toxic substances found in bottom sediments or aquatic life. Effects on aquatic organisms, wildlife, and human health will be considered.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	The OEHHA Fish Contaminant Goal for selenium in fish tissue is 7.4 ppm. This screening level assumes an average body weight of 70 kg and a consumption rate of 32 g/day. A background dietary consumption rate of 0.114 mg/day is applied for this micronutrient. (Klasing, S., and R. Brodberg, 2008)
Guideline Reference:	Development of Fish Contaminant Goals and Advisory Tissue Levels for Common Contaminants in California Sport Fish: Chlordane, DDTs, Dieldrin, Methylmercury, PCBs, Selenium, and Toxaphene
Spatial Representation:	Data for this assessment unit was collected by one monitoring project: (SWB_FishLk)
Temporal Representation:	Data was collected on a single day 11/20/2007.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	Samples were collected, processed, and analyzed in accordance with the methods described in Quality Assurance Project Plan "Screening Study of Bioaccumulation in California Lakes and Reservoirs." (SWAMP, 2008).
QAPP Information Reference(s):	Quality Assurance Project Plan Screening Study of Bioaccumulation in California Lakes and Reservoirs. Moss Landing Marine Labs. Prepared for SWAMP BOG. 49 pages plus appendices and attachments

Pollutant: Mercury
Final Listing Decision: List on 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision: New Decision
Revision Status: Revised
Sources: Source Unknown
Expected TMDL Completion Date: 2029
Impairment from Pollutant or Pollution: Pollutant

Regional Board Staff Conclusion: This pollutant is being considered for placement on the CWA section 303(d) List under section 3.4 of the Listing Policy. Under section 3.4 a single line of evidence is necessary to assess listing status in addition to the presence of a fish consumption advisory for the waterbody.

One line of evidence is available in the administrative record to assess this pollutant. One of one samples exceed the OEHHHA guideline.

Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification in favor of placing this water segment-pollutant combination on the CWA section 303(d) List.

Though the samples were collected from a single location on a single day, fish are not static and move throughout a lake and accumulate mercury in tissue over time. Therefore, the idea of spatial and temporal independence (Section 6.1.5 of the Listing Policy) does not apply.

This conclusion is based on the staff findings that:

1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy.
2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy, except that composite samples collected at a single location for a single day were evaluated as a single sample and not averaged.
3. One of one samples exceed the OEHHHA guideline and this is less than the allowable frequency to list in Table 3.1 of the Listing Policy.
4. Pursuant to section 3.11 of the Listing Policy, additional data and information are available indicating that standards are not met. The sample exceeding the guideline is constituted by several fish that have independently accumulated enough mercury such that the average of all these fish exceeds the evaluation guideline. Therefore, it is highly likely that if more fish had been caught on another day to form additional composites, these would also exceed the evaluation guideline and, hence, the number of exceedances would exceed the allowable frequency described in section 3.4 of the listing policy.

Regional Board Staff Decision Recommendation: After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should be placed on the section 303(d) list because applicable water quality standards are exceeded and a pollutant contributes to or causes the problem.

LOE ID: 91148
Pollutant: Mercury
LOE Subgroup: Pollutant-Tissue
Matrix: Tissue
Fraction: Fish fillet
Beneficial Use: Commercial or recreational collection of fish, shellfish, or organisms

Number of Samples:	1
Number of Exceedances:	1
Data and Information Type:	Fish tissue analysis
Data Used to Assess Water Quality:	State Water Board staff assessed SWAMP data for Briones Reservoir to determine beneficial use support and results are as follows: 1 of 1 samples exceed the criterion for Mercury. Sixteen composites (1 fish per composite) were generated from one species: largemouth bass. Composites were not spatially independent (as defined in the Listing Policy) and so were averaged.
Data Reference:	Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Survey. A Report of the Surface Water Ambient Monitoring Program (SWAMP). California State Water Resources Control Board, Sacramento, CA Cruise Report for the Surface Waters Ambient Monitoring Program (SWAMP) Bioaccumulation Screening Study in California Lakes and Reservoirs, Sampling Dates: June 2007- March 2008 Statewide Lakes Sportfish Contamination Study 2007 2008 Contaminants in Fish from California Lakes and Reservoirs, 2007-2008: Summary Report on a Two-Year Screening Survey
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	Water Quality Control Plan for the San Francisco Bay Basin (2013): Controllable water quality factors shall not cause a detrimental increase in concentrations of toxic substances found in bottom sediments or aquatic life. Effects on aquatic organisms, wildlife, and human health will be considered.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	The USEPA 304(a) recommended water quality criterion for concentrations of methylmercury in fish tissue of trophic level 4 fish (150 - 500 mm; fillet wet weight) is 0.2 mg/kg. This assumes a consumption rate of 32 g/day. (USEPA, 2001)
Guideline Reference:	Water Quality Criterion for the Protection of Human Health: Methylmercury. Final. United States Environmental Protection Agency Office of Science and Technology Office of Water. EPA-823-R-01-001. January 2001
Spatial Representation:	Data for this assessment unit was collected by one monitoring project: (SWB_FishLk)
Temporal Representation:	Data was collected on a single day 11/20/2007.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	Samples were collected, processed, and analyzed in accordance with the methods described in Quality Assurance Project Plan "Screening Study of Bioaccumulation in California Lakes and Reservoirs." (SWAMP, 2008).
QAPP Information Reference(s):	Quality Assurance Project Plan Screening Study of Bioaccumulation in California Lakes and Reservoirs. Moss Landing Marine Labs. Prepared for SWAMP BOG, 49 pages plus appendices and attachments

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Supporting Information

Regional Board 2 - San Francisco Bay Region

Water Body Name: Calaveras Reservoir
Water Body ID: CAL2043004920091208101255
Water Body Type: Lake & Reservoir

DECISION ID 39711 **Region 2**
Calaveras Reservoir

Pollutant: Mercury
Final Listing Decision: Do Not Delist from 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision: List on 303(d) list (TMDL required list)(2012)
Revision Status Revised
Sources: Source Unknown
Expected TMDL Completion Date: 2021
Impairment from Pollutant or Pollution: Pollutant

Regional Board Staff Conclusion: This pollutant is being considered for removal from the CWA section 303(d) List under section 4.1 of the Listing Policy. Under this section a single line of evidence is necessary to assess listing status.

Two lines of evidence is available in the administrative record to assess pollutant. Seventeen of the twenty-three samples exceed the criterion.

Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against removing this water segment-pollutant combination from the CWA section 303(d) List.

This conclusion is based on the staff findings that:

1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy.
2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy.
3. Seventeen of twenty-three samples exceeded the criterion and this exceeds the allowable frequency listed in Table 4.1 of the Listing Policy.
4. Pursuant to section 4.11 of the Listing Policy, no additional data and information are available indicating that standards are met.

Regional Board Staff Decision Recommendation: After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be removed from the section 303(d) list because applicable water quality standards for the pollutant are being exceeded.

Line of Evidence (LOE) for Decision ID 39711, Mercury **Region 2**
Calaveras Reservoir

LOE ID: 91157
Pollutant: Mercury
LOE Subgroup: Pollutant-Tissue
Matrix: Tissue
Fraction: Fish fillet
Beneficial Use: Commercial or recreational collection of fish, shellfish, or organisms

Number of Samples:	1
Number of Exceedances:	1
Data and Information Type:	Fish tissue analysis
Data Used to Assess Water Quality:	State Water Board staff assessed SWAMP data for Calaveras Reservoir to determine beneficial use support and results are as follows: 1 of 1 samples exceed the criterion for Mercury. Twenty-two composites (1 fish per composite) were generated from one species: largemouth bass. Composites were not spatially independent (as defined in the Listing Policy) and so were averaged.
Data Reference:	Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Survey. A Report of the Surface Water Ambient Monitoring Program (SWAMP). California State Water Resources Control Board, Sacramento, CA Cruise Report for the Surface Waters Ambient Monitoring Program (SWAMP) Bioaccumulation Screening Study in California Lakes and Reservoirs, Sampling Dates: June 2007- March 2008 Statewide Lakes Sportfish Contamination Study 2007 2008 Contaminants in Fish from California Lakes and Reservoirs, 2007-2008: Summary Report on a Two-Year Screening Survey
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	Water Quality Control Plan for the San Francisco Bay Basin (2013): Controllable water quality factors shall not cause a detrimental increase in concentrations of toxic substances found in bottom sediments or aquatic life. Effects on aquatic organisms, wildlife, and human health will be considered.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	The USEPA 304(a) recommended water quality criterion for concentrations of methylmercury in fish tissue of trophic level 4 fish (150 - 500 mm; fillet wet weight) is 0.2 mg/kg. This assumes a consumption rate of 32 g/day. (USEPA, 2001)
Guideline Reference:	Water Quality Criterion for the Protection of Human Health: Methylmercury. Final. United States Environmental Protection Agency Office of Science and Technology Office of Water. EPA-823-R-01-001. January 2001
Spatial Representation:	Data for this assessment unit was collected by one monitoring project: (SWB_FishLk)
Temporal Representation:	Data was collected on a single day 7/16/2007.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	Samples were collected, processed, and analyzed in accordance with the methods described in Quality Assurance Project Plan "Screening Study of Bioaccumulation in California Lakes and Reservoirs." (SWAMP, 2008).
QAPP Information Reference(s):	Quality Assurance Project Plan Screening Study of Bioaccumulation in California Lakes and Reservoirs. Moss Landing Marine Labs. Prepared for SWAMP BOG, 49 pages plus appendices and attachments

Line of Evidence (LOE) for Decision ID 39711, Mercury

Region 2

Calaveras Reservoir

LOE ID:	31036
Pollutant:	Mercury
LOE Subgroup:	Pollutant-Tissue
Matrix:	Tissue
Fraction:	Fish fillet
Beneficial Use:	Commercial or recreational collection of fish, shellfish, or organisms
Number of Samples:	22
Number of Exceedances:	16
Data and Information Type:	Fish tissue analysis
Data Used to Assess Water Quality:	Fish were collected for tissue analysis at two locations from Calaveras Reservoir. A total of 22 sample composites were generated from one species: Largemouth Bass. Details of

the compositing protocol can be found in the March 2009 report entitled: "Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Study" (SWAMP, 2009). A total of 16 out of 22 samples exceeded the OHHEA fish tissue screening value for human health.

Data Reference:

[Data associated with report entitled: Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Survey. A Report of the Surface Water Ambient Monitoring Program \(SWAMP\). California State Water Resources Control Board, Sacramento, CA](#)
[Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Survey. A Report of the Surface Water Ambient Monitoring Program \(SWAMP\). California State Water Resources Control Board, Sacramento, CA](#)
[Cruise Report for the Surface Waters Ambient Monitoring Program \(SWAMP\)](#)
[Bioaccumulation Screening Study in California Lakes and Reservoirs, Sampling Dates: June 2007- March 2008](#)

SWAMP Data:

SWAMP

Water Quality Objective/Criterion:

The Basin Plan contains the following objective: Many pollutants can accumulate on particles, in sediment, or bioaccumulate in fish and other aquatic organisms. Controllable water quality factors shall not cause a detrimental increase in concentrations of toxic substances found in bottom sediments or aquatic life. Effects on aquatic organisms, wildlife, and human health will be considered.

Objective/Criterion Reference:

[Water Quality Control Plan \(Basin Plan\) - San Francisco Bay Region \(Region 2\)](#)

Evaluation Guideline:

Office of Environmental Health Hazard Assessment (OEHHA) Screening Value of 0.3 mg/kg to protect human health when consuming fish (OEHHA, 1999).

Guideline Reference:

[Prevalence of Selected Target Chemical Contaminants in Sport Fish From Two California Lakes: Public health designed screening study. Sacramento, CA: Office of Environmental Health Hazard Assessment](#)

Spatial Representation:

Samples were collected from two locations in Calaveras Reservoir. As discussed in the Lakes and Reservoirs Report (SWAMP, 2009), individual sample locations consisted of an area within a given waterbody with an approximate one-mile diameter, from which multiple fish tissue samples were collected. The number of sample locations per waterbody was based on the overall size of the waterbody. Specifics of individual sampling locations can be found in the supplemental report entitled "Cruise Report for the Surface Waters Ambient Monitoring Program (SWAMP) Bioaccumulation Screening Study in California Lakes and Reservoirs, Sampling Dates: June 2007- March 2008" (SWAMP, 2008).

Temporal Representation:

Samples were collected on July 16, 2007

Environmental Conditions:

There are no known environmental conditions (e.g., seasonality, land use practices, fire events, storms, etc.) that are related to these data.

QAPP Information:

Samples were collected, processed, and analyzed in accordance with the methods described in "Quality Assurance Project Plan Screening Study of Bioaccumulation in California Lakes and Reservoirs." (SWAMP, 2008).

QAPP Information Reference(s):

[Quality Assurance Project Plan Screening Study of Bioaccumulation in California Lakes and Reservoirs. Moss Landing Marine Labs. Prepared for SWAMP BOG. 49 pages plus appendices and attachments](#)

DECISION ID	61389	Region 2
Calaveras Reservoir		

Pollutant:	Aldrin
Final Listing Decision:	Do Not List on 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision:	New Decision
Revision Status	Revised
Impairment from Pollutant or Pollution:	Pollutant

Regional Board Staff Conclusion: This pollutant is being considered for placement on the CWA section 303(d) List under section 3.5 of the Listing Policy. Under section 3.5 a single line of evidence is necessary to assess listing status.

Two lines of evidence are available in the administrative record to assess this pollutant. Zero of one samples exceed the guideline.

Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against placing this water segment-pollutant combination on the CWA section 303(d) List.

This conclusion is based on the staff findings that:

1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy.
2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy.
3. Zero of one samples exceed the guideline and this sample size is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating. A minimum of 16 samples is needed to determine if a beneficial use is fully supported using table 3.1.
4. Pursuant to SECTION 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.

Regional Board Staff Decision Recommendation: After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be placed on the section 303(d) list. The readily available data and information is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating.

**Line of Evidence (LOE) for Decision ID 61389, Aldrin
Calaveras Reservoir**

Region 2

LOE ID:	91188
Pollutant:	Aldrin
LOE Subgroup:	Pollutant-Tissue
Matrix:	Tissue
Fraction:	Fish fillet
Beneficial Use:	Cold Freshwater Habitat
Number of Samples:	1
Number of Exceedances:	0
Data and Information Type:	Fish tissue analysis
Data Used to Assess Water Quality:	State Water Board staff assessed SWAMP data for Calaveras Reservoir to determine beneficial use support and results are as follows: 0 of 1 samples exceed the criterion for Aldrin. One composite (10 fish per composite) was generated from one species: Largemouth Bass. Details of the compositing protocol can be found in the March 2009 report entitled: "Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Study" (SWAMP, 2009).
Data Reference:	Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Survey. A Report of the Surface Water Ambient Monitoring Program (SWAMP). California State Water Resources Control Board, Sacramento, CA Cruise Report for the Surface Waters Ambient Monitoring Program (SWAMP) Bioaccumulation Screening Study in California Lakes and Reservoirs. Sampling Dates: June 2007- March 2008 Statewide Lakes Sportfish Contamination Study 2007 2008 Contaminants in Fish from California Lakes and Reservoirs, 2007-2008: Summary Report on a Two-Year Screening Survey
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	Water Quality Control Plan for the San Francisco Bay Basin: Controllable water quality factors shall not cause a detrimental increase in concentrations of toxic substances found in bottom sediments or aquatic life. Effects on aquatic organisms, wildlife, and human health will be considered.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)

Evaluation Guideline:	National Academy of Science guidelines (NAS 1972) establish a maximum Aldrin concentration of 100 ug/Kg (wet weight) in tissue samples for protection of aquatic life from bioaccumulation of toxic substances.
Guideline Reference:	National Academy of Sciences. Water Quality Criteria 1972. EPA-R3-73-033. Washington, D.C.: U.S. Environmental Protection Agency
Spatial Representation:	Data for this assessment unit was collected by one monitoring project: (SWB_FishLk)
Temporal Representation:	Data was collected on a single day 7/16/2007.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	Samples were collected, processed, and analyzed in accordance with the methods described in Quality Assurance Project Plan "Screening Study of Bioaccumulation in California Lakes and Reservoirs." (SWAMP, 2008).
QAPP Information Reference(s):	Quality Assurance Project Plan Screening Study of Bioaccumulation in California Lakes and Reservoirs. Moss Landing Marine Labs. Prepared for SWAMP BOG, 49 pages plus appendices and attachments

Line of Evidence (LOE) for Decision ID 61389, Aldrin

Region 2

Calaveras Reservoir

LOE ID:	91187
Pollutant:	Aldrin
LOE Subgroup:	Pollutant-Tissue
Matrix:	Tissue
Fraction:	Fish fillet
Beneficial Use:	Warm Freshwater Habitat
Number of Samples:	1
Number of Exceedances:	0
Data and Information Type:	Fish tissue analysis
Data Used to Assess Water Quality:	State Water Board staff assessed SWAMP data for Calaveras Reservoir to determine beneficial use support and results are as follows: 0 of 1 samples exceed the criterion for Aldrin. One composite (10 fish per composite) was generated from one species: Largemouth Bass. Details of the compositing protocol can be found in the March 2009 report entitled: "Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Study" (SWAMP, 2009).
Data Reference:	Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Survey. A Report of the Surface Water Ambient Monitoring Program (SWAMP). California State Water Resources Control Board, Sacramento, CA Cruise Report for the Surface Waters Ambient Monitoring Program (SWAMP) Bioaccumulation Screening Study in California Lakes and Reservoirs, Sampling Dates: June 2007- March 2008 Statewide Lakes Sportfish Contamination Study 2007 2008 Contaminants in Fish from California Lakes and Reservoirs, 2007-2008: Summary Report on a Two-Year Screening Survey
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	Water Quality Control Plan for the San Francisco Bay Basin: Controllable water quality factors shall not cause a detrimental increase in concentrations of toxic substances found in bottom sediments or aquatic life. Effects on aquatic organisms, wildlife, and human health will be considered.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	National Academy of Science guidelines (NAS 1972) establish a maximum Aldrin concentration of 100 ug/Kg (wet weight) in tissue samples for protection of aquatic life from bioaccumulation of toxic substances.
Guideline Reference:	National Academy of Sciences. Water Quality Criteria 1972. EPA-R3-73-033. Washington, D.C.: U.S. Environmental Protection Agency

Spatial Representation:	Data for this assessment unit was collected by one monitoring project: (SWB_FishLk)
Temporal Representation:	Data was collected on a single day 7/16/2007.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	Samples were collected, processed, and analyzed in accordance with the methods described in Quality Assurance Project Plan "Screening Study of Bioaccumulation in California Lakes and Reservoirs." (SWAMP, 2008).
QAPP Information Reference(s):	Quality Assurance Project Plan Screening Study of Bioaccumulation in California Lakes and Reservoirs. Moss Landing Marine Labs. Prepared for SWAMP BOG. 49 pages plus appendices and attachments

DECISION ID	61391	Region 2
Calaveras Reservoir		

Pollutant:	Chlordane
Final Listing Decision:	Do Not List on 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision:	New Decision
Revision Status	Revised
Impairment from Pollutant or Pollution:	Pollutant

Regional Board Staff Conclusion: This pollutant is being considered for placement on the CWA section 303(d) List under section 3.5 of the Listing Policy. Under section 3.5 a single line of evidence is necessary to assess listing status. Three lines of evidence are available in the administrative record to assess this pollutant. Zero of one samples exceed the guideline.

Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against placing this water segment-pollutant combination on the CWA section 303(d) List.

This conclusion is based on the staff findings that:

1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy.
2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy.
3. Zero of one samples exceed the guideline and this sample size is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating. A minimum of 16 samples is needed to determine if a beneficial use is fully supported using table 3.1.
4. Pursuant to SECTION 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.

Regional Board Staff Decision Recommendation:	After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be placed on the section 303(d) list. The readily available data and information is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating.
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Line of Evidence (LOE) for Decision ID 61391, Chlordane	Region 2
Calaveras Reservoir	

LOE ID:	91194
Pollutant:	Chlordane
LOE Subgroup:	Pollutant-Tissue
Matrix:	Tissue
Fraction:	Fish fillet
Beneficial Use:	Commercial or recreational collection of fish, shellfish, or organisms
Number of Samples:	1
Number of Exceedances:	0

Data and Information Type:	Fish tissue analysis
Data Used to Assess Water Quality:	State Water Board staff assessed SWAMP data for Calaveras Reservoir to determine beneficial use support and results are as follows: 0 of 1 samples exceed the criterion for Chlordane, Total. One composite (10 fish per composite) was generated from one species: Largemouth Bass. Details of the compositing protocol can be found in the March 2009 report entitled: "Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Study" (SWAMP, 2009). Total chlordane was calculated as the sum of the following chlordane isomers: cis- and trans-chlordane, cis- and trans-nonachlor, and oxychlordane.
Data Reference:	Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Survey. A Report of the Surface Water Ambient Monitoring Program (SWAMP). California State Water Resources Control Board, Sacramento, CA Cruise Report for the Surface Waters Ambient Monitoring Program (SWAMP) Bioaccumulation Screening Study in California Lakes and Reservoirs, Sampling Dates: June 2007- March 2008 Statewide Lakes Sportfish Contamination Study 2007 2008 Contaminants in Fish from California Lakes and Reservoirs, 2007-2008: Summary Report on a Two-Year Screening Survey
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	Water Quality Control Plan for the San Francisco Bay Basin: Controllable water quality factors shall not cause a detrimental increase in concentrations of toxic substances found in bottom sediments or aquatic life. Effects on aquatic organisms, wildlife, and human health will be considered.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	The modified OEHHA Fish Contaminant Goal for total chlordane in fish tissue is 3.9 ppb. This screening level assumes an average body weight of 70 kg and a consumption rate of 32 g/day for a 30 year exposure over a 70-year lifetime. This constituent is a carcinogen therefore the risk level is set to one in a million. A cooking reduction factor of 1 is applied for skin-off fillets. (Klasing, S., and R. Brodberg, 2008)
Guideline Reference:	Development of Fish Contaminant Goals and Advisory Tissue Levels for Common Contaminants in California Sport Fish: Chlordane, DDTs, Dieldrin, Methylmercury, PCBs, Selenium, and Toxaphene
Spatial Representation:	Data for this assessment unit was collected by one monitoring project: (SWB_FishLk)
Temporal Representation:	Data was collected on a single day 7/16/2007.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	Samples were collected, processed, and analyzed in accordance with the methods described in Quality Assurance Project Plan "Screening Study of Bioaccumulation in California Lakes and Reservoirs." (SWAMP, 2008).
QAPP Information Reference(s):	Quality Assurance Project Plan Screening Study of Bioaccumulation in California Lakes and Reservoirs. Moss Landing Marine Labs. Prepared for SWAMP BOG. 49 pages plus appendices and attachments

Line of Evidence (LOE) for Decision ID 61391, Chlordane
Calaveras Reservoir

Region 2

LOE ID:	91193
Pollutant:	Chlordane
LOE Subgroup:	Pollutant-Tissue
Matrix:	Tissue
Fraction:	Fish fillet
Beneficial Use:	Cold Freshwater Habitat
Number of Samples:	1
Number of Exceedances:	0
Data and Information Type:	Fish tissue analysis

Data Used to Assess Water Quality:	State Water Board staff assessed SWAMP data for Calaveras Reservoir to determine beneficial use support and results are as follows: 0 of 1 samples exceed the criterion for Chlordane, Total. One composite (10 fish per composite) was generated from one species: Largemouth Bass. Details of the compositing protocol can be found in the March 2009 report entitled: "Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Study" (SWAMP, 2009). Total chlordane was calculated as the sum of the following chlordane isomers: cis- and trans-chlordane, cis- and trans-nonachlor, and oxychlordane.
Data Reference:	Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Survey. A Report of the Surface Water Ambient Monitoring Program (SWAMP). California State Water Resources Control Board, Sacramento, CA Cruise Report for the Surface Waters Ambient Monitoring Program (SWAMP) Bioaccumulation Screening Study in California Lakes and Reservoirs, Sampling Dates: June 2007- March 2008 Statewide Lakes Sportfish Contamination Study 2007 2008 Contaminants in Fish from California Lakes and Reservoirs, 2007-2008: Summary Report on a Two-Year Screening Survey
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	Water Quality Control Plan for the San Francisco Bay Basin: Controllable water quality factors shall not cause a detrimental increase in concentrations of toxic substances found in bottom sediments or aquatic life. Effects on aquatic organisms, wildlife, and human health will be considered.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	National Academy of Science guidelines (NAS 1972) establish a maximum total Chlordane concentration of 100 ug/Kg (wet weight) in tissue samples for protection of aquatic life from bioaccumulation of toxic substances.
Guideline Reference:	National Academy of Sciences. Water Quality Criteria 1972. EPA-R3-73-033. Washington, D.C.: U.S. Environmental Protection Agency
Spatial Representation:	Data for this assessment unit was collected by one monitoring project: (SWB_FishLk)
Temporal Representation:	Data was collected on a single day 7/16/2007.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	Samples were collected, processed, and analyzed in accordance with the methods described in Quality Assurance Project Plan "Screening Study of Bioaccumulation in California Lakes and Reservoirs." (SWAMP, 2008).
QAPP Information Reference(s):	Quality Assurance Project Plan Screening Study of Bioaccumulation in California Lakes and Reservoirs. Moss Landing Marine Labs. Prepared for SWAMP BOG, 49 pages plus appendices and attachments

Line of Evidence (LOE) for Decision ID 61391, Chlordane
Calaveras Reservoir

Region 2

LOE ID:	91192
Pollutant:	Chlordane
LOE Subgroup:	Pollutant-Tissue
Matrix:	Tissue
Fraction:	Fish fillet
Beneficial Use:	Warm Freshwater Habitat
Number of Samples:	1
Number of Exceedances:	0
Data and Information Type:	Fish tissue analysis
Data Used to Assess Water Quality:	State Water Board staff assessed SWAMP data for Calaveras Reservoir to determine beneficial use support and results are as follows: 0 of 1 samples exceed the criterion for Chlordane, Total. One composite (10 fish per composite) was generated from one species: Largemouth Bass. Details of the compositing protocol can be found in the March

Data Reference:	<p>2009 report entitled: "Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Study" (SWAMP, 2009). Total chlordane was calculated as the sum of the following chlordane isomers: cis- and trans-chlordane, cis- and trans-nonachlor, and oxychlordane.</p> <p>Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Survey. A Report of the Surface Water Ambient Monitoring Program (SWAMP). California State Water Resources Control Board, Sacramento, CA</p> <p>Cruise Report for the Surface Waters Ambient Monitoring Program (SWAMP) Bioaccumulation Screening Study in California Lakes and Reservoirs. Sampling Dates: June 2007- March 2008</p> <p>Statewide Lakes Sportfish Contamination Study 2007 2008</p> <p>Contaminants in Fish from California Lakes and Reservoirs, 2007-2008: Summary Report on a Two-Year Screening Survey</p>
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	Water Quality Control Plan for the San Francisco Bay Basin: Controllable water quality factors shall not cause a detrimental increase in concentrations of toxic substances found in bottom sediments or aquatic life. Effects on aquatic organisms, wildlife, and human health will be considered.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	National Academy of Science guidelines (NAS 1972) establish a maximum total Chlordane concentration of 100 ug/Kg (wet weight) in tissue samples for protection of aquatic life from bioaccumulation of toxic substances.
Guideline Reference:	National Academy of Sciences. Water Quality Criteria 1972. EPA-R3-73-033. Washington, D.C.: U.S. Environmental Protection Agency
Spatial Representation:	Data for this assessment unit was collected by one monitoring project: (SWB_FishLk)
Temporal Representation:	Data was collected on a single day 7/16/2007.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	Samples were collected, processed, and analyzed in accordance with the methods described in Quality Assurance Project Plan "Screening Study of Bioaccumulation in California Lakes and Reservoirs." (SWAMP, 2008).
QAPP Information Reference(s):	Quality Assurance Project Plan Screening Study of Bioaccumulation in California Lakes and Reservoirs. Moss Landing Marine Labs. Prepared for SWAMP BOG. 49 pages plus appendices and attachments

DECISION ID	61416	Region 2
Calaveras Reservoir		
Pollutant: Final Listing Decision: Last Listing Cycle's Final Listing Decision: Revision Status Impairment from Pollutant or Pollution:	DDT (Dichlorodiphenyltrichloroethane) Do Not List on 303(d) list (TMDL required list) New Decision Revised Pollutant	
Regional Board Staff Conclusion:	<p>This pollutant is being considered for placement on the CWA section 303(d) List under section 3.5 of the Listing Policy. Under section 3.5 a single line of evidence is necessary to assess listing status. Three lines of evidence are available in the administrative record to assess this pollutant. Zero of one samples exceed the guideline.</p> <p>Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against placing this water segment-pollutant combination on the CWA section 303(d) List.</p> <p>This conclusion is based on the staff findings that:</p> <ol style="list-style-type: none"> 1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy. 2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy. 	

3. Zero of one samples exceed the guideline and this sample size is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating. A minimum of 16 samples is needed to determine if a beneficial use is fully supported using table 3.1.
4. Pursuant to SECTION 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.

Regional Board Staff Decision Recommendation: After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be placed on the section 303(d) list. The readily available data and information is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating.

Line of Evidence (LOE) for Decision ID 61416, DDT (Dichlorodiphenyltrichloroethane)

Region 2

Calaveras Reservoir

LOE ID:	91163
Pollutant:	Total DDT (sum of 4,4'- and 2,4'- isomers of DDT, DDE, and DDD)
LOE Subgroup:	Pollutant-Tissue
Matrix:	Tissue
Fraction:	Fish fillet
Beneficial Use:	Warm Freshwater Habitat
Number of Samples:	1
Number of Exceedances:	0
Data and Information Type:	Fish tissue analysis
Data Used to Assess Water Quality:	State Water Board staff assessed SWAMP data for Calaveras Reservoir to determine beneficial use support and results are as follows: 0 of 1 samples exceed the criterion for DDT, Total. One composite (10 fish per composite) was generated from one species: Largemouth Bass. Details of the compositing protocol can be found in the March 2009 report entitled: "Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Study" (SWAMP, 2009). Total DDT was calculated as the sum of 4,4'- and 2,4'- isomers of DDT, DDE, and DDD.
Data Reference:	Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Survey. A Report of the Surface Water Ambient Monitoring Program (SWAMP). California State Water Resources Control Board, Sacramento, CA Cruise Report for the Surface Waters Ambient Monitoring Program (SWAMP) Bioaccumulation Screening Study in California Lakes and Reservoirs, Sampling Dates: June 2007- March 2008 Statewide Lakes Sportfish Contamination Study 2007 2008 Contaminants in Fish from California Lakes and Reservoirs, 2007-2008: Summary Report on a Two-Year Screening Survey
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	Water Quality Control Plan for the San Francisco Bay Basin: Controllable water quality factors shall not cause a detrimental increase in concentrations of toxic substances found in bottom sediments or aquatic life. Effects on aquatic organisms, wildlife, and human health will be considered.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	National Academy of Science guidelines (NAS 1972) establish a maximum total DDT concentration of 1000 ug/Kg (wet weight) in tissue samples for protection of aquatic life from bioaccumulation of toxic substances.
Guideline Reference:	National Academy of Sciences. Water Quality Criteria 1972. EPA-R3-73-033. Washington, D.C.: U.S. Environmental Protection Agency
Spatial Representation:	Data for this assessment unit was collected by one monitoring project: (SWB_FishLk)
Temporal Representation:	Data was collected on a single day 7/16/2007.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.

QAPP Information:	Samples were collected, processed, and analyzed in accordance with the methods described in Quality Assurance Project Plan "Screening Study of Bioaccumulation in California Lakes and Reservoirs." (SWAMP, 2008).
QAPP Information Reference(s):	Quality Assurance Project Plan Screening Study of Bioaccumulation in California Lakes and Reservoirs. Moss Landing Marine Labs. Prepared for SWAMP BOG. 49 pages plus appendices and attachments

Line of Evidence (LOE) for Decision ID 61416, DDT (Dichlorodiphenyltrichloroethane)	Region 2
Calaveras Reservoir	

LOE ID:	91165
Pollutant:	Total DDT (sum of 4,4'- and 2,4'- isomers of DDT, DDE, and DDD)
LOE Subgroup:	Pollutant-Tissue
Matrix:	Tissue
Fraction:	Fish fillet
Beneficial Use:	Commercial or recreational collection of fish, shellfish, or organisms
Number of Samples:	1
Number of Exceedances:	0
Data and Information Type:	Fish tissue analysis
Data Used to Assess Water Quality:	State Water Board staff assessed SWAMP data for Calaveras Reservoir to determine beneficial use support and results are as follows: 0 of 1 samples exceed the criterion for DDT, Total. One composite (10 fish per composite) was generated from one species: Largemouth Bass. Details of the compositing protocol can be found in the March 2009 report entitled: "Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Study" (SWAMP, 2009). Total DDT was calculated as the sum of 4,4'- and 2,4'- isomers of DDT, DDE, and DDD.
Data Reference:	Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Survey. A Report of the Surface Water Ambient Monitoring Program (SWAMP). California State Water Resources Control Board, Sacramento, CA Cruise Report for the Surface Waters Ambient Monitoring Program (SWAMP) Bioaccumulation Screening Study in California Lakes and Reservoirs, Sampling Dates: June 2007- March 2008 Statewide Lakes Sportfish Contamination Study 2007 2008 Contaminants in Fish from California Lakes and Reservoirs, 2007-2008: Summary Report on a Two-Year Screening Survey
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	Water Quality Control Plan for the San Francisco Bay Basin: Controllable water quality factors shall not cause a detrimental increase in concentrations of toxic substances found in bottom sediments or aquatic life. Effects on aquatic organisms, wildlife, and human health will be considered.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	The modified OEHHA Fish Contaminant Goal for total DDT in fish tissue is 15 ppb. This screening level assumes an average body weight of 70 kg and a consumption rate of 32 g/day for a 30 year exposure over a 70-year lifetime. This constituent is a carcinogen therefore the risk level is set to one in a million. A cooking reduction factor of 1 is applied for skin-off fillets. (Klasing, S., and R. Brodberg, 2008)
Guideline Reference:	Development of Fish Contaminant Goals and Advisory Tissue Levels for Common Contaminants in California Sport Fish: Chlordane, DDTs, Dieldrin, Methylmercury, PCBs, Selenium, and Toxaphene
Spatial Representation:	Data for this assessment unit was collected by one monitoring project: (SWB_FishLk)
Temporal Representation:	Data was collected on a single day 7/16/2007.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	Samples were collected, processed, and analyzed in accordance with the methods described in Quality Assurance Project Plan "Screening Study of Bioaccumulation in

QAPP Information Reference(s):	California Lakes and Reservoirs." (SWAMP, 2008). Quality Assurance Project Plan Screening Study of Bioaccumulation in California Lakes and Reservoirs. Moss Landing Marine Labs. Prepared for SWAMP BOG, 49 pages plus appendices and attachments
Line of Evidence (LOE) for Decision ID 61416, DDT (Dichlorodiphenyltrichloroethane)	
Calaveras Reservoir	
LOE ID:	91164
Pollutant:	Total DDT (sum of 4,4'- and 2,4'- isomers of DDT, DDE, and DDD)
LOE Subgroup:	Pollutant-Tissue
Matrix:	Tissue
Fraction:	Fish fillet
Beneficial Use:	Cold Freshwater Habitat
Number of Samples:	1
Number of Exceedances:	0
Data and Information Type:	Fish tissue analysis
Data Used to Assess Water Quality:	State Water Board staff assessed SWAMP data for Calaveras Reservoir to determine beneficial use support and results are as follows: 0 of 1 samples exceed the criterion for DDT, Total. One composite (10 fish per composite) was generated from one species: Largemouth Bass. Details of the compositing protocol can be found in the March 2009 report entitled: "Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Study" (SWAMP, 2009). Total DDT was calculated as the sum of 4,4'- and 2,4'- isomers of DDT, DDE, and DDD.
Data Reference:	Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Survey. A Report of the Surface Water Ambient Monitoring Program (SWAMP). California State Water Resources Control Board, Sacramento, CA Cruise Report for the Surface Waters Ambient Monitoring Program (SWAMP) Bioaccumulation Screening Study in California Lakes and Reservoirs, Sampling Dates: June 2007- March 2008 Statewide Lakes Sportfish Contamination Study 2007 2008 Contaminants in Fish from California Lakes and Reservoirs, 2007-2008: Summary Report on a Two-Year Screening Survey
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	Water Quality Control Plan for the San Francisco Bay Basin: Controllable water quality factors shall not cause a detrimental increase in concentrations of toxic substances found in bottom sediments or aquatic life. Effects on aquatic organisms, wildlife, and human health will be considered.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	National Academy of Science guidelines (NAS 1972) establish a maximum total DDT concentration of 1000 ug/Kg (wet weight) in tissue samples for protection of aquatic life from bioaccumulation of toxic substances.
Guideline Reference:	National Academy of Sciences. Water Quality Criteria 1972. EPA-R3-73-033. Washington, D.C.: U.S. Environmental Protection Agency
Spatial Representation:	Data for this assessment unit was collected by one monitoring project: (SWB_FishLk)
Temporal Representation:	Data was collected on a single day 7/16/2007.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	Samples were collected, processed, and analyzed in accordance with the methods described in Quality Assurance Project Plan "Screening Study of Bioaccumulation in California Lakes and Reservoirs." (SWAMP, 2008).
QAPP Information Reference(s):	Quality Assurance Project Plan Screening Study of Bioaccumulation in California Lakes and Reservoirs. Moss Landing Marine Labs. Prepared for SWAMP BOG, 49 pages plus appendices and attachments

DECISION ID	61392	Region 2
Calaveras Reservoir		

Pollutant:	Dieldrin
Final Listing Decision:	Do Not List on 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision:	New Decision
Revision Status	Revised
Impairment from Pollutant or Pollution:	Pollutant
Regional Board Staff Conclusion:	<p>This pollutant is being considered for placement on the CWA section 303(d) List under section 3.5 of the Listing Policy. Under section 3.5 a single line of evidence is necessary to assess listing status. Three lines of evidence are available in the administrative record to assess this pollutant. Zero of one samples exceed the guideline.</p> <p>Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against placing this water segment-pollutant combination on the CWA section 303(d) List.</p> <p>This conclusion is based on the staff findings that:</p> <ol style="list-style-type: none"> 1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy. 2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy. 3. Zero of one samples exceed the guideline and this sample size is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating. A minimum of 16 samples is needed to determine if a beneficial use is fully supported using table 3.1. 4. Pursuant to SECTION 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.
Regional Board Staff Decision Recommendation:	After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be placed on the section 303(d) list. The readily available data and information is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating.

Line of Evidence (LOE) for Decision ID 61392, Dieldrin	Region 2
Calaveras Reservoir	

LOE ID:	91198
Pollutant:	Dieldrin
LOE Subgroup:	Pollutant-Tissue
Matrix:	Tissue
Fraction:	Fish fillet
Beneficial Use:	Warm Freshwater Habitat
Number of Samples:	1
Number of Exceedances:	0
Data and Information Type:	Fish tissue analysis
Data Used to Assess Water Quality:	State Water Board staff assessed SWAMP data for Calaveras Reservoir to determine beneficial use support and results are as follows: 0 of 1 samples exceed the criterion for Dieldrin. One composite (10 fish per composite) was generated from one species: Largemouth Bass. Details of the compositing protocol can be found in the March 2009 report entitled: "Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Study" (SWAMP, 2009).
Data Reference:	Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Survey. A Report of the Surface Water Ambient Monitoring Program (SWAMP). California State Water Resources Control Board, Sacramento, CA

[Cruise Report for the Surface Waters Ambient Monitoring Program \(SWAMP\) Bioaccumulation Screening Study in California Lakes and Reservoirs. Sampling Dates: June 2007- March 2008](#)
[Statewide Lakes Sportfish Contamination Study 2007 2008](#)
[Contaminants in Fish from California Lakes and Reservoirs, 2007-2008: Summary Report on a Two-Year Screening Survey](#)

SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	Water Quality Control Plan for the San Francisco Bay Basin: Controllable water quality factors shall not cause a detrimental increase in concentrations of toxic substances found in bottom sediments or aquatic life. Effects on aquatic organisms, wildlife, and human health will be considered.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	National Academy of Science guidelines (NAS 1972) establish a maximum Dieldrin concentration of 100 ug/Kg (wet weight) in tissue samples for protection of aquatic life from bioaccumulation of toxic substances.
Guideline Reference:	National Academy of Sciences. Water Quality Criteria 1972. EPA-R3-73-033. Washington, D.C.: U.S. Environmental Protection Agency
Spatial Representation:	Data for this assessment unit was collected by one monitoring project: (SWB_FishLk)
Temporal Representation:	Data was collected on a single day 7/16/2007.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	Samples were collected, processed, and analyzed in accordance with the methods described in Quality Assurance Project Plan "Screening Study of Bioaccumulation in California Lakes and Reservoirs." (SWAMP, 2008).
QAPP Information Reference(s):	Quality Assurance Project Plan Screening Study of Bioaccumulation in California Lakes and Reservoirs. Moss Landing Marine Labs. Prepared for SWAMP BOG, 49 pages plus appendices and attachments

**Line of Evidence (LOE) for Decision ID 61392, Dieldrin
Calaveras Reservoir**

Region 2

LOE ID:	91199
Pollutant:	Dieldrin
LOE Subgroup:	Pollutant-Tissue
Matrix:	Tissue
Fraction:	Fish fillet
Beneficial Use:	Cold Freshwater Habitat
Number of Samples:	1
Number of Exceedances:	0
Data and Information Type:	Fish tissue analysis
Data Used to Assess Water Quality:	State Water Board staff assessed SWAMP data for Calaveras Reservoir to determine beneficial use support and results are as follows: 0 of 1 samples exceed the criterion for Dieldrin. One composite (10 fish per composite) was generated from one species: Largemouth Bass. Details of the compositing protocol can be found in the March 2009 report entitled: "Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Study" (SWAMP, 2009).
Data Reference:	Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Survey. A Report of the Surface Water Ambient Monitoring Program (SWAMP). California State Water Resources Control Board, Sacramento, CA Cruise Report for the Surface Waters Ambient Monitoring Program (SWAMP) Bioaccumulation Screening Study in California Lakes and Reservoirs. Sampling Dates: June 2007- March 2008 Statewide Lakes Sportfish Contamination Study 2007 2008 Contaminants in Fish from California Lakes and Reservoirs, 2007-2008: Summary Report on a Two-Year Screening Survey

SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	Water Quality Control Plan for the San Francisco Bay Basin: Controllable water quality factors shall not cause a detrimental increase in concentrations of toxic substances found in bottom sediments or aquatic life. Effects on aquatic organisms, wildlife, and human health will be considered.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	National Academy of Science guidelines (NAS 1972) establish a maximum Dieldrin concentration of 100 ug/Kg (wet weight) in tissue samples for protection of aquatic life from bioaccumulation of toxic substances.
Guideline Reference:	National Academy of Sciences. Water Quality Criteria 1972. EPA-R3-73-033. Washington, D.C.: U.S. Environmental Protection Agency
Spatial Representation:	Data for this assessment unit was collected by one monitoring project: (SWB_FishLk)
Temporal Representation:	Data was collected on a single day 7/16/2007.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	Samples were collected, processed, and analyzed in accordance with the methods described in Quality Assurance Project Plan "Screening Study of Bioaccumulation in California Lakes and Reservoirs." (SWAMP, 2008).
QAPP Information Reference(s):	Quality Assurance Project Plan Screening Study of Bioaccumulation in California Lakes and Reservoirs. Moss Landing Marine Labs. Prepared for SWAMP BOG. 49 pages plus appendices and attachments

Line of Evidence (LOE) for Decision ID 61392, Dieldrin

Region 2

Calaveras Reservoir

LOE ID:	91200
Pollutant:	Dieldrin
LOE Subgroup:	Pollutant-Tissue
Matrix:	Tissue
Fraction:	Fish fillet
Beneficial Use:	Commercial or recreational collection of fish, shellfish, or organisms
Number of Samples:	0
Number of Exceedances:	0
Data and Information Type:	Fish tissue analysis
Data Used to Assess Water Quality:	State Water Board staff assessed SWAMP data for Calaveras Reservoir to determine beneficial use support and results are as follows: 0 of 0 samples exceed the criterion for Dieldrin. One composite (10 fish per composite) was generated from one species: Largemouth Bass. Details of the compositing protocol can be found in the March 2009 report entitled: "Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Study" (SWAMP, 2009). One composite was not used in the assessment because the laboratory data reporting limit(s) was above the objective and therefore the results could not be quantified with the level of certainty required by the Listing Policy.
Data Reference:	Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Survey. A Report of the Surface Water Ambient Monitoring Program (SWAMP). California State Water Resources Control Board, Sacramento, CA Cruise Report for the Surface Waters Ambient Monitoring Program (SWAMP) Bioaccumulation Screening Study in California Lakes and Reservoirs. Sampling Dates: June 2007- March 2008 Statewide Lakes Sportfish Contamination Study 2007 2008 Contaminants in Fish from California Lakes and Reservoirs, 2007-2008: Summary Report on a Two-Year Screening Survey

SWAMP Data: SWAMP

Water Quality Objective/Criterion:	Water Quality Control Plan for the San Francisco Bay Basin: Controllable water quality factors shall not cause a detrimental increase in concentrations of toxic substances found in bottom sediments or aquatic life. Effects on aquatic organisms, wildlife, and human health will be considered.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	The modified OEHHA Fish Contaminant Goal for dieldrin in fish tissue is 0.32 ppb. This screening level assumes an average body weight of 70 kg and a consumption rate of 32 g/day for a 30 year exposure over a 70-year lifetime. This constituent is a carcinogen therefore the risk level is set to one in a million. A cooking reduction factor of 1 is applied for skin-off fillets. (Klasing, S., and R. Brodberg, 2008)
Guideline Reference:	Development of Fish Contaminant Goals and Advisory Tissue Levels for Common Contaminants in California Sport Fish: Chlordane, DDTs, Dieldrin, Methylmercury, PCBs, Selenium, and Toxaphene
Spatial Representation:	Data for this assessment unit was collected by one monitoring project: (SWB_FishLk)
Temporal Representation:	Data was collected on a single day 7/16/2007.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	Samples were collected, processed, and analyzed in accordance with the methods described in Quality Assurance Project Plan "Screening Study of Bioaccumulation in California Lakes and Reservoirs." (SWAMP, 2008).
QAPP Information Reference(s):	Quality Assurance Project Plan Screening Study of Bioaccumulation in California Lakes and Reservoirs. Moss Landing Marine Labs. Prepared for SWAMP BOG. 49 pages plus appendices and attachments

DECISION ID	61393	Region 2
Calaveras Reservoir		

Pollutant:	Endosulfan
Final Listing Decision:	Do Not List on 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision:	New Decision
Revision Status	Revised
Impairment from Pollutant or Pollution:	Pollutant
Regional Board Staff Conclusion:	<p>This pollutant is being considered for placement on the CWA section 303(d) List under section 3.5 of the Listing Policy. Under section 3.5 a single line of evidence is necessary to assess listing status. Three lines of evidence are available in the administrative record to assess this pollutant. Zero of one samples exceed the guideline.</p> <p>Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against placing this water segment-pollutant combination on the CWA section 303(d) List.</p> <p>This conclusion is based on the staff findings that:</p> <ol style="list-style-type: none"> 1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy. 2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy. 3. Zero of one samples exceed the guideline and this sample size is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating. A minimum of 16 samples is needed to determine if a beneficial use is fully supported using table 3.1. 4. Pursuant to SECTION 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.
Regional Board Staff Decision Recommendation:	After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be placed on the section 303(d) list. The readily available data and information is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating.

Line of Evidence (LOE) for Decision ID 61393, Endosulfan	Region 2
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Calaveras Reservoir

LOE ID:	91201
Pollutant:	Endosulfan
LOE Subgroup:	Pollutant-Tissue
Matrix:	Tissue
Fraction:	Fish fillet
Beneficial Use:	Warm Freshwater Habitat
Number of Samples:	1
Number of Exceedances:	0
Data and Information Type:	Fish tissue analysis
Data Used to Assess Water Quality:	State Water Board staff assessed SWAMP data for Calaveras Reservoir to determine beneficial use support and results are as follows: 0 of 1 samples exceed the criterion for Endosulfan I. One composite (10 fish per composite) was generated from one species: Largemouth Bass. Details of the compositing protocol can be found in the March 2009 report entitled: "Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Study" (SWAMP, 2009).
Data Reference:	Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Survey. A Report of the Surface Water Ambient Monitoring Program (SWAMP). California State Water Resources Control Board, Sacramento, CA Cruise Report for the Surface Waters Ambient Monitoring Program (SWAMP) Bioaccumulation Screening Study in California Lakes and Reservoirs. Sampling Dates: June 2007- March 2008 Statewide Lakes Sportfish Contamination Study 2007 2008 Contaminants in Fish from California Lakes and Reservoirs, 2007-2008: Summary Report on a Two-Year Screening Survey
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	Water Quality Control Plan for the San Francisco Bay Basin: Controllable water quality factors shall not cause a detrimental increase in concentrations of toxic substances found in bottom sediments or aquatic life. Effects on aquatic organisms, wildlife, and human health will be considered.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	National Academy of Science guidelines (NAS 1972) establish a maximum Endosulfan, Total concentration of 100 ug/Kg (wet weight) in tissue samples for protection of aquatic life from bioaccumulation of toxic substances.
Guideline Reference:	National Academy of Sciences. Water Quality Criteria 1972. EPA-R3-73-033. Washington, D.C.: U.S. Environmental Protection Agency
Spatial Representation:	Data for this assessment unit was collected by one monitoring project: (SWB_FishLk)
Temporal Representation:	Data was collected on a single day 7/16/2007.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	Samples were collected, processed, and analyzed in accordance with the methods described in Quality Assurance Project Plan "Screening Study of Bioaccumulation in California Lakes and Reservoirs." (SWAMP, 2008).
QAPP Information Reference(s):	Quality Assurance Project Plan Screening Study of Bioaccumulation in California Lakes and Reservoirs. Moss Landing Marine Labs. Prepared for SWAMP BOG, 49 pages plus appendices and attachments

Line of Evidence (LOE) for Decision ID 61393, Endosulfan

Region 2

Calaveras Reservoir

LOE ID:	91205
Pollutant:	Endosulfan
LOE Subgroup:	Pollutant-Tissue

Matrix:	Tissue
Fraction:	Fish fillet
Beneficial Use:	Cold Freshwater Habitat
Number of Samples:	1
Number of Exceedances:	0
Data and Information Type:	Fish tissue analysis
Data Used to Assess Water Quality:	State Water Board staff assessed SWAMP data for Calaveras Reservoir to determine beneficial use support and results are as follows: 0 of 1 samples exceed the criterion for Endosulfan I. One composite (10 fish per composite) was generated from one species: Largemouth Bass. Details of the compositing protocol can be found in the March 2009 report entitled: "Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Study" (SWAMP, 2009).
Data Reference:	Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Survey. A Report of the Surface Water Ambient Monitoring Program (SWAMP). California State Water Resources Control Board, Sacramento, CA Cruise Report for the Surface Waters Ambient Monitoring Program (SWAMP) Bioaccumulation Screening Study in California Lakes and Reservoirs, Sampling Dates: June 2007- March 2008 Statewide Lakes Sportfish Contamination Study 2007 2008 Contaminants in Fish from California Lakes and Reservoirs, 2007-2008: Summary Report on a Two-Year Screening Survey
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	Water Quality Control Plan for the San Francisco Bay Basin: Controllable water quality factors shall not cause a detrimental increase in concentrations of toxic substances found in bottom sediments or aquatic life. Effects on aquatic organisms, wildlife, and human health will be considered.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	National Academy of Science guidelines (NAS 1972) establish a maximum Endosulfan, Total concentration of 100 ug/Kg (wet weight) in tissue samples for protection of aquatic life from bioaccumulation of toxic substances.
Guideline Reference:	National Academy of Sciences. Water Quality Criteria 1972. EPA-R3-73-033. Washington, D.C.: U.S. Environmental Protection Agency
Spatial Representation:	Data for this assessment unit was collected by one monitoring project: (SWB_FishLk)
Temporal Representation:	Data was collected on a single day 7/16/2007.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	Samples were collected, processed, and analyzed in accordance with the methods described in Quality Assurance Project Plan "Screening Study of Bioaccumulation in California Lakes and Reservoirs." (SWAMP, 2008).
QAPP Information Reference(s):	Quality Assurance Project Plan Screening Study of Bioaccumulation in California Lakes and Reservoirs. Moss Landing Marine Labs. Prepared for SWAMP BOG. 49 pages plus appendices and attachments

Line of Evidence (LOE) for Decision ID 61393, Endosulfan

Region 2

Calaveras Reservoir

LOE ID:	91206
Pollutant:	Endosulfan
LOE Subgroup:	Pollutant-Tissue
Matrix:	Tissue
Fraction:	Fish fillet
Beneficial Use:	Commercial or recreational collection of fish, shellfish, or organisms
Number of Samples:	1

Number of Exceedances:	0
Data and Information Type:	Fish tissue analysis
Data Used to Assess Water Quality:	State Water Board staff assessed SWAMP data for Calaveras Reservoir to determine beneficial use support and results are as follows: 0 of 1 samples exceed the criterion for Endosulfan I. One composite (10 fish per composite) was generated from one species: Largemouth Bass. Details of the compositing protocol can be found in the March 2009 report entitled: "Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Study" (SWAMP, 2009).
Data Reference:	Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Survey. A Report of the Surface Water Ambient Monitoring Program (SWAMP). California State Water Resources Control Board, Sacramento, CA Cruise Report for the Surface Waters Ambient Monitoring Program (SWAMP) Bioaccumulation Screening Study in California Lakes and Reservoirs, Sampling Dates: June 2007- March 2008 Statewide Lakes Sportfish Contamination Study 2007 2008 Contaminants in Fish from California Lakes and Reservoirs, 2007-2008: Summary Report on a Two-Year Screening Survey
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	Water Quality Control Plan for the San Francisco Bay Basin: Controllable water quality factors shall not cause a detrimental increase in concentrations of toxic substances found in bottom sediments or aquatic life. Effects on aquatic organisms, wildlife, and human health will be considered.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	The modified OEHHA Fish Contaminant Goal for endosulfan (I and II) in fish tissue is 13,000 ppb. This screening level assumes an average body weight of 70 kg and a consumption rate of 32 g/day. A cooking reduction factor of 1 is applied for skin-off fillets. (Klasing, S., and R. Brodberg, 2008; USEPA, 2000)
Guideline Reference:	Development of Fish Contaminant Goals and Advisory Tissue Levels for Common Contaminants in California Sport Fish: Chlordane, DDTs, Dieldrin, Methylmercury, PCBs, Selenium, and Toxaphene Guidance for Assessing Chemical Contaminant Data for Use In Fish Advisories Volume 1: Fish Sampling and Analysis
Spatial Representation:	Data for this assessment unit was collected by one monitoring project: (SWB_FishLk)
Temporal Representation:	Data was collected on a single day 7/16/2007.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	Samples were collected, processed, and analyzed in accordance with the methods described in Quality Assurance Project Plan "Screening Study of Bioaccumulation in California Lakes and Reservoirs." (SWAMP, 2008).
QAPP Information Reference(s):	Quality Assurance Project Plan Screening Study of Bioaccumulation in California Lakes and Reservoirs. Moss Landing Marine Labs. Prepared for SWAMP BOG. 49 pages plus appendices and attachments

DECISION ID	61394	Region 2
Calaveras Reservoir		
Pollutant:	Endrin	
Final Listing Decision:	Do Not List on 303(d) list (TMDL required list)	
Last Listing Cycle's Final Listing Decision:	New Decision	
Revision Status	Revised	
Impairment from Pollutant or Pollution:	Pollutant	
Regional Board Staff Conclusion:	This pollutant is being considered for placement on the CWA section 303(d) List under section 3.5 of the Listing Policy. Under section 3.5 a single line of evidence is necessary to assess listing status. Three lines of evidence are available in the administrative record to assess this pollutant. Zero of one	

samples exceed the guideline.

Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against placing this water segment-pollutant combination on the CWA section 303(d) List.

This conclusion is based on the staff findings that:

1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy.
2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy.
3. Zero of one samples exceed the guideline and this sample size is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating. A minimum of 16 samples is needed to determine if a beneficial use is fully supported using table 3.1.
4. Pursuant to SECTION 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.

Regional Board Staff Decision Recommendation: After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be placed on the section 303(d) list. The readily available data and information is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating.

Line of Evidence (LOE) for Decision ID 61394, Endrin

Region 2

Calaveras Reservoir

LOE ID:	91208
Pollutant:	Endrin
LOE Subgroup:	Pollutant-Tissue
Matrix:	Tissue
Fraction:	Fish fillet
Beneficial Use:	Cold Freshwater Habitat
Number of Samples:	1
Number of Exceedances:	0
Data and Information Type:	Fish tissue analysis
Data Used to Assess Water Quality:	State Water Board staff assessed SWAMP data for Calaveras Reservoir to determine beneficial use support and results are as follows: 0 of 1 samples exceed the criterion for Endrin. One composite (10 fish per composite) was generated from one species: Largemouth Bass. Details of the compositing protocol can be found in the March 2009 report entitled: "Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Study" (SWAMP, 2009).
Data Reference:	Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Survey. A Report of the Surface Water Ambient Monitoring Program (SWAMP). California State Water Resources Control Board, Sacramento, CA Cruise Report for the Surface Waters Ambient Monitoring Program (SWAMP) Bioaccumulation Screening Study in California Lakes and Reservoirs, Sampling Dates: June 2007- March 2008 Statewide Lakes Sportfish Contamination Study 2007 2008 Contaminants in Fish from California Lakes and Reservoirs, 2007-2008: Summary Report on a Two-Year Screening Survey
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	Water Quality Control Plan for the San Francisco Bay Basin: Controllable water quality factors shall not cause a detrimental increase in concentrations of toxic substances found in bottom sediments or aquatic life. Effects on aquatic organisms, wildlife, and human health will be considered.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	National Academy of Science guidelines (NAS 1972) establish a maximum Endrin

	concentration of 100 ug/Kg (wet weight) in tissue samples for protection of aquatic life from bioaccumulation of toxic substances.
Guideline Reference:	National Academy of Sciences. Water Quality Criteria 1972. EPA-R3-73-033. Washington, D.C.: U.S. Environmental Protection Agency
Spatial Representation:	Data for this assessment unit was collected by one monitoring project: (SWB_FishLk)
Temporal Representation:	Data was collected on a single day 7/16/2007.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	Samples were collected, processed, and analyzed in accordance with the methods described in Quality Assurance Project Plan "Screening Study of Bioaccumulation in California Lakes and Reservoirs." (SWAMP, 2008).
QAPP Information Reference(s):	Quality Assurance Project Plan Screening Study of Bioaccumulation in California Lakes and Reservoirs. Moss Landing Marine Labs. Prepared for SWAMP BOG, 49 pages plus appendices and attachments

Line of Evidence (LOE) for Decision ID 61394, Endrin

Region 2

Calaveras Reservoir

LOE ID:	91211
Pollutant:	Endrin
LOE Subgroup:	Pollutant-Tissue
Matrix:	Tissue
Fraction:	Fish fillet
Beneficial Use:	Commercial or recreational collection of fish, shellfish, or organisms
Number of Samples:	1
Number of Exceedances:	0
Data and Information Type:	Fish tissue analysis
Data Used to Assess Water Quality:	State Water Board staff assessed SWAMP data for Calaveras Reservoir to determine beneficial use support and results are as follows: 0 of 1 samples exceed the criterion for Endrin. One composite (10 fish per composite) was generated from one species: Largemouth Bass. Details of the compositing protocol can be found in the March 2009 report entitled: "Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Study" (SWAMP, 2009).
Data Reference:	Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Survey. A Report of the Surface Water Ambient Monitoring Program (SWAMP). California State Water Resources Control Board, Sacramento, CA Cruise Report for the Surface Waters Ambient Monitoring Program (SWAMP) Bioaccumulation Screening Study in California Lakes and Reservoirs, Sampling Dates: June 2007- March 2008 Statewide Lakes Sportfish Contamination Study 2007 2008 Contaminants in Fish from California Lakes and Reservoirs, 2007-2008: Summary Report on a Two-Year Screening Survey
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	Water Quality Control Plan for the San Francisco Bay Basin: Controllable water quality factors shall not cause a detrimental increase in concentrations of toxic substances found in bottom sediments or aquatic life. Effects on aquatic organisms, wildlife, and human health will be considered.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	The modified OEHHA Fish Contaminant Goal for endrin in fish tissue is 660 ppb. This screening level assumes an average body weight of 70 kg and a consumption rate of 32 g/day. A cooking reduction factor of 1 is applied for skin-off fillets. (Klasing, S., and R. Brodberg, 2008; USEPA, 2000)
Guideline Reference:	Development of Fish Contaminant Goals and Advisory Tissue Levels for Common Contaminants in California Sport Fish: Chlordane, DDTs, Dieldrin, Methylmercury, PCBs, Selenium, and Toxaphene

Spatial Representation: Data for this assessment unit was collected by one monitoring project: (SWB_FishLk)
 Temporal Representation: Data was collected on a single day 7/16/2007.
 Environmental Conditions: Staff is not aware of any special conditions that might affect interpretation of the data.
 QAPP Information: Samples were collected, processed, and analyzed in accordance with the methods described in Quality Assurance Project Plan "Screening Study of Bioaccumulation in California Lakes and Reservoirs." (SWAMP, 2008).
 QAPP Information Reference(s): [Quality Assurance Project Plan Screening Study of Bioaccumulation in California Lakes and Reservoirs. Moss Landing Marine Labs. Prepared for SWAMP BOG. 49 pages plus appendices and attachments](#)

**Line of Evidence (LOE) for Decision ID 61394, Endrin
 Calaveras Reservoir**

Region 2

LOE ID: 91207

Pollutant: Endrin
 LOE Subgroup: Pollutant-Tissue
 Matrix: Tissue
 Fraction: Fish fillet

Beneficial Use: Warm Freshwater Habitat

Number of Samples: 1
 Number of Exceedances: 0

Data and Information Type: Fish tissue analysis
 Data Used to Assess Water Quality: State Water Board staff assessed SWAMP data for Calaveras Reservoir to determine beneficial use support and results are as follows: 0 of 1 samples exceed the criterion for Endrin. One composite (10 fish per composite) was generated from one species: Largemouth Bass. Details of the compositing protocol can be found in the March 2009 report entitled: "Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Study" (SWAMP, 2009).
 Data Reference: [Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Survey. A Report of the Surface Water Ambient Monitoring Program \(SWAMP\). California State Water Resources Control Board, Sacramento, CA](#)
[Cruise Report for the Surface Waters Ambient Monitoring Program \(SWAMP\) Bioaccumulation Screening Study in California Lakes and Reservoirs, Sampling Dates: June 2007- March 2008](#)
[Statewide Lakes Sportfish Contamination Study 2007 2008](#)
[Contaminants in Fish from California Lakes and Reservoirs, 2007-2008: Summary Report on a Two-Year Screening Survey](#)

SWAMP Data: SWAMP

Water Quality Objective/Criterion: Water Quality Control Plan for the San Francisco Bay Basin: Controllable water quality factors shall not cause a detrimental increase in concentrations of toxic substances found in bottom sediments or aquatic life. Effects on aquatic organisms, wildlife, and human health will be considered.
 Objective/Criterion Reference: [Water Quality Control Plan \(Basin Plan\) San Francisco Bay Basin \(Region 2\)](#)

Evaluation Guideline: National Academy of Science guidelines (NAS 1972) establish a maximum Endrin concentration of 100 ug/Kg (wet weight) in tissue samples for protection of aquatic life from bioaccumulation of toxic substances.
 Guideline Reference: [National Academy of Sciences. Water Quality Criteria 1972. EPA-R3-73-033. Washington, D.C.: U.S. Environmental Protection Agency](#)

Spatial Representation: Data for this assessment unit was collected by one monitoring project: (SWB_FishLk)
 Temporal Representation: Data was collected on a single day 7/16/2007.
 Environmental Conditions: Staff is not aware of any special conditions that might affect interpretation of the data.

QAPP Information: Samples were collected, processed, and analyzed in accordance with the methods described in Quality Assurance Project Plan "Screening Study of Bioaccumulation in California Lakes and Reservoirs." (SWAMP, 2008).

QAPP Information Reference(s): [Quality Assurance Project Plan Screening Study of Bioaccumulation in California Lakes and Reservoirs. Moss Landing Marine Labs. Prepared for SWAMP BOG. 49 pages plus appendices and attachments](#)

DECISION ID	61395	Region 2
Calaveras Reservoir		

Pollutant: Heptachlor
Final Listing Decision: Do Not List on 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision: New Decision
Revision Status: Revised
Impairment from Pollutant or Pollution: Pollutant

Regional Board Staff Conclusion: This pollutant is being considered for placement on the CWA section 303(d) List under section 3.5 of the Listing Policy. Under section 3.5 a single line of evidence is necessary to assess listing status. Two lines of evidence are available in the administrative record to assess this pollutant. Zero of one samples exceed the guideline.

Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against placing this water segment-pollutant combination on the CWA section 303(d) List.

This conclusion is based on the staff findings that:

1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy.
2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy.
3. Zero of one samples exceed the guideline and this sample size is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating. A minimum of 16 samples is needed to determine if a beneficial use is fully supported using table 3.1.
4. Pursuant to SECTION 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.

Regional Board Staff Decision Recommendation: After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be placed on the section 303(d) list. The readily available data and information is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating.

Line of Evidence (LOE) for Decision ID 61395, Heptachlor	Region 2
Calaveras Reservoir	

LOE ID: 91212

Pollutant: Heptachlor
LOE Subgroup: Pollutant-Tissue
Matrix: Tissue
Fraction: Fish fillet

Beneficial Use: Warm Freshwater Habitat

Number of Samples: 1
Number of Exceedances: 0

Data and Information Type: Fish tissue analysis
Data Used to Assess Water Quality: State Water Board staff assessed SWAMP data for Calaveras Reservoir to determine beneficial use support and results are as follows: 0 of 1 samples exceed the criterion for

Data Reference:	<p>Heptachlor. One composite (10 fish per composite) was generated from one species: Largemouth Bass. Details of the compositing protocol can be found in the March 2009 report entitled: "Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Study" (SWAMP, 2009).</p> <p>Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Survey. A Report of the Surface Water Ambient Monitoring Program (SWAMP). California State Water Resources Control Board, Sacramento, CA</p> <p>Cruise Report for the Surface Waters Ambient Monitoring Program (SWAMP)</p> <p>Bioaccumulation Screening Study in California Lakes and Reservoirs. Sampling Dates: June 2007- March 2008</p> <p>Statewide Lakes Sportfish Contamination Study 2007 2008</p> <p>Contaminants in Fish from California Lakes and Reservoirs, 2007-2008: Summary Report on a Two-Year Screening Survey</p>
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	Water Quality Control Plan for the San Francisco Bay Basin: Controllable water quality factors shall not cause a detrimental increase in concentrations of toxic substances found in bottom sediments or aquatic life. Effects on aquatic organisms, wildlife, and human health will be considered.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	National Academy of Science guidelines (NAS 1972) establish a maximum Heptachlor concentration of 100 ug/Kg (wet weight) in tissue samples for protection of aquatic life from bioaccumulation of toxic substances.
Guideline Reference:	National Academy of Sciences. Water Quality Criteria 1972. EPA-R3-73-033. Washington, D.C.: U.S. Environmental Protection Agency
Spatial Representation:	Data for this assessment unit was collected by one monitoring project: (SWB_FishLk)
Temporal Representation:	Data was collected on a single day 7/16/2007.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	Samples were collected, processed, and analyzed in accordance with the methods described in Quality Assurance Project Plan "Screening Study of Bioaccumulation in California Lakes and Reservoirs." (SWAMP, 2008).
QAPP Information Reference(s):	Quality Assurance Project Plan Screening Study of Bioaccumulation in California Lakes and Reservoirs. Moss Landing Marine Labs. Prepared for SWAMP BOG. 49 pages plus appendices and attachments

Line of Evidence (LOE) for Decision ID 61395, Heptachlor
Calaveras Reservoir

Region 2

LOE ID:	91213
Pollutant:	Heptachlor
LOE Subgroup:	Pollutant-Tissue
Matrix:	Tissue
Fraction:	Fish fillet
Beneficial Use:	Cold Freshwater Habitat
Number of Samples:	1
Number of Exceedances:	0
Data and Information Type:	Fish tissue analysis
Data Used to Assess Water Quality:	State Water Board staff assessed SWAMP data for Calaveras Reservoir to determine beneficial use support and results are as follows: 0 of 1 samples exceed the criterion for Heptachlor. One composite (10 fish per composite) was generated from one species: Largemouth Bass. Details of the compositing protocol can be found in the March 2009 report entitled: "Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Study" (SWAMP, 2009).
Data Reference:	Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Survey. A Report of the Surface Water Ambient Monitoring

[Program \(SWAMP\). California State Water Resources Control Board, Sacramento, CA](#)
[Cruise Report for the Surface Waters Ambient Monitoring Program \(SWAMP\)](#)
[Bioaccumulation Screening Study in California Lakes and Reservoirs. Sampling Dates: June 2007- March 2008](#)
[Statewide Lakes Sportfish Contamination Study 2007 2008](#)
[Contaminants in Fish from California Lakes and Reservoirs, 2007-2008: Summary Report on a Two-Year Screening Survey](#)

SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	Water Quality Control Plan for the San Francisco Bay Basin: Controllable water quality factors shall not cause a detrimental increase in concentrations of toxic substances found in bottom sediments or aquatic life. Effects on aquatic organisms, wildlife, and human health will be considered.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	National Academy of Science guidelines (NAS 1972) establish a maximum Heptachlor concentration of 100 ug/Kg (wet weight) in tissue samples for protection of aquatic life from bioaccumulation of toxic substances.
Guideline Reference:	National Academy of Sciences. Water Quality Criteria 1972. EPA-R3-73-033. Washington, D.C.: U.S. Environmental Protection Agency
Spatial Representation:	Data for this assessment unit was collected by one monitoring project: (SWB_FishLk)
Temporal Representation:	Data was collected on a single day 7/16/2007.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	Samples were collected, processed, and analyzed in accordance with the methods described in Quality Assurance Project Plan "Screening Study of Bioaccumulation in California Lakes and Reservoirs." (SWAMP, 2008).
QAPP Information Reference(s):	Quality Assurance Project Plan Screening Study of Bioaccumulation in California Lakes and Reservoirs. Moss Landing Marine Labs. Prepared for SWAMP BOG. 49 pages plus appendices and attachments

DECISION ID	61396	Region 2
Calaveras Reservoir		

Pollutant:	Heptachlor epoxide
Final Listing Decision:	Do Not List on 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision:	New Decision
Revision Status	Revised
Impairment from Pollutant or Pollution:	Pollutant

Regional Board Staff Conclusion:	<p>This pollutant is being considered for placement on the CWA section 303(d) List under section 3.5 of the Listing Policy. Under section 3.5 a single line of evidence is necessary to assess listing status. Three lines of evidence are available in the administrative record to assess this pollutant. Zero of one samples exceed the guideline.</p> <p>Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against placing this water segment-pollutant combination on the CWA section 303(d) List.</p> <p>This conclusion is based on the staff findings that:</p> <ol style="list-style-type: none"> 1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy. 2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy. 3. Zero of one samples exceed the guideline and this sample size is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating. A minimum of 16 samples is needed to determine if a beneficial use is fully supported using table 3.1. 4. Pursuant to SECTION 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.
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Regional Board Staff Decision Recommendation: After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be placed on the section 303(d) list. The readily available data and information is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating.

**Line of Evidence (LOE) for Decision ID 61396, Heptachlor epoxide
Calaveras Reservoir**

Region 2

LOE ID:	91215
Pollutant:	Heptachlor epoxide
LOE Subgroup:	Pollutant-Tissue
Matrix:	Tissue
Fraction:	Fish fillet
Beneficial Use:	Warm Freshwater Habitat
Number of Samples:	1
Number of Exceedances:	0
Data and Information Type:	Fish tissue analysis
Data Used to Assess Water Quality:	State Water Board staff assessed SWAMP data for Calaveras Reservoir to determine beneficial use support and results are as follows: 0 of 1 samples exceed the criterion for Heptachlor epoxide. One composite (10 fish per composite) was generated from one species: Largemouth Bass. Details of the compositing protocol can be found in the March 2009 report entitled: "Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Study" (SWAMP, 2009).
Data Reference:	Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Survey. A Report of the Surface Water Ambient Monitoring Program (SWAMP). California State Water Resources Control Board, Sacramento, CA Cruise Report for the Surface Waters Ambient Monitoring Program (SWAMP) Bioaccumulation Screening Study in California Lakes and Reservoirs, Sampling Dates: June 2007- March 2008 Statewide Lakes Sportfish Contamination Study 2007 2008 Contaminants in Fish from California Lakes and Reservoirs, 2007-2008: Summary Report on a Two-Year Screening Survey
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	Water Quality Control Plan for the San Francisco Bay Basin: Controllable water quality factors shall not cause a detrimental increase in concentrations of toxic substances found in bottom sediments or aquatic life. Effects on aquatic organisms, wildlife, and human health will be considered.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	National Academy of Science guidelines (NAS 1972) establish a maximum Heptachlor Epoxide concentration of 100 ug/Kg (wet weight) in tissue samples for protection of aquatic life from bioaccumulation of toxic substances.
Guideline Reference:	National Academy of Sciences. Water Quality Criteria 1972. EPA-R3-73-033. Washington, D.C.: U.S. Environmental Protection Agency
Spatial Representation:	Data for this assessment unit was collected by one monitoring project: (SWB_FishLk)
Temporal Representation:	Data was collected on a single day 7/16/2007.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	Samples were collected, processed, and analyzed in accordance with the methods described in Quality Assurance Project Plan "Screening Study of Bioaccumulation in California Lakes and Reservoirs." (SWAMP, 2008).
QAPP Information Reference(s):	Quality Assurance Project Plan Screening Study of Bioaccumulation in California Lakes and Reservoirs. Moss Landing Marine Labs. Prepared for SWAMP BOG, 49 pages plus appendices and attachments

Calaveras Reservoir

LOE ID:	91216
Pollutant:	Heptachlor epoxide
LOE Subgroup:	Pollutant-Tissue
Matrix:	Tissue
Fraction:	Fish fillet
Beneficial Use:	Commercial or recreational collection of fish, shellfish, or organisms
Number of Samples:	0
Number of Exceedances:	0
Data and Information Type:	Fish tissue analysis
Data Used to Assess Water Quality:	State Water Board staff assessed SWAMP data for Calaveras Reservoir to determine beneficial use support and results are as follows: 0 of 0 samples exceed the criterion for Heptachlor epoxide. One composite (10 fish per composite) was generated from one species: Largemouth Bass. Details of the compositing protocol can be found in the March 2009 report entitled: "Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Study" (SWAMP, 2009). One composite was not used in the assessment because the laboratory data reporting limit(s) was above the objective and therefore the results could not be quantified with the level of certainty required by the Listing Policy.
Data Reference:	Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Survey. A Report of the Surface Water Ambient Monitoring Program (SWAMP). California State Water Resources Control Board, Sacramento, CA Cruise Report for the Surface Waters Ambient Monitoring Program (SWAMP) Bioaccumulation Screening Study in California Lakes and Reservoirs, Sampling Dates: June 2007- March 2008 Statewide Lakes Sportfish Contamination Study 2007 2008 Contaminants in Fish from California Lakes and Reservoirs, 2007-2008: Summary Report on a Two-Year Screening Survey
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	Water Quality Control Plan for the San Francisco Bay Basin: Controllable water quality factors shall not cause a detrimental increase in concentrations of toxic substances found in bottom sediments or aquatic life. Effects on aquatic organisms, wildlife, and human health will be considered.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	The modified OEHHA Fish Contaminant Goal for heptachlor epoxide in fish tissue is 0.93 ppb. This screening level assumes an average body weight of 70 kg and a consumption rate of 32 g/day for a 30 year exposure over a 70-year lifetime. This constituent is a carcinogen therefore the risk level is set to one in a million. A cooking reduction factor of 1 is applied for skin-off fillets. (Klasing, S., and R. Brodberg, 2008; OEHHA, 1999)
Guideline Reference:	Development of Fish Contaminant Goals and Advisory Tissue Levels for Common Contaminants in California Sport Fish: Chlordane, DDTs, Dieldrin, Methylmercury, PCBs, Selenium, and Toxaphene Public Health Goal for Heptachlor and Heptachlor Epoxide in Drinking Water
Spatial Representation:	Data for this assessment unit was collected by one monitoring project: (SWB_FishLk)
Temporal Representation:	Data was collected on a single day 7/16/2007.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	Samples were collected, processed, and analyzed in accordance with the methods described in Quality Assurance Project Plan "Screening Study of Bioaccumulation in California Lakes and Reservoirs." (SWAMP, 2008).
QAPP Information Reference(s):	Quality Assurance Project Plan Screening Study of Bioaccumulation in California Lakes and Reservoirs. Moss Landing Marine Labs. Prepared for SWAMP BOG, 49 pages plus appendices and attachments

**Line of Evidence (LOE) for Decision ID 61396, Heptachlor epoxide
Calaveras Reservoir**

Region 2

LOE ID:	91214
Pollutant:	Heptachlor epoxide
LOE Subgroup:	Pollutant-Tissue
Matrix:	Tissue
Fraction:	Fish fillet
Beneficial Use:	Cold Freshwater Habitat
Number of Samples:	1
Number of Exceedances:	0
Data and Information Type:	Fish tissue analysis
Data Used to Assess Water Quality:	State Water Board staff assessed SWAMP data for Calaveras Reservoir to determine beneficial use support and results are as follows: 0 of 1 samples exceed the criterion for Heptachlor epoxide. One composite (10 fish per composite) was generated from one species: Largemouth Bass. Details of the compositing protocol can be found in the March 2009 report entitled: "Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Study" (SWAMP, 2009).
Data Reference:	Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Survey. A Report of the Surface Water Ambient Monitoring Program (SWAMP). California State Water Resources Control Board, Sacramento, CA Cruise Report for the Surface Waters Ambient Monitoring Program (SWAMP) Bioaccumulation Screening Study in California Lakes and Reservoirs, Sampling Dates: June 2007- March 2008 Statewide Lakes Sportfish Contamination Study 2007 2008 Contaminants in Fish from California Lakes and Reservoirs, 2007-2008: Summary Report on a Two-Year Screening Survey
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	Water Quality Control Plan for the San Francisco Bay Basin: Controllable water quality factors shall not cause a detrimental increase in concentrations of toxic substances found in bottom sediments or aquatic life. Effects on aquatic organisms, wildlife, and human health will be considered.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	National Academy of Science guidelines (NAS 1972) establish a maximum Heptachlor Epoxide concentration of 100 ug/Kg (wet weight) in tissue samples for protection of aquatic life from bioaccumulation of toxic substances.
Guideline Reference:	National Academy of Sciences. Water Quality Criteria 1972. EPA-R3-73-033. Washington, D.C.: U.S. Environmental Protection Agency
Spatial Representation:	Data for this assessment unit was collected by one monitoring project: (SWB_FishLk)
Temporal Representation:	Data was collected on a single day 7/16/2007.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	Samples were collected, processed, and analyzed in accordance with the methods described in Quality Assurance Project Plan "Screening Study of Bioaccumulation in California Lakes and Reservoirs." (SWAMP, 2008).
QAPP Information Reference(s):	Quality Assurance Project Plan Screening Study of Bioaccumulation in California Lakes and Reservoirs. Moss Landing Marine Labs. Prepared for SWAMP BOG. 49 pages plus appendices and attachments

DECISION ID 61408
Calaveras Reservoir

Region 2

Pollutant:	Hexachlorobenzene/ HCB
Final Listing Decision:	Do Not List on 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision:	New Decision
Revision Status	Revised
Impairment from Pollutant or Pollution:	Pollutant

Regional Board Staff Conclusion: This pollutant is being considered for placement on the CWA section 303(d) List under section 3.5 of the Listing Policy. Under section 3.5 a single line of evidence is necessary to assess listing status. One line of evidence is available in the administrative record to assess this pollutant. Zero of one samples exceed the guideline.

Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against placing this water segment-pollutant combination on the CWA section 303(d) List.

This conclusion is based on the staff findings that:

1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy.
2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy.
3. Zero of one samples exceed the guideline and this sample size is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating. A minimum of 16 samples is needed to determine if a beneficial use is fully supported using table 3.1.
4. Pursuant to SECTION 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.

Regional Board Staff Decision Recommendation: After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be placed on the section 303(d) list. The readily available data and information is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating.

Line of Evidence (LOE) for Decision ID 61408, Hexachlorobenzene/ HCB Calaveras Reservoir

Region 2

LOE ID: 91217

Pollutant:	Hexachlorobenzene/ HCB
LOE Subgroup:	Pollutant-Tissue
Matrix:	Tissue
Fraction:	Fish fillet

Beneficial Use: Commercial or recreational collection of fish, shellfish, or organisms

Number of Samples:	1
Number of Exceedances:	0

Data and Information Type:	Fish tissue analysis
Data Used to Assess Water Quality:	State Water Board staff assessed SWAMP data for Calaveras Reservoir to determine beneficial use support and results are as follows: 0 of 1 samples exceed the criterion for Hexachlorobenzene. One composite (10 fish per composite) was generated from one species: Largemouth Bass. Details of the compositing protocol can be found in the March 2009 report entitled: "Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Study" (SWAMP, 2009).
Data Reference:	Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Survey. A Report of the Surface Water Ambient Monitoring Program (SWAMP). California State Water Resources Control Board, Sacramento, CA Cruise Report for the Surface Waters Ambient Monitoring Program (SWAMP) Bioaccumulation Screening Study in California Lakes and Reservoirs, Sampling Dates: June 2007- March 2008 Statewide Lakes Sportfish Contamination Study 2007 2008 Contaminants in Fish from California Lakes and Reservoirs, 2007-2008: Summary Report

SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	Water Quality Control Plan for the San Francisco Bay Basin: Controllable water quality factors shall not cause a detrimental increase in concentrations of toxic substances found in bottom sediments or aquatic life. Effects on aquatic organisms, wildlife, and human health will be considered.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	The modified OEHHA Fish Contaminant Goal for hexachlorobenzene in fish tissue is 2.8 ppb. This screening level assumes an average body weight of 70 kg and a consumption rate of 32 g/day for a 30 year exposure over a 70-year lifetime. This constituent is a carcinogen therefore the risk level is set to one in a million. A cooking reduction factor of 1 is applied for skin-off fillets. (Klasing, S., and R. Brodberg, 2008; OEHHA, 2005)
Guideline Reference:	Development of Fish Contaminant Goals and Advisory Tissue Levels for Common Contaminants in California Sport Fish: Chlordane, DDTs, Dieldrin, Methylmercury, PCBs, Selenium, and Toxaphene Air Toxics Hotspots Program Risk Assessment Guidelines. Part II Technical Support Document for Describing Available Cancer Potency Values.
Spatial Representation:	Data for this assessment unit was collected by one monitoring project: (SWB_FishLk)
Temporal Representation:	Data was collected on a single day 7/16/2007.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	Samples were collected, processed, and analyzed in accordance with the methods described in Quality Assurance Project Plan "Screening Study of Bioaccumulation in California Lakes and Reservoirs." (SWAMP, 2008).
QAPP Information Reference(s):	Quality Assurance Project Plan Screening Study of Bioaccumulation in California Lakes and Reservoirs. Moss Landing Marine Labs. Prepared for SWAMP BOG, 49 pages plus appendices and attachments

DECISION ID	61409	Region 2
Calaveras Reservoir		

Pollutant:	Lindane/gamma Hexachlorocyclohexane (gamma-HCH)
Final Listing Decision:	Do Not List on 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision:	New Decision
Revision Status	Revised
Impairment from Pollutant or Pollution:	Pollutant

Regional Board Staff Conclusion: This pollutant is being considered for placement on the CWA section 303(d) List under section 3.5 of the Listing Policy. Under section 3.5 a single line of evidence is necessary to assess listing status. Three lines of evidence are available in the administrative record to assess this pollutant. Zero of one samples exceed the guideline.

Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against placing this water segment-pollutant combination on the CWA section 303(d) List.

This conclusion is based on the staff findings that:

1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy.
2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy.
3. Zero of one samples exceed the guideline and this sample size is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating. A minimum of 16 samples is needed to determine if a beneficial use is fully supported using table 3.1.
4. Pursuant to SECTION 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.

Regional Board Staff Decision After review of the available data and information, RWQCB staff concludes that the water body-

Recommendation: pollutant combination should not be placed on the section 303(d) list. The readily available data and information is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating.

Line of Evidence (LOE) for Decision ID 61409, Lindane/gamma Hexachlorocyclohexane (gamma-HCH)

Region 2

Calaveras Reservoir

LOE ID:	91220
Pollutant:	Lindane/gamma Hexachlorocyclohexane (gamma-HCH)
LOE Subgroup:	Pollutant-Tissue
Matrix:	Tissue
Fraction:	Fish fillet
Beneficial Use:	Cold Freshwater Habitat
Number of Samples:	1
Number of Exceedances:	0
Data and Information Type:	Fish tissue analysis
Data Used to Assess Water Quality:	State Water Board staff assessed SWAMP data for Calaveras Reservoir to determine beneficial use support and results are as follows: 0 of 1 samples exceed the criterion for HCH, gamma. One composite (10 fish per composite) was generated from one species: Largemouth Bass. Details of the compositing protocol can be found in the March 2009 report entitled: "Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Study" (SWAMP, 2009).
Data Reference:	Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Survey. A Report of the Surface Water Ambient Monitoring Program (SWAMP). California State Water Resources Control Board, Sacramento, CA Cruise Report for the Surface Waters Ambient Monitoring Program (SWAMP) Bioaccumulation Screening Study in California Lakes and Reservoirs, Sampling Dates: June 2007- March 2008 Statewide Lakes Sportfish Contamination Study 2007 2008 Contaminants in Fish from California Lakes and Reservoirs, 2007-2008: Summary Report on a Two-Year Screening Survey
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	Water Quality Control Plan for the San Francisco Bay Basin: Controllable water quality factors shall not cause a detrimental increase in concentrations of toxic substances found in bottom sediments or aquatic life. Effects on aquatic organisms, wildlife, and human health will be considered.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	The modified OEHHA Fish Contaminant Goal for lindane in fish tissue is 4.6 ppb. This screening level assumes an average body weight of 70 kg and a consumption rate of 32 g/day for a 30 year exposure over a 70-year lifetime. This constituent is a carcinogen therefore the risk level is set to one in a million. A cooking reduction factor of 1 is applied for skin-off fillets. (Klasing, S., and R. Brodberg, 2008; OEHHA, 2005)
Guideline Reference:	National Academy of Sciences. Water Quality Criteria 1972. EPA-R3-73-033. Washington, D.C.: U.S. Environmental Protection Agency
Spatial Representation:	Data for this assessment unit was collected by one monitoring project: (SWB_FishLk)
Temporal Representation:	Data was collected on a single day 7/16/2007.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	Samples were collected, processed, and analyzed in accordance with the methods described in Quality Assurance Project Plan "Screening Study of Bioaccumulation in California Lakes and Reservoirs." (SWAMP, 2008).
QAPP Information Reference(s):	Quality Assurance Project Plan Screening Study of Bioaccumulation in California Lakes and Reservoirs. Moss Landing Marine Labs. Prepared for SWAMP BOG, 49 pages plus

Line of Evidence (LOE) for Decision ID 61409, Lindane/gamma Hexachlorocyclohexane (gamma-HCH)

Region 2

Calaveras Reservoir

LOE ID:	91218
Pollutant:	Lindane/gamma Hexachlorocyclohexane (gamma-HCH)
LOE Subgroup:	Pollutant-Tissue
Matrix:	Tissue
Fraction:	Fish fillet
Beneficial Use:	Warm Freshwater Habitat
Number of Samples:	1
Number of Exceedances:	0
Data and Information Type:	Fish tissue analysis
Data Used to Assess Water Quality:	State Water Board staff assessed SWAMP data for Calaveras Reservoir to determine beneficial use support and results are as follows: 0 of 1 samples exceed the criterion for HCH, gamma. One composite (10 fish per composite) was generated from one species: Largemouth Bass. Details of the compositing protocol can be found in the March 2009 report entitled: "Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Study" (SWAMP, 2009).
Data Reference:	Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Survey. A Report of the Surface Water Ambient Monitoring Program (SWAMP). California State Water Resources Control Board, Sacramento, CA Cruise Report for the Surface Waters Ambient Monitoring Program (SWAMP) Bioaccumulation Screening Study in California Lakes and Reservoirs, Sampling Dates: June 2007- March 2008 Statewide Lakes Sportfish Contamination Study 2007 2008 Contaminants in Fish from California Lakes and Reservoirs, 2007-2008: Summary Report on a Two-Year Screening Survey
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	Water Quality Control Plan for the San Francisco Bay Basin: Controllable water quality factors shall not cause a detrimental increase in concentrations of toxic substances found in bottom sediments or aquatic life. Effects on aquatic organisms, wildlife, and human health will be considered.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	The modified OEHHA Fish Contaminant Goal for lindane in fish tissue is 4.6 ppb. This screening level assumes an average body weight of 70 kg and a consumption rate of 32 g/day for a 30 year exposure over a 70-year lifetime. This constituent is a carcinogen therefore the risk level is set to one in a million. A cooking reduction factor of 1 is applied for skin-off fillets. (Klasing, S., and R. Brodberg, 2008; OEHHA, 2005)
Guideline Reference:	National Academy of Sciences. Water Quality Criteria 1972. EPA-R3-73-033. Washington, D.C.: U.S. Environmental Protection Agency
Spatial Representation:	Data for this assessment unit was collected by one monitoring project: (SWB_FishLk)
Temporal Representation:	Data was collected on a single day 7/16/2007.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	Samples were collected, processed, and analyzed in accordance with the methods described in Quality Assurance Project Plan "Screening Study of Bioaccumulation in California Lakes and Reservoirs." (SWAMP, 2008).
QAPP Information Reference(s):	Quality Assurance Project Plan Screening Study of Bioaccumulation in California Lakes and Reservoirs. Moss Landing Marine Labs. Prepared for SWAMP BOG, 49 pages plus appendices and attachments

Line of Evidence (LOE) for Decision ID 61409, Lindane/gamma Hexachlorocyclohexane

LOE ID:	91219
Pollutant:	Lindane/gamma Hexachlorocyclohexane (gamma-HCH)
LOE Subgroup:	Pollutant-Tissue
Matrix:	Tissue
Fraction:	Fish fillet
Beneficial Use:	Commercial or recreational collection of fish, shellfish, or organisms
Number of Samples:	1
Number of Exceedances:	0
Data and Information Type:	Fish tissue analysis
Data Used to Assess Water Quality:	State Water Board staff assessed SWAMP data for Calaveras Reservoir to determine beneficial use support and results are as follows: 0 of 1 samples exceed the criterion for HCH, gamma. One composite (10 fish per composite) was generated from one species: Largemouth Bass. Details of the compositing protocol can be found in the March 2009 report entitled: "Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Study" (SWAMP, 2009).
Data Reference:	Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Survey. A Report of the Surface Water Ambient Monitoring Program (SWAMP). California State Water Resources Control Board, Sacramento, CA Cruise Report for the Surface Waters Ambient Monitoring Program (SWAMP) Bioaccumulation Screening Study in California Lakes and Reservoirs, Sampling Dates: June 2007- March 2008 Statewide Lakes Sportfish Contamination Study 2007 2008 Contaminants in Fish from California Lakes and Reservoirs, 2007-2008: Summary Report on a Two-Year Screening Survey
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	Water Quality Control Plan for the San Francisco Bay Basin: Controllable water quality factors shall not cause a detrimental increase in concentrations of toxic substances found in bottom sediments or aquatic life. Effects on aquatic organisms, wildlife, and human health will be considered.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	The modified OEHHA Fish Contaminant Goal for lindane in fish tissue is 4.6 ppb. This screening level assumes an average body weight of 70 kg and a consumption rate of 32 g/day for a 30 year exposure over a 70-year lifetime. This constituent is a carcinogen therefore the risk level is set to one in a million. A cooking reduction factor of 1 is applied for skin-off fillets.
Guideline Reference:	Development of Fish Contaminant Goals and Advisory Tissue Levels for Common Contaminants in California Sport Fish: Chlordane, DDTs, Dieldrin, Methylmercury, PCBs, Selenium, and Toxaphene Air Toxics Hotspots Program Risk Assessment Guidelines. Part II Technical Support Document for Describing Available Cancer Potency Values.
Spatial Representation:	Data for this assessment unit was collected by one monitoring project: (SWB_FishLk)
Temporal Representation:	Data was collected on a single day 7/16/2007.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	Samples were collected, processed, and analyzed in accordance with the methods described in Quality Assurance Project Plan "Screening Study of Bioaccumulation in California Lakes and Reservoirs." (SWAMP, 2008).
QAPP Information Reference(s):	Quality Assurance Project Plan Screening Study of Bioaccumulation in California Lakes and Reservoirs. Moss Landing Marine Labs. Prepared for SWAMP BOG, 49 pages plus appendices and attachments

Pollutant:	Mirex
Final Listing Decision:	Do Not List on 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision:	New Decision
Revision Status	Revised
Impairment from Pollutant or Pollution:	Pollutant

Regional Board Staff Conclusion: This pollutant is being considered for placement on the CWA section 303(d) List under section 3.5 of the Listing Policy. Under section 3.5 a single line of evidence is necessary to assess listing status. One line of evidence is available in the administrative record to assess this pollutant. Zero of zero samples exceed the guideline. None of the samples met the QA criteria.

Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against placing this water segment-pollutant combination on the CWA section 303(d) List.

This conclusion is based on the staff findings that:

1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy.
2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy.
3. Zero of zero samples exceed the guideline and this sample size is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating. A minimum of 16 samples is needed to determine if a beneficial use is fully supported using table 3.1.
4. Pursuant to SECTION 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.

Regional Board Staff Decision Recommendation: After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be placed on the section 303(d) list. The readily available data and information is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating.

Line of Evidence (LOE) for Decision ID 61411, Mirex	Region 2
Calaveras Reservoir	

LOE ID:	91158
Pollutant:	Mirex
LOE Subgroup:	Pollutant-Tissue
Matrix:	Tissue
Fraction:	Fish fillet
Beneficial Use:	Commercial or recreational collection of fish, shellfish, or organisms
Number of Samples:	0
Number of Exceedances:	0
Data and Information Type:	Fish tissue analysis
Data Used to Assess Water Quality:	State Water Board staff assessed SWAMP data for Calaveras Reservoir to determine beneficial use support and results are as follows: 0 of 0 samples exceed the criterion for Mirex. One composite (10 fish per composite) was generated from one species: Largemouth Bass. Details of the compositing protocol can be found in the March 2009 report entitled: "Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Study" (SWAMP, 2009). One composite was not used in the assessment because the laboratory data reporting limit(s) was above the objective and therefore the results could not be quantified with the level of certainty required by the Listing Policy.
Data Reference:	Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year

[One of a Two-Year Screening Survey. A Report of the Surface Water Ambient Monitoring Program \(SWAMP\). California State Water Resources Control Board, Sacramento, CA](#)
[Cruise Report for the Surface Waters Ambient Monitoring Program \(SWAMP\)](#)
[Bioaccumulation Screening Study in California Lakes and Reservoirs. Sampling Dates: June 2007- March 2008](#)
[Statewide Lakes Sportfish Contamination Study 2007 2008](#)
[Contaminants in Fish from California Lakes and Reservoirs, 2007-2008: Summary Report on a Two-Year Screening Survey](#)

SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	Water Quality Control Plan for the San Francisco Bay Basin: Controllable water quality factors shall not cause a detrimental increase in concentrations of toxic substances found in bottom sediments or aquatic life. Effects on aquatic organisms, wildlife, and human health will be considered.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	The modified OEHHA Fish Contaminant Goal for mirex in fish tissue is 0.28 ppb. This screening level assumes an average body weight of 70 kg and a consumption rate of 32 g/day. A cooking reduction factor of 1 is applied for skin-off fillets. (Klasing, S., and R. Brodberg, 2008; OEHHA, 1992)
Guideline Reference:	Development of Fish Contaminant Goals and Advisory Tissue Levels for Common Contaminants in California Sport Fish: Chlordane, DDTs, Dieldrin, Methylmercury, PCBs, Selenium, and Toxaphene Expedited Cancer Potency Values and Proposed Regulatory Levels for Certain Proposition 65 Carcinogens.
Spatial Representation:	Data for this assessment unit was collected by one monitoring project: (SWB_FishLk)
Temporal Representation:	Data was collected on a single day 7/16/2007.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	Samples were collected, processed, and analyzed in accordance with the methods described in Quality Assurance Project Plan "Screening Study of Bioaccumulation in California Lakes and Reservoirs." (SWAMP, 2008).
QAPP Information Reference(s):	Quality Assurance Project Plan Screening Study of Bioaccumulation in California Lakes and Reservoirs. Moss Landing Marine Labs. Prepared for SWAMP BOG. 49 pages plus appendices and attachments

DECISION ID	61412	Region 2
Calaveras Reservoir		

Pollutant:	PCBs (Polychlorinated biphenyls)
Final Listing Decision:	Do Not List on 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision:	New Decision
Revision Status	Revised
Impairment from Pollutant or Pollution:	Pollutant
Regional Board Staff Conclusion:	<p>This pollutant is being considered for placement on the CWA section 303(d) List under section 3.5 of the Listing Policy. Under section 3.5 a single line of evidence is necessary to assess listing status. Three lines of evidence are available in the administrative record to assess this pollutant. Zero of one samples exceed the guideline.</p> <p>Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against placing this water segment-pollutant combination on the CWA section 303(d) List.</p> <p>This conclusion is based on the staff findings that:</p> <ol style="list-style-type: none"> 1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy. 2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy. 3. Zero of one samples exceed the guideline and this sample size is insufficient to determine, with

the power and confidence of the Listing Policy, the applicable beneficial use support rating. A minimum of 16 samples is needed to determine if a beneficial use is fully supported using table 3.1. 4. Pursuant to SECTION 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.

Regional Board Staff Decision Recommendation: After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be placed on the section 303(d) list. The readily available data and information is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating.

Line of Evidence (LOE) for Decision ID 61412, PCBs (Polychlorinated biphenyls)

Region 2

Calaveras Reservoir

LOE ID:	91161
Pollutant:	PCBs (Polychlorinated biphenyls)
LOE Subgroup:	Pollutant-Tissue
Matrix:	Tissue
Fraction:	Fish fillet
Beneficial Use:	Commercial or recreational collection of fish, shellfish, or organisms
Number of Samples:	1
Number of Exceedances:	0
Data and Information Type:	Fish tissue analysis
Data Used to Assess Water Quality:	State Water Board staff assessed SWAMP data for Calaveras Reservoir to determine beneficial use support and results are as follows: 0 of 1 samples exceed the criterion for PCB, Total. One composite (10 fish per composite) was generated from one species: Largemouth Bass. Details of the compositing protocol can be found in the March 2009 report entitled: "Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Study" (SWAMP, 2009). Total PCB was assessed for as follows: PCB aroclors and congeners were summed separately and the sum that yielded the highest value was used for the assessment.
Data Reference:	Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Survey. A Report of the Surface Water Ambient Monitoring Program (SWAMP). California State Water Resources Control Board, Sacramento, CA Cruise Report for the Surface Waters Ambient Monitoring Program (SWAMP) Bioaccumulation Screening Study in California Lakes and Reservoirs, Sampling Dates: June 2007- March 2008 Statewide Lakes Sportfish Contamination Study 2007 2008 Contaminants in Fish from California Lakes and Reservoirs, 2007-2008: Summary Report on a Two-Year Screening Survey
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	Water Quality Control Plan for the San Francisco Bay Basin (2013): Controllable water quality factors shall not cause a detrimental increase in concentrations of toxic substances found in bottom sediments or aquatic life. Effects on aquatic organisms, wildlife, and human health will be considered.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	The modified OEHHA Fish Contaminant Goal for polychlorinated biphenyls in fish tissue is 2.6 ppb. This screening level assumes an average body weight of 70 kg and a consumption rate of 32 g/day for a 30 year exposure over a 70-year lifetime. This constituent is a carcinogen therefore the risk level is set to one in a million. A cooking reduction factor of 1 is applied for skin-off fillets. (Klasing, S., and R. Brodberg, 2008)
Guideline Reference:	Development of Fish Contaminant Goals and Advisory Tissue Levels for Common Contaminants in California Sport Fish: Chlordane, DDTs, Dieldrin, Methylmercury, PCBs, Selenium, and Toxaphene

Spatial Representation:	Data for this assessment unit was collected by one monitoring project: (SWB_FishLk)
Temporal Representation:	Data was collected on a single day 7/16/2007.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	Samples were collected, processed, and analyzed in accordance with the methods described in Quality Assurance Project Plan "Screening Study of Bioaccumulation in California Lakes and Reservoirs." (SWAMP, 2008).
QAPP Information Reference(s):	Quality Assurance Project Plan Screening Study of Bioaccumulation in California Lakes and Reservoirs. Moss Landing Marine Labs. Prepared for SWAMP BOG. 49 pages plus appendices and attachments

Line of Evidence (LOE) for Decision ID 61412, PCBs (Polychlorinated biphenyls)	Region 2
Calaveras Reservoir	

LOE ID:	91160
Pollutant:	PCBs (Polychlorinated biphenyls)
LOE Subgroup:	Pollutant-Tissue
Matrix:	Tissue
Fraction:	Fish fillet
Beneficial Use:	Cold Freshwater Habitat
Number of Samples:	1
Number of Exceedances:	0
Data and Information Type:	Fish tissue analysis
Data Used to Assess Water Quality:	State Water Board staff assessed SWAMP data for Calaveras Reservoir to determine beneficial use support and results are as follows: 0 of 1 samples exceed the criterion for PCB, Total. One composite (10 fish per composite) was generated from one species: Largemouth Bass. Details of the compositing protocol can be found in the March 2009 report entitled: "Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Study" (SWAMP, 2009). Total PCB was assessed for as follows: PCB aroclors and congeners were summed separately and the sum that yielded the highest value was used for the assessment.
Data Reference:	Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Survey. A Report of the Surface Water Ambient Monitoring Program (SWAMP). California State Water Resources Control Board, Sacramento, CA Cruise Report for the Surface Waters Ambient Monitoring Program (SWAMP) Bioaccumulation Screening Study in California Lakes and Reservoirs. Sampling Dates: June 2007- March 2008 Statewide Lakes Sportfish Contamination Study 2007 2008 Contaminants in Fish from California Lakes and Reservoirs, 2007-2008: Summary Report on a Two-Year Screening Survey
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	Water Quality Control Plan for the San Francisco Bay Basin (2013): Controllable water quality factors shall not cause a detrimental increase in concentrations of toxic substances found in bottom sediments or aquatic life. Effects on aquatic organisms, wildlife, and human health will be considered.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	National Academy of Science guidelines (NAS 1972) establish a maximum total PCB concentration of 500 ug/Kg (wet weight) in tissue samples for protection of aquatic life from bioaccumulation of toxic substances.
Guideline Reference:	National Academy of Sciences. Water Quality Criteria 1972. EPA-R3-73-033. Washington, D.C.: U.S. Environmental Protection Agency
Spatial Representation:	Data for this assessment unit was collected by one monitoring project: (SWB_FishLk)
Temporal Representation:	Data was collected on a single day 7/16/2007.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	Samples were collected, processed, and analyzed in accordance with the methods

QAPP Information Reference(s):	described in Quality Assurance Project Plan "Screening Study of Bioaccumulation in California Lakes and Reservoirs." (SWAMP, 2008). Quality Assurance Project Plan Screening Study of Bioaccumulation in California Lakes and Reservoirs. Moss Landing Marine Labs. Prepared for SWAMP BOG. 49 pages plus appendices and attachments
<div>Line of Evidence (LOE) for Decision ID 61412, PCBs (Polychlorinated biphenyls)</div> <div>Calaveras Reservoir</div> <div>Region 2</div>	
LOE ID:	91159
Pollutant: LOE Subgroup: Matrix: Fraction:	PCBs (Polychlorinated biphenyls) Pollutant-Tissue Tissue Fish fillet
Beneficial Use:	Warm Freshwater Habitat
Number of Samples: Number of Exceedances:	1 0
Data and Information Type: Data Used to Assess Water Quality:	Fish tissue analysis State Water Board staff assessed SWAMP data for Calaveras Reservoir to determine beneficial use support and results are as follows: 0 of 1 samples exceed the criterion for PCB, Total. One composite (10 fish per composite) was generated from one species: Largemouth Bass. Details of the compositing protocol can be found in the March 2009 report entitled: "Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Study" (SWAMP, 2009). Total PCB was assessed for as follows: PCB aroclors and congeners were summed separately and the sum that yielded the highest value was used for the assessment.
Data Reference:	Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Survey. A Report of the Surface Water Ambient Monitoring Program (SWAMP). California State Water Resources Control Board, Sacramento, CA Cruise Report for the Surface Waters Ambient Monitoring Program (SWAMP) Bioaccumulation Screening Study in California Lakes and Reservoirs. Sampling Dates: June 2007- March 2008 Statewide Lakes Sportfish Contamination Study 2007 2008 Contaminants in Fish from California Lakes and Reservoirs. 2007-2008: Summary Report on a Two-Year Screening Survey
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	Water Quality Control Plan for the San Francisco Bay Basin (2013): Controllable water quality factors shall not cause a detrimental increase in concentrations of toxic substances found in bottom sediments or aquatic life. Effects on aquatic organisms, wildlife, and human health will be considered.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	National Academy of Science guidelines (NAS 1972) establish a maximum total PCB concentration of 500 ug/Kg (wet weight) in tissue samples for protection of aquatic life from bioaccumulation of toxic substances.
Guideline Reference:	National Academy of Sciences. Water Quality Criteria 1972. EPA-R3-73-033. Washington, D.C.: U.S. Environmental Protection Agency
Spatial Representation: Temporal Representation: Environmental Conditions: QAPP Information:	Data for this assessment unit was collected by one monitoring project: (SWB_FishLk) Data was collected on a single day 7/16/2007. Staff is not aware of any special conditions that might affect interpretation of the data. Samples were collected, processed, and analyzed in accordance with the methods described in Quality Assurance Project Plan "Screening Study of Bioaccumulation in California Lakes and Reservoirs." (SWAMP, 2008).
QAPP Information Reference(s):	Quality Assurance Project Plan Screening Study of Bioaccumulation in California Lakes and Reservoirs. Moss Landing Marine Labs. Prepared for SWAMP BOG. 49 pages plus

DECISION ID	61414	Region 2
Calaveras Reservoir		

Pollutant: Selenium
Final Listing Decision: Do Not List on 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision: New Decision
Revision Status: Revised
Impairment from Pollutant or Pollution: Pollutant

Regional Board Staff Conclusion: This pollutant is being considered for placement on the CWA section 303(d) List under section 3.5 of the Listing Policy. Under section 3.5 a single line of evidence is necessary to assess listing status. One line of evidence is available in the administrative record to assess this pollutant. Zero of one samples exceed the guideline.

Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against placing this water segment-pollutant combination on the CWA section 303(d) List.

This conclusion is based on the staff findings that:

1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy.
2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy.
3. Zero of one samples exceed the guideline and this sample size is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating. A minimum of 16 samples is needed to determine if a beneficial use is fully supported using table 3.1.
4. Pursuant to SECTION 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.

Regional Board Staff Decision Recommendation: After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be placed on the section 303(d) list. The readily available data and information is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating.

Line of Evidence (LOE) for Decision ID 61414, Selenium	Region 2
Calaveras Reservoir	

LOE ID: 91162

Pollutant: Selenium
LOE Subgroup: Pollutant-Tissue
Matrix: Tissue
Fraction: Fish fillet

Beneficial Use: Commercial or recreational collection of fish, shellfish, or organisms

Number of Samples: 1
Number of Exceedances: 0

Data and Information Type: Fish tissue analysis
Data Used to Assess Water Quality: State Water Board staff assessed SWAMP data for Calaveras Reservoir to determine beneficial use support and results are as follows: 0 of 1 samples exceed the criterion for Selenium. One composite (10 fish per composite) was generated from one species: Largemouth Bass. Details of the compositing protocol can be found in the March 2009 report entitled: "Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Study" (SWAMP, 2009).

Data Reference: [Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year](#)

[One of a Two-Year Screening Survey. A Report of the Surface Water Ambient Monitoring Program \(SWAMP\). California State Water Resources Control Board, Sacramento, CA](#)
[Cruise Report for the Surface Waters Ambient Monitoring Program \(SWAMP\)](#)
[Bioaccumulation Screening Study in California Lakes and Reservoirs. Sampling Dates: June 2007- March 2008](#)
[Statewide Lakes Sportfish Contamination Study 2007 2008](#)
[Contaminants in Fish from California Lakes and Reservoirs, 2007-2008: Summary Report on a Two-Year Screening Survey](#)

SWAMP Data:

SWAMP

Water Quality Objective/Criterion:

Water Quality Control Plan for the San Francisco Bay Basin (2013): Controllable water quality factors shall not cause a detrimental increase in concentrations of toxic substances found in bottom sediments or aquatic life. Effects on aquatic organisms, wildlife, and human health will be considered.

Objective/Criterion Reference:

[Water Quality Control Plan \(Basin Plan\) San Francisco Bay Basin \(Region 2\)](#)

Evaluation Guideline:

The OEHHA Fish Contaminant Goal for selenium in fish tissue is 7.4 ppm. This screening level assumes an average body weight of 70 kg and a consumption rate of 32 g/day. A background dietary consumption rate of 0.114 mg/day is applied for this micronutrient. (Klasing, S., and R. Brodberg, 2008)

Guideline Reference:

[Development of Fish Contaminant Goals and Advisory Tissue Levels for Common Contaminants in California Sport Fish: Chlordane, DDTs, Dieldrin, Methylmercury, PCBs, Selenium, and Toxaphene](#)

Spatial Representation:

Data for this assessment unit was collected by one monitoring project: (SWB_FishLk)

Temporal Representation:

Data was collected on a single day 7/16/2007.

Environmental Conditions:

Staff is not aware of any special conditions that might affect interpretation of the data.

QAPP Information:

Samples were collected, processed, and analyzed in accordance with the methods described in Quality Assurance Project Plan "Screening Study of Bioaccumulation in California Lakes and Reservoirs." (SWAMP, 2008).

QAPP Information Reference(s):

[Quality Assurance Project Plan Screening Study of Bioaccumulation in California Lakes and Reservoirs. Moss Landing Marine Labs. Prepared for SWAMP BOG. 49 pages plus appendices and attachments](#)

Draft California 2016 Integrated Report (303(d) List/305(b) Report)

Supporting Information

Regional Board 2 - San Francisco Bay Region

Water Body Name: Henne, Lake
Water Body ID: CAL2065002220091208101809
Water Body Type: Lake & Reservoir

DECISION ID 62125 **Region 2**
Henne, Lake

Pollutant: Aldrin
Final Listing Decision: Do Not List on 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision: New Decision
Revision Status Revised
Impairment from Pollutant or Pollution: Pollutant

Regional Board Staff Conclusion: This pollutant is being considered for placement on the CWA section 303(d) List under section 3.5 of the Listing Policy. Under section 3.5 a single line of evidence is necessary to assess listing status. Two lines of evidence are available in the administrative record to assess this pollutant. Zero of one samples exceed the guideline.

Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against placing this water segment-pollutant combination on the CWA section 303(d) List.

This conclusion is based on the staff findings that:

1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy.
2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy.
3. Zero of one samples exceed the guideline and this sample size is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating. A minimum of 16 samples is needed to determine if a beneficial use is fully supported using table 3.1.
4. Pursuant to SECTION 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.

Regional Board Staff Decision Recommendation: After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be placed on the section 303(d) list. The readily available data and information is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating.

Line of Evidence (LOE) for Decision ID 62125, Aldrin **Region 2**
Henne, Lake

LOE ID: 91844
Pollutant: Aldrin
LOE Subgroup: Pollutant-Tissue
Matrix: Tissue
Fraction: Fish fillet
Beneficial Use: Cold Freshwater Habitat
Number of Samples: 1
Number of Exceedances: 0

Data and Information Type:	Fish tissue analysis
Data Used to Assess Water Quality:	State Water Board staff assessed SWAMP data for Henne, Lake to determine beneficial use support and results are as follows: 0 of 1 samples exceed the criterion for Aldrin. One composite (5 fish per composite) was generated from one species: Largemouth Bass. Details of the compositing protocol can be found in the March 2009 report entitled: "Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Study" (SWAMP, 2009).
Data Reference:	Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Survey. A Report of the Surface Water Ambient Monitoring Program (SWAMP). California State Water Resources Control Board, Sacramento, CA Cruise Report for the Surface Waters Ambient Monitoring Program (SWAMP) Bioaccumulation Screening Study in California Lakes and Reservoirs, Sampling Dates: June 2007- March 2008 Statewide Lakes Sportfish Contamination Study 2007 2008 Contaminants in Fish from California Lakes and Reservoirs, 2007-2008: Summary Report on a Two-Year Screening Survey
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	Water Quality Control Plan for the San Francisco Bay Basin: Controllable water quality factors shall not cause a detrimental increase in concentrations of toxic substances found in bottom sediments or aquatic life. Effects on aquatic organisms, wildlife, and human health will be considered.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	National Academy of Science guidelines (NAS 1972) establish a maximum Aldrin concentration of 100 ug/Kg (wet weight) in tissue samples for protection of aquatic life from bioaccumulation of toxic substances.
Guideline Reference:	National Academy of Sciences. Water Quality Criteria 1972. EPA-R3-73-033. Washington, D.C.: U.S. Environmental Protection Agency
Spatial Representation:	Data for this assessment unit was collected by one monitoring project: (SWB_FishLk)
Temporal Representation:	Data was collected on a single day 8/29/2007.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	Samples were collected, processed, and analyzed in accordance with the methods described in Quality Assurance Project Plan "Screening Study of Bioaccumulation in California Lakes and Reservoirs." (SWAMP, 2008).
QAPP Information Reference(s):	Quality Assurance Project Plan Screening Study of Bioaccumulation in California Lakes and Reservoirs. Moss Landing Marine Labs. Prepared for SWAMP BOG, 49 pages plus appendices and attachments

Line of Evidence (LOE) for Decision ID 62125, Aldrin	Region 2
Henne, Lake	

LOE ID:	91843
Pollutant:	Aldrin
LOE Subgroup:	Pollutant-Tissue
Matrix:	Tissue
Fraction:	Fish fillet
Beneficial Use:	Warm Freshwater Habitat
Number of Samples:	1
Number of Exceedances:	0
Data and Information Type:	Fish tissue analysis
Data Used to Assess Water Quality:	State Water Board staff assessed SWAMP data for Henne, Lake to determine beneficial use support and results are as follows: 0 of 1 samples exceed the criterion for Aldrin. One composite (5 fish per composite) was generated from one species: Largemouth Bass. Details of the compositing protocol can be found in the March 2009 report entitled:

Data Reference:	<p>"Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Study" (SWAMP, 2009). Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Survey. A Report of the Surface Water Ambient Monitoring Program (SWAMP). California State Water Resources Control Board, Sacramento, CA Cruise Report for the Surface Waters Ambient Monitoring Program (SWAMP) Bioaccumulation Screening Study in California Lakes and Reservoirs. Sampling Dates: June 2007- March 2008 Statewide Lakes Sportfish Contamination Study 2007 2008 Contaminants in Fish from California Lakes and Reservoirs, 2007-2008: Summary Report on a Two-Year Screening Survey</p>
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	Water Quality Control Plan for the San Francisco Bay Basin: Controllable water quality factors shall not cause a detrimental increase in concentrations of toxic substances found in bottom sediments or aquatic life. Effects on aquatic organisms, wildlife, and human health will be considered.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	National Academy of Science guidelines (NAS 1972) establish a maximum Aldrin concentration of 100 ug/Kg (wet weight) in tissue samples for protection of aquatic life from bioaccumulation of toxic substances.
Guideline Reference:	National Academy of Sciences. Water Quality Criteria 1972. EPA-R3-73-033. Washington, D.C.: U.S. Environmental Protection Agency
Spatial Representation:	Data for this assessment unit was collected by one monitoring project: (SWB_FishLk)
Temporal Representation:	Data was collected on a single day 8/29/2007.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	Samples were collected, processed, and analyzed in accordance with the methods described in Quality Assurance Project Plan "Screening Study of Bioaccumulation in California Lakes and Reservoirs." (SWAMP, 2008).
QAPP Information Reference(s):	Quality Assurance Project Plan Screening Study of Bioaccumulation in California Lakes and Reservoirs. Moss Landing Marine Labs. Prepared for SWAMP BOG. 49 pages plus appendices and attachments

DECISION ID		62126	Region 2
Henne, Lake			
Pollutant:	Chlordane		
Final Listing Decision:	Do Not List on 303(d) list (TMDL required list)		
Last Listing Cycle's Final Listing Decision:	New Decision		
Revision Status	Revised		
Impairment from Pollutant or Pollution:	Pollutant		
Regional Board Staff Conclusion:	<p>This pollutant is being considered for placement on the CWA section 303(d) List under section 3.5 of the Listing Policy. Under section 3.5 a single line of evidence is necessary to assess listing status. Three lines of evidence are available in the administrative record to assess this pollutant. Zero of one samples exceed the guideline.</p> <p>Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against placing this water segment-pollutant combination on the CWA section 303(d) List.</p> <p>This conclusion is based on the staff findings that:</p> <ol style="list-style-type: none"> 1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy. 2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy. 3. Zero of one samples exceed the guideline and this sample size is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating. A 		

minimum of 16 samples is needed to determine if a beneficial use is fully supported using table 3.1. 4. Pursuant to SECTION 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.

Regional Board Staff Decision Recommendation: After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be placed on the section 303(d) list. The readily available data and information is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating.

Line of Evidence (LOE) for Decision ID 62126, Chlordane

Region 2

Henne, Lake

LOE ID:	91845
Pollutant:	Chlordane
LOE Subgroup:	Pollutant-Tissue
Matrix:	Tissue
Fraction:	Fish fillet
Beneficial Use:	Warm Freshwater Habitat
Number of Samples:	1
Number of Exceedances:	0
Data and Information Type:	Fish tissue analysis
Data Used to Assess Water Quality:	State Water Board staff assessed SWAMP data for Henne, Lake to determine beneficial use support and results are as follows: 0 of 1 samples exceed the criterion for Chlordane, Total. One composite (5 fish per composite) was generated from one species: Largemouth Bass. Details of the compositing protocol can be found in the March 2009 report entitled: "Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Study" (SWAMP, 2009). Total chlordane was calculated as the sum of the following chlordane isomers: cis- and trans-chlordane, cis- and trans-nonachlor, and oxychlordane.
Data Reference:	Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Survey. A Report of the Surface Water Ambient Monitoring Program (SWAMP). California State Water Resources Control Board, Sacramento, CA Cruise Report for the Surface Waters Ambient Monitoring Program (SWAMP) Bioaccumulation Screening Study in California Lakes and Reservoirs. Sampling Dates: June 2007- March 2008 Statewide Lakes Sportfish Contamination Study 2007 2008 Contaminants in Fish from California Lakes and Reservoirs, 2007-2008: Summary Report on a Two-Year Screening Survey
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	Water Quality Control Plan for the San Francisco Bay Basin: Controllable water quality factors shall not cause a detrimental increase in concentrations of toxic substances found in bottom sediments or aquatic life. Effects on aquatic organisms, wildlife, and human health will be considered.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	National Academy of Science guidelines (NAS 1972) establish a maximum total Chlordane concentration of 100 ug/Kg (wet weight) in tissue samples for protection of aquatic life from bioaccumulation of toxic substances.
Guideline Reference:	National Academy of Sciences. Water Quality Criteria 1972. EPA-R3-73-033. Washington, D.C.: U.S. Environmental Protection Agency
Spatial Representation:	Data for this assessment unit was collected by one monitoring project: (SWB_FishLk)
Temporal Representation:	Data was collected on a single day 8/29/2007.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	Samples were collected, processed, and analyzed in accordance with the methods

QAPP Information Reference(s):

described in Quality Assurance Project Plan "Screening Study of Bioaccumulation in California Lakes and Reservoirs." (SWAMP, 2008).

[Quality Assurance Project Plan Screening Study of Bioaccumulation in California Lakes and Reservoirs. Moss Landing Marine Labs. Prepared for SWAMP BOG. 49 pages plus appendices and attachments](#)

Line of Evidence (LOE) for Decision ID 62126, Chlordane

Region 2

Henne, Lake

LOE ID: 91847

Pollutant: Chlordane
LOE Subgroup: Pollutant-Tissue
Matrix: Tissue
Fraction: Fish fillet

Beneficial Use: Commercial or recreational collection of fish, shellfish, or organisms

Number of Samples: 1
Number of Exceedances: 0

Data and Information Type: Fish tissue analysis
Data Used to Assess Water Quality: State Water Board staff assessed SWAMP data for Henne, Lake to determine beneficial use support and results are as follows: 0 of 1 samples exceed the criterion for Chlordane, Total. One composite (5 fish per composite) was generated from one species: Largemouth Bass. Details of the compositing protocol can be found in the March 2009 report entitled: "Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Study" (SWAMP, 2009). Total chlordane was calculated as the sum of the following chlordane isomers: cis- and trans-chlordane, cis- and trans-nonachlor, and oxychlordane.

Data Reference: [Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Survey. A Report of the Surface Water Ambient Monitoring Program \(SWAMP\). California State Water Resources Control Board, Sacramento, CA Cruise Report for the Surface Waters Ambient Monitoring Program \(SWAMP\) Bioaccumulation Screening Study in California Lakes and Reservoirs. Sampling Dates: June 2007- March 2008](#)
[Statewide Lakes Sportfish Contamination Study 2007 2008](#)
[Contaminants in Fish from California Lakes and Reservoirs. 2007-2008: Summary Report on a Two-Year Screening Survey](#)

SWAMP Data: SWAMP

Water Quality Objective/Criterion: Water Quality Control Plan for the San Francisco Bay Basin: Controllable water quality factors shall not cause a detrimental increase in concentrations of toxic substances found in bottom sediments or aquatic life. Effects on aquatic organisms, wildlife, and human health will be considered.

Objective/Criterion Reference: [Water Quality Control Plan \(Basin Plan\) San Francisco Bay Basin \(Region 2\)](#)

Evaluation Guideline: The modified OEHHA Fish Contaminant Goal for total chlordane in fish tissue is 3.9 ppb. This screening level assumes an average body weight of 70 kg and a consumption rate of 32 g/day for a 30 year exposure over a 70-year lifetime. This constituent is a carcinogen therefore the risk level is set to one in a million. A cooking reduction factor of 1 is applied for skin-off fillets. (Klasing, S., and R. Brodberg, 2008)

Guideline Reference: [Development of Fish Contaminant Goals and Advisory Tissue Levels for Common Contaminants in California Sport Fish: Chlordane, DDTs, Dieldrin, Methylmercury, PCBs, Selenium, and Toxaphene](#)

Spatial Representation: Data for this assessment unit was collected by one monitoring project: (SWB_FishLk)
Temporal Representation: Data was collected on a single day 8/29/2007.
Environmental Conditions: Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information: Samples were collected, processed, and analyzed in accordance with the methods described in Quality Assurance Project Plan "Screening Study of Bioaccumulation in

QAPP Information Reference(s):	California Lakes and Reservoirs." (SWAMP, 2008). Quality Assurance Project Plan Screening Study of Bioaccumulation in California Lakes and Reservoirs. Moss Landing Marine Labs. Prepared for SWAMP BOG, 49 pages plus appendices and attachments
Line of Evidence (LOE) for Decision ID 62126, Chlordane	
Henne, Lake	
LOE ID:	91846
Pollutant:	Chlordane
LOE Subgroup:	Pollutant-Tissue
Matrix:	Tissue
Fraction:	Fish fillet
Beneficial Use:	Cold Freshwater Habitat
Number of Samples:	1
Number of Exceedances:	0
Data and Information Type:	Fish tissue analysis
Data Used to Assess Water Quality:	State Water Board staff assessed SWAMP data for Henne, Lake to determine beneficial use support and results are as follows: 0 of 1 samples exceed the criterion for Chlordane, Total. One composite (5 fish per composite) was generated from one species: Largemouth Bass. Details of the compositing protocol can be found in the March 2009 report entitled: "Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Study" (SWAMP, 2009). Total chlordane was calculated as the sum of the following chlordane isomers: cis- and trans-chlordane, cis- and trans-nonachlor, and oxychlordane.
Data Reference:	Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Survey. A Report of the Surface Water Ambient Monitoring Program (SWAMP). California State Water Resources Control Board, Sacramento, CA Cruise Report for the Surface Waters Ambient Monitoring Program (SWAMP) Bioaccumulation Screening Study in California Lakes and Reservoirs, Sampling Dates: June 2007- March 2008 Statewide Lakes Sportfish Contamination Study 2007 2008 Contaminants in Fish from California Lakes and Reservoirs, 2007-2008: Summary Report on a Two-Year Screening Survey
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	Water Quality Control Plan for the San Francisco Bay Basin: Controllable water quality factors shall not cause a detrimental increase in concentrations of toxic substances found in bottom sediments or aquatic life. Effects on aquatic organisms, wildlife, and human health will be considered.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	National Academy of Science guidelines (NAS 1972) establish a maximum total Chlordane concentration of 100 ug/Kg (wet weight) in tissue samples for protection of aquatic life from bioaccumulation of toxic substances.
Guideline Reference:	National Academy of Sciences. Water Quality Criteria 1972. EPA-R3-73-033. Washington, D.C.: U.S. Environmental Protection Agency
Spatial Representation:	Data for this assessment unit was collected by one monitoring project: (SWB_FishLk)
Temporal Representation:	Data was collected on a single day 8/29/2007.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	Samples were collected, processed, and analyzed in accordance with the methods described in Quality Assurance Project Plan "Screening Study of Bioaccumulation in California Lakes and Reservoirs." (SWAMP, 2008).
QAPP Information Reference(s):	Quality Assurance Project Plan Screening Study of Bioaccumulation in California Lakes and Reservoirs. Moss Landing Marine Labs. Prepared for SWAMP BOG, 49 pages plus appendices and attachments

DECISION ID	62138	Region 2
Henne, Lake		

Pollutant: DDT (Dichlorodiphenyltrichloroethane)
Final Listing Decision: Do Not List on 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision: New Decision
Revision Status: Revised
Impairment from Pollutant or Pollution: Pollutant

Regional Board Staff Conclusion: This pollutant is being considered for placement on the CWA section 303(d) List under section 3.5 of the Listing Policy. Under section 3.5 a single line of evidence is necessary to assess listing status. Three lines of evidence are available in the administrative record to assess this pollutant. Zero of one samples exceed the guideline.

Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against placing this water segment-pollutant combination on the CWA section 303(d) List.

This conclusion is based on the staff findings that:

1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy.
2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy.
3. Zero of one samples exceed the guideline and this sample size is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating. A minimum of 16 samples is needed to determine if a beneficial use is fully supported using table 3.1.
4. Pursuant to SECTION 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.

Regional Board Staff Decision Recommendation: After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be placed on the section 303(d) list. The readily available data and information is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating.

Line of Evidence (LOE) for Decision ID 62138, DDT (Dichlorodiphenyltrichloroethane)	Region 2
Henne, Lake	

LOE ID: 91894
Pollutant: Total DDT (sum of 4,4'- and 2,4'- isomers of DDT, DDE, and DDD)
LOE Subgroup: Pollutant-Tissue
Matrix: Tissue
Fraction: Fish fillet
Beneficial Use: Cold Freshwater Habitat
Number of Samples: 1
Number of Exceedances: 0
Data and Information Type: Fish tissue analysis
Data Used to Assess Water Quality: State Water Board staff assessed SWAMP data for Henne, Lake to determine beneficial use support and results are as follows: 0 of 1 samples exceed the criterion for DDT, Total. One composite (5 fish per composite) was generated from one species: Largemouth Bass. Details of the compositing protocol can be found in the March 2009 report entitled: "Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Study" (SWAMP, 2009). Total DDT was calculated as the sum of 4,4'- and 2,4'- isomers of DDT, DDE, and DDD.
Data Reference: [Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year](#)

[One of a Two-Year Screening Survey. A Report of the Surface Water Ambient Monitoring Program \(SWAMP\). California State Water Resources Control Board, Sacramento, CA](#)
[Cruise Report for the Surface Waters Ambient Monitoring Program \(SWAMP\)](#)
[Bioaccumulation Screening Study in California Lakes and Reservoirs, Sampling Dates: June 2007- March 2008](#)
[Statewide Lakes Sportfish Contamination Study 2007 2008](#)
[Contaminants in Fish from California Lakes and Reservoirs, 2007-2008: Summary Report on a Two-Year Screening Survey](#)

SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	Water Quality Control Plan for the San Francisco Bay Basin: Controllable water quality factors shall not cause a detrimental increase in concentrations of toxic substances found in bottom sediments or aquatic life. Effects on aquatic organisms, wildlife, and human health will be considered.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	National Academy of Science guidelines (NAS 1972) establish a maximum total DDT concentration of 1000 ug/Kg (wet weight) in tissue samples for protection of aquatic life from bioaccumulation of toxic substances.
Guideline Reference:	National Academy of Sciences. Water Quality Criteria 1972. EPA-R3-73-033. Washington, D.C.: U.S. Environmental Protection Agency
Spatial Representation:	Data for this assessment unit was collected by one monitoring project: (SWB_FishLk)
Temporal Representation:	Data was collected on a single day 8/29/2007.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	Samples were collected, processed, and analyzed in accordance with the methods described in Quality Assurance Project Plan "Screening Study of Bioaccumulation in California Lakes and Reservoirs." (SWAMP, 2008).
QAPP Information Reference(s):	Quality Assurance Project Plan Screening Study of Bioaccumulation in California Lakes and Reservoirs. Moss Landing Marine Labs. Prepared for SWAMP BOG. 49 pages plus appendices and attachments

Line of Evidence (LOE) for Decision ID 62138, DDT (Dichlorodiphenyltrichloroethane)

Region 2

Henne, Lake

LOE ID:	91895
Pollutant:	Total DDT (sum of 4,4'- and 2,4'- isomers of DDT, DDE, and DDD)
LOE Subgroup:	Pollutant-Tissue
Matrix:	Tissue
Fraction:	Fish fillet
Beneficial Use:	Commercial or recreational collection of fish, shellfish, or organisms
Number of Samples:	1
Number of Exceedances:	0
Data and Information Type:	Fish tissue analysis
Data Used to Assess Water Quality:	State Water Board staff assessed SWAMP data for Henne, Lake to determine beneficial use support and results are as follows: 0 of 1 samples exceed the criterion for DDT, Total. One composite (5 fish per composite) was generated from one species: Largemouth Bass. Details of the compositing protocol can be found in the March 2009 report entitled: "Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Study" (SWAMP, 2009). Total DDT was calculated as the sum of 4,4'- and 2,4'- isomers of DDT, DDE, and DDD.
Data Reference:	Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Survey. A Report of the Surface Water Ambient Monitoring Program (SWAMP). California State Water Resources Control Board, Sacramento, CA Cruise Report for the Surface Waters Ambient Monitoring Program (SWAMP) Bioaccumulation Screening Study in California Lakes and Reservoirs, Sampling Dates: June 2007- March 2008

SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	Water Quality Control Plan for the San Francisco Bay Basin: Controllable water quality factors shall not cause a detrimental increase in concentrations of toxic substances found in bottom sediments or aquatic life. Effects on aquatic organisms, wildlife, and human health will be considered.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	The modified OEHHA Fish Contaminant Goal for total DDT in fish tissue is 15 ppb. This screening level assumes an average body weight of 70 kg and a consumption rate of 32 g/day for a 30 year exposure over a 70-year lifetime. This constituent is a carcinogen therefore the risk level is set to one in a million. A cooking reduction factor of 1 is applied for skin-off fillets. (Klasing, S., and R. Brodberg, 2008)
Guideline Reference:	Development of Fish Contaminant Goals and Advisory Tissue Levels for Common Contaminants in California Sport Fish: Chlordane, DDTs, Dieldrin, Methylmercury, PCBs, Selenium, and Toxaphene
Spatial Representation:	Data for this assessment unit was collected by one monitoring project: (SWB_FishLk)
Temporal Representation:	Data was collected on a single day 8/29/2007.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	Samples were collected, processed, and analyzed in accordance with the methods described in Quality Assurance Project Plan "Screening Study of Bioaccumulation in California Lakes and Reservoirs." (SWAMP, 2008).
QAPP Information Reference(s):	Quality Assurance Project Plan Screening Study of Bioaccumulation in California Lakes and Reservoirs. Moss Landing Marine Labs. Prepared for SWAMP BOG, 49 pages plus appendices and attachments

Line of Evidence (LOE) for Decision ID 62138, DDT (Dichlorodiphenyltrichloroethane)	Region 2
Henne, Lake	

LOE ID:	91820
Pollutant:	Total DDT (sum of 4,4'- and 2,4'- isomers of DDT, DDE, and DDD)
LOE Subgroup:	Pollutant-Tissue
Matrix:	Tissue
Fraction:	Fish fillet
Beneficial Use:	Warm Freshwater Habitat
Number of Samples:	1
Number of Exceedances:	0
Data and Information Type:	Fish tissue analysis
Data Used to Assess Water Quality:	State Water Board staff assessed SWAMP data for Henne, Lake to determine beneficial use support and results are as follows: 0 of 1 samples exceed the criterion for DDT, Total. One composite (5 fish per composite) was generated from one species: Largemouth Bass. Details of the compositing protocol can be found in the March 2009 report entitled: "Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Study" (SWAMP, 2009). Total DDT was calculated as the sum of 4,4'- and 2,4'- isomers of DDT, DDE, and DDD.
Data Reference:	Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Survey. A Report of the Surface Water Ambient Monitoring Program (SWAMP). California State Water Resources Control Board, Sacramento, CA Cruise Report for the Surface Waters Ambient Monitoring Program (SWAMP) Bioaccumulation Screening Study in California Lakes and Reservoirs, Sampling Dates: June 2007- March 2008 Statewide Lakes Sportfish Contamination Study 2007 2008 Contaminants in Fish from California Lakes and Reservoirs, 2007-2008: Summary Report

SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	Water Quality Control Plan for the San Francisco Bay Basin: Controllable water quality factors shall not cause a detrimental increase in concentrations of toxic substances found in bottom sediments or aquatic life. Effects on aquatic organisms, wildlife, and human health will be considered.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	National Academy of Science guidelines (NAS 1972) establish a maximum total DDT concentration of 1000 ug/Kg (wet weight) in tissue samples for protection of aquatic life from bioaccumulation of toxic substances.
Guideline Reference:	National Academy of Sciences. Water Quality Criteria 1972. EPA-R3-73-033. Washington, D.C.: U.S. Environmental Protection Agency
Spatial Representation:	Data for this assessment unit was collected by one monitoring project: (SWB_FishLk)
Temporal Representation:	Data was collected on a single day 8/29/2007.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	Samples were collected, processed, and analyzed in accordance with the methods described in Quality Assurance Project Plan "Screening Study of Bioaccumulation in California Lakes and Reservoirs." (SWAMP, 2008).
QAPP Information Reference(s):	Quality Assurance Project Plan Screening Study of Bioaccumulation in California Lakes and Reservoirs. Moss Landing Marine Labs. Prepared for SWAMP BOG. 49 pages plus appendices and attachments

DECISION ID	62128	Region 2
Henne, Lake		

Pollutant:	Dieldrin
Final Listing Decision:	Do Not List on 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision:	New Decision
Revision Status	Revised
Impairment from Pollutant or Pollution:	Pollutant
Regional Board Staff Conclusion:	<p>This pollutant is being considered for placement on the CWA section 303(d) List under section 3.5 of the Listing Policy. Under section 3.5 a single line of evidence is necessary to assess listing status. Three lines of evidence are available in the administrative record to assess this pollutant. Zero of one samples exceed the guideline.</p> <p>Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against placing this water segment-pollutant combination on the CWA section 303(d) List.</p> <p>This conclusion is based on the staff findings that:</p> <ol style="list-style-type: none">1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy.2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy.3. Zero of one samples exceed the guideline and this sample size is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating. A minimum of 16 samples is needed to determine if a beneficial use is fully supported using table 3.1.4. Pursuant to SECTION 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.
Regional Board Staff Decision Recommendation:	After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be placed on the section 303(d) list. The readily available data and information is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating.

Henne, Lake

LOE ID:	91850
Pollutant:	Dieldrin
LOE Subgroup:	Pollutant-Tissue
Matrix:	Tissue
Fraction:	Fish fillet
Beneficial Use:	Commercial or recreational collection of fish, shellfish, or organisms
Number of Samples:	0
Number of Exceedances:	0
Data and Information Type:	Fish tissue analysis
Data Used to Assess Water Quality:	State Water Board staff assessed SWAMP data for Henne, Lake to determine beneficial use support and results are as follows: 0 of 0 samples exceed the criterion for Dieldrin. One composite (5 fish per composite) was generated from one species: Largemouth Bass. Details of the compositing protocol can be found in the March 2009 report entitled: "Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Study" (SWAMP, 2009). One composite was not used in the assessment because the laboratory data reporting limit(s) was above the objective and therefore the results could not be quantified with the level of certainty required by the Listing Policy.
Data Reference:	Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Survey. A Report of the Surface Water Ambient Monitoring Program (SWAMP). California State Water Resources Control Board, Sacramento, CA Cruise Report for the Surface Waters Ambient Monitoring Program (SWAMP) Bioaccumulation Screening Study in California Lakes and Reservoirs, Sampling Dates: June 2007- March 2008 Statewide Lakes Sportfish Contamination Study 2007 2008 Contaminants in Fish from California Lakes and Reservoirs, 2007-2008: Summary Report on a Two-Year Screening Survey
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	Water Quality Control Plan for the San Francisco Bay Basin: Controllable water quality factors shall not cause a detrimental increase in concentrations of toxic substances found in bottom sediments or aquatic life. Effects on aquatic organisms, wildlife, and human health will be considered.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	The modified OEHHA Fish Contaminant Goal for dieldrin in fish tissue is 0.32 ppb. This screening level assumes an average body weight of 70 kg and a consumption rate of 32 g/day for a 30 year exposure over a 70-year lifetime. This constituent is a carcinogen therefore the risk level is set to one in a million. A cooking reduction factor of 1 is applied for skin-off fillets. (Klasing, S., and R. Brodberg, 2008)
Guideline Reference:	Development of Fish Contaminant Goals and Advisory Tissue Levels for Common Contaminants in California Sport Fish: Chlordane, DDTs, Dieldrin, Methylmercury, PCBs, Selenium, and Toxaphene
Spatial Representation:	Data for this assessment unit was collected by one monitoring project: (SWB_FishLk)
Temporal Representation:	Data was collected on a single day 8/29/2007.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	Samples were collected, processed, and analyzed in accordance with the methods described in Quality Assurance Project Plan "Screening Study of Bioaccumulation in California Lakes and Reservoirs." (SWAMP, 2008).
QAPP Information Reference(s):	Quality Assurance Project Plan Screening Study of Bioaccumulation in California Lakes and Reservoirs. Moss Landing Marine Labs. Prepared for SWAMP BOG. 49 pages plus appendices and attachments

Henne, Lake

LOE ID:	91849
Pollutant:	Dieldrin
LOE Subgroup:	Pollutant-Tissue
Matrix:	Tissue
Fraction:	Fish fillet
Beneficial Use:	Cold Freshwater Habitat
Number of Samples:	1
Number of Exceedances:	0
Data and Information Type:	Fish tissue analysis
Data Used to Assess Water Quality:	State Water Board staff assessed SWAMP data for Henne, Lake to determine beneficial use support and results are as follows: 0 of 1 samples exceed the criterion for Dieldrin. One composite (5 fish per composite) was generated from one species: Largemouth Bass. Details of the compositing protocol can be found in the March 2009 report entitled: "Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Study" (SWAMP, 2009).
Data Reference:	Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Survey. A Report of the Surface Water Ambient Monitoring Program (SWAMP). California State Water Resources Control Board, Sacramento, CA Cruise Report for the Surface Waters Ambient Monitoring Program (SWAMP) Bioaccumulation Screening Study in California Lakes and Reservoirs, Sampling Dates: June 2007- March 2008 Statewide Lakes Sportfish Contamination Study 2007 2008 Contaminants in Fish from California Lakes and Reservoirs, 2007-2008: Summary Report on a Two-Year Screening Survey
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	Water Quality Control Plan for the San Francisco Bay Basin: Controllable water quality factors shall not cause a detrimental increase in concentrations of toxic substances found in bottom sediments or aquatic life. Effects on aquatic organisms, wildlife, and human health will be considered.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	National Academy of Science guidelines (NAS 1972) establish a maximum Dieldrin concentration of 100 ug/Kg (wet weight) in tissue samples for protection of aquatic life from bioaccumulation of toxic substances.
Guideline Reference:	National Academy of Sciences. Water Quality Criteria 1972. EPA-R3-73-033. Washington, D.C.: U.S. Environmental Protection Agency
Spatial Representation:	Data for this assessment unit was collected by one monitoring project: (SWB_FishLk)
Temporal Representation:	Data was collected on a single day 8/29/2007.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	Samples were collected, processed, and analyzed in accordance with the methods described in Quality Assurance Project Plan "Screening Study of Bioaccumulation in California Lakes and Reservoirs." (SWAMP, 2008).
QAPP Information Reference(s):	Quality Assurance Project Plan Screening Study of Bioaccumulation in California Lakes and Reservoirs. Moss Landing Marine Labs. Prepared for SWAMP BOG, 49 pages plus appendices and attachments

Henne, Lake

LOE ID: 91848

Pollutant:	Dieldrin
LOE Subgroup:	Pollutant-Tissue
Matrix:	Tissue
Fraction:	Fish fillet
Beneficial Use:	Warm Freshwater Habitat
Number of Samples:	1
Number of Exceedances:	0
Data and Information Type:	Fish tissue analysis
Data Used to Assess Water Quality:	State Water Board staff assessed SWAMP data for Henne, Lake to determine beneficial use support and results are as follows: 0 of 1 samples exceed the criterion for Dieldrin. One composite (5 fish per composite) was generated from one species: Largemouth Bass. Details of the compositing protocol can be found in the March 2009 report entitled: "Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Study" (SWAMP, 2009).
Data Reference:	Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Survey. A Report of the Surface Water Ambient Monitoring Program (SWAMP). California State Water Resources Control Board, Sacramento, CA Cruise Report for the Surface Waters Ambient Monitoring Program (SWAMP) Bioaccumulation Screening Study in California Lakes and Reservoirs, Sampling Dates: June 2007- March 2008 Statewide Lakes Sportfish Contamination Study 2007 2008 Contaminants in Fish from California Lakes and Reservoirs, 2007-2008: Summary Report on a Two-Year Screening Survey
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	Water Quality Control Plan for the San Francisco Bay Basin: Controllable water quality factors shall not cause a detrimental increase in concentrations of toxic substances found in bottom sediments or aquatic life. Effects on aquatic organisms, wildlife, and human health will be considered.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	National Academy of Science guidelines (NAS 1972) establish a maximum Dieldrin concentration of 100 ug/Kg (wet weight) in tissue samples for protection of aquatic life from bioaccumulation of toxic substances.
Guideline Reference:	National Academy of Sciences. Water Quality Criteria 1972. EPA-R3-73-033. Washington, D.C.: U.S. Environmental Protection Agency
Spatial Representation:	Data for this assessment unit was collected by one monitoring project: (SWB_FishLk)
Temporal Representation:	Data was collected on a single day 8/29/2007.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	Samples were collected, processed, and analyzed in accordance with the methods described in Quality Assurance Project Plan "Screening Study of Bioaccumulation in California Lakes and Reservoirs." (SWAMP, 2008).
QAPP Information Reference(s):	Quality Assurance Project Plan Screening Study of Bioaccumulation in California Lakes and Reservoirs. Moss Landing Marine Labs. Prepared for SWAMP BOG. 49 pages plus appendices and attachments

DECISION ID	62129	Region 2
Henne, Lake		

Pollutant:	Endosulfan
Final Listing Decision:	Do Not List on 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision:	New Decision
Revision Status	Revised
Impairment from Pollutant or Pollution:	Pollutant

**Regional Board Staff
Conclusion:**

This pollutant is being considered for placement on the CWA section 303(d) List under section 3.5 of the Listing Policy. Under section 3.5 a single line of evidence is necessary to assess listing status. Three lines of evidence are available in the administrative record to assess this pollutant. Zero of one samples exceed the guideline.

Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against placing this water segment-pollutant combination on the CWA section 303(d) List.

This conclusion is based on the staff findings that:

1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy.
2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy.
3. Zero of one samples exceed the guideline and this sample size is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating. A minimum of 16 samples is needed to determine if a beneficial use is fully supported using table 3.1.
4. Pursuant to SECTION 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.

**Regional Board Staff Decision
Recommendation:**

After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be placed on the section 303(d) list. The readily available data and information is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating.

**Line of Evidence (LOE) for Decision ID 62129, Endosulfan
Henne, Lake**

Region 2

LOE ID:	91851
Pollutant:	Endosulfan
LOE Subgroup:	Pollutant-Tissue
Matrix:	Tissue
Fraction:	Fish fillet
Beneficial Use:	Warm Freshwater Habitat
Number of Samples:	1
Number of Exceedances:	0
Data and Information Type:	Fish tissue analysis
Data Used to Assess Water Quality:	State Water Board staff assessed SWAMP data for Henne, Lake to determine beneficial use support and results are as follows: 0 of 1 samples exceed the criterion for Endosulfan I. One composite (5 fish per composite) was generated from one species: Largemouth Bass. Details of the compositing protocol can be found in the March 2009 report entitled: "Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Study" (SWAMP, 2009).
Data Reference:	Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Survey. A Report of the Surface Water Ambient Monitoring Program (SWAMP). California State Water Resources Control Board, Sacramento, CA Cruise Report for the Surface Waters Ambient Monitoring Program (SWAMP) Bioaccumulation Screening Study in California Lakes and Reservoirs, Sampling Dates: June 2007- March 2008 Statewide Lakes Sportfish Contamination Study 2007 2008 Contaminants in Fish from California Lakes and Reservoirs, 2007-2008: Summary Report on a Two-Year Screening Survey
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	Water Quality Control Plan for the San Francisco Bay Basin: Controllable water quality factors shall not cause a detrimental increase in concentrations of toxic substances found in bottom sediments or aquatic life. Effects on aquatic organisms, wildlife, and human

Objective/Criterion Reference:	health will be considered. Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	National Academy of Science guidelines (NAS 1972) establish a maximum Endosulfan, Total concentration of 100 ug/Kg (wet weight) in tissue samples for protection of aquatic life from bioaccumulation of toxic substances.
Guideline Reference:	National Academy of Sciences. Water Quality Criteria 1972. EPA-R3-73-033. Washington, D.C.: U.S. Environmental Protection Agency
Spatial Representation:	Data for this assessment unit was collected by one monitoring project: (SWB_FishLk)
Temporal Representation:	Data was collected on a single day 8/29/2007.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	Samples were collected, processed, and analyzed in accordance with the methods described in Quality Assurance Project Plan "Screening Study of Bioaccumulation in California Lakes and Reservoirs." (SWAMP, 2008).
QAPP Information Reference(s):	Quality Assurance Project Plan Screening Study of Bioaccumulation in California Lakes and Reservoirs. Moss Landing Marine Labs. Prepared for SWAMP BOG. 49 pages plus appendices and attachments

Line of Evidence (LOE) for Decision ID 62129, Endosulfan

Region 2

Henne, Lake

LOE ID:	91853
Pollutant:	Endosulfan
LOE Subgroup:	Pollutant-Tissue
Matrix:	Tissue
Fraction:	Fish fillet
Beneficial Use:	Commercial or recreational collection of fish, shellfish, or organisms
Number of Samples:	1
Number of Exceedances:	0
Data and Information Type:	Fish tissue analysis
Data Used to Assess Water Quality:	State Water Board staff assessed SWAMP data for Henne, Lake to determine beneficial use support and results are as follows: 0 of 1 samples exceed the criterion for Endosulfan I. One composite (5 fish per composite) was generated from one species: Largemouth Bass. Details of the compositing protocol can be found in the March 2009 report entitled: "Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Study" (SWAMP, 2009).
Data Reference:	Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Survey. A Report of the Surface Water Ambient Monitoring Program (SWAMP). California State Water Resources Control Board, Sacramento, CA Cruise Report for the Surface Waters Ambient Monitoring Program (SWAMP) Bioaccumulation Screening Study in California Lakes and Reservoirs, Sampling Dates: June 2007- March 2008 Statewide Lakes Sportfish Contamination Study 2007 2008 Contaminants in Fish from California Lakes and Reservoirs, 2007-2008: Summary Report on a Two-Year Screening Survey
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	Water Quality Control Plan for the San Francisco Bay Basin: Controllable water quality factors shall not cause a detrimental increase in concentrations of toxic substances found in bottom sediments or aquatic life. Effects on aquatic organisms, wildlife, and human health will be considered.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	The modified OEHHA Fish Contaminant Goal for endosulfan (I and II) in fish tissue is 13,000 ppb. This screening level assumes an average body weight of 70 kg and a consumption rate of 32 g/day. A cooking reduction factor of 1 is applied for skin-off fillets.

Guideline Reference:	(Klasing, S., and R. Brodberg, 2008; USEPA, 2000) Development of Fish Contaminant Goals and Advisory Tissue Levels for Common Contaminants in California Sport Fish: Chlordane, DDTs, Dieldrin, Methylmercury, PCBs, Selenium, and Toxaphene Guidance for Assessing Chemical Contaminant Data for Use In Fish Advisories Volume 1: Fish Sampling and Analysis
Spatial Representation:	Data for this assessment unit was collected by one monitoring project: (SWB_FishLk)
Temporal Representation:	Data was collected on a single day 8/29/2007.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	Samples were collected, processed, and analyzed in accordance with the methods described in Quality Assurance Project Plan "Screening Study of Bioaccumulation in California Lakes and Reservoirs." (SWAMP, 2008).
QAPP Information Reference(s):	Quality Assurance Project Plan Screening Study of Bioaccumulation in California Lakes and Reservoirs. Moss Landing Marine Labs. Prepared for SWAMP BOG, 49 pages plus appendices and attachments

**Line of Evidence (LOE) for Decision ID 62129, Endosulfan
Henne, Lake**

Region 2

LOE ID:	91852
Pollutant:	Endosulfan
LOE Subgroup:	Pollutant-Tissue
Matrix:	Tissue
Fraction:	Fish fillet
Beneficial Use:	Cold Freshwater Habitat
Number of Samples:	1
Number of Exceedances:	0
Data and Information Type:	Fish tissue analysis
Data Used to Assess Water Quality:	State Water Board staff assessed SWAMP data for Henne, Lake to determine beneficial use support and results are as follows: 0 of 1 samples exceed the criterion for Endosulfan I. One composite (5 fish per composite) was generated from one species: Largemouth Bass. Details of the compositing protocol can be found in the March 2009 report entitled: "Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Study" (SWAMP, 2009).
Data Reference:	Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Survey. A Report of the Surface Water Ambient Monitoring Program (SWAMP). California State Water Resources Control Board, Sacramento, CA Cruise Report for the Surface Waters Ambient Monitoring Program (SWAMP) Bioaccumulation Screening Study in California Lakes and Reservoirs, Sampling Dates: June 2007- March 2008 Statewide Lakes Sportfish Contamination Study 2007 2008 Contaminants in Fish from California Lakes and Reservoirs, 2007-2008: Summary Report on a Two-Year Screening Survey
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	Water Quality Control Plan for the San Francisco Bay Basin: Controllable water quality factors shall not cause a detrimental increase in concentrations of toxic substances found in bottom sediments or aquatic life. Effects on aquatic organisms, wildlife, and human health will be considered.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	National Academy of Science guidelines (NAS 1972) establish a maximum Endosulfan, Total concentration of 100 ug/Kg (wet weight) in tissue samples for protection of aquatic life from bioaccumulation of toxic substances.
Guideline Reference:	National Academy of Sciences. Water Quality Criteria 1972. EPA-R3-73-033. Washington, D.C.: U.S. Environmental Protection Agency

Spatial Representation:	Data for this assessment unit was collected by one monitoring project: (SWB_FishLk)
Temporal Representation:	Data was collected on a single day 8/29/2007.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	Samples were collected, processed, and analyzed in accordance with the methods described in Quality Assurance Project Plan "Screening Study of Bioaccumulation in California Lakes and Reservoirs." (SWAMP, 2008).
QAPP Information Reference(s):	Quality Assurance Project Plan Screening Study of Bioaccumulation in California Lakes and Reservoirs. Moss Landing Marine Labs. Prepared for SWAMP BOG. 49 pages plus appendices and attachments

DECISION ID	62130	Region 2
Henne, Lake		

Pollutant: Final Listing Decision: Last Listing Cycle's Final Listing Decision: Revision Status Impairment from Pollutant or Pollution:	Endrin Do Not List on 303(d) list (TMDL required list) New Decision Revised Pollutant
Regional Board Staff Conclusion:	<p>This pollutant is being considered for placement on the CWA section 303(d) List under section 3.5 of the Listing Policy. Under section 3.5 a single line of evidence is necessary to assess listing status. Three lines of evidence are available in the administrative record to assess this pollutant. Zero of one samples exceed the guideline.</p> <p>Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against placing this water segment-pollutant combination on the CWA section 303(d) List.</p> <p>This conclusion is based on the staff findings that:</p> <ol style="list-style-type: none"> 1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy. 2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy. 3. Zero of one samples exceed the guideline and this sample size is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating. A minimum of 16 samples is needed to determine if a beneficial use is fully supported using table 3.1. 4. Pursuant to SECTION 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met. <p>After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be placed on the section 303(d) list. The readily available data and information is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating.</p>
Regional Board Staff Decision Recommendation:	After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be placed on the section 303(d) list. The readily available data and information is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating.

Line of Evidence (LOE) for Decision ID 62130, Endrin		Region 2
Henne, Lake		

LOE ID:	91855
Pollutant:	Endrin
LOE Subgroup:	Pollutant-Tissue
Matrix:	Tissue
Fraction:	Fish fillet
Beneficial Use:	Warm Freshwater Habitat
Number of Samples:	1
Number of Exceedances:	0

Data and Information Type:	Fish tissue analysis
Data Used to Assess Water Quality:	State Water Board staff assessed SWAMP data for Henne, Lake to determine beneficial use support and results are as follows: 0 of 1 samples exceed the criterion for Endrin. One composite (5 fish per composite) was generated from one species: Largemouth Bass. Details of the compositing protocol can be found in the March 2009 report entitled: "Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Study" (SWAMP, 2009).
Data Reference:	Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Survey. A Report of the Surface Water Ambient Monitoring Program (SWAMP). California State Water Resources Control Board, Sacramento, CA Cruise Report for the Surface Waters Ambient Monitoring Program (SWAMP) Bioaccumulation Screening Study in California Lakes and Reservoirs, Sampling Dates: June 2007- March 2008 Statewide Lakes Sportfish Contamination Study 2007 2008 Contaminants in Fish from California Lakes and Reservoirs, 2007-2008: Summary Report on a Two-Year Screening Survey
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	Water Quality Control Plan for the San Francisco Bay Basin: Controllable water quality factors shall not cause a detrimental increase in concentrations of toxic substances found in bottom sediments or aquatic life. Effects on aquatic organisms, wildlife, and human health will be considered.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	National Academy of Science guidelines (NAS 1972) establish a maximum Endrin concentration of 100 ug/Kg (wet weight) in tissue samples for protection of aquatic life from bioaccumulation of toxic substances.
Guideline Reference:	National Academy of Sciences. Water Quality Criteria 1972. EPA-R3-73-033. Washington, D.C.: U.S. Environmental Protection Agency
Spatial Representation:	Data for this assessment unit was collected by one monitoring project: (SWB_FishLk)
Temporal Representation:	Data was collected on a single day 8/29/2007.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	Samples were collected, processed, and analyzed in accordance with the methods described in Quality Assurance Project Plan "Screening Study of Bioaccumulation in California Lakes and Reservoirs." (SWAMP, 2008).
QAPP Information Reference(s):	Quality Assurance Project Plan Screening Study of Bioaccumulation in California Lakes and Reservoirs. Moss Landing Marine Labs. Prepared for SWAMP BOG, 49 pages plus appendices and attachments

Line of Evidence (LOE) for Decision ID 62130, Endrin		Region 2
Henne, Lake		
LOE ID:	91854	
Pollutant:	Endrin	
LOE Subgroup:	Pollutant-Tissue	
Matrix:	Tissue	
Fraction:	Fish fillet	
Beneficial Use:	Cold Freshwater Habitat	
Number of Samples:	1	
Number of Exceedances:	0	
Data and Information Type:	Fish tissue analysis	
Data Used to Assess Water Quality:	State Water Board staff assessed SWAMP data for Henne, Lake to determine beneficial use support and results are as follows: 0 of 1 samples exceed the criterion for Endrin. One composite (5 fish per composite) was generated from one species: Largemouth Bass. Details of the compositing protocol can be found in the March 2009 report entitled:	

Data Reference:	<p>"Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Study" (SWAMP, 2009). Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Survey. A Report of the Surface Water Ambient Monitoring Program (SWAMP). California State Water Resources Control Board, Sacramento, CA Cruise Report for the Surface Waters Ambient Monitoring Program (SWAMP) Bioaccumulation Screening Study in California Lakes and Reservoirs. Sampling Dates: June 2007- March 2008 Statewide Lakes Sportfish Contamination Study 2007 2008 Contaminants in Fish from California Lakes and Reservoirs, 2007-2008: Summary Report on a Two-Year Screening Survey</p>
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	Water Quality Control Plan for the San Francisco Bay Basin: Controllable water quality factors shall not cause a detrimental increase in concentrations of toxic substances found in bottom sediments or aquatic life. Effects on aquatic organisms, wildlife, and human health will be considered.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	National Academy of Science guidelines (NAS 1972) establish a maximum Endrin concentration of 100 ug/Kg (wet weight) in tissue samples for protection of aquatic life from bioaccumulation of toxic substances.
Guideline Reference:	National Academy of Sciences. Water Quality Criteria 1972. EPA-R3-73-033. Washington, D.C.: U.S. Environmental Protection Agency
Spatial Representation:	Data for this assessment unit was collected by one monitoring project: (SWB_FishLk)
Temporal Representation:	Data was collected on a single day 8/29/2007.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	Samples were collected, processed, and analyzed in accordance with the methods described in Quality Assurance Project Plan "Screening Study of Bioaccumulation in California Lakes and Reservoirs." (SWAMP, 2008).
QAPP Information Reference(s):	Quality Assurance Project Plan Screening Study of Bioaccumulation in California Lakes and Reservoirs. Moss Landing Marine Labs. Prepared for SWAMP BOG. 49 pages plus appendices and attachments

Line of Evidence (LOE) for Decision ID 62130, Endrin

Region 2

Henne, Lake

LOE ID:	91856
Pollutant:	Endrin
LOE Subgroup:	Pollutant-Tissue
Matrix:	Tissue
Fraction:	Fish fillet
Beneficial Use:	Commercial or recreational collection of fish, shellfish, or organisms
Number of Samples:	1
Number of Exceedances:	0
Data and Information Type:	Fish tissue analysis
Data Used to Assess Water Quality:	State Water Board staff assessed SWAMP data for Henne, Lake to determine beneficial use support and results are as follows: 0 of 1 samples exceed the criterion for Endrin. One composite (5 fish per composite) was generated from one species: Largemouth Bass. Details of the compositing protocol can be found in the March 2009 report entitled: "Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Study" (SWAMP, 2009).
Data Reference:	Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Survey. A Report of the Surface Water Ambient Monitoring Program (SWAMP). California State Water Resources Control Board, Sacramento, CA Cruise Report for the Surface Waters Ambient Monitoring Program (SWAMP)

[Bioaccumulation Screening Study in California Lakes and Reservoirs, Sampling Dates: June 2007- March 2008](#)
[Statewide Lakes Sportfish Contamination Study 2007 2008](#)
[Contaminants in Fish from California Lakes and Reservoirs, 2007-2008: Summary Report on a Two-Year Screening Survey](#)

SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	Water Quality Control Plan for the San Francisco Bay Basin: Controllable water quality factors shall not cause a detrimental increase in concentrations of toxic substances found in bottom sediments or aquatic life. Effects on aquatic organisms, wildlife, and human health will be considered.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	The modified OEHHA Fish Contaminant Goal for endrin in fish tissue is 660 ppb. This screening level assumes an average body weight of 70 kg and a consumption rate of 32 g/day. A cooking reduction factor of 1 is applied for skin-off fillets. (Klasing, S., and R. Brodberg, 2008; USEPA, 2000)
Guideline Reference:	Development of Fish Contaminant Goals and Advisory Tissue Levels for Common Contaminants in California Sport Fish: Chlordane, DDTs, Dieldrin, Methylmercury, PCBs, Selenium, and Toxaphene Guidance for Assessing Chemical Contaminant Data for Use In Fish Advisories Volume 1: Fish Sampling and Analysis
Spatial Representation:	Data for this assessment unit was collected by one monitoring project: (SWB_FishLk)
Temporal Representation:	Data was collected on a single day 8/29/2007.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	Samples were collected, processed, and analyzed in accordance with the methods described in Quality Assurance Project Plan "Screening Study of Bioaccumulation in California Lakes and Reservoirs." (SWAMP, 2008).
QAPP Information Reference(s):	Quality Assurance Project Plan Screening Study of Bioaccumulation in California Lakes and Reservoirs. Moss Landing Marine Labs. Prepared for SWAMP BOG. 49 pages plus appendices and attachments

DECISION ID	62131	Region 2
Henne, Lake		

Pollutant:	Heptachlor
Final Listing Decision:	Do Not List on 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision:	New Decision
Revision Status	Revised
Impairment from Pollutant or Pollution:	Pollutant
Regional Board Staff Conclusion:	<p>This pollutant is being considered for placement on the CWA section 303(d) List under section 3.5 of the Listing Policy. Under section 3.5 a single line of evidence is necessary to assess listing status. Two lines of evidence are available in the administrative record to assess this pollutant. Zero of one samples exceed the guideline.</p> <p>Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against placing this water segment-pollutant combination on the CWA section 303(d) List.</p> <p>This conclusion is based on the staff findings that:</p> <ol style="list-style-type: none"> 1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy. 2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy. 3. Zero of one samples exceed the guideline and this sample size is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating. A minimum of 16 samples is needed to determine if a beneficial use is fully supported using table 3.1. 4. Pursuant to SECTION 3.11 of the Listing Policy, no additional data and information are available

indicating that standards are not met.

Regional Board Staff Decision Recommendation: After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be placed on the section 303(d) list. The readily available data and information is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating.

**Line of Evidence (LOE) for Decision ID 62131, Heptachlor
Henne, Lake**

Region 2

LOE ID:	91803
Pollutant:	Heptachlor
LOE Subgroup:	Pollutant-Tissue
Matrix:	Tissue
Fraction:	Fish fillet
Beneficial Use:	Cold Freshwater Habitat
Number of Samples:	1
Number of Exceedances:	0
Data and Information Type:	Fish tissue analysis
Data Used to Assess Water Quality:	State Water Board staff assessed SWAMP data for Henne, Lake to determine beneficial use support and results are as follows: 0 of 1 samples exceed the criterion for Heptachlor. One composite (5 fish per composite) was generated from one species: Largemouth Bass. Details of the compositing protocol can be found in the March 2009 report entitled: "Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Study" (SWAMP, 2009).
Data Reference:	Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Survey. A Report of the Surface Water Ambient Monitoring Program (SWAMP). California State Water Resources Control Board, Sacramento, CA Cruise Report for the Surface Waters Ambient Monitoring Program (SWAMP) Bioaccumulation Screening Study in California Lakes and Reservoirs, Sampling Dates: June 2007- March 2008 Statewide Lakes Sportfish Contamination Study 2007 2008 Contaminants in Fish from California Lakes and Reservoirs, 2007-2008: Summary Report on a Two-Year Screening Survey
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	Water Quality Control Plan for the San Francisco Bay Basin: Controllable water quality factors shall not cause a detrimental increase in concentrations of toxic substances found in bottom sediments or aquatic life. Effects on aquatic organisms, wildlife, and human health will be considered.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	National Academy of Science guidelines (NAS 1972) establish a maximum Heptachlor concentration of 100 ug/Kg (wet weight) in tissue samples for protection of aquatic life from bioaccumulation of toxic substances.
Guideline Reference:	National Academy of Sciences. Water Quality Criteria 1972. EPA-R3-73-033. Washington, D.C.: U.S. Environmental Protection Agency
Spatial Representation:	Data for this assessment unit was collected by one monitoring project: (SWB_FishLk)
Temporal Representation:	Data was collected on a single day 8/29/2007.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	Samples were collected, processed, and analyzed in accordance with the methods described in Quality Assurance Project Plan "Screening Study of Bioaccumulation in California Lakes and Reservoirs." (SWAMP, 2008).
QAPP Information Reference(s):	Quality Assurance Project Plan Screening Study of Bioaccumulation in California Lakes and Reservoirs. Moss Landing Marine Labs. Prepared for SWAMP BOG, 49 pages plus

Line of Evidence (LOE) for Decision ID 62131, Heptachlor

Region 2

Henne, Lake

LOE ID:	91802
Pollutant:	Heptachlor
LOE Subgroup:	Pollutant-Tissue
Matrix:	Tissue
Fraction:	Fish fillet
Beneficial Use:	Warm Freshwater Habitat
Number of Samples:	1
Number of Exceedances:	0
Data and Information Type:	Fish tissue analysis
Data Used to Assess Water Quality:	State Water Board staff assessed SWAMP data for Henne, Lake to determine beneficial use support and results are as follows: 0 of 1 samples exceed the criterion for Heptachlor. One composite (5 fish per composite) was generated from one species: Largemouth Bass. Details of the compositing protocol can be found in the March 2009 report entitled: "Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Study" (SWAMP, 2009).
Data Reference:	Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Survey. A Report of the Surface Water Ambient Monitoring Program (SWAMP). California State Water Resources Control Board, Sacramento, CA Cruise Report for the Surface Waters Ambient Monitoring Program (SWAMP) Bioaccumulation Screening Study in California Lakes and Reservoirs, Sampling Dates: June 2007- March 2008 Statewide Lakes Sportfish Contamination Study 2007 2008 Contaminants in Fish from California Lakes and Reservoirs, 2007-2008: Summary Report on a Two-Year Screening Survey
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	Water Quality Control Plan for the San Francisco Bay Basin: Controllable water quality factors shall not cause a detrimental increase in concentrations of toxic substances found in bottom sediments or aquatic life. Effects on aquatic organisms, wildlife, and human health will be considered.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	National Academy of Science guidelines (NAS 1972) establish a maximum Heptachlor concentration of 100 ug/Kg (wet weight) in tissue samples for protection of aquatic life from bioaccumulation of toxic substances.
Guideline Reference:	National Academy of Sciences. Water Quality Criteria 1972. EPA-R3-73-033. Washington, D.C.: U.S. Environmental Protection Agency
Spatial Representation:	Data for this assessment unit was collected by one monitoring project: (SWB_FishLk)
Temporal Representation:	Data was collected on a single day 8/29/2007.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	Samples were collected, processed, and analyzed in accordance with the methods described in Quality Assurance Project Plan "Screening Study of Bioaccumulation in California Lakes and Reservoirs." (SWAMP, 2008).
QAPP Information Reference(s):	Quality Assurance Project Plan Screening Study of Bioaccumulation in California Lakes and Reservoirs. Moss Landing Marine Labs. Prepared for SWAMP BOG. 49 pages plus appendices and attachments

DECISION ID

62132

Region 2

Henne, Lake

Pollutant:	Heptachlor epoxide
Final Listing Decision:	Do Not List on 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision:	New Decision
Revision Status	Revised
Impairment from Pollutant or Pollution:	Pollutant

Regional Board Staff Conclusion: This pollutant is being considered for placement on the CWA section 303(d) List under section 3.5 of the Listing Policy. Under section 3.5 a single line of evidence is necessary to assess listing status. Three lines of evidence are available in the administrative record to assess this pollutant. Zero of one samples exceed the guideline.

Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against placing this water segment-pollutant combination on the CWA section 303(d) List.

This conclusion is based on the staff findings that:

1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy.
2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy.
3. Zero of one samples exceed the guideline and this sample size is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating. A minimum of 16 samples is needed to determine if a beneficial use is fully supported using table 3.1.
4. Pursuant to SECTION 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.

Regional Board Staff Decision Recommendation: After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be placed on the section 303(d) list. The readily available data and information is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating.

Line of Evidence (LOE) for Decision ID 62132, Heptachlor epoxide Henne, Lake

Region 2

LOE ID:	91806
Pollutant:	Heptachlor epoxide
LOE Subgroup:	Pollutant-Tissue
Matrix:	Tissue
Fraction:	Fish fillet
Beneficial Use:	Commercial or recreational collection of fish, shellfish, or organisms
Number of Samples:	0
Number of Exceedances:	0
Data and Information Type:	Fish tissue analysis
Data Used to Assess Water Quality:	State Water Board staff assessed SWAMP data for Henne, Lake to determine beneficial use support and results are as follows: 0 of 0 samples exceed the criterion for Heptachlor epoxide. One composite (5 fish per composite) was generated from one species: Largemouth Bass. Details of the compositing protocol can be found in the March 2009 report entitled: "Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Study" (SWAMP, 2009). One composite was not used in the assessment because the laboratory data reporting limit(s) was above the objective and therefore the results could not be quantified with the level of certainty required by the Listing Policy.
Data Reference:	Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Survey. A Report of the Surface Water Ambient Monitoring Program (SWAMP). California State Water Resources Control Board, Sacramento, CA Cruise Report for the Surface Waters Ambient Monitoring Program (SWAMP)

[Bioaccumulation Screening Study in California Lakes and Reservoirs, Sampling Dates: June 2007- March 2008](#)
[Statewide Lakes Sportfish Contamination Study 2007 2008](#)
[Contaminants in Fish from California Lakes and Reservoirs, 2007-2008: Summary Report on a Two-Year Screening Survey](#)

SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	Water Quality Control Plan for the San Francisco Bay Basin: Controllable water quality factors shall not cause a detrimental increase in concentrations of toxic substances found in bottom sediments or aquatic life. Effects on aquatic organisms, wildlife, and human health will be considered.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	The modified OEHHA Fish Contaminant Goal for heptachlor epoxide in fish tissue is 0.93 ppb. This screening level assumes an average body weight of 70 kg and a consumption rate of 32 g/day for a 30 year exposure over a 70-year lifetime. This constituent is a carcinogen therefore the risk level is set to one in a million. A cooking reduction factor of 1 is applied for skin-off fillets. (Klasing, S., and R. Brodberg, 2008; OEHHA, 1999)
Guideline Reference:	Development of Fish Contaminant Goals and Advisory Tissue Levels for Common Contaminants in California Sport Fish: Chlordane, DDTs, Dieldrin, Methylmercury, PCBs, Selenium, and Toxaphene Public Health Goal for Heptachlor and Heptachlor Epoxide in Drinking Water
Spatial Representation:	Data for this assessment unit was collected by one monitoring project: (SWB_FishLk)
Temporal Representation:	Data was collected on a single day 8/29/2007.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	Samples were collected, processed, and analyzed in accordance with the methods described in Quality Assurance Project Plan "Screening Study of Bioaccumulation in California Lakes and Reservoirs." (SWAMP, 2008).
QAPP Information Reference(s):	Quality Assurance Project Plan Screening Study of Bioaccumulation in California Lakes and Reservoirs. Moss Landing Marine Labs. Prepared for SWAMP BOG. 49 pages plus appendices and attachments

**Line of Evidence (LOE) for Decision ID 62132, Heptachlor epoxide
Henne, Lake**

Region 2

LOE ID:	91805
Pollutant:	Heptachlor epoxide
LOE Subgroup:	Pollutant-Tissue
Matrix:	Tissue
Fraction:	Fish fillet
Beneficial Use:	Cold Freshwater Habitat
Number of Samples:	1
Number of Exceedances:	0
Data and Information Type:	Fish tissue analysis
Data Used to Assess Water Quality:	State Water Board staff assessed SWAMP data for Henne, Lake to determine beneficial use support and results are as follows: 0 of 1 samples exceed the criterion for Heptachlor epoxide. One composite (5 fish per composite) was generated from one species: Largemouth Bass. Details of the compositing protocol can be found in the March 2009 report entitled: "Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Study" (SWAMP, 2009).
Data Reference:	Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Survey. A Report of the Surface Water Ambient Monitoring Program (SWAMP). California State Water Resources Control Board, Sacramento, CA Cruise Report for the Surface Waters Ambient Monitoring Program (SWAMP) Bioaccumulation Screening Study in California Lakes and Reservoirs, Sampling Dates: June 2007- March 2008

SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	Water Quality Control Plan for the San Francisco Bay Basin: Controllable water quality factors shall not cause a detrimental increase in concentrations of toxic substances found in bottom sediments or aquatic life. Effects on aquatic organisms, wildlife, and human health will be considered.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	National Academy of Science guidelines (NAS 1972) establish a maximum Heptachlor Epoxide concentration of 100 ug/Kg (wet weight) in tissue samples for protection of aquatic life from bioaccumulation of toxic substances.
Guideline Reference:	National Academy of Sciences. Water Quality Criteria 1972. EPA-R3-73-033. Washington, D.C.: U.S. Environmental Protection Agency
Spatial Representation:	Data for this assessment unit was collected by one monitoring project: (SWB_FishLk)
Temporal Representation:	Data was collected on a single day 8/29/2007.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	Samples were collected, processed, and analyzed in accordance with the methods described in Quality Assurance Project Plan "Screening Study of Bioaccumulation in California Lakes and Reservoirs." (SWAMP, 2008).
QAPP Information Reference(s):	Quality Assurance Project Plan Screening Study of Bioaccumulation in California Lakes and Reservoirs. Moss Landing Marine Labs. Prepared for SWAMP BOG, 49 pages plus appendices and attachments

**Line of Evidence (LOE) for Decision ID 62132, Heptachlor epoxide
Henne, Lake**

Region 2

LOE ID:	91804
Pollutant:	Heptachlor epoxide
LOE Subgroup:	Pollutant-Tissue
Matrix:	Tissue
Fraction:	Fish fillet
Beneficial Use:	Warm Freshwater Habitat
Number of Samples:	1
Number of Exceedances:	0
Data and Information Type:	Fish tissue analysis
Data Used to Assess Water Quality:	State Water Board staff assessed SWAMP data for Henne, Lake to determine beneficial use support and results are as follows: 0 of 1 samples exceed the criterion for Heptachlor epoxide. One composite (5 fish per composite) was generated from one species: Largemouth Bass. Details of the compositing protocol can be found in the March 2009 report entitled: "Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Study" (SWAMP, 2009).
Data Reference:	Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Survey. A Report of the Surface Water Ambient Monitoring Program (SWAMP). California State Water Resources Control Board, Sacramento, CA Cruise Report for the Surface Waters Ambient Monitoring Program (SWAMP) Bioaccumulation Screening Study in California Lakes and Reservoirs. Sampling Dates: June 2007- March 2008 Statewide Lakes Sportfish Contamination Study 2007 2008 Contaminants in Fish from California Lakes and Reservoirs, 2007-2008: Summary Report on a Two-Year Screening Survey
SWAMP Data:	SWAMP

Water Quality Objective/Criterion:	Water Quality Control Plan for the San Francisco Bay Basin: Controllable water quality factors shall not cause a detrimental increase in concentrations of toxic substances found in bottom sediments or aquatic life. Effects on aquatic organisms, wildlife, and human health will be considered.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	National Academy of Science guidelines (NAS 1972) establish a maximum Heptachlor Epoxide concentration of 100 ug/Kg (wet weight) in tissue samples for protection of aquatic life from bioaccumulation of toxic substances.
Guideline Reference:	National Academy of Sciences. Water Quality Criteria 1972. EPA-R3-73-033. Washington, D.C.: U.S. Environmental Protection Agency
Spatial Representation:	Data for this assessment unit was collected by one monitoring project: (SWB_FishLk)
Temporal Representation:	Data was collected on a single day 8/29/2007.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	Samples were collected, processed, and analyzed in accordance with the methods described in Quality Assurance Project Plan "Screening Study of Bioaccumulation in California Lakes and Reservoirs." (SWAMP, 2008).
QAPP Information Reference(s):	Quality Assurance Project Plan Screening Study of Bioaccumulation in California Lakes and Reservoirs. Moss Landing Marine Labs. Prepared for SWAMP BOG. 49 pages plus appendices and attachments

DECISION ID	62133	Region 2
Henne, Lake		

Pollutant:	Hexachlorobenzene/ HCB
Final Listing Decision:	Do Not List on 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision:	New Decision
Revision Status	Revised
Impairment from Pollutant or Pollution:	Pollutant
Regional Board Staff Conclusion:	<p>This pollutant is being considered for placement on the CWA section 303(d) List under section 3.5 of the Listing Policy. Under section 3.5 a single line of evidence is necessary to assess listing status. One line of evidence is available in the administrative record to assess this pollutant. Zero of one samples exceed the guideline.</p> <p>Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against placing this water segment-pollutant combination on the CWA section 303(d) List.</p> <p>This conclusion is based on the staff findings that:</p> <ol style="list-style-type: none"> 1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy. 2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy. 3. Zero of one samples exceed the guideline and this sample size is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating. A minimum of 16 samples is needed to determine if a beneficial use is fully supported using table 3.1. 4. Pursuant to SECTION 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.
Regional Board Staff Decision Recommendation:	After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be placed on the section 303(d) list. The readily available data and information is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating.

Line of Evidence (LOE) for Decision ID 62133, Hexachlorobenzene/ HCB	Region 2
Henne, Lake	

LOE ID:	91807
Pollutant:	Hexachlorobenzene/ HCB
LOE Subgroup:	Pollutant-Tissue
Matrix:	Tissue
Fraction:	Fish fillet
Beneficial Use:	Commercial or recreational collection of fish, shellfish, or organisms
Number of Samples:	1
Number of Exceedances:	0
Data and Information Type:	Fish tissue analysis
Data Used to Assess Water Quality:	State Water Board staff assessed SWAMP data for Henne, Lake to determine beneficial use support and results are as follows: 0 of 1 samples exceed the criterion for Hexachlorobenzene. One composite (5 fish per composite) was generated from one species: Largemouth Bass. Details of the compositing protocol can be found in the March 2009 report entitled: "Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Study" (SWAMP, 2009).
Data Reference:	Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Survey. A Report of the Surface Water Ambient Monitoring Program (SWAMP). California State Water Resources Control Board, Sacramento, CA Cruise Report for the Surface Waters Ambient Monitoring Program (SWAMP) Bioaccumulation Screening Study in California Lakes and Reservoirs. Sampling Dates: June 2007- March 2008 Statewide Lakes Sportfish Contamination Study 2007 2008 Contaminants in Fish from California Lakes and Reservoirs, 2007-2008: Summary Report on a Two-Year Screening Survey
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	Water Quality Control Plan for the San Francisco Bay Basin: Controllable water quality factors shall not cause a detrimental increase in concentrations of toxic substances found in bottom sediments or aquatic life. Effects on aquatic organisms, wildlife, and human health will be considered.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	The modified OEHHA Fish Contaminant Goal for hexachlorobenzene in fish tissue is 2.8 ppb. This screening level assumes an average body weight of 70 kg and a consumption rate of 32 g/day for a 30 year exposure over a 70-year lifetime. This constituent is a carcinogen therefore the risk level is set to one in a million. A cooking reduction factor of 1 is applied for skin-off fillets. (Klasing, S., and R. Brodberg, 2008; OEHHA, 2005)
Guideline Reference:	Development of Fish Contaminant Goals and Advisory Tissue Levels for Common Contaminants in California Sport Fish: Chlordane, DDTs, Dieldrin, Methylmercury, PCBs, Selenium, and Toxaphene Air Toxics Hotspots Program Risk Assessment Guidelines. Part II Technical Support Document for Describing Available Cancer Potency Values.
Spatial Representation:	Data for this assessment unit was collected by one monitoring project: (SWB_FishLk)
Temporal Representation:	Data was collected on a single day 8/29/2007.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	Samples were collected, processed, and analyzed in accordance with the methods described in Quality Assurance Project Plan "Screening Study of Bioaccumulation in California Lakes and Reservoirs." (SWAMP, 2008).
QAPP Information Reference(s):	Quality Assurance Project Plan Screening Study of Bioaccumulation in California Lakes and Reservoirs. Moss Landing Marine Labs. Prepared for SWAMP BOG, 49 pages plus appendices and attachments

DECISION ID	62134	Region 2
Henne, Lake		

Pollutant:	Lindane/gamma Hexachlorocyclohexane (gamma-HCH)
Final Listing Decision:	Do Not List on 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision:	New Decision
Revision Status	Revised
Impairment from Pollutant or Pollution:	Pollutant

Regional Board Staff Conclusion: This pollutant is being considered for placement on the CWA section 303(d) List under section 3.5 of the Listing Policy. Under section 3.5 a single line of evidence is necessary to assess listing status. Three lines of evidence are available in the administrative record to assess this pollutant. Zero of one samples exceed the guideline.

Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against placing this water segment-pollutant combination on the CWA section 303(d) List.

This conclusion is based on the staff findings that:

1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy.
2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy.
3. Zero of one samples exceed the guideline and this sample size is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating. A minimum of 16 samples is needed to determine if a beneficial use is fully supported using table 3.1.
4. Pursuant to SECTION 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.

Regional Board Staff Decision Recommendation: After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be placed on the section 303(d) list. The readily available data and information is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating.

Line of Evidence (LOE) for Decision ID 62134, Lindane/gamma Hexachlorocyclohexane (gamma-HCH)

Region 2

Henne, Lake

LOE ID: 91808

Pollutant:	Lindane/gamma Hexachlorocyclohexane (gamma-HCH)
LOE Subgroup:	Pollutant-Tissue
Matrix:	Tissue
Fraction:	Fish fillet

Beneficial Use: Warm Freshwater Habitat

Number of Samples:	1
Number of Exceedances:	0

Data and Information Type:	Fish tissue analysis
Data Used to Assess Water Quality:	State Water Board staff assessed SWAMP data for Henne, Lake to determine beneficial use support and results are as follows: 0 of 1 samples exceed the criterion for HCH, gamma. One composite (5 fish per composite) was generated from one species: Largemouth Bass. Details of the compositing protocol can be found in the March 2009 report entitled: "Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Study" (SWAMP, 2009).

Data Reference: [Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Survey. A Report of the Surface Water Ambient Monitoring Program \(SWAMP\). California State Water Resources Control Board, Sacramento, CA](#)
[Cruise Report for the Surface Waters Ambient Monitoring Program \(SWAMP\)](#)
[Bioaccumulation Screening Study in California Lakes and Reservoirs, Sampling Dates: June 2007- March 2008](#)
[Statewide Lakes Sportfish Contamination Study 2007 2008](#)

SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	Water Quality Control Plan for the San Francisco Bay Basin: Controllable water quality factors shall not cause a detrimental increase in concentrations of toxic substances found in bottom sediments or aquatic life. Effects on aquatic organisms, wildlife, and human health will be considered.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	The modified OEHHA Fish Contaminant Goal for lindane in fish tissue is 4.6 ppb. This screening level assumes an average body weight of 70 kg and a consumption rate of 32 g/day for a 30 year exposure over a 70-year lifetime. This constituent is a carcinogen therefore the risk level is set to one in a million. A cooking reduction factor of 1 is applied for skin-off fillets. (Klasing, S., and R. Brodberg, 2008; OEHHA, 2005)
Guideline Reference:	National Academy of Sciences. Water Quality Criteria 1972. EPA-R3-73-033. Washington, D.C.: U.S. Environmental Protection Agency
Spatial Representation:	Data for this assessment unit was collected by one monitoring project: (SWB_FishLk)
Temporal Representation:	Data was collected on a single day 8/29/2007.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	Samples were collected, processed, and analyzed in accordance with the methods described in Quality Assurance Project Plan "Screening Study of Bioaccumulation in California Lakes and Reservoirs." (SWAMP, 2008).
QAPP Information Reference(s):	Quality Assurance Project Plan Screening Study of Bioaccumulation in California Lakes and Reservoirs. Moss Landing Marine Labs. Prepared for SWAMP BOG, 49 pages plus appendices and attachments

Line of Evidence (LOE) for Decision ID 62134, Lindane/gamma Hexachlorocyclohexane (gamma-HCH)

Region 2

Henne, Lake

LOE ID:	91810
Pollutant:	Lindane/gamma Hexachlorocyclohexane (gamma-HCH)
LOE Subgroup:	Pollutant-Tissue
Matrix:	Tissue
Fraction:	Fish fillet
Beneficial Use:	Commercial or recreational collection of fish, shellfish, or organisms
Number of Samples:	1
Number of Exceedances:	0
Data and Information Type:	Fish tissue analysis
Data Used to Assess Water Quality:	State Water Board staff assessed SWAMP data for Henne, Lake to determine beneficial use support and results are as follows: 0 of 1 samples exceed the criterion for HCH, gamma. One composite (5 fish per composite) was generated from one species: Largemouth Bass. Details of the compositing protocol can be found in the March 2009 report entitled: "Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Study" (SWAMP, 2009).
Data Reference:	Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Survey. A Report of the Surface Water Ambient Monitoring Program (SWAMP). California State Water Resources Control Board, Sacramento, CA Cruise Report for the Surface Waters Ambient Monitoring Program (SWAMP) Bioaccumulation Screening Study in California Lakes and Reservoirs. Sampling Dates: June 2007- March 2008 Statewide Lakes Sportfish Contamination Study 2007 2008 Contaminants in Fish from California Lakes and Reservoirs, 2007-2008: Summary Report on a Two-Year Screening Survey

SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	Water Quality Control Plan for the San Francisco Bay Basin: Controllable water quality factors shall not cause a detrimental increase in concentrations of toxic substances found in bottom sediments or aquatic life. Effects on aquatic organisms, wildlife, and human health will be considered.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	The modified OEHHA Fish Contaminant Goal for lindane in fish tissue is 4.6 ppb. This screening level assumes an average body weight of 70 kg and a consumption rate of 32 g/day for a 30 year exposure over a 70-year lifetime. This constituent is a carcinogen therefore the risk level is set to one in a million. A cooking reduction factor of 1 is applied for skin-off fillets.
Guideline Reference:	Development of Fish Contaminant Goals and Advisory Tissue Levels for Common Contaminants in California Sport Fish: Chlordane, DDTs, Dieldrin, Methylmercury, PCBs, Selenium, and Toxaphene Air Toxics Hotspots Program Risk Assessment Guidelines. Part II Technical Support Document for Describing Available Cancer Potency Values.
Spatial Representation:	Data for this assessment unit was collected by one monitoring project: (SWB_FishLk)
Temporal Representation:	Data was collected on a single day 8/29/2007.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	Samples were collected, processed, and analyzed in accordance with the methods described in Quality Assurance Project Plan "Screening Study of Bioaccumulation in California Lakes and Reservoirs." (SWAMP, 2008).
QAPP Information Reference(s):	Quality Assurance Project Plan Screening Study of Bioaccumulation in California Lakes and Reservoirs. Moss Landing Marine Labs. Prepared for SWAMP BOG, 49 pages plus appendices and attachments

Line of Evidence (LOE) for Decision ID 62134, Lindane/gamma Hexachlorocyclohexane (gamma-HCH)

Region 2

Henne, Lake

LOE ID:	91811
Pollutant:	Lindane/gamma Hexachlorocyclohexane (gamma-HCH)
LOE Subgroup:	Pollutant-Tissue
Matrix:	Tissue
Fraction:	Fish fillet
Beneficial Use:	Cold Freshwater Habitat
Number of Samples:	1
Number of Exceedances:	0
Data and Information Type:	Fish tissue analysis
Data Used to Assess Water Quality:	State Water Board staff assessed SWAMP data for Henne, Lake to determine beneficial use support and results are as follows: 0 of 1 samples exceed the criterion for HCH, gamma. One composite (5 fish per composite) was generated from one species: Largemouth Bass. Details of the compositing protocol can be found in the March 2009 report entitled: "Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Study" (SWAMP, 2009).
Data Reference:	Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Survey. A Report of the Surface Water Ambient Monitoring Program (SWAMP). California State Water Resources Control Board, Sacramento, CA Cruise Report for the Surface Waters Ambient Monitoring Program (SWAMP) Bioaccumulation Screening Study in California Lakes and Reservoirs. Sampling Dates: June 2007- March 2008 Statewide Lakes Sportfish Contamination Study 2007 2008 Contaminants in Fish from California Lakes and Reservoirs, 2007-2008: Summary Report on a Two-Year Screening Survey

SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	Water Quality Control Plan for the San Francisco Bay Basin: Controllable water quality factors shall not cause a detrimental increase in concentrations of toxic substances found in bottom sediments or aquatic life. Effects on aquatic organisms, wildlife, and human health will be considered.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	The modified OEHHA Fish Contaminant Goal for lindane in fish tissue is 4.6 ppb. This screening level assumes an average body weight of 70 kg and a consumption rate of 32 g/day for a 30 year exposure over a 70-year lifetime. This constituent is a carcinogen therefore the risk level is set to one in a million. A cooking reduction factor of 1 is applied for skin-off fillets. (Klasing, S., and R. Brodberg, 2008; OEHHA, 2005)
Guideline Reference:	National Academy of Sciences. Water Quality Criteria 1972. EPA-R3-73-033. Washington, D.C.: U.S. Environmental Protection Agency
Spatial Representation:	Data for this assessment unit was collected by one monitoring project: (SWB_FishLk)
Temporal Representation:	Data was collected on a single day 8/29/2007.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	Samples were collected, processed, and analyzed in accordance with the methods described in Quality Assurance Project Plan "Screening Study of Bioaccumulation in California Lakes and Reservoirs." (SWAMP, 2008).
QAPP Information Reference(s):	Quality Assurance Project Plan Screening Study of Bioaccumulation in California Lakes and Reservoirs. Moss Landing Marine Labs. Prepared for SWAMP BOG. 49 pages plus appendices and attachments

DECISION ID		62136	Region 2
Henne, Lake			
Pollutant:	Mirex		
Final Listing Decision:	Do Not List on 303(d) list (TMDL required list)		
Last Listing Cycle's Final Listing Decision:	New Decision		
Revision Status	Revised		
Impairment from Pollutant or Pollution:	Pollutant		
Regional Board Staff Conclusion:	<p>This pollutant is being considered for placement on the CWA section 303(d) List under section 3.5 of the Listing Policy. Under section 3.5 a single line of evidence is necessary to assess listing status. One line of evidence is available in the administrative record to assess this pollutant. Zero of zero samples exceed the guideline.</p> <p>Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against placing this water segment-pollutant combination on the CWA section 303(d) List.</p> <p>This conclusion is based on the staff findings that:</p> <ol style="list-style-type: none"> 1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy. 2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy. 3. Zero of zero samples exceed the guideline and this sample size is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating. A minimum of 16 samples is needed to determine if a beneficial use is fully supported using table 3.1. 4. Pursuant to SECTION 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met. 		
Regional Board Staff Decision Recommendation:	After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be placed on the section 303(d) list. The readily available data and information is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating.		

Henne, Lake

LOE ID:	91815
Pollutant:	Mirex
LOE Subgroup:	Pollutant-Tissue
Matrix:	Tissue
Fraction:	Fish fillet
Beneficial Use:	Commercial or recreational collection of fish, shellfish, or organisms
Number of Samples:	0
Number of Exceedances:	0
Data and Information Type:	Fish tissue analysis
Data Used to Assess Water Quality:	State Water Board staff assessed SWAMP data for Henne, Lake to determine beneficial use support and results are as follows: 0 of 0 samples exceed the criterion for Mirex. One composite (5 fish per composite) was generated from one species: Largemouth Bass. Details of the compositing protocol can be found in the March 2009 report entitled: "Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Study" (SWAMP, 2009). One composite was not used in the assessment because the laboratory data reporting limit(s) was above the objective and therefore the results could not be quantified with the level of certainty required by the Listing Policy.
Data Reference:	Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Survey. A Report of the Surface Water Ambient Monitoring Program (SWAMP). California State Water Resources Control Board, Sacramento, CA Cruise Report for the Surface Waters Ambient Monitoring Program (SWAMP) Bioaccumulation Screening Study in California Lakes and Reservoirs. Sampling Dates: June 2007- March 2008 Statewide Lakes Sportfish Contamination Study 2007 2008 Contaminants in Fish from California Lakes and Reservoirs, 2007-2008: Summary Report on a Two-Year Screening Survey
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	Water Quality Control Plan for the San Francisco Bay Basin: Controllable water quality factors shall not cause a detrimental increase in concentrations of toxic substances found in bottom sediments or aquatic life. Effects on aquatic organisms, wildlife, and human health will be considered.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	The modified OEHHA Fish Contaminant Goal for mirex in fish tissue is 0.28 ppb. This screening level assumes an average body weight of 70 kg and a consumption rate of 32 g/day. A cooking reduction factor of 1 is applied for skin-off fillets. (Klasing, S., and R. Brodberg, 2008; OEHHA, 1992)
Guideline Reference:	Development of Fish Contaminant Goals and Advisory Tissue Levels for Common Contaminants in California Sport Fish: Chlordane, DDTs, Dieldrin, Methylmercury, PCBs, Selenium, and Toxaphene Expedited Cancer Potency Values and Proposed Regulatory Levels for Certain Proposition 65 Carcinogens.
Spatial Representation:	Data for this assessment unit was collected by one monitoring project: (SWB_FishLk)
Temporal Representation:	Data was collected on a single day 8/29/2007.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	Samples were collected, processed, and analyzed in accordance with the methods described in Quality Assurance Project Plan "Screening Study of Bioaccumulation in California Lakes and Reservoirs." (SWAMP, 2008).
QAPP Information Reference(s):	Quality Assurance Project Plan Screening Study of Bioaccumulation in California Lakes and Reservoirs. Moss Landing Marine Labs. Prepared for SWAMP BOG. 49 pages plus appendices and attachments

DECISION ID	65488	Region 2
Henne, Lake		

Pollutant: PCBs (Polychlorinated biphenyls)
Final Listing Decision: Do Not List on 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision: New Decision
Revision Status: Revised
Impairment from Pollutant or Pollution: Pollutant

Regional Board Staff Conclusion: This pollutant is being considered for placement on the CWA section 303(d) List under section 3.5 of the Listing Policy. Under section 3.5 a single line of evidence is necessary to assess listing status. Three lines of evidence are available in the administrative record to assess this pollutant. Zero of one samples exceed the OEHHHA guideline.

Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against placing this water segment-pollutant combination on the CWA section 303(d) List.

This conclusion is based on the staff findings that:

1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy.
2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy.
3. Zero of one samples exceed the OEHHHA guideline and this sample size is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating. A minimum of 16 samples is needed to determine if a beneficial use is fully supported using table 3.1.
4. Pursuant to SECTION 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.

Regional Board Staff Decision Recommendation: After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be placed on the section 303(d) list. The readily available data and information is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating.

Line of Evidence (LOE) for Decision ID 65488, PCBs (Polychlorinated biphenyls)	Region 2
Henne, Lake	

LOE ID: 91818
Pollutant: PCBs (Polychlorinated biphenyls)
LOE Subgroup: Pollutant-Tissue
Matrix: Tissue
Fraction: Fish fillet
Beneficial Use: Commercial or recreational collection of fish, shellfish, or organisms
Number of Samples: 1
Number of Exceedances: 0
Data and Information Type: Fish tissue analysis
Data Used to Assess Water Quality: State Water Board staff assessed SWAMP data for Henne, Lake to determine beneficial use support and results are as follows: 0 of 1 samples exceed the criterion for PCB, Total. One composite (5 fish per composite) was generated from one species: Largemouth Bass. Details of the compositing protocol can be found in the March 2009 report entitled: "Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Study" (SWAMP, 2009). Total PCB was assessed for as follows: PCB aroclors and congeners were summed separately and the sum that yielded

Data Reference:	<p>the highest value was used for the assessment.</p> <p>Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Survey. A Report of the Surface Water Ambient Monitoring Program (SWAMP). California State Water Resources Control Board, Sacramento, CA</p> <p>Cruise Report for the Surface Waters Ambient Monitoring Program (SWAMP)</p> <p>Bioaccumulation Screening Study in California Lakes and Reservoirs. Sampling Dates: June 2007- March 2008</p> <p>Statewide Lakes Sportfish Contamination Study 2007 2008</p> <p>Contaminants in Fish from California Lakes and Reservoirs, 2007-2008: Summary Report on a Two-Year Screening Survey</p>
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	Water Quality Control Plan for the San Francisco Bay Basin (2013): Controllable water quality factors shall not cause a detrimental increase in concentrations of toxic substances found in bottom sediments or aquatic life. Effects on aquatic organisms, wildlife, and human health will be considered.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	The modified OEHHA Fish Contaminant Goal for polychlorinated biphenyls in fish tissue is 2.6 ppb. This screening level assumes an average body weight of 70 kg and a consumption rate of 32 g/day for a 30 year exposure over a 70-year lifetime. This constituent is a carcinogen therefore the risk level is set to one in a million. A cooking reduction factor of 1 is applied for skin-off fillets. (Klasing, S., and R. Brodberg, 2008)
Guideline Reference:	Development of Fish Contaminant Goals and Advisory Tissue Levels for Common Contaminants in California Sport Fish: Chlordane, DDTs, Dieldrin, Methylmercury, PCBs, Selenium, and Toxaphene
Spatial Representation:	Data for this assessment unit was collected by one monitoring project: (SWB_FishLk)
Temporal Representation:	Data was collected on a single day 8/29/2007.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	Samples were collected, processed, and analyzed in accordance with the methods described in Quality Assurance Project Plan "Screening Study of Bioaccumulation in California Lakes and Reservoirs." (SWAMP, 2008).
QAPP Information Reference(s):	Quality Assurance Project Plan Screening Study of Bioaccumulation in California Lakes and Reservoirs. Moss Landing Marine Labs. Prepared for SWAMP BOG. 49 pages plus appendices and attachments

Line of Evidence (LOE) for Decision ID 65488, PCBs (Polychlorinated biphenyls)

Region 2

Henne, Lake

LOE ID:	91817
Pollutant:	PCBs (Polychlorinated biphenyls)
LOE Subgroup:	Pollutant-Tissue
Matrix:	Tissue
Fraction:	Fish fillet
Beneficial Use:	Cold Freshwater Habitat
Number of Samples:	1
Number of Exceedances:	0
Data and Information Type:	Fish tissue analysis
Data Used to Assess Water Quality:	<p>State Water Board staff assessed SWAMP data for Henne, Lake to determine beneficial use support and results are as follows: 0 of 1 samples exceed the criterion for PCB, Total. One composite (5 fish per composite) was generated from one species: Largemouth Bass. Details of the compositing protocol can be found in the March 2009 report entitled: "Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Study" (SWAMP, 2009). Total PCB was assessed for as follows: PCB aroclors and congeners were summed separately and the sum that yielded the highest value was used for the assessment.</p>

Data Reference:	Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Survey. A Report of the Surface Water Ambient Monitoring Program (SWAMP). California State Water Resources Control Board, Sacramento, CA Cruise Report for the Surface Waters Ambient Monitoring Program (SWAMP) Bioaccumulation Screening Study in California Lakes and Reservoirs. Sampling Dates: June 2007- March 2008 Statewide Lakes Sportfish Contamination Study 2007 2008 Contaminants in Fish from California Lakes and Reservoirs, 2007-2008: Summary Report on a Two-Year Screening Survey
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	Water Quality Control Plan for the San Francisco Bay Basin (2013): Controllable water quality factors shall not cause a detrimental increase in concentrations of toxic substances found in bottom sediments or aquatic life. Effects on aquatic organisms, wildlife, and human health will be considered.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	National Academy of Science guidelines (NAS 1972) establish a maximum total PCB concentration of 500 ug/Kg (wet weight) in tissue samples for protection of aquatic life from bioaccumulation of toxic substances.
Guideline Reference:	National Academy of Sciences. Water Quality Criteria 1972. EPA-R3-73-033. Washington, D.C.: U.S. Environmental Protection Agency
Spatial Representation:	Data for this assessment unit was collected by one monitoring project: (SWB_FishLk)
Temporal Representation:	Data was collected on a single day 8/29/2007.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	Samples were collected, processed, and analyzed in accordance with the methods described in Quality Assurance Project Plan "Screening Study of Bioaccumulation in California Lakes and Reservoirs." (SWAMP, 2008).
QAPP Information Reference(s):	Quality Assurance Project Plan Screening Study of Bioaccumulation in California Lakes and Reservoirs. Moss Landing Marine Labs. Prepared for SWAMP BOG. 49 pages plus appendices and attachments

Line of Evidence (LOE) for Decision ID 65488, PCBs (Polychlorinated biphenyls)

Region 2

Henne, Lake

LOE ID:	91816
Pollutant:	PCBs (Polychlorinated biphenyls)
LOE Subgroup:	Pollutant-Tissue
Matrix:	Tissue
Fraction:	Fish fillet
Beneficial Use:	Warm Freshwater Habitat
Number of Samples:	1
Number of Exceedances:	0
Data and Information Type:	Fish tissue analysis
Data Used to Assess Water Quality:	State Water Board staff assessed SWAMP data for Henne, Lake to determine beneficial use support and results are as follows: 0 of 1 samples exceed the criterion for PCB, Total. One composite (5 fish per composite) was generated from one species: Largemouth Bass. Details of the compositing protocol can be found in the March 2009 report entitled: "Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Study" (SWAMP, 2009). Total PCB was assessed for as follows: PCB aroclors and congeners were summed separately and the sum that yielded the highest value was used for the assessment.
Data Reference:	Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Survey. A Report of the Surface Water Ambient Monitoring Program (SWAMP). California State Water Resources Control Board, Sacramento, CA Cruise Report for the Surface Waters Ambient Monitoring Program (SWAMP)

[Bioaccumulation Screening Study in California Lakes and Reservoirs, Sampling Dates: June 2007- March 2008](#)
[Statewide Lakes Sportfish Contamination Study 2007 2008](#)
[Contaminants in Fish from California Lakes and Reservoirs, 2007-2008: Summary Report on a Two-Year Screening Survey](#)

SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	Water Quality Control Plan for the San Francisco Bay Basin (2013): Controllable water quality factors shall not cause a detrimental increase in concentrations of toxic substances found in bottom sediments or aquatic life. Effects on aquatic organisms, wildlife, and human health will be considered.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	National Academy of Science guidelines (NAS 1972) establish a maximum total PCB concentration of 500 ug/Kg (wet weight) in tissue samples for protection of aquatic life from bioaccumulation of toxic substances.
Guideline Reference:	National Academy of Sciences. Water Quality Criteria 1972. EPA-R3-73-033. Washington, D.C.: U.S. Environmental Protection Agency
Spatial Representation:	Data for this assessment unit was collected by one monitoring project: (SWB_FishLk)
Temporal Representation:	Data was collected on a single day 8/29/2007.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	Samples were collected, processed, and analyzed in accordance with the methods described in Quality Assurance Project Plan "Screening Study of Bioaccumulation in California Lakes and Reservoirs." (SWAMP, 2008).
QAPP Information Reference(s):	Quality Assurance Project Plan Screening Study of Bioaccumulation in California Lakes and Reservoirs. Moss Landing Marine Labs. Prepared for SWAMP BOG, 49 pages plus appendices and attachments

DECISION ID	62137	Region 2
Henne, Lake		

Pollutant:	Selenium
Final Listing Decision:	Do Not List on 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision:	New Decision
Revision Status	Revised
Impairment from Pollutant or Pollution:	Pollutant

Regional Board Staff Conclusion: This pollutant is being considered for placement on the CWA section 303(d) List under section 3.5 of the Listing Policy. Under section 3.5 a single line of evidence is necessary to assess listing status. One line of evidence is available in the administrative record to assess this pollutant. Zero of one samples exceed the guideline.

Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against placing this water segment-pollutant combination on the CWA section 303(d) List.

This conclusion is based on the staff findings that:

1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy.
2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy.
3. Zero of one samples exceed the guideline and this sample size is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating. A minimum of 16 samples is needed to determine if a beneficial use is fully supported using table 3.1.
4. Pursuant to SECTION 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.

Regional Board Staff Decision Recommendation:	After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be placed on the section 303(d) list. The readily available data and
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information is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating.

Line of Evidence (LOE) for Decision ID 62137, Selenium

Region 2

Henne, Lake

LOE ID:	91819
Pollutant:	Selenium
LOE Subgroup:	Pollutant-Tissue
Matrix:	Tissue
Fraction:	Fish fillet
Beneficial Use:	Commercial or recreational collection of fish, shellfish, or organisms
Number of Samples:	1
Number of Exceedances:	0
Data and Information Type:	Fish tissue analysis
Data Used to Assess Water Quality:	State Water Board staff assessed SWAMP data for Henne, Lake to determine beneficial use support and results are as follows: 0 of 1 samples exceed the criterion for Selenium. One composite (5 fish per composite) was generated from one species: Largemouth Bass. Details of the compositing protocol can be found in the March 2009 report entitled: "Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Study" (SWAMP, 2009).
Data Reference:	Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Survey. A Report of the Surface Water Ambient Monitoring Program (SWAMP). California State Water Resources Control Board, Sacramento, CA Cruise Report for the Surface Waters Ambient Monitoring Program (SWAMP) Bioaccumulation Screening Study in California Lakes and Reservoirs. Sampling Dates: June 2007- March 2008 Statewide Lakes Sportfish Contamination Study 2007 2008 Contaminants in Fish from California Lakes and Reservoirs, 2007-2008: Summary Report on a Two-Year Screening Survey
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	Water Quality Control Plan for the San Francisco Bay Basin (2013): Controllable water quality factors shall not cause a detrimental increase in concentrations of toxic substances found in bottom sediments or aquatic life. Effects on aquatic organisms, wildlife, and human health will be considered.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	The OEHHA Fish Contaminant Goal for selenium in fish tissue is 7.4 ppm. This screening level assumes an average body weight of 70 kg and a consumption rate of 32 g/day. A background dietary consumption rate of 0.114 mg/day is applied for this micronutrient. (Klasing, S., and R. Brodberg, 2008)
Guideline Reference:	Development of Fish Contaminant Goals and Advisory Tissue Levels for Common Contaminants in California Sport Fish: Chlordane, DDTs, Dieldrin, Methylmercury, PCBs, Selenium, and Toxaphene
Spatial Representation:	Data for this assessment unit was collected by one monitoring project: (SWB_FishLk)
Temporal Representation:	Data was collected on a single day 8/29/2007.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	Samples were collected, processed, and analyzed in accordance with the methods described in Quality Assurance Project Plan "Screening Study of Bioaccumulation in California Lakes and Reservoirs." (SWAMP, 2008).
QAPP Information Reference(s):	Quality Assurance Project Plan Screening Study of Bioaccumulation in California Lakes and Reservoirs. Moss Landing Marine Labs. Prepared for SWAMP BOG, 49 pages plus appendices and attachments

DECISION ID	65487	Region 2
Henne, Lake		

Pollutant: Mercury
Final Listing Decision: List on 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision: New Decision
Revision Status: Revised
Sources: Source Unknown
Expected TMDL Completion Date: 2029
Impairment from Pollutant or Pollution: Pollutant

Regional Board Staff Conclusion: This pollutant is being considered for placement on the CWA section 303(d) List under section 3.4 of the Listing Policy. Under section 3.4 a single line of evidence is necessary to assess listing status in addition to the presence of a fish consumption advisory for the waterbody.

One line of evidence is available in the administrative record to assess this pollutant. One of one samples exceed the OEHHA guideline.

Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification in favor of placing this water segment-pollutant combination on the CWA section 303(d) List.

Though the samples were collected from a single location on a single day, fish are not static and move throughout a lake and accumulate mercury in tissue over time. Therefore, the idea of spatial and temporal independence (Section 6.1.5 of the Listing Policy) does not apply.

This conclusion is based on the staff findings that:

1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy.
2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy, except that composite samples collected at a single location for a single day were evaluated as a single sample and not averaged.
3. One of one samples exceed the OEHHA guideline and this is less than the allowable frequency to list in Table 3.1 of the Listing Policy.
4. Pursuant to section 3.11 of the Listing Policy, additional data and information are available indicating that standards are not met. The sample exceeding the guideline is constituted by several fish that have independently accumulated enough mercury such that the average of all these fish exceeds the evaluation guideline. Therefore, it is highly likely that if more fish had been caught on another day to form additional composites, these would also exceed the evaluation guideline and, hence, the number of exceedances would exceed the allowable frequency described in section 3.4 of the listing policy.

Regional Board Staff Decision Recommendation: After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should be placed on the section 303(d) list because applicable water quality standards are exceeded and a pollutant contributes to or causes the problem.

Line of Evidence (LOE) for Decision ID 65487, Mercury	Region 2
Henne, Lake	

LOE ID: 91812
Pollutant: Mercury
LOE Subgroup: Pollutant-Tissue
Matrix: Tissue
Fraction: Fish fillet
Beneficial Use: Commercial or recreational collection of fish, shellfish, or organisms

Number of Samples:	1
Number of Exceedances:	1
Data and Information Type:	Fish tissue analysis
Data Used to Assess Water Quality:	State Water Board staff assessed SWAMP data for Henne, Lake to determine beneficial use support and results are as follows: 1 of 11 samples exceed the criterion for Mercury. Sixteen composites (1 fish per composite) were generated from one species: largemouth bass. Composites were not spatially independent (as defined in the Listing Policy) and so were averaged.
Data Reference:	Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Survey. A Report of the Surface Water Ambient Monitoring Program (SWAMP). California State Water Resources Control Board, Sacramento, CA Cruise Report for the Surface Waters Ambient Monitoring Program (SWAMP) Bioaccumulation Screening Study in California Lakes and Reservoirs, Sampling Dates: June 2007- March 2008 Statewide Lakes Sportfish Contamination Study 2007 2008 Contaminants in Fish from California Lakes and Reservoirs, 2007-2008: Summary Report on a Two-Year Screening Survey
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	Water Quality Control Plan for the San Francisco Bay Basin (2013): Controllable water quality factors shall not cause a detrimental increase in concentrations of toxic substances found in bottom sediments or aquatic life. Effects on aquatic organisms, wildlife, and human health will be considered.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	The USEPA 304(a) recommended water quality criterion for concentrations of methylmercury in fish tissue of trophic level 4 fish (150 - 500 mm; fillet wet weight) is 0.2 mg/kg. This assumes a consumption rate of 32 g/day. (USEPA, 2001)
Guideline Reference:	Water Quality Criterion for the Protection of Human Health: Methylmercury. Final. United States Environmental Protection Agency Office of Science and Technology Office of Water. EPA-823-R-01-001. January 2001
Spatial Representation:	Data for this assessment unit was collected by one monitoring project: (SWB_FishLk)
Temporal Representation:	Data was collected on a single day 8/29/2007.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	Samples were collected, processed, and analyzed in accordance with the methods described in Quality Assurance Project Plan "Screening Study of Bioaccumulation in California Lakes and Reservoirs." (SWAMP, 2008).
QAPP Information Reference(s):	Quality Assurance Project Plan Screening Study of Bioaccumulation in California Lakes and Reservoirs. Moss Landing Marine Labs. Prepared for SWAMP BOG. 49 pages plus appendices and attachments

Draft California 2016 Integrated Report (303(d) List/305(b) Report)

Supporting Information

Regional Board 2 - San Francisco Bay Region

Water Body Name: Lower Crystal Springs Reservoir
Water Body ID: CAL2044003220091208102149
Water Body Type: Lake & Reservoir

DECISION ID 63779 **Region 2**
Lower Crystal Springs Reservoir

Pollutant: Aldrin
Final Listing Decision: Do Not List on 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision: New Decision
Revision Status Revised
Impairment from Pollutant or Pollution: Pollutant

Regional Board Staff Conclusion: This pollutant is being considered for placement on the CWA section 303(d) List under section 3.5 of the Listing Policy. Under section 3.5 a single line of evidence is necessary to assess listing status. Two lines of evidence are available in the administrative record to assess this pollutant. Zero of one samples exceed the guideline.

Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against placing this water segment-pollutant combination on the CWA section 303(d) List.

This conclusion is based on the staff findings that:

1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy.
2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy.
3. Zero of one samples exceed the guideline and this sample size is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating. A minimum of 16 samples is needed to determine if a beneficial use is fully supported using table 3.1.
4. Pursuant to SECTION 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.

Regional Board Staff Decision Recommendation: After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be placed on the section 303(d) list. The readily available data and information is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating.

Line of Evidence (LOE) for Decision ID 63779, Aldrin **Region 2**
Lower Crystal Springs Reservoir

LOE ID: 92185
Pollutant: Aldrin
LOE Subgroup: Pollutant-Tissue
Matrix: Tissue
Fraction: Fish fillet
Beneficial Use: Cold Freshwater Habitat
Number of Samples: 1
Number of Exceedances: 0

Data and Information Type:	Fish tissue analysis
Data Used to Assess Water Quality:	State Water Board staff assessed SWAMP data for Lower Crystal Springs Reservoir to determine beneficial use support and results are as follows: 0 of 1 samples exceed the criterion for Aldrin. One composite (5 fish per composite) was generated from one species: Largemouth Bass. Details of the compositing protocol can be found in the March 2009 report entitled: "Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Study" (SWAMP, 2009).
Data Reference:	Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Survey. A Report of the Surface Water Ambient Monitoring Program (SWAMP). California State Water Resources Control Board, Sacramento, CA Cruise Report for the Surface Waters Ambient Monitoring Program (SWAMP) Bioaccumulation Screening Study in California Lakes and Reservoirs, Sampling Dates: June 2007- March 2008 Statewide Lakes Sportfish Contamination Study 2007 2008 Contaminants in Fish from California Lakes and Reservoirs, 2007-2008: Summary Report on a Two-Year Screening Survey
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	Water Quality Control Plan for the San Francisco Bay Basin: Controllable water quality factors shall not cause a detrimental increase in concentrations of toxic substances found in bottom sediments or aquatic life. Effects on aquatic organisms, wildlife, and human health will be considered.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	National Academy of Science guidelines (NAS 1972) establish a maximum Aldrin concentration of 100 ug/Kg (wet weight) in tissue samples for protection of aquatic life from bioaccumulation of toxic substances.
Guideline Reference:	National Academy of Sciences. Water Quality Criteria 1972. EPA-R3-73-033. Washington, D.C.: U.S. Environmental Protection Agency
Spatial Representation:	Data for this assessment unit was collected by one monitoring project: (SWB_FishLk)
Temporal Representation:	Data was collected on a single day 7/16/2007.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	Samples were collected, processed, and analyzed in accordance with the methods described in Quality Assurance Project Plan "Screening Study of Bioaccumulation in California Lakes and Reservoirs." (SWAMP, 2008).
QAPP Information Reference(s):	Quality Assurance Project Plan Screening Study of Bioaccumulation in California Lakes and Reservoirs. Moss Landing Marine Labs. Prepared for SWAMP BOG, 49 pages plus appendices and attachments

Line of Evidence (LOE) for Decision ID 63779, Aldrin	Region 2
Lower Crystal Springs Reservoir	

LOE ID:	92184
Pollutant:	Aldrin
LOE Subgroup:	Pollutant-Tissue
Matrix:	Tissue
Fraction:	Fish fillet
Beneficial Use:	Warm Freshwater Habitat
Number of Samples:	1
Number of Exceedances:	0
Data and Information Type:	Fish tissue analysis
Data Used to Assess Water Quality:	State Water Board staff assessed SWAMP data for Lower Crystal Springs Reservoir to determine beneficial use support and results are as follows: 0 of 1 samples exceed the criterion for Aldrin. One composite (5 fish per composite) was generated from one species: Largemouth Bass. Details of the compositing protocol can be found in the March

Data Reference:	2009 report entitled: "Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Study" (SWAMP, 2009). Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Survey. A Report of the Surface Water Ambient Monitoring Program (SWAMP). California State Water Resources Control Board, Sacramento, CA Cruise Report for the Surface Waters Ambient Monitoring Program (SWAMP) Bioaccumulation Screening Study in California Lakes and Reservoirs. Sampling Dates: June 2007- March 2008 Statewide Lakes Sportfish Contamination Study 2007 2008 Contaminants in Fish from California Lakes and Reservoirs, 2007-2008: Summary Report on a Two-Year Screening Survey
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	Water Quality Control Plan for the San Francisco Bay Basin: Controllable water quality factors shall not cause a detrimental increase in concentrations of toxic substances found in bottom sediments or aquatic life. Effects on aquatic organisms, wildlife, and human health will be considered.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	National Academy of Science guidelines (NAS 1972) establish a maximum Aldrin concentration of 100 ug/Kg (wet weight) in tissue samples for protection of aquatic life from bioaccumulation of toxic substances.
Guideline Reference:	National Academy of Sciences. Water Quality Criteria 1972. EPA-R3-73-033. Washington, D.C.: U.S. Environmental Protection Agency
Spatial Representation:	Data for this assessment unit was collected by one monitoring project: (SWB_FishLk)
Temporal Representation:	Data was collected on a single day 7/16/2007.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	Samples were collected, processed, and analyzed in accordance with the methods described in Quality Assurance Project Plan "Screening Study of Bioaccumulation in California Lakes and Reservoirs." (SWAMP, 2008).
QAPP Information Reference(s):	Quality Assurance Project Plan Screening Study of Bioaccumulation in California Lakes and Reservoirs. Moss Landing Marine Labs. Prepared for SWAMP BOG. 49 pages plus appendices and attachments

DECISION ID	63780	Region 2
Lower Crystal Springs Reservoir		

Pollutant:	Chlordane
Final Listing Decision:	Do Not List on 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision:	New Decision
Revision Status	Revised
Impairment from Pollutant or Pollution:	Pollutant
Regional Board Staff Conclusion:	<p>This pollutant is being considered for placement on the CWA section 303(d) List under section 3.5 of the Listing Policy. Under section 3.5 a single line of evidence is necessary to assess listing status. Three lines of evidence are available in the administrative record to assess this pollutant. Zero of one samples exceed the guideline.</p> <p>Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against placing this water segment-pollutant combination on the CWA section 303(d) List.</p> <p>This conclusion is based on the staff findings that:</p> <ol style="list-style-type: none"> 1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy. 2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy. 3. Zero of one samples exceed the guideline and this sample size is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating. A

minimum of 16 samples is needed to determine if a beneficial use is fully supported using table 3.1. 4. Pursuant to SECTION 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.

Regional Board Staff Decision Recommendation: After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be placed on the section 303(d) list. The readily available data and information is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating.

Line of Evidence (LOE) for Decision ID 63780, Chlordane

Region 2

Lower Crystal Springs Reservoir

LOE ID:	92186
Pollutant:	Chlordane
LOE Subgroup:	Pollutant-Tissue
Matrix:	Tissue
Fraction:	Fish fillet
Beneficial Use:	Warm Freshwater Habitat
Number of Samples:	1
Number of Exceedances:	0
Data and Information Type:	Fish tissue analysis
Data Used to Assess Water Quality:	State Water Board staff assessed SWAMP data for Lower Crystal Springs Reservoir to determine beneficial use support and results are as follows: 0 of 1 samples exceed the criterion for Chlordane, Total. One composite (5 fish per composite) was generated from one species: Largemouth Bass. Details of the compositing protocol can be found in the March 2009 report entitled: "Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Study" (SWAMP, 2009). Total chlordane was calculated as the sum of the following chlordane isomers: cis- and trans-chlordane, cis- and trans-nonachlor, and oxychlordane.
Data Reference:	Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Survey. A Report of the Surface Water Ambient Monitoring Program (SWAMP). California State Water Resources Control Board, Sacramento, CA Cruise Report for the Surface Waters Ambient Monitoring Program (SWAMP) Bioaccumulation Screening Study in California Lakes and Reservoirs. Sampling Dates: June 2007- March 2008 Statewide Lakes Sportfish Contamination Study 2007 2008 Contaminants in Fish from California Lakes and Reservoirs, 2007-2008: Summary Report on a Two-Year Screening Survey
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	Water Quality Control Plan for the San Francisco Bay Basin: Controllable water quality factors shall not cause a detrimental increase in concentrations of toxic substances found in bottom sediments or aquatic life. Effects on aquatic organisms, wildlife, and human health will be considered.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	National Academy of Science guidelines (NAS 1972) establish a maximum total Chlordane concentration of 100 ug/Kg (wet weight) in tissue samples for protection of aquatic life from bioaccumulation of toxic substances.
Guideline Reference:	National Academy of Sciences. Water Quality Criteria 1972. EPA-R3-73-033. Washington, D.C.: U.S. Environmental Protection Agency
Spatial Representation:	Data for this assessment unit was collected by one monitoring project: (SWB_FishLk)
Temporal Representation:	Data was collected on a single day 7/16/2007.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	Samples were collected, processed, and analyzed in accordance with the methods

QAPP Information Reference(s):

described in Quality Assurance Project Plan "Screening Study of Bioaccumulation in California Lakes and Reservoirs." (SWAMP, 2008).

[Quality Assurance Project Plan Screening Study of Bioaccumulation in California Lakes and Reservoirs. Moss Landing Marine Labs. Prepared for SWAMP BOG. 49 pages plus appendices and attachments](#)

Line of Evidence (LOE) for Decision ID 63780, Chlordane

Region 2

Lower Crystal Springs Reservoir

LOE ID: 92188

Pollutant: Chlordane
LOE Subgroup: Pollutant-Tissue
Matrix: Tissue
Fraction: Fish fillet

Beneficial Use: Commercial or recreational collection of fish, shellfish, or organisms

Number of Samples: 1
Number of Exceedances: 0

Data and Information Type: Fish tissue analysis
Data Used to Assess Water Quality: State Water Board staff assessed SWAMP data for Lower Crystal Springs Reservoir to determine beneficial use support and results are as follows: 0 of 1 samples exceed the criterion for Chlordane, Total. One composite (5 fish per composite) was generated from one species: Largemouth Bass. Details of the compositing protocol can be found in the March 2009 report entitled: "Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Study" (SWAMP, 2009). Total chlordane was calculated as the sum of the following chlordane isomers: cis- and trans-chlordane, cis- and trans-nonachlor, and oxychlordane.

Data Reference: [Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Survey. A Report of the Surface Water Ambient Monitoring Program \(SWAMP\). California State Water Resources Control Board, Sacramento, CA Cruise Report for the Surface Waters Ambient Monitoring Program \(SWAMP\) Bioaccumulation Screening Study in California Lakes and Reservoirs. Sampling Dates: June 2007- March 2008](#)
[Statewide Lakes Sportfish Contamination Study 2007 2008](#)
[Contaminants in Fish from California Lakes and Reservoirs. 2007-2008: Summary Report on a Two-Year Screening Survey](#)

SWAMP Data: SWAMP

Water Quality Objective/Criterion: Water Quality Control Plan for the San Francisco Bay Basin: Controllable water quality factors shall not cause a detrimental increase in concentrations of toxic substances found in bottom sediments or aquatic life. Effects on aquatic organisms, wildlife, and human health will be considered.

Objective/Criterion Reference: [Water Quality Control Plan \(Basin Plan\) San Francisco Bay Basin \(Region 2\)](#)

Evaluation Guideline: The modified OEHHA Fish Contaminant Goal for total chlordane in fish tissue is 3.9 ppb. This screening level assumes an average body weight of 70 kg and a consumption rate of 32 g/day for a 30 year exposure over a 70-year lifetime. This constituent is a carcinogen therefore the risk level is set to one in a million. A cooking reduction factor of 1 is applied for skin-off fillets. (Klasing, S., and R. Brodberg, 2008)

Guideline Reference: [Development of Fish Contaminant Goals and Advisory Tissue Levels for Common Contaminants in California Sport Fish: Chlordane, DDTs, Dieldrin, Methylmercury, PCBs, Selenium, and Toxaphene](#)

Spatial Representation: Data for this assessment unit was collected by one monitoring project: (SWB_FishLk)
Temporal Representation: Data was collected on a single day 7/16/2007.
Environmental Conditions: Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information: Samples were collected, processed, and analyzed in accordance with the methods described in Quality Assurance Project Plan "Screening Study of Bioaccumulation in

QAPP Information Reference(s):	California Lakes and Reservoirs." (SWAMP, 2008). Quality Assurance Project Plan Screening Study of Bioaccumulation in California Lakes and Reservoirs. Moss Landing Marine Labs. Prepared for SWAMP BOG, 49 pages plus appendices and attachments
Line of Evidence (LOE) for Decision ID 63780, Chlordane	
Lower Crystal Springs Reservoir	
LOE ID:	92187
Pollutant:	Chlordane
LOE Subgroup:	Pollutant-Tissue
Matrix:	Tissue
Fraction:	Fish fillet
Beneficial Use:	Cold Freshwater Habitat
Number of Samples:	1
Number of Exceedances:	0
Data and Information Type:	Fish tissue analysis
Data Used to Assess Water Quality:	State Water Board staff assessed SWAMP data for Lower Crystal Springs Reservoir to determine beneficial use support and results are as follows: 0 of 1 samples exceed the criterion for Chlordane, Total. One composite (5 fish per composite) was generated from one species: Largemouth Bass. Details of the compositing protocol can be found in the March 2009 report entitled: "Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Study" (SWAMP, 2009). Total chlordane was calculated as the sum of the following chlordane isomers: cis- and trans-chlordane, cis- and trans-nonachlor, and oxychlordane.
Data Reference:	Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Survey. A Report of the Surface Water Ambient Monitoring Program (SWAMP). California State Water Resources Control Board, Sacramento, CA Cruise Report for the Surface Waters Ambient Monitoring Program (SWAMP) Bioaccumulation Screening Study in California Lakes and Reservoirs, Sampling Dates: June 2007- March 2008 Statewide Lakes Sportfish Contamination Study 2007 2008 Contaminants in Fish from California Lakes and Reservoirs, 2007-2008: Summary Report on a Two-Year Screening Survey
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	Water Quality Control Plan for the San Francisco Bay Basin: Controllable water quality factors shall not cause a detrimental increase in concentrations of toxic substances found in bottom sediments or aquatic life. Effects on aquatic organisms, wildlife, and human health will be considered.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	National Academy of Science guidelines (NAS 1972) establish a maximum total Chlordane concentration of 100 ug/Kg (wet weight) in tissue samples for protection of aquatic life from bioaccumulation of toxic substances.
Guideline Reference:	National Academy of Sciences. Water Quality Criteria 1972. EPA-R3-73-033. Washington, D.C.: U.S. Environmental Protection Agency
Spatial Representation:	Data for this assessment unit was collected by one monitoring project: (SWB_FishLk)
Temporal Representation:	Data was collected on a single day 7/16/2007.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	Samples were collected, processed, and analyzed in accordance with the methods described in Quality Assurance Project Plan "Screening Study of Bioaccumulation in California Lakes and Reservoirs." (SWAMP, 2008).
QAPP Information Reference(s):	Quality Assurance Project Plan Screening Study of Bioaccumulation in California Lakes and Reservoirs. Moss Landing Marine Labs. Prepared for SWAMP BOG, 49 pages plus appendices and attachments

DECISION ID	64004	Region 2
Lower Crystal Springs Reservoir		

Pollutant:	DDT (Dichlorodiphenyltrichloroethane)
Final Listing Decision:	Do Not List on 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision:	New Decision
Revision Status	Revised
Impairment from Pollutant or Pollution:	Pollutant

Regional Board Staff Conclusion:	<p>This pollutant is being considered for placement on the CWA section 303(d) List under section 3.5 of the Listing Policy. Under section 3.5 a single line of evidence is necessary to assess listing status. Three lines of evidence are available in the administrative record to assess this pollutant. Zero of one samples exceed the OEHHA guideline.</p> <p>Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against placing this water segment-pollutant combination on the CWA section 303(d) List.</p> <p>This conclusion is based on the staff findings that:</p> <ol style="list-style-type: none"> 1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy. 2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy. 3. Zero of one samples exceed the OEHHA guideline and this sample size is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating. A minimum of 16 samples is needed to determine if a beneficial use is fully supported using table 3.1. 4. Pursuant to SECTION 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.
Regional Board Staff Decision Recommendation:	<p>After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be placed on the section 303(d) list. The readily available data and information is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating.</p>

Line of Evidence (LOE) for Decision ID 64004, DDT (Dichlorodiphenyltrichloroethane)	Region 2
Lower Crystal Springs Reservoir	

LOE ID:	92213
Pollutant:	Total DDT (sum of 4,4'- and 2,4'- isomers of DDT, DDE, and DDD)
LOE Subgroup:	Pollutant-Tissue
Matrix:	Tissue
Fraction:	Fish fillet
Beneficial Use:	Warm Freshwater Habitat
Number of Samples:	1
Number of Exceedances:	0
Data and Information Type:	Fish tissue analysis
Data Used to Assess Water Quality:	<p>State Water Board staff assessed SWAMP data for Lower Crystal Springs Reservoir to determine beneficial use support and results are as follows: 0 of 1 samples exceed the criterion for DDT, Total. One composite (5 fish per composite) was generated from one species: Largemouth Bass. Details of the compositing protocol can be found in the March 2009 report entitled: "Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Study" (SWAMP, 2009). Total DDT was calculated as the sum of 4,4'- and 2,4'- isomers of DDT, DDE, and DDD.</p>

Data Reference:	Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Survey. A Report of the Surface Water Ambient Monitoring Program (SWAMP). California State Water Resources Control Board, Sacramento, CA Cruise Report for the Surface Waters Ambient Monitoring Program (SWAMP) Bioaccumulation Screening Study in California Lakes and Reservoirs, Sampling Dates: June 2007- March 2008 Statewide Lakes Sportfish Contamination Study 2007 2008 Contaminants in Fish from California Lakes and Reservoirs, 2007-2008: Summary Report on a Two-Year Screening Survey
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	Water Quality Control Plan for the San Francisco Bay Basin: Controllable water quality factors shall not cause a detrimental increase in concentrations of toxic substances found in bottom sediments or aquatic life. Effects on aquatic organisms, wildlife, and human health will be considered.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	National Academy of Science guidelines (NAS 1972) establish a maximum total DDT concentration of 1000 ug/Kg (wet weight) in tissue samples for protection of aquatic life from bioaccumulation of toxic substances.
Guideline Reference:	National Academy of Sciences. Water Quality Criteria 1972. EPA-R3-73-033. Washington, D.C.: U.S. Environmental Protection Agency
Spatial Representation:	Data for this assessment unit was collected by one monitoring project: (SWB_FishLk)
Temporal Representation:	Data was collected on a single day 7/16/2007.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	Samples were collected, processed, and analyzed in accordance with the methods described in Quality Assurance Project Plan "Screening Study of Bioaccumulation in California Lakes and Reservoirs." (SWAMP, 2008).
QAPP Information Reference(s):	Quality Assurance Project Plan Screening Study of Bioaccumulation in California Lakes and Reservoirs. Moss Landing Marine Labs. Prepared for SWAMP BOG. 49 pages plus appendices and attachments

Line of Evidence (LOE) for Decision ID 64004, DDT (Dichlorodiphenyltrichloroethane)

Region 2

Lower Crystal Springs Reservoir

LOE ID:	92176
Pollutant:	Total DDT (sum of 4,4'- and 2,4'- isomers of DDT, DDE, and DDD)
LOE Subgroup:	Pollutant-Tissue
Matrix:	Tissue
Fraction:	Fish fillet
Beneficial Use:	Commercial or recreational collection of fish, shellfish, or organisms
Number of Samples:	1
Number of Exceedances:	0
Data and Information Type:	Fish tissue analysis
Data Used to Assess Water Quality:	State Water Board staff assessed SWAMP data for Lower Crystal Springs Reservoir to determine beneficial use support and results are as follows: 0 of 1 samples exceed the criterion for DDT, Total. One composite (5 fish per composite) was generated from one species: Largemouth Bass. Details of the compositing protocol can be found in the March 2009 report entitled: "Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Study" (SWAMP, 2009). Total DDT was calculated as the sum of 4,4'- and 2,4'- isomers of DDT, DDE, and DDD.
Data Reference:	Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Survey. A Report of the Surface Water Ambient Monitoring Program (SWAMP). California State Water Resources Control Board, Sacramento, CA Cruise Report for the Surface Waters Ambient Monitoring Program (SWAMP) Bioaccumulation Screening Study in California Lakes and Reservoirs, Sampling Dates:

[June 2007- March 2008](#)
[Statewide Lakes Sportfish Contamination Study 2007 2008](#)
[Contaminants in Fish from California Lakes and Reservoirs, 2007-2008: Summary Report on a Two-Year Screening Survey](#)

SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	Water Quality Control Plan for the San Francisco Bay Basin: Controllable water quality factors shall not cause a detrimental increase in concentrations of toxic substances found in bottom sediments or aquatic life. Effects on aquatic organisms, wildlife, and human health will be considered.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	The modified OEHHA Fish Contaminant Goal for total DDT in fish tissue is 15 ppb. This screening level assumes an average body weight of 70 kg and a consumption rate of 32 g/day for a 30 year exposure over a 70-year lifetime. This constituent is a carcinogen therefore the risk level is set to one in a million. A cooking reduction factor of 1 is applied for skin-off fillets. (Klasing, S., and R. Brodberg, 2008)
Guideline Reference:	Development of Fish Contaminant Goals and Advisory Tissue Levels for Common Contaminants in California Sport Fish: Chlordane, DDTs, Dieldrin, Methylmercury, PCBs, Selenium, and Toxaphene
Spatial Representation:	Data for this assessment unit was collected by one monitoring project: (SWB_FishLk)
Temporal Representation:	Data was collected on a single day 7/16/2007.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	Samples were collected, processed, and analyzed in accordance with the methods described in Quality Assurance Project Plan "Screening Study of Bioaccumulation in California Lakes and Reservoirs." (SWAMP, 2008).
QAPP Information Reference(s):	Quality Assurance Project Plan Screening Study of Bioaccumulation in California Lakes and Reservoirs. Moss Landing Marine Labs. Prepared for SWAMP BOG. 49 pages plus appendices and attachments

Line of Evidence (LOE) for Decision ID 64004, DDT (Dichlorodiphenyltrichloroethane)

Region 2

Lower Crystal Springs Reservoir

LOE ID:	92214
Pollutant:	Total DDT (sum of 4,4'- and 2,4'- isomers of DDT, DDE, and DDD)
LOE Subgroup:	Pollutant-Tissue
Matrix:	Tissue
Fraction:	Fish fillet
Beneficial Use:	Cold Freshwater Habitat
Number of Samples:	1
Number of Exceedances:	0
Data and Information Type:	Fish tissue analysis
Data Used to Assess Water Quality:	State Water Board staff assessed SWAMP data for Lower Crystal Springs Reservoir to determine beneficial use support and results are as follows: 0 of 1 samples exceed the criterion for DDT, Total. One composite (5 fish per composite) was generated from one species: Largemouth Bass. Details of the compositing protocol can be found in the March 2009 report entitled: "Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Study" (SWAMP, 2009). Total DDT was calculated as the sum of 4,4'- and 2,4'- isomers of DDT, DDE, and DDD.
Data Reference:	Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Survey. A Report of the Surface Water Ambient Monitoring Program (SWAMP). California State Water Resources Control Board, Sacramento, CA Cruise Report for the Surface Waters Ambient Monitoring Program (SWAMP) Bioaccumulation Screening Study in California Lakes and Reservoirs, Sampling Dates: June 2007- March 2008 Statewide Lakes Sportfish Contamination Study 2007 2008

SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	Water Quality Control Plan for the San Francisco Bay Basin: Controllable water quality factors shall not cause a detrimental increase in concentrations of toxic substances found in bottom sediments or aquatic life. Effects on aquatic organisms, wildlife, and human health will be considered.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	National Academy of Science guidelines (NAS 1972) establish a maximum total DDT concentration of 1000 ug/Kg (wet weight) in tissue samples for protection of aquatic life from bioaccumulation of toxic substances.
Guideline Reference:	National Academy of Sciences. Water Quality Criteria 1972. EPA-R3-73-033. Washington, D.C.: U.S. Environmental Protection Agency
Spatial Representation:	Data for this assessment unit was collected by one monitoring project: (SWB_FishLk)
Temporal Representation:	Data was collected on a single day 7/16/2007.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	Samples were collected, processed, and analyzed in accordance with the methods described in Quality Assurance Project Plan "Screening Study of Bioaccumulation in California Lakes and Reservoirs." (SWAMP, 2008).
QAPP Information Reference(s):	Quality Assurance Project Plan Screening Study of Bioaccumulation in California Lakes and Reservoirs. Moss Landing Marine Labs. Prepared for SWAMP BOG. 49 pages plus appendices and attachments

DECISION ID	63781	Region 2
Lower Crystal Springs Reservoir		

Pollutant:	Dieldrin
Final Listing Decision:	Do Not List on 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision:	New Decision
Revision Status	Revised
Impairment from Pollutant or Pollution:	Pollutant
Regional Board Staff Conclusion:	<p>This pollutant is being considered for placement on the CWA section 303(d) List under section 3.5 of the Listing Policy. Under section 3.5 a single line of evidence is necessary to assess listing status. Three lines of evidence are available in the administrative record to assess this pollutant. Zero of one samples exceed the guideline.</p> <p>Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against placing this water segment-pollutant combination on the CWA section 303(d) List.</p> <p>This conclusion is based on the staff findings that:</p> <ol style="list-style-type: none">1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy.2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy.3. Zero of one samples exceed the guideline and this sample size is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating. A minimum of 16 samples is needed to determine if a beneficial use is fully supported using table 3.1.4. Pursuant to SECTION 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.
Regional Board Staff Decision Recommendation:	After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be placed on the section 303(d) list. The readily available data and information is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating.

Lower Crystal Springs Reservoir

LOE ID:	92191
Pollutant:	Dieldrin
LOE Subgroup:	Pollutant-Tissue
Matrix:	Tissue
Fraction:	Fish fillet
Beneficial Use:	Commercial or recreational collection of fish, shellfish, or organisms
Number of Samples:	0
Number of Exceedances:	0
Data and Information Type:	Fish tissue analysis
Data Used to Assess Water Quality:	State Water Board staff assessed SWAMP data for Lower Crystal Springs Reservoir to determine beneficial use support and results are as follows: 0 of 0 samples exceed the criterion for Dieldrin. One composite (5 fish per composite) was generated from one species: Largemouth Bass. Details of the compositing protocol can be found in the March 2009 report entitled: "Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Study" (SWAMP, 2009). One composite was not used in the assessment because the laboratory data reporting limit(s) was above the objective and therefore the results could not be quantified with the level of certainty required by the Listing Policy.
Data Reference:	Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Survey. A Report of the Surface Water Ambient Monitoring Program (SWAMP). California State Water Resources Control Board, Sacramento, CA Cruise Report for the Surface Waters Ambient Monitoring Program (SWAMP) Bioaccumulation Screening Study in California Lakes and Reservoirs. Sampling Dates: June 2007- March 2008 Statewide Lakes Sportfish Contamination Study 2007 2008 Contaminants in Fish from California Lakes and Reservoirs, 2007-2008: Summary Report on a Two-Year Screening Survey
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	Water Quality Control Plan for the San Francisco Bay Basin: Controllable water quality factors shall not cause a detrimental increase in concentrations of toxic substances found in bottom sediments or aquatic life. Effects on aquatic organisms, wildlife, and human health will be considered.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	The modified OEHHA Fish Contaminant Goal for dieldrin in fish tissue is 0.32 ppb. This screening level assumes an average body weight of 70 kg and a consumption rate of 32 g/day for a 30 year exposure over a 70-year lifetime. This constituent is a carcinogen therefore the risk level is set to one in a million. A cooking reduction factor of 1 is applied for skin-off fillets. (Klasing, S., and R. Brodberg, 2008)
Guideline Reference:	Development of Fish Contaminant Goals and Advisory Tissue Levels for Common Contaminants in California Sport Fish: Chlordane, DDTs, Dieldrin, Methylmercury, PCBs, Selenium, and Toxaphene
Spatial Representation:	Data for this assessment unit was collected by one monitoring project: (SWB_FishLk)
Temporal Representation:	Data was collected on a single day 7/16/2007.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	Samples were collected, processed, and analyzed in accordance with the methods described in Quality Assurance Project Plan "Screening Study of Bioaccumulation in California Lakes and Reservoirs." (SWAMP, 2008).
QAPP Information Reference(s):	Quality Assurance Project Plan Screening Study of Bioaccumulation in California Lakes and Reservoirs. Moss Landing Marine Labs. Prepared for SWAMP BOG, 49 pages plus appendices and attachments

Line of Evidence (LOE) for Decision ID 63781, Dieldrin**Region 2****Lower Crystal Springs Reservoir**

LOE ID:	92190
Pollutant:	Dieldrin
LOE Subgroup:	Pollutant-Tissue
Matrix:	Tissue
Fraction:	Fish fillet
Beneficial Use:	Cold Freshwater Habitat
Number of Samples:	1
Number of Exceedances:	0
Data and Information Type:	Fish tissue analysis
Data Used to Assess Water Quality:	State Water Board staff assessed SWAMP data for Lower Crystal Springs Reservoir to determine beneficial use support and results are as follows: 0 of 1 samples exceed the criterion for Dieldrin. One composite (5 fish per composite) was generated from one species: Largemouth Bass. Details of the compositing protocol can be found in the March 2009 report entitled: "Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Study" (SWAMP, 2009).
Data Reference:	Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Survey. A Report of the Surface Water Ambient Monitoring Program (SWAMP). California State Water Resources Control Board, Sacramento, CA Cruise Report for the Surface Waters Ambient Monitoring Program (SWAMP) Bioaccumulation Screening Study in California Lakes and Reservoirs, Sampling Dates: June 2007- March 2008 Statewide Lakes Sportfish Contamination Study 2007 2008 Contaminants in Fish from California Lakes and Reservoirs, 2007-2008: Summary Report on a Two-Year Screening Survey
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	Water Quality Control Plan for the San Francisco Bay Basin: Controllable water quality factors shall not cause a detrimental increase in concentrations of toxic substances found in bottom sediments or aquatic life. Effects on aquatic organisms, wildlife, and human health will be considered.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	National Academy of Science guidelines (NAS 1972) establish a maximum Dieldrin concentration of 100 ug/Kg (wet weight) in tissue samples for protection of aquatic life from bioaccumulation of toxic substances.
Guideline Reference:	National Academy of Sciences. Water Quality Criteria 1972. EPA-R3-73-033. Washington, D.C.: U.S. Environmental Protection Agency
Spatial Representation:	Data for this assessment unit was collected by one monitoring project: (SWB_FishLk)
Temporal Representation:	Data was collected on a single day 7/16/2007.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	Samples were collected, processed, and analyzed in accordance with the methods described in Quality Assurance Project Plan "Screening Study of Bioaccumulation in California Lakes and Reservoirs." (SWAMP, 2008).
QAPP Information Reference(s):	Quality Assurance Project Plan Screening Study of Bioaccumulation in California Lakes and Reservoirs. Moss Landing Marine Labs. Prepared for SWAMP BOG. 49 pages plus appendices and attachments

Line of Evidence (LOE) for Decision ID 63781, Dieldrin**Region 2****Lower Crystal Springs Reservoir**

LOE ID: 92189

Pollutant:	Dieldrin
LOE Subgroup:	Pollutant-Tissue
Matrix:	Tissue
Fraction:	Fish fillet
Beneficial Use:	Warm Freshwater Habitat
Number of Samples:	1
Number of Exceedances:	0
Data and Information Type:	Fish tissue analysis
Data Used to Assess Water Quality:	State Water Board staff assessed SWAMP data for Lower Crystal Springs Reservoir to determine beneficial use support and results are as follows: 0 of 1 samples exceed the criterion for Dieldrin. One composite (5 fish per composite) was generated from one species: Largemouth Bass. Details of the compositing protocol can be found in the March 2009 report entitled: "Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Study" (SWAMP, 2009).
Data Reference:	Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Survey. A Report of the Surface Water Ambient Monitoring Program (SWAMP). California State Water Resources Control Board, Sacramento, CA Cruise Report for the Surface Waters Ambient Monitoring Program (SWAMP) Bioaccumulation Screening Study in California Lakes and Reservoirs, Sampling Dates: June 2007- March 2008 Statewide Lakes Sportfish Contamination Study 2007 2008 Contaminants in Fish from California Lakes and Reservoirs, 2007-2008: Summary Report on a Two-Year Screening Survey
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	Water Quality Control Plan for the San Francisco Bay Basin: Controllable water quality factors shall not cause a detrimental increase in concentrations of toxic substances found in bottom sediments or aquatic life. Effects on aquatic organisms, wildlife, and human health will be considered.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	National Academy of Science guidelines (NAS 1972) establish a maximum Dieldrin concentration of 100 ug/Kg (wet weight) in tissue samples for protection of aquatic life from bioaccumulation of toxic substances.
Guideline Reference:	National Academy of Sciences. Water Quality Criteria 1972. EPA-R3-73-033. Washington, D.C.: U.S. Environmental Protection Agency
Spatial Representation:	Data for this assessment unit was collected by one monitoring project: (SWB_FishLk)
Temporal Representation:	Data was collected on a single day 7/16/2007.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	Samples were collected, processed, and analyzed in accordance with the methods described in Quality Assurance Project Plan "Screening Study of Bioaccumulation in California Lakes and Reservoirs." (SWAMP, 2008).
QAPP Information Reference(s):	Quality Assurance Project Plan Screening Study of Bioaccumulation in California Lakes and Reservoirs. Moss Landing Marine Labs. Prepared for SWAMP BOG. 49 pages plus appendices and attachments

DECISION ID	63782	Region 2
Lower Crystal Springs Reservoir		

Pollutant:	Endosulfan
Final Listing Decision:	Do Not List on 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision:	New Decision
Revision Status	Revised
Impairment from Pollutant or	Pollutant

Pollution:**Regional Board Staff
Conclusion:**

This pollutant is being considered for placement on the CWA section 303(d) List under section 3.5 of the Listing Policy. Under section 3.5 a single line of evidence is necessary to assess listing status. Three lines of evidence are available in the administrative record to assess this pollutant. Zero of one samples exceed the guideline.

Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against placing this water segment-pollutant combination on the CWA section 303(d) List.

This conclusion is based on the staff findings that:

1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy.
2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy.
3. Zero of one samples exceed the guideline and this sample size is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating. A minimum of 16 samples is needed to determine if a beneficial use is fully supported using table 3.1.
4. Pursuant to SECTION 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.

**Regional Board Staff Decision
Recommendation:**

After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be placed on the section 303(d) list. The readily available data and information is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating.

**Line of Evidence (LOE) for Decision ID 63782, Endosulfan
Lower Crystal Springs Reservoir****Region 2**

LOE ID:	92192
Pollutant:	Endosulfan
LOE Subgroup:	Pollutant-Tissue
Matrix:	Tissue
Fraction:	Fish fillet
Beneficial Use:	Warm Freshwater Habitat
Number of Samples:	1
Number of Exceedances:	0
Data and Information Type:	Fish tissue analysis
Data Used to Assess Water Quality:	State Water Board staff assessed SWAMP data for Lower Crystal Springs Reservoir to determine beneficial use support and results are as follows: 0 of 1 samples exceed the criterion for Endosulfan I. One composite (5 fish per composite) was generated from one species: Largemouth Bass. Details of the compositing protocol can be found in the March 2009 report entitled: "Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Study" (SWAMP, 2009).
Data Reference:	Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Survey. A Report of the Surface Water Ambient Monitoring Program (SWAMP). California State Water Resources Control Board, Sacramento, CA Cruise Report for the Surface Waters Ambient Monitoring Program (SWAMP) Bioaccumulation Screening Study in California Lakes and Reservoirs. Sampling Dates: June 2007- March 2008 Statewide Lakes Sportfish Contamination Study 2007 2008 Contaminants in Fish from California Lakes and Reservoirs, 2007-2008: Summary Report on a Two-Year Screening Survey
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	Water Quality Control Plan for the San Francisco Bay Basin: Controllable water quality factors shall not cause a detrimental increase in concentrations of toxic substances found

Objective/Criterion Reference:	in bottom sediments or aquatic life. Effects on aquatic organisms, wildlife, and human health will be considered. Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	National Academy of Science guidelines (NAS 1972) establish a maximum Endosulfan, Total concentration of 100 ug/Kg (wet weight) in tissue samples for protection of aquatic life from bioaccumulation of toxic substances.
Guideline Reference:	National Academy of Sciences. Water Quality Criteria 1972. EPA-R3-73-033. Washington, D.C.: U.S. Environmental Protection Agency
Spatial Representation:	Data for this assessment unit was collected by one monitoring project: (SWB_FishLk)
Temporal Representation:	Data was collected on a single day 7/16/2007.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	Samples were collected, processed, and analyzed in accordance with the methods described in Quality Assurance Project Plan "Screening Study of Bioaccumulation in California Lakes and Reservoirs." (SWAMP, 2008).
QAPP Information Reference(s):	Quality Assurance Project Plan Screening Study of Bioaccumulation in California Lakes and Reservoirs. Moss Landing Marine Labs. Prepared for SWAMP BOG. 49 pages plus appendices and attachments

Line of Evidence (LOE) for Decision ID 63782, Endosulfan

Region 2

Lower Crystal Springs Reservoir

LOE ID:	92193
Pollutant:	Endosulfan
LOE Subgroup:	Pollutant-Tissue
Matrix:	Tissue
Fraction:	Fish fillet
Beneficial Use:	Cold Freshwater Habitat
Number of Samples:	1
Number of Exceedances:	0
Data and Information Type:	Fish tissue analysis
Data Used to Assess Water Quality:	State Water Board staff assessed SWAMP data for Lower Crystal Springs Reservoir to determine beneficial use support and results are as follows: 0 of 1 samples exceed the criterion for Endosulfan I. One composite (5 fish per composite) was generated from one species: Largemouth Bass. Details of the compositing protocol can be found in the March 2009 report entitled: "Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Study" (SWAMP, 2009).
Data Reference:	Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Survey. A Report of the Surface Water Ambient Monitoring Program (SWAMP). California State Water Resources Control Board, Sacramento, CA Cruise Report for the Surface Waters Ambient Monitoring Program (SWAMP) Bioaccumulation Screening Study in California Lakes and Reservoirs. Sampling Dates: June 2007- March 2008 Statewide Lakes Sportfish Contamination Study 2007 2008 Contaminants in Fish from California Lakes and Reservoirs, 2007-2008: Summary Report on a Two-Year Screening Survey
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	Water Quality Control Plan for the San Francisco Bay Basin: Controllable water quality factors shall not cause a detrimental increase in concentrations of toxic substances found in bottom sediments or aquatic life. Effects on aquatic organisms, wildlife, and human health will be considered.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	National Academy of Science guidelines (NAS 1972) establish a maximum Endosulfan, Total concentration of 100 ug/Kg (wet weight) in tissue samples for protection of aquatic

life from bioaccumulation of toxic substances.

Guideline Reference: [National Academy of Sciences. Water Quality Criteria 1972. EPA-R3-73-033. Washington, D.C.: U.S. Environmental Protection Agency](#)

Spatial Representation: Data for this assessment unit was collected by one monitoring project: (SWB_FishLk)

Temporal Representation: Data was collected on a single day 7/16/2007.

Environmental Conditions: Staff is not aware of any special conditions that might affect interpretation of the data.

QAPP Information: Samples were collected, processed, and analyzed in accordance with the methods described in Quality Assurance Project Plan "Screening Study of Bioaccumulation in California Lakes and Reservoirs." (SWAMP, 2008).

QAPP Information Reference(s): [Quality Assurance Project Plan Screening Study of Bioaccumulation in California Lakes and Reservoirs. Moss Landing Marine Labs. Prepared for SWAMP BOG. 49 pages plus appendices and attachments](#)

Line of Evidence (LOE) for Decision ID 63782, Endosulfan

Region 2

Lower Crystal Springs Reservoir

LOE ID: 92194

Pollutant: Endosulfan

LOE Subgroup: Pollutant-Tissue

Matrix: Tissue

Fraction: Fish fillet

Beneficial Use: Commercial or recreational collection of fish, shellfish, or organisms

Number of Samples: 1

Number of Exceedances: 0

Data and Information Type: Fish tissue analysis

Data Used to Assess Water Quality: State Water Board staff assessed SWAMP data for Lower Crystal Springs Reservoir to determine beneficial use support and results are as follows: 0 of 1 samples exceed the criterion for Endosulfan I. One composite (5 fish per composite) was generated from one species: Largemouth Bass. Details of the compositing protocol can be found in the March 2009 report entitled: "Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Study" (SWAMP, 2009).

Data Reference: [Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Survey. A Report of the Surface Water Ambient Monitoring Program \(SWAMP\). California State Water Resources Control Board, Sacramento, CA](#)
[Cruise Report for the Surface Waters Ambient Monitoring Program \(SWAMP\) Bioaccumulation Screening Study in California Lakes and Reservoirs. Sampling Dates: June 2007- March 2008](#)
[Statewide Lakes Sportfish Contamination Study 2007 2008](#)
[Contaminants in Fish from California Lakes and Reservoirs, 2007-2008: Summary Report on a Two-Year Screening Survey](#)

SWAMP Data: SWAMP

Water Quality Objective/Criterion: Water Quality Control Plan for the San Francisco Bay Basin: Controllable water quality factors shall not cause a detrimental increase in concentrations of toxic substances found in bottom sediments or aquatic life. Effects on aquatic organisms, wildlife, and human health will be considered.

Objective/Criterion Reference: [Water Quality Control Plan \(Basin Plan\) San Francisco Bay Basin \(Region 2\)](#)

Evaluation Guideline: The modified OEHHA Fish Contaminant Goal for endosulfan (I and II) in fish tissue is 13,000 ppb. This screening level assumes an average body weight of 70 kg and a consumption rate of 32 g/day. A cooking reduction factor of 1 is applied for skin-off fillets. (Klasing, S., and R. Brodberg, 2008; USEPA, 2000)

Guideline Reference: [Development of Fish Contaminant Goals and Advisory Tissue Levels for Common Contaminants in California Sport Fish: Chlordane, DDTs, Dieldrin, Methylmercury, PCBs, Selenium, and Toxaphene](#)
[Guidance for Assessing Chemical Contaminant Data for Use In Fish Advisories Volume 1:](#)

Fish Sampling and Analysis

Spatial Representation: Data for this assessment unit was collected by one monitoring project: (SWB_FishLk)
Temporal Representation: Data was collected on a single day 7/16/2007.
Environmental Conditions: Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information: Samples were collected, processed, and analyzed in accordance with the methods described in Quality Assurance Project Plan "Screening Study of Bioaccumulation in California Lakes and Reservoirs." (SWAMP, 2008).
QAPP Information Reference(s): [Quality Assurance Project Plan Screening Study of Bioaccumulation in California Lakes and Reservoirs. Moss Landing Marine Labs. Prepared for SWAMP BOG. 49 pages plus appendices and attachments](#)

DECISION ID	63783	Region 2
Lower Crystal Springs Reservoir		

Pollutant:	Endrin
Final Listing Decision:	Do Not List on 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision:	New Decision
Revision Status	Revised
Impairment from Pollutant or Pollution:	Pollutant

Regional Board Staff Conclusion: This pollutant is being considered for placement on the CWA section 303(d) List under section 3.5 of the Listing Policy. Under section 3.5 a single line of evidence is necessary to assess listing status. Three lines of evidence are available in the administrative record to assess this pollutant. Zero of one samples exceed the OEHHHA guideline.

Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against placing this water segment-pollutant combination on the CWA section 303(d) List.

This conclusion is based on the staff findings that:

1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy.
2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy.
3. Zero of one samples exceed the OEHHHA guideline and this sample size is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating. A minimum of 16 samples is needed to determine if a beneficial use is fully supported using table 3.1.
4. Pursuant to SECTION 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.

Regional Board Staff Decision Recommendation: After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be placed on the section 303(d) list. The readily available data and information is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating.

Line of Evidence (LOE) for Decision ID 63783, Endrin	Region 2
Lower Crystal Springs Reservoir	

LOE ID:	92197
Pollutant:	Endrin
LOE Subgroup:	Pollutant-Tissue
Matrix:	Tissue
Fraction:	Fish fillet
Beneficial Use:	Commercial or recreational collection of fish, shellfish, or organisms

Number of Samples:	1
Number of Exceedances:	0
Data and Information Type:	Fish tissue analysis
Data Used to Assess Water Quality:	State Water Board staff assessed SWAMP data for Lower Crystal Springs Reservoir to determine beneficial use support and results are as follows: 0 of 1 samples exceed the criterion for Endrin. One composite (5 fish per composite) was generated from one species: Largemouth Bass. Details of the compositing protocol can be found in the March 2009 report entitled: "Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Study" (SWAMP, 2009).
Data Reference:	Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Survey. A Report of the Surface Water Ambient Monitoring Program (SWAMP). California State Water Resources Control Board, Sacramento, CA Cruise Report for the Surface Waters Ambient Monitoring Program (SWAMP) Bioaccumulation Screening Study in California Lakes and Reservoirs, Sampling Dates: June 2007- March 2008 Statewide Lakes Sportfish Contamination Study 2007 2008 Contaminants in Fish from California Lakes and Reservoirs, 2007-2008: Summary Report on a Two-Year Screening Survey
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	Water Quality Control Plan for the San Francisco Bay Basin: Controllable water quality factors shall not cause a detrimental increase in concentrations of toxic substances found in bottom sediments or aquatic life. Effects on aquatic organisms, wildlife, and human health will be considered.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	The modified OEHHA Fish Contaminant Goal for endrin in fish tissue is 660 ppb. This screening level assumes an average body weight of 70 kg and a consumption rate of 32 g/day. A cooking reduction factor of 1 is applied for skin-off fillets. (Klasing, S., and R. Brodberg, 2008; USEPA, 2000)
Guideline Reference:	Development of Fish Contaminant Goals and Advisory Tissue Levels for Common Contaminants in California Sport Fish: Chlordane, DDTs, Dieldrin, Methylmercury, PCBs, Selenium, and Toxaphene Guidance for Assessing Chemical Contaminant Data for Use In Fish Advisories Volume 1: Fish Sampling and Analysis
Spatial Representation:	Data for this assessment unit was collected by one monitoring project: (SWB_FishLk)
Temporal Representation:	Data was collected on a single day 7/16/2007.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	Samples were collected, processed, and analyzed in accordance with the methods described in Quality Assurance Project Plan "Screening Study of Bioaccumulation in California Lakes and Reservoirs." (SWAMP, 2008).
QAPP Information Reference(s):	Quality Assurance Project Plan Screening Study of Bioaccumulation in California Lakes and Reservoirs. Moss Landing Marine Labs. Prepared for SWAMP BOG, 49 pages plus appendices and attachments

Line of Evidence (LOE) for Decision ID 63783, Endrin

Region 2

Lower Crystal Springs Reservoir

LOE ID:	92196
Pollutant:	Endrin
LOE Subgroup:	Pollutant-Tissue
Matrix:	Tissue
Fraction:	Fish fillet
Beneficial Use:	Cold Freshwater Habitat
Number of Samples:	1
Number of Exceedances:	0

Data and Information Type:	Fish tissue analysis
Data Used to Assess Water Quality:	State Water Board staff assessed SWAMP data for Lower Crystal Springs Reservoir to determine beneficial use support and results are as follows: 0 of 1 samples exceed the criterion for Endrin. One composite (5 fish per composite) was generated from one species: Largemouth Bass. Details of the compositing protocol can be found in the March 2009 report entitled: "Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Study" (SWAMP, 2009).
Data Reference:	Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Survey. A Report of the Surface Water Ambient Monitoring Program (SWAMP). California State Water Resources Control Board, Sacramento, CA Cruise Report for the Surface Waters Ambient Monitoring Program (SWAMP) Bioaccumulation Screening Study in California Lakes and Reservoirs, Sampling Dates: June 2007- March 2008 Statewide Lakes Sportfish Contamination Study 2007 2008 Contaminants in Fish from California Lakes and Reservoirs, 2007-2008: Summary Report on a Two-Year Screening Survey
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	Water Quality Control Plan for the San Francisco Bay Basin: Controllable water quality factors shall not cause a detrimental increase in concentrations of toxic substances found in bottom sediments or aquatic life. Effects on aquatic organisms, wildlife, and human health will be considered.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	National Academy of Science guidelines (NAS 1972) establish a maximum Endrin concentration of 100 ug/Kg (wet weight) in tissue samples for protection of aquatic life from bioaccumulation of toxic substances.
Guideline Reference:	National Academy of Sciences. Water Quality Criteria 1972. EPA-R3-73-033. Washington, D.C.: U.S. Environmental Protection Agency
Spatial Representation:	Data for this assessment unit was collected by one monitoring project: (SWB_FishLk)
Temporal Representation:	Data was collected on a single day 7/16/2007.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	Samples were collected, processed, and analyzed in accordance with the methods described in Quality Assurance Project Plan "Screening Study of Bioaccumulation in California Lakes and Reservoirs." (SWAMP, 2008).
QAPP Information Reference(s):	Quality Assurance Project Plan Screening Study of Bioaccumulation in California Lakes and Reservoirs. Moss Landing Marine Labs. Prepared for SWAMP BOG, 49 pages plus appendices and attachments

Line of Evidence (LOE) for Decision ID 63783, Endrin

Region 2

Lower Crystal Springs Reservoir

LOE ID:	92195
Pollutant:	Endrin
LOE Subgroup:	Pollutant-Tissue
Matrix:	Tissue
Fraction:	Fish fillet
Beneficial Use:	Warm Freshwater Habitat
Number of Samples:	1
Number of Exceedances:	0

Data and Information Type:	Fish tissue analysis
Data Used to Assess Water Quality:	State Water Board staff assessed SWAMP data for Lower Crystal Springs Reservoir to determine beneficial use support and results are as follows: 0 of 1 samples exceed the criterion for Endrin. One composite (5 fish per composite) was generated from one species: Largemouth Bass. Details of the compositing protocol can be found in the March

Data Reference:	2009 report entitled: "Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Study" (SWAMP, 2009). Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Survey. A Report of the Surface Water Ambient Monitoring Program (SWAMP). California State Water Resources Control Board, Sacramento, CA Cruise Report for the Surface Waters Ambient Monitoring Program (SWAMP) Bioaccumulation Screening Study in California Lakes and Reservoirs. Sampling Dates: June 2007- March 2008 Statewide Lakes Sportfish Contamination Study 2007 2008 Contaminants in Fish from California Lakes and Reservoirs, 2007-2008: Summary Report on a Two-Year Screening Survey
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	Water Quality Control Plan for the San Francisco Bay Basin: Controllable water quality factors shall not cause a detrimental increase in concentrations of toxic substances found in bottom sediments or aquatic life. Effects on aquatic organisms, wildlife, and human health will be considered.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	National Academy of Science guidelines (NAS 1972) establish a maximum Endrin concentration of 100 ug/Kg (wet weight) in tissue samples for protection of aquatic life from bioaccumulation of toxic substances.
Guideline Reference:	National Academy of Sciences. Water Quality Criteria 1972. EPA-R3-73-033. Washington, D.C.: U.S. Environmental Protection Agency
Spatial Representation:	Data for this assessment unit was collected by one monitoring project: (SWB_FishLk)
Temporal Representation:	Data was collected on a single day 7/16/2007.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	Samples were collected, processed, and analyzed in accordance with the methods described in Quality Assurance Project Plan "Screening Study of Bioaccumulation in California Lakes and Reservoirs." (SWAMP, 2008).
QAPP Information Reference(s):	Quality Assurance Project Plan Screening Study of Bioaccumulation in California Lakes and Reservoirs. Moss Landing Marine Labs. Prepared for SWAMP BOG. 49 pages plus appendices and attachments

DECISION ID	63998	Region 2
Lower Crystal Springs Reservoir		
Pollutant:	Heptachlor	
Final Listing Decision:	Do Not List on 303(d) list (TMDL required list)	
Last Listing Cycle's Final Listing Decision:	New Decision	
Revision Status	Revised	
Impairment from Pollutant or Pollution:	Pollutant	
Regional Board Staff Conclusion:	<p>This pollutant is being considered for placement on the CWA section 303(d) List under section 3.5 of the Listing Policy. Under section 3.5 a single line of evidence is necessary to assess listing status. Two lines of evidence are available in the administrative record to assess this pollutant. Zero of one samples exceed the guideline.</p> <p>Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against placing this water segment-pollutant combination on the CWA section 303(d) List.</p> <p>This conclusion is based on the staff findings that:</p> <ol style="list-style-type: none"> 1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy. 2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy. 3. Zero of one samples exceed the guideline and this sample size is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating. A 	

minimum of 16 samples is needed to determine if a beneficial use is fully supported using table 3.1. 4. Pursuant to SECTION 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.

Regional Board Staff Decision Recommendation: After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be placed on the section 303(d) list. The readily available data and information is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating.

Line of Evidence (LOE) for Decision ID 63998, Heptachlor

Region 2

Lower Crystal Springs Reservoir

LOE ID:	92199
Pollutant:	Heptachlor
LOE Subgroup:	Pollutant-Tissue
Matrix:	Tissue
Fraction:	Fish fillet
Beneficial Use:	Cold Freshwater Habitat
Number of Samples:	1
Number of Exceedances:	0
Data and Information Type:	Fish tissue analysis
Data Used to Assess Water Quality:	State Water Board staff assessed SWAMP data for Lower Crystal Springs Reservoir to determine beneficial use support and results are as follows: 0 of 1 samples exceed the criterion for Heptachlor. One composite (5 fish per composite) was generated from one species: Largemouth Bass. Details of the compositing protocol can be found in the March 2009 report entitled: "Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Study" (SWAMP, 2009).
Data Reference:	Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Survey. A Report of the Surface Water Ambient Monitoring Program (SWAMP). California State Water Resources Control Board, Sacramento, CA Cruise Report for the Surface Waters Ambient Monitoring Program (SWAMP) Bioaccumulation Screening Study in California Lakes and Reservoirs. Sampling Dates: June 2007- March 2008 Statewide Lakes Sportfish Contamination Study 2007 2008 Contaminants in Fish from California Lakes and Reservoirs, 2007-2008: Summary Report on a Two-Year Screening Survey
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	Water Quality Control Plan for the San Francisco Bay Basin: Controllable water quality factors shall not cause a detrimental increase in concentrations of toxic substances found in bottom sediments or aquatic life. Effects on aquatic organisms, wildlife, and human health will be considered.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	National Academy of Science guidelines (NAS 1972) establish a maximum Heptachlor concentration of 100 ug/Kg (wet weight) in tissue samples for protection of aquatic life from bioaccumulation of toxic substances.
Guideline Reference:	National Academy of Sciences. Water Quality Criteria 1972. EPA-R3-73-033. Washington, D.C.: U.S. Environmental Protection Agency
Spatial Representation:	Data for this assessment unit was collected by one monitoring project: (SWB_FishLk)
Temporal Representation:	Data was collected on a single day 7/16/2007.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	Samples were collected, processed, and analyzed in accordance with the methods described in Quality Assurance Project Plan "Screening Study of Bioaccumulation in California Lakes and Reservoirs." (SWAMP, 2008).

QAPP Information Reference(s): [Quality Assurance Project Plan Screening Study of Bioaccumulation in California Lakes and Reservoirs. Moss Landing Marine Labs. Prepared for SWAMP BOG. 49 pages plus appendices and attachments](#)

**Line of Evidence (LOE) for Decision ID 63998, Heptachlor
Lower Crystal Springs Reservoir**

Region 2

LOE ID: 92198

Pollutant: Heptachlor
LOE Subgroup: Pollutant-Tissue
Matrix: Tissue
Fraction: Fish fillet

Beneficial Use: Warm Freshwater Habitat

Number of Samples: 1
Number of Exceedances: 0

Data and Information Type: Fish tissue analysis
Data Used to Assess Water Quality: State Water Board staff assessed SWAMP data for Lower Crystal Springs Reservoir to determine beneficial use support and results are as follows: 0 of 1 samples exceed the criterion for Heptachlor. One composite (5 fish per composite) was generated from one species: Largemouth Bass. Details of the compositing protocol can be found in the March 2009 report entitled: "Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Study" (SWAMP, 2009).

Data Reference: [Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Survey. A Report of the Surface Water Ambient Monitoring Program \(SWAMP\). California State Water Resources Control Board, Sacramento, CA Cruise Report for the Surface Waters Ambient Monitoring Program \(SWAMP\) Bioaccumulation Screening Study in California Lakes and Reservoirs. Sampling Dates: June 2007- March 2008 Statewide Lakes Sportfish Contamination Study 2007 2008 Contaminants in Fish from California Lakes and Reservoirs, 2007-2008: Summary Report on a Two-Year Screening Survey](#)

SWAMP Data: SWAMP

Water Quality Objective/Criterion: Water Quality Control Plan for the San Francisco Bay Basin: Controllable water quality factors shall not cause a detrimental increase in concentrations of toxic substances found in bottom sediments or aquatic life. Effects on aquatic organisms, wildlife, and human health will be considered.

Objective/Criterion Reference: [Water Quality Control Plan \(Basin Plan\) San Francisco Bay Basin \(Region 2\)](#)

Evaluation Guideline: National Academy of Science guidelines (NAS 1972) establish a maximum Heptachlor concentration of 100 ug/Kg (wet weight) in tissue samples for protection of aquatic life from bioaccumulation of toxic substances.

Guideline Reference: [National Academy of Sciences. Water Quality Criteria 1972. EPA-R3-73-033. Washington, D.C.: U.S. Environmental Protection Agency](#)

Spatial Representation: Data for this assessment unit was collected by one monitoring project: (SWB_FishLk)
Temporal Representation: Data was collected on a single day 7/16/2007.
Environmental Conditions: Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information: Samples were collected, processed, and analyzed in accordance with the methods described in Quality Assurance Project Plan "Screening Study of Bioaccumulation in California Lakes and Reservoirs." (SWAMP, 2008).

QAPP Information Reference(s): [Quality Assurance Project Plan Screening Study of Bioaccumulation in California Lakes and Reservoirs. Moss Landing Marine Labs. Prepared for SWAMP BOG. 49 pages plus appendices and attachments](#)

DECISION ID

63999

Region 2

Lower Crystal Springs Reservoir

Pollutant: Heptachlor epoxide
Final Listing Decision: Do Not List on 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision: New Decision
Revision Status: Revised
Impairment from Pollutant or Pollution: Pollutant

Regional Board Staff Conclusion: This pollutant is being considered for placement on the CWA section 303(d) List under section 3.5 of the Listing Policy. Under section 3.5 a single line of evidence is necessary to assess listing status. Three lines of evidence are available in the administrative record to assess this pollutant. Zero of one samples exceed the guideline.

Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against placing this water segment-pollutant combination on the CWA section 303(d) List.

This conclusion is based on the staff findings that:

1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy.
2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy.
3. Zero of one samples exceed the guideline and this sample size is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating. A minimum of 16 samples is needed to determine if a beneficial use is fully supported using table 3.1.
4. Pursuant to SECTION 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.

Regional Board Staff Decision Recommendation: After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be placed on the section 303(d) list. The readily available data and information is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating.

Line of Evidence (LOE) for Decision ID 63999, Heptachlor epoxide

Region 2

Lower Crystal Springs Reservoir

LOE ID: 92201

Pollutant: Heptachlor epoxide
LOE Subgroup: Pollutant-Tissue
Matrix: Tissue
Fraction: Fish fillet

Beneficial Use: Cold Freshwater Habitat

Number of Samples: 1
Number of Exceedances: 0

Data and Information Type: Fish tissue analysis
Data Used to Assess Water Quality: State Water Board staff assessed SWAMP data for Lower Crystal Springs Reservoir to determine beneficial use support and results are as follows: 0 of 1 samples exceed the criterion for Heptachlor epoxide. One composite (5 fish per composite) was generated from one species: Largemouth Bass. Details of the compositing protocol can be found in the March 2009 report entitled: "Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Study" (SWAMP, 2009).

Data Reference: [Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Survey. A Report of the Surface Water Ambient Monitoring Program \(SWAMP\). California State Water Resources Control Board, Sacramento, CA](#)
[Cruise Report for the Surface Waters Ambient Monitoring Program \(SWAMP\)](#)
[Bioaccumulation Screening Study in California Lakes and Reservoirs. Sampling Dates:](#)

[June 2007- March 2008](#)
[Statewide Lakes Sportfish Contamination Study 2007 2008](#)
[Contaminants in Fish from California Lakes and Reservoirs, 2007-2008: Summary Report on a Two-Year Screening Survey](#)

SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	Water Quality Control Plan for the San Francisco Bay Basin: Controllable water quality factors shall not cause a detrimental increase in concentrations of toxic substances found in bottom sediments or aquatic life. Effects on aquatic organisms, wildlife, and human health will be considered.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	National Academy of Science guidelines (NAS 1972) establish a maximum Heptachlor Epoxide concentration of 100 ug/Kg (wet weight) in tissue samples for protection of aquatic life from bioaccumulation of toxic substances.
Guideline Reference:	National Academy of Sciences. Water Quality Criteria 1972. EPA-R3-73-033. Washington, D.C.: U.S. Environmental Protection Agency
Spatial Representation:	Data for this assessment unit was collected by one monitoring project: (SWB_FishLk)
Temporal Representation:	Data was collected on a single day 7/16/2007.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	Samples were collected, processed, and analyzed in accordance with the methods described in Quality Assurance Project Plan "Screening Study of Bioaccumulation in California Lakes and Reservoirs." (SWAMP, 2008).
QAPP Information Reference(s):	Quality Assurance Project Plan Screening Study of Bioaccumulation in California Lakes and Reservoirs. Moss Landing Marine Labs. Prepared for SWAMP BOG, 49 pages plus appendices and attachments

Line of Evidence (LOE) for Decision ID 63999, Heptachlor epoxide
Lower Crystal Springs Reservoir

Region 2

LOE ID:	92200
Pollutant:	Heptachlor epoxide
LOE Subgroup:	Pollutant-Tissue
Matrix:	Tissue
Fraction:	Fish fillet
Beneficial Use:	Warm Freshwater Habitat
Number of Samples:	1
Number of Exceedances:	0
Data and Information Type:	Fish tissue analysis
Data Used to Assess Water Quality:	State Water Board staff assessed SWAMP data for Lower Crystal Springs Reservoir to determine beneficial use support and results are as follows: 0 of 1 samples exceed the criterion for Heptachlor epoxide. One composite (5 fish per composite) was generated from one species: Largemouth Bass. Details of the compositing protocol can be found in the March 2009 report entitled: "Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Study" (SWAMP, 2009).
Data Reference:	Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Survey. A Report of the Surface Water Ambient Monitoring Program (SWAMP). California State Water Resources Control Board, Sacramento, CA Cruise Report for the Surface Waters Ambient Monitoring Program (SWAMP) Bioaccumulation Screening Study in California Lakes and Reservoirs. Sampling Dates: June 2007- March 2008 Statewide Lakes Sportfish Contamination Study 2007 2008 Contaminants in Fish from California Lakes and Reservoirs, 2007-2008: Summary Report on a Two-Year Screening Survey

SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	Water Quality Control Plan for the San Francisco Bay Basin: Controllable water quality factors shall not cause a detrimental increase in concentrations of toxic substances found in bottom sediments or aquatic life. Effects on aquatic organisms, wildlife, and human health will be considered.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	National Academy of Science guidelines (NAS 1972) establish a maximum Heptachlor Epoxide concentration of 100 ug/Kg (wet weight) in tissue samples for protection of aquatic life from bioaccumulation of toxic substances.
Guideline Reference:	National Academy of Sciences. Water Quality Criteria 1972. EPA-R3-73-033. Washington, D.C.: U.S. Environmental Protection Agency
Spatial Representation:	Data for this assessment unit was collected by one monitoring project: (SWB_FishLk)
Temporal Representation:	Data was collected on a single day 7/16/2007.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	Samples were collected, processed, and analyzed in accordance with the methods described in Quality Assurance Project Plan "Screening Study of Bioaccumulation in California Lakes and Reservoirs." (SWAMP, 2008).
QAPP Information Reference(s):	Quality Assurance Project Plan Screening Study of Bioaccumulation in California Lakes and Reservoirs. Moss Landing Marine Labs. Prepared for SWAMP BOG. 49 pages plus appendices and attachments

Line of Evidence (LOE) for Decision ID 63999, Heptachlor epoxide
Lower Crystal Springs Reservoir

Region 2

LOE ID:	92202
Pollutant:	Heptachlor epoxide
LOE Subgroup:	Pollutant-Tissue
Matrix:	Tissue
Fraction:	Fish fillet
Beneficial Use:	Commercial or recreational collection of fish, shellfish, or organisms
Number of Samples:	0
Number of Exceedances:	0
Data and Information Type:	Fish tissue analysis
Data Used to Assess Water Quality:	State Water Board staff assessed SWAMP data for Lower Crystal Springs Reservoir to determine beneficial use support and results are as follows: 0 of 0 samples exceed the criterion for Heptachlor epoxide. One composite (5 fish per composite) was generated from one species: Largemouth Bass. Details of the compositing protocol can be found in the March 2009 report entitled: "Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Study" (SWAMP, 2009). One composite was not used in the assessment because the laboratory data reporting limit(s) was above the objective and therefore the results could not be quantified with the level of certainty required by the Listing Policy.
Data Reference:	Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Survey. A Report of the Surface Water Ambient Monitoring Program (SWAMP). California State Water Resources Control Board, Sacramento, CA Cruise Report for the Surface Waters Ambient Monitoring Program (SWAMP) Bioaccumulation Screening Study in California Lakes and Reservoirs. Sampling Dates: June 2007- March 2008 Statewide Lakes Sportfish Contamination Study 2007 2008 Contaminants in Fish from California Lakes and Reservoirs, 2007-2008: Summary Report on a Two-Year Screening Survey

SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	Water Quality Control Plan for the San Francisco Bay Basin: Controllable water quality

Objective/Criterion Reference:	factors shall not cause a detrimental increase in concentrations of toxic substances found in bottom sediments or aquatic life. Effects on aquatic organisms, wildlife, and human health will be considered. Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	The modified OEHHA Fish Contaminant Goal for heptachlor epoxide in fish tissue is 0.93 ppb. This screening level assumes an average body weight of 70 kg and a consumption rate of 32 g/day for a 30 year exposure over a 70-year lifetime. This constituent is a carcinogen therefore the risk level is set to one in a million. A cooking reduction factor of 1 is applied for skin-off fillets. (Klasing, S., and R. Brodberg, 2008; OEHHA, 1999)
Guideline Reference:	Development of Fish Contaminant Goals and Advisory Tissue Levels for Common Contaminants in California Sport Fish: Chlordane, DDTs, Dieldrin, Methylmercury, PCBs, Selenium, and Toxaphene Public Health Goal for Heptachlor and Heptachlor Epoxide in Drinking Water
Spatial Representation:	Data for this assessment unit was collected by one monitoring project: (SWB_FishLk)
Temporal Representation:	Data was collected on a single day 7/16/2007.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	Samples were collected, processed, and analyzed in accordance with the methods described in Quality Assurance Project Plan "Screening Study of Bioaccumulation in California Lakes and Reservoirs." (SWAMP, 2008).
QAPP Information Reference(s):	Quality Assurance Project Plan Screening Study of Bioaccumulation in California Lakes and Reservoirs. Moss Landing Marine Labs. Prepared for SWAMP BOG. 49 pages plus appendices and attachments

DECISION ID 64000		Region 2
Lower Crystal Springs Reservoir		
Pollutant:	Hexachlorobenzene/ HCB	
Final Listing Decision:	Do Not List on 303(d) list (TMDL required list)	
Last Listing Cycle's Final Listing Decision:	New Decision	
Revision Status	Revised	
Impairment from Pollutant or Pollution:	Pollutant	
Regional Board Staff Conclusion:	<p>This pollutant is being considered for placement on the CWA section 303(d) List under section 3.5 of the Listing Policy. Under section 3.5 a single line of evidence is necessary to assess listing status. One line of evidence is available in the administrative record to assess this pollutant. Zero of one samples exceed the guideline.</p> <p>Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against placing this water segment-pollutant combination on the CWA section 303(d) List.</p> <p>This conclusion is based on the staff findings that:</p> <ol style="list-style-type: none"> 1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy. 2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy. 3. Zero of one samples exceed the guideline and this sample size is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating. A minimum of 16 samples is needed to determine if a beneficial use is fully supported using table 3.1. 4. Pursuant to SECTION 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met. 	
Regional Board Staff Decision Recommendation:	After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be placed on the section 303(d) list. The readily available data and information is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating.	
Line of Evidence (LOE) for Decision ID 64000, Hexachlorobenzene/ HCB		Region 2

Lower Crystal Springs Reservoir

LOE ID:	92203
Pollutant:	Hexachlorobenzene/ HCB
LOE Subgroup:	Pollutant-Tissue
Matrix:	Tissue
Fraction:	Fish fillet
Beneficial Use:	Commercial or recreational collection of fish, shellfish, or organisms
Number of Samples:	1
Number of Exceedances:	0
Data and Information Type:	Fish tissue analysis
Data Used to Assess Water Quality:	State Water Board staff assessed SWAMP data for Lower Crystal Springs Reservoir to determine beneficial use support and results are as follows: 0 of 1 samples exceed the criterion for Hexachlorobenzene. One composite (5 fish per composite) was generated from one species: Largemouth Bass. Details of the compositing protocol can be found in the March 2009 report entitled: "Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Study" (SWAMP, 2009).
Data Reference:	Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Survey. A Report of the Surface Water Ambient Monitoring Program (SWAMP). California State Water Resources Control Board, Sacramento, CA Cruise Report for the Surface Waters Ambient Monitoring Program (SWAMP) Bioaccumulation Screening Study in California Lakes and Reservoirs. Sampling Dates: June 2007- March 2008 Statewide Lakes Sportfish Contamination Study 2007 2008 Contaminants in Fish from California Lakes and Reservoirs, 2007-2008: Summary Report on a Two-Year Screening Survey
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	Water Quality Control Plan for the San Francisco Bay Basin: Controllable water quality factors shall not cause a detrimental increase in concentrations of toxic substances found in bottom sediments or aquatic life. Effects on aquatic organisms, wildlife, and human health will be considered.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	The modified OEHHA Fish Contaminant Goal for hexachlorobenzene in fish tissue is 2.8 ppb. This screening level assumes an average body weight of 70 kg and a consumption rate of 32 g/day for a 30 year exposure over a 70-year lifetime. This constituent is a carcinogen therefore the risk level is set to one in a million. A cooking reduction factor of 1 is applied for skin-off fillets. (Klasing, S., and R. Brodberg, 2008; OEHHA, 2005)
Guideline Reference:	Development of Fish Contaminant Goals and Advisory Tissue Levels for Common Contaminants in California Sport Fish: Chlordane, DDTs, Dieldrin, Methylmercury, PCBs, Selenium, and Toxaphene Air Toxics Hotspots Program Risk Assessment Guidelines. Part II Technical Support Document for Describing Available Cancer Potency Values.
Spatial Representation:	Data for this assessment unit was collected by one monitoring project: (SWB_FishLk)
Temporal Representation:	Data was collected on a single day 7/16/2007.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	Samples were collected, processed, and analyzed in accordance with the methods described in Quality Assurance Project Plan "Screening Study of Bioaccumulation in California Lakes and Reservoirs." (SWAMP, 2008).
QAPP Information Reference(s):	Quality Assurance Project Plan Screening Study of Bioaccumulation in California Lakes and Reservoirs. Moss Landing Marine Labs. Prepared for SWAMP BOG. 49 pages plus appendices and attachments

Pollutant: Lindane/gamma Hexachlorocyclohexane (gamma-HCH)
Final Listing Decision: Do Not List on 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision: New Decision
Revision Status: Revised
Impairment from Pollutant or Pollution: Pollutant

Regional Board Staff Conclusion: This pollutant is being considered for placement on the CWA section 303(d) List under section 3.5 of the Listing Policy. Under section 3.5 a single line of evidence is necessary to assess listing status. Three lines of evidence are available in the administrative record to assess this pollutant. Zero of one samples exceed the guideline.

Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against placing this water segment-pollutant combination on the CWA section 303(d) List.

This conclusion is based on the staff findings that:
 1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy.
 2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy.
 3. Zero of one samples exceed the guideline and this sample size is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating. A minimum of 16 samples is needed to determine if a beneficial use is fully supported using table 3.1.
 4. Pursuant to SECTION 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.

Regional Board Staff Decision Recommendation: After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be placed on the section 303(d) list. The readily available data and information is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating.

Line of Evidence (LOE) for Decision ID 64001, Lindane/gamma Hexachlorocyclohexane (gamma-HCH)	Region 2
Lower Crystal Springs Reservoir	

LOE ID: 92205
Pollutant: Lindane/gamma Hexachlorocyclohexane (gamma-HCH)
LOE Subgroup: Pollutant-Tissue
Matrix: Tissue
Fraction: Fish fillet
Beneficial Use: Commercial or recreational collection of fish, shellfish, or organisms
Number of Samples: 1
Number of Exceedances: 0
Data and Information Type: Fish tissue analysis
Data Used to Assess Water Quality: State Water Board staff assessed SWAMP data for Lower Crystal Springs Reservoir to determine beneficial use support and results are as follows: 0 of 1 samples exceed the criterion for HCH, gamma. One composite (5 fish per composite) was generated from one species: Largemouth Bass. Details of the compositing protocol can be found in the March 2009 report entitled: "Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Study" (SWAMP, 2009).
Data Reference: [Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Survey. A Report of the Surface Water Ambient Monitoring Program \(SWAMP\). California State Water Resources Control Board, Sacramento, CA](#)

[Cruise Report for the Surface Waters Ambient Monitoring Program \(SWAMP\) Bioaccumulation Screening Study in California Lakes and Reservoirs. Sampling Dates: June 2007- March 2008](#)
[Statewide Lakes Sportfish Contamination Study 2007 2008](#)
[Contaminants in Fish from California Lakes and Reservoirs, 2007-2008: Summary Report on a Two-Year Screening Survey](#)

SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	Water Quality Control Plan for the San Francisco Bay Basin: Controllable water quality factors shall not cause a detrimental increase in concentrations of toxic substances found in bottom sediments or aquatic life. Effects on aquatic organisms, wildlife, and human health will be considered.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	The modified OEHHA Fish Contaminant Goal for lindane in fish tissue is 4.6 ppb. This screening level assumes an average body weight of 70 kg and a consumption rate of 32 g/day for a 30 year exposure over a 70-year lifetime. This constituent is a carcinogen therefore the risk level is set to one in a million. A cooking reduction factor of 1 is applied for skin-off fillets.
Guideline Reference:	Development of Fish Contaminant Goals and Advisory Tissue Levels for Common Contaminants in California Sport Fish: Chlordane, DDTs, Dieldrin, Methylmercury, PCBs, Selenium, and Toxaphene Air Toxics Hotspots Program Risk Assessment Guidelines. Part II Technical Support Document for Describing Available Cancer Potency Values.
Spatial Representation:	Data for this assessment unit was collected by one monitoring project: (SWB_FishLk)
Temporal Representation:	Data was collected on a single day 7/16/2007.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	Samples were collected, processed, and analyzed in accordance with the methods described in Quality Assurance Project Plan "Screening Study of Bioaccumulation in California Lakes and Reservoirs." (SWAMP, 2008).
QAPP Information Reference(s):	Quality Assurance Project Plan Screening Study of Bioaccumulation in California Lakes and Reservoirs. Moss Landing Marine Labs. Prepared for SWAMP BOG. 49 pages plus appendices and attachments

Line of Evidence (LOE) for Decision ID 64001, Lindane/gamma Hexachlorocyclohexane (gamma-HCH)	Region 2
Lower Crystal Springs Reservoir	

LOE ID:	92206
Pollutant:	Lindane/gamma Hexachlorocyclohexane (gamma-HCH)
LOE Subgroup:	Pollutant-Tissue
Matrix:	Tissue
Fraction:	Fish fillet
Beneficial Use:	Cold Freshwater Habitat
Number of Samples:	1
Number of Exceedances:	0
Data and Information Type:	Fish tissue analysis
Data Used to Assess Water Quality:	State Water Board staff assessed SWAMP data for Lower Crystal Springs Reservoir to determine beneficial use support and results are as follows: 0 of 1 samples exceed the criterion for HCH, gamma. One composite (5 fish per composite) was generated from one species: Largemouth Bass. Details of the compositing protocol can be found in the March 2009 report entitled: "Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Study" (SWAMP, 2009).
Data Reference:	Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Survey. A Report of the Surface Water Ambient Monitoring Program (SWAMP). California State Water Resources Control Board, Sacramento, CA

[Cruise Report for the Surface Waters Ambient Monitoring Program \(SWAMP\) Bioaccumulation Screening Study in California Lakes and Reservoirs. Sampling Dates: June 2007- March 2008](#)
[Statewide Lakes Sportfish Contamination Study 2007 2008](#)
[Contaminants in Fish from California Lakes and Reservoirs, 2007-2008: Summary Report on a Two-Year Screening Survey](#)

SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	Water Quality Control Plan for the San Francisco Bay Basin: Controllable water quality factors shall not cause a detrimental increase in concentrations of toxic substances found in bottom sediments or aquatic life. Effects on aquatic organisms, wildlife, and human health will be considered.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	The modified OEHHA Fish Contaminant Goal for lindane in fish tissue is 4.6 ppb. This screening level assumes an average body weight of 70 kg and a consumption rate of 32 g/day for a 30 year exposure over a 70-year lifetime. This constituent is a carcinogen therefore the risk level is set to one in a million. A cooking reduction factor of 1 is applied for skin-off fillets. (Klasing, S., and R. Brodberg, 2008; OEHHA, 2005)
Guideline Reference:	National Academy of Sciences. Water Quality Criteria 1972. EPA-R3-73-033. Washington, D.C.: U.S. Environmental Protection Agency
Spatial Representation:	Data for this assessment unit was collected by one monitoring project: (SWB_FishLk)
Temporal Representation:	Data was collected on a single day 7/16/2007.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	Samples were collected, processed, and analyzed in accordance with the methods described in Quality Assurance Project Plan "Screening Study of Bioaccumulation in California Lakes and Reservoirs." (SWAMP, 2008).
QAPP Information Reference(s):	Quality Assurance Project Plan Screening Study of Bioaccumulation in California Lakes and Reservoirs. Moss Landing Marine Labs. Prepared for SWAMP BOG. 49 pages plus appendices and attachments

Line of Evidence (LOE) for Decision ID 64001, Lindane/gamma Hexachlorocyclohexane (gamma-HCH)

Region 2

Lower Crystal Springs Reservoir

LOE ID:	92204
Pollutant:	Lindane/gamma Hexachlorocyclohexane (gamma-HCH)
LOE Subgroup:	Pollutant-Tissue
Matrix:	Tissue
Fraction:	Fish fillet
Beneficial Use:	Warm Freshwater Habitat
Number of Samples:	1
Number of Exceedances:	0
Data and Information Type:	Fish tissue analysis
Data Used to Assess Water Quality:	State Water Board staff assessed SWAMP data for Lower Crystal Springs Reservoir to determine beneficial use support and results are as follows: 0 of 1 samples exceed the criterion for HCH, gamma. One composite (5 fish per composite) was generated from one species: Largemouth Bass. Details of the compositing protocol can be found in the March 2009 report entitled: "Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Study" (SWAMP, 2009).
Data Reference:	Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Survey. A Report of the Surface Water Ambient Monitoring Program (SWAMP). California State Water Resources Control Board, Sacramento, CA Cruise Report for the Surface Waters Ambient Monitoring Program (SWAMP) Bioaccumulation Screening Study in California Lakes and Reservoirs. Sampling Dates: June 2007- March 2008

SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	Water Quality Control Plan for the San Francisco Bay Basin: Controllable water quality factors shall not cause a detrimental increase in concentrations of toxic substances found in bottom sediments or aquatic life. Effects on aquatic organisms, wildlife, and human health will be considered.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	The modified OEHHA Fish Contaminant Goal for lindane in fish tissue is 4.6 ppb. This screening level assumes an average body weight of 70 kg and a consumption rate of 32 g/day for a 30 year exposure over a 70-year lifetime. This constituent is a carcinogen therefore the risk level is set to one in a million. A cooking reduction factor of 1 is applied for skin-off fillets. (Klasing, S., and R. Brodberg, 2008; OEHHA, 2005)
Guideline Reference:	National Academy of Sciences. Water Quality Criteria 1972. EPA-R3-73-033. Washington, D.C.: U.S. Environmental Protection Agency
Spatial Representation:	Data for this assessment unit was collected by one monitoring project: (SWB_FishLk)
Temporal Representation:	Data was collected on a single day 7/16/2007.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	Samples were collected, processed, and analyzed in accordance with the methods described in Quality Assurance Project Plan "Screening Study of Bioaccumulation in California Lakes and Reservoirs." (SWAMP, 2008).
QAPP Information Reference(s):	Quality Assurance Project Plan Screening Study of Bioaccumulation in California Lakes and Reservoirs. Moss Landing Marine Labs. Prepared for SWAMP BOG, 49 pages plus appendices and attachments

DECISION ID	64002	Region 2
Lower Crystal Springs Reservoir		

Pollutant:	Mirex
Final Listing Decision:	Do Not List on 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision:	New Decision
Revision Status	Revised
Impairment from Pollutant or Pollution:	Pollutant
Regional Board Staff Conclusion:	<p>This pollutant is being considered for placement on the CWA section 303(d) List under section 3.5 of the Listing Policy. Under section 3.5 a single line of evidence is necessary to assess listing status. One line of evidence is available in the administrative record to assess this pollutant. Zero of zero samples exceed the guideline.</p> <p>Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against placing this water segment-pollutant combination on the CWA section 303(d) List.</p> <p>This conclusion is based on the staff findings that:</p> <ol style="list-style-type: none"> 1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy. 2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy. 3. Zero of zero samples exceed the guideline and this sample size is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating. A minimum of 16 samples is needed to determine if a beneficial use is fully supported using table 3.1. 4. Pursuant to SECTION 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.
Regional Board Staff Decision Recommendation:	After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be placed on the section 303(d) list. The readily available data and

information is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating.

Line of Evidence (LOE) for Decision ID 64002, Mirex

Region 2

Lower Crystal Springs Reservoir

LOE ID:	92208
Pollutant:	Mirex
LOE Subgroup:	Pollutant-Tissue
Matrix:	Tissue
Fraction:	Fish fillet
Beneficial Use:	Commercial or recreational collection of fish, shellfish, or organisms
Number of Samples:	0
Number of Exceedances:	0
Data and Information Type:	Fish tissue analysis
Data Used to Assess Water Quality:	State Water Board staff assessed SWAMP data for Lower Crystal Springs Reservoir to determine beneficial use support and results are as follows: 0 of 0 samples exceed the criterion for Mirex. One composite (5 fish per composite) was generated from one species: Largemouth Bass. Details of the compositing protocol can be found in the March 2009 report entitled: "Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Study" (SWAMP, 2009). One composite was not used in the assessment because the laboratory data reporting limit(s) was above the objective and therefore the results could not be quantified with the level of certainty required by the Listing Policy.
Data Reference:	Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Survey. A Report of the Surface Water Ambient Monitoring Program (SWAMP). California State Water Resources Control Board, Sacramento, CA Cruise Report for the Surface Waters Ambient Monitoring Program (SWAMP) Bioaccumulation Screening Study in California Lakes and Reservoirs, Sampling Dates: June 2007- March 2008 Statewide Lakes Sportfish Contamination Study 2007 2008 Contaminants in Fish from California Lakes and Reservoirs, 2007-2008: Summary Report on a Two-Year Screening Survey
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	Water Quality Control Plan for the San Francisco Bay Basin: Controllable water quality factors shall not cause a detrimental increase in concentrations of toxic substances found in bottom sediments or aquatic life. Effects on aquatic organisms, wildlife, and human health will be considered.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	The modified OEHHA Fish Contaminant Goal for mirex in fish tissue is 0.28 ppb. This screening level assumes an average body weight of 70 kg and a consumption rate of 32 g/day. A cooking reduction factor of 1 is applied for skin-off fillets. (Klasing, S., and R. Brodberg, 2008; OEHHA, 1992)
Guideline Reference:	Development of Fish Contaminant Goals and Advisory Tissue Levels for Common Contaminants in California Sport Fish: Chlordane, DDTs, Dieldrin, Methylmercury, PCBs, Selenium, and Toxaphene Expedited Cancer Potency Values and Proposed Regulatory Levels for Certain Proposition 65 Carcinogens.
Spatial Representation:	Data for this assessment unit was collected by one monitoring project: (SWB_FishLk)
Temporal Representation:	Data was collected on a single day 7/16/2007.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	Samples were collected, processed, and analyzed in accordance with the methods described in Quality Assurance Project Plan "Screening Study of Bioaccumulation in

DECISION ID	65943	Region 2
Lower Crystal Springs Reservoir		

Pollutant: PCBs (Polychlorinated biphenyls)
Final Listing Decision: Do Not List on 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision: New Decision
Revision Status: Revised
Impairment from Pollutant or Pollution: Pollutant

Regional Board Staff Conclusion: This pollutant is being considered for placement on the CWA section 303(d) List under section 3.5 of the Listing Policy. Under section 3.5 a single line of evidence is necessary to assess listing status. Three lines of evidence are available in the administrative record to assess this pollutant. Zero of one samples exceed the OEHHHA guideline.

Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against placing this water segment-pollutant combination on the CWA section 303(d) List.

This conclusion is based on the staff findings that:

1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy.
2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy.
3. Zero of one samples exceed the OEHHHA guideline and this sample size is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating. A minimum of 16 samples is needed to determine if a beneficial use is fully supported using table 3.1.
4. Pursuant to SECTION 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.

Regional Board Staff Decision Recommendation: After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be placed on the section 303(d) list. The readily available data and information is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating.

Line of Evidence (LOE) for Decision ID 65943, PCBs (Polychlorinated biphenyls)	Region 2
Lower Crystal Springs Reservoir	

LOE ID: 92210

Pollutant: PCBs (Polychlorinated biphenyls)
LOE Subgroup: Pollutant-Tissue
Matrix: Tissue
Fraction: Fish fillet

Beneficial Use: Cold Freshwater Habitat

Number of Samples: 1
Number of Exceedances: 0

Data and Information Type: Fish tissue analysis
Data Used to Assess Water Quality: State Water Board staff assessed SWAMP data for Lower Crystal Springs Reservoir to determine beneficial use support and results are as follows: 0 of 1 samples exceed the criterion for PCB, Total. One composite (5 fish per composite) was generated from one

Data Reference:	<p>species: Largemouth Bass. Details of the compositing protocol can be found in the March 2009 report entitled: "Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Study" (SWAMP, 2009). Total PCB was assessed for as follows: PCB aroclors and congeners were summed separately and the sum that yielded the highest value was used for the assessment.</p> <p>Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Survey. A Report of the Surface Water Ambient Monitoring Program (SWAMP). California State Water Resources Control Board, Sacramento, CA Cruise Report for the Surface Waters Ambient Monitoring Program (SWAMP) Bioaccumulation Screening Study in California Lakes and Reservoirs. Sampling Dates: June 2007- March 2008 Statewide Lakes Sportfish Contamination Study 2007 2008 Contaminants in Fish from California Lakes and Reservoirs, 2007-2008: Summary Report on a Two-Year Screening Survey</p>
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	Water Quality Control Plan for the San Francisco Bay Basin (2013): Controllable water quality factors shall not cause a detrimental increase in concentrations of toxic substances found in bottom sediments or aquatic life. Effects on aquatic organisms, wildlife, and human health will be considered.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	National Academy of Science guidelines (NAS 1972) establish a maximum total PCB concentration of 500 ug/Kg (wet weight) in tissue samples for protection of aquatic life from bioaccumulation of toxic substances.
Guideline Reference:	National Academy of Sciences. Water Quality Criteria 1972. EPA-R3-73-033. Washington, D.C.: U.S. Environmental Protection Agency
Spatial Representation:	Data for this assessment unit was collected by one monitoring project: (SWB_FishLk)
Temporal Representation:	Data was collected on a single day 7/16/2007.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	Samples were collected, processed, and analyzed in accordance with the methods described in Quality Assurance Project Plan "Screening Study of Bioaccumulation in California Lakes and Reservoirs." (SWAMP, 2008).
QAPP Information Reference(s):	Quality Assurance Project Plan Screening Study of Bioaccumulation in California Lakes and Reservoirs. Moss Landing Marine Labs. Prepared for SWAMP BOG. 49 pages plus appendices and attachments

Line of Evidence (LOE) for Decision ID 65943, PCBs (Polychlorinated biphenyls)

Region 2

Lower Crystal Springs Reservoir

LOE ID:	92209
Pollutant:	PCBs (Polychlorinated biphenyls)
LOE Subgroup:	Pollutant-Tissue
Matrix:	Tissue
Fraction:	Fish fillet
Beneficial Use:	Warm Freshwater Habitat
Number of Samples:	1
Number of Exceedances:	0
Data and Information Type:	Fish tissue analysis
Data Used to Assess Water Quality:	State Water Board staff assessed SWAMP data for Lower Crystal Springs Reservoir to determine beneficial use support and results are as follows: 0 of 1 samples exceed the criterion for PCB, Total. One composite (5 fish per composite) was generated from one species: Largemouth Bass. Details of the compositing protocol can be found in the March 2009 report entitled: "Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Study" (SWAMP, 2009). Total PCB was assessed for as follows: PCB aroclors and congeners were summed separately

Data Reference:	and the sum that yielded the highest value was used for the assessment. Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Survey. A Report of the Surface Water Ambient Monitoring Program (SWAMP). California State Water Resources Control Board, Sacramento, CA Cruise Report for the Surface Waters Ambient Monitoring Program (SWAMP) Bioaccumulation Screening Study in California Lakes and Reservoirs. Sampling Dates: June 2007- March 2008 Statewide Lakes Sportfish Contamination Study 2007 2008 Contaminants in Fish from California Lakes and Reservoirs, 2007-2008: Summary Report on a Two-Year Screening Survey
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	Water Quality Control Plan for the San Francisco Bay Basin (2013): Controllable water quality factors shall not cause a detrimental increase in concentrations of toxic substances found in bottom sediments or aquatic life. Effects on aquatic organisms, wildlife, and human health will be considered.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	National Academy of Science guidelines (NAS 1972) establish a maximum total PCB concentration of 500 ug/Kg (wet weight) in tissue samples for protection of aquatic life from bioaccumulation of toxic substances.
Guideline Reference:	National Academy of Sciences. Water Quality Criteria 1972. EPA-R3-73-033. Washington, D.C.: U.S. Environmental Protection Agency
Spatial Representation:	Data for this assessment unit was collected by one monitoring project: (SWB_FishLk)
Temporal Representation:	Data was collected on a single day 7/16/2007.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	Samples were collected, processed, and analyzed in accordance with the methods described in Quality Assurance Project Plan "Screening Study of Bioaccumulation in California Lakes and Reservoirs." (SWAMP, 2008).
QAPP Information Reference(s):	Quality Assurance Project Plan Screening Study of Bioaccumulation in California Lakes and Reservoirs. Moss Landing Marine Labs. Prepared for SWAMP BOG. 49 pages plus appendices and attachments

Line of Evidence (LOE) for Decision ID 65943, PCBs (Polychlorinated biphenyls)

Region 2

Lower Crystal Springs Reservoir

LOE ID:	92211
Pollutant:	PCBs (Polychlorinated biphenyls)
LOE Subgroup:	Pollutant-Tissue
Matrix:	Tissue
Fraction:	Fish fillet
Beneficial Use:	Commercial or recreational collection of fish, shellfish, or organisms
Number of Samples:	1
Number of Exceedances:	0
Data and Information Type:	Fish tissue analysis
Data Used to Assess Water Quality:	State Water Board staff assessed SWAMP data for Lower Crystal Springs Reservoir to determine beneficial use support and results are as follows: 0 of 1 samples exceed the criterion for PCB, Total. One composite (5 fish per composite) was generated from one species: Largemouth Bass. Details of the compositing protocol can be found in the March 2009 report entitled: "Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Study" (SWAMP, 2009). Total PCB was assessed for as follows: PCB aroclors and congeners were summed separately and the sum that yielded the highest value was used for the assessment.
Data Reference:	Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Survey. A Report of the Surface Water Ambient Monitoring Program (SWAMP). California State Water Resources Control Board, Sacramento, CA

[Cruise Report for the Surface Waters Ambient Monitoring Program \(SWAMP\) Bioaccumulation Screening Study in California Lakes and Reservoirs. Sampling Dates: June 2007- March 2008](#)
[Statewide Lakes Sportfish Contamination Study 2007 2008](#)
[Contaminants in Fish from California Lakes and Reservoirs, 2007-2008: Summary Report on a Two-Year Screening Survey](#)

SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	Water Quality Control Plan for the San Francisco Bay Basin (2013): Controllable water quality factors shall not cause a detrimental increase in concentrations of toxic substances found in bottom sediments or aquatic life. Effects on aquatic organisms, wildlife, and human health will be considered.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	The modified OEHHA Fish Contaminant Goal for polychlorinated biphenyls in fish tissue is 2.6 ppb. This screening level assumes an average body weight of 70 kg and a consumption rate of 32 g/day for a 30 year exposure over a 70-year lifetime. This constituent is a carcinogen therefore the risk level is set to one in a million. A cooking reduction factor of 1 is applied for skin-off fillets. (Klasing, S., and R. Brodberg, 2008)
Guideline Reference:	Development of Fish Contaminant Goals and Advisory Tissue Levels for Common Contaminants in California Sport Fish: Chlordane, DDTs, Dieldrin, Methylmercury, PCBs, Selenium, and Toxaphene
Spatial Representation:	Data for this assessment unit was collected by one monitoring project: (SWB_FishLk)
Temporal Representation:	Data was collected on a single day 7/16/2007.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	Samples were collected, processed, and analyzed in accordance with the methods described in Quality Assurance Project Plan "Screening Study of Bioaccumulation in California Lakes and Reservoirs." (SWAMP, 2008).
QAPP Information Reference(s):	Quality Assurance Project Plan Screening Study of Bioaccumulation in California Lakes and Reservoirs. Moss Landing Marine Labs. Prepared for SWAMP BOG. 49 pages plus appendices and attachments

DECISION ID	64003	Region 2
Lower Crystal Springs Reservoir		

Pollutant:	Selenium
Final Listing Decision:	Do Not List on 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision:	New Decision
Revision Status	Revised
Impairment from Pollutant or Pollution:	Pollutant
Regional Board Staff Conclusion:	<p>This pollutant is being considered for placement on the CWA section 303(d) List under section 3.5 of the Listing Policy. Under section 3.5 a single line of evidence is necessary to assess listing status. One line of evidence is available in the administrative record to assess this pollutant. Zero of one samples exceed the guideline.</p> <p>Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against placing this water segment-pollutant combination on the CWA section 303(d) List.</p> <p>This conclusion is based on the staff findings that:</p> <ol style="list-style-type: none"> 1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy. 2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy. 3. Zero of one samples exceed the guideline and this sample size is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating. A minimum of 16 samples is needed to determine if a beneficial use is fully supported using table 3.1. 4. Pursuant to SECTION 3.11 of the Listing Policy, no additional data and information are available

indicating that standards are not met.

Regional Board Staff Decision Recommendation: After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be placed on the section 303(d) list. The readily available data and information is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating.

Line of Evidence (LOE) for Decision ID 64003, Selenium

Region 2

Lower Crystal Springs Reservoir

LOE ID:	92212
Pollutant:	Selenium
LOE Subgroup:	Pollutant-Tissue
Matrix:	Tissue
Fraction:	Fish fillet
Beneficial Use:	Commercial or recreational collection of fish, shellfish, or organisms
Number of Samples:	1
Number of Exceedances:	0
Data and Information Type:	Fish tissue analysis
Data Used to Assess Water Quality:	State Water Board staff assessed SWAMP data for Lower Crystal Springs Reservoir to determine beneficial use support and results are as follows: 0 of 1 samples exceed the criterion for Selenium. One composite (5 fish per composite) was generated from one species: Largemouth Bass. Details of the compositing protocol can be found in the March 2009 report entitled: "Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Study" (SWAMP, 2009).
Data Reference:	Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Survey. A Report of the Surface Water Ambient Monitoring Program (SWAMP). California State Water Resources Control Board, Sacramento, CA Cruise Report for the Surface Waters Ambient Monitoring Program (SWAMP) Bioaccumulation Screening Study in California Lakes and Reservoirs, Sampling Dates: June 2007- March 2008 Statewide Lakes Sportfish Contamination Study 2007 2008 Contaminants in Fish from California Lakes and Reservoirs, 2007-2008: Summary Report on a Two-Year Screening Survey
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	Water Quality Control Plan for the San Francisco Bay Basin (2013): Controllable water quality factors shall not cause a detrimental increase in concentrations of toxic substances found in bottom sediments or aquatic life. Effects on aquatic organisms, wildlife, and human health will be considered.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	The OEHHA Fish Contaminant Goal for selenium in fish tissue is 7.4 ppm. This screening level assumes an average body weight of 70 kg and a consumption rate of 32 g/day. A background dietary consumption rate of 0.114 mg/day is applied for this micronutrient. (Klasing, S., and R. Brodberg, 2008)
Guideline Reference:	Development of Fish Contaminant Goals and Advisory Tissue Levels for Common Contaminants in California Sport Fish: Chlordane, DDTs, Dieldrin, Methylmercury, PCBs, Selenium, and Toxaphene
Spatial Representation:	Data for this assessment unit was collected by one monitoring project: (SWB_FishLk)
Temporal Representation:	Data was collected on a single day 7/16/2007.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	Samples were collected, processed, and analyzed in accordance with the methods described in Quality Assurance Project Plan "Screening Study of Bioaccumulation in California Lakes and Reservoirs." (SWAMP, 2008).

DECISION ID	65942	Region 2
Lower Crystal Springs Reservoir		

Pollutant: Mercury
Final Listing Decision: List on 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision: New Decision
Revision Status: Revised
Sources: Source Unknown
Expected TMDL Completion Date: 2029
Impairment from Pollutant or Pollution: Pollutant

Regional Board Staff Conclusion: This pollutant is being considered for placement on the CWA section 303(d) List under section 3.4 of the Listing Policy. Under section 3.4 a single line of evidence is necessary to assess listing status in addition to the presence of a fish consumption advisory for the waterbody.

One line of evidence is available in the administrative record to assess this pollutant. One of one samples exceed the evaluation guideline to protect piscivorous birds.

Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification in favor of placing this water segment-pollutant combination on the CWA section 303(d) List.

Though the samples were collected from a single location on a single day, fish are not static and move throughout a lake and accumulate mercury in tissue over time. Therefore, the idea of spatial and temporal independence (Section 6.1.5 of the Listing Policy) does not apply.

This conclusion is based on the staff findings that:

1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy.
2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy, except that composite samples collected at a single location for a single day were evaluated as a single sample and not averaged.
3. One of one samples exceed the OEHA guideline and this is less than the allowable frequency to list in Table 3.1 of the Listing Policy.
4. Pursuant to section 3.11 of the Listing Policy, additional data and information are available indicating that standards are not met. The sample exceeding the guideline is constituted by several fish that have independently accumulated enough mercury such that the average of all these fish exceeds the evaluation guideline. Therefore, it is highly likely that if more fish had been caught on another day to form additional composites, these would also exceed the evaluation guideline and, hence, the number of exceedances would exceed the allowable frequency described in section 3.4 of the listing policy.

Regional Board Staff Decision Recommendation: After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should be placed on the section 303(d) list because applicable water quality standards are exceeded and a pollutant contributes to or causes the problem.

Line of Evidence (LOE) for Decision ID 65942, Mercury	Region 2
Lower Crystal Springs Reservoir	

LOE ID: 92207
Pollutant: Mercury
LOE Subgroup: Pollutant-Tissue

Matrix:	Tissue
Fraction:	Fish fillet
Beneficial Use:	Wildlife Habitat
Number of Samples:	1
Number of Exceedances:	1
Data and Information Type:	Fish tissue analysis
Data Used to Assess Water Quality:	State Water Board staff assessed SWAMP data for Lower Crystal Springs Reservoir to determine beneficial use support and results are as follows: 1 of 1 samples exceed the evaluation guideline for Mercury. Eleven composites (1 fish per composite) were generated from one species: largemouth bass. Composites were not spatially independent (as defined in the Listing Policy) and so were averaged. One largemouth bass composite could not be used in the assessment due to a total fish length that did not fall within lengths noted in the guideline.
Data Reference:	Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Survey. A Report of the Surface Water Ambient Monitoring Program (SWAMP). California State Water Resources Control Board, Sacramento, CA Cruise Report for the Surface Waters Ambient Monitoring Program (SWAMP) Bioaccumulation Screening Study in California Lakes and Reservoirs, Sampling Dates: June 2007- March 2008 Statewide Lakes Sportfish Contamination Study 2007 2008 Contaminants in Fish from California Lakes and Reservoirs, 2007-2008: Summary Report on a Two-Year Screening Survey
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	Water Quality Control Plan for the San Francisco Bay Basin (2013): Controllable water quality factors shall not cause a detrimental increase in concentrations of toxic substances found in bottom sediments or aquatic life. Effects on aquatic organisms, wildlife, and human health will be considered.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	The USEPA 304(a) recommended water quality criterion for concentrations of methylmercury in fish tissue of trophic level 4 fish (150 - 500 mm; fillet wet weight) is 0.2 mg/kg. This assumes a consumption rate of 32 g/day. (USEPA, 2001).
Guideline Reference:	Ackerman and co-authors developed a relationship sport fish and grebe blood. A total mercury concentration of 0.2 ?g/g ww in sport fish corresponds to a total mercury concentration of 1.0 ?g/g ww in grebe blood. 1.0 ?g/g ww in grebe blood generally puts birds at elevated risk of potential impairment (Ackerman et al. 2015) Water Quality Criterion for the Protection of Human Health: Methylmercury. Final. United States Environmental Protection Agency Office of Science and Technology Office of Water. EPA-823-R-01-001. January 2001 "Estimating Exposure of Piscivorous Birds and Sport Fish to Mercury in California Lakes Using Prey Fish Monitoring?A Predictive Tool for Managers?"
Spatial Representation:	Data for this assessment unit was collected by one monitoring project: (SWB_FishLk)
Temporal Representation:	Data was collected on a single day 7/16/2007.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	Samples were collected, processed, and analyzed in accordance with the methods described in Quality Assurance Project Plan "Screening Study of Bioaccumulation in California Lakes and Reservoirs." (SWAMP, 2008).
QAPP Information Reference(s):	Quality Assurance Project Plan Screening Study of Bioaccumulation in California Lakes and Reservoirs. Moss Landing Marine Labs. Prepared for SWAMP BOG. 49 pages plus appendices and attachments

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Supporting Information

Regional Board 2 - San Francisco Bay Region

Water Body Name: Madigan, Lake
Water Body ID: CAL2072101020091208101923
Water Body Type: Lake & Reservoir

DECISION ID 64005 **Region 2**
Madigan, Lake

Pollutant: Aldrin
Final Listing Decision: Do Not List on 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision: New Decision
Revision Status Revised
Impairment from Pollutant or Pollution: Pollutant

Regional Board Staff Conclusion: This pollutant is being considered for placement on the CWA section 303(d) List under section 3.5 of the Listing Policy. Under section 3.5 a single line of evidence is necessary to assess listing status. Two lines of evidence are available in the administrative record to assess this pollutant. Zero of one samples exceed the guideline.

Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against placing this water segment-pollutant combination on the CWA section 303(d) List.

This conclusion is based on the staff findings that:

1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy.
2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy.
3. Zero of one samples exceed the guideline and this sample size is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating. A minimum of 16 samples is needed to determine if a beneficial use is fully supported using table 3.1.
4. Pursuant to SECTION 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.

Regional Board Staff Decision Recommendation: After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be placed on the section 303(d) list. The readily available data and information is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating.

Line of Evidence (LOE) for Decision ID 64005, Aldrin **Region 2**
Madigan, Lake

LOE ID: 92178
Pollutant: Aldrin
LOE Subgroup: Pollutant-Tissue
Matrix: Tissue
Fraction: Fish fillet
Beneficial Use: Cold Freshwater Habitat
Number of Samples: 1
Number of Exceedances: 0

Data and Information Type:	Fish tissue analysis
Data Used to Assess Water Quality:	State Water Board staff assessed SWAMP data for Madigan, Lake to determine beneficial use support and results are as follows: 0 of 1 samples exceed the criterion for Aldrin. One composite (5 fish per composite) was generated from one species: Bluegill. Details of the compositing protocol can be found in the March 2009 report entitled: "Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Study" (SWAMP, 2009).
Data Reference:	Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Survey. A Report of the Surface Water Ambient Monitoring Program (SWAMP). California State Water Resources Control Board, Sacramento, CA Cruise Report for the Surface Waters Ambient Monitoring Program (SWAMP) Bioaccumulation Screening Study in California Lakes and Reservoirs, Sampling Dates: June 2007- March 2008 Statewide Lakes Sportfish Contamination Study 2007 2008 Contaminants in Fish from California Lakes and Reservoirs, 2007-2008: Summary Report on a Two-Year Screening Survey
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	Water Quality Control Plan for the San Francisco Bay Basin: Controllable water quality factors shall not cause a detrimental increase in concentrations of toxic substances found in bottom sediments or aquatic life. Effects on aquatic organisms, wildlife, and human health will be considered.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	National Academy of Science guidelines (NAS 1972) establish a maximum Aldrin concentration of 100 ug/Kg (wet weight) in tissue samples for protection of aquatic life from bioaccumulation of toxic substances.
Guideline Reference:	National Academy of Sciences. Water Quality Criteria 1972. EPA-R3-73-033. Washington, D.C.: U.S. Environmental Protection Agency
Spatial Representation:	Data for this assessment unit was collected by one monitoring project: (SWB_FishLk)
Temporal Representation:	Data was collected on a single day 7/9/2007.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	Samples were collected, processed, and analyzed in accordance with the methods described in Quality Assurance Project Plan "Screening Study of Bioaccumulation in California Lakes and Reservoirs." (SWAMP, 2008).
QAPP Information Reference(s):	Quality Assurance Project Plan Screening Study of Bioaccumulation in California Lakes and Reservoirs. Moss Landing Marine Labs. Prepared for SWAMP BOG, 49 pages plus appendices and attachments

Line of Evidence (LOE) for Decision ID 64005, Aldrin	Region 2
Madigan, Lake	

LOE ID:	92177
Pollutant:	Aldrin
LOE Subgroup:	Pollutant-Tissue
Matrix:	Tissue
Fraction:	Fish fillet
Beneficial Use:	Warm Freshwater Habitat
Number of Samples:	1
Number of Exceedances:	0
Data and Information Type:	Fish tissue analysis
Data Used to Assess Water Quality:	State Water Board staff assessed SWAMP data for Madigan, Lake to determine beneficial use support and results are as follows: 0 of 1 samples exceed the criterion for Aldrin. One composite (5 fish per composite) was generated from one species: Bluegill. Details of the compositing protocol can be found in the March 2009 report entitled: "Contaminants in

	Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Study" (SWAMP, 2009).
Data Reference:	Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Survey. A Report of the Surface Water Ambient Monitoring Program (SWAMP). California State Water Resources Control Board, Sacramento, CA Cruise Report for the Surface Waters Ambient Monitoring Program (SWAMP) Bioaccumulation Screening Study in California Lakes and Reservoirs. Sampling Dates: June 2007- March 2008 Statewide Lakes Sportfish Contamination Study 2007 2008 Contaminants in Fish from California Lakes and Reservoirs, 2007-2008: Summary Report on a Two-Year Screening Survey
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	Water Quality Control Plan for the San Francisco Bay Basin: Controllable water quality factors shall not cause a detrimental increase in concentrations of toxic substances found in bottom sediments or aquatic life. Effects on aquatic organisms, wildlife, and human health will be considered.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	National Academy of Science guidelines (NAS 1972) establish a maximum Aldrin concentration of 100 ug/Kg (wet weight) in tissue samples for protection of aquatic life from bioaccumulation of toxic substances.
Guideline Reference:	National Academy of Sciences. Water Quality Criteria 1972. EPA-R3-73-033. Washington, D.C.: U.S. Environmental Protection Agency
Spatial Representation:	Data for this assessment unit was collected by one monitoring project: (SWB_FishLk)
Temporal Representation:	Data was collected on a single day 7/9/2007.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	Samples were collected, processed, and analyzed in accordance with the methods described in Quality Assurance Project Plan "Screening Study of Bioaccumulation in California Lakes and Reservoirs." (SWAMP, 2008).
QAPP Information Reference(s):	Quality Assurance Project Plan Screening Study of Bioaccumulation in California Lakes and Reservoirs. Moss Landing Marine Labs. Prepared for SWAMP BOG. 49 pages plus appendices and attachments

DECISION ID		64006	Region 2
Madigan, Lake			
Pollutant:	Chlordane		
Final Listing Decision:	Do Not List on 303(d) list (TMDL required list)		
Last Listing Cycle's Final Listing Decision:	New Decision		
Revision Status	Revised		
Impairment from Pollutant or Pollution:	Pollutant		
Regional Board Staff Conclusion:	<p>This pollutant is being considered for placement on the CWA section 303(d) List under section 3.5 of the Listing Policy. Under section 3.5 a single line of evidence is necessary to assess listing status. Three lines of evidence are available in the administrative record to assess this pollutant. Zero of one samples exceed the guideline.</p> <p>Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against placing this water segment-pollutant combination on the CWA section 303(d) List.</p> <p>This conclusion is based on the staff findings that:</p> <ol style="list-style-type: none"> 1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy. 2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy. 3. Zero of one samples exceed the guideline and this sample size is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating. A 		

minimum of 16 samples is needed to determine if a beneficial use is fully supported using table 3.1. 4. Pursuant to SECTION 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.

Regional Board Staff Decision Recommendation: After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be placed on the section 303(d) list. The readily available data and information is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating.

Line of Evidence (LOE) for Decision ID 64006, Chlordane

Region 2

Madigan, Lake

LOE ID:	92180
Pollutant:	Chlordane
LOE Subgroup:	Pollutant-Tissue
Matrix:	Tissue
Fraction:	Fish fillet
Beneficial Use:	Cold Freshwater Habitat
Number of Samples:	1
Number of Exceedances:	0
Data and Information Type:	Fish tissue analysis
Data Used to Assess Water Quality:	State Water Board staff assessed SWAMP data for Madigan, Lake to determine beneficial use support and results are as follows: 0 of 1 samples exceed the criterion for Chlordane, Total. One composite (5 fish per composite) was generated from one species: Bluegill. Details of the compositing protocol can be found in the March 2009 report entitled: "Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Study" (SWAMP, 2009). Total chlordane was calculated as the sum of the following chlordane isomers: cis- and trans-chlordane, cis- and trans-nonachlor, and oxychlordane.
Data Reference:	Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Survey. A Report of the Surface Water Ambient Monitoring Program (SWAMP). California State Water Resources Control Board, Sacramento, CA Cruise Report for the Surface Waters Ambient Monitoring Program (SWAMP) Bioaccumulation Screening Study in California Lakes and Reservoirs. Sampling Dates: June 2007- March 2008 Statewide Lakes Sportfish Contamination Study 2007 2008 Contaminants in Fish from California Lakes and Reservoirs, 2007-2008: Summary Report on a Two-Year Screening Survey
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	Water Quality Control Plan for the San Francisco Bay Basin: Controllable water quality factors shall not cause a detrimental increase in concentrations of toxic substances found in bottom sediments or aquatic life. Effects on aquatic organisms, wildlife, and human health will be considered.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	National Academy of Science guidelines (NAS 1972) establish a maximum total Chlordane concentration of 100 ug/Kg (wet weight) in tissue samples for protection of aquatic life from bioaccumulation of toxic substances.
Guideline Reference:	National Academy of Sciences. Water Quality Criteria 1972. EPA-R3-73-033. Washington, D.C.: U.S. Environmental Protection Agency
Spatial Representation:	Data for this assessment unit was collected by one monitoring project: (SWB_FishLk)
Temporal Representation:	Data was collected on a single day 7/9/2007.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	Samples were collected, processed, and analyzed in accordance with the methods

QAPP Information Reference(s):	described in Quality Assurance Project Plan "Screening Study of Bioaccumulation in California Lakes and Reservoirs." (SWAMP, 2008). Quality Assurance Project Plan Screening Study of Bioaccumulation in California Lakes and Reservoirs. Moss Landing Marine Labs. Prepared for SWAMP BOG, 49 pages plus appendices and attachments
Line of Evidence (LOE) for Decision ID 64006, Chlordane	
Madigan, Lake	
Region 2	
LOE ID:	92179
Pollutant:	Chlordane
LOE Subgroup:	Pollutant-Tissue
Matrix:	Tissue
Fraction:	Fish fillet
Beneficial Use:	Warm Freshwater Habitat
Number of Samples:	1
Number of Exceedances:	0
Data and Information Type:	Fish tissue analysis
Data Used to Assess Water Quality:	State Water Board staff assessed SWAMP data for Madigan, Lake to determine beneficial use support and results are as follows: 0 of 1 samples exceed the criterion for Chlordane, Total. One composite (5 fish per composite) was generated from one species: Bluegill. Details of the compositing protocol can be found in the March 2009 report entitled: "Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Study" (SWAMP, 2009). Total chlordane was calculated as the sum of the following chlordane isomers: cis- and trans-chlordane, cis- and trans-nonachlor, and oxychlordane.
Data Reference:	Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Survey. A Report of the Surface Water Ambient Monitoring Program (SWAMP). California State Water Resources Control Board, Sacramento, CA Cruise Report for the Surface Waters Ambient Monitoring Program (SWAMP) Bioaccumulation Screening Study in California Lakes and Reservoirs, Sampling Dates: June 2007- March 2008 Statewide Lakes Sportfish Contamination Study 2007 2008 Contaminants in Fish from California Lakes and Reservoirs, 2007-2008: Summary Report on a Two-Year Screening Survey
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	Water Quality Control Plan for the San Francisco Bay Basin: Controllable water quality factors shall not cause a detrimental increase in concentrations of toxic substances found in bottom sediments or aquatic life. Effects on aquatic organisms, wildlife, and human health will be considered.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	National Academy of Science guidelines (NAS 1972) establish a maximum total Chlordane concentration of 100 ug/Kg (wet weight) in tissue samples for protection of aquatic life from bioaccumulation of toxic substances.
Guideline Reference:	National Academy of Sciences. Water Quality Criteria 1972. EPA-R3-73-033. Washington, D.C.: U.S. Environmental Protection Agency
Spatial Representation:	Data for this assessment unit was collected by one monitoring project: (SWB_FishLk)
Temporal Representation:	Data was collected on a single day 7/9/2007.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	Samples were collected, processed, and analyzed in accordance with the methods described in Quality Assurance Project Plan "Screening Study of Bioaccumulation in California Lakes and Reservoirs." (SWAMP, 2008).
QAPP Information Reference(s):	Quality Assurance Project Plan Screening Study of Bioaccumulation in California Lakes and Reservoirs. Moss Landing Marine Labs. Prepared for SWAMP BOG, 49 pages plus

Line of Evidence (LOE) for Decision ID 64006, Chlordane**Region 2****Madigan, Lake**

LOE ID:	92181
Pollutant:	Chlordane
LOE Subgroup:	Pollutant-Tissue
Matrix:	Tissue
Fraction:	Fish fillet
Beneficial Use:	Commercial or recreational collection of fish, shellfish, or organisms
Number of Samples:	1
Number of Exceedances:	0
Data and Information Type:	Fish tissue analysis
Data Used to Assess Water Quality:	State Water Board staff assessed SWAMP data for Madigan, Lake to determine beneficial use support and results are as follows: 0 of 1 samples exceed the criterion for Chlordane, Total. One composite (5 fish per composite) was generated from one species: Bluegill. Details of the compositing protocol can be found in the March 2009 report entitled: "Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Study" (SWAMP, 2009). Total chlordane was calculated as the sum of the following chlordane isomers: cis- and trans-chlordane, cis- and trans-nonachlor, and oxychlordane.
Data Reference:	Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Survey. A Report of the Surface Water Ambient Monitoring Program (SWAMP). California State Water Resources Control Board, Sacramento, CA Cruise Report for the Surface Waters Ambient Monitoring Program (SWAMP) Bioaccumulation Screening Study in California Lakes and Reservoirs. Sampling Dates: June 2007- March 2008 Statewide Lakes Sportfish Contamination Study 2007 2008 Contaminants in Fish from California Lakes and Reservoirs, 2007-2008: Summary Report on a Two-Year Screening Survey
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	Water Quality Control Plan for the San Francisco Bay Basin: Controllable water quality factors shall not cause a detrimental increase in concentrations of toxic substances found in bottom sediments or aquatic life. Effects on aquatic organisms, wildlife, and human health will be considered.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	The modified OEHHA Fish Contaminant Goal for total chlordane in fish tissue is 3.9 ppb. This screening level assumes an average body weight of 70 kg and a consumption rate of 32 g/day for a 30 year exposure over a 70-year lifetime. This constituent is a carcinogen therefore the risk level is set to one in a million. A cooking reduction factor of 1 is applied for skin-off fillets. (Klasing, S., and R. Brodberg, 2008)
Guideline Reference:	Development of Fish Contaminant Goals and Advisory Tissue Levels for Common Contaminants in California Sport Fish: Chlordane, DDTs, Dieldrin, Methylmercury, PCBs, Selenium, and Toxaphene
Spatial Representation:	Data for this assessment unit was collected by one monitoring project: (SWB_FishLk)
Temporal Representation:	Data was collected on a single day 7/9/2007.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	Samples were collected, processed, and analyzed in accordance with the methods described in Quality Assurance Project Plan "Screening Study of Bioaccumulation in California Lakes and Reservoirs." (SWAMP, 2008).
QAPP Information Reference(s):	Quality Assurance Project Plan Screening Study of Bioaccumulation in California Lakes and Reservoirs. Moss Landing Marine Labs. Prepared for SWAMP BOG, 49 pages plus appendices and attachments

DECISION ID	64052	Region 2
Madigan, Lake		

Pollutant: DDT (Dichlorodiphenyltrichloroethane)
Final Listing Decision: Do Not List on 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision: New Decision
Revision Status: Revised
Impairment from Pollutant or Pollution: Pollutant

Regional Board Staff Conclusion: This pollutant is being considered for placement on the CWA section 303(d) List under section 3.5 of the Listing Policy. Under section 3.5 a single line of evidence is necessary to assess listing status. Three lines of evidence are available in the administrative record to assess this pollutant. Zero of one samples exceed the guideline.

Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against placing this water segment-pollutant combination on the CWA section 303(d) List.

This conclusion is based on the staff findings that:

1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy.
2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy.
3. Zero of one samples exceed the guideline and this sample size is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating. A minimum of 16 samples is needed to determine if a beneficial use is fully supported using table 3.1.
4. Pursuant to SECTION 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.

Regional Board Staff Decision Recommendation: After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be placed on the section 303(d) list. The readily available data and information is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating.

Line of Evidence (LOE) for Decision ID 64052, DDT (Dichlorodiphenyltrichloroethane)	Region 2
Madigan, Lake	

LOE ID: 92218
Pollutant: Total DDT (sum of 4,4'- and 2,4'- isomers of DDT, DDE, and DDD)
LOE Subgroup: Pollutant-Tissue
Matrix: Tissue
Fraction: Fish fillet
Beneficial Use: Warm Freshwater Habitat
Number of Samples: 1
Number of Exceedances: 0
Data and Information Type: Fish tissue analysis
Data Used to Assess Water Quality: State Water Board staff assessed SWAMP data for Madigan, Lake to determine beneficial use support and results are as follows: 0 of 1 samples exceed the criterion for DDT, Total. One composite (5 fish per composite) was generated from one species: Bluegill. Details of the compositing protocol can be found in the March 2009 report entitled: "Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Study" (SWAMP, 2009). Total DDT was calculated as the sum of 4,4'- and 2,4'- isomers of DDT, DDE, and DDD.
Data Reference: [Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year](#)

[One of a Two-Year Screening Survey. A Report of the Surface Water Ambient Monitoring Program \(SWAMP\). California State Water Resources Control Board, Sacramento, CA](#)
[Cruise Report for the Surface Waters Ambient Monitoring Program \(SWAMP\)](#)
[Bioaccumulation Screening Study in California Lakes and Reservoirs, Sampling Dates: June 2007- March 2008](#)
[Statewide Lakes Sportfish Contamination Study 2007 2008](#)
[Contaminants in Fish from California Lakes and Reservoirs, 2007-2008: Summary Report on a Two-Year Screening Survey](#)

SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	Water Quality Control Plan for the San Francisco Bay Basin: Controllable water quality factors shall not cause a detrimental increase in concentrations of toxic substances found in bottom sediments or aquatic life. Effects on aquatic organisms, wildlife, and human health will be considered.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	National Academy of Science guidelines (NAS 1972) establish a maximum total DDT concentration of 1000 ug/Kg (wet weight) in tissue samples for protection of aquatic life from bioaccumulation of toxic substances.
Guideline Reference:	National Academy of Sciences. Water Quality Criteria 1972. EPA-R3-73-033. Washington, D.C.: U.S. Environmental Protection Agency
Spatial Representation:	Data for this assessment unit was collected by one monitoring project: (SWB_FishLk)
Temporal Representation:	Data was collected on a single day 7/9/2007.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	Samples were collected, processed, and analyzed in accordance with the methods described in Quality Assurance Project Plan "Screening Study of Bioaccumulation in California Lakes and Reservoirs." (SWAMP, 2008).
QAPP Information Reference(s):	Quality Assurance Project Plan Screening Study of Bioaccumulation in California Lakes and Reservoirs. Moss Landing Marine Labs. Prepared for SWAMP BOG. 49 pages plus appendices and attachments

Line of Evidence (LOE) for Decision ID 64052, DDT (Dichlorodiphenyltrichloroethane)

Region 2

Madigan, Lake

LOE ID:	92220
Pollutant:	Total DDT (sum of 4,4'- and 2,4'- isomers of DDT, DDE, and DDD)
LOE Subgroup:	Pollutant-Tissue
Matrix:	Tissue
Fraction:	Fish fillet
Beneficial Use:	Commercial or recreational collection of fish, shellfish, or organisms
Number of Samples:	1
Number of Exceedances:	0
Data and Information Type:	Fish tissue analysis
Data Used to Assess Water Quality:	State Water Board staff assessed SWAMP data for Madigan, Lake to determine beneficial use support and results are as follows: 0 of 1 samples exceed the criterion for DDT, Total. One composite (5 fish per composite) was generated from one species: Bluegill. Details of the compositing protocol can be found in the March 2009 report entitled: "Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Study" (SWAMP, 2009). Total DDT was calculated as the sum of 4,4'- and 2,4'- isomers of DDT, DDE, and DDD.
Data Reference:	Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Survey. A Report of the Surface Water Ambient Monitoring Program (SWAMP). California State Water Resources Control Board, Sacramento, CA Cruise Report for the Surface Waters Ambient Monitoring Program (SWAMP) Bioaccumulation Screening Study in California Lakes and Reservoirs, Sampling Dates: June 2007- March 2008

SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	Water Quality Control Plan for the San Francisco Bay Basin: Controllable water quality factors shall not cause a detrimental increase in concentrations of toxic substances found in bottom sediments or aquatic life. Effects on aquatic organisms, wildlife, and human health will be considered.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	The modified OEHHA Fish Contaminant Goal for total DDT in fish tissue is 15 ppb. This screening level assumes an average body weight of 70 kg and a consumption rate of 32 g/day for a 30 year exposure over a 70-year lifetime. This constituent is a carcinogen therefore the risk level is set to one in a million. A cooking reduction factor of 1 is applied for skin-off fillets. (Klasing, S., and R. Brodberg, 2008)
Guideline Reference:	Development of Fish Contaminant Goals and Advisory Tissue Levels for Common Contaminants in California Sport Fish: Chlordane, DDTs, Dieldrin, Methylmercury, PCBs, Selenium, and Toxaphene
Spatial Representation:	Data for this assessment unit was collected by one monitoring project: (SWB_FishLk)
Temporal Representation:	Data was collected on a single day 7/9/2007.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	Samples were collected, processed, and analyzed in accordance with the methods described in Quality Assurance Project Plan "Screening Study of Bioaccumulation in California Lakes and Reservoirs." (SWAMP, 2008).
QAPP Information Reference(s):	Quality Assurance Project Plan Screening Study of Bioaccumulation in California Lakes and Reservoirs. Moss Landing Marine Labs. Prepared for SWAMP BOG, 49 pages plus appendices and attachments

Line of Evidence (LOE) for Decision ID 64052, DDT (Dichlorodiphenyltrichloroethane)

Region 2

Madigan, Lake

LOE ID:	92219
Pollutant:	Total DDT (sum of 4,4'- and 2,4'- isomers of DDT, DDE, and DDD)
LOE Subgroup:	Pollutant-Tissue
Matrix:	Tissue
Fraction:	Fish fillet
Beneficial Use:	Cold Freshwater Habitat
Number of Samples:	1
Number of Exceedances:	0
Data and Information Type:	Fish tissue analysis
Data Used to Assess Water Quality:	State Water Board staff assessed SWAMP data for Madigan, Lake to determine beneficial use support and results are as follows: 0 of 1 samples exceed the criterion for DDT, Total. One composite (5 fish per composite) was generated from one species: Bluegill. Details of the compositing protocol can be found in the March 2009 report entitled: "Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Study" (SWAMP, 2009). Total DDT was calculated as the sum of 4,4'- and 2,4'- isomers of DDT, DDE, and DDD.
Data Reference:	Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Survey. A Report of the Surface Water Ambient Monitoring Program (SWAMP). California State Water Resources Control Board, Sacramento, CA Cruise Report for the Surface Waters Ambient Monitoring Program (SWAMP) Bioaccumulation Screening Study in California Lakes and Reservoirs, Sampling Dates: June 2007- March 2008 Statewide Lakes Sportfish Contamination Study 2007 2008 Contaminants in Fish from California Lakes and Reservoirs, 2007-2008: Summary Report

SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	Water Quality Control Plan for the San Francisco Bay Basin: Controllable water quality factors shall not cause a detrimental increase in concentrations of toxic substances found in bottom sediments or aquatic life. Effects on aquatic organisms, wildlife, and human health will be considered.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	National Academy of Science guidelines (NAS 1972) establish a maximum total DDT concentration of 1000 ug/Kg (wet weight) in tissue samples for protection of aquatic life from bioaccumulation of toxic substances.
Guideline Reference:	National Academy of Sciences. Water Quality Criteria 1972. EPA-R3-73-033. Washington, D.C.: U.S. Environmental Protection Agency
Spatial Representation:	Data for this assessment unit was collected by one monitoring project: (SWB_FishLk)
Temporal Representation:	Data was collected on a single day 7/9/2007.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	Samples were collected, processed, and analyzed in accordance with the methods described in Quality Assurance Project Plan "Screening Study of Bioaccumulation in California Lakes and Reservoirs." (SWAMP, 2008).
QAPP Information Reference(s):	Quality Assurance Project Plan Screening Study of Bioaccumulation in California Lakes and Reservoirs. Moss Landing Marine Labs. Prepared for SWAMP BOG. 49 pages plus appendices and attachments

DECISION ID	64007	Region 2
Madigan, Lake		

Pollutant:	Dieldrin
Final Listing Decision:	Do Not List on 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision:	New Decision
Revision Status	Revised
Impairment from Pollutant or Pollution:	Pollutant
Regional Board Staff Conclusion:	<p>This pollutant is being considered for placement on the CWA section 303(d) List under section 3.5 of the Listing Policy. Under section 3.5 a single line of evidence is necessary to assess listing status. Three lines of evidence are available in the administrative record to assess this pollutant. Zero of one samples exceed the guideline.</p> <p>Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against placing this water segment-pollutant combination on the CWA section 303(d) List.</p> <p>This conclusion is based on the staff findings that:</p> <ol style="list-style-type: none">1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy.2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy.3. Zero of one samples exceed the guideline and this sample size is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating. A minimum of 16 samples is needed to determine if a beneficial use is fully supported using table 3.1.4. Pursuant to SECTION 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.
Regional Board Staff Decision Recommendation:	After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be placed on the section 303(d) list. The readily available data and information is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating.

Madigan, Lake

LOE ID:	92182
Pollutant:	Dieldrin
LOE Subgroup:	Pollutant-Tissue
Matrix:	Tissue
Fraction:	Fish fillet
Beneficial Use:	Warm Freshwater Habitat
Number of Samples:	1
Number of Exceedances:	0
Data and Information Type:	Fish tissue analysis
Data Used to Assess Water Quality:	State Water Board staff assessed SWAMP data for Madigan, Lake to determine beneficial use support and results are as follows: 0 of 1 samples exceed the criterion for Dieldrin. One composite (5 fish per composite) was generated from one species: Bluegill. Details of the compositing protocol can be found in the March 2009 report entitled: "Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Study" (SWAMP, 2009).
Data Reference:	Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Survey. A Report of the Surface Water Ambient Monitoring Program (SWAMP). California State Water Resources Control Board, Sacramento, CA Cruise Report for the Surface Waters Ambient Monitoring Program (SWAMP) Bioaccumulation Screening Study in California Lakes and Reservoirs, Sampling Dates: June 2007- March 2008 Statewide Lakes Sportfish Contamination Study 2007 2008 Contaminants in Fish from California Lakes and Reservoirs, 2007-2008: Summary Report on a Two-Year Screening Survey
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	Water Quality Control Plan for the San Francisco Bay Basin: Controllable water quality factors shall not cause a detrimental increase in concentrations of toxic substances found in bottom sediments or aquatic life. Effects on aquatic organisms, wildlife, and human health will be considered.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	National Academy of Science guidelines (NAS 1972) establish a maximum Dieldrin concentration of 100 ug/Kg (wet weight) in tissue samples for protection of aquatic life from bioaccumulation of toxic substances.
Guideline Reference:	National Academy of Sciences. Water Quality Criteria 1972. EPA-R3-73-033. Washington, D.C.: U.S. Environmental Protection Agency
Spatial Representation:	Data for this assessment unit was collected by one monitoring project: (SWB_FishLk)
Temporal Representation:	Data was collected on a single day 7/9/2007.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	Samples were collected, processed, and analyzed in accordance with the methods described in Quality Assurance Project Plan "Screening Study of Bioaccumulation in California Lakes and Reservoirs." (SWAMP, 2008).
QAPP Information Reference(s):	Quality Assurance Project Plan Screening Study of Bioaccumulation in California Lakes and Reservoirs. Moss Landing Marine Labs. Prepared for SWAMP BOG, 49 pages plus appendices and attachments

Madigan, Lake

LOE ID: 92221

Pollutant:	Dieldrin
LOE Subgroup:	Pollutant-Tissue
Matrix:	Tissue
Fraction:	Fish fillet
Beneficial Use:	Commercial or recreational collection of fish, shellfish, or organisms
Number of Samples:	0
Number of Exceedances:	0
Data and Information Type:	Fish tissue analysis
Data Used to Assess Water Quality:	State Water Board staff assessed SWAMP data for Madigan, Lake to determine beneficial use support and results are as follows: 0 of 0 samples exceed the criterion for Dieldrin. One composite (5 fish per composite) was generated from one species: Bluegill. Details of the compositing protocol can be found in the March 2009 report entitled: "Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Study" (SWAMP, 2009). One composite was not used in the assessment because the laboratory data reporting limit(s) was above the objective and therefore the results could not be quantified with the level of certainty required by the Listing Policy.
Data Reference:	Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Survey. A Report of the Surface Water Ambient Monitoring Program (SWAMP). California State Water Resources Control Board, Sacramento, CA Cruise Report for the Surface Waters Ambient Monitoring Program (SWAMP) Bioaccumulation Screening Study in California Lakes and Reservoirs. Sampling Dates: June 2007- March 2008 Statewide Lakes Sportfish Contamination Study 2007 2008 Contaminants in Fish from California Lakes and Reservoirs, 2007-2008: Summary Report on a Two-Year Screening Survey
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	Water Quality Control Plan for the San Francisco Bay Basin: Controllable water quality factors shall not cause a detrimental increase in concentrations of toxic substances found in bottom sediments or aquatic life. Effects on aquatic organisms, wildlife, and human health will be considered.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	The modified OEHHA Fish Contaminant Goal for dieldrin in fish tissue is 0.32 ppb. This screening level assumes an average body weight of 70 kg and a consumption rate of 32 g/day for a 30 year exposure over a 70-year lifetime. This constituent is a carcinogen therefore the risk level is set to one in a million. A cooking reduction factor of 1 is applied for skin-off fillets. (Klasing, S., and R. Brodberg, 2008)
Guideline Reference:	Development of Fish Contaminant Goals and Advisory Tissue Levels for Common Contaminants in California Sport Fish: Chlordane, DDTs, Dieldrin, Methylmercury, PCBs, Selenium, and Toxaphene
Spatial Representation:	Data for this assessment unit was collected by one monitoring project: (SWB_FishLk)
Temporal Representation:	Data was collected on a single day 7/9/2007.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	Samples were collected, processed, and analyzed in accordance with the methods described in Quality Assurance Project Plan "Screening Study of Bioaccumulation in California Lakes and Reservoirs." (SWAMP, 2008).
QAPP Information Reference(s):	Quality Assurance Project Plan Screening Study of Bioaccumulation in California Lakes and Reservoirs. Moss Landing Marine Labs. Prepared for SWAMP BOG, 49 pages plus appendices and attachments

Line of Evidence (LOE) for Decision ID 64007, Dieldrin

Region 2

Madigan, Lake

LOE ID: 92183

Pollutant: Dieldrin

LOE Subgroup:	Pollutant-Tissue
Matrix:	Tissue
Fraction:	Fish fillet
Beneficial Use:	Cold Freshwater Habitat
Number of Samples:	1
Number of Exceedances:	0
Data and Information Type:	Fish tissue analysis
Data Used to Assess Water Quality:	State Water Board staff assessed SWAMP data for Madigan, Lake to determine beneficial use support and results are as follows: 0 of 1 samples exceed the criterion for Dieldrin. One composite (5 fish per composite) was generated from one species: Bluegill. Details of the compositing protocol can be found in the March 2009 report entitled: "Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Study" (SWAMP, 2009).
Data Reference:	Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Survey. A Report of the Surface Water Ambient Monitoring Program (SWAMP). California State Water Resources Control Board, Sacramento, CA Cruise Report for the Surface Waters Ambient Monitoring Program (SWAMP) Bioaccumulation Screening Study in California Lakes and Reservoirs, Sampling Dates: June 2007- March 2008 Statewide Lakes Sportfish Contamination Study 2007 2008 Contaminants in Fish from California Lakes and Reservoirs, 2007-2008: Summary Report on a Two-Year Screening Survey
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	Water Quality Control Plan for the San Francisco Bay Basin: Controllable water quality factors shall not cause a detrimental increase in concentrations of toxic substances found in bottom sediments or aquatic life. Effects on aquatic organisms, wildlife, and human health will be considered.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	National Academy of Science guidelines (NAS 1972) establish a maximum Dieldrin concentration of 100 ug/Kg (wet weight) in tissue samples for protection of aquatic life from bioaccumulation of toxic substances.
Guideline Reference:	National Academy of Sciences. Water Quality Criteria 1972. EPA-R3-73-033. Washington, D.C.: U.S. Environmental Protection Agency
Spatial Representation:	Data for this assessment unit was collected by one monitoring project: (SWB_FishLk)
Temporal Representation:	Data was collected on a single day 7/9/2007.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	Samples were collected, processed, and analyzed in accordance with the methods described in Quality Assurance Project Plan "Screening Study of Bioaccumulation in California Lakes and Reservoirs." (SWAMP, 2008).
QAPP Information Reference(s):	Quality Assurance Project Plan Screening Study of Bioaccumulation in California Lakes and Reservoirs. Moss Landing Marine Labs. Prepared for SWAMP BOG. 49 pages plus appendices and attachments

DECISION ID	64008	Region 2
Madigan, Lake		

Pollutant:	Endosulfan
Final Listing Decision:	Do Not List on 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision:	New Decision
Revision Status	Revised
Impairment from Pollutant or Pollution:	Pollutant

**Regional Board Staff
Conclusion:**

This pollutant is being considered for placement on the CWA section 303(d) List under section 3.5 of the Listing Policy. Under section 3.5 a single line of evidence is necessary to assess listing status. Three lines of evidence are available in the administrative record to assess this pollutant. Zero of one samples exceed the guideline.

Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against placing this water segment-pollutant combination on the CWA section 303(d) List.

This conclusion is based on the staff findings that:

1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy.
2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy.
3. Zero of one samples exceed the guideline and this sample size is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating. A minimum of 16 samples is needed to determine if a beneficial use is fully supported using table 3.1.
4. Pursuant to SECTION 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.

**Regional Board Staff Decision
Recommendation:**

After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be placed on the section 303(d) list. The readily available data and information is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating.

**Line of Evidence (LOE) for Decision ID 64008, Endosulfan
Madigan, Lake**

Region 2

LOE ID:	92223
Pollutant:	Endosulfan
LOE Subgroup:	Pollutant-Tissue
Matrix:	Tissue
Fraction:	Fish fillet
Beneficial Use:	Cold Freshwater Habitat
Number of Samples:	1
Number of Exceedances:	0
Data and Information Type:	Fish tissue analysis
Data Used to Assess Water Quality:	State Water Board staff assessed SWAMP data for Madigan, Lake to determine beneficial use support and results are as follows: 0 of 1 samples exceed the criterion for Endosulfan I. One composite (5 fish per composite) was generated from one species: Bluegill. Details of the compositing protocol can be found in the March 2009 report entitled: "Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Study" (SWAMP, 2009).
Data Reference:	Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Survey. A Report of the Surface Water Ambient Monitoring Program (SWAMP). California State Water Resources Control Board, Sacramento, CA Cruise Report for the Surface Waters Ambient Monitoring Program (SWAMP) Bioaccumulation Screening Study in California Lakes and Reservoirs. Sampling Dates: June 2007- March 2008 Statewide Lakes Sportfish Contamination Study 2007 2008 Contaminants in Fish from California Lakes and Reservoirs, 2007-2008: Summary Report on a Two-Year Screening Survey
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	Water Quality Control Plan for the San Francisco Bay Basin: Controllable water quality factors shall not cause a detrimental increase in concentrations of toxic substances found in bottom sediments or aquatic life. Effects on aquatic organisms, wildlife, and human health will be considered.

Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	National Academy of Science guidelines (NAS 1972) establish a maximum Endosulfan, Total concentration of 100 ug/Kg (wet weight) in tissue samples for protection of aquatic life from bioaccumulation of toxic substances.
Guideline Reference:	National Academy of Sciences. Water Quality Criteria 1972. EPA-R3-73-033. Washington, D.C.: U.S. Environmental Protection Agency
Spatial Representation:	Data for this assessment unit was collected by one monitoring project: (SWB_FishLk)
Temporal Representation:	Data was collected on a single day 7/9/2007.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	Samples were collected, processed, and analyzed in accordance with the methods described in Quality Assurance Project Plan "Screening Study of Bioaccumulation in California Lakes and Reservoirs." (SWAMP, 2008).
QAPP Information Reference(s):	Quality Assurance Project Plan Screening Study of Bioaccumulation in California Lakes and Reservoirs. Moss Landing Marine Labs. Prepared for SWAMP BOG. 49 pages plus appendices and attachments

Line of Evidence (LOE) for Decision ID 64008, Endosulfan

Region 2

Madigan, Lake

LOE ID:	92224
Pollutant:	Endosulfan
LOE Subgroup:	Pollutant-Tissue
Matrix:	Tissue
Fraction:	Fish fillet
Beneficial Use:	Commercial or recreational collection of fish, shellfish, or organisms
Number of Samples:	1
Number of Exceedances:	0
Data and Information Type:	Fish tissue analysis
Data Used to Assess Water Quality:	State Water Board staff assessed SWAMP data for Madigan, Lake to determine beneficial use support and results are as follows: 0 of 1 samples exceed the criterion for Endosulfan I. One composite (5 fish per composite) was generated from one species: Bluegill. Details of the compositing protocol can be found in the March 2009 report entitled: "Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Study" (SWAMP, 2009).
Data Reference:	Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Survey. A Report of the Surface Water Ambient Monitoring Program (SWAMP). California State Water Resources Control Board, Sacramento, CA Cruise Report for the Surface Waters Ambient Monitoring Program (SWAMP) Bioaccumulation Screening Study in California Lakes and Reservoirs. Sampling Dates: June 2007- March 2008 Statewide Lakes Sportfish Contamination Study 2007 2008 Contaminants in Fish from California Lakes and Reservoirs, 2007-2008: Summary Report on a Two-Year Screening Survey
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	Water Quality Control Plan for the San Francisco Bay Basin: Controllable water quality factors shall not cause a detrimental increase in concentrations of toxic substances found in bottom sediments or aquatic life. Effects on aquatic organisms, wildlife, and human health will be considered.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	The modified OEHHA Fish Contaminant Goal for endosulfan (I and II) in fish tissue is 13,000 ppb. This screening level assumes an average body weight of 70 kg and a consumption rate of 32 g/day. A cooking reduction factor of 1 is applied for skin-off fillets. (Klasing, S., and R. Brodberg, 2008; USEPA, 2000)

Guideline Reference: [Development of Fish Contaminant Goals and Advisory Tissue Levels for Common Contaminants in California Sport Fish: Chlordane, DDTs, Dieldrin, Methylmercury, PCBs, Selenium, and Toxaphene](#)
[Guidance for Assessing Chemical Contaminant Data for Use In Fish Advisories Volume 1: Fish Sampling and Analysis](#)

Spatial Representation: Data for this assessment unit was collected by one monitoring project: (SWB_FishLk)
 Temporal Representation: Data was collected on a single day 7/9/2007.
 Environmental Conditions: Staff is not aware of any special conditions that might affect interpretation of the data.
 QAPP Information: Samples were collected, processed, and analyzed in accordance with the methods described in Quality Assurance Project Plan "Screening Study of Bioaccumulation in California Lakes and Reservoirs." (SWAMP, 2008).

QAPP Information Reference(s): [Quality Assurance Project Plan Screening Study of Bioaccumulation in California Lakes and Reservoirs. Moss Landing Marine Labs. Prepared for SWAMP BOG, 49 pages plus appendices and attachments](#)

Line of Evidence (LOE) for Decision ID 64008, Endosulfan

Region 2

Madigan, Lake

LOE ID: 92222

Pollutant: Endosulfan
 LOE Subgroup: Pollutant-Tissue
 Matrix: Tissue
 Fraction: Fish fillet

Beneficial Use: Warm Freshwater Habitat

Number of Samples: 1
 Number of Exceedances: 0

Data and Information Type: Fish tissue analysis
 Data Used to Assess Water Quality: State Water Board staff assessed SWAMP data for Madigan, Lake to determine beneficial use support and results are as follows: 0 of 1 samples exceed the criterion for Endosulfan I. One composite (5 fish per composite) was generated from one species: Bluegill. Details of the compositing protocol can be found in the March 2009 report entitled: "Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Study" (SWAMP, 2009).

Data Reference: [Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Survey. A Report of the Surface Water Ambient Monitoring Program \(SWAMP\). California State Water Resources Control Board, Sacramento, CA](#)
[Cruise Report for the Surface Waters Ambient Monitoring Program \(SWAMP\) Bioaccumulation Screening Study in California Lakes and Reservoirs, Sampling Dates: June 2007- March 2008](#)
[Statewide Lakes Sportfish Contamination Study 2007 2008](#)
[Contaminants in Fish from California Lakes and Reservoirs, 2007-2008: Summary Report on a Two-Year Screening Survey](#)

SWAMP Data: SWAMP

Water Quality Objective/Criterion: Water Quality Control Plan for the San Francisco Bay Basin: Controllable water quality factors shall not cause a detrimental increase in concentrations of toxic substances found in bottom sediments or aquatic life. Effects on aquatic organisms, wildlife, and human health will be considered.

Objective/Criterion Reference: [Water Quality Control Plan \(Basin Plan\) San Francisco Bay Basin \(Region 2\)](#)

Evaluation Guideline: National Academy of Science guidelines (NAS 1972) establish a maximum Endosulfan, Total concentration of 100 ug/Kg (wet weight) in tissue samples for protection of aquatic life from bioaccumulation of toxic substances.

Guideline Reference: [National Academy of Sciences. Water Quality Criteria 1972. EPA-R3-73-033. Washington, D.C.: U.S. Environmental Protection Agency](#)

Spatial Representation:	Data for this assessment unit was collected by one monitoring project: (SWB_FishLk)
Temporal Representation:	Data was collected on a single day 7/9/2007.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	Samples were collected, processed, and analyzed in accordance with the methods described in Quality Assurance Project Plan "Screening Study of Bioaccumulation in California Lakes and Reservoirs." (SWAMP, 2008).
QAPP Information Reference(s):	Quality Assurance Project Plan Screening Study of Bioaccumulation in California Lakes and Reservoirs. Moss Landing Marine Labs. Prepared for SWAMP BOG. 49 pages plus appendices and attachments

DECISION ID	64009	Region 2
Madigan, Lake		

Pollutant:	Endrin
Final Listing Decision:	Do Not List on 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision:	New Decision
Revision Status	Revised
Impairment from Pollutant or Pollution:	Pollutant

Regional Board Staff Conclusion: This pollutant is being considered for placement on the CWA section 303(d) List under section 3.5 of the Listing Policy. Under section 3.5 a single line of evidence is necessary to assess listing status. Three lines of evidence are available in the administrative record to assess this pollutant. Zero of one samples exceed the guideline.

Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against placing this water segment-pollutant combination on the CWA section 303(d) List.

This conclusion is based on the staff findings that:

1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy.
2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy.
3. Zero of one samples exceed the guideline and this sample size is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating. A minimum of 16 samples is needed to determine if a beneficial use is fully supported using table 3.1.
4. Pursuant to SECTION 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.

Regional Board Staff Decision Recommendation: After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be placed on the section 303(d) list. The readily available data and information is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating.

Line of Evidence (LOE) for Decision ID 64009, Endrin	Region 2
Madigan, Lake	

LOE ID:	92225
Pollutant:	Endrin
LOE Subgroup:	Pollutant-Tissue
Matrix:	Tissue
Fraction:	Fish fillet
Beneficial Use:	Warm Freshwater Habitat
Number of Samples:	1
Number of Exceedances:	0

Data and Information Type:	Fish tissue analysis
Data Used to Assess Water Quality:	State Water Board staff assessed SWAMP data for Madigan, Lake to determine beneficial use support and results are as follows: 0 of 1 samples exceed the criterion for Endrin. One composite (5 fish per composite) was generated from one species: Bluegill. Details of the compositing protocol can be found in the March 2009 report entitled: "Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Study" (SWAMP, 2009).
Data Reference:	Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Survey. A Report of the Surface Water Ambient Monitoring Program (SWAMP). California State Water Resources Control Board, Sacramento, CA Cruise Report for the Surface Waters Ambient Monitoring Program (SWAMP) Bioaccumulation Screening Study in California Lakes and Reservoirs, Sampling Dates: June 2007- March 2008 Statewide Lakes Sportfish Contamination Study 2007 2008 Contaminants in Fish from California Lakes and Reservoirs, 2007-2008: Summary Report on a Two-Year Screening Survey
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	Water Quality Control Plan for the San Francisco Bay Basin: Controllable water quality factors shall not cause a detrimental increase in concentrations of toxic substances found in bottom sediments or aquatic life. Effects on aquatic organisms, wildlife, and human health will be considered.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	National Academy of Science guidelines (NAS 1972) establish a maximum Endrin concentration of 100 ug/Kg (wet weight) in tissue samples for protection of aquatic life from bioaccumulation of toxic substances.
Guideline Reference:	National Academy of Sciences. Water Quality Criteria 1972. EPA-R3-73-033. Washington, D.C.: U.S. Environmental Protection Agency
Spatial Representation:	Data for this assessment unit was collected by one monitoring project: (SWB_FishLk)
Temporal Representation:	Data was collected on a single day 7/9/2007.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	Samples were collected, processed, and analyzed in accordance with the methods described in Quality Assurance Project Plan "Screening Study of Bioaccumulation in California Lakes and Reservoirs." (SWAMP, 2008).
QAPP Information Reference(s):	Quality Assurance Project Plan Screening Study of Bioaccumulation in California Lakes and Reservoirs. Moss Landing Marine Labs. Prepared for SWAMP BOG, 49 pages plus appendices and attachments

Line of Evidence (LOE) for Decision ID 64009, Endrin

Region 2

Madigan, Lake

LOE ID:	92227
Pollutant:	Endrin
LOE Subgroup:	Pollutant-Tissue
Matrix:	Tissue
Fraction:	Fish fillet
Beneficial Use:	Commercial or recreational collection of fish, shellfish, or organisms
Number of Samples:	1
Number of Exceedances:	0
Data and Information Type:	Fish tissue analysis
Data Used to Assess Water Quality:	State Water Board staff assessed SWAMP data for Madigan, Lake to determine beneficial use support and results are as follows: 0 of 1 samples exceed the criterion for Endrin. One composite (5 fish per composite) was generated from one species: Bluegill. Details of the compositing protocol can be found in the March 2009 report entitled: "Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year

Data Reference:	Screening Study" (SWAMP, 2009). Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Survey. A Report of the Surface Water Ambient Monitoring Program (SWAMP). California State Water Resources Control Board, Sacramento, CA Cruise Report for the Surface Waters Ambient Monitoring Program (SWAMP) Bioaccumulation Screening Study in California Lakes and Reservoirs. Sampling Dates: June 2007- March 2008 Statewide Lakes Sportfish Contamination Study 2007 2008 Contaminants in Fish from California Lakes and Reservoirs, 2007-2008: Summary Report on a Two-Year Screening Survey
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	Water Quality Control Plan for the San Francisco Bay Basin: Controllable water quality factors shall not cause a detrimental increase in concentrations of toxic substances found in bottom sediments or aquatic life. Effects on aquatic organisms, wildlife, and human health will be considered.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	The modified OEHHA Fish Contaminant Goal for endrin in fish tissue is 660 ppb. This screening level assumes an average body weight of 70 kg and a consumption rate of 32 g/day. A cooking reduction factor of 1 is applied for skin-off fillets. (Klasing, S., and R. Brodberg, 2008; USEPA, 2000)
Guideline Reference:	Development of Fish Contaminant Goals and Advisory Tissue Levels for Common Contaminants in California Sport Fish: Chlordane, DDTs, Dieldrin, Methylmercury, PCBs, Selenium, and Toxaphene Guidance for Assessing Chemical Contaminant Data for Use In Fish Advisories Volume 1: Fish Sampling and Analysis
Spatial Representation:	Data for this assessment unit was collected by one monitoring project: (SWB_FishLk)
Temporal Representation:	Data was collected on a single day 7/9/2007.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	Samples were collected, processed, and analyzed in accordance with the methods described in Quality Assurance Project Plan "Screening Study of Bioaccumulation in California Lakes and Reservoirs." (SWAMP, 2008).
QAPP Information Reference(s):	Quality Assurance Project Plan Screening Study of Bioaccumulation in California Lakes and Reservoirs. Moss Landing Marine Labs. Prepared for SWAMP BOG. 49 pages plus appendices and attachments

Line of Evidence (LOE) for Decision ID 64009, Endrin

Region 2

Madigan, Lake

LOE ID:	92226
Pollutant:	Endrin
LOE Subgroup:	Pollutant-Tissue
Matrix:	Tissue
Fraction:	Fish fillet
Beneficial Use:	Cold Freshwater Habitat
Number of Samples:	1
Number of Exceedances:	0
Data and Information Type:	Fish tissue analysis
Data Used to Assess Water Quality:	State Water Board staff assessed SWAMP data for Madigan, Lake to determine beneficial use support and results are as follows: 0 of 1 samples exceed the criterion for Endrin. One composite (5 fish per composite) was generated from one species: Bluegill. Details of the compositing protocol can be found in the March 2009 report entitled: "Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Study" (SWAMP, 2009).
Data Reference:	Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year

[One of a Two-Year Screening Survey. A Report of the Surface Water Ambient Monitoring Program \(SWAMP\). California State Water Resources Control Board, Sacramento, CA](#)
[Cruise Report for the Surface Waters Ambient Monitoring Program \(SWAMP\)](#)
[Bioaccumulation Screening Study in California Lakes and Reservoirs. Sampling Dates: June 2007- March 2008](#)
[Statewide Lakes Sportfish Contamination Study 2007 2008](#)
[Contaminants in Fish from California Lakes and Reservoirs, 2007-2008: Summary Report on a Two-Year Screening Survey](#)

SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	Water Quality Control Plan for the San Francisco Bay Basin: Controllable water quality factors shall not cause a detrimental increase in concentrations of toxic substances found in bottom sediments or aquatic life. Effects on aquatic organisms, wildlife, and human health will be considered.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	National Academy of Science guidelines (NAS 1972) establish a maximum Endrin concentration of 100 ug/Kg (wet weight) in tissue samples for protection of aquatic life from bioaccumulation of toxic substances.
Guideline Reference:	National Academy of Sciences. Water Quality Criteria 1972. EPA-R3-73-033. Washington, D.C.: U.S. Environmental Protection Agency
Spatial Representation:	Data for this assessment unit was collected by one monitoring project: (SWB_FishLk)
Temporal Representation:	Data was collected on a single day 7/9/2007.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	Samples were collected, processed, and analyzed in accordance with the methods described in Quality Assurance Project Plan "Screening Study of Bioaccumulation in California Lakes and Reservoirs." (SWAMP, 2008).
QAPP Information Reference(s):	Quality Assurance Project Plan Screening Study of Bioaccumulation in California Lakes and Reservoirs. Moss Landing Marine Labs. Prepared for SWAMP BOG. 49 pages plus appendices and attachments

DECISION ID	64010	Region 2
Madigan, Lake		

Pollutant:	Heptachlor
Final Listing Decision:	Do Not List on 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision:	New Decision
Revision Status	Revised
Impairment from Pollutant or Pollution:	Pollutant
Regional Board Staff Conclusion:	<p>This pollutant is being considered for placement on the CWA section 303(d) List under section 3.5 of the Listing Policy. Under section 3.5 a single line of evidence is necessary to assess listing status. Two lines of evidence are available in the administrative record to assess this pollutant. Zero of one samples exceed the guideline.</p> <p>Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against placing this water segment-pollutant combination on the CWA section 303(d) List.</p> <p>This conclusion is based on the staff findings that:</p> <ol style="list-style-type: none"> 1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy. 2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy. 3. Zero of one samples exceed the guideline and this sample size is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating. A minimum of 16 samples is needed to determine if a beneficial use is fully supported using table 3.1. 4. Pursuant to SECTION 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.

Regional Board Staff Decision Recommendation: After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be placed on the section 303(d) list. The readily available data and information is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating.

**Line of Evidence (LOE) for Decision ID 64010, Heptachlor
Madigan, Lake**

Region 2

LOE ID:	92228
Pollutant:	Heptachlor
LOE Subgroup:	Pollutant-Tissue
Matrix:	Tissue
Fraction:	Fish fillet
Beneficial Use:	Warm Freshwater Habitat
Number of Samples:	1
Number of Exceedances:	0
Data and Information Type:	Fish tissue analysis
Data Used to Assess Water Quality:	State Water Board staff assessed SWAMP data for Madigan, Lake to determine beneficial use support and results are as follows: 0 of 1 samples exceed the criterion for Heptachlor. One composite (5 fish per composite) was generated from one species: Bluegill. Details of the compositing protocol can be found in the March 2009 report entitled: "Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Study" (SWAMP, 2009).
Data Reference:	Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Survey. A Report of the Surface Water Ambient Monitoring Program (SWAMP). California State Water Resources Control Board, Sacramento, CA Cruise Report for the Surface Waters Ambient Monitoring Program (SWAMP) Bioaccumulation Screening Study in California Lakes and Reservoirs, Sampling Dates: June 2007- March 2008 Statewide Lakes Sportfish Contamination Study 2007 2008 Contaminants in Fish from California Lakes and Reservoirs, 2007-2008: Summary Report on a Two-Year Screening Survey
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	Water Quality Control Plan for the San Francisco Bay Basin: Controllable water quality factors shall not cause a detrimental increase in concentrations of toxic substances found in bottom sediments or aquatic life. Effects on aquatic organisms, wildlife, and human health will be considered.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	National Academy of Science guidelines (NAS 1972) establish a maximum Heptachlor concentration of 100 ug/Kg (wet weight) in tissue samples for protection of aquatic life from bioaccumulation of toxic substances.
Guideline Reference:	National Academy of Sciences. Water Quality Criteria 1972. EPA-R3-73-033. Washington, D.C.: U.S. Environmental Protection Agency
Spatial Representation:	Data for this assessment unit was collected by one monitoring project: (SWB_FishLk)
Temporal Representation:	Data was collected on a single day 7/9/2007.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	Samples were collected, processed, and analyzed in accordance with the methods described in Quality Assurance Project Plan "Screening Study of Bioaccumulation in California Lakes and Reservoirs." (SWAMP, 2008).
QAPP Information Reference(s):	Quality Assurance Project Plan Screening Study of Bioaccumulation in California Lakes and Reservoirs. Moss Landing Marine Labs. Prepared for SWAMP BOG, 49 pages plus appendices and attachments

Madigan, Lake

LOE ID:	92229
Pollutant:	Heptachlor
LOE Subgroup:	Pollutant-Tissue
Matrix:	Tissue
Fraction:	Fish fillet
Beneficial Use:	Cold Freshwater Habitat
Number of Samples:	1
Number of Exceedances:	0
Data and Information Type:	Fish tissue analysis
Data Used to Assess Water Quality:	State Water Board staff assessed SWAMP data for Madigan, Lake to determine beneficial use support and results are as follows: 0 of 1 samples exceed the criterion for Heptachlor. One composite (5 fish per composite) was generated from one species: Bluegill. Details of the compositing protocol can be found in the March 2009 report entitled: "Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Study" (SWAMP, 2009).
Data Reference:	Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Survey. A Report of the Surface Water Ambient Monitoring Program (SWAMP). California State Water Resources Control Board, Sacramento, CA Cruise Report for the Surface Waters Ambient Monitoring Program (SWAMP) Bioaccumulation Screening Study in California Lakes and Reservoirs. Sampling Dates: June 2007- March 2008 Statewide Lakes Sportfish Contamination Study 2007 2008 Contaminants in Fish from California Lakes and Reservoirs, 2007-2008: Summary Report on a Two-Year Screening Survey
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	Water Quality Control Plan for the San Francisco Bay Basin: Controllable water quality factors shall not cause a detrimental increase in concentrations of toxic substances found in bottom sediments or aquatic life. Effects on aquatic organisms, wildlife, and human health will be considered.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	National Academy of Science guidelines (NAS 1972) establish a maximum Heptachlor concentration of 100 ug/Kg (wet weight) in tissue samples for protection of aquatic life from bioaccumulation of toxic substances.
Guideline Reference:	National Academy of Sciences. Water Quality Criteria 1972. EPA-R3-73-033. Washington, D.C.: U.S. Environmental Protection Agency
Spatial Representation:	Data for this assessment unit was collected by one monitoring project: (SWB_FishLk)
Temporal Representation:	Data was collected on a single day 7/9/2007.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	Samples were collected, processed, and analyzed in accordance with the methods described in Quality Assurance Project Plan "Screening Study of Bioaccumulation in California Lakes and Reservoirs." (SWAMP, 2008).
QAPP Information Reference(s):	Quality Assurance Project Plan Screening Study of Bioaccumulation in California Lakes and Reservoirs. Moss Landing Marine Labs. Prepared for SWAMP BOG. 49 pages plus appendices and attachments

Pollutant:	Heptachlor epoxide
Final Listing Decision:	Do Not List on 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision:	New Decision
Revision Status	Revised
Impairment from Pollutant or Pollution:	Pollutant

Regional Board Staff Conclusion: This pollutant is being considered for placement on the CWA section 303(d) List under section 3.5 of the Listing Policy. Under section 3.5 a single line of evidence is necessary to assess listing status. Three lines of evidence are available in the administrative record to assess this pollutant. Zero of one samples exceed the guideline.

Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against placing this water segment-pollutant combination on the CWA section 303(d) List.

This conclusion is based on the staff findings that:

1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy.
2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy.
3. Zero of one samples exceed the guideline and this sample size is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating. A minimum of 16 samples is needed to determine if a beneficial use is fully supported using table 3.1.
4. Pursuant to SECTION 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.

Regional Board Staff Decision Recommendation: After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be placed on the section 303(d) list. The readily available data and information is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating.

Line of Evidence (LOE) for Decision ID 64011, Heptachlor epoxide Madigan, Lake

Region 2

LOE ID: 92230

Pollutant:	Heptachlor epoxide
LOE Subgroup:	Pollutant-Tissue
Matrix:	Tissue
Fraction:	Fish fillet

Beneficial Use: Warm Freshwater Habitat

Number of Samples:	1
Number of Exceedances:	0

Data and Information Type:	Fish tissue analysis
Data Used to Assess Water Quality:	State Water Board staff assessed SWAMP data for Madigan, Lake to determine beneficial use support and results are as follows: 0 of 1 samples exceed the criterion for Heptachlor epoxide. One composite (5 fish per composite) was generated from one species: Bluegill. Details of the compositing protocol can be found in the March 2009 report entitled: "Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Study" (SWAMP, 2009).

Data Reference: [Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Survey. A Report of the Surface Water Ambient Monitoring Program \(SWAMP\). California State Water Resources Control Board, Sacramento, CA Cruise Report for the Surface Waters Ambient Monitoring Program \(SWAMP\) Bioaccumulation Screening Study in California Lakes and Reservoirs, Sampling Dates: June 2007- March 2008 Statewide Lakes Sportfish Contamination Study 2007 2008 Contaminants in Fish from California Lakes and Reservoirs, 2007-2008: Summary Report](#)

SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	Water Quality Control Plan for the San Francisco Bay Basin: Controllable water quality factors shall not cause a detrimental increase in concentrations of toxic substances found in bottom sediments or aquatic life. Effects on aquatic organisms, wildlife, and human health will be considered.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	National Academy of Science guidelines (NAS 1972) establish a maximum Heptachlor Epoxide concentration of 100 ug/Kg (wet weight) in tissue samples for protection of aquatic life from bioaccumulation of toxic substances.
Guideline Reference:	National Academy of Sciences. Water Quality Criteria 1972. EPA-R3-73-033. Washington, D.C.: U.S. Environmental Protection Agency
Spatial Representation:	Data for this assessment unit was collected by one monitoring project: (SWB_FishLk)
Temporal Representation:	Data was collected on a single day 7/9/2007.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	Samples were collected, processed, and analyzed in accordance with the methods described in Quality Assurance Project Plan "Screening Study of Bioaccumulation in California Lakes and Reservoirs." (SWAMP, 2008).
QAPP Information Reference(s):	Quality Assurance Project Plan Screening Study of Bioaccumulation in California Lakes and Reservoirs. Moss Landing Marine Labs. Prepared for SWAMP BOG. 49 pages plus appendices and attachments

Line of Evidence (LOE) for Decision ID 64011, Heptachlor epoxide

Region 2

Madigan, Lake

LOE ID:	92231
Pollutant:	Heptachlor epoxide
LOE Subgroup:	Pollutant-Tissue
Matrix:	Tissue
Fraction:	Fish fillet
Beneficial Use:	Cold Freshwater Habitat
Number of Samples:	1
Number of Exceedances:	0
Data and Information Type:	Fish tissue analysis
Data Used to Assess Water Quality:	State Water Board staff assessed SWAMP data for Madigan, Lake to determine beneficial use support and results are as follows: 0 of 1 samples exceed the criterion for Heptachlor epoxide. One composite (5 fish per composite) was generated from one species: Bluegill. Details of the compositing protocol can be found in the March 2009 report entitled: "Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Study" (SWAMP, 2009).
Data Reference:	Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Survey. A Report of the Surface Water Ambient Monitoring Program (SWAMP). California State Water Resources Control Board, Sacramento, CA Cruise Report for the Surface Waters Ambient Monitoring Program (SWAMP) Bioaccumulation Screening Study in California Lakes and Reservoirs. Sampling Dates: June 2007- March 2008 Statewide Lakes Sportfish Contamination Study 2007 2008 Contaminants in Fish from California Lakes and Reservoirs, 2007-2008: Summary Report on a Two-Year Screening Survey

SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	Water Quality Control Plan for the San Francisco Bay Basin: Controllable water quality factors shall not cause a detrimental increase in concentrations of toxic substances found

Objective/Criterion Reference:	in bottom sediments or aquatic life. Effects on aquatic organisms, wildlife, and human health will be considered. Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	National Academy of Science guidelines (NAS 1972) establish a maximum Heptachlor Epoxide concentration of 100 ug/Kg (wet weight) in tissue samples for protection of aquatic life from bioaccumulation of toxic substances.
Guideline Reference:	National Academy of Sciences. Water Quality Criteria 1972. EPA-R3-73-033. Washington, D.C.: U.S. Environmental Protection Agency
Spatial Representation:	Data for this assessment unit was collected by one monitoring project: (SWB_FishLk)
Temporal Representation:	Data was collected on a single day 7/9/2007.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	Samples were collected, processed, and analyzed in accordance with the methods described in Quality Assurance Project Plan "Screening Study of Bioaccumulation in California Lakes and Reservoirs." (SWAMP, 2008).
QAPP Information Reference(s):	Quality Assurance Project Plan Screening Study of Bioaccumulation in California Lakes and Reservoirs. Moss Landing Marine Labs. Prepared for SWAMP BOG. 49 pages plus appendices and attachments

Line of Evidence (LOE) for Decision ID 64011, Heptachlor epoxide

Region 2

Madigan, Lake

LOE ID:	92232
Pollutant:	Heptachlor epoxide
LOE Subgroup:	Pollutant-Tissue
Matrix:	Tissue
Fraction:	Fish fillet
Beneficial Use:	Commercial or recreational collection of fish, shellfish, or organisms
Number of Samples:	0
Number of Exceedances:	0
Data and Information Type:	Fish tissue analysis
Data Used to Assess Water Quality:	State Water Board staff assessed SWAMP data for Madigan, Lake to determine beneficial use support and results are as follows: 0 of 0 samples exceed the criterion for Heptachlor epoxide. One composite (5 fish per composite) was generated from one species: Bluegill. Details of the compositing protocol can be found in the March 2009 report entitled: "Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Study" (SWAMP, 2009). One composite was not used in the assessment because the laboratory data reporting limit(s) was above the objective and therefore the results could not be quantified with the level of certainty required by the Listing Policy.
Data Reference:	Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Survey. A Report of the Surface Water Ambient Monitoring Program (SWAMP). California State Water Resources Control Board, Sacramento, CA Cruise Report for the Surface Waters Ambient Monitoring Program (SWAMP) Bioaccumulation Screening Study in California Lakes and Reservoirs. Sampling Dates: June 2007- March 2008 Statewide Lakes Sportfish Contamination Study 2007 2008 Contaminants in Fish from California Lakes and Reservoirs, 2007-2008: Summary Report on a Two-Year Screening Survey
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	Water Quality Control Plan for the San Francisco Bay Basin: Controllable water quality factors shall not cause a detrimental increase in concentrations of toxic substances found in bottom sediments or aquatic life. Effects on aquatic organisms, wildlife, and human health will be considered.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)

Evaluation Guideline:	The modified OEHHA Fish Contaminant Goal for heptachlor epoxide in fish tissue is 0.93 ppb. This screening level assumes an average body weight of 70 kg and a consumption rate of 32 g/day for a 30 year exposure over a 70-year lifetime. This constituent is a carcinogen therefore the risk level is set to one in a million. A cooking reduction factor of 1 is applied for skin-off fillets. (Klasing, S., and R. Brodberg, 2008; OEHHA, 1999)
Guideline Reference:	Development of Fish Contaminant Goals and Advisory Tissue Levels for Common Contaminants in California Sport Fish: Chlordane, DDTs, Dieldrin, Methylmercury, PCBs, Selenium, and Toxaphene Public Health Goal for Heptachlor and Heptachlor Epoxide in Drinking Water
Spatial Representation:	Data for this assessment unit was collected by one monitoring project: (SWB_FishLk)
Temporal Representation:	Data was collected on a single day 7/9/2007.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	Samples were collected, processed, and analyzed in accordance with the methods described in Quality Assurance Project Plan "Screening Study of Bioaccumulation in California Lakes and Reservoirs." (SWAMP, 2008).
QAPP Information Reference(s):	Quality Assurance Project Plan Screening Study of Bioaccumulation in California Lakes and Reservoirs. Moss Landing Marine Labs. Prepared for SWAMP BOG. 49 pages plus appendices and attachments

DECISION ID	64012	Region 2
Madigan, Lake		

Pollutant:	Hexachlorobenzene/ HCB
Final Listing Decision:	Do Not List on 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision:	New Decision
Revision Status	Revised
Impairment from Pollutant or Pollution:	Pollutant

Regional Board Staff Conclusion: This pollutant is being considered for placement on the CWA section 303(d) List under section 3.5 of the Listing Policy. Under section 3.5 a single line of evidence is necessary to assess listing status. One line of evidence is available in the administrative record to assess this pollutant. Zero of one samples exceed the guideline.

Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against placing this water segment-pollutant combination on the CWA section 303(d) List.

This conclusion is based on the staff findings that:

1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy.
2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy.
3. Zero of one samples exceed the guideline and this sample size is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating. A minimum of 16 samples is needed to determine if a beneficial use is fully supported using table 3.1.
4. Pursuant to SECTION 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.

Regional Board Staff Decision Recommendation: After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be placed on the section 303(d) list. The readily available data and information is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating.

Line of Evidence (LOE) for Decision ID 64012, Hexachlorobenzene/ HCB	Region 2
Madigan, Lake	

LOE ID: 92233

Pollutant:	Hexachlorobenzene/ HCB
LOE Subgroup:	Pollutant-Tissue
Matrix:	Tissue
Fraction:	Fish fillet
Beneficial Use:	Commercial or recreational collection of fish, shellfish, or organisms
Number of Samples:	1
Number of Exceedances:	0
Data and Information Type:	Fish tissue analysis
Data Used to Assess Water Quality:	State Water Board staff assessed SWAMP data for Madigan, Lake to determine beneficial use support and results are as follows: 0 of 1 samples exceed the criterion for Hexachlorobenzene. One composite (5 fish per composite) was generated from one species: Bluegill. Details of the compositing protocol can be found in the March 2009 report entitled: "Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Study" (SWAMP, 2009).
Data Reference:	Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Survey. A Report of the Surface Water Ambient Monitoring Program (SWAMP). California State Water Resources Control Board, Sacramento, CA Cruise Report for the Surface Waters Ambient Monitoring Program (SWAMP) Bioaccumulation Screening Study in California Lakes and Reservoirs. Sampling Dates: June 2007- March 2008 Statewide Lakes Sportfish Contamination Study 2007 2008 Contaminants in Fish from California Lakes and Reservoirs, 2007-2008: Summary Report on a Two-Year Screening Survey
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	Water Quality Control Plan for the San Francisco Bay Basin: Controllable water quality factors shall not cause a detrimental increase in concentrations of toxic substances found in bottom sediments or aquatic life. Effects on aquatic organisms, wildlife, and human health will be considered.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	The modified OEHHA Fish Contaminant Goal for hexachlorobenzene in fish tissue is 2.8 ppb. This screening level assumes an average body weight of 70 kg and a consumption rate of 32 g/day for a 30 year exposure over a 70-year lifetime. This constituent is a carcinogen therefore the risk level is set to one in a million. A cooking reduction factor of 1 is applied for skin-off fillets. (Klasing, S., and R. Brodberg, 2008; OEHHA, 2005)
Guideline Reference:	Development of Fish Contaminant Goals and Advisory Tissue Levels for Common Contaminants in California Sport Fish: Chlordane, DDTs, Dieldrin, Methylmercury, PCBs, Selenium, and Toxaphene Air Toxics Hotspots Program Risk Assessment Guidelines. Part II Technical Support Document for Describing Available Cancer Potency Values.
Spatial Representation:	Data for this assessment unit was collected by one monitoring project: (SWB_FishLk)
Temporal Representation:	Data was collected on a single day 7/9/2007.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	Samples were collected, processed, and analyzed in accordance with the methods described in Quality Assurance Project Plan "Screening Study of Bioaccumulation in California Lakes and Reservoirs." (SWAMP, 2008).
QAPP Information Reference(s):	Quality Assurance Project Plan Screening Study of Bioaccumulation in California Lakes and Reservoirs. Moss Landing Marine Labs. Prepared for SWAMP BOG, 49 pages plus appendices and attachments

DECISION ID	64045	Region 2
Madigan, Lake		

Pollutant: Lindane/gamma Hexachlorocyclohexane (gamma-HCH)

Final Listing Decision:	Do Not List on 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision:	New Decision
Revision Status	Revised
Impairment from Pollutant or Pollution:	Pollutant

Regional Board Staff Conclusion: This pollutant is being considered for placement on the CWA section 303(d) List under section 3.5 of the Listing Policy. Under section 3.5 a single line of evidence is necessary to assess listing status. Three lines of evidence are available in the administrative record to assess this pollutant. Zero of one samples exceed the guideline.

Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against placing this water segment-pollutant combination on the CWA section 303(d) List.

This conclusion is based on the staff findings that:

1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy.
2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy.
3. Zero of one samples exceed the guideline and this sample size is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating. A minimum of 16 samples is needed to determine if a beneficial use is fully supported using table 3.1.
4. Pursuant to SECTION 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.

Regional Board Staff Decision Recommendation: After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be placed on the section 303(d) list. The readily available data and information is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating.

Line of Evidence (LOE) for Decision ID 64045, Lindane/gamma Hexachlorocyclohexane (gamma-HCH)	Region 2
Madigan, Lake	

LOE ID:	92236
Pollutant:	Lindane/gamma Hexachlorocyclohexane (gamma-HCH)
LOE Subgroup:	Pollutant-Tissue
Matrix:	Tissue
Fraction:	Fish fillet
Beneficial Use:	Cold Freshwater Habitat
Number of Samples:	1
Number of Exceedances:	0
Data and Information Type:	Fish tissue analysis
Data Used to Assess Water Quality:	State Water Board staff assessed SWAMP data for Madigan, Lake to determine beneficial use support and results are as follows: 0 of 1 samples exceed the criterion for HCH, gamma. One composite (5 fish per composite) was generated from one species: Bluegill. Details of the compositing protocol can be found in the March 2009 report entitled: "Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Study" (SWAMP, 2009).
Data Reference:	Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Survey. A Report of the Surface Water Ambient Monitoring Program (SWAMP). California State Water Resources Control Board, Sacramento, CA Cruise Report for the Surface Waters Ambient Monitoring Program (SWAMP) Bioaccumulation Screening Study in California Lakes and Reservoirs, Sampling Dates: June 2007- March 2008 Statewide Lakes Sportfish Contamination Study 2007 2008 Contaminants in Fish from California Lakes and Reservoirs, 2007-2008: Summary Report

SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	Water Quality Control Plan for the San Francisco Bay Basin: Controllable water quality factors shall not cause a detrimental increase in concentrations of toxic substances found in bottom sediments or aquatic life. Effects on aquatic organisms, wildlife, and human health will be considered.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	The modified OEHHA Fish Contaminant Goal for lindane in fish tissue is 4.6 ppb. This screening level assumes an average body weight of 70 kg and a consumption rate of 32 g/day for a 30 year exposure over a 70-year lifetime. This constituent is a carcinogen therefore the risk level is set to one in a million. A cooking reduction factor of 1 is applied for skin-off fillets. (Klasing, S., and R. Brodberg, 2008; OEHHA, 2005)
Guideline Reference:	National Academy of Sciences. Water Quality Criteria 1972. EPA-R3-73-033. Washington, D.C.: U.S. Environmental Protection Agency
Spatial Representation:	Data for this assessment unit was collected by one monitoring project: (SWB_FishLk)
Temporal Representation:	Data was collected on a single day 7/9/2007.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	Samples were collected, processed, and analyzed in accordance with the methods described in Quality Assurance Project Plan "Screening Study of Bioaccumulation in California Lakes and Reservoirs." (SWAMP, 2008).
QAPP Information Reference(s):	Quality Assurance Project Plan Screening Study of Bioaccumulation in California Lakes and Reservoirs. Moss Landing Marine Labs. Prepared for SWAMP BOG, 49 pages plus appendices and attachments

Line of Evidence (LOE) for Decision ID 64045, Lindane/gamma Hexachlorocyclohexane (gamma-HCH)

Region 2

Madigan, Lake

LOE ID:	92235
Pollutant:	Lindane/gamma Hexachlorocyclohexane (gamma-HCH)
LOE Subgroup:	Pollutant-Tissue
Matrix:	Tissue
Fraction:	Fish fillet
Beneficial Use:	Commercial or recreational collection of fish, shellfish, or organisms
Number of Samples:	1
Number of Exceedances:	0
Data and Information Type:	Fish tissue analysis
Data Used to Assess Water Quality:	State Water Board staff assessed SWAMP data for Madigan, Lake to determine beneficial use support and results are as follows: 0 of 1 samples exceed the criterion for HCH, gamma. One composite (5 fish per composite) was generated from one species: Bluegill. Details of the compositing protocol can be found in the March 2009 report entitled: "Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Study" (SWAMP, 2009).
Data Reference:	Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Survey. A Report of the Surface Water Ambient Monitoring Program (SWAMP). California State Water Resources Control Board, Sacramento, CA Cruise Report for the Surface Waters Ambient Monitoring Program (SWAMP) Bioaccumulation Screening Study in California Lakes and Reservoirs. Sampling Dates: June 2007- March 2008 Statewide Lakes Sportfish Contamination Study 2007 2008 Contaminants in Fish from California Lakes and Reservoirs, 2007-2008: Summary Report on a Two-Year Screening Survey

SWAMP Data: SWAMP

Water Quality Objective/Criterion:	Water Quality Control Plan for the San Francisco Bay Basin: Controllable water quality factors shall not cause a detrimental increase in concentrations of toxic substances found in bottom sediments or aquatic life. Effects on aquatic organisms, wildlife, and human health will be considered.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	The modified OEHHA Fish Contaminant Goal for lindane in fish tissue is 4.6 ppb. This screening level assumes an average body weight of 70 kg and a consumption rate of 32 g/day for a 30 year exposure over a 70-year lifetime. This constituent is a carcinogen therefore the risk level is set to one in a million. A cooking reduction factor of 1 is applied for skin-off fillets.
Guideline Reference:	Development of Fish Contaminant Goals and Advisory Tissue Levels for Common Contaminants in California Sport Fish: Chlordane, DDTs, Dieldrin, Methylmercury, PCBs, Selenium, and Toxaphene Air Toxics Hotspots Program Risk Assessment Guidelines. Part II Technical Support Document for Describing Available Cancer Potency Values.
Spatial Representation:	Data for this assessment unit was collected by one monitoring project: (SWB_FishLk)
Temporal Representation:	Data was collected on a single day 7/9/2007.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	Samples were collected, processed, and analyzed in accordance with the methods described in Quality Assurance Project Plan "Screening Study of Bioaccumulation in California Lakes and Reservoirs." (SWAMP, 2008).
QAPP Information Reference(s):	Quality Assurance Project Plan Screening Study of Bioaccumulation in California Lakes and Reservoirs. Moss Landing Marine Labs. Prepared for SWAMP BOG, 49 pages plus appendices and attachments

Line of Evidence (LOE) for Decision ID 64045, Lindane/gamma Hexachlorocyclohexane (gamma-HCH)

Region 2

Madigan, Lake

LOE ID:	92234
Pollutant:	Lindane/gamma Hexachlorocyclohexane (gamma-HCH)
LOE Subgroup:	Pollutant-Tissue
Matrix:	Tissue
Fraction:	Fish fillet
Beneficial Use:	Warm Freshwater Habitat
Number of Samples:	1
Number of Exceedances:	0
Data and Information Type:	Fish tissue analysis
Data Used to Assess Water Quality:	State Water Board staff assessed SWAMP data for Madigan, Lake to determine beneficial use support and results are as follows: 0 of 1 samples exceed the criterion for HCH, gamma. One composite (5 fish per composite) was generated from one species: Bluegill. Details of the compositing protocol can be found in the March 2009 report entitled: "Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Study" (SWAMP, 2009).
Data Reference:	Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Survey. A Report of the Surface Water Ambient Monitoring Program (SWAMP). California State Water Resources Control Board, Sacramento, CA Cruise Report for the Surface Waters Ambient Monitoring Program (SWAMP) Bioaccumulation Screening Study in California Lakes and Reservoirs. Sampling Dates: June 2007- March 2008 Statewide Lakes Sportfish Contamination Study 2007 2008 Contaminants in Fish from California Lakes and Reservoirs, 2007-2008: Summary Report on a Two-Year Screening Survey
SWAMP Data:	SWAMP

Water Quality Objective/Criterion:	Water Quality Control Plan for the San Francisco Bay Basin: Controllable water quality factors shall not cause a detrimental increase in concentrations of toxic substances found in bottom sediments or aquatic life. Effects on aquatic organisms, wildlife, and human health will be considered.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	The modified OEHHA Fish Contaminant Goal for lindane in fish tissue is 4.6 ppb. This screening level assumes an average body weight of 70 kg and a consumption rate of 32 g/day for a 30 year exposure over a 70-year lifetime. This constituent is a carcinogen therefore the risk level is set to one in a million. A cooking reduction factor of 1 is applied for skin-off fillets. (Klasing, S., and R. Brodberg, 2008; OEHHA, 2005)
Guideline Reference:	National Academy of Sciences. Water Quality Criteria 1972. EPA-R3-73-033. Washington, D.C.: U.S. Environmental Protection Agency
Spatial Representation:	Data for this assessment unit was collected by one monitoring project: (SWB_FishLk)
Temporal Representation:	Data was collected on a single day 7/9/2007.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	Samples were collected, processed, and analyzed in accordance with the methods described in Quality Assurance Project Plan "Screening Study of Bioaccumulation in California Lakes and Reservoirs." (SWAMP, 2008).
QAPP Information Reference(s):	Quality Assurance Project Plan Screening Study of Bioaccumulation in California Lakes and Reservoirs. Moss Landing Marine Labs. Prepared for SWAMP BOG. 49 pages plus appendices and attachments

DECISION ID		65491	Region 2
Madigan, Lake			
Pollutant:	Mercury		
Final Listing Decision:	Do Not List on 303(d) list (TMDL required list)		
Last Listing Cycle's Final Listing Decision:	New Decision		
Revision Status	Revised		
Impairment from Pollutant or Pollution:	Pollutant		
Regional Board Staff Conclusion:	<p>This pollutant is being considered for placement on the CWA section 303(d) List under section 3.5 of the Listing Policy. Under section 3.5 a single line of evidence is necessary to assess listing status. One line of evidence is available in the administrative record to assess this pollutant. Zero of zero samples exceed the OEHHA guideline.</p> <p>Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against placing this water segment-pollutant combination on the CWA section 303(d) List.</p> <p>This conclusion is based on the staff findings that:</p> <ol style="list-style-type: none"> 1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy. 2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy. 3. Zero of zero samples exceed the OEHHA guideline and this sample size is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating. A minimum of 16 samples is needed to determine if a beneficial use is fully supported using table 3.1. 4. Pursuant to SECTION 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met. 		
Regional Board Staff Decision Recommendation:	After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be placed on the section 303(d) list. The readily available data and information is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating.		

Madigan, Lake

LOE ID:	92237
Pollutant:	Mercury
LOE Subgroup:	Pollutant-Tissue
Matrix:	Tissue
Fraction:	Fish fillet
Beneficial Use:	Commercial or recreational collection of fish, shellfish, or organisms
Number of Samples:	0
Number of Exceedances:	0
Data and Information Type:	Fish tissue analysis
Data Used to Assess Water Quality:	State Water Board staff assessed SWAMP data for Madigan, Lake to determine beneficial use support and results are as follows: 0 of 0 samples exceed the criterion for Mercury. The two composites for bluegill could not be used in the assessment due to total fish lengths that did not fall within lengths noted in the guideline.
Data Reference:	Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Survey. A Report of the Surface Water Ambient Monitoring Program (SWAMP). California State Water Resources Control Board, Sacramento, CA Cruise Report for the Surface Waters Ambient Monitoring Program (SWAMP) Bioaccumulation Screening Study in California Lakes and Reservoirs, Sampling Dates: June 2007- March 2008 Statewide Lakes Sportfish Contamination Study 2007 2008 Contaminants in Fish from California Lakes and Reservoirs, 2007-2008: Summary Report on a Two-Year Screening Survey
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	Water Quality Control Plan for the San Francisco Bay Basin (2013): Controllable water quality factors shall not cause a detrimental increase in concentrations of toxic substances found in bottom sediments or aquatic life. Effects on aquatic organisms, wildlife, and human health will be considered.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	The USEPA 304(a) recommended water quality criterion for concentrations of methylmercury in fish tissue of trophic level 4 fish (150 - 500 mm; fillet wet weight) is 0.2 mg/kg. This assumes a consumption rate of 32 g/day. (USEPA, 2001)
Guideline Reference:	Water Quality Criterion for the Protection of Human Health: Methylmercury. Final. United States Environmental Protection Agency Office of Science and Technology Office of Water. EPA-823-R-01-001. January 2001
Spatial Representation:	Data for this assessment unit was collected by one monitoring project: (SWB_FishLk)
Temporal Representation:	Data was collected on a single day 7/9/2007.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	Samples were collected, processed, and analyzed in accordance with the methods described in Quality Assurance Project Plan "Screening Study of Bioaccumulation in California Lakes and Reservoirs." (SWAMP, 2008).
QAPP Information Reference(s):	Quality Assurance Project Plan Screening Study of Bioaccumulation in California Lakes and Reservoirs. Moss Landing Marine Labs. Prepared for SWAMP BOG. 49 pages plus appendices and attachments

DECISION ID

64048

Region 2

Madigan, Lake

Pollutant:

Mirex

Final Listing Decision:

Do Not List on 303(d) list (TMDL required list)

Last Listing Cycle's Final Listing Decision:
Revision Status
Impairment from Pollutant or Pollution:

New Decision

Revised
Pollutant

Regional Board Staff Conclusion:

This pollutant is being considered for placement on the CWA section 303(d) List under section 3.5 of the Listing Policy. Under section 3.5 a single line of evidence is necessary to assess listing status. One line of evidence is available in the administrative record to assess this pollutant. Zero of zero samples exceed the guideline.

Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against placing this water segment-pollutant combination on the CWA section 303(d) List.

This conclusion is based on the staff findings that:

1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy.
2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy.
3. Zero of zero samples exceed the guideline and this sample size is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating. A minimum of 16 samples is needed to determine if a beneficial use is fully supported using table 3.1.
4. Pursuant to SECTION 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.

Regional Board Staff Decision Recommendation:

After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be placed on the section 303(d) list. The readily available data and information is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating.

**Line of Evidence (LOE) for Decision ID 64048, Mirex
Madigan, Lake**

Region 2

LOE ID: 92238

Pollutant: Mirex
LOE Subgroup: Pollutant-Tissue
Matrix: Tissue
Fraction: Fish fillet

Beneficial Use: Commercial or recreational collection of fish, shellfish, or organisms

Number of Samples: 0
Number of Exceedances: 0

Data and Information Type: Fish tissue analysis

Data Used to Assess Water Quality: State Water Board staff assessed SWAMP data for Madigan, Lake to determine beneficial use support and results are as follows: 0 of 0 samples exceed the criterion for Mirex. One composite (5 fish per composite) was generated from one species: Bluegill. Details of the compositing protocol can be found in the March 2009 report entitled: "Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Study" (SWAMP, 2009). One composite was not used in the assessment because the laboratory data reporting limit(s) was above the objective and therefore the results could not be quantified with the level of certainty required by the Listing Policy.

Data Reference: [Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Survey. A Report of the Surface Water Ambient Monitoring Program \(SWAMP\). California State Water Resources Control Board, Sacramento, CA Cruise Report for the Surface Waters Ambient Monitoring Program \(SWAMP\) Bioaccumulation Screening Study in California Lakes and Reservoirs. Sampling Dates: June 2007- March 2008](#)
[Statewide Lakes Sportfish Contamination Study 2007 2008](#)
[Contaminants in Fish from California Lakes and Reservoirs, 2007-2008: Summary Report](#)

SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	Water Quality Control Plan for the San Francisco Bay Basin: Controllable water quality factors shall not cause a detrimental increase in concentrations of toxic substances found in bottom sediments or aquatic life. Effects on aquatic organisms, wildlife, and human health will be considered.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	The modified OEHHA Fish Contaminant Goal for mirex in fish tissue is 0.28 ppb. This screening level assumes an average body weight of 70 kg and a consumption rate of 32 g/day. A cooking reduction factor of 1 is applied for skin-off fillets. (Klasing, S., and R. Brodberg, 2008; OEHHA, 1992)
Guideline Reference:	Development of Fish Contaminant Goals and Advisory Tissue Levels for Common Contaminants in California Sport Fish: Chlordane, DDTs, Dieldrin, Methylmercury, PCBs, Selenium, and Toxaphene Expedited Cancer Potency Values and Proposed Regulatory Levels for Certain Proposition 65 Carcinogens.
Spatial Representation:	Data for this assessment unit was collected by one monitoring project: (SWB_FishLk)
Temporal Representation:	Data was collected on a single day 7/9/2007.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	Samples were collected, processed, and analyzed in accordance with the methods described in Quality Assurance Project Plan "Screening Study of Bioaccumulation in California Lakes and Reservoirs." (SWAMP, 2008).
QAPP Information Reference(s):	Quality Assurance Project Plan Screening Study of Bioaccumulation in California Lakes and Reservoirs. Moss Landing Marine Labs. Prepared for SWAMP BOG, 49 pages plus appendices and attachments

DECISION ID	65492	Region 2
Madigan, Lake		

Pollutant:	PCBs (Polychlorinated biphenyls)
Final Listing Decision:	Do Not List on 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision:	New Decision
Revision Status	Revised
Impairment from Pollutant or Pollution:	Pollutant
Regional Board Staff Conclusion:	<p>This pollutant is being considered for placement on the CWA section 303(d) List under section 3.5 of the Listing Policy. Under section 3.5 a single line of evidence is necessary to assess listing status. Three lines of evidence are available in the administrative record to assess this pollutant. Zero of one samples exceed the OEHHA guideline.</p> <p>Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against placing this water segment-pollutant combination on the CWA section 303(d) List.</p> <p>This conclusion is based on the staff findings that:</p> <ol style="list-style-type: none"> 1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy. 2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy. 3. Zero of one samples exceed the OEHHA guideline and this sample size is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating. A minimum of 16 samples is needed to determine if a beneficial use is fully supported using table 3.1. 4. Pursuant to SECTION 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.
Regional Board Staff Decision	After review of the available data and information, RWQCB staff concludes that the water body-

Recommendation: pollutant combination should not be placed on the section 303(d) list. The readily available data and information is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating.

Line of Evidence (LOE) for Decision ID 65492, PCBs (Polychlorinated biphenyls)

Region 2

Madigan, Lake

LOE ID:	92239
Pollutant:	PCBs (Polychlorinated biphenyls)
LOE Subgroup:	Pollutant-Tissue
Matrix:	Tissue
Fraction:	Fish fillet
Beneficial Use:	Warm Freshwater Habitat
Number of Samples:	1
Number of Exceedances:	0
Data and Information Type:	Fish tissue analysis
Data Used to Assess Water Quality:	State Water Board staff assessed SWAMP data for Madigan, Lake to determine beneficial use support and results are as follows: 0 of 1 samples exceed the criterion for PCB, Total. One composite (5 fish per composite) was generated from one species: Bluegill. Details of the compositing protocol can be found in the March 2009 report entitled: "Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Study" (SWAMP, 2009). Total PCB was assessed for as follows: PCB aroclors and congeners were summed separately and the sum that yielded the highest value was used for the assessment.
Data Reference:	Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Survey. A Report of the Surface Water Ambient Monitoring Program (SWAMP). California State Water Resources Control Board, Sacramento, CA Cruise Report for the Surface Waters Ambient Monitoring Program (SWAMP) Bioaccumulation Screening Study in California Lakes and Reservoirs, Sampling Dates: June 2007- March 2008 Statewide Lakes Sportfish Contamination Study 2007 2008 Contaminants in Fish from California Lakes and Reservoirs, 2007-2008: Summary Report on a Two-Year Screening Survey
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	Water Quality Control Plan for the San Francisco Bay Basin (2013): Controllable water quality factors shall not cause a detrimental increase in concentrations of toxic substances found in bottom sediments or aquatic life. Effects on aquatic organisms, wildlife, and human health will be considered.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	National Academy of Science guidelines (NAS 1972) establish a maximum total PCB concentration of 500 ug/Kg (wet weight) in tissue samples for protection of aquatic life from bioaccumulation of toxic substances.
Guideline Reference:	National Academy of Sciences. Water Quality Criteria 1972. EPA-R3-73-033. Washington, D.C.: U.S. Environmental Protection Agency
Spatial Representation:	Data for this assessment unit was collected by one monitoring project: (SWB_FishLk)
Temporal Representation:	Data was collected on a single day 7/9/2007.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	Samples were collected, processed, and analyzed in accordance with the methods described in Quality Assurance Project Plan "Screening Study of Bioaccumulation in California Lakes and Reservoirs." (SWAMP, 2008).
QAPP Information Reference(s):	Quality Assurance Project Plan Screening Study of Bioaccumulation in California Lakes and Reservoirs. Moss Landing Marine Labs. Prepared for SWAMP BOG, 49 pages plus appendices and attachments

Madigan, Lake

LOE ID:	92216
Pollutant:	PCBs (Polychlorinated biphenyls)
LOE Subgroup:	Pollutant-Tissue
Matrix:	Tissue
Fraction:	Fish fillet
Beneficial Use:	Commercial or recreational collection of fish, shellfish, or organisms
Number of Samples:	1
Number of Exceedances:	0
Data and Information Type:	Fish tissue analysis
Data Used to Assess Water Quality:	State Water Board staff assessed SWAMP data for Madigan, Lake to determine beneficial use support and results are as follows: 0 of 1 samples exceed the criterion for PCB, Total. One composite (5 fish per composite) was generated from one species: Bluegill. Details of the compositing protocol can be found in the March 2009 report entitled: "Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Study" (SWAMP, 2009). Total PCB was assessed for as follows: PCB aroclors and congeners were summed separately and the sum that yielded the highest value was used for the assessment.
Data Reference:	Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Survey. A Report of the Surface Water Ambient Monitoring Program (SWAMP). California State Water Resources Control Board, Sacramento, CA Cruise Report for the Surface Waters Ambient Monitoring Program (SWAMP) Bioaccumulation Screening Study in California Lakes and Reservoirs, Sampling Dates: June 2007- March 2008 Statewide Lakes Sportfish Contamination Study 2007 2008 Contaminants in Fish from California Lakes and Reservoirs, 2007-2008: Summary Report on a Two-Year Screening Survey
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	Water Quality Control Plan for the San Francisco Bay Basin (2013): Controllable water quality factors shall not cause a detrimental increase in concentrations of toxic substances found in bottom sediments or aquatic life. Effects on aquatic organisms, wildlife, and human health will be considered.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	The modified OEHHA Fish Contaminant Goal for polychlorinated biphenyls in fish tissue is 2.6 ppb. This screening level assumes an average body weight of 70 kg and a consumption rate of 32 g/day for a 30 year exposure over a 70-year lifetime. This constituent is a carcinogen therefore the risk level is set to one in a million. A cooking reduction factor of 1 is applied for skin-off fillets. (Klasing, S., and R. Brodberg, 2008)
Guideline Reference:	Development of Fish Contaminant Goals and Advisory Tissue Levels for Common Contaminants in California Sport Fish: Chlordane, DDTs, Dieldrin, Methylmercury, PCBs, Selenium, and Toxaphene
Spatial Representation:	Data for this assessment unit was collected by one monitoring project: (SWB_FishLk)
Temporal Representation:	Data was collected on a single day 7/9/2007.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	Samples were collected, processed, and analyzed in accordance with the methods described in Quality Assurance Project Plan "Screening Study of Bioaccumulation in California Lakes and Reservoirs." (SWAMP, 2008).
QAPP Information Reference(s):	Quality Assurance Project Plan Screening Study of Bioaccumulation in California Lakes and Reservoirs. Moss Landing Marine Labs. Prepared for SWAMP BOG, 49 pages plus appendices and attachments

Madigan, Lake

LOE ID:	92215
Pollutant:	PCBs (Polychlorinated biphenyls)
LOE Subgroup:	Pollutant-Tissue
Matrix:	Tissue
Fraction:	Fish fillet
Beneficial Use:	Cold Freshwater Habitat
Number of Samples:	1
Number of Exceedances:	0
Data and Information Type:	Fish tissue analysis
Data Used to Assess Water Quality:	State Water Board staff assessed SWAMP data for Madigan, Lake to determine beneficial use support and results are as follows: 0 of 1 samples exceed the criterion for PCB, Total. One composite (5 fish per composite) was generated from one species: Bluegill. Details of the compositing protocol can be found in the March 2009 report entitled: "Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Study" (SWAMP, 2009). Total PCB was assessed for as follows: PCB aroclors and congeners were summed separately and the sum that yielded the highest value was used for the assessment.
Data Reference:	Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Survey. A Report of the Surface Water Ambient Monitoring Program (SWAMP). California State Water Resources Control Board, Sacramento, CA Cruise Report for the Surface Waters Ambient Monitoring Program (SWAMP) Bioaccumulation Screening Study in California Lakes and Reservoirs, Sampling Dates: June 2007- March 2008 Statewide Lakes Sportfish Contamination Study 2007 2008 Contaminants in Fish from California Lakes and Reservoirs, 2007-2008: Summary Report on a Two-Year Screening Survey
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	Water Quality Control Plan for the San Francisco Bay Basin (2013): Controllable water quality factors shall not cause a detrimental increase in concentrations of toxic substances found in bottom sediments or aquatic life. Effects on aquatic organisms, wildlife, and human health will be considered.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	National Academy of Science guidelines (NAS 1972) establish a maximum total PCB concentration of 500 ug/Kg (wet weight) in tissue samples for protection of aquatic life from bioaccumulation of toxic substances.
Guideline Reference:	National Academy of Sciences. Water Quality Criteria 1972. EPA-R3-73-033. Washington, D.C.: U.S. Environmental Protection Agency
Spatial Representation:	Data for this assessment unit was collected by one monitoring project: (SWB_FishLk)
Temporal Representation:	Data was collected on a single day 7/9/2007.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	Samples were collected, processed, and analyzed in accordance with the methods described in Quality Assurance Project Plan "Screening Study of Bioaccumulation in California Lakes and Reservoirs." (SWAMP, 2008).
QAPP Information Reference(s):	Quality Assurance Project Plan Screening Study of Bioaccumulation in California Lakes and Reservoirs. Moss Landing Marine Labs. Prepared for SWAMP BOG, 49 pages plus appendices and attachments

Pollutant:	Selenium
Final Listing Decision:	Do Not List on 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision:	New Decision
Revision Status	Revised
Impairment from Pollutant or Pollution:	Pollutant

Regional Board Staff Conclusion: This pollutant is being considered for placement on the CWA section 303(d) List under section 3.5 of the Listing Policy. Under section 3.5 a single line of evidence is necessary to assess listing status. One line of evidence is available in the administrative record to assess this pollutant. Zero of one samples exceed the guideline.

Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against placing this water segment-pollutant combination on the CWA section 303(d) List.

This conclusion is based on the staff findings that:

1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy.
2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy.
3. Zero of one samples exceed the guideline and this sample size is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating. A minimum of 16 samples is needed to determine if a beneficial use is fully supported using table 3.1.
4. Pursuant to SECTION 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.

Regional Board Staff Decision Recommendation: After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be placed on the section 303(d) list. The readily available data and information is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating.

Line of Evidence (LOE) for Decision ID 64050, Selenium Madigan, Lake

Region 2

LOE ID: 92217

Pollutant:	Selenium
LOE Subgroup:	Pollutant-Tissue
Matrix:	Tissue
Fraction:	Fish fillet

Beneficial Use: Commercial or recreational collection of fish, shellfish, or organisms

Number of Samples:	1
Number of Exceedances:	0

Data and Information Type: Fish tissue analysis

Data Used to Assess Water Quality: State Water Board staff assessed SWAMP data for Madigan, Lake to determine beneficial use support and results are as follows: 0 of 1 samples exceed the criterion for Selenium. One composite (5 fish per composite) was generated from one species: Bluegill. Details of the compositing protocol can be found in the March 2009 report entitled: "Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Study" (SWAMP, 2009).

Data Reference: [Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Survey. A Report of the Surface Water Ambient Monitoring Program \(SWAMP\). California State Water Resources Control Board, Sacramento, CA](#)
[Cruise Report for the Surface Waters Ambient Monitoring Program \(SWAMP\)](#)
[Bioaccumulation Screening Study in California Lakes and Reservoirs. Sampling Dates: June 2007- March 2008](#)
[Statewide Lakes Sportfish Contamination Study 2007 2008](#)

SWAMP Data:

SWAMP

Water Quality Objective/Criterion:

Water Quality Control Plan for the San Francisco Bay Basin (2013): Controllable water quality factors shall not cause a detrimental increase in concentrations of toxic substances found in bottom sediments or aquatic life. Effects on aquatic organisms, wildlife, and human health will be considered.

Objective/Criterion Reference:

[Water Quality Control Plan \(Basin Plan\) San Francisco Bay Basin \(Region 2\)](#)

Evaluation Guideline:

The OEHHA Fish Contaminant Goal for selenium in fish tissue is 7.4 ppm. This screening level assumes an average body weight of 70 kg and a consumption rate of 32 g/day. A background dietary consumption rate of 0.114 mg/day is applied for this micronutrient. (Klasing, S., and R. Brodberg, 2008)

Guideline Reference:

[Development of Fish Contaminant Goals and Advisory Tissue Levels for Common Contaminants in California Sport Fish: Chlordane, DDTs, Dieldrin, Methylmercury, PCBs, Selenium, and Toxaphene](#)

Spatial Representation:

Data for this assessment unit was collected by one monitoring project: (SWB_FishLk)

Temporal Representation:

Data was collected on a single day 7/9/2007.

Environmental Conditions:

Staff is not aware of any special conditions that might affect interpretation of the data.

QAPP Information:

Samples were collected, processed, and analyzed in accordance with the methods described in Quality Assurance Project Plan "Screening Study of Bioaccumulation in California Lakes and Reservoirs." (SWAMP, 2008).

QAPP Information Reference(s):

[Quality Assurance Project Plan Screening Study of Bioaccumulation in California Lakes and Reservoirs. Moss Landing Marine Labs. Prepared for SWAMP BOG, 49 pages plus appendices and attachments](#)

Draft California 2016 Integrated Report (303(d) List/305(b) Report)

Supporting Information

Regional Board 2 - San Francisco Bay Region

Water Body Name: Pilarcitos Lake
Water Body ID: CAL2022201020091208102331
Water Body Type: Lake & Reservoir

DECISION ID 64192 **Region 2**
Pilarcitos Lake

Pollutant: Aldrin
Final Listing Decision: Do Not List on 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision: New Decision
Revision Status Revised
Impairment from Pollutant or Pollution: Pollutant

Regional Board Staff Conclusion: This pollutant is being considered for placement on the CWA section 303(d) List under section 3.5 of the Listing Policy. Under section 3.5 a single line of evidence is necessary to assess listing status. Two lines of evidence are available in the administrative record to assess this pollutant. Zero of one samples exceed the guideline.

Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against placing this water segment-pollutant combination on the CWA section 303(d) List.

This conclusion is based on the staff findings that:

1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy.
2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy.
3. Zero of one samples exceed the guideline and this sample size is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating. A minimum of 16 samples is needed to determine if a beneficial use is fully supported using table 3.1.
4. Pursuant to SECTION 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.

Regional Board Staff Decision Recommendation: After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be placed on the section 303(d) list. The readily available data and information is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating.

Line of Evidence (LOE) for Decision ID 64192, Aldrin **Region 2**
Pilarcitos Lake

LOE ID: 92572
Pollutant: Aldrin
LOE Subgroup: Pollutant-Tissue
Matrix: Tissue
Fraction: Fish fillet
Beneficial Use: Warm Freshwater Habitat
Number of Samples: 1
Number of Exceedances: 0

Data and Information Type:	Fish tissue analysis
Data Used to Assess Water Quality:	State Water Board staff assessed SWAMP data for Pilarcitos Lake to determine beneficial use support and results are as follows: 0 of 1 samples exceed the criterion for Aldrin. One composite (4 fish per composite) was generated from one species: Rainbow Trout. Details of the compositing protocol can be found in the March 2009 report entitled: "Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Study" (SWAMP, 2009).
Data Reference:	Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Survey. A Report of the Surface Water Ambient Monitoring Program (SWAMP). California State Water Resources Control Board, Sacramento, CA Cruise Report for the Surface Waters Ambient Monitoring Program (SWAMP) Bioaccumulation Screening Study in California Lakes and Reservoirs, Sampling Dates: June 2007- March 2008 Statewide Lakes Sportfish Contamination Study 2007 2008 Contaminants in Fish from California Lakes and Reservoirs, 2007-2008: Summary Report on a Two-Year Screening Survey
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	Water Quality Control Plan for the San Francisco Bay Basin: Controllable water quality factors shall not cause a detrimental increase in concentrations of toxic substances found in bottom sediments or aquatic life. Effects on aquatic organisms, wildlife, and human health will be considered.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	National Academy of Science guidelines (NAS 1972) establish a maximum Aldrin concentration of 100 ug/Kg (wet weight) in tissue samples for protection of aquatic life from bioaccumulation of toxic substances.
Guideline Reference:	National Academy of Sciences. Water Quality Criteria 1972. EPA-R3-73-033. Washington, D.C.: U.S. Environmental Protection Agency
Spatial Representation:	Data for this assessment unit was collected by one monitoring project: (SWB_FishLk)
Temporal Representation:	Data was collected on a single day 10/8/2007.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	Samples were collected, processed, and analyzed in accordance with the methods described in Quality Assurance Project Plan "Screening Study of Bioaccumulation in California Lakes and Reservoirs." (SWAMP, 2008).
QAPP Information Reference(s):	Quality Assurance Project Plan Screening Study of Bioaccumulation in California Lakes and Reservoirs. Moss Landing Marine Labs. Prepared for SWAMP BOG, 49 pages plus appendices and attachments

Line of Evidence (LOE) for Decision ID 64192, Aldrin	Region 2
Pilarcitos Lake	

LOE ID:	92573
Pollutant:	Aldrin
LOE Subgroup:	Pollutant-Tissue
Matrix:	Tissue
Fraction:	Fish fillet
Beneficial Use:	Cold Freshwater Habitat
Number of Samples:	1
Number of Exceedances:	0
Data and Information Type:	Fish tissue analysis
Data Used to Assess Water Quality:	State Water Board staff assessed SWAMP data for Pilarcitos Lake to determine beneficial use support and results are as follows: 0 of 1 samples exceed the criterion for Aldrin. One composite (4 fish per composite) was generated from one species: Rainbow Trout. Details of the compositing protocol can be found in the March 2009 report entitled: "Contaminants

Data Reference:	<p>in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Study" (SWAMP, 2009).</p> <p>Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Survey. A Report of the Surface Water Ambient Monitoring Program (SWAMP). California State Water Resources Control Board, Sacramento, CA</p> <p>Cruise Report for the Surface Waters Ambient Monitoring Program (SWAMP)</p> <p>Bioaccumulation Screening Study in California Lakes and Reservoirs. Sampling Dates: June 2007- March 2008</p> <p>Statewide Lakes Sportfish Contamination Study 2007 2008</p> <p>Contaminants in Fish from California Lakes and Reservoirs, 2007-2008: Summary Report on a Two-Year Screening Survey</p>
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	Water Quality Control Plan for the San Francisco Bay Basin: Controllable water quality factors shall not cause a detrimental increase in concentrations of toxic substances found in bottom sediments or aquatic life. Effects on aquatic organisms, wildlife, and human health will be considered.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	National Academy of Science guidelines (NAS 1972) establish a maximum Aldrin concentration of 100 ug/Kg (wet weight) in tissue samples for protection of aquatic life from bioaccumulation of toxic substances.
Guideline Reference:	National Academy of Sciences. Water Quality Criteria 1972. EPA-R3-73-033. Washington, D.C.: U.S. Environmental Protection Agency
Spatial Representation:	Data for this assessment unit was collected by one monitoring project: (SWB_FishLk)
Temporal Representation:	Data was collected on a single day 10/8/2007.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	Samples were collected, processed, and analyzed in accordance with the methods described in Quality Assurance Project Plan "Screening Study of Bioaccumulation in California Lakes and Reservoirs." (SWAMP, 2008).
QAPP Information Reference(s):	Quality Assurance Project Plan Screening Study of Bioaccumulation in California Lakes and Reservoirs. Moss Landing Marine Labs. Prepared for SWAMP BOG. 49 pages plus appendices and attachments

DECISION ID	64193	Region 2
Pilarcitos Lake		
Pollutant:	Chlordane	
Final Listing Decision:	Do Not List on 303(d) list (TMDL required list)	
Last Listing Cycle's Final Listing Decision:	New Decision	
Revision Status	Revised	
Impairment from Pollutant or Pollution:	Pollutant	
Regional Board Staff Conclusion:	<p>This pollutant is being considered for placement on the CWA section 303(d) List under section 3.5 of the Listing Policy. Under section 3.5 a single line of evidence is necessary to assess listing status. Three lines of evidence are available in the administrative record to assess this pollutant. Zero of one samples exceed the guideline.</p> <p>Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against placing this water segment-pollutant combination on the CWA section 303(d) List.</p> <p>This conclusion is based on the staff findings that:</p> <ol style="list-style-type: none"> 1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy. 2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy. 3. Zero of one samples exceed the guideline and this sample size is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating. A 	

minimum of 16 samples is needed to determine if a beneficial use is fully supported using table 3.1. 4. Pursuant to SECTION 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.

Regional Board Staff Decision Recommendation: After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be placed on the section 303(d) list. The readily available data and information is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating.

Line of Evidence (LOE) for Decision ID 64193, Chlordane

Region 2

Pilarcitos Lake

LOE ID:	92576
Pollutant:	Chlordane
LOE Subgroup:	Pollutant-Tissue
Matrix:	Tissue
Fraction:	Fish fillet
Beneficial Use:	Commercial or recreational collection of fish, shellfish, or organisms
Number of Samples:	1
Number of Exceedances:	0
Data and Information Type:	Fish tissue analysis
Data Used to Assess Water Quality:	State Water Board staff assessed SWAMP data for Pilarcitos Lake to determine beneficial use support and results are as follows: 0 of 1 samples exceed the criterion for Chlordane, Total. One composite (4 fish per composite) was generated from one species: Rainbow Trout. Details of the compositing protocol can be found in the March 2009 report entitled: "Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Study" (SWAMP, 2009). Total chlordane was calculated as the sum of the following chlordane isomers: cis- and trans-chlordane, cis- and trans-nonachlor, and oxychlordane.
Data Reference:	Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Survey. A Report of the Surface Water Ambient Monitoring Program (SWAMP). California State Water Resources Control Board, Sacramento, CA Cruise Report for the Surface Waters Ambient Monitoring Program (SWAMP) Bioaccumulation Screening Study in California Lakes and Reservoirs, Sampling Dates: June 2007- March 2008 Statewide Lakes Sportfish Contamination Study 2007 2008 Contaminants in Fish from California Lakes and Reservoirs, 2007-2008: Summary Report on a Two-Year Screening Survey
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	Water Quality Control Plan for the San Francisco Bay Basin: Controllable water quality factors shall not cause a detrimental increase in concentrations of toxic substances found in bottom sediments or aquatic life. Effects on aquatic organisms, wildlife, and human health will be considered.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	The modified OEHHA Fish Contaminant Goal for total chlordane in fish tissue is 3.9 ppb. This screening level assumes an average body weight of 70 kg and a consumption rate of 32 g/day for a 30 year exposure over a 70-year lifetime. This constituent is a carcinogen therefore the risk level is set to one in a million. A cooking reduction factor of 1 is applied for skin-off fillets. (Klasing, S., and R. Brodberg, 2008)
Guideline Reference:	Development of Fish Contaminant Goals and Advisory Tissue Levels for Common Contaminants in California Sport Fish: Chlordane, DDTs, Dieldrin, Methylmercury, PCBs, Selenium, and Toxaphene
Spatial Representation:	Data for this assessment unit was collected by one monitoring project: (SWB_FishLk)

Temporal Representation:	Data was collected on a single day 10/8/2007.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	Samples were collected, processed, and analyzed in accordance with the methods described in Quality Assurance Project Plan "Screening Study of Bioaccumulation in California Lakes and Reservoirs." (SWAMP, 2008).
QAPP Information Reference(s):	Quality Assurance Project Plan Screening Study of Bioaccumulation in California Lakes and Reservoirs. Moss Landing Marine Labs. Prepared for SWAMP BOG. 49 pages plus appendices and attachments

Line of Evidence (LOE) for Decision ID 64193, Chlordane	Region 2
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Pilarcitos Lake

LOE ID:	92575
Pollutant:	Chlordane
LOE Subgroup:	Pollutant-Tissue
Matrix:	Tissue
Fraction:	Fish fillet
Beneficial Use:	Cold Freshwater Habitat
Number of Samples:	1
Number of Exceedances:	0
Data and Information Type:	Fish tissue analysis
Data Used to Assess Water Quality:	State Water Board staff assessed SWAMP data for Pilarcitos Lake to determine beneficial use support and results are as follows: 0 of 1 samples exceed the criterion for Chlordane, Total. One composite (4 fish per composite) was generated from one species: Rainbow Trout. Details of the compositing protocol can be found in the March 2009 report entitled: "Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Study" (SWAMP, 2009). Total chlordane was calculated as the sum of the following chlordane isomers: cis- and trans-chlordane, cis- and trans-nonachlor, and oxychlordane.
Data Reference:	Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Survey. A Report of the Surface Water Ambient Monitoring Program (SWAMP). California State Water Resources Control Board, Sacramento, CA Cruise Report for the Surface Waters Ambient Monitoring Program (SWAMP) Bioaccumulation Screening Study in California Lakes and Reservoirs. Sampling Dates: June 2007- March 2008 Statewide Lakes Sportfish Contamination Study 2007 2008 Contaminants in Fish from California Lakes and Reservoirs, 2007-2008: Summary Report on a Two-Year Screening Survey
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	Water Quality Control Plan for the San Francisco Bay Basin: Controllable water quality factors shall not cause a detrimental increase in concentrations of toxic substances found in bottom sediments or aquatic life. Effects on aquatic organisms, wildlife, and human health will be considered.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	National Academy of Science guidelines (NAS 1972) establish a maximum total Chlordane concentration of 100 ug/Kg (wet weight) in tissue samples for protection of aquatic life from bioaccumulation of toxic substances.
Guideline Reference:	National Academy of Sciences. Water Quality Criteria 1972. EPA-R3-73-033. Washington, D.C.: U.S. Environmental Protection Agency
Spatial Representation:	Data for this assessment unit was collected by one monitoring project: (SWB_FishLk)
Temporal Representation:	Data was collected on a single day 10/8/2007.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	Samples were collected, processed, and analyzed in accordance with the methods described in Quality Assurance Project Plan "Screening Study of Bioaccumulation in

QAPP Information Reference(s):	California Lakes and Reservoirs." (SWAMP, 2008). Quality Assurance Project Plan Screening Study of Bioaccumulation in California Lakes and Reservoirs. Moss Landing Marine Labs. Prepared for SWAMP BOG, 49 pages plus appendices and attachments
Line of Evidence (LOE) for Decision ID 64193, Chlordane	
Pilarcitos Lake	
LOE ID:	92574
Pollutant:	Chlordane
LOE Subgroup:	Pollutant-Tissue
Matrix:	Tissue
Fraction:	Fish fillet
Beneficial Use:	Warm Freshwater Habitat
Number of Samples:	1
Number of Exceedances:	0
Data and Information Type:	Fish tissue analysis
Data Used to Assess Water Quality:	State Water Board staff assessed SWAMP data for Pilarcitos Lake to determine beneficial use support and results are as follows: 0 of 1 samples exceed the criterion for Chlordane, Total. One composite (4 fish per composite) was generated from one species: Rainbow Trout. Details of the compositing protocol can be found in the March 2009 report entitled: "Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Study" (SWAMP, 2009). Total chlordane was calculated as the sum of the following chlordane isomers: cis- and trans-chlordane, cis- and trans-nonachlor, and oxychlordane.
Data Reference:	Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Survey. A Report of the Surface Water Ambient Monitoring Program (SWAMP). California State Water Resources Control Board, Sacramento, CA Cruise Report for the Surface Waters Ambient Monitoring Program (SWAMP) Bioaccumulation Screening Study in California Lakes and Reservoirs, Sampling Dates: June 2007- March 2008 Statewide Lakes Sportfish Contamination Study 2007 2008 Contaminants in Fish from California Lakes and Reservoirs, 2007-2008: Summary Report on a Two-Year Screening Survey
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	Water Quality Control Plan for the San Francisco Bay Basin: Controllable water quality factors shall not cause a detrimental increase in concentrations of toxic substances found in bottom sediments or aquatic life. Effects on aquatic organisms, wildlife, and human health will be considered.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	National Academy of Science guidelines (NAS 1972) establish a maximum total Chlordane concentration of 100 ug/Kg (wet weight) in tissue samples for protection of aquatic life from bioaccumulation of toxic substances.
Guideline Reference:	National Academy of Sciences. Water Quality Criteria 1972. EPA-R3-73-033. Washington, D.C.: U.S. Environmental Protection Agency
Spatial Representation:	Data for this assessment unit was collected by one monitoring project: (SWB_FishLk)
Temporal Representation:	Data was collected on a single day 10/8/2007.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	Samples were collected, processed, and analyzed in accordance with the methods described in Quality Assurance Project Plan "Screening Study of Bioaccumulation in California Lakes and Reservoirs." (SWAMP, 2008).
QAPP Information Reference(s):	Quality Assurance Project Plan Screening Study of Bioaccumulation in California Lakes and Reservoirs. Moss Landing Marine Labs. Prepared for SWAMP BOG, 49 pages plus appendices and attachments

DECISION ID	64202	Region 2
Pilarcitos Lake		

Pollutant: DDT (Dichlorodiphenyltrichloroethane)
Final Listing Decision: Do Not List on 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision: New Decision
Revision Status: Revised
Impairment from Pollutant or Pollution: Pollutant

Regional Board Staff Conclusion: This pollutant is being considered for placement on the CWA section 303(d) List under section 3.5 of the Listing Policy. Under section 3.5 a single line of evidence is necessary to assess listing status. Three lines of evidence are available in the administrative record to assess this pollutant. Zero of one samples exceed the guideline.

Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against placing this water segment-pollutant combination on the CWA section 303(d) List.

This conclusion is based on the staff findings that:

1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy.
2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy.
3. Zero of one samples exceed the guideline and this sample size is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating. A minimum of 16 samples is needed to determine if a beneficial use is fully supported using table 3.1.
4. Pursuant to SECTION 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.

Regional Board Staff Decision Recommendation: After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be placed on the section 303(d) list. The readily available data and information is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating.

Line of Evidence (LOE) for Decision ID 64202, DDT (Dichlorodiphenyltrichloroethane)	Region 2
Pilarcitos Lake	

LOE ID: 92606
Pollutant: Total DDT (sum of 4,4'- and 2,4'- isomers of DDT, DDE, and DDD)
LOE Subgroup: Pollutant-Tissue
Matrix: Tissue
Fraction: Fish fillet
Beneficial Use: Warm Freshwater Habitat
Number of Samples: 1
Number of Exceedances: 0
Data and Information Type: Fish tissue analysis
Data Used to Assess Water Quality: State Water Board staff assessed SWAMP data for Pilarcitos Lake to determine beneficial use support and results are as follows: 0 of 1 samples exceed the criterion for DDT, Total. One composite (4 fish per composite) was generated from one species: Rainbow Trout. Details of the compositing protocol can be found in the March 2009 report entitled: "Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Study" (SWAMP, 2009). Total DDT was calculated as the sum of 4,4'- and 2,4'- isomers of DDT, DDE, and DDD.
Data Reference: [Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year](#)

[One of a Two-Year Screening Survey. A Report of the Surface Water Ambient Monitoring Program \(SWAMP\). California State Water Resources Control Board, Sacramento, CA](#)
[Cruise Report for the Surface Waters Ambient Monitoring Program \(SWAMP\)](#)
[Bioaccumulation Screening Study in California Lakes and Reservoirs, Sampling Dates: June 2007- March 2008](#)
[Statewide Lakes Sportfish Contamination Study 2007 2008](#)
[Contaminants in Fish from California Lakes and Reservoirs, 2007-2008: Summary Report on a Two-Year Screening Survey](#)

SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	Water Quality Control Plan for the San Francisco Bay Basin: Controllable water quality factors shall not cause a detrimental increase in concentrations of toxic substances found in bottom sediments or aquatic life. Effects on aquatic organisms, wildlife, and human health will be considered.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	National Academy of Science guidelines (NAS 1972) establish a maximum total DDT concentration of 1000 ug/Kg (wet weight) in tissue samples for protection of aquatic life from bioaccumulation of toxic substances.
Guideline Reference:	National Academy of Sciences. Water Quality Criteria 1972. EPA-R3-73-033. Washington, D.C.: U.S. Environmental Protection Agency
Spatial Representation:	Data for this assessment unit was collected by one monitoring project: (SWB_FishLk)
Temporal Representation:	Data was collected on a single day 10/8/2007.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	Samples were collected, processed, and analyzed in accordance with the methods described in Quality Assurance Project Plan "Screening Study of Bioaccumulation in California Lakes and Reservoirs." (SWAMP, 2008).
QAPP Information Reference(s):	Quality Assurance Project Plan Screening Study of Bioaccumulation in California Lakes and Reservoirs. Moss Landing Marine Labs. Prepared for SWAMP BOG. 49 pages plus appendices and attachments

Line of Evidence (LOE) for Decision ID 64202, DDT (Dichlorodiphenyltrichloroethane)

Region 2

Pilarcitos Lake

LOE ID:	92607
Pollutant:	Total DDT (sum of 4,4'- and 2,4'- isomers of DDT, DDE, and DDD)
LOE Subgroup:	Pollutant-Tissue
Matrix:	Tissue
Fraction:	Fish fillet
Beneficial Use:	Cold Freshwater Habitat
Number of Samples:	1
Number of Exceedances:	0
Data and Information Type:	Fish tissue analysis
Data Used to Assess Water Quality:	State Water Board staff assessed SWAMP data for Pilarcitos Lake to determine beneficial use support and results are as follows: 0 of 1 samples exceed the criterion for DDT, Total. One composite (4 fish per composite) was generated from one species: Rainbow Trout. Details of the compositing protocol can be found in the March 2009 report entitled: "Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Study" (SWAMP, 2009). Total DDT was calculated as the sum of 4,4'- and 2,4'- isomers of DDT, DDE, and DDD.
Data Reference:	Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Survey. A Report of the Surface Water Ambient Monitoring Program (SWAMP). California State Water Resources Control Board, Sacramento, CA Cruise Report for the Surface Waters Ambient Monitoring Program (SWAMP) Bioaccumulation Screening Study in California Lakes and Reservoirs, Sampling Dates: June 2007- March 2008

SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	Water Quality Control Plan for the San Francisco Bay Basin: Controllable water quality factors shall not cause a detrimental increase in concentrations of toxic substances found in bottom sediments or aquatic life. Effects on aquatic organisms, wildlife, and human health will be considered.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	National Academy of Science guidelines (NAS 1972) establish a maximum total DDT concentration of 1000 ug/Kg (wet weight) in tissue samples for protection of aquatic life from bioaccumulation of toxic substances.
Guideline Reference:	National Academy of Sciences. Water Quality Criteria 1972. EPA-R3-73-033. Washington, D.C.: U.S. Environmental Protection Agency
Spatial Representation:	Data for this assessment unit was collected by one monitoring project: (SWB_FishLk)
Temporal Representation:	Data was collected on a single day 10/8/2007.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	Samples were collected, processed, and analyzed in accordance with the methods described in Quality Assurance Project Plan "Screening Study of Bioaccumulation in California Lakes and Reservoirs." (SWAMP, 2008).
QAPP Information Reference(s):	Quality Assurance Project Plan Screening Study of Bioaccumulation in California Lakes and Reservoirs. Moss Landing Marine Labs. Prepared for SWAMP BOG, 49 pages plus appendices and attachments

Line of Evidence (LOE) for Decision ID 64202, DDT (Dichlorodiphenyltrichloroethane)	Region 2
Pilarcitos Lake	

LOE ID:	92614
Pollutant:	Total DDT (sum of 4,4'- and 2,4'- isomers of DDT, DDE, and DDD)
LOE Subgroup:	Pollutant-Tissue
Matrix:	Tissue
Fraction:	Fish fillet
Beneficial Use:	Commercial or recreational collection of fish, shellfish, or organisms
Number of Samples:	1
Number of Exceedances:	0
Data and Information Type:	Fish tissue analysis
Data Used to Assess Water Quality:	State Water Board staff assessed SWAMP data for Pilarcitos Lake to determine beneficial use support and results are as follows: 0 of 1 samples exceed the criterion for DDT, Total. One composite (4 fish per composite) was generated from one species: Rainbow Trout. Details of the compositing protocol can be found in the March 2009 report entitled: "Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Study" (SWAMP, 2009). Total DDT was calculated as the sum of 4,4'- and 2,4'- isomers of DDT, DDE, and DDD.
Data Reference:	Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Survey. A Report of the Surface Water Ambient Monitoring Program (SWAMP). California State Water Resources Control Board, Sacramento, CA Cruise Report for the Surface Waters Ambient Monitoring Program (SWAMP) Bioaccumulation Screening Study in California Lakes and Reservoirs. Sampling Dates: June 2007- March 2008 Statewide Lakes Sportfish Contamination Study 2007 2008 Contaminants in Fish from California Lakes and Reservoirs, 2007-2008: Summary Report on a Two-Year Screening Survey

SWAMP Data:	SWAMP
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Water Quality Objective/Criterion:	Water Quality Control Plan for the San Francisco Bay Basin: Controllable water quality factors shall not cause a detrimental increase in concentrations of toxic substances found in bottom sediments or aquatic life. Effects on aquatic organisms, wildlife, and human health will be considered.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	The modified OEHHA Fish Contaminant Goal for total DDT in fish tissue is 15 ppb. This screening level assumes an average body weight of 70 kg and a consumption rate of 32 g/day for a 30 year exposure over a 70-year lifetime. This constituent is a carcinogen therefore the risk level is set to one in a million. A cooking reduction factor of 1 is applied for skin-off fillets. (Klasing, S., and R. Brodberg, 2008)
Guideline Reference:	Development of Fish Contaminant Goals and Advisory Tissue Levels for Common Contaminants in California Sport Fish: Chlordane, DDTs, Dieldrin, Methylmercury, PCBs, Selenium, and Toxaphene
Spatial Representation:	Data for this assessment unit was collected by one monitoring project: (SWB_FishLk)
Temporal Representation:	Data was collected on a single day 10/8/2007.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	Samples were collected, processed, and analyzed in accordance with the methods described in Quality Assurance Project Plan "Screening Study of Bioaccumulation in California Lakes and Reservoirs." (SWAMP, 2008).
QAPP Information Reference(s):	Quality Assurance Project Plan Screening Study of Bioaccumulation in California Lakes and Reservoirs. Moss Landing Marine Labs. Prepared for SWAMP BOG. 49 pages plus appendices and attachments

DECISION ID	64194	Region 2
Pilarcitos Lake		

Pollutant:	Dieldrin
Final Listing Decision:	Do Not List on 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision:	New Decision
Revision Status	Revised
Impairment from Pollutant or Pollution:	Pollutant

Regional Board Staff Conclusion: This pollutant is being considered for placement on the CWA section 303(d) List under section 3.5 of the Listing Policy. Under section 3.5 a single line of evidence is necessary to assess listing status. Three lines of evidence are available in the administrative record to assess this pollutant. Zero of one samples exceed the guideline.

Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against placing this water segment-pollutant combination on the CWA section 303(d) List.

This conclusion is based on the staff findings that:

1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy.
2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy.
3. Zero of one samples exceed the guideline and this sample size is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating. A minimum of 16 samples is needed to determine if a beneficial use is fully supported using table 3.1.
4. Pursuant to SECTION 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.

Regional Board Staff Decision Recommendation: After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be placed on the section 303(d) list. The readily available data and information is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating.

Pilarcitos Lake

LOE ID:	92579
Pollutant:	Dieldrin
LOE Subgroup:	Pollutant-Tissue
Matrix:	Tissue
Fraction:	Fish fillet
Beneficial Use:	Commercial or recreational collection of fish, shellfish, or organisms
Number of Samples:	0
Number of Exceedances:	0
Data and Information Type:	Fish tissue analysis
Data Used to Assess Water Quality:	State Water Board staff assessed SWAMP data for Pilarcitos Lake to determine beneficial use support and results are as follows: 0 of 0 samples exceed the criterion for Dieldrin. One composite (4 fish per composite) was generated from one species: Rainbow Trout. Details of the compositing protocol can be found in the March 2009 report entitled: "Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Study" (SWAMP, 2009). One composite was not used in the assessment because the laboratory data reporting limit(s) was above the objective and therefore the results could not be quantified with the level of certainty required by the Listing Policy.
Data Reference:	Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Survey. A Report of the Surface Water Ambient Monitoring Program (SWAMP). California State Water Resources Control Board, Sacramento, CA Cruise Report for the Surface Waters Ambient Monitoring Program (SWAMP) Bioaccumulation Screening Study in California Lakes and Reservoirs, Sampling Dates: June 2007- March 2008 Statewide Lakes Sportfish Contamination Study 2007 2008 Contaminants in Fish from California Lakes and Reservoirs, 2007-2008: Summary Report on a Two-Year Screening Survey
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	Water Quality Control Plan for the San Francisco Bay Basin: Controllable water quality factors shall not cause a detrimental increase in concentrations of toxic substances found in bottom sediments or aquatic life. Effects on aquatic organisms, wildlife, and human health will be considered.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	The modified OEHHA Fish Contaminant Goal for dieldrin in fish tissue is 0.32 ppb. This screening level assumes an average body weight of 70 kg and a consumption rate of 32 g/day for a 30 year exposure over a 70-year lifetime. This constituent is a carcinogen therefore the risk level is set to one in a million. A cooking reduction factor of 1 is applied for skin-off fillets. (Klasing, S., and R. Brodberg, 2008)
Guideline Reference:	Development of Fish Contaminant Goals and Advisory Tissue Levels for Common Contaminants in California Sport Fish: Chlordane, DDTs, Dieldrin, Methylmercury, PCBs, Selenium, and Toxaphene
Spatial Representation:	Data for this assessment unit was collected by one monitoring project: (SWB_FishLk)
Temporal Representation:	Data was collected on a single day 10/8/2007.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	Samples were collected, processed, and analyzed in accordance with the methods described in Quality Assurance Project Plan "Screening Study of Bioaccumulation in California Lakes and Reservoirs." (SWAMP, 2008).
QAPP Information Reference(s):	Quality Assurance Project Plan Screening Study of Bioaccumulation in California Lakes and Reservoirs. Moss Landing Marine Labs. Prepared for SWAMP BOG. 49 pages plus appendices and attachments

Pilarcitos Lake

LOE ID:	92578
Pollutant:	Dieldrin
LOE Subgroup:	Pollutant-Tissue
Matrix:	Tissue
Fraction:	Fish fillet
Beneficial Use:	Cold Freshwater Habitat
Number of Samples:	1
Number of Exceedances:	0
Data and Information Type:	Fish tissue analysis
Data Used to Assess Water Quality:	State Water Board staff assessed SWAMP data for Pilarcitos Lake to determine beneficial use support and results are as follows: 0 of 1 samples exceed the criterion for Dieldrin. One composite (4 fish per composite) was generated from one species: Rainbow Trout. Details of the compositing protocol can be found in the March 2009 report entitled: "Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Study" (SWAMP, 2009).
Data Reference:	Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Survey. A Report of the Surface Water Ambient Monitoring Program (SWAMP). California State Water Resources Control Board, Sacramento, CA Cruise Report for the Surface Waters Ambient Monitoring Program (SWAMP) Bioaccumulation Screening Study in California Lakes and Reservoirs, Sampling Dates: June 2007- March 2008 Statewide Lakes Sportfish Contamination Study 2007 2008 Contaminants in Fish from California Lakes and Reservoirs, 2007-2008: Summary Report on a Two-Year Screening Survey
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	Water Quality Control Plan for the San Francisco Bay Basin: Controllable water quality factors shall not cause a detrimental increase in concentrations of toxic substances found in bottom sediments or aquatic life. Effects on aquatic organisms, wildlife, and human health will be considered.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	National Academy of Science guidelines (NAS 1972) establish a maximum Dieldrin concentration of 100 ug/Kg (wet weight) in tissue samples for protection of aquatic life from bioaccumulation of toxic substances.
Guideline Reference:	National Academy of Sciences. Water Quality Criteria 1972. EPA-R3-73-033. Washington, D.C.: U.S. Environmental Protection Agency
Spatial Representation:	Data for this assessment unit was collected by one monitoring project: (SWB_FishLk)
Temporal Representation:	Data was collected on a single day 10/8/2007.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	Samples were collected, processed, and analyzed in accordance with the methods described in Quality Assurance Project Plan "Screening Study of Bioaccumulation in California Lakes and Reservoirs." (SWAMP, 2008).
QAPP Information Reference(s):	Quality Assurance Project Plan Screening Study of Bioaccumulation in California Lakes and Reservoirs. Moss Landing Marine Labs. Prepared for SWAMP BOG, 49 pages plus appendices and attachments

Pilarcitos Lake

LOE ID: 92577

Pollutant:	Dieldrin
LOE Subgroup:	Pollutant-Tissue
Matrix:	Tissue
Fraction:	Fish fillet
Beneficial Use:	Warm Freshwater Habitat
Number of Samples:	1
Number of Exceedances:	0
Data and Information Type:	Fish tissue analysis
Data Used to Assess Water Quality:	State Water Board staff assessed SWAMP data for Pilarcitos Lake to determine beneficial use support and results are as follows: 0 of 1 samples exceed the criterion for Dieldrin. One composite (4 fish per composite) was generated from one species: Rainbow Trout. Details of the compositing protocol can be found in the March 2009 report entitled: "Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Study" (SWAMP, 2009).
Data Reference:	Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Survey. A Report of the Surface Water Ambient Monitoring Program (SWAMP). California State Water Resources Control Board, Sacramento, CA Cruise Report for the Surface Waters Ambient Monitoring Program (SWAMP) Bioaccumulation Screening Study in California Lakes and Reservoirs, Sampling Dates: June 2007- March 2008 Statewide Lakes Sportfish Contamination Study 2007 2008 Contaminants in Fish from California Lakes and Reservoirs, 2007-2008: Summary Report on a Two-Year Screening Survey
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	Water Quality Control Plan for the San Francisco Bay Basin: Controllable water quality factors shall not cause a detrimental increase in concentrations of toxic substances found in bottom sediments or aquatic life. Effects on aquatic organisms, wildlife, and human health will be considered.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	National Academy of Science guidelines (NAS 1972) establish a maximum Dieldrin concentration of 100 ug/Kg (wet weight) in tissue samples for protection of aquatic life from bioaccumulation of toxic substances.
Guideline Reference:	National Academy of Sciences. Water Quality Criteria 1972. EPA-R3-73-033. Washington, D.C.: U.S. Environmental Protection Agency
Spatial Representation:	Data for this assessment unit was collected by one monitoring project: (SWB_FishLk)
Temporal Representation:	Data was collected on a single day 10/8/2007.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	Samples were collected, processed, and analyzed in accordance with the methods described in Quality Assurance Project Plan "Screening Study of Bioaccumulation in California Lakes and Reservoirs." (SWAMP, 2008).
QAPP Information Reference(s):	Quality Assurance Project Plan Screening Study of Bioaccumulation in California Lakes and Reservoirs. Moss Landing Marine Labs. Prepared for SWAMP BOG. 49 pages plus appendices and attachments

DECISION ID	64195	Region 2
Pilarcitos Lake		

Pollutant:	Endosulfan
Final Listing Decision:	Do Not List on 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision:	New Decision
Revision Status	Revised
Impairment from Pollutant or Pollution:	Pollutant

**Regional Board Staff
Conclusion:**

This pollutant is being considered for placement on the CWA section 303(d) List under section 3.5 of the Listing Policy. Under section 3.5 a single line of evidence is necessary to assess listing status. Three lines of evidence are available in the administrative record to assess this pollutant. Zero of one samples exceed the guideline.

Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against placing this water segment-pollutant combination on the CWA section 303(d) List.

This conclusion is based on the staff findings that:

1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy.
2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy.
3. Zero of one samples exceed the guideline and this sample size is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating. A minimum of 16 samples is needed to determine if a beneficial use is fully supported using table 3.1.
4. Pursuant to SECTION 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.

**Regional Board Staff Decision
Recommendation:**

After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be placed on the section 303(d) list. The readily available data and information is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating.

Line of Evidence (LOE) for Decision ID 64195, Endosulfan

Region 2

Pilarcitos Lake

LOE ID:	92580
Pollutant:	Endosulfan
LOE Subgroup:	Pollutant-Tissue
Matrix:	Tissue
Fraction:	Fish fillet
Beneficial Use:	Warm Freshwater Habitat
Number of Samples:	1
Number of Exceedances:	0
Data and Information Type:	Fish tissue analysis
Data Used to Assess Water Quality:	State Water Board staff assessed SWAMP data for Pilarcitos Lake to determine beneficial use support and results are as follows: 0 of 1 samples exceed the criterion for Endosulfan I. One composite (4 fish per composite) was generated from one species: Rainbow Trout. Details of the compositing protocol can be found in the March 2009 report entitled: "Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Study" (SWAMP, 2009).
Data Reference:	Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Survey. A Report of the Surface Water Ambient Monitoring Program (SWAMP). California State Water Resources Control Board, Sacramento, CA Cruise Report for the Surface Waters Ambient Monitoring Program (SWAMP) Bioaccumulation Screening Study in California Lakes and Reservoirs, Sampling Dates: June 2007- March 2008 Statewide Lakes Sportfish Contamination Study 2007 2008 Contaminants in Fish from California Lakes and Reservoirs, 2007-2008: Summary Report on a Two-Year Screening Survey
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	Water Quality Control Plan for the San Francisco Bay Basin: Controllable water quality factors shall not cause a detrimental increase in concentrations of toxic substances found in bottom sediments or aquatic life. Effects on aquatic organisms, wildlife, and human

Objective/Criterion Reference:	health will be considered. Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	National Academy of Science guidelines (NAS 1972) establish a maximum Endosulfan, Total concentration of 100 ug/Kg (wet weight) in tissue samples for protection of aquatic life from bioaccumulation of toxic substances.
Guideline Reference:	National Academy of Sciences. Water Quality Criteria 1972. EPA-R3-73-033. Washington, D.C.: U.S. Environmental Protection Agency
Spatial Representation:	Data for this assessment unit was collected by one monitoring project: (SWB_FishLk)
Temporal Representation:	Data was collected on a single day 10/8/2007.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	Samples were collected, processed, and analyzed in accordance with the methods described in Quality Assurance Project Plan "Screening Study of Bioaccumulation in California Lakes and Reservoirs." (SWAMP, 2008).
QAPP Information Reference(s):	Quality Assurance Project Plan Screening Study of Bioaccumulation in California Lakes and Reservoirs. Moss Landing Marine Labs. Prepared for SWAMP BOG. 49 pages plus appendices and attachments

Line of Evidence (LOE) for Decision ID 64195, Endosulfan

Region 2

Pilarcitos Lake

LOE ID:	92581
Pollutant:	Endosulfan
LOE Subgroup:	Pollutant-Tissue
Matrix:	Tissue
Fraction:	Fish fillet
Beneficial Use:	Cold Freshwater Habitat
Number of Samples:	1
Number of Exceedances:	0
Data and Information Type:	Fish tissue analysis
Data Used to Assess Water Quality:	State Water Board staff assessed SWAMP data for Pilarcitos Lake to determine beneficial use support and results are as follows: 0 of 1 samples exceed the criterion for Endosulfan I. One composite (4 fish per composite) was generated from one species: Rainbow Trout. Details of the compositing protocol can be found in the March 2009 report entitled: "Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Study" (SWAMP, 2009).
Data Reference:	Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Survey. A Report of the Surface Water Ambient Monitoring Program (SWAMP). California State Water Resources Control Board, Sacramento, CA Cruise Report for the Surface Waters Ambient Monitoring Program (SWAMP) Bioaccumulation Screening Study in California Lakes and Reservoirs, Sampling Dates: June 2007- March 2008 Statewide Lakes Sportfish Contamination Study 2007 2008 Contaminants in Fish from California Lakes and Reservoirs, 2007-2008: Summary Report on a Two-Year Screening Survey
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	Water Quality Control Plan for the San Francisco Bay Basin: Controllable water quality factors shall not cause a detrimental increase in concentrations of toxic substances found in bottom sediments or aquatic life. Effects on aquatic organisms, wildlife, and human health will be considered.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	National Academy of Science guidelines (NAS 1972) establish a maximum Endosulfan, Total concentration of 100 ug/Kg (wet weight) in tissue samples for protection of aquatic life from bioaccumulation of toxic substances.

Guideline Reference:	National Academy of Sciences. Water Quality Criteria 1972. EPA-R3-73-033. Washington, D.C.: U.S. Environmental Protection Agency
Spatial Representation:	Data for this assessment unit was collected by one monitoring project: (SWB_FishLk)
Temporal Representation:	Data was collected on a single day 10/8/2007.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	Samples were collected, processed, and analyzed in accordance with the methods described in Quality Assurance Project Plan "Screening Study of Bioaccumulation in California Lakes and Reservoirs." (SWAMP, 2008).
QAPP Information Reference(s):	Quality Assurance Project Plan Screening Study of Bioaccumulation in California Lakes and Reservoirs. Moss Landing Marine Labs. Prepared for SWAMP BOG. 49 pages plus appendices and attachments

Line of Evidence (LOE) for Decision ID 64195, Endosulfan

Region 2

Pilarcitos Lake

LOE ID:	92582
Pollutant:	Endosulfan
LOE Subgroup:	Pollutant-Tissue
Matrix:	Tissue
Fraction:	Fish fillet
Beneficial Use:	Commercial or recreational collection of fish, shellfish, or organisms
Number of Samples:	1
Number of Exceedances:	0
Data and Information Type:	Fish tissue analysis
Data Used to Assess Water Quality:	State Water Board staff assessed SWAMP data for Pilarcitos Lake to determine beneficial use support and results are as follows: 0 of 1 samples exceed the criterion for Endosulfan I. One composite (4 fish per composite) was generated from one species: Rainbow Trout. Details of the compositing protocol can be found in the March 2009 report entitled: "Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Study" (SWAMP, 2009).
Data Reference:	Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Survey. A Report of the Surface Water Ambient Monitoring Program (SWAMP). California State Water Resources Control Board, Sacramento, CA Cruise Report for the Surface Waters Ambient Monitoring Program (SWAMP) Bioaccumulation Screening Study in California Lakes and Reservoirs. Sampling Dates: June 2007- March 2008 Statewide Lakes Sportfish Contamination Study 2007 2008 Contaminants in Fish from California Lakes and Reservoirs, 2007-2008: Summary Report on a Two-Year Screening Survey
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	Water Quality Control Plan for the San Francisco Bay Basin: Controllable water quality factors shall not cause a detrimental increase in concentrations of toxic substances found in bottom sediments or aquatic life. Effects on aquatic organisms, wildlife, and human health will be considered.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	The modified OEHHA Fish Contaminant Goal for endosulfan (I and II) in fish tissue is 13,000 ppb. This screening level assumes an average body weight of 70 kg and a consumption rate of 32 g/day. A cooking reduction factor of 1 is applied for skin-off fillets. (Klasing, S., and R. Brodberg, 2008; USEPA, 2000)
Guideline Reference:	Development of Fish Contaminant Goals and Advisory Tissue Levels for Common Contaminants in California Sport Fish: Chlordane, DDTs, Dieldrin, Methylmercury, PCBs, Selenium, and Toxaphene Guidance for Assessing Chemical Contaminant Data for Use In Fish Advisories Volume 1: Fish Sampling and Analysis

Spatial Representation:	Data for this assessment unit was collected by one monitoring project: (SWB_FishLk)
Temporal Representation:	Data was collected on a single day 10/8/2007.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	Samples were collected, processed, and analyzed in accordance with the methods described in Quality Assurance Project Plan "Screening Study of Bioaccumulation in California Lakes and Reservoirs." (SWAMP, 2008).
QAPP Information Reference(s):	Quality Assurance Project Plan Screening Study of Bioaccumulation in California Lakes and Reservoirs. Moss Landing Marine Labs. Prepared for SWAMP BOG. 49 pages plus appendices and attachments

DECISION ID	64196	Region 2
Pilarcitos Lake		

Pollutant: Final Listing Decision: Last Listing Cycle's Final Listing Decision: Revision Status Impairment from Pollutant or Pollution:	Endrin Do Not List on 303(d) list (TMDL required list) New Decision Revised Pollutant
Regional Board Staff Conclusion:	<p>This pollutant is being considered for placement on the CWA section 303(d) List under section 3.5 of the Listing Policy. Under section 3.5 a single line of evidence is necessary to assess listing status. Three lines of evidence are available in the administrative record to assess this pollutant. Zero of one samples exceed the guideline.</p> <p>Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against placing this water segment-pollutant combination on the CWA section 303(d) List.</p> <p>This conclusion is based on the staff findings that:</p> <ol style="list-style-type: none"> 1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy. 2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy. 3. Zero of one samples exceed the guideline and this sample size is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating. A minimum of 16 samples is needed to determine if a beneficial use is fully supported using table 3.1. 4. Pursuant to SECTION 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met. <p>Regional Board Staff Decision Recommendation: After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be placed on the section 303(d) list. The readily available data and information is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating.</p>

Line of Evidence (LOE) for Decision ID 64196, Endrin	Region 2
Pilarcitos Lake	

LOE ID:	92584
Pollutant:	Endrin
LOE Subgroup:	Pollutant-Tissue
Matrix:	Tissue
Fraction:	Fish fillet
Beneficial Use:	Cold Freshwater Habitat
Number of Samples:	1
Number of Exceedances:	0

Data and Information Type:	Fish tissue analysis
Data Used to Assess Water Quality:	State Water Board staff assessed SWAMP data for Pilarcitos Lake to determine beneficial use support and results are as follows: 0 of 1 samples exceed the criterion for Endrin. One composite (4 fish per composite) was generated from one species: Rainbow Trout. Details of the compositing protocol can be found in the March 2009 report entitled: "Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Study" (SWAMP, 2009).
Data Reference:	Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Survey. A Report of the Surface Water Ambient Monitoring Program (SWAMP). California State Water Resources Control Board, Sacramento, CA Cruise Report for the Surface Waters Ambient Monitoring Program (SWAMP) Bioaccumulation Screening Study in California Lakes and Reservoirs, Sampling Dates: June 2007- March 2008 Statewide Lakes Sportfish Contamination Study 2007 2008 Contaminants in Fish from California Lakes and Reservoirs, 2007-2008: Summary Report on a Two-Year Screening Survey
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	Water Quality Control Plan for the San Francisco Bay Basin: Controllable water quality factors shall not cause a detrimental increase in concentrations of toxic substances found in bottom sediments or aquatic life. Effects on aquatic organisms, wildlife, and human health will be considered.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	National Academy of Science guidelines (NAS 1972) establish a maximum Endrin concentration of 100 ug/Kg (wet weight) in tissue samples for protection of aquatic life from bioaccumulation of toxic substances.
Guideline Reference:	National Academy of Sciences. Water Quality Criteria 1972. EPA-R3-73-033. Washington, D.C.: U.S. Environmental Protection Agency
Spatial Representation:	Data for this assessment unit was collected by one monitoring project: (SWB_FishLk)
Temporal Representation:	Data was collected on a single day 10/8/2007.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	Samples were collected, processed, and analyzed in accordance with the methods described in Quality Assurance Project Plan "Screening Study of Bioaccumulation in California Lakes and Reservoirs." (SWAMP, 2008).
QAPP Information Reference(s):	Quality Assurance Project Plan Screening Study of Bioaccumulation in California Lakes and Reservoirs. Moss Landing Marine Labs. Prepared for SWAMP BOG, 49 pages plus appendices and attachments

Line of Evidence (LOE) for Decision ID 64196, Endrin	Region 2
Pilarcitos Lake	

LOE ID:	92583
Pollutant:	Endrin
LOE Subgroup:	Pollutant-Tissue
Matrix:	Tissue
Fraction:	Fish fillet
Beneficial Use:	Warm Freshwater Habitat
Number of Samples:	1
Number of Exceedances:	0
Data and Information Type:	Fish tissue analysis
Data Used to Assess Water Quality:	State Water Board staff assessed SWAMP data for Pilarcitos Lake to determine beneficial use support and results are as follows: 0 of 1 samples exceed the criterion for Endrin. One composite (4 fish per composite) was generated from one species: Rainbow Trout. Details of the compositing protocol can be found in the March 2009 report entitled:

Data Reference:	<p>"Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Study" (SWAMP, 2009). Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Survey. A Report of the Surface Water Ambient Monitoring Program (SWAMP). California State Water Resources Control Board, Sacramento, CA Cruise Report for the Surface Waters Ambient Monitoring Program (SWAMP) Bioaccumulation Screening Study in California Lakes and Reservoirs. Sampling Dates: June 2007- March 2008 Statewide Lakes Sportfish Contamination Study 2007 2008 Contaminants in Fish from California Lakes and Reservoirs, 2007-2008: Summary Report on a Two-Year Screening Survey</p>
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	Water Quality Control Plan for the San Francisco Bay Basin: Controllable water quality factors shall not cause a detrimental increase in concentrations of toxic substances found in bottom sediments or aquatic life. Effects on aquatic organisms, wildlife, and human health will be considered.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	National Academy of Science guidelines (NAS 1972) establish a maximum Endrin concentration of 100 ug/Kg (wet weight) in tissue samples for protection of aquatic life from bioaccumulation of toxic substances.
Guideline Reference:	National Academy of Sciences. Water Quality Criteria 1972. EPA-R3-73-033. Washington, D.C.: U.S. Environmental Protection Agency
Spatial Representation:	Data for this assessment unit was collected by one monitoring project: (SWB_FishLk)
Temporal Representation:	Data was collected on a single day 10/8/2007.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	Samples were collected, processed, and analyzed in accordance with the methods described in Quality Assurance Project Plan "Screening Study of Bioaccumulation in California Lakes and Reservoirs." (SWAMP, 2008).
QAPP Information Reference(s):	Quality Assurance Project Plan Screening Study of Bioaccumulation in California Lakes and Reservoirs. Moss Landing Marine Labs. Prepared for SWAMP BOG. 49 pages plus appendices and attachments

Line of Evidence (LOE) for Decision ID 64196, Endrin

Region 2

Pilarcitos Lake

LOE ID:	92585
Pollutant:	Endrin
LOE Subgroup:	Pollutant-Tissue
Matrix:	Tissue
Fraction:	Fish fillet
Beneficial Use:	Commercial or recreational collection of fish, shellfish, or organisms
Number of Samples:	1
Number of Exceedances:	0
Data and Information Type:	Fish tissue analysis
Data Used to Assess Water Quality:	State Water Board staff assessed SWAMP data for Pilarcitos Lake to determine beneficial use support and results are as follows: 0 of 1 samples exceed the criterion for Endrin. One composite (4 fish per composite) was generated from one species: Rainbow Trout. Details of the compositing protocol can be found in the March 2009 report entitled: "Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Study" (SWAMP, 2009).
Data Reference:	Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Survey. A Report of the Surface Water Ambient Monitoring Program (SWAMP). California State Water Resources Control Board, Sacramento, CA Cruise Report for the Surface Waters Ambient Monitoring Program (SWAMP)

[Bioaccumulation Screening Study in California Lakes and Reservoirs, Sampling Dates: June 2007- March 2008](#)
[Statewide Lakes Sportfish Contamination Study 2007 2008](#)
[Contaminants in Fish from California Lakes and Reservoirs, 2007-2008: Summary Report on a Two-Year Screening Survey](#)

SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	Water Quality Control Plan for the San Francisco Bay Basin: Controllable water quality factors shall not cause a detrimental increase in concentrations of toxic substances found in bottom sediments or aquatic life. Effects on aquatic organisms, wildlife, and human health will be considered.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	The modified OEHHA Fish Contaminant Goal for endrin in fish tissue is 660 ppb. This screening level assumes an average body weight of 70 kg and a consumption rate of 32 g/day. A cooking reduction factor of 1 is applied for skin-off fillets. (Klasing, S., and R. Brodberg, 2008; USEPA, 2000)
Guideline Reference:	Development of Fish Contaminant Goals and Advisory Tissue Levels for Common Contaminants in California Sport Fish: Chlordane, DDTs, Dieldrin, Methylmercury, PCBs, Selenium, and Toxaphene Guidance for Assessing Chemical Contaminant Data for Use In Fish Advisories Volume 1: Fish Sampling and Analysis
Spatial Representation:	Data for this assessment unit was collected by one monitoring project: (SWB_FishLk)
Temporal Representation:	Data was collected on a single day 10/8/2007.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	Samples were collected, processed, and analyzed in accordance with the methods described in Quality Assurance Project Plan "Screening Study of Bioaccumulation in California Lakes and Reservoirs." (SWAMP, 2008).
QAPP Information Reference(s):	Quality Assurance Project Plan Screening Study of Bioaccumulation in California Lakes and Reservoirs. Moss Landing Marine Labs. Prepared for SWAMP BOG. 49 pages plus appendices and attachments

DECISION ID	64197	Region 2
Pilarcitos Lake		

Pollutant:	Heptachlor
Final Listing Decision:	Do Not List on 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision:	New Decision
Revision Status	Revised
Impairment from Pollutant or Pollution:	Pollutant
Regional Board Staff Conclusion:	<p>This pollutant is being considered for placement on the CWA section 303(d) List under section 3.5 of the Listing Policy. Under section 3.5 a single line of evidence is necessary to assess listing status. Two lines of evidence are available in the administrative record to assess this pollutant. Zero of one samples exceed the guideline.</p> <p>Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against placing this water segment-pollutant combination on the CWA section 303(d) List.</p> <p>This conclusion is based on the staff findings that:</p> <ol style="list-style-type: none"> 1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy. 2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy. 3. Zero of one samples exceed the guideline and this sample size is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating. A minimum of 16 samples is needed to determine if a beneficial use is fully supported using table 3.1. 4. Pursuant to SECTION 3.11 of the Listing Policy, no additional data and information are available

indicating that standards are not met.

Regional Board Staff Decision Recommendation: After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be placed on the section 303(d) list. The readily available data and information is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating.

**Line of Evidence (LOE) for Decision ID 64197, Heptachlor
Pilarcitos Lake**

Region 2

LOE ID:	92587
Pollutant:	Heptachlor
LOE Subgroup:	Pollutant-Tissue
Matrix:	Tissue
Fraction:	Fish fillet
Beneficial Use:	Cold Freshwater Habitat
Number of Samples:	1
Number of Exceedances:	0
Data and Information Type:	Fish tissue analysis
Data Used to Assess Water Quality:	State Water Board staff assessed SWAMP data for Pilarcitos Lake to determine beneficial use support and results are as follows: 0 of 1 samples exceed the criterion for Heptachlor. One composite (4 fish per composite) was generated from one species: Rainbow Trout. Details of the compositing protocol can be found in the March 2009 report entitled: "Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Study" (SWAMP, 2009).
Data Reference:	Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Survey. A Report of the Surface Water Ambient Monitoring Program (SWAMP). California State Water Resources Control Board, Sacramento, CA Cruise Report for the Surface Waters Ambient Monitoring Program (SWAMP) Bioaccumulation Screening Study in California Lakes and Reservoirs, Sampling Dates: June 2007- March 2008 Statewide Lakes Sportfish Contamination Study 2007 2008 Contaminants in Fish from California Lakes and Reservoirs, 2007-2008: Summary Report on a Two-Year Screening Survey
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	Water Quality Control Plan for the San Francisco Bay Basin: Controllable water quality factors shall not cause a detrimental increase in concentrations of toxic substances found in bottom sediments or aquatic life. Effects on aquatic organisms, wildlife, and human health will be considered.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	National Academy of Science guidelines (NAS 1972) establish a maximum Heptachlor concentration of 100 ug/Kg (wet weight) in tissue samples for protection of aquatic life from bioaccumulation of toxic substances.
Guideline Reference:	National Academy of Sciences. Water Quality Criteria 1972. EPA-R3-73-033. Washington, D.C.: U.S. Environmental Protection Agency
Spatial Representation:	Data for this assessment unit was collected by one monitoring project: (SWB_FishLk)
Temporal Representation:	Data was collected on a single day 10/8/2007.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	Samples were collected, processed, and analyzed in accordance with the methods described in Quality Assurance Project Plan "Screening Study of Bioaccumulation in California Lakes and Reservoirs." (SWAMP, 2008).
QAPP Information Reference(s):	Quality Assurance Project Plan Screening Study of Bioaccumulation in California Lakes and Reservoirs. Moss Landing Marine Labs. Prepared for SWAMP BOG, 49 pages plus

Line of Evidence (LOE) for Decision ID 64197, Heptachlor**Region 2****Pilarcitos Lake**

LOE ID:	92586
Pollutant:	Heptachlor
LOE Subgroup:	Pollutant-Tissue
Matrix:	Tissue
Fraction:	Fish fillet
Beneficial Use:	Warm Freshwater Habitat
Number of Samples:	1
Number of Exceedances:	0
Data and Information Type:	Fish tissue analysis
Data Used to Assess Water Quality:	State Water Board staff assessed SWAMP data for Pilarcitos Lake to determine beneficial use support and results are as follows: 0 of 1 samples exceed the criterion for Heptachlor. One composite (4 fish per composite) was generated from one species: Rainbow Trout. Details of the compositing protocol can be found in the March 2009 report entitled: "Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Study" (SWAMP, 2009).
Data Reference:	Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Survey. A Report of the Surface Water Ambient Monitoring Program (SWAMP). California State Water Resources Control Board, Sacramento, CA Cruise Report for the Surface Waters Ambient Monitoring Program (SWAMP) Bioaccumulation Screening Study in California Lakes and Reservoirs, Sampling Dates: June 2007- March 2008 Statewide Lakes Sportfish Contamination Study 2007 2008 Contaminants in Fish from California Lakes and Reservoirs, 2007-2008: Summary Report on a Two-Year Screening Survey
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	Water Quality Control Plan for the San Francisco Bay Basin: Controllable water quality factors shall not cause a detrimental increase in concentrations of toxic substances found in bottom sediments or aquatic life. Effects on aquatic organisms, wildlife, and human health will be considered.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	National Academy of Science guidelines (NAS 1972) establish a maximum Heptachlor concentration of 100 ug/Kg (wet weight) in tissue samples for protection of aquatic life from bioaccumulation of toxic substances.
Guideline Reference:	National Academy of Sciences. Water Quality Criteria 1972. EPA-R3-73-033. Washington, D.C.: U.S. Environmental Protection Agency
Spatial Representation:	Data for this assessment unit was collected by one monitoring project: (SWB_FishLk)
Temporal Representation:	Data was collected on a single day 10/8/2007.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	Samples were collected, processed, and analyzed in accordance with the methods described in Quality Assurance Project Plan "Screening Study of Bioaccumulation in California Lakes and Reservoirs." (SWAMP, 2008).
QAPP Information Reference(s):	Quality Assurance Project Plan Screening Study of Bioaccumulation in California Lakes and Reservoirs. Moss Landing Marine Labs. Prepared for SWAMP BOG. 49 pages plus appendices and attachments

DECISION ID**64198****Region 2****Pilarcitos Lake**

Pollutant:	Heptachlor epoxide
Final Listing Decision:	Do Not List on 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision:	New Decision
Revision Status	Revised
Impairment from Pollutant or Pollution:	Pollutant

Regional Board Staff Conclusion: This pollutant is being considered for placement on the CWA section 303(d) List under section 3.5 of the Listing Policy. Under section 3.5 a single line of evidence is necessary to assess listing status. Three lines of evidence are available in the administrative record to assess this pollutant. Zero of one samples exceed the guideline.

Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against placing this water segment-pollutant combination on the CWA section 303(d) List.

This conclusion is based on the staff findings that:

1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy.
2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy.
3. Zero of one samples exceed the guideline and this sample size is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating. A minimum of 16 samples is needed to determine if a beneficial use is fully supported using table 3.1.
4. Pursuant to SECTION 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.

Regional Board Staff Decision Recommendation: After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be placed on the section 303(d) list. The readily available data and information is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating.

Line of Evidence (LOE) for Decision ID 64198, Heptachlor epoxide Pilarcitos Lake

Region 2

LOE ID: 92589

Pollutant:	Heptachlor epoxide
LOE Subgroup:	Pollutant-Tissue
Matrix:	Tissue
Fraction:	Fish fillet

Beneficial Use: Cold Freshwater Habitat

Number of Samples:	1
Number of Exceedances:	0

Data and Information Type:	Fish tissue analysis
Data Used to Assess Water Quality:	State Water Board staff assessed SWAMP data for Pilarcitos Lake to determine beneficial use support and results are as follows: 0 of 1 samples exceed the criterion for Heptachlor epoxide. One composite (4 fish per composite) was generated from one species: Rainbow Trout. Details of the compositing protocol can be found in the March 2009 report entitled: "Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Study" (SWAMP, 2009).

Data Reference: [Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Survey. A Report of the Surface Water Ambient Monitoring Program \(SWAMP\). California State Water Resources Control Board, Sacramento, CA](#)
[Cruise Report for the Surface Waters Ambient Monitoring Program \(SWAMP\)](#)
[Bioaccumulation Screening Study in California Lakes and Reservoirs, Sampling Dates: June 2007- March 2008](#)
[Statewide Lakes Sportfish Contamination Study 2007 2008](#)

SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	Water Quality Control Plan for the San Francisco Bay Basin: Controllable water quality factors shall not cause a detrimental increase in concentrations of toxic substances found in bottom sediments or aquatic life. Effects on aquatic organisms, wildlife, and human health will be considered.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	National Academy of Science guidelines (NAS 1972) establish a maximum Heptachlor Epoxide concentration of 100 ug/Kg (wet weight) in tissue samples for protection of aquatic life from bioaccumulation of toxic substances.
Guideline Reference:	National Academy of Sciences. Water Quality Criteria 1972. EPA-R3-73-033. Washington, D.C.: U.S. Environmental Protection Agency
Spatial Representation:	Data for this assessment unit was collected by one monitoring project: (SWB_FishLk)
Temporal Representation:	Data was collected on a single day 10/8/2007.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	Samples were collected, processed, and analyzed in accordance with the methods described in Quality Assurance Project Plan "Screening Study of Bioaccumulation in California Lakes and Reservoirs." (SWAMP, 2008).
QAPP Information Reference(s):	Quality Assurance Project Plan Screening Study of Bioaccumulation in California Lakes and Reservoirs. Moss Landing Marine Labs. Prepared for SWAMP BOG. 49 pages plus appendices and attachments

Line of Evidence (LOE) for Decision ID 64198, Heptachlor epoxide

Region 2

Pilarcitos Lake

LOE ID:	92590
Pollutant:	Heptachlor epoxide
LOE Subgroup:	Pollutant-Tissue
Matrix:	Tissue
Fraction:	Fish fillet
Beneficial Use:	Commercial or recreational collection of fish, shellfish, or organisms
Number of Samples:	0
Number of Exceedances:	0
Data and Information Type:	Fish tissue analysis
Data Used to Assess Water Quality:	State Water Board staff assessed SWAMP data for Pilarcitos Lake to determine beneficial use support and results are as follows: 0 of 0 samples exceed the criterion for Heptachlor epoxide. One composite (4 fish per composite) was generated from one species: Rainbow Trout. Details of the compositing protocol can be found in the March 2009 report entitled: "Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Study" (SWAMP, 2009). One composite was not used in the assessment because the laboratory data reporting limit(s) was above the objective and therefore the results could not be quantified with the level of certainty required by the Listing Policy.
Data Reference:	Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Survey. A Report of the Surface Water Ambient Monitoring Program (SWAMP). California State Water Resources Control Board, Sacramento, CA Cruise Report for the Surface Waters Ambient Monitoring Program (SWAMP) Bioaccumulation Screening Study in California Lakes and Reservoirs. Sampling Dates: June 2007- March 2008 Statewide Lakes Sportfish Contamination Study 2007 2008 Contaminants in Fish from California Lakes and Reservoirs, 2007-2008: Summary Report on a Two-Year Screening Survey

SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	Water Quality Control Plan for the San Francisco Bay Basin: Controllable water quality factors shall not cause a detrimental increase in concentrations of toxic substances found in bottom sediments or aquatic life. Effects on aquatic organisms, wildlife, and human health will be considered.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	The modified OEHHA Fish Contaminant Goal for heptachlor epoxide in fish tissue is 0.93 ppb. This screening level assumes an average body weight of 70 kg and a consumption rate of 32 g/day for a 30 year exposure over a 70-year lifetime. This constituent is a carcinogen therefore the risk level is set to one in a million. A cooking reduction factor of 1 is applied for skin-off fillets. (Klasing, S., and R. Brodberg, 2008; OEHHA, 1999)
Guideline Reference:	Development of Fish Contaminant Goals and Advisory Tissue Levels for Common Contaminants in California Sport Fish: Chlordane, DDTs, Dieldrin, Methylmercury, PCBs, Selenium, and Toxaphene Public Health Goal for Heptachlor and Heptachlor Epoxide in Drinking Water
Spatial Representation:	Data for this assessment unit was collected by one monitoring project: (SWB_FishLk)
Temporal Representation:	Data was collected on a single day 10/8/2007.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	Samples were collected, processed, and analyzed in accordance with the methods described in Quality Assurance Project Plan "Screening Study of Bioaccumulation in California Lakes and Reservoirs." (SWAMP, 2008).
QAPP Information Reference(s):	Quality Assurance Project Plan Screening Study of Bioaccumulation in California Lakes and Reservoirs. Moss Landing Marine Labs. Prepared for SWAMP BOG, 49 pages plus appendices and attachments

**Line of Evidence (LOE) for Decision ID 64198, Heptachlor epoxide
Pilarcitos Lake**

Region 2

LOE ID:	92588
Pollutant:	Heptachlor epoxide
LOE Subgroup:	Pollutant-Tissue
Matrix:	Tissue
Fraction:	Fish fillet
Beneficial Use:	Warm Freshwater Habitat
Number of Samples:	1
Number of Exceedances:	0
Data and Information Type:	Fish tissue analysis
Data Used to Assess Water Quality:	State Water Board staff assessed SWAMP data for Pilarcitos Lake to determine beneficial use support and results are as follows: 0 of 1 samples exceed the criterion for Heptachlor epoxide. One composite (4 fish per composite) was generated from one species: Rainbow Trout. Details of the compositing protocol can be found in the March 2009 report entitled: "Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Study" (SWAMP, 2009).
Data Reference:	Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Survey. A Report of the Surface Water Ambient Monitoring Program (SWAMP). California State Water Resources Control Board, Sacramento, CA Cruise Report for the Surface Waters Ambient Monitoring Program (SWAMP) Bioaccumulation Screening Study in California Lakes and Reservoirs. Sampling Dates: June 2007- March 2008 Statewide Lakes Sportfish Contamination Study 2007 2008 Contaminants in Fish from California Lakes and Reservoirs, 2007-2008: Summary Report on a Two-Year Screening Survey

SWAMP Data: SWAMP

Water Quality Objective/Criterion:	Water Quality Control Plan for the San Francisco Bay Basin: Controllable water quality factors shall not cause a detrimental increase in concentrations of toxic substances found in bottom sediments or aquatic life. Effects on aquatic organisms, wildlife, and human health will be considered.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	National Academy of Science guidelines (NAS 1972) establish a maximum Heptachlor Epoxide concentration of 100 ug/Kg (wet weight) in tissue samples for protection of aquatic life from bioaccumulation of toxic substances.
Guideline Reference:	National Academy of Sciences. Water Quality Criteria 1972. EPA-R3-73-033. Washington, D.C.: U.S. Environmental Protection Agency
Spatial Representation:	Data for this assessment unit was collected by one monitoring project: (SWB_FishLk)
Temporal Representation:	Data was collected on a single day 10/8/2007.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	Samples were collected, processed, and analyzed in accordance with the methods described in Quality Assurance Project Plan "Screening Study of Bioaccumulation in California Lakes and Reservoirs." (SWAMP, 2008).
QAPP Information Reference(s):	Quality Assurance Project Plan Screening Study of Bioaccumulation in California Lakes and Reservoirs. Moss Landing Marine Labs. Prepared for SWAMP BOG. 49 pages plus appendices and attachments

DECISION ID	64199	Region 2
Pilarcitos Lake		
Pollutant:	Hexachlorobenzene/ HCB	
Final Listing Decision:	Do Not List on 303(d) list (TMDL required list)	
Last Listing Cycle's Final Listing Decision:	New Decision	
Revision Status	Revised	
Impairment from Pollutant or Pollution:	Pollutant	
Regional Board Staff Conclusion:	<p>This pollutant is being considered for placement on the CWA section 303(d) List under section 3.5 of the Listing Policy. Under section 3.5 a single line of evidence is necessary to assess listing status. One line of evidence is available in the administrative record to assess this pollutant. Zero of one samples exceed the guideline.</p> <p>Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against placing this water segment-pollutant combination on the CWA section 303(d) List.</p> <p>This conclusion is based on the staff findings that:</p> <ol style="list-style-type: none"> 1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy. 2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy. 3. Zero of one samples exceed the guideline and this sample size is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating. A minimum of 16 samples is needed to determine if a beneficial use is fully supported using table 3.1. 4. Pursuant to SECTION 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met. 	
Regional Board Staff Decision Recommendation:	After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be placed on the section 303(d) list. The readily available data and information is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating.	

Line of Evidence (LOE) for Decision ID 64199, Hexachlorobenzene/ HCB	Region 2
Pilarcitos Lake	

LOE ID:	92591
Pollutant:	Hexachlorobenzene/ HCB
LOE Subgroup:	Pollutant-Tissue
Matrix:	Tissue
Fraction:	Fish fillet
Beneficial Use:	Commercial or recreational collection of fish, shellfish, or organisms
Number of Samples:	1
Number of Exceedances:	0
Data and Information Type:	Fish tissue analysis
Data Used to Assess Water Quality:	State Water Board staff assessed SWAMP data for Pilarcitos Lake to determine beneficial use support and results are as follows: 0 of 1 samples exceed the criterion for Hexachlorobenzene. One composite (4 fish per composite) was generated from one species: Rainbow Trout. Details of the compositing protocol can be found in the March 2009 report entitled: "Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Study" (SWAMP, 2009).
Data Reference:	Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Survey. A Report of the Surface Water Ambient Monitoring Program (SWAMP). California State Water Resources Control Board, Sacramento, CA Cruise Report for the Surface Waters Ambient Monitoring Program (SWAMP) Bioaccumulation Screening Study in California Lakes and Reservoirs. Sampling Dates: June 2007- March 2008 Statewide Lakes Sportfish Contamination Study 2007 2008 Contaminants in Fish from California Lakes and Reservoirs, 2007-2008: Summary Report on a Two-Year Screening Survey
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	Water Quality Control Plan for the San Francisco Bay Basin: Controllable water quality factors shall not cause a detrimental increase in concentrations of toxic substances found in bottom sediments or aquatic life. Effects on aquatic organisms, wildlife, and human health will be considered.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	The modified OEHHA Fish Contaminant Goal for hexachlorobenzene in fish tissue is 2.8 ppb. This screening level assumes an average body weight of 70 kg and a consumption rate of 32 g/day for a 30 year exposure over a 70-year lifetime. This constituent is a carcinogen therefore the risk level is set to one in a million. A cooking reduction factor of 1 is applied for skin-off fillets. (Klasing, S., and R. Brodberg, 2008; OEHHA, 2005)
Guideline Reference:	Development of Fish Contaminant Goals and Advisory Tissue Levels for Common Contaminants in California Sport Fish: Chlordane, DDTs, Dieldrin, Methylmercury, PCBs, Selenium, and Toxaphene Air Toxics Hotspots Program Risk Assessment Guidelines. Part II Technical Support Document for Describing Available Cancer Potency Values.
Spatial Representation:	Data for this assessment unit was collected by one monitoring project: (SWB_FishLk)
Temporal Representation:	Data was collected on a single day 10/8/2007.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	Samples were collected, processed, and analyzed in accordance with the methods described in Quality Assurance Project Plan "Screening Study of Bioaccumulation in California Lakes and Reservoirs." (SWAMP, 2008).
QAPP Information Reference(s):	Quality Assurance Project Plan Screening Study of Bioaccumulation in California Lakes and Reservoirs. Moss Landing Marine Labs. Prepared for SWAMP BOG, 49 pages plus appendices and attachments

Pollutant:	Lindane/gamma Hexachlorocyclohexane (gamma-HCH)
Final Listing Decision:	Do Not List on 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision:	New Decision
Revision Status	Revised
Impairment from Pollutant or Pollution:	Pollutant

Regional Board Staff Conclusion: This pollutant is being considered for placement on the CWA section 303(d) List under section 3.5 of the Listing Policy. Under section 3.5 a single line of evidence is necessary to assess listing status. Three lines of evidence are available in the administrative record to assess this pollutant. Zero of one samples exceed the guideline.

Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against placing this water segment-pollutant combination on the CWA section 303(d) List.

This conclusion is based on the staff findings that:

1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy.
2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy.
3. Zero of one samples exceed the guideline and this sample size is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating. A minimum of 16 samples is needed to determine if a beneficial use is fully supported using table 3.1.
4. Pursuant to SECTION 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.

Regional Board Staff Decision Recommendation: After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be placed on the section 303(d) list. The readily available data and information is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating.

Line of Evidence (LOE) for Decision ID 64200, Lindane/gamma Hexachlorocyclohexane (gamma-HCH)

Region 2

Pilarcitos Lake

LOE ID: 92592

Pollutant:	Lindane/gamma Hexachlorocyclohexane (gamma-HCH)
LOE Subgroup:	Pollutant-Tissue
Matrix:	Tissue
Fraction:	Fish fillet

Beneficial Use: Warm Freshwater Habitat

Number of Samples:	1
Number of Exceedances:	0

Data and Information Type:	Fish tissue analysis
Data Used to Assess Water Quality:	State Water Board staff assessed SWAMP data for Pilarcitos Lake to determine beneficial use support and results are as follows: 0 of 1 samples exceed the criterion for HCH, gamma. One composite (4 fish per composite) was generated from one species: Rainbow Trout. Details of the compositing protocol can be found in the March 2009 report entitled: "Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Study" (SWAMP, 2009).

Data Reference: [Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Survey. A Report of the Surface Water Ambient Monitoring Program \(SWAMP\). California State Water Resources Control Board, Sacramento, CA](#)
[Cruise Report for the Surface Waters Ambient Monitoring Program \(SWAMP\)](#)
[Bioaccumulation Screening Study in California Lakes and Reservoirs, Sampling Dates: June 2007- March 2008](#)
[Statewide Lakes Sportfish Contamination Study 2007 2008](#)

SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	Water Quality Control Plan for the San Francisco Bay Basin: Controllable water quality factors shall not cause a detrimental increase in concentrations of toxic substances found in bottom sediments or aquatic life. Effects on aquatic organisms, wildlife, and human health will be considered.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	The modified OEHHA Fish Contaminant Goal for lindane in fish tissue is 4.6 ppb. This screening level assumes an average body weight of 70 kg and a consumption rate of 32 g/day for a 30 year exposure over a 70-year lifetime. This constituent is a carcinogen therefore the risk level is set to one in a million. A cooking reduction factor of 1 is applied for skin-off fillets. (Klasing, S., and R. Brodberg, 2008; OEHHA, 2005)
Guideline Reference:	National Academy of Sciences. Water Quality Criteria 1972. EPA-R3-73-033. Washington, D.C.: U.S. Environmental Protection Agency
Spatial Representation:	Data for this assessment unit was collected by one monitoring project: (SWB_FishLk)
Temporal Representation:	Data was collected on a single day 10/8/2007.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	Samples were collected, processed, and analyzed in accordance with the methods described in Quality Assurance Project Plan "Screening Study of Bioaccumulation in California Lakes and Reservoirs." (SWAMP, 2008).
QAPP Information Reference(s):	Quality Assurance Project Plan Screening Study of Bioaccumulation in California Lakes and Reservoirs. Moss Landing Marine Labs. Prepared for SWAMP BOG, 49 pages plus appendices and attachments

Line of Evidence (LOE) for Decision ID 64200, Lindane/gamma Hexachlorocyclohexane (gamma-HCH)

Region 2

Pilarcitos Lake

LOE ID:	92593
Pollutant:	Lindane/gamma Hexachlorocyclohexane (gamma-HCH)
LOE Subgroup:	Pollutant-Tissue
Matrix:	Tissue
Fraction:	Fish fillet
Beneficial Use:	Commercial or recreational collection of fish, shellfish, or organisms
Number of Samples:	1
Number of Exceedances:	0
Data and Information Type:	Fish tissue analysis
Data Used to Assess Water Quality:	State Water Board staff assessed SWAMP data for Pilarcitos Lake to determine beneficial use support and results are as follows: 0 of 1 samples exceed the criterion for HCH, gamma. One composite (4 fish per composite) was generated from one species: Rainbow Trout. Details of the compositing protocol can be found in the March 2009 report entitled: "Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Study" (SWAMP, 2009).
Data Reference:	Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Survey. A Report of the Surface Water Ambient Monitoring Program (SWAMP). California State Water Resources Control Board, Sacramento, CA Cruise Report for the Surface Waters Ambient Monitoring Program (SWAMP) Bioaccumulation Screening Study in California Lakes and Reservoirs. Sampling Dates: June 2007- March 2008 Statewide Lakes Sportfish Contamination Study 2007 2008 Contaminants in Fish from California Lakes and Reservoirs, 2007-2008: Summary Report on a Two-Year Screening Survey

SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	Water Quality Control Plan for the San Francisco Bay Basin: Controllable water quality factors shall not cause a detrimental increase in concentrations of toxic substances found in bottom sediments or aquatic life. Effects on aquatic organisms, wildlife, and human health will be considered.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	The modified OEHHA Fish Contaminant Goal for lindane in fish tissue is 4.6 ppb. This screening level assumes an average body weight of 70 kg and a consumption rate of 32 g/day for a 30 year exposure over a 70-year lifetime. This constituent is a carcinogen therefore the risk level is set to one in a million. A cooking reduction factor of 1 is applied for skin-off fillets.
Guideline Reference:	Development of Fish Contaminant Goals and Advisory Tissue Levels for Common Contaminants in California Sport Fish: Chlordane, DDTs, Dieldrin, Methylmercury, PCBs, Selenium, and Toxaphene Air Toxics Hotspots Program Risk Assessment Guidelines. Part II Technical Support Document for Describing Available Cancer Potency Values.
Spatial Representation:	Data for this assessment unit was collected by one monitoring project: (SWB_FishLk)
Temporal Representation:	Data was collected on a single day 10/8/2007.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	Samples were collected, processed, and analyzed in accordance with the methods described in Quality Assurance Project Plan "Screening Study of Bioaccumulation in California Lakes and Reservoirs." (SWAMP, 2008).
QAPP Information Reference(s):	Quality Assurance Project Plan Screening Study of Bioaccumulation in California Lakes and Reservoirs. Moss Landing Marine Labs. Prepared for SWAMP BOG, 49 pages plus appendices and attachments

Line of Evidence (LOE) for Decision ID 64200, Lindane/gamma Hexachlorocyclohexane (gamma-HCH)

Region 2

Pilarcitos Lake

LOE ID:	92594
Pollutant:	Lindane/gamma Hexachlorocyclohexane (gamma-HCH)
LOE Subgroup:	Pollutant-Tissue
Matrix:	Tissue
Fraction:	Fish fillet
Beneficial Use:	Cold Freshwater Habitat
Number of Samples:	1
Number of Exceedances:	0
Data and Information Type:	Fish tissue analysis
Data Used to Assess Water Quality:	State Water Board staff assessed SWAMP data for Pilarcitos Lake to determine beneficial use support and results are as follows: 0 of 1 samples exceed the criterion for HCH, gamma. One composite (4 fish per composite) was generated from one species: Rainbow Trout. Details of the compositing protocol can be found in the March 2009 report entitled: "Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Study" (SWAMP, 2009).
Data Reference:	Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Survey. A Report of the Surface Water Ambient Monitoring Program (SWAMP). California State Water Resources Control Board, Sacramento, CA Cruise Report for the Surface Waters Ambient Monitoring Program (SWAMP) Bioaccumulation Screening Study in California Lakes and Reservoirs. Sampling Dates: June 2007- March 2008 Statewide Lakes Sportfish Contamination Study 2007 2008 Contaminants in Fish from California Lakes and Reservoirs, 2007-2008: Summary Report on a Two-Year Screening Survey

SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	Water Quality Control Plan for the San Francisco Bay Basin: Controllable water quality factors shall not cause a detrimental increase in concentrations of toxic substances found in bottom sediments or aquatic life. Effects on aquatic organisms, wildlife, and human health will be considered.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	The modified OEHHA Fish Contaminant Goal for lindane in fish tissue is 4.6 ppb. This screening level assumes an average body weight of 70 kg and a consumption rate of 32 g/day for a 30 year exposure over a 70-year lifetime. This constituent is a carcinogen therefore the risk level is set to one in a million. A cooking reduction factor of 1 is applied for skin-off fillets. (Klasing, S., and R. Brodberg, 2008; OEHHA, 2005)
Guideline Reference:	National Academy of Sciences. Water Quality Criteria 1972. EPA-R3-73-033. Washington, D.C.: U.S. Environmental Protection Agency
Spatial Representation:	Data for this assessment unit was collected by one monitoring project: (SWB_FishLk)
Temporal Representation:	Data was collected on a single day 10/8/2007.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	Samples were collected, processed, and analyzed in accordance with the methods described in Quality Assurance Project Plan "Screening Study of Bioaccumulation in California Lakes and Reservoirs." (SWAMP, 2008).
QAPP Information Reference(s):	Quality Assurance Project Plan Screening Study of Bioaccumulation in California Lakes and Reservoirs. Moss Landing Marine Labs. Prepared for SWAMP BOG. 49 pages plus appendices and attachments

DECISION ID 64201 Region 2	
Pilarcitos Lake	
Pollutant: Final Listing Decision: Last Listing Cycle's Final Listing Decision: Revision Status Impairment from Pollutant or Pollution:	Mirex Do Not List on 303(d) list (TMDL required list) New Decision Revised Pollutant
Regional Board Staff Conclusion:	<p>This pollutant is being considered for placement on the CWA section 303(d) List under section 3.5 of the Listing Policy. Under section 3.5 a single line of evidence is necessary to assess listing status. One line of evidence is available in the administrative record to assess this pollutant. Zero of zero samples exceed the guideline.</p> <p>Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against placing this water segment-pollutant combination on the CWA section 303(d) List.</p> <p>This conclusion is based on the staff findings that:</p> <ol style="list-style-type: none"> 1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy. 2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy. 3. Zero of zero samples exceed the guideline and this sample size is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating. A minimum of 16 samples is needed to determine if a beneficial use is fully supported using table 3.1. 4. Pursuant to SECTION 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.
Regional Board Staff Decision Recommendation:	After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be placed on the section 303(d) list. The readily available data and information is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating.

Pilarcitos Lake

LOE ID:	92597
Pollutant:	Mirex
LOE Subgroup:	Pollutant-Tissue
Matrix:	Tissue
Fraction:	Fish fillet
Beneficial Use:	Commercial or recreational collection of fish, shellfish, or organisms
Number of Samples:	0
Number of Exceedances:	0
Data and Information Type:	Fish tissue analysis
Data Used to Assess Water Quality:	State Water Board staff assessed SWAMP data for Pilarcitos Lake to determine beneficial use support and results are as follows: 0 of 0 samples exceed the criterion for Mirex. One composite (4 fish per composite) was generated from one species: Rainbow Trout. Details of the compositing protocol can be found in the March 2009 report entitled: "Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Study" (SWAMP, 2009). One composite was not used in the assessment because the laboratory data reporting limit(s) was above the objective and therefore the results could not be quantified with the level of certainty required by the Listing Policy.
Data Reference:	Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Survey. A Report of the Surface Water Ambient Monitoring Program (SWAMP). California State Water Resources Control Board, Sacramento, CA Cruise Report for the Surface Waters Ambient Monitoring Program (SWAMP) Bioaccumulation Screening Study in California Lakes and Reservoirs, Sampling Dates: June 2007- March 2008 Statewide Lakes Sportfish Contamination Study 2007 2008 Contaminants in Fish from California Lakes and Reservoirs, 2007-2008: Summary Report on a Two-Year Screening Survey
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	Water Quality Control Plan for the San Francisco Bay Basin: Controllable water quality factors shall not cause a detrimental increase in concentrations of toxic substances found in bottom sediments or aquatic life. Effects on aquatic organisms, wildlife, and human health will be considered.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	The modified OEHHA Fish Contaminant Goal for mirex in fish tissue is 0.28 ppb. This screening level assumes an average body weight of 70 kg and a consumption rate of 32 g/day. A cooking reduction factor of 1 is applied for skin-off fillets. (Klasing, S., and R. Brodberg, 2008; OEHHA, 1992)
Guideline Reference:	Development of Fish Contaminant Goals and Advisory Tissue Levels for Common Contaminants in California Sport Fish: Chlordane, DDTs, Dieldrin, Methylmercury, PCBs, Selenium, and Toxaphene Expedited Cancer Potency Values and Proposed Regulatory Levels for Certain Proposition 65 Carcinogens.
Spatial Representation:	Data for this assessment unit was collected by one monitoring project: (SWB_FishLk)
Temporal Representation:	Data was collected on a single day 10/8/2007.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	Samples were collected, processed, and analyzed in accordance with the methods described in Quality Assurance Project Plan "Screening Study of Bioaccumulation in California Lakes and Reservoirs." (SWAMP, 2008).
QAPP Information Reference(s):	Quality Assurance Project Plan Screening Study of Bioaccumulation in California Lakes and Reservoirs. Moss Landing Marine Labs. Prepared for SWAMP BOG. 49 pages plus appendices and attachments

DECISION ID	65951	Region 2
Pilarcitos Lake		

Pollutant: PCBs (Polychlorinated biphenyls)
Final Listing Decision: Do Not List on 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision: New Decision
Revision Status: Revised
Impairment from Pollutant or Pollution: Pollutant

Regional Board Staff Conclusion: This pollutant is being considered for placement on the CWA section 303(d) List under section 3.5 of the Listing Policy. Under section 3.5 a single line of evidence is necessary to assess listing status. Three lines of evidence are available in the administrative record to assess this pollutant. Zero of one samples exceed the OEHHA guideline.

Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against placing this water segment-pollutant combination on the CWA section 303(d) List.

This conclusion is based on the staff findings that:
 1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy.
 2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy.
 3. Zero of one samples exceed the OEHHA guideline and this sample size is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating. A minimum of 16 samples is needed to determine if a beneficial use is fully supported using table 3.1.
 4. Pursuant to SECTION 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.

Regional Board Staff Decision Recommendation: After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be placed on the section 303(d) list. The readily available data and information is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating.

Line of Evidence (LOE) for Decision ID 65951, PCBs (Polychlorinated biphenyls)	Region 2
Pilarcitos Lake	

LOE ID: 92598
Pollutant: PCBs (Polychlorinated biphenyls)
LOE Subgroup: Pollutant-Tissue
Matrix: Tissue
Fraction: Fish fillet
Beneficial Use: Warm Freshwater Habitat
Number of Samples: 1
Number of Exceedances: 0
Data and Information Type: Fish tissue analysis
Data Used to Assess Water Quality: State Water Board staff assessed SWAMP data for Pilarcitos Lake to determine beneficial use support and results are as follows: 0 of 1 samples exceed the criterion for PCB, Total. One composite (4 fish per composite) was generated from one species: Rainbow Trout. Details of the compositing protocol can be found in the March 2009 report entitled: "Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Study" (SWAMP, 2009). Total PCB was assessed for as follows: PCB aroclors and congeners were summed separately and the sum that yielded the highest value was used for the assessment.

Data Reference:	Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Survey. A Report of the Surface Water Ambient Monitoring Program (SWAMP). California State Water Resources Control Board, Sacramento, CA Cruise Report for the Surface Waters Ambient Monitoring Program (SWAMP) Bioaccumulation Screening Study in California Lakes and Reservoirs. Sampling Dates: June 2007- March 2008 Statewide Lakes Sportfish Contamination Study 2007 2008 Contaminants in Fish from California Lakes and Reservoirs, 2007-2008: Summary Report on a Two-Year Screening Survey
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	Water Quality Control Plan for the San Francisco Bay Basin (2013): Controllable water quality factors shall not cause a detrimental increase in concentrations of toxic substances found in bottom sediments or aquatic life. Effects on aquatic organisms, wildlife, and human health will be considered.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	National Academy of Science guidelines (NAS 1972) establish a maximum total PCB concentration of 500 ug/Kg (wet weight) in tissue samples for protection of aquatic life from bioaccumulation of toxic substances.
Guideline Reference:	National Academy of Sciences. Water Quality Criteria 1972. EPA-R3-73-033. Washington, D.C.: U.S. Environmental Protection Agency
Spatial Representation:	Data for this assessment unit was collected by one monitoring project: (SWB_FishLk)
Temporal Representation:	Data was collected on a single day 10/8/2007.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	Samples were collected, processed, and analyzed in accordance with the methods described in Quality Assurance Project Plan "Screening Study of Bioaccumulation in California Lakes and Reservoirs." (SWAMP, 2008).
QAPP Information Reference(s):	Quality Assurance Project Plan Screening Study of Bioaccumulation in California Lakes and Reservoirs. Moss Landing Marine Labs. Prepared for SWAMP BOG. 49 pages plus appendices and attachments

Line of Evidence (LOE) for Decision ID 65951, PCBs (Polychlorinated biphenyls)

Region 2

Pilarcitos Lake

LOE ID:	92599
Pollutant:	PCBs (Polychlorinated biphenyls)
LOE Subgroup:	Pollutant-Tissue
Matrix:	Tissue
Fraction:	Fish fillet
Beneficial Use:	Cold Freshwater Habitat
Number of Samples:	1
Number of Exceedances:	0
Data and Information Type:	Fish tissue analysis
Data Used to Assess Water Quality:	State Water Board staff assessed SWAMP data for Pilarcitos Lake to determine beneficial use support and results are as follows: 0 of 1 samples exceed the criterion for PCB, Total. One composite (4 fish per composite) was generated from one species: Rainbow Trout. Details of the compositing protocol can be found in the March 2009 report entitled: "Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Study" (SWAMP, 2009). Total PCB was assessed for as follows: PCB aroclors and congeners were summed separately and the sum that yielded the highest value was used for the assessment.
Data Reference:	Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Survey. A Report of the Surface Water Ambient Monitoring Program (SWAMP). California State Water Resources Control Board, Sacramento, CA Cruise Report for the Surface Waters Ambient Monitoring Program (SWAMP)

[Bioaccumulation Screening Study in California Lakes and Reservoirs, Sampling Dates: June 2007- March 2008](#)
[Statewide Lakes Sportfish Contamination Study 2007 2008](#)
[Contaminants in Fish from California Lakes and Reservoirs, 2007-2008: Summary Report on a Two-Year Screening Survey](#)

SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	Water Quality Control Plan for the San Francisco Bay Basin (2013): Controllable water quality factors shall not cause a detrimental increase in concentrations of toxic substances found in bottom sediments or aquatic life. Effects on aquatic organisms, wildlife, and human health will be considered.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	National Academy of Science guidelines (NAS 1972) establish a maximum total PCB concentration of 500 ug/Kg (wet weight) in tissue samples for protection of aquatic life from bioaccumulation of toxic substances.
Guideline Reference:	National Academy of Sciences. Water Quality Criteria 1972. EPA-R3-73-033. Washington, D.C.: U.S. Environmental Protection Agency
Spatial Representation:	Data for this assessment unit was collected by one monitoring project: (SWB_FishLk)
Temporal Representation:	Data was collected on a single day 10/8/2007.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	Samples were collected, processed, and analyzed in accordance with the methods described in Quality Assurance Project Plan "Screening Study of Bioaccumulation in California Lakes and Reservoirs." (SWAMP, 2008).
QAPP Information Reference(s):	Quality Assurance Project Plan Screening Study of Bioaccumulation in California Lakes and Reservoirs. Moss Landing Marine Labs. Prepared for SWAMP BOG, 49 pages plus appendices and attachments

Line of Evidence (LOE) for Decision ID 65951, PCBs (Polychlorinated biphenyls)	Region 2
Pilarcitos Lake	

LOE ID:	92605
Pollutant:	PCBs (Polychlorinated biphenyls)
LOE Subgroup:	Pollutant-Tissue
Matrix:	Tissue
Fraction:	Fish fillet
Beneficial Use:	Commercial or recreational collection of fish, shellfish, or organisms
Number of Samples:	1
Number of Exceedances:	0
Data and Information Type:	Fish tissue analysis
Data Used to Assess Water Quality:	State Water Board staff assessed SWAMP data for Pilarcitos Lake to determine beneficial use support and results are as follows: 0 of 1 samples exceed the criterion for PCB, Total. One composite (4 fish per composite) was generated from one species: Rainbow Trout. Details of the compositing protocol can be found in the March 2009 report entitled: "Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Study" (SWAMP, 2009). Total PCB was assessed for as follows: PCB aroclors and congeners were summed separately and the sum that yielded the highest value was used for the assessment.
Data Reference:	Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Survey. A Report of the Surface Water Ambient Monitoring Program (SWAMP). California State Water Resources Control Board, Sacramento, CA Cruise Report for the Surface Waters Ambient Monitoring Program (SWAMP) Bioaccumulation Screening Study in California Lakes and Reservoirs, Sampling Dates: June 2007- March 2008 Statewide Lakes Sportfish Contamination Study 2007 2008 Contaminants in Fish from California Lakes and Reservoirs, 2007-2008: Summary Report

SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	Water Quality Control Plan for the San Francisco Bay Basin (2013): Controllable water quality factors shall not cause a detrimental increase in concentrations of toxic substances found in bottom sediments or aquatic life. Effects on aquatic organisms, wildlife, and human health will be considered.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	The modified OEHHA Fish Contaminant Goal for polychlorinated biphenyls in fish tissue is 2.6 ppb. This screening level assumes an average body weight of 70 kg and a consumption rate of 32 g/day for a 30 year exposure over a 70-year lifetime. This constituent is a carcinogen therefore the risk level is set to one in a million. A cooking reduction factor of 1 is applied for skin-off fillets. (Klasing, S., and R. Brodberg, 2008)
Guideline Reference:	Development of Fish Contaminant Goals and Advisory Tissue Levels for Common Contaminants in California Sport Fish: Chlordane, DDTs, Dieldrin, Methylmercury, PCBs, Selenium, and Toxaphene
Spatial Representation:	Data for this assessment unit was collected by one monitoring project: (SWB_FishLk)
Temporal Representation:	Data was collected on a single day 10/8/2007.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	Samples were collected, processed, and analyzed in accordance with the methods described in Quality Assurance Project Plan "Screening Study of Bioaccumulation in California Lakes and Reservoirs." (SWAMP, 2008).
QAPP Information Reference(s):	Quality Assurance Project Plan Screening Study of Bioaccumulation in California Lakes and Reservoirs. Moss Landing Marine Labs. Prepared for SWAMP BOG, 49 pages plus appendices and attachments

DECISION ID	65948	Region 2
Pilarcitos Lake		

Pollutant:	Mercury
Final Listing Decision:	List on 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision:	New Decision
Revision Status	Revised
Sources:	Source Unknown
Expected TMDL Completion Date:	2029
Impairment from Pollutant or Pollution:	Pollutant

Regional Board Staff Conclusion:	<p>This pollutant is being considered for placement on the CWA section 303(d) List under section 3.4 of the Listing Policy. Under section 3.4 a single line of evidence is necessary to assess listing status in addition to the presence of a fish consumption advisory for the waterbody.</p> <p>One line of evidence is available in the administrative record to assess this pollutant. One of one samples exceed the evaluation guideline to protect wildlife (piscivorous birds).</p> <p>Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification in favor of placing this water segment-pollutant combination on the CWA section 303(d) List.</p> <p>Though the samples were collected from a single location on a single day, fish are not static and move throughout a lake and accumulate mercury in tissue over time. Therefore, the idea of spatial and temporal independence (Section 6.1.5 of the Listing Policy) does not apply.</p> <p>This conclusion is based on the staff findings that:</p> <ol style="list-style-type: none"> 1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy. 2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy, except that
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composite samples collected at a single location for a single day were evaluated as a single sample and not averaged.

3. One of one samples exceed the OEHA guideline and this is less than the allowable frequency to list in Table 3.1 of the Listing Policy.

4. Pursuant to section 3.11 of the Listing Policy, additional data and information are available indicating that standards are not met. The sample exceeding the guideline is constituted by several fish that have independently accumulated enough mercury such that the average of all these fish exceeds the evaluation guideline. Therefore, it is highly likely that if more fish had been caught on another day to form additional composites, these would also exceed the evaluation guideline and, hence, the number of exceedances would exceed the allowable frequency described in section 3.4 of the listing policy.

Regional Board Staff Decision Recommendation: After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should be placed on the section 303(d) list because applicable water quality standards are exceeded and a pollutant contributes to or causes the problem.

Line of Evidence (LOE) for Decision ID 65948, Mercury

Region 2

Pilarcitos Lake

LOE ID: 92595

Pollutant: Mercury
LOE Subgroup: Pollutant-Tissue
Matrix: Tissue
Fraction: Fish fillet

Beneficial Use: Wildlife Habitat

Number of Samples: 1
Number of Exceedances: 1

Data and Information Type: Fish tissue analysis
Data Used to Assess Water Quality: State Water Board staff assessed SWAMP data for Pilarcitos Lake to determine beneficial use support and results are as follows: 1 of 1 samples exceed the evaluation guideline for Mercury. Two composites (4 fish in first composite and 3 fish in a second composite) were generated from one species: rainbow trout. Composites were not spatially independent (as defined in the Listing Policy) and so were averaged.

Data Reference: [Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Survey. A Report of the Surface Water Ambient Monitoring Program \(SWAMP\). California State Water Resources Control Board, Sacramento, CA](#)
[Cruise Report for the Surface Waters Ambient Monitoring Program \(SWAMP\)](#)
[Bioaccumulation Screening Study in California Lakes and Reservoirs, Sampling Dates: June 2007- March 2008](#)
[Statewide Lakes Sportfish Contamination Study 2007 2008](#)
[Contaminants in Fish from California Lakes and Reservoirs, 2007-2008: Summary Report on a Two-Year Screening Survey](#)

SWAMP Data: SWAMP

Water Quality Objective/Criterion: Water Quality Control Plan for the San Francisco Bay Basin (2013): Controllable water quality factors shall not cause a detrimental increase in concentrations of toxic substances found in bottom sediments or aquatic life. Effects on aquatic organisms, wildlife, and human health will be considered.

Objective/Criterion Reference: [Water Quality Control Plan \(Basin Plan\) San Francisco Bay Basin \(Region 2\)](#)

Evaluation Guideline: The USEPA 304(a) recommended water quality criterion for concentrations of methylmercury in fish tissue of trophic level 4 fish (150 - 500 mm; fillet wet weight) is 0.2 mg/kg. This assumes a consumption rate of 32 g/day. (USEPA, 2001).

Ackerman and co-authors developed a relationship sport fish and grebe blood. A total mercury concentration of 0.2 ?g/g ww in sport fish corresponds to a total mercury

concentration of 1.0 µg/g ww in grebe blood. 1.0 µg/g ww in grebe blood generally puts birds at elevated risk of potential impairment (Ackerman et al. 2015)

Guideline Reference:

[Water Quality Criterion for the Protection of Human Health: Methylmercury. Final. United States Environmental Protection Agency Office of Science and Technology Office of Water. EPA-823-R-01-001. January 2001](#)
["Estimating Exposure of Piscivorous Birds and Sport Fish to Mercury in California Lakes Using Prey Fish Monitoring? A Predictive Tool for Managers?"](#)

Spatial Representation:

Data for this assessment unit was collected by one monitoring project: (SWB_FishLk)

Temporal Representation:

Data was collected on a single day 10/8/2007.

Environmental Conditions:

Staff is not aware of any special conditions that might affect interpretation of the data.

QAPP Information:

Samples were collected, processed, and analyzed in accordance with the methods described in Quality Assurance Project Plan "Screening Study of Bioaccumulation in California Lakes and Reservoirs." (SWAMP, 2008).

QAPP Information Reference(s):

[Quality Assurance Project Plan Screening Study of Bioaccumulation in California Lakes and Reservoirs. Moss Landing Marine Labs. Prepared for SWAMP BOG. 49 pages plus appendices and attachments](#)

Draft California 2016 Integrated Report (303(d) List/305(b) Report)

Supporting Information

Regional Board 2 - San Francisco Bay Region

Water Body Name: Upper San Leandro Reservoir
Water Body ID: CAL2042001120091208102529
Water Body Type: Lake & Reservoir

DECISION ID 65773 **Region 2**
Upper San Leandro Reservoir

Pollutant: Aldrin
Final Listing Decision: Do Not List on 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision: New Decision
Revision Status: Revised
Impairment from Pollutant or Pollution: Pollutant

Regional Board Staff Conclusion: This pollutant is being considered for placement on the CWA section 303(d) List under section 3.5 of the Listing Policy. Under section 3.5 a single line of evidence is necessary to assess listing status. Two lines of evidence are available in the administrative record to assess this pollutant.

Zero of one sample exceeds the guideline. Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against placing this water segment-pollutant combination on the CWA section 303(d) List in the Water Quality Limited Segments category.

This conclusion is based on the staff findings that:

1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy.
2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy.
3. The one sample did not exceed the guideline and this sample size is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating. A minimum of 16 samples is needed to determine if a beneficial use is fully supported using table 3.1.
4. Pursuant to section 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.

Regional Board Staff Decision Recommendation: After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be placed on the section 303(d) list. The readily available data and information is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating.

Line of Evidence (LOE) for Decision ID 65773, Aldrin **Region 2**
Upper San Leandro Reservoir

LOE ID: 93293
Pollutant: Aldrin
LOE Subgroup: Pollutant-Tissue
Matrix: Tissue
Fraction: Fish fillet
Beneficial Use: Cold Freshwater Habitat
Number of Samples: 1
Number of Exceedances: 0

Data and Information Type:	Fish tissue analysis
Data Used to Assess Water Quality:	State Water Board staff assessed SWAMP data for Upper San Leandro Reservoir to determine beneficial use support and results are as follows: 0 of 1 samples exceed the criterion for Aldrin. One composite (5 fish per composite) was generated from one species: Largemouth Bass. Details of the compositing protocol can be found in the March 2009 report entitled: "Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Study" (SWAMP, 2009).
Data Reference:	Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Survey. A Report of the Surface Water Ambient Monitoring Program (SWAMP). California State Water Resources Control Board, Sacramento, CA Cruise Report for the Surface Waters Ambient Monitoring Program (SWAMP) Bioaccumulation Screening Study in California Lakes and Reservoirs, Sampling Dates: June 2007- March 2008 Statewide Lakes Sportfish Contamination Study 2007 2008 Contaminants in Fish from California Lakes and Reservoirs, 2007-2008: Summary Report on a Two-Year Screening Survey
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	Water Quality Control Plan for the San Francisco Bay Basin: Controllable water quality factors shall not cause a detrimental increase in concentrations of toxic substances found in bottom sediments or aquatic life. Effects on aquatic organisms, wildlife, and human health will be considered.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	National Academy of Science guidelines (NAS 1972) establish a maximum Aldrin concentration of 100 ug/Kg (wet weight) in tissue samples for protection of aquatic life from bioaccumulation of toxic substances.
Guideline Reference:	National Academy of Sciences. Water Quality Criteria 1972. EPA-R3-73-033. Washington, D.C.: U.S. Environmental Protection Agency
Spatial Representation:	Data for this assessment unit was collected by one monitoring project: (SWB_FishLk)
Temporal Representation:	Data was collected on a single day 7/17/2007.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	Samples were collected, processed, and analyzed in accordance with the methods described in Quality Assurance Project Plan "Screening Study of Bioaccumulation in California Lakes and Reservoirs." (SWAMP, 2008).
QAPP Information Reference(s):	Quality Assurance Project Plan Screening Study of Bioaccumulation in California Lakes and Reservoirs. Moss Landing Marine Labs. Prepared for SWAMP BOG, 49 pages plus appendices and attachments

Line of Evidence (LOE) for Decision ID 65773, Aldrin	Region 2
Upper San Leandro Reservoir	

LOE ID:	93292
Pollutant:	Aldrin
LOE Subgroup:	Pollutant-Tissue
Matrix:	Tissue
Fraction:	Fish fillet
Beneficial Use:	Warm Freshwater Habitat
Number of Samples:	1
Number of Exceedances:	0
Data and Information Type:	Fish tissue analysis
Data Used to Assess Water Quality:	State Water Board staff assessed SWAMP data for Upper San Leandro Reservoir to determine beneficial use support and results are as follows: 0 of 1 samples exceed the criterion for Aldrin. One composite (5 fish per composite) was generated from one species: Largemouth Bass. Details of the compositing protocol can be found in the March

Data Reference:	<p>2009 report entitled: "Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Study" (SWAMP, 2009). Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Survey. A Report of the Surface Water Ambient Monitoring Program (SWAMP). California State Water Resources Control Board, Sacramento, CA Cruise Report for the Surface Waters Ambient Monitoring Program (SWAMP) Bioaccumulation Screening Study in California Lakes and Reservoirs. Sampling Dates: June 2007- March 2008 Statewide Lakes Sportfish Contamination Study 2007 2008 Contaminants in Fish from California Lakes and Reservoirs, 2007-2008: Summary Report on a Two-Year Screening Survey</p>
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	Water Quality Control Plan for the San Francisco Bay Basin: Controllable water quality factors shall not cause a detrimental increase in concentrations of toxic substances found in bottom sediments or aquatic life. Effects on aquatic organisms, wildlife, and human health will be considered.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	National Academy of Science guidelines (NAS 1972) establish a maximum Aldrin concentration of 100 ug/Kg (wet weight) in tissue samples for protection of aquatic life from bioaccumulation of toxic substances.
Guideline Reference:	National Academy of Sciences. Water Quality Criteria 1972. EPA-R3-73-033. Washington, D.C.: U.S. Environmental Protection Agency
Spatial Representation:	Data for this assessment unit was collected by one monitoring project: (SWB_FishLk)
Temporal Representation:	Data was collected on a single day 7/17/2007.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	Samples were collected, processed, and analyzed in accordance with the methods described in Quality Assurance Project Plan "Screening Study of Bioaccumulation in California Lakes and Reservoirs." (SWAMP, 2008).
QAPP Information Reference(s):	Quality Assurance Project Plan Screening Study of Bioaccumulation in California Lakes and Reservoirs. Moss Landing Marine Labs. Prepared for SWAMP BOG. 49 pages plus appendices and attachments

DECISION ID	65792	Region 2
Upper San Leandro Reservoir		

Pollutant:	Chlordane
Final Listing Decision:	Do Not List on 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision:	New Decision
Revision Status	Revised
Impairment from Pollutant or Pollution:	Pollutant
Regional Board Staff Conclusion:	<p>This pollutant is being considered for placement on the CWA section 303(d) List under section 3.5 of the Listing Policy. Under section 3.5 a single line of evidence is necessary to assess listing status. Three lines of evidence are available in the administrative record to assess this pollutant. Zero of one sample exceeds the guidelines.</p> <p>Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against placing this water segment-pollutant combination on the CWA section 303(d) List in the Water Quality Limited Segments category.</p> <p>This conclusion is based on the staff findings that:</p> <ol style="list-style-type: none"> 1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy. 2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy. 3. The one sample did not exceed the guidelines and this sample size is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating. A

minimum of 16 samples is needed to determine if a beneficial use is fully supported using table 3.1. 4. Pursuant to section 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.

Regional Board Staff Decision Recommendation: After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be placed on the section 303(d) list. The readily available data and information is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating.

Line of Evidence (LOE) for Decision ID 65792, Chlordane

Region 2

Upper San Leandro Reservoir

LOE ID:	93296
Pollutant:	Chlordane
LOE Subgroup:	Pollutant-Tissue
Matrix:	Tissue
Fraction:	Fish fillet
Beneficial Use:	Commercial or recreational collection of fish, shellfish, or organisms
Number of Samples:	1
Number of Exceedances:	0
Data and Information Type:	Fish tissue analysis
Data Used to Assess Water Quality:	State Water Board staff assessed SWAMP data for Upper San Leandro Reservoir to determine beneficial use support and results are as follows: 0 of 1 samples exceed the criterion for Chlordane, Total. One composite (5 fish per composite) was generated from one species: Largemouth Bass. Details of the compositing protocol can be found in the March 2009 report entitled: "Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Study" (SWAMP, 2009). Total chlordane was calculated as the sum of the following chlordane isomers: cis- and trans-chlordane, cis- and trans-nonachlor, and oxychlordane.
Data Reference:	Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Survey. A Report of the Surface Water Ambient Monitoring Program (SWAMP). California State Water Resources Control Board, Sacramento, CA Cruise Report for the Surface Waters Ambient Monitoring Program (SWAMP) Bioaccumulation Screening Study in California Lakes and Reservoirs, Sampling Dates: June 2007- March 2008 Statewide Lakes Sportfish Contamination Study 2007 2008 Contaminants in Fish from California Lakes and Reservoirs, 2007-2008: Summary Report on a Two-Year Screening Survey
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	Water Quality Control Plan for the San Francisco Bay Basin: Controllable water quality factors shall not cause a detrimental increase in concentrations of toxic substances found in bottom sediments or aquatic life. Effects on aquatic organisms, wildlife, and human health will be considered.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	The modified OEHHA Fish Contaminant Goal for total chlordane in fish tissue is 3.9 ppb. This screening level assumes an average body weight of 70 kg and a consumption rate of 32 g/day for a 30 year exposure over a 70-year lifetime. This constituent is a carcinogen therefore the risk level is set to one in a million. A cooking reduction factor of 1 is applied for skin-off fillets. (Klasing, S., and R. Brodberg, 2008)
Guideline Reference:	Development of Fish Contaminant Goals and Advisory Tissue Levels for Common Contaminants in California Sport Fish: Chlordane, DDTs, Dieldrin, Methylmercury, PCBs, Selenium, and Toxaphene
Spatial Representation:	Data for this assessment unit was collected by one monitoring project: (SWB_FishLk)

Temporal Representation:	Data was collected on a single day 7/17/2007.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	Samples were collected, processed, and analyzed in accordance with the methods described in Quality Assurance Project Plan "Screening Study of Bioaccumulation in California Lakes and Reservoirs." (SWAMP, 2008).
QAPP Information Reference(s):	Quality Assurance Project Plan Screening Study of Bioaccumulation in California Lakes and Reservoirs. Moss Landing Marine Labs. Prepared for SWAMP BOG. 49 pages plus appendices and attachments

Line of Evidence (LOE) for Decision ID 65792, Chlordane	Region 2
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Upper San Leandro Reservoir

LOE ID:	93295
Pollutant:	Chlordane
LOE Subgroup:	Pollutant-Tissue
Matrix:	Tissue
Fraction:	Fish fillet
Beneficial Use:	Cold Freshwater Habitat
Number of Samples:	1
Number of Exceedances:	0
Data and Information Type:	Fish tissue analysis
Data Used to Assess Water Quality:	State Water Board staff assessed SWAMP data for Upper San Leandro Reservoir to determine beneficial use support and results are as follows: 0 of 1 samples exceed the criterion for Chlordane, Total. One composite (5 fish per composite) was generated from one species: Largemouth Bass. Details of the compositing protocol can be found in the March 2009 report entitled: "Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Study" (SWAMP, 2009). Total chlordane was calculated as the sum of the following chlordane isomers: cis- and trans-chlordane, cis- and trans-nonachlor, and oxychlordane.
Data Reference:	Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Survey. A Report of the Surface Water Ambient Monitoring Program (SWAMP). California State Water Resources Control Board, Sacramento, CA Cruise Report for the Surface Waters Ambient Monitoring Program (SWAMP) Bioaccumulation Screening Study in California Lakes and Reservoirs. Sampling Dates: June 2007- March 2008 Statewide Lakes Sportfish Contamination Study 2007 2008 Contaminants in Fish from California Lakes and Reservoirs, 2007-2008: Summary Report on a Two-Year Screening Survey
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	Water Quality Control Plan for the San Francisco Bay Basin: Controllable water quality factors shall not cause a detrimental increase in concentrations of toxic substances found in bottom sediments or aquatic life. Effects on aquatic organisms, wildlife, and human health will be considered.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	National Academy of Science guidelines (NAS 1972) establish a maximum total Chlordane concentration of 100 ug/Kg (wet weight) in tissue samples for protection of aquatic life from bioaccumulation of toxic substances.
Guideline Reference:	National Academy of Sciences. Water Quality Criteria 1972. EPA-R3-73-033. Washington, D.C.: U.S. Environmental Protection Agency
Spatial Representation:	Data for this assessment unit was collected by one monitoring project: (SWB_FishLk)
Temporal Representation:	Data was collected on a single day 7/17/2007.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	Samples were collected, processed, and analyzed in accordance with the methods described in Quality Assurance Project Plan "Screening Study of Bioaccumulation in

QAPP Information Reference(s):	California Lakes and Reservoirs." (SWAMP, 2008). Quality Assurance Project Plan Screening Study of Bioaccumulation in California Lakes and Reservoirs. Moss Landing Marine Labs. Prepared for SWAMP BOG, 49 pages plus appendices and attachments
Line of Evidence (LOE) for Decision ID 65792, Chlordane	
Upper San Leandro Reservoir	
LOE ID:	93294
Pollutant:	Chlordane
LOE Subgroup:	Pollutant-Tissue
Matrix:	Tissue
Fraction:	Fish fillet
Beneficial Use:	Warm Freshwater Habitat
Number of Samples:	1
Number of Exceedances:	0
Data and Information Type:	Fish tissue analysis
Data Used to Assess Water Quality:	State Water Board staff assessed SWAMP data for Upper San Leandro Reservoir to determine beneficial use support and results are as follows: 0 of 1 samples exceed the criterion for Chlordane, Total. One composite (5 fish per composite) was generated from one species: Largemouth Bass. Details of the compositing protocol can be found in the March 2009 report entitled: "Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Study" (SWAMP, 2009). Total chlordane was calculated as the sum of the following chlordane isomers: cis- and trans-chlordane, cis- and trans-nonachlor, and oxychlordane.
Data Reference:	Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Survey. A Report of the Surface Water Ambient Monitoring Program (SWAMP). California State Water Resources Control Board, Sacramento, CA Cruise Report for the Surface Waters Ambient Monitoring Program (SWAMP) Bioaccumulation Screening Study in California Lakes and Reservoirs, Sampling Dates: June 2007- March 2008 Statewide Lakes Sportfish Contamination Study 2007 2008 Contaminants in Fish from California Lakes and Reservoirs, 2007-2008: Summary Report on a Two-Year Screening Survey
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	Water Quality Control Plan for the San Francisco Bay Basin: Controllable water quality factors shall not cause a detrimental increase in concentrations of toxic substances found in bottom sediments or aquatic life. Effects on aquatic organisms, wildlife, and human health will be considered.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	National Academy of Science guidelines (NAS 1972) establish a maximum total Chlordane concentration of 100 ug/Kg (wet weight) in tissue samples for protection of aquatic life from bioaccumulation of toxic substances.
Guideline Reference:	National Academy of Sciences. Water Quality Criteria 1972. EPA-R3-73-033. Washington, D.C.: U.S. Environmental Protection Agency
Spatial Representation:	Data for this assessment unit was collected by one monitoring project: (SWB_FishLk)
Temporal Representation:	Data was collected on a single day 7/17/2007.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	Samples were collected, processed, and analyzed in accordance with the methods described in Quality Assurance Project Plan "Screening Study of Bioaccumulation in California Lakes and Reservoirs." (SWAMP, 2008).
QAPP Information Reference(s):	Quality Assurance Project Plan Screening Study of Bioaccumulation in California Lakes and Reservoirs. Moss Landing Marine Labs. Prepared for SWAMP BOG, 49 pages plus appendices and attachments

DECISION ID	65823	Region 2
Upper San Leandro Reservoir		

Pollutant:	DDT (Dichlorodiphenyltrichloroethane)
Final Listing Decision:	Do Not List on 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision:	New Decision
Revision Status	Revised
Impairment from Pollutant or Pollution:	Pollutant

Regional Board Staff Conclusion: This pollutant is being considered for placement on the CWA section 303(d) List under section 3.5 of the Listing Policy. Under section 3.5 a single line of evidence is necessary to assess listing status. Three lines of evidence are available in the administrative record to assess this pollutant. Zero of one sample exceeds the guidelines.

Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against placing this water segment-pollutant combination on the CWA section 303(d) List in the Water Quality Limited Segments category.

This conclusion is based on the staff findings that:

1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy.
2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy.
3. The one sample did not exceed the guideline and this sample size is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating. A minimum of 16 samples is needed to determine if a beneficial use is fully supported using table 3.1.
4. Pursuant to section 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.

Regional Board Staff Decision Recommendation: After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be placed on the section 303(d) list. The readily available data and information is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating.

Line of Evidence (LOE) for Decision ID 65823, DDT (Dichlorodiphenyltrichloroethane)	Region 2
Upper San Leandro Reservoir	

LOE ID:	93286
Pollutant:	Total DDT (sum of 4,4'- and 2,4'- isomers of DDT, DDE, and DDD)
LOE Subgroup:	Pollutant-Tissue
Matrix:	Tissue
Fraction:	Fish fillet
Beneficial Use:	Commercial or recreational collection of fish, shellfish, or organisms
Number of Samples:	1
Number of Exceedances:	0
Data and Information Type:	Fish tissue analysis
Data Used to Assess Water Quality:	State Water Board staff assessed SWAMP data for Upper San Leandro Reservoir to determine beneficial use support and results are as follows: 0 of 1 samples exceed the criterion for DDT, Total. One composite (5 fish per composite) was generated from one species: Largemouth Bass. Details of the compositing protocol can be found in the March 2009 report entitled: "Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Study" (SWAMP, 2009). Total DDT was calculated as the sum of 4,4'- and 2,4'- isomers of DDT, DDE, and DDD.
Data Reference:	Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year

[One of a Two-Year Screening Survey. A Report of the Surface Water Ambient Monitoring Program \(SWAMP\). California State Water Resources Control Board, Sacramento, CA](#)
[Cruise Report for the Surface Waters Ambient Monitoring Program \(SWAMP\)](#)
[Bioaccumulation Screening Study in California Lakes and Reservoirs. Sampling Dates: June 2007- March 2008](#)
[Statewide Lakes Sportfish Contamination Study 2007 2008](#)
[Contaminants in Fish from California Lakes and Reservoirs, 2007-2008: Summary Report on a Two-Year Screening Survey](#)

SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	Water Quality Control Plan for the San Francisco Bay Basin: Controllable water quality factors shall not cause a detrimental increase in concentrations of toxic substances found in bottom sediments or aquatic life. Effects on aquatic organisms, wildlife, and human health will be considered.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	The modified OEHHA Fish Contaminant Goal for total DDT in fish tissue is 15 ppb. This screening level assumes an average body weight of 70 kg and a consumption rate of 32 g/day for a 30 year exposure over a 70-year lifetime. This constituent is a carcinogen therefore the risk level is set to one in a million. A cooking reduction factor of 1 is applied for skin-off fillets. (Klasing, S., and R. Brodberg, 2008)
Guideline Reference:	Development of Fish Contaminant Goals and Advisory Tissue Levels for Common Contaminants in California Sport Fish: Chlordane, DDTs, Dieldrin, Methylmercury, PCBs, Selenium, and Toxaphene
Spatial Representation:	Data for this assessment unit was collected by one monitoring project: (SWB_FishLk)
Temporal Representation:	Data was collected on a single day 7/17/2007.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	Samples were collected, processed, and analyzed in accordance with the methods described in Quality Assurance Project Plan "Screening Study of Bioaccumulation in California Lakes and Reservoirs." (SWAMP, 2008).
QAPP Information Reference(s):	Quality Assurance Project Plan Screening Study of Bioaccumulation in California Lakes and Reservoirs. Moss Landing Marine Labs. Prepared for SWAMP BOG. 49 pages plus appendices and attachments

Line of Evidence (LOE) for Decision ID 65823, DDT (Dichlorodiphenyltrichloroethane)

Region 2

Upper San Leandro Reservoir

LOE ID:	93285
Pollutant:	Total DDT (sum of 4,4'- and 2,4'- isomers of DDT, DDE, and DDD)
LOE Subgroup:	Pollutant-Tissue
Matrix:	Tissue
Fraction:	Fish fillet
Beneficial Use:	Cold Freshwater Habitat
Number of Samples:	1
Number of Exceedances:	0
Data and Information Type:	Fish tissue analysis
Data Used to Assess Water Quality:	State Water Board staff assessed SWAMP data for Upper San Leandro Reservoir to determine beneficial use support and results are as follows: 0 of 1 samples exceed the criterion for DDT, Total. One composite (5 fish per composite) was generated from one species: Largemouth Bass. Details of the compositing protocol can be found in the March 2009 report entitled: "Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Study" (SWAMP, 2009). Total DDT was calculated as the sum of 4,4'- and 2,4'- isomers of DDT, DDE, and DDD.
Data Reference:	Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Survey. A Report of the Surface Water Ambient Monitoring Program (SWAMP). California State Water Resources Control Board, Sacramento, CA

[Cruise Report for the Surface Waters Ambient Monitoring Program \(SWAMP\) Bioaccumulation Screening Study in California Lakes and Reservoirs. Sampling Dates: June 2007- March 2008](#)
[Statewide Lakes Sportfish Contamination Study 2007 2008](#)
[Contaminants in Fish from California Lakes and Reservoirs. 2007-2008: Summary Report on a Two-Year Screening Survey](#)

SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	Water Quality Control Plan for the San Francisco Bay Basin: Controllable water quality factors shall not cause a detrimental increase in concentrations of toxic substances found in bottom sediments or aquatic life. Effects on aquatic organisms, wildlife, and human health will be considered.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	National Academy of Science guidelines (NAS 1972) establish a maximum total DDT concentration of 1000 ug/Kg (wet weight) in tissue samples for protection of aquatic life from bioaccumulation of toxic substances.
Guideline Reference:	National Academy of Sciences. Water Quality Criteria 1972. EPA-R3-73-033. Washington, D.C.: U.S. Environmental Protection Agency
Spatial Representation:	Data for this assessment unit was collected by one monitoring project: (SWB_FishLk)
Temporal Representation:	Data was collected on a single day 7/17/2007.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	Samples were collected, processed, and analyzed in accordance with the methods described in Quality Assurance Project Plan "Screening Study of Bioaccumulation in California Lakes and Reservoirs." (SWAMP, 2008).
QAPP Information Reference(s):	Quality Assurance Project Plan Screening Study of Bioaccumulation in California Lakes and Reservoirs. Moss Landing Marine Labs. Prepared for SWAMP BOG. 49 pages plus appendices and attachments

Line of Evidence (LOE) for Decision ID 65823, DDT (Dichlorodiphenyltrichloroethane)
Upper San Leandro Reservoir

Region 2

LOE ID:	93281
Pollutant:	Total DDT (sum of 4,4'- and 2,4'- isomers of DDT, DDE, and DDD)
LOE Subgroup:	Pollutant-Tissue
Matrix:	Tissue
Fraction:	Fish fillet
Beneficial Use:	Warm Freshwater Habitat
Number of Samples:	1
Number of Exceedances:	0
Data and Information Type:	Fish tissue analysis
Data Used to Assess Water Quality:	State Water Board staff assessed SWAMP data for Upper San Leandro Reservoir to determine beneficial use support and results are as follows: 0 of 1 samples exceed the criterion for DDT, Total. One composite (5 fish per composite) was generated from one species: Largemouth Bass. Details of the compositing protocol can be found in the March 2009 report entitled: "Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Study" (SWAMP, 2009). Total DDT was calculated as the sum of 4,4'- and 2,4'- isomers of DDT, DDE, and DDD.
Data Reference:	Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Survey. A Report of the Surface Water Ambient Monitoring Program (SWAMP). California State Water Resources Control Board, Sacramento, CA Cruise Report for the Surface Waters Ambient Monitoring Program (SWAMP) Bioaccumulation Screening Study in California Lakes and Reservoirs. Sampling Dates: June 2007- March 2008 Statewide Lakes Sportfish Contamination Study 2007 2008 Contaminants in Fish from California Lakes and Reservoirs. 2007-2008: Summary Report

SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	Water Quality Control Plan for the San Francisco Bay Basin: Controllable water quality factors shall not cause a detrimental increase in concentrations of toxic substances found in bottom sediments or aquatic life. Effects on aquatic organisms, wildlife, and human health will be considered.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	National Academy of Science guidelines (NAS 1972) establish a maximum total DDT concentration of 1000 ug/Kg (wet weight) in tissue samples for protection of aquatic life from bioaccumulation of toxic substances.
Guideline Reference:	National Academy of Sciences. Water Quality Criteria 1972. EPA-R3-73-033. Washington, D.C.: U.S. Environmental Protection Agency
Spatial Representation:	Data for this assessment unit was collected by one monitoring project: (SWB_FishLk)
Temporal Representation:	Data was collected on a single day 7/17/2007.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	Samples were collected, processed, and analyzed in accordance with the methods described in Quality Assurance Project Plan "Screening Study of Bioaccumulation in California Lakes and Reservoirs." (SWAMP, 2008).
QAPP Information Reference(s):	Quality Assurance Project Plan Screening Study of Bioaccumulation in California Lakes and Reservoirs. Moss Landing Marine Labs. Prepared for SWAMP BOG. 49 pages plus appendices and attachments

DECISION ID	65795	Region 2
Upper San Leandro Reservoir		

Pollutant:	Dieldrin
Final Listing Decision:	Do Not List on 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision:	New Decision
Revision Status	Revised
Impairment from Pollutant or Pollution:	Pollutant
Regional Board Staff Conclusion:	<p>This pollutant is being considered for placement on the CWA section 303(d) List under section 3.5 of the Listing Policy. Under section 3.5 a single line of evidence is necessary to assess listing status. Three lines of evidence are available in the administrative record to assess this pollutant. Zero of one sample exceeds the guideline for aquatic life. One of one sample exceeds the guideline for human health.</p> <p>Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against placing this water segment-pollutant combination on the CWA section 303(d) List in the Water Quality Limited Segments category.</p> <p>This conclusion is based on the staff findings that:</p> <ol style="list-style-type: none">1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy.2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy.3. One sample did exceed the human health guideline and this sample size is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating. A minimum of 16 samples is needed to determine if a beneficial use is fully supported using table 3.1.4. Pursuant to section 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.
Regional Board Staff Decision Recommendation:	After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be placed on the section 303(d) list. The readily available data and information is insufficient to determine, with the power and confidence of the Listing Policy, the

Line of Evidence (LOE) for Decision ID 65795, Dieldrin**Region 2****Upper San Leandro Reservoir**

LOE ID:	93299
Pollutant:	Dieldrin
LOE Subgroup:	Pollutant-Tissue
Matrix:	Tissue
Fraction:	Fish fillet
Beneficial Use:	Commercial or recreational collection of fish, shellfish, or organisms
Number of Samples:	1
Number of Exceedances:	1
Data and Information Type:	Fish tissue analysis
Data Used to Assess Water Quality:	State Water Board staff assessed SWAMP data for Upper San Leandro Reservoir to determine beneficial use support and results are as follows: 1 of 1 samples exceed the criterion for Dieldrin. One composite (5 fish per composite) was generated from one species: Largemouth Bass. Details of the compositing protocol can be found in the March 2009 report entitled: "Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Study" (SWAMP, 2009).
Data Reference:	Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Survey. A Report of the Surface Water Ambient Monitoring Program (SWAMP). California State Water Resources Control Board, Sacramento, CA Cruise Report for the Surface Waters Ambient Monitoring Program (SWAMP) Bioaccumulation Screening Study in California Lakes and Reservoirs, Sampling Dates: June 2007- March 2008 Statewide Lakes Sportfish Contamination Study 2007 2008 Contaminants in Fish from California Lakes and Reservoirs, 2007-2008: Summary Report on a Two-Year Screening Survey
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	Water Quality Control Plan for the San Francisco Bay Basin: Controllable water quality factors shall not cause a detrimental increase in concentrations of toxic substances found in bottom sediments or aquatic life. Effects on aquatic organisms, wildlife, and human health will be considered.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	The modified OEHHA Fish Contaminant Goal for dieldrin in fish tissue is 0.32 ppb. This screening level assumes an average body weight of 70 kg and a consumption rate of 32 g/day for a 30 year exposure over a 70-year lifetime. This constituent is a carcinogen therefore the risk level is set to one in a million. A cooking reduction factor of 1 is applied for skin-off fillets. (Klasing, S., and R. Brodberg, 2008)
Guideline Reference:	Development of Fish Contaminant Goals and Advisory Tissue Levels for Common Contaminants in California Sport Fish: Chlordane, DDTs, Dieldrin, Methylmercury, PCBs, Selenium, and Toxaphene
Spatial Representation:	Data for this assessment unit was collected by one monitoring project: (SWB_FishLk)
Temporal Representation:	Data was collected on a single day 7/17/2007.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	Samples were collected, processed, and analyzed in accordance with the methods described in Quality Assurance Project Plan "Screening Study of Bioaccumulation in California Lakes and Reservoirs." (SWAMP, 2008).
QAPP Information Reference(s):	Quality Assurance Project Plan Screening Study of Bioaccumulation in California Lakes and Reservoirs. Moss Landing Marine Labs. Prepared for SWAMP BOG, 49 pages plus appendices and attachments

Upper San Leandro Reservoir

LOE ID:	93298
Pollutant:	Dieldrin
LOE Subgroup:	Pollutant-Tissue
Matrix:	Tissue
Fraction:	Fish fillet
Beneficial Use:	Cold Freshwater Habitat
Number of Samples:	1
Number of Exceedances:	0
Data and Information Type:	Fish tissue analysis
Data Used to Assess Water Quality:	State Water Board staff assessed SWAMP data for Upper San Leandro Reservoir to determine beneficial use support and results are as follows: 0 of 1 samples exceed the criterion for Dieldrin. One composite (5 fish per composite) was generated from one species: Largemouth Bass. Details of the compositing protocol can be found in the March 2009 report entitled: "Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Study" (SWAMP, 2009).
Data Reference:	Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Survey. A Report of the Surface Water Ambient Monitoring Program (SWAMP). California State Water Resources Control Board, Sacramento, CA Cruise Report for the Surface Waters Ambient Monitoring Program (SWAMP) Bioaccumulation Screening Study in California Lakes and Reservoirs, Sampling Dates: June 2007- March 2008 Statewide Lakes Sportfish Contamination Study 2007 2008 Contaminants in Fish from California Lakes and Reservoirs, 2007-2008: Summary Report on a Two-Year Screening Survey
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	Water Quality Control Plan for the San Francisco Bay Basin: Controllable water quality factors shall not cause a detrimental increase in concentrations of toxic substances found in bottom sediments or aquatic life. Effects on aquatic organisms, wildlife, and human health will be considered.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	National Academy of Science guidelines (NAS 1972) establish a maximum Dieldrin concentration of 100 ug/Kg (wet weight) in tissue samples for protection of aquatic life from bioaccumulation of toxic substances.
Guideline Reference:	National Academy of Sciences. Water Quality Criteria 1972. EPA-R3-73-033. Washington, D.C.: U.S. Environmental Protection Agency
Spatial Representation:	Data for this assessment unit was collected by one monitoring project: (SWB_FishLk)
Temporal Representation:	Data was collected on a single day 7/17/2007.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	Samples were collected, processed, and analyzed in accordance with the methods described in Quality Assurance Project Plan "Screening Study of Bioaccumulation in California Lakes and Reservoirs." (SWAMP, 2008).
QAPP Information Reference(s):	Quality Assurance Project Plan Screening Study of Bioaccumulation in California Lakes and Reservoirs. Moss Landing Marine Labs. Prepared for SWAMP BOG, 49 pages plus appendices and attachments

Upper San Leandro Reservoir

LOE ID:	93297
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Pollutant:	Dieldrin
LOE Subgroup:	Pollutant-Tissue
Matrix:	Tissue
Fraction:	Fish fillet
Beneficial Use:	Warm Freshwater Habitat
Number of Samples:	1
Number of Exceedances:	0
Data and Information Type:	Fish tissue analysis
Data Used to Assess Water Quality:	State Water Board staff assessed SWAMP data for Upper San Leandro Reservoir to determine beneficial use support and results are as follows: 0 of 1 samples exceed the criterion for Dieldrin. One composite (5 fish per composite) was generated from one species: Largemouth Bass. Details of the compositing protocol can be found in the March 2009 report entitled: "Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Study" (SWAMP, 2009).
Data Reference:	Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Survey. A Report of the Surface Water Ambient Monitoring Program (SWAMP). California State Water Resources Control Board, Sacramento, CA Cruise Report for the Surface Waters Ambient Monitoring Program (SWAMP) Bioaccumulation Screening Study in California Lakes and Reservoirs, Sampling Dates: June 2007- March 2008 Statewide Lakes Sportfish Contamination Study 2007 2008 Contaminants in Fish from California Lakes and Reservoirs, 2007-2008: Summary Report on a Two-Year Screening Survey
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	Water Quality Control Plan for the San Francisco Bay Basin: Controllable water quality factors shall not cause a detrimental increase in concentrations of toxic substances found in bottom sediments or aquatic life. Effects on aquatic organisms, wildlife, and human health will be considered.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	National Academy of Science guidelines (NAS 1972) establish a maximum Dieldrin concentration of 100 ug/Kg (wet weight) in tissue samples for protection of aquatic life from bioaccumulation of toxic substances.
Guideline Reference:	National Academy of Sciences. Water Quality Criteria 1972. EPA-R3-73-033. Washington, D.C.: U.S. Environmental Protection Agency
Spatial Representation:	Data for this assessment unit was collected by one monitoring project: (SWB_FishLk)
Temporal Representation:	Data was collected on a single day 7/17/2007.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	Samples were collected, processed, and analyzed in accordance with the methods described in Quality Assurance Project Plan "Screening Study of Bioaccumulation in California Lakes and Reservoirs." (SWAMP, 2008).
QAPP Information Reference(s):	Quality Assurance Project Plan Screening Study of Bioaccumulation in California Lakes and Reservoirs. Moss Landing Marine Labs. Prepared for SWAMP BOG. 49 pages plus appendices and attachments

DECISION ID	65797	Region 2
Upper San Leandro Reservoir		

Pollutant:	Endosulfan
Final Listing Decision:	Do Not List on 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision:	New Decision
Revision Status	Revised
Impairment from Pollutant or Pollution:	Pollutant

**Regional Board Staff
Conclusion:**

This pollutant is being considered for placement on the CWA section 303(d) List under section 3.5 of the Listing Policy. Under section 3.5 a single line of evidence is necessary to assess listing status. Three lines of evidence are available in the administrative record to assess this pollutant. Zero of one sample exceeds the guidelines.

Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against placing this water segment-pollutant combination on the CWA section 303(d) List in the Water Quality Limited Segments category.

This conclusion is based on the staff findings that:

1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy.
2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy.
3. The one sample did not exceed the guideline and this sample size is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating. A minimum of 16 samples is needed to determine if a beneficial use is fully supported using table 3.1.
4. Pursuant to section 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.

**Regional Board Staff Decision
Recommendation:**

After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be placed on the section 303(d) list. The readily available data and information is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating.

**Line of Evidence (LOE) for Decision ID 65797, Endosulfan
Upper San Leandro Reservoir**

Region 2

LOE ID:	93300
Pollutant:	Endosulfan
LOE Subgroup:	Pollutant-Tissue
Matrix:	Tissue
Fraction:	Fish fillet
Beneficial Use:	Warm Freshwater Habitat
Number of Samples:	1
Number of Exceedances:	0
Data and Information Type:	Fish tissue analysis
Data Used to Assess Water Quality:	State Water Board staff assessed SWAMP data for Upper San Leandro Reservoir to determine beneficial use support and results are as follows: 0 of 1 samples exceed the criterion for Endosulfan I. One composite (5 fish per composite) was generated from one species: Largemouth Bass. Details of the compositing protocol can be found in the March 2009 report entitled: "Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Study" (SWAMP, 2009).
Data Reference:	Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Survey. A Report of the Surface Water Ambient Monitoring Program (SWAMP). California State Water Resources Control Board, Sacramento, CA Cruise Report for the Surface Waters Ambient Monitoring Program (SWAMP) Bioaccumulation Screening Study in California Lakes and Reservoirs, Sampling Dates: June 2007- March 2008 Statewide Lakes Sportfish Contamination Study 2007 2008 Contaminants in Fish from California Lakes and Reservoirs, 2007-2008: Summary Report on a Two-Year Screening Survey
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	Water Quality Control Plan for the San Francisco Bay Basin: Controllable water quality factors shall not cause a detrimental increase in concentrations of toxic substances found in bottom sediments or aquatic life. Effects on aquatic organisms, wildlife, and human

Objective/Criterion Reference:	health will be considered. Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	National Academy of Science guidelines (NAS 1972) establish a maximum Endosulfan, Total concentration of 100 ug/Kg (wet weight) in tissue samples for protection of aquatic life from bioaccumulation of toxic substances.
Guideline Reference:	National Academy of Sciences. Water Quality Criteria 1972. EPA-R3-73-033. Washington, D.C.: U.S. Environmental Protection Agency
Spatial Representation:	Data for this assessment unit was collected by one monitoring project: (SWB_FishLk)
Temporal Representation:	Data was collected on a single day 7/17/2007.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	Samples were collected, processed, and analyzed in accordance with the methods described in Quality Assurance Project Plan "Screening Study of Bioaccumulation in California Lakes and Reservoirs." (SWAMP, 2008).
QAPP Information Reference(s):	Quality Assurance Project Plan Screening Study of Bioaccumulation in California Lakes and Reservoirs. Moss Landing Marine Labs. Prepared for SWAMP BOG. 49 pages plus appendices and attachments

Line of Evidence (LOE) for Decision ID 65797, Endosulfan

Region 2

Upper San Leandro Reservoir

LOE ID:	93301
Pollutant:	Endosulfan
LOE Subgroup:	Pollutant-Tissue
Matrix:	Tissue
Fraction:	Fish fillet
Beneficial Use:	Cold Freshwater Habitat
Number of Samples:	1
Number of Exceedances:	0
Data and Information Type:	Fish tissue analysis
Data Used to Assess Water Quality:	State Water Board staff assessed SWAMP data for Upper San Leandro Reservoir to determine beneficial use support and results are as follows: 0 of 1 samples exceed the criterion for Endosulfan I. One composite (5 fish per composite) was generated from one species: Largemouth Bass. Details of the compositing protocol can be found in the March 2009 report entitled: "Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Study" (SWAMP, 2009).
Data Reference:	Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Survey. A Report of the Surface Water Ambient Monitoring Program (SWAMP). California State Water Resources Control Board, Sacramento, CA Cruise Report for the Surface Waters Ambient Monitoring Program (SWAMP) Bioaccumulation Screening Study in California Lakes and Reservoirs, Sampling Dates: June 2007- March 2008 Statewide Lakes Sportfish Contamination Study 2007 2008 Contaminants in Fish from California Lakes and Reservoirs, 2007-2008: Summary Report on a Two-Year Screening Survey
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	Water Quality Control Plan for the San Francisco Bay Basin: Controllable water quality factors shall not cause a detrimental increase in concentrations of toxic substances found in bottom sediments or aquatic life. Effects on aquatic organisms, wildlife, and human health will be considered.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	National Academy of Science guidelines (NAS 1972) establish a maximum Endosulfan, Total concentration of 100 ug/Kg (wet weight) in tissue samples for protection of aquatic life from bioaccumulation of toxic substances.

Guideline Reference:	National Academy of Sciences. Water Quality Criteria 1972. EPA-R3-73-033. Washington, D.C.: U.S. Environmental Protection Agency
Spatial Representation:	Data for this assessment unit was collected by one monitoring project: (SWB_FishLk)
Temporal Representation:	Data was collected on a single day 7/17/2007.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	Samples were collected, processed, and analyzed in accordance with the methods described in Quality Assurance Project Plan "Screening Study of Bioaccumulation in California Lakes and Reservoirs." (SWAMP, 2008).
QAPP Information Reference(s):	Quality Assurance Project Plan Screening Study of Bioaccumulation in California Lakes and Reservoirs. Moss Landing Marine Labs. Prepared for SWAMP BOG. 49 pages plus appendices and attachments

Line of Evidence (LOE) for Decision ID 65797, Endosulfan	Region 2
Upper San Leandro Reservoir	

LOE ID:	93302
Pollutant:	Endosulfan
LOE Subgroup:	Pollutant-Tissue
Matrix:	Tissue
Fraction:	Fish fillet
Beneficial Use:	Commercial or recreational collection of fish, shellfish, or organisms
Number of Samples:	1
Number of Exceedances:	0
Data and Information Type:	Fish tissue analysis
Data Used to Assess Water Quality:	State Water Board staff assessed SWAMP data for Upper San Leandro Reservoir to determine beneficial use support and results are as follows: 0 of 1 samples exceed the criterion for Endosulfan I. One composite (5 fish per composite) was generated from one species: Largemouth Bass. Details of the compositing protocol can be found in the March 2009 report entitled: "Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Study" (SWAMP, 2009).
Data Reference:	Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Survey. A Report of the Surface Water Ambient Monitoring Program (SWAMP). California State Water Resources Control Board, Sacramento, CA Cruise Report for the Surface Waters Ambient Monitoring Program (SWAMP) Bioaccumulation Screening Study in California Lakes and Reservoirs. Sampling Dates: June 2007- March 2008 Statewide Lakes Sportfish Contamination Study 2007 2008 Contaminants in Fish from California Lakes and Reservoirs, 2007-2008: Summary Report on a Two-Year Screening Survey
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	Water Quality Control Plan for the San Francisco Bay Basin: Controllable water quality factors shall not cause a detrimental increase in concentrations of toxic substances found in bottom sediments or aquatic life. Effects on aquatic organisms, wildlife, and human health will be considered.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	The modified OEHHA Fish Contaminant Goal for endosulfan (I and II) in fish tissue is 13,000 ppb. This screening level assumes an average body weight of 70 kg and a consumption rate of 32 g/day. A cooking reduction factor of 1 is applied for skin-off fillets. (Klasing, S., and R. Brodberg, 2008; USEPA, 2000)
Guideline Reference:	Development of Fish Contaminant Goals and Advisory Tissue Levels for Common Contaminants in California Sport Fish: Chlordane, DDTs, Dieldrin, Methylmercury, PCBs, Selenium, and Toxaphene Guidance for Assessing Chemical Contaminant Data for Use In Fish Advisories Volume 1: Fish Sampling and Analysis

Spatial Representation:	Data for this assessment unit was collected by one monitoring project: (SWB_FishLk)
Temporal Representation:	Data was collected on a single day 7/17/2007.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	Samples were collected, processed, and analyzed in accordance with the methods described in Quality Assurance Project Plan "Screening Study of Bioaccumulation in California Lakes and Reservoirs." (SWAMP, 2008).
QAPP Information Reference(s):	Quality Assurance Project Plan Screening Study of Bioaccumulation in California Lakes and Reservoirs. Moss Landing Marine Labs. Prepared for SWAMP BOG. 49 pages plus appendices and attachments

DECISION ID	65798	Region 2
Upper San Leandro Reservoir		

Pollutant: Final Listing Decision: Last Listing Cycle's Final Listing Decision: Revision Status Impairment from Pollutant or Pollution:	Endrin Do Not List on 303(d) list (TMDL required list) New Decision Revised Pollutant
Regional Board Staff Conclusion:	<p>This pollutant is being considered for placement on the CWA section 303(d) List under section 3.5 of the Listing Policy. Under section 3.5 a single line of evidence is necessary to assess listing status. Three lines of evidence are available in the administrative record to assess this pollutant. Zero of one sample exceeds the guidelines.</p> <p>Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against placing this water segment-pollutant combination on the CWA section 303(d) List in the Water Quality Limited Segments category.</p> <p>This conclusion is based on the staff findings that:</p> <ol style="list-style-type: none"> 1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy. 2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy. 3. The one sample did not exceed the guideline and this sample size is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating. A minimum of 16 samples is needed to determine if a beneficial use is fully supported using table 3.1. 4. Pursuant to section 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met. <p>After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be placed on the section 303(d) list. The readily available data and information is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating.</p>
Regional Board Staff Decision Recommendation:	<p>After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be placed on the section 303(d) list. The readily available data and information is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating.</p>

Line of Evidence (LOE) for Decision ID 65798, Endrin		Region 2
Upper San Leandro Reservoir		

LOE ID: Pollutant: LOE Subgroup: Matrix: Fraction: Beneficial Use: Number of Samples: Number of Exceedances:	93303 Endrin Pollutant-Tissue Tissue Fish fillet Warm Freshwater Habitat 1 0
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Data and Information Type:	Fish tissue analysis
Data Used to Assess Water Quality:	State Water Board staff assessed SWAMP data for Upper San Leandro Reservoir to determine beneficial use support and results are as follows: 0 of 1 samples exceed the criterion for Endrin. One composite (5 fish per composite) was generated from one species: Largemouth Bass. Details of the compositing protocol can be found in the March 2009 report entitled: "Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Study" (SWAMP, 2009).
Data Reference:	Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Survey. A Report of the Surface Water Ambient Monitoring Program (SWAMP). California State Water Resources Control Board, Sacramento, CA Cruise Report for the Surface Waters Ambient Monitoring Program (SWAMP) Bioaccumulation Screening Study in California Lakes and Reservoirs, Sampling Dates: June 2007- March 2008 Statewide Lakes Sportfish Contamination Study 2007 2008 Contaminants in Fish from California Lakes and Reservoirs, 2007-2008: Summary Report on a Two-Year Screening Survey
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	Water Quality Control Plan for the San Francisco Bay Basin: Controllable water quality factors shall not cause a detrimental increase in concentrations of toxic substances found in bottom sediments or aquatic life. Effects on aquatic organisms, wildlife, and human health will be considered.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	National Academy of Science guidelines (NAS 1972) establish a maximum Endrin concentration of 100 ug/Kg (wet weight) in tissue samples for protection of aquatic life from bioaccumulation of toxic substances.
Guideline Reference:	National Academy of Sciences. Water Quality Criteria 1972. EPA-R3-73-033. Washington, D.C.: U.S. Environmental Protection Agency
Spatial Representation:	Data for this assessment unit was collected by one monitoring project: (SWB_FishLk)
Temporal Representation:	Data was collected on a single day 7/17/2007.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	Samples were collected, processed, and analyzed in accordance with the methods described in Quality Assurance Project Plan "Screening Study of Bioaccumulation in California Lakes and Reservoirs." (SWAMP, 2008).
QAPP Information Reference(s):	Quality Assurance Project Plan Screening Study of Bioaccumulation in California Lakes and Reservoirs. Moss Landing Marine Labs. Prepared for SWAMP BOG, 49 pages plus appendices and attachments

Line of Evidence (LOE) for Decision ID 65798, Endrin	Region 2
Upper San Leandro Reservoir	

LOE ID:	93304
Pollutant:	Endrin
LOE Subgroup:	Pollutant-Tissue
Matrix:	Tissue
Fraction:	Fish fillet
Beneficial Use:	Cold Freshwater Habitat
Number of Samples:	1
Number of Exceedances:	0

Data and Information Type:	Fish tissue analysis
Data Used to Assess Water Quality:	State Water Board staff assessed SWAMP data for Upper San Leandro Reservoir to determine beneficial use support and results are as follows: 0 of 1 samples exceed the criterion for Endrin. One composite (5 fish per composite) was generated from one species: Largemouth Bass. Details of the compositing protocol can be found in the March

Data Reference:	2009 report entitled: "Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Study" (SWAMP, 2009). Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Survey. A Report of the Surface Water Ambient Monitoring Program (SWAMP). California State Water Resources Control Board, Sacramento, CA Cruise Report for the Surface Waters Ambient Monitoring Program (SWAMP) Bioaccumulation Screening Study in California Lakes and Reservoirs. Sampling Dates: June 2007- March 2008 Statewide Lakes Sportfish Contamination Study 2007 2008 Contaminants in Fish from California Lakes and Reservoirs, 2007-2008: Summary Report on a Two-Year Screening Survey
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	Water Quality Control Plan for the San Francisco Bay Basin: Controllable water quality factors shall not cause a detrimental increase in concentrations of toxic substances found in bottom sediments or aquatic life. Effects on aquatic organisms, wildlife, and human health will be considered.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	National Academy of Science guidelines (NAS 1972) establish a maximum Endrin concentration of 100 ug/Kg (wet weight) in tissue samples for protection of aquatic life from bioaccumulation of toxic substances.
Guideline Reference:	National Academy of Sciences. Water Quality Criteria 1972. EPA-R3-73-033. Washington, D.C.: U.S. Environmental Protection Agency
Spatial Representation:	Data for this assessment unit was collected by one monitoring project: (SWB_FishLk)
Temporal Representation:	Data was collected on a single day 7/17/2007.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	Samples were collected, processed, and analyzed in accordance with the methods described in Quality Assurance Project Plan "Screening Study of Bioaccumulation in California Lakes and Reservoirs." (SWAMP, 2008).
QAPP Information Reference(s):	Quality Assurance Project Plan Screening Study of Bioaccumulation in California Lakes and Reservoirs. Moss Landing Marine Labs. Prepared for SWAMP BOG. 49 pages plus appendices and attachments

Line of Evidence (LOE) for Decision ID 65798, Endrin

Region 2

Upper San Leandro Reservoir

LOE ID:	93305
Pollutant:	Endrin
LOE Subgroup:	Pollutant-Tissue
Matrix:	Tissue
Fraction:	Fish fillet
Beneficial Use:	Commercial or recreational collection of fish, shellfish, or organisms
Number of Samples:	1
Number of Exceedances:	0
Data and Information Type:	Fish tissue analysis
Data Used to Assess Water Quality:	State Water Board staff assessed SWAMP data for Upper San Leandro Reservoir to determine beneficial use support and results are as follows: 0 of 1 samples exceed the criterion for Endrin. One composite (5 fish per composite) was generated from one species: Largemouth Bass. Details of the compositing protocol can be found in the March 2009 report entitled: "Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Study" (SWAMP, 2009).
Data Reference:	Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Survey. A Report of the Surface Water Ambient Monitoring Program (SWAMP). California State Water Resources Control Board, Sacramento, CA Cruise Report for the Surface Waters Ambient Monitoring Program (SWAMP)

[Bioaccumulation Screening Study in California Lakes and Reservoirs, Sampling Dates: June 2007- March 2008](#)
[Statewide Lakes Sportfish Contamination Study 2007 2008](#)
[Contaminants in Fish from California Lakes and Reservoirs, 2007-2008: Summary Report on a Two-Year Screening Survey](#)

SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	Water Quality Control Plan for the San Francisco Bay Basin: Controllable water quality factors shall not cause a detrimental increase in concentrations of toxic substances found in bottom sediments or aquatic life. Effects on aquatic organisms, wildlife, and human health will be considered.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	The modified OEHHA Fish Contaminant Goal for endrin in fish tissue is 660 ppb. This screening level assumes an average body weight of 70 kg and a consumption rate of 32 g/day. A cooking reduction factor of 1 is applied for skin-off fillets. (Klasing, S., and R. Brodberg, 2008; USEPA, 2000)
Guideline Reference:	Development of Fish Contaminant Goals and Advisory Tissue Levels for Common Contaminants in California Sport Fish: Chlordane, DDTs, Dieldrin, Methylmercury, PCBs, Selenium, and Toxaphene Guidance for Assessing Chemical Contaminant Data for Use In Fish Advisories Volume 1: Fish Sampling and Analysis
Spatial Representation:	Data for this assessment unit was collected by one monitoring project: (SWB_FishLk)
Temporal Representation:	Data was collected on a single day 7/17/2007.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	Samples were collected, processed, and analyzed in accordance with the methods described in Quality Assurance Project Plan "Screening Study of Bioaccumulation in California Lakes and Reservoirs." (SWAMP, 2008).
QAPP Information Reference(s):	Quality Assurance Project Plan Screening Study of Bioaccumulation in California Lakes and Reservoirs. Moss Landing Marine Labs. Prepared for SWAMP BOG. 49 pages plus appendices and attachments

DECISION ID	65785	Region 2
Upper San Leandro Reservoir		

Pollutant:	Heptachlor
Final Listing Decision:	Do Not List on 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision:	New Decision
Revision Status	Revised
Impairment from Pollutant or Pollution:	Pollutant
Regional Board Staff Conclusion:	<p>This pollutant is being considered for placement on the CWA section 303(d) List under section 3.5 of the Listing Policy. Under section 3.5 a single line of evidence is necessary to assess listing status. Two lines of evidence are available in the administrative record to assess this pollutant.</p> <p>Zero of one sample exceeds the guideline. Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against placing this water segment-pollutant combination on the CWA section 303(d) List in the Water Quality Limited Segments category.</p> <p>This conclusion is based on the staff findings that:</p> <ol style="list-style-type: none"> 1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy. 2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy. 3. The one sample did not exceed the guideline and this sample size is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating. A minimum of 16 samples is needed to determine if a beneficial use is fully supported using table 3.1. 4. Pursuant to section 3.11 of the Listing Policy, no additional data and information are available

indicating that standards are not met.

Regional Board Staff Decision Recommendation: After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be placed on the section 303(d) list. The readily available data and information is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating.

**Line of Evidence (LOE) for Decision ID 65785, Heptachlor
Upper San Leandro Reservoir**

Region 2

LOE ID:	93307
Pollutant:	Heptachlor
LOE Subgroup:	Pollutant-Tissue
Matrix:	Tissue
Fraction:	Fish fillet
Beneficial Use:	Cold Freshwater Habitat
Number of Samples:	1
Number of Exceedances:	0
Data and Information Type:	Fish tissue analysis
Data Used to Assess Water Quality:	State Water Board staff assessed SWAMP data for Upper San Leandro Reservoir to determine beneficial use support and results are as follows: 0 of 1 samples exceed the criterion for Heptachlor. One composite (5 fish per composite) was generated from one species: Largemouth Bass. Details of the compositing protocol can be found in the March 2009 report entitled: "Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Study" (SWAMP, 2009).
Data Reference:	Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Survey. A Report of the Surface Water Ambient Monitoring Program (SWAMP). California State Water Resources Control Board, Sacramento, CA Cruise Report for the Surface Waters Ambient Monitoring Program (SWAMP) Bioaccumulation Screening Study in California Lakes and Reservoirs, Sampling Dates: June 2007- March 2008 Statewide Lakes Sportfish Contamination Study 2007 2008 Contaminants in Fish from California Lakes and Reservoirs, 2007-2008: Summary Report on a Two-Year Screening Survey
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	Water Quality Control Plan for the San Francisco Bay Basin: Controllable water quality factors shall not cause a detrimental increase in concentrations of toxic substances found in bottom sediments or aquatic life. Effects on aquatic organisms, wildlife, and human health will be considered.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	National Academy of Science guidelines (NAS 1972) establish a maximum Heptachlor concentration of 100 ug/Kg (wet weight) in tissue samples for protection of aquatic life from bioaccumulation of toxic substances.
Guideline Reference:	National Academy of Sciences. Water Quality Criteria 1972. EPA-R3-73-033. Washington, D.C.: U.S. Environmental Protection Agency
Spatial Representation:	Data for this assessment unit was collected by one monitoring project: (SWB_FishLk)
Temporal Representation:	Data was collected on a single day 7/17/2007.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	Samples were collected, processed, and analyzed in accordance with the methods described in Quality Assurance Project Plan "Screening Study of Bioaccumulation in California Lakes and Reservoirs." (SWAMP, 2008).
QAPP Information Reference(s):	Quality Assurance Project Plan Screening Study of Bioaccumulation in California Lakes and Reservoirs. Moss Landing Marine Labs. Prepared for SWAMP BOG, 49 pages plus

Line of Evidence (LOE) for Decision ID 65785, Heptachlor**Region 2****Upper San Leandro Reservoir**

LOE ID:	93306
Pollutant:	Heptachlor
LOE Subgroup:	Pollutant-Tissue
Matrix:	Tissue
Fraction:	Fish fillet
Beneficial Use:	Warm Freshwater Habitat
Number of Samples:	1
Number of Exceedances:	0
Data and Information Type:	Fish tissue analysis
Data Used to Assess Water Quality:	State Water Board staff assessed SWAMP data for Upper San Leandro Reservoir to determine beneficial use support and results are as follows: 0 of 1 samples exceed the criterion for Heptachlor. One composite (5 fish per composite) was generated from one species: Largemouth Bass. Details of the compositing protocol can be found in the March 2009 report entitled: "Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Study" (SWAMP, 2009).
Data Reference:	Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Survey. A Report of the Surface Water Ambient Monitoring Program (SWAMP). California State Water Resources Control Board, Sacramento, CA Cruise Report for the Surface Waters Ambient Monitoring Program (SWAMP) Bioaccumulation Screening Study in California Lakes and Reservoirs, Sampling Dates: June 2007- March 2008 Statewide Lakes Sportfish Contamination Study 2007 2008 Contaminants in Fish from California Lakes and Reservoirs, 2007-2008: Summary Report on a Two-Year Screening Survey
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	Water Quality Control Plan for the San Francisco Bay Basin: Controllable water quality factors shall not cause a detrimental increase in concentrations of toxic substances found in bottom sediments or aquatic life. Effects on aquatic organisms, wildlife, and human health will be considered.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	National Academy of Science guidelines (NAS 1972) establish a maximum Heptachlor concentration of 100 ug/Kg (wet weight) in tissue samples for protection of aquatic life from bioaccumulation of toxic substances.
Guideline Reference:	National Academy of Sciences. Water Quality Criteria 1972. EPA-R3-73-033. Washington, D.C.: U.S. Environmental Protection Agency
Spatial Representation:	Data for this assessment unit was collected by one monitoring project: (SWB_FishLk)
Temporal Representation:	Data was collected on a single day 7/17/2007.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	Samples were collected, processed, and analyzed in accordance with the methods described in Quality Assurance Project Plan "Screening Study of Bioaccumulation in California Lakes and Reservoirs." (SWAMP, 2008).
QAPP Information Reference(s):	Quality Assurance Project Plan Screening Study of Bioaccumulation in California Lakes and Reservoirs. Moss Landing Marine Labs. Prepared for SWAMP BOG. 49 pages plus appendices and attachments

DECISION ID 65799**Region 2****Upper San Leandro Reservoir**

Pollutant:	Heptachlor epoxide
Final Listing Decision:	Do Not List on 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision:	New Decision
Revision Status	Revised
Impairment from Pollutant or Pollution:	Pollutant

Regional Board Staff Conclusion:

This pollutant is being considered for placement on the CWA section 303(d) List under section 3.5 of the Listing Policy. Under section 3.5 a single line of evidence is necessary to assess listing status. Three lines of evidence are available in the administrative record to assess this pollutant. Zero of one sample exceeds the guideline for aquatic life. It is unknown if the one sample exceeds the human health guideline since the result could not be quantified.

Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against placing this water segment-pollutant combination on the CWA section 303(d) List in the Water Quality Limited Segments category.

This conclusion is based on the staff findings that:

1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy.
2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy.
3. The one sample did not exceed the guideline for aquatic life. It is unknown if the human health guideline was exceeded. The sample size is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating. A minimum of 16 samples is needed to determine if a beneficial use is fully supported using table 3.1.
4. Pursuant to section 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.

Regional Board Staff Decision Recommendation:

After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be placed on the section 303(d) list. The readily available data and information is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating.

**Line of Evidence (LOE) for Decision ID 65799, Heptachlor epoxide
Upper San Leandro Reservoir**

Region 2

LOE ID:	93309
Pollutant:	Heptachlor epoxide
LOE Subgroup:	Pollutant-Tissue
Matrix:	Tissue
Fraction:	Fish fillet
Beneficial Use:	Cold Freshwater Habitat
Number of Samples:	1
Number of Exceedances:	0
Data and Information Type:	Fish tissue analysis
Data Used to Assess Water Quality:	State Water Board staff assessed SWAMP data for Upper San Leandro Reservoir to determine beneficial use support and results are as follows: 0 of 1 samples exceed the criterion for Heptachlor epoxide. One composite (5 fish per composite) was generated from one species: Largemouth Bass. Details of the compositing protocol can be found in the March 2009 report entitled: "Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Study" (SWAMP, 2009).
Data Reference:	Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Survey. A Report of the Surface Water Ambient Monitoring Program (SWAMP). California State Water Resources Control Board, Sacramento, CA Cruise Report for the Surface Waters Ambient Monitoring Program (SWAMP)

[Bioaccumulation Screening Study in California Lakes and Reservoirs, Sampling Dates: June 2007- March 2008](#)
[Statewide Lakes Sportfish Contamination Study 2007 2008](#)
[Contaminants in Fish from California Lakes and Reservoirs, 2007-2008: Summary Report on a Two-Year Screening Survey](#)

SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	Water Quality Control Plan for the San Francisco Bay Basin: Controllable water quality factors shall not cause a detrimental increase in concentrations of toxic substances found in bottom sediments or aquatic life. Effects on aquatic organisms, wildlife, and human health will be considered.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	National Academy of Science guidelines (NAS 1972) establish a maximum Heptachlor Epoxide concentration of 100 ug/Kg (wet weight) in tissue samples for protection of aquatic life from bioaccumulation of toxic substances.
Guideline Reference:	National Academy of Sciences. Water Quality Criteria 1972. EPA-R3-73-033. Washington, D.C.: U.S. Environmental Protection Agency
Spatial Representation:	Data for this assessment unit was collected by one monitoring project: (SWB_FishLk)
Temporal Representation:	Data was collected on a single day 7/17/2007.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	Samples were collected, processed, and analyzed in accordance with the methods described in Quality Assurance Project Plan "Screening Study of Bioaccumulation in California Lakes and Reservoirs." (SWAMP, 2008).
QAPP Information Reference(s):	Quality Assurance Project Plan Screening Study of Bioaccumulation in California Lakes and Reservoirs. Moss Landing Marine Labs. Prepared for SWAMP BOG, 49 pages plus appendices and attachments

**Line of Evidence (LOE) for Decision ID 65799, Heptachlor epoxide
Upper San Leandro Reservoir**

Region 2

LOE ID:	93308
Pollutant:	Heptachlor epoxide
LOE Subgroup:	Pollutant-Tissue
Matrix:	Tissue
Fraction:	Fish fillet
Beneficial Use:	Warm Freshwater Habitat
Number of Samples:	1
Number of Exceedances:	0
Data and Information Type:	Fish tissue analysis
Data Used to Assess Water Quality:	State Water Board staff assessed SWAMP data for Upper San Leandro Reservoir to determine beneficial use support and results are as follows: 0 of 1 samples exceed the criterion for Heptachlor epoxide. One composite (5 fish per composite) was generated from one species: Largemouth Bass. Details of the compositing protocol can be found in the March 2009 report entitled: "Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Study" (SWAMP, 2009).
Data Reference:	Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Survey. A Report of the Surface Water Ambient Monitoring Program (SWAMP). California State Water Resources Control Board, Sacramento, CA Cruise Report for the Surface Waters Ambient Monitoring Program (SWAMP) Bioaccumulation Screening Study in California Lakes and Reservoirs, Sampling Dates: June 2007- March 2008 Statewide Lakes Sportfish Contamination Study 2007 2008 Contaminants in Fish from California Lakes and Reservoirs, 2007-2008: Summary Report on a Two-Year Screening Survey

SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	Water Quality Control Plan for the San Francisco Bay Basin: Controllable water quality factors shall not cause a detrimental increase in concentrations of toxic substances found in bottom sediments or aquatic life. Effects on aquatic organisms, wildlife, and human health will be considered.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	National Academy of Science guidelines (NAS 1972) establish a maximum Heptachlor Epoxide concentration of 100 ug/Kg (wet weight) in tissue samples for protection of aquatic life from bioaccumulation of toxic substances.
Guideline Reference:	National Academy of Sciences. Water Quality Criteria 1972. EPA-R3-73-033. Washington, D.C.: U.S. Environmental Protection Agency
Spatial Representation:	Data for this assessment unit was collected by one monitoring project: (SWB_FishLk)
Temporal Representation:	Data was collected on a single day 7/17/2007.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	Samples were collected, processed, and analyzed in accordance with the methods described in Quality Assurance Project Plan "Screening Study of Bioaccumulation in California Lakes and Reservoirs." (SWAMP, 2008).
QAPP Information Reference(s):	Quality Assurance Project Plan Screening Study of Bioaccumulation in California Lakes and Reservoirs. Moss Landing Marine Labs. Prepared for SWAMP BOG. 49 pages plus appendices and attachments

**Line of Evidence (LOE) for Decision ID 65799, Heptachlor epoxide
Upper San Leandro Reservoir**

Region 2

LOE ID:	93262
Pollutant:	Heptachlor epoxide
LOE Subgroup:	Pollutant-Tissue
Matrix:	Tissue
Fraction:	Fish fillet
Beneficial Use:	Commercial or recreational collection of fish, shellfish, or organisms
Number of Samples:	0
Number of Exceedances:	0
Data and Information Type:	Fish tissue analysis
Data Used to Assess Water Quality:	State Water Board staff assessed SWAMP data for Upper San Leandro Reservoir to determine beneficial use support and results are as follows: 0 of 0 samples exceed the criterion for Heptachlor epoxide. One composite (5 fish per composite) was generated from one species: Largemouth Bass. Details of the compositing protocol can be found in the March 2009 report entitled: "Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Study" (SWAMP, 2009). One composite was not used in the assessment because the laboratory data reporting limit(s) was above the objective and therefore the results could not be quantified with the level of certainty required by the Listing Policy.
Data Reference:	Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Survey. A Report of the Surface Water Ambient Monitoring Program (SWAMP). California State Water Resources Control Board, Sacramento, CA Cruise Report for the Surface Waters Ambient Monitoring Program (SWAMP) Bioaccumulation Screening Study in California Lakes and Reservoirs. Sampling Dates: June 2007- March 2008 Statewide Lakes Sportfish Contamination Study 2007 2008 Contaminants in Fish from California Lakes and Reservoirs, 2007-2008: Summary Report on a Two-Year Screening Survey
SWAMP Data:	SWAMP

Water Quality Objective/Criterion:	Water Quality Control Plan for the San Francisco Bay Basin: Controllable water quality factors shall not cause a detrimental increase in concentrations of toxic substances found in bottom sediments or aquatic life. Effects on aquatic organisms, wildlife, and human health will be considered.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	The modified OEHHA Fish Contaminant Goal for heptachlor epoxide in fish tissue is 0.93 ppb. This screening level assumes an average body weight of 70 kg and a consumption rate of 32 g/day for a 30 year exposure over a 70-year lifetime. This constituent is a carcinogen therefore the risk level is set to one in a million. A cooking reduction factor of 1 is applied for skin-off fillets. (Klasing, S., and R. Brodberg, 2008; OEHHA, 1999)
Guideline Reference:	Development of Fish Contaminant Goals and Advisory Tissue Levels for Common Contaminants in California Sport Fish: Chlordane, DDTs, Dieldrin, Methylmercury, PCBs, Selenium, and Toxaphene Public Health Goal for Heptachlor and Heptachlor Epoxide in Drinking Water
Spatial Representation:	Data for this assessment unit was collected by one monitoring project: (SWB_FishLk)
Temporal Representation:	Data was collected on a single day 7/17/2007.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	Samples were collected, processed, and analyzed in accordance with the methods described in Quality Assurance Project Plan "Screening Study of Bioaccumulation in California Lakes and Reservoirs." (SWAMP, 2008).
QAPP Information Reference(s):	Quality Assurance Project Plan Screening Study of Bioaccumulation in California Lakes and Reservoirs. Moss Landing Marine Labs. Prepared for SWAMP BOG. 49 pages plus appendices and attachments

DECISION ID	65807	Region 2
Upper San Leandro Reservoir		
Pollutant:	Hexachlorobenzene/ HCB	
Final Listing Decision:	Do Not List on 303(d) list (TMDL required list)	
Last Listing Cycle's Final Listing Decision:	New Decision	
Revision Status	Revised	
Impairment from Pollutant or Pollution:	Pollutant	
Regional Board Staff Conclusion:	<p>This pollutant is being considered for placement on the CWA section 303(d) List under section 3.5 of the Listing Policy. Under section 3.5 a single line of evidence is necessary to assess listing status. One line of evidence are available in the administrative record to assess this pollutant.</p> <p>Zero of one sample exceeds the guideline. Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against placing this water segment-pollutant combination on the CWA section 303(d) List in the Water Quality Limited Segments category.</p> <p>This conclusion is based on the staff findings that:</p> <ol style="list-style-type: none"> 1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy. 2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy. 3. The one sample did not exceed the guideline and this sample size is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating. A minimum of 16 samples is needed to determine if a beneficial use is fully supported using table 3.1. 4. Pursuant to section 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met. 	
Regional Board Staff Decision Recommendation:	After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be placed on the section 303(d) list. The readily available data and information is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating.	

Upper San Leandro Reservoir

LOE ID:	93263
Pollutant:	Hexachlorobenzene/ HCB
LOE Subgroup:	Pollutant-Tissue
Matrix:	Tissue
Fraction:	Fish fillet
Beneficial Use:	Commercial or recreational collection of fish, shellfish, or organisms
Number of Samples:	1
Number of Exceedances:	0
Data and Information Type:	Fish tissue analysis
Data Used to Assess Water Quality:	State Water Board staff assessed SWAMP data for Upper San Leandro Reservoir to determine beneficial use support and results are as follows: 0 of 1 samples exceed the criterion for Hexachlorobenzene. One composite (5 fish per composite) was generated from one species: Largemouth Bass. Details of the compositing protocol can be found in the March 2009 report entitled: "Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Study" (SWAMP, 2009).
Data Reference:	Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Survey. A Report of the Surface Water Ambient Monitoring Program (SWAMP). California State Water Resources Control Board, Sacramento, CA Cruise Report for the Surface Waters Ambient Monitoring Program (SWAMP) Bioaccumulation Screening Study in California Lakes and Reservoirs, Sampling Dates: June 2007- March 2008 Statewide Lakes Sportfish Contamination Study 2007 2008 Contaminants in Fish from California Lakes and Reservoirs, 2007-2008: Summary Report on a Two-Year Screening Survey
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	Water Quality Control Plan for the San Francisco Bay Basin: Controllable water quality factors shall not cause a detrimental increase in concentrations of toxic substances found in bottom sediments or aquatic life. Effects on aquatic organisms, wildlife, and human health will be considered.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	The modified OEHHA Fish Contaminant Goal for hexachlorobenzene in fish tissue is 2.8 ppb. This screening level assumes an average body weight of 70 kg and a consumption rate of 32 g/day for a 30 year exposure over a 70-year lifetime. This constituent is a carcinogen therefore the risk level is set to one in a million. A cooking reduction factor of 1 is applied for skin-off fillets. (Klasing, S., and R. Brodberg, 2008; OEHHA, 2005)
Guideline Reference:	Development of Fish Contaminant Goals and Advisory Tissue Levels for Common Contaminants in California Sport Fish: Chlordane, DDTs, Dieldrin, Methylmercury, PCBs, Selenium, and Toxaphene Air Toxics Hotspots Program Risk Assessment Guidelines. Part II Technical Support Document for Describing Available Cancer Potency Values.
Spatial Representation:	Data for this assessment unit was collected by one monitoring project: (SWB_FishLk)
Temporal Representation:	Data was collected on a single day 7/17/2007.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	Samples were collected, processed, and analyzed in accordance with the methods described in Quality Assurance Project Plan "Screening Study of Bioaccumulation in California Lakes and Reservoirs." (SWAMP, 2008).
QAPP Information Reference(s):	Quality Assurance Project Plan Screening Study of Bioaccumulation in California Lakes and Reservoirs. Moss Landing Marine Labs. Prepared for SWAMP BOG. 49 pages plus appendices and attachments

Pollutant: Lindane/gamma Hexachlorocyclohexane (gamma-HCH)
Final Listing Decision: Do Not List on 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision: New Decision
Revision Status: Revised
Impairment from Pollutant or Pollution: Pollutant

Regional Board Staff Conclusion: This pollutant is being considered for placement on the CWA section 303(d) List under section 3.5 of the Listing Policy. Under section 3.5 a single line of evidence is necessary to assess listing status. Three lines of evidence are available in the administrative record to assess this pollutant. Zero of one sample exceeds the guidelines.

Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against placing this water segment-pollutant combination on the CWA section 303(d) List in the Water Quality Limited Segments category.

This conclusion is based on the staff findings that:

1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy.
2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy.
3. The one sample did not exceed the guideline and this sample size is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating. A minimum of 16 samples is needed to determine if a beneficial use is fully supported using table 3.1.
4. Pursuant to section 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.

Regional Board Staff Decision Recommendation: After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be placed on the section 303(d) list. The readily available data and information is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating.

Line of Evidence (LOE) for Decision ID 65809, Lindane/gamma Hexachlorocyclohexane (gamma-HCH)	Region 2
Upper San Leandro Reservoir	

LOE ID: 93264
Pollutant: Lindane/gamma Hexachlorocyclohexane (gamma-HCH)
LOE Subgroup: Pollutant-Tissue
Matrix: Tissue
Fraction: Fish fillet
Beneficial Use: Warm Freshwater Habitat
Number of Samples: 1
Number of Exceedances: 0
Data and Information Type: Fish tissue analysis
Data Used to Assess Water Quality: State Water Board staff assessed SWAMP data for Upper San Leandro Reservoir to determine beneficial use support and results are as follows: 0 of 1 samples exceed the criterion for HCH, gamma. One composite (5 fish per composite) was generated from one species: Largemouth Bass. Details of the compositing protocol can be found in the March 2009 report entitled: "Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Study" (SWAMP, 2009).
Data Reference: [Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Survey. A Report of the Surface Water Ambient Monitoring](#)

[Program \(SWAMP\). California State Water Resources Control Board, Sacramento, CA](#)
[Cruise Report for the Surface Waters Ambient Monitoring Program \(SWAMP\)](#)
[Bioaccumulation Screening Study in California Lakes and Reservoirs. Sampling Dates: June 2007- March 2008](#)
[Statewide Lakes Sportfish Contamination Study 2007 2008](#)
[Contaminants in Fish from California Lakes and Reservoirs, 2007-2008: Summary Report on a Two-Year Screening Survey](#)

SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	Water Quality Control Plan for the San Francisco Bay Basin: Controllable water quality factors shall not cause a detrimental increase in concentrations of toxic substances found in bottom sediments or aquatic life. Effects on aquatic organisms, wildlife, and human health will be considered.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	The modified OEHHA Fish Contaminant Goal for lindane in fish tissue is 4.6 ppb. This screening level assumes an average body weight of 70 kg and a consumption rate of 32 g/day for a 30 year exposure over a 70-year lifetime. This constituent is a carcinogen therefore the risk level is set to one in a million. A cooking reduction factor of 1 is applied for skin-off fillets. (Klasing, S., and R. Brodberg, 2008; OEHHA, 2005)
Guideline Reference:	National Academy of Sciences. Water Quality Criteria 1972. EPA-R3-73-033. Washington, D.C.: U.S. Environmental Protection Agency
Spatial Representation:	Data for this assessment unit was collected by one monitoring project: (SWB_FishLk)
Temporal Representation:	Data was collected on a single day 7/17/2007.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	Samples were collected, processed, and analyzed in accordance with the methods described in Quality Assurance Project Plan "Screening Study of Bioaccumulation in California Lakes and Reservoirs." (SWAMP, 2008).
QAPP Information Reference(s):	Quality Assurance Project Plan Screening Study of Bioaccumulation in California Lakes and Reservoirs. Moss Landing Marine Labs. Prepared for SWAMP BOG. 49 pages plus appendices and attachments

Line of Evidence (LOE) for Decision ID 65809, Lindane/gamma Hexachlorocyclohexane (gamma-HCH)

Region 2

Upper San Leandro Reservoir

LOE ID:	93267
Pollutant:	Lindane/gamma Hexachlorocyclohexane (gamma-HCH)
LOE Subgroup:	Pollutant-Tissue
Matrix:	Tissue
Fraction:	Fish fillet
Beneficial Use:	Commercial or recreational collection of fish, shellfish, or organisms
Number of Samples:	1
Number of Exceedances:	0
Data and Information Type:	Fish tissue analysis
Data Used to Assess Water Quality:	State Water Board staff assessed SWAMP data for Upper San Leandro Reservoir to determine beneficial use support and results are as follows: 0 of 1 samples exceed the criterion for HCH, gamma. One composite (5 fish per composite) was generated from one species: Largemouth Bass. Details of the compositing protocol can be found in the March 2009 report entitled: "Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Study" (SWAMP, 2009).
Data Reference:	Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Survey. A Report of the Surface Water Ambient Monitoring Program (SWAMP). California State Water Resources Control Board, Sacramento, CA Cruise Report for the Surface Waters Ambient Monitoring Program (SWAMP) Bioaccumulation Screening Study in California Lakes and Reservoirs. Sampling Dates:

[June 2007- March 2008](#)

[Statewide Lakes Sportfish Contamination Study 2007 2008](#)

[Contaminants in Fish from California Lakes and Reservoirs, 2007-2008: Summary Report on a Two-Year Screening Survey](#)

SWAMP Data:

SWAMP

Water Quality Objective/Criterion:

Water Quality Control Plan for the San Francisco Bay Basin: Controllable water quality factors shall not cause a detrimental increase in concentrations of toxic substances found in bottom sediments or aquatic life. Effects on aquatic organisms, wildlife, and human health will be considered.

Objective/Criterion Reference:

[Water Quality Control Plan \(Basin Plan\) San Francisco Bay Basin \(Region 2\)](#)

Evaluation Guideline:

The modified OEHHA Fish Contaminant Goal for lindane in fish tissue is 4.6 ppb. This screening level assumes an average body weight of 70 kg and a consumption rate of 32 g/day for a 30 year exposure over a 70-year lifetime. This constituent is a carcinogen therefore the risk level is set to one in a million. A cooking reduction factor of 1 is applied for skin-off fillets.

Guideline Reference:

[Development of Fish Contaminant Goals and Advisory Tissue Levels for Common Contaminants in California Sport Fish: Chlordane, DDTs, Dieldrin, Methylmercury, PCBs, Selenium, and Toxaphene](#)
[Air Toxics Hotspots Program Risk Assessment Guidelines. Part II Technical Support Document for Describing Available Cancer Potency Values.](#)

Spatial Representation:

Data for this assessment unit was collected by one monitoring project: (SWB_FishLk)

Temporal Representation:

Data was collected on a single day 7/17/2007.

Environmental Conditions:

Staff is not aware of any special conditions that might affect interpretation of the data.

QAPP Information:

Samples were collected, processed, and analyzed in accordance with the methods described in Quality Assurance Project Plan "Screening Study of Bioaccumulation in California Lakes and Reservoirs." (SWAMP, 2008).

QAPP Information Reference(s):

[Quality Assurance Project Plan Screening Study of Bioaccumulation in California Lakes and Reservoirs. Moss Landing Marine Labs. Prepared for SWAMP BOG. 49 pages plus appendices and attachments](#)

Line of Evidence (LOE) for Decision ID 65809, Lindane/gamma Hexachlorocyclohexane (gamma-HCH)

Region 2

Upper San Leandro Reservoir

LOE ID:

93268

Pollutant:

Lindane/gamma Hexachlorocyclohexane (gamma-HCH)

LOE Subgroup:

Pollutant-Tissue

Matrix:

Tissue

Fraction:

Fish fillet

Beneficial Use:

Cold Freshwater Habitat

Number of Samples:

1

Number of Exceedances:

0

Data and Information Type:

Fish tissue analysis

Data Used to Assess Water Quality:

State Water Board staff assessed SWAMP data for Upper San Leandro Reservoir to determine beneficial use support and results are as follows: 0 of 1 samples exceed the criterion for HCH, gamma. One composite (5 fish per composite) was generated from one species: Largemouth Bass. Details of the compositing protocol can be found in the March 2009 report entitled: "Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Study" (SWAMP, 2009).

Data Reference:

[Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Survey. A Report of the Surface Water Ambient Monitoring Program \(SWAMP\). California State Water Resources Control Board, Sacramento, CA](#)
[Cruise Report for the Surface Waters Ambient Monitoring Program \(SWAMP\)](#)
[Bioaccumulation Screening Study in California Lakes and Reservoirs, Sampling Dates:](#)

SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	Water Quality Control Plan for the San Francisco Bay Basin: Controllable water quality factors shall not cause a detrimental increase in concentrations of toxic substances found in bottom sediments or aquatic life. Effects on aquatic organisms, wildlife, and human health will be considered.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	The modified OEHHA Fish Contaminant Goal for lindane in fish tissue is 4.6 ppb. This screening level assumes an average body weight of 70 kg and a consumption rate of 32 g/day for a 30 year exposure over a 70-year lifetime. This constituent is a carcinogen therefore the risk level is set to one in a million. A cooking reduction factor of 1 is applied for skin-off fillets. (Klasing, S., and R. Brodberg, 2008; OEHHA, 2005)
Guideline Reference:	National Academy of Sciences. Water Quality Criteria 1972. EPA-R3-73-033. Washington, D.C.: U.S. Environmental Protection Agency
Spatial Representation:	Data for this assessment unit was collected by one monitoring project: (SWB_FishLk)
Temporal Representation:	Data was collected on a single day 7/17/2007.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	Samples were collected, processed, and analyzed in accordance with the methods described in Quality Assurance Project Plan "Screening Study of Bioaccumulation in California Lakes and Reservoirs." (SWAMP, 2008).
QAPP Information Reference(s):	Quality Assurance Project Plan Screening Study of Bioaccumulation in California Lakes and Reservoirs. Moss Landing Marine Labs. Prepared for SWAMP BOG, 49 pages plus appendices and attachments

DECISION ID	65810	Region 2
Upper San Leandro Reservoir		

Pollutant:	Mirex
Final Listing Decision:	Do Not List on 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision:	New Decision
Revision Status	Revised
Impairment from Pollutant or Pollution:	Pollutant

Regional Board Staff Conclusion: This pollutant is being considered for placement on the CWA section 303(d) List under section 3.5 of the Listing Policy. Under section 3.5 a single line of evidence is necessary to assess listing status. One line of evidence is available in the administrative record to assess this pollutant.

Zero of zero sample exceeds the guideline. It is unknown if the one sample exceeds the human health guideline since the result could not be quantified. Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against placing this water segment-pollutant combination on the CWA section 303(d) List in the Water Quality Limited Segments category.

This conclusion is based on the staff findings that:

1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy.
2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy.
3. It is not known if the sample exceeds the guideline. This sample size is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating. A minimum of 16 samples is needed to determine if a beneficial use is fully supported using table 3.1.
4. Pursuant to section 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.

Regional Board Staff Decision Recommendation: After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be placed on the section 303(d) list. The readily available data and information is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating.

**Line of Evidence (LOE) for Decision ID 65810, Mirex
Upper San Leandro Reservoir**

Region 2

LOE ID:	93273
Pollutant:	Mirex
LOE Subgroup:	Pollutant-Tissue
Matrix:	Tissue
Fraction:	Fish fillet
Beneficial Use:	Commercial or recreational collection of fish, shellfish, or organisms
Number of Samples:	0
Number of Exceedances:	0
Data and Information Type:	Fish tissue analysis
Data Used to Assess Water Quality:	State Water Board staff assessed SWAMP data for Upper San Leandro Reservoir to determine beneficial use support and results are as follows: 0 of 0 samples exceed the criterion for Mirex. One composite (5 fish per composite) was generated from one species: Largemouth Bass. Details of the compositing protocol can be found in the March 2009 report entitled: "Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Study" (SWAMP, 2009). One composite was not used in the assessment because the laboratory data reporting limit(s) was above the objective and therefore the results could not be quantified with the level of certainty required by the Listing Policy.
Data Reference:	Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Survey. A Report of the Surface Water Ambient Monitoring Program (SWAMP). California State Water Resources Control Board, Sacramento, CA Cruise Report for the Surface Waters Ambient Monitoring Program (SWAMP) Bioaccumulation Screening Study in California Lakes and Reservoirs. Sampling Dates: June 2007- March 2008 Statewide Lakes Sportfish Contamination Study 2007 2008 Contaminants in Fish from California Lakes and Reservoirs, 2007-2008: Summary Report on a Two-Year Screening Survey
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	Water Quality Control Plan for the San Francisco Bay Basin: Controllable water quality factors shall not cause a detrimental increase in concentrations of toxic substances found in bottom sediments or aquatic life. Effects on aquatic organisms, wildlife, and human health will be considered.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	The modified OEHHA Fish Contaminant Goal for mirex in fish tissue is 0.28 ppb. This screening level assumes an average body weight of 70 kg and a consumption rate of 32 g/day. A cooking reduction factor of 1 is applied for skin-off fillets. (Klasing, S., and R. Brodberg, 2008; OEHHA, 1992)
Guideline Reference:	Development of Fish Contaminant Goals and Advisory Tissue Levels for Common Contaminants in California Sport Fish: Chlordane, DDTs, Dieldrin, Methylmercury, PCBs, Selenium, and Toxaphene Expedited Cancer Potency Values and Proposed Regulatory Levels for Certain Proposition 65 Carcinogens.
Spatial Representation:	Data for this assessment unit was collected by one monitoring project: (SWB_FishLk)
Temporal Representation:	Data was collected on a single day 7/17/2007.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.

QAPP Information: Samples were collected, processed, and analyzed in accordance with the methods described in Quality Assurance Project Plan "Screening Study of Bioaccumulation in California Lakes and Reservoirs." (SWAMP, 2008).

QAPP Information Reference(s): [Quality Assurance Project Plan Screening Study of Bioaccumulation in California Lakes and Reservoirs. Moss Landing Marine Labs. Prepared for SWAMP BOG. 49 pages plus appendices and attachments](#)

DECISION ID	65819	Region 2
Upper San Leandro Reservoir		

Pollutant: PCBs (Polychlorinated biphenyls)
Final Listing Decision: Do Not List on 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision: New Decision
Revision Status: Revised
Impairment from Pollutant or Pollution: Pollutant

Regional Board Staff Conclusion: This pollutant is being considered for placement on the CWA section 303(d) List under section 3.5 of the Listing Policy. Under section 3.5 a single line of evidence is necessary to assess listing status. Three lines of evidence are available in the administrative record to assess this pollutant. Zero of one sample exceeds the guideline for aquatic life. One of one sample exceeds the guideline for human health.

Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against placing this water segment-pollutant combination on the CWA section 303(d) List in the Water Quality Limited Segments category.

This conclusion is based on the staff findings that:

1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy.
2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy.
3. One sample did exceed the human health guideline and this sample size is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating. A minimum of 16 samples is needed to determine if a beneficial use is fully supported using table 3.1.
4. Pursuant to section 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.

Regional Board Staff Decision Recommendation: After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be placed on the section 303(d) list. The readily available data and information is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating.

Line of Evidence (LOE) for Decision ID 65819, PCBs (Polychlorinated biphenyls)	Region 2
Upper San Leandro Reservoir	

LOE ID: 93275

Pollutant: PCBs (Polychlorinated biphenyls)
LOE Subgroup: Pollutant-Tissue
Matrix: Tissue
Fraction: Fish fillet

Beneficial Use: Cold Freshwater Habitat

Number of Samples: 1
Number of Exceedances: 0

Data and Information Type:	Fish tissue analysis
Data Used to Assess Water Quality:	State Water Board staff assessed SWAMP data for Upper San Leandro Reservoir to determine beneficial use support and results are as follows: 0 of 1 samples exceed the criterion for PCB, Total. One composite (5 fish per composite) was generated from one species: Largemouth Bass. Details of the compositing protocol can be found in the March 2009 report entitled: "Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Study" (SWAMP, 2009). Total PCB was assessed for as follows: PCB aroclors and congeners were summed separately and the sum that yielded the highest value was used for the assessment.
Data Reference:	Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Survey. A Report of the Surface Water Ambient Monitoring Program (SWAMP). California State Water Resources Control Board, Sacramento, CA Cruise Report for the Surface Waters Ambient Monitoring Program (SWAMP) Bioaccumulation Screening Study in California Lakes and Reservoirs, Sampling Dates: June 2007- March 2008 Statewide Lakes Sportfish Contamination Study 2007 2008 Contaminants in Fish from California Lakes and Reservoirs, 2007-2008: Summary Report on a Two-Year Screening Survey
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	Water Quality Control Plan for the San Francisco Bay Basin (2013): Controllable water quality factors shall not cause a detrimental increase in concentrations of toxic substances found in bottom sediments or aquatic life. Effects on aquatic organisms, wildlife, and human health will be considered.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	National Academy of Science guidelines (NAS 1972) establish a maximum total PCB concentration of 500 ug/Kg (wet weight) in tissue samples for protection of aquatic life from bioaccumulation of toxic substances.
Guideline Reference:	National Academy of Sciences. Water Quality Criteria 1972. EPA-R3-73-033. Washington, D.C.: U.S. Environmental Protection Agency
Spatial Representation:	Data for this assessment unit was collected by one monitoring project: (SWB_FishLk)
Temporal Representation:	Data was collected on a single day 7/17/2007.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	Samples were collected, processed, and analyzed in accordance with the methods described in Quality Assurance Project Plan "Screening Study of Bioaccumulation in California Lakes and Reservoirs." (SWAMP, 2008).
QAPP Information Reference(s):	Quality Assurance Project Plan Screening Study of Bioaccumulation in California Lakes and Reservoirs. Moss Landing Marine Labs. Prepared for SWAMP BOG, 49 pages plus appendices and attachments

Line of Evidence (LOE) for Decision ID 65819, PCBs (Polychlorinated biphenyls)

Region 2

Upper San Leandro Reservoir

LOE ID:	93274
Pollutant:	PCBs (Polychlorinated biphenyls)
LOE Subgroup:	Pollutant-Tissue
Matrix:	Tissue
Fraction:	Fish fillet
Beneficial Use:	Warm Freshwater Habitat
Number of Samples:	1
Number of Exceedances:	0
Data and Information Type:	Fish tissue analysis
Data Used to Assess Water Quality:	State Water Board staff assessed SWAMP data for Upper San Leandro Reservoir to determine beneficial use support and results are as follows: 0 of 1 samples exceed the criterion for PCB, Total. One composite (5 fish per composite) was generated from one

Data Reference:	<p>species: Largemouth Bass. Details of the compositing protocol can be found in the March 2009 report entitled: "Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Study" (SWAMP, 2009). Total PCB was assessed for as follows: PCB aroclors and congeners were summed separately and the sum that yielded the highest value was used for the assessment.</p> <p>Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Survey. A Report of the Surface Water Ambient Monitoring Program (SWAMP). California State Water Resources Control Board, Sacramento, CA Cruise Report for the Surface Waters Ambient Monitoring Program (SWAMP) Bioaccumulation Screening Study in California Lakes and Reservoirs, Sampling Dates: June 2007- March 2008 Statewide Lakes Sportfish Contamination Study 2007 2008 Contaminants in Fish from California Lakes and Reservoirs, 2007-2008: Summary Report on a Two-Year Screening Survey</p>
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	Water Quality Control Plan for the San Francisco Bay Basin (2013): Controllable water quality factors shall not cause a detrimental increase in concentrations of toxic substances found in bottom sediments or aquatic life. Effects on aquatic organisms, wildlife, and human health will be considered.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	National Academy of Science guidelines (NAS 1972) establish a maximum total PCB concentration of 500 ug/Kg (wet weight) in tissue samples for protection of aquatic life from bioaccumulation of toxic substances.
Guideline Reference:	National Academy of Sciences. Water Quality Criteria 1972. EPA-R3-73-033. Washington, D.C.: U.S. Environmental Protection Agency
Spatial Representation:	Data for this assessment unit was collected by one monitoring project: (SWB_FishLk)
Temporal Representation:	Data was collected on a single day 7/17/2007.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	Samples were collected, processed, and analyzed in accordance with the methods described in Quality Assurance Project Plan "Screening Study of Bioaccumulation in California Lakes and Reservoirs." (SWAMP, 2008).
QAPP Information Reference(s):	Quality Assurance Project Plan Screening Study of Bioaccumulation in California Lakes and Reservoirs. Moss Landing Marine Labs. Prepared for SWAMP BOG. 49 pages plus appendices and attachments

Line of Evidence (LOE) for Decision ID 65819, PCBs (Polychlorinated biphenyls)		Region 2
Upper San Leandro Reservoir		
LOE ID:	93279	
Pollutant:	PCBs (Polychlorinated biphenyls)	
LOE Subgroup:	Pollutant-Tissue	
Matrix:	Tissue	
Fraction:	Fish fillet	
Beneficial Use:	Commercial or recreational collection of fish, shellfish, or organisms	
Number of Samples:	1	
Number of Exceedances:	1	
Data and Information Type:	Fish tissue analysis	
Data Used to Assess Water Quality:	State Water Board staff assessed SWAMP data for Upper San Leandro Reservoir to determine beneficial use support and results are as follows: 1 of 1 samples exceed the criterion for PCB, Total. One composite (5 fish per composite) was generated from one species: Largemouth Bass. Details of the compositing protocol can be found in the March 2009 report entitled: "Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Study" (SWAMP, 2009). Total PCB was assessed for as follows: PCB aroclors and congeners were summed separately	

Data Reference:	<p>and the sum that yielded the highest value was used for the assessment.</p> <p>Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Survey. A Report of the Surface Water Ambient Monitoring Program (SWAMP). California State Water Resources Control Board, Sacramento, CA</p> <p>Cruise Report for the Surface Waters Ambient Monitoring Program (SWAMP) Bioaccumulation Screening Study in California Lakes and Reservoirs. Sampling Dates: June 2007- March 2008</p> <p>Statewide Lakes Sportfish Contamination Study 2007 2008</p> <p>Contaminants in Fish from California Lakes and Reservoirs, 2007-2008: Summary Report on a Two-Year Screening Survey</p>
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	Water Quality Control Plan for the San Francisco Bay Basin (2013): Controllable water quality factors shall not cause a detrimental increase in concentrations of toxic substances found in bottom sediments or aquatic life. Effects on aquatic organisms, wildlife, and human health will be considered.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	The modified OEHHA Fish Contaminant Goal for polychlorinated biphenyls in fish tissue is 2.6 ppb. This screening level assumes an average body weight of 70 kg and a consumption rate of 32 g/day for a 30 year exposure over a 70-year lifetime. This constituent is a carcinogen therefore the risk level is set to one in a million. A cooking reduction factor of 1 is applied for skin-off fillets. (Klasing, S., and R. Brodberg, 2008)
Guideline Reference:	Development of Fish Contaminant Goals and Advisory Tissue Levels for Common Contaminants in California Sport Fish: Chlordane, DDTs, Dieldrin, Methylmercury, PCBs, Selenium, and Toxaphene
Spatial Representation:	Data for this assessment unit was collected by one monitoring project: (SWB_FishLk)
Temporal Representation:	Data was collected on a single day 7/17/2007.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	Samples were collected, processed, and analyzed in accordance with the methods described in Quality Assurance Project Plan "Screening Study of Bioaccumulation in California Lakes and Reservoirs." (SWAMP, 2008).
QAPP Information Reference(s):	Quality Assurance Project Plan Screening Study of Bioaccumulation in California Lakes and Reservoirs. Moss Landing Marine Labs. Prepared for SWAMP BOG. 49 pages plus appendices and attachments

DECISION ID	65821	Region 2
Upper San Leandro Reservoir		
Pollutant:	Selenium	
Final Listing Decision:	Do Not List on 303(d) list (TMDL required list)	
Last Listing Cycle's Final Listing Decision:	New Decision	
Revision Status	Revised	
Impairment from Pollutant or Pollution:	Pollutant	
Regional Board Staff Conclusion:	<p>This pollutant is being considered for placement on the CWA section 303(d) List under section 3.5 of the Listing Policy. Under section 3.5 a single line of evidence is necessary to assess listing status. One line of evidence is available in the administrative record to assess this pollutant.</p> <p>Zero of one sample exceeds the guideline. Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against placing this water segment-pollutant combination on the CWA section 303(d) List in the Water Quality Limited Segments category.</p> <p>This conclusion is based on the staff findings that:</p> <ol style="list-style-type: none"> 1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy. 2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy. 	

3. The one sample did not exceed the guideline and this sample size is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating. A minimum of 16 samples is needed to determine if a beneficial use is fully supported using table 3.1.
4. Pursuant to section 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.

Regional Board Staff Decision Recommendation: After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be placed on the section 303(d) list. The readily available data and information is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating.

Line of Evidence (LOE) for Decision ID 65821, Selenium

Region 2

Upper San Leandro Reservoir

LOE ID:	93280
Pollutant:	Selenium
LOE Subgroup:	Pollutant-Tissue
Matrix:	Tissue
Fraction:	Fish fillet
Beneficial Use:	Commercial or recreational collection of fish, shellfish, or organisms
Number of Samples:	1
Number of Exceedances:	0
Data and Information Type:	Fish tissue analysis
Data Used to Assess Water Quality:	State Water Board staff assessed SWAMP data for Upper San Leandro Reservoir to determine beneficial use support and results are as follows: 0 of 1 samples exceed the criterion for Selenium. One composite (5 fish per composite) was generated from one species: Largemouth Bass. Details of the compositing protocol can be found in the March 2009 report entitled: "Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Study" (SWAMP, 2009).
Data Reference:	Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Survey. A Report of the Surface Water Ambient Monitoring Program (SWAMP). California State Water Resources Control Board, Sacramento, CA Cruise Report for the Surface Waters Ambient Monitoring Program (SWAMP) Bioaccumulation Screening Study in California Lakes and Reservoirs, Sampling Dates: June 2007- March 2008 Statewide Lakes Sportfish Contamination Study 2007 2008 Contaminants in Fish from California Lakes and Reservoirs, 2007-2008: Summary Report on a Two-Year Screening Survey
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	Water Quality Control Plan for the San Francisco Bay Basin (2013): Controllable water quality factors shall not cause a detrimental increase in concentrations of toxic substances found in bottom sediments or aquatic life. Effects on aquatic organisms, wildlife, and human health will be considered.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	The OEHHA Fish Contaminant Goal for selenium in fish tissue is 7.4 ppm. This screening level assumes an average body weight of 70 kg and a consumption rate of 32 g/day. A background dietary consumption rate of 0.114 mg/day is applied for this micronutrient. (Klasing, S., and R. Brodberg, 2008)
Guideline Reference:	Development of Fish Contaminant Goals and Advisory Tissue Levels for Common Contaminants in California Sport Fish: Chlordane, DDTs, Dieldrin, Methylmercury, PCBs, Selenium, and Toxaphene
Spatial Representation:	Data for this assessment unit was collected by one monitoring project: (SWB_FishLk)
Temporal Representation:	Data was collected on a single day 7/17/2007.

Environmental Conditions:

QAPP Information:

QAPP Information Reference(s):

Staff is not aware of any special conditions that might affect interpretation of the data.

Samples were collected, processed, and analyzed in accordance with the methods described in Quality Assurance Project Plan "Screening Study of Bioaccumulation in California Lakes and Reservoirs." (SWAMP, 2008).

[Quality Assurance Project Plan Screening Study of Bioaccumulation in California Lakes and Reservoirs. Moss Landing Marine Labs. Prepared for SWAMP BOG. 49 pages plus appendices and attachments](#)

DECISION ID	65952	Region 2
Upper San Leandro Reservoir		

Pollutant:	Mercury
Final Listing Decision:	List on 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision:	New Decision
Revision Status	Revised
Sources:	Source Unknown
Expected TMDL Completion Date:	2029
Impairment from Pollutant or Pollution:	Pollutant

Regional Board Staff Conclusion:

This pollutant is being considered for placement on the CWA section 303(d) List under section 3.4 of the Listing Policy. Under section 3.4 a single line of evidence is necessary to assess listing status in addition to the presence of a fish consumption advisory for the waterbody.

One line of evidence is available in the administrative record to assess this pollutant. One of one samples exceed the OEHHHA guideline.

Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification in favor of placing this water segment-pollutant combination on the CWA section 303(d) List.

Though the samples were collected from a single location on a single day, fish are not static and move throughout a lake and accumulate mercury in tissue over time. Therefore, the idea of spatial and temporal independence (Section 6.1.5 of the Listing Policy) does not apply.

This conclusion is based on the staff findings that:

1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy.
2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy, except that composite samples collected at a single location for a single day were evaluated as a single sample and not averaged.
3. One of one samples exceed the OEHHHA guideline and this is less than the allowable frequency to list in Table 3.1 of the Listing Policy.
4. Pursuant to section 3.11 of the Listing Policy, additional data and information are available indicating that standards are not met. The sample exceeding the guideline is constituted by several fish that have independently accumulated enough mercury such that the average of all these fish exceeds the evaluation guideline. Therefore, it is highly likely that if more fish had been caught on another day to form additional composites, these would also exceed the evaluation guideline and, hence, the number of exceedances would exceed the allowable frequency described in section 3.4 of the listing policy.

Regional Board Staff Decision Recommendation:

After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should be placed on the section 303(d) list because applicable water quality standards are exceeded and a pollutant contributes to or causes the problem.

Line of Evidence (LOE) for Decision ID 65952, Mercury	Region 2
Upper San Leandro Reservoir	

LOE ID:	93269
Pollutant:	Mercury
LOE Subgroup:	Pollutant-Tissue
Matrix:	Tissue
Fraction:	Fish fillet
Beneficial Use:	Commercial or recreational collection of fish, shellfish, or organisms
Number of Samples:	1
Number of Exceedances:	1
Data and Information Type:	Fish tissue analysis
Data Used to Assess Water Quality:	State Water Board staff assessed SWAMP data for Upper San Leandro Reservoir to determine beneficial use support and results are as follows: 1 of 1 samples exceed the criterion for Mercury. Eleven composites (1 fish per composite) were generated from one species: largemouth bass. Composites were not spatially independent (as defined in the Listing Policy) and so were averaged. Two largemouth bass composites could not be used in the assessment due to total fish lengths that did not fall within lengths noted in the guideline.
Data Reference:	Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Survey. A Report of the Surface Water Ambient Monitoring Program (SWAMP). California State Water Resources Control Board, Sacramento, CA Cruise Report for the Surface Waters Ambient Monitoring Program (SWAMP) Bioaccumulation Screening Study in California Lakes and Reservoirs. Sampling Dates: June 2007- March 2008 Statewide Lakes Sportfish Contamination Study 2007 2008 Contaminants in Fish from California Lakes and Reservoirs, 2007-2008: Summary Report on a Two-Year Screening Survey
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	Water Quality Control Plan for the San Francisco Bay Basin (2013): Controllable water quality factors shall not cause a detrimental increase in concentrations of toxic substances found in bottom sediments or aquatic life. Effects on aquatic organisms, wildlife, and human health will be considered.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	The USEPA 304(a) recommended water quality criterion for concentrations of methylmercury in fish tissue of trophic level 4 fish (150 - 500 mm; fillet wet weight) is 0.2 mg/kg. This assumes a consumption rate of 32 g/day. (USEPA, 2001)
Guideline Reference:	Water Quality Criterion for the Protection of Human Health: Methylmercury. Final. United States Environmental Protection Agency Office of Science and Technology Office of Water. EPA-823-R-01-001. January 2001
Spatial Representation:	Data for this assessment unit was collected by one monitoring project: (SWB_FishLk)
Temporal Representation:	Data was collected on a single day 7/17/2007.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	Samples were collected, processed, and analyzed in accordance with the methods described in Quality Assurance Project Plan "Screening Study of Bioaccumulation in California Lakes and Reservoirs." (SWAMP, 2008).
QAPP Information Reference(s):	Quality Assurance Project Plan Screening Study of Bioaccumulation in California Lakes and Reservoirs. Moss Landing Marine Labs. Prepared for SWAMP BOG. 49 pages plus appendices and attachments

Draft California 2016 Integrated Report (303(d) List/305(b) Report)

Supporting Information

Regional Board 2 - San Francisco Bay Region

Water Body Name: Loch Lomond Marina (part of San Francisco Bay, Central)
Water Body ID: CAB2032001220110405210521
Water Body Type: Bay & Harbor

DECISION ID 65539 **Region 2**
Loch Lomond Marina (part of San Francisco Bay, Central)

Pollutant: Copper
Final Listing Decision: Do Not List on 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision: New Decision
Revision Status Revised
Impairment from Pollutant or Pollution: Pollutant

Regional Board Staff Conclusion: This pollutant is being considered for placement on the CWA section 303(d) List under section 3.1 of the Listing Policy. Under section 3.1 a single line of evidence is necessary to assess listing status. One line of evidence is available in the administrative record to assess this pollutant. One of three samples exceed the guideline.

Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against placing this water segment-pollutant combination on the CWA section 303(d) List.

This conclusion is based on the staff findings that:

1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy.
2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy.
3. One of three samples exceed the guideline and this sample size is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating. A minimum of 16 samples is needed to determine if a beneficial use is fully supported using table 3.1.
4. Pursuant to SECTION 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.

Regional Board Staff Decision Recommendation: After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be placed on the section 303(d) list. The readily available data and information is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating.

Line of Evidence (LOE) for Decision ID 65539, Copper **Region 2**
Loch Lomond Marina (part of San Francisco Bay, Central)

LOE ID: 92172
Pollutant: Copper
LOE Subgroup: Pollutant-Water
Matrix: Water
Fraction: Dissolved
Beneficial Use: Estuarine Habitat
Number of Samples: 3
Number of Exceedances: 1

Data and Information Type:	Fixed station physical/chemical (conventional plus toxic pollutants)
Data Used to Assess Water Quality:	One of the three samples exceeded the SSO value of 6 ug/L for dissolved copper.
Data Reference:	Data for Various Pollutants in California Marinas, 2006.
SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	Waters shall not contain chemical constituents in concentrations that adversely affect beneficial uses. Table 3.3A lists a site specific objective (SSO) for criteria continuous concentration of dissolved copper. The SSO for dissolved copper for central San Francisco Bay is 6.0 ug/L.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	
Guideline Reference:	
Spatial Representation:	A total of four separate grab samples were collected from inside the marina basin (Sites 1, 2, 3, & 4), these sites were averaged per sample event.
Temporal Representation:	Samples were collected on three separate sampling events during the dry season (July - October) in 2006.
Environmental Conditions:	Samples were collected during the dry season only.
QAPP Information:	Samples were collected and analyzed in accordance with a Quality Assurance Project Plan that was prepared per State Water Resources Control Board Agreement No. 05-218-250 California Department of Pesticide Regulation, Sacramento, CA. (Available online at http://www.cdpr.ca.gov/docs/emon/surfwttr/protocols/qapp_study236.pdf)
QAPP Information Reference(s):	

DECISION ID	65540	Region 2
Loch Lomond Marina (part of San Francisco Bay, Central)		

Pollutant:	Oxygen, Dissolved
Final Listing Decision:	Do Not List on 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision:	New Decision
Revision Status	Revised
Impairment from Pollutant or Pollution:	Pollutant
Regional Board Staff Conclusion:	<p>This pollutant is being considered for placement on the CWA section 303(d) List under section 3.2 of the Listing Policy. Under section 3.2 a single line of evidence is necessary to assess listing status. One line of evidence is available in the administrative record to assess this pollutant. Zero of twelve samples exceed the objective.</p> <p>Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against placing this water segment-pollutant combination on the CWA section 303(d) List.</p> <p>This conclusion is based on the staff findings that:</p> <ol style="list-style-type: none"> 1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy. 2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy. 3. Zero of twelve samples exceed the objective and this sample size is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating. A minimum of 26 samples is needed to determine if a beneficial use is fully supported using table 3.2. 4. Pursuant to SECTION 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.
Regional Board Staff Decision Recommendation:	After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be placed on the section 303(d) list. The readily available data and information is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating.

**Line of Evidence (LOE) for Decision ID 65540, Oxygen, Dissolved
Loch Lomond Marina (part of San Francisco Bay, Central)**

Region 2

LOE ID: 90745

Pollutant: Oxygen, Dissolved
LOE Subgroup: Pollutant-Water
Matrix: Water
Fraction: Dissolved

Beneficial Use: Estuarine Habitat

Number of Samples: 12
Number of Exceedances: 0

Data and Information Type: PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality: Numeric data generated from 12 minimum samples of Dissolved Oxygen concentrations had no exceedances.
Data Reference: [Data for Various Pollutants in California Marinas, 2006.](#)

SWAMP Data: Non-SWAMP

Water Quality Objective/Criterion: The dissolved oxygen content of bays/estuaries downstream of the Carquinez Bridge must be above 5 mg/L.
Objective/Criterion Reference: [Water Quality Control Plan \(Basin Plan\) San Francisco Bay Basin \(Region 2\)](#)

Evaluation Guideline:
Guideline Reference:

Spatial Representation: Samples were collected from the following stations: Loch Lomond Marina 1.1 Loch Lomond Marina 1.2 Loch Lomond Marina 1.3 Loch Lomond Marina 2.1 Loch Lomond Marina 2.2 Loch Lomond Marina 2.3 Loch Lomond Marina 3.1 Loch Lomond Marina 3.2 Loch Lomond Marina 3.3 Loch Lomond Marina 4.1 Loch Lomond Marina 4.2 Loch Lomond Marina 4.3

Temporal Representation: Samples were collected on the following dates: 7/25/2006 8/22/2006 9/19/2006

Environmental Conditions:
QAPP Information: Samples were collected and analyzed in accordance with a Quality Assurance Project Plan that was prepared per State Water Resources Control Board Agreement No. 05-218-250 California Department of Pesticide Regulation, Sacramento, CA. (Available online at [Study report on paint data collected in California Marinas.](#))

QAPP Information Reference(s):

DECISION ID

65541

Region 2

Loch Lomond Marina (part of San Francisco Bay, Central)

Pollutant: Toxicity
Final Listing Decision: Do Not List on 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision: New Decision
Revision Status: Revised
Impairment from Pollutant or Pollution: Pollutant

Regional Board Staff Conclusion:

This pollutant is being considered for placement on the CWA section 303(d) List under section 3.6 of the Listing Policy. Under section 3.6 a single line of evidence is necessary to assess listing status.

One line of evidence is available in the administrative record to assess this pollutant. Zero of four samples exceed the guideline.

Based on the readily available data and information, the weight of evidence indicates that there is

not sufficient justification in favor of placing this water segment-pollutant combination on the CWA section 303(d) List.

This conclusion is based on the staff findings that:

1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy.
2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy.
3. Zero of four samples exceed the guideline and this sample size is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating. A minimum of 16 samples is needed to determine if a beneficial use is fully supported using table 3.1.
4. Pursuant to section 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.

Regional Board Staff Decision Recommendation: After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be placed on the section 303(d) list. The readily available data and information is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating.

Line of Evidence (LOE) for Decision ID 65541, Toxicity
Loch Lomond Marina (part of San Francisco Bay, Central)

Region 2

LOE ID:	92174
Pollutant:	Toxicity
LOE Subgroup:	Toxicity
Matrix:	Water
Fraction:	None
Beneficial Use:	Estuarine Habitat
Number of Samples:	4
Number of Exceedances:	0
Data and Information Type:	TOXICITY TESTING
Data Used to Assess Water Quality:	Four samples were tested for toxicity. None of the four samples exhibited statistically significant effect relative to control. The toxicity test used was the mussel embryo development test (EPA 1995) using <i>Mytilus galloprovincialis</i> . Toxic effects are expressed as percent reduction in normal development relative to controls.
Data Reference:	Data for Various Pollutants in California Marinas, 2006.
SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	All waters shall be maintained free of toxic substances in concentrations that are lethal to or that produce other detrimental responses in aquatic organisms. Detrimental responses include, but are not limited to, decreased growth rate and decreased reproductive success of resident or indicator species.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) - San Francisco Bay Region (Region 2)
Evaluation Guideline:	Toxicity is defined as a statistically significant effect in the sample exposure compared to the control using EPA-recommended hypothesis testing (parametric Dunnett's Test or non-parametric Kruskal-Wallis or Wilcoxon Two-sample Test). The t-test is used to determine if there is a statistically significant decrease in organism response in the sample as compared to the control.
Guideline Reference:	SWAMP Memo Toxicity Data Interpretation Method 1007.0: Mysid, <i>Mysidopsis bahia</i>, Survival, Growth, and Fecundity Test; Chronic Toxicity. Excerpt from: Short-Term Methods for Estimating the Chronic Toxicity of Effluents and Receiving Waters to Marine and Estuarine Organisms. 3rd edition EPA-821-R-02-014
Spatial Representation:	The samples were collected at Loch Lomond Marina 1.2, 2.2, 3.2, and 4.2.
Temporal Representation:	Samples were collected on 8/22/2006.
Environmental Conditions:	

QAPP Information:

Data quality is good. The data and QA information is provided in Appendix G and I to the report Monitoring For Indicators of Antifouling Paint Pollution In California Marinas, Department of Pesticide Regulation. The Southern California Coastal Water Research Project laboratory conducted the toxicity tests.

QAPP Information Reference(s):

DECISION ID	65542	Region 2
Loch Lomond Marina (part of San Francisco Bay, Central)		

Pollutant:	Zinc
Final Listing Decision:	Do Not List on 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision:	New Decision
Revision Status	Revised
Impairment from Pollutant or Pollution:	Pollutant

Regional Board Staff Conclusion: This pollutant is being considered for placement on the CWA section 303(d) List under section 3.1 of the Listing Policy. Under section 3.1 a single line of evidence is necessary to assess listing status. One line of evidence is available in the administrative record to assess this pollutant. Zero of three samples exceed the guideline.

Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against placing this water segment-pollutant combination on the CWA section 303(d) List.

This conclusion is based on the staff findings that:

1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy.
2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy.
3. Zero of three samples exceed the guideline and this sample size is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating. A minimum of 16 samples is needed to determine if a beneficial use is fully supported using table 3.1.
4. Pursuant to SECTION 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.

Regional Board Staff Decision Recommendation: After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be placed on the section 303(d) list. The readily available data and information is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating.

Line of Evidence (LOE) for Decision ID 65542, Zinc	Region 2
Loch Lomond Marina (part of San Francisco Bay, Central)	

LOE ID:	92175
Pollutant:	Zinc
LOE Subgroup:	Pollutant-Water
Matrix:	Water
Fraction:	Dissolved
Beneficial Use:	Estuarine Habitat

Number of Samples:	3
Number of Exceedances:	0

Data and Information Type:	Fixed station physical/chemical (conventional plus toxic pollutants)
Data Used to Assess Water Quality:	None of the three samples exceeded the CTR value of 81 ug/L for dissolved zinc in brackish water.

Data Reference:	Data for Various Pollutants in California Marinas, 2006.
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SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	Waters shall not contain chemical constituents in concentrations that adversely affect beneficial uses. California Toxics Rule (CTR) lists criterion continuous concentrations to protect aquatic life in saline water. The CTR value is 81 ug/L.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	
Guideline Reference:	
Spatial Representation:	A total of four separate grab samples were collected from inside the marina basin (Sites 1, 2, 3, & 4), these sites were averaged per sample event.
Temporal Representation:	Samples were collected on three separate sampling events during the dry season (July - October) in 2006.
Environmental Conditions:	Samples were collected during the dry season only.
QAPP Information:	Samples were collected and analyzed in accordance with a Quality Assurance Project Plan that was prepared per State Water Resources Control Board Agreement No. 05-218-250 California Department of Pesticide Regulation, Sacramento, CA. (Available online at http://www.cdpr.ca.gov/docs/emon/surfwttr/protocols/qapp_study236.pdf)
QAPP Information Reference(s):	

DECISION ID	65543	Region 2
Loch Lomond Marina (part of San Francisco Bay, Central)		

Pollutant:	pH
Final Listing Decision:	Do Not List on 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision:	New Decision
Revision Status	Revised
Impairment from Pollutant or Pollution:	Pollutant

Regional Board Staff Conclusion: This pollutant is being considered for placement on the CWA section 303(d) List under section 3.2 of the Listing Policy. Under section 3.2 a single line of evidence is necessary to assess listing status. One line of evidence is available in the administrative record to assess this pollutant. Zero of twelve samples exceed the objective.

Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against placing this water segment-pollutant combination on the CWA section 303(d) List.

This conclusion is based on the staff findings that:

1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy.
2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy.
3. Zero of twelve samples exceed the objective and this sample size is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating. A minimum of 26 samples is needed to determine if a beneficial use is fully supported using table 3.2.
4. Pursuant to SECTION 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.

Regional Board Staff Decision Recommendation: After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be placed on the section 303(d) list. The readily available data and information is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating.

Line of Evidence (LOE) for Decision ID 65543, pH	Region 2
Loch Lomond Marina (part of San Francisco Bay, Central)	

LOE ID:	92173
Pollutant:	pH
LOE Subgroup:	Pollutant-Water
Matrix:	Water
Fraction:	Dissolved
Beneficial Use:	Estuarine Habitat
Number of Samples:	12
Number of Exceedances:	0
Data and Information Type:	PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality:	Numeric data generated from 12 minimums and maximums had no exceedences.
Data Reference:	Data for Various Pollutants in California Marinas, 2006.
SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	The pH shall not be depressed below 6.5 nor raised above 8.5.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	
Guideline Reference:	
Spatial Representation:	Samples were collected from the following stations: Loch Lomond Marina 1.1 Loch Lomond Marina 1.2 Loch Lomond Marina 1.3* Loch Lomond Marina 2.1 Loch Lomond Marina 2.2 Loch Lomond Marina 2.3* Loch Lomond Marina 3.1 Loch Lomond Marina 3.2 Loch Lomond Marina 3.3 Loch Lomond Marina 4.1 Loch Lomond Marina 4.2 Loch Lomond Marina 4.3*
Temporal Representation:	Samples were collected once a month from July 2006 to September 2006.
Environmental Conditions:	
QAPP Information:	NPDES quality assurance.
QAPP Information Reference(s):	

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Supporting Information

Regional Board 2 - San Francisco Bay Region

Water Body Name: Clipper Yacht Club (part of Richardson Bay)
Water Body ID: CAB2032002020110405212213
Water Body Type: Bay & Harbor

DECISION ID 61679 **Region 2**
Clipper Yacht Club (part of Richardson Bay)

Pollutant: Copper
Final Listing Decision: Do Not List on 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision: New Decision
Revision Status Revised
Impairment from Pollutant or Pollution: Pollutant

Regional Board Staff Conclusion: This pollutant is being considered for placement on the CWA section 303(d) List under section 3.1 of the Listing Policy. Under section 3.1 a single line of evidence is necessary to assess listing status. One line of evidence is available in the administrative record to assess this pollutant. Zero of three samples exceed the objective.

Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against placing this water segment-pollutant combination on the CWA section 303(d) List.

This conclusion is based on the staff findings that:

1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy.
2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy.
3. Zero of three samples exceed the objective and this sample size is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating. A minimum of 16 samples is needed to determine if a beneficial use is fully supported using table 3.1.
4. Pursuant to SECTION 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.

Regional Board Staff Decision Recommendation: After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be placed on the section 303(d) list. The readily available data and information is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating.

Line of Evidence (LOE) for Decision ID 61679, Copper **Region 2**
Clipper Yacht Club (part of Richardson Bay)

LOE ID: 91267
Pollutant: Copper
LOE Subgroup: Pollutant-Water
Matrix: Water
Fraction: Dissolved
Beneficial Use: Estuarine Habitat
Number of Samples: 3
Number of Exceedances: 0

Data and Information Type:	Fixed station physical/chemical (conventional plus toxic pollutants)
Data Used to Assess Water Quality:	None of the three samples exceeded the SSO value of 6 ug/L for dissolved copper.
Data Reference:	Data for Various Pollutants in California Marinas, 2006.
SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	Waters shall not contain chemical constituents in concentrations that adversely affect beneficial uses. Table 3.3A lists a site specific objective (SSO) for criteria continuous concentration of dissolved copper. The SSO for dissolved copper for central San Francisco Bay is 6.0 ug/L.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	
Guideline Reference:	
Spatial Representation:	A total of four separate grab samples were collected from inside the marina basin (Sites 1, 2, 3, & 4), these sites were averaged per sample event.
Temporal Representation:	Samples were collected on three separate sampling events during the dry season (July - October) in 2006.
Environmental Conditions:	Samples were collected during the dry season only.
QAPP Information:	Samples were collected and analyzed in accordance with a Quality Assurance Project Plan that was prepared per State Water Resources Control Board Agreement No. 05-218-250 California Department of Pesticide Regulation, Sacramento, CA. (Available online at http://www.cdpr.ca.gov/docs/emon/surfwttr/protocols/qapp_study236.pdf)
QAPP Information Reference(s):	

DECISION ID	61680	Region 2
Clipper Yacht Club (part of Richardson Bay)		

Pollutant:	Oxygen, Dissolved
Final Listing Decision:	Do Not List on 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision:	New Decision
Revision Status	Revised
Impairment from Pollutant or Pollution:	Pollutant
Regional Board Staff Conclusion:	<p>This pollutant is being considered for placement on the CWA section 303(d) List under section 3.2 of the Listing Policy. Under section 3.2 a single line of evidence is necessary to assess listing status. One line of evidence is available in the administrative record to assess this pollutant. Zero of twelve samples exceed the objective.</p> <p>Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against placing this water segment-pollutant combination on the CWA section 303(d) List.</p> <p>This conclusion is based on the staff findings that:</p> <ol style="list-style-type: none"> 1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy. 2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy. 3. Zero of twelve samples exceed the objective and this sample size is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating. A minimum of 26 samples is needed to determine if a beneficial use is fully supported using table 3.2. 4. Pursuant to SECTION 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.
Regional Board Staff Decision Recommendation:	After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be placed on the section 303(d) list. The readily available data and information is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating.

**Line of Evidence (LOE) for Decision ID 61680, Oxygen, Dissolved
Clipper Yacht Club (part of Richardson Bay)**

Region 2

LOE ID:	90759
Pollutant:	Oxygen, Dissolved
LOE Subgroup:	Pollutant-Water
Matrix:	Water
Fraction:	Dissolved
Beneficial Use:	Estuarine Habitat
Number of Samples:	12
Number of Exceedances:	0
Data and Information Type:	PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality:	Numeric data generated from 12 minimum samples of Dissolved Oxygen concentrations had no exceedences.
Data Reference:	Data for Various Pollutants in California Marinas, 2006.
SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	The dissolved oxygen content of bays/estuaries downstream of the Carquinez Bridge must be above 5 mg/L.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	
Guideline Reference:	
Spatial Representation:	Samples were collected from the following stations: Clipper Yacht Harbor 1.1 Clipper Yacht Harbor 1.2 Clipper Yacht Harbor 1.3 Clipper Yacht Harbor 2.1 Clipper Yacht Harbor 2.2 Clipper Yacht Harbor 2.3 Clipper Yacht Harbor 3.1 Clipper Yacht Harbor 3.2 Clipper Yacht Harbor 3.3 Clipper Yacht Harbor 4.1 Clipper Yacht Harbor 4.2 Clipper Yacht Harbor 4.3
Temporal Representation:	Samples were collected on the following dates: 7/27/2006 8/25/2006 9/19/2006
Environmental Conditions:	
QAPP Information:	Samples were collected and analyzed in accordance with a Quality Assurance Project Plan that was prepared per State Water Resources Control Board Agreement No. 05-218-250 California Department of Pesticide Regulation, Sacramento, CA. (Available online at Study report on paint data collected in California Marinas.)
QAPP Information Reference(s):	

**DECISION ID 61681
Clipper Yacht Club (part of Richardson Bay)**

Region 2

Pollutant:	Zinc
Final Listing Decision:	Do Not List on 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision:	New Decision
Revision Status	Revised
Impairment from Pollutant or Pollution:	Pollutant
Regional Board Staff Conclusion:	<p>This pollutant is being considered for placement on the CWA section 303(d) List under section 3.1 of the Listing Policy. Under section 3.1 a single line of evidence is necessary to assess listing status. One line of evidence is available in the administrative record to assess this pollutant. Zero of three samples exceed the objective.</p> <p>Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against placing this water segment-pollutant combination on the CWA section</p>

303(d) List.

This conclusion is based on the staff findings that:

1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy.
2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy.
3. Zero of three samples exceed the objective and this sample size is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating. A minimum of 16 samples is needed to determine if a beneficial use is fully supported using table 3.1.
4. Pursuant to SECTION 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.

Regional Board Staff Decision Recommendation: After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be placed on the section 303(d) list. The readily available data and information is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating.

Line of Evidence (LOE) for Decision ID 61681, Zinc Clipper Yacht Club (part of Richardson Bay)	Region 2
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LOE ID:	91269
Pollutant:	Zinc
LOE Subgroup:	Pollutant-Nuisance
Matrix:	Water
Fraction:	Dissolved
Beneficial Use:	Estuarine Habitat
Number of Samples:	3
Number of Exceedances:	0
Data and Information Type:	Fixed station physical/chemical (conventional plus toxic pollutants)
Data Used to Assess Water Quality:	None of the three samples exceeded the CTR value of 81 ug/L for dissolved zinc in brackish water.
Data Reference:	Data for Various Pollutants in California Marinas, 2006.
SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	Waters shall not contain chemical constituents in concentrations that adversely affect beneficial uses. California Toxics Rule (CTR) lists criterion continuous concentrations to protect aquatic life in saline water. The CTR value is 81 ug/L.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	
Guideline Reference:	
Spatial Representation:	A total of four separate grab samples were collected from inside the marina basin (Sites 1, 2, 3, & 4), these sites were averaged per sample event.
Temporal Representation:	Samples were collected on three separate sampling events during the dry season (July - October) in 2006.
Environmental Conditions:	Samples were collected during the dry season only.
QAPP Information:	Samples were collected and analyzed in accordance with a Quality Assurance Project Plan that was prepared per State Water Resources Control Board Agreement No. 05-218-250 California Department of Pesticide Regulation, Sacramento, CA. (Available online at http://www.cdpr.ca.gov/docs/emon/surfwttr/protocols/qapp_study236.pdf)
QAPP Information Reference(s):	

DECISION ID	61682	Region 2
Clipper Yacht Club (part of Richardson Bay)		

Pollutant:	pH
Final Listing Decision:	Do Not List on 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision:	New Decision
Revision Status	Revised
Impairment from Pollutant or Pollution:	Pollutant

Regional Board Staff Conclusion: This pollutant is being considered for placement on the CWA section 303(d) List under section 3.2 of the Listing Policy. Under section 3.2 a single line of evidence is necessary to assess listing status. One line of evidence is available in the administrative record to assess this pollutant. Zero of twelve samples exceed the objective.

Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against placing this water segment-pollutant combination on the CWA section 303(d) List.

This conclusion is based on the staff findings that:

1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy.
2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy.
3. Zero of twelve samples exceed the objective and this sample size is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating. A minimum of 26 samples is needed to determine if a beneficial use is fully supported using table 3.2.
4. Pursuant to SECTION 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.

Regional Board Staff Decision Recommendation: After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be placed on the section 303(d) list. The readily available data and information is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating.

Line of Evidence (LOE) for Decision ID 61682, pH Clipper Yacht Club (part of Richardson Bay)

Region 2

LOE ID:	91268
Pollutant:	pH
LOE Subgroup:	Pollutant-Water
Matrix:	Water
Fraction:	Dissolved
Beneficial Use:	Estuarine Habitat
Number of Samples:	12
Number of Exceedances:	0
Data and Information Type:	PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality:	Numeric data generated from 12 minimums and maximums had no exceedences.
Data Reference:	Data for Various Pollutants in California Marinas, 2006.
SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	The pH shall not be depressed below 6.5 nor raised above 8.5.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	
Guideline Reference:	
Spatial Representation:	Samples were collected from the following stations: Clipper Yacht Harbor 1.1 Clipper Yacht Harbor 1.2* Clipper Yacht Harbor 1.3* Clipper Yacht Harbor 2.1 Clipper Yacht

Harbor 2.2* Clipper Yacht Harbor 2.3 Clipper Yacht Harbor 3.1 Clipper Yacht Harbor 3.2*
Clipper Yacht Harbor 3.3 Clipper Yacht Harbor 4.1 Clipper Yacht Harbor 4.2* Clipper
Yacht Harbor 4.3

Temporal Representation:

Environmental Conditions:

QAPP Information:

QAPP Information Reference(s):

Samples were collected once a month from July 2006 to September 2006.

NPDES quality assurance.

Draft California 2016 Integrated Report (303(d) List/305(b) Report)

Supporting Information

Regional Board 2 - San Francisco Bay Region

Water Body Name: Richmond Marina (part of San Francisco Bay, Central)
Water Body ID: CAB2033001120110405204339
Water Body Type: Bay & Harbor

DECISION ID 66825 **Region 2**
Richmond Marina (part of San Francisco Bay, Central)

Pollutant: Arsenic
Final Listing Decision: Do Not List on 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision: New Decision
Revision Status Revised
Impairment from Pollutant or Pollution: Pollutant

Regional Board Staff Conclusion: This pollutant is being considered for placement on the CWA section 303(d) List under section 3.5 of the Listing Policy. Under section 3.5 a single line of evidence is necessary to assess listing status. One line of evidence is available in the administrative record to assess this pollutant. Zero of four samples exceed the OEHHHA guideline.

Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against placing this water segment-pollutant combination on the CWA section 303(d) List.

This conclusion is based on the staff findings that:

1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy.
2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy.
3. Zero of four samples exceed the OEHHHA guideline and this sample size is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating. A minimum of 16 samples is needed to determine if a beneficial use is fully supported using table 3.1.
4. Pursuant to SECTION 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.

Regional Board Staff Decision Recommendation: After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be placed on the section 303(d) list. The readily available data and information is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating.

Line of Evidence (LOE) for Decision ID 66825, Arsenic **Region 2**
Richmond Marina (part of San Francisco Bay, Central)

LOE ID: 95213
Pollutant: Arsenic
LOE Subgroup: Pollutant-Tissue
Matrix: Tissue
Fraction: Fish fillet
Beneficial Use: Commercial or recreational collection of fish, shellfish, or organisms
Number of Samples: 4

Number of Exceedances:	0
Data and Information Type:	Fish tissue analysis
Data Used to Assess Water Quality:	Water Board staff assessed Regional Monitoring Program data for the Richmond Marina to determine beneficial use support and results are as follows: 0 of 4 samples exceed the criterion for Arsenic. The fraction of total arsenic in inorganic form was taken to be 3.2%, which was the maximum fraction of inorganic arsenic found in shark tissue from SF Bay. No samples were discarded for being non-detect, unquantifiable or the reporting limit exceeding the water quality objective.
Data Reference:	Regional Monitoring Program data, Feb. 1993-Sep. 2008 Contaminant Concentrations in Fish from San Francisco Bay, 2000 Calculating Fraction of Inorganic Arsenic in SF Bay Fish and Shellfish
SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	Water Quality Control Plan for the San Francisco Bay Basin: Controllable water quality factors shall not cause a detrimental increase in concentrations of toxic substances found in bottom sediments or aquatic life. Effects on aquatic organisms, wildlife, and human health will be considered.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	<p>The modified OEHHA Advisory Tissue Level for arsenic in fish tissue is 0.34 ppm. This screening level assumes an average body weight of 70 kg and a consumption rate of 32 g/day for a 30 year exposure over a 70-year lifetime. This constituent is a carcinogen therefore the risk level is set to one in ten thousand. (Klasing, S., and R. Brodberg, 2008; OEHHA, 2004).</p> <p>Advisory Tissue Levels (ATLs), while still conferring no significant health risk to individuals consuming sport fish in the quantities shown over a lifetime, were developed with the recognition that there are unique health benefits associated with fish consumption and that the advisory process should be expanded beyond a simple risk paradigm in order to best promote the overall health of the fish consumer. ATLs provide a number of recommended fish servings that correspond to the range of contaminant concentrations found in fish and are used to provide consumption advice to prevent consumers from being exposed to more than the average daily reference dose for noncarcinogens or to a risk level greater than 1×10^{-4} for carcinogens (not more than one additional cancer case in a population of 10,000 people consuming fish at the given consumption rate over a lifetime). ATLs are designed to encourage consumption of fish that can be eaten in quantities likely to provide significant health benefits, while discouraging consumption of fish that, because of contaminant concentrations, should not be eaten or cannot be eaten in amounts recommended for improving overall health (eight ounces total, prior to cooking, per week). ATLs are one of the criteria that will be used by OEHHA for issuing fish consumption guidelines.</p>
Guideline Reference:	Development of Fish Contaminant Goals and Advisory Tissue Levels for Common Contaminants in California Sport Fish: Chlordane, DDTs, Dieldrin, Methylmercury, PCBs, Selenium, and Toxaphene Air Toxics Hotspots Program Risk Assessment Guidelines. Part II Technical Support Document for Describing Available Cancer Potency Values.
Spatial Representation:	The samples were collected at one site in the Richmond Marina
Temporal Representation:	The samples were collected in May 1994.
Environmental Conditions:	
QAPP Information:	The 1999 Quality Assurance Project Plan Regional Monitoring Program for Trace Substances was used.
QAPP Information Reference(s):	1999 Quality Assurance Project Plan Regional Monitoring Program for Trace Substances

DECISION ID	66283	Region 2
Richmond Marina (part of San Francisco Bay, Central)		

Pollutant: Cadmium

Final Listing Decision:	Do Not List on 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision:	New Decision
Revision Status	Revised
Impairment from Pollutant or Pollution:	Pollutant

Regional Board Staff Conclusion: This pollutant is being considered for placement on the CWA section 303(d) List under section 3.5 of the Listing Policy. Under section 3.5 a single line of evidence is necessary to assess listing status. One line of evidence is available in the administrative record to assess this pollutant. Zero of four samples exceed the OEHHA guideline.

Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against placing this water segment-pollutant combination on the CWA section 303(d) List.

This conclusion is based on the staff findings that:

1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy.
2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy.
3. Zero of four samples exceed the OEHHA guideline and this sample size is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating. A minimum of 16 samples is needed to determine if a beneficial use is fully supported using table 3.1.
4. Pursuant to SECTION 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.

Regional Board Staff Decision Recommendation: After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be placed on the section 303(d) list. The readily available data and information is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating.

**Line of Evidence (LOE) for Decision ID 66283, Cadmium
Richmond Marina (part of San Francisco Bay, Central)**

Region 2

LOE ID:	95142
Pollutant:	Cadmium
LOE Subgroup:	Pollutant-Tissue
Matrix:	Tissue
Fraction:	Fish fillet
Beneficial Use:	Commercial or recreational collection of fish, shellfish, or organisms
Number of Samples:	4
Number of Exceedances:	0
Data and Information Type:	Fish tissue analysis
Data Used to Assess Water Quality:	Water Board staff assessed Regional Monitoring Program data for the Richmond Marina to determine beneficial use support and results are as follows: 0 of 4 samples exceed the criterion for cadmium. No samples were discarded for being non-detect, unquantifiable or the reporting limit exceeding the water quality objective.
Data Reference:	Regional Monitoring Program data, Feb. 1993-Sep. 2008
SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	Water Quality Control Plan for the San Francisco Bay Basin: Controllable water quality factors shall not cause a detrimental increase in concentrations of toxic substances found in bottom sediments or aquatic life. Effects on aquatic organisms, wildlife, and human health will be considered.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)

Evaluation Guideline:	The modified OEHHA Fish Contaminant Goal for cadmium in fish tissue is 2.2 ppm. This screening level assumes an average body weight of 70 kg and a consumption rate of 32 g/day. (Klasing, S., and R. Brodberg, 2008; USEPA, 2000)
Guideline Reference:	Development of Fish Contaminant Goals and Advisory Tissue Levels for Common Contaminants in California Sport Fish: Chlordane, DDTs, Dieldrin, Methylmercury, PCBs, Selenium, and Toxaphene Guidance for Assessing Chemical Contaminant Data for Use In Fish Advisories Volume 1: Fish Sampling and Analysis
Spatial Representation:	The samples were collected at one site in the Richmond Marina
Temporal Representation:	The samples were collected in May 1994.
Environmental Conditions:	
QAPP Information:	The 1999 Quality Assurance Project Plan Regional Monitoring Program for Trace Substances was used.
QAPP Information Reference(s):	1999 Quality Assurance Project Plan Regional Monitoring Program for Trace Substances

DECISION ID	66363	Region 2
Richmond Marina (part of San Francisco Bay, Central)		

Pollutant:	Chlorpyrifos
Final Listing Decision:	Do Not List on 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision:	New Decision
Revision Status	Revised
Impairment from Pollutant or Pollution:	Pollutant
Regional Board Staff Conclusion:	<p>This pollutant is being considered for placement on the CWA section 303(d) List under section 3.5 of the Listing Policy. Under section 3.5 a single line of evidence is necessary to assess listing status. One line of evidence is available in the administrative record to assess this pollutant. Zero of four samples exceed the OEHHA guideline.</p> <p>Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against placing this water segment-pollutant combination on the CWA section 303(d) List.</p> <p>This conclusion is based on the staff findings that:</p> <ol style="list-style-type: none"> 1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy. 2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy. 3. Zero of four samples exceed the OEHHA guideline and this sample size is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating. A minimum of 16 samples is needed to determine if a beneficial use is fully supported using table 3.1. 4. Pursuant to SECTION 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.
Regional Board Staff Decision Recommendation:	After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be placed on the section 303(d) list. The readily available data and information is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating.

Line of Evidence (LOE) for Decision ID 66363, Chlorpyrifos	Region 2
Richmond Marina (part of San Francisco Bay, Central)	

LOE ID:	95149
Pollutant:	Chlorpyrifos
LOE Subgroup:	Pollutant-Tissue
Matrix:	Tissue

Fraction:	Fish fillet
Beneficial Use:	Commercial or recreational collection of fish, shellfish, or organisms
Number of Samples:	4
Number of Exceedances:	0
Data and Information Type:	Fish tissue analysis
Data Used to Assess Water Quality:	Water Board staff assessed Regional Monitoring Program data for the Richmond Marina to determine beneficial use support and results are as follows: 0 of 4 samples exceed the criterion for chlorpyrifos. No samples were discarded for being non-detect, unquantifiable or the reporting limit exceeding the water quality objective.
Data Reference:	Regional Monitoring Program data, Feb. 1993-Sep. 2008
SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	Water Quality Control Plan for the San Francisco Bay Basin: Controllable water quality factors shall not cause a detrimental increase in concentrations of toxic substances found in bottom sediments or aquatic life. Effects on aquatic organisms, wildlife, and human health will be considered.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	The modified OEHHA Fish Contaminant Goal for chlorpyrifos in fish tissue is 660 ppb. This screening level assumes an average body weight of 70 kg and a consumption rate of 32 g/day. A cooking reduction factor of 1 is applied for skin-off fillets. (Klasing, S., and R. Brodberg, 2008; USEPA, 2000)
Guideline Reference:	Development of Fish Contaminant Goals and Advisory Tissue Levels for Common Contaminants in California Sport Fish: Chlordane, DDTs, Dieldrin, Methylmercury, PCBs, Selenium, and Toxaphene Guidance for Assessing Chemical Contaminant Data for Use In Fish Advisories Volume 1: Fish Sampling and Analysis
Spatial Representation:	The samples were collected at one site in the Richmond Marina
Temporal Representation:	The samples were collected in May 1994.
Environmental Conditions:	
QAPP Information:	The 1999 Quality Assurance Project Plan Regional Monitoring Program for Trace Substances was used.
QAPP Information Reference(s):	1999 Quality Assurance Project Plan Regional Monitoring Program for Trace Substances

DECISION ID	66364	Region 2
Richmond Marina (part of San Francisco Bay, Central)		

Pollutant:	Copper
Final Listing Decision:	Do Not List on 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision:	New Decision
Revision Status	Revised
Impairment from Pollutant or Pollution:	Pollutant
Regional Board Staff Conclusion:	<p>This pollutant is being considered for placement on the CWA section 303(d) List under section 3.1 of the Listing Policy. Under section 3.1 a single line of evidence is necessary to assess listing status. One line of evidence is available in the administrative record to assess this pollutant. Zero of six samples exceed the guideline.</p> <p>Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against placing this water segment-pollutant combination on the CWA section 303(d) List.</p> <p>This conclusion is based on the staff findings that:</p> <ol style="list-style-type: none"> 1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy.

2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy.
3. Zero of six samples exceed the guideline and this sample size is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating. A minimum of 16 samples is needed to determine if a beneficial use is fully supported using table 3.1.
4. Pursuant to SECTION 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.

Regional Board Staff Decision Recommendation: After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be placed on the section 303(d) list. The readily available data and information is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating.

**Line of Evidence (LOE) for Decision ID 66364, Copper
Richmond Marina (part of San Francisco Bay, Central)**

Region 2

LOE ID:	92704
Pollutant:	Copper
LOE Subgroup:	Pollutant-Water
Matrix:	Water
Fraction:	Dissolved
Beneficial Use:	Estuarine Habitat
Number of Samples:	6
Number of Exceedances:	0
Data and Information Type:	Fixed station physical/chemical (conventional plus toxic pollutants)
Data Used to Assess Water Quality:	None of the six samples exceeded the SSO value of 6 ug/L for dissolved copper.
Data Reference:	Data for Various Pollutants in California Marinas, 2006.
SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	Waters shall not contain chemical constituents in concentrations that adversely affect beneficial uses. Table 3.3A lists a site specific objective (SSO) for criteria continuous concentration of dissolved copper. The SSO for dissolved copper in this portion of the San Francisco Bay Delta is 6.0 ug/L.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	
Guideline Reference:	
Spatial Representation:	A total of eight grab samples were collected during each sampling event. Four separate grab samples were collected from inside the marina basin (Sites 1, 2, 3, & 4) and four separate grab samples were collected from outside the marina basin (Sites 5, 6, 7, & 8). Sample results for sites inside the marina basin and sites outside the marina basin were averaged per sample event, resulting in two sample results per sampling event.
Temporal Representation:	Samples were collected on three separate sampling events during the dry season (July - October) in 2006.
Environmental Conditions:	Samples were collected during the dry season only.
QAPP Information:	Samples were collected and analyzed in accordance with a Quality Assurance Project Plan that was prepared per State Water Resources Control Board Agreement No. 05-218-250 California Department of Pesticide Regulation, Sacramento, CA. (Available online at http://www.cdpr.ca.gov/docs/emon/surfwtr/protocols/qapp_study236.pdf)
QAPP Information Reference(s):	

**DECISION ID 66372
Richmond Marina (part of San Francisco Bay, Central)**

Region 2

Pollutant:	Endosulfan
Final Listing Decision:	Do Not List on 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision:	New Decision
Revision Status	Revised
Impairment from Pollutant or Pollution:	Pollutant

Regional Board Staff Conclusion: This pollutant is being considered for placement on the CWA section 303(d) List under section 3.5 of the Listing Policy. Under section 3.5 a single line of evidence is necessary to assess listing status. One line of evidence is available in the administrative record to assess this pollutant. Zero of four samples exceed the OEHHHA guideline.

Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against placing this water segment-pollutant combination on the CWA section 303(d) List.

This conclusion is based on the staff findings that:

1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy.
2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy.
3. Zero of four samples exceed the OEHHHA guideline and this sample size is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating. A minimum of 16 samples is needed to determine if a beneficial use is fully supported using table 3.1.
4. Pursuant to SECTION 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.

Regional Board Staff Decision Recommendation: After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be placed on the section 303(d) list. The readily available data and information is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating.

Line of Evidence (LOE) for Decision ID 66372, Endosulfan
Richmond Marina (part of San Francisco Bay, Central)

Region 2

LOE ID:	95132
Pollutant:	Endosulfan
LOE Subgroup:	Pollutant-Tissue
Matrix:	Tissue
Fraction:	Fish fillet
Beneficial Use:	Commercial or recreational collection of fish, shellfish, or organisms
Number of Samples:	4
Number of Exceedances:	0
Data and Information Type:	Fish tissue analysis
Data Used to Assess Water Quality:	Water Board staff assessed Regional Monitoring Program data for the Richmond Marina to determine beneficial use support and results are as follows: 0 of 4 samples exceed the criterion for endosulfan. No samples were discarded for being non-detect, unquantifiable or the reporting limit exceeding the water quality objective.
Data Reference:	Regional Monitoring Program data, Feb. 1993-Sep. 2008
SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	Water Quality Control Plan for the San Francisco Bay Basin: Controllable water quality factors shall not cause a detrimental increase in concentrations of toxic substances found in bottom sediments or aquatic life. Effects on aquatic organisms, wildlife, and human health will be considered.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)

Evaluation Guideline:	The modified OEHHA Fish Contaminant Goal for endosulfan (I and II) in fish tissue is 13,000 ppb. This screening level assumes an average body weight of 70 kg and a consumption rate of 32 g/day. A cooking reduction factor of 1 is applied for skin-off fillets. (Klasing, S., and R. Brodberg, 2008; USEPA, 2000)
Guideline Reference:	Development of Fish Contaminant Goals and Advisory Tissue Levels for Common Contaminants in California Sport Fish: Chlordane, DDTs, Dieldrin, Methylmercury, PCBs, Selenium, and Toxaphene Guidance for Assessing Chemical Contaminant Data for Use In Fish Advisories Volume 1: Fish Sampling and Analysis
Spatial Representation:	The samples were collected at one site in the Richmond Marina
Temporal Representation:	The samples were collected in May 1994.
Environmental Conditions:	
QAPP Information:	The 1999 Quality Assurance Project Plan Regional Monitoring Program for Trace Substances was used.
QAPP Information Reference(s):	1999 Quality Assurance Project Plan Regional Monitoring Program for Trace Substances

DECISION ID	66375	Region 2
Richmond Marina (part of San Francisco Bay, Central)		

Pollutant:	Endrin
Final Listing Decision:	Do Not List on 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision:	New Decision
Revision Status	Revised
Impairment from Pollutant or Pollution:	Pollutant

Regional Board Staff Conclusion: This pollutant is being considered for placement on the CWA section 303(d) List under section 3.5 of the Listing Policy. Under section 3.5 a single line of evidence is necessary to assess listing status. One line of evidence is available in the administrative record to assess this pollutant. Zero of four samples exceed the OEHHA guideline.

Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against placing this water segment-pollutant combination on the CWA section 303(d) List.

This conclusion is based on the staff findings that:

1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy.
2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy.
3. Zero of four samples exceed the OEHHA guideline and this sample size is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating. A minimum of 16 samples is needed to determine if a beneficial use is fully supported using table 3.1.
4. Pursuant to SECTION 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.

Regional Board Staff Decision Recommendation: After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be placed on the section 303(d) list. The readily available data and information is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating.

Line of Evidence (LOE) for Decision ID 66375, Endrin	Region 2
Richmond Marina (part of San Francisco Bay, Central)	

LOE ID:	95232
Pollutant:	Endrin

LOE Subgroup:	Pollutant-Tissue
Matrix:	Tissue
Fraction:	Fish fillet
Beneficial Use:	Commercial or recreational collection of fish, shellfish, or organisms
Number of Samples:	4
Number of Exceedances:	0
Data and Information Type:	Fish tissue analysis
Data Used to Assess Water Quality:	Water Board staff assessed Regional Monitoring Program data for the Richmond Marina to determine beneficial use support and results are as follows: 0 of 4 samples exceed the criterion for endrin. No samples were discarded for being non-detect, unquantifiable or the reporting limit exceeding the water quality objective.
Data Reference:	Regional Monitoring Program data, Feb. 1993-Sep. 2008
SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	Water Quality Control Plan for the San Francisco Bay Basin: Controllable water quality factors shall not cause a detrimental increase in concentrations of toxic substances found in bottom sediments or aquatic life. Effects on aquatic organisms, wildlife, and human health will be considered.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	The modified OEHHA Fish Contaminant Goal for endrin in fish tissue is 660 ppb. This screening level assumes an average body weight of 70 kg and a consumption rate of 32 g/day. A cooking reduction factor of 1 is applied for skin-off fillets. (Klasing, S., and R. Brodberg, 2008; USEPA, 2000)
Guideline Reference:	Development of Fish Contaminant Goals and Advisory Tissue Levels for Common Contaminants in California Sport Fish: Chlordane, DDTs, Dieldrin, Methylmercury, PCBs, Selenium, and Toxaphene Guidance for Assessing Chemical Contaminant Data for Use In Fish Advisories Volume 1: Fish Sampling and Analysis
Spatial Representation:	The samples were collected at one site in the Richmond Marina
Temporal Representation:	The samples were collected in May 1994.
Environmental Conditions:	
QAPP Information:	The 1999 Quality Assurance Project Plan Regional Monitoring Program for Trace Substances was used.
QAPP Information Reference(s):	1999 Quality Assurance Project Plan Regional Monitoring Program for Trace Substances

DECISION ID	66376	Region 2
Richmond Marina (part of San Francisco Bay, Central)		
Pollutant:	Heptachlor epoxide	
Final Listing Decision:	Do Not List on 303(d) list (TMDL required list)	
Last Listing Cycle's Final Listing Decision:	New Decision	
Revision Status	Revised	
Impairment from Pollutant or Pollution:	Pollutant	
Regional Board Staff Conclusion:	<p>This pollutant is being considered for placement on the CWA section 303(d) List under section 3.5 of the Listing Policy. Under section 3.5 a single line of evidence is necessary to assess listing status. One line of evidence is available in the administrative record to assess this pollutant. Zero of four samples exceed the OEHHA guideline.</p> <p>Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against placing this water segment-pollutant combination on the CWA section 303(d) List.</p>	

This conclusion is based on the staff findings that:

1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy.
2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy.
3. Zero of four samples exceed the OEHHHA guideline and this sample size is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating. A minimum of 16 samples is needed to determine if a beneficial use is fully supported using table 3.1.
4. Pursuant to SECTION 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.

Regional Board Staff Decision Recommendation: After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be placed on the section 303(d) list. The readily available data and information is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating.

Line of Evidence (LOE) for Decision ID 66376, Heptachlor epoxide

Region 2

Richmond Marina (part of San Francisco Bay, Central)

LOE ID:	95083
Pollutant:	Heptachlor epoxide
LOE Subgroup:	Pollutant-Tissue
Matrix:	Tissue
Fraction:	Fish fillet
Beneficial Use:	Commercial or recreational collection of fish, shellfish, or organisms
Number of Samples:	4
Number of Exceedances:	0
Data and Information Type:	Fish tissue analysis
Data Used to Assess Water Quality:	Water Board staff assessed Regional Monitoring Program data for the Richmond Marina to determine beneficial use support and results are as follows: 0 of 4 samples exceed the criterion for Heptachlor epoxide. No samples were discarded for being non-detect, unquantifiable or the reporting limit exceeding the water quality objective.
Data Reference:	Regional Monitoring Program data, Feb. 1993-Sep. 2008
SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	Water Quality Control Plan for the San Francisco Bay Basin: Controllable water quality factors shall not cause a detrimental increase in concentrations of toxic substances found in bottom sediments or aquatic life. Effects on aquatic organisms, wildlife, and human health will be considered.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	The modified OEHHHA Fish Contaminant Goal for heptachlor epoxide in fish tissue is 0.93 ppb. This screening level assumes an average body weight of 70 kg and a consumption rate of 32 g/day for a 30 year exposure over a 70-year lifetime. This constituent is a carcinogen therefore the risk level is set to one in a million. A cooking reduction factor of 1 is applied for skin-off fillets. (Klasing, S., and R. Brodberg, 2008; OEHHHA, 1999)
Guideline Reference:	Development of Fish Contaminant Goals and Advisory Tissue Levels for Common Contaminants in California Sport Fish: Chlordane, DDTs, Dieldrin, Methylmercury, PCBs, Selenium, and Toxaphene Public Health Goal for Heptachlor and Heptachlor Epoxide in Drinking Water
Spatial Representation:	The samples were collected at one site in the Richmond Marina
Temporal Representation:	The samples were collected in May 1994.
Environmental Conditions:	
QAPP Information:	The 1999 Quality Assurance Project Plan Regional Monitoring Program for Trace Substances was used.
QAPP Information Reference(s):	1999 Quality Assurance Project Plan Regional Monitoring Program for Trace Substances

DECISION ID	66377	Region 2
Richmond Marina (part of San Francisco Bay, Central)		

Pollutant:	Hexachlorobenzene/ HCB
Final Listing Decision:	Do Not List on 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision:	New Decision
Revision Status	Revised
Impairment from Pollutant or Pollution:	Pollutant
Regional Board Staff Conclusion:	<p>This pollutant is being considered for placement on the CWA section 303(d) List under section 3.5 of the Listing Policy. Under section 3.5 a single line of evidence is necessary to assess listing status. One line of evidence is available in the administrative record to assess this pollutant. Zero of four samples exceed the OEHHA guideline.</p> <p>Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against placing this water segment-pollutant combination on the CWA section 303(d) List.</p> <p>This conclusion is based on the staff findings that:</p> <ol style="list-style-type: none"> 1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy. 2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy. 3. Zero of four samples exceed the OEHHA guideline and this sample size is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating. A minimum of 16 samples is needed to determine if a beneficial use is fully supported using table 3.1. 4. Pursuant to SECTION 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.
Regional Board Staff Decision Recommendation:	After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be placed on the section 303(d) list. The readily available data and information is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating.

Line of Evidence (LOE) for Decision ID 66377, Hexachlorobenzene/ HCB	Region 2
Richmond Marina (part of San Francisco Bay, Central)	

LOE ID:	95079
Pollutant:	Hexachlorobenzene/ HCB
LOE Subgroup:	Pollutant-Tissue
Matrix:	Tissue
Fraction:	Fish fillet
Beneficial Use:	Commercial or recreational collection of fish, shellfish, or organisms
Number of Samples:	4
Number of Exceedances:	0
Data and Information Type:	Fish tissue analysis
Data Used to Assess Water Quality:	Water Board staff assessed Regional Monitoring Program data for the Richmond Marina to determine beneficial use support and results are as follows: 0 of 4 samples exceed the criterion for hexachlorobenzene. No samples were discarded for being non-detect, unquantifiable or the reporting limit exceeding the water quality objective.
Data Reference:	Regional Monitoring Program data, Feb. 1993-Sep. 2008
SWAMP Data:	Non-SWAMP

Water Quality Objective/Criterion:	Water Quality Control Plan for the San Francisco Bay Basin: Controllable water quality factors shall not cause a detrimental increase in concentrations of toxic substances found in bottom sediments or aquatic life. Effects on aquatic organisms, wildlife, and human health will be considered.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	The modified OEHHA Fish Contaminant Goal for hexachlorobenzene in fish tissue is 2.8 ppb. This screening level assumes an average body weight of 70 kg and a consumption rate of 32 g/day for a 30 year exposure over a 70-year lifetime. This constituent is a carcinogen therefore the risk level is set to one in a million. A cooking reduction factor of 1 is applied for skin-off fillets. (Klasing, S., and R. Brodberg, 2008; OEHHA, 2005)
Guideline Reference:	Development of Fish Contaminant Goals and Advisory Tissue Levels for Common Contaminants in California Sport Fish: Chlordane, DDTs, Dieldrin, Methylmercury, PCBs, Selenium, and Toxaphene Air Toxics Hotspots Program Risk Assessment Guidelines. Part II Technical Support Document for Describing Available Cancer Potency Values.
Spatial Representation:	The samples were collected at one site in the Richmond Marina
Temporal Representation:	The samples were collected in May 1994.
Environmental Conditions:	
QAPP Information:	The 1999 Quality Assurance Project Plan Regional Monitoring Program for Trace Substances was used.
QAPP Information Reference(s):	1999 Quality Assurance Project Plan Regional Monitoring Program for Trace Substances

DECISION ID 66378 Region 2	
Richmond Marina (part of San Francisco Bay, Central)	
Pollutant: Final Listing Decision: Last Listing Cycle's Final Listing Decision: Revision Status Impairment from Pollutant or Pollution:	Mercury Do Not List on 303(d) list (TMDL required list) New Decision Revised Pollutant
Regional Board Staff Conclusion:	<p>This pollutant is being considered for placement on the CWA section 303(d) List under section 3.5 of the Listing Policy. Under section 3.5 a single line of evidence is necessary to assess listing status. One line of evidence is available in the administrative record to assess this pollutant. Zero of four samples exceed the OEHHA guideline.</p> <p>Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against placing this water segment-pollutant combination on the CWA section 303(d) List.</p> <p>This conclusion is based on the staff findings that:</p> <ol style="list-style-type: none"> 1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy. 2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy. 3. Zero of four samples exceed the OEHHA guideline and this sample size is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating. A minimum of 16 samples is needed to determine if a beneficial use is fully supported using table 3.1. 4. Pursuant to SECTION 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.
Regional Board Staff Decision Recommendation:	After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be placed on the section 303(d) list. The readily available data and information is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating.

**Line of Evidence (LOE) for Decision ID 66378, Mercury
Richmond Marina (part of San Francisco Bay, Central)**

Region 2

LOE ID:	95176
Pollutant:	Mercury
LOE Subgroup:	Pollutant-Tissue
Matrix:	Tissue
Fraction:	Fish fillet
Beneficial Use:	Commercial or recreational collection of fish, shellfish, or organisms
Number of Samples:	4
Number of Exceedances:	1
Data and Information Type:	Fish tissue analysis
Data Used to Assess Water Quality:	Water Board staff assessed Regional Monitoring Program data for the Richmond Marina to determine beneficial use support and results are as follows: 1 of 4 samples exceed the criterion for mercury. No samples were discarded for being non-detect, unquantifiable or the reporting limit exceeding the water quality objective.
Data Reference:	Regional Monitoring Program data, Feb. 1993-Sep. 2008
SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	Water Quality Control Plan for the San Francisco Bay Basin: Controllable water quality factors shall not cause a detrimental increase in concentrations of toxic substances found in bottom sediments or aquatic life. Effects on aquatic organisms, wildlife, and human health will be considered.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	The Water Quality Control Plan for the San Francisco Bay Basin has a water quality objective in all parts of San Francisco Bay of 0.2 mg mercury per kg fish tissue for the protection of human health.
Guideline Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Spatial Representation:	The samples were collected at one site in the Richmond Marina
Temporal Representation:	The samples were collected in May 1994.
Environmental Conditions:	
QAPP Information:	The 1999 Quality Assurance Project Plan Regional Monitoring Program for Trace Substances was used.
QAPP Information Reference(s):	1999 Quality Assurance Project Plan Regional Monitoring Program for Trace Substances

DECISION ID 66379

Region 2

Richmond Marina (part of San Francisco Bay, Central)

Pollutant:	Mirex
Final Listing Decision:	Do Not List on 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision:	New Decision
Revision Status	Revised
Impairment from Pollutant or Pollution:	Pollutant
Regional Board Staff Conclusion:	<p>This pollutant is being considered for placement on the CWA section 303(d) List under section 3.5 of the Listing Policy. Under section 3.5 a single line of evidence is necessary to assess listing status. One line of evidence is available in the administrative record to assess this pollutant. Zero of zero samples exceed the OEHHHA guideline.</p> <p>Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against placing this water segment-pollutant combination on the CWA section</p>

303(d) List.

This conclusion is based on the staff findings that:

1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy.
2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy.
3. Zero of zero samples exceed the OEHHA guideline and this sample size is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating. A minimum of 16 samples is needed to determine if a beneficial use is fully supported using table 3.1.
4. Pursuant to SECTION 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.

Regional Board Staff Decision Recommendation: After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be placed on the section 303(d) list. The readily available data and information is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating.

**Line of Evidence (LOE) for Decision ID 66379, Mirex
Richmond Marina (part of San Francisco Bay, Central)**

Region 2

LOE ID:	95226
Pollutant:	Mirex
LOE Subgroup:	Pollutant-Tissue
Matrix:	Tissue
Fraction:	Fish fillet
Beneficial Use:	Commercial or recreational collection of fish, shellfish, or organisms
Number of Samples:	0
Number of Exceedances:	0
Data and Information Type:	Fish tissue analysis
Data Used to Assess Water Quality:	Water Board staff assessed Regional Monitoring Program data for the Richmond Marina to determine beneficial use support and results are as follows: 0 of 0 samples exceed the criterion for Mirex. Four samples were discarded for being non-detect, unquantifiable or the reporting limit exceeding the water quality objective.
Data Reference:	Regional Monitoring Program data, Feb. 1993-Sep. 2008
SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	Water Quality Control Plan for the San Francisco Bay Basin: Controllable water quality factors shall not cause a detrimental increase in concentrations of toxic substances found in bottom sediments or aquatic life. Effects on aquatic organisms, wildlife, and human health will be considered.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	The modified OEHHA Fish Contaminant Goal for mirex in fish tissue is 0.28 ppb. This screening level assumes an average body weight of 70 kg and a consumption rate of 32 g/day. A cooking reduction factor of 1 is applied for skin-off fillets. (Klasing, S., and R. Brodberg, 2008; OEHHA, 1992)
Guideline Reference:	Development of Fish Contaminant Goals and Advisory Tissue Levels for Common Contaminants in California Sport Fish: Chlordane, DDTs, Dieldrin, Methylmercury, PCBs, Selenium, and Toxaphene Expedited Cancer Potency Values and Proposed Regulatory Levels for Certain Proposition 65 Carcinogens.
Spatial Representation:	The samples were collected at one site in the Richmond Marina
Temporal Representation:	The samples were collected in May 1994.
Environmental Conditions:	
QAPP Information:	The 1999 Quality Assurance Project Plan Regional Monitoring Program for Trace

DECISION ID	66380	Region 2
Richmond Marina (part of San Francisco Bay, Central)		

Pollutant: Oxygen, Dissolved
Final Listing Decision: Do Not List on 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision: New Decision
Revision Status: Revised
Impairment from Pollutant or Pollution: Pollutant

Regional Board Staff Conclusion: This pollutant is being considered for placement on the CWA section 303(d) List under section 3.2 of the Listing Policy. Under section 3.2 a single line of evidence is necessary to assess listing status. One line of evidence is available in the administrative record to assess this pollutant. Zero of eighteen samples exceed the objective.

Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against placing this water segment-pollutant combination on the CWA section 303(d) List.

This conclusion is based on the staff findings that:

1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy.
2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy.
3. Zero of eighteen samples exceed the objective and this sample size is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating. A minimum of 26 samples is needed to determine if a beneficial use is fully supported using table 3.2.
4. Pursuant to SECTION 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.

Regional Board Staff Decision Recommendation: After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be placed on the section 303(d) list. The readily available data and information is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating.

Line of Evidence (LOE) for Decision ID 66380, Oxygen, Dissolved	Region 2
Richmond Marina (part of San Francisco Bay, Central)	

LOE ID: 92705

Pollutant: Oxygen, Dissolved
LOE Subgroup: Pollutant-Water
Matrix: Water
Fraction: Dissolved

Beneficial Use: Estuarine Habitat

Number of Samples: 18
Number of Exceedances: 0

Data and Information Type: PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality: Numeric data generated from 18 minimum samples of Dissolved Oxygen concentrations had no exceedances.

Data Reference: [Data for Various Pollutants in California Marinas, 2006.](#)

SWAMP Data: Non-SWAMP

Water Quality Objective/Criterion:	The dissolved oxygen content of bays/estuaries downstream of the Carquinez Bridge must be above 5 mg/L.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	
Guideline Reference:	
Spatial Representation:	Samples were collected from the following stations: Marina Bay Yacht Harbor 1.1 Marina Bay Yacht Harbor 1.2 Marina Bay Yacht Harbor 1.3 Marina Bay Yacht Harbor 2.1 Marina Bay Yacht Harbor 2.2 Marina Bay Yacht Harbor 2.3 Marina Bay Yacht Harbor 3.1 Marina Bay Yacht Harbor 3.2 Marina Bay Yacht Harbor 3.3 Marina Bay Yacht Harbor 4.1 Marina Bay Yacht Harbor 4.2 Marina Bay Yacht Harbor 4.3 Marina Bay Yacht Harbor 5.1 Marina Bay Yacht Harbor 5.2 Marina Bay Yacht Harbor 5.3 Marina Bay Yacht Harbor 6.1 Marina Bay Yacht Harbor 6.2 Marina Bay Yacht Harbor 6.3
Temporal Representation:	Samples were collected on the following dates: 7/25/2006 8/22/2006 9/18/2006
Environmental Conditions:	
QAPP Information:	Samples were collected and analyzed in accordance with a Quality Assurance Project Plan that was prepared per State Water Resources Control Board Agreement No. 05-218-250 California Department of Pesticide Regulation, Sacramento, CA. (Available online at http://www.cdpr.ca.gov/docs/emon/surfwttr/protocols/qapp_study236.pdf)
QAPP Information Reference(s):	

DECISION ID	66381	Region 2
Richmond Marina (part of San Francisco Bay, Central)		

Pollutant:	PAHs (Polycyclic Aromatic Hydrocarbons)
Final Listing Decision:	Do Not List on 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision:	New Decision
Revision Status	Revised
Impairment from Pollutant or Pollution:	Pollutant

Regional Board Staff Conclusion:	<p>This pollutant is being considered for placement on the CWA section 303(d) List under section 3.5 of the Listing Policy. Under section 3.5 a single line of evidence is necessary to assess listing status. One line of evidence is available in the administrative record to assess this pollutant. Zero of four samples exceed the OEHHHA guideline.</p> <p>Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against placing this water segment-pollutant combination on the CWA section 303(d) List.</p> <p>This conclusion is based on the staff findings that:</p> <ol style="list-style-type: none"> 1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy. 2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy. 3. Zero of four samples exceed the OEHHHA guideline and this sample size is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating. A minimum of 16 samples is needed to determine if a beneficial use is fully supported using table 3.1. 4. Pursuant to SECTION 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.
Regional Board Staff Decision Recommendation:	After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be placed on the section 303(d) list. The readily available data and information is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating.

Line of Evidence (LOE) for Decision ID 66381, PAHs (Polycyclic Aromatic Hydrocarbons)	Region 2
Richmond Marina (part of San Francisco Bay, Central)	

LOE ID:	95067
Pollutant:	PAHs (Polycyclic Aromatic Hydrocarbons)
LOE Subgroup:	Pollutant-Tissue
Matrix:	Tissue
Fraction:	Fish fillet
Beneficial Use:	Commercial or recreational collection of fish, shellfish, or organisms
Number of Samples:	4
Number of Exceedances:	0
Data and Information Type:	Fish tissue analysis
Data Used to Assess Water Quality:	Water Board staff assessed Regional Monitoring Program data for the Richmond Marina to determine beneficial use support and results are as follows: 0 of 4 samples exceed the criterion for polyaromatic hydrocarbons. No samples were discarded for being non-detect, unquantifiable or the reporting limit exceeding the water quality objective.
Data Reference:	Regional Monitoring Program data, Feb. 1993-Sep. 2008
SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	Water Quality Control Plan for the San Francisco Bay Basin: Controllable water quality factors shall not cause a detrimental increase in concentrations of toxic substances found in bottom sediments or aquatic life. Effects on aquatic organisms, wildlife, and human health will be considered.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	The modified OEHHA Fish Contaminant Goal for polycyclic aromatic hydrocarbons in fish tissue is 0.7 ppb. This screening level assumes an average body weight of 70 kg and a consumption rate of 32 g/day for a 30 year exposure over a 70-year lifetime. This constituent is a carcinogen therefore the risk level is set to one in a million. (Klasing, S., and R. Brodberg, 2008; USEPA, 2000)
Guideline Reference:	Development of Fish Contaminant Goals and Advisory Tissue Levels for Common Contaminants in California Sport Fish: Chlordane, DDTs, Dieldrin, Methylmercury, PCBs, Selenium, and Toxaphene Guidance for Assessing Chemical Contaminant Data for Use In Fish Advisories Volume 1: Fish Sampling and Analysis
Spatial Representation:	The samples were collected at one site in the Richmond Marina
Temporal Representation:	The samples were collected in May 1994.
Environmental Conditions:	
QAPP Information:	The 1999 Quality Assurance Project Plan Regional Monitoring Program for Trace Substances was used.
QAPP Information Reference(s):	1999 Quality Assurance Project Plan Regional Monitoring Program for Trace Substances

DECISION ID	66383	Region 2
Richmond Marina (part of San Francisco Bay, Central)		

Pollutant:	Selenium
Final Listing Decision:	Do Not List on 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision:	New Decision
Revision Status	Revised
Impairment from Pollutant or Pollution:	Pollutant
Regional Board Staff Conclusion:	This pollutant is being considered for placement on the CWA section 303(d) List under section 3.5 of the Listing Policy. Under section 3.5 a single line of evidence is necessary to assess listing status. One line of evidence is available in the administrative record to assess this pollutant. Zero of four samples exceed the OEHHA guideline.

Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against placing this water segment-pollutant combination on the CWA section 303(d) List.

This conclusion is based on the staff findings that:

1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy.
2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy.
3. Zero of four samples exceed the OEHHA guideline and this sample size is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating. A minimum of 16 samples is needed to determine if a beneficial use is fully supported using table 3.1.
4. Pursuant to SECTION 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.

Regional Board Staff Decision Recommendation: After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be placed on the section 303(d) list. The readily available data and information is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating.

**Line of Evidence (LOE) for Decision ID 66383, Selenium
Richmond Marina (part of San Francisco Bay, Central)**

Region 2

LOE ID:	95103
Pollutant:	Selenium
LOE Subgroup:	Pollutant-Tissue
Matrix:	Tissue
Fraction:	Fish fillet
Beneficial Use:	Commercial or recreational collection of fish, shellfish, or organisms
Number of Samples:	4
Number of Exceedances:	0
Data and Information Type:	Fish tissue analysis
Data Used to Assess Water Quality:	Water Board staff assessed Regional Monitoring Program data for the Richmond Marina to determine beneficial use support and results are as follows: 0 of 4 samples exceed the criterion for selenium. No samples were discarded for being non-detect, unquantifiable or the reporting limit exceeding the water quality objective.
Data Reference:	Regional Monitoring Program data, Feb. 1993-Sep. 2008
SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	Water Quality Control Plan for the San Francisco Bay Basin: Controllable water quality factors shall not cause a detrimental increase in concentrations of toxic substances found in bottom sediments or aquatic life. Effects on aquatic organisms, wildlife, and human health will be considered.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	The OEHHA Fish Contaminant Goal for selenium in fish tissue is 7.4 ppm. This screening level assumes an average body weight of 70 kg and a consumption rate of 32 g/day. A background dietary consumption rate of 0.114 mg/day is applied for this micronutrient. (Klasing, S., and R. Brodberg, 2008)
Guideline Reference:	Development of Fish Contaminant Goals and Advisory Tissue Levels for Common Contaminants in California Sport Fish: Chlordane, DDTs, Dieldrin, Methylmercury, PCBs, Selenium, and Toxaphene
Spatial Representation:	The samples were collected at one site in the Richmond Marina
Temporal Representation:	The samples were collected in May 1994.
Environmental Conditions:	

QAPP Information: The 1999 Quality Assurance Project Plan Regional Monitoring Program for Trace Substances was used.

QAPP Information Reference(s): [1999 Quality Assurance Project Plan Regional Monitoring Program for Trace Substances](#)

DECISION ID	66384	Region 2
Richmond Marina (part of San Francisco Bay, Central)		

Pollutant: Toxaphene
Final Listing Decision: Do Not List on 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision: New Decision
Revision Status: Revised
Impairment from Pollutant or Pollution: Pollutant

Regional Board Staff Conclusion: This pollutant is being considered for placement on the CWA section 303(d) List under section 3.5 of the Listing Policy. Under section 3.5 a single line of evidence is necessary to assess listing status. One line of evidence is available in the administrative record to assess this pollutant. Zero of zero samples exceed the OEHHHA guideline.

Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against placing this water segment-pollutant combination on the CWA section 303(d) List.

This conclusion is based on the staff findings that:

1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy.
2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy.
3. Zero of zero samples exceed the OEHHHA guideline and this sample size is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating. A minimum of 16 samples is needed to determine if a beneficial use is fully supported using table 3.1.
4. Pursuant to SECTION 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.

Regional Board Staff Decision Recommendation: After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be placed on the section 303(d) list. The readily available data and information is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating.

Line of Evidence (LOE) for Decision ID 66384, Toxaphene	Region 2
Richmond Marina (part of San Francisco Bay, Central)	

LOE ID: 95121

Pollutant: Toxaphene
LOE Subgroup: Pollutant-Tissue
Matrix: Tissue
Fraction: Fish fillet

Beneficial Use: Commercial or recreational collection of fish, shellfish, or organisms

Number of Samples: 0
Number of Exceedances: 0

Data and Information Type: Fish tissue analysis
Data Used to Assess Water Quality: Water Board staff assessed Regional Monitoring Program data for the Richmond Marina to determine beneficial use support and results are as follows: 0 of 0 samples exceed the criterion for toxaphene. Four samples were discarded for being non-detect, unquantifiable or the reporting limit exceeding the water quality objective.

Data Reference:	Regional Monitoring Program data, Feb. 1993-Sep. 2008
SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	Water Quality Control Plan for the San Francisco Bay Basin: Controllable water quality factors shall not cause a detrimental increase in concentrations of toxic substances found in bottom sediments or aquatic life. Effects on aquatic organisms, wildlife, and human health will be considered.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	The modified OEHHA Fish Contaminant Goal for toxaphene in fish tissue is 4.3 ppb. This screening level assumes an average body weight of 70 kg and a consumption rate of 32 g/day for a 30 year exposure over a 70-year lifetime. This constituent is a carcinogen therefore the risk level is set to one in a million. A cooking reduction factor of 1 is applied for skin-off fillets. (Klasing, S., and R. Brodberg, 2008)
Guideline Reference:	Development of Fish Contaminant Goals and Advisory Tissue Levels for Common Contaminants in California Sport Fish: Chlordane, DDTs, Dieldrin, Methylmercury, PCBs, Selenium, and Toxaphene
Spatial Representation:	The samples were collected at one site in the Richmond Marina
Temporal Representation:	The samples were collected in May 1994.
Environmental Conditions:	
QAPP Information:	The 1999 Quality Assurance Project Plan Regional Monitoring Program for Trace Substances was used.
QAPP Information Reference(s):	1999 Quality Assurance Project Plan Regional Monitoring Program for Trace Substances

DECISION ID	66385	Region 2
Richmond Marina (part of San Francisco Bay, Central)		

Pollutant:	Toxicity
Final Listing Decision:	Do Not List on 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision:	New Decision
Revision Status	Revised
Impairment from Pollutant or Pollution:	Pollutant
Regional Board Staff Conclusion:	<p>This pollutant is being considered for placement on the CWA section 303(d) List under section 3.6 of the Listing Policy. Under section 3.6 at least one line of evidence is necessary to assess listing status for toxicity to justify adding that pollutant to the CWA section 303(d) List.</p> <p>One line of evidence available in the administrative record to assess this pollutant. One of four samples exceed the toxicity guideline.</p> <p>Based on the readily available data and information, the weight of evidence indicates that there is insufficient justification for placing this water segment-pollutant combination on the CWA section 303(d) List.</p> <p>This conclusion is based on the staff findings that:</p> <ol style="list-style-type: none"> 1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy. 2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy. 3. One of four samples exceed the toxicity guideline and this sample size is sufficient to determine beneficial use support, with the power and confidence of the Listing Policy. A minimum of 16 samples is needed to determine if a beneficial use is fully supported using table 3.1. 4. Pursuant to section 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.
Regional Board Staff Decision Recommendation:	After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be placed on the section 303(d) list. The readily available data and information is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating.

Line of Evidence (LOE) for Decision ID 66385, Toxicity
Richmond Marina (part of San Francisco Bay, Central)

Region 2

LOE ID:	92707
Pollutant:	Toxicity
LOE Subgroup:	Toxicity
Matrix:	Water
Fraction:	None
Beneficial Use:	Estuarine Habitat
Number of Samples:	4
Number of Exceedances:	1
Data and Information Type:	TOXICITY TESTING
Data Used to Assess Water Quality:	Four samples were tested for toxicity. One of the four samples exhibited statistically significant effect relative to control. The toxicity test used was the mussel embryo development test (EPA 1995) using <i>Mytilus galloprovincialis</i> . Toxic effects are expressed as percent reduction in normal development relative to controls.
Data Reference:	Data for Various Pollutants in California Marinas, 2006.
SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	All waters shall be maintained free of toxic substances in concentrations that are lethal to or that produce other detrimental responses in aquatic organisms. Detrimental responses include, but are not limited to, decreased growth rate and decreased reproductive success of resident or indicator species.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) - San Francisco Bay Region (Region 2)
Evaluation Guideline:	Toxicity is defined as a statistically significant effect in the sample exposure compared to the control using EPA-recommended hypothesis testing (parametric Dunnett's Test or non-parametric Kruskal-Wallis or Wilcoxon Two-sample Test). The t-test is used to determine if there is a statistically significant decrease in organism response in the sample as compared to the control.
Guideline Reference:	SWAMP Memo Toxicity Data Interpretation Method 1007.0: Mysid, <i>Mysidopsis bahia</i>, Survival, Growth, and Fecundity Test; Chronic Toxicity. Excerpt from: Short-Term Methods for Estimating the Chronic Toxicity of Effluents and Receiving Waters to Marine and Estuarine Organisms. 3rd edition EPA-821-R-02-014
Spatial Representation:	The samples were collected at Marina Bay Yacht Harbor 1.2, 2.2, 3.2, and 4.2.
Temporal Representation:	Samples were collected on 8/22/2006.
Environmental Conditions:	
QAPP Information:	Data quality is good. The data and QA information is provided in Appendix G and I to the report Monitoring For Indicators of Antifouling Paint Pollution In California Marinas, Department of Pesticide Regulation. The Southern California Coastal Water Research Project laboratory conducted the toxicity tests.
QAPP Information Reference(s):	

DECISION ID 66386
Richmond Marina (part of San Francisco Bay, Central)

Region 2

Pollutant:	Zinc
Final Listing Decision:	Do Not List on 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision:	New Decision
Revision Status	Revised

Impairment from Pollutant or Pollution:

Pollutant

Regional Board Staff Conclusion:

This pollutant is being considered for placement on the CWA section 303(d) List under section 3.1 of the Listing Policy. Under section 3.1 a single line of evidence is necessary to assess listing status. One line of evidence is available in the administrative record to assess this pollutant. Zero of six samples exceed the guideline.

Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against placing this water segment-pollutant combination on the CWA section 303(d) List.

This conclusion is based on the staff findings that:

1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy.
2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy.
3. Zero of six samples exceed the guideline and this sample size is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating. A minimum of 16 samples is needed to determine if a beneficial use is fully supported using table 3.1.
4. Pursuant to SECTION 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.

Regional Board Staff Decision Recommendation:

After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be placed on the section 303(d) list. The readily available data and information is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating.

Line of Evidence (LOE) for Decision ID 66386, Zinc

Region 2

Richmond Marina (part of San Francisco Bay, Central)

LOE ID: 92708

Pollutant: Zinc
LOE Subgroup: Pollutant-Water
Matrix: Water
Fraction: Dissolved

Beneficial Use: Estuarine Habitat

Number of Samples: 6
Number of Exceedances: 0

Data and Information Type: Fixed station physical/chemical (conventional plus toxic pollutants)
Data Used to Assess Water Quality: None of the six samples exceeded the SSO value of 6 ug/L for dissolved zinc.
Data Reference: [Data for Various Pollutants in California Marinas, 2006.](#)

SWAMP Data: Non-SWAMP

Water Quality Objective/Criterion: Waters shall not contain chemical constituents in concentrations that adversely affect beneficial uses. California Toxics Rule (CTR) lists criterion continuous concentrations to protect aquatic life in saline water. The CTR value is 81 ug/L.

Objective/Criterion Reference: [Water Quality Control Plan \(Basin Plan\) San Francisco Bay Basin \(Region 2\)](#)

Evaluation Guideline:
Guideline Reference:

Spatial Representation: A total of eight grab samples were collected during each sampling event. Four separate grab samples were collected from inside the marina basin (Sites 1, 2, 3, & 4) and four separate grab samples were collected from outside the marina basin (Sites 5, 6, 7, & 8). Sample results for sites inside the marina basin and sites outside the marina basin were averaged per sample event, resulting in two sample results per sampling event.

Temporal Representation: Samples were collected on three separate sampling events during the dry season (July -

Environmental Conditions:
QAPP Information:

October) in 2006.

Samples were collected during the dry season only.

Samples were collected and analyzed in accordance with a Quality Assurance Project Plan that was prepared per State Water Resources Control Board Agreement No. 05-218-250 California Department of Pesticide Regulation, Sacramento, CA. (Available online at http://www.cdpr.ca.gov/docs/emon/surfwtr/protocols/qapp_study236.pdf)

QAPP Information Reference(s):

DECISION ID	66382	Region 2
Richmond Marina (part of San Francisco Bay, Central)		

Pollutant: pH
Final Listing Decision: Do Not List on 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision: New Decision
Revision Status: Revised
Impairment from Pollutant or Pollution: Pollutant

Regional Board Staff Conclusion: This pollutant is being considered for placement on the CWA section 303(d) List under section 3.2 of the Listing Policy. Under section 3.2 a single line of evidence is necessary to assess listing status. One line of evidence is available in the administrative record to assess this pollutant. Zero of eighteen samples exceed the objective.

Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against placing this water segment-pollutant combination on the CWA section 303(d) List.

This conclusion is based on the staff findings that:

1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy.
2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy.
3. Zero of eighteen samples exceed the objective and this sample size is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating. A minimum of 26 samples is needed to determine if a beneficial use is fully supported using table 3.2.
4. Pursuant to SECTION 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.

Regional Board Staff Decision Recommendation: After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be placed on the section 303(d) list. The readily available data and information is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating.

Line of Evidence (LOE) for Decision ID 66382, pH	Region 2
Richmond Marina (part of San Francisco Bay, Central)	

LOE ID: 92706
Pollutant: pH
LOE Subgroup: Pollutant-Water
Matrix: Water
Fraction: Dissolved
Beneficial Use: Estuarine Habitat
Number of Samples: 18
Number of Exceedances: 0
Data and Information Type: PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality: Numeric data generated from 18 minimums and maximums had no exceedences.

Data Reference:	Data for Various Pollutants in California Marinas, 2006.
SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	The pH shall not be depressed below 6.5 nor raised above 8.5.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	
Guideline Reference:	
Spatial Representation:	Samples were collected from the following stations: Marina Bay Yacht Harbor 1.1 Marina Bay Yacht Harbor 1.2 Marina Bay Yacht Harbor 1.3 Marina Bay Yacht Harbor 2.1 Marina Bay Yacht Harbor 2.2 Marina Bay Yacht Harbor 2.3 Marina Bay Yacht Harbor 3.1 Marina Bay Yacht Harbor 3.2 Marina Bay Yacht Harbor 3.3 Marina Bay Yacht Harbor 4.1 Marina Bay Yacht Harbor 4.2 Marina Bay Yacht Harbor 4.3 Marina Bay Yacht Harbor 5.1 Marina Bay Yacht Harbor 5.2 Marina Bay Yacht Harbor 5.3 Marina Bay Yacht Harbor 6.1 Marina Bay Yacht Harbor 6.2 Marina Bay Yacht Harbor 6.3
Temporal Representation:	Samples were collected once a month from July 2006 to September 2006.
Environmental Conditions:	
QAPP Information:	NPDES quality assurance.
QAPP Information Reference(s):	

Draft California 2016 Integrated Report (303(d) List/305(b) Report)

Supporting Information

Regional Board 2 - San Francisco Bay Region

Water Body Name: Berkeley Marina (part of San Francisco Bay, Central)
Water Body ID: CAB2033001120110405215519
Water Body Type: Bay & Harbor

DECISION ID 61298 **Region 2**
Berkeley Marina (part of San Francisco Bay, Central)

Pollutant: Chlordane
Final Listing Decision: Do Not List on 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision: New Decision
Revision Status: Revised
Impairment from Pollutant or Pollution: Pollutant

Regional Board Staff Conclusion: This pollutant is being considered for placement on the CWA section 303(d) List under section 3.5 of the Listing Policy. Under section 3.5 a single line of evidence is necessary to assess listing status. One line of evidence is available in the administrative record to assess this pollutant. One of three samples exceed the guideline.

Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against placing this water segment-pollutant combination on the CWA section 303(d) List.

This conclusion is based on the staff findings that:

1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy.
2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy.
3. One of three samples exceed the guideline and this sample size is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating. A minimum of 16 samples is needed to determine if a beneficial use is fully supported using table 3.1.
4. Pursuant to SECTION 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.

Regional Board Staff Decision Recommendation: After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be placed on the section 303(d) list. The readily available data and information is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating.

Line of Evidence (LOE) for Decision ID 61298, Chlordane **Region 2**
Berkeley Marina (part of San Francisco Bay, Central)

LOE ID: 95200
Pollutant: Chlordane
LOE Subgroup: Pollutant-Tissue
Matrix: Tissue
Fraction: Fish fillet
Beneficial Use: Commercial or recreational collection of fish, shellfish, or organisms
Number of Samples: 3
Number of Exceedances: 1

Data and Information Type:	Fish tissue analysis
Data Used to Assess Water Quality:	Water Board staff assessed Regional Monitoring Program data for Berkeley Marina to determine beneficial use support and results are as follows: One of three samples exceed the criterion for chlordane. No samples were discarded for being non-detect, unquantifiable or the reporting limit exceeding the water quality objective.
Data Reference:	Regional Monitoring Program data, Feb. 1993-Sep. 2008
SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	Water Quality Control Plan for the San Francisco Bay Basin: Controllable water quality factors shall not cause a detrimental increase in concentrations of toxic substances found in bottom sediments or aquatic life. Effects on aquatic organisms, wildlife, and human health will be considered.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	The modified OEHHA Fish Contaminant Goal for total chlordane in fish tissue is 3.9 ppb. This screening level assumes an average body weight of 70 kg and a consumption rate of 32 g/day for a 30 year exposure over a 70-year lifetime. This constituent is a carcinogen therefore the risk level is set to one in a million. A cooking reduction factor of 1 is applied for skin-off fillets. (Klasing, S., and R. Brodberg, 2008)
Guideline Reference:	Development of Fish Contaminant Goals and Advisory Tissue Levels for Common Contaminants in California Sport Fish: Chlordane, DDTs, Dieldrin, Methylmercury, PCBs, Selenium, and Toxaphene
Spatial Representation:	The samples were collected at one site in Berkeley Marina.
Temporal Representation:	The samples were collected in July 2006.
Environmental Conditions:	
QAPP Information:	The 1999 Quality Assurance Project Plan Regional Monitoring Program for Trace Substances was used.
QAPP Information Reference(s):	1999 Quality Assurance Project Plan Regional Monitoring Program for Trace Substances

DECISION ID	61314	Region 2
Berkeley Marina (part of San Francisco Bay, Central)		

Pollutant:	Chlorpyrifos
Final Listing Decision:	Do Not List on 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision:	New Decision
Revision Status	Revised
Impairment from Pollutant or Pollution:	Pollutant

Regional Board Staff Conclusion:	<p>This pollutant is being considered for placement on the CWA section 303(d) List under section 3.5 of the Listing Policy. Under section 3.5 a single line of evidence is necessary to assess listing status. One line of evidence is available in the administrative record to assess this pollutant. Zero of three samples exceed the guideline.</p> <p>Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against placing this water segment-pollutant combination on the CWA section 303(d) List.</p> <p>This conclusion is based on the staff findings that:</p> <ol style="list-style-type: none"> 1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy. 2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy. 3. Zero of three samples exceed the guideline and this sample size is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating. A minimum of 16 samples is needed to determine if a beneficial use is fully supported using table 3.1. 4. Pursuant to SECTION 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.
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Regional Board Staff Decision Recommendation: After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be placed on the section 303(d) list. The readily available data and information is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating.

**Line of Evidence (LOE) for Decision ID 61314, Chlorpyrifos
Berkeley Marina (part of San Francisco Bay, Central)**

Region 2

LOE ID: 95157

Pollutant: Chlorpyrifos
LOE Subgroup: Pollutant-Tissue
Matrix: Tissue
Fraction: Fish fillet

Beneficial Use: Commercial or recreational collection of fish, shellfish, or organisms

Number of Samples: 3
Number of Exceedances: 0

Data and Information Type: Fish tissue analysis
Data Used to Assess Water Quality: Water Board staff assessed Regional Monitoring Program data for Berkeley Marina to determine beneficial use support and results are as follows: 0 of 3 samples exceed the criterion for chlorpyrifos. No samples were discarded for being non-detect, unquantifiable or the reporting limit exceeding the water quality objective.

Data Reference: [Regional Monitoring Program data, Feb. 1993-Sep. 2008](#)

SWAMP Data: Non-SWAMP

Water Quality Objective/Criterion: Water Quality Control Plan for the San Francisco Bay Basin: Controllable water quality factors shall not cause a detrimental increase in concentrations of toxic substances found in bottom sediments or aquatic life. Effects on aquatic organisms, wildlife, and human health will be considered.

Objective/Criterion Reference: [Water Quality Control Plan \(Basin Plan\) San Francisco Bay Basin \(Region 2\)](#)

Evaluation Guideline: The modified OEHHA Fish Contaminant Goal for chlorpyrifos in fish tissue is 660 ppb. This screening level assumes an average body weight of 70 kg and a consumption rate of 32 g/day. A cooking reduction factor of 1 is applied for skin-off fillets. (Klasing, S., and R. Brodberg, 2008; USEPA, 2000)

Guideline Reference: [Development of Fish Contaminant Goals and Advisory Tissue Levels for Common Contaminants in California Sport Fish: Chlordane, DDTs, Dieldrin, Methylmercury, PCBs, Selenium, and Toxaphene](#)
[Guidance for Assessing Chemical Contaminant Data for Use In Fish Advisories Volume 1: Fish Sampling and Analysis](#)

Spatial Representation: The samples were collected at one site in Berkeley Marina.
Temporal Representation: The samples were collected in July 2006.
Environmental Conditions:
QAPP Information: The 1999 Quality Assurance Project Plan Regional Monitoring Program for Trace Substances was used.

QAPP Information Reference(s): [1999 Quality Assurance Project Plan Regional Monitoring Program for Trace Substances](#)

DECISION ID 61322

Region 2

Berkeley Marina (part of San Francisco Bay, Central)

Pollutant: Copper
Final Listing Decision: Do Not List on 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision: New Decision

Revision Status
Impairment from Pollutant or
Pollution:

Revised
Pollutant

Regional Board Staff
Conclusion:

This pollutant is being considered for placement on the CWA section 303(d) List under section 3.1 of the Listing Policy. Under section 3.1 a single line of evidence is necessary to assess listing status. One line of evidence is available in the administrative record to assess this pollutant. Zero of three samples exceed the guideline.

Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against placing this water segment-pollutant combination on the CWA section 303(d) List.

This conclusion is based on the staff findings that:

1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy.
2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy.
3. Zero of three samples exceed the guideline and this sample size is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating. A minimum of 16 samples is needed to determine if a beneficial use is fully supported using table 3.1.
4. Pursuant to SECTION 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.

Regional Board Staff Decision
Recommendation:

After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be placed on the section 303(d) list. The readily available data and information is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating.

Line of Evidence (LOE) for Decision ID 61322, Copper
Berkeley Marina (part of San Francisco Bay, Central)

Region 2

LOE ID:	91089
Pollutant:	Copper
LOE Subgroup:	Pollutant-Water
Matrix:	Water
Fraction:	Dissolved
Beneficial Use:	Estuarine Habitat
Number of Samples:	3
Number of Exceedances:	0
Data and Information Type:	Fixed station physical/chemical (conventional plus toxic pollutants)
Data Used to Assess Water Quality:	None of the three samples exceeded the SSO value of 6 ug/L for dissolved copper.
Data Reference:	Data for Various Pollutants in California Marinas, 2006.
SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	Waters shall not contain chemical constituents in concentrations that adversely affect beneficial uses. Table 3.3A lists a site specific objective (SSO) for criteria continuous concentration of dissolved copper. The SSO for dissolved copper for central San Francisco Bay is 6.0 ug/L.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	
Guideline Reference:	
Spatial Representation:	A total of four separate grab samples were collected from inside the marina basin (Sites 1, 2, 3, & 4), these sites were averaged per sample event.
Temporal Representation:	Samples were collected on three separate sampling events during the dry season (July - October) in 2006.

Environmental Conditions:

QAPP Information:

Samples were collected during the dry season only.

Samples were collected and analyzed in accordance with a Quality Assurance Project Plan that was prepared per State Water Resources Control Board Agreement No. 05-218-250 California Department of Pesticide Regulation, Sacramento, CA. (Available online at http://www.cdpr.ca.gov/docs/emon/surfwttr/protocols/qapp_study236.pdf)

QAPP Information Reference(s):

DECISION ID	61336	Region 2
Berkeley Marina (part of San Francisco Bay, Central)		

Pollutant:	Diazinon
Final Listing Decision:	Do Not List on 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision:	New Decision
Revision Status	Revised
Impairment from Pollutant or Pollution:	Pollutant

Regional Board Staff Conclusion: This pollutant is being considered for placement on the CWA section 303(d) List under section 3.1 of the Listing Policy. Under section 3.1 a single line of evidence is necessary to assess listing status. One line of evidence is available in the administrative record to assess this pollutant. Zero of three samples exceed the guideline.

Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against placing this water segment-pollutant combination on the CWA section 303(d) List.

This conclusion is based on the staff findings that:

1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy.
2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy.
3. Zero of three samples exceed the guideline and this sample size is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating. A minimum of 16 samples is needed to determine if a beneficial use is fully supported using table 3.1.
4. Pursuant to SECTION 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.

Regional Board Staff Decision Recommendation: After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be placed on the section 303(d) list. The readily available data and information is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating.

Line of Evidence (LOE) for Decision ID 61336, Diazinon	Region 2
Berkeley Marina (part of San Francisco Bay, Central)	

LOE ID: 95164

Pollutant:	Diazinon
LOE Subgroup:	Pollutant-Tissue
Matrix:	Tissue
Fraction:	Fish fillet

Beneficial Use: Commercial or recreational collection of fish, shellfish, or organisms

Number of Samples:	3
Number of Exceedances:	0

Data and Information Type:	Fish tissue analysis
Data Used to Assess Water Quality:	Water Board staff assessed Regional Monitoring Program data for Berkeley Marina to determine beneficial use support and results are as follows: 0 of 3 samples exceed the

Data Reference:	<p>criterion for diazinon. No samples were discarded for being non-detect, unquantifiable or the reporting limit exceeding the water quality objective.</p> <p>Regional Monitoring Program data, Feb. 1993-Sep. 2008</p>
SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	Water Quality Control Plan for the San Francisco Bay Basin: Controllable water quality factors shall not cause a detrimental increase in concentrations of toxic substances found in bottom sediments or aquatic life. Effects on aquatic organisms, wildlife, and human health will be considered.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	The modified OEHHA Fish Contaminant Goal for diazinon in fish tissue is 1,500 ppb. This screening level assumes an average body weight of 70 kg and a consumption rate of 32 g/day. A cooking reduction factor of 1 is applied for skin-off fillets. (Klasing, S., and R. Brodberg, 2008; USEPA, 2000)
Guideline Reference:	<p>Development of Fish Contaminant Goals and Advisory Tissue Levels for Common Contaminants in California Sport Fish: Chlordane, DDTs, Dieldrin, Methylmercury, PCBs, Selenium, and Toxaphene</p> <p>Guidance for Assessing Chemical Contaminant Data for Use In Fish Advisories Volume 1: Fish Sampling and Analysis</p>
Spatial Representation:	The samples were collected at one site in Berkeley Marina.
Temporal Representation:	The samples were collected in July 2006.
Environmental Conditions:	
QAPP Information:	The 1999 Quality Assurance Project Plan Regional Monitoring Program for Trace Substances was used.
QAPP Information Reference(s):	1999 Quality Assurance Project Plan Regional Monitoring Program for Trace Substances

DECISION ID	61348	Region 2
Berkeley Marina (part of San Francisco Bay, Central)		

Pollutant:	Endosulfan
Final Listing Decision:	Do Not List on 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision:	New Decision
Revision Status	Revised
Impairment from Pollutant or Pollution:	Pollutant
Regional Board Staff Conclusion:	<p>This pollutant is being considered for placement on the CWA section 303(d) List under section 3.5 of the Listing Policy. Under section 3.5 a single line of evidence is necessary to assess listing status. One line of evidence is available in the administrative record to assess this pollutant. Zero of three samples exceed the guideline.</p> <p>Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against placing this water segment-pollutant combination on the CWA section 303(d) List.</p> <p>This conclusion is based on the staff findings that:</p> <ol style="list-style-type: none"> 1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy. 2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy. 3. Zero of three samples exceed the guideline and this sample size is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating. A minimum of 16 samples is needed to determine if a beneficial use is fully supported using table 3.1. 4. Pursuant to SECTION 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.
Regional Board Staff Decision Recommendation:	After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be placed on the section 303(d) list. The readily available data and information is insufficient to determine, with the power and confidence of the Listing Policy, the

Line of Evidence (LOE) for Decision ID 61348, Endosulfan
Berkeley Marina (part of San Francisco Bay, Central)
Region 2

LOE ID:	95129
Pollutant:	Endosulfan
LOE Subgroup:	Pollutant-Tissue
Matrix:	Tissue
Fraction:	Fish fillet
Beneficial Use:	Commercial or recreational collection of fish, shellfish, or organisms
Number of Samples:	3
Number of Exceedances:	0
Data and Information Type:	Fish tissue analysis
Data Used to Assess Water Quality:	Water Board staff assessed Regional Monitoring Program data for Berkeley Marina to determine beneficial use support and results are as follows: 0 of 3 samples exceed the criterion for endosulfan. No samples were discarded for being non-detect, unquantifiable or the reporting limit exceeding the water quality objective.
Data Reference:	Regional Monitoring Program data, Feb. 1993-Sep. 2008
SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	Water Quality Control Plan for the San Francisco Bay Basin: Controllable water quality factors shall not cause a detrimental increase in concentrations of toxic substances found in bottom sediments or aquatic life. Effects on aquatic organisms, wildlife, and human health will be considered.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	The modified OEHHA Fish Contaminant Goal for endosulfan (I and II) in fish tissue is 13,000 ppb. This screening level assumes an average body weight of 70 kg and a consumption rate of 32 g/day. A cooking reduction factor of 1 is applied for skin-off fillets. (Klasing, S., and R. Brodberg, 2008; USEPA, 2000)
Guideline Reference:	Development of Fish Contaminant Goals and Advisory Tissue Levels for Common Contaminants in California Sport Fish: Chlordane, DDTs, Dieldrin, Methylmercury, PCBs, Selenium, and Toxaphene Guidance for Assessing Chemical Contaminant Data for Use In Fish Advisories Volume 1: Fish Sampling and Analysis
Spatial Representation:	The samples were collected at one site in Berkeley Marina.
Temporal Representation:	The samples were collected in July 2006.
Environmental Conditions:	
QAPP Information:	The 1999 Quality Assurance Project Plan Regional Monitoring Program for Trace Substances was used.
QAPP Information Reference(s):	1999 Quality Assurance Project Plan Regional Monitoring Program for Trace Substances

DECISION ID 61349
Berkeley Marina (part of San Francisco Bay, Central)
Region 2

Pollutant:	Endrin
Final Listing Decision:	Do Not List on 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision:	New Decision
Revision Status	Revised
Impairment from Pollutant or Pollution:	Pollutant

**Regional Board Staff
Conclusion:**

This pollutant is being considered for placement on the CWA section 303(d) List under section 3.5 of the Listing Policy. Under section 3.5 a single line of evidence is necessary to assess listing status. One line of evidence is available in the administrative record to assess this pollutant. Zero of three samples exceed the guideline.

Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against placing this water segment-pollutant combination on the CWA section 303(d) List.

This conclusion is based on the staff findings that:

1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy.
2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy.
3. Zero of three samples exceed the guideline and this sample size is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating. A minimum of 16 samples is needed to determine if a beneficial use is fully supported using table 3.1.
4. Pursuant to SECTION 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.

**Regional Board Staff Decision
Recommendation:**

After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be placed on the section 303(d) list. The readily available data and information is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating.

**Line of Evidence (LOE) for Decision ID 61349, Endrin
Berkeley Marina (part of San Francisco Bay, Central)**

Region 2

LOE ID:	95116
Pollutant:	Endrin
LOE Subgroup:	Pollutant-Tissue
Matrix:	Tissue
Fraction:	Fish fillet
Beneficial Use:	Commercial or recreational collection of fish, shellfish, or organisms
Number of Samples:	3
Number of Exceedances:	0
Data and Information Type:	Fish tissue analysis
Data Used to Assess Water Quality:	Water Board staff assessed Regional Monitoring Program data for Berkeley Marina to determine beneficial use support and results are as follows: 0 of 3 samples exceed the criterion for endrin. No samples were discarded for being non-detect, unquantifiable or the reporting limit exceeding the water quality objective.
Data Reference:	Regional Monitoring Program data, Feb. 1993-Sep. 2008
SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	Water Quality Control Plan for the San Francisco Bay Basin: Controllable water quality factors shall not cause a detrimental increase in concentrations of toxic substances found in bottom sediments or aquatic life. Effects on aquatic organisms, wildlife, and human health will be considered.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	The modified OEHHA Fish Contaminant Goal for endrin in fish tissue is 660 ppb. This screening level assumes an average body weight of 70 kg and a consumption rate of 32 g/day. A cooking reduction factor of 1 is applied for skin-off fillets. (Klasing, S., and R. Brodberg, 2008; USEPA, 2000)
Guideline Reference:	Development of Fish Contaminant Goals and Advisory Tissue Levels for Common Contaminants in California Sport Fish: Chlordane, DDTs, Dieldrin, Methylmercury, PCBs, Selenium, and Toxaphene

Spatial Representation: The samples were collected at one site in Berkeley Marina.
 Temporal Representation: The samples were collected in July 2006.
 Environmental Conditions:
 QAPP Information: The 1999 Quality Assurance Project Plan Regional Monitoring Program for Trace Substances was used.
 QAPP Information Reference(s): [1999 Quality Assurance Project Plan Regional Monitoring Program for Trace Substances](#)

DECISION ID	61350	Region 2
Berkeley Marina (part of San Francisco Bay, Central)		

Pollutant: Heptachlor epoxide
Final Listing Decision: Do Not List on 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision: New Decision
Revision Status: Revised
Impairment from Pollutant or Pollution: Pollutant

Regional Board Staff Conclusion: This pollutant is being considered for placement on the CWA section 303(d) List under section 3.5 of the Listing Policy. Under section 3.5 a single line of evidence is necessary to assess listing status. One line of evidence is available in the administrative record to assess this pollutant. Zero of zero samples exceed the guideline.

Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against placing this water segment-pollutant combination on the CWA section 303(d) List.

This conclusion is based on the staff findings that:

1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy.
2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy.
3. Zero of zero samples exceed the guideline and this sample size is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating. A minimum of 16 samples is needed to determine if a beneficial use is fully supported using table 3.1.
4. Pursuant to SECTION 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.

Regional Board Staff Decision Recommendation: After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be placed on the section 303(d) list. The readily available data and information is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating.

Line of Evidence (LOE) for Decision ID 61350, Heptachlor epoxide	Region 2
Berkeley Marina (part of San Francisco Bay, Central)	

LOE ID: 95098
Pollutant: Heptachlor epoxide
LOE Subgroup: Pollutant-Tissue
Matrix: Tissue
Fraction: Fish fillet
Beneficial Use: Commercial or recreational collection of fish, shellfish, or organisms
Number of Samples: 0
Number of Exceedances: 0

Data and Information Type:	Fish tissue analysis
Data Used to Assess Water Quality:	Water Board staff assessed Regional Monitoring Program data for Berkeley Marina to determine beneficial use support and results are as follows: 0 of 0 samples exceed the criterion for Heptachlor epoxide. Three samples were discarded for being non-detect, unquantifiable or the reporting limit exceeding the water quality objective.
Data Reference:	Regional Monitoring Program data, Feb. 1993-Sep. 2008
SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	Water Quality Control Plan for the San Francisco Bay Basin: Controllable water quality factors shall not cause a detrimental increase in concentrations of toxic substances found in bottom sediments or aquatic life. Effects on aquatic organisms, wildlife, and human health will be considered.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	The modified OEHHA Fish Contaminant Goal for heptachlor epoxide in fish tissue is 0.93 ppb. This screening level assumes an average body weight of 70 kg and a consumption rate of 32 g/day for a 30 year exposure over a 70-year lifetime. This constituent is a carcinogen therefore the risk level is set to one in a million. A cooking reduction factor of 1 is applied for skin-off fillets. (Klasing, S., and R. Brodberg, 2008; OEHHA, 1999)
Guideline Reference:	Development of Fish Contaminant Goals and Advisory Tissue Levels for Common Contaminants in California Sport Fish: Chlordane, DDTs, Dieldrin, Methylmercury, PCBs, Selenium, and Toxaphene Public Health Goal for Heptachlor and Heptachlor Epoxide in Drinking Water
Spatial Representation:	The samples were collected at one site in Berkeley Marina.
Temporal Representation:	The samples were collected in July 2006.
Environmental Conditions:	
QAPP Information:	The 1999 Quality Assurance Project Plan Regional Monitoring Program for Trace Substances was used.
QAPP Information Reference(s):	1999 Quality Assurance Project Plan Regional Monitoring Program for Trace Substances

DECISION ID	61351	Region 2
Berkeley Marina (part of San Francisco Bay, Central)		

Pollutant:	Hexachlorobenzene/ HCB
Final Listing Decision:	Do Not List on 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision:	New Decision
Revision Status	Revised
Impairment from Pollutant or Pollution:	Pollutant

Regional Board Staff Conclusion:	<p>This pollutant is being considered for placement on the CWA section 303(d) List under section 3.5 of the Listing Policy. Under section 3.5 a single line of evidence is necessary to assess listing status. One line of evidence is available in the administrative record to assess this pollutant. Zero of three samples exceed the guideline.</p> <p>Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against placing this water segment-pollutant combination on the CWA section 303(d) List.</p> <p>This conclusion is based on the staff findings that:</p> <ol style="list-style-type: none"> 1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy. 2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy. 3. Zero of three samples exceed the guideline and this sample size is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating. A minimum of 16 samples is needed to determine if a beneficial use is fully supported using table 3.1. 4. Pursuant to SECTION 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.
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Regional Board Staff Decision Recommendation: After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be placed on the section 303(d) list. The readily available data and information is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating.

**Line of Evidence (LOE) for Decision ID 61351, Hexachlorobenzene/ HCB
Berkeley Marina (part of San Francisco Bay, Central)**

Region 2

LOE ID: 95094

Pollutant: Hexachlorobenzene/ HCB
LOE Subgroup: Pollutant-Tissue
Matrix: Tissue
Fraction: Fish fillet

Beneficial Use: Commercial or recreational collection of fish, shellfish, or organisms

Number of Samples: 3
Number of Exceedances: 0

Data and Information Type: Fish tissue analysis
Data Used to Assess Water Quality: Water Board staff assessed Regional Monitoring Program data for Berkeley Marina to determine beneficial use support and results are as follows: 0 of 3 samples exceed the criterion for hexachlorobenzene. No samples were discarded for being non-detect, unquantifiable or the reporting limit exceeding the water quality objective.

Data Reference: [Regional Monitoring Program data, Feb. 1993-Sep. 2008](#)

SWAMP Data: Non-SWAMP

Water Quality Objective/Criterion: Water Quality Control Plan for the San Francisco Bay Basin: Controllable water quality factors shall not cause a detrimental increase in concentrations of toxic substances found in bottom sediments or aquatic life. Effects on aquatic organisms, wildlife, and human health will be considered.

Objective/Criterion Reference: [Water Quality Control Plan \(Basin Plan\) San Francisco Bay Basin \(Region 2\)](#)

Evaluation Guideline: The modified OEHHA Fish Contaminant Goal for hexachlorobenzene in fish tissue is 2.8 ppb. This screening level assumes an average body weight of 70 kg and a consumption rate of 32 g/day for a 30 year exposure over a 70-year lifetime. This constituent is a carcinogen therefore the risk level is set to one in a million. A cooking reduction factor of 1 is applied for skin-off fillets. (Klasing, S., and R. Brodberg, 2008; OEHHA, 2005)

Guideline Reference: [Development of Fish Contaminant Goals and Advisory Tissue Levels for Common Contaminants in California Sport Fish: Chlordane, DDTs, Dieldrin, Methylmercury, PCBs, Selenium, and Toxaphene](#)
[Air Toxics Hotspots Program Risk Assessment Guidelines, Part II Technical Support Document for Describing Available Cancer Potency Values.](#)

Spatial Representation: The samples were collected at one site in Berkeley Marina.
Temporal Representation: The samples were collected in July 2006.
Environmental Conditions:
QAPP Information: The 1999 Quality Assurance Project Plan Regional Monitoring Program for Trace Substances was used.

QAPP Information Reference(s): [1999 Quality Assurance Project Plan Regional Monitoring Program for Trace Substances](#)

**DECISION ID 61352
Berkeley Marina (part of San Francisco Bay, Central)**

Region 2

Pollutant: Mirex
Final Listing Decision: Do Not List on 303(d) list (TMDL required list)
Last Listing Cycle's Final New Decision

Listing Decision:
Revision Status Revised
Impairment from Pollutant or Pollution: Pollutant

Regional Board Staff Conclusion: This pollutant is being considered for placement on the CWA section 303(d) List under section 3.5 of the Listing Policy. Under section 3.5 a single line of evidence is necessary to assess listing status. One line of evidence is available in the administrative record to assess this pollutant. Zero of zero samples exceed the guideline.

Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against placing this water segment-pollutant combination on the CWA section 303(d) List.

This conclusion is based on the staff findings that:

1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy.
2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy.
3. Zero of zero samples exceed the guideline and this sample size is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating. A minimum of 16 samples is needed to determine if a beneficial use is fully supported using table 3.1.
4. Pursuant to SECTION 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.

Regional Board Staff Decision Recommendation: After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be placed on the section 303(d) list. The readily available data and information is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating.

**Line of Evidence (LOE) for Decision ID 61352, Mirex
Berkeley Marina (part of San Francisco Bay, Central)**

Region 2

LOE ID:	95237
Pollutant:	Mirex
LOE Subgroup:	Pollutant-Tissue
Matrix:	Tissue
Fraction:	Fish fillet
Beneficial Use:	Commercial or recreational collection of fish, shellfish, or organisms
Number of Samples:	0
Number of Exceedances:	0
Data and Information Type:	Fish tissue analysis
Data Used to Assess Water Quality:	Water Board staff assessed Regional Monitoring Program data for Berkeley Marina to determine beneficial use support and results are as follows: 0 of 0 samples exceed the criterion for Mirex. Three samples were discarded for being non-detect, unquantifiable or the reporting limit exceeding the water quality objective.
Data Reference:	Regional Monitoring Program data, Feb. 1993-Sep. 2008
SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	Water Quality Control Plan for the San Francisco Bay Basin: Controllable water quality factors shall not cause a detrimental increase in concentrations of toxic substances found in bottom sediments or aquatic life. Effects on aquatic organisms, wildlife, and human health will be considered.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	The modified OEHHA Fish Contaminant Goal for mirex in fish tissue is 0.28 ppb. This screening level assumes an average body weight of 70 kg and a consumption rate of 32 g/day. A cooking reduction factor of 1 is applied for skin-off fillets. (Klasing, S., and R.

Guideline Reference:	Brodberg, 2008; OEHHA, 1992) Development of Fish Contaminant Goals and Advisory Tissue Levels for Common Contaminants in California Sport Fish: Chlordane, DDTs, Dieldrin, Methylmercury, PCBs, Selenium, and Toxaphene Expedited Cancer Potency Values and Proposed Regulatory Levels for Certain Proposition 65 Carcinogens.
Spatial Representation:	The samples were collected at one site in Berkeley Marina.
Temporal Representation:	The samples were collected in July 2006.
Environmental Conditions:	
QAPP Information:	The 1999 Quality Assurance Project Plan Regional Monitoring Program for Trace Substances was used.
QAPP Information Reference(s):	1999 Quality Assurance Project Plan Regional Monitoring Program for Trace Substances

DECISION ID 61353 Region 2	
Berkeley Marina (part of San Francisco Bay, Central)	
Pollutant:	Oxygen, Dissolved
Final Listing Decision:	Do Not List on 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision:	New Decision
Revision Status	Revised
Impairment from Pollutant or Pollution:	Pollutant
Regional Board Staff Conclusion:	<p>This pollutant is being considered for placement on the CWA section 303(d) List under section 3.2 of the Listing Policy. Under section 3.2 a single line of evidence is necessary to assess listing status. One line of evidence is available in the administrative record to assess this pollutant. Zero of twelve samples exceed the objective.</p> <p>Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against placing this water segment-pollutant combination on the CWA section 303(d) List.</p> <p>This conclusion is based on the staff findings that:</p> <ol style="list-style-type: none"> 1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy. 2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy. 3. Zero of twelve samples exceed the objective and this sample size is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating. A minimum of 26 samples is needed to determine if a beneficial use is fully supported using table 3.2. 4. Pursuant to SECTION 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.
Regional Board Staff Decision Recommendation:	After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be placed on the section 303(d) list. The readily available data and information is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating.

Line of Evidence (LOE) for Decision ID 61353, Oxygen, Dissolved Region 2	
Berkeley Marina (part of San Francisco Bay, Central)	
LOE ID:	90757
Pollutant:	Oxygen, Dissolved
LOE Subgroup:	Pollutant-Water
Matrix:	Water
Fraction:	Dissolved
Beneficial Use:	Estuarine Habitat

Number of Samples:	12
Number of Exceedances:	0
Data and Information Type:	PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality:	Numeric data generated from 12 minimum samples of Dissolved Oxygen concentrations had no exceedences.
Data Reference:	Data for Various Pollutants in California Marinas, 2006.
SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	The dissolved oxygen content of bays/estuaries downstream of the Carquinez Bridge must be above 5 mg/L.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	
Guideline Reference:	
Spatial Representation:	Samples were collected from the following stations: Berkeley Marina 1.1 Berkeley Marina 1.2 Berkeley Marina 1.3 Berkeley Marina 2.1 Berkeley Marina 2.2 Berkeley Marina 2.3 Berkeley Marina 3.1 Berkeley Marina 3.2 Berkeley Marina 3.3 Berkeley Marina 4.1 Berkeley Marina 4.2 Berkeley Marina 4.3
Temporal Representation:	Samples were collected on the following dates: 7/24/2006 8/21/2006 9/18/2006
Environmental Conditions:	
QAPP Information:	Samples were collected and analyzed in accordance with a Quality Assurance Project Plan that was prepared per State Water Resources Control Board Agreement No. 05-218-250 California Department of Pesticide Regulation, Sacramento, CA. (Available online at Study report on paint data collected in California Marinas.
QAPP Information Reference(s):	

DECISION ID	61354	Region 2
Berkeley Marina (part of San Francisco Bay, Central)		

Pollutant:	PCBs (Polychlorinated biphenyls)
Final Listing Decision:	Do Not List on 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision:	New Decision
Revision Status	Revised
Impairment from Pollutant or Pollution:	Pollutant

Regional Board Staff Conclusion: This pollutant is being considered for placement on the CWA section 303(d) List under section 3.1 of the Listing Policy. Under section 3.1 a single line of evidence is necessary to assess listing status. One line of evidence is available in the administrative record to assess this pollutant. Zero of three samples exceed the guideline.

Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against placing this water segment-pollutant combination on the CWA section 303(d) List.

This conclusion is based on the staff findings that:

1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy.
2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy.
3. Zero of three samples exceed the guideline and this sample size is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating. A minimum of 16 samples is needed to determine if a beneficial use is fully supported using table 3.1.
4. Pursuant to SECTION 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.

Regional Board Staff Decision Recommendation: After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be placed on the section 303(d) list. The readily available data and information is insufficient to determine, with the power and confidence of the Listing Policy, the

Line of Evidence (LOE) for Decision ID 61354, PCBs (Polychlorinated biphenyls)**Region 2****Berkeley Marina (part of San Francisco Bay, Central)**

LOE ID:	95109
Pollutant:	PCBs (Polychlorinated biphenyls)
LOE Subgroup:	Pollutant-Tissue
Matrix:	Tissue
Fraction:	Fish fillet
Beneficial Use:	Commercial or recreational collection of fish, shellfish, or organisms
Number of Samples:	3
Number of Exceedances:	0
Data and Information Type:	Fish tissue analysis
Data Used to Assess Water Quality:	Water Board staff assessed Regional Monitoring Program data for Berkeley Marina to determine beneficial use support and results are as follows: 0 of 3 samples exceed the criterion for PCBs. No samples were discarded for being non-detect, unquantifiable or the reporting limit exceeding the water quality objective.
Data Reference:	Regional Monitoring Program data, Feb. 1993-Sep. 2008
SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	Water Quality Control Plan for the San Francisco Bay Basin: Controllable water quality factors shall not cause a detrimental increase in concentrations of toxic substances found in bottom sediments or aquatic life. Effects on aquatic organisms, wildlife, and human health will be considered.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	The modified OEHHA Fish Contaminant Goal for polychlorinated biphenyls in fish tissue is 2.6 ppb. This screening level assumes an average body weight of 70 kg and a consumption rate of 32 g/day for a 30 year exposure over a 70-year lifetime. This constituent is a carcinogen therefore the risk level is set to one in a million. A cooking reduction factor of 1 is applied for skin-off fillets. (Klasing, S., and R. Brodberg, 2008)
Guideline Reference:	Development of Fish Contaminant Goals and Advisory Tissue Levels for Common Contaminants in California Sport Fish: Chlordane, DDTs, Dieldrin, Methylmercury, PCBs, Selenium, and Toxaphene
Spatial Representation:	The samples were collected at one site in Berkeley Marina.
Temporal Representation:	The samples were collected in July 2006.
Environmental Conditions:	
QAPP Information:	The 1999 Quality Assurance Project Plan Regional Monitoring Program for Trace Substances was used.
QAPP Information Reference(s):	1999 Quality Assurance Project Plan Regional Monitoring Program for Trace Substances

DECISION ID**61355****Region 2****Berkeley Marina (part of San Francisco Bay, Central)**

Pollutant:	Toxicity
Final Listing Decision:	Do Not List on 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision:	New Decision
Revision Status	Revised
Impairment from Pollutant or Pollution:	Pollutant

**Regional Board Staff
Conclusion:**

This pollutant is being considered for placement on the CWA section 303(d) List under section 3.6 of the Listing Policy. Under section 3.1 a single line of evidence is necessary to assess listing status if the line of evidence is toxicity.
One line of evidence is available in the administrative record to assess this pollutant. Zero of four samples exceed the guideline.

Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against placing this water segment-pollutant combination on the CWA section 303(d) List.

This conclusion is based on the staff findings that:

1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy.
2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy.
3. Zero of four samples exceed the guideline and this sample size is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating. A minimum of 16 samples is needed to determine if a beneficial use is fully supported using table 3.1.
4. Pursuant to SECTION 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.

**Regional Board Staff Decision
Recommendation:**

After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be placed on the section 303(d) list. The readily available data and information is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating.

**Line of Evidence (LOE) for Decision ID 61355, Toxicity
Berkeley Marina (part of San Francisco Bay, Central)**

Region 2

LOE ID:	91091
Pollutant:	Toxicity
LOE Subgroup:	Toxicity
Matrix:	Water
Fraction:	None
Beneficial Use:	Estuarine Habitat
Number of Samples:	4
Number of Exceedances:	0
Data and Information Type:	TOXICITY TESTING
Data Used to Assess Water Quality:	Four samples were tested for toxicity. None of the four samples exhibited statistically significant effect relative to control. The toxicity test used was the mussel embryo development test (EPA 1995) using <i>Mytilus galloprovincialis</i> . Toxic effects are expressed as percent reduction in normal development relative to controls.
Data Reference:	Data for Various Pollutants in California Marinas, 2006.
SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	All waters shall be maintained free of toxic substances in concentrations that are lethal to or that produce other detrimental responses in aquatic organisms. Detrimental responses include, but are not limited to, decreased growth rate and decreased reproductive success of resident or indicator species.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) - San Francisco Bay Region (Region 2)
Evaluation Guideline:	Toxicity is defined as a statistically significant effect in the sample exposure compared to the control using EPA-recommended hypothesis testing (parametric Dunnett's Test or non-parametric Kruskal-Wallis or Wilcoxon Two-sample Test). The t-test is used to determine if there is a statistically significant decrease in organism response in the sample as compared to the control.
Guideline Reference:	SWAMP Memo Toxicity Data Interpretation Method 1007.0: Mysid, Mysidopsis bahia, Survival, Growth, and Fecundity Test; Chronic

Spatial Representation: The samples were collected in City of Berkeley Marina 1.2, 2.2, 3.2, and 4.2.
 Temporal Representation: Samples were collected on 8/21/2006.
 Environmental Conditions:
 QAPP Information: Data quality is good. The data and QA information is provided in Appendix G and I to the report Monitoring For Indicators of Antifouling Paint Pollution In California Marinas, Department of Pesticide Regulation. The Southern California Coastal Water Research Project laboratory conducted the toxicity tests.

QAPP Information Reference(s):

DECISION ID	61356	Region 2
Berkeley Marina (part of San Francisco Bay, Central)		

Pollutant: Zinc
Final Listing Decision: Do Not List on 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision: New Decision
Revision Status: Revised
Impairment from Pollutant or Pollution: Pollutant

Regional Board Staff Conclusion: This pollutant is being considered for placement on the CWA section 303(d) List under section 3.1 of the Listing Policy. Under section 3.1 a single line of evidence is necessary to assess listing status. One line of evidence is available in the administrative record to assess this pollutant. Zero of three samples exceed the guideline.

Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against placing this water segment-pollutant combination on the CWA section 303(d) List.

This conclusion is based on the staff findings that:

1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy.
2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy.
3. Zero of three samples exceed the guideline and this sample size is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating. A minimum of 16 samples is needed to determine if a beneficial use is fully supported using table 3.1.
4. Pursuant to SECTION 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.

Regional Board Staff Decision Recommendation: After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be placed on the section 303(d) list. The readily available data and information is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating.

Line of Evidence (LOE) for Decision ID 61356, Zinc	Region 2
Berkeley Marina (part of San Francisco Bay, Central)	

LOE ID: 91092
Pollutant: Zinc
LOE Subgroup: Pollutant-Water
Matrix: Water
Fraction: Dissolved
Beneficial Use: Estuarine Habitat

Number of Samples:	3
Number of Exceedances:	0
Data and Information Type:	Fixed station physical/chemical (conventional plus toxic pollutants)
Data Used to Assess Water Quality:	None of the three samples exceeded the CTR value of 81 ug/L for dissolved zinc in brackish water.
Data Reference:	Data for Various Pollutants in California Marinas, 2006.
SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	Waters shall not contain chemical constituents in concentrations that adversely affect beneficial uses. California Toxics Rule (CTR) lists criterion continuous concentrations to protect aquatic life in saline water. The CTR value is 81 ug/L.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	
Guideline Reference:	
Spatial Representation:	A total of four separate grab samples were collected from inside the marina basin (Sites 1, 2, 3, & 4), these sites were averaged per sample event.
Temporal Representation:	Samples were collected on three separate sampling events during the dry season (July - October) in 2006.
Environmental Conditions:	Samples were collected during the dry season only.
QAPP Information:	Samples were collected and analyzed in accordance with a Quality Assurance Project Plan that was prepared per State Water Resources Control Board Agreement No. 05-218-250 California Department of Pesticide Regulation, Sacramento, CA. (Available online at http://www.cdpr.ca.gov/docs/emon/surfwttr/protocols/qapp_study236.pdf)
QAPP Information Reference(s):	

DECISION ID	61357	Region 2
Berkeley Marina (part of San Francisco Bay, Central)		
Pollutant:	pH	
Final Listing Decision:	Do Not List on 303(d) list (TMDL required list)	
Last Listing Cycle's Final Listing Decision:	New Decision	
Revision Status	Revised	
Impairment from Pollutant or Pollution:	Pollutant	
Regional Board Staff Conclusion:	<p>This pollutant is being considered for placement on the CWA section 303(d) List under section 3.2 of the Listing Policy. Under section 3.2 a single line of evidence is necessary to assess listing status. One line of evidence is available in the administrative record to assess this pollutant. Zero of twelve samples exceed the objective.</p> <p>Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against placing this water segment-pollutant combination on the CWA section 303(d) List.</p> <p>This conclusion is based on the staff findings that:</p> <ol style="list-style-type: none"> 1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy. 2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy. 3. Zero of twelve samples exceed the objective and this sample size is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating. A minimum of 26 samples is needed to determine if a beneficial use is fully supported using table 3.2. 4. Pursuant to SECTION 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met. 	
Regional Board Staff Decision Recommendation:	After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be placed on the section 303(d) list. The readily available data and information is insufficient to determine, with the power and confidence of the Listing Policy, the	

**Line of Evidence (LOE) for Decision ID 61357, pH
Berkeley Marina (part of San Francisco Bay, Central)**

Region 2

LOE ID:	91090
Pollutant:	pH
LOE Subgroup:	Pollutant-Water
Matrix:	Water
Fraction:	Dissolved
Beneficial Use:	Estuarine Habitat
Number of Samples:	12
Number of Exceedances:	0
Data and Information Type:	PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality:	Numeric data generated from 12 minimums and maximums had no exceedences.
Data Reference:	Data for Various Pollutants in California Marinas, 2006.
SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	The pH shall not be depressed below 6.5 nor raised above 8.5.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	
Guideline Reference:	
Spatial Representation:	Samples were collected from the following stations: City of Berkeley Marina 1.1 City of Berkeley Marina 1.2 City of Berkeley Marina 1.3* City of Berkeley Marina 2.1 City of Berkeley Marina 2.2 City of Berkeley Marina 2.3* City of Berkeley Marina 3.1 City of Berkeley Marina 3.2 City of Berkeley Marina 3.3* City of Berkeley Marina 4.1 City of Berkeley Marina 4.2 City of Berkeley Marina 4.3*
Temporal Representation:	Samples were collected once a month from July 2006 to September 2006.
Environmental Conditions:	
QAPP Information:	NPDES quality assurance.
QAPP Information Reference(s):	

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Supporting Information

Regional Board 2 - San Francisco Bay Region

Water Body Name: Golden Gate National Recreation Area Marina (part of San Francisco Bay, Central)
Water Body ID: CAB2034001020110405213253
Water Body Type: Bay & Harbor

DECISION ID 64550 **Region 2**
Golden Gate National Recreation Area Marina (part of San Francisco Bay, Central)

Pollutant: Copper
Final Listing Decision: Do Not List on 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision: New Decision
Revision Status Revised
Impairment from Pollutant or Pollution: Pollutant

Regional Board Staff Conclusion: This pollutant is being considered for placement on the CWA section 303(d) List under section 3.1 of the Listing Policy. Under section 3.1 a single line of evidence is necessary to assess listing status. One line of evidence is available in the administrative record to assess this pollutant. Zero of one samples exceed the guideline.

Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against placing this water segment-pollutant combination on the CWA section 303(d) List.

This conclusion is based on the staff findings that:

1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy.
2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy.
3. Zero of one samples exceed the guideline and this sample size is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating. A minimum of 16 samples is needed to determine if a beneficial use is fully supported using table 3.1.
4. Pursuant to SECTION 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.

Regional Board Staff Decision Recommendation: After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be placed on the section 303(d) list. The readily available data and information is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating.

Line of Evidence (LOE) for Decision ID 64550, Copper **Region 2**
Golden Gate National Recreation Area Marina (part of San Francisco Bay, Central)

LOE ID: 91792
Pollutant: Copper
LOE Subgroup: Pollutant-Water
Matrix: Water
Fraction: Dissolved
Beneficial Use: Estuarine Habitat
Number of Samples: 3
Number of Exceedances: 0

Data and Information Type:	Fixed station physical/chemical (conventional plus toxic pollutants)
Data Used to Assess Water Quality:	None of the three samples exceeded the SSO value of 6 ug/L for dissolved copper.
Data Reference:	Data for Various Pollutants in California Marinas, 2006.
SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	Waters shall not contain chemical constituents in concentrations that adversely affect beneficial uses. Table 3.3A lists a site specific objective (SSO) for criteria continuous concentration of dissolved copper. The SSO for dissolved copper for central San Francisco Bay is 6.0 ug/L.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	
Guideline Reference:	
Spatial Representation:	A total of four separate grab samples were collected from inside the marina basin (Sites 1, 2, 3, & 4), these sites were averaged per sample event.
Temporal Representation:	Samples were collected on three separate sampling events during the dry season (July - October) in 2006.
Environmental Conditions:	Samples were collected during the dry season only.
QAPP Information:	Samples were collected and analyzed in accordance with a Quality Assurance Project Plan that was prepared per State Water Resources Control Board Agreement No. 05-218-250 California Department of Pesticide Regulation, Sacramento, CA. (Available online at http://www.cdpr.ca.gov/docs/emon/surfwttr/protocols/qapp_study236.pdf)
QAPP Information Reference(s):	

DECISION ID	64551	Region 2
Golden Gate National Recreation Area Marina (part of San Francisco Bay, Central)		

Pollutant:	Oxygen, Dissolved
Final Listing Decision:	Do Not List on 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision:	New Decision
Revision Status	Revised
Impairment from Pollutant or Pollution:	Pollutant

Regional Board Staff Conclusion: This pollutant is being considered for placement on the CWA section 303(d) List under section 3.2 of the Listing Policy. Under section 3.2 a single line of evidence is necessary to assess listing status. One line of evidence is available in the administrative record to assess this pollutant. Zero of one samples exceed the objective.

Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against placing this water segment-pollutant combination on the CWA section 303(d) List.

This conclusion is based on the staff findings that:

1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy.
2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy.
3. Zero of twelve samples exceed the objective and this sample size is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating. A minimum of 26 samples is needed to determine if a beneficial use is fully supported using table 3.2.
4. Pursuant to SECTION 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.

Regional Board Staff Decision Recommendation: After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be placed on the section 303(d) list. The readily available data and information is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating.

Golden Gate National Recreation Area Marina (part of San Francisco Bay, Central)

LOE ID:	90760
Pollutant:	Oxygen, Dissolved
LOE Subgroup:	Pollutant-Water
Matrix:	Water
Fraction:	Dissolved
Beneficial Use:	Estuarine Habitat
Number of Samples:	12
Number of Exceedances:	0
Data and Information Type:	PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality:	Numeric data generated from 12 minimum samples of Dissolved Oxygen concentrations had no exceedences.
Data Reference:	Data for Various Pollutants in California Marinas, 2006.
SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	The dissolved oxygen content of bays/estuaries downstream of the Carquinez Bridge must be above 5 mg/L.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	
Guideline Reference:	
Spatial Representation:	Samples were collected from the following stations: San Francisco Marina 1.1 San Francisco Marina 1.2 San Francisco Marina 1.3 San Francisco Marina 2.1 San Francisco Marina 2.2 San Francisco Marina 2.3 San Francisco Marina 3.1 San Francisco Marina 3.2 San Francisco Marina 3.3 San Francisco Marina 4.1 San Francisco Marina 4.2 San Francisco Marina 4.3
Temporal Representation:	Samples were collected on the following dates: 7/26/2006 8/23/2006 9/20/2006
Environmental Conditions:	
QAPP Information:	Samples were collected and analyzed in accordance with a Quality Assurance Project Plan that was prepared per State Water Resources Control Board Agreement No. 05-218-250 California Department of Pesticide Regulation, Sacramento, CA. (Available online at Study report on paint data collected in California Marinas.)
QAPP Information Reference(s):	

DECISION ID

64552

Region 2

Golden Gate National Recreation Area Marina (part of San Francisco Bay, Central)

Pollutant:	Toxicity
Final Listing Decision:	Do Not List on 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision:	New Decision
Revision Status	Revised
Impairment from Pollutant or Pollution:	Pollutant
Regional Board Staff Conclusion:	<p>This pollutant is being considered for placement on the CWA section 303(d) List under section 3.6 of the Listing Policy. Under section 3.6 at least two lines of evidence are necessary to assess listing status for pollutants sediment, and pollutant concentrations in sediment must be associated with sediment toxicity to justify adding that pollutant to the CWA section 303(d) List.</p> <p>One line of evidence is available in the administrative record to assess this pollutant. Zero of four samples exceed the guideline.</p>

Based on the readily available data and information, the weight of evidence indicates that there is insufficient justification for placing this water segment-pollutant combination on the CWA section 303(d) List.

This conclusion is based on the staff findings that:

1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy.
2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy.
3. Zero of four samples exceed the guideline and this sample size is insufficient to determine beneficial use support, with the power and confidence of the Listing Policy. A minimum of 16 samples is needed to determine if a beneficial use is fully supported using table 3.1.
4. Pursuant to section 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.

Regional Board Staff Decision Recommendation: After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be placed on the section 303(d) list. The readily available data and information is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating.

Line of Evidence (LOE) for Decision ID 64552, Toxicity

Region 2

Golden Gate National Recreation Area Marina (part of San Francisco Bay, Central)

LOE ID:	91794
Pollutant:	Toxicity
LOE Subgroup:	Toxicity
Matrix:	Water
Fraction:	None
Beneficial Use:	Estuarine Habitat
Number of Samples:	4
Number of Exceedances:	0
Data and Information Type:	TOXICITY TESTING
Data Used to Assess Water Quality:	Four samples were tested for toxicity. None of the four samples exhibited a statistically significant effect relative to control. The toxicity test used was the mussel embryo development test (EPA 1995) using <i>Mytilus galloprovincialis</i> . Toxic effects are expressed as percent reduction in normal development relative to controls.
Data Reference:	Data for Various Pollutants in California Marinas, 2006.
SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	All waters shall be maintained free of toxic substances in concentrations that are lethal to or that produce other detrimental responses in aquatic organisms. Detrimental responses include, but are not limited to, decreased growth rate and decreased reproductive success of resident or indicator species.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) - San Francisco Bay Region (Region 2)
Evaluation Guideline:	Toxicity is defined as a statistically significant effect in the sample exposure compared to the control using EPA-recommended hypothesis testing (parametric Dunnett's Test or non-parametric Kruskal-Wallis or Wilcoxon Two-sample Test). The t-test is used to determine if there is a statistically significant decrease in organism response in the sample as compared to the control.
Guideline Reference:	Methods for Measuring the Acute Toxicity of Effluents and Receiving Waters to Freshwater and Marine Organisms, Fifth Edition. EPA-821-R-02-012
Spatial Representation:	The samples were collected at San Francisco Marina 1.2, 2.2, 3.2 and 4.2.
Temporal Representation:	Samples were collected on 8/23/2006.
Environmental Conditions:	
QAPP Information:	Data quality is good. The data and QA information is provided in Appendix G and I to the

QAPP Information Reference(s):

DECISION ID	64553	Region 2
Golden Gate National Recreation Area Marina (part of San Francisco Bay, Central)		

Pollutant: Zinc
Final Listing Decision: Do Not List on 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision: New Decision
Revision Status: Revised
Impairment from Pollutant or Pollution: Pollutant

Regional Board Staff Conclusion: This pollutant is being considered for placement on the CWA section 303(d) List under section 3.1 of the Listing Policy. Under section 3.1 a single line of evidence is necessary to assess listing status. One line of evidence is available in the administrative record to assess this pollutant. Zero of three samples exceed the guideline.

Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against placing this water segment-pollutant combination on the CWA section 303(d) List.

This conclusion is based on the staff findings that:

1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy.
2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy.
3. Zero of three samples exceed the guideline and this sample size is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating. A minimum of 16 samples is needed to determine if a beneficial use is fully supported using table 3.1.
4. Pursuant to SECTION 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.

Regional Board Staff Decision Recommendation: After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be placed on the section 303(d) list. The readily available data and information is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating.

Line of Evidence (LOE) for Decision ID 64553, Zinc	Region 2
Golden Gate National Recreation Area Marina (part of San Francisco Bay, Central)	

LOE ID: 91795
Pollutant: Zinc
LOE Subgroup: Pollutant-Water
Matrix: Water
Fraction: Dissolved
Beneficial Use: Estuarine Habitat
Number of Samples: 3
Number of Exceedances: 0
Data and Information Type: Fixed station physical/chemical (conventional plus toxic pollutants)
Data Used to Assess Water Quality: None of the three samples exceeded the CTR value of 81 ug/L for dissolved zinc in brackish water.
Data Reference: [Data for Various Pollutants in California Marinas, 2006.](#)

SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	Waters shall not contain chemical constituents in concentrations that adversely affect beneficial uses. California Toxics Rule (CTR) lists criterion continuous concentrations to protect aquatic life in saline water. The CTR value is 81 ug/L.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	
Guideline Reference:	
Spatial Representation:	A total of four separate grab samples were collected from inside the marina basin (Sites 1, 2, 3, & 4), these sites were averaged per sample event.
Temporal Representation:	Samples were collected on three separate sampling events during the dry season (July - October) in 2006.
Environmental Conditions:	Samples were collected during the dry season only.
QAPP Information:	Samples were collected and analyzed in accordance with a Quality Assurance Project Plan that was prepared per State Water Resources Control Board Agreement No. 05-218-250 California Department of Pesticide Regulation, Sacramento, CA. (Available online at http://www.cdpr.ca.gov/docs/emon/surfwttr/protocols/qapp_study236.pdf)
QAPP Information Reference(s):	

DECISION ID	64557	Region 2
Golden Gate National Recreation Area Marina (part of San Francisco Bay, Central)		

Pollutant:	pH
Final Listing Decision:	Do Not List on 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision:	New Decision
Revision Status	Revised
Impairment from Pollutant or Pollution:	Pollutant

Regional Board Staff Conclusion: This pollutant is being considered for placement on the CWA section 303(d) List under section 3.2 of the Listing Policy. Under section 3.2 a single line of evidence is necessary to assess listing status. One line of evidence is available in the administrative record to assess this pollutant. Zero of twelve samples exceed the objective.

Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against placing this water segment-pollutant combination on the CWA section 303(d) List.

This conclusion is based on the staff findings that:

1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy.
2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy.
3. Zero of twelve samples exceed the objective and this sample size is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating. A minimum of 26 samples is needed to determine if a beneficial use is fully supported using table 3.2.
4. Pursuant to SECTION 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.

Regional Board Staff Decision Recommendation: After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be placed on the section 303(d) list. The readily available data and information is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating.

Line of Evidence (LOE) for Decision ID 64557, pH	Region 2
Golden Gate National Recreation Area Marina (part of San Francisco Bay, Central)	

LOE ID:	91793
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Pollutant:	pH
LOE Subgroup:	Pollutant-Water
Matrix:	Water
Fraction:	Dissolved
Beneficial Use:	Estuarine Habitat
Number of Samples:	12
Number of Exceedances:	0
Data and Information Type:	PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality:	Numeric data generated from 12 minimums and maximums had no exceedences.
Data Reference:	Data for Various Pollutants in California Marinas, 2006.
SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	The pH shall not be depressed below 6.5 nor raised above 8.5.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	
Guideline Reference:	
Spatial Representation:	Samples were collected from the following stations: San Francisco Marina 1.1 San Francisco Marina 1.2 San Francisco Marina 1.3* San Francisco Marina 2.1 San Francisco Marina 2.2 San Francisco Marina 2.3* San Francisco Marina 3.1 San Francisco Marina 3.2 San Francisco Marina 3.3* San Francisco Marina 4.1 San Francisco Marina 4.2 San Francisco Marina 4.3*
Temporal Representation:	Samples were collected once a month from July 2006 to September 2006.
Environmental Conditions:	
QAPP Information:	NPDES quality assurance.
QAPP Information Reference(s):	

Draft California 2016 Integrated Report (303(d) List/305(b) Report)

Supporting Information

Regional Board 2 - San Francisco Bay Region

Water Body Name: Ballena Isle Marina (part of San Francisco Bay, Lower)
Water Body ID: CAB2042004020110405222210
Water Body Type: Bay & Harbor

DECISION ID 61270 **Region 2**
Ballena Isle Marina (part of San Francisco Bay, Lower)

Pollutant: Copper
Final Listing Decision: Do Not List on 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision: New Decision
Revision Status Revised
Impairment from Pollutant or Pollution: Pollutant

Regional Board Staff Conclusion: This pollutant is being considered for placement on the CWA section 303(d) List under section 3.1 of the Listing Policy. Under section 3.1 a single line of evidence is necessary to assess listing status. One line of evidence is available in the administrative record to assess this pollutant. Zero of three samples exceed the objective.

Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against placing this water segment-pollutant combination on the CWA section 303(d) List.

This conclusion is based on the staff findings that:

1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy.
2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy.
3. Zero of three samples exceed the objective and this sample size is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating. A minimum of 16 samples is needed to determine if a beneficial use is fully supported using table 3.1.
4. Pursuant to SECTION 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.

Regional Board Staff Decision Recommendation: After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be placed on the section 303(d) list. The readily available data and information is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating.

Line of Evidence (LOE) for Decision ID 61270, Copper **Region 2**
Ballena Isle Marina (part of San Francisco Bay, Lower)

LOE ID: 91082
Pollutant: Copper
LOE Subgroup: Pollutant-Water
Matrix: Water
Fraction: Dissolved
Beneficial Use: Estuarine Habitat
Number of Samples: 3
Number of Exceedances: 0

Data and Information Type:	Fixed station physical/chemical (conventional plus toxic pollutants)
Data Used to Assess Water Quality:	None of the three samples exceeded the SSO value of 6.9 ug/L for dissolved copper in saline water.
Data Reference:	Data for Various Pollutants in California Marinas, 2006.
SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	Waters shall not contain chemical constituents in concentrations that adversely affect beneficial uses. Table 3.3A lists a site specific objective (SSO) for criteria continuous concentration of dissolved copper. The SSO for dissolved copper in Lower San Francisco Bay is 6.9 ug/L.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	
Guideline Reference:	
Spatial Representation:	A total of four separate grab samples were collected from inside the marina basin (Sites 1, 2, 3, & 4), these sites were averaged per sample event.
Temporal Representation:	Samples were collected on three separate sampling events during the dry season (July - October) in 2006.
Environmental Conditions:	Samples were collected during the dry season only.
QAPP Information:	Samples were collected and analyzed in accordance with a Quality Assurance Project Plan that was prepared per State Water Resources Control Board Agreement No. 05-218-250 California Department of Pesticide Regulation, Sacramento, CA. (Available online at http://www.cdpr.ca.gov/docs/emon/surfwttr/protocols/qapp_study236.pdf)
QAPP Information Reference(s):	

DECISION ID	61271	Region 2
Ballena Isle Marina (part of San Francisco Bay, Lower)		

Pollutant:	Oxygen, Dissolved
Final Listing Decision:	Do Not List on 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision:	New Decision
Revision Status	Revised
Impairment from Pollutant or Pollution:	Pollutant

Regional Board Staff Conclusion: This pollutant is being considered for placement on the CWA section 303(d) List under section 3.2 of the Listing Policy. Under section 3.2 a single line(s) of evidence is necessary to assess listing status.

One line of evidence is available in the administrative record to assess this pollutant. Two of the twelve samples exceed the objective. The exceedances occurred on the same day (7/27/2006) and were just below the objective (4.77 and 4.65 mg/L).

Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against placing this water segment-pollutant combination on the CWA section 303(d) List.

This conclusion is based on the staff findings that:

1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy.
2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy.
3. Two of twelve samples exceeded the objective and this sample size is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating. A minimum of twenty-six samples is needed to determine if a beneficial use is fully supported using table 3.2.
4. Pursuant to [SECTION 3.11/4.11] of the Listing Policy, no additional data and information are available indicating that standards are not met.

Regional Board Staff Decision Recommendation: After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be placed on the section 303(d) list. The readily available data and information is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating.

**Line of Evidence (LOE) for Decision ID 61271, Oxygen, Dissolved
Ballena Isle Marina (part of San Francisco Bay, Lower)**

Region 2

LOE ID: 91083

Pollutant: Oxygen, Dissolved
LOE Subgroup: Pollutant-Water
Matrix: Water
Fraction: Dissolved

Beneficial Use: Estuarine Habitat

Number of Samples: 12
Number of Exceedances: 2

Data and Information Type: PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality: Numeric data generated from 12 minimum samples of Dissolved Oxygen concentrations had 2 exceedances.
Data Reference: [Data for Various Pollutants in California Marinas, 2006.](#)

SWAMP Data: Non-SWAMP

Water Quality Objective/Criterion: The dissolved oxygen content of bays/estuaries downstream of the Carquinez Bridge must be above 5 mg/L.
Objective/Criterion Reference: [Water Quality Control Plan \(Basin Plan\) San Francisco Bay Basin \(Region 2\)](#)

Evaluation Guideline:
Guideline Reference:

Spatial Representation: Samples were collected from the following stations: Ballena Isle Marina 1.1 Ballena Isle Marina 1.2 Ballena Isle Marina 1.3 Ballena Isle Marina 2.1 Ballena Isle Marina 2.2 Ballena Isle Marina 2.3 Ballena Isle Marina 3.1 Ballena Isle Marina 3.2 Ballena Isle Marina 3.3 Ballena Isle Marina 4.1 Ballena Isle Marina 4.2 Ballena Isle Marina 4.3
Temporal Representation: Samples were collected on the following dates: 7/27/2006 8/24/2006 9/21/2006
Environmental Conditions:
QAPP Information: Samples were collected and analyzed in accordance with a Quality Assurance Project Plan that was prepared per State Water Resources Control Board Agreement No. 05-218-250 California Department of Pesticide Regulation, Sacramento, CA. (Available online at http://www.cdpr.ca.gov/docs/emon/surfwttr/protocols/qapp_study236.pdf)
QAPP Information Reference(s):

DECISION ID 61272

Region 2

Ballena Isle Marina (part of San Francisco Bay, Lower)

Pollutant: Zinc
Final Listing Decision: Do Not List on 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision: New Decision
Revision Status: Revised
Impairment from Pollutant or Pollution: Pollutant

Regional Board Staff Conclusion: This pollutant is being considered for placement on the CWA section 303(d) List under section 3.1 of the Listing Policy. Under section 3.1 a single line of evidence is necessary to assess listing status.

One line of evidence is available in the administrative record to assess this pollutant. Zero of three samples exceed the objective.

Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against placing this water segment-pollutant combination on the CWA section 303(d) List.

This conclusion is based on the staff findings that:

1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy.
2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy.
3. Zero of three samples exceed the objective and this sample size is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating. A minimum of 16 samples is needed to determine if a beneficial use is fully supported using table 3.1.
4. Pursuant to SECTION 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.

Regional Board Staff Decision Recommendation: After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be placed on the section 303(d) list. The readily available data and information is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating.

**Line of Evidence (LOE) for Decision ID 61272, Zinc
Ballena Isle Marina (part of San Francisco Bay, Lower)**

Region 2

LOE ID:	91084
Pollutant:	Zinc
LOE Subgroup:	Pollutant-Water
Matrix:	Water
Fraction:	Dissolved
Beneficial Use:	Estuarine Habitat
Number of Samples:	3
Number of Exceedances:	0
Data and Information Type:	Fixed station physical/chemical (conventional plus toxic pollutants)
Data Used to Assess Water Quality:	None of the three samples exceeded the CTR value of 81 ug/L for dissolved zinc in brackish water.
Data Reference:	Data for Various Pollutants in California Marinas, 2006.
SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	Waters shall not contain chemical constituents in concentrations that adversely affect beneficial uses. California Toxics Rule (CTR) lists criterion continuous concentrations to protect aquatic life in saline water. The CTR value is 81 ug/L.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	
Guideline Reference:	
Spatial Representation:	A total of four separate grab samples were collected from inside the marina basin (Sites 1, 2, 3, & 4), these sites were averaged per sample event.
Temporal Representation:	Samples were collected on three separate sampling events during the dry season (July - October) in 2006.
Environmental Conditions:	Samples were collected during the dry season only.
QAPP Information:	Samples were collected and analyzed in accordance with a Quality Assurance Project Plan that was prepared per State Water Resources Control Board Agreement No. 05-218-250 California Department of Pesticide Regulation, Sacramento, CA. (Available online at http://www.cdpr.ca.gov/docs/emon/surfwttr/protocols/qapp_study236.pdf)
QAPP Information Reference(s):	

DECISION ID	61273	Region 2
Ballena Isle Marina (part of San Francisco Bay, Lower)		

Pollutant:	pH
Final Listing Decision:	Do Not List on 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision:	New Decision
Revision Status	Revised
Impairment from Pollutant or Pollution:	Pollutant
Regional Board Staff Conclusion:	<p>This pollutant is being considered for placement on the CWA section 303(d) List under section 3.2 of the Listing Policy. Under section 3.2 a single line of evidence is necessary to assess listing status. One line of evidence is available in the administrative record to assess this pollutant. Zero of twelve samples exceed the guideline.</p> <p>Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against placing this water segment-pollutant combination on the CWA section 303(d) List.</p> <p>This conclusion is based on the staff findings that:</p> <ol style="list-style-type: none"> 1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy. 2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy. 3. Zero of twelve samples exceed the guideline and this sample size is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating. A minimum of 26 samples is needed to determine if a beneficial use is fully supported using table 3.2. 4. Pursuant to SECTION 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.
Regional Board Staff Decision Recommendation:	After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be placed on the section 303(d) list. The readily available data and information is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating.

Line of Evidence (LOE) for Decision ID 61273, pH	Region 2
Ballena Isle Marina (part of San Francisco Bay, Lower)	

LOE ID:	90730
Pollutant:	pH
LOE Subgroup:	Pollutant-Water
Matrix:	Water
Fraction:	Dissolved
Beneficial Use:	Marine Habitat
Number of Samples:	12
Number of Exceedances:	0
Data and Information Type:	PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality:	Numeric data generated from 12 minimums and maximums had no exceedences.
Data Reference:	Data for Various Pollutants in California Marinas, 2006.
SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	The pH shall not be depressed below 6.5 nor raised above 8.5.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)

Evaluation Guideline:

Guideline Reference:

Spatial Representation:

Samples were collected from the following stations: Ballena Isle Marina 1.1 Ballena Isle Marina 1.2* Ballena Isle Marina 1.3* Ballena Isle Marina 2.1 Ballena Isle Marina 2.2* Ballena Isle Marina 2.3* Ballena Isle Marina 3.1 Ballena Isle Marina 3.2* Ballena Isle Marina 3.3* Ballena Isle Marina 4.1 Ballena Isle Marina 4.2* Ballena Isle Marina 4.3* Samples were collected once a month from July 2006 to September 2006.

Temporal Representation:

Environmental Conditions:

QAPP Information:

NPDES quality assurance.

QAPP Information Reference(s):

[Study report on paint data collected in California Marinas.](#)

Draft California 2016 Integrated Report (303(d) List/305(b) Report)

Supporting Information

Regional Board 2 - San Francisco Bay Region

Water Body Name: South Beach Harbor (part of San Francisco Bay, Lower)
Water Body ID: CAB2044001020110405220721
Water Body Type: Bay & Harbor

DECISION ID 66029 **Region 2**
South Beach Harbor (part of San Francisco Bay, Lower)

Pollutant: Copper
Final Listing Decision: Do Not List on 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision: New Decision
Revision Status Revised
Impairment from Pollutant or Pollution: Pollutant

Regional Board Staff Conclusion: This pollutant is being considered for placement on the CWA section 303(d) List under section 3.1 of the Listing Policy. Under section 3.1 a one line of evidence is necessary to assess listing status. One line of evidence is available in the administrative record to assess this pollutant. Zero of the three samples exceed the OBJECTIVE.

Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against placing this water segment-pollutant combination on the CWA section 303(d) List. This conclusion is based on the staff findings that:

1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy.
2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy.
3. Zero of the three samples exceeded the OBJECTIVE and this sample size is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating. A minimum of 16 samples is needed to determine if a beneficial use is fully supported using table 3.1.
4. Pursuant to 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.

Regional Board Staff Decision Recommendation: After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be placed on the section 303(d) list. The readily available data and information is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating.

Line of Evidence (LOE) for Decision ID 66029, Copper **Region 2**
South Beach Harbor (part of San Francisco Bay, Lower)

LOE ID: 93448
Pollutant: Copper
LOE Subgroup: Pollutant-Water
Matrix: Water
Fraction: Dissolved
Beneficial Use: Estuarine Habitat
Number of Samples: 3
Number of Exceedances: 0

Data and Information Type:	Fixed station physical/chemical (conventional plus toxic pollutants)
Data Used to Assess Water Quality:	None of the three samples exceeded the SSO value of 6.9 ug/L for dissolved copper in saline water.
Data Reference:	Data for Various Pollutants in California Marinas, 2006.
SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	Waters shall not contain chemical constituents in concentrations that adversely affect beneficial uses. Table 3.3A lists a site specific objective (SSO) for criteria continuous concentration of dissolved copper. The SSO for dissolved copper in Lower San Francisco Bay is 6.9 ug/L.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	
Guideline Reference:	
Spatial Representation:	A total of four separate grab samples were collected from inside the marina basin (Sites 1, 2, 3, & 4), these sites were averaged per sample event.
Temporal Representation:	Samples were collected on three separate sampling events during the dry season (July - October) in 2006.
Environmental Conditions:	Samples were collected during the dry season only.
QAPP Information:	Samples were collected and analyzed in accordance with a Quality Assurance Project Plan that was prepared per State Water Resources Control Board Agreement No. 05-218-250 California Department of Pesticide Regulation, Sacramento, CA. (Available online at http://www.cdpr.ca.gov/docs/emon/surfwttr/protocols/qapp_study236.pdf)
QAPP Information Reference(s):	

DECISION ID	66250	Region 2
South Beach Harbor (part of San Francisco Bay, Lower)		

Pollutant:	Oxygen, Dissolved
Final Listing Decision:	Do Not List on 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision:	New Decision
Revision Status	Revised
Impairment from Pollutant or Pollution:	Pollutant

Regional Board Staff Conclusion: This pollutant is being considered for placement on the CWA section 303(d) List under section 3.2 of the Listing Policy. Under section 3.2 a single line of evidence are necessary to assess listing status.

One line of evidence is available in the administrative record to assess this pollutant.

Zero of the nine samples exceed the OBJECTIVE.

Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against placing this water segment-pollutant combination on the CWA section 303(d) List.

This conclusion is based on the staff findings that:

1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy.
2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy.
3. Zero of the nine samples exceed the OBJECTIVE and this sample size is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating. A minimum of 26 samples is needed to determine if a beneficial use is fully supported using table 3.2.
4. Pursuant to SECTION 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.

Regional Board Staff Decision Recommendation: After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be placed on the section 303(d) list. The readily available data and information is insufficient to determine, with the power and confidence of the Listing Policy, the

Line of Evidence (LOE) for Decision ID 66250, Oxygen, Dissolved
South Beach Harbor (part of San Francisco Bay, Lower)
Region 2

LOE ID:	93449
Pollutant:	Oxygen, Dissolved
LOE Subgroup:	Pollutant-Water
Matrix:	Water
Fraction:	Dissolved
Beneficial Use:	Estuarine Habitat
Number of Samples:	9
Number of Exceedances:	0
Data and Information Type:	PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality:	Numeric data generated from 9 minimum samples of Dissolved Oxygen concentrations had no exceedences.
Data Reference:	Data for Various Pollutants in California Marinas, 2006.
SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	The dissolved oxygen content of bays/estuaries downstream of the Carquinez Bridge must be above 5 mg/L.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	
Guideline Reference:	
Spatial Representation:	Samples were collected from the following stations: Ballena Isle Marina 5.1 Ballena Isle Marina 5.2 Ballena Isle Marina 5.3 Ballena Isle Marina 6.1 Ballena Isle Marina 6.2 Ballena Isle Marina 6.3 Ballena Isle Marina 7.1 Ballena Isle Marina 7.2 Ballena Isle Marina 7.3 Ballena Isle Marina 8.1 Ballena Isle Marina 8.2 Ballena Isle Marina 8.3 Coyote Point Marina 5.1 Coyote Point Marina 5.2 Coyote Point Marina 6.1 Coyote Point Marina 6.2 Coyote Point Marina 7.1 Coyote Point Marina 7.2 Coyote Point Marina 8.1 Coyote Point Marina 8.2 South Beach Harbor 4.1 South Beach Harbor 4.2 South Beach Harbor 4.3 South Beach Harbor 5.1 South Beach Harbor 5.2 South Beach Harbor 5.3 South Beach Harbor 6.1 South Beach Harbor 6.2 South Beach Harbor 6.3 South Beach Harbor 7.1 South Beach Harbor 7.2 South Beach Harbor 7.3 South Beach Harbor 8.1 South Beach Harbor 8.2 South Beach Harbor 8.3
Temporal Representation:	Samples were collected on the following dates: 7/26/2006 8/23/2006 9/20/2006
Environmental Conditions:	
QAPP Information:	Samples were collected and analyzed in accordance with a Quality Assurance Project Plan that was prepared per State Water Resources Control Board Agreement No. 05-218-250 California Department of Pesticide Regulation, Sacramento, CA. (Available online at http://www.cdpr.ca.gov/docs/emon/surfwttr/protocols/qapp_study236.pdf)
QAPP Information Reference(s):	

DECISION ID 66030
South Beach Harbor (part of San Francisco Bay, Lower)
Region 2

Pollutant:	Toxicity
Final Listing Decision:	Do Not List on 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision:	New Decision
Revision Status	Revised
Impairment from Pollutant or	Pollutant

Pollution:**Regional Board Staff Conclusion:**

This pollutant is being considered for placement on the CWA section 303(d) List under section 3.1 of the Listing Policy. Under section 3.1 a one line of evidence is necessary to assess listing status. One line of evidence is available in the administrative record to assess this pollutant. Zero of the three samples exceed the GUIDELINE.

Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against placing this water segment-pollutant combination on the CWA section 303(d) List. This conclusion is based on the staff findings that:

1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy.
2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy.
3. Zero of the three samples exceeded the GUIDELINE and this sample size is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating. A minimum of 16 samples is needed to determine if a beneficial use is fully supported using table 3.1.
4. Pursuant to 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.

Regional Board Staff Decision Recommendation:

After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be placed on the section 303(d) list. The readily available data and information is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating.

**Line of Evidence (LOE) for Decision ID 66030, Toxicity
South Beach Harbor (part of San Francisco Bay, Lower)****Region 2**

LOE ID:	93383
Pollutant:	Toxicity
LOE Subgroup:	Toxicity
Matrix:	Water
Fraction:	None
Beneficial Use:	Estuarine Habitat
Number of Samples:	3
Number of Exceedances:	0
Data and Information Type:	TOXICITY TESTING
Data Used to Assess Water Quality:	Three samples were tested for toxicity. None of the three samples exhibited a statistically significant effect relative to control. The toxicity test used was the mussel embryo development test (EPA 1995) using <i>Mytilus galloprovincialis</i> . Toxic effects are expressed as percent reduction in normal development relative to controls.
Data Reference:	Data for Various Pollutants in California Marinas, 2006.
SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	All waters shall be maintained free of toxic substances in concentrations that are lethal to or that produce other detrimental responses in aquatic organisms. Detrimental responses include, but are not limited to, decreased growth rate and decreased reproductive success of resident or indicator species.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) - San Francisco Bay Region (Region 2)
Evaluation Guideline:	Toxicity is defined as a statistically significant effect in the sample exposure compared to the control using EPA-recommended hypothesis testing (parametric Dunnett's Test or non-parametric Kruskal-Wallis or Wilcoxon Two-sample Test). The t-test is used to determine if there is a statistically significant decrease in organism response in the sample as compared to the control.
Guideline Reference:	SWAMP Memo Toxicity Data Interpretation Method 1007.0: Mysid, Mysidopsis bahia, Survival, Growth, and Fecundity Test; Chronic

Spatial Representation: The samples were collected at South Beach Harbor 1.2, 2.2, and 3.2.
 Temporal Representation: Samples were collected on 8/23/2006.
 Environmental Conditions:
 QAPP Information: Data quality is good. The data and QA information is provided in Appendix G and I to the report Monitoring For Indicators of Antifouling Paint Pollution In California Marinas, Department of Pesticide Regulation. The Southern California Coastal Water Research Project laboratory conducted the toxicity tests.

QAPP Information Reference(s):

DECISION ID	66031	Region 2
South Beach Harbor (part of San Francisco Bay, Lower)		

Pollutant: Zinc
Final Listing Decision: Do Not List on 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision: New Decision
Revision Status: Revised
Impairment from Pollutant or Pollution: Pollutant

Regional Board Staff Conclusion: This pollutant is being considered for placement on the CWA section 303(d) List under section 3.1 of the Listing Policy. Under section 3.1 a one line of evidence is necessary to assess listing status. One line of evidence is available in the administrative record to assess this pollutant. Zero of the three samples exceed the Objective.

Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against placing this water segment-pollutant combination on the CWA section 303(d) List. This conclusion is based on the staff findings that:

1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy.
2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy.
3. Zero of the three samples exceeded the Objective and this sample size is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating. A minimum of 16 samples is needed to determine if a beneficial use is fully supported using table 3.1.
4. Pursuant to 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.

Regional Board Staff Decision Recommendation: After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be placed on the section 303(d) list. The readily available data and information is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating.

Line of Evidence (LOE) for Decision ID 66031, Zinc	Region 2
South Beach Harbor (part of San Francisco Bay, Lower)	

LOE ID: 93384
Pollutant: Zinc
LOE Subgroup: Pollutant-Water
Matrix: Water
Fraction: Dissolved
Beneficial Use: Estuarine Habitat
Number of Samples: 3

Number of Exceedances:	0
Data and Information Type:	Fixed station physical/chemical (conventional plus toxic pollutants)
Data Used to Assess Water Quality:	None of the three samples exceeded the CTR value of 81 ug/L for dissolved zinc in brackish water.
Data Reference:	Data for Various Pollutants in California Marinas, 2006.
SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	Waters shall not contain chemical constituents in concentrations that adversely affect beneficial uses. California Toxics Rule (CTR) lists criterion continuous concentrations to protect aquatic life in saline water. The CTR value is 81 ug/L.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	
Guideline Reference:	
Spatial Representation:	A total of four separate grab samples were collected from inside the marina basin (Sites 1, 2, 3, & 4), these sites were averaged per sample event.
Temporal Representation:	Samples were collected on three separate sampling events during the dry season (July - October) in 2006.
Environmental Conditions:	Samples were collected during the dry season only.
QAPP Information:	Samples were collected and analyzed in accordance with a Quality Assurance Project Plan that was prepared per State Water Resources Control Board Agreement No. 05-218-250 California Department of Pesticide Regulation, Sacramento, CA. (Available online at http://www.cdpr.ca.gov/docs/emon/surfwttr/protocols/qapp_study236.pdf)
QAPP Information Reference(s):	

DECISION ID	66254	Region 2
South Beach Harbor (part of San Francisco Bay, Lower)		
Pollutant:	pH	
Final Listing Decision:	Do Not List on 303(d) list (TMDL required list)	
Last Listing Cycle's Final Listing Decision:	New Decision	
Revision Status	Revised	
Impairment from Pollutant or Pollution:	Pollutant	
Regional Board Staff Conclusion:	<p>This pollutant is being considered for placement on the CWA section 303(d) List under section 3.2 of the Listing Policy. Under section 3.2 a single line of evidence are necessary to assess listing status.</p> <p>One line of evidence is available in the administrative record to assess this pollutant.</p> <p>Zero of the nine samples exceed the OBJECTIVE.</p> <p>Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against placing this water segment-pollutant combination on the CWA section 303(d) List.</p> <p>This conclusion is based on the staff findings that:</p> <ol style="list-style-type: none"> 1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy. 2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy. 3. Zero of the nine samples exceed the OBJECTIVE and this sample size is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating. A minimum of 26 samples is needed to determine if a beneficial use is fully supported using table 3.2. 4. Pursuant to SECTION 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met. 	
Regional Board Staff Decision Recommendation:	After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be placed on the section 303(d) list. The readily available data and	

information is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating.

Line of Evidence (LOE) for Decision ID 66254, pH
South Beach Harbor (part of San Francisco Bay, Lower)

Region 2

LOE ID:	90739
Pollutant:	pH
LOE Subgroup:	Pollutant-Water
Matrix:	Water
Fraction:	Dissolved
Beneficial Use:	Warm Freshwater Habitat
Number of Samples:	9
Number of Exceedances:	0
Data and Information Type:	PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality:	Numeric data generated from 9 minimums and maximums had no exceedences.
Data Reference:	Data for Various Pollutants in California Marinas, 2006.
SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	The pH shall not be depressed below 6.5 nor raised above 8.5.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	
Guideline Reference:	
Spatial Representation:	Samples were collected from the following stations: South Beach Harbor 1.1 South Beach Harbor 1.2 South Beach Harbor 1.3 South Beach Harbor 2.1 South Beach Harbor 2.2 South Beach Harbor 2.3 South Beach Harbor 3.1 South Beach Harbor 3.2 South Beach Harbor 3.3
Temporal Representation:	Samples were collected once a month from July 2006 to September 2006.
Environmental Conditions:	
QAPP Information:	NPDES quality assurance.
QAPP Information Reference(s):	Study report on paint data collected in California Marinas.

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Supporting Information

Regional Board 2 - San Francisco Bay Region

Water Body Name: Coyote Point Marina (part of San Francisco Bay, Lower)
Water Body ID: CAB2044002120110406000221
Water Body Type: Bay & Harbor

DECISION ID 64173 **Region 2**
Coyote Point Marina (part of San Francisco Bay, Lower)

Pollutant: Copper
Final Listing Decision: Do Not List on 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision: New Decision
Revision Status Revised
Impairment from Pollutant or Pollution: Pollutant

Regional Board Staff Conclusion: This pollutant is being considered for placement on the CWA section 303(d) List under section 3.1 of the Listing Policy. Under section 3.1 a single line of evidence is necessary to assess listing status. One line of evidence is available in the administrative record to assess this pollutant. Zero of two samples exceed the guideline.

Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against placing this water segment-pollutant combination on the CWA section 303(d) List.

This conclusion is based on the staff findings that:

1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy.
2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy.
3. Zero of two samples exceed the guideline and this sample size is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating. A minimum of 16 samples is needed to determine if a beneficial use is fully supported using table 3.1.
4. Pursuant to SECTION 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.

Regional Board Staff Decision Recommendation: After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be placed on the section 303(d) list. The readily available data and information is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating.

Line of Evidence (LOE) for Decision ID 64173, Copper **Region 2**
Coyote Point Marina (part of San Francisco Bay, Lower)

LOE ID: 91603
Pollutant: Copper
LOE Subgroup: Pollutant-Water
Matrix: Water
Fraction: Dissolved
Beneficial Use: Estuarine Habitat
Number of Samples: 2
Number of Exceedances: 0

Data and Information Type:	Fixed station physical/chemical (conventional plus toxic pollutants)
Data Used to Assess Water Quality:	None of the two samples exceeded the SSO value of 6.9 ug/L for dissolved copper in saline water.
Data Reference:	Data for Various Pollutants in California Marinas, 2006.
SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	Waters shall not contain chemical constituents in concentrations that adversely affect beneficial uses. Table 3.3A lists a site specific objective (SSO) for criteria continuous concentration of dissolved copper. The SSO for dissolved copper in Lower San Francisco Bay is 6.9 ug/L.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	
Guideline Reference:	
Spatial Representation:	A total of four separate grab samples were collected from inside the marina basin (Sites 1, 2, 3, & 4), these sites were averaged per sample event.
Temporal Representation:	Samples were collected on two separate sampling events during the dry season (July - October) in 2006.
Environmental Conditions:	Samples were collected during the dry season only.
QAPP Information:	Samples were collected and analyzed in accordance with a Quality Assurance Project Plan that was prepared per State Water Resources Control Board Agreement No. 05-218-250 California Department of Pesticide Regulation, Sacramento, CA. (Available online at http://www.cdpr.ca.gov/docs/emon/surfwttr/protocols/qapp_study236.pdf)
QAPP Information Reference(s):	

DECISION ID 64174 Region 2	
Coyote Point Marina (part of San Francisco Bay, Lower)	
Pollutant:	Oxygen, Dissolved
Final Listing Decision:	Do Not List on 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision:	New Decision
Revision Status	Revised
Impairment from Pollutant or Pollution:	Pollutant
Regional Board Staff Conclusion:	<p>This pollutant is being considered for placement on the CWA section 303(d) List under section 3.2 of the Listing Policy. Under section 3.2 a single line of evidence is necessary to assess listing status. One line of evidence is available in the administrative record to assess this pollutant. Four of seven samples exceed the objective.</p> <p>Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against placing this water segment-pollutant combination on the CWA section 303(d) List.</p> <p>This conclusion is based on the staff findings that:</p> <ol style="list-style-type: none"> 1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy. 2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy. 3. Four of seven samples exceed the objective and this sample size is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating. A minimum of 26 samples is needed to determine if a beneficial use is fully supported using table 3.2. 4. Pursuant to SECTION 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.
Regional Board Staff Decision Recommendation:	After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be placed on the section 303(d) list. The readily available data and information is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating.

**Line of Evidence (LOE) for Decision ID 64174, Oxygen, Dissolved
Coyote Point Marina (part of San Francisco Bay, Lower)**

Region 2

LOE ID: 91604

Pollutant: Oxygen, Dissolved
LOE Subgroup: Pollutant-Water
Matrix: Water
Fraction: Dissolved

Beneficial Use: Estuarine Habitat

Number of Samples: 7
Number of Exceedances: 4

Data and Information Type: PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality: Numeric data generated from 7 minimum samples of Dissolved Oxygen concentrations had 4 exceedences.
Data Reference: [Data for Various Pollutants in California Marinas, 2006.](#)

SWAMP Data: Non-SWAMP

Water Quality Objective/Criterion: The dissolved oxygen content of bays/estuaries downstream of the Carquinez Bridge must be above 5 mg/L.
Objective/Criterion Reference: [Water Quality Control Plan \(Basin Plan\) San Francisco Bay Basin \(Region 2\)](#)

Evaluation Guideline:
Guideline Reference:

Spatial Representation: Samples were collected from the following stations: Coyote Point Marina 1.1 Coyote Point Marina 1.2 Coyote Point Marina 2.1 Coyote Point Marina 2.2 Coyote Point Marina 3.1 Coyote Point Marina 3.2 Coyote Point Marina 4.1 Coyote Point Marina 4.2
Temporal Representation: Samples were collected on the following dates: 7/28/2006 8/25/2006
Environmental Conditions:
QAPP Information: Samples were collected and analyzed in accordance with a Quality Assurance Project Plan that was prepared per State Water Resources Control Board Agreement No. 05-218-250 California Department of Pesticide Regulation, Sacramento, CA. (Available online at http://www.cdpr.ca.gov/docs/emon/surfwttr/protocols/qapp_study236.pdf)
QAPP Information Reference(s):

DECISION ID

64175

Region 2

Coyote Point Marina (part of San Francisco Bay, Lower)

Pollutant: Zinc
Final Listing Decision: Do Not List on 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision: New Decision
Revision Status: Revised
Impairment from Pollutant or Pollution: Pollutant

Regional Board Staff Conclusion:

This pollutant is being considered for placement on the CWA section 303(d) List under section 3.1 of the Listing Policy. Under section 3.1 a single line of evidence is necessary to assess listing status. One line of evidence is available in the administrative record to assess this pollutant. Zero of two samples exceed the guideline.

Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against placing this water segment-pollutant combination on the CWA section

303(d) List.

This conclusion is based on the staff findings that:

1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy.
2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy.
3. Zero of two samples exceed the guideline and this sample size is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating. A minimum of 16 samples is needed to determine if a beneficial use is fully supported using table 3.1.
4. Pursuant to SECTION 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.

Regional Board Staff Decision Recommendation: After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be placed on the section 303(d) list. The readily available data and information is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating.

**Line of Evidence (LOE) for Decision ID 64175, Zinc
Coyote Point Marina (part of San Francisco Bay, Lower)**

Region 2

LOE ID:	91540
Pollutant:	Zinc
LOE Subgroup:	Pollutant-Water
Matrix:	Water
Fraction:	Dissolved
Beneficial Use:	Estuarine Habitat
Number of Samples:	2
Number of Exceedances:	0
Data and Information Type:	Fixed station physical/chemical (conventional plus toxic pollutants)
Data Used to Assess Water Quality:	None of the two samples exceeded the CTR value of 81 ug/L for dissolved zinc in brackish water.
Data Reference:	Data for Various Pollutants in California Marinas, 2006.
SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	Waters shall not contain chemical constituents in concentrations that adversely affect beneficial uses. California Toxics Rule (CTR) lists criterion continuous concentrations to protect aquatic life in saline water. The CTR value is 81 ug/L.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	
Guideline Reference:	
Spatial Representation:	A total of four separate grab samples were collected from inside the marina basin (Sites 1, 2, 3, & 4), these sites were averaged per sample event.
Temporal Representation:	Samples were collected on two separate sampling events during the dry season (July - October) in 2006.
Environmental Conditions:	Samples were collected during the dry season only.
QAPP Information:	Samples were collected and analyzed in accordance with a Quality Assurance Project Plan that was prepared per State Water Resources Control Board Agreement No. 05-218-250 California Department of Pesticide Regulation, Sacramento, CA. (Available online at http://www.cdpr.ca.gov/docs/emon/surfwttr/protocols/qapp_study236.pdf)
QAPP Information Reference(s):	

**DECISION ID 64176
Coyote Point Marina (part of San Francisco Bay, Lower)**

Region 2

Pollutant:	pH
Final Listing Decision:	Do Not List on 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision:	New Decision
Revision Status	Revised
Impairment from Pollutant or Pollution:	Pollutant

Regional Board Staff Conclusion: This pollutant is being considered for placement on the CWA section 303(d) List under section 3.2 of the Listing Policy. Under section 3.2 a single line of evidence is necessary to assess listing status. One line of evidence is available in the administrative record to assess this pollutant. Zero of eight samples exceed the objective.

Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against placing this water segment-pollutant combination on the CWA section 303(d) List.

This conclusion is based on the staff findings that:

1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy.
2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy.
3. Zero of eight samples exceed the objective and this sample size is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating. A minimum of 26 samples is needed to determine if a beneficial use is fully supported using table 3.2.
4. Pursuant to SECTION 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.

Regional Board Staff Decision Recommendation: After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be placed on the section 303(d) list. The readily available data and information is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating.

Line of Evidence (LOE) for Decision ID 64176, pH Coyote Point Marina (part of San Francisco Bay, Lower)

Region 2

LOE ID: 90732

Pollutant:	pH
LOE Subgroup:	Pollutant-Water
Matrix:	Water
Fraction:	Dissolved

Beneficial Use: Marine Habitat

Number of Samples:	8
Number of Exceedances:	0

Data and Information Type:	PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality:	Numeric data generated from 8 minimums and maximums had no exceedences.
Data Reference:	Data for Various Pollutants in California Marinas, 2006.

SWAMP Data:	Non-SWAMP
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Water Quality Objective/Criterion:	The pH shall not be depressed below 6.5 nor raised above 8.5.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)

Evaluation Guideline:	
Guideline Reference:	

Spatial Representation:	Samples were collected from the following stations: Coyote Point Marina 1.1 Coyote Point Marina 1.2* Coyote Point Marina 2.1 Coyote Point Marina 2.2* Coyote Point Marina 3.1
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Temporal Representation:
Environmental Conditions:
QAPP Information:
QAPP Information Reference(s):

Coyote Point Marina 3.2* Coyote Point Marina 4.1 Coyote Point Marina 4.2*
Samples were collected once a month from September 2006 to August 2006.

NPDES quality assurance.
[Study report on paint data collected in California Marinas.](#)

Draft California 2016 Integrated Report (303(d) List/305(b) Report)

Supporting Information

Regional Board 2 - San Francisco Bay Region

Water Body Name: Pacific Ocean at Dillion Beach
Water Body ID: CAC2011203020110712210936
Water Body Type: Coastal & Bay Shoreline

DECISION ID 65103 **Region 2**
Pacific Ocean at Dillion Beach

Pollutant: Indicator Bacteria
Final Listing Decision: Do Not List on 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision: New Decision
Revision Status Revised
Impairment from Pollutant or Pollution: Pollutant

Regional Board Staff Conclusion: This pollutant is being considered for placement on the CWA section 303(d) List under section 3.3 of the Listing Policy. Under section 3.3 a single line of evidence is necessary to assess listing status.

Six lines of evidence are available in the administrative record to assess this pollutant. One of one hundred sixty three samples exceed the objective.

Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against placing this water segment-pollutant combination on the CWA section 303(d) List.

This conclusion is based on the staff findings that:

1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy.
2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy.
3. One of one hundred sixty three samples exceed the objective and this does not exceed the allowable frequency listed in Table 3.2 of the Listing Policy.
4. Pursuant to section 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.

Regional Board Staff Decision Recommendation: After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be placed on the section 303(d) list because applicable water quality standards are not being exceeded.

Line of Evidence (LOE) for Decision ID 65103, Indicator Bacteria **Region 2**
Pacific Ocean at Dillion Beach

LOE ID: 92415
Pollutant: Enterococcus
LOE Subgroup: Pollutant-Water
Matrix: Water
Fraction: None
Beneficial Use: Water Contact Recreation
Number of Samples: 141
Number of Exceedances: 0

Data and Information Type:	Not Specified
Data Used to Assess Water Quality:	Zero of the 141 geomeans exceeded the enterococcus objective.
Data Reference:	Data for Region 2 Beach Watch.
SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	The geometric mean standard for enterococcus states that the enterococcus density shall not exceed 35 per 100 mL. Water Quality Control Plan for Ocean Waters 2009.
Objective/Criterion Reference:	California Ocean Plan Water Quality Control Plan Ocean Waters of California 2009
Evaluation Guideline:	
Guideline Reference:	
Spatial Representation:	Samples were collected at station Dillon Beach.
Temporal Representation:	Samples were collected approximately once a week from April 2005 to September 2010.
Environmental Conditions:	
QAPP Information:	The samples were collected for the Beach Watch program.
QAPP Information Reference(s):	

Line of Evidence (LOE) for Decision ID 65103, Indicator Bacteria
Pacific Ocean at Dillion Beach

Region 2

LOE ID:	92418
Pollutant:	Fecal Coliform
LOE Subgroup:	Pollutant-Water
Matrix:	Water
Fraction:	None
Beneficial Use:	Water Contact Recreation
Number of Samples:	141
Number of Exceedances:	0
Data and Information Type:	Not Specified
Data Used to Assess Water Quality:	Zero of the 141 geomeans exceeded the fecal coliform objective.
Data Reference:	Data for Region 2 Beach Watch.
SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	The geometric mean standard for fecal coliform states that the fecal coliform density shall not exceed 200 per 100 mL. Water Quality Control Plan for Ocean Waters 2009.
Objective/Criterion Reference:	California Ocean Plan Water Quality Control Plan Ocean Waters of California 2009
Evaluation Guideline:	
Guideline Reference:	
Spatial Representation:	Samples were collected at station Dillon Beach.
Temporal Representation:	Samples were collected approximately once a week from April 2005 to September 2010.
Environmental Conditions:	
QAPP Information:	The samples were collected for the Beach Watch program.
QAPP Information Reference(s):	

Line of Evidence (LOE) for Decision ID 65103, Indicator Bacteria
Pacific Ocean at Dillion Beach

Region 2

LOE ID:	92420
Pollutant:	Total Coliform
LOE Subgroup:	Pollutant-Water
Matrix:	Water

Fraction:	None
Beneficial Use:	Water Contact Recreation
Number of Samples:	141
Number of Exceedances:	0
Data and Information Type:	Not Specified
Data Used to Assess Water Quality:	Zero of the 141 geomeans exceeded the total coliform objective.
Data Reference:	Data for Region 2 Beach Watch.
SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	The geometric mean standard for total coliform states that the total coliform density shall not exceed 1,000 per 100 mL. Water Quality Control Plan for Ocean Waters 2009.
Objective/Criterion Reference:	California Ocean Plan Water Quality Control Plan Ocean Waters of California 2009
Evaluation Guideline:	
Guideline Reference:	
Spatial Representation:	Samples were collected at station Dillon Beach.
Temporal Representation:	Samples were collected approximately once a week from April 2005 to September 2010.
Environmental Conditions:	
QAPP Information:	The samples were collected for the Beach Watch program.
QAPP Information Reference(s):	

Line of Evidence (LOE) for Decision ID 65103, Indicator Bacteria

Region 2

Pacific Ocean at Dillion Beach

LOE ID:	90891
Pollutant:	Enterococcus
LOE Subgroup:	Pollutant-Water
Matrix:	Water
Fraction:	None
Beneficial Use:	Water Contact Recreation
Number of Samples:	163
Number of Exceedances:	1
Data and Information Type:	PATHOGEN MONITORING
Data Used to Assess Water Quality:	Water Board staff assessed BeachWatch data for Pacific Ocean at Dillion Beach to determine beneficial use support and results are as follows: 1 of 163 samples exceed the criterion for Enterococci.
Data Reference:	Data for Region 2 Beach Watch.
SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	California Ocean Plan (SWRCB 2009) states that the single sample maximum for Enterococcus shall not exceed 104 MPN/100 mL.
Objective/Criterion Reference:	California Ocean Plan Water Quality Control Plan Ocean Waters of California 2009
Evaluation Guideline:	
Guideline Reference:	
Spatial Representation:	Data for this line of evidence for Pacific Ocean at Dillion Beach was collected at 1 monitoring site [Dillon Beach]
Temporal Representation:	Data was collected over the time period 4/5/2005-8/24/2010.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	The samples were collected for the Beach Watch program.
QAPP Information Reference(s):	

Line of Evidence (LOE) for Decision ID 65103, Indicator Bacteria
Pacific Ocean at Dillion Beach

Region 2

LOE ID: 90847

Pollutant: Total Coliform
LOE Subgroup: Pollutant-Water
Matrix: Water
Fraction: None

Beneficial Use: Water Contact Recreation

Number of Samples: 163
Number of Exceedances: 0

Data and Information Type: PATHOGEN MONITORING
Data Used to Assess Water Quality: Water Board staff assessed BeachWatch data for Pacific Ocean at Dillion Beach to determine beneficial use support and results are as follows: 0 of 163 samples exceed the criterion for Coliform, Total.

Data Reference: [Data for Region 2 Beach Watch.](#)

SWAMP Data: Non-SWAMP

Water Quality Objective/Criterion: California Ocean Plan (2009) single sample maximum states that total coliform density shall not exceed 10,000 MPN/100 mL

Objective/Criterion Reference: [California Ocean Plan Water Quality Control Plan Ocean Waters of California 2009](#)

Evaluation Guideline:
Guideline Reference:

Spatial Representation: Data for this line of evidence for Pacific Ocean at Dillion Beach was collected at 1 monitoring site [Dillion Beach]

Temporal Representation: Data was collected over the time period 4/5/2005-8/24/2010.

Environmental Conditions: Staff is not aware of any special conditions that might affect interpretation of the data.

QAPP Information: The samples were collected for the Beach Watch program.

QAPP Information Reference(s):

Line of Evidence (LOE) for Decision ID 65103, Indicator Bacteria
Pacific Ocean at Dillion Beach

Region 2

LOE ID: 90793

Pollutant: Fecal Coliform
LOE Subgroup: Pollutant-Water
Matrix: Water
Fraction: None

Beneficial Use: Water Contact Recreation

Number of Samples: 163
Number of Exceedances: 1

Data and Information Type: PATHOGEN MONITORING
Data Used to Assess Water Quality: Water Board staff assessed BeachWatch data for Pacific Ocean at Dillion Beach to determine beneficial use support and results are as follows: 1 of 163 samples exceed the criterion for Coliform, Fecal.

Data Reference: [Data for Region 2 Beach Watch.](#)

SWAMP Data: Non-SWAMP

Water Quality Objective/Criterion:	California Ocean Plan (SWRCB 2009) states that the single sample maximum for fecal coliform shall not exceed 400 MPN/100 mL
Objective/Criterion Reference:	California Ocean Plan Water Quality Control Plan Ocean Waters of California 2009
Evaluation Guideline:	
Guideline Reference:	
Spatial Representation:	Data for this line of evidence for Pacific Ocean at Dillion Beach was collected at 1 monitoring site [Dillon Beach]
Temporal Representation:	Data was collected over the time period 4/5/2005-8/24/2010.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	The samples were collected for the Beach Watch program.
QAPP Information Reference(s):	

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Supporting Information

Regional Board 2 - San Francisco Bay Region

Water Body Name: Miller Point (Tomaes Bay)
Water Body ID: CAC2011203120110712210308
Water Body Type: Coastal & Bay Shoreline

DECISION ID 66013 **Region 2**
Miller Point (Tomaes Bay)

Pollutant: Indicator Bacteria
Final Listing Decision: List on 303(d) list (being addressed by USEPA approved TMDL)
Last Listing Cycle's Final Listing Decision: New Decision
Revision Status Revised
Sources: Source Unknown
TMDL Name: Tomaes Bay Pathogens
TMDL Project Code: 10
Date TMDL Approved by USEPA: 02/08/2007
Impairment from Pollutant or Pollution: Pollutant

Regional Board Staff Conclusion: This pollutant is being considered for placement on the CWA section 303(d) List under sections 2.2 and 3.3 of the Listing Policy. Under section 3.3 of the Policy, a minimum of one line of evidence is needed to assess listing status.

Six lines of evidence are available in the administrative record to assess this pollutant. Eight of thirty-six samples exceed the total coliform monthly median objective.

Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification for placing this water segment-pollutant combination from the CWA section 303(d) List. There is sufficient justification to place it in the Being Addressed portion of the CWA 303(d) List because a TMDL has been completed and approved by RWQCB and USEPA, and is expected to result in attainment of the standard.

This conclusion is based on the staff findings that:

1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy.
2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy.
3. Eight of thirty-six samples exceed the total coliform monthly median objective and these exceed the allowable frequency listed in Table 3.2 of the Listing Policy.
4. The Tomaes Bay Pathogen TMDL was approved by USEPA on 2/8/2007.
5. Pursuant to section 4.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.

Regional Board Staff Decision Recommendation: After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should be placed on the section 303(d) list because applicable water quality standards are exceeded and a pollutant contributes to or causes the problem.

Line of Evidence (LOE) for Decision ID 66013, Indicator Bacteria **Region 2**
Miller Point (Tomaes Bay)

LOE ID: 90864
Pollutant: Fecal Coliform

LOE Subgroup:	Pollutant-Water
Matrix:	Water
Fraction:	None
Beneficial Use:	Water Contact Recreation
Number of Samples:	144
Number of Exceedances:	2
Data and Information Type:	PATHOGEN MONITORING
Data Used to Assess Water Quality:	Water Board staff assessed BeachWatch data for Miller Point to determine beneficial use support and results are as follows: 2 of 144 samples exceed the criterion for fecal coliform.
Data Reference:	Data for Region 2 Beach Watch.
SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	The San Francisco Bay Basin Plan states that the single sample maximum for fecal coliform shall not exceed 400 MPN/100 mL
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	
Guideline Reference:	
Spatial Representation:	Data for this line of evidence for Miller Point (Tomaes Bay) was collected at 1 monitoring site [Miller Point]
Temporal Representation:	Data was collected over the time period 4/5/2005-8/24/2010.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	The samples were collected for the Beach Watch program.
QAPP Information Reference(s):	

Line of Evidence (LOE) for Decision ID 66013, Indicator Bacteria
Miller Point (Tomaes Bay)

Region 2

LOE ID:	90881
Pollutant:	Total Coliform
LOE Subgroup:	Pollutant-Water
Matrix:	Water
Fraction:	None
Beneficial Use:	Water Contact Recreation
Number of Samples:	144
Number of Exceedances:	0
Data and Information Type:	PATHOGEN MONITORING
Data Used to Assess Water Quality:	Water Board staff assessed BeachWatch data for Miller Point to determine beneficial use support and results are as follows: 0 of 144 samples exceed the criterion for total coliformi.
Data Reference:	Data for Region 2 Beach Watch.
SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	The San Francisco Bay Basin Plan states that the single sample maximum for total coliform shall not exceed 10,000 MPN/100 mL
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	
Guideline Reference:	
Spatial Representation:	Data for this line of evidence for Miller Point (Tomaes Bay) was collected at 1 monitoring

Temporal Representation:	site [Miller Point]
Environmental Conditions:	Data was collected over the time period 4/5/2005-8/24/2010.
QAPP Information:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information Reference(s):	The samples were collected for the Beach Watch program.

Line of Evidence (LOE) for Decision ID 66013, Indicator Bacteria

Region 2

Miller Point (Tomaes Bay)

LOE ID:	90898
Pollutant:	Enterococcus
LOE Subgroup:	Pollutant-Water
Matrix:	Water
Fraction:	None
Beneficial Use:	Water Contact Recreation
Number of Samples:	144
Number of Exceedances:	6
Data and Information Type:	PATHOGEN MONITORING
Data Used to Assess Water Quality:	Water Board staff assessed BeachWatch data for Miller Point to determine beneficial use support and results are as follows: 6 of 144 samples exceed the criterion for Enterococci.
Data Reference:	Data for Region 2 Beach Watch.
SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	The San Francisco Bay Basin Plan states that the single sample maximum for Enterococcus shall not exceed 104 MPN/100 mL.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	
Guideline Reference:	
Spatial Representation:	Data for this line of evidence for Miller Point (Tomaes Bay) was collected at 1 monitoring site [Miller Point]
Temporal Representation:	Data was collected over the time period 4/5/2005-8/24/2010.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	The samples were collected for the Beach Watch program.
QAPP Information Reference(s):	

Line of Evidence (LOE) for Decision ID 66013, Indicator Bacteria

Region 2

Miller Point (Tomaes Bay)

LOE ID:	90689
Pollutant:	Fecal Coliform
LOE Subgroup:	Pollutant-Water
Matrix:	Water
Fraction:	None
Beneficial Use:	Water Contact Recreation
Number of Samples:	122
Number of Exceedances:	0
Data and Information Type:	Not Specified
Data Used to Assess Water Quality:	Zero of the 122 geomeans exceeded the objective.
Data Reference:	Data for Region 2 Beach Watch.

SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	The geometric mean standard for fecal coliform states that the fecal coliform density shall not exceed 200 per 100 mL. San Francisco Bay Basin Water Quality Control Plan.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	
Guideline Reference:	
Spatial Representation:	Samples were collected at the Miller Point site.
Temporal Representation:	Samples were collected from April 2005 to August 2010.
Environmental Conditions:	
QAPP Information:	The samples were collected for the beach watch program.
QAPP Information Reference(s):	

Line of Evidence (LOE) for Decision ID 66013, Indicator Bacteria	Region 2
Miller Point (Tomaes Bay)	

LOE ID:	90690
Pollutant:	Total Coliform
LOE Subgroup:	Pollutant-Water
Matrix:	Water
Fraction:	None
Beneficial Use:	Water Contact Recreation
Number of Samples:	36
Number of Exceedances:	8
Data and Information Type:	Not Specified
Data Used to Assess Water Quality:	Eight of the thirty-six monthly medians exceeded the objective.
Data Reference:	Data for Region 2 Beach Watch.

SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	The standard for total coliform states that the coliform density shall not exceed a monthly median of 240 per 100 mL. San Francisco Bay Basin Water Quality Control Plan.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	
Guideline Reference:	
Spatial Representation:	Samples were collected at the Miller Point site.
Temporal Representation:	Samples were collected from April 2005 to August 2010.
Environmental Conditions:	
QAPP Information:	The samples were collected for the Beach Watch program.
QAPP Information Reference(s):	

Line of Evidence (LOE) for Decision ID 66013, Indicator Bacteria	Region 2
Miller Point (Tomaes Bay)	

LOE ID:	90691
Pollutant:	Enterococcus
LOE Subgroup:	Pollutant-Water
Matrix:	Water
Fraction:	None
Beneficial Use:	Water Contact Recreation

Number of Samples:	122
Number of Exceedances:	10
Data and Information Type:	Not Specified
Data Used to Assess Water Quality:	Ten of the 122 geomeans exceeded the objective.
Data Reference:	Data for Region 2 Beach Watch.
SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	The geometric mean standard for enterococcus states that the enterococcus density shall not exceed 35 per 100 mL. San Francisco Bay Basin Water Quality Control Plan.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	
Guideline Reference:	
Spatial Representation:	Samples were collected at the Miller Point site.
Temporal Representation:	Samples were collected from April 2005 to August 2010.
Environmental Conditions:	
QAPP Information:	The samples were collected for the Beach Watch program.
QAPP Information Reference(s):	

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Supporting Information

Regional Board 2 - San Francisco Bay Region

Water Body Name: Shell Beach (Tomaes Bay)
Water Body ID: CAC2011403320110712204931
Water Body Type: Coastal & Bay Shoreline

DECISION ID 66128 **Region 2**
Shell Beach (Tomaes Bay)

Pollutant: Indicator Bacteria
Final Listing Decision: Do Not List on 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision: New Decision
Revision Status Revised
Impairment from Pollutant or Pollution: Pollutant

Regional Board Staff Conclusion: This pollutant is being considered for placement on the CWA section 303(d) List under section 3.3 of the Listing Policy. Under section 3.3 a single line of evidence is necessary to assess listing status.

Six lines of evidence are available in the administrative record to assess this pollutant. Two of the one hundred twenty-seven samples exceed the enterococcus geometric mean objective.

Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against placing this water segment-pollutant combination on the CWA section 303(d) List.

This conclusion is based on the staff findings that:

1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy.
2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy.
3. Two of the one hundred twenty-seven samples exceed the enterococcus geometric mean objective and this does not exceed the allowable frequency listed in Table 3.2 of the Listing Policy.
4. Pursuant to section 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.

Regional Board Staff Decision Recommendation: After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be placed on the section 303(d) list because applicable water quality standards are not being exceeded.

Line of Evidence (LOE) for Decision ID 66128, Indicator Bacteria **Region 2**
Shell Beach (Tomaes Bay)

LOE ID: 90671
Pollutant: Fecal Coliform
LOE Subgroup: Pollutant-Water
Matrix: Water
Fraction: None
Beneficial Use: Water Contact Recreation
Number of Samples: 127
Number of Exceedances: 0

Data and Information Type:	Not Specified
Data Used to Assess Water Quality:	Zero of the 127 geomeans exceeded the objective.
Data Reference:	Data for Region 2 Beach Watch.
SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	The geometric mean standard for fecal coliform states that the fecal coliform density shall not exceed 200 per 100 mL. San Francisco Bay Basin Water Quality Control Plan.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	
Guideline Reference:	
Spatial Representation:	Samples were collected at the Shell Beach site.
Temporal Representation:	Samples were collected from April 2005 to August 2010.
Environmental Conditions:	
QAPP Information:	The samples were collected for the beach watch program.
QAPP Information Reference(s):	

Line of Evidence (LOE) for Decision ID 66128, Indicator Bacteria

Region 2

Shell Beach (Tomaes Bay)

LOE ID:	90904
Pollutant:	Enterococcus
LOE Subgroup:	Pollutant-Water
Matrix:	Water
Fraction:	None
Beneficial Use:	Water Contact Recreation
Number of Samples:	150
Number of Exceedances:	5
Data and Information Type:	PATHOGEN MONITORING
Data Used to Assess Water Quality:	Water Board staff assessed BeachWatch data for Shell Beach (Tomaes Bay) to determine beneficial use support and results are as follows: 5 of 150 samples exceed the criterion for Enterococci.
Data Reference:	Data for Region 2 Beach Watch.
SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	The San Francisco Bay Basin Plan states that the single sample maximum for Enterococcus shall not exceed 104 MPN/100 mL.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	
Guideline Reference:	
Spatial Representation:	Data for this line of evidence for Shell Beach (Tomaes Bay) was collected at 1 monitoring site [Shell Beach]
Temporal Representation:	Data was collected over the time period 4/5/2005-8/24/2010.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	The samples were collected for the Beach Watch program.
QAPP Information Reference(s):	

Line of Evidence (LOE) for Decision ID 66128, Indicator Bacteria

Region 2

Shell Beach (Tomaes Bay)

LOE ID:	90860
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Pollutant:	Total Coliform
LOE Subgroup:	Pollutant-Water
Matrix:	Water
Fraction:	None
Beneficial Use:	Water Contact Recreation
Number of Samples:	150
Number of Exceedances:	0
Data and Information Type:	PATHOGEN MONITORING
Data Used to Assess Water Quality:	Water Board staff assessed BeachWatch data for Shell Beach (Tomaes Bay) to determine beneficial use support and results are as follows: 0 of 150 samples exceed the criterion for Coliform, Total.
Data Reference:	Data for Region 2 Beach Watch.
SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	The San Francisco Bay Basin Plan states that the single sample maximum for total coliform shall not exceed 10,000 MPN/100 mL
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	
Guideline Reference:	
Spatial Representation:	Data for this line of evidence for Shell Beach (Tomaes Bay) was collected at 1 monitoring site [Shell Beach]
Temporal Representation:	Data was collected over the time period 4/5/2005-8/24/2010.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	The samples were collected for the Beach Watch program.
QAPP Information Reference(s):	

Line of Evidence (LOE) for Decision ID 66128, Indicator Bacteria

Region 2

Shell Beach (Tomaes Bay)

LOE ID:	90669
Pollutant:	Enterococcus
LOE Subgroup:	Pollutant-Water
Matrix:	Water
Fraction:	None
Beneficial Use:	Water Contact Recreation
Number of Samples:	127
Number of Exceedances:	2
Data and Information Type:	Not Specified
Data Used to Assess Water Quality:	Two of the 127 geomeans exceeded the objective.
Data Reference:	Data for Region 2 Beach Watch.
SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	The geometric mean standard for enterococcus states that the enterococcus density shall not exceed 35 per 100 mL. San Francisco Bay Basin Water Quality Control Plan.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	
Guideline Reference:	
Spatial Representation:	Samples were collected at the Shell Beach site.
Temporal Representation:	Samples were collected from April 2005 to August 2010.

Environmental Conditions:

QAPP Information:

QAPP Information Reference(s):

The samples were collected for the Beach Watch program.

Line of Evidence (LOE) for Decision ID 66128, Indicator Bacteria

Region 2

Shell Beach (Tomaes Bay)

LOE ID: 90813

Pollutant: Fecal Coliform
LOE Subgroup: Pollutant-Water
Matrix: Water
Fraction: None

Beneficial Use: Water Contact Recreation

Number of Samples: 150
Number of Exceedances: 1

Data and Information Type: PATHOGEN MONITORING
Data Used to Assess Water Quality: Water Board staff assessed BeachWatch data for Shell Beach (Tomaes Bay) to determine beneficial use support and results are as follows: 1 of 150 samples exceed the criterion for Coliform, Fecal.

Data Reference: [Data for Region 2 Beach Watch.](#)

SWAMP Data: Non-SWAMP

Water Quality Objective/Criterion: The San Francisco Bay Basin Plan states that the single sample maximum for fecal coliform shall not exceed 400 MPN/100 mL

Objective/Criterion Reference: [Water Quality Control Plan \(Basin Plan\) San Francisco Bay Basin \(Region 2\)](#)

Evaluation Guideline:
Guideline Reference:

Spatial Representation: Data for this line of evidence for Shell Beach (Tomaes Bay) was collected at 1 monitoring site [Shell Beach]

Temporal Representation: Data was collected over the time period 4/5/2005-8/24/2010.

Environmental Conditions: Staff is not aware of any special conditions that might affect interpretation of the data.

QAPP Information: The samples were collected for the Beach Watch program.

QAPP Information Reference(s):

Line of Evidence (LOE) for Decision ID 66128, Indicator Bacteria

Region 2

Shell Beach (Tomaes Bay)

LOE ID: 90670

Pollutant: Total Coliform
LOE Subgroup: Pollutant-Water
Matrix: Water
Fraction: None

Beneficial Use: Water Contact Recreation

Number of Samples: 37
Number of Exceedances: 6

Data and Information Type: Not Specified
Data Used to Assess Water Quality: Six of the thirty-seven monthly medians exceeded the objective.
Data Reference: [Data for Region 2 Beach Watch.](#)

SWAMP Data: Non-SWAMP

Water Quality Objective/Criterion:	The standard for total coliform states that the coliform density shall not exceed a monthly median of 240 per 100 mL. San Francisco Bay Basin Water Quality Control Plan.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	
Guideline Reference:	
Spatial Representation:	Samples were collected at the Shell Beach site.
Temporal Representation:	Samples were collected from April 2005 to August 2010.
Environmental Conditions:	
QAPP Information:	The samples were collected for the Beach Watch program.
QAPP Information Reference(s):	

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Supporting Information

Regional Board 2 - San Francisco Bay Region

Water Body Name: Drakes Estero (at Schooner Bay oyster beds)
Water Body ID: CAC2012101120110712213842
Water Body Type: Coastal & Bay Shoreline

DECISION ID 64531 **Region 2**
Drakes Estero (at Schooner Bay oyster beds)

Pollutant: Indicator Bacteria
Final Listing Decision: List on 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision: New Decision
Revision Status Revised
Sources: Source Unknown
Expected TMDL Completion Date: 2029
Impairment from Pollutant or Pollution: Pollutant

Regional Board Staff Conclusion: This pollutant is being considered for placement on the CWA section 303(d) List under section 3.3 of the Listing Policy. Under section 3.3 a single line of evidence is necessary to assess listing status.

Six lines of evidence are available in the administrative record to assess this pollutant. Seventeen of thirty samples exceed the total coliform monthly median objective.

Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification in favor of placing this water segment-pollutant combination on the CWA section 303(d) List.

This conclusion is based on the staff findings that:

1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy.
2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy.
3. Seventeen of thirty samples exceed the objective and this exceeds the allowable frequency listed in Table 3.2 of the Listing Policy.
4. Pursuant to section 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.

Regional Board Staff Decision Recommendation: After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should be placed on the section 303(d) list because applicable water quality standards are exceeded and a pollutant contributes to or causes the problem.

Line of Evidence (LOE) for Decision ID 64531, Indicator Bacteria **Region 2**
Drakes Estero (at Schooner Bay oyster beds)

LOE ID: 90602
Pollutant: Fecal Coliform
LOE Subgroup: Pollutant-Water
Matrix: Water
Fraction: None
Beneficial Use: Water Contact Recreation

Number of Samples:	94
Number of Exceedances:	0
Data and Information Type:	Not Specified
Data Used to Assess Water Quality:	Zero of the 94 geomeans exceeded the objective.
Data Reference:	Data for Region 2 Beach Watch.
SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	The geometric mean standard for fecal coliform states that the fecal coliform density shall not exceed 200 per 100mL. San Francisco Bay Basin Water Quality Control Plan.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	
Guideline Reference:	
Spatial Representation:	Samples were collected at the Drakes Estero site.
Temporal Representation:	Samples were collected from April 2006 to August 2010.
Environmental Conditions:	
QAPP Information:	The samples were collected for the beach watch program.
QAPP Information Reference(s):	

Line of Evidence (LOE) for Decision ID 64531, Indicator Bacteria

Region 2

Drakes Estero (at Schooner Bay oyster beds)

LOE ID:	90601
Pollutant:	Total Coliform
LOE Subgroup:	Pollutant-Water
Matrix:	Water
Fraction:	None
Beneficial Use:	Water Contact Recreation
Number of Samples:	30
Number of Exceedances:	17
Data and Information Type:	Not Specified
Data Used to Assess Water Quality:	Seventeen of the thirty monthly medians exceeded the objective.
Data Reference:	Data for Region 2 Beach Watch.
SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	The standard for total coliform states that the coliform density shall not exceed a monthly median of 240 per 100 mL. San Francisco Bay Basin Water Quality Control Plan.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	
Guideline Reference:	
Spatial Representation:	Samples were collected at the Drakes Estero site.
Temporal Representation:	Samples were collected from April 2006 to August 2010.
Environmental Conditions:	
QAPP Information:	The samples were collected for the Beach Watch program.
QAPP Information Reference(s):	

Line of Evidence (LOE) for Decision ID 64531, Indicator Bacteria

Region 2

Drakes Estero (at Schooner Bay oyster beds)

LOE ID:	90600
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Pollutant:	Enterococcus
LOE Subgroup:	Pollutant-Water
Matrix:	Water
Fraction:	None
Beneficial Use:	Water Contact Recreation
Number of Samples:	94
Number of Exceedances:	5
Data and Information Type:	Not Specified
Data Used to Assess Water Quality:	Five of the 94 geomeans exceeded the objective.
Data Reference:	Data for Region 2 Beach Watch.
SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	The geometric mean standard for enterococcus states that the enterococcus density shall not exceed 35 per 100 mL. San Francisco Bay Basin Water Quality Control Plan.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	
Guideline Reference:	
Spatial Representation:	Samples were collected at the Drakes Estero site.
Temporal Representation:	Samples were collected from April 2006 to August 2010.
Environmental Conditions:	
QAPP Information:	The samples were collected for the Beach Watch program.
QAPP Information Reference(s):	

Line of Evidence (LOE) for Decision ID 64531, Indicator Bacteria

Region 2

Drakes Estero (at Schooner Bay oyster beds)

LOE ID:	90852
Pollutant:	Enterococcus
LOE Subgroup:	Pollutant-Water
Matrix:	Water
Fraction:	None
Beneficial Use:	Water Contact Recreation
Number of Samples:	116
Number of Exceedances:	3
Data and Information Type:	PATHOGEN MONITORING
Data Used to Assess Water Quality:	Water Board staff assessed BeachWatch data for Drakes Estero (at Schooner Bay oyster beds) to determine beneficial use support and results are as follows: 3 of 116 samples exceed the criterion for Enterococci.
Data Reference:	Data for Region 2 Beach Watch.
SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	The San Francisco Bay Basin Plan states that the single sample maximum for Enterococcus shall not exceed 104 MPN/100 mL.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	
Guideline Reference:	
Spatial Representation:	Data for this line of evidence for Drakes Estero (at Schooner Bay oyster beds) was collected at 1 monitoring site [Marina Lagoon rec center]
Temporal Representation:	Data was collected over the time period 4/4/2006-8/17/2010.

Environmental Conditions: Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information: The samples were collected for the Beach Watch program.
QAPP Information Reference(s):

Line of Evidence (LOE) for Decision ID 64531, Indicator Bacteria

Region 2

Drakes Estero (at Schooner Bay oyster beds)

LOE ID: 90806

Pollutant: Fecal Coliform
LOE Subgroup: Pollutant-Water
Matrix: Water
Fraction: None

Beneficial Use: Water Contact Recreation

Number of Samples: 116
Number of Exceedances: 4

Data and Information Type: PATHOGEN MONITORING
Data Used to Assess Water Quality: Water Board staff assessed BeachWatch data for Drakes Estero (at Schooner Bay oyster beds) to determine beneficial use support and results are as follows: 4 of 116 samples exceed the criterion for Coliform, Fecal.
Data Reference: [Data for Region 2 Beach Watch.](#)

SWAMP Data: Non-SWAMP

Water Quality Objective/Criterion: The San Francisco Bay Basin Plan states that the single sample maximum for fecal coliform shall not exceed 400 MPN/100 mL
Objective/Criterion Reference: [Water Quality Control Plan \(Basin Plan\) San Francisco Bay Basin \(Region 2\)](#)

Evaluation Guideline:
Guideline Reference:

Spatial Representation: Data for this line of evidence for Drakes Estero (at Schooner Bay oyster beds) was collected at 1 monitoring site [Marina Lagoon rec center]
Temporal Representation: Data was collected over the time period 4/4/2006-8/17/2010.
Environmental Conditions: Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information: The samples were collected for the Beach Watch program.
QAPP Information Reference(s):

Line of Evidence (LOE) for Decision ID 64531, Indicator Bacteria

Region 2

Drakes Estero (at Schooner Bay oyster beds)

LOE ID: 90827

Pollutant: Total Coliform
LOE Subgroup: Pollutant-Water
Matrix: Water
Fraction: None

Beneficial Use: Water Contact Recreation

Number of Samples: 116
Number of Exceedances: 2

Data and Information Type: PATHOGEN MONITORING
Data Used to Assess Water Quality: Water Board staff assessed BeachWatch data for Drakes Estero (at Schooner Bay oyster beds) to determine beneficial use support and results are as follows: 2 of 116 samples exceed the criterion for Coliform, Total.
Data Reference: [Data for Region 2 Beach Watch.](#)

SWAMP Data:

Non-SWAMP

Water Quality Objective/Criterion:

The San Francisco Bay Basin Plan states that the single sample maximum for total coliform shall not exceed 10,000 MPN/100 mL

Objective/Criterion Reference:

[Water Quality Control Plan \(Basin Plan\) San Francisco Bay Basin \(Region 2\)](#)

Evaluation Guideline:

Guideline Reference:

Spatial Representation:

Data for this line of evidence for Drakes Estero (at Schooner Bay oyster beds) was collected at 1 monitoring site [Marina Lagoon rec center]

Temporal Representation:

Data was collected over the time period 4/4/2006-8/17/2010.

Environmental Conditions:

Staff is not aware of any special conditions that might affect interpretation of the data.

QAPP Information:

The samples were collected for the Beach Watch program.

QAPP Information Reference(s):

Draft California 2016 Integrated Report (303(d) List/305(b) Report)

Supporting Information

Regional Board 2 - San Francisco Bay Region

Water Body Name: Pacific Ocean at Drakes Beach
Water Body ID: CAC2012101320110712195808
Water Body Type: Coastal & Bay Shoreline

DECISION ID 65104 **Region 2**
Pacific Ocean at Drakes Beach

Pollutant: Indicator Bacteria
Final Listing Decision: Do Not List on 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision: New Decision
Revision Status Revised
Impairment from Pollutant or Pollution: Pollutant

Regional Board Staff Conclusion: This pollutant is being considered for placement on the CWA section 303(d) List under section 3.3 of the Listing Policy. Under section 3.3 a single line of evidence is necessary to assess listing status.

Six lines of evidence are available in the administrative record to assess this pollutant. One of one hundred forty three samples exceed the objective.

Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against placing this water segment-pollutant combination on the CWA section 303(d) List.

This conclusion is based on the staff findings that:

1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy.
2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy.
3. One of one hundred forty three samples exceed the objective and this does not exceed the allowable frequency listed in Table 3.2 of the Listing Policy.
4. Pursuant to section 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.

Regional Board Staff Decision Recommendation: After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be placed on the section 303(d) list because applicable water quality standards are not being exceeded.

Line of Evidence (LOE) for Decision ID 65104, Indicator Bacteria **Region 2**
Pacific Ocean at Drakes Beach

LOE ID: 90794
Pollutant: Fecal Coliform
LOE Subgroup: Pollutant-Water
Matrix: Water
Fraction: None
Beneficial Use: Water Contact Recreation
Number of Samples: 143
Number of Exceedances: 0

Data and Information Type:	PATHOGEN MONITORING
Data Used to Assess Water Quality:	Water Board staff assessed BeachWatch data for Pacific Ocean at Drakes Beach to determine beneficial use support and results are as follows: 0 of 143 samples exceed the criterion for Coliform, Fecal.
Data Reference:	Data for Region 2 Beach Watch.
SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	California Ocean Plan (SWRCB 2009) states that the single sample maximum for fecal coliform shall not exceed 400 MPN/100 mL
Objective/Criterion Reference:	California Ocean Plan Water Quality Control Plan Ocean Waters of California 2009
Evaluation Guideline:	
Guideline Reference:	
Spatial Representation:	Data for this line of evidence for Pacific Ocean at Drakes Beach was collected at 1 monitoring site [Drake's Beach]
Temporal Representation:	Data was collected over the time period 8/9/2005-8/24/2010.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	The samples were collected for the Beach Watch program.
QAPP Information Reference(s):	

Line of Evidence (LOE) for Decision ID 65104, Indicator Bacteria

Region 2

Pacific Ocean at Drakes Beach

LOE ID:	90848
Pollutant:	Total Coliform
LOE Subgroup:	Pollutant-Water
Matrix:	Water
Fraction:	None
Beneficial Use:	Water Contact Recreation
Number of Samples:	143
Number of Exceedances:	1
Data and Information Type:	PATHOGEN MONITORING
Data Used to Assess Water Quality:	Water Board staff assessed BeachWatch data for Pacific Ocean at Drakes Beach to determine beneficial use support and results are as follows: 1 of 143 samples exceed the criterion for Coliform, Total.
Data Reference:	Data for Region 2 Beach Watch.
SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	California Ocean Plan (2009) single sample maximum states that total coliform density shall not exceed 10,000 MPN/100 mL
Objective/Criterion Reference:	California Ocean Plan Water Quality Control Plan Ocean Waters of California 2009
Evaluation Guideline:	
Guideline Reference:	
Spatial Representation:	Data for this line of evidence for Pacific Ocean at Drakes Beach was collected at 1 monitoring site [Drake's Beach]
Temporal Representation:	Data was collected over the time period 8/9/2005-8/24/2010.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	The samples were collected for the Beach Watch program.
QAPP Information Reference(s):	

Line of Evidence (LOE) for Decision ID 65104, Indicator Bacteria

Region 2

Pacific Ocean at Drakes Beach

LOE ID:	90528
Pollutant:	Fecal Coliform
LOE Subgroup:	Pollutant-Water
Matrix:	Water
Fraction:	None
Beneficial Use:	Water Contact Recreation
Number of Samples:	122
Number of Exceedances:	0
Data and Information Type:	Not Specified
Data Used to Assess Water Quality:	Zero of the 122 geomeans exceeded the fecal coliform objective.
Data Reference:	Data for Region 2 Beach Watch.
SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	The geometric mean standard for fecal coliform states that the fecal coliform density shall not exceed 200 per 100 mL. Water Quality Control Plan for Ocean Waters 2009.
Objective/Criterion Reference:	California Ocean Plan Water Quality Control Plan Ocean Waters of California 2009
Evaluation Guideline:	
Guideline Reference:	
Spatial Representation:	Samples were collected at station Drake's Beach.
Temporal Representation:	Samples were collected approximately once a week from August 2005 to September 2010.
Environmental Conditions:	
QAPP Information:	The samples were collected for the Beach Watch program.
QAPP Information Reference(s):	

Line of Evidence (LOE) for Decision ID 65104, Indicator Bacteria
Pacific Ocean at Drakes Beach

Region 2

LOE ID:	90529
Pollutant:	Enterococcus
LOE Subgroup:	Pollutant-Water
Matrix:	Water
Fraction:	None
Beneficial Use:	Water Contact Recreation
Number of Samples:	122
Number of Exceedances:	0
Data and Information Type:	Not Specified
Data Used to Assess Water Quality:	Zero of the 122 geomeans exceeded the enterococcus objective.
Data Reference:	Data for Region 2 Beach Watch.
SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	The geometric mean standard for enterococcus states that the enterococcus density shall not exceed 35 per 100 mL. Water Quality Control Plan for Ocean Waters 2009.
Objective/Criterion Reference:	California Ocean Plan Water Quality Control Plan Ocean Waters of California 2009
Evaluation Guideline:	
Guideline Reference:	
Spatial Representation:	Samples were collected at station Drake's Beach.

Temporal Representation: Samples were collected approximately once a week from August 2005 to September 2010.

Environmental Conditions:

QAPP Information: The samples were collected for the Beach Watch program.

QAPP Information Reference(s):

Line of Evidence (LOE) for Decision ID 65104, Indicator Bacteria
Pacific Ocean at Drakes Beach

Region 2

LOE ID: 90530

Pollutant: Total Coliform

LOE Subgroup: Pollutant-Water

Matrix: Water

Fraction: None

Beneficial Use: Water Contact Recreation

Number of Samples: 122

Number of Exceedances: 0

Data and Information Type: Not Specified

Data Used to Assess Water Quality: Zero of the 122 geomeans exceeded the total coliform objective.

Data Reference: [Data for Region 2 Beach Watch.](#)

SWAMP Data: Non-SWAMP

Water Quality Objective/Criterion: The geometric mean standard for total coliform states that the total coliform density shall not exceed 1,000 per 100 mL. Water Quality Control Plan for Ocean Waters 2009.

Objective/Criterion Reference: [California Ocean Plan Water Quality Control Plan Ocean Waters of California 2009](#)

Evaluation Guideline:

Guideline Reference:

Spatial Representation: Samples were collected at station Drake's Beach.

Temporal Representation: Samples were collected approximately once a week from August 2005 to September 2010.

Environmental Conditions:

QAPP Information: The samples were collected for the Beach Watch program.

QAPP Information Reference(s):

Line of Evidence (LOE) for Decision ID 65104, Indicator Bacteria
Pacific Ocean at Drakes Beach

Region 2

LOE ID: 90899

Pollutant: Enterococcus

LOE Subgroup: Pollutant-Water

Matrix: Water

Fraction: None

Beneficial Use: Water Contact Recreation

Number of Samples: 143

Number of Exceedances: 1

Data and Information Type: PATHOGEN MONITORING

Data Used to Assess Water Quality: Water Board staff assessed BeachWatch data for Pacific Ocean at Drakes Beach to determine beneficial use support and results are as follows: 1 of 143 samples exceed the criterion for Enterococci.

Data Reference: [Data for Region 2 Beach Watch.](#)

SWAMP Data:

Non-SWAMP

Water Quality Objective/Criterion:

California Ocean Plan (SWRCB 2009) states that the single sample maximum for Enterococcus shall not exceed 104 MPN/100 mL.

Objective/Criterion Reference:

[California Ocean Plan Water Quality Control Plan Ocean Waters of California 2009](#)

Evaluation Guideline:

Guideline Reference:

Spatial Representation:

Data for this line of evidence for Pacific Ocean at Drakes Beach was collected at 1 monitoring site [Drake's Beach]

Temporal Representation:

Data was collected over the time period 8/9/2005-8/24/2010.

Environmental Conditions:

Staff is not aware of any special conditions that might affect interpretation of the data.

QAPP Information:

The samples were collected for the Beach Watch program.

QAPP Information Reference(s):

Draft California 2016 Integrated Report (303(d) List/305(b) Report)

Supporting Information

Regional Board 2 - San Francisco Bay Region

Water Body Name: Pacific Ocean at Point Reyes at Chimney Rock
Water Body ID: CAC2012101320110712232546
Water Body Type: Coastal & Bay Shoreline

DECISION ID 66334 **Region 2**
Pacific Ocean at Point Reyes at Chimney Rock

Pollutant: Arsenic
Final Listing Decision: Do Not List on 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision: New Decision
Revision Status: Revised
Impairment from Pollutant or Pollution: Pollutant

Regional Board Staff Conclusion: This pollutant is being considered for placement on the CWA section 303(d) List under section 3.5 of the Listing Policy. Under section 3.5 a single line(s) of evidence are necessary to assess listing status.

One lines of evidence are available in the administrative record to assess this pollutant. One of the one samples exceed the guideline for Arsenic.

Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against placing this water segment-pollutant combination on the CWA section 303(d) List.

This conclusion is based on the staff findings that:

1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy.
2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy.
3. One of one samples exceeded the guideline for Arsenic and this sample size is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating. A minimum of 16 samples is needed to determine if a beneficial use is fully supported using table 3.1.
4. Pursuant to SECTION 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.

Regional Board Staff Decision Recommendation: After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be placed on the section 303(d) list. The readily available data and information is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating.

Line of Evidence (LOE) for Decision ID 66334, Arsenic **Region 2**
Pacific Ocean at Point Reyes at Chimney Rock

LOE ID: 92453
Pollutant: Arsenic
LOE Subgroup: Pollutant-Tissue
Matrix: Tissue
Fraction: Shellfish
Beneficial Use: Commercial or recreational collection of fish, shellfish, or organisms

Number of Samples:	1
Number of Exceedances:	0
Data and Information Type:	Shellfish surveys
Data Used to Assess Water Quality:	Zero of one samples exceeded the guideline. Data were reported on a dry weight basis and were converted to a wet weight basis by multiplying the dry-weight concentration by a factor of 1 minus the percentage of moisture content expressed as a decimal. The fraction of total arsenic in inorganic form was taken to be 0.115%, which was the maximum fraction of inorganic arsenic found in shellfish tissue from SF Bay. This inorganic arsenic value was compared to the guideline.
Data Reference:	State Mussel Watch Program Data 1977-2000; Winter 2007-Winter 2009. State Water Resources Control Board Contaminant Concentrations in Fish from San Francisco Bay, 2000 Calculating Fraction of Inorganic Arsenic in SF Bay Fish and Shellfish
SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	California's Ocean Plan states that, "The concentration of organic materials in fish, shellfish or other marine resources used for human consumption shall not bioaccumulate to levels that are harmful to human health".
Objective/Criterion Reference:	California Ocean Plan Water Quality Control Plan Ocean Waters of California 2009
Evaluation Guideline:	<p>The modified OEHHA Advisory Tissue Level for arsenic in shellfish tissue is 0.52 ppm. This screening level assumes an average body weight of 70 kg and a consumption rate of 21 g/day for a 30 year exposure over a 70-year lifetime. This constituent is a carcinogen therefore the risk level is set to one in ten thousand. (Brodberg, R.K., and G.A. Pollock, 1999; Klasing, S., and R. Brodberg, 2008; OEHHA, 2004)</p> <p>Advisory Tissue Levels (ATLs), while still conferring no significant health risk to individuals consuming sport fish in the quantities shown over a lifetime, were developed with the recognition that there are unique health benefits associated with fish consumption and that the advisory process should be expanded beyond a simple risk paradigm in order to best promote the overall health of the fish consumer. ATLs provide a number of recommended fish servings that correspond to the range of contaminant concentrations found in fish and are used to provide consumption advice to prevent consumers from being exposed to more than the average daily reference dose for noncarcinogens or to a risk level greater than 1×10^{-4} for carcinogens (not more than one additional cancer case in a population of 10,000 people consuming fish at the given consumption rate over a lifetime). ATLs are designed to encourage consumption of fish that can be eaten in quantities likely to provide significant health benefits, while discouraging consumption of fish that, because of contaminant concentrations, should not be eaten or cannot be eaten in amounts recommended for improving overall health (eight ounces total, prior to cooking, per week). ATLs are one of the criteria that will be used by OEHHA for issuing fish consumption guidelines.</p>
Guideline Reference:	Prevalence of Selected Target Chemical Contaminants in Sport Fish From Two California Lakes: Public health designed screening study. Sacramento, CA: Office of Environmental Health Hazard Assessment Development of Fish Contaminant Goals and Advisory Tissue Levels for Common Contaminants in California Sport Fish: Chlordane, DDTs, Dieldrin, Methylmercury, PCBs, Selenium, and Toxaphene Air Toxics Hotspots Program Risk Assessment Guidelines. Part II Technical Support Document for Describing Available Cancer Potency Values.
Spatial Representation:	Samples are collected by hand from three sub-locations for each site. The composite sample was collected from site Point Reyes National Seashore (PRNS).
Temporal Representation:	Representative samples of locally abundant species were collected during the winter on 2/18/2009
Environmental Conditions:	
QAPP Information:	Samples were collected as part of the State Water Board's Mussel Watch Program which is a part of the National Oceanic Administration's (NOAAs) National Status and Trends (NS&T). Mussels are shipped to NOAAs contract labs for analysis of trace constituents

QAPP Information Reference(s):

DECISION ID	66335	Region 2
Pacific Ocean at Point Reyes at Chimney Rock		

Pollutant:	Cadmium
Final Listing Decision:	Do Not List on 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision:	New Decision
Revision Status	Revised
Impairment from Pollutant or Pollution:	Pollutant

Regional Board Staff Conclusion: This pollutant is being considered for placement on the CWA section 303(d) List under section 3.5 of the Listing Policy. Under section 3.5 a single line(s) of evidence are necessary to assess listing status.

One lines of evidence are available in the administrative record to assess this pollutant. Zero of one samples exceed the guideline for Cadmium.

Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against placing this water segment-pollutant combination on the CWA section 303(d) List.

This conclusion is based on the staff findings that:

1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy.
2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy.
3. Zero out of one samples exceeded the guideline for Cadmium and this sample size is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating. A minimum of 16 samples is needed to determine if a beneficial use is fully supported using table 3.1.
4. Pursuant to SECTION 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.

Regional Board Staff Decision Recommendation: After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be placed on the section 303(d) list. The readily available data and information is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating.

Line of Evidence (LOE) for Decision ID 66335, Cadmium	Region 2
Pacific Ocean at Point Reyes at Chimney Rock	

LOE ID:	92461
Pollutant:	Cadmium
LOE Subgroup:	Pollutant-Tissue
Matrix:	Tissue
Fraction:	Shellfish
Beneficial Use:	Commercial or recreational collection of fish, shellfish, or organisms
Number of Samples:	1
Number of Exceedances:	0
Data and Information Type:	Shellfish surveys
Data Used to Assess Water Quality:	The one sample did not exceed the guideline. Data were reported on a dry weight basis

Data Reference:	and were converted to a wet weight basis by multiplying the dry-weight concentration by a factor of 1 minus the percentage of moisture content expressed as a decimal. State Mussel Watch Program Data 1977-2000; Winter 2007-Winter 2009. State Water Resources Control Board
SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	California's Ocean Plan states that, "The concentration of organic materials in fish, shellfish or other marine resources used for human consumption shall not bioaccumulate to levels that are harmful to human health".
Objective/Criterion Reference:	California Ocean Plan Water Quality Control Plan Ocean Waters of California 2009
Evaluation Guideline:	The modified OEHHA Fish Contaminant Goal for cadmium in shellfish tissue is 3.3 ppm. This screening level assumes an average body weight of 70 kg and a consumption rate of 21 g/day. (Brodberg, R.K., and G.A. Pollock, 1999; Klasing, S., and R. Brodberg, 2008; USEPA, 2000)
Guideline Reference:	Prevalence of Selected Target Chemical Contaminants in Sport Fish From Two California Lakes: Public health designed screening study. Sacramento, CA: Office of Environmental Health Hazard Assessment Development of Fish Contaminant Goals and Advisory Tissue Levels for Common Contaminants in California Sport Fish: Chlordane, DDTs, Dieldrin, Methylmercury, PCBs, Selenium, and Toxaphene Guidance for Assessing Chemical Contaminant Data for Use In Fish Advisories Volume 1: Fish Sampling and Analysis
Spatial Representation:	Samples are collected by hand from three sub-locations for each site. The composite sample was collected from site Point Reyes National Seashore (PRNS).
Temporal Representation:	Representative samples of locally abundant species were collected during the winter on 2/18/2009
Environmental Conditions:	
QAPP Information:	Samples were collected as part of the State Water Board's Mussel Watch Program which is a part of the National Oceanic Administration's (NOAAs) National Status and Trends (NS&T). Mussels are shipped to NOAAs contract labs for analysis of trace constituents and mussel condition. Analytical protocols follow those approved by NOAAs NS&T Program Additional background information can be found at: http://ccma.nos.noaa.gov/stressors/pollution/nsandt/
QAPP Information Reference(s):	

DECISION ID	66336	Region 2
Pacific Ocean at Point Reyes at Chimney Rock		
Pollutant:	Chlordane	
Final Listing Decision:	Do Not List on 303(d) list (TMDL required list)	
Last Listing Cycle's Final Listing Decision:	New Decision	
Revision Status	Revised	
Impairment from Pollutant or Pollution:	Pollutant	
Regional Board Staff Conclusion:	<p>This pollutant is being considered for placement on the CWA section 303(d) List under section 3.5 of the Listing Policy. Under section 3.5 a single line(s) of evidence are necessary to assess listing status.</p> <p>One line of evidence are available in the administrative record to assess this pollutant. Zero of the one samples exceed the objective for Chlordane.</p> <p>Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against placing this water segment-pollutant combination on the CWA section 303(d) List.</p> <p>This conclusion is based on the staff findings that:</p>	

1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy.
2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy.
3. Zero of the one samples exceeded the objective for Chlordane and this sample size is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating. A minimum of 16 samples is needed to determine if a beneficial use is fully supported using table 3.1.
4. Pursuant to SECTION 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.

Regional Board Staff Decision Recommendation: After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be placed on the section 303(d) list. The readily available data and information is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating.

**Line of Evidence (LOE) for Decision ID 66336, Chlordane
Pacific Ocean at Point Reyes at Chimney Rock**

Region 2

LOE ID:	92462
Pollutant:	Chlordane
LOE Subgroup:	Pollutant-Tissue
Matrix:	Tissue
Fraction:	Shellfish
Beneficial Use:	Commercial or recreational collection of fish, shellfish, or organisms
Number of Samples:	1
Number of Exceedances:	0
Data and Information Type:	Shellfish surveys
Data Used to Assess Water Quality:	The result did not exceed the guideline. Data were reported on a dry weight basis and were converted to a wet weight basis by multiplying the dry-weight concentration by a factor of 1 minus the percentage of moisture content expressed as a decimal. Chlordane result was calculated by summing the results for chlordane isomers: cis- and trans-nonachlor, alpha- and gamma-chlordane, and oxychlordane.
Data Reference:	State Mussel Watch Program Data 1977-2000; Winter 2007-Winter 2009. State Water Resources Control Board
SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	California's Ocean Plan states that, "The concentration of organic materials in fish, shellfish or other marine resources used for human consumption shall not bioaccumulate to levels that are harmful to human health".
Objective/Criterion Reference:	California Ocean Plan Water Quality Control Plan Ocean Waters of California 2009
Evaluation Guideline:	The modified OEHHA Fish Contaminant Goal for total chlordane in shellfish tissue is 6.0 ppb. This screening level assumes an average body weight of 70 kg and a consumption rate of 21 g/day for a 30 year exposure over a 70-year lifetime. This constituent is a carcinogen therefore the risk level is set to one in a million. (Brodberg, R.K., and G.A. Pollock, 1999; Klasing, S., and R. Brodberg, 2008)
Guideline Reference:	Prevalence of Selected Target Chemical Contaminants in Sport Fish From Two California Lakes: Public health designed screening study. Sacramento, CA: Office of Environmental Health Hazard Assessment Development of Fish Contaminant Goals and Advisory Tissue Levels for Common Contaminants in California Sport Fish: Chlordane, DDTs, Dieldrin, Methylmercury, PCBs, Selenium, and Toxaphene
Spatial Representation:	Samples are collected by hand from three sub-locations for each site. The composite sample was collected from site Point Reyes National Seashore (PRNS).
Temporal Representation:	Representative samples of locally abundant species were collected during the winter on 2/18/2009

Environmental Conditions:

QAPP Information:

Samples were collected as part of the State Water Board's Mussel Watch Program which is a part of the National Oceanic Administration's (NOAAs) National Status and Trends (NS&T). Mussels are shipped to NOAAs contract labs for analysis of trace constituents and mussel condition. Analytical protocols follow those approved by NOAAs NS&T Program Additional background information can be found at:
<http://ccma.nos.noaa.gov/stressors/pollution/nsandt/>

QAPP Information Reference(s):

DECISION ID	66337	Region 2
Pacific Ocean at Point Reyes at Chimney Rock		

Pollutant:	Chlorpyrifos
Final Listing Decision:	Do Not List on 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision:	New Decision
Revision Status	Revised
Impairment from Pollutant or Pollution:	Pollutant

Regional Board Staff Conclusion: This pollutant is being considered for placement on the CWA section 303(d) List under section 3.5 of the Listing Policy. Under section 3.5 a single line(s) of evidence are necessary to assess listing status.

One line of evidence are available in the administrative record to assess this pollutant. Zero out of one samples exceed the objective for Chlorpyrifos.

Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against placing this water segment-pollutant combination on the CWA section 303(d) List.

This conclusion is based on the staff findings that:

1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy.
2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy.
3. Zero out of one samples exceeded the objective for Chlorpyrifos and this sample size is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating. A minimum of 16 samples is needed to determine if a beneficial use is fully supported using table 3.1.
4. Pursuant to SECTION 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.

Regional Board Staff Decision Recommendation: After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be placed on the section 303(d) list. The readily available data and information is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating.

Line of Evidence (LOE) for Decision ID 66337, Chlorpyrifos	Region 2
Pacific Ocean at Point Reyes at Chimney Rock	

LOE ID:	92463
Pollutant:	Chlorpyrifos
LOE Subgroup:	Pollutant-Tissue
Matrix:	Tissue
Fraction:	Shellfish
Beneficial Use:	Commercial or recreational collection of fish, shellfish, or organisms
Number of Samples:	1

Number of Exceedances:	0
Data and Information Type:	Shellfish surveys
Data Used to Assess Water Quality:	The result did not exceed the guideline. Data were reported on a dry weight basis and were converted to a wet weight basis by multiplying the dry-weight concentration by a factor of 1 minus the percentage of moisture content expressed as a decimal.
Data Reference:	State Mussel Watch Program Data 1977-2000; Winter 2007-Winter 2009. State Water Resources Control Board
SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	California's Ocean Plan states that, "The concentration of organic materials in fish, shellfish or other marine resources used for human consumption shall not bioaccumulate to levels that are harmful to human health".
Objective/Criterion Reference:	California Ocean Plan Water Quality Control Plan Ocean Waters of California 2009
Evaluation Guideline:	The modified OEHHA Fish Contaminant Goal for chlorpyrifos in shellfish tissue is 1,000 ppb. This screening level assumes an average body weight of 70 kg and a consumption rate of 21 g/day. (Brodberg, R.K., and G.A. Pollock, 1999; Klasing, S., and R. Brodberg, 2008; USEPA, 2000)
Guideline Reference:	Prevalence of Selected Target Chemical Contaminants in Sport Fish From Two California Lakes: Public health designed screening study. Sacramento, CA: Office of Environmental Health Hazard Assessment Development of Fish Contaminant Goals and Advisory Tissue Levels for Common Contaminants in California Sport Fish: Chlordane, DDTs, Dieldrin, Methylmercury, PCBs, Selenium, and Toxaphene Guidance for Assessing Chemical Contaminant Data for Use In Fish Advisories Volume 1: Fish Sampling and Analysis
Spatial Representation:	Samples are collected by hand from three sub-locations for each site. The composite sample was collected from site Point Reyes National Seashore (PRNS).
Temporal Representation:	Representative samples of locally abundant species were collected during the winter on 2/18/2009
Environmental Conditions:	
QAPP Information:	Samples were collected as part of the State Water Board's Mussel Watch Program which is a part of the National Oceanic Administration's (NOAAs) National Status and Trends (NS&T). Mussels are shipped to NOAAs contract labs for analysis of trace constituents and mussel condition. Analytical protocols follow those approved by NOAAs NS&T Program Additional background information can be found at: http://ccma.nos.noaa.gov/stressors/pollution/nsandt/
QAPP Information Reference(s):	

DECISION ID 66396 Region 2	
Pacific Ocean at Point Reyes at Chimney Rock	
Pollutant:	DDT (Dichlorodiphenyltrichloroethane)
Final Listing Decision:	Do Not List on 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision:	New Decision
Revision Status	Revised
Impairment from Pollutant or Pollution:	Pollutant
Regional Board Staff Conclusion:	<p>This pollutant is being considered for placement on the CWA section 303(d) List under section 3.5 of the Listing Policy. Under section 3.5 a single line(s) of evidence are necessary to assess listing status.</p> <p>One lines of evidence are available in the administrative record to assess this pollutant. Zero out of one samples exceed the guideline for Total DDT (sum of 4,4'- and 2,4'- isomers of DDT, DDE, and DDD).</p>

Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against placing this water segment-pollutant combination on the CWA section 303(d) List.

This conclusion is based on the staff findings that:

1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy.
2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy.
3. Zero out of one samples exceed the guideline for Total DDT (sum of 4,4'- and 2,4'- isomers of DDT, DDE, and DDD) and this sample size is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating. A minimum of 16 samples is needed to determine if a beneficial use is fully supported using table 3.1.
4. Pursuant to SECTION 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.

Regional Board Staff Decision Recommendation: After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be placed on the section 303(d) list. The readily available data and information is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating.

Line of Evidence (LOE) for Decision ID 66396, DDT (Dichlorodiphenyltrichloroethane)	Region 2
Pacific Ocean at Point Reyes at Chimney Rock	

LOE ID:	92558
Pollutant:	Total DDT (sum of 4,4'- and 2,4'- isomers of DDT, DDE, and DDD)
LOE Subgroup:	Pollutant-Tissue
Matrix:	Tissue
Fraction:	Shellfish
Beneficial Use:	Commercial or recreational collection of fish, shellfish, or organisms
Number of Samples:	1
Number of Exceedances:	0
Data and Information Type:	Shellfish surveys
Data Used to Assess Water Quality:	The result did not exceed the guideline. Data were reported on a dry weight basis and were converted to a wet weight basis by multiplying the dry-weight concentration by a factor of 1 minus the percentage of moisture content expressed as a decimal. The total DDTs were calculated as the sum of 4,4'- and 2,4'- isomers of DDT, DDE, and DDD.
Data Reference:	State Mussel Watch Program Data 1977-2000; Winter 2007-Winter 2009. State Water Resources Control Board
SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	California's Ocean Plan states that, "The concentration of organic materials in fish, shellfish or other marine resources used for human consumption shall not bioaccumulate to levels that are harmful to human health".
Objective/Criterion Reference:	California Ocean Plan Water Quality Control Plan Ocean Waters of California 2009
Evaluation Guideline:	The modified OEHHA Fish Contaminant Goal for total DDT in shellfish tissue is 23 ppb. This screening level assumes an average body weight of 70 kg and a consumption rate of 21 g/day for a 30 year exposure over a 70-year lifetime. This constituent is a carcinogen therefore the risk level is set to one in a million. (Brodberg, R.K., and G.A. Pollock, 1999; Klasing, S., and R. Brodberg, 2008)
Guideline Reference:	Prevalence of Selected Target Chemical Contaminants in Sport Fish From Two California Lakes: Public health designed screening study. Sacramento, CA: Office of Environmental Health Hazard Assessment Development of Fish Contaminant Goals and Advisory Tissue Levels for Common Contaminants in California Sport Fish: Chlordane, DDTs, Dieldrin, Methylmercury, PCBs, Selenium, and Toxaphene

Spatial Representation: Samples are collected by hand from three sub-locations for each site. The composite sample was collected from site Point Reyes National Seashore (PRNS).

Temporal Representation: Representative samples of locally abundant species were collected during the winter on 2/18/2009

Environmental Conditions:

QAPP Information: Samples were collected as part of the State Water Board's Mussel Watch Program which is a part of the National Oceanic Administration's (NOAAs) National Status and Trends (NS&T). Mussels are shipped to NOAAs contract labs for analysis of trace constituents and mussel condition. Analytical protocols follow those approved by NOAAs NS&T Program Additional background information can be found at: <http://ccma.nos.noaa.gov/stressors/pollution/nsandt/>

QAPP Information Reference(s):

DECISION ID	66338	Region 2
Pacific Ocean at Point Reyes at Chimney Rock		

Pollutant: Dieldrin

Final Listing Decision: Do Not List on 303(d) list (TMDL required list)

Last Listing Cycle's Final Listing Decision: New Decision

Revision Status: Revised

Impairment from Pollutant or Pollution: Pollutant

Regional Board Staff Conclusion: This pollutant is being considered for placement on the CWA section 303(d) List under section 3.5 of the Listing Policy. Under section 3.5 a single line(s) of evidence are necessary to assess listing status.

One line of evidence are available in the administrative record to assess this pollutant. One out of one samples exceed the objective for Dieldrin.

Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against placing this water segment-pollutant combination on the CWA section 303(d) List.

This conclusion is based on the staff findings that:

1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy.
2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy.
3. One out of one samples exceeded the objective for Dieldrin and this sample size is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating. A minimum of 16 samples is needed to determine if a beneficial use is fully supported using table 3.1.
4. Pursuant to SECTION 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.

Regional Board Staff Decision Recommendation: After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be placed on the section 303(d) list. The readily available data and information is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating.

Line of Evidence (LOE) for Decision ID 66338, Dieldrin	Region 2
Pacific Ocean at Point Reyes at Chimney Rock	

LOE ID: 92467

Pollutant: Dieldrin

LOE Subgroup: Pollutant-Tissue

Matrix: Tissue

Fraction: Shellfish

Beneficial Use:	Commercial or recreational collection of fish, shellfish, or organisms
Number of Samples:	1
Number of Exceedances:	1
Data and Information Type:	Shellfish surveys
Data Used to Assess Water Quality:	The result exceeded the guideline. Data were reported on a dry weight basis and were converted to a wet weight basis by multiplying the dry-weight concentration by a factor of 1 minus the percentage of moisture content expressed as a decimal.
Data Reference:	State Mussel Watch Program Data 1977-2000; Winter 2007-Winter 2009. State Water Resources Control Board
SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	California's Ocean Plan states that, "The concentration of organic materials in fish, shellfish or other marine resources used for human consumption shall not bioaccumulate to levels that are harmful to human health".
Objective/Criterion Reference:	California Ocean Plan Water Quality Control Plan Ocean Waters of California 2009
Evaluation Guideline:	The modified OEHHA Fish Contaminant Goal for dieldrin in shellfish tissue is 0.49 ppb. This screening level assumes an average body weight of 70 kg and a consumption rate of 21 g/day for a 30 year exposure over a 70-year lifetime. This constituent is a carcinogen therefore the risk level is set to one in a million. (Brodberg, R.K., and G.A. Pollock, 1999; Klasing, S., and R. Brodberg, 2008)
Guideline Reference:	Prevalence of Selected Target Chemical Contaminants in Sport Fish From Two California Lakes: Public health designed screening study. Sacramento, CA: Office of Environmental Health Hazard Assessment Development of Fish Contaminant Goals and Advisory Tissue Levels for Common Contaminants in California Sport Fish: Chlordane, DDTs, Dieldrin, Methylmercury, PCBs, Selenium, and Toxaphene
Spatial Representation:	Samples are collected by hand from three sub-locations for each site. The composite sample was collected from site Point Reyes National Seashore (PRNS).
Temporal Representation:	Representative samples of locally abundant species were collected during the winter on 2/18/2009
Environmental Conditions:	
QAPP Information:	Samples were collected as part of the State Water Board's Mussel Watch Program which is a part of the National Oceanic Administration's (NOAAs) National Status and Trends (NS&T). Mussels are shipped to NOAAs contract labs for analysis of trace constituents and mussel condition. Analytical protocols follow those approved by NOAAs NS&T Program Additional background information can be found at: http://ccma.nos.noaa.gov/stressors/pollution/nsandt/
QAPP Information Reference(s):	

DECISION ID	66339	Region 2
Pacific Ocean at Point Reyes at Chimney Rock		

Pollutant:	Endosulfan
Final Listing Decision:	Do Not List on 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision:	New Decision
Revision Status	Revised
Impairment from Pollutant or Pollution:	Pollutant
Regional Board Staff Conclusion:	<p>This pollutant is being considered for placement on the CWA section 303(d) List under section 3.5 of the Listing Policy. Under section 3.5 a single line(s) of evidence are necessary to assess listing status.</p> <p>One line of evidence are available in the administrative record to assess this pollutant. Zero out of</p>

one samples exceed the objective for Endosulfan.

Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against placing this water segment-pollutant combination on the CWA section 303(d) List.

This conclusion is based on the staff findings that:

1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy.
2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy.
3. Zero out of one samples exceeded the objective for Endosulfan and this sample size is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating. A minimum of 16 samples is needed to determine if a beneficial use is fully supported using table 3.1.
4. Pursuant to SECTION 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.

Regional Board Staff Decision Recommendation: After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be placed on the section 303(d) list. The readily available data and information is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating.

**Line of Evidence (LOE) for Decision ID 66339, Endosulfan
Pacific Ocean at Point Reyes at Chimney Rock**

Region 2

LOE ID:	92468
Pollutant:	Endosulfan
LOE Subgroup:	Pollutant-Tissue
Matrix:	Tissue
Fraction:	Shellfish
Beneficial Use:	Commercial or recreational collection of fish, shellfish, or organisms
Number of Samples:	1
Number of Exceedances:	0
Data and Information Type:	Shellfish surveys
Data Used to Assess Water Quality:	The result did not exceed the guideline. Data were reported on a dry weight basis and were converted to a wet weight basis by multiplying the dry-weight concentration by a factor of 1 minus the percentage of moisture content expressed as a decimal. Total Endosulfan result was calculated by summing the results for Endosulfan I and Endosulfan II.
Data Reference:	State Mussel Watch Program Data 1977-2000; Winter 2007-Winter 2009. State Water Resources Control Board
SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	California's Ocean Plan states that, "The concentration of organic materials in fish, shellfish or other marine resources used for human consumption shall not bioaccumulate to levels that are harmful to human health".
Objective/Criterion Reference:	California Ocean Plan Water Quality Control Plan Ocean Waters of California 2009
Evaluation Guideline:	The modified OEHHA Fish Contaminant Goal for endosulfan (I and II) in shellfish tissue is 20,000 ppb. This screening level assumes an average body weight of 70 kg and a consumption rate of 21 g/day. (Brodberg, R.K., and G.A. Pollock, 1999; Klasing, S., and R. Brodberg, 2008; USEPA, 2000)
Guideline Reference:	Prevalence of Selected Target Chemical Contaminants in Sport Fish From Two California Lakes: Public health designed screening study. Sacramento, CA: Office of Environmental Health Hazard Assessment Development of Fish Contaminant Goals and Advisory Tissue Levels for Common Contaminants in California Sport Fish: Chlordane, DDTs, Dieldrin, Methylmercury, PCBs.

Spatial Representation: Samples are collected by hand from three sub-locations for each site. The composite sample was collected from site Point Reyes National Seashore (PRNS).

Temporal Representation: Representative samples of locally abundant species were collected during the winter on 2/18/2009

Environmental Conditions:

QAPP Information: Samples were collected as part of the State Water Board's Mussel Watch Program which is a part of the National Oceanic Administration's (NOAAs) National Status and Trends (NS&T). Mussels are shipped to NOAAs contract labs for analysis of trace constituents and mussel condition. Analytical protocols follow those approved by NOAAs NS&T Program. Additional background information can be found at: <http://ccma.nos.noaa.gov/stressors/pollution/nsandt/>

QAPP Information Reference(s):

DECISION ID	66340	Region 2
Pacific Ocean at Point Reyes at Chimney Rock		

Pollutant: Endrin

Final Listing Decision: Do Not List on 303(d) list (TMDL required list)

Last Listing Cycle's Final Listing Decision: New Decision

Revision Status: Revised

Impairment from Pollutant or Pollution: Pollutant

Regional Board Staff Conclusion: This pollutant is being considered for placement on the CWA section 303(d) List under section 3.5 of the Listing Policy. Under section 3.5 a single line(s) of evidence are necessary to assess listing status.

One lines of evidence are available in the administrative record to assess this pollutant. Zero out of one samples exceed the objective for Endrin.

Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against placing this water segment-pollutant combination on the CWA section 303(d) List.

This conclusion is based on the staff findings that:

1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy.
2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy.
3. Zero out of one samples exceeded the objective for Endrin and this sample size is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating. A minimum of 16 samples is needed to determine if a beneficial use is fully supported using table 3.1.
4. Pursuant to SECTION 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.

Regional Board Staff Decision Recommendation: After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be placed on the section 303(d) list. The readily available data and information is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating.

Line of Evidence (LOE) for Decision ID 66340, Endrin	Region 2
Pacific Ocean at Point Reyes at Chimney Rock	

LOE ID: 92469

Pollutant:	Endrin
LOE Subgroup:	Pollutant-Tissue
Matrix:	Tissue
Fraction:	Shellfish
Beneficial Use:	Commercial or recreational collection of fish, shellfish, or organisms
Number of Samples:	1
Number of Exceedances:	0
Data and Information Type:	Shellfish surveys
Data Used to Assess Water Quality:	The result did not exceed the guideline. Data were reported on a dry weight basis and were converted to a wet weight basis by multiplying the dry-weight concentration by a factor of 1 minus the percentage of moisture content expressed as a decimal.
Data Reference:	State Mussel Watch Program Data 1977-2000; Winter 2007-Winter 2009. State Water Resources Control Board
SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	California's Ocean Plan states that, "The concentration of organic materials in fish, shellfish or other marine resources used for human consumption shall not bioaccumulate to levels that are harmful to human health".
Objective/Criterion Reference:	California Ocean Plan Water Quality Control Plan Ocean Waters of California 2009
Evaluation Guideline:	The modified OEHHA Fish Contaminant Goal for endrin in shellfish tissue is 1,000 ppb. This screening level assumes an average body weight of 70 kg and a consumption rate of 21 g/day. (Brodberg, R.K., and G.A. Pollock, 1999; Klasing, S., and R. Brodberg, 2008; USEPA, 2000)
Guideline Reference:	Prevalence of Selected Target Chemical Contaminants in Sport Fish From Two California Lakes: Public health designed screening study. Sacramento, CA: Office of Environmental Health Hazard Assessment Development of Fish Contaminant Goals and Advisory Tissue Levels for Common Contaminants in California Sport Fish: Chlordane, DDTs, Dieldrin, Methylmercury, PCBs, Selenium, and Toxaphene Guidance for Assessing Chemical Contaminant Data for Use In Fish Advisories Volume 1: Fish Sampling and Analysis
Spatial Representation:	Samples are collected by hand from three sub-locations for each site. The composite sample was collected from site Point Reyes National Seashore (PRNS).
Temporal Representation:	Representative samples of locally abundant species were collected during the winter on 2/18/2009
Environmental Conditions:	
QAPP Information:	Samples were collected as part of the State Water Board's Mussel Watch Program which is a part of the National Oceanic Administration's (NOAAs) National Status and Trends (NS&T). Mussels are shipped to NOAAs contract labs for analysis of trace constituents and mussel condition. Analytical protocols follow those approved by NOAAs NS&T Program Additional background information can be found at: http://ccma.nos.noaa.gov/stressors/pollution/nsandt/
QAPP Information Reference(s):	

DECISION ID	66342	Region 2
Pacific Ocean at Point Reyes at Chimney Rock		

Pollutant:	Heptachlor epoxide
Final Listing Decision:	Do Not List on 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision:	New Decision
Revision Status	Revised
Impairment from Pollutant or Pollution:	Pollutant

**Regional Board Staff
Conclusion:**

This pollutant is being considered for placement on the CWA section 303(d) List under section 3.5 of the Listing Policy. Under section 3.5 a single line(s) of evidence are necessary to assess listing status.

One line of evidence are available in the administrative record to assess this pollutant. Zero out of one samples exceed the objective for Heptachlor epoxide.

Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against placing this water segment-pollutant combination on the CWA section 303(d) List.

This conclusion is based on the staff findings that:

1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy.
2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy.
3. Zero out of one samples exceeded the objective for Heptachlor epoxide and this sample size is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating. A minimum of 16 samples is needed to determine if a beneficial use is fully supported using table 3.1.
4. Pursuant to SECTION 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.

**Regional Board Staff Decision
Recommendation:**

After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be placed on the section 303(d) list. The readily available data and information is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating.

**Line of Evidence (LOE) for Decision ID 66342, Heptachlor epoxide
Pacific Ocean at Point Reyes at Chimney Rock**

Region 2

LOE ID:	92470
Pollutant:	Heptachlor epoxide
LOE Subgroup:	Pollutant-Tissue
Matrix:	Tissue
Fraction:	Shellfish
Beneficial Use:	Commercial or recreational collection of fish, shellfish, or organisms
Number of Samples:	1
Number of Exceedances:	0
Data and Information Type:	Shellfish surveys
Data Used to Assess Water Quality:	The result did not exceed the guideline. Data were reported on a dry weight basis and were converted to a wet weight basis by multiplying the dry-weight concentration by a factor of 1 minus the percentage of moisture content expressed as a decimal.
Data Reference:	State Mussel Watch Program Data 1977-2000; Winter 2007-Winter 2009. State Water Resources Control Board
SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	California's Ocean Plan states that, "The concentration of organic materials in fish, shellfish or other marine resources used for human consumption shall not bioaccumulate to levels that are harmful to human health".
Objective/Criterion Reference:	California Ocean Plan Water Quality Control Plan Ocean Waters of California 2009
Evaluation Guideline:	The modified OEHHA Fish Contaminant Goal for heptachlor epoxide in shellfish tissue is 1.4 ppb. This screening level assumes an average body weight of 70 kg and a consumption rate of 21 g/day for a 30 year exposure over a 70-year lifetime. This constituent is a carcinogen therefore the risk level is set to one in a million. (Brodberg, R.K., and G.A. Pollock, 1999; Klasing, S., and R. Brodberg, 2008; OEHHA, 1999)
Guideline Reference:	Prevalence of Selected Target Chemical Contaminants in Sport Fish From Two California

[Lakes: Public health designed screening study. Sacramento, CA: Office of Environmental Health Hazard Assessment](#)
[Development of Fish Contaminant Goals and Advisory Tissue Levels for Common Contaminants in California Sport Fish: Chlordane, DDTs, Dieldrin, Methylmercury, PCBs, Selenium, and Toxaphene](#)
[Public Health Goal for Heptachlor and Heptachlor Epoxide in Drinking Water](#)

Spatial Representation: Samples are collected by hand from three sub-locations for each site. The composite sample was collected from site Point Reyes National Seashore (PRNS).

Temporal Representation: Representative samples of locally abundant species were collected during the winter on 2/18/2009

Environmental Conditions:

QAPP Information: Samples were collected as part of the State Water Board's Mussel Watch Program which is a part of the National Oceanic Administration's (NOAAs) National Status and Trends (NS&T). Mussels are shipped to NOAAs contract labs for analysis of trace constituents and mussel condition. Analytical protocols follow those approved by NOAAs NS&T Program. Additional background information can be found at: <http://ccma.nos.noaa.gov/stressors/pollution/nsandt/>

QAPP Information Reference(s):

DECISION ID	66343	Region 2
Pacific Ocean at Point Reyes at Chimney Rock		

Pollutant: Hexachlorobenzene/ HCB
Final Listing Decision: Do Not List on 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision: New Decision
Revision Status: Revised
Impairment from Pollutant or Pollution: Pollutant

Regional Board Staff Conclusion:

This pollutant is being considered for placement on the CWA section 303(d) List under section 3.5 of the Listing Policy. Under section 3.5 a single line(s) of evidence are necessary to assess listing status.

One lines of evidence are available in the administrative record to assess this pollutant. Zero out of one samples exceed the objective for Hexachlorobenzene/ HCB.

Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against placing this water segment-pollutant combination on the CWA section 303(d) List.

This conclusion is based on the staff findings that:

1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy.
2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy.
3. Zero out of one samples exceeded the objective for Hexachlorobenzene/ HCB and this sample size is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating. A minimum of 16 samples is needed to determine if a beneficial use is fully supported using table 3.1.
4. Pursuant to SECTION 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.

Regional Board Staff Decision Recommendation: After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be placed on the section 303(d) list. The readily available data and information is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating.

Line of Evidence (LOE) for Decision ID 66343, Hexachlorobenzene/ HCB	Region 2
Pacific Ocean at Point Reyes at Chimney Rock	

LOE ID:	92471
Pollutant:	Hexachlorobenzene/ HCB
LOE Subgroup:	Pollutant-Tissue
Matrix:	Tissue
Fraction:	Shellfish
Beneficial Use:	Commercial or recreational collection of fish, shellfish, or organisms
Number of Samples:	1
Number of Exceedances:	0
Data and Information Type:	Shellfish surveys
Data Used to Assess Water Quality:	The result did not exceed the guideline. Data were reported on a dry weight basis and were converted to a wet weight basis by multiplying the dry-weight concentration by a factor of 1 minus the percentage of moisture content expressed as a decimal.
Data Reference:	State Mussel Watch Program Data 1977-2000; Winter 2007-Winter 2009. State Water Resources Control Board
SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	California's Ocean Plan states that, "The concentration of organic materials in fish, shellfish or other marine resources used for human consumption shall not bioaccumulate to levels that are harmful to human health".
Objective/Criterion Reference:	California Ocean Plan Water Quality Control Plan Ocean Waters of California 2009
Evaluation Guideline:	The modified OEHHA Fish Contaminant Goal for hexachlorobenzene in shellfish tissue is 4.3 ppb. This screening level assumes an average body weight of 70 kg and a consumption rate of 21 g/day for a 30 year exposure over a 70-year lifetime. This constituent is a carcinogen therefore the risk level is set to one in a million. (Brodberg, R.K., and G.A. Pollock, 1999; Klasing, S., and R. Brodberg, 2008; OEHHA, 2005)
Guideline Reference:	Prevalence of Selected Target Chemical Contaminants in Sport Fish From Two California Lakes: Public health designed screening study. Sacramento, CA: Office of Environmental Health Hazard Assessment Development of Fish Contaminant Goals and Advisory Tissue Levels for Common Contaminants in California Sport Fish: Chlordane, DDTs, Dieldrin, Methylmercury, PCBs, Selenium, and Toxaphene Air Toxics Hotspots Program Risk Assessment Guidelines. Part II Technical Support Document for Describing Available Cancer Potency Values.
Spatial Representation:	Samples are collected by hand from three sub-locations for each site. The composite sample was collected from site Point Reyes National Seashore (PRNS).
Temporal Representation:	Representative samples of locally abundant species were collected during the winter on 2/18/2009
Environmental Conditions:	
QAPP Information:	Samples were collected as part of the State Water Board's Mussel Watch Program which is a part of the National Oceanic Administration's (NOAAs) National Status and Trends (NS&T). Mussels are shipped to NOAAs contract labs for analysis of trace constituents and mussel condition. Analytical protocols follow those approved by NOAAs NS&T Program Additional background information can be found at: http://ccma.nos.noaa.gov/stressors/pollution/nsandt/
QAPP Information Reference(s):	

DECISION ID	66344	Region 2
Pacific Ocean at Point Reyes at Chimney Rock		

Pollutant:	Lindane/gamma Hexachlorocyclohexane (gamma-HCH)
Final Listing Decision:	Do Not List on 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision:	New Decision

Revision Status
Impairment from Pollutant or
Pollution:

Revised
Pollutant

Regional Board Staff
Conclusion:

This pollutant is being considered for placement on the CWA section 303(d) List under section 3.5 of the Listing Policy. Under section 3.5 a single line(s) of evidence are necessary to assess listing status.

One lines of evidence are available in the administrative record to assess this pollutant. Zero out of one samples exceed the objective for Lindane/gamma Hexachlorocyclohexane (gamma-HCH) .

Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against placing this water segment-pollutant combination on the CWA section 303(d) List.

This conclusion is based on the staff findings that:

1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy.
2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy.
3. Zero out of one samples exceeded the objective for Lindane/gamma Hexachlorocyclohexane (gamma-HCH) and this sample size is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating. A minimum of 26 samples is needed to determine if a beneficial use is fully supported using table 3.2.
4. Pursuant to SECTION 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.

Regional Board Staff Decision
Recommendation:

After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be placed on the section 303(d) list. The readily available data and information is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating.

Line of Evidence (LOE) for Decision ID 66344, Lindane/gamma Hexachlorocyclohexane
(gamma-HCH)

Region 2

Pacific Ocean at Point Reyes at Chimney Rock

LOE ID: 92472

Pollutant: Lindane/gamma Hexachlorocyclohexane (gamma-HCH)
LOE Subgroup: Pollutant-Tissue
Matrix: Tissue
Fraction: Shellfish

Beneficial Use: Commercial or recreational collection of fish, shellfish, or organisms

Number of Samples: 1
Number of Exceedances: 0

Data and Information Type: Shellfish surveys
Data Used to Assess Water Quality: The result did not exceed the guideline. Data were reported on a dry weight basis and were converted to a wet weight basis by multiplying the dry-weight concentration by a factor of 1 minus the percentage of moisture content expressed as a decimal.

Data Reference: [State Mussel Watch Program Data 1977-2000; Winter 2007-Winter 2009. State Water Resources Control Board](#)

SWAMP Data: Non-SWAMP

Water Quality Objective/Criterion: California's Ocean Plan states that, "The concentration of organic materials in fish, shellfish or other marine resources used for human consumption shall not bioaccumulate to levels that are harmful to human health".

Objective/Criterion Reference: [California Ocean Plan Water Quality Control Plan Ocean Waters of California 2009](#)

Evaluation Guideline: The modified OEHHA Fish Contaminant Goal for lindane in shellfish tissue is 7.1 ppb.

Guideline Reference:	<p>This screening level assumes an average body weight of 70 kg and a consumption rate of 21 g/day for a 30 year exposure over a 70-year lifetime. This constituent is a carcinogen therefore the risk level is set to one in a million. (Brodberg, R.K., and G.A. Pollock, 1999; Klasing, S., and R. Brodberg, 2008; OEHHA, 2005)</p> <p>Prevalence of Selected Target Chemical Contaminants in Sport Fish From Two California Lakes: Public health designed screening study. Sacramento, CA: Office of Environmental Health Hazard Assessment</p> <p>Development of Fish Contaminant Goals and Advisory Tissue Levels for Common Contaminants in California Sport Fish: Chlordane, DDTs, Dieldrin, Methylmercury, PCBs, Selenium, and Toxaphene</p> <p>Air Toxics Hotspots Program Risk Assessment Guidelines. Part II Technical Support Document for Describing Available Cancer Potency Values.</p>
Spatial Representation:	Samples are collected by hand from three sub-locations for each site. The composite sample was collected from site Point Reyes National Seashore (PRNS).
Temporal Representation:	Representative samples of locally abundant species were collected during the winter on 2/18/2009
Environmental Conditions:	
QAPP Information:	<p>Samples were collected as part of the State Water Board's Mussel Watch Program which is a part of the National Oceanic Administration's (NOAAs) National Status and Trends (NS&T). Mussels are shipped to NOAAs contract labs for analysis of trace constituents and mussel condition. Analytical protocols follow those approved by NOAAs NS&T Program Additional background information can be found at:</p> <p>http://ccma.nos.noaa.gov/stressors/pollution/nsandt/</p>
QAPP Information Reference(s):	

DECISION ID	66391	Region 2
Pacific Ocean at Point Reyes at Chimney Rock		
Pollutant: Final Listing Decision: Last Listing Cycle's Final Listing Decision: Revision Status Impairment from Pollutant or Pollution:	Mercury Do Not List on 303(d) list (TMDL required list) New Decision Revised Pollutant	
Regional Board Staff Conclusion:	<p>This pollutant is being considered for placement on the CWA section 303(d) List under section 3.5 of the Listing Policy. Under section 3.5 a single line(s) of evidence are necessary to assess listing status.</p> <p>One lines of evidence are available in the administrative record to assess this pollutant. Zero of the one samples exceed the guideline for Mercury.</p> <p>Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against placing this water segment-pollutant combination on the CWA section 303(d) List.</p> <p>This conclusion is based on the staff findings that:</p> <ol style="list-style-type: none"> 1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy. 2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy. 3. Zero out of one samples exceeded the guideline for Mercury and this sample size is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating. A minimum of 16 samples is needed to determine if a beneficial use is fully supported using table 3.1. 4. Pursuant to SECTION 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met. 	
Regional Board Staff Decision Recommendation:	After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be placed on the section 303(d) list. The readily available data and information is insufficient to determine, with the power and confidence of the Listing Policy, the	

Line of Evidence (LOE) for Decision ID 66391, Mercury
Pacific Ocean at Point Reyes at Chimney Rock

Region 2

LOE ID:	92553
Pollutant:	Mercury
LOE Subgroup:	Pollutant-Tissue
Matrix:	Tissue
Fraction:	Shellfish
Beneficial Use:	Commercial or recreational collection of fish, shellfish, or organisms
Number of Samples:	1
Number of Exceedances:	0
Data and Information Type:	Shellfish surveys
Data Used to Assess Water Quality:	The one sample did not exceed the guideline. Data were reported on a dry weight basis and were converted to a wet weight basis by multiplying the dry-weight concentration by a factor of 1 minus the percentage of moisture content expressed as a decimal.
Data Reference:	State Mussel Watch Program Data 1977-2000; Winter 2007-Winter 2009. State Water Resources Control Board
SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	California's Ocean Plan states that, "The concentration of organic materials in fish, shellfish or other marine resources used for human consumption shall not bioaccumulate to levels that are harmful to human health".
Objective/Criterion Reference:	California Ocean Plan Water Quality Control Plan Ocean Waters of California 2009
Evaluation Guideline:	The USEPA 304(a) recommended water quality criterion for concentrations of methylmercury in shellfish tissue (wet weight) is 0.2 ppm. (Brodberg, R.K., and G.A. Pollock, 1999; USEPA, 2001)
Guideline Reference:	Prevalence of Selected Target Chemical Contaminants in Sport Fish From Two California Lakes: Public health designed screening study. Sacramento, CA: Office of Environmental Health Hazard Assessment Water Quality Criterion for the Protection of Human Health: Methylmercury. Final. United States Environmental Protection Agency Office of Science and Technology Office of Water. EPA-823-R-01-001. January 2001
Spatial Representation:	Samples are collected by hand from three sub-locations for each site. The composite sample was collected from site Point Reyes National Seashore (PRNS).
Temporal Representation:	Representative samples of locally abundant species were collected during the winter on 2/18/2009
Environmental Conditions:	
QAPP Information:	Samples were collected as part of the State Water Board's Mussel Watch Program which is a part of the National Oceanic Administration's (NOAAs) National Status and Trends (NS&T). Mussels are shipped to NOAAs contract labs for analysis of trace constituents and mussel condition. Analytical protocols follow those approved by NOAAs NS&T Program Additional background information can be found at: http://ccma.nos.noaa.gov/stressors/pollution/nsandt/
QAPP Information Reference(s):	

DECISION ID 66392
Pacific Ocean at Point Reyes at Chimney Rock

Region 2

Pollutant: Mirex
Final Listing Decision: Do Not List on 303(d) list (TMDL required list)

**Last Listing Cycle's Final Listing Decision:
Revision Status
Impairment from Pollutant or Pollution:**

New Decision

Revised
Pollutant

Regional Board Staff Conclusion:

This pollutant is being considered for placement on the CWA section 303(d) List under section 3.5 of the Listing Policy. Under section 3.5 a single line(s) of evidence are necessary to assess listing status.

One lines of evidence are available in the administrative record to assess this pollutant. Zero out of zero samples exceed the guideline for Mirex.

Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against placing this water segment-pollutant combination on the CWA section 303(d) List.

This conclusion is based on the staff findings that:

1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy.
2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy.
3. Zero out of zero samples exceed the guideline for Mirex and this sample size is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating. A minimum of 26 samples is needed to determine if a beneficial use is fully supported using table 3.2.
4. Pursuant to SECTION 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.

Regional Board Staff Decision Recommendation:

After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be placed on the section 303(d) list. The readily available data and information is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating.

**Line of Evidence (LOE) for Decision ID 66392, Mirex
Pacific Ocean at Point Reyes at Chimney Rock**

Region 2

LOE ID:	92554
Pollutant:	Mirex
LOE Subgroup:	Pollutant-Tissue
Matrix:	Tissue
Fraction:	Shellfish
Beneficial Use:	Commercial or recreational collection of fish, shellfish, or organisms
Number of Samples:	0
Number of Exceedances:	0
Data and Information Type:	Shellfish surveys
Data Used to Assess Water Quality:	The non detect result was not included in the assessment since the reporting limit was above the evaluation guideline. MDL were provided by NOAA Federal and RL were calculated by multiplying 3.18 by the MDL.
Data Reference:	State Mussel Watch Program Data 1977-2000; Winter 2007-Winter 2009. State Water Resources Control Board
SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	California's Ocean Plan states that, "The concentration of organic materials in fish, shellfish or other marine resources used for human consumption shall not bioaccumulate to levels that are harmful to human health".
Objective/Criterion Reference:	California Ocean Plan Water Quality Control Plan Ocean Waters of California 2009

Evaluation Guideline:	The modified OEHHA Fish Contaminant Goal for mirex in shellfish tissue is 0.43 ppb. This screening level assumes an average body weight of 70 kg and a consumption rate of 21 g/day. (Brodberg, R.K., and G.A. Pollock, 1999; Klasing, S., and R. Brodberg, 2008; OEHHA, 1992)
Guideline Reference:	Prevalence of Selected Target Chemical Contaminants in Sport Fish From Two California Lakes: Public health designed screening study. Sacramento, CA: Office of Environmental Health Hazard Assessment Development of Fish Contaminant Goals and Advisory Tissue Levels for Common Contaminants in California Sport Fish: Chlordane, DDTs, Dieldrin, Methylmercury, PCBs, Selenium, and Toxaphene Expedited Cancer Potency Values and Proposed Regulatory Levels for Certain Proposition 65 Carcinogens.
Spatial Representation:	Samples are collected by hand from three sub-locations for each site. The composite sample was collected from site Point Reyes National Seashore (PRNS).
Temporal Representation:	Representative samples of locally abundant species were collected during the winter on 2/18/2009
Environmental Conditions:	
QAPP Information:	Samples were collected as part of the State Water Board's Mussel Watch Program which is a part of the National Oceanic Administration's (NOAAs) National Status and Trends (NS&T). Mussels are shipped to NOAAs contract labs for analysis of trace constituents and mussel condition. Analytical protocols follow those approved by NOAAs NS&T Program Additional background information can be found at: http://ccma.nos.noaa.gov/stressors/pollution/nsandt/
QAPP Information Reference(s):	

DECISION ID	66393	Region 2
Pacific Ocean at Point Reyes at Chimney Rock		
Pollutant:	PAHs (Polycyclic Aromatic Hydrocarbons)	
Final Listing Decision:	Do Not List on 303(d) list (TMDL required list)	
Last Listing Cycle's Final Listing Decision:	New Decision	
Revision Status	Revised	
Impairment from Pollutant or Pollution:	Pollutant	
Regional Board Staff Conclusion:	<p>This pollutant is being considered for placement on the CWA section 303(d) List under section 3.5 of the Listing Policy. Under section 3.5 a single line(s) of evidence are necessary to assess listing status.</p> <p>One line of evidence are available in the administrative record to assess this pollutant. Zero out of one samples exceed the guideline for PAHs (Polycyclic Aromatic Hydrocarbons).</p> <p>Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against placing this water segment-pollutant combination on the CWA section 303(d) List.</p> <p>This conclusion is based on the staff findings that:</p> <ol style="list-style-type: none"> 1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy. 2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy. 3. Zero out of one samples exceeded the guideline for PAHs (Polycyclic Aromatic Hydrocarbons) and this sample size is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating. A minimum of 26 samples is needed to determine if a beneficial use is fully supported using table 3.2. 4. Pursuant to SECTION 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met. 	
Regional Board Staff Decision Recommendation:	After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be placed on the section 303(d) list. The readily available data and information is insufficient to determine, with the power and confidence of the Listing Policy, the	

Line of Evidence (LOE) for Decision ID 66393, PAHs (Polycyclic Aromatic Hydrocarbons)
Pacific Ocean at Point Reyes at Chimney Rock

Region 2

LOE ID:	92555
Pollutant:	PAHs (Polycyclic Aromatic Hydrocarbons)
LOE Subgroup:	Pollutant-Tissue
Matrix:	Tissue
Fraction:	Shellfish
Beneficial Use:	Commercial or recreational collection of fish, shellfish, or organisms
Number of Samples:	1
Number of Exceedances:	0
Data and Information Type:	Shellfish surveys
Data Used to Assess Water Quality:	The result did not exceed the guideline. Data were reported on a dry weight basis and were converted to a wet weight basis by multiplying the dry-weight concentration by a factor of 1 minus the percentage of moisture content expressed as a decimal. The total PAHs were calculated as the potency equivalency concentration or the sum of the toxic equivalency factors multiplied by the concentrations of: Acenaphthene, Acenaphthylene, Anthracene, Benz[a]anthracene, Benzo[a]pyrene, Benzo[b]fluoranthene, Benzo[g,h,i]perylene, Benzo[k]fluoranthene, Dibenzo[a,h]anthracene, Chrysene, Fluoranthene, Fluorene, Indeno[1,2,3-c,d]pyrene, Phenanthrene, and Pyrene.
Data Reference:	State Mussel Watch Program Data 1977-2000; Winter 2007-Winter 2009. State Water Resources Control Board
SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	California's Ocean Plan states that, "The concentration of organic materials in fish, shellfish or other marine resources used for human consumption shall not bioaccumulate to levels that are harmful to human health".
Objective/Criterion Reference:	California Ocean Plan Water Quality Control Plan Ocean Waters of California 2009
Evaluation Guideline:	The modified OEHHA Fish Contaminant Goal for polycyclic aromatic hydrocarbons in shellfish tissue is 1.1 ppb. This screening level assumes an average body weight of 70 kg and a consumption rate of 21 g/day for a 30 year exposure over a 70-year lifetime. This constituent is a carcinogen therefore the risk level is set to one in a million. (Brodberg, R.K., and G.A. Pollock, 1999; Klasing, S., and R. Brodberg, 2008; USEPA, 2000)
Guideline Reference:	Prevalence of Selected Target Chemical Contaminants in Sport Fish From Two California Lakes: Public health designed screening study. Sacramento, CA: Office of Environmental Health Hazard Assessment Development of Fish Contaminant Goals and Advisory Tissue Levels for Common Contaminants in California Sport Fish: Chlordane, DDTs, Dieldrin, Methylmercury, PCBs, Selenium, and Toxaphene Guidance for Assessing Chemical Contaminant Data for Use In Fish Advisories Volume 1: Fish Sampling and Analysis
Spatial Representation:	Samples are collected by hand from three sub-locations for each site. The composite sample was collected from site Point Reyes National Seashore (PRNS).
Temporal Representation:	Representative samples of locally abundant species were collected during the winter on 2/18/2009
Environmental Conditions:	
QAPP Information:	Samples were collected as part of the State Water Board's Mussel Watch Program which is a part of the National Oceanic Administration's (NOAAs) National Status and Trends (NS&T). Mussels are shipped to NOAAs contract labs for analysis of trace constituents and mussel condition. Analytical protocols follow those approved by NOAAs NS&T Program Additional background information can be found at: http://ccma.nos.noaa.gov/stressors/pollution/nsandt/

DECISION ID	66394	Region 2
Pacific Ocean at Point Reyes at Chimney Rock		

Pollutant: PCBs (Polychlorinated biphenyls)
Final Listing Decision: Do Not List on 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision: New Decision
Revision Status: Revised
Impairment from Pollutant or Pollution: Pollutant

Regional Board Staff Conclusion: This pollutant is being considered for placement on the CWA section 303(d) List under section 3.5 of the Listing Policy. Under section 3.5 a single line(s) of evidence are necessary to assess listing status.

One lines of evidence are available in the administrative record to assess this pollutant. One out of one samples exceed the objective for PCBs (Polychlorinated biphenyls).

Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against placing this water segment-pollutant combination on the CWA section 303(d) List.

This conclusion is based on the staff findings that:

1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy.
2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy.
3. One out of one samples exceed the objective for PCBs (Polychlorinated biphenyls) and this sample size is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating. A minimum of 16 samples is needed to determine if a beneficial use is fully supported using table 3.2.
4. Pursuant to SECTION 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.

Regional Board Staff Decision Recommendation: After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be placed on the section 303(d) list. The readily available data and information is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating.

Line of Evidence (LOE) for Decision ID 66394, PCBs (Polychlorinated biphenyls)	Region 2
Pacific Ocean at Point Reyes at Chimney Rock	

LOE ID: 92556

Pollutant: PCBs (Polychlorinated biphenyls)
LOE Subgroup: Pollutant-Tissue
Matrix: Tissue
Fraction: Shellfish

Beneficial Use: Commercial or recreational collection of fish, shellfish, or organisms

Number of Samples: 1
Number of Exceedances: 1

Data and Information Type: Shellfish surveys
Data Used to Assess Water Quality: The result did exceed the guideline. Data were reported on a dry weight basis and were converted to a wet weight basis by multiplying the dry-weight concentration by a factor of 1 minus the percentage of moisture content expressed as a decimal. Total PCB was assessed for as follows: PCB aroclors and congeners were summed separately and the

Data Reference:	sum that yielded the highest value was used for the assessment. State Mussel Watch Program Data 1977-2000; Winter 2007-Winter 2009. State Water Resources Control Board
SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	California's Ocean Plan states that, "The concentration of organic materials in fish, shellfish or other marine resources used for human consumption shall not bioaccumulate to levels that are harmful to human health".
Objective/Criterion Reference:	California Ocean Plan Water Quality Control Plan Ocean Waters of California 2009
Evaluation Guideline:	The modified OEHHA Fish Contaminant Goal for polychlorinated biphenyls in shellfish tissue is 3.9 ppb. This screening level assumes an average body weight of 70 kg and a consumption rate of 21 g/day for a 30 year exposure over a 70-year lifetime. This constituent is a carcinogen therefore the risk level is set to one in a million. (Brodberg, R.K., and G.A. Pollock, 1999; Klasing, S., and R. Brodberg, 2008)
Guideline Reference:	Prevalence of Selected Target Chemical Contaminants in Sport Fish From Two California Lakes: Public health designed screening study. Sacramento, CA: Office of Environmental Health Hazard Assessment Development of Fish Contaminant Goals and Advisory Tissue Levels for Common Contaminants in California Sport Fish: Chlordane, DDTs, Dieldrin, Methylmercury, PCBs, Selenium, and Toxaphene
Spatial Representation:	Samples are collected by hand from three sub-locations for each site. The composite sample was collected from site Point Reyes National Seashore (PRNS).
Temporal Representation:	Representative samples of locally abundant species were collected during the winter on 2/18/2009
Environmental Conditions:	
QAPP Information:	Samples were collected as part of the State Water Board's Mussel Watch Program which is a part of the National Oceanic Administration's (NOAAs) National Status and Trends (NS&T). Mussels are shipped to NOAAs contract labs for analysis of trace constituents and mussel condition. Analytical protocols follow those approved by NOAAs NS&T Program Additional background information can be found at: http://ccma.nos.noaa.gov/stressors/pollution/nsandt/
QAPP Information Reference(s):	

DECISION ID	66395	Region 2
Pacific Ocean at Point Reyes at Chimney Rock		
Pollutant:	Selenium	
Final Listing Decision:	Do Not List on 303(d) list (TMDL required list)	
Last Listing Cycle's Final Listing Decision:	New Decision	
Revision Status	Revised	
Impairment from Pollutant or Pollution:	Pollutant	
Regional Board Staff Conclusion:	<p>This pollutant is being considered for placement on the CWA section 303(d) List under section 3.5 of the Listing Policy. Under section 3.5 a single line(s) of evidence are necessary to assess listing status.</p> <p>One lines of evidence are available in the administrative record to assess this pollutant. Zero of the one sample exceed the guideline for Selenium.</p> <p>Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against placing this water segment-pollutant combination on the CWA section 303(d) List.</p> <p>This conclusion is based on the staff findings that:</p> <ol style="list-style-type: none"> 1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy. 2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy. 	

3. Zero of the one sample exceed the guideline for Selenium and this sample size is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating. A minimum of 16 samples is needed to determine if a beneficial use is fully supported using table 3.1.
4. Pursuant to SECTION 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.

Regional Board Staff Decision Recommendation: After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be placed on the section 303(d) list. The readily available data and information is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating.

**Line of Evidence (LOE) for Decision ID 66395, Selenium
Pacific Ocean at Point Reyes at Chimney Rock**

Region 2

LOE ID:	92557
Pollutant:	Selenium
LOE Subgroup:	Pollutant-Tissue
Matrix:	Tissue
Fraction:	Shellfish
Beneficial Use:	Commercial or recreational collection of fish, shellfish, or organisms
Number of Samples:	1
Number of Exceedances:	0
Data and Information Type:	Shellfish surveys
Data Used to Assess Water Quality:	The one sample did not exceed the guideline. Data were reported on a dry weight basis and were converted to a wet weight basis by multiplying the dry-weight concentration by a factor of 1 minus the percentage of moisture content expressed as a decimal.
Data Reference:	State Mussel Watch Program Data 1977-2000; Winter 2007-Winter 2009. State Water Resources Control Board
SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	California's Ocean Plan states that, "The concentration of organic materials in fish, shellfish or other marine resources used for human consumption shall not bioaccumulate to levels that are harmful to human health".
Objective/Criterion Reference:	California Ocean Plan Water Quality Control Plan Ocean Waters of California 2009
Evaluation Guideline:	The modified OEHHA Fish Contaminant Goal for selenium in shellfish tissue is 11 ppm. This screening level assumes an average body weight of 70 kg and a consumption rate of 21 g/day. A background dietary consumption rate of 0.114 mg/day is applied for this micronutrient. (Brodberg, R.K., and G.A. Pollock, 1999; Klasing, S., and R. Brodberg, 2008)
Guideline Reference:	Prevalence of Selected Target Chemical Contaminants in Sport Fish From Two California Lakes: Public health designed screening study. Sacramento, CA: Office of Environmental Health Hazard Assessment Development of Fish Contaminant Goals and Advisory Tissue Levels for Common Contaminants in California Sport Fish: Chlordane, DDTs, Dieldrin, Methylmercury, PCBs, Selenium, and Toxaphene
Spatial Representation:	Samples are collected by hand from three sub-locations for each site. The composite sample was collected from site Point Reyes National Seashore (PRNS).
Temporal Representation:	Representative samples of locally abundant species were collected during the winter on 2/18/2009
Environmental Conditions:	
QAPP Information:	Samples were collected as part of the State Water Board's Mussel Watch Program which is a part of the National Oceanic Administration's (NOAAs) National Status and Trends (NS&T). Mussels are shipped to NOAAs contract labs for analysis of trace constituents

and mussel condition. Analytical protocols follow those approved by NOAA's NS&T Program. Additional background information can be found at:
<http://ccma.nos.noaa.gov/stressors/pollution/nsandt/>

QAPP Information Reference(s):

Draft California 2016 Integrated Report (303(d) List/305(b) Report)

Supporting Information

Regional Board 2 - San Francisco Bay Region

Water Body Name: Pacific Ocean at Farallon Islands at East Landing
Water Body ID: CAC2012101320110713114745
Water Body Type: Coastal & Bay Shoreline

DECISION ID 65517 **Region 2**
Pacific Ocean at Farallon Islands at East Landing

Pollutant: Arsenic
Final Listing Decision: Do Not List on 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision: New Decision
Revision Status Revised
Impairment from Pollutant or Pollution: Pollutant

Regional Board Staff Conclusion: This pollutant is being considered for placement on the CWA section 303(d) List under section 3.5 of the Listing Policy. Under section 3.5 a single line of evidence is necessary to assess listing status. One line of evidence is available in the administrative record to assess this pollutant. One of one samples exceed the OEHHHA guideline.

Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against placing this water segment-pollutant combination on the CWA section 303(d) List.

This conclusion is based on the staff findings that:

1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy.
2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy.
3. One of one samples exceed the OEHHHA guideline and this sample size is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating. A minimum of 16 samples is needed to determine if a beneficial use is fully supported using table 3.1.
4. Pursuant to SECTION 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.

Regional Board Staff Decision Recommendation: After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be placed on the section 303(d) list. The readily available data and information is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating.

Line of Evidence (LOE) for Decision ID 65517, Arsenic **Region 2**
Pacific Ocean at Farallon Islands at East Landing

LOE ID: 92479
Pollutant: Arsenic
LOE Subgroup: Pollutant-Tissue
Matrix: Tissue
Fraction: Shellfish
Beneficial Use: Commercial or recreational collection of fish, shellfish, or organisms
Number of Samples: 1

Number of Exceedances:	0
Data and Information Type:	Shellfish surveys
Data Used to Assess Water Quality:	The one sample did not exceed the guideline. Data were reported on a dry weight basis and were converted to a wet weight basis by multiplying the dry-weight concentration by a factor of 1 minus the percentage of moisture content expressed as a decimal. The fraction of total arsenic in inorganic form was taken to be 0.115%, which was the maximum fraction of inorganic arsenic found in shellfish tissue from SF Bay. This number was screened against the guideline.
Data Reference:	State Mussel Watch Program Data 1977-2000; Winter 2007-Winter 2009. State Water Resources Control Board Contaminant Concentrations in Fish from San Francisco Bay, 2000 Calculating Fraction of Inorganic Arsenic in SF Bay Fish and Shellfish
SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	California's Ocean Plan states that, "The concentration of organic materials in fish, shellfish or other marine resources used for human consumption shall not bioaccumulate to levels that are harmful to human health".
Objective/Criterion Reference:	California Ocean Plan Water Quality Control Plan Ocean Waters of California 2009
Evaluation Guideline:	<p>The modified OEHHA Advisory Tissue Level for arsenic in shellfish tissue is 0.52 ppm. This screening level assumes an average body weight of 70 kg and a consumption rate of 21 g/day for a 30 year exposure over a 70-year lifetime. This constituent is a carcinogen therefore the risk level is set to one in ten thousand. (Brodberg, R.K., and G.A. Pollock, 1999; Klasing, S., and R. Brodberg, 2008; OEHHA, 2004)</p> <p>Advisory Tissue Levels (ATLs), while still conferring no significant health risk to individuals consuming sport fish in the quantities shown over a lifetime, were developed with the recognition that there are unique health benefits associated with fish consumption and that the advisory process should be expanded beyond a simple risk paradigm in order to best promote the overall health of the fish consumer. ATLs provide a number of recommended fish servings that correspond to the range of contaminant concentrations found in fish and are used to provide consumption advice to prevent consumers from being exposed to more than the average daily reference dose for noncarcinogens or to a risk level greater than 1×10^{-4} for carcinogens (not more than one additional cancer case in a population of 10,000 people consuming fish at the given consumption rate over a lifetime). ATLs are designed to encourage consumption of fish that can be eaten in quantities likely to provide significant health benefits, while discouraging consumption of fish that, because of contaminant concentrations, should not be eaten or cannot be eaten in amounts recommended for improving overall health (eight ounces total, prior to cooking, per week). ATLs are one of the criteria that will be used by OEHHA for issuing fish consumption guidelines.</p>
Guideline Reference:	Prevalence of Selected Target Chemical Contaminants in Sport Fish From Two California Lakes: Public health designed screening study. Sacramento, CA: Office of Environmental Health Hazard Assessment Development of Fish Contaminant Goals and Advisory Tissue Levels for Common Contaminants in California Sport Fish: Chlordane, DDTs, Dieldrin, Methylmercury, PCBs, Selenium, and Toxaphene Air Toxics Hotspots Program Risk Assessment Guidelines. Part II Technical Support Document for Describing Available Cancer Potency Values.
Spatial Representation:	Samples are collected by hand from three sub-locations for each site. The composite sample was collected from site FIEL.
Temporal Representation:	Representative samples of locally abundant species were collected during the winter on 11/13/2008
Environmental Conditions:	
QAPP Information:	Samples were collected as part of the State Water Board's Mussel Watch Program which is a part of the National Oceanic Administration's (NOAAs) National Status and Trends (NS&T). Mussels are shipped to NOAAs contract labs for analysis of trace constituents and mussel condition. Analytical protocols follow those approved by NOAAs NS&T Program Additional background information can be found at:

QAPP Information Reference(s):

DECISION ID	65519	Region 2
Pacific Ocean at Farallon Islands at East Landing		

Pollutant: Cadmium
Final Listing Decision: Do Not List on 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision: New Decision
Revision Status: Revised
Impairment from Pollutant or Pollution: Pollutant

Regional Board Staff Conclusion: This pollutant is being considered for placement on the CWA section 303(d) List under section 3.5 of the Listing Policy. Under section 3.5 a single line of evidence is necessary to assess listing status. One line of evidence is available in the administrative record to assess this pollutant. Zero of one samples exceed the OEHHHA guideline.

Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against placing this water segment-pollutant combination on the CWA section 303(d) List.

This conclusion is based on the staff findings that:

1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy.
2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy.
3. Zero of one samples exceed the OEHHHA guideline and this sample size is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating. A minimum of 16 samples is needed to determine if a beneficial use is fully supported using table 3.1.
4. Pursuant to SECTION 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.

Regional Board Staff Decision Recommendation: After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be placed on the section 303(d) list. The readily available data and information is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating.

Line of Evidence (LOE) for Decision ID 65519, Cadmium	Region 2
Pacific Ocean at Farallon Islands at East Landing	

LOE ID: 92480

Pollutant: Cadmium
LOE Subgroup: Pollutant-Tissue
Matrix: Tissue
Fraction: Shellfish

Beneficial Use: Commercial or recreational collection of fish, shellfish, or organisms

Number of Samples: 1
Number of Exceedances: 0

Data and Information Type: Shellfish surveys
Data Used to Assess Water Quality: The one sample did not exceed the guideline. Data were reported on a dry weight basis and were converted to a wet weight basis by multiplying the dry-weight concentration by a factor of 1 minus the percentage of moisture content expressed as a decimal.

Data Reference: [State Mussel Watch Program Data 1977-2000; Winter 2007-Winter 2009. State Water Resources Control Board](#)

SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	California's Ocean Plan states that, "The concentration of organic materials in fish, shellfish or other marine resources used for human consumption shall not bioaccumulate to levels that are harmful to human health".
Objective/Criterion Reference:	California Ocean Plan Water Quality Control Plan Ocean Waters of California 2009
Evaluation Guideline:	The modified OEHHA Fish Contaminant Goal for cadmium in shellfish tissue is 3.3 ppm. This screening level assumes an average body weight of 70 kg and a consumption rate of 21 g/day. (Brodberg, R.K., and G.A. Pollock, 1999; Klasing, S., and R. Brodberg, 2008; USEPA, 2000)
Guideline Reference:	Prevalence of Selected Target Chemical Contaminants in Sport Fish From Two California Lakes: Public health designed screening study. Sacramento, CA: Office of Environmental Health Hazard Assessment Development of Fish Contaminant Goals and Advisory Tissue Levels for Common Contaminants in California Sport Fish: Chlordane, DDTs, Dieldrin, Methylmercury, PCBs, Selenium, and Toxaphene Guidance for Assessing Chemical Contaminant Data for Use In Fish Advisories Volume 1: Fish Sampling and Analysis
Spatial Representation:	Samples are collected by hand from three sub-locations for each site. The composite sample was collected from site FIEL.
Temporal Representation:	Representative samples of locally abundant species were collected during the winter on 11/13/2008
Environmental Conditions:	
QAPP Information:	Samples were collected as part of the State Water Board's Mussel Watch Program which is a part of the National Oceanic Administration's (NOAAs) National Status and Trends (NS&T). Mussels are shipped to NOAAs contract labs for analysis of trace constituents and mussel condition. Analytical protocols follow those approved by NOAAs NS&T Program Additional background information can be found at: http://ccma.nos.noaa.gov/stressors/pollution/nsandt/
QAPP Information Reference(s):	

DECISION ID	65520	Region 2
Pacific Ocean at Farallon Islands at East Landing		

Pollutant:	Chlordane
Final Listing Decision:	Do Not List on 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision:	New Decision
Revision Status	Revised
Impairment from Pollutant or Pollution:	Pollutant
Regional Board Staff Conclusion:	<p>This pollutant is being considered for placement on the CWA section 303(d) List under section 3.5 of the Listing Policy. Under section 3.5 a single line of evidence is necessary to assess listing status. One line of evidence is available in the administrative record to assess this pollutant. Zero of one samples exceed the OEHHA guideline.</p> <p>Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against placing this water segment-pollutant combination on the CWA section 303(d) List.</p> <p>This conclusion is based on the staff findings that:</p> <ol style="list-style-type: none"> 1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy. 2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy. 3. Zero of one samples exceed the OEHHA guideline and this sample size is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating. A minimum of 16 samples is needed to determine if a beneficial use is fully supported using table 3.1.

4. Pursuant to SECTION 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.

Regional Board Staff Decision Recommendation: After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be placed on the section 303(d) list. The readily available data and information is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating.

Line of Evidence (LOE) for Decision ID 65520, Chlordane

Region 2

Pacific Ocean at Farallon Islands at East Landing

LOE ID:	92487
Pollutant:	Chlordane
LOE Subgroup:	Pollutant-Tissue
Matrix:	Tissue
Fraction:	Shellfish
Beneficial Use:	Commercial or recreational collection of fish, shellfish, or organisms
Number of Samples:	1
Number of Exceedances:	0
Data and Information Type:	Shellfish surveys
Data Used to Assess Water Quality:	The results did not exceed the guideline. Data were reported on a dry weight basis and were converted to a wet weight basis by multiplying the dry-weight concentration by a factor of 1 minus the percentage of moisture content expressed as a decimal. Chlordane result was calculated by summing the results for chlordane isomers: cis- and trans-nonachlor, alpha- and gamma-chlordane, and oxychlordane.
Data Reference:	State Mussel Watch Program Data 1977-2000; Winter 2007-Winter 2009. State Water Resources Control Board
SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	California's Ocean Plan states that, "The concentration of organic materials in fish, shellfish or other marine resources used for human consumption shall not bioaccumulate to levels that are harmful to human health".
Objective/Criterion Reference:	California Ocean Plan Water Quality Control Plan Ocean Waters of California 2009
Evaluation Guideline:	The modified OEHHA Fish Contaminant Goal for total chlordane in shellfish tissue is 6.0 ppb. This screening level assumes an average body weight of 70 kg and a consumption rate of 21 g/day for a 30 year exposure over a 70-year lifetime. This constituent is a carcinogen therefore the risk level is set to one in a million. (Brodberg, R.K., and G.A. Pollock, 1999; Klasing, S., and R. Brodberg, 2008)
Guideline Reference:	Prevalence of Selected Target Chemical Contaminants in Sport Fish From Two California Lakes: Public health designed screening study. Sacramento, CA: Office of Environmental Health Hazard Assessment Development of Fish Contaminant Goals and Advisory Tissue Levels for Common Contaminants in California Sport Fish: Chlordane, DDTs, Dieldrin, Methylmercury, PCBs, Selenium, and Toxaphene
Spatial Representation:	Samples are collected by hand from three sub-locations for each site. The composite sample was collected from site FIEL.
Temporal Representation:	Representative samples of locally abundant species were collected during the winter on 11/13/2008
Environmental Conditions:	
QAPP Information:	Samples were collected as part of the State Water Board's Mussel Watch Program which is a part of the National Oceanic Administration's (NOAAs) National Status and Trends (NS&T). Mussels are shipped to NOAAs contract labs for analysis of trace constituents and mussel condition. Analytical protocols follow those approved by NOAAs NS&T Program Additional background information can be found at:

QAPP Information Reference(s):

DECISION ID	65524	Region 2
Pacific Ocean at Farallon Islands at East Landing		

Pollutant: Chlorpyrifos
Final Listing Decision: Do Not List on 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision: New Decision
Revision Status: Revised
Impairment from Pollutant or Pollution: Pollutant

Regional Board Staff Conclusion: This pollutant is being considered for placement on the CWA section 303(d) List under section 3.5 of the Listing Policy. Under section 3.5 a single line of evidence is necessary to assess listing status. One line of evidence is available in the administrative record to assess this pollutant. Zero of one samples exceed the OEHHHA guideline.

Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against placing this water segment-pollutant combination on the CWA section 303(d) List.

This conclusion is based on the staff findings that:

1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy.
2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy.
3. Zero of one samples exceed the OEHHHA guideline and this sample size is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating. A minimum of 16 samples is needed to determine if a beneficial use is fully supported using table 3.1.
4. Pursuant to SECTION 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.

Regional Board Staff Decision Recommendation: After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be placed on the section 303(d) list. The readily available data and information is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating.

Line of Evidence (LOE) for Decision ID 65524, Chlorpyrifos	Region 2
Pacific Ocean at Farallon Islands at East Landing	

LOE ID: 92488

Pollutant: Chlorpyrifos
LOE Subgroup: Pollutant-Tissue
Matrix: Tissue
Fraction: Shellfish

Beneficial Use: Commercial or recreational collection of fish, shellfish, or organisms

Number of Samples: 1
Number of Exceedances: 0

Data and Information Type: Shellfish surveys
Data Used to Assess Water Quality: The sample did not exceed the guideline. Data were reported on a dry weight basis and were converted to a wet weight basis by multiplying the dry-weight concentration by a factor of 1 minus the percentage of moisture content expressed as a decimal.

Data Reference: [State Mussel Watch Program Data 1977-2000; Winter 2007-Winter 2009. State Water Resources Control Board](#)

SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	California's Ocean Plan states that, "The concentration of organic materials in fish, shellfish or other marine resources used for human consumption shall not bioaccumulate to levels that are harmful to human health".
Objective/Criterion Reference:	California Ocean Plan Water Quality Control Plan Ocean Waters of California 2009
Evaluation Guideline:	The modified OEHHA Fish Contaminant Goal for chlorpyrifos in shellfish tissue is 1,000 ppb. This screening level assumes an average body weight of 70 kg and a consumption rate of 21 g/day. (Brodberg, R.K., and G.A. Pollock, 1999; Klasing, S., and R. Brodberg, 2008; USEPA, 2000)
Guideline Reference:	Prevalence of Selected Target Chemical Contaminants in Sport Fish From Two California Lakes: Public health designed screening study. Sacramento, CA: Office of Environmental Health Hazard Assessment Development of Fish Contaminant Goals and Advisory Tissue Levels for Common Contaminants in California Sport Fish: Chlordane, DDTs, Dieldrin, Methylmercury, PCBs, Selenium, and Toxaphene Guidance for Assessing Chemical Contaminant Data for Use In Fish Advisories Volume 1: Fish Sampling and Analysis
Spatial Representation:	Samples are collected by hand from three sub-locations for each site. The composite sample was collected from site FIEL.
Temporal Representation:	Representative samples of locally abundant species were collected during the winter on 11/13/2008
Environmental Conditions:	
QAPP Information:	Samples were collected as part of the State Water Board's Mussel Watch Program which is a part of the National Oceanic Administration's (NOAAs) National Status and Trends (NS&T). Mussels are shipped to NOAAs contract labs for analysis of trace constituents and mussel condition. Analytical protocols follow those approved by NOAAs NS&T Program Additional background information can be found at: http://ccma.nos.noaa.gov/stressors/pollution/nsandt/
QAPP Information Reference(s):	

DECISION ID	65536	Region 2
Pacific Ocean at Farallon Islands at East Landing		

Pollutant:	DDT (Dichlorodiphenyltrichloroethane)
Final Listing Decision:	Do Not List on 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision:	New Decision
Revision Status	Revised
Impairment from Pollutant or Pollution:	Pollutant
Regional Board Staff Conclusion:	<p>This pollutant is being considered for placement on the CWA section 303(d) List under section 3.5 of the Listing Policy. Under section 3.5 a single line of evidence is necessary to assess listing status. One line of evidence is available in the administrative record to assess this pollutant. Zero of one samples exceed the OEHHA guideline.</p> <p>Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against placing this water segment-pollutant combination on the CWA section 303(d) List.</p> <p>This conclusion is based on the staff findings that:</p> <ol style="list-style-type: none"> 1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy. 2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy. 3. Zero of one samples exceed the OEHHA guideline and this sample size is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating. A minimum of 16 samples is needed to determine if a beneficial use is fully supported using table 3.1.

4. Pursuant to SECTION 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.

Regional Board Staff Decision Recommendation: After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be placed on the section 303(d) list. The readily available data and information is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating.

Line of Evidence (LOE) for Decision ID 65536, DDT (Dichlorodiphenyltrichloroethane)

Region 2

Pacific Ocean at Farallon Islands at East Landing

LOE ID:	92508
Pollutant:	Total DDT (sum of 4,4'- and 2,4'- isomers of DDT, DDE, and DDD)
LOE Subgroup:	Pollutant-Tissue
Matrix:	Tissue
Fraction:	Shellfish
Beneficial Use:	Commercial or recreational collection of fish, shellfish, or organisms
Number of Samples:	1
Number of Exceedances:	0
Data and Information Type:	Shellfish surveys
Data Used to Assess Water Quality:	The sample did not exceed the guideline. Data were reported on a dry weight basis and were converted to a wet weight basis by multiplying the dry-weight concentration by a factor of 1 minus the percentage of moisture content expressed as a decimal. The total DDTs were calculated as the sum of 4,4'- and 2,4'- isomers of DDT, DDE, and DDD.
Data Reference:	State Mussel Watch Program Data 1977-2000; Winter 2007-Winter 2009. State Water Resources Control Board
SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	California's Ocean Plan states that, "The concentration of organic materials in fish, shellfish or other marine resources used for human consumption shall not bioaccumulate to levels that are harmful to human health".
Objective/Criterion Reference:	California Ocean Plan Water Quality Control Plan Ocean Waters of California 2009
Evaluation Guideline:	The modified OEHHA Fish Contaminant Goal for total DDT in shellfish tissue is 23 ppb. This screening level assumes an average body weight of 70 kg and a consumption rate of 21 g/day for a 30 year exposure over a 70-year lifetime. This constituent is a carcinogen therefore the risk level is set to one in a million. (Brodberg, R.K., and G.A. Pollock, 1999; Klasing, S., and R. Brodberg, 2008)
Guideline Reference:	Prevalence of Selected Target Chemical Contaminants in Sport Fish From Two California Lakes: Public health designed screening study. Sacramento, CA: Office of Environmental Health Hazard Assessment Development of Fish Contaminant Goals and Advisory Tissue Levels for Common Contaminants in California Sport Fish: Chlordane, DDTs, Dieldrin, Methylmercury, PCBs, Selenium, and Toxaphene
Spatial Representation:	Samples are collected by hand from three sub-locations for each site. The composite sample was collected from site FIEL.
Temporal Representation:	Representative samples of locally abundant species were collected during the winter on 11/13/2008
Environmental Conditions:	
QAPP Information:	Samples were collected as part of the State Water Board's Mussel Watch Program which is a part of the National Oceanic Administration's (NOAAs) National Status and Trends (NS&T). Mussels are shipped to NOAAs contract labs for analysis of trace constituents and mussel condition. Analytical protocols follow those approved by NOAAs NS&T Program Additional background information can be found at: http://ccma.nos.noaa.gov/stressors/pollution/nsandt/

DECISION ID	65525	Region 2
Pacific Ocean at Farallon Islands at East Landing		

Pollutant: Dieldrin
Final Listing Decision: Do Not List on 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision: New Decision
Revision Status: Revised
Impairment from Pollutant or Pollution: Pollutant

Regional Board Staff Conclusion: This pollutant is being considered for placement on the CWA section 303(d) List under section 3.5 of the Listing Policy. Under section 3.5 a single line of evidence is necessary to assess listing status. One line of evidence is available in the administrative record to assess this pollutant. Zero of one samples exceed the OEHHHA guideline.

Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against placing this water segment-pollutant combination on the CWA section 303(d) List.

This conclusion is based on the staff findings that:

1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy.
2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy.
3. Zero of one samples exceed the OEHHHA guideline and this sample size is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating. A minimum of 16 samples is needed to determine if a beneficial use is fully supported using table 3.1.
4. Pursuant to SECTION 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.

Regional Board Staff Decision Recommendation: After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be placed on the section 303(d) list. The readily available data and information is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating.

Line of Evidence (LOE) for Decision ID 65525, Dieldrin	Region 2
Pacific Ocean at Farallon Islands at East Landing	

LOE ID: 92489
Pollutant: Dieldrin
LOE Subgroup: Pollutant-Tissue
Matrix: Tissue
Fraction: Shellfish
Beneficial Use: Commercial or recreational collection of fish, shellfish, or organisms
Number of Samples: 1
Number of Exceedances: 0
Data and Information Type: Shellfish surveys
Data Used to Assess Water Quality: The result did not exceed the guideline. Data were reported on a dry weight basis and were converted to a wet weight basis by multiplying the dry-weight concentration by a factor of 1 minus the percentage of moisture content expressed as a decimal.
Data Reference: [State Mussel Watch Program Data 1977-2000; Winter 2007-Winter 2009. State Water Resources Control Board](#)

SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	California's Ocean Plan states that, "The concentration of organic materials in fish, shellfish or other marine resources used for human consumption shall not bioaccumulate to levels that are harmful to human health".
Objective/Criterion Reference:	California Ocean Plan Water Quality Control Plan Ocean Waters of California 2009
Evaluation Guideline:	The modified OEHHA Fish Contaminant Goal for dieldrin in shellfish tissue is 0.49 ppb. This screening level assumes an average body weight of 70 kg and a consumption rate of 21 g/day for a 30 year exposure over a 70-year lifetime. This constituent is a carcinogen therefore the risk level is set to one in a million. (Brodberg, R.K., and G.A. Pollock, 1999; Klasing, S., and R. Brodberg, 2008)
Guideline Reference:	Prevalence of Selected Target Chemical Contaminants in Sport Fish From Two California Lakes: Public health designed screening study. Sacramento, CA: Office of Environmental Health Hazard Assessment Development of Fish Contaminant Goals and Advisory Tissue Levels for Common Contaminants in California Sport Fish: Chlordane, DDTs, Dieldrin, Methylmercury, PCBs, Selenium, and Toxaphene
Spatial Representation:	Samples are collected by hand from three sub-locations for each site. The composite sample was collected from site FIEL.
Temporal Representation:	Representative samples of locally abundant species were collected during the winter on 11/13/2008
Environmental Conditions:	
QAPP Information:	Samples were collected as part of the State Water Board's Mussel Watch Program which is a part of the National Oceanic Administration's (NOAAs) National Status and Trends (NS&T). Mussels are shipped to NOAAs contract labs for analysis of trace constituents and mussel condition. Analytical protocols follow those approved by NOAAs NS&T Program Additional background information can be found at: http://ccma.nos.noaa.gov/stressors/pollution/nsandt/
QAPP Information Reference(s):	

DECISION ID	65526	Region 2
Pacific Ocean at Farallon Islands at East Landing		

Pollutant:	Endosulfan
Final Listing Decision:	Do Not List on 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision:	New Decision
Revision Status	Revised
Impairment from Pollutant or Pollution:	Pollutant
Regional Board Staff Conclusion:	<p>This pollutant is being considered for placement on the CWA section 303(d) List under section 3.5 of the Listing Policy. Under section 3.5 a single line of evidence is necessary to assess listing status. One line of evidence is available in the administrative record to assess this pollutant. Zero of one samples exceed the OEHHA guideline.</p> <p>Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against placing this water segment-pollutant combination on the CWA section 303(d) List.</p> <p>This conclusion is based on the staff findings that:</p> <ol style="list-style-type: none"> 1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy. 2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy. 3. Zero of one samples exceed the OEHHA guideline and this sample size is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating. A minimum of 16 samples is needed to determine if a beneficial use is fully supported using table 3.1. 4. Pursuant to SECTION 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.

Regional Board Staff Decision Recommendation: After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be placed on the section 303(d) list. The readily available data and information is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating.

**Line of Evidence (LOE) for Decision ID 65526, Endosulfan
Pacific Ocean at Farallon Islands at East Landing**

Region 2

LOE ID:	92490
Pollutant:	Endosulfan
LOE Subgroup:	Pollutant-Tissue
Matrix:	Tissue
Fraction:	Shellfish
Beneficial Use:	Commercial or recreational collection of fish, shellfish, or organisms
Number of Samples:	1
Number of Exceedances:	0
Data and Information Type:	Shellfish surveys
Data Used to Assess Water Quality:	The result did not exceed the guideline. Data were reported on a dry weight basis and were converted to a wet weight basis by multiplying the dry-weight concentration by a factor of 1 minus the percentage of moisture content expressed as a decimal. Total Endosulfan result was calculated by summing the results for Endosulfan I and Endosulfan II.
Data Reference:	State Mussel Watch Program Data 1977-2000; Winter 2007-Winter 2009. State Water Resources Control Board
SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	California's Ocean Plan states that, "The concentration of organic materials in fish, shellfish or other marine resources used for human consumption shall not bioaccumulate to levels that are harmful to human health".
Objective/Criterion Reference:	California Ocean Plan Water Quality Control Plan Ocean Waters of California 2009
Evaluation Guideline:	The modified OEHHA Fish Contaminant Goal for endosulfan (I and II) in shellfish tissue is 20,000 ppb. This screening level assumes an average body weight of 70 kg and a consumption rate of 21 g/day. (Brodberg, R.K., and G.A. Pollock, 1999; Klasing, S., and R. Brodberg, 2008; USEPA, 2000)
Guideline Reference:	Prevalence of Selected Target Chemical Contaminants in Sport Fish From Two California Lakes: Public health designed screening study. Sacramento, CA: Office of Environmental Health Hazard Assessment Development of Fish Contaminant Goals and Advisory Tissue Levels for Common Contaminants in California Sport Fish: Chlordane, DDTs, Dieldrin, Methylmercury, PCBs, Selenium, and Toxaphene Guidance for Assessing Chemical Contaminant Data for Use In Fish Advisories Volume 1: Fish Sampling and Analysis
Spatial Representation:	Samples are collected by hand from three sub-locations for each site. The composite sample was collected from site FIEL.
Temporal Representation:	Representative samples of locally abundant species were collected during the winter on 11/13/2008
Environmental Conditions:	
QAPP Information:	Samples were collected as part of the State Water Board's Mussel Watch Program which is a part of the National Oceanic Administration's (NOAAs) National Status and Trends (NS&T). Mussels are shipped to NOAAs contract labs for analysis of trace constituents and mussel condition. Analytical protocols follow those approved by NOAAs NS&T Program Additional background information can be found at: http://ccma.nos.noaa.gov/stressors/pollution/nsandt/

DECISION ID	65527	Region 2
Pacific Ocean at Farallon Islands at East Landing		

Pollutant:	Endrin
Final Listing Decision:	Do Not List on 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision:	New Decision
Revision Status	Revised
Impairment from Pollutant or Pollution:	Pollutant

Regional Board Staff Conclusion: This pollutant is being considered for placement on the CWA section 303(d) List under section 3.5 of the Listing Policy. Under section 3.5 a single line of evidence is necessary to assess listing status. One line of evidence is available in the administrative record to assess this pollutant. Zero of one samples exceed the OEHHHA guideline.

Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against placing this water segment-pollutant combination on the CWA section 303(d) List.

This conclusion is based on the staff findings that:

1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy.
2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy.
3. Zero of one samples exceed the OEHHHA guideline and this sample size is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating. A minimum of 16 samples is needed to determine if a beneficial use is fully supported using table 3.1.
4. Pursuant to SECTION 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.

Regional Board Staff Decision Recommendation: After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be placed on the section 303(d) list. The readily available data and information is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating.

Line of Evidence (LOE) for Decision ID 65527, Endrin	Region 2
Pacific Ocean at Farallon Islands at East Landing	

LOE ID:	92491
Pollutant:	Endrin
LOE Subgroup:	Pollutant-Tissue
Matrix:	Tissue
Fraction:	Shellfish
Beneficial Use:	Commercial or recreational collection of fish, shellfish, or organisms
Number of Samples:	1
Number of Exceedances:	0
Data and Information Type:	Shellfish surveys
Data Used to Assess Water Quality:	The result did not exceed the guideline. Data were reported on a dry weight basis and were converted to a wet weight basis by multiplying the dry-weight concentration by a factor of 1 minus the percentage of moisture content expressed as a decimal.
Data Reference:	State Mussel Watch Program Data 1977-2000; Winter 2007-Winter 2009. State Water Resources Control Board

SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	California's Ocean Plan states that, "The concentration of organic materials in fish, shellfish or other marine resources used for human consumption shall not bioaccumulate to levels that are harmful to human health".
Objective/Criterion Reference:	California Ocean Plan Water Quality Control Plan Ocean Waters of California 2009
Evaluation Guideline:	The modified OEHHA Fish Contaminant Goal for endrin in shellfish tissue is 1,000 ppb. This screening level assumes an average body weight of 70 kg and a consumption rate of 21 g/day. (Brodberg, R.K., and G.A. Pollock, 1999; Klasing, S., and R. Brodberg, 2008; USEPA, 2000)
Guideline Reference:	Prevalence of Selected Target Chemical Contaminants in Sport Fish From Two California Lakes: Public health designed screening study. Sacramento, CA: Office of Environmental Health Hazard Assessment Development of Fish Contaminant Goals and Advisory Tissue Levels for Common Contaminants in California Sport Fish: Chlordane, DDTs, Dieldrin, Methylmercury, PCBs, Selenium, and Toxaphene Guidance for Assessing Chemical Contaminant Data for Use In Fish Advisories Volume 1: Fish Sampling and Analysis
Spatial Representation:	Samples are collected by hand from three sub-locations for each site. The composite sample was collected from site FIEL.
Temporal Representation:	Representative samples of locally abundant species were collected during the winter on 11/13/2008
Environmental Conditions:	
QAPP Information:	Samples were collected as part of the State Water Board's Mussel Watch Program which is a part of the National Oceanic Administration's (NOAAs) National Status and Trends (NS&T). Mussels are shipped to NOAAs contract labs for analysis of trace constituents and mussel condition. Analytical protocols follow those approved by NOAAs NS&T Program Additional background information can be found at: http://ccma.nos.noaa.gov/stressors/pollution/nsandt/
QAPP Information Reference(s):	

DECISION ID	65528	Region 2
Pacific Ocean at Farallon Islands at East Landing		

Pollutant:	Heptachlor epoxide
Final Listing Decision:	Do Not List on 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision:	New Decision
Revision Status	Revised
Impairment from Pollutant or Pollution:	Pollutant
Regional Board Staff Conclusion:	<p>This pollutant is being considered for placement on the CWA section 303(d) List under section 3.5 of the Listing Policy. Under section 3.5 a single line of evidence is necessary to assess listing status. One line of evidence is available in the administrative record to assess this pollutant. Zero of one samples exceed the OEHHA guideline.</p> <p>Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against placing this water segment-pollutant combination on the CWA section 303(d) List.</p> <p>This conclusion is based on the staff findings that:</p> <ol style="list-style-type: none"> 1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy. 2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy. 3. Zero of one samples exceed the OEHHA guideline and this sample size is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating. A minimum of 16 samples is needed to determine if a beneficial use is fully supported using table 3.1. 4. Pursuant to SECTION 3.11 of the Listing Policy, no additional data and information are available

indicating that standards are not met.

Regional Board Staff Decision Recommendation: After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be placed on the section 303(d) list. The readily available data and information is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating.

**Line of Evidence (LOE) for Decision ID 65528, Heptachlor epoxide
Pacific Ocean at Farallon Islands at East Landing**

Region 2

LOE ID:	92492
Pollutant:	Heptachlor epoxide
LOE Subgroup:	Pollutant-Tissue
Matrix:	Tissue
Fraction:	Shellfish
Beneficial Use:	Commercial or recreational collection of fish, shellfish, or organisms
Number of Samples:	1
Number of Exceedances:	0
Data and Information Type:	Shellfish surveys
Data Used to Assess Water Quality:	The sample did not exceed the guideline. Data were reported on a dry weight basis and were converted to a wet weight basis by multiplying the dry-weight concentration by a factor of 1 minus the percentage of moisture content expressed as a decimal.
Data Reference:	State Mussel Watch Program Data 1977-2000; Winter 2007-Winter 2009. State Water Resources Control Board
SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	California's Ocean Plan states that, "The concentration of organic materials in fish, shellfish or other marine resources used for human consumption shall not bioaccumulate to levels that are harmful to human health".
Objective/Criterion Reference:	California Ocean Plan Water Quality Control Plan Ocean Waters of California 2009
Evaluation Guideline:	The modified OEHHA Fish Contaminant Goal for heptachlor epoxide in shellfish tissue is 1.4 ppb. This screening level assumes an average body weight of 70 kg and a consumption rate of 21 g/day for a 30 year exposure over a 70-year lifetime. This constituent is a carcinogen therefore the risk level is set to one in a million. (Brodberg, R.K., and G.A. Pollock, 1999; Klasing, S., and R. Brodberg, 2008; OEHHA, 1999)
Guideline Reference:	Prevalence of Selected Target Chemical Contaminants in Sport Fish From Two California Lakes: Public health designed screening study. Sacramento, CA: Office of Environmental Health Hazard Assessment Development of Fish Contaminant Goals and Advisory Tissue Levels for Common Contaminants in California Sport Fish: Chlordane, DDTs, Dieldrin, Methylmercury, PCBs, Selenium, and Toxaphene Public Health Goal for Heptachlor and Heptachlor Epoxide in Drinking Water
Spatial Representation:	Samples are collected by hand from three sub-locations for each site. The composite sample was collected from site FIEL.
Temporal Representation:	Representative samples of locally abundant species were collected during the winter on 11/13/2008
Environmental Conditions:	
QAPP Information:	Samples were collected as part of the State Water Board's Mussel Watch Program which is a part of the National Oceanic Administration's (NOAAs) National Status and Trends (NS&T). Mussels are shipped to NOAAs contract labs for analysis of trace constituents and mussel condition. Analytical protocols follow those approved by NOAAs NS&T Program Additional background information can be found at: http://ccma.nos.noaa.gov/stressors/pollution/nsandt/
QAPP Information Reference(s):	

DECISION ID	65529	Region 2
Pacific Ocean at Farallon Islands at East Landing		

Pollutant:	Hexachlorobenzene/ HCB
Final Listing Decision:	Do Not List on 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision:	New Decision
Revision Status	Revised
Impairment from Pollutant or Pollution:	Pollutant
Regional Board Staff Conclusion:	<p>This pollutant is being considered for placement on the CWA section 303(d) List under section 3.5 of the Listing Policy. Under section 3.5 a single line of evidence is necessary to assess listing status. One line of evidence is available in the administrative record to assess this pollutant. Zero of one samples exceed the OEHHA guideline.</p> <p>Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against placing this water segment-pollutant combination on the CWA section 303(d) List.</p> <p>This conclusion is based on the staff findings that:</p> <ol style="list-style-type: none"> 1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy. 2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy. 3. Zero of one samples exceed the OEHHA guideline and this sample size is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating. A minimum of 16 samples is needed to determine if a beneficial use is fully supported using table 3.1. 4. Pursuant to SECTION 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.
Regional Board Staff Decision Recommendation:	After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be placed on the section 303(d) list. The readily available data and information is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating.

Line of Evidence (LOE) for Decision ID 65529, Hexachlorobenzene/ HCB	Region 2
Pacific Ocean at Farallon Islands at East Landing	

LOE ID:	92493
Pollutant:	Hexachlorobenzene/ HCB
LOE Subgroup:	Pollutant-Tissue
Matrix:	Tissue
Fraction:	Shellfish
Beneficial Use:	Commercial or recreational collection of fish, shellfish, or organisms
Number of Samples:	1
Number of Exceedances:	0
Data and Information Type:	Shellfish surveys
Data Used to Assess Water Quality:	The sample did not exceed the guideline. Data were reported on a dry weight basis and were converted to a wet weight basis by multiplying the dry-weight concentration by a factor of 1 minus the percentage of moisture content expressed as a decimal.
Data Reference:	State Mussel Watch Program Data 1977-2000; Winter 2007-Winter 2009. State Water Resources Control Board
SWAMP Data:	Non-SWAMP

Water Quality Objective/Criterion:	California's Ocean Plan states that, "The concentration of organic materials in fish, shellfish or other marine resources used for human consumption shall not bioaccumulate to levels that are harmful to human health".
Objective/Criterion Reference:	California Ocean Plan Water Quality Control Plan Ocean Waters of California 2009
Evaluation Guideline:	The modified OEHHA Fish Contaminant Goal for hexachlorobenzene in shellfish tissue is 4.3 ppb. This screening level assumes an average body weight of 70 kg and a consumption rate of 21 g/day for a 30 year exposure over a 70-year lifetime. This constituent is a carcinogen therefore the risk level is set to one in a million. (Brodberg, R.K., and G.A. Pollock, 1999; Klasing, S., and R. Brodberg, 2008; OEHHA, 2005)
Guideline Reference:	Prevalence of Selected Target Chemical Contaminants in Sport Fish From Two California Lakes: Public health designed screening study. Sacramento, CA: Office of Environmental Health Hazard Assessment Development of Fish Contaminant Goals and Advisory Tissue Levels for Common Contaminants in California Sport Fish: Chlordane, DDTs, Dieldrin, Methylmercury, PCBs, Selenium, and Toxaphene Air Toxics Hotspots Program Risk Assessment Guidelines. Part II Technical Support Document for Describing Available Cancer Potency Values.
Spatial Representation:	Samples are collected by hand from three sub-locations for each site. The composite sample was collected from site FIEL.
Temporal Representation:	Representative samples of locally abundant species were collected during the winter on 11/13/2008
Environmental Conditions:	
QAPP Information:	Samples were collected as part of the State Water Board's Mussel Watch Program which is a part of the National Oceanic Administration's (NOAAs) National Status and Trends (NS&T). Mussels are shipped to NOAAs contract labs for analysis of trace constituents and mussel condition. Analytical protocols follow those approved by NOAAs NS&T Program Additional background information can be found at: http://ccma.nos.noaa.gov/stressors/pollution/nsandt/
QAPP Information Reference(s):	

DECISION ID	65530	Region 2
Pacific Ocean at Farallon Islands at East Landing		
Pollutant:	Lindane/gamma Hexachlorocyclohexane (gamma-HCH)	
Final Listing Decision:	Do Not List on 303(d) list (TMDL required list)	
Last Listing Cycle's Final Listing Decision:	New Decision	
Revision Status	Revised	
Impairment from Pollutant or Pollution:	Pollutant	
Regional Board Staff Conclusion:	<p>This pollutant is being considered for placement on the CWA section 303(d) List under section 3.5 of the Listing Policy. Under section 3.5 a single line of evidence is necessary to assess listing status. One line of evidence is available in the administrative record to assess this pollutant. Zero of one samples exceed the OEHHA guideline.</p> <p>Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against placing this water segment-pollutant combination on the CWA section 303(d) List.</p> <p>This conclusion is based on the staff findings that:</p> <ol style="list-style-type: none"> 1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy. 2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy. 3. Zero of one samples exceed the OEHHA guideline and this sample size is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating. A minimum of 16 samples is needed to determine if a beneficial use is fully supported using table 3.1. 4. Pursuant to SECTION 3.11 of the Listing Policy, no additional data and information are available 	

indicating that standards are not met.

Regional Board Staff Decision Recommendation: After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be placed on the section 303(d) list. The readily available data and information is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating.

Line of Evidence (LOE) for Decision ID 65530, Lindane/gamma Hexachlorocyclohexane (gamma-HCH)

Region 2

Pacific Ocean at Farallon Islands at East Landing

LOE ID:	92494
Pollutant:	Lindane/gamma Hexachlorocyclohexane (gamma-HCH)
LOE Subgroup:	Pollutant-Tissue
Matrix:	Tissue
Fraction:	Shellfish
Beneficial Use:	Commercial or recreational collection of fish, shellfish, or organisms
Number of Samples:	1
Number of Exceedances:	0
Data and Information Type:	Shellfish surveys
Data Used to Assess Water Quality:	The sample did not exceed the guideline. Data were reported on a dry weight basis and were converted to a wet weight basis by multiplying the dry-weight concentration by a factor of 1 minus the percentage of moisture content expressed as a decimal.
Data Reference:	State Mussel Watch Program Data 1977-2000; Winter 2007-Winter 2009. State Water Resources Control Board
SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	California's Ocean Plan states that, "The concentration of organic materials in fish, shellfish or other marine resources used for human consumption shall not bioaccumulate to levels that are harmful to human health".
Objective/Criterion Reference:	California Ocean Plan Water Quality Control Plan Ocean Waters of California 2009
Evaluation Guideline:	The modified OEHHA Fish Contaminant Goal for lindane in shellfish tissue is 7.1 ppb. This screening level assumes an average body weight of 70 kg and a consumption rate of 21 g/day for a 30 year exposure over a 70-year lifetime. This constituent is a carcinogen therefore the risk level is set to one in a million. (Brodberg, R.K., and G.A. Pollock, 1999; Klasing, S., and R. Brodberg, 2008; OEHHA, 2005)
Guideline Reference:	Prevalence of Selected Target Chemical Contaminants in Sport Fish From Two California Lakes: Public health designed screening study. Sacramento, CA: Office of Environmental Health Hazard Assessment Development of Fish Contaminant Goals and Advisory Tissue Levels for Common Contaminants in California Sport Fish: Chlordane, DDTs, Dieldrin, Methylmercury, PCBs, Selenium, and Toxaphene Air Toxics Hotspots Program Risk Assessment Guidelines. Part II Technical Support Document for Describing Available Cancer Potency Values.
Spatial Representation:	Samples are collected by hand from three sub-locations for each site. The composite sample was collected from site FIEL.
Temporal Representation:	Representative samples of locally abundant species were collected during the winter on 11/13/2008
Environmental Conditions:	
QAPP Information:	Samples were collected as part of the State Water Board's Mussel Watch Program which is a part of the National Oceanic Administration's (NOAAs) National Status and Trends (NS&T). Mussels are shipped to NOAAs contract labs for analysis of trace constituents and mussel condition. Analytical protocols follow those approved by NOAAs NS&T Program Additional background information can be found at:

QAPP Information Reference(s):

DECISION ID	65531	Region 2
Pacific Ocean at Farallon Islands at East Landing		

Pollutant: Mercury
Final Listing Decision: Do Not List on 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision: New Decision
Revision Status: Revised
Impairment from Pollutant or Pollution: Pollutant

Regional Board Staff Conclusion: This pollutant is being considered for placement on the CWA section 303(d) List under section 3.5 of the Listing Policy. Under section 3.5 a single line of evidence is necessary to assess listing status. One line of evidence is available in the administrative record to assess this pollutant. Zero of one samples exceed the OEHHHA guideline.

Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against placing this water segment-pollutant combination on the CWA section 303(d) List.

This conclusion is based on the staff findings that:

1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy.
2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy.
3. Zero of one samples exceed the OEHHHA guideline and this sample size is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating. A minimum of 16 samples is needed to determine if a beneficial use is fully supported using table 3.1.
4. Pursuant to SECTION 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.

Regional Board Staff Decision Recommendation: After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be placed on the section 303(d) list. The readily available data and information is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating.

Line of Evidence (LOE) for Decision ID 65531, Mercury	Region 2
Pacific Ocean at Farallon Islands at East Landing	

LOE ID: 92495

Pollutant: Mercury
LOE Subgroup: Pollutant-Tissue
Matrix: Tissue
Fraction: Shellfish

Beneficial Use: Commercial or recreational collection of fish, shellfish, or organisms

Number of Samples: 1
Number of Exceedances: 0

Data and Information Type: Shellfish surveys
Data Used to Assess Water Quality: The one sample did not exceed the guideline. Data were reported on a dry weight basis and were converted to a wet weight basis by multiplying the dry-weight concentration by a factor of 1 minus the percentage of moisture content expressed as a decimal.

Data Reference: [State Mussel Watch Program Data 1977-2000; Winter 2007-Winter 2009. State Water Resources Control Board](#)

SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	California's Ocean Plan states that, "The concentration of organic materials in fish, shellfish or other marine resources used for human consumption shall not bioaccumulate to levels that are harmful to human health".
Objective/Criterion Reference:	California Ocean Plan Water Quality Control Plan Ocean Waters of California 2009
Evaluation Guideline:	The USEPA 304(a) recommended water quality criterion for concentrations of methylmercury in shellfish tissue (wet weight) is 0.2 ppm. (Brodberg, R.K., and G.A. Pollock, 1999; USEPA, 2001)
Guideline Reference:	Prevalence of Selected Target Chemical Contaminants in Sport Fish From Two California Lakes: Public health designed screening study. Sacramento, CA: Office of Environmental Health Hazard Assessment Water Quality Criterion for the Protection of Human Health: Methylmercury. Final. United States Environmental Protection Agency Office of Science and Technology Office of Water. EPA-823-R-01-001. January 2001
Spatial Representation:	Samples are collected by hand from three sub-locations for each site. The composite sample was collected from site FIEL.
Temporal Representation:	Representative samples of locally abundant species were collected during the winter on 11/13/2008
Environmental Conditions:	
QAPP Information:	Samples were collected as part of the State Water Board's Mussel Watch Program which is a part of the National Oceanic Administration's (NOAAs) National Status and Trends (NS&T). Mussels are shipped to NOAAs contract labs for analysis of trace constituents and mussel condition. Analytical protocols follow those approved by NOAAs NS&T Program Additional background information can be found at: http://ccma.nos.noaa.gov/stressors/pollution/nsandt/
QAPP Information Reference(s):	

DECISION ID	65532	Region 2
Pacific Ocean at Farallon Islands at East Landing		
Pollutant:	Mirex	
Final Listing Decision:	Do Not List on 303(d) list (TMDL required list)	
Last Listing Cycle's Final Listing Decision:	New Decision	
Revision Status	Revised	
Impairment from Pollutant or Pollution:	Pollutant	
Regional Board Staff Conclusion:	<p>This pollutant is being considered for placement on the CWA section 303(d) List under section 3.5 of the Listing Policy. Under section 3.5 a single line of evidence is necessary to assess listing status. One line of evidence is available in the administrative record to assess this pollutant. Zero of zero samples exceed the OEHHA guideline.</p> <p>Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against placing this water segment-pollutant combination on the CWA section 303(d) List.</p> <p>This conclusion is based on the staff findings that:</p> <ol style="list-style-type: none"> 1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy. 2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy. 3. Zero of zero samples exceed the OEHHA guideline and this sample size is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating. A minimum of 16 samples is needed to determine if a beneficial use is fully supported using table 3.1. 4. Pursuant to SECTION 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met. 	

Regional Board Staff Decision Recommendation: After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be placed on the section 303(d) list. The readily available data and information is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating.

**Line of Evidence (LOE) for Decision ID 65532, Mirex
Pacific Ocean at Farallon Islands at East Landing**

Region 2

LOE ID:	92501
Pollutant:	Mirex
LOE Subgroup:	Pollutant-Tissue
Matrix:	Tissue
Fraction:	Shellfish
Beneficial Use:	Commercial or recreational collection of fish, shellfish, or organisms
Number of Samples:	0
Number of Exceedances:	0
Data and Information Type:	Shellfish surveys
Data Used to Assess Water Quality:	The detected not quantifiable result was not included in the assessment since the reporting limit was above the evaluation guideline. MDL were provided by NOAA Federal and RL were calculated by multiplying 3.18 by the MDL.
Data Reference:	State Mussel Watch Program Data 1977-2000; Winter 2007-Winter 2009. State Water Resources Control Board
SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	California's Ocean Plan states that, "The concentration of organic materials in fish, shellfish or other marine resources used for human consumption shall not bioaccumulate to levels that are harmful to human health".
Objective/Criterion Reference:	California Ocean Plan Water Quality Control Plan Ocean Waters of California 2009
Evaluation Guideline:	The modified OEHHA Fish Contaminant Goal for mirex in shellfish tissue is 0.43 ppb. This screening level assumes an average body weight of 70 kg and a consumption rate of 21 g/day. (Brodberg, R.K., and G.A. Pollock, 1999; Klasing, S., and R. Brodberg, 2008; OEHHA, 1992)
Guideline Reference:	Prevalence of Selected Target Chemical Contaminants in Sport Fish From Two California Lakes: Public health designed screening study. Sacramento, CA: Office of Environmental Health Hazard Assessment Development of Fish Contaminant Goals and Advisory Tissue Levels for Common Contaminants in California Sport Fish: Chlordane, DDTs, Dieldrin, Methylmercury, PCBs, Selenium, and Toxaphene Expedited Cancer Potency Values and Proposed Regulatory Levels for Certain Proposition 65 Carcinogens.
Spatial Representation:	Samples are collected by hand from three sub-locations for each site. The composite sample was collected from site FIEL.
Temporal Representation:	Representative samples of locally abundant species were collected during the winter on 11/13/2008
Environmental Conditions:	
QAPP Information:	Samples were collected as part of the State Water Board's Mussel Watch Program which is a part of the National Oceanic Administration's (NOAAs) National Status and Trends (NS&T). Mussels are shipped to NOAAs contract labs for analysis of trace constituents and mussel condition. Analytical protocols follow those approved by NOAAs NS&T Program Additional background information can be found at: http://ccma.nos.noaa.gov/stressors/pollution/nsandt/
QAPP Information Reference(s):	

Pollutant:	PAHs (Polycyclic Aromatic Hydrocarbons)
Final Listing Decision:	Do Not List on 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision:	New Decision
Revision Status	Revised
Impairment from Pollutant or Pollution:	Pollutant
Regional Board Staff Conclusion:	<p>This pollutant is being considered for placement on the CWA section 303(d) List under section 3.5 of the Listing Policy. Under section 3.5 a single line of evidence is necessary to assess listing status. One line of evidence is available in the administrative record to assess this pollutant. Zero of one samples exceed the OEHHA guideline.</p> <p>Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against placing this water segment-pollutant combination on the CWA section 303(d) List.</p> <p>This conclusion is based on the staff findings that:</p> <ol style="list-style-type: none"> 1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy. 2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy. 3. Zero of one samples exceed the OEHHA guideline and this sample size is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating. A minimum of 16 samples is needed to determine if a beneficial use is fully supported using table 3.1. 4. Pursuant to SECTION 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.
Regional Board Staff Decision Recommendation:	After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be placed on the section 303(d) list. The readily available data and information is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating.

Line of Evidence (LOE) for Decision ID 65533, PAHs (Polycyclic Aromatic Hydrocarbons)	Region 2
Pacific Ocean at Farallon Islands at East Landing	

LOE ID:	92502
Pollutant:	PAHs (Polycyclic Aromatic Hydrocarbons)
LOE Subgroup:	Pollutant-Tissue
Matrix:	Tissue
Fraction:	Shellfish
Beneficial Use:	Commercial or recreational collection of fish, shellfish, or organisms
Number of Samples:	1
Number of Exceedances:	0
Data and Information Type:	Shellfish surveys
Data Used to Assess Water Quality:	The sample did not exceed the guideline. Data were reported on a dry weight basis and were converted to a wet weight basis by multiplying the dry-weight concentration by a factor of 1 minus the percentage of moisture content expressed as a decimal. The total PAHs were calculated as the potency equivalency concentration or the sum of the toxic equivalency factors multiplied by the concentrations of: Acenaphthene, Acenaphthylene, Anthracene, Benz[a]anthracene, Benzo[a]pyrene, Benzo[b]fluoranthene, Benzo[g,h,i]perylene, Benzo[k]fluoranthene, Dibenzo[a,h]anthracene, Chrysene, Fluoranthene, Fluorene, Indeno[1,2,3-c,d]pyrene, Phenanthrene, and Pyrene.
Data Reference:	State Mussel Watch Program Data 1977-2000; Winter 2007-Winter 2009. State Water

SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	California's Ocean Plan states that, "The concentration of organic materials in fish, shellfish or other marine resources used for human consumption shall not bioaccumulate to levels that are harmful to human health".
Objective/Criterion Reference:	California Ocean Plan Water Quality Control Plan Ocean Waters of California 2009
Evaluation Guideline:	The modified OEHHA Fish Contaminant Goal for polycyclic aromatic hydrocarbons in shellfish tissue is 1.1 ppb. This screening level assumes an average body weight of 70 kg and a consumption rate of 21 g/day for a 30 year exposure over a 70-year lifetime. This constituent is a carcinogen therefore the risk level is set to one in a million. (Brodberg, R.K., and G.A. Pollock, 1999; Klasing, S., and R. Brodberg, 2008; USEPA, 2000)
Guideline Reference:	Prevalence of Selected Target Chemical Contaminants in Sport Fish From Two California Lakes: Public health designed screening study. Sacramento, CA: Office of Environmental Health Hazard Assessment Development of Fish Contaminant Goals and Advisory Tissue Levels for Common Contaminants in California Sport Fish: Chlordane, DDTs, Dieldrin, Methylmercury, PCBs, Selenium, and Toxaphene Guidance for Assessing Chemical Contaminant Data for Use In Fish Advisories Volume 1: Fish Sampling and Analysis
Spatial Representation:	Samples are collected by hand from three sub-locations for each site. The composite sample was collected from site FIEL.
Temporal Representation:	Representative samples of locally abundant species were collected during the winter on 11/13/2008
Environmental Conditions:	
QAPP Information:	Samples were collected as part of the State Water Board's Mussel Watch Program which is a part of the National Oceanic Administration's (NOAAs) National Status and Trends (NS&T). Mussels are shipped to NOAAs contract labs for analysis of trace constituents and mussel condition. Analytical protocols follow those approved by NOAAs NS&T Program Additional background information can be found at: http://ccma.nos.noaa.gov/stressors/pollution/nsandt/
QAPP Information Reference(s):	

DECISION ID 65534 Region 2	
Pacific Ocean at Farallon Islands at East Landing	
Pollutant:	PCBs (Polychlorinated biphenyls)
Final Listing Decision:	Do Not List on 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision:	New Decision
Revision Status	Revised
Impairment from Pollutant or Pollution:	Pollutant
Regional Board Staff Conclusion:	<p>This pollutant is being considered for placement on the CWA section 303(d) List under section 3.5 of the Listing Policy. Under section 3.5 a single line of evidence is necessary to assess listing status. One line of evidence is available in the administrative record to assess this pollutant. One of one samples exceed the OEHHA guideline.</p> <p>Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against placing this water segment-pollutant combination on the CWA section 303(d) List.</p> <p>This conclusion is based on the staff findings that:</p> <ol style="list-style-type: none"> 1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy. 2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy. 3. One of one samples exceed the OEHHA guideline and this sample size is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support

rating. A minimum of 16 samples is needed to determine if a beneficial use is fully supported using table 3.1.

4. Pursuant to SECTION 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.

Regional Board Staff Decision Recommendation: After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be placed on the section 303(d) list. The readily available data and information is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating.

Line of Evidence (LOE) for Decision ID 65534, PCBs (Polychlorinated biphenyls)

Region 2

Pacific Ocean at Farallon Islands at East Landing

LOE ID:	92503
Pollutant:	PCBs (Polychlorinated biphenyls)
LOE Subgroup:	Pollutant-Tissue
Matrix:	Tissue
Fraction:	Shellfish
Beneficial Use:	Commercial or recreational collection of fish, shellfish, or organisms
Number of Samples:	1
Number of Exceedances:	1
Data and Information Type:	Shellfish surveys
Data Used to Assess Water Quality:	The sample exceeded the guideline. Data were reported on a dry weight basis and were converted to a wet weight basis by multiplying the dry-weight concentration by a factor of 1 minus the percentage of moisture content expressed as a decimal. Total PCB was assessed for as follows: PCB aroclors and congeners were summed separately and the sum that yielded the highest value was used for the assessment.
Data Reference:	State Mussel Watch Program Data 1977-2000; Winter 2007-Winter 2009. State Water Resources Control Board
SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	California's Ocean Plan states that, "The concentration of organic materials in fish, shellfish or other marine resources used for human consumption shall not bioaccumulate to levels that are harmful to human health".
Objective/Criterion Reference:	California Ocean Plan Water Quality Control Plan Ocean Waters of California 2009
Evaluation Guideline:	The modified OEHHA Fish Contaminant Goal for polychlorinated biphenyls in shellfish tissue is 3.9 ppb. This screening level assumes an average body weight of 70 kg and a consumption rate of 21 g/day for a 30 year exposure over a 70-year lifetime. This constituent is a carcinogen therefore the risk level is set to one in a million. (Brodberg, R.K., and G.A. Pollock, 1999; Klasing, S., and R. Brodberg, 2008)
Guideline Reference:	Prevalence of Selected Target Chemical Contaminants in Sport Fish From Two California Lakes: Public health designed screening study. Sacramento, CA: Office of Environmental Health Hazard Assessment Development of Fish Contaminant Goals and Advisory Tissue Levels for Common Contaminants in California Sport Fish: Chlordane, DDTs, Dieldrin, Methylmercury, PCBs, Selenium, and Toxaphene
Spatial Representation:	Samples are collected by hand from three sub-locations for each site. The composite sample was collected from site FIEL.
Temporal Representation:	Representative samples of locally abundant species were collected during the winter on 11/13/2008
Environmental Conditions:	
QAPP Information:	Samples were collected as part of the State Water Board's Mussel Watch Program which is a part of the National Oceanic Administration's (NOAAs) National Status and Trends (NS&T). Mussels are shipped to NOAAs contract labs for analysis of trace constituents

QAPP Information Reference(s):

DECISION ID	65535	Region 2
Pacific Ocean at Farallon Islands at East Landing		

Pollutant:	Selenium
Final Listing Decision:	Do Not List on 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision:	New Decision
Revision Status	Revised
Impairment from Pollutant or Pollution:	Pollutant

Regional Board Staff Conclusion: This pollutant is being considered for placement on the CWA section 303(d) List under section 3.5 of the Listing Policy. Under section 3.5 a single line of evidence is necessary to assess listing status. One line of evidence is available in the administrative record to assess this pollutant. Zero of one samples exceed the OEHHHA guideline.

Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against placing this water segment-pollutant combination on the CWA section 303(d) List.

This conclusion is based on the staff findings that:

1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy.
2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy.
3. Zero of one samples exceed the OEHHHA guideline and this sample size is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating. A minimum of 16 samples is needed to determine if a beneficial use is fully supported using table 3.1.
4. Pursuant to SECTION 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.

Regional Board Staff Decision Recommendation: After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be placed on the section 303(d) list. The readily available data and information is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating.

Line of Evidence (LOE) for Decision ID 65535, Selenium	Region 2
Pacific Ocean at Farallon Islands at East Landing	

LOE ID: 92507

Pollutant:	Selenium
LOE Subgroup:	Pollutant-Tissue
Matrix:	Tissue
Fraction:	Shellfish

Beneficial Use: Commercial or recreational collection of fish, shellfish, or organisms

Number of Samples:	1
Number of Exceedances:	0

Data and Information Type:	Shellfish surveys
Data Used to Assess Water Quality:	The one sample did not exceed the guideline. Data were reported on a dry weight basis and were converted to a wet weight basis by multiplying the dry-weight concentration by a factor of 1 minus the percentage of moisture content expressed as a decimal.

Data Reference:	State Mussel Watch Program Data 1977-2000; Winter 2007-Winter 2009. State Water Resources Control Board
SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	California's Ocean Plan states that, "The concentration of organic materials in fish, shellfish or other marine resources used for human consumption shall not bioaccumulate to levels that are harmful to human health".
Objective/Criterion Reference:	California Ocean Plan Water Quality Control Plan Ocean Waters of California 2009
Evaluation Guideline:	The modified OEHHA Fish Contaminant Goal for selenium in shellfish tissue is 11 ppm. This screening level assumes an average body weight of 70 kg and a consumption rate of 21 g/day. A background dietary consumption rate of 0.114 mg/day is applied for this micronutrient. (Brodberg, R.K., and G.A. Pollock, 1999; Klasing, S., and R. Brodberg, 2008)
Guideline Reference:	Prevalence of Selected Target Chemical Contaminants in Sport Fish From Two California Lakes: Public health designed screening study. Sacramento, CA: Office of Environmental Health Hazard Assessment Development of Fish Contaminant Goals and Advisory Tissue Levels for Common Contaminants in California Sport Fish: Chlordane, DDTs, Dieldrin, Methylmercury, PCBs, Selenium, and Toxaphene
Spatial Representation:	Samples are collected by hand from three sub-locations for each site. The composite sample was collected from site FIEL.
Temporal Representation:	Representative samples of locally abundant species were collected during the winter on 11/13/2008
Environmental Conditions:	
QAPP Information:	Samples were collected as part of the State Water Board's Mussel Watch Program which is a part of the National Oceanic Administration's (NOAAs) National Status and Trends (NS&T). Mussels are shipped to NOAAs contract labs for analysis of trace constituents and mussel condition. Analytical protocols follow those approved by NOAAs NS&T Program Additional background information can be found at: http://ccma.nos.noaa.gov/stressors/pollution/nsandt/
QAPP Information Reference(s):	

Draft California 2016 Integrated Report (303(d) List/305(b) Report)

Supporting Information

Regional Board 2 - San Francisco Bay Region

Water Body Name: Pacific Ocean at Limantour Beach
Water Body ID: CAC2012101420110712203826
Water Body Type: Coastal & Bay Shoreline

DECISION ID 66221 **Region 2**
Pacific Ocean at Limantour Beach

Pollutant: Indicator Bacteria
Final Listing Decision: Do Not List on 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision: New Decision
Revision Status Revised
Impairment from Pollutant or Pollution: Pollutant

Regional Board Staff Conclusion: This pollutant is being considered for placement on the CWA section 303(d) List under section 3.3 of the Listing Policy. Under section 3.3 a single line of evidence is necessary to assess listing status.

Six lines of evidence are available in the administrative record to assess this pollutant.

One of the 140 samples exceed the OBJECTIVE for single sample maximum for Enterococcus. Zero of the 119 samples exceed the OBJECTIVE for the geometric mean for Enterococcus. Zero of the 140 samples exceed the OBJECTIVE for single sample maximum for Fecal Coliform. Zero of the 119 samples exceed the OBJECTIVE for the geometric mean for Fecal Coliform. Two of the 140 samples exceed the OBJECTIVE for single sample maximum for Total Coliform. Zero of the 119 samples exceed the OBJECTIVE for the geometric mean for Total Coliform.

Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against placing this water segment-pollutant combination on the CWA section 303(d) List in the Water Quality Limited Segments category.

This conclusion is based on the staff findings that:

1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy.
2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy.
3. One of the 140 samples exceed the OBJECTIVE for single sample maximum for Enterococcus. Zero of the 119 samples exceed the OBJECTIVE for the geometric mean for Enterococcus. Zero of the 140 samples exceed the OBJECTIVE for single sample maximum for Fecal Coliform. Zero of the 119 samples exceed the OBJECTIVE for the geometric mean for Fecal Coliform. Two of the 140 samples exceed the OBJECTIVE for single sample maximum for Total Coliform. Zero of the 119 samples exceed the OBJECTIVE for the geometric mean for Total Coliform. These do not exceed the allowable frequency listed in Table 3.2 of the Listing Policy.
4. Pursuant to section 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.

Regional Board Staff Decision Recommendation: After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be placed on the section 303(d) list because applicable water quality standards are not being exceeded.

Line of Evidence (LOE) for Decision ID 66221, Indicator Bacteria **Region 2**
Pacific Ocean at Limantour Beach

LOE ID: 90536

Pollutant:	Fecal Coliform
LOE Subgroup:	Pollutant-Water
Matrix:	Water
Fraction:	None
Beneficial Use:	Water Contact Recreation
Number of Samples:	119
Number of Exceedances:	0
Data and Information Type:	Not Specified
Data Used to Assess Water Quality:	Zero of the 119 geomeans exceeded the fecal coliform objective.
Data Reference:	Data for Region 2 Beach Watch.
SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	The geometric mean standard for fecal coliform states that the fecal coliform density shall not exceed 200 per 100 mL. Water Quality Control Plan for Ocean Waters 2009.
Objective/Criterion Reference:	California Ocean Plan Water Quality Control Plan Ocean Waters of California 2009
Evaluation Guideline:	
Guideline Reference:	
Spatial Representation:	Samples were collected at station Limantour Beach.
Temporal Representation:	Samples were collected approximately once a week from August 2005 to September 2010.
Environmental Conditions:	
QAPP Information:	The samples were collected for the Beach Watch program.
QAPP Information Reference(s):	

Line of Evidence (LOE) for Decision ID 66221, Indicator Bacteria
Pacific Ocean at Limantour Beach

Region 2

LOE ID:	90537
Pollutant:	Total Coliform
LOE Subgroup:	Pollutant-Water
Matrix:	Water
Fraction:	None
Beneficial Use:	Water Contact Recreation
Number of Samples:	119
Number of Exceedances:	0
Data and Information Type:	Not Specified
Data Used to Assess Water Quality:	Zero of the 119 geomeans exceeded the total coliform objective.
Data Reference:	Data for Region 2 Beach Watch.
SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	The geometric mean standard for total coliform states that the total coliform density shall not exceed 1,000 per 100 mL. Water Quality Control Plan for Ocean Waters 2009.
Objective/Criterion Reference:	California Ocean Plan Water Quality Control Plan Ocean Waters of California 2009
Evaluation Guideline:	
Guideline Reference:	
Spatial Representation:	Samples were collected at station Limantour Beach.
Temporal Representation:	Samples were collected approximately once a week from August 2005 to September 2010.

Environmental Conditions:

QAPP Information:

The samples were collected for the Beach Watch program.

QAPP Information Reference(s):

Line of Evidence (LOE) for Decision ID 66221, Indicator Bacteria

Region 2

Pacific Ocean at Limantour Beach

LOE ID: 90849

Pollutant: Total Coliform
LOE Subgroup: Pollutant-Water
Matrix: Water
Fraction: None

Beneficial Use: Water Contact Recreation

Number of Samples: 140
Number of Exceedances: 2

Data and Information Type: PATHOGEN MONITORING
Data Used to Assess Water Quality: Water Board staff assessed BeachWatch data for Pacific Ocean at Limantour Beach to determine beneficial use support and results are as follows: 2 of 140 samples exceed the criterion for Coliform, Total.

Data Reference: [Data for Region 2 Beach Watch.](#)

SWAMP Data: Non-SWAMP

Water Quality Objective/Criterion: California Ocean Plan (2009) single sample maximum states that total coliform density shall not exceed 10,000 MPN/100 mL

Objective/Criterion Reference: [California Ocean Plan Water Quality Control Plan Ocean Waters of California 2009](#)

Evaluation Guideline:
Guideline Reference:

Spatial Representation: Data for this line of evidence for Pacific Ocean at Limantour Beach was collected at 1 monitoring site [Limantour Beach]

Temporal Representation: Data was collected over the time period 8/9/2005-8/24/2010.

Environmental Conditions: Staff is not aware of any special conditions that might affect interpretation of the data.

QAPP Information:

The samples were collected for the Beach Watch program.

QAPP Information Reference(s):

Line of Evidence (LOE) for Decision ID 66221, Indicator Bacteria

Region 2

Pacific Ocean at Limantour Beach

LOE ID: 90900

Pollutant: Enterococcus
LOE Subgroup: Pollutant-Water
Matrix: Water
Fraction: None

Beneficial Use: Water Contact Recreation

Number of Samples: 140
Number of Exceedances: 1

Data and Information Type: PATHOGEN MONITORING
Data Used to Assess Water Quality: Water Board staff assessed BeachWatch data for Pacific Ocean at Limantour Beach to determine beneficial use support and results are as follows: 1 of 140 samples exceed the criterion for Enterococci.

Data Reference: [Data for Region 2 Beach Watch.](#)

SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	California Ocean Plan (SWRCB 2009) states that the single sample maximum for Enterococcus shall not exceed 104 MPN/100 mL.
Objective/Criterion Reference:	California Ocean Plan Water Quality Control Plan Ocean Waters of California 2009
Evaluation Guideline:	
Guideline Reference:	
Spatial Representation:	Data for this line of evidence for Pacific Ocean at Limantour Beach was collected at 1 monitoring site [Limantour Beach]
Temporal Representation:	Data was collected over the time period 8/9/2005-8/24/2010.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	The samples were collected for the Beach Watch program.
QAPP Information Reference(s):	

Line of Evidence (LOE) for Decision ID 66221, Indicator Bacteria
Pacific Ocean at Limantour Beach

Region 2

LOE ID:	90795
Pollutant:	Fecal Coliform
LOE Subgroup:	Pollutant-Water
Matrix:	Water
Fraction:	None
Beneficial Use:	Water Contact Recreation
Number of Samples:	140
Number of Exceedances:	0
Data and Information Type:	PATHOGEN MONITORING
Data Used to Assess Water Quality:	Water Board staff assessed BeachWatch data for Pacific Ocean at Limantour Beach to determine beneficial use support and results are as follows: 0 of 140 samples exceed the criterion for Coliform, Fecal.
Data Reference:	Data for Region 2 Beach Watch.
SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	California Ocean Plan (SWRCB 2009) states that the single sample maximum for fecal coliform shall not exceed 400 MPN/100 mL
Objective/Criterion Reference:	California Ocean Plan Water Quality Control Plan Ocean Waters of California 2009
Evaluation Guideline:	
Guideline Reference:	
Spatial Representation:	Data for this line of evidence for Pacific Ocean at Limantour Beach was collected at 1 monitoring site [Limantour Beach]
Temporal Representation:	Data was collected over the time period 8/9/2005-8/24/2010.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	The samples were collected for the Beach Watch program.
QAPP Information Reference(s):	

Line of Evidence (LOE) for Decision ID 66221, Indicator Bacteria
Pacific Ocean at Limantour Beach

Region 2

LOE ID:	90538
Pollutant:	Enterococcus
LOE Subgroup:	Pollutant-Water

Matrix:	Water
Fraction:	None
Beneficial Use:	Water Contact Recreation
Number of Samples:	119
Number of Exceedances:	0
Data and Information Type:	Not Specified
Data Used to Assess Water Quality:	Zero of the 119 geomeans exceeded the enterococcus objective.
Data Reference:	Data for Region 2 Beach Watch.
SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	The geometric mean standard for enterococcus states that the enterococcus density shall not exceed 35 per 100 mL. Water Quality Control Plan for Ocean Waters 2009.
Objective/Criterion Reference:	California Ocean Plan Water Quality Control Plan Ocean Waters of California 2009
Evaluation Guideline:	
Guideline Reference:	
Spatial Representation:	Samples were collected at station Limantour Beach.
Temporal Representation:	Samples were collected approximately once a week from August 2005 to September 2010.
Environmental Conditions:	
QAPP Information:	The samples were collected for the Beach Watch program.
QAPP Information Reference(s):	

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Supporting Information

Regional Board 2 - San Francisco Bay Region

Water Body Name: Pacific Ocean at Duxbury Reef, Duxbury Point
Water Body ID: CAC2013001120110712234110
Water Body Type: Coastal & Bay Shoreline

DECISION ID 65494 **Region 2**
Pacific Ocean at Duxbury Reef, Duxbury Point

Pollutant: Arsenic
Final Listing Decision: Do Not List on 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision: New Decision
Revision Status Revised
Impairment from Pollutant or Pollution: Pollutant

Regional Board Staff Conclusion: This pollutant is being considered for placement on the CWA section 303(d) List under section 3.5 of the Listing Policy. Under section 3.5 a single line of evidence is necessary to assess listing status. One line of evidence is available in the administrative record to assess this pollutant. One of one samples exceed the OEHHHA guideline.

Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against placing this water segment-pollutant combination on the CWA section 303(d) List.

This conclusion is based on the staff findings that:

1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy.
2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy.
3. One of one samples exceed the OEHHHA guideline and this sample size is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating. A minimum of 16 samples is needed to determine if a beneficial use is fully supported using table 3.1.
4. Pursuant to SECTION 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.

Regional Board Staff Decision Recommendation: After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be placed on the section 303(d) list. The readily available data and information is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating.

Line of Evidence (LOE) for Decision ID 65494, Arsenic **Region 2**
Pacific Ocean at Duxbury Reef, Duxbury Point

LOE ID: 92432
Pollutant: Arsenic
LOE Subgroup: Pollutant-Tissue
Matrix: Tissue
Fraction: Shellfish
Beneficial Use: Commercial or recreational collection of fish, shellfish, or organisms
Number of Samples: 1

Number of Exceedances:	0
Data and Information Type:	Shellfish surveys
Data Used to Assess Water Quality:	The one sample did not exceed the guideline. Data were reported on a dry weight basis and were converted to a wet weight basis by multiplying the dry-weight concentration by a factor of 1 minus the percentage of moisture content expressed as a decimal. The fraction of total arsenic in inorganic form was taken to be 0.115%, which was the maximum fraction of inorganic arsenic found in shellfish tissue from SF Bay. This number was screened against the guideline.
Data Reference:	State Mussel Watch Program Data 1977-2000; Winter 2007-Winter 2009. State Water Resources Control Board Contaminant Concentrations in Fish from San Francisco Bay, 2000 Calculating Fraction of Inorganic Arsenic in SF Bay Fish and Shellfish
SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	California's Ocean Plan states that, "The concentration of organic materials in fish, shellfish or other marine resources used for human consumption shall not bioaccumulate to levels that are harmful to human health".
Objective/Criterion Reference:	California Ocean Plan Water Quality Control Plan Ocean Waters of California 2009
Evaluation Guideline:	<p>The modified OEHHA Advisory Tissue Level for arsenic in shellfish tissue is 0.52 ppm. This screening level assumes an average body weight of 70 kg and a consumption rate of 21 g/day for a 30 year exposure over a 70-year lifetime. This constituent is a carcinogen therefore the risk level is set to one in ten thousand. (Brodberg, R.K., and G.A. Pollock, 1999; Klasing, S., and R. Brodberg, 2008; OEHHA, 2004)</p> <p>Advisory Tissue Levels (ATLs), while still conferring no significant health risk to individuals consuming sport fish in the quantities shown over a lifetime, were developed with the recognition that there are unique health benefits associated with fish consumption and that the advisory process should be expanded beyond a simple risk paradigm in order to best promote the overall health of the fish consumer. ATLs provide a number of recommended fish servings that correspond to the range of contaminant concentrations found in fish and are used to provide consumption advice to prevent consumers from being exposed to more than the average daily reference dose for noncarcinogens or to a risk level greater than 1×10^{-4} for carcinogens (not more than one additional cancer case in a population of 10,000 people consuming fish at the given consumption rate over a lifetime). ATLs are designed to encourage consumption of fish that can be eaten in quantities likely to provide significant health benefits, while discouraging consumption of fish that, because of contaminant concentrations, should not be eaten or cannot be eaten in amounts recommended for improving overall health (eight ounces total, prior to cooking, per week). ATLs are one of the criteria that will be used by OEHHA for issuing fish consumption guidelines.</p>
Guideline Reference:	Prevalence of Selected Target Chemical Contaminants in Sport Fish From Two California Lakes: Public health designed screening study. Sacramento, CA: Office of Environmental Health Hazard Assessment Development of Fish Contaminant Goals and Advisory Tissue Levels for Common Contaminants in California Sport Fish: Chlordane, DDTs, Dieldrin, Methylmercury, PCBs, Selenium, and Toxaphene Air Toxics Hotspots Program Risk Assessment Guidelines. Part II Technical Support Document for Describing Available Cancer Potency Values.
Spatial Representation:	Samples are collected by hand from three sub-locations for each site. The composite sample was collected from site DRDP.
Temporal Representation:	Representative samples of locally abundant species were collected during the winter on 2/17/2009
Environmental Conditions:	
QAPP Information:	Samples were collected as part of the State Water Board's Mussel Watch Program which is a part of the National Oceanic Administration's (NOAAs) National Status and Trends (NS&T). Mussels are shipped to NOAAs contract labs for analysis of trace constituents and mussel condition. Analytical protocols follow those approved by NOAAs NS&T Program Additional background information can be found at:

QAPP Information Reference(s):

DECISION ID	65495	Region 2
Pacific Ocean at Duxbury Reef, Duxbury Point		

Pollutant: Cadmium
Final Listing Decision: Do Not List on 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision: New Decision
Revision Status: Revised
Impairment from Pollutant or Pollution: Pollutant

Regional Board Staff Conclusion: This pollutant is being considered for placement on the CWA section 303(d) List under section 3.5 of the Listing Policy. Under section 3.5 a single line of evidence is necessary to assess listing status. One line of evidence is available in the administrative record to assess this pollutant. Zero of one samples exceed the OEHHHA guideline.

Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against placing this water segment-pollutant combination on the CWA section 303(d) List.

This conclusion is based on the staff findings that:

1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy.
2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy.
3. Zero of one samples exceed the OEHHHA guideline and this sample size is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating. A minimum of 16 samples is needed to determine if a beneficial use is fully supported using table 3.1.
4. Pursuant to SECTION 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.

Regional Board Staff Decision Recommendation: After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be placed on the section 303(d) list. The readily available data and information is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating.

Line of Evidence (LOE) for Decision ID 65495, Cadmium	Region 2
Pacific Ocean at Duxbury Reef, Duxbury Point	

LOE ID: 92435

Pollutant: Cadmium
LOE Subgroup: Pollutant-Tissue
Matrix: Tissue
Fraction: Shellfish

Beneficial Use: Commercial or recreational collection of fish, shellfish, or organisms

Number of Samples: 1
Number of Exceedances: 0

Data and Information Type: Shellfish surveys
Data Used to Assess Water Quality: The one sample did not exceed the guideline. Data were reported on a dry weight basis and were converted to a wet weight basis by multiplying the dry-weight concentration by a factor of 1 minus the percentage of moisture content expressed as a decimal.

Data Reference: [State Mussel Watch Program Data 1977-2000; Winter 2007-Winter 2009. State Water Resources Control Board](#)

SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	California's Ocean Plan states that, "The concentration of organic materials in fish, shellfish or other marine resources used for human consumption shall not bioaccumulate to levels that are harmful to human health".
Objective/Criterion Reference:	California Ocean Plan Water Quality Control Plan Ocean Waters of California 2009
Evaluation Guideline:	The modified OEHHA Fish Contaminant Goal for cadmium in shellfish tissue is 3.3 ppm. This screening level assumes an average body weight of 70 kg and a consumption rate of 21 g/day. (Brodberg, R.K., and G.A. Pollock, 1999; Klasing, S., and R. Brodberg, 2008; USEPA, 2000)
Guideline Reference:	Prevalence of Selected Target Chemical Contaminants in Sport Fish From Two California Lakes: Public health designed screening study. Sacramento, CA: Office of Environmental Health Hazard Assessment Development of Fish Contaminant Goals and Advisory Tissue Levels for Common Contaminants in California Sport Fish: Chlordane, DDTs, Dieldrin, Methylmercury, PCBs, Selenium, and Toxaphene Guidance for Assessing Chemical Contaminant Data for Use In Fish Advisories Volume 1: Fish Sampling and Analysis
Spatial Representation:	Samples are collected by hand from three sub-locations for each site. The composite sample was collected from site DRDP.
Temporal Representation:	Representative samples of locally abundant species were collected during the winter on 2/17/2009
Environmental Conditions:	
QAPP Information:	Samples were collected as part of the State Water Board's Mussel Watch Program which is a part of the National Oceanic Administration's (NOAAs) National Status and Trends (NS&T). Mussels are shipped to NOAAs contract labs for analysis of trace constituents and mussel condition. Analytical protocols follow those approved by NOAAs NS&T Program Additional background information can be found at: http://ccma.nos.noaa.gov/stressors/pollution/nsandt/
QAPP Information Reference(s):	

DECISION ID	65496	Region 2
Pacific Ocean at Duxbury Reef, Duxbury Point		

Pollutant:	Chlordane
Final Listing Decision:	Do Not List on 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision:	New Decision
Revision Status	Revised
Impairment from Pollutant or Pollution:	Pollutant
Regional Board Staff Conclusion:	<p>This pollutant is being considered for placement on the CWA section 303(d) List under section 3.5 of the Listing Policy. Under section 3.5 a single line of evidence is necessary to assess listing status. One line of evidence is available in the administrative record to assess this pollutant. Zero of one samples exceed the OEHHA guideline.</p> <p>Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against placing this water segment-pollutant combination on the CWA section 303(d) List.</p> <p>This conclusion is based on the staff findings that:</p> <ol style="list-style-type: none"> 1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy. 2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy. 3. Zero of one samples exceed the OEHHA guideline and this sample size is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating. A minimum of 16 samples is needed to determine if a beneficial use is fully supported using table 3.1.

4. Pursuant to SECTION 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.

Regional Board Staff Decision Recommendation: After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be placed on the section 303(d) list. The readily available data and information is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating.

**Line of Evidence (LOE) for Decision ID 65496, Chlordane
Pacific Ocean at Duxbury Reef, Duxbury Point**

Region 2

LOE ID:	92436
Pollutant:	Chlordane
LOE Subgroup:	Pollutant-Tissue
Matrix:	Tissue
Fraction:	Shellfish
Beneficial Use:	Commercial or recreational collection of fish, shellfish, or organisms
Number of Samples:	1
Number of Exceedances:	0
Data and Information Type:	Shellfish surveys
Data Used to Assess Water Quality:	The results did not exceed the guideline. Data were reported on a dry weight basis and were converted to a wet weight basis by multiplying the dry-weight concentration by a factor of 1 minus the percentage of moisture content expressed as a decimal. Chlordane result was calculated by summing the results for chlordane isomers: cis- and trans-nonachlor, alpha- and gamma-chlordane, and oxychlordane.
Data Reference:	State Mussel Watch Program Data 1977-2000; Winter 2007-Winter 2009. State Water Resources Control Board
SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	California's Ocean Plan states that, "The concentration of organic materials in fish, shellfish or other marine resources used for human consumption shall not bioaccumulate to levels that are harmful to human health".
Objective/Criterion Reference:	California Ocean Plan Water Quality Control Plan Ocean Waters of California 2009
Evaluation Guideline:	The modified OEHHA Fish Contaminant Goal for total chlordane in shellfish tissue is 6.0 ppb. This screening level assumes an average body weight of 70 kg and a consumption rate of 21 g/day for a 30 year exposure over a 70-year lifetime. This constituent is a carcinogen therefore the risk level is set to one in a million. (Brodberg, R.K., and G.A. Pollock, 1999; Klasing, S., and R. Brodberg, 2008)
Guideline Reference:	Prevalence of Selected Target Chemical Contaminants in Sport Fish From Two California Lakes: Public health designed screening study. Sacramento, CA: Office of Environmental Health Hazard Assessment Development of Fish Contaminant Goals and Advisory Tissue Levels for Common Contaminants in California Sport Fish: Chlordane, DDTs, Dieldrin, Methylmercury, PCBs, Selenium, and Toxaphene
Spatial Representation:	Samples are collected by hand from three sub-locations for each site. The composite sample was collected from site DRDP.
Temporal Representation:	Representative samples of locally abundant species were collected during the winter on 2/17/2009
Environmental Conditions:	
QAPP Information:	Samples were collected as part of the State Water Board's Mussel Watch Program which is a part of the National Oceanic Administration's (NOAAs) National Status and Trends (NS&T). Mussels are shipped to NOAAs contract labs for analysis of trace constituents and mussel condition. Analytical protocols follow those approved by NOAAs NS&T Program Additional background information can be found at:

QAPP Information Reference(s):

DECISION ID	65497	Region 2
Pacific Ocean at Duxbury Reef, Duxbury Point		

Pollutant: Chlorpyrifos
Final Listing Decision: Do Not List on 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision: New Decision
Revision Status: Revised
Impairment from Pollutant or Pollution: Pollutant

Regional Board Staff Conclusion: This pollutant is being considered for placement on the CWA section 303(d) List under section 3.5 of the Listing Policy. Under section 3.5 a single line of evidence is necessary to assess listing status. One line of evidence is available in the administrative record to assess this pollutant. Zero of one samples exceed the OEHHHA guideline.

Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against placing this water segment-pollutant combination on the CWA section 303(d) List.

This conclusion is based on the staff findings that:

1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy.
2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy.
3. Zero of one samples exceed the OEHHHA guideline and this sample size is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating. A minimum of 16 samples is needed to determine if a beneficial use is fully supported using table 3.1.
4. Pursuant to SECTION 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.

Regional Board Staff Decision Recommendation: After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be placed on the section 303(d) list. The readily available data and information is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating.

Line of Evidence (LOE) for Decision ID 65497, Chlorpyrifos	Region 2
Pacific Ocean at Duxbury Reef, Duxbury Point	

LOE ID: 92437

Pollutant: Chlorpyrifos
LOE Subgroup: Pollutant-Tissue
Matrix: Tissue
Fraction: Shellfish

Beneficial Use: Commercial or recreational collection of fish, shellfish, or organisms

Number of Samples: 1
Number of Exceedances: 0

Data and Information Type: Shellfish surveys
Data Used to Assess Water Quality: The sample did not exceed the screening level. Data were reported on a dry weight basis and were converted to a wet weight basis by multiplying the dry-weight concentration by a factor of 1 minus the percentage of moisture content expressed as a decimal.

Data Reference: [State Mussel Watch Program Data 1977-2000; Winter 2007-Winter 2009. State Water Resources Control Board](#)

SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	California's Ocean Plan states that, "The concentration of organic materials in fish, shellfish or other marine resources used for human consumption shall not bioaccumulate to levels that are harmful to human health".
Objective/Criterion Reference:	California Ocean Plan Water Quality Control Plan Ocean Waters of California 2009
Evaluation Guideline:	The modified OEHHA Fish Contaminant Goal for chlorpyrifos in shellfish tissue is 1,000 ppb. This screening level assumes an average body weight of 70 kg and a consumption rate of 21 g/day. (Brodberg, R.K., and G.A. Pollock, 1999; Klasing, S., and R. Brodberg, 2008; USEPA, 2000)
Guideline Reference:	Prevalence of Selected Target Chemical Contaminants in Sport Fish From Two California Lakes: Public health designed screening study. Sacramento, CA: Office of Environmental Health Hazard Assessment Development of Fish Contaminant Goals and Advisory Tissue Levels for Common Contaminants in California Sport Fish: Chlordane, DDTs, Dieldrin, Methylmercury, PCBs, Selenium, and Toxaphene Guidance for Assessing Chemical Contaminant Data for Use In Fish Advisories Volume 1: Fish Sampling and Analysis
Spatial Representation:	Samples are collected by hand from three sub-locations for each site. The composite sample was collected from site DRDP.
Temporal Representation:	Representative samples of locally abundant species were collected during the winter on 2/17/2009
Environmental Conditions:	
QAPP Information:	Samples were collected as part of the State Water Board's Mussel Watch Program which is a part of the National Oceanic Administration's (NOAAs) National Status and Trends (NS&T). Mussels are shipped to NOAAs contract labs for analysis of trace constituents and mussel condition. Analytical protocols follow those approved by NOAAs NS&T Program Additional background information can be found at: http://ccma.nos.noaa.gov/stressors/pollution/nsandt/
QAPP Information Reference(s):	

DECISION ID	65515	Region 2
Pacific Ocean at Duxbury Reef, Duxbury Point		

Pollutant:	DDT (Dichlorodiphenyltrichloroethane)
Final Listing Decision:	Do Not List on 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision:	New Decision
Revision Status	Revised
Impairment from Pollutant or Pollution:	Pollutant
Regional Board Staff Conclusion:	<p>This pollutant is being considered for placement on the CWA section 303(d) List under section 3.5 of the Listing Policy. Under section 3.5 a single line of evidence is necessary to assess listing status. One line of evidence is available in the administrative record to assess this pollutant. Zero of one samples exceed the OEHHA guideline.</p> <p>Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against placing this water segment-pollutant combination on the CWA section 303(d) List.</p> <p>This conclusion is based on the staff findings that:</p> <ol style="list-style-type: none"> 1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy. 2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy. 3. Zero of one samples exceed the OEHHA guideline and this sample size is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating. A minimum of 16 samples is needed to determine if a beneficial use is fully supported using table 3.1.

4. Pursuant to SECTION 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.

Regional Board Staff Decision Recommendation: After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be placed on the section 303(d) list. The readily available data and information is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating.

Line of Evidence (LOE) for Decision ID 65515, DDT (Dichlorodiphenyltrichloroethane)

Region 2

Pacific Ocean at Duxbury Reef, Duxbury Point

LOE ID:	92549
Pollutant:	Total DDT (sum of 4,4'- and 2,4'- isomers of DDT, DDE, and DDD)
LOE Subgroup:	Pollutant-Tissue
Matrix:	Tissue
Fraction:	Shellfish
Beneficial Use:	Commercial or recreational collection of fish, shellfish, or organisms
Number of Samples:	1
Number of Exceedances:	0
Data and Information Type:	Shellfish surveys
Data Used to Assess Water Quality:	The sample did not exceed the screening level. Data were reported on a dry weight basis and were converted to a wet weight basis by multiplying the dry-weight concentration by a factor of 1 minus the percentage of moisture content expressed as a decimal. The total DDTs were calculated as the sum of 4,4'- and 2,4'- isomers of DDT, DDE, and DDD.
Data Reference:	State Mussel Watch Program Data 1977-2000; Winter 2007-Winter 2009. State Water Resources Control Board
SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	California's Ocean Plan states that, "The concentration of organic materials in fish, shellfish or other marine resources used for human consumption shall not bioaccumulate to levels that are harmful to human health".
Objective/Criterion Reference:	California Ocean Plan Water Quality Control Plan Ocean Waters of California 2009
Evaluation Guideline:	The modified OEHHA Fish Contaminant Goal for total DDT in shellfish tissue is 23 ppb. This screening level assumes an average body weight of 70 kg and a consumption rate of 21 g/day for a 30 year exposure over a 70-year lifetime. This constituent is a carcinogen therefore the risk level is set to one in a million. (Brodberg, R.K., and G.A. Pollock, 1999; Klasing, S., and R. Brodberg, 2008)
Guideline Reference:	Prevalence of Selected Target Chemical Contaminants in Sport Fish From Two California Lakes: Public health designed screening study. Sacramento, CA: Office of Environmental Health Hazard Assessment Development of Fish Contaminant Goals and Advisory Tissue Levels for Common Contaminants in California Sport Fish: Chlordane, DDTs, Dieldrin, Methylmercury, PCBs, Selenium, and Toxaphene
Spatial Representation:	Samples are collected by hand from three sub-locations for each site. The composite sample was collected from site DRDP.
Temporal Representation:	Representative samples of locally abundant species were collected during the winter on 2/17/2009
Environmental Conditions:	
QAPP Information:	Samples were collected as part of the State Water Board's Mussel Watch Program which is a part of the National Oceanic Administration's (NOAAs) National Status and Trends (NS&T). Mussels are shipped to NOAAs contract labs for analysis of trace constituents and mussel condition. Analytical protocols follow those approved by NOAAs NS&T Program Additional background information can be found at: http://ccma.nos.noaa.gov/stressors/pollution/nsandt/

DECISION ID	65498	Region 2
Pacific Ocean at Duxbury Reef, Duxbury Point		

Pollutant:	Dieldrin
Final Listing Decision:	Do Not List on 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision:	New Decision
Revision Status	Revised
Impairment from Pollutant or Pollution:	Pollutant

Regional Board Staff Conclusion: This pollutant is being considered for placement on the CWA section 303(d) List under section 3.5 of the Listing Policy. Under section 3.5 a single line of evidence is necessary to assess listing status. One line of evidence is available in the administrative record to assess this pollutant. Zero of one samples exceed the OEHHA guideline.

Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against placing this water segment-pollutant combination on the CWA section 303(d) List.

This conclusion is based on the staff findings that:

1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy.
2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy.
3. Zero of one samples exceed the OEHHA guideline and this sample size is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating. A minimum of 16 samples is needed to determine if a beneficial use is fully supported using table 3.1.
4. Pursuant to SECTION 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.

Regional Board Staff Decision Recommendation: After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be placed on the section 303(d) list. The readily available data and information is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating.

Line of Evidence (LOE) for Decision ID 65498, Dieldrin	Region 2
Pacific Ocean at Duxbury Reef, Duxbury Point	

LOE ID:	92532
Pollutant:	Dieldrin
LOE Subgroup:	Pollutant-Tissue
Matrix:	Tissue
Fraction:	Shellfish
Beneficial Use:	Commercial or recreational collection of fish, shellfish, or organisms
Number of Samples:	1
Number of Exceedances:	0
Data and Information Type:	Shellfish surveys
Data Used to Assess Water Quality:	The result did not exceed the guideline. Data were reported on a dry weight basis and were converted to a wet weight basis by multiplying the dry-weight concentration by a factor of 1 minus the percentage of moisture content expressed as a decimal.
Data Reference:	State Mussel Watch Program Data 1977-2000; Winter 2007-Winter 2009. State Water Resources Control Board

SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	California's Ocean Plan states that, "The concentration of organic materials in fish, shellfish or other marine resources used for human consumption shall not bioaccumulate to levels that are harmful to human health".
Objective/Criterion Reference:	California Ocean Plan Water Quality Control Plan Ocean Waters of California 2009
Evaluation Guideline:	The modified OEHHA Fish Contaminant Goal for dieldrin in shellfish tissue is 0.49 ppb. This screening level assumes an average body weight of 70 kg and a consumption rate of 21 g/day for a 30 year exposure over a 70-year lifetime. This constituent is a carcinogen therefore the risk level is set to one in a million. (Brodberg, R.K., and G.A. Pollock, 1999; Klasing, S., and R. Brodberg, 2008)
Guideline Reference:	Prevalence of Selected Target Chemical Contaminants in Sport Fish From Two California Lakes: Public health designed screening study. Sacramento, CA: Office of Environmental Health Hazard Assessment Development of Fish Contaminant Goals and Advisory Tissue Levels for Common Contaminants in California Sport Fish: Chlordane, DDTs, Dieldrin, Methylmercury, PCBs, Selenium, and Toxaphene
Spatial Representation:	Samples are collected by hand from three sub-locations for each site. The composite sample was collected from site DRDP.
Temporal Representation:	Representative samples of locally abundant species were collected during the winter on 2/17/2009
Environmental Conditions:	
QAPP Information:	Samples were collected as part of the State Water Board's Mussel Watch Program which is a part of the National Oceanic Administration's (NOAAs) National Status and Trends (NS&T). Mussels are shipped to NOAAs contract labs for analysis of trace constituents and mussel condition. Analytical protocols follow those approved by NOAAs NS&T Program Additional background information can be found at: http://ccma.nos.noaa.gov/stressors/pollution/nsandt/
QAPP Information Reference(s):	

DECISION ID	65499	Region 2
Pacific Ocean at Duxbury Reef, Duxbury Point		
Pollutant:	Endosulfan	
Final Listing Decision:	Do Not List on 303(d) list (TMDL required list)	
Last Listing Cycle's Final Listing Decision:	New Decision	
Revision Status	Revised	
Impairment from Pollutant or Pollution:	Pollutant	
Regional Board Staff Conclusion:	<p>This pollutant is being considered for placement on the CWA section 303(d) List under section 3.5 of the Listing Policy. Under section 3.5 a single line of evidence is necessary to assess listing status. One line of evidence is available in the administrative record to assess this pollutant. Zero of one samples exceed the OEHHA guideline.</p> <p>Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against placing this water segment-pollutant combination on the CWA section 303(d) List.</p> <p>This conclusion is based on the staff findings that:</p> <ol style="list-style-type: none"> 1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy. 2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy. 3. Zero of one samples exceed the OEHHA guideline and this sample size is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating. A minimum of 16 samples is needed to determine if a beneficial use is fully supported using table 3.1. 4. Pursuant to SECTION 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met. 	

Regional Board Staff Decision Recommendation: After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be placed on the section 303(d) list. The readily available data and information is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating.

**Line of Evidence (LOE) for Decision ID 65499, Endosulfan
Pacific Ocean at Duxbury Reef, Duxbury Point**

Region 2

LOE ID:	92533
Pollutant:	Endosulfan
LOE Subgroup:	Pollutant-Tissue
Matrix:	Tissue
Fraction:	Shellfish
Beneficial Use:	Commercial or recreational collection of fish, shellfish, or organisms
Number of Samples:	1
Number of Exceedances:	0
Data and Information Type:	Shellfish surveys
Data Used to Assess Water Quality:	The result did not exceed the guideline. Data were reported on a dry weight basis and were converted to a wet weight basis by multiplying the dry-weight concentration by a factor of 1 minus the percentage of moisture content expressed as a decimal. Total Endosulfan result was calculated by summing the results for Endosulfan I and Endosulfan II.
Data Reference:	State Mussel Watch Program Data 1977-2000; Winter 2007-Winter 2009. State Water Resources Control Board
SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	California's Ocean Plan states that, "The concentration of organic materials in fish, shellfish or other marine resources used for human consumption shall not bioaccumulate to levels that are harmful to human health".
Objective/Criterion Reference:	California Ocean Plan Water Quality Control Plan Ocean Waters of California 2009
Evaluation Guideline:	The modified OEHHA Fish Contaminant Goal for endosulfan (I and II) in shellfish tissue is 20,000 ppb. This screening level assumes an average body weight of 70 kg and a consumption rate of 21 g/day. (Brodberg, R.K., and G.A. Pollock, 1999; Klasing, S., and R. Brodberg, 2008; USEPA, 2000)
Guideline Reference:	Prevalence of Selected Target Chemical Contaminants in Sport Fish From Two California Lakes: Public health designed screening study. Sacramento, CA: Office of Environmental Health Hazard Assessment Development of Fish Contaminant Goals and Advisory Tissue Levels for Common Contaminants in California Sport Fish: Chlordane, DDTs, Dieldrin, Methylmercury, PCBs, Selenium, and Toxaphene Guidance for Assessing Chemical Contaminant Data for Use In Fish Advisories Volume 1: Fish Sampling and Analysis
Spatial Representation:	Samples are collected by hand from three sub-locations for each site. The composite sample was collected from site DRDP.
Temporal Representation:	Representative samples of locally abundant species were collected during the winter on 2/17/2009
Environmental Conditions:	
QAPP Information:	Samples were collected as part of the State Water Board's Mussel Watch Program which is a part of the National Oceanic Administration's (NOAAs) National Status and Trends (NS&T). Mussels are shipped to NOAAs contract labs for analysis of trace constituents and mussel condition. Analytical protocols follow those approved by NOAAs NS&T Program Additional background information can be found at: http://ccma.nos.noaa.gov/stressors/pollution/nsandt/

DECISION ID	65500	Region 2
Pacific Ocean at Duxbury Reef, Duxbury Point		

Pollutant:	Endrin
Final Listing Decision:	Do Not List on 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision:	New Decision
Revision Status	Revised
Impairment from Pollutant or Pollution:	Pollutant

Regional Board Staff Conclusion: This pollutant is being considered for placement on the CWA section 303(d) List under section 3.5 of the Listing Policy. Under section 3.5 a single line of evidence is necessary to assess listing status. One line of evidence is available in the administrative record to assess this pollutant. Zero of one samples exceed the OEHHHA guideline.

Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against placing this water segment-pollutant combination on the CWA section 303(d) List.

This conclusion is based on the staff findings that:

1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy.
2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy.
3. Zero of one samples exceed the OEHHHA guideline and this sample size is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating. A minimum of 16 samples is needed to determine if a beneficial use is fully supported using table 3.1.
4. Pursuant to SECTION 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.

Regional Board Staff Decision Recommendation: After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be placed on the section 303(d) list. The readily available data and information is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating.

Line of Evidence (LOE) for Decision ID 65500, Endrin	Region 2
Pacific Ocean at Duxbury Reef, Duxbury Point	

LOE ID:	92534
Pollutant:	Endrin
LOE Subgroup:	Pollutant-Tissue
Matrix:	Tissue
Fraction:	Shellfish
Beneficial Use:	Commercial or recreational collection of fish, shellfish, or organisms
Number of Samples:	1
Number of Exceedances:	0
Data and Information Type:	Shellfish surveys
Data Used to Assess Water Quality:	The result did not exceed the guideline. Data were reported on a dry weight basis and were converted to a wet weight basis by multiplying the dry-weight concentration by a factor of 1 minus the percentage of moisture content expressed as a decimal.
Data Reference:	State Mussel Watch Program Data 1977-2000; Winter 2007-Winter 2009. State Water Resources Control Board

SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	California's Ocean Plan states that, "The concentration of organic materials in fish, shellfish or other marine resources used for human consumption shall not bioaccumulate to levels that are harmful to human health".
Objective/Criterion Reference:	California Ocean Plan Water Quality Control Plan Ocean Waters of California 2009
Evaluation Guideline:	The modified OEHHA Fish Contaminant Goal for endrin in shellfish tissue is 1,000 ppb. This screening level assumes an average body weight of 70 kg and a consumption rate of 21 g/day. (Brodberg, R.K., and G.A. Pollock, 1999; Klasing, S., and R. Brodberg, 2008; USEPA, 2000)
Guideline Reference:	Prevalence of Selected Target Chemical Contaminants in Sport Fish From Two California Lakes: Public health designed screening study. Sacramento, CA: Office of Environmental Health Hazard Assessment Development of Fish Contaminant Goals and Advisory Tissue Levels for Common Contaminants in California Sport Fish: Chlordane, DDTs, Dieldrin, Methylmercury, PCBs, Selenium, and Toxaphene Guidance for Assessing Chemical Contaminant Data for Use In Fish Advisories Volume 1: Fish Sampling and Analysis
Spatial Representation:	Samples are collected by hand from three sub-locations for each site. The composite sample was collected from site DRDP.
Temporal Representation:	Representative samples of locally abundant species were collected during the winter on 2/17/2009
Environmental Conditions:	
QAPP Information:	Samples were collected as part of the State Water Board's Mussel Watch Program which is a part of the National Oceanic Administration's (NOAAs) National Status and Trends (NS&T). Mussels are shipped to NOAAs contract labs for analysis of trace constituents and mussel condition. Analytical protocols follow those approved by NOAAs NS&T Program Additional background information can be found at: http://ccma.nos.noaa.gov/stressors/pollution/nsandt/
QAPP Information Reference(s):	

DECISION ID	65501	Region 2
Pacific Ocean at Duxbury Reef, Duxbury Point		

Pollutant:	Heptachlor epoxide
Final Listing Decision:	Do Not List on 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision:	New Decision
Revision Status	Revised
Impairment from Pollutant or Pollution:	Pollutant

Regional Board Staff Conclusion:	<p>This pollutant is being considered for placement on the CWA section 303(d) List under section 3.5 of the Listing Policy. Under section 3.5 a single line of evidence is necessary to assess listing status. One line of evidence is available in the administrative record to assess this pollutant. Zero of one samples exceed the OEHHA guideline.</p> <p>Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against placing this water segment-pollutant combination on the CWA section 303(d) List.</p> <p>This conclusion is based on the staff findings that:</p> <ol style="list-style-type: none"> 1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy. 2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy. 3. Zero of one samples exceed the OEHHA guideline and this sample size is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating. A minimum of 16 samples is needed to determine if a beneficial use is fully supported using table 3.1. 4. Pursuant to SECTION 3.11 of the Listing Policy, no additional data and information are available
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indicating that standards are not met.

Regional Board Staff Decision Recommendation: After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be placed on the section 303(d) list. The readily available data and information is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating.

**Line of Evidence (LOE) for Decision ID 65501, Heptachlor epoxide
Pacific Ocean at Duxbury Reef, Duxbury Point**

Region 2

LOE ID:	92541
Pollutant:	Heptachlor epoxide
LOE Subgroup:	Pollutant-Tissue
Matrix:	Tissue
Fraction:	Shellfish
Beneficial Use:	Commercial or recreational collection of fish, shellfish, or organisms
Number of Samples:	1
Number of Exceedances:	0
Data and Information Type:	Shellfish surveys
Data Used to Assess Water Quality:	The sample did not exceed the screening level. Data were reported on a dry weight basis and were converted to a wet weight basis by multiplying the dry-weight concentration by a factor of 1 minus the percentage of moisture content expressed as a decimal.
Data Reference:	State Mussel Watch Program Data 1977-2000; Winter 2007-Winter 2009. State Water Resources Control Board
SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	California's Ocean Plan states that, "The concentration of organic materials in fish, shellfish or other marine resources used for human consumption shall not bioaccumulate to levels that are harmful to human health".
Objective/Criterion Reference:	California Ocean Plan Water Quality Control Plan Ocean Waters of California 2009
Evaluation Guideline:	The modified OEHHA Fish Contaminant Goal for heptachlor epoxide in shellfish tissue is 1.4 ppb. This screening level assumes an average body weight of 70 kg and a consumption rate of 21 g/day for a 30 year exposure over a 70-year lifetime. This constituent is a carcinogen therefore the risk level is set to one in a million. (Brodberg, R.K., and G.A. Pollock, 1999; Klasing, S., and R. Brodberg, 2008; OEHHA, 1999)
Guideline Reference:	Prevalence of Selected Target Chemical Contaminants in Sport Fish From Two California Lakes: Public health designed screening study. Sacramento, CA: Office of Environmental Health Hazard Assessment Development of Fish Contaminant Goals and Advisory Tissue Levels for Common Contaminants in California Sport Fish: Chlordane, DDTs, Dieldrin, Methylmercury, PCBs, Selenium, and Toxaphene Public Health Goal for Heptachlor and Heptachlor Epoxide in Drinking Water
Spatial Representation:	Samples are collected by hand from three sub-locations for each site. The composite sample was collected from site DRDP.
Temporal Representation:	Representative samples of locally abundant species were collected during the winter on 2/17/2009
Environmental Conditions:	
QAPP Information:	Samples were collected as part of the State Water Board's Mussel Watch Program which is a part of the National Oceanic Administration's (NOAAs) National Status and Trends (NS&T). Mussels are shipped to NOAAs contract labs for analysis of trace constituents and mussel condition. Analytical protocols follow those approved by NOAAs NS&T Program Additional background information can be found at: http://ccma.nos.noaa.gov/stressors/pollution/nsandt/
QAPP Information Reference(s):	

DECISION ID	65502	Region 2
Pacific Ocean at Duxbury Reef, Duxbury Point		

Pollutant:	Hexachlorobenzene/ HCB
Final Listing Decision:	Do Not List on 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision:	New Decision
Revision Status	Revised
Impairment from Pollutant or Pollution:	Pollutant

Regional Board Staff Conclusion: This pollutant is being considered for placement on the CWA section 303(d) List under section 3.5 of the Listing Policy. Under section 3.5 a single line of evidence is necessary to assess listing status. One line of evidence is available in the administrative record to assess this pollutant. Zero of one samples exceed the OEHHA guideline.

Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against placing this water segment-pollutant combination on the CWA section 303(d) List.

This conclusion is based on the staff findings that:

1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy.
2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy.
3. Zero of one samples exceed the OEHHA guideline and this sample size is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating. A minimum of 16 samples is needed to determine if a beneficial use is fully supported using table 3.1.
4. Pursuant to SECTION 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.

Regional Board Staff Decision Recommendation: After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be placed on the section 303(d) list. The readily available data and information is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating.

Line of Evidence (LOE) for Decision ID 65502, Hexachlorobenzene/ HCB	Region 2
Pacific Ocean at Duxbury Reef, Duxbury Point	

LOE ID:	92542
Pollutant:	Hexachlorobenzene/ HCB
LOE Subgroup:	Pollutant-Tissue
Matrix:	Tissue
Fraction:	Shellfish
Beneficial Use:	Commercial or recreational collection of fish, shellfish, or organisms
Number of Samples:	1
Number of Exceedances:	0
Data and Information Type:	Shellfish surveys
Data Used to Assess Water Quality:	The sample did not exceed the screening level. Data were reported on a dry weight basis and were converted to a wet weight basis by multiplying the dry-weight concentration by a factor of 1 minus the percentage of moisture content expressed as a decimal.
Data Reference:	State Mussel Watch Program Data 1977-2000; Winter 2007-Winter 2009. State Water Resources Control Board
SWAMP Data:	Non-SWAMP

Water Quality Objective/Criterion:	California's Ocean Plan states that, "The concentration of organic materials in fish, shellfish or other marine resources used for human consumption shall not bioaccumulate to levels that are harmful to human health".
Objective/Criterion Reference:	California Ocean Plan Water Quality Control Plan Ocean Waters of California 2009
Evaluation Guideline:	The modified OEHHA Fish Contaminant Goal for hexachlorobenzene in shellfish tissue is 4.3 ppb. This screening level assumes an average body weight of 70 kg and a consumption rate of 21 g/day for a 30 year exposure over a 70-year lifetime. This constituent is a carcinogen therefore the risk level is set to one in a million. (Brodberg, R.K., and G.A. Pollock, 1999; Klasing, S., and R. Brodberg, 2008; OEHHA, 2005)
Guideline Reference:	Prevalence of Selected Target Chemical Contaminants in Sport Fish From Two California Lakes: Public health designed screening study. Sacramento, CA: Office of Environmental Health Hazard Assessment Development of Fish Contaminant Goals and Advisory Tissue Levels for Common Contaminants in California Sport Fish: Chlordane, DDTs, Dieldrin, Methylmercury, PCBs, Selenium, and Toxaphene Air Toxics Hotspots Program Risk Assessment Guidelines. Part II Technical Support Document for Describing Available Cancer Potency Values.
Spatial Representation:	Samples are collected by hand from three sub-locations for each site. The composite sample was collected from site DRDP.
Temporal Representation:	Representative samples of locally abundant species were collected during the winter on 2/17/2009
Environmental Conditions:	
QAPP Information:	Samples were collected as part of the State Water Board's Mussel Watch Program which is a part of the National Oceanic Administration's (NOAAs) National Status and Trends (NS&T). Mussels are shipped to NOAAs contract labs for analysis of trace constituents and mussel condition. Analytical protocols follow those approved by NOAAs NS&T Program Additional background information can be found at: http://ccma.nos.noaa.gov/stressors/pollution/nsandt/
QAPP Information Reference(s):	

DECISION ID	65503	Region 2
Pacific Ocean at Duxbury Reef, Duxbury Point		
Pollutant:	Lindane/gamma Hexachlorocyclohexane (gamma-HCH)	
Final Listing Decision:	Do Not List on 303(d) list (TMDL required list)	
Last Listing Cycle's Final Listing Decision:	New Decision	
Revision Status	Revised	
Impairment from Pollutant or Pollution:	Pollutant	
Regional Board Staff Conclusion:	<p>This pollutant is being considered for placement on the CWA section 303(d) List under section 3.5 of the Listing Policy. Under section 3.5 a single line of evidence is necessary to assess listing status. One line of evidence is available in the administrative record to assess this pollutant. Zero of one samples exceed the OEHHA guideline.</p> <p>Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against placing this water segment-pollutant combination on the CWA section 303(d) List.</p> <p>This conclusion is based on the staff findings that:</p> <ol style="list-style-type: none"> 1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy. 2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy. 3. Zero of one samples exceed the OEHHA guideline and this sample size is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating. A minimum of 16 samples is needed to determine if a beneficial use is fully supported using table 3.1. 4. Pursuant to SECTION 3.11 of the Listing Policy, no additional data and information are available 	

indicating that standards are not met.

Regional Board Staff Decision Recommendation: After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be placed on the section 303(d) list. The readily available data and information is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating.

Line of Evidence (LOE) for Decision ID 65503, Lindane/gamma Hexachlorocyclohexane (gamma-HCH)

Region 2

Pacific Ocean at Duxbury Reef, Duxbury Point

LOE ID:	92543
Pollutant:	Lindane/gamma Hexachlorocyclohexane (gamma-HCH)
LOE Subgroup:	Pollutant-Tissue
Matrix:	Tissue
Fraction:	Shellfish
Beneficial Use:	Commercial or recreational collection of fish, shellfish, or organisms
Number of Samples:	1
Number of Exceedances:	0
Data and Information Type:	Shellfish surveys
Data Used to Assess Water Quality:	The sample did not exceed the screening level. Data were reported on a dry weight basis and were converted to a wet weight basis by multiplying the dry-weight concentration by a factor of 1 minus the percentage of moisture content expressed as a decimal.
Data Reference:	State Mussel Watch Program Data 1977-2000; Winter 2007-Winter 2009. State Water Resources Control Board
SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	California's Ocean Plan states that, "The concentration of organic materials in fish, shellfish or other marine resources used for human consumption shall not bioaccumulate to levels that are harmful to human health".
Objective/Criterion Reference:	California Ocean Plan Water Quality Control Plan Ocean Waters of California 2009
Evaluation Guideline:	The modified OEHHA Fish Contaminant Goal for lindane in shellfish tissue is 7.1 ppb. This screening level assumes an average body weight of 70 kg and a consumption rate of 21 g/day for a 30 year exposure over a 70-year lifetime. This constituent is a carcinogen therefore the risk level is set to one in a million. (Brodberg, R.K., and G.A. Pollock, 1999; Klasing, S., and R. Brodberg, 2008; OEHHA, 2005)
Guideline Reference:	Prevalence of Selected Target Chemical Contaminants in Sport Fish From Two California Lakes: Public health designed screening study. Sacramento, CA: Office of Environmental Health Hazard Assessment Development of Fish Contaminant Goals and Advisory Tissue Levels for Common Contaminants in California Sport Fish: Chlordane, DDTs, Dieldrin, Methylmercury, PCBs, Selenium, and Toxaphene Air Toxics Hotspots Program Risk Assessment Guidelines. Part II Technical Support Document for Describing Available Cancer Potency Values.
Spatial Representation:	Samples are collected by hand from three sub-locations for each site. The composite sample was collected from site DRDP.
Temporal Representation:	Representative samples of locally abundant species were collected during the winter on 2/17/2009
Environmental Conditions:	
QAPP Information:	Samples were collected as part of the State Water Board's Mussel Watch Program which is a part of the National Oceanic Administration's (NOAAs) National Status and Trends (NS&T). Mussels are shipped to NOAAs contract labs for analysis of trace constituents and mussel condition. Analytical protocols follow those approved by NOAAs NS&T Program Additional background information can be found at:

QAPP Information Reference(s):

DECISION ID	65509	Region 2
Pacific Ocean at Duxbury Reef, Duxbury Point		

Pollutant: Mercury
Final Listing Decision: Do Not List on 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision: New Decision
Revision Status: Revised
Impairment from Pollutant or Pollution: Pollutant

Regional Board Staff Conclusion: This pollutant is being considered for placement on the CWA section 303(d) List under section 3.5 of the Listing Policy. Under section 3.5 a single line of evidence is necessary to assess listing status. One line of evidence is available in the administrative record to assess this pollutant. Zero of one samples exceed the OEHHHA guideline.

Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against placing this water segment-pollutant combination on the CWA section 303(d) List.

This conclusion is based on the staff findings that:

1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy.
2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy.
3. Zero of one samples exceed the OEHHHA guideline and this sample size is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating. A minimum of 16 samples is needed to determine if a beneficial use is fully supported using table 3.1.
4. Pursuant to SECTION 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.

Regional Board Staff Decision Recommendation: After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be placed on the section 303(d) list. The readily available data and information is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating.

Line of Evidence (LOE) for Decision ID 65509, Mercury	Region 2
Pacific Ocean at Duxbury Reef, Duxbury Point	

LOE ID: 92544

Pollutant: Mercury
LOE Subgroup: Pollutant-Tissue
Matrix: Tissue
Fraction: Shellfish

Beneficial Use: Commercial or recreational collection of fish, shellfish, or organisms

Number of Samples: 1
Number of Exceedances: 0

Data and Information Type: Shellfish surveys
Data Used to Assess Water Quality: The one sample did not exceed the guideline. Data were reported on a dry weight basis and were converted to a wet weight basis by multiplying the dry-weight concentration by a factor of 1 minus the percentage of moisture content expressed as a decimal.

Data Reference: [State Mussel Watch Program Data 1977-2000; Winter 2007-Winter 2009. State Water Resources Control Board](#)

SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	California's Ocean Plan states that, "The concentration of organic materials in fish, shellfish or other marine resources used for human consumption shall not bioaccumulate to levels that are harmful to human health".
Objective/Criterion Reference:	California Ocean Plan Water Quality Control Plan Ocean Waters of California 2009
Evaluation Guideline:	The USEPA 304(a) recommended water quality criterion for concentrations of methylmercury in shellfish tissue (wet weight) is 0.2 ppm. (Brodberg, R.K., and G.A. Pollock, 1999; USEPA, 2001)
Guideline Reference:	Prevalence of Selected Target Chemical Contaminants in Sport Fish From Two California Lakes: Public health designed screening study. Sacramento, CA: Office of Environmental Health Hazard Assessment Water Quality Criterion for the Protection of Human Health: Methylmercury. Final. United States Environmental Protection Agency Office of Science and Technology Office of Water. EPA-823-R-01-001. January 2001
Spatial Representation:	Samples are collected by hand from three sub-locations for each site. The composite sample was collected from site DRDP.
Temporal Representation:	Representative samples of locally abundant species were collected during the winter on 2/17/2009
Environmental Conditions:	
QAPP Information:	Samples were collected as part of the State Water Board's Mussel Watch Program which is a part of the National Oceanic Administration's (NOAAs) National Status and Trends (NS&T). Mussels are shipped to NOAAs contract labs for analysis of trace constituents and mussel condition. Analytical protocols follow those approved by NOAAs NS&T Program Additional background information can be found at: http://ccma.nos.noaa.gov/stressors/pollution/nsandt/
QAPP Information Reference(s):	

DECISION ID	65510	Region 2
Pacific Ocean at Duxbury Reef, Duxbury Point		
Pollutant:	Mirex	
Final Listing Decision:	Do Not List on 303(d) list (TMDL required list)	
Last Listing Cycle's Final Listing Decision:	New Decision	
Revision Status	Revised	
Impairment from Pollutant or Pollution:	Pollutant	
Regional Board Staff Conclusion:	<p>This pollutant is being considered for placement on the CWA section 303(d) List under section 3.5 of the Listing Policy. Under section 3.5 a single line of evidence is necessary to assess listing status. One line of evidence is available in the administrative record to assess this pollutant. Zero of zero samples exceed the OEHHA guideline.</p> <p>Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against placing this water segment-pollutant combination on the CWA section 303(d) List.</p> <p>This conclusion is based on the staff findings that:</p> <ol style="list-style-type: none"> 1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy. 2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy. 3. Zero of zero samples exceed the OEHHA guideline and this sample size is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating. A minimum of 16 samples is needed to determine if a beneficial use is fully supported using table 3.1. 4. Pursuant to SECTION 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met. 	

Regional Board Staff Decision Recommendation: After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be placed on the section 303(d) list. The readily available data and information is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating.

**Line of Evidence (LOE) for Decision ID 65510, Mirex
Pacific Ocean at Duxbury Reef, Duxbury Point**

Region 2

LOE ID:	92545
Pollutant:	Mirex
LOE Subgroup:	Pollutant-Tissue
Matrix:	Tissue
Fraction:	Shellfish
Beneficial Use:	Commercial or recreational collection of fish, shellfish, or organisms
Number of Samples:	0
Number of Exceedances:	0
Data and Information Type:	Shellfish surveys
Data Used to Assess Water Quality:	The non detect result was not included in the assessment since the reporting limit was above the evaluation guideline. MDL were provided by NOAA Federal and RL were calculated by multiplying 3.18 by the MDL.
Data Reference:	State Mussel Watch Program Data 1977-2000; Winter 2007-Winter 2009. State Water Resources Control Board
SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	California's Ocean Plan states that, "The concentration of organic materials in fish, shellfish or other marine resources used for human consumption shall not bioaccumulate to levels that are harmful to human health".
Objective/Criterion Reference:	California Ocean Plan Water Quality Control Plan Ocean Waters of California 2009
Evaluation Guideline:	The modified OEHHA Fish Contaminant Goal for mirex in shellfish tissue is 0.43 ppb. This screening level assumes an average body weight of 70 kg and a consumption rate of 21 g/day. (Brodberg, R.K., and G.A. Pollock, 1999; Klasing, S., and R. Brodberg, 2008; OEHHA, 1992)
Guideline Reference:	Prevalence of Selected Target Chemical Contaminants in Sport Fish From Two California Lakes: Public health designed screening study. Sacramento, CA: Office of Environmental Health Hazard Assessment Development of Fish Contaminant Goals and Advisory Tissue Levels for Common Contaminants in California Sport Fish: Chlordane, DDTs, Dieldrin, Methylmercury, PCBs, Selenium, and Toxaphene Expedited Cancer Potency Values and Proposed Regulatory Levels for Certain Proposition 65 Carcinogens.
Spatial Representation:	Samples are collected by hand from three sub-locations for each site. The composite sample was collected from site DRDP.
Temporal Representation:	Representative samples of locally abundant species were collected during the winter on 2/17/2009
Environmental Conditions:	
QAPP Information:	Samples were collected as part of the State Water Board's Mussel Watch Program which is a part of the National Oceanic Administration's (NOAAs) National Status and Trends (NS&T). Mussels are shipped to NOAAs contract labs for analysis of trace constituents and mussel condition. Analytical protocols follow those approved by NOAAs NS&T Program Additional background information can be found at: http://ccma.nos.noaa.gov/stressors/pollution/nsandt/
QAPP Information Reference(s):	

Pollutant:	PAHs (Polycyclic Aromatic Hydrocarbons)
Final Listing Decision:	Do Not List on 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision:	New Decision
Revision Status	Revised
Impairment from Pollutant or Pollution:	Pollutant
Regional Board Staff Conclusion:	<p>This pollutant is being considered for placement on the CWA section 303(d) List under section 3.5 of the Listing Policy. Under section 3.5 a single line of evidence is necessary to assess listing status. One line of evidence is available in the administrative record to assess this pollutant. Zero of one samples exceed the OEHHA guideline.</p> <p>Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against placing this water segment-pollutant combination on the CWA section 303(d) List.</p> <p>This conclusion is based on the staff findings that:</p> <ol style="list-style-type: none"> 1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy. 2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy. 3. Zero of one samples exceed the OEHHA guideline and this sample size is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating. A minimum of 16 samples is needed to determine if a beneficial use is fully supported using table 3.1. 4. Pursuant to SECTION 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.
Regional Board Staff Decision Recommendation:	After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be placed on the section 303(d) list. The readily available data and information is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating.

Line of Evidence (LOE) for Decision ID 65511, PAHs (Polycyclic Aromatic Hydrocarbons)	Region 2
Pacific Ocean at Duxbury Reef, Duxbury Point	

LOE ID:	92546
Pollutant:	PAHs (Polycyclic Aromatic Hydrocarbons)
LOE Subgroup:	Pollutant-Tissue
Matrix:	Tissue
Fraction:	Shellfish
Beneficial Use:	Commercial or recreational collection of fish, shellfish, or organisms
Number of Samples:	1
Number of Exceedances:	0
Data and Information Type:	Shellfish surveys
Data Used to Assess Water Quality:	The sample did not exceed the screening level. Data were reported on a dry weight basis and were converted to a wet weight basis by multiplying the dry-weight concentration by a factor of 1 minus the percentage of moisture content expressed as a decimal. The total PAHs were calculated as the potency equivalency concentration or the sum of the toxic equivalency factors multiplied by the concentrations of: Acenaphthene, Acenaphthylene, Anthracene, Benz[a]anthracene, Benzo[a]pyrene, Benzo[b]fluoranthene, Benzo[g,h,i]perylene, benzo[k]fluoranthene, Dibenzo[a,h]anthracene, Chrysene, Fluoranthene, Fluorene, Indeno[1,2,3-c,d]pyrene, Phenanthrene, and Pyrene.
Data Reference:	State Mussel Watch Program Data 1977-2000; Winter 2007-Winter 2009. State Water

Resources Control Board

SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	California's Ocean Plan states that, "The concentration of organic materials in fish, shellfish or other marine resources used for human consumption shall not bioaccumulate to levels that are harmful to human health".
Objective/Criterion Reference:	California Ocean Plan Water Quality Control Plan Ocean Waters of California 2009
Evaluation Guideline:	The modified OEHHA Fish Contaminant Goal for polycyclic aromatic hydrocarbons in shellfish tissue is 1.1 ppb. This screening level assumes an average body weight of 70 kg and a consumption rate of 21 g/day for a 30 year exposure over a 70-year lifetime. This constituent is a carcinogen therefore the risk level is set to one in a million. (Brodberg, R.K., and G.A. Pollock, 1999; Klasing, S., and R. Brodberg, 2008; USEPA, 2000)
Guideline Reference:	Prevalence of Selected Target Chemical Contaminants in Sport Fish From Two California Lakes: Public health designed screening study. Sacramento, CA: Office of Environmental Health Hazard Assessment Development of Fish Contaminant Goals and Advisory Tissue Levels for Common Contaminants in California Sport Fish: Chlordane, DDTs, Dieldrin, Methylmercury, PCBs, Selenium, and Toxaphene Guidance for Assessing Chemical Contaminant Data for Use In Fish Advisories Volume 1: Fish Sampling and Analysis
Spatial Representation:	Samples are collected by hand from three sub-locations for each site. The composite sample was collected from site DRDP.
Temporal Representation:	Representative samples of locally abundant species were collected during the winter on 2/17/2009
Environmental Conditions:	
QAPP Information:	Samples were collected as part of the State Water Board's Mussel Watch Program which is a part of the National Oceanic Administration's (NOAAs) National Status and Trends (NS&T). Mussels are shipped to NOAAs contract labs for analysis of trace constituents and mussel condition. Analytical protocols follow those approved by NOAAs NS&T Program Additional background information can be found at: http://ccma.nos.noaa.gov/stressors/pollution/nsandt/
QAPP Information Reference(s):	

DECISION ID	65513	Region 2
Pacific Ocean at Duxbury Reef, Duxbury Point		

Pollutant:	PCBs (Polychlorinated biphenyls)
Final Listing Decision:	Do Not List on 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision:	New Decision
Revision Status	Revised
Impairment from Pollutant or Pollution:	Pollutant
Regional Board Staff Conclusion:	<p>This pollutant is being considered for placement on the CWA section 303(d) List under section 3.5 of the Listing Policy. Under section 3.5 a single line of evidence is necessary to assess listing status. One line of evidence is available in the administrative record to assess this pollutant. One of one samples exceed the OEHHA guideline.</p> <p>Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against placing this water segment-pollutant combination on the CWA section 303(d) List.</p> <p>This conclusion is based on the staff findings that:</p> <ol style="list-style-type: none"> 1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy. 2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy. 3. One of one samples exceed the OEHHA guideline and this sample size is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support

rating. A minimum of 16 samples is needed to determine if a beneficial use is fully supported using table 3.1.

4. Pursuant to SECTION 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.

Regional Board Staff Decision Recommendation: After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be placed on the section 303(d) list. The readily available data and information is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating.

Line of Evidence (LOE) for Decision ID 65513, PCBs (Polychlorinated biphenyls)

Region 2

Pacific Ocean at Duxbury Reef, Duxbury Point

LOE ID:	92547
Pollutant:	PCBs (Polychlorinated biphenyls)
LOE Subgroup:	Pollutant-Tissue
Matrix:	Tissue
Fraction:	Shellfish
Beneficial Use:	Commercial or recreational collection of fish, shellfish, or organisms
Number of Samples:	1
Number of Exceedances:	1
Data and Information Type:	Shellfish surveys
Data Used to Assess Water Quality:	The sample exceeded the screening level. Data were reported on a dry weight basis and were converted to a wet weight basis by multiplying the dry-weight concentration by a factor of 1 minus the percentage of moisture content expressed as a decimal. Total PCB was assessed for as follows: PCB aroclors and congeners were summed separately and the sum that yielded the highest value was used for the assessment.
Data Reference:	State Mussel Watch Program Data 1977-2000; Winter 2007-Winter 2009. State Water Resources Control Board
SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	California's Ocean Plan states that, "The concentration of organic materials in fish, shellfish or other marine resources used for human consumption shall not bioaccumulate to levels that are harmful to human health".
Objective/Criterion Reference:	California Ocean Plan Water Quality Control Plan Ocean Waters of California 2009
Evaluation Guideline:	The modified OEHHA Fish Contaminant Goal for polychlorinated biphenyls in shellfish tissue is 3.9 ppb. This screening level assumes an average body weight of 70 kg and a consumption rate of 21 g/day for a 30 year exposure over a 70-year lifetime. This constituent is a carcinogen therefore the risk level is set to one in a million. (Brodberg, R.K., and G.A. Pollock, 1999; Klasing, S., and R. Brodberg, 2008)
Guideline Reference:	Prevalence of Selected Target Chemical Contaminants in Sport Fish From Two California Lakes: Public health designed screening study. Sacramento, CA: Office of Environmental Health Hazard Assessment Development of Fish Contaminant Goals and Advisory Tissue Levels for Common Contaminants in California Sport Fish: Chlordane, DDTs, Dieldrin, Methylmercury, PCBs, Selenium, and Toxaphene
Spatial Representation:	Samples are collected by hand from three sub-locations for each site. The composite sample was collected from site DRDP.
Temporal Representation:	Representative samples of locally abundant species were collected during the winter on 2/17/2009
Environmental Conditions:	
QAPP Information:	Samples were collected as part of the State Water Board's Mussel Watch Program which is a part of the National Oceanic Administration's (NOAAs) National Status and Trends (NS&T). Mussels are shipped to NOAAs contract labs for analysis of trace constituents

QAPP Information Reference(s):

DECISION ID	65514	Region 2
Pacific Ocean at Duxbury Reef, Duxbury Point		

Pollutant:	Selenium
Final Listing Decision:	Do Not List on 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision:	New Decision
Revision Status	Revised
Impairment from Pollutant or Pollution:	Pollutant

Regional Board Staff Conclusion: This pollutant is being considered for placement on the CWA section 303(d) List under section 3.5 of the Listing Policy. Under section 3.5 a single line of evidence is necessary to assess listing status. One line of evidence is available in the administrative record to assess this pollutant. Zero of one samples exceed the OEHHHA guideline.

Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against placing this water segment-pollutant combination on the CWA section 303(d) List.

This conclusion is based on the staff findings that:

1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy.
2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy.
3. Zero of one samples exceed the OEHHHA guideline and this sample size is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating. A minimum of 16 samples is needed to determine if a beneficial use is fully supported using table 3.1.
4. Pursuant to SECTION 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.

Regional Board Staff Decision Recommendation: After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be placed on the section 303(d) list. The readily available data and information is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating.

Line of Evidence (LOE) for Decision ID 65514, Selenium	Region 2
Pacific Ocean at Duxbury Reef, Duxbury Point	

LOE ID: 92548

Pollutant:	Selenium
LOE Subgroup:	Pollutant-Tissue
Matrix:	Tissue
Fraction:	Shellfish

Beneficial Use: Commercial or recreational collection of fish, shellfish, or organisms

Number of Samples:	1
Number of Exceedances:	0

Data and Information Type:	Shellfish surveys
Data Used to Assess Water Quality:	The one sample did not exceed the guideline. Data were reported on a dry weight basis and were converted to a wet weight basis by multiplying the dry-weight concentration by a factor of 1 minus the percentage of moisture content expressed as a decimal.

Data Reference:	State Mussel Watch Program Data 1977-2000; Winter 2007-Winter 2009. State Water Resources Control Board
SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	California's Ocean Plan states that, "The concentration of organic materials in fish, shellfish or other marine resources used for human consumption shall not bioaccumulate to levels that are harmful to human health".
Objective/Criterion Reference:	California Ocean Plan Water Quality Control Plan Ocean Waters of California 2009
Evaluation Guideline:	The modified OEHHA Fish Contaminant Goal for selenium in shellfish tissue is 11 ppm. This screening level assumes an average body weight of 70 kg and a consumption rate of 21 g/day. A background dietary consumption rate of 0.114 mg/day is applied for this micronutrient. (Brodberg, R.K., and G.A. Pollock, 1999; Klasing, S., and R. Brodberg, 2008)
Guideline Reference:	Prevalence of Selected Target Chemical Contaminants in Sport Fish From Two California Lakes: Public health designed screening study. Sacramento, CA: Office of Environmental Health Hazard Assessment Development of Fish Contaminant Goals and Advisory Tissue Levels for Common Contaminants in California Sport Fish: Chlordane, DDTs, Dieldrin, Methylmercury, PCBs, Selenium, and Toxaphene
Spatial Representation:	Samples are collected by hand from three sub-locations for each site. The composite sample was collected from site DRDP.
Temporal Representation:	Representative samples of locally abundant species were collected during the winter on 2/17/2009
Environmental Conditions:	
QAPP Information:	Samples were collected as part of the State Water Board's Mussel Watch Program which is a part of the National Oceanic Administration's (NOAAs) National Status and Trends (NS&T). Mussels are shipped to NOAAs contract labs for analysis of trace constituents and mussel condition. Analytical protocols follow those approved by NOAAs NS&T Program Additional background information can be found at: http://ccma.nos.noaa.gov/stressors/pollution/nsandt/
QAPP Information Reference(s):	

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Supporting Information

Regional Board 2 - San Francisco Bay Region

Water Body Name: Pacific Ocean at Stinson Beach
Water Body ID: CAC2013001220110712220836
Water Body Type: Coastal & Bay Shoreline

DECISION ID 66173 **Region 2**
Pacific Ocean at Stinson Beach

Pollutant: Indicator Bacteria
Final Listing Decision: Do Not List on 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision: New Decision
Revision Status Revised
Impairment from Pollutant or Pollution: Pollutant

Regional Board Staff Conclusion: This pollutant is being considered for placement on the CWA section 303(d) List under section 3.3 of the Listing Policy. Under section 3.3 a single line of evidence is necessary to assess listing status.

Twelve lines of evidence are available in the administrative record to assess this pollutant.

Nine of the 499 samples exceed the OBJECTIVE for single sample maximum for Enterococcus. Zero of the 400 samples exceed the OBJECTIVE for the geometric mean for Enterococcus. One of the 499 samples exceed the OBJECTIVE for single sample maximum for Fecal Coliform. Zero of the 400 samples exceed the OBJECTIVE for the geometric mean for Fecal Coliform. Zero of the 499 samples exceed the OBJECTIVE for single sample maximum for Total Coliform. Zero of the 400 samples exceed the OBJECTIVE for the geometric mean for Total Coliform.

Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against placing this water segment-pollutant combination on the CWA section 303(d) List in the Water Quality Limited Segments category.

This conclusion is based on the staff findings that:

1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy.
2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy.
3. Nine of the 499 samples exceed the OBJECTIVE for single sample maximum for Enterococcus. Zero of the 400 samples exceed the OBJECTIVE for the geometric mean for Enterococcus. One of the 499 samples exceed the OBJECTIVE for single sample maximum for Fecal Coliform. Zero of the 400 samples exceed the OBJECTIVE for the geometric mean for Fecal Coliform. Zero of the 499 samples exceed the OBJECTIVE for single sample maximum for Total Coliform. Zero of the 400 samples exceed the OBJECTIVE for the geometric mean for Total Coliform. These do not exceed the allowable frequency listed in Table 3.2 of the Listing Policy.
4. Pursuant to section 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.

Regional Board Staff Decision Recommendation: After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be placed on the section 303(d) list because applicable water quality standards are not being exceeded.

Line of Evidence (LOE) for Decision ID 66173, Indicator Bacteria **Region 2**
Pacific Ocean at Stinson Beach

LOE ID: 90649

Pollutant:	Total Coliform
LOE Subgroup:	Pollutant-Water
Matrix:	Water
Fraction:	None
Beneficial Use:	Water Contact Recreation
Number of Samples:	135
Number of Exceedances:	0
Data and Information Type:	Not Specified
Data Used to Assess Water Quality:	Zero of the 135 geomeans exceeded the objective.
Data Reference:	Data for Region 2 Beach Watch.
SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	The geometric mean standard for total coliform states that the coliform density shall not exceed 1000 per 100 mL. Water Quality Control Plan for Ocean Waters 2009.
Objective/Criterion Reference:	California Ocean Plan Water Quality Control Plan Ocean Waters of California 2009
Evaluation Guideline:	
Guideline Reference:	
Spatial Representation:	Samples were collected at the Central Stinson Beach site.
Temporal Representation:	Samples were collected from April 2005 to August 2010.
Environmental Conditions:	
QAPP Information:	The samples were collected for the Beach Watch program.
QAPP Information Reference(s):	

**Line of Evidence (LOE) for Decision ID 66173, Indicator Bacteria
Pacific Ocean at Stinson Beach**

Region 2

LOE ID:	90650
Pollutant:	Fecal Coliform
LOE Subgroup:	Pollutant-Water
Matrix:	Water
Fraction:	None
Beneficial Use:	Water Contact Recreation
Number of Samples:	135
Number of Exceedances:	0
Data and Information Type:	Not Specified
Data Used to Assess Water Quality:	Zero of the 135 geomeans exceeded the objective.
Data Reference:	Data for Region 2 Beach Watch.
SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	The geometric mean standard for fecal coliform states that the fecal coliform density shall not exceed 200 per 100 mL. Water Quality Control Plan for Ocean Waters 2009.
Objective/Criterion Reference:	California Ocean Plan Water Quality Control Plan Ocean Waters of California 2009
Evaluation Guideline:	
Guideline Reference:	
Spatial Representation:	Samples were collected at the Central Stinson Beach site.
Temporal Representation:	Samples were collected from April 2005 to August 2010.
Environmental Conditions:	
QAPP Information:	The samples were collected for the beach watch program.

Line of Evidence (LOE) for Decision ID 66173, Indicator Bacteria
Pacific Ocean at Stinson Beach

Region 2

LOE ID:	90651
Pollutant:	Fecal Coliform
LOE Subgroup:	Pollutant-Water
Matrix:	Water
Fraction:	None
Beneficial Use:	Water Contact Recreation
Number of Samples:	131
Number of Exceedances:	0
Data and Information Type:	Not Specified
Data Used to Assess Water Quality:	Zero of the 131 geomeans exceeded the objective.
Data Reference:	Data for Region 2 Beach Watch.
SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	The geometric mean standard for fecal coliform states that the fecal coliform density shall not exceed 200 per 100 mL. Water Quality Control Plan for Ocean Waters 2009.
Objective/Criterion Reference:	California Ocean Plan Water Quality Control Plan Ocean Waters of California 2009
Evaluation Guideline:	
Guideline Reference:	
Spatial Representation:	Samples were collected at the North Stinson Beach site.
Temporal Representation:	Samples were collected from April 2005 to August 2010.
Environmental Conditions:	
QAPP Information:	The samples were collected for the beach watch program.
QAPP Information Reference(s):	

Line of Evidence (LOE) for Decision ID 66173, Indicator Bacteria
Pacific Ocean at Stinson Beach

Region 2

LOE ID:	90652
Pollutant:	Total Coliform
LOE Subgroup:	Pollutant-Water
Matrix:	Water
Fraction:	None
Beneficial Use:	Water Contact Recreation
Number of Samples:	131
Number of Exceedances:	0
Data and Information Type:	Not Specified
Data Used to Assess Water Quality:	Zero of the 131 geomeans exceeded the objective.
Data Reference:	Data for Region 2 Beach Watch.
SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	The geometric mean standard for total coliform states that the coliform density shall not exceed 1000 per 100 mL. Water Quality Control Plan for Ocean Waters 2009.
Objective/Criterion Reference:	California Ocean Plan Water Quality Control Plan Ocean Waters of California 2009

Evaluation Guideline:
Guideline Reference:

Spatial Representation: Samples were collected at the North Stinson Beach site.
Temporal Representation: Samples were collected from April 2005 to August 2010.
Environmental Conditions:
QAPP Information: The samples were collected for the Beach Watch program.
QAPP Information Reference(s):

Line of Evidence (LOE) for Decision ID 66173, Indicator Bacteria
Pacific Ocean at Stinson Beach

Region 2

LOE ID: 90653

Pollutant: Enterococcus
LOE Subgroup: Pollutant-Water
Matrix: Water
Fraction: None

Beneficial Use: Water Contact Recreation

Number of Samples: 131
Number of Exceedances: 0

Data and Information Type: Not Specified
Data Used to Assess Water Quality: Zero of the 131 geomeans exceeded the objective.
Data Reference: [Data for Region 2 Beach Watch.](#)

SWAMP Data: Non-SWAMP

Water Quality Objective/Criterion: The geometric mean standard for enterococcus states that the enterococcus density shall not exceed 35 per 100 mL. Water Quality Control Plan for Ocean Waters 2009.
Objective/Criterion Reference: [California Ocean Plan Water Quality Control Plan Ocean Waters of California 2009](#)

Evaluation Guideline:
Guideline Reference:

Spatial Representation: Samples were collected at the North Stinson Beach site.
Temporal Representation: Samples were collected from April 2005 to August 2010.
Environmental Conditions:
QAPP Information: The samples were collected for the Beach Watch program.
QAPP Information Reference(s):

Line of Evidence (LOE) for Decision ID 66173, Indicator Bacteria
Pacific Ocean at Stinson Beach

Region 2

LOE ID: 90861

Pollutant: Total Coliform
LOE Subgroup: Pollutant-Water
Matrix: Water
Fraction: None

Beneficial Use: Water Contact Recreation

Number of Samples: 499
Number of Exceedances: 0

Data and Information Type: PATHOGEN MONITORING
Data Used to Assess Water Quality: Water Board staff assessed BeachWatch data for Pacific Ocean at Stinson Beach to determine beneficial use support and results are as follows: 0 of 499 samples exceed the

Data Reference:	<p>criterion for Coliform, Total.</p> <p>Data for Region 2 Beach Watch.</p>
SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	California Ocean Plan (2009) single sample maximum states that total coliform density shall not exceed 10,000 MPN/100 mL
Objective/Criterion Reference:	California Ocean Plan Water Quality Control Plan Ocean Waters of California 2009
Evaluation Guideline:	
Guideline Reference:	
Spatial Representation:	Data for this line of evidence for Pacific Ocean at Stinson Beach was collected at 3 monitoring sites [Stinson Beach - Central, Stinson Beach - North, Stinson Beach South]
Temporal Representation:	Data was collected over the time period 4/7/2005-8/25/2010.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	The samples were collected for the Beach Watch program.
QAPP Information Reference(s):	

Line of Evidence (LOE) for Decision ID 66173, Indicator Bacteria
Pacific Ocean at Stinson Beach

Region 2

LOE ID:	90655
Pollutant:	Total Coliform
LOE Subgroup:	Pollutant-Water
Matrix:	Water
Fraction:	None
Beneficial Use:	Water Contact Recreation
Number of Samples:	134
Number of Exceedances:	0
Data and Information Type:	Not Specified
Data Used to Assess Water Quality:	Zero of the 134 geomeans exceeded the objective.
Data Reference:	Data for Region 2 Beach Watch.
SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	The geometric mean standard for total coliform states that the coliform density shall not exceed 1000 per 100 mL. Water Quality Control Plan for Ocean Waters 2009.
Objective/Criterion Reference:	California Ocean Plan Water Quality Control Plan Ocean Waters of California 2009
Evaluation Guideline:	
Guideline Reference:	
Spatial Representation:	Samples were collected at the South Stinson Beach site.
Temporal Representation:	Samples were collected from April 2005 to August 2010.
Environmental Conditions:	
QAPP Information:	The samples were collected for the Beach Watch program.
QAPP Information Reference(s):	

Line of Evidence (LOE) for Decision ID 66173, Indicator Bacteria
Pacific Ocean at Stinson Beach

Region 2

LOE ID:	90648
Pollutant:	Enterococcus
LOE Subgroup:	Pollutant-Water
Matrix:	Water

Fraction:	None
Beneficial Use:	Water Contact Recreation
Number of Samples:	135
Number of Exceedances:	0
Data and Information Type:	Not Specified
Data Used to Assess Water Quality:	Zero of the 135 geomeans exceeded the objective.
Data Reference:	Data for Region 2 Beach Watch.
SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	The geometric mean standard for enterococcus states that the enterococcus density shall not exceed 35 per 100 mL. Water Quality Control Plan for Ocean Waters 2009.
Objective/Criterion Reference:	California Ocean Plan Water Quality Control Plan Ocean Waters of California 2009
Evaluation Guideline:	
Guideline Reference:	
Spatial Representation:	Samples were collected at the Central Stinson Beach site.
Temporal Representation:	Samples were collected from April 2005 to August 2010.
Environmental Conditions:	
QAPP Information:	The samples were collected for the Beach Watch program.
QAPP Information Reference(s):	

Line of Evidence (LOE) for Decision ID 66173, Indicator Bacteria

Region 2

Pacific Ocean at Stinson Beach

LOE ID:	90905
Pollutant:	Enterococcus
LOE Subgroup:	Pollutant-Water
Matrix:	Water
Fraction:	None
Beneficial Use:	Water Contact Recreation
Number of Samples:	499
Number of Exceedances:	9
Data and Information Type:	PATHOGEN MONITORING
Data Used to Assess Water Quality:	Water Board staff assessed BeachWatch data for Pacific Ocean at Stinson Beach to determine beneficial use support and results are as follows: 9 of 499 samples exceed the criterion for Enterococci.
Data Reference:	Data for Region 2 Beach Watch.
SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	California Ocean Plan (SWRCB 2009) states that the single sample maximum for Enterococcus shall not exceed 104 MPN/100 mL.
Objective/Criterion Reference:	California Ocean Plan Water Quality Control Plan Ocean Waters of California 2009
Evaluation Guideline:	
Guideline Reference:	
Spatial Representation:	Data for this line of evidence for Pacific Ocean at Stinson Beach was collected at 3 monitoring sites [Stinson Beach - Central, Stinson Beach - North, Stinson Beach South]
Temporal Representation:	Data was collected over the time period 4/7/2005-8/25/2010.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	The samples were collected for the Beach Watch program.
QAPP Information Reference(s):	

Line of Evidence (LOE) for Decision ID 66173, Indicator Bacteria
Pacific Ocean at Stinson Beach

Region 2

LOE ID: 90814

Pollutant: Fecal Coliform
LOE Subgroup: Pollutant-Water
Matrix: Water
Fraction: None

Beneficial Use: Water Contact Recreation

Number of Samples: 499
Number of Exceedances: 1

Data and Information Type: PATHOGEN MONITORING
Data Used to Assess Water Quality: Water Board staff assessed BeachWatch data for Pacific Ocean at Stinson Beach to determine beneficial use support and results are as follows: 1 of 499 samples exceed the criterion for Coliform, Fecal.

Data Reference: [Data for Region 2 Beach Watch.](#)

SWAMP Data: Non-SWAMP

Water Quality Objective/Criterion: California Ocean Plan (SWRCB 2009) states that the single sample maximum for fecal coliform shall not exceed 400 MPN/100 mL

Objective/Criterion Reference: [California Ocean Plan Water Quality Control Plan Ocean Waters of California 2009](#)

Evaluation Guideline:
Guideline Reference:

Spatial Representation: Data for this line of evidence for Pacific Ocean at Stinson Beach was collected at 3 monitoring sites [Stinson Beach - Central, Stinson Beach - North, Stinson Beach South]

Temporal Representation: Data was collected over the time period 4/7/2005-8/25/2010.

Environmental Conditions: Staff is not aware of any special conditions that might affect interpretation of the data.

QAPP Information: The samples were collected for the Beach Watch program.

QAPP Information Reference(s):

Line of Evidence (LOE) for Decision ID 66173, Indicator Bacteria
Pacific Ocean at Stinson Beach

Region 2

LOE ID: 90656

Pollutant: Fecal Coliform
LOE Subgroup: Pollutant-Water
Matrix: Water
Fraction: None

Beneficial Use: Water Contact Recreation

Number of Samples: 134
Number of Exceedances: 0

Data and Information Type: Not Specified
Data Used to Assess Water Quality: Zero of the 134 geomeans exceeded the objective.

Data Reference: [Data for Region 2 Beach Watch.](#)

SWAMP Data: Non-SWAMP

Water Quality Objective/Criterion: The geometric mean standard for fecal coliform states that the fecal coliform density shall not exceed 200 per 100 mL. Water Quality Control Plan for Ocean Waters 2009.

Objective/Criterion Reference: [California Ocean Plan Water Quality Control Plan Ocean Waters of California 2009](#)

Evaluation Guideline:

Guideline Reference:

Spatial Representation:

Samples were collected at the South Stinson Beach site.

Temporal Representation:

Samples were collected from April 2005 to August 2010.

Environmental Conditions:

QAPP Information:

The samples were collected for the beach watch program.

QAPP Information Reference(s):

Line of Evidence (LOE) for Decision ID 66173, Indicator Bacteria

Region 2

Pacific Ocean at Stinson Beach

LOE ID: 90654

Pollutant: Enterococcus

LOE Subgroup: Pollutant-Water

Matrix: Water

Fraction: None

Beneficial Use: Water Contact Recreation

Number of Samples: 134

Number of Exceedances: 0

Data and Information Type: Not Specified

Data Used to Assess Water Quality: Zero of the 134 geomeans exceeded the objective.

Data Reference: [Data for Region 2 Beach Watch.](#)

SWAMP Data: Non-SWAMP

Water Quality Objective/Criterion: The geometric mean standard for enterococcus states that the enterococcus density shall not exceed 35 per 100 mL. Water Quality Control Plan for Ocean Waters 2009.

Objective/Criterion Reference: [California Ocean Plan Water Quality Control Plan Ocean Waters of California 2009](#)

Evaluation Guideline:

Guideline Reference:

Spatial Representation:

Samples were collected at the South Stinson Beach site.

Temporal Representation:

Samples were collected from April 2005 to August 2010.

Environmental Conditions:

QAPP Information:

The samples were collected for the Beach Watch program.

QAPP Information Reference(s):

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Supporting Information

Regional Board 2 - San Francisco Bay Region

Water Body Name: Pacific Ocean at Rodeo Beach
Water Body ID: CAC2013001420110712221914
Water Body Type: Coastal & Bay Shoreline

DECISION ID 66219 **Region 2**
Pacific Ocean at Rodeo Beach

Pollutant: Indicator Bacteria
Final Listing Decision: Do Not List on 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision: New Decision
Revision Status Revised
Impairment from Pollutant or Pollution: Pollutant

Regional Board Staff Conclusion: This pollutant is being considered for placement on the CWA section 303(d) List under section 3.3 of the Listing Policy. Under section 3.3 a single line of evidence is necessary to assess listing status.

Twelve lines of evidence are available in the administrative record to assess this pollutant.

Six of the 322 samples exceed the OBJECTIVE for single sample maximum for Enterococcus.
Zero of the 262 samples exceed the OBJECTIVE for the geometric mean for Enterococcus.
One of the 321 samples exceed the OBJECTIVE for single sample maximum for Fecal Coliform.
Zero of the 261 samples exceed the OBJECTIVE for the geometric mean for Fecal Coliform.
Zero of the 321 samples exceed the OBJECTIVE for single sample maximum for Total Coliform.
Zero of the 261 samples exceed the OBJECTIVE for the geometric mean for Total Coliform.

Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against placing this water segment-pollutant combination on the CWA section 303(d) List in the Water Quality Limited Segments category.

This conclusion is based on the staff findings that:

1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy.
2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy.
3. Six of the 322 samples exceed the OBJECTIVE for single sample maximum for Enterococcus.
Zero of the 262 samples exceed the OBJECTIVE for the geometric mean for Enterococcus.
One of the 321 samples exceed the OBJECTIVE for single sample maximum for Fecal Coliform.
Zero of the 261 samples exceed the OBJECTIVE for the geometric mean for Fecal Coliform.
Zero of the 321 samples exceed the OBJECTIVE for single sample maximum for Total Coliform.
Zero of the 261 samples exceed the OBJECTIVE for the geometric mean for Total Coliform. These do not exceed the allowable frequency listed in Table 3.2 of the Listing Policy.
4. Pursuant to section 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.

Regional Board Staff Decision Recommendation: After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be placed on the section 303(d) list because applicable water quality standards are not being exceeded.

Line of Evidence (LOE) for Decision ID 66219, Indicator Bacteria **Region 2**
Pacific Ocean at Rodeo Beach

LOE ID: 90525

Pollutant:	Fecal Coliform
LOE Subgroup:	Pollutant-Water
Matrix:	Water
Fraction:	None
Beneficial Use:	Water Contact Recreation
Number of Samples:	139
Number of Exceedances:	0
Data and Information Type:	Not Specified
Data Used to Assess Water Quality:	Zero of the 139 geomeans exceeded the fecal coliform objective.
Data Reference:	Data for Region 2 Beach Watch.
SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	The geometric mean standard for fecal coliform states that the density shall not exceed 200 per 100 mL. Water Quality Control Plan for Ocean Waters 2009.
Objective/Criterion Reference:	California Ocean Plan Water Quality Control Plan Ocean Waters of California 2009
Evaluation Guideline:	
Guideline Reference:	
Spatial Representation:	Samples were collected at stations Rodeo Beach - Central and Rodeo Beach - South. The results from the central and south stations were averaged because they were located within 200 meters.
Temporal Representation:	Samples were collected approximately once a week from April 2005 to September 2010.
Environmental Conditions:	
QAPP Information:	The samples were collected for the Beach Watch program.
QAPP Information Reference(s):	

Line of Evidence (LOE) for Decision ID 66219, Indicator Bacteria
Pacific Ocean at Rodeo Beach

Region 2

LOE ID:	90526
Pollutant:	Total Coliform
LOE Subgroup:	Pollutant-Water
Matrix:	Water
Fraction:	None
Beneficial Use:	Water Contact Recreation
Number of Samples:	139
Number of Exceedances:	0
Data and Information Type:	Not Specified
Data Used to Assess Water Quality:	Zero of the 139 geomeans exceeded the total coliform objective.
Data Reference:	Data for Region 2 Beach Watch.
SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	The geometric mean standard for total coliform states that the density shall not exceed 1000 per 100 mL. Water Quality Control Plan for Ocean Waters 2009.
Objective/Criterion Reference:	California Ocean Plan Water Quality Control Plan Ocean Waters of California 2009
Evaluation Guideline:	
Guideline Reference:	
Spatial Representation:	Samples were collected at stations Rodeo Beach - Central and Rodeo Beach - South. The results from the central and south stations were averaged because they were located

Temporal Representation: within 200 meters.
Environmental Conditions: Samples were collected approximately once a week from April 2005 to September 2010.
QAPP Information: The samples were collected for the Beach Watch program.
QAPP Information Reference(s):

Line of Evidence (LOE) for Decision ID 66219, Indicator Bacteria
Pacific Ocean at Rodeo Beach

Region 2

LOE ID: 90527

Pollutant: Enterococcus
LOE Subgroup: Pollutant-Water
Matrix: Water
Fraction: None

Beneficial Use: Water Contact Recreation

Number of Samples: 139
Number of Exceedances: 0

Data and Information Type: Not Specified
Data Used to Assess Water Quality: Zero of the 139 geomeans exceeded the enterococcus objective.
Data Reference: [Data for Region 2 Beach Watch.](#)

SWAMP Data: Non-SWAMP

Water Quality Objective/Criterion: The geometric mean standard for enterococcus states that the enterococcus density shall not exceed 35 per 100 mL. Water Quality Control Plan for Ocean Waters 2009.
Objective/Criterion Reference: [California Ocean Plan Water Quality Control Plan Ocean Waters of California 2009](#)

Evaluation Guideline:
Guideline Reference:

Spatial Representation: Samples were collected at stations Rodeo Beach - Central and Rodeo Beach - South. The results from the central and south stations were averaged because they were located within 200 meters.

Temporal Representation: Samples were collected approximately once a week from April 2005 to September 2010.
Environmental Conditions:
QAPP Information: The samples were collected for the Beach Watch program.
QAPP Information Reference(s):

Line of Evidence (LOE) for Decision ID 66219, Indicator Bacteria
Pacific Ocean at Rodeo Beach

Region 2

LOE ID: 90741

Pollutant: Total Coliform
LOE Subgroup: Pollutant-Water
Matrix: Water
Fraction: None

Beneficial Use: Water Contact Recreation

Number of Samples: 168
Number of Exceedances: 0

Data and Information Type: Not Specified
Data Used to Assess Water Quality: Zero of the 168 samples exceeded the total coliform objective.
Data Reference: [Data for Region 2 Beach Watch.](#)

SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	The standard for total coliform states that the density shall not exceed 10000 per 100 mL. Water Quality Control Plan for Ocean Waters 2009.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	
Guideline Reference:	
Spatial Representation:	Samples were collected at stations Rodeo Beach - Central and Rodeo Beach - South. The results from the central and south stations were averaged because they were located within 200 meters.
Temporal Representation:	Samples were collected approximately once a week from April 2005 to September 2010.
Environmental Conditions:	
QAPP Information:	The samples were collected for the Beach Watch program.
QAPP Information Reference(s):	

Line of Evidence (LOE) for Decision ID 66219, Indicator Bacteria
Pacific Ocean at Rodeo Beach

Region 2

LOE ID:	90742
Pollutant:	Total Coliform
LOE Subgroup:	Pollutant-Water
Matrix:	Water
Fraction:	None
Beneficial Use:	Water Contact Recreation
Number of Samples:	153
Number of Exceedances:	0
Data and Information Type:	Not Specified
Data Used to Assess Water Quality:	Zero of the 153 samples exceeded the total coliform objective.
Data Reference:	Data for Region 2 Beach Watch.

SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	The standard for total coliform states that the density shall not exceed 10000 per 100 mL. Water Quality Control Plan for Ocean Waters 2009.
Objective/Criterion Reference:	California Ocean Plan Water Quality Control Plan Ocean Waters of California 2009
Evaluation Guideline:	
Guideline Reference:	
Spatial Representation:	Samples were collected at station Rodeo Beach - North.
Temporal Representation:	Samples were collected approximately once a week from April 2005 to September 2010.
Environmental Conditions:	
QAPP Information:	The samples were collected for the Beach Watch program.
QAPP Information Reference(s):	

Line of Evidence (LOE) for Decision ID 66219, Indicator Bacteria
Pacific Ocean at Rodeo Beach

Region 2

LOE ID:	90743
Pollutant:	Enterococcus
LOE Subgroup:	Pollutant-Water
Matrix:	Water
Fraction:	None

Beneficial Use:	Water Contact Recreation
Number of Samples:	168
Number of Exceedances:	2
Data and Information Type:	Not Specified
Data Used to Assess Water Quality:	Two of the 168 samples exceeded the enterococcus objective.
Data Reference:	Data for Region 2 Beach Watch.
SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	The standard for enterococcus states that the enterococcus density shall not exceed 104 per 100 mL. Water Quality Control Plan for Ocean Waters 2009.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	
Guideline Reference:	
Spatial Representation:	Samples were collected at stations Rodeo Beach - Central and Rodeo Beach - South. The results from the central and south stations were averaged because they were located within 200 meters.
Temporal Representation:	Samples were collected approximately once a week from April 2005 to September 2010.
Environmental Conditions:	
QAPP Information:	The samples were collected for the Beach Watch program.
QAPP Information Reference(s):	

Line of Evidence (LOE) for Decision ID 66219, Indicator Bacteria
Pacific Ocean at Rodeo Beach

Region 2

LOE ID:	90744
Pollutant:	Enterococcus
LOE Subgroup:	Pollutant-Water
Matrix:	Water
Fraction:	None
Beneficial Use:	Water Contact Recreation
Number of Samples:	154
Number of Exceedances:	4
Data and Information Type:	Not Specified
Data Used to Assess Water Quality:	Four of the 154 samples exceeded the enterococcus objective.
Data Reference:	Data for Region 2 Beach Watch.
SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	The standard for enterococcus states that the enterococcus density shall not exceed 104 per 100 mL. Water Quality Control Plan for Ocean Waters 2009.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	
Guideline Reference:	
Spatial Representation:	Samples were collected at station Rodeo Beach - North.
Temporal Representation:	Samples were collected approximately once a week from April 2005 to September 2010.
Environmental Conditions:	
QAPP Information:	The samples were collected for the Beach Watch program.
QAPP Information Reference(s):	

Line of Evidence (LOE) for Decision ID 66219, Indicator Bacteria

Region 2

Pacific Ocean at Rodeo Beach

LOE ID:	90763
Pollutant:	Fecal Coliform
LOE Subgroup:	Pollutant-Water
Matrix:	Water
Fraction:	None
Beneficial Use:	Water Contact Recreation
Number of Samples:	122
Number of Exceedances:	0
Data and Information Type:	Not Specified
Data Used to Assess Water Quality:	Zero of the 122 geomeans exceeded the fecal coliform objective.
Data Reference:	Data for Region 2 Beach Watch.
SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	The geometric mean standard for fecal coliform states that the enterococcus density shall not exceed 200 per 100 mL. Water Quality Control Plan for Ocean Waters 2009.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	
Guideline Reference:	
Spatial Representation:	Samples were collected at station Rodeo Beach - North.
Temporal Representation:	Samples were collected approximately once a week from April 2005 to September 2010.
Environmental Conditions:	
QAPP Information:	The samples were collected for the Beach Watch program.
QAPP Information Reference(s):	

Line of Evidence (LOE) for Decision ID 66219, Indicator Bacteria**Region 2****Pacific Ocean at Rodeo Beach**

LOE ID:	90764
Pollutant:	Total Coliform
LOE Subgroup:	Pollutant-Water
Matrix:	Water
Fraction:	None
Beneficial Use:	Water Contact Recreation
Number of Samples:	122
Number of Exceedances:	0
Data and Information Type:	Not Specified
Data Used to Assess Water Quality:	Zero of the 122 geomeans exceeded the total coliform objective.
Data Reference:	Data for Region 2 Beach Watch.
SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	The geometric mean standard for total coliform states that the enterococcus density shall not exceed 1000 per 100 mL. Water Quality Control Plan for Ocean Waters 2009.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	
Guideline Reference:	
Spatial Representation:	Samples were collected at station Rodeo Beach - North.

Temporal Representation:	Samples were collected approximately once a week from April 2005 to September 2010.
Environmental Conditions:	
QAPP Information:	The samples were collected for the Beach Watch program.
QAPP Information Reference(s):	

Line of Evidence (LOE) for Decision ID 66219, Indicator Bacteria**Region 2****Pacific Ocean at Rodeo Beach**

LOE ID:	90765
Pollutant:	Enterococcus
LOE Subgroup:	Pollutant-Water
Matrix:	Water
Fraction:	None
Beneficial Use:	Water Contact Recreation
Number of Samples:	123
Number of Exceedances:	0
Data and Information Type:	Not Specified
Data Used to Assess Water Quality:	Zero of the 123 geomeans exceeded the enterococcus objective.
Data Reference:	Data for Region 2 Beach Watch.
SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	The geometric mean standard for enterococcus states that the enterococcus density shall not exceed 35 per 100 mL. Water Quality Control Plan for Ocean Waters 2009.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	
Guideline Reference:	
Spatial Representation:	Samples were collected at station Rodeo Beach - North.
Temporal Representation:	Samples were collected approximately once a week from April 2005 to September 2010.
Environmental Conditions:	
QAPP Information:	The samples were collected for the Beach Watch program.
QAPP Information Reference(s):	

Line of Evidence (LOE) for Decision ID 66219, Indicator Bacteria**Region 2****Pacific Ocean at Rodeo Beach**

LOE ID:	90766
Pollutant:	Fecal Coliform
LOE Subgroup:	Pollutant-Water
Matrix:	Water
Fraction:	None
Beneficial Use:	Water Contact Recreation
Number of Samples:	168
Number of Exceedances:	0
Data and Information Type:	Not Specified
Data Used to Assess Water Quality:	Zero of the 168 samples exceeded the fecal coliform objective.
Data Reference:	Data for Region 2 Beach Watch.
SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	The standard for fecal coliform states that the density shall not exceed 200 per 100 mL.

Objective/Criterion Reference:	Water Quality Control Plan for Ocean Waters 2009. Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	
Guideline Reference:	
Spatial Representation:	Samples were collected at stations Rodeo Beach - Central and Rodeo Beach - South. The results from the central and south stations were averaged because they were located within 200 meters.
Temporal Representation:	Samples were collected approximately once a week from April 2005 to September 2010.
Environmental Conditions:	
QAPP Information:	The samples were collected for the Beach Watch program.
QAPP Information Reference(s):	

Line of Evidence (LOE) for Decision ID 66219, Indicator Bacteria
Pacific Ocean at Rodeo Beach

Region 2

LOE ID:	90767
Pollutant:	Fecal Coliform
LOE Subgroup:	Pollutant-Water
Matrix:	Water
Fraction:	None
Beneficial Use:	Water Contact Recreation
Number of Samples:	153
Number of Exceedances:	1
Data and Information Type:	Not Specified
Data Used to Assess Water Quality:	One of the 153 samples exceeded the fecal coliform objective.
Data Reference:	Data for Region 2 Beach Watch.
SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	The standard for fecal coliform states that the density shall not exceed 400 per 100 mL. Water Quality Control Plan for Ocean Waters 2009.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	
Guideline Reference:	
Spatial Representation:	Samples were collected at station Rodeo Beach - North.
Temporal Representation:	Samples were collected approximately once a week from April 2005 to September 2010.
Environmental Conditions:	
QAPP Information:	The samples were collected for the Beach Watch program.
QAPP Information Reference(s):	

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Supporting Information

Regional Board 2 - San Francisco Bay Region

Water Body Name: Pacific Ocean at Fort Funston
Water Body ID: CAC2021001020110713001240
Water Body Type: Coastal & Bay Shoreline

DECISION ID 66036 **Region 2**
Pacific Ocean at Fort Funston

Pollutant: Indicator Bacteria
Final Listing Decision: Do Not List on 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision: New Decision
Revision Status Revised
Impairment from Pollutant or Pollution: Pollutant

Regional Board Staff Conclusion: This pollutant is being considered for placement on the CWA section 303(d) List under section 3.3 of the Listing Policy. Under section 3.3 a single line of evidence is necessary to assess listing status.

Six lines of evidence are available in the administrative record to assess this pollutant. Five of the thirty samples exceed the enterococcus single sample maximum objective. However, these data are not temporally representative of water quality at Fort Funston. The water is sampled only during and after combined sewer discharge events. Four of the five exceedances occurred on days with heavy rainfall in San Francisco (Dec 12 2006 with 2.32 inches, Jan 4 2008 with 1.96 inches, and Feb 16-17 2009 in which 3.84 inches fell). The Listing Policy discourages use of data collected during short-term natural events as the primary data set supporting a listing decision.

Based on the readily available data and information, the weight of evidence indicates that there is not sufficient justification for placing this water segment-pollutant combination on the CWA section 303(d) List.

This conclusion is based on the staff findings that:

1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy.
2. The data used does not satisfy the data quantity requirements of section 6.1.5 of the Policy as explained above (data collected during combined sewer discharge events).
3. Five of the thirty samples exceed the enterococcus single sample maximum objective and this exceeds the allowable frequency listed in Table 3.2 of the Listing Policy.
4. Four of the five exceedances occurred during heavy rain days and likely combined sewer discharge events and are thus not temporally representative of water quality at this location.
5. Pursuant to section 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.

Regional Board Staff Decision Recommendation: After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be placed on the section 303(d) list. The readily available data and information is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating.

Line of Evidence (LOE) for Decision ID 66036, Indicator Bacteria **Region 2**
Pacific Ocean at Fort Funston

LOE ID: 90857
Pollutant: Total Coliform

LOE Subgroup:	Pollutant-Water
Matrix:	Water
Fraction:	None
Beneficial Use:	Water Contact Recreation
Number of Samples:	30
Number of Exceedances:	3
Data and Information Type:	PATHOGEN MONITORING
Data Used to Assess Water Quality:	Water Board staff assessed BeachWatch data for Pacific Ocean at Fort Funston to determine beneficial use support and results are as follows: 3 of 30 samples exceed the criterion for Coliform, Total.
Data Reference:	Data for Region 2 Beach Watch.
SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	California Ocean Plan (2009) single sample maximum states that total coliform density shall not exceed 10,000 MPN/100 mL
Objective/Criterion Reference:	California Ocean Plan Water Quality Control Plan Ocean Waters of California 2009
Evaluation Guideline:	
Guideline Reference:	
Spatial Representation:	Data for this line of evidence for Pacific Ocean at Fort Funston was collected at 1 monitoring site [Fort Funston]
Temporal Representation:	Data was collected over the time period 1/9/2005-4/5/2010. These data were collected during or just after storm events when combined sewer discharges were known to occur. Therefore, these data are not temporally representative of water quality conditions relevant to assessing protection of REC1.
Environmental Conditions:	These data were collected during or just after storm events when combined sewer discharges were known to occur. Therefore, these data are not temporally representative of water quality conditions relevant to assessing protection of REC1.
QAPP Information:	The samples were collected for the Beach Watch program.
QAPP Information Reference(s):	

Line of Evidence (LOE) for Decision ID 66036, Indicator Bacteria
Pacific Ocean at Fort Funston

Region 2

LOE ID:	90534
Pollutant:	Fecal Coliform
LOE Subgroup:	Pollutant-Water
Matrix:	Water
Fraction:	None
Beneficial Use:	Water Contact Recreation
Number of Samples:	5
Number of Exceedances:	0
Data and Information Type:	Not Specified
Data Used to Assess Water Quality:	Zero of the 5 geomeans exceeded the fecal coliform objective.
Data Reference:	Data for Region 2 Beach Watch.
SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	The geometric mean standard for fecal coliform states that the fecal coliform density shall not exceed 200 per 100 mL. Water Quality Control Plan for Ocean Waters 2009.
Objective/Criterion Reference:	California Ocean Plan Water Quality Control Plan Ocean Waters of California 2009
Evaluation Guideline:	

Guideline Reference:

Spatial Representation:

Temporal Representation:

Samples were collected at station Fort Funston.

Samples were collected from January 2005 to April 2010. These data were collected during or just after storm events when combined sewer discharges were known to occur. Therefore, these data are not temporally representative of water quality conditions relevant to assessing protection of REC1.

Environmental Conditions:

These data were collected during or just after storm events when combined sewer discharges were known to occur. Therefore, these data are not temporally representative of water quality conditions relevant to assessing protection of REC1.

QAPP Information:

QAPP Information Reference(s):

The samples were collected for the Beach Watch program.

Line of Evidence (LOE) for Decision ID 66036, Indicator Bacteria

Region 2

Pacific Ocean at Fort Funston

LOE ID: 90696

Pollutant: Enterococcus
LOE Subgroup: Pollutant-Water
Matrix: Water
Fraction: None

Beneficial Use: Water Contact Recreation

Number of Samples: 5
Number of Exceedances: 1

Data and Information Type: Not Specified
Data Used to Assess Water Quality: One of the 5 geomeans exceeded the objective.
Data Reference: [Data for Region 2 Beach Watch.](#)

SWAMP Data: Non-SWAMP

Water Quality Objective/Criterion: The geometric mean standard for enterococcus states that the enterococcus density shall not exceed 35 per 100 mL. Water Quality Control Plan for Ocean Waters 2009.

Objective/Criterion Reference: [California Ocean Plan Water Quality Control Plan Ocean Waters of California 2009](#)

Evaluation Guideline:
Guideline Reference:

Spatial Representation:

Temporal Representation:

Samples were collected at the Fort Funston site.

Samples were collected from January 2005 to April 2010. These data were collected during or just after storm events when combined sewer discharges were known to occur. Therefore, these data are not temporally representative of water quality conditions relevant to assessing protection of REC1.

Environmental Conditions:

These data were collected during or just after storm events when combined sewer discharges were known to occur. Therefore, these data are not temporally representative of water quality conditions relevant to assessing protection of REC1.

QAPP Information:

QAPP Information Reference(s):

The samples were collected for the Beach Watch program.

Line of Evidence (LOE) for Decision ID 66036, Indicator Bacteria

Region 2

Pacific Ocean at Fort Funston

LOE ID: 90535

Pollutant: Total Coliform
LOE Subgroup: Pollutant-Water
Matrix: Water
Fraction: None

Beneficial Use:	Water Contact Recreation
Number of Samples:	5
Number of Exceedances:	1
Data and Information Type:	Not Specified
Data Used to Assess Water Quality:	One of the 5 geomeans exceeded the total coliform objective.
Data Reference:	Data for Region 2 Beach Watch.
SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	The geometric mean standard for total coliform states that the total coliform density shall not exceed 1,000 per 100 mL. Water Quality Control Plan for Ocean Waters 2009.
Objective/Criterion Reference:	California Ocean Plan Water Quality Control Plan Ocean Waters of California 2009
Evaluation Guideline:	
Guideline Reference:	
Spatial Representation:	Samples were collected at station Fort Funston.
Temporal Representation:	Samples were collected from January 2005 to April 2010. These data were collected during or just after storm events when combined sewer discharges were known to occur. Therefore, these data are not temporally representative of water quality conditions relevant to assessing protection of REC1.
Environmental Conditions:	These data were collected during or just after storm events when combined sewer discharges were known to occur. Therefore, these data are not temporally representative of water quality conditions relevant to assessing protection of REC1.
QAPP Information:	The samples were collected for the Beach Watch program.
QAPP Information Reference(s):	

Line of Evidence (LOE) for Decision ID 66036, Indicator Bacteria
Pacific Ocean at Fort Funston

Region 2

LOE ID:	90796
Pollutant:	Fecal Coliform
LOE Subgroup:	Pollutant-Water
Matrix:	Water
Fraction:	None
Beneficial Use:	Water Contact Recreation
Number of Samples:	30
Number of Exceedances:	4
Data and Information Type:	PATHOGEN MONITORING
Data Used to Assess Water Quality:	Water Board staff assessed BeachWatch data for Pacific Ocean at Fort Funston to determine beneficial use support and results are as follows: 4 of 30 samples exceed the criterion for Coliform, Fecal.
Data Reference:	Data for Region 2 Beach Watch.
SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	California Ocean Plan (SWRCB 2009) states that the single sample maximum for fecal coliform shall not exceed 400 MPN/100 mL
Objective/Criterion Reference:	California Ocean Plan Water Quality Control Plan Ocean Waters of California 2009
Evaluation Guideline:	
Guideline Reference:	
Spatial Representation:	Data for this line of evidence for Pacific Ocean at Fort Funston was collected at 1 monitoring site [Fort Funston]

Temporal Representation:	Data was collected over the time period 1/9/2005-4/5/2010. These data were collected during or just after storm events when combined sewer discharges were known to occur. Therefore, these data are not temporally representative of water quality conditions relevant to assessing protection of REC1.
Environmental Conditions:	These data were collected during or just after storm events when combined sewer discharges were known to occur. Therefore, these data are not temporally representative of water quality conditions relevant to assessing protection of REC1.
QAPP Information:	The samples were collected for the Beach Watch program.
QAPP Information Reference(s):	

Line of Evidence (LOE) for Decision ID 66036, Indicator Bacteria
Pacific Ocean at Fort Funston

Region 2

LOE ID:	90901
Pollutant:	Enterococcus
LOE Subgroup:	Pollutant-Water
Matrix:	Water
Fraction:	None
Beneficial Use:	Water Contact Recreation
Number of Samples:	30
Number of Exceedances:	5
Data and Information Type:	PATHOGEN MONITORING
Data Used to Assess Water Quality:	Water Board staff assessed BeachWatch data for Pacific Ocean at Fort Funston to determine beneficial use support and results are as follows: 5 of 30 samples exceed the criterion for Enterococci.
Data Reference:	Data for Region 2 Beach Watch.
SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	California Ocean Plan (SWRCB 2009) states that the single sample maximum for Enterococcus shall not exceed 104 MPN/100 mL.
Objective/Criterion Reference:	California Ocean Plan Water Quality Control Plan Ocean Waters of California 2009
Evaluation Guideline:	
Guideline Reference:	
Spatial Representation:	Data for this line of evidence for Pacific Ocean at Fort Funston was collected at 1 monitoring site [Fort Funston]
Temporal Representation:	Data was collected over the time period 1/9/2005-4/5/2010. These data were collected during or just after storm events when combined sewer discharges were known to occur. Therefore, these data are not temporally representative of water quality conditions relevant to assessing protection of REC1.
Environmental Conditions:	These data were collected during or just after storm events when combined sewer discharges were known to occur. Therefore, these data are not temporally representative of water quality conditions relevant to assessing protection of REC1.
QAPP Information:	The samples were collected for the Beach Watch program.
QAPP Information Reference(s):	

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Supporting Information

Regional Board 2 - San Francisco Bay Region

Water Body Name: Pacific Ocean at Sharp Beach
Water Body ID: CAC2021001020110713002858
Water Body Type: Coastal & Bay Shoreline

DECISION ID 66024 **Region 2**
Pacific Ocean at Sharp Beach

Pollutant: Indicator Bacteria
Final Listing Decision: Do Not List on 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision: New Decision
Revision Status Revised
Impairment from Pollutant or Pollution: Pollutant

Regional Board Staff Conclusion: This pollutant is being considered for placement on the CWA section 303(d) List under section 3.3 of the Listing Policy. Under section 3.3 a single line of evidence is necessary to assess listing status.

Nine lines of evidence are available in the administrative record to assess this pollutant.

Two of the 443 samples exceed the OBJECTIVE for single sample maximum for Enterococcus. Zero of the 390 samples exceed the OBJECTIVE for the geometric mean for Enterococcus. Zero of the 441 samples exceed the OBJECTIVE for single sample maximum for Fecal Coliform. Zero of the 387 samples exceed the OBJECTIVE for the geometric mean for Fecal Coliform. One of the 442 samples exceed the OBJECTIVE for single sample maximum for Total Coliform. Zero of the 391 samples exceed the OBJECTIVE for the geometric mean for Total Coliform.

Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against placing this water segment-pollutant combination on the CWA section 303(d) List in the Water Quality Limited Segments category.

This conclusion is based on the staff findings that:

1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy.
2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy.
3. Two of the 443 samples exceed the OBJECTIVE for single sample maximum for Enterococcus. Zero of the 390 samples exceed the OBJECTIVE for the geometric mean for Enterococcus. Zero of the 441 samples exceed the OBJECTIVE for single sample maximum for Fecal Coliform. Zero of the 387 samples exceed the OBJECTIVE for the geometric mean for Fecal Coliform. One of the 442 samples exceed the OBJECTIVE for single sample maximum for Total Coliform. Zero of the 391 samples exceed the OBJECTIVE for the geometric mean for Total Coliform. These do not exceed the allowable frequency listed in Table 3.2 of the Listing Policy.
4. Pursuant to section 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.

Regional Board Staff Decision Recommendation: After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be placed on the section 303(d) list because applicable water quality standards are not being exceeded.

Line of Evidence (LOE) for Decision ID 66024, Indicator Bacteria **Region 2**
Pacific Ocean at Sharp Beach

LOE ID: 90643

Pollutant:	Total Coliform
LOE Subgroup:	Pollutant-Water
Matrix:	Water
Fraction:	None
Beneficial Use:	Water Contact Recreation
Number of Samples:	192
Number of Exceedances:	0
Data and Information Type:	Not Specified
Data Used to Assess Water Quality:	Zero of the 192 geomeans exceeded the objective.
Data Reference:	Data for Region 2 Beach Watch.
SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	The geometric mean standard for total coliform states that the coliform density shall not exceed 1000 per 100 mL. Water Quality Control Plan for Ocean Waters 2009.
Objective/Criterion Reference:	California Ocean Plan Water Quality Control Plan Ocean Waters of California 2009
Evaluation Guideline:	
Guideline Reference:	
Spatial Representation:	Samples were collected at the Sharp Park Beach #3 site.
Temporal Representation:	Samples were collected from January 2005 to August 2010.
Environmental Conditions:	
QAPP Information:	The samples were collected for the Beach Watch program.
QAPP Information Reference(s):	

Line of Evidence (LOE) for Decision ID 66024, Indicator Bacteria
Pacific Ocean at Sharp Beach

Region 2

LOE ID:	90642
Pollutant:	Enterococcus
LOE Subgroup:	Pollutant-Water
Matrix:	Water
Fraction:	None
Beneficial Use:	Water Contact Recreation
Number of Samples:	192
Number of Exceedances:	0
Data and Information Type:	Not Specified
Data Used to Assess Water Quality:	Zero of the 192 geomeans exceeded the objective.
Data Reference:	Data for Region 2 Beach Watch.
SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	The geometric mean standard for enterococcus states that the enterococcus density shall not exceed 35 per 100 mL. Water Quality Control Plan for Ocean Waters 2009.
Objective/Criterion Reference:	California Ocean Plan Water Quality Control Plan Ocean Waters of California 2009
Evaluation Guideline:	
Guideline Reference:	
Spatial Representation:	Samples were collected at the Sharp Park Beach #3 site.
Temporal Representation:	Samples were collected from January 2005 to August 2010.
Environmental Conditions:	
QAPP Information:	The samples were collected for the Beach Watch program.

Line of Evidence (LOE) for Decision ID 66024, Indicator Bacteria**Region 2****Pacific Ocean at Sharp Beach**

LOE ID:	90782
Pollutant:	Enterococcus
LOE Subgroup:	Pollutant-Water
Matrix:	Water
Fraction:	None
Beneficial Use:	Water Contact Recreation
Number of Samples:	443
Number of Exceedances:	2
Data and Information Type:	PATHOGEN MONITORING
Data Used to Assess Water Quality:	Water Board staff assessed BeachWatch data for Pacific Ocean at Sharp Beach to determine beneficial use support and results are as follows: 2 of 443 samples exceed the criterion for Enterococci.
Data Reference:	Data for Region 2 Beach Watch.
SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	California Ocean Plan (SWRCB 2009) states that the single sample maximum for Enterococcus shall not exceed 104 MPN/100 mL.
Objective/Criterion Reference:	California Ocean Plan Water Quality Control Plan Ocean Waters of California 2009
Evaluation Guideline:	
Guideline Reference:	
Spatial Representation:	Data for this line of evidence for Pacific Ocean at Sharp Beach was collected at 2 monitoring sites [Sharp Park Beach #3, Sharp Park Beach #6]
Temporal Representation:	Data was collected over the time period 1/3/2005-8/30/2010.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	The samples were collected for the Beach Watch program.
QAPP Information Reference(s):	

Line of Evidence (LOE) for Decision ID 66024, Indicator Bacteria**Region 2****Pacific Ocean at Sharp Beach**

LOE ID:	90874
Pollutant:	Total Coliform
LOE Subgroup:	Pollutant-Water
Matrix:	Water
Fraction:	None
Beneficial Use:	Water Contact Recreation
Number of Samples:	442
Number of Exceedances:	1
Data and Information Type:	PATHOGEN MONITORING
Data Used to Assess Water Quality:	Water Board staff assessed BeachWatch data for Pacific Ocean at Sharp Beach to determine beneficial use support and results are as follows: 1 of 442 samples exceed the criterion for Coliform, Total.
Data Reference:	Data for Region 2 Beach Watch.
SWAMP Data:	Non-SWAMP

Water Quality Objective/Criterion:	California Ocean Plan (2009) single sample maximum states that total coliform density shall not exceed 10,000 MPN/100 mL
Objective/Criterion Reference:	California Ocean Plan Water Quality Control Plan Ocean Waters of California 2009
Evaluation Guideline:	
Guideline Reference:	
Spatial Representation:	Data for this line of evidence for Pacific Ocean at Sharp Beach was collected at 2 monitoring sites [Sharp Park Beach #3, Sharp Park Beach #6]
Temporal Representation:	Data was collected over the time period 1/3/2005-8/30/2010.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	The samples were collected for the Beach Watch program.
QAPP Information Reference(s):	

Line of Evidence (LOE) for Decision ID 66024, Indicator Bacteria	Region 2
Pacific Ocean at Sharp Beach	

LOE ID:	90644
Pollutant:	Fecal Coliform
LOE Subgroup:	Pollutant-Water
Matrix:	Water
Fraction:	None
Beneficial Use:	Water Contact Recreation
Number of Samples:	188
Number of Exceedances:	0
Data and Information Type:	Not Specified
Data Used to Assess Water Quality:	Zero of the 188 geomeans exceeded the objective.
Data Reference:	Data for Region 2 Beach Watch.
SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	The geometric mean standard for fecal coliform states that the fecal coliform density shall not exceed 200 per 100 mL. Water Quality Control Plan for Ocean Waters 2009.
Objective/Criterion Reference:	California Ocean Plan Water Quality Control Plan Ocean Waters of California 2009
Evaluation Guideline:	
Guideline Reference:	
Spatial Representation:	Samples were collected at the Sharp Park Beach #3 site.
Temporal Representation:	Samples were collected from January 2005 to August 2010.
Environmental Conditions:	
QAPP Information:	The samples were collected for the beach watch program.
QAPP Information Reference(s):	

Line of Evidence (LOE) for Decision ID 66024, Indicator Bacteria	Region 2
Pacific Ocean at Sharp Beach	

LOE ID:	90830
Pollutant:	Fecal Coliform
LOE Subgroup:	Pollutant-Water
Matrix:	Water
Fraction:	None
Beneficial Use:	Water Contact Recreation

Number of Samples:	441
Number of Exceedances:	0
Data and Information Type:	PATHOGEN MONITORING
Data Used to Assess Water Quality:	Water Board staff assessed BeachWatch data for Pacific Ocean at Sharp Beach to determine beneficial use support and results are as follows: 0 of 441 samples exceed the criterion for Coliform, Fecal.
Data Reference:	Data for Region 2 Beach Watch.
SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	California Ocean Plan (SWRCB 2009) states that the single sample maximum for fecal coliform shall not exceed 400 MPN/100 mL
Objective/Criterion Reference:	California Ocean Plan Water Quality Control Plan Ocean Waters of California 2009
Evaluation Guideline:	
Guideline Reference:	
Spatial Representation:	Data for this line of evidence for Pacific Ocean at Sharp Beach was collected at 2 monitoring sites [Sharp Park Beach #3, Sharp Park Beach #6]
Temporal Representation:	Data was collected over the time period 1/3/2005-8/30/2010.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	The samples were collected for the Beach Watch program.
QAPP Information Reference(s):	

Line of Evidence (LOE) for Decision ID 66024, Indicator Bacteria
Pacific Ocean at Sharp Beach

Region 2

LOE ID:	90647
Pollutant:	Enterococcus
LOE Subgroup:	Pollutant-Water
Matrix:	Water
Fraction:	None
Beneficial Use:	Water Contact Recreation
Number of Samples:	198
Number of Exceedances:	0
Data and Information Type:	Not Specified
Data Used to Assess Water Quality:	Zero of the 198 geomeans exceeded the objective.
Data Reference:	Data for Region 2 Beach Watch.
SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	The geometric mean standard for enterococcus states that the enterococcus density shall not exceed 35 per 100 mL. Water Quality Control Plan for Ocean Waters 2009.
Objective/Criterion Reference:	California Ocean Plan Water Quality Control Plan Ocean Waters of California 2009
Evaluation Guideline:	
Guideline Reference:	
Spatial Representation:	Samples were collected at the Sharp Park Beach #6 site.
Temporal Representation:	Samples were collected from January 2005 to August 2010.
Environmental Conditions:	
QAPP Information:	The samples were collected for the Beach Watch program.
QAPP Information Reference(s):	

Line of Evidence (LOE) for Decision ID 66024, Indicator Bacteria
Pacific Ocean at Sharp Beach

Region 2

LOE ID:	90646
Pollutant:	Total Coliform
LOE Subgroup:	Pollutant-Water
Matrix:	Water
Fraction:	None
Beneficial Use:	Water Contact Recreation
Number of Samples:	199
Number of Exceedances:	0
Data and Information Type:	Not Specified
Data Used to Assess Water Quality:	Zero of the 199 geomeans exceeded the objective.
Data Reference:	Data for Region 2 Beach Watch.
SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	The geometric mean standard for total coliform states that the coliform density shall not exceed 1000 per 100 mL. Water Quality Control Plan for Ocean Waters 2009.
Objective/Criterion Reference:	California Ocean Plan Water Quality Control Plan Ocean Waters of California 2009
Evaluation Guideline:	
Guideline Reference:	
Spatial Representation:	Samples were collected at the Sharp Park Beach #6 site.
Temporal Representation:	Samples were collected from January 2005 to August 2010.
Environmental Conditions:	
QAPP Information:	The samples were collected for the Beach Watch program.
QAPP Information Reference(s):	

Line of Evidence (LOE) for Decision ID 66024, Indicator Bacteria
Pacific Ocean at Sharp Beach

Region 2

LOE ID:	90645
Pollutant:	Fecal Coliform
LOE Subgroup:	Pollutant-Water
Matrix:	Water
Fraction:	None
Beneficial Use:	Water Contact Recreation
Number of Samples:	199
Number of Exceedances:	0
Data and Information Type:	Not Specified
Data Used to Assess Water Quality:	Zero of the 199 geomeans exceeded the objective.
Data Reference:	Data for Region 2 Beach Watch.
SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	The geometric mean standard for fecal coliform states that the fecal coliform density shall not exceed 200 per 100 mL. Water Quality Control Plan for Ocean Waters 2009.
Objective/Criterion Reference:	California Ocean Plan Water Quality Control Plan Ocean Waters of California 2009
Evaluation Guideline:	
Guideline Reference:	
Spatial Representation:	Samples were collected at the Sharp Park Beach #6 site.
Temporal Representation:	Samples were collected from January 2005 to August 2010.

Environmental Conditions:

QAPP Information:

QAPP Information Reference(s):

The samples were collected for the beach watch program.

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Supporting Information

Regional Board 2 - San Francisco Bay Region

Water Body Name: Pacific Ocean Montara State Beach
Water Body ID: CAC2022101120110713144030
Water Body Type: Coastal & Bay Shoreline

DECISION ID 66103 **Region 2**
Pacific Ocean Montara State Beach

Pollutant: Indicator Bacteria
Final Listing Decision: Do Not List on 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision: New Decision
Revision Status Revised
Impairment from Pollutant or Pollution: Pollutant

Regional Board Staff Conclusion: This pollutant is being considered for placement on the CWA section 303(d) List under section 3.3 of the Listing Policy. Under section 3.3 a single line of evidence is necessary to assess listing status.

Six lines of evidence are available in the administrative record to assess this pollutant. Zero of the two hundred forty-seven samples exceed the enterococcus geometric mean objective.

Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against placing this water segment-pollutant combination on the CWA section 303(d) List.

This conclusion is based on the staff findings that:

1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy.
2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy.
3. Zero of the two hundred forty-seven samples exceed the enterococcus geometric mean objective and this does not exceed the allowable frequency listed in Table 3.2 of the Listing Policy.
4. Pursuant to section 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.

Regional Board Staff Decision Recommendation: After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be placed on the section 303(d) list because applicable water quality standards are not being exceeded.

Line of Evidence (LOE) for Decision ID 66103, Indicator Bacteria **Region 2**
Pacific Ocean Montara State Beach

LOE ID: 92539
Pollutant: Total Coliform
LOE Subgroup: Pollutant-Water
Matrix: Water
Fraction: None
Beneficial Use: Water Contact Recreation
Number of Samples: 265
Number of Exceedances: 1

Data and Information Type:	PATHOGEN MONITORING
Data Used to Assess Water Quality:	Water Board staff assessed BeachWatch data for Pacific Ocean Montara State Beach to determine beneficial use support and results are as follows: 1 of 265 samples exceed the criterion for Coliform, Total.
Data Reference:	Data for Region 2 Beach Watch.
SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	California Ocean Plan (2009) single sample maximum states that total coliform density shall not exceed 10,000 MPN/100 mL
Objective/Criterion Reference:	California Ocean Plan Water Quality Control Plan Ocean Waters of California 2009
Evaluation Guideline:	
Guideline Reference:	
Spatial Representation:	Data for this line of evidence for Pacific Ocean Montara State Beach was collected at 1 monitoring site [Montara State Beach]
Temporal Representation:	Data was collected over the time period 1/3/2005-8/23/2010.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	The samples were collected for the Beach Watch program.
QAPP Information Reference(s):	

Line of Evidence (LOE) for Decision ID 66103, Indicator Bacteria

Region 2

Pacific Ocean Montara State Beach

LOE ID:	92538
Pollutant:	Fecal Coliform
LOE Subgroup:	Pollutant-Water
Matrix:	Water
Fraction:	None
Beneficial Use:	Water Contact Recreation
Number of Samples:	251
Number of Exceedances:	0
Data and Information Type:	Not Specified
Data Used to Assess Water Quality:	Zero of the 251 geomeans exceeded the fecal coliform objective.
Data Reference:	Data for Region 2 Beach Watch.
SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	The geometric mean standard for fecal coliform states that the fecal coliform density shall not exceed 200 per 100 mL. Water Quality Control Plan for Ocean Waters 2009.
Objective/Criterion Reference:	California Ocean Plan Water Quality Control Plan Ocean Waters of California 2009
Evaluation Guideline:	
Guideline Reference:	
Spatial Representation:	Samples were collected at station Montara State Beach.
Temporal Representation:	Samples were collected approximately once a week from January 2005 to September 2010.
Environmental Conditions:	
QAPP Information:	The samples were collected for the Beach Watch program.
QAPP Information Reference(s):	

Line of Evidence (LOE) for Decision ID 66103, Indicator Bacteria

Region 2

Pacific Ocean Montara State Beach

LOE ID:	92537
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Pollutant:	Fecal Coliform
LOE Subgroup:	Pollutant-Water
Matrix:	Water
Fraction:	None
Beneficial Use:	Water Contact Recreation
Number of Samples:	267
Number of Exceedances:	0
Data and Information Type:	PATHOGEN MONITORING
Data Used to Assess Water Quality:	Water Board staff assessed BeachWatch data for Pacific Ocean Montara State Beach to determine beneficial use support and results are as follows: 0 of 267 samples exceed the criterion for Coliform, Fecal.
Data Reference:	Data for Region 2 Beach Watch.
SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	California Ocean Plan (SWRCB 2009) states that the single sample maximum for fecal coliform shall not exceed 400 MPN/100 mL
Objective/Criterion Reference:	California Ocean Plan Water Quality Control Plan Ocean Waters of California 2009
Evaluation Guideline:	
Guideline Reference:	
Spatial Representation:	Data for this line of evidence for Pacific Ocean Montara State Beach was collected at 1 monitoring site [Montara State Beach]
Temporal Representation:	Data was collected over the time period 1/3/2005-8/23/2010.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	The samples were collected for the Beach Watch program.
QAPP Information Reference(s):	

Line of Evidence (LOE) for Decision ID 66103, Indicator Bacteria

Region 2

Pacific Ocean Montara State Beach

LOE ID:	92536
Pollutant:	Enterococcus
LOE Subgroup:	Pollutant-Water
Matrix:	Water
Fraction:	None
Beneficial Use:	Water Contact Recreation
Number of Samples:	247
Number of Exceedances:	0
Data and Information Type:	Not Specified
Data Used to Assess Water Quality:	Zero of the 247 geomeans exceeded the enterococcus objective.
Data Reference:	Data for Region 2 Beach Watch.
SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	The geometric mean standard for enterococcus states that the enterococcus density shall not exceed 35 per 100 mL. Water Quality Control Plan for Ocean Waters 2009.
Objective/Criterion Reference:	California Ocean Plan Water Quality Control Plan Ocean Waters of California 2009
Evaluation Guideline:	
Guideline Reference:	
Spatial Representation:	Samples were collected at station Montara State Beach.

Temporal Representation: Samples were collected approximately once a week from January 2005 to September 2010.

Environmental Conditions:

QAPP Information: The samples were collected for the Beach Watch program.

QAPP Information Reference(s):

Line of Evidence (LOE) for Decision ID 66103, Indicator Bacteria
Pacific Ocean Montara State Beach

Region 2

LOE ID: 92540

Pollutant: Total Coliform

LOE Subgroup: Pollutant-Water

Matrix: Water

Fraction: None

Beneficial Use: Water Contact Recreation

Number of Samples: 250

Number of Exceedances: 0

Data and Information Type: Not Specified

Data Used to Assess Water Quality: Zero of the 250 geomeans exceeded the total coliform objective.

Data Reference: [Data for Region 2 Beach Watch.](#)

SWAMP Data: Non-SWAMP

Water Quality Objective/Criterion: The geometric mean standard for total coliform states that the total coliform density shall not exceed 1,000 per 100 mL. Water Quality Control Plan for Ocean Waters 2009.

Objective/Criterion Reference: [California Ocean Plan Water Quality Control Plan Ocean Waters of California 2009](#)

Evaluation Guideline:

Guideline Reference:

Spatial Representation: Samples were collected at station Montara State Beach.

Temporal Representation: Samples were collected approximately once a week from January 2005 to September 2010.

Environmental Conditions:

QAPP Information: The samples were collected for the Beach Watch program.

QAPP Information Reference(s):

Line of Evidence (LOE) for Decision ID 66103, Indicator Bacteria
Pacific Ocean Montara State Beach

Region 2

LOE ID: 92535

Pollutant: Enterococcus

LOE Subgroup: Pollutant-Water

Matrix: Water

Fraction: None

Beneficial Use: Water Contact Recreation

Number of Samples: 265

Number of Exceedances: 0

Data and Information Type: PATHOGEN MONITORING

Data Used to Assess Water Quality: Water Board staff assessed BeachWatch data for Pacific Ocean Montara State Beach to determine beneficial use support and results are as follows: 0 of 265 samples exceed the criterion for Enterococci.

Data Reference: [Data for Region 2 Beach Watch.](#)

SWAMP Data:

Non-SWAMP

Water Quality Objective/Criterion:

California Ocean Plan (SWRCB 2009) states that the single sample maximum for Enterococcus shall not exceed 104 MPN/100 mL.

Objective/Criterion Reference:

[California Ocean Plan Water Quality Control Plan Ocean Waters of California 2009](#)

Evaluation Guideline:

Guideline Reference:

Spatial Representation:

Data for this line of evidence for Pacific Ocean Montara State Beach was collected at 1 monitoring site [Montara State Beach]

Temporal Representation:

Data was collected over the time period 1/3/2005-8/23/2010.

Environmental Conditions:

Staff is not aware of any special conditions that might affect interpretation of the data.

QAPP Information:

The samples were collected for the Beach Watch program.

QAPP Information Reference(s):

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Supporting Information

Regional Board 2 - San Francisco Bay Region

Water Body Name: Pacific Ocean at Roosevelt State Beach
Water Body ID: CAC2022101220110713144918
Water Body Type: Coastal & Bay Shoreline

DECISION ID 66062 **Region 2**
Pacific Ocean at Roosevelt State Beach

Pollutant: Indicator Bacteria
Final Listing Decision: Do Not List on 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision: New Decision
Revision Status Revised
Impairment from Pollutant or Pollution: Pollutant

Regional Board Staff Conclusion: This pollutant is being considered for placement on the CWA section 303(d) List under section 3.3 of the Listing Policy. Under section 3.3 a single line of evidence is necessary to assess listing status.

Six lines of evidence are available in the administrative record to assess this pollutant. Three of the two hundred forty-eight samples exceed the enterococcus geometric mean objective.

Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against placing this water segment-pollutant combination on the CWA section 303(d) List.

This conclusion is based on the staff findings that:

1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy.
2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy.
3. Three of the two hundred forty-eight samples exceed the enterococcus geometric mean objective and this does not exceed the allowable frequency listed in Table 3.2 of the Listing Policy.
4. Pursuant to section 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.

Regional Board Staff Decision Recommendation: After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be placed on the section 303(d) list because applicable water quality standards are not being exceeded.

Line of Evidence (LOE) for Decision ID 66062, Indicator Bacteria **Region 2**
Pacific Ocean at Roosevelt State Beach

LOE ID: 92526
Pollutant: Fecal Coliform
LOE Subgroup: Pollutant-Water
Matrix: Water
Fraction: None
Beneficial Use: Water Contact Recreation
Number of Samples: 248
Number of Exceedances: 0

Data and Information Type:	Not Specified
Data Used to Assess Water Quality:	Zero of the 248 geomeans exceeded the fecal coliform objective.
Data Reference:	Data for Region 2 Beach Watch.
SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	The geometric mean standard for fecal coliform states that the fecal coliform density shall not exceed 200 per 100 mL. Water Quality Control Plan for Ocean Waters 2009.
Objective/Criterion Reference:	California Ocean Plan Water Quality Control Plan Ocean Waters of California 2009
Evaluation Guideline:	
Guideline Reference:	
Spatial Representation:	Samples were collected at station Roosevelt State Beach.
Temporal Representation:	Samples were collected approximately once a week from January 2005 to September 2010.
Environmental Conditions:	
QAPP Information:	The samples were collected for the Beach Watch program.
QAPP Information Reference(s):	

Line of Evidence (LOE) for Decision ID 66062, Indicator Bacteria
Pacific Ocean at Roosevelt State Beach

Region 2

LOE ID:	92525
Pollutant:	Fecal Coliform
LOE Subgroup:	Pollutant-Water
Matrix:	Water
Fraction:	None
Beneficial Use:	Water Contact Recreation
Number of Samples:	267
Number of Exceedances:	1
Data and Information Type:	PATHOGEN MONITORING
Data Used to Assess Water Quality:	Water Board staff assessed BeachWatch data for Pacific Ocean at Roosevelt State Beach to determine beneficial use support and results are as follows: 1 of 267 samples exceed the criterion for Coliform, Fecal.
Data Reference:	Data for Region 2 Beach Watch.
SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	California Ocean Plan (SWRCB 2009) states that the single sample maximum for fecal coliform shall not exceed 400 MPN/100 mL
Objective/Criterion Reference:	California Ocean Plan Water Quality Control Plan Ocean Waters of California 2009
Evaluation Guideline:	
Guideline Reference:	
Spatial Representation:	Data for this line of evidence for Pacific Ocean at Roosevelt State Beach was collected at 1 monitoring site [Roosevelt State Beach]
Temporal Representation:	Data was collected over the time period 1/3/2005-8/30/2010.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	The samples were collected for the Beach Watch program.
QAPP Information Reference(s):	

Line of Evidence (LOE) for Decision ID 66062, Indicator Bacteria
Pacific Ocean at Roosevelt State Beach

Region 2

LOE ID:	92524
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Pollutant:	Enterococcus
LOE Subgroup:	Pollutant-Water
Matrix:	Water
Fraction:	None
Beneficial Use:	Water Contact Recreation
Number of Samples:	248
Number of Exceedances:	3
Data and Information Type:	Not Specified
Data Used to Assess Water Quality:	Three of the 248 geomeans exceeded the enterococcus objective.
Data Reference:	Data for Region 2 Beach Watch.
SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	The geometric mean standard for enterococcus states that the enterococcus density shall not exceed 35 per 100 mL. Water Quality Control Plan for Ocean Waters 2009.
Objective/Criterion Reference:	California Ocean Plan Water Quality Control Plan Ocean Waters of California 2009
Evaluation Guideline:	
Guideline Reference:	
Spatial Representation:	Samples were collected at station Roosevelt State Beach.
Temporal Representation:	Samples were collected approximately once a week from January 2005 to September 2010.
Environmental Conditions:	
QAPP Information:	The samples were collected for the Beach Watch program.
QAPP Information Reference(s):	

Line of Evidence (LOE) for Decision ID 66062, Indicator Bacteria
Pacific Ocean at Roosevelt State Beach

Region 2

LOE ID:	92528
Pollutant:	Total Coliform
LOE Subgroup:	Pollutant-Water
Matrix:	Water
Fraction:	None
Beneficial Use:	Water Contact Recreation
Number of Samples:	248
Number of Exceedances:	0
Data and Information Type:	Not Specified
Data Used to Assess Water Quality:	Zero of the 248 geomeans exceeded the total coliform objective.
Data Reference:	Data for Region 2 Beach Watch.
SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	The geometric mean standard for total coliform states that the total coliform density shall not exceed 1,000 per 100 mL. Water Quality Control Plan for Ocean Waters 2009.
Objective/Criterion Reference:	California Ocean Plan Water Quality Control Plan Ocean Waters of California 2009
Evaluation Guideline:	
Guideline Reference:	
Spatial Representation:	Samples were collected at station Roosevelt State Beach.
Temporal Representation:	Samples were collected approximately once a week from January 2005 to September 2010.

Environmental Conditions:

QAPP Information:

The samples were collected for the Beach Watch program.

QAPP Information Reference(s):

Line of Evidence (LOE) for Decision ID 66062, Indicator Bacteria

Region 2

Pacific Ocean at Roosevelt State Beach

LOE ID: 92523

Pollutant: Enterococcus
LOE Subgroup: Pollutant-Water
Matrix: Water
Fraction: None

Beneficial Use: Water Contact Recreation

Number of Samples: 267
Number of Exceedances: 10

Data and Information Type: PATHOGEN MONITORING
Data Used to Assess Water Quality: Water Board staff assessed BeachWatch data for Pacific Ocean at Roosevelt State Beach to determine beneficial use support and results are as follows: 10 of 267 samples exceed the criterion for Enterococci.

Data Reference: [Data for Region 2 Beach Watch.](#)

SWAMP Data: Non-SWAMP

Water Quality Objective/Criterion: California Ocean Plan (SWRCB 2009) states that the single sample maximum for Enterococcus shall not exceed 104 MPN/100 mL.

Objective/Criterion Reference: [California Ocean Plan Water Quality Control Plan Ocean Waters of California 2009](#)

Evaluation Guideline:
Guideline Reference:

Spatial Representation: Data for this line of evidence for Pacific Ocean at Roosevelt State Beach was collected at 1 monitoring site [Roosevelt State Beach]

Temporal Representation: Data was collected over the time period 1/3/2005-8/30/2010.

Environmental Conditions: Staff is not aware of any special conditions that might affect interpretation of the data.

QAPP Information: The samples were collected for the Beach Watch program.

QAPP Information Reference(s):

Line of Evidence (LOE) for Decision ID 66062, Indicator Bacteria

Region 2

Pacific Ocean at Roosevelt State Beach

LOE ID: 92527

Pollutant: Total Coliform
LOE Subgroup: Pollutant-Water
Matrix: Water
Fraction: None

Beneficial Use: Water Contact Recreation

Number of Samples: 267
Number of Exceedances: 0

Data and Information Type: PATHOGEN MONITORING
Data Used to Assess Water Quality: Water Board staff assessed BeachWatch data for Pacific Ocean at Roosevelt State Beach to determine beneficial use support and results are as follows: 0 of 267 samples exceed the criterion for Coliform, Total.

Data Reference: [Data for Region 2 Beach Watch.](#)

SWAMP Data:

Non-SWAMP

Water Quality Objective/Criterion:

California Ocean Plan (2009) single sample maximum states that total coliform density shall not exceed 10,000 MPN/100 mL

Objective/Criterion Reference:

[California Ocean Plan Water Quality Control Plan Ocean Waters of California 2009](#)

Evaluation Guideline:

Guideline Reference:

Spatial Representation:

Data for this line of evidence for Pacific Ocean at Roosevelt State Beach was collected at 1 monitoring site [Roosevelt State Beach]

Temporal Representation:

Data was collected over the time period 1/3/2005-8/30/2010.

Environmental Conditions:

Staff is not aware of any special conditions that might affect interpretation of the data.

QAPP Information:

The samples were collected for the Beach Watch program.

QAPP Information Reference(s):

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Supporting Information

Regional Board 2 - San Francisco Bay Region

Water Body Name: Pacific Ocean at Francis Beach
Water Body ID: CAC2022201120110713151658
Water Body Type: Coastal & Bay Shoreline

DECISION ID 66037 **Region 2**
Pacific Ocean at Francis Beach

Pollutant: Indicator Bacteria
Final Listing Decision: Do Not List on 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision: New Decision
Revision Status Revised
Impairment from Pollutant or Pollution: Pollutant

Regional Board Staff Conclusion: This pollutant is being considered for placement on the CWA section 303(d) List under section 3.3 of the Listing Policy. Under section 3.3 a single line of evidence is necessary to assess listing status.

Six lines of evidence are available in the administrative record to assess this pollutant. Ten of the two hundred sixty-seven samples exceed the enterococcus single sample maximum objective.

Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against placing this water segment-pollutant combination on the CWA section 303(d) List.

This conclusion is based on the staff findings that:

1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy.
2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy.
3. Ten of the two hundred sixty-seven samples exceed the enterococcus single sample maximum objective and this does not exceed the allowable frequency listed in Table 3.2 of the Listing Policy.
4. Pursuant to section 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.

Regional Board Staff Decision Recommendation: After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be placed on the section 303(d) list because applicable water quality standards are not being exceeded.

Line of Evidence (LOE) for Decision ID 66037, Indicator Bacteria **Region 2**
Pacific Ocean at Francis Beach

LOE ID: 92517
Pollutant: Fecal Coliform
LOE Subgroup: Pollutant-Water
Matrix: Water
Fraction: None
Beneficial Use: Water Contact Recreation
Number of Samples: 267
Number of Exceedances: 2

Data and Information Type:	PATHOGEN MONITORING
Data Used to Assess Water Quality:	Water Board staff assessed BeachWatch data for Pacific Ocean at Francis Beach to determine beneficial use support and results are as follows: 2 of 267 samples exceed the criterion for Coliform, Fecal.
Data Reference:	Data for Region 2 Beach Watch.
SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	California Ocean Plan (SWRCB 2009) states that the single sample maximum for fecal coliform shall not exceed 400 MPN/100 mL
Objective/Criterion Reference:	California Ocean Plan Water Quality Control Plan Ocean Waters of California 2009
Evaluation Guideline:	
Guideline Reference:	
Spatial Representation:	Data for this line of evidence for Pacific Ocean at Francis Beach was collected at 1 monitoring site [Francis State Beach]
Temporal Representation:	Data was collected over the time period 1/3/2005-8/30/2010.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	The samples were collected for the Beach Watch program.
QAPP Information Reference(s):	

Line of Evidence (LOE) for Decision ID 66037, Indicator Bacteria

Region 2

Pacific Ocean at Francis Beach

LOE ID:	92516
Pollutant:	Enterococcus
LOE Subgroup:	Pollutant-Water
Matrix:	Water
Fraction:	None
Beneficial Use:	Water Contact Recreation
Number of Samples:	250
Number of Exceedances:	9
Data and Information Type:	Not Specified
Data Used to Assess Water Quality:	Nine of the 250 geomeans exceeded the enterococcus objective.
Data Reference:	Data for Region 2 Beach Watch.
SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	The geometric mean standard for enterococcus states that the enterococcus density shall not exceed 35 per 100 mL. Water Quality Control Plan for Ocean Waters 2009.
Objective/Criterion Reference:	California Ocean Plan Water Quality Control Plan Ocean Waters of California 2009
Evaluation Guideline:	
Guideline Reference:	
Spatial Representation:	Samples were collected at station Francis State Beach.
Temporal Representation:	Samples were collected approximately once a week from January 2005 to September 2010.
Environmental Conditions:	
QAPP Information:	The samples were collected for the Beach Watch program.
QAPP Information Reference(s):	

Line of Evidence (LOE) for Decision ID 66037, Indicator Bacteria

Region 2

Pacific Ocean at Francis Beach

LOE ID:	92520
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Pollutant:	Total Coliform
LOE Subgroup:	Pollutant-Water
Matrix:	Water
Fraction:	None
Beneficial Use:	Water Contact Recreation
Number of Samples:	250
Number of Exceedances:	0
Data and Information Type:	Not Specified
Data Used to Assess Water Quality:	Zero of the 250 geomeans exceeded the total coliform objective.
Data Reference:	Data for Region 2 Beach Watch.
SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	The geometric mean standard for total coliform states that the total coliform density shall not exceed 1,000 per 100 mL. Water Quality Control Plan for Ocean Waters 2009.
Objective/Criterion Reference:	California Ocean Plan Water Quality Control Plan Ocean Waters of California 2009
Evaluation Guideline:	
Guideline Reference:	
Spatial Representation:	Samples were collected at station Francis State Beach.
Temporal Representation:	Samples were collected approximately once a week from January 2005 to September 2010.
Environmental Conditions:	
QAPP Information:	The samples were collected for the Beach Watch program.
QAPP Information Reference(s):	

Line of Evidence (LOE) for Decision ID 66037, Indicator Bacteria
Pacific Ocean at Francis Beach

Region 2

LOE ID:	92515
Pollutant:	Enterococcus
LOE Subgroup:	Pollutant-Water
Matrix:	Water
Fraction:	None
Beneficial Use:	Water Contact Recreation
Number of Samples:	267
Number of Exceedances:	10
Data and Information Type:	PATHOGEN MONITORING
Data Used to Assess Water Quality:	Water Board staff assessed BeachWatch data for Pacific Ocean at Francis Beach to determine beneficial use support and results are as follows: 10 of 267 samples exceed the criterion for Enterococci.
Data Reference:	Data for Region 2 Beach Watch.
SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	California Ocean Plan (SWRCB 2009) states that the single sample maximum for Enterococcus shall not exceed 104 MPN/100 mL.
Objective/Criterion Reference:	California Ocean Plan Water Quality Control Plan Ocean Waters of California 2009
Evaluation Guideline:	
Guideline Reference:	
Spatial Representation:	Data for this line of evidence for Pacific Ocean at Francis Beach was collected at 1

Temporal Representation:	monitoring site [Francis State Beach]
Environmental Conditions:	Data was collected over the time period 1/3/2005-8/30/2010.
QAPP Information:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information Reference(s):	The samples were collected for the Beach Watch program.

Line of Evidence (LOE) for Decision ID 66037, Indicator Bacteria
Pacific Ocean at Francis Beach

Region 2

LOE ID:	92518
Pollutant:	Fecal Coliform
LOE Subgroup:	Pollutant-Water
Matrix:	Water
Fraction:	None
Beneficial Use:	Water Contact Recreation
Number of Samples:	250
Number of Exceedances:	0
Data and Information Type:	Not Specified
Data Used to Assess Water Quality:	Zero of the 250 geomeans exceeded the fecal coliform objective.
Data Reference:	Data for Region 2 Beach Watch.
SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	The geometric mean standard for fecal coliform states that the fecal coliform density shall not exceed 200 per 100 mL. Water Quality Control Plan for Ocean Waters 2009.
Objective/Criterion Reference:	California Ocean Plan Water Quality Control Plan Ocean Waters of California 2009
Evaluation Guideline:	
Guideline Reference:	
Spatial Representation:	Samples were collected at station Francis State Beach.
Temporal Representation:	Samples were collected approximately once a week from January 2005 to September 2010.
Environmental Conditions:	
QAPP Information:	The samples were collected for the Beach Watch program.
QAPP Information Reference(s):	

Line of Evidence (LOE) for Decision ID 66037, Indicator Bacteria
Pacific Ocean at Francis Beach

Region 2

LOE ID:	92519
Pollutant:	Total Coliform
LOE Subgroup:	Pollutant-Water
Matrix:	Water
Fraction:	None
Beneficial Use:	Water Contact Recreation
Number of Samples:	267
Number of Exceedances:	0
Data and Information Type:	PATHOGEN MONITORING
Data Used to Assess Water Quality:	Water Board staff assessed BeachWatch data for Pacific Ocean at Francis Beach to determine beneficial use support and results are as follows: 0 of 267 samples exceed the criterion for Coliform, Total.
Data Reference:	Data for Region 2 Beach Watch.

SWAMP Data:

Non-SWAMP

Water Quality Objective/Criterion:

California Ocean Plan (2009) single sample maximum states that total coliform density shall not exceed 10,000 MPN/100 mL

Objective/Criterion Reference:

[California Ocean Plan Water Quality Control Plan Ocean Waters of California 2009](#)

Evaluation Guideline:

Guideline Reference:

Spatial Representation:

Data for this line of evidence for Pacific Ocean at Francis Beach was collected at 1 monitoring site [Francis State Beach]

Temporal Representation:

Data was collected over the time period 1/3/2005-8/30/2010.

Environmental Conditions:

Staff is not aware of any special conditions that might affect interpretation of the data.

QAPP Information:

The samples were collected for the Beach Watch program.

QAPP Information Reference(s):

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Supporting Information

Regional Board 2 - San Francisco Bay Region

Water Body Name: Pacific Ocean at Pomponio State Beach
Water Body ID: CAC2024002020110713135400
Water Body Type: Coastal & Bay Shoreline

DECISION ID 66060 **Region 2**
Pacific Ocean at Pomponio State Beach

Pollutant: Indicator Bacteria
Final Listing Decision: Do Not List on 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision: New Decision
Revision Status Revised
Impairment from Pollutant or Pollution: Pollutant

Regional Board Staff Conclusion: This pollutant is being considered for placement on the CWA section 303(d) List under section 3.3 of the Listing Policy. Under section 3.3 a single line of evidence is necessary to assess listing status.

Six lines of evidence are available in the administrative record to assess this pollutant. Two of the one hundred eighty-seven samples exceed the enterococcus single sample maximum objective.

Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against placing this water segment-pollutant combination on the CWA section 303(d) List.

This conclusion is based on the staff findings that:

1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy.
2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy.
3. Two of the one hundred eighty-seven samples exceed the enterococcus single sample maximum objective and this does not exceed the allowable frequency listed in Table 3.2 of the Listing Policy.
4. Pursuant to section 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.

Regional Board Staff Decision Recommendation: After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be placed on the section 303(d) list because applicable water quality standards are not being exceeded.

Line of Evidence (LOE) for Decision ID 66060, Indicator Bacteria **Region 2**
Pacific Ocean at Pomponio State Beach

LOE ID: 90871
Pollutant: Total Coliform
LOE Subgroup: Pollutant-Water
Matrix: Water
Fraction: None
Beneficial Use: Water Contact Recreation
Number of Samples: 186
Number of Exceedances: 2

Data and Information Type:	PATHOGEN MONITORING
Data Used to Assess Water Quality:	Water Board staff assessed BeachWatch data for Pacific Ocean at Pomponio State Beach to determine beneficial use support and results are as follows: 2 of 186 samples exceed the criterion for Coliform, Total.
Data Reference:	Data for Region 2 Beach Watch.
SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	California Ocean Plan (2009) single sample maximum states that total coliform density shall not exceed 10,000 MPN/100 mL
Objective/Criterion Reference:	California Ocean Plan Water Quality Control Plan Ocean Waters of California 2009
Evaluation Guideline:	
Guideline Reference:	
Spatial Representation:	Data for this line of evidence for Pacific Ocean at Pomponio State Beach was collected at 1 monitoring site [Pomponio State Beach]
Temporal Representation:	Data was collected over the time period 1/3/2005-8/30/2010.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	The samples were collected for the Beach Watch program.
QAPP Information Reference(s):	

Line of Evidence (LOE) for Decision ID 66060, Indicator Bacteria

Region 2

Pacific Ocean at Pomponio State Beach

LOE ID:	90565
Pollutant:	Enterococcus
LOE Subgroup:	Pollutant-Water
Matrix:	Water
Fraction:	None
Beneficial Use:	Water Contact Recreation
Number of Samples:	128
Number of Exceedances:	0
Data and Information Type:	Not Specified
Data Used to Assess Water Quality:	Zero of the 128 geomeans exceeded the enterococcus objective.
Data Reference:	Data for Region 2 Beach Watch.
SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	The geometric mean standard for enterococcus states that the enterococcus density shall not exceed 35 per 100 mL. Water Quality Control Plan for Ocean Waters 2009.
Objective/Criterion Reference:	California Ocean Plan Water Quality Control Plan Ocean Waters of California 2009
Evaluation Guideline:	
Guideline Reference:	
Spatial Representation:	Samples were collected at station Pomponio State Beach.
Temporal Representation:	Samples were collected approximately once a week from January 2005 to September 2010.
Environmental Conditions:	
QAPP Information:	The samples were collected for the Beach Watch program.
QAPP Information Reference(s):	

Line of Evidence (LOE) for Decision ID 66060, Indicator Bacteria

Region 2

Pacific Ocean at Pomponio State Beach

LOE ID:	90779
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Pollutant:	Enterococcus
LOE Subgroup:	Pollutant-Water
Matrix:	Water
Fraction:	None
Beneficial Use:	Water Contact Recreation
Number of Samples:	187
Number of Exceedances:	2
Data and Information Type:	PATHOGEN MONITORING
Data Used to Assess Water Quality:	Water Board staff assessed BeachWatch data for Pacific Ocean at Pomponio State Beach to determine beneficial use support and results are as follows: 2 of 187 samples exceed the criterion for Enterococci.
Data Reference:	Data for Region 2 Beach Watch.
SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	California Ocean Plan (SWRCB 2009) states that the single sample maximum for Enterococcus shall not exceed 104 MPN/100 mL.
Objective/Criterion Reference:	California Ocean Plan Water Quality Control Plan Ocean Waters of California 2009
Evaluation Guideline:	
Guideline Reference:	
Spatial Representation:	Data for this line of evidence for Pacific Ocean at Pomponio State Beach was collected at 1 monitoring site [Pomponio State Beach]
Temporal Representation:	Data was collected over the time period 1/3/2005-8/30/2010.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	The samples were collected for the Beach Watch program.
QAPP Information Reference(s):	

Line of Evidence (LOE) for Decision ID 66060, Indicator Bacteria
Pacific Ocean at Pomponio State Beach

Region 2

LOE ID:	90564
Pollutant:	Total Coliform
LOE Subgroup:	Pollutant-Water
Matrix:	Water
Fraction:	None
Beneficial Use:	Water Contact Recreation
Number of Samples:	128
Number of Exceedances:	0
Data and Information Type:	Not Specified
Data Used to Assess Water Quality:	Zero of the 128 geomeans exceeded the total coliform objective.
Data Reference:	Data for Region 2 Beach Watch.
SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	The geometric mean standard for total coliform states that the total coliform density shall not exceed 1,000 per 100 mL. Water Quality Control Plan for Ocean Waters 2009.
Objective/Criterion Reference:	California Ocean Plan Water Quality Control Plan Ocean Waters of California 2009
Evaluation Guideline:	
Guideline Reference:	
Spatial Representation:	Samples were collected at station Pomponio State Beach.

Temporal Representation: Samples were collected approximately once a week from January 2005 to September 2010.

Environmental Conditions:

QAPP Information: The samples were collected for the Beach Watch program.

QAPP Information Reference(s):

Line of Evidence (LOE) for Decision ID 66060, Indicator Bacteria
Pacific Ocean at Pomponio State Beach

Region 2

LOE ID: 90817

Pollutant: Fecal Coliform
LOE Subgroup: Pollutant-Water
Matrix: Water
Fraction: None

Beneficial Use: Water Contact Recreation

Number of Samples: 185
Number of Exceedances: 1

Data and Information Type: PATHOGEN MONITORING
Data Used to Assess Water Quality: Water Board staff assessed BeachWatch data for Pacific Ocean at Pomponio State Beach to determine beneficial use support and results are as follows: 1 of 185 samples exceed the criterion for Coliform, Fecal.

Data Reference: [Data for Region 2 Beach Watch.](#)

SWAMP Data: Non-SWAMP

Water Quality Objective/Criterion: California Ocean Plan (SWRCB 2009) states that the single sample maximum for fecal coliform shall not exceed 400 MPN/100 mL

Objective/Criterion Reference: [California Ocean Plan Water Quality Control Plan Ocean Waters of California 2009](#)

Evaluation Guideline:

Guideline Reference:

Spatial Representation: Data for this line of evidence for Pacific Ocean at Pomponio State Beach was collected at 1 monitoring site [Pomponio State Beach]

Temporal Representation: Data was collected over the time period 1/3/2005-8/30/2010.

Environmental Conditions: Staff is not aware of any special conditions that might affect interpretation of the data.

QAPP Information: The samples were collected for the Beach Watch program.

QAPP Information Reference(s):

Line of Evidence (LOE) for Decision ID 66060, Indicator Bacteria
Pacific Ocean at Pomponio State Beach

Region 2

LOE ID: 90563

Pollutant: Fecal Coliform
LOE Subgroup: Pollutant-Water
Matrix: Water
Fraction: None

Beneficial Use: Water Contact Recreation

Number of Samples: 125
Number of Exceedances: 0

Data and Information Type: Not Specified
Data Used to Assess Water Quality: Zero of the 125 geomeans exceeded the fecal coliform objective.

Data Reference: [Data for Region 2 Beach Watch.](#)

SWAMP Data:

Non-SWAMP

Water Quality Objective/Criterion:

The geometric mean standard for fecal coliform states that the fecal coliform density shall not exceed 200 per 100 mL. Water Quality Control Plan for Ocean Waters 2009.

Objective/Criterion Reference:

[California Ocean Plan Water Quality Control Plan Ocean Waters of California 2009](#)

Evaluation Guideline:

Guideline Reference:

Spatial Representation:

Samples were collected at station Pomponio State Beach.

Temporal Representation:

Samples were collected approximately once a week from January 2005 to September 2010.

Environmental Conditions:

QAPP Information:

The samples were collected for the Beach Watch program.

QAPP Information Reference(s):

Draft California 2016 Integrated Report (303(d) List/305(b) Report)

Supporting Information

Regional Board 2 - San Francisco Bay Region

Water Body Name: Pacific Ocean at Pescadero State Beach
Water Body ID: CAC2024003120110713134628
Water Body Type: Coastal & Bay Shoreline

DECISION ID 66054 **Region 2**
Pacific Ocean at Pescadero State Beach

Pollutant: Indicator Bacteria
Final Listing Decision: Do Not List on 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision: New Decision
Revision Status Revised
Impairment from Pollutant or Pollution: Pollutant

Regional Board Staff Conclusion: This pollutant is being considered for placement on the CWA section 303(d) List under section 3.3 of the Listing Policy. Under section 3.3 a single line of evidence is necessary to assess listing status.

Six lines of evidence are available in the administrative record to assess this pollutant. Two of the seventy-nine samples exceed the enterococcus geometric mean objective.

Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against placing this water segment-pollutant combination on the CWA section 303(d) List.

This conclusion is based on the staff findings that:

1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy.
2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy.
3. Two of the seventy-nine samples exceed the enterococcus geometric mean objective and this does not exceed the allowable frequency listed in Table 3.2 of the Listing Policy.
4. Pursuant to section 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.

Regional Board Staff Decision Recommendation: After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be placed on the section 303(d) list because applicable water quality standards are not being exceeded.

Line of Evidence (LOE) for Decision ID 66054, Indicator Bacteria **Region 2**
Pacific Ocean at Pescadero State Beach

LOE ID: 90560
Pollutant: Fecal Coliform
LOE Subgroup: Pollutant-Water
Matrix: Water
Fraction: None
Beneficial Use: Water Contact Recreation
Number of Samples: 93
Number of Exceedances: 0

Data and Information Type:	Not Specified
Data Used to Assess Water Quality:	Zero of the 93 geomeans exceeded the fecal coliform objective.
Data Reference:	Data for Region 2 Beach Watch.
SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	The geometric mean standard for fecal coliform states that the fecal coliform density shall not exceed 200 per 100 mL. Water Quality Control Plan for Ocean Waters 2009.
Objective/Criterion Reference:	California Ocean Plan Water Quality Control Plan Ocean Waters of California 2009
Evaluation Guideline:	
Guideline Reference:	
Spatial Representation:	Samples were collected at station Pescadero State Beach.
Temporal Representation:	Samples were collected approximately thrice a month from January 2005 to September 2010.
Environmental Conditions:	
QAPP Information:	The samples were collected for the Beach Watch program.
QAPP Information Reference(s):	

Line of Evidence (LOE) for Decision ID 66054, Indicator Bacteria
Pacific Ocean at Pescadero State Beach

Region 2

LOE ID:	90863
Pollutant:	Total Coliform
LOE Subgroup:	Pollutant-Water
Matrix:	Water
Fraction:	None
Beneficial Use:	Water Contact Recreation
Number of Samples:	151
Number of Exceedances:	3
Data and Information Type:	PATHOGEN MONITORING
Data Used to Assess Water Quality:	Water Board staff assessed BeachWatch data for Pacific Ocean at Pescadero State Beach to determine beneficial use support and results are as follows: 3 of 151 samples exceed the criterion for Coliform, Total.
Data Reference:	Data for Region 2 Beach Watch.
SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	California Ocean Plan (2009) single sample maximum states that total coliform density shall not exceed 10,000 MPN/100 mL
Objective/Criterion Reference:	California Ocean Plan Water Quality Control Plan Ocean Waters of California 2009
Evaluation Guideline:	
Guideline Reference:	
Spatial Representation:	Data for this line of evidence for Pacific Ocean at Pescadero State Beach was collected at 1 monitoring site [Pescadero State Beach]
Temporal Representation:	Data was collected over the time period 1/3/2005-8/30/2010.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	The samples were collected for the Beach Watch program.
QAPP Information Reference(s):	

Line of Evidence (LOE) for Decision ID 66054, Indicator Bacteria
Pacific Ocean at Pescadero State Beach

Region 2

LOE ID:	90562
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Pollutant:	Enterococcus
LOE Subgroup:	Pollutant-Water
Matrix:	Water
Fraction:	None
Beneficial Use:	Water Contact Recreation
Number of Samples:	79
Number of Exceedances:	2
Data and Information Type:	Not Specified
Data Used to Assess Water Quality:	Two of the 79 geomeans exceeded the enterococcus objective.
Data Reference:	Data for Region 2 Beach Watch.
SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	The geometric mean standard for enterococcus states that the enterococcus density shall not exceed 35 per 100 mL. Water Quality Control Plan for Ocean Waters 2009.
Objective/Criterion Reference:	California Ocean Plan Water Quality Control Plan Ocean Waters of California 2009
Evaluation Guideline:	
Guideline Reference:	
Spatial Representation:	Samples were collected at station Pescadero State Beach.
Temporal Representation:	Samples were collected approximately once a week from January 2005 to September 2010.
Environmental Conditions:	
QAPP Information:	The samples were collected for the Beach Watch program.
QAPP Information Reference(s):	

Line of Evidence (LOE) for Decision ID 66054, Indicator Bacteria
Pacific Ocean at Pescadero State Beach

Region 2

LOE ID:	90561
Pollutant:	Total Coliform
LOE Subgroup:	Pollutant-Water
Matrix:	Water
Fraction:	None
Beneficial Use:	Water Contact Recreation
Number of Samples:	95
Number of Exceedances:	5
Data and Information Type:	Not Specified
Data Used to Assess Water Quality:	Five of the 95 geomeans exceeded the total coliform objective.
Data Reference:	Data for Region 2 Beach Watch.
SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	The geometric mean standard for total coliform states that the total coliform density shall not exceed 1,000 per 100 mL. Water Quality Control Plan for Ocean Waters 2009.
Objective/Criterion Reference:	California Ocean Plan Water Quality Control Plan Ocean Waters of California 2009
Evaluation Guideline:	
Guideline Reference:	
Spatial Representation:	Samples were collected at station Pescadero State Beach.
Temporal Representation:	Samples were collected approximately thrice a month from January 2005 to September 2010.

Environmental Conditions:

QAPP Information:

The samples were collected for the Beach Watch program.

QAPP Information Reference(s):

Line of Evidence (LOE) for Decision ID 66054, Indicator Bacteria

Region 2

Pacific Ocean at Pescadero State Beach

LOE ID: 90778

Pollutant: Enterococcus
LOE Subgroup: Pollutant-Water
Matrix: Water
Fraction: None

Beneficial Use: Water Contact Recreation

Number of Samples: 151
Number of Exceedances: 7

Data and Information Type: PATHOGEN MONITORING
Data Used to Assess Water Quality: Water Board staff assessed BeachWatch data for Pacific Ocean at Pescadero State Beach to determine beneficial use support and results are as follows: 7 of 151 samples exceed the criterion for Enterococci.

Data Reference: [Data for Region 2 Beach Watch.](#)

SWAMP Data: Non-SWAMP

Water Quality Objective/Criterion: California Ocean Plan (SWRCB 2009) states that the single sample maximum for Enterococcus shall not exceed 104 MPN/100 mL.

Objective/Criterion Reference: [California Ocean Plan Water Quality Control Plan Ocean Waters of California 2009](#)

Evaluation Guideline:
Guideline Reference:

Spatial Representation: Data for this line of evidence for Pacific Ocean at Pescadero State Beach was collected at 1 monitoring site [Pescadero State Beach]

Temporal Representation: Data was collected over the time period 1/3/2005-8/30/2010.

Environmental Conditions: Staff is not aware of any special conditions that might affect interpretation of the data.

QAPP Information: The samples were collected for the Beach Watch program.

QAPP Information Reference(s):

Line of Evidence (LOE) for Decision ID 66054, Indicator Bacteria

Region 2

Pacific Ocean at Pescadero State Beach

LOE ID: 90816

Pollutant: Fecal Coliform
LOE Subgroup: Pollutant-Water
Matrix: Water
Fraction: None

Beneficial Use: Water Contact Recreation

Number of Samples: 151
Number of Exceedances: 7

Data and Information Type: PATHOGEN MONITORING
Data Used to Assess Water Quality: Water Board staff assessed BeachWatch data for Pacific Ocean at Pescadero State Beach to determine beneficial use support and results are as follows: 7 of 151 samples exceed the criterion for Coliform, Fecal.

Data Reference: [Data for Region 2 Beach Watch.](#)

SWAMP Data:

Non-SWAMP

Water Quality Objective/Criterion:

California Ocean Plan (SWRCB 2009) states that the single sample maximum for fecal coliform shall not exceed 400 MPN/100 mL

Objective/Criterion Reference:

[California Ocean Plan Water Quality Control Plan Ocean Waters of California 2009](#)

Evaluation Guideline:

Guideline Reference:

Spatial Representation:

Data for this line of evidence for Pacific Ocean at Pescadero State Beach was collected at 1 monitoring site [Pescadero State Beach]

Temporal Representation:

Data was collected over the time period 1/3/2005-8/30/2010.

Environmental Conditions:

Staff is not aware of any special conditions that might affect interpretation of the data.

QAPP Information:

The samples were collected for the Beach Watch program.

QAPP Information Reference(s):

Draft California 2016 Integrated Report (303(d) List/305(b) Report)

Supporting Information

Regional Board 2 - San Francisco Bay Region

Water Body Name: Schoonmaker Beach (Richardson Bay)
Water Body ID: CAC2031201020110712222417
Water Body Type: Coastal & Bay Shoreline

DECISION ID 66127 **Region 2**
Schoonmaker Beach (Richardson Bay)

Pollutant: Indicator Bacteria
Final Listing Decision: List on 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision: New Decision
Revision Status Revised
Sources: Source Unknown
Expected TMDL Completion Date: 2029
Impairment from Pollutant or Pollution: Pollutant

Regional Board Staff Conclusion: This pollutant is being considered for placement on the CWA section 303(d) List under section 3.3 of the Listing Policy. Under section 3.3 a single line of evidence is necessary to assess listing status.

Six lines of evidence are available in the administrative record to assess this pollutant. Eleven of the thirty-seven samples exceed the monthly median total coliform objective.

Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification for placing this water segment-pollutant combination on the CWA section 303(d) List.

This conclusion is based on the staff findings that:

1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy.
2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy.
3. Eleven of the thirty-seven samples exceed the monthly median total coliform objective and this does not exceed the allowable frequency listed in Table 3.2 of the Listing Policy.
4. Pursuant to section 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.

Regional Board Staff Decision Recommendation: After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should be placed on the section 303(d) list because applicable water quality standards are exceeded and a pollutant contributes to or causes the problem.

Line of Evidence (LOE) for Decision ID 66127, Indicator Bacteria **Region 2**
Schoonmaker Beach (Richardson Bay)

LOE ID: 90903
Pollutant: Enterococcus
LOE Subgroup: Pollutant-Water
Matrix: Water
Fraction: None
Beneficial Use: Water Contact Recreation

Number of Samples:	143
Number of Exceedances:	1
Data and Information Type:	PATHOGEN MONITORING
Data Used to Assess Water Quality:	Water Board staff assessed BeachWatch data for Schoonmaker Beach (Richardson Bay) to determine beneficial use support and results are as follows: 1 of 143 samples exceed the criterion for Enterococci.
Data Reference:	Data for Region 2 Beach Watch.
SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	The San Francisco Bay Basin Plan states that the single sample maximum for Enterococcus shall not exceed 104 MPN/100 mL.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	
Guideline Reference:	
Spatial Representation:	Data for this line of evidence for Schoonmaker Beach (Richardson Bay) was collected at 1 monitoring site [Schoonmaker Beach]
Temporal Representation:	Data was collected over the time period 4/6/2005-8/25/2010.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	The samples were collected for the Beach Watch program.
QAPP Information Reference(s):	

Line of Evidence (LOE) for Decision ID 66127, Indicator Bacteria
Schoonmaker Beach (Richardson Bay)

Region 2

LOE ID:	90666
Pollutant:	Fecal Coliform
LOE Subgroup:	Pollutant-Water
Matrix:	Water
Fraction:	None
Beneficial Use:	Water Contact Recreation
Number of Samples:	117
Number of Exceedances:	0
Data and Information Type:	Not Specified
Data Used to Assess Water Quality:	Zero of the 117 geomeans exceeded the objective.
Data Reference:	Data for Region 2 Beach Watch.
SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	The geometric mean standard for fecal coliform states that the coliform density shall not exceed 200 per 100 mL. San Francisco Bay Basin Water Quality Control Plan.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	
Guideline Reference:	
Spatial Representation:	Samples were collected at the Schoonmaker Beach site.
Temporal Representation:	Samples were collected from April 2005 to August 2010.
Environmental Conditions:	
QAPP Information:	The samples were collected for the beach watch program.
QAPP Information Reference(s):	

Line of Evidence (LOE) for Decision ID 66127, Indicator Bacteria
Schoonmaker Beach (Richardson Bay)

Region 2

LOE ID:	90812
Pollutant:	Fecal Coliform
LOE Subgroup:	Pollutant-Water
Matrix:	Water
Fraction:	None
Beneficial Use:	Water Contact Recreation
Number of Samples:	143
Number of Exceedances:	1
Data and Information Type:	PATHOGEN MONITORING
Data Used to Assess Water Quality:	Water Board staff assessed BeachWatch data for Schoonmaker Beach (Richardson Bay) to determine beneficial use support and results are as follows: 1 of 143 samples exceed the criterion for Coliform, Fecal.
Data Reference:	Data for Region 2 Beach Watch.
SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	The San Francisco Bay Basin Plan states that the single sample maximum for fecal coliform shall not exceed 400 MPN/100 mL
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	
Guideline Reference:	
Spatial Representation:	Data for this line of evidence for Schoonmaker Beach (Richardson Bay) was collected at 1 monitoring site [Schoonmaker Beach]
Temporal Representation:	Data was collected over the time period 4/6/2005-8/25/2010.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	The samples were collected for the Beach Watch program.
QAPP Information Reference(s):	

Line of Evidence (LOE) for Decision ID 66127, Indicator Bacteria
Schoonmaker Beach (Richardson Bay)

Region 2

LOE ID:	90859
Pollutant:	Total Coliform
LOE Subgroup:	Pollutant-Water
Matrix:	Water
Fraction:	None
Beneficial Use:	Water Contact Recreation
Number of Samples:	143
Number of Exceedances:	2
Data and Information Type:	PATHOGEN MONITORING
Data Used to Assess Water Quality:	Water Board staff assessed BeachWatch data for Schoonmaker Beach (Richardson Bay) to determine beneficial use support and results are as follows: 2 of 143 samples exceed the criterion for Coliform, Total.
Data Reference:	Data for Region 2 Beach Watch.
SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	The San Francisco Bay Basin Plan states that the single sample maximum for total coliform shall not exceed 10,000 MPN/100 mL
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)

Evaluation Guideline:
Guideline Reference:

Spatial Representation: Data for this line of evidence for Schoonmaker Beach (Richardson Bay) was collected at 1 monitoring site [Schoonmaker Beach]
Temporal Representation: Data was collected over the time period 4/6/2005-8/25/2010.
Environmental Conditions: Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information: The samples were collected for the Beach Watch program.
QAPP Information Reference(s):

Line of Evidence (LOE) for Decision ID 66127, Indicator Bacteria
Schoonmaker Beach (Richardson Bay)

Region 2

LOE ID: 90667

Pollutant: Total Coliform
LOE Subgroup: Pollutant-Water
Matrix: Water
Fraction: None

Beneficial Use: Water Contact Recreation

Number of Samples: 37
Number of Exceedances: 11

Data and Information Type: Not Specified
Data Used to Assess Water Quality: Eleven of the thirty-seven monthly medians exceeded the objective.
Data Reference: [Data for Region 2 Beach Watch.](#)

SWAMP Data: Non-SWAMP

Water Quality Objective/Criterion: The standard for total coliform states that the coliform density shall not exceed a monthly median of 240 per 100 mL. San Francisco Bay Basin Water Quality Control Plan.
Objective/Criterion Reference: [Water Quality Control Plan \(Basin Plan\) San Francisco Bay Basin \(Region 2\)](#)

Evaluation Guideline:
Guideline Reference:

Spatial Representation: Samples were collected at the Schoonmaker Beach site.
Temporal Representation: Samples were collected from April 2005 to August 2010.
Environmental Conditions:
QAPP Information: The samples were collected for the Beach Watch program.
QAPP Information Reference(s):

Line of Evidence (LOE) for Decision ID 66127, Indicator Bacteria
Schoonmaker Beach (Richardson Bay)

Region 2

LOE ID: 90668

Pollutant: Enterococcus
LOE Subgroup: Pollutant-Water
Matrix: Water
Fraction: None

Beneficial Use: Water Contact Recreation

Number of Samples: 117
Number of Exceedances: 0

Data and Information Type: Not Specified
Data Used to Assess Water Quality: Zero of the 117 geomeans exceeded the objective.

Data Reference:	Data for Region 2 Beach Watch.
SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	The geometric mean standard for enterococcus states that the enterococcus density shall not exceed 35 per 100 mL. San Francisco Bay Basin Water Quality Control Plan.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	
Guideline Reference:	
Spatial Representation:	Samples were collected at the Schoonmaker Beach site.
Temporal Representation:	Samples were collected from April 2005 to August 2010.
Environmental Conditions:	
QAPP Information:	The samples were collected for the Beach Watch program.
QAPP Information Reference(s):	

Draft California 2016 Integrated Report (303(d) List/305(b) Report)

Supporting Information

Regional Board 2 - San Francisco Bay Region

Water Body Name: Paradise Cove Beach (San Francisco Bay, Central)
Water Body ID: CAC2031201020110712223459
Water Body Type: Coastal & Bay Shoreline

DECISION ID 66111 **Region 2**
Paradise Cove Beach (San Francisco Bay, Central)

Pollutant: Indicator Bacteria
Final Listing Decision: List on 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision: New Decision
Revision Status Revised
Sources: Source Unknown
Expected TMDL Completion Date: 2029
Impairment from Pollutant or Pollution: Pollutant

Regional Board Staff Conclusion: This pollutant is being considered for placement on the CWA section 303(d) List under section 3.3 of the Listing Policy. Under section 3.3 a single line of evidence is necessary to assess listing status.

Six lines of evidence are available in the administrative record to assess this pollutant. Eight of the twenty-eight samples exceed the total coliform monthly median objective.

Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against placing this water segment-pollutant combination on the CWA section 303(d) List.

This conclusion is based on the staff findings that:

1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy.
2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy.
3. Eight of the twenty-eight samples exceed the total coliform monthly median objective and this does not exceed the allowable frequency listed in Table 3.2 of the Listing Policy.
4. Pursuant to section 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.

Regional Board Staff Decision Recommendation: After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should be placed on the section 303(d) list because applicable water quality standards are exceeded and a pollutant contributes to or causes the problem.

Line of Evidence (LOE) for Decision ID 66111, Indicator Bacteria **Region 2**
Paradise Cove Beach (San Francisco Bay, Central)

LOE ID: 90665
Pollutant: Fecal Coliform
LOE Subgroup: Pollutant-Water
Matrix: Water
Fraction: None
Beneficial Use: Water Contact Recreation

Number of Samples:	95
Number of Exceedances:	0
Data and Information Type:	Not Specified
Data Used to Assess Water Quality:	Zero of the 95 geomeans exceeded the objective.
Data Reference:	Data for Region 2 Beach Watch.
SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	The geometric mean standard for fecal coliform states that the fecal coliform density shall not exceed 200 per 100 mL. San Francisco Bay Basin Water Quality Control Plan.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	
Guideline Reference:	
Spatial Representation:	Samples were collected at the Paradise Cove site.
Temporal Representation:	Samples were collected from April 2005 to October 2008.
Environmental Conditions:	
QAPP Information:	The samples were collected for the beach watch program.
QAPP Information Reference(s):	

Line of Evidence (LOE) for Decision ID 66111, Indicator Bacteria

Region 2

Paradise Cove Beach (San Francisco Bay, Central)

LOE ID:	90858
Pollutant:	Total Coliform
LOE Subgroup:	Pollutant-Water
Matrix:	Water
Fraction:	None
Beneficial Use:	Water Contact Recreation
Number of Samples:	111
Number of Exceedances:	0
Data and Information Type:	PATHOGEN MONITORING
Data Used to Assess Water Quality:	Water Board staff assessed BeachWatch data for Paradise Cove Beach (San Francisco Bay, Central) to determine beneficial use support and results are as follows: 0 of 111 samples exceed the criterion for Coliform, Total.
Data Reference:	Data for Region 2 Beach Watch.
SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	The San Francisco Bay Basin Plan states that the single sample maximum for total coliform shall not exceed 10,000 MPN/100 mL
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	
Guideline Reference:	
Spatial Representation:	Data for this line of evidence for Paradise Cove Beach (San Francisco Bay, Central) was collected at 1 monitoring site [Paradise Cove]
Temporal Representation:	Data was collected over the time period 4/6/2005-10/29/2008.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	The samples were collected for the Beach Watch program.
QAPP Information Reference(s):	

Line of Evidence (LOE) for Decision ID 66111, Indicator Bacteria

Region 2

Paradise Cove Beach (San Francisco Bay, Central)

LOE ID:	90663
Pollutant:	Enterococcus
LOE Subgroup:	Pollutant-Water
Matrix:	Water
Fraction:	None
Beneficial Use:	Water Contact Recreation
Number of Samples:	95
Number of Exceedances:	6
Data and Information Type:	Not Specified
Data Used to Assess Water Quality:	Six of the 95 geomeans exceeded the objective.
Data Reference:	Data for Region 2 Beach Watch.
SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	The geometric mean standard for enterococcus states that the enterococcus density shall not exceed 35 per 100 mL. San Francisco Bay Basin Water Quality Control Plan.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	
Guideline Reference:	
Spatial Representation:	Samples were collected at the Paradise Cove site.
Temporal Representation:	Samples were collected from April 2005 to October 2008.
Environmental Conditions:	
QAPP Information:	The samples were collected for the Beach Watch program.
QAPP Information Reference(s):	

Line of Evidence (LOE) for Decision ID 66111, Indicator Bacteria
Paradise Cove Beach (San Francisco Bay, Central)

Region 2

LOE ID:	90664
Pollutant:	Total Coliform
LOE Subgroup:	Pollutant-Water
Matrix:	Water
Fraction:	None
Beneficial Use:	Water Contact Recreation
Number of Samples:	28
Number of Exceedances:	8
Data and Information Type:	Not Specified
Data Used to Assess Water Quality:	Eight of the twenty-eight monthly medians exceeded the objective.
Data Reference:	Data for Region 2 Beach Watch.
SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	The standard for total coliform states that the coliform density shall not exceed a monthly median of 240 per 100 mL. San Francisco Bay Basin Water Quality Control Plan.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	
Guideline Reference:	
Spatial Representation:	Samples were collected at the Paradise Cove site.
Temporal Representation:	Samples were collected from April 2005 to October 2008.

Environmental Conditions:

QAPP Information:

The samples were collected for the Beach Watch program.

QAPP Information Reference(s):

Line of Evidence (LOE) for Decision ID 66111, Indicator Bacteria

Region 2

Paradise Cove Beach (San Francisco Bay, Central)

LOE ID: 90797

Pollutant: Fecal Coliform
LOE Subgroup: Pollutant-Water
Matrix: Water
Fraction: None

Beneficial Use: Water Contact Recreation

Number of Samples: 111
Number of Exceedances: 0

Data and Information Type: PATHOGEN MONITORING
Data Used to Assess Water Quality: Water Board staff assessed BeachWatch data for Paradise Cove Beach (San Francisco Bay, Central) to determine beneficial use support and results are as follows: 0 of 111 samples exceed the criterion for Coliform, Fecal.

Data Reference: [Data for Region 2 Beach Watch.](#)

SWAMP Data: Non-SWAMP

Water Quality Objective/Criterion: The San Francisco Bay Basin Plan states that the single sample maximum for fecal coliform shall not exceed 400 MPN/100 mL

Objective/Criterion Reference: [Water Quality Control Plan \(Basin Plan\) San Francisco Bay Basin \(Region 2\)](#)

Evaluation Guideline:
Guideline Reference:

Spatial Representation: Data for this line of evidence for Paradise Cove Beach (San Francisco Bay, Central) was collected at 1 monitoring site [Paradise Cove]

Temporal Representation: Data was collected over the time period 4/6/2005-10/29/2008.

Environmental Conditions: Staff is not aware of any special conditions that might affect interpretation of the data.

QAPP Information: The samples were collected for the Beach Watch program.

QAPP Information Reference(s):

Line of Evidence (LOE) for Decision ID 66111, Indicator Bacteria

Region 2

Paradise Cove Beach (San Francisco Bay, Central)

LOE ID: 90902

Pollutant: Enterococcus
LOE Subgroup: Pollutant-Water
Matrix: Water
Fraction: None

Beneficial Use: Water Contact Recreation

Number of Samples: 111
Number of Exceedances: 2

Data and Information Type: PATHOGEN MONITORING
Data Used to Assess Water Quality: Water Board staff assessed BeachWatch data for Paradise Cove Beach (San Francisco Bay, Central) to determine beneficial use support and results are as follows: 2 of 111 samples exceed the criterion for Enterococci.

Data Reference: [Data for Region 2 Beach Watch.](#)

SWAMP Data:

Non-SWAMP

Water Quality Objective/Criterion:

The San Francisco Bay Basin Plan states that the single sample maximum for Enterococcus shall not exceed 104 MPN/100 mL.

Objective/Criterion Reference:

[Water Quality Control Plan \(Basin Plan\) San Francisco Bay Basin \(Region 2\)](#)

Evaluation Guideline:

Guideline Reference:

Spatial Representation:

Data for this line of evidence for Paradise Cove Beach (San Francisco Bay, Central) was collected at 1 monitoring site [Paradise Cove]

Temporal Representation:

Data was collected over the time period 4/6/2005-10/29/2008.

Environmental Conditions:

Staff is not aware of any special conditions that might affect interpretation of the data.

QAPP Information:

The samples were collected for the Beach Watch program.

QAPP Information Reference(s):

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Supporting Information

Regional Board 2 - San Francisco Bay Region

Water Body Name: Keller Beach (San Francisco Bay, Central)
Water Body ID: CAC2031201020110712224833
Water Body Type: Coastal & Bay Shoreline

DECISION ID 65545 **Region 2**
Keller Beach (San Francisco Bay, Central)

Pollutant: Indicator Bacteria
Final Listing Decision: List on 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision: New Decision
Revision Status Revised
Sources: Source Unknown
Expected TMDL Completion Date: 2029
Impairment from Pollutant or Pollution: Pollutant

Regional Board Staff Conclusion: This pollutant is being considered for placement on the CWA section 303(d) List under section 3.3 of the Listing Policy. Under section 3.3 a single line of evidence is necessary to assess listing status.

Six lines of evidence are available in the administrative record to assess this pollutant. Thirty-seven of the sixty-seven samples exceed the total coliform monthly median objective.

Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification for placing this water segment-pollutant combination on the CWA section 303(d) List.

This conclusion is based on the staff findings that:

1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy.
2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy.
3. Thirty-seven of the sixty-seven samples exceed the total coliform monthly median objective and this exceeds the allowable frequency listed in Table 3.2 of the Listing Policy.
4. Pursuant to section 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.

Regional Board Staff Decision Recommendation: After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should be placed on the section 303(d) list because applicable water quality standards are exceeded and a pollutant contributes to or causes the problem.

Line of Evidence (LOE) for Decision ID 65545, Indicator Bacteria **Region 2**
Keller Beach (San Francisco Bay, Central)

LOE ID: 90517
Pollutant: Total Coliform
LOE Subgroup: Pollutant-Water
Matrix: Water
Fraction: None
Beneficial Use: Water Contact Recreation

Number of Samples:	67
Number of Exceedances:	37
Data and Information Type:	Not Specified
Data Used to Assess Water Quality:	Thirty-seven of the sixty-seven monthly medians exceeded the total coliform objective.
Data Reference:	Data for Region 2 Beach Watch.
SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	The standard for total coliform states that the total coliform density shall not exceed a monthly median of 240 per 100 mL. San Francisco Bay Basin Water Quality Control Plan.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	
Guideline Reference:	
Spatial Representation:	Samples were collected at stations Mid Beach, North Beach, and South Beach. The results from these stations were averaged because they were located within 200 meters.
Temporal Representation:	Samples were collected approximately once a week from January 2005 to September 2010.
Environmental Conditions:	
QAPP Information:	The samples were collected for the Beach Watch program.
QAPP Information Reference(s):	

Line of Evidence (LOE) for Decision ID 65545, Indicator Bacteria
Keller Beach (San Francisco Bay, Central)

Region 2

LOE ID:	90518
Pollutant:	Enterococcus
LOE Subgroup:	Pollutant-Water
Matrix:	Water
Fraction:	None
Beneficial Use:	Water Contact Recreation
Number of Samples:	169
Number of Exceedances:	4
Data and Information Type:	Not Specified
Data Used to Assess Water Quality:	Four of the 169 samples exceeded the enterococcus objective.
Data Reference:	Data for Region 2 Beach Watch.
SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	The standard for enterococcus states that the enterococcus density shall not exceed 104 per 100 mL. San Francisco Bay Basin Water Quality Control Plan.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	
Guideline Reference:	
Spatial Representation:	Samples were collected at stations Mid Beach, North Beach, and South Beach. The results from these stations were averaged because they were located within 200 meters.
Temporal Representation:	Samples were collected approximately once a week from April 2007 to September 2010.
Environmental Conditions:	
QAPP Information:	The samples were collected for the Beach Watch program.
QAPP Information Reference(s):	

Line of Evidence (LOE) for Decision ID 65545, Indicator Bacteria
Keller Beach (San Francisco Bay, Central)

Region 2

LOE ID:	90726
Pollutant:	Fecal Coliform
LOE Subgroup:	Pollutant-Water
Matrix:	Water
Fraction:	None
Beneficial Use:	Water Contact Recreation
Number of Samples:	192
Number of Exceedances:	0
Data and Information Type:	Not Specified
Data Used to Assess Water Quality:	Zero of the 192 geomeans exceeded the fecal coliform objective.
Data Reference:	Data for Region 2 Beach Watch.
SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	The geometric mean standard for fecal coliform states that the fecal coliform density shall not exceed 200 per 100 mL. San Francisco Bay Basin Water Quality Control Plan.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	
Guideline Reference:	
Spatial Representation:	Samples were collected at stations Mid Beach, North Beach, and South Beach. The results from these stations were averaged because they were located within 200 meters.
Temporal Representation:	Samples were collected approximately once a week from January 2005 to September 2010.
Environmental Conditions:	
QAPP Information:	The samples were collected for the Beach Watch program.
QAPP Information Reference(s):	

Line of Evidence (LOE) for Decision ID 65545, Indicator Bacteria
Keller Beach (San Francisco Bay, Central)

Region 2

LOE ID:	90762
Pollutant:	Fecal Coliform
LOE Subgroup:	Pollutant-Water
Matrix:	Water
Fraction:	None
Beneficial Use:	Water Contact Recreation
Number of Samples:	259
Number of Exceedances:	7
Data and Information Type:	Not Specified
Data Used to Assess Water Quality:	Seven of the 259 samples exceeded the fecal coliform objective.
Data Reference:	Data for Region 2 Beach Watch.
SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	The standard for fecal coliform states that the fecal coliform density shall not exceed 400 per 100 mL. San Francisco Bay Basin Water Quality Control Plan.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	
Guideline Reference:	

Spatial Representation:	Samples were collected at stations Mid Beach, North Beach, and South Beach. The results from these stations were averaged because they were located within 200 meters.
Temporal Representation:	Samples were collected approximately once a week from January 2005 to September 2010.
Environmental Conditions:	
QAPP Information:	The samples were collected for the Beach Watch program.
QAPP Information Reference(s):	

Line of Evidence (LOE) for Decision ID 65545, Indicator Bacteria

Region 2

Keller Beach (San Francisco Bay, Central)

LOE ID:	90761
Pollutant:	Enterococcus
LOE Subgroup:	Pollutant-Water
Matrix:	Water
Fraction:	None
Beneficial Use:	Water Contact Recreation
Number of Samples:	137
Number of Exceedances:	3
Data and Information Type:	Not Specified
Data Used to Assess Water Quality:	Three of the 137 geomenas exceeded the enterococcus objective.
Data Reference:	Data for Region 2 Beach Watch.
SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	The geometric mean standard for enterococcus states that the enterococcus density shall not exceed 35 per 100 mL. San Francisco Bay Basin Water Quality Control Plan.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	
Guideline Reference:	
Spatial Representation:	Samples were collected at stations Mid Beach, North Beach, and South Beach. The results from these stations were averaged because they were located within 200 meters.
Temporal Representation:	Samples were collected approximately once a week from April 2007 to September 2010.
Environmental Conditions:	
QAPP Information:	The samples were collected for the Beach Watch program.
QAPP Information Reference(s):	

Line of Evidence (LOE) for Decision ID 65545, Indicator Bacteria

Region 2

Keller Beach (San Francisco Bay, Central)

LOE ID:	90755
Pollutant:	Total Coliform
LOE Subgroup:	Pollutant-Water
Matrix:	Water
Fraction:	None
Beneficial Use:	Water Contact Recreation
Number of Samples:	261
Number of Exceedances:	20
Data and Information Type:	Not Specified
Data Used to Assess Water Quality:	Twenty of the 261 samples exceeded the total coliform objective.
Data Reference:	Data for Region 2 Beach Watch.

SWAMP Data:

Non-SWAMP

Water Quality Objective/Criterion:

The standard for total coliform states that the total coliform density shall not exceed 10000 per 100 mL. San Francisco Bay Basin Water Quality Control Plan.

Objective/Criterion Reference:

[Water Quality Control Plan \(Basin Plan\) San Francisco Bay Basin \(Region 2\)](#)

Evaluation Guideline:

Guideline Reference:

Spatial Representation:

Samples were collected at stations Mid Beach, North Beach, and South Beach. The results from these stations were averaged because they were located within 200 meters.

Temporal Representation:

Samples were collected approximately once a week from January 2005 to September 2010.

Environmental Conditions:

QAPP Information:

QAPP Information Reference(s):

The samples were collected for the Beach Watch program.

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Supporting Information

Regional Board 2 - San Francisco Bay Region

Water Body Name: Fort Baker, Horseshoe Cove (San Francisco Bay, Central)
Water Body ID: CAC2031201020110712225614
Water Body Type: Coastal & Bay Shoreline

DECISION ID 64549 **Region 2**
Fort Baker, Horseshoe Cove (San Francisco Bay, Central)

Pollutant: Indicator Bacteria
Final Listing Decision: List on 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision: New Decision
Revision Status Revised
Sources: Source Unknown
Expected TMDL Completion Date: 2029
Impairment from Pollutant or Pollution: Pollutant

Regional Board Staff Conclusion: This pollutant is being considered for placement on the CWA section 303(d) List under section 3.3 of the Listing Policy. Under section 3.3 a single line of evidence is necessary to assess listing status.

Twelve lines of evidence are available in the administrative record to assess this pollutant. Sixteen of the ninety samples exceed the objective.

Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification in favor of placing this water segment-pollutant combination on the CWA section 303(d) List.

This conclusion is based on the staff findings that:

1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy.
2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy.
3. Sixteen of ninety samples exceed the objective and this exceeds the allowable frequency listed in Table 3.2 of the Listing Policy.
4. Pursuant to section 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.

Regional Board Staff Decision Recommendation: After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should be placed on the section 303(d) list because applicable water quality standards are exceeded and a pollutant contributes to or causes the problem.

Line of Evidence (LOE) for Decision ID 64549, Indicator Bacteria **Region 2**
Fort Baker, Horseshoe Cove (San Francisco Bay, Central)

LOE ID: 90749
Pollutant: Total Coliform
LOE Subgroup: Pollutant-Water
Matrix: Water
Fraction: None
Beneficial Use: Water Contact Recreation

Number of Samples:	160
Number of Exceedances:	2
Data and Information Type:	Not Specified
Data Used to Assess Water Quality:	Two of the one hundred sixty samples exceeded the objective.
Data Reference:	Data for Region 2 Beach Watch.
SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	The standard for total coliform states that the coliform density shall not exceed 10,000 per 100 mL. San Francisco Bay Basin Water Quality Control Plan.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	
Guideline Reference:	
Spatial Representation:	Samples were collected at the Fort Baker Horseshoe Cove, Southwest site and Northwest site. These samples are with in 200 meters of each other and the results were averaged.
Temporal Representation:	Samples were collected from April 2005 to August 2010.
Environmental Conditions:	
QAPP Information:	The samples were collected for the Beach Watch program.
QAPP Information Reference(s):	

Line of Evidence (LOE) for Decision ID 64549, Indicator Bacteria
Fort Baker, Horseshoe Cove (San Francisco Bay, Central)

Region 2

LOE ID:	90750
Pollutant:	Total Coliform
LOE Subgroup:	Pollutant-Water
Matrix:	Water
Fraction:	None
Beneficial Use:	Water Contact Recreation
Number of Samples:	158
Number of Exceedances:	3
Data and Information Type:	Not Specified
Data Used to Assess Water Quality:	Three of the one hundred fifty-eight samples exceeded the objective.
Data Reference:	Data for Region 2 Beach Watch.
SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	The standard for total coliform states that the coliform density shall not exceed 10,000 per 100 mL. San Francisco Bay Basin Water Quality Control Plan.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	
Guideline Reference:	
Spatial Representation:	Samples were collected at the Fort Baker Horseshoe Cove, Northeast site.
Temporal Representation:	Samples were collected from April 2005 to August 2010.
Environmental Conditions:	
QAPP Information:	The samples were collected for the Beach Watch program.
QAPP Information Reference(s):	

Line of Evidence (LOE) for Decision ID 64549, Indicator Bacteria
Fort Baker, Horseshoe Cove (San Francisco Bay, Central)

Region 2

LOE ID:	90751
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Pollutant:	Fecal Coliform
LOE Subgroup:	Pollutant-Water
Matrix:	Water
Fraction:	None
Beneficial Use:	Water Contact Recreation
Number of Samples:	158
Number of Exceedances:	3
Data and Information Type:	Not Specified
Data Used to Assess Water Quality:	Three of the one hundred fifty-eight samples exceeded the objective.
Data Reference:	Data for Region 2 Beach Watch.
SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	The standard for fecal coliform states that the fecal coliform density shall not exceed 400 per 100 mL. San Francisco Bay Basin Water Quality Control Plan.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	
Guideline Reference:	
Spatial Representation:	Samples were collected at the Fort Baker Horseshoe Cove, Northeast site.
Temporal Representation:	Samples were collected from April 2005 to August 2010.
Environmental Conditions:	
QAPP Information:	The samples were collected for the beach watch program.
QAPP Information Reference(s):	

Line of Evidence (LOE) for Decision ID 64549, Indicator Bacteria
Fort Baker, Horseshoe Cove (San Francisco Bay, Central)

Region 2

LOE ID:	90752
Pollutant:	Fecal Coliform
LOE Subgroup:	Pollutant-Water
Matrix:	Water
Fraction:	None
Beneficial Use:	Water Contact Recreation
Number of Samples:	160
Number of Exceedances:	5
Data and Information Type:	Not Specified
Data Used to Assess Water Quality:	Five of the one hundred sixty samples exceeded the objective.
Data Reference:	Data for Region 2 Beach Watch.
SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	The standard for fecal coliform states that the fecal coliform density shall not exceed 400 per 100 mL. San Francisco Bay Basin Water Quality Control Plan.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	
Guideline Reference:	
Spatial Representation:	Samples were collected at the Fort Baker Horseshoe Cove, Northwest site and Southwest site. These sites are within 200 meters and the results were averaged.
Temporal Representation:	Samples were collected from April 2005 to August 2010.
Environmental Conditions:	

QAPP Information: The samples were collected for the beach watch program.
QAPP Information Reference(s):

Line of Evidence (LOE) for Decision ID 64549, Indicator Bacteria
Fort Baker, Horseshoe Cove (San Francisco Bay, Central)

Region 2

LOE ID: 90753

Pollutant: Enterococcus
LOE Subgroup: Pollutant-Water
Matrix: Water
Fraction: None

Beneficial Use: Water Contact Recreation

Number of Samples: 160
Number of Exceedances: 10

Data and Information Type: Not Specified
Data Used to Assess Water Quality: Ten of the one hundred sixty samples exceeded the objective.
Data Reference: [Data for Region 2 Beach Watch.](#)

SWAMP Data: Non-SWAMP

Water Quality Objective/Criterion: The standard for enterococcus states that the enterococcus density shall not exceed 104 per 100 mL. San Francisco Bay Basin Water Quality Control Plan.
Objective/Criterion Reference: [Water Quality Control Plan \(Basin Plan\) San Francisco Bay Basin \(Region 2\)](#)

Evaluation Guideline:
Guideline Reference:

Spatial Representation: Samples were collected at the Fort Baker Horseshoe Cove, Northwest site and Southwest site. These stations are within 200 meters and the results were averaged.

Temporal Representation: Samples were collected from April 2005 to August 2010.

Environmental Conditions:

QAPP Information: The samples were collected for the Beach Watch program.
QAPP Information Reference(s):

Line of Evidence (LOE) for Decision ID 64549, Indicator Bacteria
Fort Baker, Horseshoe Cove (San Francisco Bay, Central)

Region 2

LOE ID: 90754

Pollutant: Enterococcus
LOE Subgroup: Pollutant-Water
Matrix: Water
Fraction: None

Beneficial Use: Water Contact Recreation

Number of Samples: 158
Number of Exceedances: 8

Data and Information Type: Not Specified
Data Used to Assess Water Quality: Eight of the one hundred fifty-eight samples exceeded the objective.
Data Reference: [Data for Region 2 Beach Watch.](#)

SWAMP Data: Non-SWAMP

Water Quality Objective/Criterion: The standard for enterococcus states that the enterococcus density shall not exceed 104 per 100 mL. San Francisco Bay Basin Water Quality Control Plan.

Objective/Criterion Reference: [Water Quality Control Plan \(Basin Plan\) San Francisco Bay Basin \(Region 2\)](#)

Evaluation Guideline:

Guideline Reference:

Spatial Representation:

Samples were collected at the Fort Baker Horseshoe Cove, Northeast site.

Temporal Representation:

Samples were collected from April 2005 to August 2010.

Environmental Conditions:

QAPP Information:

The samples were collected for the Beach Watch program.

QAPP Information Reference(s):

Line of Evidence (LOE) for Decision ID 64549, Indicator Bacteria

Region 2

Fort Baker, Horseshoe Cove (San Francisco Bay, Central)

LOE ID: 90603

Pollutant: Fecal Coliform
LOE Subgroup: Pollutant-Water
Matrix: Water
Fraction: None

Beneficial Use: Water Contact Recreation

Number of Samples: 126
Number of Exceedances: 0

Data and Information Type: Not Specified
Data Used to Assess Water Quality: Zero of the 126 geomeans exceeded the objective.
Data Reference: [Data for Region 2 Beach Watch.](#)

SWAMP Data: Non-SWAMP

Water Quality Objective/Criterion: The geometric mean standard for fecal coliform states that the fecal coliform density shall not exceed 200 per 100 mL. San Francisco Bay Basin Water Quality Control Plan.

Objective/Criterion Reference: [Water Quality Control Plan \(Basin Plan\) San Francisco Bay Basin \(Region 2\)](#)

Evaluation Guideline:

Guideline Reference:

Spatial Representation:

Samples were collected at the Fort Baker Horseshoe Cove, Northeast site.

Temporal Representation:

Samples were collected from April 2005 to August 2010.

Environmental Conditions:

QAPP Information:

The samples were collected for the beach watch program.

QAPP Information Reference(s):

Line of Evidence (LOE) for Decision ID 64549, Indicator Bacteria

Region 2

Fort Baker, Horseshoe Cove (San Francisco Bay, Central)

LOE ID: 90604

Pollutant: Total Coliform
LOE Subgroup: Pollutant-Water
Matrix: Water
Fraction: None

Beneficial Use: Water Contact Recreation

Number of Samples: 45
Number of Exceedances: 5

Data and Information Type: Not Specified

Data Used to Assess Water Quality:	Five of the forty-five monthly medians exceeded the objective.
Data Reference:	Data for Region 2 Beach Watch.
SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	The standard for total coliform states that the coliform density shall not exceed a monthly median of 240 per 100 mL. San Francisco Bay Basin Water Quality Control Plan.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	
Guideline Reference:	
Spatial Representation:	Samples were collected at the Fort Baker Horseshoe Cove, Northeast site.
Temporal Representation:	Samples were collected from April 2005 to August 2010.
Environmental Conditions:	
QAPP Information:	The samples were collected for the Beach Watch program.
QAPP Information Reference(s):	

Line of Evidence (LOE) for Decision ID 64549, Indicator Bacteria

Region 2

Fort Baker, Horseshoe Cove (San Francisco Bay, Central)

LOE ID:	90605
Pollutant:	Enterococcus
LOE Subgroup:	Pollutant-Water
Matrix:	Water
Fraction:	None
Beneficial Use:	Water Contact Recreation
Number of Samples:	126
Number of Exceedances:	12
Data and Information Type:	Not Specified
Data Used to Assess Water Quality:	Twelve of the 126 geomeans exceeded the objective.
Data Reference:	Data for Region 2 Beach Watch.
SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	The geometric mean standard for enterococcus states that the enterococcus density shall not exceed 35 per 100 mL. San Francisco Bay Basin Water Quality Control Plan.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	
Guideline Reference:	
Spatial Representation:	Samples were collected at the Fort Baker Horseshoe Cove, Northeast site.
Temporal Representation:	Samples were collected from April 2005 to August 2010.
Environmental Conditions:	
QAPP Information:	The samples were collected for the Beach Watch program.
QAPP Information Reference(s):	

Line of Evidence (LOE) for Decision ID 64549, Indicator Bacteria

Region 2

Fort Baker, Horseshoe Cove (San Francisco Bay, Central)

LOE ID:	90606
Pollutant:	Enterococcus
LOE Subgroup:	Pollutant-Water
Matrix:	Water
Fraction:	None

Beneficial Use:	Water Contact Recreation
Number of Samples:	128
Number of Exceedances:	7
Data and Information Type:	Not Specified
Data Used to Assess Water Quality:	Seven of the 128 geomeans exceeded the objective.
Data Reference:	Data for Region 2 Beach Watch.
SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	The geometric mean standard for enterococcus states that the enterococcus density shall not exceed 35 per 100 mL. San Francisco Bay Basin Water Quality Control Plan.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	
Guideline Reference:	
Spatial Representation:	Samples were collected at the Fort Baker Horseshoe Cove, Northwest site and Southwest site. These stations are within 200 meters and the results were averaged.
Temporal Representation:	Samples were collected from April 2005 to August 2010.
Environmental Conditions:	
QAPP Information:	The samples were collected for the Beach Watch program.
QAPP Information Reference(s):	

Line of Evidence (LOE) for Decision ID 64549, Indicator Bacteria
Fort Baker, Horseshoe Cove (San Francisco Bay, Central)

Region 2

LOE ID:	90607
Pollutant:	Fecal Coliform
LOE Subgroup:	Pollutant-Water
Matrix:	Water
Fraction:	None
Beneficial Use:	Water Contact Recreation
Number of Samples:	128
Number of Exceedances:	0
Data and Information Type:	Not Specified
Data Used to Assess Water Quality:	None of the 128 geomeans exceeded the objective.
Data Reference:	Data for Region 2 Beach Watch.
SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	The geometric mean standard for fecal coliform states that the fecal coliform density shall not exceed 200 per 100 mL. San Francisco Bay Basin Water Quality Control Plan.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	
Guideline Reference:	
Spatial Representation:	Samples were collected at the Fort Baker Horseshoe Cove, Northwest site and Southwest site. These sites are within 200 meters and the results were averaged.
Temporal Representation:	Samples were collected from April 2005 to August 2010.
Environmental Conditions:	
QAPP Information:	The samples were collected for the beach watch program.
QAPP Information Reference(s):	

Line of Evidence (LOE) for Decision ID 64549, Indicator Bacteria

Region 2

Fort Baker, Horseshoe Cove (San Francisco Bay, Central)

LOE ID:	90608
Pollutant:	Total Coliform
LOE Subgroup:	Pollutant-Water
Matrix:	Water
Fraction:	None
Beneficial Use:	Water Contact Recreation
Number of Samples:	45
Number of Exceedances:	11
Data and Information Type:	Not Specified
Data Used to Assess Water Quality:	Eleven of the forty-five monthly medians exceeded the objective.
Data Reference:	Data for Region 2 Beach Watch.
SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	The standard for total coliform states that the coliform density shall not exceed a monthly median of 240 per 100 mL. San Francisco Bay Basin Water Quality Control Plan.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	
Guideline Reference:	
Spatial Representation:	Samples were collected at the Fort Baker Horseshoe Cove, Southwest site and Northwest site. These samples are within 200 meters of each other and the results were averaged.
Temporal Representation:	Samples were collected from April 2005 to August 2010.
Environmental Conditions:	
QAPP Information:	The samples were collected for the Beach Watch program.
QAPP Information Reference(s):	

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Supporting Information

Regional Board 2 - San Francisco Bay Region

Water Body Name: Pacific Ocean at China Beach
Water Body ID: CAC2034001020110712235906
Water Body Type: Coastal & Bay Shoreline

DECISION ID 65098 **Region 2**
Pacific Ocean at China Beach

Pollutant: Indicator Bacteria
Final Listing Decision: Do Not List on 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision: New Decision
Revision Status: Revised
Impairment from Pollutant or Pollution: Pollutant

Regional Board Staff Conclusion: This pollutant is being considered for placement on the CWA section 303(d) List under section 3.3 of the Listing Policy. Under section 3.3 a single line of evidence is necessary to assess listing status.

Five lines of evidence are available in the administrative record to assess this pollutant. Two of three hundred two samples exceed the objective.

Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against placing this water segment-pollutant combination on the CWA section 303(d) List.

This conclusion is based on the staff findings that:

1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy.
2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy.
3. Two of three hundred two samples exceed the objective and this does not exceed the allowable frequency listed in Table 3.2 of the Listing Policy.
4. Pursuant to section 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.

Regional Board Staff Decision Recommendation: After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be placed on the section 303(d) list because applicable water quality standards are not being exceeded.

Line of Evidence (LOE) for Decision ID 65098, Indicator Bacteria **Region 2**
Pacific Ocean at China Beach

LOE ID: 92447
Pollutant: Total Coliform
LOE Subgroup: Pollutant-Water
Matrix: Water
Fraction: None
Beneficial Use: Water Contact Recreation
Number of Samples: 297
Number of Exceedances: 0

Data and Information Type:	Not Specified
Data Used to Assess Water Quality:	Zero of the 297 geomeans exceeded the total coliform objective.
Data Reference:	Data for Region 2 Beach Watch.
SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	The geometric mean standard for total coliform states that the total coliform density shall not exceed 1,000 per 100 mL. Water Quality Control Plan for Ocean Waters 2009.
Objective/Criterion Reference:	California Ocean Plan Water Quality Control Plan Ocean Waters of California 2009
Evaluation Guideline:	
Guideline Reference:	
Spatial Representation:	Samples were collected at station Bolinas Beach.
Temporal Representation:	Samples were collected approximately once a week from April 2005 to August 2010.
Environmental Conditions:	
QAPP Information:	The samples were collected for the Beach Watch program.
QAPP Information Reference(s):	

Line of Evidence (LOE) for Decision ID 65098, Indicator Bacteria
Pacific Ocean at China Beach

Region 2

LOE ID:	92446
Pollutant:	Total Coliform
LOE Subgroup:	Pollutant-Water
Matrix:	Water
Fraction:	None
Beneficial Use:	Water Contact Recreation
Number of Samples:	302
Number of Exceedances:	1
Data and Information Type:	PATHOGEN MONITORING
Data Used to Assess Water Quality:	Water Board staff assessed BeachWatch data for Pacific Ocean at China Beach to determine beneficial use support and results are as follows: 1 of 302 samples exceed the criterion for Coliform, Total.
Data Reference:	Data for Region 2 Beach Watch.
SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	California Ocean Plan (2009) single sample maximum states that total coliform density shall not exceed 10,000 MPN/100 mL
Objective/Criterion Reference:	California Ocean Plan Water Quality Control Plan Ocean Waters of California 2009
Evaluation Guideline:	
Guideline Reference:	
Spatial Representation:	Data for this line of evidence for Pacific Ocean at China Beach was collected at 1 monitoring site [China Beach]
Temporal Representation:	Data was collected over the time period 1/4/2005-8/25/2010.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	The samples were collected for the Beach Watch program.
QAPP Information Reference(s):	

Line of Evidence (LOE) for Decision ID 65098, Indicator Bacteria
Pacific Ocean at China Beach

Region 2

LOE ID:	92445
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Pollutant:	Fecal Coliform
LOE Subgroup:	Pollutant-Water
Matrix:	Water
Fraction:	None
Beneficial Use:	Water Contact Recreation
Number of Samples:	297
Number of Exceedances:	0
Data and Information Type:	Not Specified
Data Used to Assess Water Quality:	Zero of the 297 geomeans exceeded the fecal coliform objective.
Data Reference:	Data for Region 2 Beach Watch.
SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	The geometric mean standard for fecal coliform states that the fecal coliform density shall not exceed 200 per 100 mL. Water Quality Control Plan for Ocean Waters 2009.
Objective/Criterion Reference:	California Ocean Plan Water Quality Control Plan Ocean Waters of California 2009
Evaluation Guideline:	
Guideline Reference:	
Spatial Representation:	Samples were collected at station China Beach.
Temporal Representation:	Samples were collected approximately once a week from January 2005 to September 2010.
Environmental Conditions:	
QAPP Information:	The samples were collected for the Beach Watch program.
QAPP Information Reference(s):	

Line of Evidence (LOE) for Decision ID 65098, Indicator Bacteria
Pacific Ocean at China Beach

Region 2

LOE ID:	92443
Pollutant:	Enterococcus
LOE Subgroup:	Pollutant-Water
Matrix:	Water
Fraction:	None
Beneficial Use:	Water Contact Recreation
Number of Samples:	297
Number of Exceedances:	2
Data and Information Type:	Not Specified
Data Used to Assess Water Quality:	Two of the 297 geomeans exceeded the enterococcus objective.
Data Reference:	Data for Region 2 Beach Watch.
SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	The geometric mean standard for enterococcus states that the enterococcus density shall not exceed 35 per 100 mL. Water Quality Control Plan for Ocean Waters 2009.
Objective/Criterion Reference:	California Ocean Plan Water Quality Control Plan Ocean Waters of California 2009
Evaluation Guideline:	
Guideline Reference:	
Spatial Representation:	Samples were collected at station China Beach.
Temporal Representation:	Samples were collected approximately once a week from January 2005 to September 2010.
Environmental Conditions:	

QAPP Information: The samples were collected for the Beach Watch program.
QAPP Information Reference(s):

Line of Evidence (LOE) for Decision ID 65098, Indicator Bacteria
Pacific Ocean at China Beach

Region 2

LOE ID: 92444

Pollutant: Fecal Coliform
LOE Subgroup: Pollutant-Water
Matrix: Water
Fraction: None

Beneficial Use: Water Contact Recreation

Number of Samples: 302
Number of Exceedances: 2

Data and Information Type: PATHOGEN MONITORING
Data Used to Assess Water Quality: Water Board staff assessed BeachWatch data for Pacific Ocean at China Beach to determine beneficial use support and results are as follows: 2 of 302 samples exceed the criterion for Coliform, Fecal.

Data Reference: [Data for Region 2 Beach Watch.](#)

SWAMP Data: Non-SWAMP

Water Quality Objective/Criterion: California Ocean Plan (SWRCB 2009) states that the single sample maximum for fecal coliform shall not exceed 400 MPN/100 mL

Objective/Criterion Reference: [California Ocean Plan Water Quality Control Plan Ocean Waters of California 2009](#)

Evaluation Guideline:
Guideline Reference:

Spatial Representation: Data for this line of evidence for Pacific Ocean at China Beach was collected at 1 monitoring site [China Beach]

Temporal Representation: Data was collected over the time period 1/4/2005-8/25/2010.

Environmental Conditions: Staff is not aware of any special conditions that might affect interpretation of the data.

QAPP Information: The samples were collected for the Beach Watch program.

QAPP Information Reference(s):

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Supporting Information

Regional Board 2 - San Francisco Bay Region

Water Body Name: Oyster Point Marina (San Francisco Bay, Lower)
Water Body ID: CAC2041001020110713112535
Water Body Type: Coastal & Bay Shoreline

DECISION ID 66016 **Region 2**
Oyster Point Marina (San Francisco Bay, Lower)

Pollutant: Indicator Bacteria
Final Listing Decision: List on 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision: New Decision
Revision Status Revised
Sources: Source Unknown
Expected TMDL Completion Date: 2029
Impairment from Pollutant or Pollution: Pollutant

Regional Board Staff Conclusion: This pollutant is being considered for placement on the CWA section 303(d) List under section 3.3 of the Listing Policy. Under section 3.3 a single line of evidence is necessary to assess listing status.

Six lines of evidence are available in the administrative record to assess this pollutant. Thirty-one of one hundred seventy samples exceed the enterococcus geometric mean objective.

Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification for placing this water segment-pollutant combination on the CWA section 303(d) List.

This conclusion is based on the staff findings that:

1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy.
2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy.
3. Thirty-one of one hundred seventy samples exceed the enterococcus geometric mean objective and this exceeds the allowable frequency listed in Table 3.2 of the Listing Policy.
4. Pursuant to section 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.

Regional Board Staff Decision Recommendation: After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should be placed on the section 303(d) list because applicable water quality standards are exceeded and a pollutant contributes to or causes the problem.

Line of Evidence (LOE) for Decision ID 66016, Indicator Bacteria **Region 2**
Oyster Point Marina (San Francisco Bay, Lower)

LOE ID: 90867
Pollutant: Fecal Coliform
LOE Subgroup: Pollutant-Water
Matrix: Water
Fraction: None
Beneficial Use: Water Contact Recreation

Number of Samples:	207
Number of Exceedances:	11
Data and Information Type:	PATHOGEN MONITORING
Data Used to Assess Water Quality:	Water Board staff assessed BeachWatch data for Oyster Point Marina to determine beneficial use support and results are as follows: 11 of 207 samples exceed the criterion for fecal coliform
Data Reference:	Data for Region 2 Beach Watch.
SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	The San Francisco Bay Basin Plan states that the single sample maximum for fecal coliform shall not exceed 400 MPN/100 mL
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	
Guideline Reference:	
Spatial Representation:	Data for this line of evidence for Oyster Point Marina (San Francisco Bay, Lower) was collected at 1 monitoring site [Oyster Point Marina]
Temporal Representation:	Data was collected over the time period 12/5/2005-8/30/2010.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	The samples were collected for the Beach Watch program.
QAPP Information Reference(s):	

Line of Evidence (LOE) for Decision ID 66016, Indicator Bacteria

Region 2

Oyster Point Marina (San Francisco Bay, Lower)

LOE ID:	90672
Pollutant:	Fecal Coliform
LOE Subgroup:	Pollutant-Water
Matrix:	Water
Fraction:	None
Beneficial Use:	Water Contact Recreation
Number of Samples:	172
Number of Exceedances:	3
Data and Information Type:	Not Specified
Data Used to Assess Water Quality:	Three of the 172 geomeans exceeded the objective.
Data Reference:	Data for Region 2 Beach Watch.
SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	The geometric mean standard for fecal coliform states that the fecal coliform density shall not exceed 200 per 100 mL. San Francisco Bay Basin Water Quality Control Plan.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	
Guideline Reference:	
Spatial Representation:	Samples were collected at the Oyster Point Marina site.
Temporal Representation:	Samples were collected from December 2005 to August 2010.
Environmental Conditions:	
QAPP Information:	The samples were collected for the beach watch program.
QAPP Information Reference(s):	

Line of Evidence (LOE) for Decision ID 66016, Indicator Bacteria

Region 2

Oyster Point Marina (San Francisco Bay, Lower)

LOE ID:	90673
Pollutant:	Total Coliform
LOE Subgroup:	Pollutant-Water
Matrix:	Water
Fraction:	None
Beneficial Use:	Water Contact Recreation
Number of Samples:	54
Number of Exceedances:	27
Data and Information Type:	Not Specified
Data Used to Assess Water Quality:	Twenty-seven of the fifty-four monthly medians exceeded the objective.
Data Reference:	Data for Region 2 Beach Watch.
SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	The standard for total coliform states that the coliform density shall not exceed a monthly median of 240 per 100 mL. San Francisco Bay Basin Water Quality Control Plan.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	
Guideline Reference:	
Spatial Representation:	Samples were collected at the Oyster Point Marina site.
Temporal Representation:	Samples were collected from December 2005 to August 2010.
Environmental Conditions:	
QAPP Information:	The samples were collected for the Beach Watch program.
QAPP Information Reference(s):	

Line of Evidence (LOE) for Decision ID 66016, Indicator Bacteria
Oyster Point Marina (San Francisco Bay, Lower)

Region 2

LOE ID:	90884
Pollutant:	Total Coliform
LOE Subgroup:	Pollutant-Water
Matrix:	Water
Fraction:	None
Beneficial Use:	Water Contact Recreation
Number of Samples:	207
Number of Exceedances:	4
Data and Information Type:	PATHOGEN MONITORING
Data Used to Assess Water Quality:	Water Board staff assessed BeachWatch data for Oyster Point Marina to determine beneficial use support and results are as follows: 4 of 207 samples exceed the criterion for total coliform
Data Reference:	Data for Region 2 Beach Watch.
SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	The San Francisco Bay Basin Plan states that the single sample maximum for total coliform shall not exceed 10,000 MPN/100 mL
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	
Guideline Reference:	

Spatial Representation:	Data for this line of evidence for Oyster Point Marina (San Francisco Bay, Lower) was collected at 1 monitoring site [Oyster Point Marina]
Temporal Representation:	Data was collected over the time period 12/5/2005-8/30/2010.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	The samples were collected for the Beach Watch program.
QAPP Information Reference(s):	

Line of Evidence (LOE) for Decision ID 66016, Indicator Bacteria
Oyster Point Marina (San Francisco Bay, Lower)

Region 2

LOE ID:	90772
Pollutant:	Enterococcus
LOE Subgroup:	Pollutant-Water
Matrix:	Water
Fraction:	None
Beneficial Use:	Water Contact Recreation
Number of Samples:	207
Number of Exceedances:	18
Data and Information Type:	PATHOGEN MONITORING
Data Used to Assess Water Quality:	Water Board staff assessed BeachWatch data for Oyster Point Marina to determine beneficial use support and results are as follows: 18 of 207 samples exceed the criterion for Enterococci.
Data Reference:	Data for Region 2 Beach Watch.
SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	The San Francisco Bay Basin Plan states that the single sample maximum for Enterococcus shall not exceed 104 MPN/100 mL.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	
Guideline Reference:	

Spatial Representation:	Data for this line of evidence for Oyster Point Marina (San Francisco Bay, Lower) was collected at 1 monitoring site [Oyster Point Marina]
Temporal Representation:	Data was collected over the time period 12/5/2005-8/30/2010.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	The samples were collected for the Beach Watch program.
QAPP Information Reference(s):	

Line of Evidence (LOE) for Decision ID 66016, Indicator Bacteria
Oyster Point Marina (San Francisco Bay, Lower)

Region 2

LOE ID:	90674
Pollutant:	Enterococcus
LOE Subgroup:	Pollutant-Water
Matrix:	Water
Fraction:	None
Beneficial Use:	Water Contact Recreation
Number of Samples:	170
Number of Exceedances:	31
Data and Information Type:	Not Specified
Data Used to Assess Water Quality:	Thirty One of the 170 geomeans exceeded the objective.

Data Reference:	Data for Region 2 Beach Watch.
SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	The geometric mean standard for enterococcus states that the enterococcus density shall not exceed 35 per 100 mL. San Francisco Bay Basin Water Quality Control Plan.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	
Guideline Reference:	
Spatial Representation:	Samples were collected at the Oyster Point Marina site.
Temporal Representation:	Samples were collected from December 2005 to August 2010.
Environmental Conditions:	
QAPP Information:	The samples were collected for the Beach Watch program.
QAPP Information Reference(s):	

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Supporting Information

Regional Board 2 - San Francisco Bay Region

Water Body Name: Coyote Point County Park (San Francisco Bay, Lower)
Water Body ID: CAC2044002120110713113153
Water Body Type: Coastal & Bay Shoreline

DECISION ID 62139 **Region 2**
Coyote Point County Park (San Francisco Bay, Lower)

Pollutant: Indicator Bacteria
Final Listing Decision: Do Not List on 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision: New Decision
Revision Status Revised
Impairment from Pollutant or Pollution: Pollutant

Regional Board Staff Conclusion: This pollutant is being considered for placement on the CWA section 303(d) List under section 3.3 of the Listing Policy. Under section 3.3 a single line of evidence is necessary to assess listing status.

Three lines of evidence are available in the administrative record to assess this pollutant. Four of two hundred two samples exceed the fecal coliform objective.

Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against placing this water segment-pollutant combination on the CWA section 303(d) List.

This conclusion is based on the staff findings that:

1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy.
2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy.
3. Four of two hundred two samples exceed the fecal coliform objective and this does not exceed the allowable frequency listed in Table 3.2 of the Listing Policy.
4. Pursuant to section 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.

Regional Board Staff Decision Recommendation: After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be placed on the section 303(d) list because applicable water quality standards are not being exceeded.

Line of Evidence (LOE) for Decision ID 62139, Indicator Bacteria **Region 2**
Coyote Point County Park (San Francisco Bay, Lower)

LOE ID: 91598
Pollutant: Enterococcus
LOE Subgroup: Pollutant-Water
Matrix: Water
Fraction: None
Beneficial Use: Water Contact Recreation
Number of Samples: 195
Number of Exceedances: 0

Data and Information Type:	Not Specified
Data Used to Assess Water Quality:	Zero of the 195 geomeans exceeded the objective.
Data Reference:	Data for Region 2 Beach Watch.
SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	The geometric mean standard for enterococcus states that the enterococcus density shall not exceed 35 per 100 mL. San Francisco Bay Basin Water Quality Control Plan.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	
Guideline Reference:	
Spatial Representation:	Samples were collected at the Coyote Point County Park site.
Temporal Representation:	Samples were collected from December 2005 to August 2010.
Environmental Conditions:	
QAPP Information:	The samples were collected for the Beach Watch program.
QAPP Information Reference(s):	

Line of Evidence (LOE) for Decision ID 62139, Indicator Bacteria
Coyote Point County Park (San Francisco Bay, Lower)

Region 2

LOE ID:	91600
Pollutant:	Fecal Coliform
LOE Subgroup:	Pollutant-Water
Matrix:	Water
Fraction:	None
Beneficial Use:	Water Contact Recreation
Number of Samples:	202
Number of Exceedances:	4
Data and Information Type:	Not Specified
Data Used to Assess Water Quality:	Four of the 202 geomeans exceeded the objective.
Data Reference:	Data for Region 2 Beach Watch.
SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	The geometric mean standard for fecal coliform states that the fecal coliform density shall not exceed 200 per 100 mL. San Francisco Bay Basin Water Quality Control Plan.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	
Guideline Reference:	
Spatial Representation:	Samples were collected at the Coyote Point County Park site.
Temporal Representation:	Samples were collected from January 2005 to August 2010.
Environmental Conditions:	
QAPP Information:	The samples were collected for the beach watch program.
QAPP Information Reference(s):	

Line of Evidence (LOE) for Decision ID 62139, Indicator Bacteria
Coyote Point County Park (San Francisco Bay, Lower)

Region 2

LOE ID:	91602
Pollutant:	Total Coliform
LOE Subgroup:	Pollutant-Water
Matrix:	Water

Fraction:	None
Beneficial Use:	Water Contact Recreation
Number of Samples:	59
Number of Exceedances:	8
Data and Information Type:	Not Specified
Data Used to Assess Water Quality:	Eight of the fifty-nine monthly medians exceeded the objective.
Data Reference:	Data for Region 2 Beach Watch.
SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	The standard for total coliform states that the coliform density shall not exceed a monthly median of 240 per 100 mL. San Francisco Bay Basin Water Quality Control Plan.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	
Guideline Reference:	
Spatial Representation:	Samples were collected at the Coyote Point County Park site.
Temporal Representation:	Samples were collected from January 2005 to August 2010.
Environmental Conditions:	
QAPP Information:	The samples were collected for the Beach Watch program.
QAPP Information Reference(s):	

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Supporting Information

Regional Board 2 - San Francisco Bay Region

Water Body Name: Aquatic Park (Marina Lagoon, San Mateo County)
Water Body ID: CAC2044004020110713113634
Water Body Type: Coastal & Bay Shoreline

DECISION ID 67371 **Region 2**
Aquatic Park (Marina Lagoon, San Mateo County)

Pollutant: Indicator Bacteria
Final Listing Decision: Do Not Delist from 303(d) list (being addressed with USEPA approved TMDL)
Last Listing Cycle's Final Listing Decision: New Decision
Revision Status: Revised
Sources: Source Unknown
TMDL Name: San Francisco Bay Beaches, Pathogens
TMDL Project Code: 995
Date TMDL Approved by USEPA: 02/24/2017
Impairment from Pollutant or Pollution: Pollutant

Regional Board Staff Conclusion: This pollutant is being considered for placement on the CWA section 303(d) List under sections 2.2 and 3.3 of the Listing Policy. Under section 3.3 of the Policy, a minimum of one line of evidence is needed to assess listing status.

Six lines of evidence are available in the administrative record to assess this pollutant. 72 of 202 samples exceed the enterococcus geometric mean objective.

Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification for placing this water segment-pollutant combination from the CWA section 303(d) List. There is sufficient justification to place it in the Being Addressed portion of the CWA 303(d) List because a TMDL has been completed and approved by RWQCB and USEPA, and is expected to result in attainment of the standard.

This conclusion is based on the staff findings that:

1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy.
2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy.
3. 72 of 202 samples exceed the enterococcus geometric mean objective and these exceed the allowable frequency listed in Table 3.2 of the Listing Policy.
4. The SF Bay Beaches Pathogen TMDL was approved by USEPA on 2/24/2017.
5. Pursuant to section 4.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.

Regional Board Staff Decision Recommendation: After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be removed from the section 303(d) list because applicable water quality standards for the pollutant are being exceeded.

Line of Evidence (LOE) for Decision ID 67371, Indicator Bacteria **Region 2**
Aquatic Park (Marina Lagoon, San Mateo County)

LOE ID: 95961
Pollutant: Total Coliform

LOE Subgroup:	Pollutant-Water
Matrix:	Water
Fraction:	None
Beneficial Use:	Non-Contact Recreation
Number of Samples:	228
Number of Exceedances:	38
Data and Information Type:	PATHOGEN MONITORING
Data Used to Assess Water Quality:	Water Board staff assessed BeachWatch data for Aquatic Park beach to determine beneficial use support and results are as follows: 38 of 228 samples exceed the criterion for total coliform.
Data Reference:	Data for Region 2 Beach Watch.
SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	The San Francisco Bay Basin Plan states that the single sample maximum for total coliform shall not exceed 10,000 MPN/100 mL
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	
Guideline Reference:	
Spatial Representation:	Data for this line of evidence for Marina Lagoon (San Mateo County) was collected at 1 monitoring site [Aquatic Park]
Temporal Representation:	Data was collected over the time period 1/4/2005-8/30/2010.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	The samples were collected for the Beach Watch program.
QAPP Information Reference(s):	

Line of Evidence (LOE) for Decision ID 67371, Indicator Bacteria
Aquatic Park (Marina Lagoon, San Mateo County)

Region 2

LOE ID:	95958
Pollutant:	Enterococcus
LOE Subgroup:	Pollutant-Water
Matrix:	Water
Fraction:	None
Beneficial Use:	Non-Contact Recreation
Number of Samples:	202
Number of Exceedances:	72
Data and Information Type:	Not Specified
Data Used to Assess Water Quality:	Seventy two of the 202 geomeans exceeded the objective.
Data Reference:	Data for Region 2 Beach Watch.
SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	The geometric mean standard for enterococcus states that the enterococcus density shall not exceed 35 per 100 mL. San Francisco Bay Basin Water Quality Control Plan.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	
Guideline Reference:	
Spatial Representation:	Samples were collected at the Aquatic Park site.
Temporal Representation:	Samples were collected from December 2005 to August 2010.
Environmental Conditions:	

QAPP Information: The samples were collected for the Beach Watch program.
QAPP Information Reference(s):

Line of Evidence (LOE) for Decision ID 67371, Indicator Bacteria
Aquatic Park (Marina Lagoon, San Mateo County)

Region 2

LOE ID: 95959

Pollutant: Total Coliform
LOE Subgroup: Pollutant-Water
Matrix: Water
Fraction: None

Beneficial Use: Non-Contact Recreation

Number of Samples: 57
Number of Exceedances: 55

Data and Information Type: Not Specified
Data Used to Assess Water Quality: Fifty-five of fifty-seven monthly medians exceeded the objective.
Data Reference: [Data for Region 2 Beach Watch.](#)

SWAMP Data: Non-SWAMP

Water Quality Objective/Criterion: The standard for total coliform states that the coliform density shall not exceed a monthly median of 240 per 100 mL. San Francisco Bay Basin Water Quality Control Plan.
Objective/Criterion Reference: [Water Quality Control Plan \(Basin Plan\) San Francisco Bay Basin \(Region 2\)](#)

Evaluation Guideline:
Guideline Reference:

Spatial Representation: Samples were collected at the Aquatic Park site.
Temporal Representation: Samples were collected from January 2005 to August 2010.
Environmental Conditions:
QAPP Information: The samples were collected for the Beach Watch program.
QAPP Information Reference(s):

Line of Evidence (LOE) for Decision ID 67371, Indicator Bacteria
Aquatic Park (Marina Lagoon, San Mateo County)

Region 2

LOE ID: 95962

Pollutant: Fecal Coliform
LOE Subgroup: Pollutant-Water
Matrix: Water
Fraction: None

Beneficial Use: Non-Contact Recreation

Number of Samples: 228
Number of Exceedances: 58

Data and Information Type: PATHOGEN MONITORING
Data Used to Assess Water Quality: Water Board staff assessed BeachWatch data for aquatic park beach to determine beneficial use support and results are as follows: 58 of 228 samples exceed the criterion for fecal coliform.
Data Reference: [Data for Region 2 Beach Watch.](#)

SWAMP Data: Non-SWAMP

Water Quality Objective/Criterion: The San Francisco Bay Basin Plan states that the single sample maximum for fecal

coliform shall not exceed 400 MPN/100 mL

Objective/Criterion Reference: [Water Quality Control Plan \(Basin Plan\) San Francisco Bay Basin \(Region 2\)](#)

Evaluation Guideline:

Guideline Reference:

Spatial Representation: Data for this line of evidence for Marina Lagoon (San Mateo County) was collected at 1 monitoring site [Aquatic Park]

Temporal Representation: Data was collected over the time period 1/4/2005-8/30/2010.

Environmental Conditions: Staff is not aware of any special conditions that might affect interpretation of the data.

QAPP Information: The samples were collected for the Beach Watch program.

QAPP Information Reference(s):

Line of Evidence (LOE) for Decision ID 67371, Indicator Bacteria
Aquatic Park (Marina Lagoon, San Mateo County)

Region 2

LOE ID: 95960

Pollutant: Fecal Coliform

LOE Subgroup: Pollutant-Water

Matrix: Water

Fraction: None

Beneficial Use: Non-Contact Recreation

Number of Samples: 208

Number of Exceedances: 74

Data and Information Type: Not Specified

Data Used to Assess Water Quality: Seventy four of the 208 geomeans exceeded the objective.

Data Reference: [Data for Region 2 Beach Watch.](#)

SWAMP Data: Non-SWAMP

Water Quality Objective/Criterion: The geometric mean standard for fecal coliform states that the fecal coliform density shall not exceed 200 per 100 mL. San Francisco Bay Basin Water Quality Control Plan.

Objective/Criterion Reference: [Water Quality Control Plan \(Basin Plan\) San Francisco Bay Basin \(Region 2\)](#)

Evaluation Guideline:

Guideline Reference:

Spatial Representation: Samples were collected at the Aquatic Park site.

Temporal Representation: Samples were collected from January 2005 to August 2010.

Environmental Conditions:

QAPP Information: The samples were collected for the beach watch program.

QAPP Information Reference(s):

Line of Evidence (LOE) for Decision ID 67371, Indicator Bacteria
Aquatic Park (Marina Lagoon, San Mateo County)

Region 2

LOE ID: 95957

Pollutant: Enterococcus

LOE Subgroup: Pollutant-Water

Matrix: Water

Fraction: None

Beneficial Use: Non-Contact Recreation

Number of Samples: 216

Number of Exceedances: 40

Data and Information Type:	PATHOGEN MONITORING
Data Used to Assess Water Quality:	Water Board staff assessed BeachWatch data for Aquatic Park Beach in Marina Lagoon to determine beneficial use support and results are as follows: 40 of 216 samples exceed the single sample maximum criterion for Enterococci.
Data Reference:	Data for Region 2 Beach Watch.
SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	The San Francisco Bay Basin Plan states that the single sample maximum for Enterococcus shall not exceed 104 MPN/100 mL.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	
Guideline Reference:	
Spatial Representation:	Data for this line of evidence for Aquatic Park Beach (San Mateo County) was collected at 1 monitoring site [Aquatic Park]
Temporal Representation:	Data was collected over the time period 12/5/2005-8/30/2010.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	The samples were collected for the Beach Watch program.
QAPP Information Reference(s):	

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Supporting Information

Regional Board 2 - San Francisco Bay Region

Water Body Name: Vallejo Marina (part of Napa River)
Water Body ID: CAE2065008020110406213813
Water Body Type: Estuary

DECISION ID 66749 **Region 2**
Vallejo Marina (part of Napa River)

Pollutant: Copper
Final Listing Decision: Do Not List on 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision: New Decision
Revision Status Revised
Impairment from Pollutant or Pollution: Pollutant

Regional Board Staff Conclusion: This pollutant is being considered for placement on the CWA section 303(d) List under section 3.1 of the Listing Policy. Under section 3.1 a single line of evidence is necessary to assess listing status. One line of evidence is available in the administrative record to assess this pollutant. Zero of three samples exceed the guideline.

Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against placing this water segment-pollutant combination on the CWA section 303(d) List.

This conclusion is based on the staff findings that:

1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy.
2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy.
3. Zero of three samples exceed the guideline and this sample size is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating. A minimum of 16 samples is needed to determine if a beneficial use is fully supported using table 3.1.
4. Pursuant to SECTION 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.

Regional Board Staff Decision Recommendation: After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be placed on the section 303(d) list. The readily available data and information is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating.

Line of Evidence (LOE) for Decision ID 66749, Copper **Region 2**
Vallejo Marina (part of Napa River)

LOE ID: 93549
Pollutant: Copper
LOE Subgroup: Pollutant-Water
Matrix: Water
Fraction: Dissolved
Beneficial Use: Estuarine Habitat
Number of Samples: 3
Number of Exceedances: 0

Data and Information Type:	Fixed station physical/chemical (conventional plus toxic pollutants)
Data Used to Assess Water Quality:	None of the three samples exceeded the SSO value of 6 ug/L for dissolved copper.
Data Reference:	Data for Various Pollutants in California Marinas, 2006.
SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	Waters shall not contain chemical constituents in concentrations that adversely affect beneficial uses. Table 3.3A lists a site specific objective (SSO) for criteria continuous concentration of dissolved copper. The SSO for dissolved copper in this portion of the San Francisco Bay Delta is 6.0 ug/L.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	
Guideline Reference:	
Spatial Representation:	A total of four separate grab samples were collected from inside the Vallejo Marina basin (Sites 1, 2, 3, & 4), these sites were averaged per sample event.
Temporal Representation:	Samples were collected on three separate sampling events during the dry season (July - October) in 2006.
Environmental Conditions:	Samples were collected during the dry season only.
QAPP Information:	Samples were collected and analyzed in accordance with a Quality Assurance Project Plan that was prepared per State Water Resources Control Board Agreement No. 05-218-250 California Department of Pesticide Regulation, Sacramento, CA. (Available online at http://www.cdpr.ca.gov/docs/emon/surfwttr/protocols/qapp_study236.pdf)
QAPP Information Reference(s):	

DECISION ID	66750	Region 2
Vallejo Marina (part of Napa River)		

Pollutant:	Oxygen, Dissolved
Final Listing Decision:	Do Not List on 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision:	New Decision
Revision Status	Revised
Impairment from Pollutant or Pollution:	Pollutant
Regional Board Staff Conclusion:	<p>This pollutant is being considered for placement on the CWA section 303(d) List under section 3.2 of the Listing Policy. Under section 3.2 a single line of evidence is necessary to assess listing status. One line of evidence is available in the administrative record to assess this pollutant. Zero of eleven samples exceed the objective.</p> <p>Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against placing this water segment-pollutant combination on the CWA section 303(d) List.</p> <p>This conclusion is based on the staff findings that:</p> <ol style="list-style-type: none"> 1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy. 2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy. 3. Zero of eleven samples exceed the objective and this sample size is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating. A minimum of 26 samples is needed to determine if a beneficial use is fully supported using table 3.2. 4. Pursuant to SECTION 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.
Regional Board Staff Decision Recommendation:	After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be placed on the section 303(d) list. The readily available data and information is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating.

**Line of Evidence (LOE) for Decision ID 66750, Oxygen, Dissolved
Vallejo Marina (part of Napa River)**

Region 2

LOE ID: 93550

Pollutant: Oxygen, Dissolved
LOE Subgroup: Pollutant-Water
Matrix: Water
Fraction: Dissolved

Beneficial Use: Estuarine Habitat

Number of Samples: 11
Number of Exceedances: 0

Data and Information Type: PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality: Numeric data generated from 11 minimum samples of Dissolved Oxygen concentrations had 0 exceedence.
Data Reference: [Data for Various Pollutants in California Marinas, 2006.](#)

SWAMP Data: Non-SWAMP

Water Quality Objective/Criterion: The dissolved oxygen content of bays/estuaries downstream of the Carquinez Bridge must be above 5 mg/L.
Objective/Criterion Reference: [Water Quality Control Plan \(Basin Plan\) San Francisco Bay Basin \(Region 2\)](#)

Evaluation Guideline:
Guideline Reference:

Spatial Representation: Samples were collected from the following stations: Vallejo Municipal Marina 1.1 Vallejo Municipal Marina 1.2 Vallejo Municipal Marina 1.3 Vallejo Municipal Marina 2.1 Vallejo Municipal Marina 2.2 Vallejo Municipal Marina 2.3 Vallejo Municipal Marina 3.1 Vallejo Municipal Marina 3.2 Vallejo Municipal Marina 3.3 Vallejo Municipal Marina 4.1 Vallejo Municipal Marina 4.2 Vallejo Municipal Marina 4.3

Temporal Representation: Samples were collected on the following dates: 8/7/2006 9/5/2006 10/3/2006

Environmental Conditions:
QAPP Information: Samples were collected and analyzed in accordance with a Quality Assurance Project Plan that was prepared per State Water Resources Control Board Agreement No. 05-218-250 California Department of Pesticide Regulation, Sacramento, CA. (Available online at http://www.cdpr.ca.gov/docs/emon/surfwtr/protocols/qapp_study236.pdf)

QAPP Information Reference(s):

**DECISION ID 66753
Vallejo Marina (part of Napa River)**

Region 2

Pollutant: Toxicity
Final Listing Decision: Do Not List on 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision: New Decision
Revision Status: Revised
Impairment from Pollutant or Pollution: Pollutant

Regional Board Staff Conclusion: This pollutant is being considered for placement on the CWA section 303(d) List under section 3.6 of the Listing Policy. Under section 3.6 at least one line of evidence is necessary to assess listing status toxicity to justify adding that pollutant to the CWA section 303(d) List.

One line of evidence is available in the administrative record to assess this pollutant. Zero of four samples exceed the toxicity guideline.

Based on the readily available data and information, the weight of evidence indicates that there is insufficient justification for placing this water segment-pollutant combination on the CWA section 303(d) List.

This conclusion is based on the staff findings that:

1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy.
2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy.
3. Zero of four samples exceed the guideline and this sample size is insufficient to determine beneficial use support, with the power and confidence of the Listing Policy. A minimum of 16 samples is needed to determine if a beneficial use is fully supported using table 3.1.
4. Pursuant to section 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.

Regional Board Staff Decision Recommendation: After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be placed on the section 303(d) list. The readily available data and information is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating.

**Line of Evidence (LOE) for Decision ID 66753, Toxicity
Vallejo Marina (part of Napa River)**

Region 2

LOE ID:	93561
Pollutant:	Toxicity
LOE Subgroup:	Toxicity
Matrix:	Water
Fraction:	None
Beneficial Use:	Estuarine Habitat
Number of Samples:	4
Number of Exceedances:	0
Data and Information Type:	TOXICITY TESTING
Data Used to Assess Water Quality:	Four samples were tested for toxicity. None of the four samples exhibited a statistically significant effect relative to control. The toxicity test used was the mussel embryo development test (EPA 1995) using <i>Mytilus galloprovincialis</i> . Toxic effects are expressed as percent reduction in normal development relative to controls.
Data Reference:	Data for Various Pollutants in California Marinas, 2006.
SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	All waters shall be maintained free of toxic substances in concentrations that are lethal to or that produce other detrimental responses in aquatic organisms. Detrimental responses include, but are not limited to, decreased growth rate and decreased reproductive success of resident or indicator species.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) - San Francisco Bay Region (Region 2)
Evaluation Guideline:	Toxicity is defined as a statistically significant effect in the sample exposure compared to the control using EPA-recommended hypothesis testing (parametric Dunnett's Test or non-parametric Kruskal-Wallis or Wilcoxon Two-sample Test). The t-test is used to determine if there is a statistically significant decrease in organism response in the sample as compared to the control.
Guideline Reference:	SWAMP Memo Toxicity Data Interpretation Method 1007.0: Mysid, <i>Mysidopsis bahia</i>, Survival, Growth, and Fecundity Test; Chronic Toxicity. Excerpt from: Short-Term Methods for Estimating the Chronic Toxicity of Effluents and Receiving Waters to Marine and Estuarine Organisms. 3rd edition EPA-821-R-02-014
Spatial Representation:	The samples were collected at Vallejo Municipal Marina 1.2, 2.2, 3.2, and 4.2.

Temporal Representation:
Environmental Conditions:
QAPP Information:

Samples were collected on 9/5/2006.

Data quality is good. The data and QA information is provided in Appendix G and I to the report Monitoring For Indicators of Antifouling Paint Pollution In California Marinas, Department of Pesticide Regulation. The Southern California Coastal Water Research Project laboratory conducted the toxicity tests.

QAPP Information Reference(s):

DECISION ID	66754	Region 2
Vallejo Marina (part of Napa River)		

Pollutant:	Zinc
Final Listing Decision:	Do Not List on 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision:	New Decision
Revision Status	Revised
Impairment from Pollutant or Pollution:	Pollutant

Regional Board Staff Conclusion:

This pollutant is being considered for placement on the CWA section 303(d) List under section 3.1 of the Listing Policy. Under section 3.1 a single line of evidence is necessary to assess listing status. One line of evidence is available in the administrative record to assess this pollutant. Zero of three samples exceed the guideline.

Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against placing this water segment-pollutant combination on the CWA section 303(d) List.

This conclusion is based on the staff findings that:

1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy.
2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy.
3. Zero of three samples exceed the guideline and this sample size is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating. A minimum of 16 samples is needed to determine if a beneficial use is fully supported using table 3.1.
4. Pursuant to SECTION 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.

Regional Board Staff Decision Recommendation:

After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be placed on the section 303(d) list. The readily available data and information is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating.

Line of Evidence (LOE) for Decision ID 66754, Zinc	Region 2
Vallejo Marina (part of Napa River)	

LOE ID:	93562
Pollutant:	Zinc
LOE Subgroup:	Pollutant-Water
Matrix:	Water
Fraction:	Dissolved
Beneficial Use:	Estuarine Habitat
Number of Samples:	3
Number of Exceedances:	0

Data and Information Type:	Fixed station physical/chemical (conventional plus toxic pollutants)
Data Used to Assess Water Quality:	None of the three samples exceeded the CTR value of 81 ug/L for dissolved zinc in

Data Reference:	saline water. Data for Various Pollutants in California Marinas, 2006.
SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	Waters shall not contain chemical constituents in concentrations that adversely affect beneficial uses. California Toxics Rule (CTR) lists criterion continuous concentrations to protect aquatic life in saline water. The CTR value is 81 ug/L.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	
Guideline Reference:	
Spatial Representation:	A total of four separate grab samples were collected from inside the Vallejo marina basin (Sites 1, 2, 3, & 4), these sites were averaged per sample event.
Temporal Representation:	Samples were collected on three separate sampling events during the dry season (July - October) in 2006.
Environmental Conditions:	Samples were collected during the dry season only.
QAPP Information:	Samples were collected and analyzed in accordance with a Quality Assurance Project Plan that was prepared per State Water Resources Control Board Agreement No. 05-218-250 California Department of Pesticide Regulation, Sacramento, CA. (Available online at http://www.cdpr.ca.gov/docs/emon/surfwttr/protocols/qapp_study236.pdf)
QAPP Information Reference(s):	

DECISION ID	66752	Region 2
Vallejo Marina (part of Napa River)		

Pollutant:	pH
Final Listing Decision:	Do Not List on 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision:	New Decision
Revision Status	Revised
Impairment from Pollutant or Pollution:	Pollutant

Regional Board Staff Conclusion:	<p>This pollutant is being considered for placement on the CWA section 303(d) List under section 3.2 of the Listing Policy. Under section 3.2 a single line of evidence is necessary to assess listing status. One line of evidence is available in the administrative record to assess this pollutant. One of twelve samples exceed the objective.</p>
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Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against placing this water segment-pollutant combination on the CWA section 303(d) List.

This conclusion is based on the staff findings that:

1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy.
2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy.
3. One of twelve samples exceed the objective and this sample size is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating. A minimum of 26 samples is needed to determine if a beneficial use is fully supported using table 3.2.
4. Pursuant to SECTION 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.

Regional Board Staff Decision Recommendation:	After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be placed on the section 303(d) list. The readily available data and information is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating.
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Line of Evidence (LOE) for Decision ID 66752, pH	Region 2
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Vallejo Marina (part of Napa River)

LOE ID:	90740
Pollutant:	pH
LOE Subgroup:	Pollutant-Water
Matrix:	Water
Fraction:	Dissolved
Beneficial Use:	Warm Freshwater Habitat
Number of Samples:	12
Number of Exceedances:	1
Data and Information Type:	PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality:	Numeric data generated from 12 minimums and maximums had 1 exceedence.
Data Reference:	Data for Various Pollutants in California Marinas, 2006.
SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	The pH shall not be depressed below 6.5 nor raised above 8.5.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	
Guideline Reference:	
Spatial Representation:	Samples were collected from the following stations: Vallejo Municipal Marina 1.1 Vallejo Municipal Marina 1.2* Vallejo Municipal Marina 1.3 Vallejo Municipal Marina 2.1* Vallejo Municipal Marina 2.2* Vallejo Municipal Marina 2.3 Vallejo Municipal Marina 3.1 Vallejo Municipal Marina 3.2* Vallejo Municipal Marina 3.3 Vallejo Municipal Marina 4.1 Vallejo Municipal Marina 4.2* Vallejo Municipal Marina 4.3
Temporal Representation:	Samples were collected once a month from August 2006 to October 2006.
Environmental Conditions:	
QAPP Information:	NPDES quality assurance.
QAPP Information Reference(s):	Study report on paint data collected in California Marinas.

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Supporting Information

Regional Board 2 - San Francisco Bay Region

Water Body Name: Pittsburgh Marina (part of Sacramento San Joaquin Delta)
Water Body ID: CAE2071001020110405233731
Water Body Type: Estuary

DECISION ID 66122 **Region 2**
Pittsburgh Marina (part of Sacramento San Joaquin Delta)

Pollutant: Copper
Final Listing Decision: Do Not List on 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision: New Decision
Revision Status: Revised
Impairment from Pollutant or Pollution: Pollutant

Regional Board Staff Conclusion: This pollutant is being considered for placement on the CWA section 303(d) List under section 3.1 of the Listing Policy. Under section 3.1 a single line of evidence is necessary to assess listing status. One line of evidence is available in the administrative record to assess this pollutant. Zero of three samples exceed the guideline.

Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against placing this water segment-pollutant combination on the CWA section 303(d) List.

This conclusion is based on the staff findings that:

1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy.
2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy.
3. Zero of three samples exceed the guideline and this sample size is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating. A minimum of 16 samples is needed to determine if a beneficial use is fully supported using table 3.1.
4. Pursuant to SECTION 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.

Regional Board Staff Decision Recommendation: After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be placed on the section 303(d) list. The readily available data and information is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating.

Line of Evidence (LOE) for Decision ID 66122, Copper **Region 2**
Pittsburgh Marina (part of Sacramento San Joaquin Delta)

LOE ID: 92620
Pollutant: Copper
LOE Subgroup: Pollutant-Water
Matrix: Water
Fraction: Dissolved
Beneficial Use: Estuarine Habitat
Number of Samples: 3
Number of Exceedances: 0

Data and Information Type:	Fixed station physical/chemical (conventional plus toxic pollutants)
Data Used to Assess Water Quality:	None of the three samples exceeded the SSO value of 6 ug/L for dissolved copper.
Data Reference:	Data for Various Pollutants in California Marinas, 2006.
SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	Waters shall not contain chemical constituents in concentrations that adversely affect beneficial uses. Table 3.3A lists a site specific objective (SSO) for criteria continuous concentration of dissolved copper. The SSO for dissolved copper in this portion of the San Francisco Bay Delta is 6.0 ug/L.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	
Guideline Reference:	
Spatial Representation:	A total of four separate grab samples were collected from inside the Pittsburg Marina basin (Sites 1, 2, 3, & 4), these sites were averaged per sample event.
Temporal Representation:	Samples were collected on three separate sampling events during the dry season (July - October) in 2006.
Environmental Conditions:	Samples were collected during the dry season only.
QAPP Information:	Samples were collected and analyzed in accordance with a Quality Assurance Project Plan that was prepared per State Water Resources Control Board Agreement No. 05-218-250 California Department of Pesticide Regulation, Sacramento, CA. (Available online at http://www.cdpr.ca.gov/docs/emon/surfwttr/protocols/qapp_study236.pdf)
QAPP Information Reference(s):	

DECISION ID	66123	Region 2
Pittsburgh Marina (part of Sacramento San Joaquin Delta)		

Pollutant:	Oxygen, Dissolved
Final Listing Decision:	Do Not List on 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision:	New Decision
Revision Status	Revised
Impairment from Pollutant or Pollution:	Pollutant
Regional Board Staff Conclusion:	<p>This pollutant is being considered for placement on the CWA section 303(d) List under section 3.2 of the Listing Policy. Under section 3.2 a single line of evidence is necessary to assess listing status. One line of evidence is available in the administrative record to assess this pollutant. Zero of nine samples exceed the objective.</p> <p>Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against placing this water segment-pollutant combination on the CWA section 303(d) List.</p> <p>This conclusion is based on the staff findings that:</p> <ol style="list-style-type: none"> 1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy. 2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy. 3. Zero of nine samples exceed the objective and this sample size is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating. A minimum of 26 samples is needed to determine if a beneficial use is fully supported using table 3.2. 4. Pursuant to SECTION 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.
Regional Board Staff Decision Recommendation:	After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be placed on the section 303(d) list. The readily available data and information is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating.

**Line of Evidence (LOE) for Decision ID 66123, Oxygen, Dissolved
Pittsburgh Marina (part of Sacramento San Joaquin Delta)**

Region 2

LOE ID:	92621
Pollutant:	Oxygen, Dissolved
LOE Subgroup:	Pollutant-Water
Matrix:	Water
Fraction:	Dissolved
Beneficial Use:	Estuarine Habitat
Number of Samples:	9
Number of Exceedances:	0
Data and Information Type:	PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality:	Numeric data generated from 9 minimum samples of Dissolved Oxygen concentrations had no exceedences.
Data Reference:	Data for Various Pollutants in California Marinas, 2006.
SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	The dissolved oxygen content of bays/estuaries upstream of the Carquinez Bridge must be above 7 mg/L.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	
Guideline Reference:	
Spatial Representation:	Samples were collected from the following stations: Pittsburg Marina 1.1 Pittsburg Marina 1.2 Pittsburg Marina 1.3 Pittsburg Marina 2.1 Pittsburg Marina 2.2 Pittsburg Marina 2.3 Pittsburg Marina 3.1 Pittsburg Marina 3.2 Pittsburg Marina 3.3
Temporal Representation:	Samples were collected on the following dates: 8/8/2006 9/5/2006 10/3/2006
Environmental Conditions:	
QAPP Information:	Samples were collected and analyzed in accordance with a Quality Assurance Project Plan that was prepared per State Water Resources Control Board Agreement No. 05-218-250 California Department of Pesticide Regulation, Sacramento, CA. (Available online at http://www.cdpr.ca.gov/docs/emon/surfwttr/protocols/qapp_study236.pdf)
QAPP Information Reference(s):	

DECISION ID

66124

Region 2

Pittsburgh Marina (part of Sacramento San Joaquin Delta)

Pollutant:	Toxicity
Final Listing Decision:	Do Not List on 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision:	New Decision
Revision Status	Revised
Impairment from Pollutant or Pollution:	Pollutant
Regional Board Staff Conclusion:	<p>This pollutant is being considered for placement on the CWA section 303(d) List under section 3.6 of the Listing Policy. Under section 3.6 a single line of toxicity evidence is necessary to assess listing status.</p> <p>One line of evidence is available in the administrative record to assess this pollutant. Zero of three samples exceed the toxicity guideline.</p> <p>Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against placing this water segment-pollutant combination on the CWA section</p>

303(d) List.

This conclusion is based on the staff findings that:

1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy.
2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy.
3. Zero of three samples exceed the toxicity guideline and this sample size is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating. A minimum of 16 samples is needed to determine if a beneficial use is fully supported using table 3.1.
4. Pursuant to SECTION 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.

Regional Board Staff Decision Recommendation: After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be placed on the section 303(d) list. The readily available data and information is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating.

Line of Evidence (LOE) for Decision ID 66124, Toxicity Pittsburg Marina (part of Sacramento San Joaquin Delta)

Region 2

LOE ID:	92622
Pollutant:	Toxicity
LOE Subgroup:	Toxicity
Matrix:	Water
Fraction:	None
Beneficial Use:	Estuarine Habitat
Number of Samples:	3
Number of Exceedances:	0
Data and Information Type:	TOXICITY TESTING
Data Used to Assess Water Quality:	Three samples were tested for toxicity. None of the three samples exhibited a statistically significant effect relative to control. The toxicity test used was the mussel embryo development test (EPA 1995) using <i>Mytilus galloprovincialis</i> . Toxic effects are expressed as percent reduction in normal development relative to controls.
Data Reference:	Data for Various Pollutants in California Marinas, 2006.
SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	All waters shall be maintained free of toxic substances in concentrations that are lethal to or that produce other detrimental responses in aquatic organisms. Detrimental responses include, but are not limited to, decreased growth rate and decreased reproductive success of resident or indicator species.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) - San Francisco Bay Region (Region 2)
Evaluation Guideline:	Toxicity is defined as a statistically significant effect in the sample exposure compared to the control using EPA-recommended hypothesis testing (parametric Dunnett's Test or non-parametric Kruskal-Wallis or Wilcoxon Two-sample Test). The t-test is used to determine if there is a statistically significant decrease in organism response in the sample as compared to the control.
Guideline Reference:	SWAMP Memo Toxicity Data Interpretation Method 1007.0: Mysid, <i>Mysidopsis bahia</i>, Survival, Growth, and Fecundity Test; Chronic Toxicity. Excerpt from: Short-Term Methods for Estimating the Chronic Toxicity of Effluents and Receiving Waters to Marine and Estuarine Organisms. 3rd edition EPA-821-R-02-014
Spatial Representation:	The samples were collected at Pittsburg Marina 1.2, 2.2, 3.2.
Temporal Representation:	Samples were collected on 9/5/2006.
Environmental Conditions:	

QAPP Information:

Data quality is good. The data and QA information is provided in Appendix G and I to the report Monitoring For Indicators of Antifouling Paint Pollution In California Marinas, Department of Pesticide Regulation. The Southern California Coastal Water Research Project laboratory conducted the toxicity tests.

QAPP Information Reference(s):

DECISION ID	66125	Region 2
Pittsburgh Marina (part of Sacramento San Joaquin Delta)		

Pollutant:	Zinc
Final Listing Decision:	Do Not List on 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision:	New Decision
Revision Status	Revised
Impairment from Pollutant or Pollution:	Pollutant

Regional Board Staff Conclusion: This pollutant is being considered for placement on the CWA section 303(d) List under section 3.1 of the Listing Policy. Under section 3.1 a single line of evidence is necessary to assess listing status. One line of evidence is available in the administrative record to assess this pollutant. Zero of three samples exceed the guideline.

Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against placing this water segment-pollutant combination on the CWA section 303(d) List.

This conclusion is based on the staff findings that:

1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy.
2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy.
3. Zero of three samples exceed the guideline and this sample size is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating. A minimum of 16 samples is needed to determine if a beneficial use is fully supported using table 3.1.
4. Pursuant to SECTION 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.

Regional Board Staff Decision Recommendation: After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be placed on the section 303(d) list. The readily available data and information is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating.

Line of Evidence (LOE) for Decision ID 66125, Zinc	Region 2
Pittsburgh Marina (part of Sacramento San Joaquin Delta)	

LOE ID:	92623
Pollutant:	Zinc
LOE Subgroup:	Pollutant-Water
Matrix:	Water
Fraction:	Dissolved
Beneficial Use:	Estuarine Habitat

Number of Samples:	3
Number of Exceedances:	0

Data and Information Type:	Fixed station physical/chemical (conventional plus toxic pollutants)
Data Used to Assess Water Quality:	None of the three samples exceeded the CTR value of 81 ug/L for dissolved zinc in saline water.

Data Reference:	Data for Various Pollutants in California Marinas, 2006.
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SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	Waters shall not contain chemical constituents in concentrations that adversely affect beneficial uses. California Toxics Rule (CTR) lists criterion continuous concentrations to protect aquatic life in saline water. The CTR value is 81 ug/L.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	
Guideline Reference:	
Spatial Representation:	A total of four separate grab samples were collected from inside the marina basin (Sites 1, 2, 3, & 4), these sites were averaged per sample event.
Temporal Representation:	Samples were collected on three separate sampling events during the dry season (July - October) in 2006.
Environmental Conditions:	Samples were collected during the dry season only.
QAPP Information:	Samples were collected and analyzed in accordance with a Quality Assurance Project Plan that was prepared per State Water Resources Control Board Agreement No. 05-218-250 California Department of Pesticide Regulation, Sacramento, CA. (Available online at http://www.cdpr.ca.gov/docs/emon/surfwttr/protocols/qapp_study236.pdf)
QAPP Information Reference(s):	

DECISION ID	66126	Region 2
Pittsburgh Marina (part of Sacramento San Joaquin Delta)		

Pollutant:	pH
Final Listing Decision:	Do Not List on 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision:	New Decision
Revision Status	Revised
Impairment from Pollutant or Pollution:	Pollutant

Regional Board Staff Conclusion:	<p>This pollutant is being considered for placement on the CWA section 303(d) List under section 3.2 of the Listing Policy. Under section 3.2 a single line of evidence is necessary to assess listing status. One line of evidence is available in the administrative record to assess this pollutant. Two of six samples exceed the objective.</p>
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Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against placing this water segment-pollutant combination on the CWA section 303(d) List.

This conclusion is based on the staff findings that:

1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy.
2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy.
3. Two of six samples exceed the objective and this sample size is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating. A minimum of 26 samples is needed to determine if a beneficial use is fully supported using table 3.2.
4. Pursuant to SECTION 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.

Regional Board Staff Decision Recommendation:	After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be placed on the section 303(d) list. The readily available data and information is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating.
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Line of Evidence (LOE) for Decision ID 66126, pH	Region 2
Pittsburgh Marina (part of Sacramento San Joaquin Delta)	

LOE ID:	90734
Pollutant:	pH
LOE Subgroup:	Pollutant-Water
Matrix:	Water
Fraction:	Dissolved
Beneficial Use:	Warm Freshwater Habitat
Number of Samples:	6
Number of Exceedances:	2
Data and Information Type:	PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality:	Numeric data generated from 6 minimums and maximums had 2 exceedence.
Data Reference:	Data for Various Pollutants in California Marinas, 2006.
SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	The pH shall not be depressed below 6.5 nor raised above 8.5.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	
Guideline Reference:	
Spatial Representation:	Samples were collected from the following stations: Pittsburg Marina Stations 1,3, and 4. Stations 3 and 4 are in close proximity and results are averaged.
Temporal Representation:	Samples were collected once a month from August 2006 to October 2006.
Environmental Conditions:	
QAPP Information:	NPDES quality assurance.
QAPP Information Reference(s):	Study report on paint data collected in California Marinas.

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Supporting Information

Regional Board 2 - San Francisco Bay Region

Water Body Name: Benecia Marina (part of Carquinez Strait)
Water Body ID: CAE2072103120110405224735
Water Body Type: Estuary

DECISION ID 61274 **Region 2**
Benecia Marina (part of Carquinez Strait)

Pollutant: Copper
Final Listing Decision: Do Not List on 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision: New Decision
Revision Status: Revised
Impairment from Pollutant or Pollution: Pollutant

Regional Board Staff Conclusion: This pollutant is being considered for placement on the CWA section 303(d) List under section 3.1 of the Listing Policy. Under section 3.1 a single line of evidence is necessary to assess listing status. One line of evidence is available in the administrative record to assess this pollutant. Zero of three samples exceed the objective.

Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against placing this water segment-pollutant combination on the CWA section 303(d) List.

This conclusion is based on the staff findings that:

1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy.
2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy.
3. Zero of three samples exceed the objective and this sample size is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating. A minimum of 16 samples is needed to determine if a beneficial use is fully supported using table 3.1.
4. Pursuant to SECTION 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.

Regional Board Staff Decision Recommendation: After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be placed on the section 303(d) list. The readily available data and information is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating.

Line of Evidence (LOE) for Decision ID 61274, Copper **Region 2**
Benecia Marina (part of Carquinez Strait)

LOE ID: 91085
Pollutant: Copper
LOE Subgroup: Pollutant-Water
Matrix: Water
Fraction: Dissolved
Beneficial Use: Estuarine Habitat
Number of Samples: 3
Number of Exceedances: 0

Data and Information Type:	Fixed station physical/chemical (conventional plus toxic pollutants)
Data Used to Assess Water Quality:	None of the three samples exceeded the SSO value of 6 ug/L for dissolved copper in brackish water.
Data Reference:	Data for Various Pollutants in California Marinas, 2006.
SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	Waters shall not contain chemical constituents in concentrations that adversely affect beneficial uses. Table 3.3A lists a site specific objective (SSO) for criterion continuous concentration of dissolved copper. The SSO for dissolved copper in this portion of the San Francisco Bay Delta is 6.0 ug/L.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	
Guideline Reference:	
Spatial Representation:	A total of four separate grab samples were collected from inside the marina basin (Sites 1, 2, 3, & 4), these sites were averaged per sample event.
Temporal Representation:	Samples were collected on three separate sampling events during the dry season (July - October) in 2006.
Environmental Conditions:	Samples were collected during the dry season only.
QAPP Information:	Samples were collected and analyzed in accordance with a Quality Assurance Project Plan that was prepared per State Water Resources Control Board Agreement No. 05-218-250 California Department of Pesticide Regulation, Sacramento, CA. (Available online at http://www.cdpr.ca.gov/docs/emon/surfwttr/protocols/qapp_study236.pdf)
QAPP Information Reference(s):	

DECISION ID 61275 Region 2	
Benecia Marina (part of Carquinez Strait)	
Pollutant:	Oxygen, Dissolved
Final Listing Decision:	Do Not List on 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision:	New Decision
Revision Status	Revised
Impairment from Pollutant or Pollution:	Pollutant
Regional Board Staff Conclusion:	<p>This pollutant is being considered for placement on the CWA section 303(d) List under section 3.2 of the Listing Policy. Under section 3.2 a single line of evidence is necessary to assess listing status. One line of evidence is available in the administrative record to assess this pollutant. Zero of twelve samples exceed the guideline.</p> <p>Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against placing this water segment-pollutant combination on the CWA section 303(d) List.</p> <p>This conclusion is based on the staff findings that:</p> <ol style="list-style-type: none"> 1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy. 2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy. 3. Zero of twelve samples exceed the guideline and this sample size is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating. A minimum of 26 samples is needed to determine if a beneficial use is fully supported using table 3.2. 4. Pursuant to SECTION 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.
Regional Board Staff Decision Recommendation:	After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be placed on the section 303(d) list. The readily available data and information is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating.

**Line of Evidence (LOE) for Decision ID 61275, Oxygen, Dissolved
Benecia Marina (part of Carquinez Strait)**

Region 2

LOE ID:	90756
Pollutant:	Oxygen, Dissolved
LOE Subgroup:	Pollutant-Water
Matrix:	Water
Fraction:	Dissolved
Beneficial Use:	Estuarine Habitat
Number of Samples:	12
Number of Exceedances:	0
Data and Information Type:	PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality:	Numeric data generated from 12 minimum samples of Dissolved Oxygen concentrations had no exceedences.
Data Reference:	Data for Various Pollutants in California Marinas, 2006.
SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	The dissolved oxygen content of bays/estuaries upstream of the Carquinez Bridge must be above 7 mg/L.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	
Guideline Reference:	
Spatial Representation:	Samples were collected from the following stations: Benecia Marina 1.1 Benecia Marina 1.2 Benecia Marina 1.3 Benecia Marina 2.1 Benecia Marina 2.2 Benecia Marina 2.3 Benecia Marina 3.1 Benecia Marina 3.2 Benecia Marina 3.3 Benecia Marina 4.1 Benecia Marina 4.2 Benecia Marina 4.3
Temporal Representation:	Samples were collected on the following dates: 8/7/2006 9/6/2006 10/2/2006
Environmental Conditions:	
QAPP Information:	Samples were collected and analyzed in accordance with a Quality Assurance Project Plan that was prepared per State Water Resources Control Board Agreement No. 05-218-250 California Department of Pesticide Regulation, Sacramento, CA. (Available online at Study report on paint data collected in California Marinas.)
QAPP Information Reference(s):	

**DECISION ID 61276
Benecia Marina (part of Carquinez Strait)**

Region 2

Pollutant:	Toxicity
Final Listing Decision:	Do Not List on 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision:	New Decision
Revision Status	Revised
Impairment from Pollutant or Pollution:	Pollutant

Regional Board Staff Conclusion: This pollutant is being considered for placement on the CWA section 303(d) List under section 3.6 of the Listing Policy. Under section 3.6 a single line of evidence is necessary to assess listing status if the line of evidence is toxicity. One line of evidence is available in the administrative record to assess this pollutant. Zero of four samples exceed the guideline.

Based on the readily available data and information, the weight of evidence indicates that there is

sufficient justification against placing this water segment-pollutant combination on the CWA section 303(d) List.

This conclusion is based on the staff findings that:

1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy.
2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy.
3. Zero of four samples exceed the guideline and this sample size is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating. A minimum of 16 samples is needed to determine if a beneficial use is fully supported using table 3.1.
4. Pursuant to SECTION 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.

Regional Board Staff Decision Recommendation: After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be placed on the section 303(d) list. The readily available data and information is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating.

**Line of Evidence (LOE) for Decision ID 61276, Toxicity
Benecia Marina (part of Carquinez Strait)**

Region 2

LOE ID:	91087
Pollutant:	Toxicity
LOE Subgroup:	Toxicity
Matrix:	Water
Fraction:	None
Beneficial Use:	Estuarine Habitat
Number of Samples:	4
Number of Exceedances:	0
Data and Information Type:	TOXICITY TESTING
Data Used to Assess Water Quality:	Four samples were tested for toxicity. None of the four samples exhibited statistically significant effect relative to control. The toxicity test used was the mussel embryo development test (EPA 1995) using <i>Mytilus galloprovincialis</i> . Toxic effects are expressed as percent reduction in normal development relative to controls.
Data Reference:	Data for Various Pollutants in California Marinas, 2006.
SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	All waters shall be maintained free of toxic substances in concentrations that are lethal to or that produce other detrimental responses in aquatic organisms. Detrimental responses include, but are not limited to, decreased growth rate and decreased reproductive success of resident or indicator species.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) - San Francisco Bay Region (Region 2)
Evaluation Guideline:	Toxicity is defined as a statistically significant effect in the sample exposure compared to the control using EPA-recommended hypothesis testing (parametric Dunnett's Test or non-parametric Kruskal-Wallis or Wilcoxon Two-sample Test). The t-test is used to determine if there is a statistically significant decrease in organism response in the sample as compared to the control.
Guideline Reference:	SWAMP Memo Toxicity Data Interpretation Method 1007.0: Mysid, <i>Mysidopsis bahia</i>, Survival, Growth, and Fecundity Test; Chronic Toxicity. Excerpt from: Short-Term Methods for Estimating the Chronic Toxicity of Effluents and Receiving Waters to Marine and Estuarine Organisms. 3rd edition EPA-821-R-02-014
Spatial Representation:	The samples were collected in Benicia Marina stations 1.2, 2.2, 3.2, and 4.2.
Temporal Representation:	Samples were collected on 9/6/2006.
Environmental Conditions:	

QAPP Information:

Data quality is good. The data and QA information is provided in Appendix G and I to the report Monitoring For Indicators of Antifouling Paint Pollution In California Marinas, Department of Pesticide Regulation. The Southern California Coastal Water Research Project laboratory conducted the toxicity tests.

QAPP Information Reference(s):

DECISION ID	61277	Region 2
Benecia Marina (part of Carquinez Strait)		

Pollutant:	Zinc
Final Listing Decision:	Do Not List on 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision:	New Decision
Revision Status	Revised
Impairment from Pollutant or Pollution:	Pollutant

Regional Board Staff Conclusion: This pollutant is being considered for placement on the CWA section 303(d) List under section 3.1 of the Listing Policy. Under section 3.1 a single line of evidence is necessary to assess listing status. One line of evidence is available in the administrative record to assess this pollutant. Zero of three samples exceed the objective.

Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against placing this water segment-pollutant combination on the CWA section 303(d) List.

This conclusion is based on the staff findings that:

1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy.
2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy.
3. Zero of three samples exceed the objective and this sample size is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating. A minimum of 16 samples is needed to determine if a beneficial use is fully supported using table 3.1.
4. Pursuant to SECTION 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.

Regional Board Staff Decision Recommendation: After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be placed on the section 303(d) list. The readily available data and information is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating.

Line of Evidence (LOE) for Decision ID 61277, Zinc	Region 2
Benecia Marina (part of Carquinez Strait)	

LOE ID:	91088
Pollutant:	Zinc
LOE Subgroup:	Pollutant-Water
Matrix:	Water
Fraction:	Dissolved
Beneficial Use:	Estuarine Habitat

Number of Samples:	3
Number of Exceedances:	0

Data and Information Type:	Fixed station physical/chemical (conventional plus toxic pollutants)
Data Used to Assess Water Quality:	None of the three samples exceeded the CTR value of 81 ug/L for dissolved zinc in brackish water.

Data Reference:	Data for Various Pollutants in California Marinas, 2006.
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SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	Waters shall not contain chemical constituents in concentrations that adversely affect beneficial uses. California Toxics Rule (CTR) lists criterion continuous concentrations to protect aquatic life in saline water. The CTR value is 81 ug/L.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	
Guideline Reference:	
Spatial Representation:	A total of four separate grab samples were collected from inside the marina basin (Sites 1, 2, 3, & 4), these sites were averaged per sample event.
Temporal Representation:	Samples were collected on three separate sampling events during the dry season (July - October) in 2006.
Environmental Conditions:	Samples were collected during the dry season only.
QAPP Information:	Samples were collected and analyzed in accordance with a Quality Assurance Project Plan that was prepared per State Water Resources Control Board Agreement No. 05-218-250 California Department of Pesticide Regulation, Sacramento, CA. (Available online at http://www.cdpr.ca.gov/docs/emon/surfwttr/protocols/qapp_study236.pdf)
QAPP Information Reference(s):	

DECISION ID	61278	Region 2
Benecia Marina (part of Carquinez Strait)		

Pollutant:	pH
Final Listing Decision:	Do Not List on 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision:	New Decision
Revision Status	Revised
Impairment from Pollutant or Pollution:	Pollutant

Regional Board Staff Conclusion: This pollutant is being considered for placement on the CWA section 303(d) List under section 3.2 of the Listing Policy. Under section 3.2 a single line of evidence is necessary to assess listing status. One line of evidence is available in the administrative record to assess this pollutant. Zero of twelve samples exceed the guideline.

Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against placing this water segment-pollutant combination on the CWA section 303(d) List.

This conclusion is based on the staff findings that:

1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy.
2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy.
3. Zero of twelve samples exceed the guideline and this sample size is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating. A minimum of 26 samples is needed to determine if a beneficial use is fully supported using table 3.2.
4. Pursuant to SECTION 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.

Regional Board Staff Decision Recommendation: After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be placed on the section 303(d) list. The readily available data and information is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating.

Line of Evidence (LOE) for Decision ID 61278, pH	Region 2
Benecia Marina (part of Carquinez Strait)	

LOE ID:	91086
Pollutant:	pH
LOE Subgroup:	Pollutant-Water
Matrix:	Water
Fraction:	Dissolved
Beneficial Use:	Estuarine Habitat
Number of Samples:	12
Number of Exceedances:	0
Data and Information Type:	PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality:	Numeric data generated from 12 minimums and maximums had no exceedences.
Data Reference:	Data for Various Pollutants in California Marinas, 2006.
SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	The pH shall not be depressed below 6.5 nor raised above 8.5.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	
Guideline Reference:	
Spatial Representation:	Samples were collected from the following stations: Benicia Marina 1.1 Benicia Marina 1.2* Benicia Marina 1.3 Benicia Marina 2.1 Benicia Marina 2.2* Benicia Marina 2.3 Benicia Marina 3.1 Benicia Marina 3.2* Benicia Marina 3.3 Benicia Marina 4.1 Benicia Marina 4.2* Benicia Marina 4.3
Temporal Representation:	Samples were collected once a month from August 2006 to October 2006.
Environmental Conditions:	
QAPP Information:	NPDES quality assurance.
QAPP Information Reference(s):	

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Supporting Information

Regional Board 2 - San Francisco Bay Region

Water Body Name: Cunningham, Lake
Water Body ID: CAL2053008020111218144539
Water Body Type: Lake & Reservoir

DECISION ID 61643 **Region 2**
Cunningham, Lake

Pollutant: Aldrin
Final Listing Decision: Do Not List on 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision: New Decision
Revision Status Revised
Impairment from Pollutant or Pollution: Pollutant

Regional Board Staff Conclusion: This pollutant is being considered for placement on the CWA section 303(d) List under section 3.5 of the Listing Policy. Under section 3.5 a single line of evidence is necessary to assess listing status. Two lines of evidence are available in the administrative record to assess this pollutant. Zero of one samples exceed the guideline.

Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against placing this water segment-pollutant combination on the CWA section 303(d) List.

This conclusion is based on the staff findings that:

1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy.
2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy.
3. Zero of one samples exceed the guideline and this sample size is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating. A minimum of 16 samples is needed to determine if a beneficial use is fully supported using table 3.1.
4. Pursuant to SECTION 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.

Regional Board Staff Decision Recommendation: After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be placed on the section 303(d) list. The readily available data and information is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating.

Line of Evidence (LOE) for Decision ID 61643, Aldrin **Region 2**
Cunningham, Lake

LOE ID: 91624
Pollutant: Aldrin
LOE Subgroup: Pollutant-Tissue
Matrix: Tissue
Fraction: Fish fillet
Beneficial Use: Cold Freshwater Habitat
Number of Samples: 1
Number of Exceedances: 0

Data and Information Type:	Fish tissue analysis
Data Used to Assess Water Quality:	State Water Board staff assessed SWAMP data for Cunningham, Lake to determine beneficial use support and results are as follows: 0 of 1 samples exceed the criterion for Aldrin. One composite (5 fish per composite) was generated from one species: Common Carp. Details of the compositing protocol can be found in the March 2009 report entitled: "Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Study" (SWAMP, 2009).
Data Reference:	Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Survey. A Report of the Surface Water Ambient Monitoring Program (SWAMP). California State Water Resources Control Board, Sacramento, CA Statewide Lakes Sportfish Contamination Study 2007 2008 Contaminants in Fish from California Lakes and Reservoirs, 2007-2008: Summary Report on a Two-Year Screening Survey Cruise report for the Surface Water Ambient Monitoring Program (SWAMP) bioaccumulation screening study in California lakes and reservoirs year two (FY 07-08). Sampling dates: April 2008 - November 2008.
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	Water Quality Control Plan for the San Francisco Bay Basin: Controllable water quality factors shall not cause a detrimental increase in concentrations of toxic substances found in bottom sediments or aquatic life. Effects on aquatic organisms, wildlife, and human health will be considered.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	National Academy of Science guidelines (NAS 1972) establish a maximum Aldrin concentration of 100 ug/Kg (wet weight) in tissue samples for protection of aquatic life from bioaccumulation of toxic substances.
Guideline Reference:	National Academy of Sciences. Water Quality Criteria 1972. EPA-R3-73-033. Washington, D.C.: U.S. Environmental Protection Agency
Spatial Representation:	Data for this assessment unit was collected by one monitoring project: (SWB_FishLk)
Temporal Representation:	Data was collected on a single day 11/13/2008.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	Samples were collected, processed, and analyzed in accordance with the methods described in Quality Assurance Project Plan "Screening Study of Bioaccumulation in California Lakes and Reservoirs." (SWAMP, 2008).
QAPP Information Reference(s):	Quality Assurance Project Plan Screening Study of Bioaccumulation in California Lakes and Reservoirs. Moss Landing Marine Labs. Prepared for SWAMP BOG, 49 pages plus appendices and attachments

Line of Evidence (LOE) for Decision ID 61643, Aldrin	Region 2
Cunningham, Lake	

LOE ID:	91623
Pollutant:	Aldrin
LOE Subgroup:	Pollutant-Tissue
Matrix:	Tissue
Fraction:	Fish fillet
Beneficial Use:	Warm Freshwater Habitat
Number of Samples:	1
Number of Exceedances:	0
Data and Information Type:	Fish tissue analysis
Data Used to Assess Water Quality:	State Water Board staff assessed SWAMP data for Cunningham, Lake to determine beneficial use support and results are as follows: 0 of 1 samples exceed the criterion for Aldrin. One composite (5 fish per composite) was generated from one species: Common Carp. Details of the compositing protocol can be found in the March 2009 report entitled:

Data Reference:	<p>"Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Study" (SWAMP, 2009). Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Survey. A Report of the Surface Water Ambient Monitoring Program (SWAMP). California State Water Resources Control Board, Sacramento, CA Statewide Lakes Sportfish Contamination Study 2007 2008 Contaminants in Fish from California Lakes and Reservoirs, 2007-2008: Summary Report on a Two-Year Screening Survey Cruise report for the Surface Water Ambient Monitoring Program (SWAMP) bioaccumulation screening study in California lakes and reservoirs year two (FY 07-08). Sampling dates: April 2008 - November 2008.</p>
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	Water Quality Control Plan for the San Francisco Bay Basin: Controllable water quality factors shall not cause a detrimental increase in concentrations of toxic substances found in bottom sediments or aquatic life. Effects on aquatic organisms, wildlife, and human health will be considered.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	National Academy of Science guidelines (NAS 1972) establish a maximum Aldrin concentration of 100 ug/Kg (wet weight) in tissue samples for protection of aquatic life from bioaccumulation of toxic substances.
Guideline Reference:	National Academy of Sciences. Water Quality Criteria 1972. EPA-R3-73-033. Washington, D.C.: U.S. Environmental Protection Agency
Spatial Representation:	Data for this assessment unit was collected by one monitoring project: (SWB_FishLk)
Temporal Representation:	Data was collected on a single day 11/13/2008.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	Samples were collected, processed, and analyzed in accordance with the methods described in Quality Assurance Project Plan "Screening Study of Bioaccumulation in California Lakes and Reservoirs." (SWAMP, 2008).
QAPP Information Reference(s):	Quality Assurance Project Plan Screening Study of Bioaccumulation in California Lakes and Reservoirs. Moss Landing Marine Labs. Prepared for SWAMP BOG. 49 pages plus appendices and attachments

DECISION ID		61645	Region 2
Cunningham, Lake			
Pollutant:	Chlordane		
Final Listing Decision:	Do Not List on 303(d) list (TMDL required list)		
Last Listing Cycle's Final Listing Decision:	New Decision		
Revision Status	Revised		
Impairment from Pollutant or Pollution:	Pollutant		
Regional Board Staff Conclusion:	<p>This pollutant is being considered for placement on the CWA section 303(d) List under section 3.5 of the Listing Policy. Under section 3.5 a single line of evidence is necessary to assess listing status. Three lines of evidence are available in the administrative record to assess this pollutant. One of one samples exceed the guideline.</p> <p>Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against placing this water segment-pollutant combination on the CWA section 303(d) List.</p> <p>This conclusion is based on the staff findings that:</p> <ol style="list-style-type: none"> 1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy. 2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy. 3. One of one samples exceed the guideline and this sample size is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating. A 		

minimum of 16 samples is needed to determine if a beneficial use is fully supported using table 3.1. 4. Pursuant to SECTION 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.

Regional Board Staff Decision Recommendation: After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be placed on the section 303(d) list. The readily available data and information is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating.

Line of Evidence (LOE) for Decision ID 61645, Chlordane

Region 2

Cunningham, Lake

LOE ID:	91626
Pollutant:	Chlordane
LOE Subgroup:	Pollutant-Tissue
Matrix:	Tissue
Fraction:	Fish fillet
Beneficial Use:	Cold Freshwater Habitat
Number of Samples:	1
Number of Exceedances:	0
Data and Information Type:	Fish tissue analysis
Data Used to Assess Water Quality:	State Water Board staff assessed SWAMP data for Cunningham, Lake to determine beneficial use support and results are as follows: 0 of 1 samples exceed the criterion for Chlordane, Total. One composite (5 fish per composite) was generated from one species: Common Carp. Details of the compositing protocol can be found in the March 2009 report entitled: "Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Study" (SWAMP, 2009). Total chlordane was calculated as the sum of the following chlordane isomers: cis- and trans-chlordane, cis- and trans-nonachlor, and oxychlordane.
Data Reference:	Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Survey. A Report of the Surface Water Ambient Monitoring Program (SWAMP). California State Water Resources Control Board, Sacramento, CA Statewide Lakes Sportfish Contamination Study 2007 2008 Contaminants in Fish from California Lakes and Reservoirs, 2007-2008: Summary Report on a Two-Year Screening Survey Cruise report for the Surface Water Ambient Monitoring Program (SWAMP) bioaccumulation screening study in California lakes and reservoirs year two (FY 07-08). Sampling dates: April 2008 - November 2008.
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	Water Quality Control Plan for the San Francisco Bay Basin: Controllable water quality factors shall not cause a detrimental increase in concentrations of toxic substances found in bottom sediments or aquatic life. Effects on aquatic organisms, wildlife, and human health will be considered.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	National Academy of Science guidelines (NAS 1972) establish a maximum total Chlordane concentration of 100 ug/Kg (wet weight) in tissue samples for protection of aquatic life from bioaccumulation of toxic substances.
Guideline Reference:	National Academy of Sciences. Water Quality Criteria 1972. EPA-R3-73-033. Washington, D.C.: U.S. Environmental Protection Agency
Spatial Representation:	Data for this assessment unit was collected by one monitoring project: (SWB_FishLk)
Temporal Representation:	Data was collected on a single day 11/13/2008.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	Samples were collected, processed, and analyzed in accordance with the methods

QAPP Information Reference(s):	described in Quality Assurance Project Plan "Screening Study of Bioaccumulation in California Lakes and Reservoirs." (SWAMP, 2008). Quality Assurance Project Plan Screening Study of Bioaccumulation in California Lakes and Reservoirs. Moss Landing Marine Labs. Prepared for SWAMP BOG. 49 pages plus appendices and attachments
Line of Evidence (LOE) for Decision ID 61645, Chlordane	
Cunningham, Lake	
Region 2	
LOE ID:	91627
Pollutant:	Chlordane
LOE Subgroup:	Pollutant-Tissue
Matrix:	Tissue
Fraction:	Fish fillet
Beneficial Use:	Commercial or recreational collection of fish, shellfish, or organisms
Number of Samples:	1
Number of Exceedances:	1
Data and Information Type:	Fish tissue analysis
Data Used to Assess Water Quality:	State Water Board staff assessed SWAMP data for Cunningham, Lake to determine beneficial use support and results are as follows: 1 of 1 samples exceed the criterion for Chlordane, Total. One composite (5 fish per composite) was generated from one species: Common Carp. Details of the compositing protocol can be found in the March 2009 report entitled: "Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Study" (SWAMP, 2009). Total chlordane was calculated as the sum of the following chlordane isomers: cis- and trans-chlordane, cis- and trans-nonachlor, and oxychlordane.
Data Reference:	Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Survey. A Report of the Surface Water Ambient Monitoring Program (SWAMP). California State Water Resources Control Board, Sacramento, CA Statewide Lakes Sportfish Contamination Study 2007 2008 Contaminants in Fish from California Lakes and Reservoirs, 2007-2008: Summary Report on a Two-Year Screening Survey Cruise report for the Surface Water Ambient Monitoring Program (SWAMP) bioaccumulation screening study in California lakes and reservoirs year two (FY 07-08). Sampling dates: April 2008 - November 2008.
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	Water Quality Control Plan for the San Francisco Bay Basin: Controllable water quality factors shall not cause a detrimental increase in concentrations of toxic substances found in bottom sediments or aquatic life. Effects on aquatic organisms, wildlife, and human health will be considered.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	The modified OEHHA Fish Contaminant Goal for total chlordane in fish tissue is 3.9 ppb. This screening level assumes an average body weight of 70 kg and a consumption rate of 32 g/day for a 30 year exposure over a 70-year lifetime. This constituent is a carcinogen therefore the risk level is set to one in a million. A cooking reduction factor of 1 is applied for skin-off fillets. (Klasing, S., and R. Brodberg, 2008)
Guideline Reference:	Development of Fish Contaminant Goals and Advisory Tissue Levels for Common Contaminants in California Sport Fish: Chlordane, DDTs, Dieldrin, Methylmercury, PCBs, Selenium, and Toxaphene
Spatial Representation:	Data for this assessment unit was collected by one monitoring project: (SWB_FishLk)
Temporal Representation:	Data was collected on a single day 11/13/2008.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	Samples were collected, processed, and analyzed in accordance with the methods described in Quality Assurance Project Plan "Screening Study of Bioaccumulation in

QAPP Information Reference(s):	California Lakes and Reservoirs." (SWAMP, 2008). Quality Assurance Project Plan Screening Study of Bioaccumulation in California Lakes and Reservoirs. Moss Landing Marine Labs. Prepared for SWAMP BOG, 49 pages plus appendices and attachments
Line of Evidence (LOE) for Decision ID 61645, Chlordane	
Cunningham, Lake	
LOE ID:	91625
Pollutant:	Chlordane
LOE Subgroup:	Pollutant-Tissue
Matrix:	Tissue
Fraction:	Fish fillet
Beneficial Use:	Warm Freshwater Habitat
Number of Samples:	1
Number of Exceedances:	0
Data and Information Type:	Fish tissue analysis
Data Used to Assess Water Quality:	State Water Board staff assessed SWAMP data for Cunningham, Lake to determine beneficial use support and results are as follows: 0 of 1 samples exceed the criterion for Chlordane, Total. One composite (5 fish per composite) was generated from one species: Common Carp. Details of the compositing protocol can be found in the March 2009 report entitled: "Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Study" (SWAMP, 2009). Total chlordane was calculated as the sum of the following chlordane isomers: cis- and trans-chlordane, cis- and trans-nonachlor, and oxychlordane.
Data Reference:	Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Survey. A Report of the Surface Water Ambient Monitoring Program (SWAMP). California State Water Resources Control Board, Sacramento, CA Statewide Lakes Sportfish Contamination Study 2007 2008 Contaminants in Fish from California Lakes and Reservoirs, 2007-2008: Summary Report on a Two-Year Screening Survey Cruise report for the Surface Water Ambient Monitoring Program (SWAMP) bioaccumulation screening study in California lakes and reservoirs year two (FY 07-08). Sampling dates: April 2008 - November 2008.
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	Water Quality Control Plan for the San Francisco Bay Basin: Controllable water quality factors shall not cause a detrimental increase in concentrations of toxic substances found in bottom sediments or aquatic life. Effects on aquatic organisms, wildlife, and human health will be considered.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	National Academy of Science guidelines (NAS 1972) establish a maximum total Chlordane concentration of 100 ug/Kg (wet weight) in tissue samples for protection of aquatic life from bioaccumulation of toxic substances.
Guideline Reference:	National Academy of Sciences. Water Quality Criteria 1972. EPA-R3-73-033. Washington, D.C.: U.S. Environmental Protection Agency
Spatial Representation:	Data for this assessment unit was collected by one monitoring project: (SWB_FishLk)
Temporal Representation:	Data was collected on a single day 11/13/2008.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	Samples were collected, processed, and analyzed in accordance with the methods described in Quality Assurance Project Plan "Screening Study of Bioaccumulation in California Lakes and Reservoirs." (SWAMP, 2008).
QAPP Information Reference(s):	Quality Assurance Project Plan Screening Study of Bioaccumulation in California Lakes and Reservoirs. Moss Landing Marine Labs. Prepared for SWAMP BOG, 49 pages plus appendices and attachments

DECISION ID	61660	Region 2
Cunningham, Lake		

Pollutant: DDT (Dichlorodiphenyltrichloroethane)
Final Listing Decision: Do Not List on 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision: New Decision
Revision Status: Revised
Impairment from Pollutant or Pollution: Pollutant

Regional Board Staff Conclusion: This pollutant is being considered for placement on the CWA section 303(d) List under section 3.5 of the Listing Policy. Under section 3.5 a single line of evidence is necessary to assess listing status. Three lines of evidence are available in the administrative record to assess this pollutant. One of one samples exceed the guideline.

Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against placing this water segment-pollutant combination on the CWA section 303(d) List.

This conclusion is based on the staff findings that:

1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy.
2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy.
3. One of one samples exceed the guideline and this sample size is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating. A minimum of 16 samples is needed to determine if a beneficial use is fully supported using table 3.1.
4. Pursuant to SECTION 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.

Regional Board Staff Decision Recommendation: After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be placed on the section 303(d) list. The readily available data and information is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating.

Line of Evidence (LOE) for Decision ID 61660, DDT (Dichlorodiphenyltrichloroethane)	Region 2
Cunningham, Lake	

LOE ID: 91612
Pollutant: Total DDT (sum of 4,4'- and 2,4'- isomers of DDT, DDE, and DDD)
LOE Subgroup: Pollutant-Tissue
Matrix: Tissue
Fraction: Fish fillet
Beneficial Use: Cold Freshwater Habitat
Number of Samples: 1
Number of Exceedances: 0
Data and Information Type: Fish tissue analysis
Data Used to Assess Water Quality: State Water Board staff assessed SWAMP data for Cunningham, Lake to determine beneficial use support and results are as follows: 0 of 1 samples exceed the criterion for DDT, Total. One composite (5 fish per composite) was generated from one species: Common Carp. Details of the compositing protocol can be found in the March 2009 report entitled: "Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Study" (SWAMP, 2009). Total DDT was calculated as the sum of 4,4'- and 2,4'- isomers of DDT, DDE, and DDD.
Data Reference: [Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year](#)

[One of a Two-Year Screening Survey. A Report of the Surface Water Ambient Monitoring Program \(SWAMP\). California State Water Resources Control Board, Sacramento, CA Statewide Lakes Sportfish Contamination Study 2007 2008](#)
[Contaminants in Fish from California Lakes and Reservoirs, 2007-2008: Summary Report on a Two-Year Screening Survey](#)
[Cruise report for the Surface Water Ambient Monitoring Program \(SWAMP\) bioaccumulation screening study in California lakes and reservoirs year two \(FY 07-08\). Sampling dates: April 2008 - November 2008.](#)

SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	Water Quality Control Plan for the San Francisco Bay Basin: Controllable water quality factors shall not cause a detrimental increase in concentrations of toxic substances found in bottom sediments or aquatic life. Effects on aquatic organisms, wildlife, and human health will be considered.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	National Academy of Science guidelines (NAS 1972) establish a maximum total DDT concentration of 1000 ug/Kg (wet weight) in tissue samples for protection of aquatic life from bioaccumulation of toxic substances.
Guideline Reference:	National Academy of Sciences. Water Quality Criteria 1972. EPA-R3-73-033. Washington, D.C.: U.S. Environmental Protection Agency
Spatial Representation:	Data for this assessment unit was collected by one monitoring project: (SWB_FishLk)
Temporal Representation:	Data was collected on a single day 11/13/2008.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	Samples were collected, processed, and analyzed in accordance with the methods described in Quality Assurance Project Plan "Screening Study of Bioaccumulation in California Lakes and Reservoirs." (SWAMP, 2008).
QAPP Information Reference(s):	Quality Assurance Project Plan Screening Study of Bioaccumulation in California Lakes and Reservoirs. Moss Landing Marine Labs. Prepared for SWAMP BOG. 49 pages plus appendices and attachments

Line of Evidence (LOE) for Decision ID 61660, DDT (Dichlorodiphenyltrichloroethane)
Cunningham, Lake

Region 2

LOE ID:	91611
Pollutant:	Total DDT (sum of 4,4'- and 2,4'- isomers of DDT, DDE, and DDD)
LOE Subgroup:	Pollutant-Tissue
Matrix:	Tissue
Fraction:	Fish fillet
Beneficial Use:	Warm Freshwater Habitat
Number of Samples:	1
Number of Exceedances:	0
Data and Information Type:	Fish tissue analysis
Data Used to Assess Water Quality:	State Water Board staff assessed SWAMP data for Cunningham, Lake to determine beneficial use support and results are as follows: 0 of 1 samples exceed the criterion for DDT, Total. One composite (5 fish per composite) was generated from one species: Common Carp. Details of the compositing protocol can be found in the March 2009 report entitled: "Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Study" (SWAMP, 2009). Total DDT was calculated as the sum of 4,4'- and 2,4'- isomers of DDT, DDE, and DDD.
Data Reference:	Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Survey. A Report of the Surface Water Ambient Monitoring Program (SWAMP). California State Water Resources Control Board, Sacramento, CA Statewide Lakes Sportfish Contamination Study 2007 2008 Contaminants in Fish from California Lakes and Reservoirs, 2007-2008: Summary Report on a Two-Year Screening Survey

[Cruise report for the Surface Water Ambient Monitoring Program \(SWAMP\) bioaccumulation screening study in California lakes and reservoirs year two \(FY 07-08\). Sampling dates: April 2008 - November 2008.](#)

SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	Water Quality Control Plan for the San Francisco Bay Basin: Controllable water quality factors shall not cause a detrimental increase in concentrations of toxic substances found in bottom sediments or aquatic life. Effects on aquatic organisms, wildlife, and human health will be considered.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	National Academy of Science guidelines (NAS 1972) establish a maximum total DDT concentration of 1000 ug/Kg (wet weight) in tissue samples for protection of aquatic life from bioaccumulation of toxic substances.
Guideline Reference:	National Academy of Sciences. Water Quality Criteria 1972. EPA-R3-73-033. Washington, D.C.: U.S. Environmental Protection Agency
Spatial Representation:	Data for this assessment unit was collected by one monitoring project: (SWB_FishLk)
Temporal Representation:	Data was collected on a single day 11/13/2008.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	Samples were collected, processed, and analyzed in accordance with the methods described in Quality Assurance Project Plan "Screening Study of Bioaccumulation in California Lakes and Reservoirs." (SWAMP, 2008).
QAPP Information Reference(s):	Quality Assurance Project Plan Screening Study of Bioaccumulation in California Lakes and Reservoirs. Moss Landing Marine Labs. Prepared for SWAMP BOG, 49 pages plus appendices and attachments

Line of Evidence (LOE) for Decision ID 61660, DDT (Dichlorodiphenyltrichloroethane)	Region 2
Cunningham, Lake	

LOE ID:	91613
Pollutant:	Total DDT (sum of 4,4'- and 2,4'- isomers of DDT, DDE, and DDD)
LOE Subgroup:	Pollutant-Tissue
Matrix:	Tissue
Fraction:	Fish fillet
Beneficial Use:	Commercial or recreational collection of fish, shellfish, or organisms
Number of Samples:	1
Number of Exceedances:	1
Data and Information Type:	Fish tissue analysis
Data Used to Assess Water Quality:	State Water Board staff assessed SWAMP data for Cunningham, Lake to determine beneficial use support and results are as follows: 1 of 1 samples exceed the criterion for DDT, Total. One composite (5 fish per composite) was generated from one species: Common Carp. Details of the compositing protocol can be found in the March 2009 report entitled: "Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Study" (SWAMP, 2009). Total DDT was calculated as the sum of 4,4'- and 2,4'- isomers of DDT, DDE, and DDD.
Data Reference:	Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Survey. A Report of the Surface Water Ambient Monitoring Program (SWAMP). California State Water Resources Control Board, Sacramento, CA Statewide Lakes Sportfish Contamination Study 2007 2008 Contaminants in Fish from California Lakes and Reservoirs, 2007-2008: Summary Report on a Two-Year Screening Survey Cruise report for the Surface Water Ambient Monitoring Program (SWAMP) bioaccumulation screening study in California lakes and reservoirs year two (FY 07-08). Sampling dates: April 2008 - November 2008.

SWAMP Data: SWAMP

Water Quality Objective/Criterion:	Water Quality Control Plan for the San Francisco Bay Basin: Controllable water quality factors shall not cause a detrimental increase in concentrations of toxic substances found in bottom sediments or aquatic life. Effects on aquatic organisms, wildlife, and human health will be considered.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	The modified OEHHA Fish Contaminant Goal for total DDT in fish tissue is 15 ppb. This screening level assumes an average body weight of 70 kg and a consumption rate of 32 g/day for a 30 year exposure over a 70-year lifetime. This constituent is a carcinogen therefore the risk level is set to one in a million. A cooking reduction factor of 1 is applied for skin-off fillets. (Klasing, S., and R. Brodberg, 2008)
Guideline Reference:	Development of Fish Contaminant Goals and Advisory Tissue Levels for Common Contaminants in California Sport Fish: Chlordane, DDTs, Dieldrin, Methylmercury, PCBs, Selenium, and Toxaphene
Spatial Representation:	Data for this assessment unit was collected by one monitoring project: (SWB_FishLk)
Temporal Representation:	Data was collected on a single day 11/13/2008.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	Samples were collected, processed, and analyzed in accordance with the methods described in Quality Assurance Project Plan "Screening Study of Bioaccumulation in California Lakes and Reservoirs." (SWAMP, 2008).
QAPP Information Reference(s):	Quality Assurance Project Plan Screening Study of Bioaccumulation in California Lakes and Reservoirs. Moss Landing Marine Labs. Prepared for SWAMP BOG. 49 pages plus appendices and attachments

DECISION ID	61648	Region 2
Cunningham, Lake		
Pollutant:	Dieldrin	
Final Listing Decision:	Do Not List on 303(d) list (TMDL required list)	
Last Listing Cycle's Final Listing Decision:	New Decision	
Revision Status	Revised	
Impairment from Pollutant or Pollution:	Pollutant	
Regional Board Staff Conclusion:	<p>This pollutant is being considered for placement on the CWA section 303(d) List under section 3.5 of the Listing Policy. Under section 3.5 a single line of evidence is necessary to assess listing status. Three lines of evidence are available in the administrative record to assess this pollutant. One of one samples exceed the guideline.</p> <p>Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against placing this water segment-pollutant combination on the CWA section 303(d) List.</p> <p>This conclusion is based on the staff findings that:</p> <ol style="list-style-type: none"> 1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy. 2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy. 3. One of one samples exceed the guideline and this sample size is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating. A minimum of 16 samples is needed to determine if a beneficial use is fully supported using table 3.1. 4. Pursuant to SECTION 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met. 	
Regional Board Staff Decision Recommendation:	After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be placed on the section 303(d) list. The readily available data and information is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating.	

Cunningham, Lake

LOE ID:	91628
Pollutant:	Dieldrin
LOE Subgroup:	Pollutant-Tissue
Matrix:	Tissue
Fraction:	Fish fillet
Beneficial Use:	Warm Freshwater Habitat
Number of Samples:	1
Number of Exceedances:	0
Data and Information Type:	Fish tissue analysis
Data Used to Assess Water Quality:	State Water Board staff assessed SWAMP data for Cunningham, Lake to determine beneficial use support and results are as follows: 0 of 1 samples exceed the criterion for Dieldrin. One composite (5 fish per composite) was generated from one species: Common Carp. Details of the compositing protocol can be found in the March 2009 report entitled: "Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Study" (SWAMP, 2009).
Data Reference:	Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Survey. A Report of the Surface Water Ambient Monitoring Program (SWAMP). California State Water Resources Control Board, Sacramento, CA Statewide Lakes Sportfish Contamination Study 2007 2008 Contaminants in Fish from California Lakes and Reservoirs, 2007-2008: Summary Report on a Two-Year Screening Survey Cruise report for the Surface Water Ambient Monitoring Program (SWAMP) bioaccumulation screening study in California lakes and reservoirs year two (FY 07-08). Sampling dates: April 2008 - November 2008.
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	Water Quality Control Plan for the San Francisco Bay Basin: Controllable water quality factors shall not cause a detrimental increase in concentrations of toxic substances found in bottom sediments or aquatic life. Effects on aquatic organisms, wildlife, and human health will be considered.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	National Academy of Science guidelines (NAS 1972) establish a maximum Dieldrin concentration of 100 ug/Kg (wet weight) in tissue samples for protection of aquatic life from bioaccumulation of toxic substances.
Guideline Reference:	National Academy of Sciences. Water Quality Criteria 1972. EPA-R3-73-033. Washington, D.C.: U.S. Environmental Protection Agency
Spatial Representation:	Data for this assessment unit was collected by one monitoring project: (SWB_FishLk)
Temporal Representation:	Data was collected on a single day 11/13/2008.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	Samples were collected, processed, and analyzed in accordance with the methods described in Quality Assurance Project Plan "Screening Study of Bioaccumulation in California Lakes and Reservoirs." (SWAMP, 2008).
QAPP Information Reference(s):	Quality Assurance Project Plan Screening Study of Bioaccumulation in California Lakes and Reservoirs. Moss Landing Marine Labs. Prepared for SWAMP BOG, 49 pages plus appendices and attachments

Cunningham, Lake

LOE ID: 91629

Pollutant:	Dieldrin
LOE Subgroup:	Pollutant-Tissue
Matrix:	Tissue
Fraction:	Fish fillet
Beneficial Use:	Cold Freshwater Habitat
Number of Samples:	1
Number of Exceedances:	0
Data and Information Type:	Fish tissue analysis
Data Used to Assess Water Quality:	State Water Board staff assessed SWAMP data for Cunningham, Lake to determine beneficial use support and results are as follows: 0 of 1 samples exceed the criterion for Dieldrin. One composite (5 fish per composite) was generated from one species: Common Carp. Details of the compositing protocol can be found in the March 2009 report entitled: "Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Study" (SWAMP, 2009).
Data Reference:	Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Survey. A Report of the Surface Water Ambient Monitoring Program (SWAMP). California State Water Resources Control Board, Sacramento, CA Statewide Lakes Sportfish Contamination Study 2007 2008 Contaminants in Fish from California Lakes and Reservoirs, 2007-2008: Summary Report on a Two-Year Screening Survey Cruise report for the Surface Water Ambient Monitoring Program (SWAMP) bioaccumulation screening study in California lakes and reservoirs year two (FY 07-08). Sampling dates: April 2008 - November 2008.
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	Water Quality Control Plan for the San Francisco Bay Basin: Controllable water quality factors shall not cause a detrimental increase in concentrations of toxic substances found in bottom sediments or aquatic life. Effects on aquatic organisms, wildlife, and human health will be considered.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	National Academy of Science guidelines (NAS 1972) establish a maximum Dieldrin concentration of 100 ug/Kg (wet weight) in tissue samples for protection of aquatic life from bioaccumulation of toxic substances.
Guideline Reference:	National Academy of Sciences. Water Quality Criteria 1972. EPA-R3-73-033. Washington, D.C.: U.S. Environmental Protection Agency
Spatial Representation:	Data for this assessment unit was collected by one monitoring project: (SWB_FishLk)
Temporal Representation:	Data was collected on a single day 11/13/2008.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	Samples were collected, processed, and analyzed in accordance with the methods described in Quality Assurance Project Plan "Screening Study of Bioaccumulation in California Lakes and Reservoirs." (SWAMP, 2008).
QAPP Information Reference(s):	Quality Assurance Project Plan Screening Study of Bioaccumulation in California Lakes and Reservoirs. Moss Landing Marine Labs. Prepared for SWAMP BOG. 49 pages plus appendices and attachments

Line of Evidence (LOE) for Decision ID 61648, Dieldrin
Cunningham, Lake

Region 2

LOE ID:	91630
Pollutant:	Dieldrin
LOE Subgroup:	Pollutant-Tissue
Matrix:	Tissue
Fraction:	Fish fillet
Beneficial Use:	Commercial or recreational collection of fish, shellfish, or organisms

Number of Samples:	1
Number of Exceedances:	1
Data and Information Type:	Fish tissue analysis
Data Used to Assess Water Quality:	State Water Board staff assessed SWAMP data for Cunningham, Lake to determine beneficial use support and results are as follows: 1 of 1 samples exceed the criterion for Dieldrin. One composite (5 fish per composite) was generated from one species: Common Carp. Details of the compositing protocol can be found in the March 2009 report entitled: "Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Study" (SWAMP, 2009).
Data Reference:	Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Survey. A Report of the Surface Water Ambient Monitoring Program (SWAMP). California State Water Resources Control Board, Sacramento, CA Statewide Lakes Sportfish Contamination Study 2007 2008 Contaminants in Fish from California Lakes and Reservoirs, 2007-2008: Summary Report on a Two-Year Screening Survey Cruise report for the Surface Water Ambient Monitoring Program (SWAMP) bioaccumulation screening study in California lakes and reservoirs year two (FY 07-08). Sampling dates: April 2008 - November 2008.
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	Water Quality Control Plan for the San Francisco Bay Basin: Controllable water quality factors shall not cause a detrimental increase in concentrations of toxic substances found in bottom sediments or aquatic life. Effects on aquatic organisms, wildlife, and human health will be considered.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	The modified OEHHA Fish Contaminant Goal for dieldrin in fish tissue is 0.32 ppb. This screening level assumes an average body weight of 70 kg and a consumption rate of 32 g/day for a 30 year exposure over a 70-year lifetime. This constituent is a carcinogen therefore the risk level is set to one in a million. A cooking reduction factor of 1 is applied for skin-off fillets. (Klasing, S., and R. Brodberg, 2008)
Guideline Reference:	Development of Fish Contaminant Goals and Advisory Tissue Levels for Common Contaminants in California Sport Fish: Chlordane, DDTs, Dieldrin, Methylmercury, PCBs, Selenium, and Toxaphene
Spatial Representation:	Data for this assessment unit was collected by one monitoring project: (SWB_FishLk)
Temporal Representation:	Data was collected on a single day 11/13/2008.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	Samples were collected, processed, and analyzed in accordance with the methods described in Quality Assurance Project Plan "Screening Study of Bioaccumulation in California Lakes and Reservoirs." (SWAMP, 2008).
QAPP Information Reference(s):	Quality Assurance Project Plan Screening Study of Bioaccumulation in California Lakes and Reservoirs. Moss Landing Marine Labs. Prepared for SWAMP BOG. 49 pages plus appendices and attachments

DECISION ID	61649	Region 2
Cunningham, Lake		
Pollutant:	Endosulfan	
Final Listing Decision:	Do Not List on 303(d) list (TMDL required list)	
Last Listing Cycle's Final Listing Decision:	New Decision	
Revision Status	Revised	
Impairment from Pollutant or Pollution:	Pollutant	
Regional Board Staff Conclusion:	This pollutant is being considered for placement on the CWA section 303(d) List under section 3.5 of the Listing Policy. Under section 3.5 a single line of evidence is necessary to assess listing status.	

Three lines of evidence are available in the administrative record to assess this pollutant. Zero of one samples exceed the guideline.

Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against placing this water segment-pollutant combination on the CWA section 303(d) List.

This conclusion is based on the staff findings that:

1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy.
2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy.
3. Zero of one samples exceed the guideline and this sample size is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating. A minimum of 16 samples is needed to determine if a beneficial use is fully supported using table 3.1.
4. Pursuant to SECTION 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.

Regional Board Staff Decision Recommendation: After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be placed on the section 303(d) list. The readily available data and information is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating.

Line of Evidence (LOE) for Decision ID 61649, Endosulfan

Region 2

Cunningham, Lake

LOE ID:	91631
Pollutant:	Endosulfan
LOE Subgroup:	Pollutant-Tissue
Matrix:	Tissue
Fraction:	Fish fillet
Beneficial Use:	Warm Freshwater Habitat
Number of Samples:	1
Number of Exceedances:	0
Data and Information Type:	Fish tissue analysis
Data Used to Assess Water Quality:	State Water Board staff assessed SWAMP data for Cunningham, Lake to determine beneficial use support and results are as follows: 0 of 1 samples exceed the criterion for Endosulfan I. One composite (5 fish per composite) was generated from one species: Common Carp. Details of the compositing protocol can be found in the March 2009 report entitled: "Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Study" (SWAMP, 2009).
Data Reference:	Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Survey. A Report of the Surface Water Ambient Monitoring Program (SWAMP). California State Water Resources Control Board, Sacramento, CA Statewide Lakes Sportfish Contamination Study 2007 2008 Contaminants in Fish from California Lakes and Reservoirs, 2007-2008: Summary Report on a Two-Year Screening Survey Cruise report for the Surface Water Ambient Monitoring Program (SWAMP) bioaccumulation screening study in California lakes and reservoirs year two (FY 07-08). Sampling dates: April 2008 - November 2008.
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	Water Quality Control Plan for the San Francisco Bay Basin: Controllable water quality factors shall not cause a detrimental increase in concentrations of toxic substances found in bottom sediments or aquatic life. Effects on aquatic organisms, wildlife, and human health will be considered.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)

Evaluation Guideline:	National Academy of Science guidelines (NAS 1972) establish a maximum Endosulfan, Total concentration of 100 ug/Kg (wet weight) in tissue samples for protection of aquatic life from bioaccumulation of toxic substances.
Guideline Reference:	National Academy of Sciences. Water Quality Criteria 1972. EPA-R3-73-033. Washington, D.C.: U.S. Environmental Protection Agency
Spatial Representation:	Data for this assessment unit was collected by one monitoring project: (SWB_FishLk)
Temporal Representation:	Data was collected on a single day 11/13/2008.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	Samples were collected, processed, and analyzed in accordance with the methods described in Quality Assurance Project Plan "Screening Study of Bioaccumulation in California Lakes and Reservoirs." (SWAMP, 2008).
QAPP Information Reference(s):	Quality Assurance Project Plan Screening Study of Bioaccumulation in California Lakes and Reservoirs. Moss Landing Marine Labs. Prepared for SWAMP BOG, 49 pages plus appendices and attachments

Line of Evidence (LOE) for Decision ID 61649, Endosulfan

Region 2

Cunningham, Lake

LOE ID:	91633
Pollutant:	Endosulfan
LOE Subgroup:	Pollutant-Tissue
Matrix:	Tissue
Fraction:	Fish fillet
Beneficial Use:	Commercial or recreational collection of fish, shellfish, or organisms
Number of Samples:	1
Number of Exceedances:	0
Data and Information Type:	Fish tissue analysis
Data Used to Assess Water Quality:	State Water Board staff assessed SWAMP data for Cunningham, Lake to determine beneficial use support and results are as follows: 0 of 1 samples exceed the criterion for Endosulfan I. One composite (5 fish per composite) was generated from one species: Common Carp. Details of the compositing protocol can be found in the March 2009 report entitled: "Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Study" (SWAMP, 2009).
Data Reference:	Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Survey. A Report of the Surface Water Ambient Monitoring Program (SWAMP). California State Water Resources Control Board, Sacramento, CA Statewide Lakes Sportfish Contamination Study 2007 2008 Contaminants in Fish from California Lakes and Reservoirs, 2007-2008: Summary Report on a Two-Year Screening Survey Cruise report for the Surface Water Ambient Monitoring Program (SWAMP) bioaccumulation screening study in California lakes and reservoirs year two (FY 07-08). Sampling dates: April 2008 - November 2008.
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	Water Quality Control Plan for the San Francisco Bay Basin: Controllable water quality factors shall not cause a detrimental increase in concentrations of toxic substances found in bottom sediments or aquatic life. Effects on aquatic organisms, wildlife, and human health will be considered.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	The modified OEHHA Fish Contaminant Goal for endosulfan (I and II) in fish tissue is 13,000 ppb. This screening level assumes an average body weight of 70 kg and a consumption rate of 32 g/day. A cooking reduction factor of 1 is applied for skin-off fillets. (Klasing, S., and R. Brodberg, 2008; USEPA, 2000)
Guideline Reference:	Development of Fish Contaminant Goals and Advisory Tissue Levels for Common Contaminants in California Sport Fish: Chlordane, DDTs, Dieldrin, Methylmercury, PCBs,

Spatial Representation: Data for this assessment unit was collected by one monitoring project: (SWB_FishLk)
Temporal Representation: Data was collected on a single day 11/13/2008.
Environmental Conditions: Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information: Samples were collected, processed, and analyzed in accordance with the methods described in Quality Assurance Project Plan "Screening Study of Bioaccumulation in California Lakes and Reservoirs." (SWAMP, 2008).
QAPP Information Reference(s): [Quality Assurance Project Plan Screening Study of Bioaccumulation in California Lakes and Reservoirs. Moss Landing Marine Labs. Prepared for SWAMP BOG. 49 pages plus appendices and attachments](#)

Line of Evidence (LOE) for Decision ID 61649, Endosulfan

Region 2

Cunningham, Lake

LOE ID: 91632

Pollutant: Endosulfan
LOE Subgroup: Pollutant-Tissue
Matrix: Tissue
Fraction: Fish fillet

Beneficial Use: Cold Freshwater Habitat

Number of Samples: 1
Number of Exceedances: 0

Data and Information Type: Fish tissue analysis
Data Used to Assess Water Quality: State Water Board staff assessed SWAMP data for Cunningham, Lake to determine beneficial use support and results are as follows: 0 of 1 samples exceed the criterion for Endosulfan I. One composite (5 fish per composite) was generated from one species: Common Carp. Details of the compositing protocol can be found in the March 2009 report entitled: "Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Study" (SWAMP, 2009).
Data Reference: [Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Survey. A Report of the Surface Water Ambient Monitoring Program \(SWAMP\). California State Water Resources Control Board, Sacramento, CA Statewide Lakes Sportfish Contamination Study 2007 2008](#)
[Contaminants in Fish from California Lakes and Reservoirs, 2007-2008: Summary Report on a Two-Year Screening Survey](#)
[Cruise report for the Surface Water Ambient Monitoring Program \(SWAMP\) bioaccumulation screening study in California lakes and reservoirs year two \(FY 07-08\). Sampling dates: April 2008 - November 2008.](#)

SWAMP Data: SWAMP

Water Quality Objective/Criterion: Water Quality Control Plan for the San Francisco Bay Basin: Controllable water quality factors shall not cause a detrimental increase in concentrations of toxic substances found in bottom sediments or aquatic life. Effects on aquatic organisms, wildlife, and human health will be considered.

Objective/Criterion Reference: [Water Quality Control Plan \(Basin Plan\) San Francisco Bay Basin \(Region 2\)](#)

Evaluation Guideline: National Academy of Science guidelines (NAS 1972) establish a maximum Endosulfan, Total concentration of 100 ug/Kg (wet weight) in tissue samples for protection of aquatic life from bioaccumulation of toxic substances.

Guideline Reference: [National Academy of Sciences. Water Quality Criteria 1972. EPA-R3-73-033. Washington, D.C.: U.S. Environmental Protection Agency](#)

Spatial Representation: Data for this assessment unit was collected by one monitoring project: (SWB_FishLk)
Temporal Representation: Data was collected on a single day 11/13/2008.

Environmental Conditions:

QAPP Information:

QAPP Information Reference(s):

Staff is not aware of any special conditions that might affect interpretation of the data.

Samples were collected, processed, and analyzed in accordance with the methods described in Quality Assurance Project Plan "Screening Study of Bioaccumulation in California Lakes and Reservoirs." (SWAMP, 2008).

[Quality Assurance Project Plan Screening Study of Bioaccumulation in California Lakes and Reservoirs. Moss Landing Marine Labs. Prepared for SWAMP BOG. 49 pages plus appendices and attachments](#)

DECISION ID	61650	Region 2
Cunningham, Lake		

Pollutant:	Endrin
Final Listing Decision:	Do Not List on 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision:	New Decision
Revision Status	Revised
Impairment from Pollutant or Pollution:	Pollutant

Regional Board Staff Conclusion:

This pollutant is being considered for placement on the CWA section 303(d) List under section 3.5 of the Listing Policy. Under section 3.5 a single line of evidence is necessary to assess listing status. Three lines of evidence are available in the administrative record to assess this pollutant. Zero of one samples exceed the guideline.

Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against placing this water segment-pollutant combination on the CWA section 303(d) List.

This conclusion is based on the staff findings that:

1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy.
2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy.
3. Zero of one samples exceed the guideline and this sample size is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating. A minimum of 16 samples is needed to determine if a beneficial use is fully supported using table 3.1.
4. Pursuant to SECTION 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.

Regional Board Staff Decision Recommendation:

After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be placed on the section 303(d) list. The readily available data and information is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating.

Line of Evidence (LOE) for Decision ID 61650, Endrin	Region 2
Cunningham, Lake	

LOE ID:	91634
Pollutant:	Endrin
LOE Subgroup:	Pollutant-Tissue
Matrix:	Tissue
Fraction:	Fish fillet
Beneficial Use:	Warm Freshwater Habitat
Number of Samples:	1
Number of Exceedances:	0
Data and Information Type:	Fish tissue analysis
Data Used to Assess Water Quality:	State Water Board staff assessed SWAMP data for Cunningham, Lake to determine

	beneficial use support and results are as follows: 0 of 1 samples exceed the criterion for Endrin. One composite (5 fish per composite) was generated from one species: Common Carp. Details of the compositing protocol can be found in the March 2009 report entitled: "Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Study" (SWAMP, 2009).
Data Reference:	Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Survey. A Report of the Surface Water Ambient Monitoring Program (SWAMP). California State Water Resources Control Board, Sacramento, CA Statewide Lakes Sportfish Contamination Study 2007 2008 Contaminants in Fish from California Lakes and Reservoirs, 2007-2008: Summary Report on a Two-Year Screening Survey Cruise report for the Surface Water Ambient Monitoring Program (SWAMP) bioaccumulation screening study in California lakes and reservoirs year two (FY 07-08). Sampling dates: April 2008 - November 2008.
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	Water Quality Control Plan for the San Francisco Bay Basin: Controllable water quality factors shall not cause a detrimental increase in concentrations of toxic substances found in bottom sediments or aquatic life. Effects on aquatic organisms, wildlife, and human health will be considered.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	National Academy of Science guidelines (NAS 1972) establish a maximum Endrin concentration of 100 ug/Kg (wet weight) in tissue samples for protection of aquatic life from bioaccumulation of toxic substances.
Guideline Reference:	National Academy of Sciences. Water Quality Criteria 1972. EPA-R3-73-033. Washington, D.C.: U.S. Environmental Protection Agency
Spatial Representation:	Data for this assessment unit was collected by one monitoring project: (SWB_FishLk)
Temporal Representation:	Data was collected on a single day 11/13/2008.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	Samples were collected, processed, and analyzed in accordance with the methods described in Quality Assurance Project Plan "Screening Study of Bioaccumulation in California Lakes and Reservoirs." (SWAMP, 2008).
QAPP Information Reference(s):	Quality Assurance Project Plan Screening Study of Bioaccumulation in California Lakes and Reservoirs. Moss Landing Marine Labs. Prepared for SWAMP BOG. 49 pages plus appendices and attachments

**Line of Evidence (LOE) for Decision ID 61650, Endrin
Cunningham, Lake**

Region 2

LOE ID:	91635
Pollutant:	Endrin
LOE Subgroup:	Pollutant-Tissue
Matrix:	Tissue
Fraction:	Fish fillet
Beneficial Use:	Cold Freshwater Habitat
Number of Samples:	1
Number of Exceedances:	0
Data and Information Type:	Fish tissue analysis
Data Used to Assess Water Quality:	State Water Board staff assessed SWAMP data for Cunningham, Lake to determine beneficial use support and results are as follows: 0 of 1 samples exceed the criterion for Endrin. One composite (5 fish per composite) was generated from one species: Common Carp. Details of the compositing protocol can be found in the March 2009 report entitled: "Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Study" (SWAMP, 2009).
Data Reference:	Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year

[One of a Two-Year Screening Survey. A Report of the Surface Water Ambient Monitoring Program \(SWAMP\). California State Water Resources Control Board, Sacramento, CA Statewide Lakes Sportfish Contamination Study 2007 2008](#)
[Contaminants in Fish from California Lakes and Reservoirs, 2007-2008: Summary Report on a Two-Year Screening Survey](#)
[Cruise report for the Surface Water Ambient Monitoring Program \(SWAMP\) bioaccumulation screening study in California lakes and reservoirs year two \(FY 07-08\). Sampling dates: April 2008 - November 2008.](#)

SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	Water Quality Control Plan for the San Francisco Bay Basin: Controllable water quality factors shall not cause a detrimental increase in concentrations of toxic substances found in bottom sediments or aquatic life. Effects on aquatic organisms, wildlife, and human health will be considered.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	National Academy of Science guidelines (NAS 1972) establish a maximum Endrin concentration of 100 ug/Kg (wet weight) in tissue samples for protection of aquatic life from bioaccumulation of toxic substances.
Guideline Reference:	National Academy of Sciences. Water Quality Criteria 1972. EPA-R3-73-033. Washington, D.C.: U.S. Environmental Protection Agency
Spatial Representation:	Data for this assessment unit was collected by one monitoring project: (SWB_FishLk)
Temporal Representation:	Data was collected on a single day 11/13/2008.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	Samples were collected, processed, and analyzed in accordance with the methods described in Quality Assurance Project Plan "Screening Study of Bioaccumulation in California Lakes and Reservoirs." (SWAMP, 2008).
QAPP Information Reference(s):	Quality Assurance Project Plan Screening Study of Bioaccumulation in California Lakes and Reservoirs. Moss Landing Marine Labs. Prepared for SWAMP BOG. 49 pages plus appendices and attachments

Line of Evidence (LOE) for Decision ID 61650, Endrin
Cunningham, Lake

Region 2

LOE ID:	91636
Pollutant:	Endrin
LOE Subgroup:	Pollutant-Tissue
Matrix:	Tissue
Fraction:	Fish fillet
Beneficial Use:	Commercial or recreational collection of fish, shellfish, or organisms
Number of Samples:	1
Number of Exceedances:	0
Data and Information Type:	Fish tissue analysis
Data Used to Assess Water Quality:	State Water Board staff assessed SWAMP data for Cunningham, Lake to determine beneficial use support and results are as follows: 0 of 1 samples exceed the criterion for Endrin. One composite (5 fish per composite) was generated from one species: Common Carp. Details of the compositing protocol can be found in the March 2009 report entitled: "Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Study" (SWAMP, 2009).
Data Reference:	Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Survey. A Report of the Surface Water Ambient Monitoring Program (SWAMP). California State Water Resources Control Board, Sacramento, CA Statewide Lakes Sportfish Contamination Study 2007 2008 Contaminants in Fish from California Lakes and Reservoirs, 2007-2008: Summary Report on a Two-Year Screening Survey Cruise report for the Surface Water Ambient Monitoring Program (SWAMP)

[bioaccumulation screening study in California lakes and reservoirs year two \(FY 07-08\). Sampling dates: April 2008 - November 2008.](#)

SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	Water Quality Control Plan for the San Francisco Bay Basin: Controllable water quality factors shall not cause a detrimental increase in concentrations of toxic substances found in bottom sediments or aquatic life. Effects on aquatic organisms, wildlife, and human health will be considered.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	The modified OEHHA Fish Contaminant Goal for endrin in fish tissue is 660 ppb. This screening level assumes an average body weight of 70 kg and a consumption rate of 32 g/day. A cooking reduction factor of 1 is applied for skin-off fillets. (Klasing, S., and R. Brodberg, 2008; USEPA, 2000)
Guideline Reference:	Development of Fish Contaminant Goals and Advisory Tissue Levels for Common Contaminants in California Sport Fish: Chlordane, DDTs, Dieldrin, Methylmercury, PCBs, Selenium, and Toxaphene Guidance for Assessing Chemical Contaminant Data for Use In Fish Advisories Volume 1: Fish Sampling and Analysis
Spatial Representation:	Data for this assessment unit was collected by one monitoring project: (SWB_FishLk)
Temporal Representation:	Data was collected on a single day 11/13/2008.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	Samples were collected, processed, and analyzed in accordance with the methods described in Quality Assurance Project Plan "Screening Study of Bioaccumulation in California Lakes and Reservoirs." (SWAMP, 2008).
QAPP Information Reference(s):	Quality Assurance Project Plan Screening Study of Bioaccumulation in California Lakes and Reservoirs. Moss Landing Marine Labs. Prepared for SWAMP BOG, 49 pages plus appendices and attachments

DECISION ID	61651	Region 2
Cunningham, Lake		

Pollutant:	Heptachlor
Final Listing Decision:	Do Not List on 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision:	New Decision
Revision Status	Revised
Impairment from Pollutant or Pollution:	Pollutant
Regional Board Staff Conclusion:	<p>This pollutant is being considered for placement on the CWA section 303(d) List under section 3.5 of the Listing Policy. Under section 3.5 a single line of evidence is necessary to assess listing status. Two lines of evidence are available in the administrative record to assess this pollutant. Zero of one samples exceed the guideline.</p> <p>Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against placing this water segment-pollutant combination on the CWA section 303(d) List.</p> <p>This conclusion is based on the staff findings that:</p> <ol style="list-style-type: none"> 1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy. 2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy. 3. Zero of one samples exceed the guideline and this sample size is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating. A minimum of 16 samples is needed to determine if a beneficial use is fully supported using table 3.1. 4. Pursuant to SECTION 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.
Regional Board Staff Decision	After review of the available data and information, RWQCB staff concludes that the water body-

Recommendation: pollutant combination should not be placed on the section 303(d) list. The readily available data and information is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating.

**Line of Evidence (LOE) for Decision ID 61651, Heptachlor
Cunningham, Lake**

Region 2

LOE ID: 91637

Pollutant: Heptachlor
LOE Subgroup: Pollutant-Tissue
Matrix: Tissue
Fraction: Fish fillet

Beneficial Use: Warm Freshwater Habitat

Number of Samples: 1
Number of Exceedances: 0

Data and Information Type: Fish tissue analysis
Data Used to Assess Water Quality: State Water Board staff assessed SWAMP data for Cunningham, Lake to determine beneficial use support and results are as follows: 0 of 1 samples exceed the criterion for Heptachlor. One composite (5 fish per composite) was generated from one species: Common Carp. Details of the compositing protocol can be found in the March 2009 report entitled: "Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Study" (SWAMP, 2009).

Data Reference: [Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Survey. A Report of the Surface Water Ambient Monitoring Program \(SWAMP\). California State Water Resources Control Board, Sacramento, CA Statewide Lakes Sportfish Contamination Study 2007 2008](#)
[Contaminants in Fish from California Lakes and Reservoirs, 2007-2008: Summary Report on a Two-Year Screening Survey](#)
[Cruise report for the Surface Water Ambient Monitoring Program \(SWAMP\) bioaccumulation screening study in California lakes and reservoirs year two \(FY 07-08\). Sampling dates: April 2008 - November 2008.](#)

SWAMP Data: SWAMP

Water Quality Objective/Criterion: Water Quality Control Plan for the San Francisco Bay Basin: Controllable water quality factors shall not cause a detrimental increase in concentrations of toxic substances found in bottom sediments or aquatic life. Effects on aquatic organisms, wildlife, and human health will be considered.

Objective/Criterion Reference: [Water Quality Control Plan \(Basin Plan\) San Francisco Bay Basin \(Region 2\)](#)

Evaluation Guideline: National Academy of Science guidelines (NAS 1972) establish a maximum Heptachlor concentration of 100 ug/Kg (wet weight) in tissue samples for protection of aquatic life from bioaccumulation of toxic substances.

Guideline Reference: [National Academy of Sciences. Water Quality Criteria 1972. EPA-R3-73-033. Washington, D.C.: U.S. Environmental Protection Agency](#)

Spatial Representation: Data for this assessment unit was collected by one monitoring project: (SWB_FishLk)
Temporal Representation: Data was collected on a single day 11/13/2008.
Environmental Conditions: Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information: Samples were collected, processed, and analyzed in accordance with the methods described in Quality Assurance Project Plan "Screening Study of Bioaccumulation in California Lakes and Reservoirs." (SWAMP, 2008).

QAPP Information Reference(s): [Quality Assurance Project Plan Screening Study of Bioaccumulation in California Lakes and Reservoirs. Moss Landing Marine Labs. Prepared for SWAMP BOG, 49 pages plus appendices and attachments](#)

Line of Evidence (LOE) for Decision ID 61651, Heptachlor

Region 2

Cunningham, Lake

LOE ID:	91638
Pollutant:	Heptachlor
LOE Subgroup:	Pollutant-Tissue
Matrix:	Tissue
Fraction:	Fish fillet
Beneficial Use:	Cold Freshwater Habitat
Number of Samples:	1
Number of Exceedances:	0
Data and Information Type:	Fish tissue analysis
Data Used to Assess Water Quality:	State Water Board staff assessed SWAMP data for Cunningham, Lake to determine beneficial use support and results are as follows: 0 of 1 samples exceed the criterion for Heptachlor. One composite (5 fish per composite) was generated from one species: Common Carp. Details of the compositing protocol can be found in the March 2009 report entitled: "Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Study" (SWAMP, 2009).
Data Reference:	Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Survey. A Report of the Surface Water Ambient Monitoring Program (SWAMP). California State Water Resources Control Board, Sacramento, CA Statewide Lakes Sportfish Contamination Study 2007 2008 Contaminants in Fish from California Lakes and Reservoirs, 2007-2008: Summary Report on a Two-Year Screening Survey Cruise report for the Surface Water Ambient Monitoring Program (SWAMP) bioaccumulation screening study in California lakes and reservoirs year two (FY 07-08). Sampling dates: April 2008 - November 2008.
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	Water Quality Control Plan for the San Francisco Bay Basin: Controllable water quality factors shall not cause a detrimental increase in concentrations of toxic substances found in bottom sediments or aquatic life. Effects on aquatic organisms, wildlife, and human health will be considered.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	National Academy of Science guidelines (NAS 1972) establish a maximum Heptachlor concentration of 100 ug/Kg (wet weight) in tissue samples for protection of aquatic life from bioaccumulation of toxic substances.
Guideline Reference:	National Academy of Sciences. Water Quality Criteria 1972. EPA-R3-73-033. Washington, D.C.: U.S. Environmental Protection Agency
Spatial Representation:	Data for this assessment unit was collected by one monitoring project: (SWB_FishLk)
Temporal Representation:	Data was collected on a single day 11/13/2008.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	Samples were collected, processed, and analyzed in accordance with the methods described in Quality Assurance Project Plan "Screening Study of Bioaccumulation in California Lakes and Reservoirs." (SWAMP, 2008).
QAPP Information Reference(s):	Quality Assurance Project Plan Screening Study of Bioaccumulation in California Lakes and Reservoirs. Moss Landing Marine Labs. Prepared for SWAMP BOG, 49 pages plus appendices and attachments

DECISION ID**61652****Region 2****Cunningham, Lake**

Pollutant:	Heptachlor epoxide
Final Listing Decision:	Do Not List on 303(d) list (TMDL required list)
Last Listing Cycle's Final	New Decision

Listing Decision:
Revision Status Revised
Impairment from Pollutant or Pollution: Pollutant

Regional Board Staff Conclusion:

This pollutant is being considered for placement on the CWA section 303(d) List under section 3.5 of the Listing Policy. Under section 3.5 a single line of evidence is necessary to assess listing status. Three lines of evidence are available in the administrative record to assess this pollutant. Zero of one samples exceed the guideline.

Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against placing this water segment-pollutant combination on the CWA section 303(d) List.

This conclusion is based on the staff findings that:

1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy.
2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy.
3. Zero of one samples exceed the guideline and this sample size is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating. A minimum of 16 samples is needed to determine if a beneficial use is fully supported using table 3.1.
4. Pursuant to SECTION 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.

Regional Board Staff Decision Recommendation:

After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be placed on the section 303(d) list. The readily available data and information is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating.

**Line of Evidence (LOE) for Decision ID 61652, Heptachlor epoxide
Cunningham, Lake**

Region 2

LOE ID: 91640

Pollutant: Heptachlor epoxide
LOE Subgroup: Pollutant-Tissue
Matrix: Tissue
Fraction: Fish fillet

Beneficial Use: Cold Freshwater Habitat

Number of Samples: 1
Number of Exceedances: 0

Data and Information Type: Fish tissue analysis
Data Used to Assess Water Quality: State Water Board staff assessed SWAMP data for Cunningham, Lake to determine beneficial use support and results are as follows: 0 of 1 samples exceed the criterion for Heptachlor epoxide. One composite (5 fish per composite) was generated from one species: Common Carp. Details of the compositing protocol can be found in the March 2009 report entitled: "Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Study" (SWAMP, 2009).

Data Reference: [Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Survey. A Report of the Surface Water Ambient Monitoring Program \(SWAMP\). California State Water Resources Control Board, Sacramento, CA Statewide Lakes Sportfish Contamination Study 2007 2008](#)
[Contaminants in Fish from California Lakes and Reservoirs, 2007-2008: Summary Report on a Two-Year Screening Survey](#)
[Cruise report for the Surface Water Ambient Monitoring Program \(SWAMP\) bioaccumulation screening study in California lakes and reservoirs year two \(FY 07-08\). Sampling dates: April 2008 - November 2008.](#)

SWAMP Data: SWAMP

Water Quality Objective/Criterion:	Water Quality Control Plan for the San Francisco Bay Basin: Controllable water quality factors shall not cause a detrimental increase in concentrations of toxic substances found in bottom sediments or aquatic life. Effects on aquatic organisms, wildlife, and human health will be considered.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	National Academy of Science guidelines (NAS 1972) establish a maximum Heptachlor Epoxide concentration of 100 ug/Kg (wet weight) in tissue samples for protection of aquatic life from bioaccumulation of toxic substances.
Guideline Reference:	National Academy of Sciences. Water Quality Criteria 1972. EPA-R3-73-033. Washington, D.C.: U.S. Environmental Protection Agency
Spatial Representation:	Data for this assessment unit was collected by one monitoring project: (SWB_FishLk)
Temporal Representation:	Data was collected on a single day 11/13/2008.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	Samples were collected, processed, and analyzed in accordance with the methods described in Quality Assurance Project Plan "Screening Study of Bioaccumulation in California Lakes and Reservoirs." (SWAMP, 2008).
QAPP Information Reference(s):	Quality Assurance Project Plan Screening Study of Bioaccumulation in California Lakes and Reservoirs. Moss Landing Marine Labs. Prepared for SWAMP BOG. 49 pages plus appendices and attachments

Line of Evidence (LOE) for Decision ID 61652, Heptachlor epoxide

Region 2

Cunningham, Lake

LOE ID:	91639
Pollutant:	Heptachlor epoxide
LOE Subgroup:	Pollutant-Tissue
Matrix:	Tissue
Fraction:	Fish fillet
Beneficial Use:	Warm Freshwater Habitat
Number of Samples:	1
Number of Exceedances:	0
Data and Information Type:	Fish tissue analysis
Data Used to Assess Water Quality:	State Water Board staff assessed SWAMP data for Cunningham, Lake to determine beneficial use support and results are as follows: 0 of 1 samples exceed the criterion for Heptachlor epoxide. One composite (5 fish per composite) was generated from one species: Common Carp. Details of the compositing protocol can be found in the March 2009 report entitled: "Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Study" (SWAMP, 2009).
Data Reference:	Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Survey. A Report of the Surface Water Ambient Monitoring Program (SWAMP). California State Water Resources Control Board, Sacramento, CA Statewide Lakes Sportfish Contamination Study 2007 2008 Contaminants in Fish from California Lakes and Reservoirs, 2007-2008: Summary Report on a Two-Year Screening Survey Cruise report for the Surface Water Ambient Monitoring Program (SWAMP) bioaccumulation screening study in California lakes and reservoirs year two (FY 07-08). Sampling dates: April 2008 - November 2008.
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	Water Quality Control Plan for the San Francisco Bay Basin: Controllable water quality factors shall not cause a detrimental increase in concentrations of toxic substances found in bottom sediments or aquatic life. Effects on aquatic organisms, wildlife, and human health will be considered.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)

Evaluation Guideline:	National Academy of Science guidelines (NAS 1972) establish a maximum Heptachlor Epoxide concentration of 100 ug/Kg (wet weight) in tissue samples for protection of aquatic life from bioaccumulation of toxic substances.
Guideline Reference:	National Academy of Sciences. Water Quality Criteria 1972. EPA-R3-73-033. Washington, D.C.: U.S. Environmental Protection Agency
Spatial Representation:	Data for this assessment unit was collected by one monitoring project: (SWB_FishLk)
Temporal Representation:	Data was collected on a single day 11/13/2008.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	Samples were collected, processed, and analyzed in accordance with the methods described in Quality Assurance Project Plan "Screening Study of Bioaccumulation in California Lakes and Reservoirs." (SWAMP, 2008).
QAPP Information Reference(s):	Quality Assurance Project Plan Screening Study of Bioaccumulation in California Lakes and Reservoirs. Moss Landing Marine Labs. Prepared for SWAMP BOG, 49 pages plus appendices and attachments

**Line of Evidence (LOE) for Decision ID 61652, Heptachlor epoxide
Cunningham, Lake**

Region 2

LOE ID:	91641
Pollutant:	Heptachlor epoxide
LOE Subgroup:	Pollutant-Tissue
Matrix:	Tissue
Fraction:	Fish fillet
Beneficial Use:	Commercial or recreational collection of fish, shellfish, or organisms
Number of Samples:	0
Number of Exceedances:	0
Data and Information Type:	Fish tissue analysis
Data Used to Assess Water Quality:	State Water Board staff assessed SWAMP data for Cunningham, Lake to determine beneficial use support and results are as follows: 0 of 0 samples exceed the criterion for Heptachlor epoxide. One composite (5 fish per composite) was generated from one species: Common Carp. Details of the compositing protocol can be found in the March 2009 report entitled: "Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Study" (SWAMP, 2009). One composite was not used in the assessment because the laboratory data reporting limit(s) was above the objective and therefore the results could not be quantified with the level of certainty required by the Listing Policy.
Data Reference:	Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Survey. A Report of the Surface Water Ambient Monitoring Program (SWAMP). California State Water Resources Control Board, Sacramento, CA Statewide Lakes Sportfish Contamination Study 2007 2008 Contaminants in Fish from California Lakes and Reservoirs, 2007-2008: Summary Report on a Two-Year Screening Survey Cruise report for the Surface Water Ambient Monitoring Program (SWAMP) bioaccumulation screening study in California lakes and reservoirs year two (FY 07-08). Sampling dates: April 2008 - November 2008.
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	Water Quality Control Plan for the San Francisco Bay Basin: Controllable water quality factors shall not cause a detrimental increase in concentrations of toxic substances found in bottom sediments or aquatic life. Effects on aquatic organisms, wildlife, and human health will be considered.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	The modified OEHHA Fish Contaminant Goal for heptachlor epoxide in fish tissue is 0.93 ppb. This screening level assumes an average body weight of 70 kg and a consumption

Guideline Reference:

rate of 32 g/day for a 30 year exposure over a 70-year lifetime. This constituent is a carcinogen therefore the risk level is set to one in a million. A cooking reduction factor of 1 is applied for skin-off fillets. (Klasing, S., and R. Brodberg, 2008; OEHHA, 1999) [Development of Fish Contaminant Goals and Advisory Tissue Levels for Common Contaminants in California Sport Fish: Chlordane, DDTs, Dieldrin, Methylmercury, PCBs, Selenium, and Toxaphene](#)
[Public Health Goal for Heptachlor and Heptachlor Epoxide in Drinking Water](#)

Spatial Representation:

Data for this assessment unit was collected by one monitoring project: (SWB_FishLk)

Temporal Representation:

Data was collected on a single day 11/13/2008.

Environmental Conditions:

Staff is not aware of any special conditions that might affect interpretation of the data.

QAPP Information:

Samples were collected, processed, and analyzed in accordance with the methods described in Quality Assurance Project Plan "Screening Study of Bioaccumulation in California Lakes and Reservoirs." (SWAMP, 2008).

QAPP Information Reference(s):

[Quality Assurance Project Plan Screening Study of Bioaccumulation in California Lakes and Reservoirs. Moss Landing Marine Labs. Prepared for SWAMP BOG, 49 pages plus appendices and attachments](#)

DECISION ID	61653	Region 2
Cunningham, Lake		

Pollutant:	Hexachlorobenzene/ HCB
Final Listing Decision:	Do Not List on 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision:	New Decision
Revision Status	Revised
Impairment from Pollutant or Pollution:	Pollutant

Regional Board Staff Conclusion:

This pollutant is being considered for placement on the CWA section 303(d) List under section 3.5 of the Listing Policy. Under section 3.5 a single line of evidence is necessary to assess listing status. One line of evidence is available in the administrative record to assess this pollutant. Zero of one samples exceed the guideline.

Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against placing this water segment-pollutant combination on the CWA section 303(d) List.

This conclusion is based on the staff findings that:

1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy.
2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy.
3. Zero of one samples exceed the guideline and this sample size is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating. A minimum of 16 samples is needed to determine if a beneficial use is fully supported using table 3.1.
4. Pursuant to SECTION 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.

Regional Board Staff Decision Recommendation:

After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be placed on the section 303(d) list. The readily available data and information is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating.

Line of Evidence (LOE) for Decision ID 61653, Hexachlorobenzene/ HCB	Region 2
Cunningham, Lake	

LOE ID: 91642

Pollutant: Hexachlorobenzene/ HCB
LOE Subgroup: Pollutant-Tissue

Matrix:	Tissue
Fraction:	Fish fillet
Beneficial Use:	Commercial or recreational collection of fish, shellfish, or organisms
Number of Samples:	1
Number of Exceedances:	0
Data and Information Type:	Fish tissue analysis
Data Used to Assess Water Quality:	State Water Board staff assessed SWAMP data for Cunningham, Lake to determine beneficial use support and results are as follows: 0 of 1 samples exceed the criterion for Hexachlorobenzene. One composite (5 fish per composite) was generated from one species: Common Carp. Details of the compositing protocol can be found in the March 2009 report entitled: "Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Study" (SWAMP, 2009).
Data Reference:	Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Survey. A Report of the Surface Water Ambient Monitoring Program (SWAMP). California State Water Resources Control Board, Sacramento, CA Statewide Lakes Sportfish Contamination Study 2007 2008 Contaminants in Fish from California Lakes and Reservoirs, 2007-2008: Summary Report on a Two-Year Screening Survey Cruise report for the Surface Water Ambient Monitoring Program (SWAMP) bioaccumulation screening study in California lakes and reservoirs year two (FY 07-08). Sampling dates: April 2008 - November 2008.
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	Water Quality Control Plan for the San Francisco Bay Basin: Controllable water quality factors shall not cause a detrimental increase in concentrations of toxic substances found in bottom sediments or aquatic life. Effects on aquatic organisms, wildlife, and human health will be considered.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	The modified OEHHA Fish Contaminant Goal for hexachlorobenzene in fish tissue is 2.8 ppb. This screening level assumes an average body weight of 70 kg and a consumption rate of 32 g/day for a 30 year exposure over a 70-year lifetime. This constituent is a carcinogen therefore the risk level is set to one in a million. A cooking reduction factor of 1 is applied for skin-off fillets. (Klasing, S., and R. Brodberg, 2008; OEHHA, 2005)
Guideline Reference:	Development of Fish Contaminant Goals and Advisory Tissue Levels for Common Contaminants in California Sport Fish: Chlordane, DDTs, Dieldrin, Methylmercury, PCBs, Selenium, and Toxaphene Air Toxics Hotspots Program Risk Assessment Guidelines. Part II Technical Support Document for Describing Available Cancer Potency Values.
Spatial Representation:	Data for this assessment unit was collected by one monitoring project: (SWB_FishLk)
Temporal Representation:	Data was collected on a single day 11/13/2008.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	Samples were collected, processed, and analyzed in accordance with the methods described in Quality Assurance Project Plan "Screening Study of Bioaccumulation in California Lakes and Reservoirs." (SWAMP, 2008).
QAPP Information Reference(s):	Quality Assurance Project Plan Screening Study of Bioaccumulation in California Lakes and Reservoirs. Moss Landing Marine Labs. Prepared for SWAMP BOG. 49 pages plus appendices and attachments

DECISION ID	61655	Region 2
Cunningham, Lake		

Pollutant:	Lindane/gamma Hexachlorocyclohexane (gamma-HCH)
Final Listing Decision:	Do Not List on 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision:	New Decision

Revision Status
Impairment from Pollutant or
Pollution:

Revised
Pollutant

Regional Board Staff
Conclusion:

This pollutant is being considered for placement on the CWA section 303(d) List under section 3.5 of the Listing Policy. Under section 3.5 a single line of evidence is necessary to assess listing status. Three lines of evidence are available in the administrative record to assess this pollutant. Zero of one samples exceed the guideline.

Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against placing this water segment-pollutant combination on the CWA section 303(d) List.

This conclusion is based on the staff findings that:

1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy.
2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy.
3. Zero of one samples exceed the guideline and this sample size is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating. A minimum of 16 samples is needed to determine if a beneficial use is fully supported using table 3.1.
4. Pursuant to SECTION 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.

Regional Board Staff Decision
Recommendation:

After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be placed on the section 303(d) list. The readily available data and information is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating.

Line of Evidence (LOE) for Decision ID 61655, Lindane/gamma Hexachlorocyclohexane
(gamma-HCH)

Region 2

Cunningham, Lake

LOE ID: 91645

Pollutant: Lindane/gamma Hexachlorocyclohexane (gamma-HCH)
LOE Subgroup: Pollutant-Tissue
Matrix: Tissue
Fraction: Fish fillet

Beneficial Use: Cold Freshwater Habitat

Number of Samples: 1
Number of Exceedances: 0

Data and Information Type: Fish tissue analysis
Data Used to Assess Water Quality: State Water Board staff assessed SWAMP data for Cunningham, Lake to determine beneficial use support and results are as follows: 0 of 1 samples exceed the criterion for HCH, gamma. One composite (5 fish per composite) was generated from one species: Common Carp. Details of the compositing protocol can be found in the March 2009 report entitled: "Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Study" (SWAMP, 2009).

Data Reference: [Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Survey. A Report of the Surface Water Ambient Monitoring Program \(SWAMP\). California State Water Resources Control Board, Sacramento, CA Statewide Lakes Sportfish Contamination Study 2007 2008](#)
[Contaminants in Fish from California Lakes and Reservoirs, 2007-2008: Summary Report on a Two-Year Screening Survey](#)
[Cruise report for the Surface Water Ambient Monitoring Program \(SWAMP\) bioaccumulation screening study in California lakes and reservoirs year two \(FY 07-08\). Sampling dates: April 2008 - November 2008.](#)

SWAMP Data: SWAMP

Water Quality Objective/Criterion:	Water Quality Control Plan for the San Francisco Bay Basin: Controllable water quality factors shall not cause a detrimental increase in concentrations of toxic substances found in bottom sediments or aquatic life. Effects on aquatic organisms, wildlife, and human health will be considered.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	The modified OEHHA Fish Contaminant Goal for lindane in fish tissue is 4.6 ppb. This screening level assumes an average body weight of 70 kg and a consumption rate of 32 g/day for a 30 year exposure over a 70-year lifetime. This constituent is a carcinogen therefore the risk level is set to one in a million. A cooking reduction factor of 1 is applied for skin-off fillets. (Klasing, S., and R. Brodberg, 2008; OEHHA, 2005)
Guideline Reference:	National Academy of Sciences. Water Quality Criteria 1972. EPA-R3-73-033. Washington, D.C.: U.S. Environmental Protection Agency
Spatial Representation:	Data for this assessment unit was collected by one monitoring project: (SWB_FishLk)
Temporal Representation:	Data was collected on a single day 11/13/2008.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	Samples were collected, processed, and analyzed in accordance with the methods described in Quality Assurance Project Plan "Screening Study of Bioaccumulation in California Lakes and Reservoirs." (SWAMP, 2008).
QAPP Information Reference(s):	Quality Assurance Project Plan Screening Study of Bioaccumulation in California Lakes and Reservoirs. Moss Landing Marine Labs. Prepared for SWAMP BOG. 49 pages plus appendices and attachments

Line of Evidence (LOE) for Decision ID 61655, Lindane/gamma Hexachlorocyclohexane (gamma-HCH)

Region 2

Cunningham, Lake

LOE ID:	91643
Pollutant:	Lindane/gamma Hexachlorocyclohexane (gamma-HCH)
LOE Subgroup:	Pollutant-Tissue
Matrix:	Tissue
Fraction:	Fish fillet
Beneficial Use:	Warm Freshwater Habitat
Number of Samples:	1
Number of Exceedances:	0
Data and Information Type:	Fish tissue analysis
Data Used to Assess Water Quality:	State Water Board staff assessed SWAMP data for Cunningham, Lake to determine beneficial use support and results are as follows: 0 of 1 samples exceed the criterion for HCH, gamma. One composite (5 fish per composite) was generated from one species: Common Carp. Details of the compositing protocol can be found in the March 2009 report entitled: "Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Study" (SWAMP, 2009).
Data Reference:	Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Survey. A Report of the Surface Water Ambient Monitoring Program (SWAMP). California State Water Resources Control Board, Sacramento, CA Statewide Lakes Sportfish Contamination Study 2007 2008 Contaminants in Fish from California Lakes and Reservoirs, 2007-2008: Summary Report on a Two-Year Screening Survey Cruise report for the Surface Water Ambient Monitoring Program (SWAMP) bioaccumulation screening study in California lakes and reservoirs year two (FY 07-08). Sampling dates: April 2008 - November 2008.
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	Water Quality Control Plan for the San Francisco Bay Basin: Controllable water quality factors shall not cause a detrimental increase in concentrations of toxic substances found

Objective/Criterion Reference:	in bottom sediments or aquatic life. Effects on aquatic organisms, wildlife, and human health will be considered. Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	The modified OEHHA Fish Contaminant Goal for lindane in fish tissue is 4.6 ppb. This screening level assumes an average body weight of 70 kg and a consumption rate of 32 g/day for a 30 year exposure over a 70-year lifetime. This constituent is a carcinogen therefore the risk level is set to one in a million. A cooking reduction factor of 1 is applied for skin-off fillets. (Klasing, S., and R. Brodberg, 2008; OEHHA, 2005)
Guideline Reference:	National Academy of Sciences. Water Quality Criteria 1972. EPA-R3-73-033. Washington, D.C.: U.S. Environmental Protection Agency
Spatial Representation:	Data for this assessment unit was collected by one monitoring project: (SWB_FishLk)
Temporal Representation:	Data was collected on a single day 11/13/2008.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	Samples were collected, processed, and analyzed in accordance with the methods described in Quality Assurance Project Plan "Screening Study of Bioaccumulation in California Lakes and Reservoirs." (SWAMP, 2008).
QAPP Information Reference(s):	Quality Assurance Project Plan Screening Study of Bioaccumulation in California Lakes and Reservoirs. Moss Landing Marine Labs. Prepared for SWAMP BOG. 49 pages plus appendices and attachments

Line of Evidence (LOE) for Decision ID 61655, Lindane/gamma Hexachlorocyclohexane (gamma-HCH)

Region 2

Cunningham, Lake

LOE ID:	91644
Pollutant:	Lindane/gamma Hexachlorocyclohexane (gamma-HCH)
LOE Subgroup:	Pollutant-Tissue
Matrix:	Tissue
Fraction:	Fish fillet
Beneficial Use:	Commercial or recreational collection of fish, shellfish, or organisms
Number of Samples:	1
Number of Exceedances:	0
Data and Information Type:	Fish tissue analysis
Data Used to Assess Water Quality:	State Water Board staff assessed SWAMP data for Cunningham, Lake to determine beneficial use support and results are as follows: 0 of 1 samples exceed the criterion for HCH, gamma. One composite (5 fish per composite) was generated from one species: Common Carp. Details of the compositing protocol can be found in the March 2009 report entitled: "Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Study" (SWAMP, 2009).
Data Reference:	Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Survey. A Report of the Surface Water Ambient Monitoring Program (SWAMP). California State Water Resources Control Board, Sacramento, CA Statewide Lakes Sportfish Contamination Study 2007 2008 Contaminants in Fish from California Lakes and Reservoirs, 2007-2008: Summary Report on a Two-Year Screening Survey Cruise report for the Surface Water Ambient Monitoring Program (SWAMP) bioaccumulation screening study in California lakes and reservoirs year two (FY 07-08). Sampling dates: April 2008 - November 2008.
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	Water Quality Control Plan for the San Francisco Bay Basin: Controllable water quality factors shall not cause a detrimental increase in concentrations of toxic substances found in bottom sediments or aquatic life. Effects on aquatic organisms, wildlife, and human health will be considered.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)

Evaluation Guideline:	The modified OEHHA Fish Contaminant Goal for lindane in fish tissue is 4.6 ppb. This screening level assumes an average body weight of 70 kg and a consumption rate of 32 g/day for a 30 year exposure over a 70-year lifetime. This constituent is a carcinogen therefore the risk level is set to one in a million. A cooking reduction factor of 1 is applied for skin-off fillets.
Guideline Reference:	Development of Fish Contaminant Goals and Advisory Tissue Levels for Common Contaminants in California Sport Fish: Chlordane, DDTs, Dieldrin, Methylmercury, PCBs, Selenium, and Toxaphene Air Toxics Hotspots Program Risk Assessment Guidelines. Part II Technical Support Document for Describing Available Cancer Potency Values.
Spatial Representation:	Data for this assessment unit was collected by one monitoring project: (SWB_FishLk)
Temporal Representation:	Data was collected on a single day 11/13/2008.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	Samples were collected, processed, and analyzed in accordance with the methods described in Quality Assurance Project Plan "Screening Study of Bioaccumulation in California Lakes and Reservoirs." (SWAMP, 2008).
QAPP Information Reference(s):	Quality Assurance Project Plan Screening Study of Bioaccumulation in California Lakes and Reservoirs. Moss Landing Marine Labs. Prepared for SWAMP BOG. 49 pages plus appendices and attachments

DECISION ID	65483	Region 2
Cunningham, Lake		

Pollutant:	Mercury
Final Listing Decision:	Do Not List on 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision:	New Decision
Revision Status	Revised
Impairment from Pollutant or Pollution:	Pollutant
Regional Board Staff Conclusion:	<p>This pollutant is being considered for placement on the CWA section 303(d) List under section 3.5 of the Listing Policy. Under section 3.5 a single line of evidence is necessary to assess listing status. One line of evidence is available in the administrative record to assess this pollutant. Zero of zero samples exceed the OEHHA guideline.</p> <p>Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against placing this water segment-pollutant combination on the CWA section 303(d) List.</p> <p>This conclusion is based on the staff findings that:</p> <ol style="list-style-type: none"> 1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy. 2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy. 3. Zero of zero samples exceed the OEHHA guideline and this sample size is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating. A minimum of 16 samples is needed to determine if a beneficial use is fully supported using table 3.1. 4. Pursuant to SECTION 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.
Regional Board Staff Decision Recommendation:	After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be placed on the section 303(d) list. The readily available data and information is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating.

Line of Evidence (LOE) for Decision ID 65483, Mercury	Region 2
Cunningham, Lake	

LOE ID:	91605
Pollutant:	Mercury
LOE Subgroup:	Pollutant-Tissue
Matrix:	Tissue
Fraction:	Fish fillet
Beneficial Use:	Commercial or recreational collection of fish, shellfish, or organisms
Number of Samples:	0
Number of Exceedances:	0
Data and Information Type:	Fish tissue analysis
Data Used to Assess Water Quality:	State Water Board staff assessed SWAMP data for Cunningham, Lake to determine beneficial use support and results are as follows: 0 of 0 samples exceed the criterion for Mercury. The two composites for common carp could not be used in the assessment due to total fish lengths that did not fall within lengths noted in the guideline.
Data Reference:	Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Survey. A Report of the Surface Water Ambient Monitoring Program (SWAMP). California State Water Resources Control Board, Sacramento, CA Statewide Lakes Sportfish Contamination Study 2007 2008 Contaminants in Fish from California Lakes and Reservoirs, 2007-2008: Summary Report on a Two-Year Screening Survey Cruise report for the Surface Water Ambient Monitoring Program (SWAMP) bioaccumulation screening study in California lakes and reservoirs year two (FY 07-08). Sampling dates: April 2008 - November 2008.
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	Water Quality Control Plan for the San Francisco Bay Basin (2013): Controllable water quality factors shall not cause a detrimental increase in concentrations of toxic substances found in bottom sediments or aquatic life. Effects on aquatic organisms, wildlife, and human health will be considered.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	The USEPA 304(a) recommended water quality criterion for concentrations of methylmercury in fish tissue of trophic level 4 fish (150 - 500 mm; fillet wet weight) is 0.2 mg/kg. This assumes a consumption rate of 32 g/day. (USEPA, 2001)
Guideline Reference:	Water Quality Criterion for the Protection of Human Health: Methylmercury. Final. United States Environmental Protection Agency Office of Science and Technology Office of Water. EPA-823-R-01-001. January 2001
Spatial Representation:	Data for this assessment unit was collected by one monitoring project: (SWB_FishLk)
Temporal Representation:	Data was collected on a single day 11/13/2008.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	Samples were collected, processed, and analyzed in accordance with the methods described in Quality Assurance Project Plan "Screening Study of Bioaccumulation in California Lakes and Reservoirs." (SWAMP, 2008).
QAPP Information Reference(s):	Quality Assurance Project Plan Screening Study of Bioaccumulation in California Lakes and Reservoirs. Moss Landing Marine Labs. Prepared for SWAMP BOG. 49 pages plus appendices and attachments

DECISION ID	61656	Region 2
Cunningham, Lake		

Pollutant:	Mirex
Final Listing Decision:	Do Not List on 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision:	New Decision
Revision Status	Revised

Impairment from Pollutant or Pollution:

Pollutant

Regional Board Staff Conclusion:

This pollutant is being considered for placement on the CWA section 303(d) List under section 3.5 of the Listing Policy. Under section 3.5 a single line of evidence is necessary to assess listing status. One line of evidence is available in the administrative record to assess this pollutant. Zero of zero samples exceed the guideline.

Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against placing this water segment-pollutant combination on the CWA section 303(d) List.

This conclusion is based on the staff findings that:

1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy.
2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy.
3. Zero of zero samples exceed the guideline and this sample size is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating. A minimum of 16 samples is needed to determine if a beneficial use is fully supported using table 3.1.
4. Pursuant to SECTION 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.

Regional Board Staff Decision Recommendation:

After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be placed on the section 303(d) list. The readily available data and information is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating.

**Line of Evidence (LOE) for Decision ID 61656, Mirex
Cunningham, Lake**

Region 2

LOE ID: 91606

Pollutant: Mirex
LOE Subgroup: Pollutant-Tissue
Matrix: Tissue
Fraction: Fish fillet

Beneficial Use: Commercial or recreational collection of fish, shellfish, or organisms

Number of Samples: 0
Number of Exceedances: 0

Data and Information Type: Fish tissue analysis

Data Used to Assess Water Quality: State Water Board staff assessed SWAMP data for Cunningham, Lake to determine beneficial use support and results are as follows: 0 of 0 samples exceed the criterion for Mirex. One composite (5 fish per composite) was generated from one species: Common Carp. Details of the compositing protocol can be found in the March 2009 report entitled: "Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Study" (SWAMP, 2009). One composite was not used in the assessment because the laboratory data reporting limit(s) was above the objective and therefore the results could not be quantified with the level of certainty required by the Listing Policy.

Data Reference: [Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Survey. A Report of the Surface Water Ambient Monitoring Program \(SWAMP\). California State Water Resources Control Board, Sacramento, CA Statewide Lakes Sportfish Contamination Study 2007 2008](#)
[Contaminants in Fish from California Lakes and Reservoirs, 2007-2008: Summary Report on a Two-Year Screening Survey](#)
[Cruise report for the Surface Water Ambient Monitoring Program \(SWAMP\) bioaccumulation screening study in California lakes and reservoirs year two \(FY 07-08\). Sampling dates: April 2008 - November 2008.](#)

SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	Water Quality Control Plan for the San Francisco Bay Basin: Controllable water quality factors shall not cause a detrimental increase in concentrations of toxic substances found in bottom sediments or aquatic life. Effects on aquatic organisms, wildlife, and human health will be considered.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	The modified OEHHA Fish Contaminant Goal for mirex in fish tissue is 0.28 ppb. This screening level assumes an average body weight of 70 kg and a consumption rate of 32 g/day. A cooking reduction factor of 1 is applied for skin-off fillets. (Klasing, S., and R. Brodberg, 2008; OEHHA, 1992)
Guideline Reference:	Development of Fish Contaminant Goals and Advisory Tissue Levels for Common Contaminants in California Sport Fish: Chlordane, DDTs, Dieldrin, Methylmercury, PCBs, Selenium, and Toxaphene Expedited Cancer Potency Values and Proposed Regulatory Levels for Certain Proposition 65 Carcinogens.
Spatial Representation:	Data for this assessment unit was collected by one monitoring project: (SWB_FishLk)
Temporal Representation:	Data was collected on a single day 11/13/2008.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	Samples were collected, processed, and analyzed in accordance with the methods described in Quality Assurance Project Plan "Screening Study of Bioaccumulation in California Lakes and Reservoirs." (SWAMP, 2008).
QAPP Information Reference(s):	Quality Assurance Project Plan Screening Study of Bioaccumulation in California Lakes and Reservoirs. Moss Landing Marine Labs. Prepared for SWAMP BOG, 49 pages plus appendices and attachments

DECISION ID	65484	Region 2
Cunningham, Lake		
Pollutant:	PCBs (Polychlorinated biphenyls)	
Final Listing Decision:	Do Not List on 303(d) list (TMDL required list)	
Last Listing Cycle's Final Listing Decision:	New Decision	
Revision Status	Revised	
Impairment from Pollutant or Pollution:	Pollutant	
Regional Board Staff Conclusion:	<p>This pollutant is being considered for placement on the CWA section 303(d) List under section 3.5 of the Listing Policy. Under section 3.5 a single line of evidence is necessary to assess listing status. Three lines of evidence are available in the administrative record to assess this pollutant. One of one samples exceed the OEHHA guideline.</p> <p>Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against placing this water segment-pollutant combination on the CWA section 303(d) List.</p> <p>This conclusion is based on the staff findings that:</p> <ol style="list-style-type: none"> 1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy. 2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy. 3. One of one samples exceed the OEHHA guideline and this sample size is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating. A minimum of 16 samples is needed to determine if a beneficial use is fully supported using table 3.1. 4. Pursuant to SECTION 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met. 	
Regional Board Staff Decision Recommendation:	After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be placed on the section 303(d) list. The readily available data and information is insufficient to determine, with the power and confidence of the Listing Policy, the	

Line of Evidence (LOE) for Decision ID 65484, PCBs (Polychlorinated biphenyls)**Region 2****Cunningham, Lake**

LOE ID:	91608
Pollutant:	PCBs (Polychlorinated biphenyls)
LOE Subgroup:	Pollutant-Tissue
Matrix:	Tissue
Fraction:	Fish fillet
Beneficial Use:	Cold Freshwater Habitat
Number of Samples:	1
Number of Exceedances:	0
Data and Information Type:	Fish tissue analysis
Data Used to Assess Water Quality:	State Water Board staff assessed SWAMP data for Cunningham, Lake to determine beneficial use support and results are as follows: 0 of 1 samples exceed the criterion for PCB, Total. One composite (5 fish per composite) was generated from one species: Common Carp. Details of the compositing protocol can be found in the March 2009 report entitled: "Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Study" (SWAMP, 2009). Total PCB was assessed for as follows: PCB aroclors and congeners were summed separately and the sum that yielded the highest value was used for the assessment.
Data Reference:	Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Survey. A Report of the Surface Water Ambient Monitoring Program (SWAMP). California State Water Resources Control Board, Sacramento, CA Statewide Lakes Sportfish Contamination Study 2007 2008 Contaminants in Fish from California Lakes and Reservoirs, 2007-2008: Summary Report on a Two-Year Screening Survey Cruise report for the Surface Water Ambient Monitoring Program (SWAMP) bioaccumulation screening study in California lakes and reservoirs year two (FY 07-08). Sampling dates: April 2008 - November 2008.
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	Water Quality Control Plan for the San Francisco Bay Basin (2013): Controllable water quality factors shall not cause a detrimental increase in concentrations of toxic substances found in bottom sediments or aquatic life. Effects on aquatic organisms, wildlife, and human health will be considered.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	National Academy of Science guidelines (NAS 1972) establish a maximum total PCB concentration of 500 ug/Kg (wet weight) in tissue samples for protection of aquatic life from bioaccumulation of toxic substances.
Guideline Reference:	National Academy of Sciences. Water Quality Criteria 1972. EPA-R3-73-033. Washington, D.C.: U.S. Environmental Protection Agency
Spatial Representation:	Data for this assessment unit was collected by one monitoring project: (SWB_FishLk)
Temporal Representation:	Data was collected on a single day 11/13/2008.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	Samples were collected, processed, and analyzed in accordance with the methods described in Quality Assurance Project Plan "Screening Study of Bioaccumulation in California Lakes and Reservoirs." (SWAMP, 2008).
QAPP Information Reference(s):	Quality Assurance Project Plan Screening Study of Bioaccumulation in California Lakes and Reservoirs. Moss Landing Marine Labs. Prepared for SWAMP BOG. 49 pages plus appendices and attachments

Line of Evidence (LOE) for Decision ID 65484, PCBs (Polychlorinated biphenyls)**Region 2**

Cunningham, Lake

LOE ID:	91607
Pollutant:	PCBs (Polychlorinated biphenyls)
LOE Subgroup:	Pollutant-Tissue
Matrix:	Tissue
Fraction:	Fish fillet
Beneficial Use:	Warm Freshwater Habitat
Number of Samples:	1
Number of Exceedances:	0
Data and Information Type:	Fish tissue analysis
Data Used to Assess Water Quality:	State Water Board staff assessed SWAMP data for Cunningham, Lake to determine beneficial use support and results are as follows: 0 of 1 samples exceed the criterion for PCB, Total. One composite (5 fish per composite) was generated from one species: Common Carp. Details of the compositing protocol can be found in the March 2009 report entitled: "Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Study" (SWAMP, 2009). Total PCB was assessed for as follows: PCB aroclors and congeners were summed separately and the sum that yielded the highest value was used for the assessment.
Data Reference:	Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Survey. A Report of the Surface Water Ambient Monitoring Program (SWAMP). California State Water Resources Control Board, Sacramento, CA Statewide Lakes Sportfish Contamination Study 2007 2008 Contaminants in Fish from California Lakes and Reservoirs, 2007-2008: Summary Report on a Two-Year Screening Survey Cruise report for the Surface Water Ambient Monitoring Program (SWAMP) bioaccumulation screening study in California lakes and reservoirs year two (FY 07-08). Sampling dates: April 2008 - November 2008.
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	Water Quality Control Plan for the San Francisco Bay Basin (2013): Controllable water quality factors shall not cause a detrimental increase in concentrations of toxic substances found in bottom sediments or aquatic life. Effects on aquatic organisms, wildlife, and human health will be considered.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	National Academy of Science guidelines (NAS 1972) establish a maximum total PCB concentration of 500 ug/Kg (wet weight) in tissue samples for protection of aquatic life from bioaccumulation of toxic substances.
Guideline Reference:	National Academy of Sciences. Water Quality Criteria 1972. EPA-R3-73-033. Washington, D.C.: U.S. Environmental Protection Agency
Spatial Representation:	Data for this assessment unit was collected by one monitoring project: (SWB_FishLk)
Temporal Representation:	Data was collected on a single day 11/13/2008.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	Samples were collected, processed, and analyzed in accordance with the methods described in Quality Assurance Project Plan "Screening Study of Bioaccumulation in California Lakes and Reservoirs." (SWAMP, 2008).
QAPP Information Reference(s):	Quality Assurance Project Plan Screening Study of Bioaccumulation in California Lakes and Reservoirs. Moss Landing Marine Labs. Prepared for SWAMP BOG. 49 pages plus appendices and attachments

Line of Evidence (LOE) for Decision ID 65484, PCBs (Polychlorinated biphenyls)

Region 2

Cunningham, Lake

LOE ID: 91609

Pollutant:	PCBs (Polychlorinated biphenyls)
LOE Subgroup:	Pollutant-Tissue
Matrix:	Tissue
Fraction:	Fish fillet
Beneficial Use:	Commercial or recreational collection of fish, shellfish, or organisms
Number of Samples:	1
Number of Exceedances:	1
Data and Information Type:	Fish tissue analysis
Data Used to Assess Water Quality:	State Water Board staff assessed SWAMP data for Cunningham, Lake to determine beneficial use support and results are as follows: 1 of 1 samples exceed the criterion for PCB, Total. One composite (5 fish per composite) was generated from one species: Common Carp. Details of the compositing protocol can be found in the March 2009 report entitled: "Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Study" (SWAMP, 2009). Total PCB was assessed for as follows: PCB aroclors and congeners were summed separately and the sum that yielded the highest value was used for the assessment.
Data Reference:	Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Survey. A Report of the Surface Water Ambient Monitoring Program (SWAMP). California State Water Resources Control Board, Sacramento, CA Statewide Lakes Sportfish Contamination Study 2007 2008 Contaminants in Fish from California Lakes and Reservoirs, 2007-2008: Summary Report on a Two-Year Screening Survey Cruise report for the Surface Water Ambient Monitoring Program (SWAMP) bioaccumulation screening study in California lakes and reservoirs year two (FY 07-08). Sampling dates: April 2008 - November 2008.
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	Water Quality Control Plan for the San Francisco Bay Basin (2013): Controllable water quality factors shall not cause a detrimental increase in concentrations of toxic substances found in bottom sediments or aquatic life. Effects on aquatic organisms, wildlife, and human health will be considered.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	The modified OEHHA Fish Contaminant Goal for polychlorinated biphenyls in fish tissue is 2.6 ppb. This screening level assumes an average body weight of 70 kg and a consumption rate of 32 g/day for a 30 year exposure over a 70-year lifetime. This constituent is a carcinogen therefore the risk level is set to one in a million. A cooking reduction factor of 1 is applied for skin-off fillets. (Klasing, S., and R. Brodberg, 2008)
Guideline Reference:	Development of Fish Contaminant Goals and Advisory Tissue Levels for Common Contaminants in California Sport Fish: Chlordane, DDTs, Dieldrin, Methylmercury, PCBs, Selenium, and Toxaphene
Spatial Representation:	Data for this assessment unit was collected by one monitoring project: (SWB_FishLk)
Temporal Representation:	Data was collected on a single day 11/13/2008.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	Samples were collected, processed, and analyzed in accordance with the methods described in Quality Assurance Project Plan "Screening Study of Bioaccumulation in California Lakes and Reservoirs." (SWAMP, 2008).
QAPP Information Reference(s):	Quality Assurance Project Plan Screening Study of Bioaccumulation in California Lakes and Reservoirs. Moss Landing Marine Labs. Prepared for SWAMP BOG, 49 pages plus appendices and attachments

DECISION ID	61658	Region 2
Cunningham, Lake		

Pollutant:	Selenium
Final Listing Decision:	Do Not List on 303(d) list (TMDL required list)

Last Listing Cycle's Final Listing Decision:
Revision Status
Impairment from Pollutant or Pollution:

New Decision

Revised
Pollutant

Regional Board Staff Conclusion:

This pollutant is being considered for placement on the CWA section 303(d) List under section 3.5 of the Listing Policy. Under section 3.5 a single line of evidence is necessary to assess listing status. One line of evidence is available in the administrative record to assess this pollutant. Zero of one samples exceed the guideline.

Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against placing this water segment-pollutant combination on the CWA section 303(d) List.

This conclusion is based on the staff findings that:

1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy.
2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy.
3. Zero of one samples exceed the guideline and this sample size is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating. A minimum of 16 samples is needed to determine if a beneficial use is fully supported using table 3.1.
4. Pursuant to SECTION 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.

Regional Board Staff Decision Recommendation:

After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be placed on the section 303(d) list. The readily available data and information is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating.

**Line of Evidence (LOE) for Decision ID 61658, Selenium
Cunningham, Lake**

Region 2

LOE ID: 91610

Pollutant: Selenium
LOE Subgroup: Pollutant-Tissue
Matrix: Tissue
Fraction: Fish fillet

Beneficial Use: Commercial or recreational collection of fish, shellfish, or organisms

Number of Samples: 1
Number of Exceedances: 0

Data and Information Type: Fish tissue analysis
Data Used to Assess Water Quality: State Water Board staff assessed SWAMP data for Cunningham, Lake to determine beneficial use support and results are as follows: 0 of 1 samples exceed the criterion for Selenium. Two composites (5 fish per composite) were generated from one species: Common Carp. The 2 composites for Common Carp were not independent and so were averaged. Details of the compositing protocol can be found in the March 2009 report entitled: "Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Study" (SWAMP, 2009).

Data Reference: [Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Survey. A Report of the Surface Water Ambient Monitoring Program \(SWAMP\). California State Water Resources Control Board, Sacramento, CA Statewide Lakes Sportfish Contamination Study 2007 2008](#)
[Contaminants in Fish from California Lakes and Reservoirs, 2007-2008: Summary Report on a Two-Year Screening Survey](#)
[Cruise report for the Surface Water Ambient Monitoring Program \(SWAMP\) bioaccumulation screening study in California lakes and reservoirs year two \(FY 07-08\). Sampling dates: April 2008 - November 2008.](#)

SWAMP Data:

SWAMP

Water Quality Objective/Criterion:

Water Quality Control Plan for the San Francisco Bay Basin (2013): Controllable water quality factors shall not cause a detrimental increase in concentrations of toxic substances found in bottom sediments or aquatic life. Effects on aquatic organisms, wildlife, and human health will be considered.

Objective/Criterion Reference:

[Water Quality Control Plan \(Basin Plan\) San Francisco Bay Basin \(Region 2\)](#)

Evaluation Guideline:

The OEHHA Fish Contaminant Goal for selenium in fish tissue is 7.4 ppm. This screening level assumes an average body weight of 70 kg and a consumption rate of 32 g/day. A background dietary consumption rate of 0.114 mg/day is applied for this micronutrient. (Klasing, S., and R. Brodberg, 2008)

Guideline Reference:

[Development of Fish Contaminant Goals and Advisory Tissue Levels for Common Contaminants in California Sport Fish: Chlordane, DDTs, Dieldrin, Methylmercury, PCBs, Selenium, and Toxaphene](#)

Spatial Representation:

Data for this assessment unit was collected by one monitoring project: (SWB_FishLk)

Temporal Representation:

Data was collected on a single day 11/13/2008.

Environmental Conditions:

Staff is not aware of any special conditions that might affect interpretation of the data.

QAPP Information:

Samples were collected, processed, and analyzed in accordance with the methods described in Quality Assurance Project Plan "Screening Study of Bioaccumulation in California Lakes and Reservoirs." (SWAMP, 2008).

QAPP Information Reference(s):

[Quality Assurance Project Plan Screening Study of Bioaccumulation in California Lakes and Reservoirs. Moss Landing Marine Labs. Prepared for SWAMP BOG. 49 pages plus appendices and attachments](#)

Draft California 2016 Integrated Report (303(d) List/305(b) Report)

Supporting Information

Regional Board 2 - San Francisco Bay Region

Water Body Name: Open Ocean - Outside of Golden Gate
Water Body ID: CAO2021001020110912161453
Water Body Type: Ocean

DECISION ID 65064 **Region 2**
Open Ocean - Outside of Golden Gate

Pollutant: Acenaphthene
Final Listing Decision: Do Not List on 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision: New Decision
Revision Status Revised
Impairment from Pollutant or Pollution: Pollutant

Regional Board Staff Conclusion: This pollutant is being considered for placement on the CWA section 303(d) List under section 3.1 of the Listing Policy. Under section 3.1 a single line of evidence is necessary to assess listing status.

Two lines of evidence are available in the administrative record to assess this pollutant. Zero of seventeen samples exceed the guideline.

Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against placing this water segment-pollutant combination on the CWA section 303(d) List in the Water Quality Limited Segments category.

This conclusion is based on the staff findings that:

1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy.
2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy.
3. Zero of seventeen samples exceed the guideline and this does not exceed the allowable frequency listed in Table 3.1 of the Listing Policy.
4. Pursuant to section 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.

Regional Board Staff Decision Recommendation: After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be placed on the section 303(d) list because applicable water quality standards are not being exceeded.

Line of Evidence (LOE) for Decision ID 65064, Acenaphthene **Region 2**
Open Ocean - Outside of Golden Gate

LOE ID: 92386
Pollutant: Acenaphthene
LOE Subgroup: Pollutant-Water
Matrix: Water
Fraction: Dissolved
Beneficial Use: Marine Habitat
Number of Samples: 16
Number of Exceedances: 0

Data and Information Type:	PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality:	State Water Board staff assessed SFEI data for Open Ocean - Outside of Golden Gate to determine beneficial use support and results are as follows: 0 of 16 samples exceed the criterion for Acenaphthene.
Data Reference:	Regional Monitoring Program data, Feb. 1993-Sep. 2008
SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	No individual pesticide or combination of pesticides shall be present in concentrations that adversely affect beneficial uses.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	The available data for acenaphthene indicate that chronic toxicity to saltwater aquatic life occurs at concentrations as low as 710 ug/L and would occur at lower concentrations among species that are more sensitive than those tested. (USEPA Gold Book - EPA 440/5-86-001)
Guideline Reference:	Quality Criteria for Water 1986. United States Environmental Protection Agency. Office of Water. Regulations and Standards. Washington D.C. EPA 440/5-86-001.
Spatial Representation:	Data for this line of evidence for Open Ocean - Outside of Golden Gate was collected at 1 monitoring site [Golden Gate - BC20]
Temporal Representation:	Data was collected over the time period 2/8/1996-8/10/2007.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	The 1999 Quality Assurance Project Plan Regional Monitoring Program for Trace Substances was used.
QAPP Information Reference(s):	1999 Quality Assurance Project Plan Regional Monitoring Program for Trace Substances

Line of Evidence (LOE) for Decision ID 65064, Acenaphthene

Region 2

Open Ocean - Outside of Golden Gate

LOE ID:	92387
Pollutant:	Acenaphthene
LOE Subgroup:	Pollutant-Water
Matrix:	Water
Fraction:	Total
Beneficial Use:	Commercial or recreational collection of fish, shellfish, or organisms
Number of Samples:	17
Number of Exceedances:	0
Data and Information Type:	PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality:	State Water Board staff assessed SFEI data for Open Ocean - Outside of Golden Gate to determine beneficial use support and results are as follows: 0 of 17 samples exceed the criterion for Acenaphthene.
Data Reference:	Regional Monitoring Program data, Feb. 1993-Sep. 2008
SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	The Acenaphthene criteria for the protection of human health from consumption of organisms only is 2,700 ug/L (California Toxics Rule, 2000).
Objective/Criterion Reference:	Code of Federal Regulations 40 part 131.38 Establishment of numeric criteria for priority toxic pollutants for the State of California. 7/1/2011 Edition
Evaluation Guideline:	
Guideline Reference:	
Spatial Representation:	Data for this line of evidence for Open Ocean - Outside of Golden Gate was collected at 1 monitoring site [Golden Gate - BC20]
Temporal Representation:	Data was collected over the time period 2/8/1996-7/14/2008.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.

QAPP Information: The 1999 Quality Assurance Project Plan Regional Monitoring Program for Trace Substances was used.

QAPP Information Reference(s): [1999 Quality Assurance Project Plan Regional Monitoring Program for Trace Substances](#)

DECISION ID	65065	Region 2
Open Ocean - Outside of Golden Gate		

Pollutant: Aldrin

Final Listing Decision: Do Not List on 303(d) list (TMDL required list)

Last Listing Cycle's Final Listing Decision: New Decision

Revision Status: Revised

Impairment from Pollutant or Pollution: Pollutant

Regional Board Staff Conclusion: This pollutant is being considered for placement on the CWA section 303(d) List under section 3.1 of the Listing Policy. Under section 3.1 a single line of evidence is necessary to assess listing status. Two lines of evidence are available in the administrative record to assess this pollutant. Zero of two samples exceed the guideline.

Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against placing this water segment-pollutant combination on the CWA section 303(d) List.

This conclusion is based on the staff findings that:

1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy.
2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy.
3. Zero of two samples exceed the guideline and this sample size is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating. A minimum of 16 samples is needed to determine if a beneficial use is fully supported using table 3.1.
4. Pursuant to SECTION 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.

Regional Board Staff Decision Recommendation: After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be placed on the section 303(d) list. The readily available data and information is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating.

Line of Evidence (LOE) for Decision ID 65065, Aldrin	Region 2
Open Ocean - Outside of Golden Gate	

LOE ID: 92388

Pollutant: Aldrin

LOE Subgroup: Pollutant-Water

Matrix: Water

Fraction: Dissolved

Beneficial Use: Marine Habitat

Number of Samples: 2

Number of Exceedances: 0

Data and Information Type: PHYSICAL/CHEMICAL MONITORING

Data Used to Assess Water Quality: State Water Board staff assessed SFEI data for Open Ocean - Outside of Golden Gate to determine beneficial use support and results are as follows: 0 of 2 samples exceed the criterion for Aldrin.

Data Reference: [Regional Monitoring Program data, Feb. 1993-Sep. 2008](#)

SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	The aldrin criterion maximum concentration to protect aquatic life in saline water is 1.3 ug/L (California Toxics Rule, 2000).
Objective/Criterion Reference:	Code of Federal Regulations 40 part 131.38 Establishment of numeric criteria for priority toxic pollutants for the State of California. 7/1/2011 Edition
Evaluation Guideline:	
Guideline Reference:	
Spatial Representation:	Data for this line of evidence for Open Ocean - Outside of Golden Gate was collected at 1 monitoring site [Golden Gate - BC20]
Temporal Representation:	Data was collected over the time period 7/19/2004-8/10/2007.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	The 1999 Quality Assurance Project Plan Regional Monitoring Program for Trace Substances was used.
QAPP Information Reference(s):	1999 Quality Assurance Project Plan Regional Monitoring Program for Trace Substances

Line of Evidence (LOE) for Decision ID 65065, Aldrin

Region 2

Open Ocean - Outside of Golden Gate

LOE ID:	92389
Pollutant:	Aldrin
LOE Subgroup:	Pollutant-Water
Matrix:	Water
Fraction:	Total
Beneficial Use:	Commercial or recreational collection of fish, shellfish, or organisms
Number of Samples:	1
Number of Exceedances:	0
Data and Information Type:	PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality:	State Water Board staff assessed SFEI data for Open Ocean - Outside of Golden Gate to determine beneficial use support and results are as follows: 0 of 1 samples exceed the criterion for Aldrin.
Data Reference:	Regional Monitoring Program data, Feb. 1993-Sep. 2008
SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	The Aldrin criteria for the protection of human health from consumption of organisms only is 0.00014 ug/L (California Toxics Rule, 2000).
Objective/Criterion Reference:	Code of Federal Regulations 40 part 131.38 Establishment of numeric criteria for priority toxic pollutants for the State of California. 7/1/2011 Edition
Evaluation Guideline:	
Guideline Reference:	
Spatial Representation:	Data for this line of evidence for Open Ocean - Outside of Golden Gate was collected at 1 monitoring site [Golden Gate - BC20]
Temporal Representation:	Data was collected on a single day 8/10/2007.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	The 1999 Quality Assurance Project Plan Regional Monitoring Program for Trace Substances was used.
QAPP Information Reference(s):	1999 Quality Assurance Project Plan Regional Monitoring Program for Trace Substances

DECISION ID 65066

Region 2

Open Ocean - Outside of Golden Gate

Pollutant:	Anthracene
Final Listing Decision:	Do Not List on 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision:	New Decision
Revision Status	Revised
Impairment from Pollutant or Pollution:	Pollutant

Regional Board Staff Conclusion: This pollutant is being considered for placement on the CWA section 303(d) List under section 3.1 of the Listing Policy. Under section 3.1 a single line of evidence is necessary to assess listing status.

One line of evidence is available in the administrative record to assess this pollutant. Zero of twenty-one samples exceed the guideline.

Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against placing this water segment-pollutant combination on the CWA section 303(d) List in the Water Quality Limited Segments category.

This conclusion is based on the staff findings that:

1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy.
2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy.
3. Zero of twenty-one samples exceed the guideline and this does not exceed the allowable frequency listed in Table 3.1 of the Listing Policy.
4. Pursuant to section 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.

Regional Board Staff Decision Recommendation: After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be placed on the section 303(d) list because applicable water quality standards are not being exceeded.

Line of Evidence (LOE) for Decision ID 65066, Anthracene Open Ocean - Outside of Golden Gate

Region 2

LOE ID:	92391
Pollutant:	Anthracene
LOE Subgroup:	Pollutant-Water
Matrix:	Water
Fraction:	Total
Beneficial Use:	Commercial or recreational collection of fish, shellfish, or organisms
Number of Samples:	21
Number of Exceedances:	0
Data and Information Type:	PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality:	State Water Board staff assessed SFEI data for Open Ocean - Outside of Golden Gate to determine beneficial use support and results are as follows: 0 of 21 samples exceed the criterion for Anthracene.
Data Reference:	Regional Monitoring Program data, Feb. 1993-Sep. 2008
SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	The Anthracene criteria for the protection of human health from consumption of organisms only is 110,000 ug/L (California Toxics Rule, 2000).
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	
Guideline Reference:	Code of Federal Regulations 40 part 131.38 Establishment of numeric criteria for priority toxic pollutants for the State of California. 7/1/2011 Edition

Spatial Representation:	Data for this line of evidence for Open Ocean - Outside of Golden Gate was collected at 1 monitoring site [Golden Gate - BC20]
Temporal Representation:	Data was collected over the time period 3/3/1993-8/10/2007.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	The 1999 Quality Assurance Project Plan Regional Monitoring Program for Trace Substances was used.
QAPP Information Reference(s):	1999 Quality Assurance Project Plan Regional Monitoring Program for Trace Substances

DECISION ID	65068	Region 2
Open Ocean - Outside of Golden Gate		

Pollutant:	Arsenic
Final Listing Decision:	Do Not List on 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision:	New Decision
Revision Status	Revised
Impairment from Pollutant or Pollution:	Pollutant

Regional Board Staff Conclusion: This pollutant is being considered for placement on the CWA section 303(d) List under section 3.1 of the Listing Policy. Under section 3.1 a single line of evidence is necessary to assess listing status.

Two lines of evidence are available in the administrative record to assess this pollutant. Zero of twenty-eight samples exceed the guideline.

Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against placing this water segment-pollutant combination on the CWA section 303(d) List in the Water Quality Limited Segments category.

This conclusion is based on the staff findings that:

1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy.
2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy.
3. Zero of twenty-eight samples exceed the guideline and this does not exceed the allowable frequency listed in Table 3.1 of the Listing Policy.
4. Pursuant to section 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.

Regional Board Staff Decision Recommendation: After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be placed on the section 303(d) list because applicable water quality standards are not being exceeded.

Line of Evidence (LOE) for Decision ID 65068, Arsenic	Region 2
Open Ocean - Outside of Golden Gate	

LOE ID:	92393
Pollutant:	Arsenic
LOE Subgroup:	Pollutant-Water
Matrix:	Water
Fraction:	Dissolved
Beneficial Use:	Marine Habitat
Number of Samples:	28
Number of Exceedances:	0
Data and Information Type:	PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality:	State Water Board staff assessed SFEI data for Open Ocean - Outside of Golden Gate to determine beneficial use support and results are as follows: 0 of 28 samples exceed the

Data Reference:	<p>criterion for Arsenic.</p> Regional Monitoring Program data, Feb. 1993-Sep. 2008
SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	The dissolved arsenic criterion continuous concentration (expressed as a 4-day average) to protect aquatic life in saline water is 0.036 mg/L (California Toxics Rule, 2000).
Objective/Criterion Reference:	Code of Federal Regulations 40 part 131.38 Establishment of numeric criteria for priority toxic pollutants for the State of California. 7/1/2011 Edition
Evaluation Guideline:	
Guideline Reference:	
Spatial Representation:	Data for this line of evidence for Open Ocean - Outside of Golden Gate was collected at 1 monitoring site [Golden Gate - BC20]
Temporal Representation:	Data was collected over the time period 3/3/1993-7/14/2008.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	The 1999 Quality Assurance Project Plan Regional Monitoring Program for Trace Substances was used.
QAPP Information Reference(s):	1999 Quality Assurance Project Plan Regional Monitoring Program for Trace Substances

Line of Evidence (LOE) for Decision ID 65068, Arsenic

Region 2

Open Ocean - Outside of Golden Gate

LOE ID:	92392
Pollutant:	Arsenic
LOE Subgroup:	Pollutant-Water
Matrix:	Water
Fraction:	Total
Beneficial Use:	Commercial or recreational collection of fish, shellfish, or organisms
Number of Samples:	28
Number of Exceedances:	0
Data and Information Type:	PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality:	State Water Board staff assessed SFEI data for Open Ocean - Outside of Golden Gate to determine beneficial use support and results are as follows: 0 of 28 samples exceed the criterion for Arsenic.
Data Reference:	Regional Monitoring Program data, Feb. 1993-Sep. 2008
SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	Surface?waters?shall?not?contain?concentrations?of?chemical?constituents?in?amounts?that?adversely?affect?any?designated?beneficial?use.
Objective/Criterion Reference:	Code of Federal Regulations 40 part 131.38 Establishment of numeric criteria for priority toxic pollutants for the State of California. 7/1/2011 Edition
Evaluation Guideline:	The Arsenic criteria for the protection of human health from consumption of organisms only is 0.14 ug/L (National Recommended Water Quality Criteria, 2009).
Guideline Reference:	National Recommended Water Quality Criteria. United States Environmental Protection Agency. Office of Water. Office of Science and Technology
Spatial Representation:	Data for this line of evidence for Open Ocean - Outside of Golden Gate was collected at 1 monitoring site [Golden Gate - BC20]
Temporal Representation:	Data was collected over the time period 3/3/1993-7/14/2008.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	The 1999 Quality Assurance Project Plan Regional Monitoring Program for Trace Substances was used.
QAPP Information Reference(s):	1999 Quality Assurance Project Plan Regional Monitoring Program for Trace Substances

DECISION ID	65069	Region 2
Open Ocean - Outside of Golden Gate		

Pollutant:	Benzo(a)pyrene (3,4-Benzopyrene -7-d)
Final Listing Decision:	Do Not List on 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision:	New Decision
Revision Status	Revised
Impairment from Pollutant or Pollution:	Pollutant
Regional Board Staff Conclusion:	<p>This pollutant is being considered for placement on the CWA section 303(d) List under section 3.1 of the Listing Policy. Under section 3.1 a single line of evidence is necessary to assess listing status.</p> <p>One line of evidence is available in the administrative record to assess this pollutant. Zero of twenty-two samples exceed the guideline.</p> <p>Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against placing this water segment-pollutant combination on the CWA section 303(d) List in the Water Quality Limited Segments category.</p> <p>This conclusion is based on the staff findings that:</p> <ol style="list-style-type: none"> 1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy. 2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy. 3. Zero of twenty-two samples exceed the guideline and this does not exceed the allowable frequency listed in Table 3.1 of the Listing Policy. 4. Pursuant to section 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.
Regional Board Staff Decision Recommendation:	After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be placed on the section 303(d) list because applicable water quality standards are not being exceeded.

Line of Evidence (LOE) for Decision ID 65069, Benzo(a)pyrene (3,4-Benzopyrene -7-d)	Region 2
Open Ocean - Outside of Golden Gate	

LOE ID:	92394
Pollutant:	Benzo(a)pyrene (3,4-Benzopyrene -7-d)
LOE Subgroup:	Pollutant-Water
Matrix:	Water
Fraction:	Total
Beneficial Use:	Commercial or recreational collection of fish, shellfish, or organisms
Number of Samples:	22
Number of Exceedances:	0
Data and Information Type:	PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality:	State Water Board staff assessed SFEI data for Open Ocean - Outside of Golden Gate to determine beneficial use support and results are as follows: 0 of 22 samples exceed the criterion for Indeno(1, 2, 3-C, D)Pyrene.
Data Reference:	Regional Monitoring Program data, Feb. 1993-Sep. 2008
SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	The Indeno(1, 2, 3-C, D)Pyrene criteria for the protection of human health from consumption of organisms only is 0.049 ug/L (California Toxics Rule, 2000).
Objective/Criterion Reference:	Code of Federal Regulations 40 part 131.38 Establishment of numeric criteria for priority

Evaluation Guideline:

Guideline Reference:

Spatial Representation:

Data for this line of evidence for Open Ocean - Outside of Golden Gate was collected at 1 monitoring site [Golden Gate - BC20]

Temporal Representation:

Data was collected over the time period 3/3/1993-8/22/2006.

Environmental Conditions:

Staff is not aware of any special conditions that might affect interpretation of the data.

QAPP Information:

The 1999 Quality Assurance Project Plan Regional Monitoring Program for Trace Substances was used.

QAPP Information Reference(s):

[1999 Quality Assurance Project Plan Regional Monitoring Program for Trace Substances](#)

DECISION ID	65070	Region 2
Open Ocean - Outside of Golden Gate		

Pollutant:	Cadmium
Final Listing Decision:	Do Not List on 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision:	New Decision
Revision Status	Revised
Impairment from Pollutant or Pollution:	Pollutant

Regional Board Staff Conclusion:

This pollutant is being considered for placement on the CWA section 303(d) List under section 3.1 of the Listing Policy. Under section 3.1 a single line of evidence is necessary to assess listing status.

One line of evidence is available in the administrative record to assess this pollutant. Zero of twenty-eight samples exceed the guideline.

Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against placing this water segment-pollutant combination on the CWA section 303(d) List in the Water Quality Limited Segments category.

This conclusion is based on the staff findings that:

1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy.
2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy.
3. Zero of twenty-eight samples exceed the guideline and this does not exceed the allowable frequency listed in Table 3.1 of the Listing Policy.
4. Pursuant to section 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.

Regional Board Staff Decision Recommendation:

After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be placed on the section 303(d) list because applicable water quality standards are not being exceeded.

Line of Evidence (LOE) for Decision ID 65070, Cadmium	Region 2
Open Ocean - Outside of Golden Gate	

LOE ID:	92396
Pollutant:	Cadmium
LOE Subgroup:	Pollutant-Water
Matrix:	Water
Fraction:	Dissolved
Beneficial Use:	Marine Habitat
Number of Samples:	28

Number of Exceedances: 0

Data and Information Type: PHYSICAL/CHEMICAL MONITORING

Data Used to Assess Water Quality: State Water Board staff assessed SFEI data for Open Ocean - Outside of Golden Gate to determine beneficial use support and results are as follows: 0 of 28 samples exceed the criterion for Cadmium.

Data Reference: [Regional Monitoring Program data, Feb. 1993-Sep. 2008](#)

SWAMP Data: Non-SWAMP

Water Quality Objective/Criterion: The dissolved cadmium criterion continuous concentration (expressed as a 4-day average) to protect aquatic life in saline water is 0.093 mg/L (California Toxics Rule, 2000).

Objective/Criterion Reference: [Code of Federal Regulations 40 part 131.38 Establishment of numeric criteria for priority toxic pollutants for the State of California. 7/1/2011 Edition](#)

Evaluation Guideline:

Guideline Reference:

Spatial Representation: Data for this line of evidence for Open Ocean - Outside of Golden Gate was collected at 1 monitoring site [Golden Gate - BC20]

Temporal Representation: Data was collected over the time period 3/3/1993-7/14/2008.

Environmental Conditions: Staff is not aware of any special conditions that might affect interpretation of the data.

QAPP Information: The 1999 Quality Assurance Project Plan Regional Monitoring Program for Trace Substances was used.

QAPP Information Reference(s): [1999 Quality Assurance Project Plan Regional Monitoring Program for Trace Substances](#)

DECISION ID	65071	Region 2
Open Ocean - Outside of Golden Gate		

Pollutant: Chlordane

Final Listing Decision: Do Not List on 303(d) list (TMDL required list)

Last Listing Cycle's Final Listing Decision: New Decision

Revision Status: Revised

Impairment from Pollutant or Pollution: Pollutant

Regional Board Staff Conclusion: This pollutant is being considered for placement on the CWA section 303(d) List under section 3.1 of the Listing Policy. Under section 3.1 a single line of evidence is necessary to assess listing status.

Two lines of evidence are available in the administrative record to assess this pollutant. Zero of twenty-five samples exceed the guideline.

Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against placing this water segment-pollutant combination on the CWA section 303(d) List in the Water Quality Limited Segments category.

This conclusion is based on the staff findings that:

1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy.
2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy.
3. Zero of twenty-five samples exceed the guideline and this does not exceed the allowable frequency listed in Table 3.1 of the Listing Policy.
4. Pursuant to section 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.

Regional Board Staff Decision Recommendation: After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be placed on the section 303(d) list because applicable water quality standards are not being exceeded.

Open Ocean - Outside of Golden Gate

LOE ID:	92397
Pollutant:	Chlordane
LOE Subgroup:	Pollutant-Water
Matrix:	Water
Fraction:	Dissolved
Beneficial Use:	Marine Habitat
Number of Samples:	24
Number of Exceedances:	0
Data and Information Type:	PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality:	State Water Board staff assessed SFEI data for Open Ocean - Outside of Golden Gate to determine beneficial use support and results are as follows: 0 of 24 samples exceed the criterion for Chlordane, Total.
Data Reference:	Regional Monitoring Program data, Feb. 1993-Sep. 2008
SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	The chlordane criterion continuous concentration (expressed as a 4-day average) to protect aquatic life in saline water is 0.004 ug/L (California Toxics Rule, 2000).
Objective/Criterion Reference:	Code of Federal Regulations 40 part 131.38 Establishment of numeric criteria for priority toxic pollutants for the State of California. 7/1/2011 Edition
Evaluation Guideline:	
Guideline Reference:	
Spatial Representation:	Data for this line of evidence for Open Ocean - Outside of Golden Gate was collected at 1 monitoring site [Golden Gate - BC20]
Temporal Representation:	Data was collected over the time period 3/3/1993-8/10/2007.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	The 1999 Quality Assurance Project Plan Regional Monitoring Program for Trace Substances was used.
QAPP Information Reference(s):	1999 Quality Assurance Project Plan Regional Monitoring Program for Trace Substances

Line of Evidence (LOE) for Decision ID 65071, Chlordane

Region 2

Open Ocean - Outside of Golden Gate

LOE ID:	92398
Pollutant:	Chlordane
LOE Subgroup:	Pollutant-Water
Matrix:	Water
Fraction:	Total
Beneficial Use:	Commercial or recreational collection of fish, shellfish, or organisms
Number of Samples:	25
Number of Exceedances:	0
Data and Information Type:	PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality:	State Water Board staff assessed SFEI data for Open Ocean - Outside of Golden Gate to determine beneficial use support and results are as follows: 0 of 25 samples exceed the criterion for Chlordane, Total.
Data Reference:	Regional Monitoring Program data, Feb. 1993-Sep. 2008
SWAMP Data:	Non-SWAMP

Water Quality Objective/Criterion: The Chlordane, Total criteria for the protection of human health from consumption of organisms only is 0.00059 ug/L (California Toxics Rule, 2000).

Objective/Criterion Reference: [Code of Federal Regulations 40 part 131.38 Establishment of numeric criteria for priority toxic pollutants for the State of California. 7/1/2011 Edition](#)

Evaluation Guideline:

Guideline Reference:

Spatial Representation: Data for this line of evidence for Open Ocean - Outside of Golden Gate was collected at 1 monitoring site [Golden Gate - BC20]

Temporal Representation: Data was collected over the time period 3/3/1993-8/10/2007.

Environmental Conditions: Staff is not aware of any special conditions that might affect interpretation of the data.

QAPP Information: The 1999 Quality Assurance Project Plan Regional Monitoring Program for Trace Substances was used.

QAPP Information Reference(s): [1999 Quality Assurance Project Plan Regional Monitoring Program for Trace Substances](#)

DECISION ID	65072	Region 2
Open Ocean - Outside of Golden Gate		

Pollutant: Chlorpyrifos

Final Listing Decision: Do Not List on 303(d) list (TMDL required list)

Last Listing Cycle's Final Listing Decision: New Decision

Revision Status Revised

Impairment from Pollutant or Pollution: Pollutant

Regional Board Staff Conclusion:

This pollutant is being considered for placement on the CWA section 303(d) List under section 3.1 of the Listing Policy. Under section 3.1 a single line of evidence is necessary to assess listing status.

One line of evidence is available in the administrative record to assess this pollutant. Zero of twenty-one samples exceed the guideline.

Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against placing this water segment-pollutant combination on the CWA section 303(d) List in the Water Quality Limited Segments category.

This conclusion is based on the staff findings that:

1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy.
2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy.
3. Zero of twenty-one samples exceed the guideline and this does not exceed the allowable frequency listed in Table 3.1 of the Listing Policy.
4. Pursuant to section 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.

Regional Board Staff Decision Recommendation: After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be placed on the section 303(d) list because applicable water quality standards are not being exceeded.

Line of Evidence (LOE) for Decision ID 65072, Chlorpyrifos	Region 2
Open Ocean - Outside of Golden Gate	

LOE ID: 92399

Pollutant: Chlorpyrifos

LOE Subgroup: Pollutant-Water

Matrix: Water

Fraction: Dissolved

Beneficial Use:	Marine Habitat
Number of Samples:	21
Number of Exceedances:	0
Data and Information Type:	PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality:	State Water Board staff assessed SFEI data for Open Ocean - Outside of Golden Gate to determine beneficial use support and results are as follows: 0 of 21 samples exceed the criterion for Chlorpyrifos.
Data Reference:	Regional Monitoring Program data, Feb. 1993-Sep. 2008
SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	All waters shall be maintained free of toxic substances in concentrations which are toxic to, or which produce detrimental physiological responses in, human, plant, animal, or aquatic life. (Basin Plan).
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	The saltwater criterion continuous concentration to protect aquatic organisms is 0.009 ug/L (Siepmann and Finlayson 2000).
Guideline Reference:	10-Day toxicity test exposing freshwater amphipods (Hyaella azteca) to fenprothrin applied to formulated sediment under static-renewal conditions. Springborn Smithers Laboratories Study No. 13656.6137. Wareham, MA. Submitted to pyrethroid working group. DPR record number 254438
Spatial Representation:	Data for this line of evidence for Open Ocean - Outside of Golden Gate was collected at 1 monitoring site [Golden Gate - BC20]
Temporal Representation:	Data was collected over the time period 3/3/1993-8/12/2005.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	The 1999 Quality Assurance Project Plan Regional Monitoring Program for Trace Substances was used.
QAPP Information Reference(s):	1999 Quality Assurance Project Plan Regional Monitoring Program for Trace Substances

DECISION ID	65073	Region 2
Open Ocean - Outside of Golden Gate		

Pollutant:	Chrysene (C1-C4)
Final Listing Decision:	Do Not List on 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision:	New Decision
Revision Status	Revised
Impairment from Pollutant or Pollution:	Pollutant
Regional Board Staff Conclusion:	<p>This pollutant is being considered for placement on the CWA section 303(d) List under section 3.1 of the Listing Policy. Under section 3.1 a single line of evidence is necessary to assess listing status.</p> <p>One line of evidence is available in the administrative record to assess this pollutant. Zero of twenty-four samples exceed the guideline.</p> <p>Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against placing this water segment-pollutant combination on the CWA section 303(d) List in the Water Quality Limited Segments category.</p> <p>This conclusion is based on the staff findings that:</p> <ol style="list-style-type: none"> 1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy. 2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy. 3. Zero of twenty-four samples exceed the guideline and this does not exceed the allowable frequency listed in Table 3.1 of the Listing Policy. 4. Pursuant to section 3.11 of the Listing Policy, no additional data and information are available

indicating that standards are not met.

Regional Board Staff Decision Recommendation: After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be placed on the section 303(d) list because applicable water quality standards are not being exceeded.

Line of Evidence (LOE) for Decision ID 65073, Chrysene (C1-C4)

Region 2

Open Ocean - Outside of Golden Gate

LOE ID: 92400

Pollutant: Chrysene (C1-C4)
LOE Subgroup: Pollutant-Water
Matrix: Water
Fraction: Total

Beneficial Use: Commercial or recreational collection of fish, shellfish, or organisms

Number of Samples: 24
Number of Exceedances: 0

Data and Information Type: PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality: State Water Board staff assessed SFEI data for Open Ocean - Outside of Golden Gate to determine beneficial use support and results are as follows: 0 of 24 samples exceed the criterion for Chrysene.

Data Reference: [Regional Monitoring Program data, Feb. 1993-Sep. 2008](#)

SWAMP Data: Non-SWAMP

Water Quality Objective/Criterion: The Chrysene criteria for the protection of human health from consumption of organisms only is 0.049 ug/L (California Toxics Rule, 2000).

Objective/Criterion Reference: [Code of Federal Regulations 40 part 131.38 Establishment of numeric criteria for priority toxic pollutants for the State of California, 7/1/2011 Edition](#)

Evaluation Guideline:
Guideline Reference:

Spatial Representation: Data for this line of evidence for Open Ocean - Outside of Golden Gate was collected at 1 monitoring site [Golden Gate - BC20]

Temporal Representation: Data was collected over the time period 3/3/1993-8/10/2007.

Environmental Conditions: Staff is not aware of any special conditions that might affect interpretation of the data.

QAPP Information: The 1999 Quality Assurance Project Plan Regional Monitoring Program for Trace Substances was used.

QAPP Information Reference(s): [1999 Quality Assurance Project Plan Regional Monitoring Program for Trace Substances](#)

DECISION ID 65074

Region 2

Open Ocean - Outside of Golden Gate

Pollutant: Copper
Final Listing Decision: Do Not List on 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision: New Decision
Revision Status: Revised
Impairment from Pollutant or Pollution: Pollutant

Regional Board Staff Conclusion: This pollutant is being considered for placement on the CWA section 303(d) List under section 3.1 of the Listing Policy. Under section 3.1 a single line of evidence is necessary to assess listing status.

One line of evidence is available in the administrative record to assess this pollutant. Zero of twenty-eight samples exceed the guideline.

Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against placing this water segment-pollutant combination on the CWA section 303(d) List in the Water Quality Limited Segments category.

This conclusion is based on the staff findings that:

1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy.
2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy.
3. Zero of twenty-eight samples exceed the guideline and this does not exceed the allowable frequency listed in Table 3.1 of the Listing Policy.
4. Pursuant to section 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.

Regional Board Staff Decision Recommendation: After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be placed on the section 303(d) list because applicable water quality standards are not being exceeded.

**Line of Evidence (LOE) for Decision ID 65074, Copper
Open Ocean - Outside of Golden Gate**

Region 2

LOE ID:	92401
Pollutant:	Copper
LOE Subgroup:	Pollutant-Water
Matrix:	Water
Fraction:	Dissolved
Beneficial Use:	Marine Habitat
Number of Samples:	28
Number of Exceedances:	0
Data and Information Type:	PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality:	State Water Board staff assessed SFEI data for Open Ocean - Outside of Golden Gate to determine beneficial use support and results are as follows: 0 of 28 samples exceed the criterion for Copper.
Data Reference:	Regional Monitoring Program data, Feb. 1993-Sep. 2008
SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	The dissolved copper criterion continuous concentration (expressed as a 4-day average) to protect aquatic life in saline water is 0.0031 mg/L (California Toxics Rule, 2000).
Objective/Criterion Reference:	Code of Federal Regulations 40 part 131.38 Establishment of numeric criteria for priority toxic pollutants for the State of California. 7/1/2011 Edition
Evaluation Guideline:	
Guideline Reference:	
Spatial Representation:	Data for this line of evidence for Open Ocean - Outside of Golden Gate was collected at 1 monitoring site [Golden Gate - BC20]
Temporal Representation:	Data was collected over the time period 3/3/1993-7/14/2008.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	The 1999 Quality Assurance Project Plan Regional Monitoring Program for Trace Substances was used.
QAPP Information Reference(s):	1999 Quality Assurance Project Plan Regional Monitoring Program for Trace Substances

DECISION ID

65075

Region 2

Open Ocean - Outside of Golden Gate

Pollutant: Cyanide
Final Listing Decision: Do Not List on 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision: New Decision
Revision Status: Revised
Impairment from Pollutant or Pollution: Pollutant

Regional Board Staff Conclusion: This pollutant is being considered for placement on the CWA section 303(d) List under section 3.1 of the Listing Policy. Under section 3.1 a single line of evidence is necessary to assess listing status. Two lines of evidence are available in the administrative record to assess this pollutant. Zero of three samples exceed the guideline.

Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against placing this water segment-pollutant combination on the CWA section 303(d) List.

This conclusion is based on the staff findings that:

1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy.
2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy.
3. Zero of three samples exceed the guideline and this sample size is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating. A minimum of 16 samples is needed to determine if a beneficial use is fully supported using table 3.1.
4. Pursuant to SECTION 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.

Regional Board Staff Decision Recommendation: After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be placed on the section 303(d) list. The readily available data and information is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating.

Line of Evidence (LOE) for Decision ID 65075, Cyanide

Region 2

Open Ocean - Outside of Golden Gate

LOE ID: 92402

Pollutant: Cyanide
LOE Subgroup: Pollutant-Water
Matrix: Water
Fraction: Dissolved

Beneficial Use: Marine Habitat

Number of Samples: 3
Number of Exceedances: 0

Data and Information Type: PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality: State Water Board staff assessed SFEI data for Open Ocean - Outside of Golden Gate to determine beneficial use support and results are as follows: 0 of 3 samples exceed the criterion for Cyanide.

Data Reference: [Regional Monitoring Program data, Feb. 1993-Sep. 2008](#)

SWAMP Data: Non-SWAMP

Water Quality Objective/Criterion: The Cyanide criterion continuous concentration (expressed as a 4-day average) to protect aquatic life in saline water is 0.001 mg/L (California Toxics Rule, 2000).

Objective/Criterion Reference: [Water Quality Control Plan \(Basin Plan\) San Francisco Bay Basin \(Region 2\)](#)

Evaluation Guideline:

Guideline Reference:

Spatial Representation: Data for this line of evidence for Open Ocean - Outside of Golden Gate was collected at 1 monitoring site [Golden Gate - BC20]

Temporal Representation: Data was collected over the time period 3/3/1993-9/14/1993.

Environmental Conditions: Staff is not aware of any special conditions that might affect interpretation of the data.

QAPP Information: The 1999 Quality Assurance Project Plan Regional Monitoring Program for Trace Substances was used.

QAPP Information Reference(s): [1999 Quality Assurance Project Plan Regional Monitoring Program for Trace Substances](#)

Line of Evidence (LOE) for Decision ID 65075, Cyanide

Region 2

Open Ocean - Outside of Golden Gate

LOE ID: 92403

Pollutant: Cyanide

LOE Subgroup: Pollutant-Water

Matrix: Water

Fraction: Total

Beneficial Use: Commercial or recreational collection of fish, shellfish, or organisms

Number of Samples: 3

Number of Exceedances: 0

Data and Information Type: PHYSICAL/CHEMICAL MONITORING

Data Used to Assess Water Quality: State Water Board staff assessed SFEI data for Open Ocean - Outside of Golden Gate to determine beneficial use support and results are as follows: 0 of 3 samples exceed the criterion for Cyanide.

Data Reference: [Regional Monitoring Program data, Feb. 1993-Sep. 2008](#)

SWAMP Data: Non-SWAMP

Water Quality Objective/Criterion: The cyanide criteria for the protection of human health from consumption of organisms only is 220,000 ug/L (California Toxics Rule, 2000).

Objective/Criterion Reference: [Code of Federal Regulations 40 part 131.38 Establishment of numeric criteria for priority toxic pollutants for the State of California. 7/1/2011 Edition](#)

Evaluation Guideline:

Guideline Reference:

Spatial Representation: Data for this line of evidence for Open Ocean - Outside of Golden Gate was collected at 1 monitoring site [Golden Gate - BC20]

Temporal Representation: Data was collected over the time period 3/3/1993-9/14/1993.

Environmental Conditions: Staff is not aware of any special conditions that might affect interpretation of the data.

QAPP Information: The 1999 Quality Assurance Project Plan Regional Monitoring Program for Trace Substances was used.

QAPP Information Reference(s): [1999 Quality Assurance Project Plan Regional Monitoring Program for Trace Substances](#)

DECISION ID

65095

Region 2

Open Ocean - Outside of Golden Gate

Pollutant: DDT (Dichlorodiphenyltrichloroethane)

Final Listing Decision: Do Not List on 303(d) list (TMDL required list)

Last Listing Cycle's Final Listing Decision: New Decision

Revision Status: Revised

Impairment from Pollutant or Pollution: Pollutant

**Regional Board Staff
Conclusion:**

This pollutant is being considered for placement on the CWA section 303(d) List under section 3.1 of the Listing Policy. Under section 3.1 a single line of evidence is necessary to assess listing status.

Two lines of evidence are available in the administrative record to assess this pollutant. Zero of twenty-five samples exceed the guideline.

Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against placing this water segment-pollutant combination on the CWA section 303(d) List in the Water Quality Limited Segments category.

This conclusion is based on the staff findings that:

1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy.
2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy.
3. Zero of twenty-five samples exceed the guideline and this does not exceed the allowable frequency listed in Table 3.1 of the Listing Policy.
4. Pursuant to section 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.

**Regional Board Staff Decision
Recommendation:**

After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be placed on the section 303(d) list because applicable water quality standards are not being exceeded.

Line of Evidence (LOE) for Decision ID 65095, DDT (Dichlorodiphenyltrichloroethane)

Region 2

Open Ocean - Outside of Golden Gate

LOE ID:	92381
Pollutant:	Total DDT (sum of 4,4'- and 2,4'- isomers of DDT, DDE, and DDD)
LOE Subgroup:	Pollutant-Water
Matrix:	Water
Fraction:	Dissolved
Beneficial Use:	Marine Habitat
Number of Samples:	24
Number of Exceedances:	0
Data and Information Type:	PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality:	State Water Board staff assessed SFEI data for Open Ocean - Outside of Golden Gate to determine beneficial use support and results are as follows: 0 of 24 samples exceed the criterion for DDT, Total.
Data Reference:	Regional Monitoring Program data, Feb. 1993-Sep. 2008
SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	The DDT criterion continuous concentration (expressed as a 4-day average) to protect aquatic life in saline water is 0.001 ug/L (California Toxics Rule, 2000).
Objective/Criterion Reference:	Code of Federal Regulations 40 part 131.38 Establishment of numeric criteria for priority toxic pollutants for the State of California. 7/1/2011 Edition
Evaluation Guideline:	
Guideline Reference:	
Spatial Representation:	Data for this line of evidence for Open Ocean - Outside of Golden Gate was collected at 1 monitoring site [Golden Gate - BC20]
Temporal Representation:	Data was collected over the time period 3/3/1993-8/10/2007.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	The 1999 Quality Assurance Project Plan Regional Monitoring Program for Trace Substances was used.
QAPP Information Reference(s):	1999 Quality Assurance Project Plan Regional Monitoring Program for Trace Substances

Open Ocean - Outside of Golden Gate

LOE ID:	92382
Pollutant:	Total DDT (sum of 4,4'- and 2,4'- isomers of DDT, DDE, and DDD)
LOE Subgroup:	Pollutant-Water
Matrix:	Water
Fraction:	Total
Beneficial Use:	Commercial or recreational collection of fish, shellfish, or organisms
Number of Samples:	25
Number of Exceedances:	0
Data and Information Type:	PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality:	State Water Board staff assessed SFEI data for Open Ocean - Outside of Golden Gate to determine beneficial use support and results are as follows: 0 of 25 samples exceed the criterion for DDT, Total.
Data Reference:	Regional Monitoring Program data, Feb. 1993-Sep. 2008
SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	The DDT, Total criteria for the protection of human health from consumption of organisms only is 0.00059 ug/L (California Toxics Rule, 2000).
Objective/Criterion Reference:	Code of Federal Regulations 40 part 131.38 Establishment of numeric criteria for priority toxic pollutants for the State of California. 7/1/2011 Edition
Evaluation Guideline:	
Guideline Reference:	
Spatial Representation:	Data for this line of evidence for Open Ocean - Outside of Golden Gate was collected at 1 monitoring site [Golden Gate - BC20]
Temporal Representation:	Data was collected over the time period 3/3/1993-8/10/2007.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	The 1999 Quality Assurance Project Plan Regional Monitoring Program for Trace Substances was used.
QAPP Information Reference(s):	1999 Quality Assurance Project Plan Regional Monitoring Program for Trace Substances

DECISION ID

65076

Region 2

Open Ocean - Outside of Golden Gate

Pollutant:	Diazinon
Final Listing Decision:	Do Not List on 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision:	New Decision
Revision Status	Revised
Impairment from Pollutant or Pollution:	Pollutant
Regional Board Staff Conclusion:	<p>This pollutant is being considered for placement on the CWA section 303(d) List under section 3.1 of the Listing Policy. Under section 3.1 a single line of evidence is necessary to assess listing status.</p> <p>One line of evidence is available in the administrative record to assess this pollutant. Zero of nineteen samples exceed the guideline.</p> <p>Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against placing this water segment-pollutant combination on the CWA section 303(d) List in the Water Quality Limited Segments category.</p>

This conclusion is based on the staff findings that:

1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy.
2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy.
3. Zero of nineteen samples exceed the guideline and this does not exceed the allowable frequency listed in Table 3.1 of the Listing Policy.
4. Pursuant to section 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.

Regional Board Staff Decision Recommendation: After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be placed on the section 303(d) list because applicable water quality standards are not being exceeded.

Line of Evidence (LOE) for Decision ID 65076, Diazinon

Region 2

Open Ocean - Outside of Golden Gate

LOE ID:	92354
Pollutant:	Diazinon
LOE Subgroup:	Pollutant-Water
Matrix:	Water
Fraction:	Dissolved
Beneficial Use:	Marine Habitat
Number of Samples:	19
Number of Exceedances:	0
Data and Information Type:	PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality:	State Water Board staff assessed SFEI data for Open Ocean - Outside of Golden Gate to determine beneficial use support and results are as follows: 0 of 19 samples exceed the criterion for Diazinon.
Data Reference:	Regional Monitoring Program data, Feb. 1993-Sep. 2008
SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	All waters shall be maintained free of toxic substances in concentrations which are toxic to, or which produce detrimental physiological responses in, human, plant, animal, or aquatic life. (Water Quality Control Plan, Central Coast Basin, Chapter III, Section II.A.2 Objectives for all Inland Surface Waters, Enclosed Bays and Estuaries).
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	The chronic criterion for diazinon to protect saltwater aquatic organisms is 0.82 ug/L (EPA-822-R-05-006).
Guideline Reference:	Water quality for diazinon. Memorandum to J. Karkoski, Central Valley RWQCB. Rancho Cordova, CA: Pesticide Investigation Unit, CA Department of Fish and Game
Spatial Representation:	Data for this line of evidence for Open Ocean - Outside of Golden Gate was collected at 1 monitoring site [Golden Gate - BC20]
Temporal Representation:	Data was collected over the time period 4/21/1994-8/12/2005.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	The 1999 Quality Assurance Project Plan Regional Monitoring Program for Trace Substances was used.
QAPP Information Reference(s):	1999 Quality Assurance Project Plan Regional Monitoring Program for Trace Substances

DECISION ID 65077

Region 2

Open Ocean - Outside of Golden Gate

Pollutant: Dieldrin
Final Listing Decision: Do Not List on 303(d) list (TMDL required list)

Last Listing Cycle's Final Listing Decision: Revision Status Impairment from Pollutant or Pollution:

New Decision

Revised

Pollutant

Regional Board Staff Conclusion:

This pollutant is being considered for placement on the CWA section 303(d) List under section 3.1 of the Listing Policy. Under section 3.1 a single line of evidence is necessary to assess listing status.

Two lines of evidence are available in the administrative record to assess this pollutant. Zero of twenty-five samples exceed the guideline.

Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against placing this water segment-pollutant combination on the CWA section 303(d) List in the Water Quality Limited Segments category.

This conclusion is based on the staff findings that:

1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy.
2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy.
3. Zero of twenty-five samples exceed the guideline and this does not exceed the allowable frequency listed in Table 3.1 of the Listing Policy.
4. Pursuant to section 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.

Regional Board Staff Decision Recommendation:

After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be placed on the section 303(d) list because applicable water quality standards are not being exceeded.

Line of Evidence (LOE) for Decision ID 65077, Dieldrin

Region 2

Open Ocean - Outside of Golden Gate

LOE ID: 92356

Pollutant: Dieldrin
LOE Subgroup: Pollutant-Water
Matrix: Water
Fraction: Total

Beneficial Use: Commercial or recreational collection of fish, shellfish, or organisms

Number of Samples: 25
Number of Exceedances: 0

Data and Information Type: PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality: State Water Board staff assessed SFEI data for Open Ocean - Outside of Golden Gate to determine beneficial use support and results are as follows: 0 of 25 samples exceed the criterion for Dieldrin.

Data Reference: [Regional Monitoring Program data, Feb. 1993-Sep. 2008](#)

SWAMP Data: Non-SWAMP

Water Quality Objective/Criterion: The Dieldrin criteria for the protection of human health from consumption of organisms only is 0.00014 ug/L (California Toxics Rule, 2000).

Objective/Criterion Reference: [Code of Federal Regulations 40 part 131.38 Establishment of numeric criteria for priority toxic pollutants for the State of California. 7/1/2011 Edition](#)

Evaluation Guideline:
Guideline Reference:

Spatial Representation: Data for this line of evidence for Open Ocean - Outside of Golden Gate was collected at 1 monitoring site [Golden Gate - BC20]

Temporal Representation:	Data was collected over the time period 3/3/1993-8/10/2007.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	The 1999 Quality Assurance Project Plan Regional Monitoring Program for Trace Substances was used.
QAPP Information Reference(s):	1999 Quality Assurance Project Plan Regional Monitoring Program for Trace Substances

Line of Evidence (LOE) for Decision ID 65077, Dieldrin
Open Ocean - Outside of Golden Gate

Region 2

LOE ID:	92355
Pollutant:	Dieldrin
LOE Subgroup:	Pollutant-Water
Matrix:	Water
Fraction:	Dissolved
Beneficial Use:	Marine Habitat
Number of Samples:	24
Number of Exceedances:	0
Data and Information Type:	PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality:	State Water Board staff assessed SFEI data for Open Ocean - Outside of Golden Gate to determine beneficial use support and results are as follows: 0 of 24 samples exceed the criterion for Dieldrin.
Data Reference:	Regional Monitoring Program data, Feb. 1993-Sep. 2008
SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	The Dieldrin criterion continuous concentration (expressed as a 4-day average) to protect aquatic life in saline water is 0.0019 ug/L (California Toxics Rule, 2000).
Objective/Criterion Reference:	Code of Federal Regulations 40 part 131.38 Establishment of numeric criteria for priority toxic pollutants for the State of California, 7/1/2011 Edition
Evaluation Guideline:	
Guideline Reference:	
Spatial Representation:	Data for this line of evidence for Open Ocean - Outside of Golden Gate was collected at 1 monitoring site [Golden Gate - BC20]
Temporal Representation:	Data was collected over the time period 3/3/1993-8/10/2007.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	The 1999 Quality Assurance Project Plan Regional Monitoring Program for Trace Substances was used.
QAPP Information Reference(s):	1999 Quality Assurance Project Plan Regional Monitoring Program for Trace Substances

DECISION ID 65078
Open Ocean - Outside of Golden Gate

Region 2

Pollutant:	Endosulfan
Final Listing Decision:	Do Not List on 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision:	New Decision
Revision Status	Revised
Impairment from Pollutant or Pollution:	Pollutant

Regional Board Staff Conclusion: This pollutant is being considered for placement on the CWA section 303(d) List under section 3.1 of the Listing Policy. Under section 3.1 a single line of evidence is necessary to assess listing status.

One line of evidence is available in the administrative record to assess this pollutant. Zero of twenty-

one samples exceed the guideline.

Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against placing this water segment-pollutant combination on the CWA section 303(d) List in the Water Quality Limited Segments category.

This conclusion is based on the staff findings that:

1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy.
2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy.
3. Zero of twenty-one samples exceed the guideline and this does not exceed the allowable frequency listed in Table 3.1 of the Listing Policy.
4. Pursuant to section 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.

Regional Board Staff Decision Recommendation: After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be placed on the section 303(d) list because applicable water quality standards are not being exceeded.

Line of Evidence (LOE) for Decision ID 65078, Endosulfan
Open Ocean - Outside of Golden Gate

Region 2

LOE ID: 92357

Pollutant: Endosulfan
LOE Subgroup: Pollutant-Water
Matrix: Water
Fraction: Dissolved

Beneficial Use: Marine Habitat

Number of Samples: 21
Number of Exceedances: 0

Data and Information Type: PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality: State Water Board staff assessed SFEI data for Open Ocean - Outside of Golden Gate to determine beneficial use support and results are as follows: 0 of 21 samples exceed the criterion for Endosulfan, Total.

Data Reference: [Regional Monitoring Program data, Feb. 1993-Sep. 2008](#)

SWAMP Data: Non-SWAMP

Water Quality Objective/Criterion: The total Endosulfan criterion continuous concentration (expressed as a 4-day average) to protect aquatic life in saltwater is 0.0087 ug/L (California Toxics Rule, 2000).

Objective/Criterion Reference: [Code of Federal Regulations 40 part 131.38 Establishment of numeric criteria for priority toxic pollutants for the State of California. 7/1/2011 Edition](#)

Evaluation Guideline:
Guideline Reference:

Spatial Representation: Data for this line of evidence for Open Ocean - Outside of Golden Gate was collected at 1 monitoring site [Golden Gate - BC20]

Temporal Representation: Data was collected over the time period 2/3/1994-8/10/2007.

Environmental Conditions: Staff is not aware of any special conditions that might affect interpretation of the data.

QAPP Information: The 1999 Quality Assurance Project Plan Regional Monitoring Program for Trace Substances was used.

QAPP Information Reference(s): [1999 Quality Assurance Project Plan Regional Monitoring Program for Trace Substances](#)

DECISION ID 65079
Open Ocean - Outside of Golden Gate

Region 2

Pollutant:	Endosulfan sulfate
Final Listing Decision:	Do Not List on 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision:	New Decision
Revision Status	Revised
Impairment from Pollutant or Pollution:	Pollutant

Regional Board Staff Conclusion: This pollutant is being considered for placement on the CWA section 303(d) List under section 3.1 of the Listing Policy. Under section 3.1 a single line of evidence is necessary to assess listing status.

One line of evidence is available in the administrative record to assess this pollutant. Zero of twenty-three samples exceed the guideline.

Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against placing this water segment-pollutant combination on the CWA section 303(d) List in the Water Quality Limited Segments category.

This conclusion is based on the staff findings that:

1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy.
2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy.
3. Zero of twenty-three samples exceed the guideline and this does not exceed the allowable frequency listed in Table 3.1 of the Listing Policy.
4. Pursuant to section 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.

Regional Board Staff Decision Recommendation: After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be placed on the section 303(d) list because applicable water quality standards are not being exceeded.

Line of Evidence (LOE) for Decision ID 65079, Endosulfan sulfate Open Ocean - Outside of Golden Gate

Region 2

LOE ID:	92358
Pollutant:	Endosulfan sulfate
LOE Subgroup:	Pollutant-Water
Matrix:	Water
Fraction:	Total
Beneficial Use:	Commercial or recreational collection of fish, shellfish, or organisms
Number of Samples:	23
Number of Exceedances:	0
Data and Information Type:	PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality:	State Water Board staff assessed SFEI data for Open Ocean - Outside of Golden Gate to determine beneficial use support and results are as follows: 0 of 23 samples exceed the criterion for Endosulfan Sulfate.
Data Reference:	Regional Monitoring Program data, Feb. 1993-Sep. 2008
SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	The Endosulfan Sulfate criteria for the protection of human health from consumption of organisms only is 240 ug/L (California Toxics Rule, 2000).
Objective/Criterion Reference:	Code of Federal Regulations 40 part 131.38 Establishment of numeric criteria for priority toxic pollutants for the State of California. 7/1/2011 Edition
Evaluation Guideline:	
Guideline Reference:	

Spatial Representation:	Data for this line of evidence for Open Ocean - Outside of Golden Gate was collected at 1 monitoring site [Golden Gate - BC20]
Temporal Representation:	Data was collected over the time period 2/3/1994-8/10/2007.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	The 1999 Quality Assurance Project Plan Regional Monitoring Program for Trace Substances was used.
QAPP Information Reference(s):	1999 Quality Assurance Project Plan Regional Monitoring Program for Trace Substances

DECISION ID	65080	Region 2
Open Ocean - Outside of Golden Gate		

Pollutant:	Endrin
Final Listing Decision:	Do Not List on 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision:	New Decision
Revision Status	Revised
Impairment from Pollutant or Pollution:	Pollutant

Regional Board Staff Conclusion: This pollutant is being considered for placement on the CWA section 303(d) List under section 3.1 of the Listing Policy. Under section 3.1 a single line of evidence is necessary to assess listing status.

Two lines of evidence are available in the administrative record to assess this pollutant. Zero of twenty samples exceed the guideline.

Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against placing this water segment-pollutant combination on the CWA section 303(d) List in the Water Quality Limited Segments category.

This conclusion is based on the staff findings that:

1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy.
2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy.
3. Zero of twenty samples exceed the guideline and this does not exceed the allowable frequency listed in Table 3.1 of the Listing Policy.
4. Pursuant to section 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.

Regional Board Staff Decision Recommendation: After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be placed on the section 303(d) list because applicable water quality standards are not being exceeded.

Line of Evidence (LOE) for Decision ID 65080, Endrin		Region 2
Open Ocean - Outside of Golden Gate		

LOE ID: 92359

Pollutant:	Endrin
LOE Subgroup:	Pollutant-Water
Matrix:	Water
Fraction:	Dissolved

Beneficial Use: Marine Habitat

Number of Samples:	19
Number of Exceedances:	0

Data and Information Type:	PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality:	State Water Board staff assessed SFEI data for Open Ocean - Outside of Golden Gate to

	determine beneficial use support and results are as follows: 0 of 19 samples exceed the criterion for Endrin.
Data Reference:	Regional Monitoring Program data, Feb. 1993-Sep. 2008
SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	The Endrin criterion continuous concentration (expressed as a 4-day average) to protect aquatic life in saline water is 0.0023 ug/L (California Toxics Rule, 2000).
Objective/Criterion Reference:	Code of Federal Regulations 40 part 131.38 Establishment of numeric criteria for priority toxic pollutants for the State of California. 7/1/2011 Edition
Evaluation Guideline:	
Guideline Reference:	
Spatial Representation:	Data for this line of evidence for Open Ocean - Outside of Golden Gate was collected at 1 monitoring site [Golden Gate - BC20]
Temporal Representation:	Data was collected over the time period 2/9/1995-8/10/2007.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	The 1999 Quality Assurance Project Plan Regional Monitoring Program for Trace Substances was used.
QAPP Information Reference(s):	1999 Quality Assurance Project Plan Regional Monitoring Program for Trace Substances

Line of Evidence (LOE) for Decision ID 65080, Endrin

Region 2

Open Ocean - Outside of Golden Gate

LOE ID:	92360
Pollutant:	Endrin
LOE Subgroup:	Pollutant-Water
Matrix:	Water
Fraction:	Total
Beneficial Use:	Commercial or recreational collection of fish, shellfish, or organisms
Number of Samples:	20
Number of Exceedances:	0
Data and Information Type:	PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality:	State Water Board staff assessed SFEI data for Open Ocean - Outside of Golden Gate to determine beneficial use support and results are as follows: 0 of 20 samples exceed the criterion for Endrin.
Data Reference:	Regional Monitoring Program data, Feb. 1993-Sep. 2008
SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	The Endrin criteria for the protection of human health from consumption of organisms only is 0.81ug/L (California Toxics Rule, 2000).
Objective/Criterion Reference:	Code of Federal Regulations 40 part 131.38 Establishment of numeric criteria for priority toxic pollutants for the State of California. 7/1/2011 Edition
Evaluation Guideline:	
Guideline Reference:	
Spatial Representation:	Data for this line of evidence for Open Ocean - Outside of Golden Gate was collected at 1 monitoring site [Golden Gate - BC20]
Temporal Representation:	Data was collected over the time period 2/9/1995-8/10/2007.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	The 1999 Quality Assurance Project Plan Regional Monitoring Program for Trace Substances was used.
QAPP Information Reference(s):	1999 Quality Assurance Project Plan Regional Monitoring Program for Trace Substances

Pollutant:	Fluoranthene
Final Listing Decision:	Do Not List on 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision:	New Decision
Revision Status	Revised
Impairment from Pollutant or Pollution:	Pollutant

Regional Board Staff Conclusion:

This pollutant is being considered for placement on the CWA section 303(d) List under section 3.1 of the Listing Policy. Under section 3.1 a single line of evidence is necessary to assess listing status.

Two lines of evidence are available in the administrative record to assess this pollutant. Zero of twenty-six samples exceed the guideline.

Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against placing this water segment-pollutant combination on the CWA section 303(d) List in the Water Quality Limited Segments category.

This conclusion is based on the staff findings that:

1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy.
2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy.
3. Zero of twenty-six samples exceed the guideline and this does not exceed the allowable frequency listed in Table 3.1 of the Listing Policy.
4. Pursuant to section 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.

Regional Board Staff Decision Recommendation: After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be placed on the section 303(d) list because applicable water quality standards are not being exceeded.

Line of Evidence (LOE) for Decision ID 65081, Fluoranthene	Region 2
Open Ocean - Outside of Golden Gate	

LOE ID:	92361
Pollutant:	Fluoranthene
LOE Subgroup:	Pollutant-Water
Matrix:	Water
Fraction:	Dissolved
Beneficial Use:	Marine Habitat
Number of Samples:	24
Number of Exceedances:	0
Data and Information Type:	PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality:	State Water Board staff assessed SFEI data for Open Ocean - Outside of Golden Gate to determine beneficial use support and results are as follows: 0 of 24 samples exceed the criterion for Fluoranthene.
Data Reference:	Regional Monitoring Program data, Feb. 1993-Sep. 2008
SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	No individual pesticide or combination of pesticides shall be present in concentrations that adversely affect beneficial uses.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)

Evaluation Guideline:	The available data for Fluoranthene indicate that chronic toxicity to saltwater aquatic life occurs at concentrations as low as 16 ug/L and would occur at lower concentrations among species that are more sensitive than those tested. (USEPA Gold Book - EPA 440/5-86-001)
Guideline Reference:	Quality Criteria for Water 1986. United States Environmental Protection Agency. Office of Water. Regulations and Standards. Washington D.C. EPA 440/5-86-001.
Spatial Representation:	Data for this line of evidence for Open Ocean - Outside of Golden Gate was collected at 1 monitoring site [Golden Gate - BC20]
Temporal Representation:	Data was collected over the time period 3/3/1993-8/10/2007.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	The 1999 Quality Assurance Project Plan Regional Monitoring Program for Trace Substances was used.
QAPP Information Reference(s):	1999 Quality Assurance Project Plan Regional Monitoring Program for Trace Substances

Line of Evidence (LOE) for Decision ID 65081, Fluoranthene

Region 2

Open Ocean - Outside of Golden Gate

LOE ID:	92362
Pollutant:	Fluoranthene
LOE Subgroup:	Pollutant-Water
Matrix:	Water
Fraction:	Total
Beneficial Use:	Commercial or recreational collection of fish, shellfish, or organisms
Number of Samples:	26
Number of Exceedances:	0
Data and Information Type:	PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality:	State Water Board staff assessed SFEI data for Open Ocean - Outside of Golden Gate to determine beneficial use support and results are as follows: 0 of 26 samples exceed the criterion for Fluoranthene.
Data Reference:	Regional Monitoring Program data, Feb. 1993-Sep. 2008
SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	The Fluoranthene criteria for the protection of human health from consumption of organisms only is 370 ug/L (California Toxics Rule, 2000).
Objective/Criterion Reference:	Code of Federal Regulations 40 part 131.38 Establishment of numeric criteria for priority toxic pollutants for the State of California. 7/1/2011 Edition
Evaluation Guideline:	
Guideline Reference:	
Spatial Representation:	Data for this line of evidence for Open Ocean - Outside of Golden Gate was collected at 1 monitoring site [Golden Gate - BC20]
Temporal Representation:	Data was collected over the time period 3/3/1993-7/14/2008.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	The 1999 Quality Assurance Project Plan Regional Monitoring Program for Trace Substances was used.
QAPP Information Reference(s):	1999 Quality Assurance Project Plan Regional Monitoring Program for Trace Substances

DECISION ID 65082

Region 2

Open Ocean - Outside of Golden Gate

Pollutant:	Fluorene
Final Listing Decision:	Do Not List on 303(d) list (TMDL required list)
Last Listing Cycle's Final	New Decision

Listing Decision:**Revision Status**

Revised

Impairment from Pollutant or Pollution:

Pollutant

Regional Board Staff**Conclusion:**

This pollutant is being considered for placement on the CWA section 303(d) List under section 3.1 of the Listing Policy. Under section 3.1 a single line of evidence is necessary to assess listing status.

One line of evidence is available in the administrative record to assess this pollutant. Zero of seventeen samples exceed the guideline.

Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against placing this water segment-pollutant combination on the CWA section 303(d) List in the Water Quality Limited Segments category.

This conclusion is based on the staff findings that:

1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy.
2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy.
3. Zero of seventeen samples exceed the guideline and this does not exceed the allowable frequency listed in Table 3.1 of the Listing Policy.
4. Pursuant to section 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.

Regional Board Staff Decision Recommendation:

After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be placed on the section 303(d) list because applicable water quality standards are not being exceeded.

Line of Evidence (LOE) for Decision ID 65082, Fluorene**Region 2****Open Ocean - Outside of Golden Gate**

LOE ID: 92363

Pollutant: Fluorene
LOE Subgroup: Pollutant-Water
Matrix: Water
Fraction: Total

Beneficial Use: Commercial or recreational collection of fish, shellfish, or organisms

Number of Samples: 17
Number of Exceedances: 0

Data and Information Type: PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality: State Water Board staff assessed SFEI data for Open Ocean - Outside of Golden Gate to determine beneficial use support and results are as follows: 0 of 17 samples exceed the criterion for Fluorene.

Data Reference: [Regional Monitoring Program data, Feb. 1993-Sep. 2008](#)

SWAMP Data: Non-SWAMP

Water Quality Objective/Criterion: The Fluorene criteria for the protection of human health from consumption of organisms only is 14,000 ug/L (California Toxics Rule, 2000).

Objective/Criterion Reference: [Code of Federal Regulations 40 part 131.38 Establishment of numeric criteria for priority toxic pollutants for the State of California. 7/1/2011 Edition](#)

Evaluation Guideline:
Guideline Reference:

Spatial Representation: Data for this line of evidence for Open Ocean - Outside of Golden Gate was collected at 1 monitoring site [Golden Gate - BC20]

Temporal Representation: Data was collected over the time period 2/8/1996-7/14/2008.

Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	The 1999 Quality Assurance Project Plan Regional Monitoring Program for Trace Substances was used.
QAPP Information Reference(s):	1999 Quality Assurance Project Plan Regional Monitoring Program for Trace Substances

DECISION ID	65083	Region 2
Open Ocean - Outside of Golden Gate		

Pollutant:	Heptachlor
Final Listing Decision:	Do Not List on 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision:	New Decision
Revision Status	Revised
Impairment from Pollutant or Pollution:	Pollutant

Regional Board Staff Conclusion: This pollutant is being considered for placement on the CWA section 303(d) List under section 3.1 of the Listing Policy. Under section 3.1 a single line of evidence is necessary to assess listing status.

Two lines of evidence are available in the administrative record to assess this pollutant. Zero of twenty-two samples exceed the guideline.

Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against placing this water segment-pollutant combination on the CWA section 303(d) List in the Water Quality Limited Segments category.

This conclusion is based on the staff findings that:

1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy.
2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy.
3. Zero of twenty-two samples exceed the guideline and this does not exceed the allowable frequency listed in Table 3.1 of the Listing Policy.
4. Pursuant to section 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.

Regional Board Staff Decision Recommendation: After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be placed on the section 303(d) list because applicable water quality standards are not being exceeded.

Line of Evidence (LOE) for Decision ID 65083, Heptachlor	Region 2
Open Ocean - Outside of Golden Gate	

LOE ID:	92364
Pollutant:	Heptachlor
LOE Subgroup:	Pollutant-Water
Matrix:	Water
Fraction:	Dissolved
Beneficial Use:	Marine Habitat
Number of Samples:	22
Number of Exceedances:	0
Data and Information Type:	PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality:	State Water Board staff assessed SFEI data for Open Ocean - Outside of Golden Gate to determine beneficial use support and results are as follows: 0 of 22 samples exceed the criterion for Heptachlor.
Data Reference:	Regional Monitoring Program data, Feb. 1993-Sep. 2008

SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	The Heptachlor criterion continuous concentration (expressed as a 4-day average) to protect aquatic life in saline water is 0.0036 ug/L (California Toxics Rule, 2000).
Objective/Criterion Reference:	Code of Federal Regulations 40 part 131.38 Establishment of numeric criteria for priority toxic pollutants for the State of California. 7/1/2011 Edition
Evaluation Guideline:	
Guideline Reference:	
Spatial Representation:	Data for this line of evidence for Open Ocean - Outside of Golden Gate was collected at 1 monitoring site [Golden Gate - BC20]
Temporal Representation:	Data was collected over the time period 4/21/1994-8/10/2007.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	The 1999 Quality Assurance Project Plan Regional Monitoring Program for Trace Substances was used.
QAPP Information Reference(s):	1999 Quality Assurance Project Plan Regional Monitoring Program for Trace Substances

Line of Evidence (LOE) for Decision ID 65083, Heptachlor

Region 2

Open Ocean - Outside of Golden Gate

LOE ID:	92365
Pollutant:	Heptachlor
LOE Subgroup:	Pollutant-Water
Matrix:	Water
Fraction:	Total
Beneficial Use:	Commercial or recreational collection of fish, shellfish, or organisms
Number of Samples:	20
Number of Exceedances:	0
Data and Information Type:	PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality:	State Water Board staff assessed SFEI data for Open Ocean - Outside of Golden Gate to determine beneficial use support and results are as follows: 0 of 20 samples exceed the criterion for Heptachlor.
Data Reference:	Regional Monitoring Program data, Feb. 1993-Sep. 2008
SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	The Heptachlor criteria for the protection of human health from consumption of organisms only is 0.00021 ug/L (California Toxics Rule, 2000).
Objective/Criterion Reference:	Code of Federal Regulations 40 part 131.38 Establishment of numeric criteria for priority toxic pollutants for the State of California. 7/1/2011 Edition
Evaluation Guideline:	
Guideline Reference:	
Spatial Representation:	Data for this line of evidence for Open Ocean - Outside of Golden Gate was collected at 1 monitoring site [Golden Gate - BC20]
Temporal Representation:	Data was collected over the time period 4/21/1994-8/10/2007.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	The 1999 Quality Assurance Project Plan Regional Monitoring Program for Trace Substances was used.
QAPP Information Reference(s):	1999 Quality Assurance Project Plan Regional Monitoring Program for Trace Substances

DECISION ID 65084

Region 2

Open Ocean - Outside of Golden Gate

Pollutant:	Heptachlor epoxide
Final Listing Decision:	Do Not List on 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision:	New Decision
Revision Status	Revised
Impairment from Pollutant or Pollution:	Pollutant

Regional Board Staff Conclusion: This pollutant is being considered for placement on the CWA section 303(d) List under section 3.1 of the Listing Policy. Under section 3.1 a single line of evidence is necessary to assess listing status.

Two lines of evidence are available in the administrative record to assess this pollutant. One of twenty-four samples exceed the guideline.

Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against placing this water segment-pollutant combination on the CWA section 303(d) List in the Water Quality Limited Segments category.

This conclusion is based on the staff findings that:

1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy.
2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy.
3. One of twenty-four samples exceed the guideline and this does not exceed the allowable frequency listed in Table 3.1 of the Listing Policy.
4. Pursuant to section 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.

Regional Board Staff Decision Recommendation: After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be placed on the section 303(d) list because applicable water quality standards are not being exceeded.

Line of Evidence (LOE) for Decision ID 65084, Heptachlor epoxide Open Ocean - Outside of Golden Gate

Region 2

LOE ID:	92366
Pollutant:	Heptachlor epoxide
LOE Subgroup:	Pollutant-Water
Matrix:	Water
Fraction:	Dissolved
Beneficial Use:	Marine Habitat
Number of Samples:	23
Number of Exceedances:	0
Data and Information Type:	PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality:	State Water Board staff assessed SFEI data for Open Ocean - Outside of Golden Gate to determine beneficial use support and results are as follows: 0 of 23 samples exceed the criterion for Heptachlor Epoxide.
Data Reference:	Regional Monitoring Program data, Feb. 1993-Sep. 2008
SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	The Heptachlor Epoxide criterion continuous concentration (expressed as a 4-day average) to protect aquatic life in saline water is 0.0036 ug/L (California Toxics Rule, 2000).
Objective/Criterion Reference:	Code of Federal Regulations 40 part 131.38 Establishment of numeric criteria for priority toxic pollutants for the State of California. 7/1/2011 Edition
Evaluation Guideline:	
Guideline Reference:	

Spatial Representation:	Data for this line of evidence for Open Ocean - Outside of Golden Gate was collected at 1 monitoring site [Golden Gate - BC20]
Temporal Representation:	Data was collected over the time period 2/3/1994-8/10/2007.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	The 1999 Quality Assurance Project Plan Regional Monitoring Program for Trace Substances was used.
QAPP Information Reference(s):	1999 Quality Assurance Project Plan Regional Monitoring Program for Trace Substances

Line of Evidence (LOE) for Decision ID 65084, Heptachlor epoxide
Open Ocean - Outside of Golden Gate

Region 2

LOE ID:	92367
Pollutant:	Heptachlor epoxide
LOE Subgroup:	Pollutant-Water
Matrix:	Water
Fraction:	Total
Beneficial Use:	Commercial or recreational collection of fish, shellfish, or organisms
Number of Samples:	24
Number of Exceedances:	1
Data and Information Type:	PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality:	State Water Board staff assessed SFEI data for Open Ocean - Outside of Golden Gate to determine beneficial use support and results are as follows: 1 of 24 samples exceed the criterion for Heptachlor Epoxide.
Data Reference:	Regional Monitoring Program data, Feb. 1993-Sep. 2008
SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	The Heptachlor Epoxide criteria for the protection of human health from consumption of organisms only is 0.00011 ug/L (California Toxics Rule, 2000).
Objective/Criterion Reference:	Code of Federal Regulations 40 part 131.38 Establishment of numeric criteria for priority toxic pollutants for the State of California. 7/1/2011 Edition
Evaluation Guideline:	
Guideline Reference:	
Spatial Representation:	Data for this line of evidence for Open Ocean - Outside of Golden Gate was collected at 1 monitoring site [Golden Gate - BC20]
Temporal Representation:	Data was collected over the time period 2/3/1994-8/10/2007.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	The 1999 Quality Assurance Project Plan Regional Monitoring Program for Trace Substances was used.
QAPP Information Reference(s):	1999 Quality Assurance Project Plan Regional Monitoring Program for Trace Substances

DECISION ID 65085
Open Ocean - Outside of Golden Gate

Region 2

Pollutant:	Hexachlorobenzene/ HCB
Final Listing Decision:	Do Not List on 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision:	New Decision
Revision Status	Revised
Impairment from Pollutant or Pollution:	Pollutant

Regional Board Staff This pollutant is being considered for placement on the CWA section 303(d) List under section 3.1 of

Conclusion:	<p>the Listing Policy. Under section 3.1 a single line of evidence is necessary to assess listing status.</p> <p>One line of evidence is available in the administrative record to assess this pollutant. Zero of nineteen samples exceed the guideline.</p> <p>Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against placing this water segment-pollutant combination on the CWA section 303(d) List in the Water Quality Limited Segments category.</p> <p>This conclusion is based on the staff findings that:</p> <ol style="list-style-type: none"> 1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy. 2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy. 3. Zero of nineteen samples exceed the guideline and this does not exceed the allowable frequency listed in Table 3.1 of the Listing Policy. 4. Pursuant to section 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.
Regional Board Staff Decision Recommendation:	After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be placed on the section 303(d) list because applicable water quality standards are not being exceeded.

Line of Evidence (LOE) for Decision ID 65085, Hexachlorobenzene/ HCB
Open Ocean - Outside of Golden Gate

Region 2

LOE ID:	92368
Pollutant:	Hexachlorobenzene/ HCB
LOE Subgroup:	Pollutant-Water
Matrix:	Water
Fraction:	Total
Beneficial Use:	Commercial or recreational collection of fish, shellfish, or organisms
Number of Samples:	19
Number of Exceedances:	0
Data and Information Type:	PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality:	State Water Board staff assessed SFEI data for Open Ocean - Outside of Golden Gate to determine beneficial use support and results are as follows: 0 of 19 samples exceed the criterion for Hexachlorobenzene.
Data Reference:	Regional Monitoring Program data, Feb. 1993-Sep. 2008
SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	The Hexachlorobenzene criteria for the protection of human health from consumption of organisms only is 0.00077 ug/L (California Toxics Rule, 2000).
Objective/Criterion Reference:	Code of Federal Regulations 40 part 131.38 Establishment of numeric criteria for priority toxic pollutants for the State of California. 7/1/2011 Edition
Evaluation Guideline:	
Guideline Reference:	
Spatial Representation:	Data for this line of evidence for Open Ocean - Outside of Golden Gate was collected at 1 monitoring site [Golden Gate - BC20]
Temporal Representation:	Data was collected over the time period 3/3/1993-8/22/2006.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	The 1999 Quality Assurance Project Plan Regional Monitoring Program for Trace Substances was used.
QAPP Information Reference(s):	1999 Quality Assurance Project Plan Regional Monitoring Program for Trace Substances

Pollutant:	Lead
Final Listing Decision:	Do Not List on 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision:	New Decision
Revision Status	Revised
Impairment from Pollutant or Pollution:	Pollutant

Regional Board Staff Conclusion:

This pollutant is being considered for placement on the CWA section 303(d) List under section 3.1 of the Listing Policy. Under section 3.1 a single line of evidence is necessary to assess listing status.

One line of evidence is available in the administrative record to assess this pollutant. Zero of twenty-seven samples exceed the guideline.

Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against placing this water segment-pollutant combination on the CWA section 303(d) List in the Water Quality Limited Segments category.

This conclusion is based on the staff findings that:

1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy.
2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy.
3. Zero of twenty-seven samples exceed the guideline and this does not exceed the allowable frequency listed in Table 3.1 of the Listing Policy.
4. Pursuant to section 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.

Regional Board Staff Decision Recommendation: After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be placed on the section 303(d) list because applicable water quality standards are not being exceeded.

Line of Evidence (LOE) for Decision ID 65086, Lead	Region 2
Open Ocean - Outside of Golden Gate	

LOE ID:	92369
Pollutant:	Lead
LOE Subgroup:	Pollutant-Water
Matrix:	Water
Fraction:	Dissolved
Beneficial Use:	Marine Habitat
Number of Samples:	27
Number of Exceedances:	0
Data and Information Type:	PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality:	State Water Board staff assessed SFEI data for Open Ocean - Outside of Golden Gate to determine beneficial use support and results are as follows: 0 of 27 samples exceed the criterion for Lead.
Data Reference:	Regional Monitoring Program data, Feb. 1993-Sep. 2008
SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	The dissolved lead criterion continuous concentration (expressed as a 4-day average) to protect aquatic life in saline water is 0.0081 mg/L (California Toxics Rule, 2000).
Objective/Criterion Reference:	Code of Federal Regulations 40 part 131.38 Establishment of numeric criteria for priority toxic pollutants for the State of California. 7/1/2011 Edition

Evaluation Guideline:
Guideline Reference:

Spatial Representation: Data for this line of evidence for Open Ocean - Outside of Golden Gate was collected at 1 monitoring site [Golden Gate - BC20]

Temporal Representation: Data was collected over the time period 3/3/1993-7/14/2008.

Environmental Conditions: Staff is not aware of any special conditions that might affect interpretation of the data.

QAPP Information: The 1999 Quality Assurance Project Plan Regional Monitoring Program for Trace Substances was used.

QAPP Information Reference(s): [1999 Quality Assurance Project Plan Regional Monitoring Program for Trace Substances](#)

DECISION ID	65087	Region 2
Open Ocean - Outside of Golden Gate		

Pollutant:	Manganese
Final Listing Decision:	Do Not List on 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision:	New Decision
Revision Status	Revised
Impairment from Pollutant or Pollution:	Pollutant

Regional Board Staff Conclusion: This pollutant is being considered for placement on the CWA section 303(d) List under section 3.1 of the Listing Policy. Under section 3.1 a single line of evidence is necessary to assess listing status. One line of evidence is available in the administrative record to assess this pollutant. Zero of eight samples exceed the guideline.

Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against placing this water segment-pollutant combination on the CWA section 303(d) List.

This conclusion is based on the staff findings that:

1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy.
2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy.
3. Zero of eight samples exceed the guideline and this sample size is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating. A minimum of 16 samples is needed to determine if a beneficial use is fully supported using table 3.1.
4. Pursuant to SECTION 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.

Regional Board Staff Decision Recommendation: After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be placed on the section 303(d) list. The readily available data and information is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating.

Line of Evidence (LOE) for Decision ID 65087, Manganese	Region 2
Open Ocean - Outside of Golden Gate	

LOE ID:	92370
Pollutant:	Manganese
LOE Subgroup:	Pollutant-Water
Matrix:	Water
Fraction:	Total
Beneficial Use:	Commercial or recreational collection of fish, shellfish, or organisms
Number of Samples:	8

Number of Exceedances: 0

Data and Information Type: PHYSICAL/CHEMICAL MONITORING

Data Used to Assess Water Quality: State Water Board staff assessed SFEI data for Open Ocean - Outside of Golden Gate to determine beneficial use support and results are as follows: 0 of 8 samples exceed the criterion for Manganese.

Data Reference: [Regional Monitoring Program data, Feb. 1993-Sep. 2008](#)

SWAMP Data: Non-SWAMP

Water Quality Objective/Criterion: The Manganese criteria for the protection of human health from the consumption of organisms only is 100 ug/L (California Toxics Rule, 2000).

Objective/Criterion Reference: [Water Quality Control Plan \(Basin Plan\) San Francisco Bay Basin \(Region 2\)](#)

Evaluation Guideline: The Lead criteria for the protection of human health from fish consumption only is 100 ug/L (National Recommended Water Quality Criteria, 2009).

Guideline Reference: [National Recommended Water Quality Criteria. United States Environmental Protection Agency. Office of Water. Office of Science and Technology](#)

Spatial Representation: Data for this line of evidence for Open Ocean - Outside of Golden Gate was collected at 1 monitoring site [Golden Gate - BC20]

Temporal Representation: Data was collected over the time period 7/13/2000-7/14/2008.

Environmental Conditions: Staff is not aware of any special conditions that might affect interpretation of the data.

QAPP Information: The 1999 Quality Assurance Project Plan Regional Monitoring Program for Trace Substances was used.

QAPP Information Reference(s): [1999 Quality Assurance Project Plan Regional Monitoring Program for Trace Substances](#)

DECISION ID	65088	Region 2
Open Ocean - Outside of Golden Gate		

Pollutant: Mercury

Final Listing Decision: Do Not List on 303(d) list (TMDL required list)

Last Listing Cycle's Final Listing Decision: New Decision

Revision Status: Revised

Impairment from Pollutant or Pollution: Pollutant

Regional Board Staff Conclusion: This pollutant is being considered for placement on the CWA section 303(d) List under section 3.1 of the Listing Policy. Under section 3.1 a single line of evidence is necessary to assess listing status. One line of evidence is available in the administrative record to assess this pollutant. Zero of seven samples exceed the guideline.

Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against placing this water segment-pollutant combination on the CWA section 303(d) List.

This conclusion is based on the staff findings that:

1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy.
2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy.
3. Zero of seven samples exceed the guideline and this sample size is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating. A minimum of 16 samples is needed to determine if a beneficial use is fully supported using table 3.1.
4. Pursuant to SECTION 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.

Regional Board Staff Decision Recommendation: After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be placed on the section 303(d) list. The readily available data and information is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating.

Open Ocean - Outside of Golden Gate

LOE ID:	92371
Pollutant:	Mercury
LOE Subgroup:	Pollutant-Water
Matrix:	Water
Fraction:	Total
Beneficial Use:	Commercial or recreational collection of fish, shellfish, or organisms
Number of Samples:	7
Number of Exceedances:	0
Data and Information Type:	PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality:	State Water Board staff assessed SFEI data for Open Ocean - Outside of Golden Gate to determine beneficial use support and results are as follows: 0 of 7 samples exceed the criterion for Mercury, methyl.
Data Reference:	Regional Monitoring Program data, Feb. 1993-Sep. 2008
SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	The Mercury, methyl criteria for the protection of human health from consumption of organisms only is 0.051 ug/L (California Toxics Rule, 2000).
Objective/Criterion Reference:	Code of Federal Regulations 40 part 131.38 Establishment of numeric criteria for priority toxic pollutants for the State of California. 7/1/2011 Edition
Evaluation Guideline:	
Guideline Reference:	
Spatial Representation:	Data for this line of evidence for Open Ocean - Outside of Golden Gate was collected at 1 monitoring site [Golden Gate - BC20]
Temporal Representation:	Data was collected over the time period 8/2/2001-7/14/2008.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	The 1999 Quality Assurance Project Plan Regional Monitoring Program for Trace Substances was used.
QAPP Information Reference(s):	1999 Quality Assurance Project Plan Regional Monitoring Program for Trace Substances

DECISION ID 65089

Region 2

Open Ocean - Outside of Golden Gate

Pollutant:	Mirex
Final Listing Decision:	Do Not List on 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision:	New Decision
Revision Status	Revised
Impairment from Pollutant or Pollution:	Pollutant
Regional Board Staff Conclusion:	<p>This pollutant is being considered for placement on the CWA section 303(d) List under section 3.1 of the Listing Policy. Under section 3.1 a single line of evidence is necessary to assess listing status.</p> <p>Two lines of evidence are available in the administrative record to assess this pollutant. Zero of twenty-two samples exceed the guideline.</p> <p>Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against placing this water segment-pollutant combination on the CWA section 303(d) List in the Water Quality Limited Segments category.</p>

This conclusion is based on the staff findings that:

1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy.
2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy.
3. Zero of twenty-two samples exceed the guideline and this does not exceed the allowable frequency listed in Table 3.1 of the Listing Policy.
4. Pursuant to section 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.

Regional Board Staff Decision Recommendation: After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be placed on the section 303(d) list because applicable water quality standards are not being exceeded.

**Line of Evidence (LOE) for Decision ID 65089, Mirex
Open Ocean - Outside of Golden Gate**

Region 2

LOE ID: 92373

Pollutant: Mirex
LOE Subgroup: Pollutant-Water
Matrix: Water
Fraction: Dissolved

Beneficial Use: Marine Habitat

Number of Samples: 21
Number of Exceedances: 0

Data and Information Type: PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality: State Water Board staff assessed SFEI data for Open Ocean - Outside of Golden Gate to determine beneficial use support and results are as follows: 0 of 21 samples exceed the criterion for Mirex.

Data Reference: [Regional Monitoring Program data, Feb. 1993-Sep. 2008](#)

SWAMP Data: Non-SWAMP

Water Quality Objective/Criterion: No individual pesticide or combination of pesticides shall be present in concentrations that adversely affect beneficial uses.

Objective/Criterion Reference: [Water Quality Control Plan \(Basin Plan\) San Francisco Bay Basin \(Region 2\)](#)

Evaluation Guideline: The USEPA Gold Book states 0.001 ug/L for the protection of freshwater and marine aquatic life. (USEPA Gold Book - EPA 440/5-86-001)

Guideline Reference: [Quality Criteria for Water 1986, United States Environmental Protection Agency, Office of Water, Regulations and Standards, Washington D.C. EPA 440/5-86-001.](#)

Spatial Representation: Data for this line of evidence for Open Ocean - Outside of Golden Gate was collected at 1 monitoring site [Golden Gate - BC20]

Temporal Representation: Data was collected over the time period 4/21/1994-8/10/2007.

Environmental Conditions: Staff is not aware of any special conditions that might affect interpretation of the data.

QAPP Information: The 1999 Quality Assurance Project Plan Regional Monitoring Program for Trace Substances was used.

QAPP Information Reference(s): [1999 Quality Assurance Project Plan Regional Monitoring Program for Trace Substances](#)

**Line of Evidence (LOE) for Decision ID 65089, Mirex
Open Ocean - Outside of Golden Gate**

Region 2

LOE ID: 92372

Pollutant: Mirex
LOE Subgroup: Pollutant-Water

Matrix:	Water
Fraction:	Total
Beneficial Use:	Commercial or recreational collection of fish, shellfish, or organisms
Number of Samples:	22
Number of Exceedances:	0
Data and Information Type:	PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality:	State Water Board staff assessed SFEI data for Open Ocean - Outside of Golden Gate to determine beneficial use support and results are as follows: 0 of 22 samples exceed the criterion for Mirex.
Data Reference:	Regional Monitoring Program data, Feb. 1993-Sep. 2008
SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	No individual pesticide or combination of pesticides shall be present in concentrations that adversely affect beneficial uses.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	The Mirex criteria for the protection of human health from consumption of organisms only is 0.000097 ug/L (National Recommended Water Quality Criteria, 2009).
Guideline Reference:	National Recommended Water Quality Criteria. United States Environmental Protection Agency. Office of Water. Office of Science and Technology
Spatial Representation:	Data for this line of evidence for Open Ocean - Outside of Golden Gate was collected at 1 monitoring site [Golden Gate - BC20]
Temporal Representation:	Data was collected over the time period 4/21/1994-8/10/2007.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	The 1999 Quality Assurance Project Plan Regional Monitoring Program for Trace Substances was used.
QAPP Information Reference(s):	1999 Quality Assurance Project Plan Regional Monitoring Program for Trace Substances

DECISION ID	65090	Region 2
Open Ocean - Outside of Golden Gate		

Pollutant:	Nickel
Final Listing Decision:	Do Not List on 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision:	New Decision
Revision Status	Revised
Impairment from Pollutant or Pollution:	Pollutant

Regional Board Staff Conclusion:	<p>This pollutant is being considered for placement on the CWA section 303(d) List under section 3.1 of the Listing Policy. Under section 3.1 a single line of evidence is necessary to assess listing status.</p> <p>Two lines of evidence are available in the administrative record to assess this pollutant. Zero of twenty-eight samples exceed the guideline.</p> <p>Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against placing this water segment-pollutant combination on the CWA section 303(d) List in the Water Quality Limited Segments category.</p> <p>This conclusion is based on the staff findings that:</p> <ol style="list-style-type: none"> 1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy. 2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy. 3. Zero of twenty-eight samples exceed the guideline and this does not exceed the allowable frequency listed in Table 3.1 of the Listing Policy. 4. Pursuant to section 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.
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Regional Board Staff Decision Recommendation: After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be placed on the section 303(d) list because applicable water quality standards are not being exceeded.

Line of Evidence (LOE) for Decision ID 65090, Nickel

Region 2

Open Ocean - Outside of Golden Gate

LOE ID: 92375

Pollutant: Nickel
LOE Subgroup: Pollutant-Water
Matrix: Water
Fraction: Total

Beneficial Use: Commercial or recreational collection of fish, shellfish, or organisms

Number of Samples: 28
Number of Exceedances: 0

Data and Information Type: PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality: State Water Board staff assessed SFEI data for Open Ocean - Outside of Golden Gate to determine beneficial use support and results are as follows: 0 of 28 samples exceed the criterion for Nickel.

Data Reference: [Regional Monitoring Program data, Feb. 1993-Sep. 2008](#)

SWAMP Data: Non-SWAMP

Water Quality Objective/Criterion: The Nickel criteria for the protection of human health from consumption of organisms only is 4.6 mg/L (California Toxics Rule, 2000).

Objective/Criterion Reference: [Code of Federal Regulations 40 part 131.38 Establishment of numeric criteria for priority toxic pollutants for the State of California, 7/1/2011 Edition](#)

Evaluation Guideline:
Guideline Reference:

Spatial Representation: Data for this line of evidence for Open Ocean - Outside of Golden Gate was collected at 1 monitoring site [Golden Gate - BC20]

Temporal Representation: Data was collected over the time period 3/3/1993-7/14/2008.

Environmental Conditions: Staff is not aware of any special conditions that might affect interpretation of the data.

QAPP Information: The 1999 Quality Assurance Project Plan Regional Monitoring Program for Trace Substances was used.

QAPP Information Reference(s): [1999 Quality Assurance Project Plan Regional Monitoring Program for Trace Substances](#)

Line of Evidence (LOE) for Decision ID 65090, Nickel

Region 2

Open Ocean - Outside of Golden Gate

LOE ID: 92374

Pollutant: Nickel
LOE Subgroup: Pollutant-Water
Matrix: Water
Fraction: Dissolved

Beneficial Use: Marine Habitat

Number of Samples: 28
Number of Exceedances: 0

Data and Information Type: PHYSICAL/CHEMICAL MONITORING

Data Used to Assess Water Quality: State Water Board staff assessed SFEI data for Open Ocean - Outside of Golden Gate to determine beneficial use support and results are as follows: 0 of 28 samples exceed the criterion for Nickel.

Data Reference: [Regional Monitoring Program data, Feb. 1993-Sep. 2008](#)

SWAMP Data: Non-SWAMP

Water Quality Objective/Criterion: The dissolved nickel criterion continuous concentration (expressed as a 4-day average) to protect aquatic life in saline water is 0.0082 mg/L (California Toxics Rule, 2000).

Objective/Criterion Reference: [Code of Federal Regulations 40 part 131.38 Establishment of numeric criteria for priority toxic pollutants for the State of California. 7/1/2011 Edition](#)

Evaluation Guideline:
Guideline Reference:

Spatial Representation: Data for this line of evidence for Open Ocean - Outside of Golden Gate was collected at 1 monitoring site [Golden Gate - BC20]

Temporal Representation: Data was collected over the time period 3/3/1993-7/14/2008.

Environmental Conditions: Staff is not aware of any special conditions that might affect interpretation of the data.

QAPP Information: The 1999 Quality Assurance Project Plan Regional Monitoring Program for Trace Substances was used.

QAPP Information Reference(s): [1999 Quality Assurance Project Plan Regional Monitoring Program for Trace Substances](#)

DECISION ID	65091	Region 2
Open Ocean - Outside of Golden Gate		

Pollutant: PCBs (Polychlorinated biphenyls)

Final Listing Decision: Do Not List on 303(d) list (TMDL required list)

Last Listing Cycle's Final Listing Decision: New Decision

Revision Status: Revised

Impairment from Pollutant or Pollution: Pollutant

Regional Board Staff Conclusion: This pollutant is being considered for placement on the CWA section 303(d) List under section 3.1 of the Listing Policy. Under section 3.1 a single line of evidence is necessary to assess listing status.

Two lines of evidence are available in the administrative record to assess this pollutant. Eight of twenty-five samples exceed the guideline.

Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against placing this water segment-pollutant combination on the CWA section 303(d) List in the Water Quality Limited Segments category.

This conclusion is based on the staff findings that:

1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy.
2. The data used DO NOT satisfy quantity requirements of section 6.1.5 of the Policy in that the samples do not spatially represent the quality of the waters of the water body. See below.
3. Eight of twenty-five samples exceed the guideline and this does not exceed the allowable frequency listed in Table 3.1 of the Listing Policy.
4. However - these exceedances do not represent the quality of the open ocean waters. Rather, the source of PCBs is from the watersheds draining to the Bay, which is impaired. The data collected and analyzed were gathered at a location just beyond the boundary of SF Bay and likely represent the collection of Bay water, not open ocean water. Therefore, these data do not adequately represent the quality of open ocean water and should not be the basis of determining impairment for this pollutant.
5. Pursuant to section 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.

Regional Board Staff Decision Recommendation: After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be placed on the section 303(d) list because applicable water

quality standards are not being exceeded.

Line of Evidence (LOE) for Decision ID 65091, PCBs (Polychlorinated biphenyls)

Region 2

Open Ocean - Outside of Golden Gate

LOE ID:	92376
Pollutant:	PCBs (Polychlorinated biphenyls)
LOE Subgroup:	Pollutant-Water
Matrix:	Water
Fraction:	Dissolved
Beneficial Use:	Marine Habitat
Number of Samples:	24
Number of Exceedances:	0
Data and Information Type:	PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality:	State Water Board staff assessed SFEI data for Open Ocean - Outside of Golden Gate to determine beneficial use support and results are as follows: 0 of 24 samples exceed the criterion for PCB, Total.
Data Reference:	Regional Monitoring Program data, Feb. 1993-Sep. 2008
SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	The PCB, Total criterion continuous concentration (expressed as a 4-day average) to protect aquatic life in saltwater is 0.03 ug/L (California Toxics Rule, 2000).
Objective/Criterion Reference:	Code of Federal Regulations 40 part 131.38 Establishment of numeric criteria for priority toxic pollutants for the State of California. 7/1/2011 Edition
Evaluation Guideline:	
Guideline Reference:	
Spatial Representation:	Data for this line of evidence for Open Ocean - Outside of Golden Gate was collected at 1 monitoring site [Golden Gate - BC20]
Temporal Representation:	Data was collected over the time period 3/3/1993-8/10/2007.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	The 1999 Quality Assurance Project Plan Regional Monitoring Program for Trace Substances was used.
QAPP Information Reference(s):	1999 Quality Assurance Project Plan Regional Monitoring Program for Trace Substances

Line of Evidence (LOE) for Decision ID 65091, PCBs (Polychlorinated biphenyls)

Region 2

Open Ocean - Outside of Golden Gate

LOE ID:	92377
Pollutant:	PCBs (Polychlorinated biphenyls)
LOE Subgroup:	Pollutant-Water
Matrix:	Water
Fraction:	Total
Beneficial Use:	Commercial or recreational collection of fish, shellfish, or organisms
Number of Samples:	25
Number of Exceedances:	8
Data and Information Type:	PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality:	State Water Board staff assessed SFEI data for Open Ocean - Outside of Golden Gate to determine beneficial use support and results are as follows: 8 of 25 samples exceed the criterion for PCB, Total.

Data Reference: [Regional Monitoring Program data, Feb. 1993-Sep. 2008](#)

SWAMP Data: Non-SWAMP

Water Quality Objective/Criterion: The Polychlorinated Biphenyls criteria for the protection of human health from consumption of organisms only is 0.00017 ug/L (California Toxics Rule, 2000).

Objective/Criterion Reference: [Code of Federal Regulations 40 part 131.38 Establishment of numeric criteria for priority toxic pollutants for the State of California. 7/1/2011 Edition](#)

Evaluation Guideline:
Guideline Reference:

Spatial Representation: Data for this line of evidence for Open Ocean - Outside of Golden Gate was collected at 1 monitoring site [Golden Gate - BC20]

Temporal Representation: Data was collected over the time period 3/3/1993-8/10/2007.

Environmental Conditions: Staff is not aware of any special conditions that might affect interpretation of the data.

QAPP Information: The 1999 Quality Assurance Project Plan Regional Monitoring Program for Trace Substances was used.

QAPP Information Reference(s): [1999 Quality Assurance Project Plan Regional Monitoring Program for Trace Substances](#)

DECISION ID	65092	Region 2
Open Ocean - Outside of Golden Gate		

Pollutant: Pyrene

Final Listing Decision: Do Not List on 303(d) list (TMDL required list)

Last Listing Cycle's Final Listing Decision: New Decision

Revision Status: Revised

Impairment from Pollutant or Pollution: Pollutant

Regional Board Staff Conclusion:

This pollutant is being considered for placement on the CWA section 303(d) List under section 3.1 of the Listing Policy. Under section 3.1 a single line of evidence is necessary to assess listing status.

One line of evidence is available in the administrative record to assess this pollutant. Zero of twenty samples exceed the guideline.

Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against placing this water segment-pollutant combination on the CWA section 303(d) List in the Water Quality Limited Segments category.

This conclusion is based on the staff findings that:

1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy.
2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy.
3. Zero of twenty samples exceed the guideline and this does not exceed the allowable frequency listed in Table 3.1 of the Listing Policy.
4. Pursuant to section 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.

Regional Board Staff Decision Recommendation: After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be placed on the section 303(d) list because applicable water quality standards are not being exceeded.

Line of Evidence (LOE) for Decision ID 65092, Pyrene	Region 2
Open Ocean - Outside of Golden Gate	

LOE ID: 92378

Pollutant: Pyrene

LOE Subgroup:	Pollutant-Water
Matrix:	Water
Fraction:	Total
Beneficial Use:	Commercial or recreational collection of fish, shellfish, or organisms
Number of Samples:	20
Number of Exceedances:	0
Data and Information Type:	PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality:	State Water Board staff assessed SFEI data for Open Ocean - Outside of Golden Gate to determine beneficial use support and results are as follows: 0 of 20 samples exceed the criterion for Pyrene.
Data Reference:	Regional Monitoring Program data, Feb. 1993-Sep. 2008
SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	The Pyrene criteria for the protection of human health from consumption of organisms only is 11,000 ug/L (California Toxics Rule, 2000).
Objective/Criterion Reference:	Code of Federal Regulations 40 part 131.38 Establishment of numeric criteria for priority toxic pollutants for the State of California. 7/1/2011 Edition
Evaluation Guideline:	
Guideline Reference:	
Spatial Representation:	Data for this line of evidence for Open Ocean - Outside of Golden Gate was collected at 1 monitoring site [Golden Gate - BC20]
Temporal Representation:	Data was collected over the time period 3/3/1993-7/14/2008.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	The 1999 Quality Assurance Project Plan Regional Monitoring Program for Trace Substances was used.
QAPP Information Reference(s):	1999 Quality Assurance Project Plan Regional Monitoring Program for Trace Substances

DECISION ID	65093	Region 2
Open Ocean - Outside of Golden Gate		

Pollutant:	Selenium
Final Listing Decision:	Do Not List on 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision:	New Decision
Revision Status	Revised
Impairment from Pollutant or Pollution:	Pollutant

Regional Board Staff Conclusion:

This pollutant is being considered for placement on the CWA section 303(d) List under section 3.1 of the Listing Policy. Under section 3.1 a single line of evidence is necessary to assess listing status.

One line of evidence is available in the administrative record to assess this pollutant. Zero of twenty-eight samples exceed the guideline.

Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against placing this water segment-pollutant combination on the CWA section 303(d) List in the Water Quality Limited Segments category.

This conclusion is based on the staff findings that:

1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy.
2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy.
3. Zero of twenty-eight samples exceed the guideline and this does not exceed the allowable frequency listed in Table 3.1 of the Listing Policy.
4. Pursuant to section 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.

Regional Board Staff Decision Recommendation: After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be placed on the section 303(d) list because applicable water quality standards are not being exceeded.

Line of Evidence (LOE) for Decision ID 65093, Selenium
Open Ocean - Outside of Golden Gate

Region 2

LOE ID: 92379

Pollutant: Selenium
LOE Subgroup: Pollutant-Water
Matrix: Water
Fraction: Dissolved

Beneficial Use: Marine Habitat

Number of Samples: 28
Number of Exceedances: 0

Data and Information Type: PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality: State Water Board staff assessed SFEI data for Open Ocean - Outside of Golden Gate to determine beneficial use support and results are as follows: 0 of 28 samples exceed the criterion for Selenium.

Data Reference: [Regional Monitoring Program data, Feb. 1993-Sep. 2008](#)

SWAMP Data: Non-SWAMP

Water Quality Objective/Criterion: The dissolved selenium criterion continuous concentration (expressed as a 4-day average) to protect aquatic life in saline water is 5 ug/L (California Toxics Rule, 2000).

Objective/Criterion Reference: [Code of Federal Regulations 40 part 131.38 Establishment of numeric criteria for priority toxic pollutants for the State of California, 7/1/2011 Edition](#)

Evaluation Guideline:
Guideline Reference:

Spatial Representation: Data for this line of evidence for Open Ocean - Outside of Golden Gate was collected at 1 monitoring site [Golden Gate - BC20]

Temporal Representation: Data was collected over the time period 3/3/1993-7/14/2008.

Environmental Conditions: Staff is not aware of any special conditions that might affect interpretation of the data.

QAPP Information: The 1999 Quality Assurance Project Plan Regional Monitoring Program for Trace Substances was used.

QAPP Information Reference(s): [1999 Quality Assurance Project Plan Regional Monitoring Program for Trace Substances](#)

DECISION ID 65094
Open Ocean - Outside of Golden Gate

Region 2

Pollutant: Silver
Final Listing Decision: Do Not List on 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision: New Decision
Revision Status: Revised
Impairment from Pollutant or Pollution: Pollutant

Regional Board Staff Conclusion: This pollutant is being considered for placement on the CWA section 303(d) List under section 3.1 of the Listing Policy. Under section 3.1 a single line of evidence is necessary to assess listing status.

One line of evidence is available in the administrative record to assess this pollutant. Zero of twenty-

three samples exceed the guideline.

Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against placing this water segment-pollutant combination on the CWA section 303(d) List in the Water Quality Limited Segments category.

This conclusion is based on the staff findings that:

1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy.
2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy.
3. Zero of twenty-three samples exceed the guideline and this does not exceed the allowable frequency listed in Table 3.1 of the Listing Policy.
4. Pursuant to section 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.

Regional Board Staff Decision Recommendation: After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be placed on the section 303(d) list because applicable water quality standards are not being exceeded.

**Line of Evidence (LOE) for Decision ID 65094, Silver
Open Ocean - Outside of Golden Gate**

Region 2

LOE ID:	92380
Pollutant:	Silver
LOE Subgroup:	Pollutant-Water
Matrix:	Water
Fraction:	Dissolved
Beneficial Use:	Marine Habitat
Number of Samples:	23
Number of Exceedances:	0
Data and Information Type:	PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality:	State Water Board staff assessed SFEI data for Open Ocean - Outside of Golden Gate to determine beneficial use support and results are as follows: 0 of 23 samples exceed the criterion for Silver.
Data Reference:	Regional Monitoring Program data, Feb. 1993-Sep. 2008
SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	The dissolved silver criterion maximum concentration to protect aquatic life in saline water is 0.0019 mg/L (California Toxics Rule, 2000).
Objective/Criterion Reference:	Code of Federal Regulations 40 part 131.38 Establishment of numeric criteria for priority toxic pollutants for the State of California. 7/1/2011 Edition
Evaluation Guideline:	
Guideline Reference:	
Spatial Representation:	Data for this line of evidence for Open Ocean - Outside of Golden Gate was collected at 1 monitoring site [Golden Gate - BC20]
Temporal Representation:	Data was collected over the time period 3/3/1993-7/14/2008.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	The 1999 Quality Assurance Project Plan Regional Monitoring Program for Trace Substances was used.
QAPP Information Reference(s):	1999 Quality Assurance Project Plan Regional Monitoring Program for Trace Substances

**DECISION ID 65096
Open Ocean - Outside of Golden Gate**

Region 2

Pollutant: Zinc
Final Listing Decision: Do Not List on 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision: New Decision
Revision Status: Revised
Impairment from Pollutant or Pollution: Pollutant

Regional Board Staff Conclusion: This pollutant is being considered for placement on the CWA section 303(d) List under section 3.1 of the Listing Policy. Under section 3.1 a single line of evidence is necessary to assess listing status.

Two lines of evidence are available in the administrative record to assess this pollutant. Zero of twenty-eight samples exceed the guideline.

Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against placing this water segment-pollutant combination on the CWA section 303(d) List in the Water Quality Limited Segments category.

This conclusion is based on the staff findings that:

1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy.
2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy.
3. Zero of twenty-eight samples exceed the guideline and this does not exceed the allowable frequency listed in Table 3.1 of the Listing Policy.
4. Pursuant to section 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.

Regional Board Staff Decision Recommendation: After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be placed on the section 303(d) list because applicable water quality standards are not being exceeded.

Line of Evidence (LOE) for Decision ID 65096, Zinc Open Ocean - Outside of Golden Gate

Region 2

LOE ID: 92383

Pollutant: Zinc
LOE Subgroup: Pollutant-Water
Matrix: Water
Fraction: Total

Beneficial Use: Commercial or recreational collection of fish, shellfish, or organisms

Number of Samples: 28
Number of Exceedances: 0

Data and Information Type: PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality: State Water Board staff assessed SFEI data for Open Ocean - Outside of Golden Gate to determine beneficial use support and results are as follows: 0 of 28 samples exceed the criterion for Zinc.

Data Reference: [Regional Monitoring Program data, Feb. 1993-Sep. 2008](#)

SWAMP Data: Non-SWAMP

Water Quality Objective/Criterion: Surface?waters?shall?not?contain?concentrations?of?chemical?constituents?in?amounts?that?adversely?affect?any?designated?beneficial?use.

Objective/Criterion Reference: [Water Quality Control Plan \(Basin Plan\) San Francisco Bay Basin \(Region 2\)](#)

Evaluation Guideline: The Zinc criteria for the protection of human health from consumption of fish only is 26000 ug/L (National Recommended Water Quality Criteria, 2009).

Guideline Reference: [National Recommended Water Quality Criteria. United States Environmental Protection](#)

Spatial Representation: Data for this line of evidence for Open Ocean - Outside of Golden Gate was collected at 1 monitoring site [Golden Gate - BC20]

Temporal Representation: Data was collected over the time period 3/3/1993-7/14/2008.

Environmental Conditions: Staff is not aware of any special conditions that might affect interpretation of the data.

QAPP Information: The 1999 Quality Assurance Project Plan Regional Monitoring Program for Trace Substances was used.

QAPP Information Reference(s): [1999 Quality Assurance Project Plan Regional Monitoring Program for Trace Substances](#)

Line of Evidence (LOE) for Decision ID 65096, Zinc

Region 2

Open Ocean - Outside of Golden Gate

LOE ID: 92384

Pollutant: Zinc

LOE Subgroup: Pollutant-Water

Matrix: Water

Fraction: Dissolved

Beneficial Use: Marine Habitat

Number of Samples: 28

Number of Exceedances: 0

Data and Information Type: PHYSICAL/CHEMICAL MONITORING

Data Used to Assess Water Quality: State Water Board staff assessed SFEI data for Open Ocean - Outside of Golden Gate to determine beneficial use support and results are as follows: 0 of 28 samples exceed the criterion for Zinc.

Data Reference: [Regional Monitoring Program data, Feb. 1993-Sep. 2008](#)

SWAMP Data: Non-SWAMP

Water Quality Objective/Criterion: The dissolved zinc criterion continuous concentration (expressed as a 4-day average) to protect aquatic life in saline water is 0.081 mg/L (California Toxics Rule, 2000).

Objective/Criterion Reference: [Code of Federal Regulations 40 part 131.38 Establishment of numeric criteria for priority toxic pollutants for the State of California. 7/1/2011 Edition](#)

Evaluation Guideline:

Guideline Reference:

Spatial Representation: Data for this line of evidence for Open Ocean - Outside of Golden Gate was collected at 1 monitoring site [Golden Gate - BC20]

Temporal Representation: Data was collected over the time period 3/3/1993-7/14/2008.

Environmental Conditions: Staff is not aware of any special conditions that might affect interpretation of the data.

QAPP Information: The 1999 Quality Assurance Project Plan Regional Monitoring Program for Trace Substances was used.

QAPP Information Reference(s): [1999 Quality Assurance Project Plan Regional Monitoring Program for Trace Substances](#)

DECISION ID 65067

Region 2

Open Ocean - Outside of Golden Gate

Pollutant: alpha-Endosulfan (Endosulfan 1)

Final Listing Decision: Do Not List on 303(d) list (TMDL required list)

Last Listing Cycle's Final Listing Decision: New Decision

Revision Status: Revised

Impairment from Pollutant or Pollution: Pollutant

**Regional Board Staff
Conclusion:**

This pollutant is being considered for placement on the CWA section 303(d) List under section 3.1 of the Listing Policy. Under section 3.1 a single line of evidence is necessary to assess listing status.

One line of evidence is available in the administrative record to assess this pollutant. Zero of twenty-one samples exceed the guideline.

Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against placing this water segment-pollutant combination on the CWA section 303(d) List in the Water Quality Limited Segments category.

This conclusion is based on the staff findings that:

1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy.
2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy.
3. Zero of twenty-one samples exceed the guideline and this does not exceed the allowable frequency listed in Table 3.1 of the Listing Policy.
4. Pursuant to section 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.

**Regional Board Staff Decision
Recommendation:**

After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be placed on the section 303(d) list because applicable water quality standards are not being exceeded.

Line of Evidence (LOE) for Decision ID 65067, alpha-Endosulfan (Endosulfan 1)

Region 2

Open Ocean - Outside of Golden Gate

LOE ID:	92390
Pollutant:	alpha-Endosulfan (Endosulfan 1)
LOE Subgroup:	Pollutant-Water
Matrix:	Water
Fraction:	Total
Beneficial Use:	Commercial or recreational collection of fish, shellfish, or organisms
Number of Samples:	21
Number of Exceedances:	0
Data and Information Type:	PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality:	State Water Board staff assessed SFEI data for Open Ocean - Outside of Golden Gate to determine beneficial use support and results are as follows: 0 of 21 samples exceed the criterion for Endosulfan I.
Data Reference:	Regional Monitoring Program data, Feb. 1993-Sep. 2008
SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	The Endosulfan I criteria for the protection of human health from consumption of organisms only is 240 ug/L (California Toxics Rule, 2000).
Objective/Criterion Reference:	Code of Federal Regulations 40 part 131.38 Establishment of numeric criteria for priority toxic pollutants for the State of California. 7/1/2011 Edition
Evaluation Guideline:	
Guideline Reference:	
Spatial Representation:	Data for this line of evidence for Open Ocean - Outside of Golden Gate was collected at 1 monitoring site [Golden Gate - BC20]
Temporal Representation:	Data was collected over the time period 2/3/1994-8/10/2007.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	The 1999 Quality Assurance Project Plan Regional Monitoring Program for Trace Substances was used.
QAPP Information Reference(s):	1999 Quality Assurance Project Plan Regional Monitoring Program for Trace Substances

DECISION ID	65097	Region 2
Open Ocean - Outside of Golden Gate		

Pollutant:	beta-Endosulfan (Endosulfan 2)
Final Listing Decision:	Do Not List on 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision:	New Decision
Revision Status	Revised
Impairment from Pollutant or Pollution:	Pollutant
Regional Board Staff Conclusion:	<p>This pollutant is being considered for placement on the CWA section 303(d) List under section 3.1 of the Listing Policy. Under section 3.1 a single line of evidence is necessary to assess listing status.</p> <p>One line of evidence is available in the administrative record to assess this pollutant. Zero of twenty-one samples exceed the guideline.</p> <p>Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against placing this water segment-pollutant combination on the CWA section 303(d) List in the Water Quality Limited Segments category.</p> <p>This conclusion is based on the staff findings that:</p> <ol style="list-style-type: none"> 1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy. 2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy. 3. Zero of twenty-one samples exceed the guideline and this does not exceed the allowable frequency listed in Table 3.1 of the Listing Policy. 4. Pursuant to section 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.
Regional Board Staff Decision Recommendation:	After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be placed on the section 303(d) list because applicable water quality standards are not being exceeded.

Line of Evidence (LOE) for Decision ID 65097, beta-Endosulfan (Endosulfan 2)	Region 2
Open Ocean - Outside of Golden Gate	

LOE ID:	92395
Pollutant:	beta-Endosulfan (Endosulfan 2)
LOE Subgroup:	Pollutant-Water
Matrix:	Water
Fraction:	Total
Beneficial Use:	Commercial or recreational collection of fish, shellfish, or organisms
Number of Samples:	21
Number of Exceedances:	0
Data and Information Type:	PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality:	State Water Board staff assessed SFEI data for Open Ocean - Outside of Golden Gate to determine beneficial use support and results are as follows: 0 of 21 samples exceed the criterion for Endosulfan II.
Data Reference:	Regional Monitoring Program data, Feb. 1993-Sep. 2008
SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	The Endosulfan II criteria for the protection of human health from consumption of organisms only is 240 ug/L (California Toxics Rule, 2000).
Objective/Criterion Reference:	Code of Federal Regulations 40 part 131.38 Establishment of numeric criteria for priority

Evaluation Guideline:

Guideline Reference:

Spatial Representation:

Data for this line of evidence for Open Ocean - Outside of Golden Gate was collected at 1 monitoring site [Golden Gate - BC20]

Temporal Representation:

Data was collected over the time period 2/3/1994-8/22/2006.

Environmental Conditions:

Staff is not aware of any special conditions that might affect interpretation of the data.

QAPP Information:

The 1999 Quality Assurance Project Plan Regional Monitoring Program for Trace Substances was used.

QAPP Information Reference(s):

[1999 Quality Assurance Project Plan Regional Monitoring Program for Trace Substances](#)

Draft California 2016 Integrated Report (303(d) List/305(b) Report)

Supporting Information

Regional Board 2 - San Francisco Bay Region

Water Body Name: Devils Gulch Creek
Water Body ID: CAR2011302320110723183732
Water Body Type: River & Stream

DECISION ID 64417 **Region 2**
Devils Gulch Creek

Pollutant: Alkalinity as CaCO₃
Final Listing Decision: Do Not List on 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision: New Decision
Revision Status Revised
Impairment from Pollutant or Pollution: Pollutant

Regional Board Staff Conclusion: This pollutant is being considered for placement on the CWA section 303(d) List under section 3.1 of the Listing Policy. Under section 3.1 a single line of evidence is necessary to assess listing status. Two lines of evidence are available in the administrative record to assess this pollutant. Zero of one samples exceed the guideline.

Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against placing this water segment-pollutant combination on the CWA section 303(d) List.

This conclusion is based on the staff findings that:

1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy.
2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy.
3. Zero of one samples exceed the guideline and this sample size is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating. A minimum of 16 samples is needed to determine if a beneficial use is fully supported using table 3.1.
4. Pursuant to SECTION 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.

Regional Board Staff Decision Recommendation: After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be placed on the section 303(d) list. The readily available data and information is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating.

Line of Evidence (LOE) for Decision ID 64417, Alkalinity as CaCO₃ **Region 2**
Devils Gulch Creek

LOE ID: 91731
Pollutant: Alkalinity as CaCO₃
LOE Subgroup: Pollutant-Water
Matrix: Water
Fraction: Total
Beneficial Use: Warm Freshwater Habitat
Number of Samples: 1
Number of Exceedances: 0

Data and Information Type:	PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality:	State Water Board staff assessed SWAMP data for Devils Gulch Creek to determine beneficial use support and results are as follows: 0 of 1 samples exceed the criterion for Alkalinity as CaCO ₃ .
Data Reference:	Statewide Ref Condition Management Plan 2008
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	Surface waters shall not contain concentrations of chemical constituents in amounts that adversely affect any designated beneficial use.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	The Alkalinity as CaCO ₃ criteria for the protection of freshwater aquatic life is 20000 ug/L (National Recommended Water Quality Criteria, 2009).
Guideline Reference:	National Recommended Water Quality Criteria. United States Environmental Protection Agency. Office of Water. Office of Science and Technology
Spatial Representation:	Data for this line of evidence for Devils Gulch Creek was collected at 1 monitoring site [Devils Gulch - 201LAG190]
Temporal Representation:	Data was collected on a single day 10/6/2008.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	The SWAMP QAPP (2008) was followed.
QAPP Information Reference(s):	Surface Water Ambient Monitoring Program Quality Assurance Program Plan

Line of Evidence (LOE) for Decision ID 64417, Alkalinity as CaCO₃

Region 2

Devils Gulch Creek

LOE ID:	91732
Pollutant:	Alkalinity as CaCO ₃
LOE Subgroup:	Pollutant-Water
Matrix:	Water
Fraction:	Total
Beneficial Use:	Cold Freshwater Habitat
Number of Samples:	1
Number of Exceedances:	0
Data and Information Type:	PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality:	State Water Board staff assessed SWAMP data for Devils Gulch Creek to determine beneficial use support and results are as follows: 0 of 1 samples exceed the criterion for Alkalinity as CaCO ₃ .
Data Reference:	Statewide Ref Condition Management Plan 2008
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	Surface waters shall not contain concentrations of chemical constituents in amounts that adversely affect any designated beneficial use.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	The Alkalinity as CaCO ₃ criteria for the protection of freshwater aquatic life is 20000 ug/L (National Recommended Water Quality Criteria, 2009).
Guideline Reference:	National Recommended Water Quality Criteria. United States Environmental Protection Agency. Office of Water. Office of Science and Technology
Spatial Representation:	Data for this line of evidence for Devils Gulch Creek was collected at 1 monitoring site [Devils Gulch - 201LAG190]
Temporal Representation:	Data was collected on a single day 10/6/2008.

Environmental Conditions:
QAPP Information:
QAPP Information Reference(s):

Staff is not aware of any special conditions that might affect interpretation of the data.
The SWAMP QAPP (2008) was followed.
[Surface Water Ambient Monitoring Program Quality Assurance Program Plan](#)

DECISION ID	64418	Region 2
Devils Gulch Creek		

Pollutant: Ammonia (Unionized)
Final Listing Decision: Do Not List on 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision: New Decision
Revision Status: Revised
Impairment from Pollutant or Pollution: Pollutant

Regional Board Staff Conclusion: This pollutant is being considered for placement on the CWA section 303(d) List under section 3.1 of the Listing Policy. Under section 3.1 a single line of evidence is necessary to assess listing status. One line of evidence is available in the administrative record to assess this pollutant. Zero of one samples exceed the guideline.

Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against placing this water segment-pollutant combination on the CWA section 303(d) List.

This conclusion is based on the staff findings that:

1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy.
2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy.
3. Zero of one samples exceed the guideline and this sample size is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating. A minimum of 16 samples is needed to determine if a beneficial use is fully supported using table 3.1.
4. Pursuant to SECTION 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.

Regional Board Staff Decision Recommendation: After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be placed on the section 303(d) list. The readily available data and information is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating.

Line of Evidence (LOE) for Decision ID 64418, Ammonia (Unionized)	Region 2
Devils Gulch Creek	

LOE ID: 91733

Pollutant: Ammonia (Unionized)
LOE Subgroup: Pollutant-Water
Matrix: Water
Fraction: Total

Beneficial Use: Fish Spawning

Number of Samples: 1
Number of Exceedances: 0

Data and Information Type: PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality: 0 of 1 samples exceed the Annual Median for Un-ionized Ammonia (as N). Un-ionized ammonia (as N) was calculated from Total Ammonia (as N) from monthly samples reported in the data. The Annual Median of these Un-ionized ammonia (as N) values was then established and compared to the Annual Median for Un-ionized Ammonia (as N) at 0.025 mg/L in the RB2 Basin Plan. The data value is reported as non-detect. This non-

detect is less than or equal to the water quality standard, the value will be considered as meeting the water quality standard, objective, criterion, or evaluation guideline.

Data Reference: [Statewide Ref Condition Management Plan 2008](#)

SWAMP Data: SWAMP

Water Quality Objective/Criterion: Water Quality Control Plan, San Francisco Bay Region (SFBRWQCB 2011): All waters shall be maintained free of toxic substances in concentrations that are toxic to, or that produce detrimental physiological responses in human, plant, animal, or aquatic life.

Objective/Criterion Reference: [Water Quality Control Plan \(Basin Plan\) San Francisco Bay Basin \(Region 2\)](#)

Evaluation Guideline:
Guideline Reference:

Spatial Representation: Samples were collected at 201LAG190 (Devils Gulch).
Temporal Representation: Samples collected on 10/6/2008.

Environmental Conditions:

QAPP Information: SWAMP QAPP (2008) was followed.

QAPP Information Reference(s): [Surface Water Ambient Monitoring Program Quality Assurance Program Plan](#)

DECISION ID	64419	Region 2
Devils Gulch Creek		

Pollutant:	Benthic Community Effects
Final Listing Decision:	Do Not List on 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision:	New Decision
Revision Status	Revised
Impairment from Pollutant or Pollution:	Pollutant

Regional Board Staff Conclusion: This pollutant is being considered for placement on the CWA section 303(d) List under section 3.9 of the Listing Policy. Under section 3.9 a single line of evidence are necessary to assess listing status.

One line of evidence is available in the administrative record to assess this pollutant. Zero of one samples exceed the guideline.

Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against placing this water segment-pollutant combination on the CWA section 303(d) List.

This conclusion is based on the staff findings that:

1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy.
2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy.
3. Zero of one samples exceed the guideline and this sample size is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating. A minimum of 16 samples is needed to determine if a beneficial use is fully supported using table 3.1.
4. Pursuant to [SECTION 3.11/4.11] of the Listing Policy, no additional data and information are available indicating that standards are not met.

Regional Board Staff Decision Recommendation: After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be placed on the section 303(d) list. The readily available data and information is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating.

Line of Evidence (LOE) for Decision ID 64419, Benthic Community Effects	Region 2
Devils Gulch Creek	

LOE ID: 90515

Pollutant:	Benthic-Macroinvertebrate Bioassessments
LOE Subgroup:	Population/Community Degradation
Matrix:	Water
Fraction:	None
Beneficial Use:	Cold Freshwater Habitat
Number of Samples:	1
Number of Exceedances:	0
Data and Information Type:	Benthic macroinvertebrate surveys
Data Used to Assess Water Quality:	The CSCI score for this site was 1.16 and therefore meeting the water quality objective for this water body.
Data Reference:	Statewide Ref Condition Management Plan 2008
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	All waters shall be maintained free of toxic substances in concentrations that are lethal to or that produce significant alterations in population or community ecology or receiving water biota. In addition, the health and life history characteristics of aquatic organisms in waters affected by controllable water quality factors shall not differ significantly from those for the same waters in areas unaffected by controllable water quality factors.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	The California Stream Condition Index (CSCI) is a biological scoring tool that helps aquatic resource managers translate complex data about benthic macroinvertebrates found living in a stream into an overall measure of stream health. The CSCI score is calculated by comparing the expected condition with actual (observed) results (Rhen, A.C. et al., 2015). CSCI scores range from 0 (highly degraded) to greater than 1 (equivalent to reference). CSCI scoring of biological condition are as follows (per the scientific paper supporting the development of the CSCI scoring tool): greater than or equal to 0.92 = likely intact condition, 0.91 to 0.80 = possibly altered condition, 0.79 to 0.63 = likely altered condition, less than or equal to 0.62 = very likely altered condition. Sites with scores below 0.79 are considered to have exceeded the water quality objective for the aquatic life beneficial use.
Guideline Reference:	The California Stream Condition Index (CSCI): A New Statewide Biological Scoring Tool for Assessing the Health of Freshwater Streams.
Spatial Representation:	The sample was collected at Devils Gulch.
Temporal Representation:	The sample was collected October, 2008.
Environmental Conditions:	
QAPP Information:	The sample was collected for the SWAMP Reference Condition Management Plan.
QAPP Information Reference(s):	Surface Water Ambient Monitoring Program Quality Assurance Program Plan

DECISION ID	64420	Region 2
Devils Gulch Creek		
Pollutant:	Chloride	
Final Listing Decision:	Do Not List on 303(d) list (TMDL required list)	
Last Listing Cycle's Final Listing Decision:	New Decision	
Revision Status	Revised	
Impairment from Pollutant or Pollution:	Pollutant	
Regional Board Staff Conclusion:	<p>This pollutant is being considered for placement on the CWA section 303(d) List under section 3.1 of the Listing Policy. Under section 3.1 a single line of evidence is necessary to assess listing status. One line of evidence is available in the administrative record to assess this pollutant. Zero of one samples exceed the guideline.</p> <p>Based on the readily available data and information, the weight of evidence indicates that there is</p>	

sufficient justification against placing this water segment-pollutant combination on the CWA section 303(d) List.

This conclusion is based on the staff findings that:

1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy.
2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy.
3. Zero of one samples exceed the guideline and this sample size is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating. A minimum of 16 samples is needed to determine if a beneficial use is fully supported using table 3.1.
4. Pursuant to SECTION 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.

Regional Board Staff Decision Recommendation: After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be placed on the section 303(d) list. The readily available data and information is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating.

Line of Evidence (LOE) for Decision ID 64420, Chloride

Region 2

Devils Gulch Creek

LOE ID: 91720

Pollutant: Chloride
LOE Subgroup: Pollutant-Water
Matrix: Water
Fraction: None

Beneficial Use: Agricultural Supply

Number of Samples: 1
Number of Exceedances: 0

Data and Information Type: PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality: State Water Board staff assessed SWAMP data for Devils Gulch Creek to determine beneficial use support and results are as follows: 0 of 1 samples exceed the criterion for Chloride.

Data Reference: [Statewide Ref Condition Management Plan 2008](#)

SWAMP Data: SWAMP

Water Quality Objective/Criterion: Water Quality Control Plan, San Francisco Bay Basin, Chapter III Water Quality Objectives, Section 3.3.22 Constituents of Concern for Municipal and Agricultural Water Supplies states: At a minimum, surface waters designated for use as agricultural supply (AGR) shall not contain concentrations of constituents in excess of the levels specified in Table 3-6. The limit for chloride is 355.0 mg/l.

Objective/Criterion Reference: [Water Quality Control Plan \(Basin Plan\) San Francisco Bay Basin \(Region 2\)](#)

Evaluation Guideline:
Guideline Reference:

Spatial Representation: Data for this line of evidence for Devils Gulch Creek was collected at 1 monitoring site [Devils Gulch - 201LAG190]

Temporal Representation: Data was collected on a single day 10/6/2008.

Environmental Conditions: Staff is not aware of any special conditions that might affect interpretation of the data.

QAPP Information: The SWAMP QAPP (2008) was followed.

QAPP Information Reference(s): [Surface Water Ambient Monitoring Program Quality Assurance Program Plan](#)

DECISION ID 64421

Region 2

Devils Gulch Creek

Pollutant: Nitrate/Nitrite (Nitrite + Nitrate as N)
Final Listing Decision: Do Not List on 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision: New Decision
Revision Status: Revised
Impairment from Pollutant or Pollution: Pollutant

Regional Board Staff Conclusion: This pollutant is being considered for placement on the CWA section 303(d) List under section 3.1 of the Listing Policy. Under section 3.1 a single line of evidence is necessary to assess listing status. One line of evidence is available in the administrative record to assess this pollutant. Zero of one samples exceed the guideline.

Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against placing this water segment-pollutant combination on the CWA section 303(d) List.

This conclusion is based on the staff findings that:

1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy.
2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy.
3. Zero of one samples exceed the guideline and this sample size is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating. A minimum of 16 samples is needed to determine if a beneficial use is fully supported using table 3.1.
4. Pursuant to SECTION 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.

Regional Board Staff Decision Recommendation: After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be placed on the section 303(d) list. The readily available data and information is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating.

Line of Evidence (LOE) for Decision ID 64421, Nitrate/Nitrite (Nitrite + Nitrate as N) **Devils Gulch Creek**

Region 2

LOE ID:	91721
Pollutant:	Nitrate/Nitrite (Nitrite + Nitrate as N)
LOE Subgroup:	Pollutant-Water
Matrix:	Water
Fraction:	None
Beneficial Use:	Municipal & Domestic Supply
Number of Samples:	1
Number of Exceedances:	0
Data and Information Type:	PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality:	State Water Board staff assessed SWAMP data for Devils Gulch Creek to determine beneficial use support and results are as follows: 0 of 1 samples exceed the criterion for Nitrate/Nitrite as N.
Data Reference:	Statewide Ref Condition Management Plan 2008
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	The California Maximum Contaminant Level for nitrate + nitrite (as N) that is incorporated by reference in the Water Quality Control Plan, San Francisco Bay Region is 10.0 mg/L (Water Quality Control Plan, San Francisco Bay Region).
Objective/Criterion Reference:	Maximum Contaminant Levels for organic and inorganic chemicals. CCR
Evaluation Guideline:	

Guideline Reference:

Spatial Representation: Data for this line of evidence for Devils Gulch Creek was collected at 1 monitoring site [Devils Gulch - 201LAG190]

Temporal Representation: Data was collected on a single day 10/6/2008.

Environmental Conditions: Staff is not aware of any special conditions that might affect interpretation of the data.

QAPP Information: The SWAMP QAPP (2008) was followed.

QAPP Information Reference(s): [Surface Water Ambient Monitoring Program Quality Assurance Program Plan](#)

DECISION ID	64422	Region 2
Devils Gulch Creek		

Pollutant: Nitrogen, ammonia (Total Ammonia)

Final Listing Decision: Do Not List on 303(d) list (TMDL required list)

Last Listing Cycle's Final Listing Decision: New Decision

Revision Status: Revised

Impairment from Pollutant or Pollution: Pollutant

Regional Board Staff Conclusion: This pollutant is being considered for placement on the CWA section 303(d) List under section 3.1 of the Listing Policy. Under section 3.1 a single line of evidence is necessary to assess listing status. Three lines of evidence are available in the administrative record to assess this pollutant. Zero of one samples exceed the guideline.

Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against placing this water segment-pollutant combination on the CWA section 303(d) List.

This conclusion is based on the staff findings that:

1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy.
2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy.
3. Zero of one samples exceed the guideline and this sample size is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating. A minimum of 16 samples is needed to determine if a beneficial use is fully supported using table 3.1.
4. Pursuant to SECTION 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.

Regional Board Staff Decision Recommendation: After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be placed on the section 303(d) list. The readily available data and information is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating.

Line of Evidence (LOE) for Decision ID 64422, Nitrogen, ammonia (Total Ammonia)	Region 2
Devils Gulch Creek	

LOE ID: 91719

Pollutant: Nitrogen, ammonia (Total Ammonia)

LOE Subgroup: Pollutant-Water

Matrix: Water

Fraction: Total

Beneficial Use: Municipal & Domestic Supply

Number of Samples: 1

Number of Exceedances: 0

Data and Information Type: PHYSICAL/CHEMICAL MONITORING

Data Used to Assess Water Quality:	State Water Board staff assessed SWAMP data for Devils Gulch Creek to determine beneficial use support and results are as follows: 0 of 1 samples exceed the criterion for Ammonia as N, Total.
Data Reference:	Statewide Ref Condition Management Plan 2008
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	Surface?waters?shall?not?contain?concentrations?of?chemical?constituents?in?amounts?that?adversely?affect?any?designated?beneficial?use.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	USEPA's Lifetime Health advisory level for total ammonia is 30.0 mg/L as stated on page 8 of the 2011 edition of the drinking water standards and health advisories. (EPA EPA 820-R-11-002, 2011).
Guideline Reference:	2011 Edition of the Drinking Water Standards and Health Advisories
Spatial Representation:	Data for this line of evidence for Devils Gulch Creek was collected at 1 monitoring site [Devils Gulch - 201LAG190]
Temporal Representation:	Data was collected on a single day 10/6/2008.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	The SWAMP QAPP (2008) was followed.
QAPP Information Reference(s):	Surface Water Ambient Monitoring Program Quality Assurance Program Plan

Line of Evidence (LOE) for Decision ID 64422, Nitrogen, ammonia (Total Ammonia)
Devils Gulch Creek

Region 2

LOE ID:	91718
Pollutant:	Nitrogen, ammonia (Total Ammonia)
LOE Subgroup:	Pollutant-Water
Matrix:	Water
Fraction:	Total
Beneficial Use:	Cold Freshwater Habitat
Number of Samples:	1
Number of Exceedances:	0
Data and Information Type:	PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality:	State Water Board staff assessed SWAMP data for Devils Gulch Creek to determine beneficial use support and results are as follows: 0 of 1 samples exceed the criterion for Ammonia as N, Total.
Data Reference:	Statewide Ref Condition Management Plan 2008
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	Surface?waters?shall?not?contain?concentrations?of?chemical?constituents?in?amounts?that?adversely?affect?any?designated?beneficial?use.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	Aquatic Life Ambient Water Quality Criteria for Ammonia ? Freshwater (USEPA 2013): the 30-day rolling average concentration (criterion continuous concentration or CCC) of total ammonia nitrogen(in mg TAN/L) in freshwater are not to be exceeded more than once every three years on average. The CCC values are based on pH and temperature. The CCC formula is found on page 46 and the table of CCC values is on page 49.
Guideline Reference:	Aquatic Life Ambient Water Quality Criteria for Ammonia - Freshwater 2013
Spatial Representation:	Data for this line of evidence for Devils Gulch Creek was collected at 1 monitoring site [Devils Gulch - 201LAG190]
Temporal Representation:	Data was collected on a single day 10/6/2008.

Environmental Conditions: Staff is not aware of any special conditions that might affect interpretation of the data.
 QAPP Information: The SWAMP QAPP (2008) was followed.
 QAPP Information Reference(s): [Surface Water Ambient Monitoring Program Quality Assurance Program Plan](#)

Line of Evidence (LOE) for Decision ID 64422, Nitrogen, ammonia (Total Ammonia)

Region 2

Devils Gulch Creek

LOE ID: 91734

Pollutant: Nitrogen, ammonia (Total Ammonia)
 LOE Subgroup: Pollutant-Water
 Matrix: Water
 Fraction: Total

Beneficial Use: Warm Freshwater Habitat

Number of Samples: 1
 Number of Exceedances: 0

Data and Information Type: PHYSICAL/CHEMICAL MONITORING
 Data Used to Assess Water Quality: State Water Board staff assessed SWAMP data for Devils Gulch Creek to determine beneficial use support and results are as follows: 0 of 1 samples exceed the criterion for Ammonia as N, Total.

Data Reference: [Statewide Ref Condition Management Plan 2008](#)

SWAMP Data: SWAMP

Water Quality Objective/Criterion: Surface waters shall not contain concentrations of chemical constituents in amounts that adversely affect any designated beneficial use.

Objective/Criterion Reference: [Water Quality Control Plan \(Basin Plan\) San Francisco Bay Basin \(Region 2\)](#)

Evaluation Guideline: Aquatic Life Ambient Water Quality Criteria for Ammonia ? Freshwater (USEPA 2013): the 30-day rolling average concentration (criterion continuous concentration or CCC) of total ammonia nitrogen(in mg TAN/L) in freshwater are not to be exceeded more than once every three years on average. The CCC values are based on pH and temperature. The CCC formula is found on page 46 and the table of CCC values is on page 49.

Guideline Reference: [Aquatic Life Ambient Water Quality Criteria for Ammonia - Freshwater 2013](#)

Spatial Representation: Data for this line of evidence for Devils Gulch Creek was collected at 1 monitoring site [Devils Gulch - 201LAG190]

Temporal Representation: Data was collected on a single day 10/6/2008.

Environmental Conditions: Staff is not aware of any special conditions that might affect interpretation of the data.
 QAPP Information: The SWAMP QAPP (2008) was followed.
 QAPP Information Reference(s): [Surface Water Ambient Monitoring Program Quality Assurance Program Plan](#)

DECISION ID 64423

Region 2

Devils Gulch Creek

Pollutant: Oxygen, Dissolved
Final Listing Decision: Do Not List on 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision: New Decision
Revision Status: Revised
Impairment from Pollutant or Pollution: Pollutant

Regional Board Staff Conclusion: This pollutant is being considered for placement on the CWA section 303(d) List under section 3.2 of the Listing Policy. Under section 3.2 a single line of evidence is necessary to assess listing status. Three lines of evidence are available in the administrative record to assess this pollutant. Zero of two

samples exceed the objective.

Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against placing this water segment-pollutant combination on the CWA section 303(d) List.

This conclusion is based on the staff findings that:

1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy.
2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy.
3. Zero of two samples exceed the objective and this sample size is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating. A minimum of 26 samples is needed to determine if a beneficial use is fully supported using table 3.2.
4. Pursuant to SECTION 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.

Regional Board Staff Decision Recommendation: After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be placed on the section 303(d) list. The readily available data and information is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating.

**Line of Evidence (LOE) for Decision ID 64423, Oxygen, Dissolved
Devils Gulch Creek**

Region 2

LOE ID: 91723

Pollutant: Oxygen, Dissolved
LOE Subgroup: Pollutant-Water
Matrix: Water
Fraction: Dissolved

Beneficial Use: Cold Freshwater Habitat

Number of Samples: 1
Number of Exceedances: 0

Data and Information Type: PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality: State Water Board staff assessed SWAMP data for Devils Gulch Creek to determine beneficial use support and results are as follows: 0 of 1 samples exceed the criterion for Oxygen, Dissolved.

Data Reference: [Statewide Ref Condition Management Plan 2008](#)

SWAMP Data: SWAMP

Water Quality Objective/Criterion: Dissolved oxygen objectives for waters designated as cold water habitat shall be of a 7.0 mg/l minimum. (Water Quality Control Plan, San Francisco Bay Basin, Chapter III Water Quality Objectives.)

Objective/Criterion Reference: [Water Quality Control Plan \(Basin Plan\) San Francisco Bay Basin \(Region 2\)](#)

Evaluation Guideline:
Guideline Reference:

Spatial Representation: Data for this line of evidence for Devils Gulch Creek was collected at 1 monitoring site [Devils Gulch - 201LAG190]

Temporal Representation: Data was collected on a single day 10/6/2008.

Environmental Conditions: Staff is not aware of any special conditions that might affect interpretation of the data.

QAPP Information: The SWAMP QAPP (2008) was followed.

QAPP Information Reference(s): [Surface Water Ambient Monitoring Program Quality Assurance Program Plan](#)

**Line of Evidence (LOE) for Decision ID 64423, Oxygen, Dissolved
Devils Gulch Creek**

Region 2

LOE ID:	90747
Pollutant:	Oxygen, Dissolved
LOE Subgroup:	Pollutant-Water
Matrix:	Water
Fraction:	Dissolved
Beneficial Use:	Cold Freshwater Habitat
Number of Samples:	1
Number of Exceedances:	0
Data and Information Type:	PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality:	Numeric data generated from 1 minimum sample of Dissolved Oxygen concentrations had no exceedence.
Data Reference:	Statewide Ref Condition Management Plan 2008
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	Table 3.3.5 of the San Francisco Bay Basin Plan states the dissolved oxygen content of surface waters with the Cold Freshwater Habitat beneficial use shall not exceed 7.0 mg/L.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	
Guideline Reference:	
Spatial Representation:	The sample was collected from the 201LAG190 station.
Temporal Representation:	One sample was collected on 10/6/2008.
Environmental Conditions:	
QAPP Information:	SWAMP QAPP
QAPP Information Reference(s):	Surface Water Ambient Monitoring Program Quality Assurance Program Plan

**Line of Evidence (LOE) for Decision ID 64423, Oxygen, Dissolved
Devils Gulch Creek**

Region 2

LOE ID:	91722
Pollutant:	Oxygen, Dissolved
LOE Subgroup:	Pollutant-Water
Matrix:	Water
Fraction:	Dissolved
Beneficial Use:	Warm Freshwater Habitat
Number of Samples:	1
Number of Exceedances:	0
Data and Information Type:	PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality:	State Water Board staff assessed SWAMP data for Devils Gulch Creek to determine beneficial use support and results are as follows: 0 of 1 samples exceed the criterion for Oxygen, Dissolved.
Data Reference:	Statewide Ref Condition Management Plan 2008
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	Dissolved oxygen objectives for waters designated as warm water habitat shall be of a 5.0 mg/l minimum. (Water Quality Control Plan, San Francisco Bay Basin, Chapter III Water Quality Objectives.)
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	

Guideline Reference:

Spatial Representation: Data for this line of evidence for Devils Gulch Creek was collected at 1 monitoring site [Devils Gulch - 201LAG190]

Temporal Representation: Data was collected on a single day 10/6/2008.

Environmental Conditions: Staff is not aware of any special conditions that might affect interpretation of the data.

QAPP Information: The SWAMP QAPP (2008) was followed.

QAPP Information Reference(s): [Surface Water Ambient Monitoring Program Quality Assurance Program Plan](#)

DECISION ID	64424	Region 2
Devils Gulch Creek		

Pollutant:	Specific Conductivity
Final Listing Decision:	Do Not List on 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision:	New Decision
Revision Status	Revised
Impairment from Pollutant or Pollution:	Pollutant

Regional Board Staff Conclusion: This pollutant is being considered for placement on the CWA section 303(d) List under section 3.1 of the Listing Policy. Under section 3.1 a single line of evidence is necessary to assess listing status. One line of evidence is available in the administrative record to assess this pollutant. Zero of one samples exceed the guideline.

Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against placing this water segment-pollutant combination on the CWA section 303(d) List.

This conclusion is based on the staff findings that:

1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy.
2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy.
3. Zero of one samples exceed the guideline and this sample size is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating. A minimum of 16 samples is needed to determine if a beneficial use is fully supported using table 3.1.
4. Pursuant to SECTION 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.

Regional Board Staff Decision Recommendation: After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be placed on the section 303(d) list. The readily available data and information is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating.

Line of Evidence (LOE) for Decision ID 64424, Specific Conductivity	Region 2
Devils Gulch Creek	

LOE ID:	91728
Pollutant:	Specific Conductivity
LOE Subgroup:	Pollutant-Water
Matrix:	Water
Fraction:	None
Beneficial Use:	Municipal & Domestic Supply
Number of Samples:	1
Number of Exceedances:	0
Data and Information Type:	PHYSICAL/CHEMICAL MONITORING

Data Used to Assess Water Quality:	State Water Board staff assessed SWAMP data for Devils Gulch Creek to determine beneficial use support and results are as follows: 0 of 1 samples exceed the criterion for Conductivity(Us).
Data Reference:	Statewide Ref Condition Management Plan 2008
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	The California Secondary MCL for Specific Conductance is 900 us/cm (Water Quality Control Plan, San Francisco Bay Region).
Objective/Criterion Reference:	Secondary Maximum Contaminant Levels and Compliance. CCR title 22 section 64449.
Evaluation Guideline:	
Guideline Reference:	
Spatial Representation:	Data for this line of evidence for Devils Gulch Creek was collected at 1 monitoring site [Devils Gulch - 201LAG190]
Temporal Representation:	Data was collected on a single day 10/6/2008.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	The SWAMP QAPP (2008) was followed.
QAPP Information Reference(s):	Surface Water Ambient Monitoring Program Quality Assurance Program Plan

DECISION ID	64426	Region 2
Devils Gulch Creek		

Pollutant:	Temperature, water
Final Listing Decision:	Do Not List on 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision:	New Decision
Revision Status	Revised
Impairment from Pollutant or Pollution:	Pollutant

Regional Board Staff Conclusion: This pollutant is being considered for placement on the CWA section 303(d) List under section 3.1 of the Listing Policy. Under section 3.1 a single line of evidence is necessary to assess listing status. Two lines of evidence are available in the administrative record to assess this pollutant. Zero of two samples exceed the guideline.

Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against placing this water segment-pollutant combination on the CWA section 303(d) List.

This conclusion is based on the staff findings that:

1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy.
2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy.
3. Zero of two samples exceed the guideline and this sample size is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating. A minimum of 16 samples is needed to determine if a beneficial use is fully supported using table 3.1.
4. Pursuant to SECTION 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.

Regional Board Staff Decision Recommendation:	After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be placed on the section 303(d) list. The readily available data and information is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating.
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Line of Evidence (LOE) for Decision ID 64426, Temperature, water		Region 2
Devils Gulch Creek		

LOE ID:	91730
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Pollutant:	Temperature, water
LOE Subgroup:	Pollutant-Water
Matrix:	Water
Fraction:	None
Beneficial Use:	Cold Freshwater Habitat
Number of Samples:	1
Number of Exceedances:	0
Data and Information Type:	PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality:	The grab sample collected did not exceed the evaluation guideline.
Data Reference:	Statewide Ref Condition Management Plan 2008
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	Water Quality Control Plan, San Francisco Bay Region: The natural receiving water temperature of inland surface waters shall not be altered unless it can be demonstrated to the satisfaction of the Regional Board that such alteration in temperature does not adversely affect beneficial uses.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	According to Carter (2008) the lethal threshold for juvenile steelhead growth & rearing is 24 degrees Celsius (C).
Guideline Reference:	Effects of Temperature, Dissolved Oxygen/Total Dissolved Gas, Ammonia, and pH on Salmonids. Implications for California's North Coast TMDLs. California Regional Water Quality Control Board, North Coast Region
Spatial Representation:	One grab sample was collected from the Devils Gulch station (201LAG190).
Temporal Representation:	One grab sample was collected on 10/6/2008 .
Environmental Conditions:	
QAPP Information:	The SWAMP QAPP was followed.
QAPP Information Reference(s):	

**Line of Evidence (LOE) for Decision ID 64426, Temperature, water
Devils Gulch Creek**

Region 2

LOE ID:	91729
Pollutant:	Temperature, water
LOE Subgroup:	Pollutant-Water
Matrix:	Water
Fraction:	None
Beneficial Use:	Cold Freshwater Habitat
Number of Samples:	1
Number of Exceedances:	0
Data and Information Type:	PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality:	State Water Board staff assessed SWAMP data for Devils Gulch Creek to determine beneficial use support and results are as follows: 0 of 1 samples exceed the criterion for Water Temperature.
Data Reference:	Statewide Ref Condition Management Plan 2008
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	The natural receiving water temperature of inland surface waters shall not be altered unless it can be demonstrated to the satisfaction of the Regional Board that such alteration in temperature does not adversely affect beneficial uses. (Water Quality Control Plan, San Francisco Bay Basin, Chapter III Water Quality Objectives.)

Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	Inland Fishes of California (Moyle 1976) states that for rainbow trout the optimum range for growth and completion of most life stages is 13-21 degrees C (page 129).
Guideline Reference:	Inland Fishes of California
Spatial Representation:	Data for this line of evidence for Devils Gulch Creek was collected at 1 monitoring site [Devils Gulch - 201LAG190]
Temporal Representation:	Data was collected on a single day 10/6/2008.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	The SWAMP QAPP (2008) was followed.
QAPP Information Reference(s):	Surface Water Ambient Monitoring Program Quality Assurance Program Plan

DECISION ID 64425 Region 2	
Devils Gulch Creek	
Pollutant: Final Listing Decision: Last Listing Cycle's Final Listing Decision: Revision Status Impairment from Pollutant or Pollution:	pH Do Not List on 303(d) list (TMDL required list) New Decision Revised Pollutant
Regional Board Staff Conclusion:	<p>This pollutant is being considered for placement on the CWA section 303(d) List under section 3.2 of the Listing Policy. Under section 3.2 a single line of evidence is necessary to assess listing status. Five lines of evidence are available in the administrative record to assess this pollutant. Zero of one samples exceed the objective.</p> <p>Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against placing this water segment-pollutant combination on the CWA section 303(d) List.</p> <p>This conclusion is based on the staff findings that:</p> <ol style="list-style-type: none"> 1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy. 2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy. 3. Zero of one samples exceed the objective and this sample size is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating. A minimum of 26 samples is needed to determine if a beneficial use is fully supported using table 3.2. 4. Pursuant to SECTION 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.
Regional Board Staff Decision Recommendation:	After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be placed on the section 303(d) list. The readily available data and information is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating.

Line of Evidence (LOE) for Decision ID 64425, pH Region 2	
Devils Gulch Creek	
LOE ID:	91724
Pollutant: LOE Subgroup: Matrix: Fraction:	pH Pollutant-Water Water None
Beneficial Use:	Warm Freshwater Habitat

Number of Samples:	1
Number of Exceedances:	0
Data and Information Type:	PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality:	State Water Board staff assessed SWAMP data for Devils Gulch Creek to determine beneficial use support and results are as follows: 0 of 1 samples exceed the criterion for pH.
Data Reference:	Statewide Ref Condition Management Plan 2008
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	The Water Quality Control Plan for the San Francisco Bay Region's water quality objective for all surface waters states the following: The pH shall not be depressed below 6.5 nor raised above 8.5. This encompasses the pH range usually found in waters within the basin. Controllable water quality factors shall not cause changes greater than 0.5 units in normal ambient pH levels.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	
Guideline Reference:	
Spatial Representation:	Data for this line of evidence for Devils Gulch Creek was collected at 1 monitoring site [Devils Gulch - 201LAG190]
Temporal Representation:	Data was collected on a single day 10/6/2008.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	The SWAMP QAPP (2008) was followed.
QAPP Information Reference(s):	Surface Water Ambient Monitoring Program Quality Assurance Program Plan

Line of Evidence (LOE) for Decision ID 64425, pH

Region 2

Devils Gulch Creek

LOE ID:	90728
Pollutant:	pH
LOE Subgroup:	Pollutant-Water
Matrix:	Water
Fraction:	Dissolved
Beneficial Use:	Cold Freshwater Habitat
Number of Samples:	1
Number of Exceedances:	0
Data and Information Type:	PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality:	Numeric data generated from 1 sample collected had no exceedences.
Data Reference:	Statewide Ref Condition Management Plan 2008
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	The pH shall not be depressed below 6.5 nor raised above 8.5.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	
Guideline Reference:	
Spatial Representation:	The sample was collected from the 201LAG190 station.
Temporal Representation:	One sample was collected in October 2008.
Environmental Conditions:	
QAPP Information:	SWAMP QAPP
QAPP Information Reference(s):	Surface Water Ambient Monitoring Program Quality Assurance Program Plan

Line of Evidence (LOE) for Decision ID 64425, pH

Region 2

Devils Gulch Creek

LOE ID:	91725
Pollutant:	pH
LOE Subgroup:	Pollutant-Water
Matrix:	Water
Fraction:	None
Beneficial Use:	Municipal & Domestic Supply
Number of Samples:	1
Number of Exceedances:	0
Data and Information Type:	PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality:	State Water Board staff assessed SWAMP data for Devils Gulch Creek to determine beneficial use support and results are as follows: 0 of 1 samples exceed the criterion for pH.
Data Reference:	Statewide Ref Condition Management Plan 2008
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	The Water Quality Control Plan for the San Francisco Bay Region's water quality objective for all surface waters states the following: The pH shall not be depressed below 6.5 nor raised above 8.5. This encompasses the pH range usually found in waters within the basin. Controllable water quality factors shall not cause changes greater than 0.5 units in normal ambient pH levels.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	
Guideline Reference:	
Spatial Representation:	Data for this line of evidence for Devils Gulch Creek was collected at 1 monitoring site [Devils Gulch - 201LAG190]
Temporal Representation:	Data was collected on a single day 10/6/2008.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	The SWAMP QAPP (2008) was followed.
QAPP Information Reference(s):	Surface Water Ambient Monitoring Program Quality Assurance Program Plan

Line of Evidence (LOE) for Decision ID 64425, pH

Region 2

Devils Gulch Creek

LOE ID:	91727
Pollutant:	pH
LOE Subgroup:	Pollutant-Water
Matrix:	Water
Fraction:	None
Beneficial Use:	Agricultural Supply
Number of Samples:	1
Number of Exceedances:	0
Data and Information Type:	PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality:	State Water Board staff assessed SWAMP data for Devils Gulch Creek to determine beneficial use support and results are as follows: 0 of 1 samples exceed the criterion for pH.
Data Reference:	Statewide Ref Condition Management Plan 2008
SWAMP Data:	SWAMP

Water Quality Objective/Criterion: Water Quality Control Plan, San Francisco Bay Basin, Chapter III Water Quality Objectives, Section 3.3.22 Constituents of Concern for Municipal and Agricultural Water Supplies states: At a minimum, surface waters designated for use as agricultural supply (AGR) shall not contain concentrations of constituents in excess of the levels specified in Table 3-6. The limit for pH ranges from 4.5-9.0.

Objective/Criterion Reference: [Water Quality Control Plan \(Basin Plan\) San Francisco Bay Basin \(Region 2\)](#)

Evaluation Guideline:

Guideline Reference:

Spatial Representation: Data for this line of evidence for Devils Gulch Creek was collected at 1 monitoring site [Devils Gulch - 201LAG190]

Temporal Representation: Data was collected on a single day 10/6/2008.

Environmental Conditions: Staff is not aware of any special conditions that might affect interpretation of the data.

QAPP Information: The SWAMP QAPP (2008) was followed.

QAPP Information Reference(s): [Surface Water Ambient Monitoring Program Quality Assurance Program Plan](#)

Line of Evidence (LOE) for Decision ID 64425, pH

Region 2

Devils Gulch Creek

LOE ID: 91726

Pollutant: pH

LOE Subgroup: Pollutant-Water

Matrix: Water

Fraction: None

Beneficial Use: Cold Freshwater Habitat

Number of Samples: 1

Number of Exceedances: 0

Data and Information Type: PHYSICAL/CHEMICAL MONITORING

Data Used to Assess Water Quality: State Water Board staff assessed SWAMP data for Devils Gulch Creek to determine beneficial use support and results are as follows: 0 of 1 samples exceed the criterion for pH.

Data Reference: [Statewide Ref Condition Management Plan 2008](#)

SWAMP Data: SWAMP

Water Quality Objective/Criterion: The Water Quality Control Plan for the San Francisco Bay Region's water quality objective for all surface waters states the following: The pH shall not be depressed below 6.5 nor raised above 8.5. This encompasses the pH range usually found in waters within the basin. Controllable water quality factors shall not cause changes greater than 0.5 units in normal ambient pH levels.

Objective/Criterion Reference: [Water Quality Control Plan \(Basin Plan\) San Francisco Bay Basin \(Region 2\)](#)

Evaluation Guideline:

Guideline Reference:

Spatial Representation: Data for this line of evidence for Devils Gulch Creek was collected at 1 monitoring site [Devils Gulch - 201LAG190]

Temporal Representation: Data was collected on a single day 10/6/2008.

Environmental Conditions: Staff is not aware of any special conditions that might affect interpretation of the data.

QAPP Information: The SWAMP QAPP (2008) was followed.

QAPP Information Reference(s): [Surface Water Ambient Monitoring Program Quality Assurance Program Plan](#)

Draft California 2016 Integrated Report (303(d) List/305(b) Report)

Supporting Information

Regional Board 2 - San Francisco Bay Region

Water Body Name: Indian Creek (Alameda County)
Water Body ID: CAR2043005620110723161007
Water Body Type: River & Stream

DECISION ID 64877 **Region 2**
Indian Creek (Alameda County)

Pollutant: Alkalinity as CaCO₃
Final Listing Decision: Do Not List on 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision: New Decision
Revision Status Revised
Impairment from Pollutant or Pollution: Pollutant

Regional Board Staff Conclusion: This pollutant is being considered for placement on the CWA section 303(d) List under section 3.1 of the Listing Policy. Under section 3.1 a single line of evidence is necessary to assess listing status. Two lines of evidence are available in the administrative record to assess this pollutant. Zero of zero samples exceed the guideline.

Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against placing this water segment-pollutant combination on the CWA section 303(d) List.

This conclusion is based on the staff findings that:

1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy.
2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy.
3. Zero of zero samples exceed the guideline and this sample size is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating. A minimum of 16 samples is needed to determine if a beneficial use is fully supported using table 3.1.
4. Pursuant to SECTION 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.

Regional Board Staff Decision Recommendation: After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be placed on the section 303(d) list. The readily available data and information is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating.

Line of Evidence (LOE) for Decision ID 64877, Alkalinity as CaCO₃ **Region 2**
Indian Creek (Alameda County)

LOE ID: 91908
Pollutant: Alkalinity as CaCO₃
LOE Subgroup: Pollutant-Water
Matrix: Water
Fraction: Total
Beneficial Use: Warm Freshwater Habitat
Number of Samples: 0
Number of Exceedances: 0

Data and Information Type:	PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality:	State Water Board staff assessed SWAMP data for Indian Creek (Alameda County) to determine beneficial use support and results are as follows: 0 of 0 samples exceed the criterion for Alkalinity as CaCO ₃ . Three sample results were not used in the assessment because the laboratory data reporting limit(s) was above the objective and therefore the results could not be quantified with the level of certainty required by the Listing Policy.
Data Reference:	RWB2 Reference Study Monitoring 2008
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	Surface?waters?shall?not?contain?concentrations?of?chemical?constituents?in? amounts?that? adversely?affect?any?designated?beneficial?use.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	The Alkalinity as CaCO ₃ criteria for the protection of freshwater aquatic life is 20000 ug/L (National Recommended Water Quality Criteria, 2009).
Guideline Reference:	National Recommended Water Quality Criteria. United States Environmental Protection Agency. Office of Water. Office of Science and Technology
Spatial Representation:	Data for this line of evidence for Indian Creek (Alameda County) was collected at 1 monitoring site [Indian approx. 1.8 miles upstream of San Antonio Reservoir - 204IND200]
Temporal Representation:	Data was collected over the time period 4/29/2008-6/16/2008.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	The SWAMP QAPP (2008) was followed.
QAPP Information Reference(s):	Surface Water Ambient Monitoring Program Quality Assurance Program Plan

Line of Evidence (LOE) for Decision ID 64877, Alkalinity as CaCO₃

Region 2

Indian Creek (Alameda County)

LOE ID:	91909
Pollutant:	Alkalinity as CaCO ₃
LOE Subgroup:	Pollutant-Water
Matrix:	Water
Fraction:	Total
Beneficial Use:	Cold Freshwater Habitat
Number of Samples:	0
Number of Exceedances:	0
Data and Information Type:	PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality:	State Water Board staff assessed SWAMP data for Indian Creek (Alameda County) to determine beneficial use support and results are as follows: 0 of 0 samples exceed the criterion for Alkalinity as CaCO ₃ . Three sample results were not used in the assessment because the laboratory data reporting limit(s) was above the objective and therefore the results could not be quantified with the level of certainty required by the Listing Policy.
Data Reference:	RWB2 Reference Study Monitoring 2008
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	Surface?waters?shall?not?contain?concentrations?of?chemical?constituents?in? amounts?that? adversely?affect?any?designated?beneficial?use.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	The Alkalinity as CaCO ₃ criteria for the protection of freshwater aquatic life is 20000 ug/L (National Recommended Water Quality Criteria, 2009).
Guideline Reference:	National Recommended Water Quality Criteria. United States Environmental Protection

Spatial Representation: Data for this line of evidence for Indian Creek (Alameda County) was collected at 1 monitoring site [Indian approx. 1.8 miles upstream of San Antonio Reservoir - 204IND200]

Temporal Representation: Data was collected over the time period 4/29/2008-6/16/2008.

Environmental Conditions: Staff is not aware of any special conditions that might affect interpretation of the data.

QAPP Information: The SWAMP QAPP (2008) was followed.

QAPP Information Reference(s): [Surface Water Ambient Monitoring Program Quality Assurance Program Plan](#)

DECISION ID	64878	Region 2
Indian Creek (Alameda County)		

Pollutant: Ammonia (Unionized)

Final Listing Decision: Do Not List on 303(d) list (TMDL required list)

Last Listing Cycle's Final Listing Decision: New Decision

Revision Status: Revised

Impairment from Pollutant or Pollution: Pollutant

Regional Board Staff Conclusion: This pollutant is being considered for placement on the CWA section 303(d) List under section 3.1 of the Listing Policy. Under section 3.1 a single line of evidence is necessary to assess listing status. One line of evidence is available in the administrative record to assess this pollutant. Zero of one samples exceed the guideline.

Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against placing this water segment-pollutant combination on the CWA section 303(d) List.

This conclusion is based on the staff findings that:

1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy.
2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy.
3. Zero of one samples exceed the guideline and this sample size is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating. A minimum of 16 samples is needed to determine if a beneficial use is fully supported using table 3.1.
4. Pursuant to SECTION 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.

Regional Board Staff Decision Recommendation: After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be placed on the section 303(d) list. The readily available data and information is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating.

Line of Evidence (LOE) for Decision ID 64878, Ammonia (Unionized)	Region 2
Indian Creek (Alameda County)	

LOE ID: 91910

Pollutant: Ammonia (Unionized)

LOE Subgroup: Pollutant-Water

Matrix: Water

Fraction: Total

Beneficial Use: Fish Spawning

Number of Samples: 1

Number of Exceedances: 0

Data and Information Type:	PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality:	0 of 1 samples exceed the Annual Median for Un-ionized Ammonia (as N). Un-ionized ammonia (as N) was calculated from Total Ammonia (as N) from monthly samples reported in the data. The Annual Median of these Un-ionized ammonia (as N) values was then established and compared to the Annual Median for Un-ionized Ammonia (as N) at 0.025 mg/L in the RB2 Basin Plan. A data value is reported as underneath the quantitation limit. This value is under the quantitation limit are less than or equal to the water quality standard, the value will be considered as meeting the water quality standard, objective, criterion, or evaluation guideline.
Data Reference:	RWB2 Reference Study Monitoring 2008
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	Water Quality Control Plan, San Francisco Bay Region (SFBRWQCB 2011): All waters shall be maintained free of toxic substances in concentrations that are toxic to, or that produce detrimental physiological responses in human, plant, animal, or aquatic life.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	
Guideline Reference:	
Spatial Representation:	Samples were collected at 204IND200 (Indian approx. 1.8 miles upstream of San Antonio Reservoir).
Temporal Representation:	Samples collected on 5/20/2008 and 6/16/2008.
Environmental Conditions:	
QAPP Information:	SWAMP QAPP (2008) was followed.
QAPP Information Reference(s):	Surface Water Ambient Monitoring Program Quality Assurance Program Plan

DECISION ID	64879	Region 2
Indian Creek (Alameda County)		

Pollutant:	Nitrate/Nitrite (Nitrite + Nitrate as N)
Final Listing Decision:	Do Not List on 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision:	New Decision
Revision Status	Revised
Impairment from Pollutant or Pollution:	Pollutant

Regional Board Staff Conclusion: This pollutant is being considered for placement on the CWA section 303(d) List under section 3.1 of the Listing Policy. Under section 3.1 a single line of evidence is necessary to assess listing status. One line of evidence is available in the administrative record to assess this pollutant. Zero of two samples exceed the guideline.

Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against placing this water segment-pollutant combination on the CWA section 303(d) List.

This conclusion is based on the staff findings that:

1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy.
2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy.
3. Zero of two samples exceed the guideline and this sample size is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating. A minimum of 16 samples is needed to determine if a beneficial use is fully supported using table 3.1.
4. Pursuant to SECTION 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.

Regional Board Staff Decision Recommendation: After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be placed on the section 303(d) list. The readily available data and information is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating.

Line of Evidence (LOE) for Decision ID 64879, Nitrate/Nitrite (Nitrite + Nitrate as N)**Region 2****Indian Creek (Alameda County)**

LOE ID:	91896
Pollutant:	Nitrate/Nitrite (Nitrite + Nitrate as N)
LOE Subgroup:	Pollutant-Water
Matrix:	Water
Fraction:	None
Beneficial Use:	Municipal & Domestic Supply
Number of Samples:	2
Number of Exceedances:	0
Data and Information Type:	PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality:	State Water Board staff assessed SWAMP data for Indian Creek (Alameda County) to determine beneficial use support and results are as follows: 0 of 2 samples exceed the criterion for Nitrate/Nitrite as N.
Data Reference:	RWB2 Reference Study Monitoring 2008
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	The California Maximum Contaminant Level for nitrate + nitrite (as N) that is incorporated by reference in the Water Quality Control Plan, San Francisco Bay Region is 10.0 mg/L (Water Quality Control Plan, San Francisco Bay Region).
Objective/Criterion Reference:	Maximum Contaminant Levels for organic and inorganic chemicals. CCR
Evaluation Guideline:	
Guideline Reference:	
Spatial Representation:	Data for this line of evidence for Indian Creek (Alameda County) was collected at 1 monitoring site [Indian approx. 1.8 miles upstream of San Antonio Reservoir - 204IND200]
Temporal Representation:	Data was collected over the time period 5/20/2008-6/16/2008.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	The SWAMP QAPP (2008) was followed.
QAPP Information Reference(s):	Surface Water Ambient Monitoring Program Quality Assurance Program Plan

DECISION ID**64880****Region 2****Indian Creek (Alameda County)**

Pollutant:	Nitrogen, ammonia (Total Ammonia)
Final Listing Decision:	Do Not List on 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision:	New Decision
Revision Status	Revised
Impairment from Pollutant or Pollution:	Pollutant
Regional Board Staff Conclusion:	<p>This pollutant is being considered for placement on the CWA section 303(d) List under section 3.1 of the Listing Policy. Under section 3.1 a single line of evidence is necessary to assess listing status. Three lines of evidence are available in the administrative record to assess this pollutant. Zero of two samples exceed the guideline.</p> <p>Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against placing this water segment-pollutant combination on the CWA section 303(d) List.</p>

This conclusion is based on the staff findings that:

1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy.
2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy.
3. Zero of two samples exceed the guideline and this sample size is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating. A minimum of 16 samples is needed to determine if a beneficial use is fully supported using table 3.1.
4. Pursuant to SECTION 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.

Regional Board Staff Decision Recommendation: After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be placed on the section 303(d) list. The readily available data and information is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating.

**Line of Evidence (LOE) for Decision ID 64880, Nitrogen, ammonia (Total Ammonia)
Indian Creek (Alameda County)**

Region 2

LOE ID: 91912

Pollutant: Nitrogen, ammonia (Total Ammonia)
LOE Subgroup: Pollutant-Water
Matrix: Water
Fraction: Total

Beneficial Use: Cold Freshwater Habitat

Number of Samples: 2
Number of Exceedances: 0

Data and Information Type: PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality: State Water Board staff assessed SWAMP data for Indian Creek (Alameda County) to determine beneficial use support and results are as follows: 0 of 2 samples exceed the criterion for Ammonia as N, Total.

Data Reference: [RWB2 Reference Study Monitoring 2008](#)

SWAMP Data: SWAMP

Water Quality Objective/Criterion: Surface waters shall not contain concentrations of chemical constituents in amounts that adversely affect any designated beneficial use.

Objective/Criterion Reference: [Water Quality Control Plan \(Basin Plan\) San Francisco Bay Basin \(Region 2\)](#)

Evaluation Guideline: Aquatic Life Ambient Water Quality Criteria for Ammonia ? Freshwater (USEPA 2013): the 30-day rolling average concentration (criterion continuous concentration or CCC) of total ammonia nitrogen(in mg TAN/L) in freshwater are not to be exceeded more than once every three years on average. The CCC values are based on pH and temperature. The CCC formula is found on page 46 and the table of CCC values is on page 49.

Guideline Reference: [Aquatic Life Ambient Water Quality Criteria for Ammonia - Freshwater 2013](#)

Spatial Representation: Data for this line of evidence for Indian Creek (Alameda County) was collected at 1 monitoring site [Indian approx. 1.8 miles upstream of San Antonio Reservoir - 204IND200]

Temporal Representation: Data was collected over the time period 5/20/2008-6/16/2008.

Environmental Conditions: Staff is not aware of any special conditions that might affect interpretation of the data.

QAPP Information: The SWAMP QAPP (2008) was followed.

QAPP Information Reference(s): [Surface Water Ambient Monitoring Program Quality Assurance Program Plan](#)

**Line of Evidence (LOE) for Decision ID 64880, Nitrogen, ammonia (Total Ammonia)
Indian Creek (Alameda County)**

Region 2

LOE ID:	91911
Pollutant:	Nitrogen, ammonia (Total Ammonia)
LOE Subgroup:	Pollutant-Water
Matrix:	Water
Fraction:	Total
Beneficial Use:	Warm Freshwater Habitat
Number of Samples:	2
Number of Exceedances:	0
Data and Information Type:	PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality:	State Water Board staff assessed SWAMP data for Indian Creek (Alameda County) to determine beneficial use support and results are as follows: 0 of 2 samples exceed the criterion for Ammonia as N, Total.
Data Reference:	RWB2 Reference Study Monitoring 2008
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	Surface waters shall not contain concentrations of chemical constituents in amounts that adversely affect any designated beneficial use.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	Aquatic Life Ambient Water Quality Criteria for Ammonia ? Freshwater (USEPA 2013): the 30-day rolling average concentration (criterion continuous concentration or CCC) of total ammonia nitrogen(in mg TAN/L) in freshwater are not to be exceeded more than once every three years on average. The CCC values are based on pH and temperature. The CCC formula is found on page 46 and the table of CCC values is on page 49.
Guideline Reference:	Aquatic Life Ambient Water Quality Criteria for Ammonia - Freshwater 2013
Spatial Representation:	Data for this line of evidence for Indian Creek (Alameda County) was collected at 1 monitoring site [Indian approx. 1.8 miles upstream of San Antonio Reservoir - 204IND200]
Temporal Representation:	Data was collected over the time period 5/20/2008-6/16/2008.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	The SWAMP QAPP (2008) was followed.
QAPP Information Reference(s):	Surface Water Ambient Monitoring Program Quality Assurance Program Plan

Line of Evidence (LOE) for Decision ID 64880, Nitrogen, ammonia (Total Ammonia)
Indian Creek (Alameda County)

Region 2

LOE ID:	91913
Pollutant:	Nitrogen, ammonia (Total Ammonia)
LOE Subgroup:	Pollutant-Water
Matrix:	Water
Fraction:	Total
Beneficial Use:	Municipal & Domestic Supply
Number of Samples:	2
Number of Exceedances:	0
Data and Information Type:	PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality:	State Water Board staff assessed SWAMP data for Indian Creek (Alameda County) to determine beneficial use support and results are as follows: 0 of 2 samples exceed the criterion for Ammonia as N, Total.
Data Reference:	RWB2 Reference Study Monitoring 2008

SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	Surface waters shall not contain concentrations of chemical constituents in amounts that adversely affect any designated beneficial use.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	USEPA's Lifetime Health advisory level for total ammonia is 30.0 mg/L as stated on page 8 of the 2011 edition of the drinking water standards and health advisories. (EPA EPA 820-R-11-002, 2011).
Guideline Reference:	2011 Edition of the Drinking Water Standards and Health Advisories
Spatial Representation:	Data for this line of evidence for Indian Creek (Alameda County) was collected at 1 monitoring site [Indian approx. 1.8 miles upstream of San Antonio Reservoir - 204IND200]
Temporal Representation:	Data was collected over the time period 5/20/2008-6/16/2008.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	The SWAMP QAPP (2008) was followed.
QAPP Information Reference(s):	Surface Water Ambient Monitoring Program Quality Assurance Program Plan

DECISION ID	64882	Region 2
Indian Creek (Alameda County)		

Pollutant:	Oxygen, Dissolved
Final Listing Decision:	Do Not List on 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision:	New Decision
Revision Status	Revised
Impairment from Pollutant or Pollution:	Pollutant

Regional Board Staff Conclusion: This pollutant is being considered for placement on the CWA section 303(d) List under section 3.2 of the Listing Policy. Under section 3.2 a single line of evidence is necessary to assess listing status. Three lines of evidence are available in the administrative record to assess this pollutant. Zero of eight samples exceed the objective.

Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against placing this water segment-pollutant combination on the CWA section 303(d) List.

This conclusion is based on the staff findings that:

1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy.
2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy.
3. Zero of eight samples exceed the objective and this sample size is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating. A minimum of 26 samples is needed to determine if a beneficial use is fully supported using table 3.2.
4. Pursuant to SECTION 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.

Regional Board Staff Decision Recommendation: After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be placed on the section 303(d) list. The readily available data and information is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating.

Line of Evidence (LOE) for Decision ID 64882, Oxygen, Dissolved	Region 2
Indian Creek (Alameda County)	

LOE ID:	91897
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Pollutant:	Oxygen, Dissolved
LOE Subgroup:	Pollutant-Water
Matrix:	Water
Fraction:	Dissolved
Beneficial Use:	Cold Freshwater Habitat
Number of Samples:	4
Number of Exceedances:	0
Data and Information Type:	PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality:	State Water Board staff assessed SWAMP data for Indian Creek (Alameda County) to determine beneficial use support and results are as follows: 0 of 4 samples exceed the criterion for Oxygen, Dissolved.
Data Reference:	RWB2 Reference Study Monitoring 2008
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	Dissolved oxygen objectives for waters designated as cold water habitat shall be of a 7.0 mg/l minimum. (Water Quality Control Plan, San Francisco Bay Basin, Chapter III Water Quality Objectives.)
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	
Guideline Reference:	
Spatial Representation:	Data for this line of evidence for Indian Creek (Alameda County) was collected at 1 monitoring site [Indian approx. 1.8 miles upstream of San Antonio Reservoir - 204IND200]
Temporal Representation:	Data was collected over the time period 4/29/2008-7/1/2008.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	The SWAMP QAPP (2008) was followed.
QAPP Information Reference(s):	Surface Water Ambient Monitoring Program Quality Assurance Program Plan

**Line of Evidence (LOE) for Decision ID 64882, Oxygen, Dissolved
Indian Creek (Alameda County)**

Region 2

LOE ID:	91899
Pollutant:	Oxygen, Dissolved
LOE Subgroup:	Pollutant-Water
Matrix:	Water
Fraction:	Dissolved
Beneficial Use:	Cold Freshwater Habitat
Number of Samples:	4
Number of Exceedances:	0
Data and Information Type:	PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality:	Zero of the 4 samples collected exceeded the objective.
Data Reference:	RWB2 Reference Study Monitoring 2008
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	The minimum dissolved oxygen content of non-tidal water bodies designated as Cold water habitat is 7.0 mg/L.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	
Guideline Reference:	

Spatial Representation:	Samples were collected from the Indian approx. 1.8 miles upstream of San Antonio Reservoir station (204IND200).
Temporal Representation:	Samples were collected on the following dates: 4/29/2008 5/20/2008 6/16/2008 7/1/2008
Environmental Conditions:	
QAPP Information:	The SWAMP QAPP (2008) was followed.
QAPP Information Reference(s):	

**Line of Evidence (LOE) for Decision ID 64882, Oxygen, Dissolved
Indian Creek (Alameda County)**

Region 2

LOE ID:	91898
Pollutant:	Oxygen, Dissolved
LOE Subgroup:	Pollutant-Water
Matrix:	Water
Fraction:	Dissolved
Beneficial Use:	Warm Freshwater Habitat
Number of Samples:	4
Number of Exceedances:	0
Data and Information Type:	PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality:	State Water Board staff assessed SWAMP data for Indian Creek (Alameda County) to determine beneficial use support and results are as follows: 0 of 4 samples exceed the criterion for Oxygen, Dissolved.
Data Reference:	RWB2 Reference Study Monitoring 2008
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	Dissolved oxygen objectives for waters designated as warm water habitat shall be of a 5.0 mg/l minimum. (Water Quality Control Plan, San Francisco Bay Basin, Chapter III Water Quality Objectives.)
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	
Guideline Reference:	
Spatial Representation:	Data for this line of evidence for Indian Creek (Alameda County) was collected at 1 monitoring site [Indian approx. 1.8 miles upstream of San Antonio Reservoir - 204IND200]
Temporal Representation:	Data was collected over the time period 4/29/2008-7/1/2008.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	The SWAMP QAPP (2008) was followed.
QAPP Information Reference(s):	Surface Water Ambient Monitoring Program Quality Assurance Program Plan

DECISION ID 64885

Region 2

Indian Creek (Alameda County)

Pollutant:	Specific Conductivity
Final Listing Decision:	Do Not List on 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision:	New Decision
Revision Status	Revised
Impairment from Pollutant or Pollution:	Pollutant

Regional Board Staff Conclusion: This pollutant is being considered for placement on the CWA section 303(d) List under section 3.1 of the Listing Policy. Under section 3.1 a single line of evidence is necessary to assess listing status. One line of evidence is available in the administrative record to assess this pollutant. Zero of four

samples exceed the guideline.

Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against placing this water segment-pollutant combination on the CWA section 303(d) List.

This conclusion is based on the staff findings that:

1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy.
2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy.
3. Zero of four samples exceed the guideline and this sample size is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating. A minimum of 16 samples is needed to determine if a beneficial use is fully supported using table 3.1.
4. Pursuant to SECTION 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.

Regional Board Staff Decision Recommendation: After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be placed on the section 303(d) list. The readily available data and information is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating.

**Line of Evidence (LOE) for Decision ID 64885, Specific Conductivity
Indian Creek (Alameda County)**

Region 2

LOE ID:	91905
Pollutant:	Specific Conductivity
LOE Subgroup:	Pollutant-Water
Matrix:	Water
Fraction:	None
Beneficial Use:	Municipal & Domestic Supply
Number of Samples:	4
Number of Exceedances:	0
Data and Information Type:	PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality:	State Water Board staff assessed SWAMP data for Indian Creek (Alameda County) to determine beneficial use support and results are as follows: 0 of 4 samples exceed the criterion for Conductivity(Us).
Data Reference:	RWB2 Reference Study Monitoring 2008
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	The California Secondary MCL for Specific Conductance is 900 us/cm (Water Quality Control Plan, San Francisco Bay Region).
Objective/Criterion Reference:	Secondary Maximum Contaminant Levels and Compliance. CCR title 22 section 64449.
Evaluation Guideline:	
Guideline Reference:	
Spatial Representation:	Data for this line of evidence for Indian Creek (Alameda County) was collected at 1 monitoring site [Indian approx. 1.8 miles upstream of San Antonio Reservoir - 204IND200]
Temporal Representation:	Data was collected over the time period 4/29/2008-7/1/2008.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	The SWAMP QAPP (2008) was followed.
QAPP Information Reference(s):	Surface Water Ambient Monitoring Program Quality Assurance Program Plan

DECISION ID

64893

Region 2

Indian Creek (Alameda County)

Pollutant: Temperature, water
Final Listing Decision: Do Not List on 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision: New Decision
Revision Status: Revised
Impairment from Pollutant or Pollution: Pollutant

Regional Board Staff Conclusion: This pollutant is being considered for placement on the CWA section 303(d) List under section 3.1 of the Listing Policy. Under section 3.1 a single line of evidence is necessary to assess listing status. Two lines of evidence are available in the administrative record to assess this pollutant. Zero of one samples exceed the guideline.

Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against placing this water segment-pollutant combination on the CWA section 303(d) List.

This conclusion is based on the staff findings that:

1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy.
2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy.
3. Zero of eight samples exceed the guideline and this sample size is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating. A minimum of 16 samples is needed to determine if a beneficial use is fully supported using table 3.1.
4. Pursuant to SECTION 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.

Regional Board Staff Decision Recommendation: After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be placed on the section 303(d) list. The readily available data and information is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating.

Line of Evidence (LOE) for Decision ID 64893, Temperature, water Indian Creek (Alameda County)

Region 2

LOE ID: 91906

Pollutant: Temperature, water
LOE Subgroup: Pollutant-Water
Matrix: Water
Fraction: None

Beneficial Use: Cold Freshwater Habitat

Number of Samples: 4
Number of Exceedances: 0

Data and Information Type: PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality: State Water Board staff assessed SWAMP data for Indian Creek (Alameda County) to determine beneficial use support and results are as follows: 0 of 4 samples exceed the criterion for Water Temperature.

Data Reference: [RWB2 Reference Study Monitoring 2008](#)

SWAMP Data: SWAMP

Water Quality Objective/Criterion: The natural receiving water temperature of inland surface waters shall not be altered unless it can be demonstrated to the satisfaction of the Regional Board that such alteration in temperature does not adversely affect beneficial uses. (Water Quality Control Plan, San Francisco Bay Basin, Chapter III Water Quality Objectives.)

Objective/Criterion Reference: [Water Quality Control Plan \(Basin Plan\) San Francisco Bay Basin \(Region 2\)](#)

Evaluation Guideline:	Inland Fishes of California (Moyle 1976) states that for rainbow trout the optimum range for growth and completion of most life stages is 13-21 degrees C (page 129).
Guideline Reference:	Inland Fishes of California
Spatial Representation:	Data for this line of evidence for Indian Creek (Alameda County) was collected at 1 monitoring site [Indian approx. 1.8 miles upstream of San Antonio Reservoir - 204IND200]
Temporal Representation:	Data was collected over the time period 4/29/2008-7/1/2008.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	The SWAMP QAPP (2008) was followed.
QAPP Information Reference(s):	Surface Water Ambient Monitoring Program Quality Assurance Program Plan

**Line of Evidence (LOE) for Decision ID 64893, Temperature, water
Indian Creek (Alameda County)**

Region 2

LOE ID:	91907
Pollutant:	Temperature, water
LOE Subgroup:	Pollutant-Water
Matrix:	Water
Fraction:	None
Beneficial Use:	Cold Freshwater Habitat
Number of Samples:	4
Number of Exceedances:	0
Data and Information Type:	PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality:	Zero of the 4 samples collected exceeded the evaluation guideline.
Data Reference:	RWB2 Reference Study Monitoring 2008
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	Water Quality Control Plan, San Francisco Bay Region: The natural receiving water temperature of inland surface waters shall not be altered unless it can be demonstrated to the satisfaction of the Regional Board that such alteration in temperature does not adversely affect beneficial uses.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	According to Carter (2008) the lethal threshold for juvenile steelhead growth & rearing is 24 degrees Celsius (C).
Guideline Reference:	Effects of Temperature, Dissolved Oxygen/Total Dissolved Gas, Ammonia, and pH on Salmonids. Implications for California's North Coast TMDLs. California Regional Water Quality Control Board, North Coast Region
Spatial Representation:	Grab samples were collected at the Indian approx. 1.8 miles upstream of San Antonio Reservoir station (204IND200).
Temporal Representation:	Grab samples were collected on the following dates: 4/29/2008 5/20/2008 6/16/2008 7/1/2008
Environmental Conditions:	
QAPP Information:	The SWAMP QAPP was followed.
QAPP Information Reference(s):	

DECISION ID 64894
Indian Creek (Alameda County)

Region 2

Pollutant:	pH
Final Listing Decision:	Do Not List on 303(d) list (TMDL required list)
Last Listing Cycle's Final	New Decision

Listing Decision:
Revision Status Revised
Impairment from Pollutant or Pollution: Pollutant

Regional Board Staff Conclusion: This pollutant is being considered for placement on the CWA section 303(d) List under section 3.2 of the Listing Policy. Under section 3.2 a single line of evidence is necessary to assess listing status. Five lines of evidence are available in the administrative record to assess this pollutant. Zero of four samples exceed the objective.

Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against placing this water segment-pollutant combination on the CWA section 303(d) List.

This conclusion is based on the staff findings that:

1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy.
2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy.
3. Zero of four samples exceed the objective and this sample size is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating. A minimum of 26 samples is needed to determine if a beneficial use is fully supported using table 3.2.
4. Pursuant to SECTION 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.

Regional Board Staff Decision Recommendation: After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be placed on the section 303(d) list. The readily available data and information is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating.

**Line of Evidence (LOE) for Decision ID 64894, pH
Indian Creek (Alameda County)**

Region 2

LOE ID:	91902
Pollutant:	pH
LOE Subgroup:	Pollutant-Water
Matrix:	Water
Fraction:	None
Beneficial Use:	Cold Freshwater Habitat
Number of Samples:	4
Number of Exceedances:	0
Data and Information Type:	PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality:	State Water Board staff assessed SWAMP data for Indian Creek (Alameda County) to determine beneficial use support and results are as follows: 0 of 4 samples exceed the criterion for pH.
Data Reference:	RWB2 Reference Study Monitoring 2008
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	The Water Quality Control Plan for the San Francisco Bay Region's water quality objective for all surface waters states the following: The pH shall not be depressed below 6.5 nor raised above 8.5. This encompasses the pH range usually found in waters within the basin. Controllable water quality factors shall not cause changes greater than 0.5 units in normal ambient pH levels.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	
Guideline Reference:	

Spatial Representation: Data for this line of evidence for Indian Creek (Alameda County) was collected at 1 monitoring site [Indian approx. 1.8 miles upstream of San Antonio Reservoir - 204IND200]

Temporal Representation: Data was collected over the time period 4/29/2008-7/1/2008.

Environmental Conditions: Staff is not aware of any special conditions that might affect interpretation of the data.

QAPP Information: The SWAMP QAPP (2008) was followed.

QAPP Information Reference(s): [Surface Water Ambient Monitoring Program Quality Assurance Program Plan](#)

Line of Evidence (LOE) for Decision ID 64894, pH	Region 2
Indian Creek (Alameda County)	

LOE ID: 91904

Pollutant: pH

LOE Subgroup: Pollutant-Water

Matrix: Water

Fraction: Total

Beneficial Use: Cold Freshwater Habitat

Number of Samples: 4

Number of Exceedances: 0

Data and Information Type: PHYSICAL/CHEMICAL MONITORING

Data Used to Assess Water Quality: 0 of 4 samples exceed the water quality objective.

Data Reference: [RWB2 Reference Study Monitoring 2008](#)

SWAMP Data: SWAMP

Water Quality Objective/Criterion: Water Quality Control Plan, San Francisco Bay Region (SFBRWQCB 2011): In inland surface waters the pH shall not be depressed below 6.5 nor raised above 8.5.

Objective/Criterion Reference: [Water Quality Control Plan \(Basin Plan\) San Francisco Bay Basin \(Region 2\)](#)

Evaluation Guideline:

Guideline Reference:

Spatial Representation: Samples were collected at 204IND200 (Indian approx. 1.8 miles upstream of San Antonio Reservoir).

Temporal Representation: Samples collected on 4/29/2008, 5/20/2008, 6/16/2008 and 7/1/2008.

Environmental Conditions:

QAPP Information: SWAMP QAPP (2008) was followed.

QAPP Information Reference(s): [Surface Water Ambient Monitoring Program Quality Assurance Program Plan](#)

Line of Evidence (LOE) for Decision ID 64894, pH	Region 2
Indian Creek (Alameda County)	

LOE ID: 91903

Pollutant: pH

LOE Subgroup: Pollutant-Water

Matrix: Water

Fraction: None

Beneficial Use: Agricultural Supply

Number of Samples: 4

Number of Exceedances: 0

Data and Information Type: PHYSICAL/CHEMICAL MONITORING

Data Used to Assess Water Quality: State Water Board staff assessed SWAMP data for Indian Creek (Alameda County) to determine beneficial use support and results are as follows: 0 of 4 samples exceed the

Data Reference:	criterion for pH. RWB2 Reference Study Monitoring 2008
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	Water Quality Control Plan, San Francisco Bay Basin, Chapter III Water Quality Objectives, Section 3.3.22 Constituents of Concern for Municipal and Agricultural Water Supplies states: At a minimum, surface waters designated for use as agricultural supply (AGR) shall not contain concentrations of constituents in excess of the levels specified in Table 3-6. The limit for pH ranges from 4.5-9.0.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	
Guideline Reference:	
Spatial Representation:	Data for this line of evidence for Indian Creek (Alameda County) was collected at 1 monitoring site [Indian approx. 1.8 miles upstream of San Antonio Reservoir - 204IND200]
Temporal Representation:	Data was collected over the time period 4/29/2008-7/1/2008.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	The SWAMP QAPP (2008) was followed.
QAPP Information Reference(s):	Surface Water Ambient Monitoring Program Quality Assurance Program Plan

Line of Evidence (LOE) for Decision ID 64894, pH

Region 2

Indian Creek (Alameda County)

LOE ID:	91901
Pollutant:	pH
LOE Subgroup:	Pollutant-Water
Matrix:	Water
Fraction:	None
Beneficial Use:	Municipal & Domestic Supply
Number of Samples:	4
Number of Exceedances:	0
Data and Information Type:	PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality:	State Water Board staff assessed SWAMP data for Indian Creek (Alameda County) to determine beneficial use support and results are as follows: 0 of 4 samples exceed the criterion for pH.
Data Reference:	RWB2 Reference Study Monitoring 2008
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	The Water Quality Control Plan for the San Francisco Bay Region's water quality objective for all surface waters states the following: The pH shall not be depressed below 6.5 nor raised above 8.5. This encompasses the pH range usually found in waters within the basin. Controllable water quality factors shall not cause changes greater than 0.5 units in normal ambient pH levels.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	
Guideline Reference:	
Spatial Representation:	Data for this line of evidence for Indian Creek (Alameda County) was collected at 1 monitoring site [Indian approx. 1.8 miles upstream of San Antonio Reservoir - 204IND200]
Temporal Representation:	Data was collected over the time period 4/29/2008-7/1/2008.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	The SWAMP QAPP (2008) was followed.

**Line of Evidence (LOE) for Decision ID 64894, pH
Indian Creek (Alameda County)**

Region 2

LOE ID:	91900
Pollutant:	pH
LOE Subgroup:	Pollutant-Water
Matrix:	Water
Fraction:	None
Beneficial Use:	Warm Freshwater Habitat
Number of Samples:	4
Number of Exceedances:	0
Data and Information Type:	PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality:	State Water Board staff assessed SWAMP data for Indian Creek (Alameda County) to determine beneficial use support and results are as follows: 0 of 4 samples exceed the criterion for pH.
Data Reference:	RWB2 Reference Study Monitoring 2008
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	The Water Quality Control Plan for the San Francisco Bay Region's water quality objective for all surface waters states the following: The pH shall not be depressed below 6.5 nor raised above 8.5. This encompasses the pH range usually found in waters within the basin. Controllable water quality factors shall not cause changes greater than 0.5 units in normal ambient pH levels.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	
Guideline Reference:	
Spatial Representation:	Data for this line of evidence for Indian Creek (Alameda County) was collected at 1 monitoring site [Indian approx. 1.8 miles upstream of San Antonio Reservoir - 204IND200]
Temporal Representation:	Data was collected over the time period 4/29/2008-7/1/2008.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	The SWAMP QAPP (2008) was followed.
QAPP Information Reference(s):	Surface Water Ambient Monitoring Program Quality Assurance Program Plan

Draft California 2016 Integrated Report (303(d) List/305(b) Report)

Supporting Information

Regional Board 2 - San Francisco Bay Region

Water Body Name: Guadalupe Slough
Water Body ID: CAR2051000020110829223355
Water Body Type: River & Stream

DECISION ID 64614 **Region 2**
Guadalupe Slough

Pollutant: Arsenic
Final Listing Decision: Do Not List on 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision: New Decision
Revision Status Revised
Impairment from Pollutant or Pollution: Pollutant

Regional Board Staff Conclusion: This pollutant is being considered for placement on the CWA section 303(d) List under section 3.1 of the Listing Policy. Under section 3.1 a single line of evidence is necessary to assess listing status.

One line of evidence is available in the administrative record to assess this pollutant. Zero of eighteen samples exceed the guideline.

Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against placing this water segment-pollutant combination on the CWA section 303(d) List in the Water Quality Limited Segments category.

This conclusion is based on the staff findings that:

1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy.
2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy.
3. Zero of eighteen samples exceed the guideline and this does not exceed the allowable frequency listed in Table 3.1 of the Listing Policy.
4. Pursuant to section 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.

Regional Board Staff Decision Recommendation: After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be removed from the section 303(d) list because applicable water quality standards for the pollutant are being exceeded.

Line of Evidence (LOE) for Decision ID 64614, Arsenic **Region 2**
Guadalupe Slough

LOE ID: 91834
Pollutant: Arsenic
LOE Subgroup: Pollutant-Water
Matrix: Water
Fraction: Dissolved
Beneficial Use: Estuarine Habitat
Number of Samples: 18
Number of Exceedances: 0

Data and Information Type:	PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality:	State Water Board staff assessed SFEI data for Guadalupe Slough to determine beneficial use support and results are as follows: 0 of 18 samples exceed the criterion for Arsenic.
Data Reference:	Regional Monitoring Program data, Feb. 1993-Sep. 2008
SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	The dissolved arsenic criterion continuous concentration (expressed as a 4-day average) to protect aquatic life in saline water is 0.036 mg/L (California Toxics Rule, 2000).
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	
Guideline Reference:	National Recommended Water Quality Criteria, United States Environmental Protection Agency, Office of Water, Office of Science and Technology
Spatial Representation:	Data for this line of evidence for Guadalupe Slough was collected at 1 monitoring site [Sunnyvale - C-1-3]
Temporal Representation:	Data was collected over the time period 2/1/1994-2/7/2001.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	The 1999 Quality Assurance Project Plan Regional Monitoring Program for Trace Substances was used.
QAPP Information Reference(s):	1999 Quality Assurance Project Plan Regional Monitoring Program for Trace Substances

DECISION ID	64616	Region 2
Guadalupe Slough		

Pollutant:	Cadmium
Final Listing Decision:	Do Not List on 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision:	New Decision
Revision Status	Revised
Impairment from Pollutant or Pollution:	Pollutant

Regional Board Staff Conclusion:

This pollutant is being considered for placement on the CWA section 303(d) List under section 3.1 of the Listing Policy. Under section 3.1 a single line of evidence is necessary to assess listing status.

One line of evidence is available in the administrative record to assess this pollutant. Zero of eighteen samples exceed the guideline.

Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against placing this water segment-pollutant combination on the CWA section 303(d) List in the Water Quality Limited Segments category.

This conclusion is based on the staff findings that:

1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy.
2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy.
3. Zero of eighteen samples exceed the guideline and this does not exceed the allowable frequency listed in Table 3.1 of the Listing Policy.
4. Pursuant to section 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.

Regional Board Staff Decision Recommendation:	After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be placed on the section 303(d) list because applicable water quality standards are not being exceeded.
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Line of Evidence (LOE) for Decision ID 64616, Cadmium		Region 2
Guadalupe Slough		

LOE ID: 91835

Pollutant: Cadmium
 LOE Subgroup: Pollutant-Water
 Matrix: Water
 Fraction: Dissolved

Beneficial Use: Estuarine Habitat

Number of Samples: 18
 Number of Exceedances: 0

Data and Information Type: PHYSICAL/CHEMICAL MONITORING
 Data Used to Assess Water Quality: State Water Board staff assessed SFEI data for Guadalupe Slough to determine beneficial use support and results are as follows: 0 of 18 samples exceed the criterion for Cadmium.
 Data Reference: [Regional Monitoring Program data, Feb. 1993-Sep. 2008](#)

SWAMP Data: Non-SWAMP

Water Quality Objective/Criterion: The dissolved cadmium criterion continuous concentration (expressed as a 4-day average) to protect aquatic life in saline water is 0.093 mg/L (California Toxics Rule, 2000).
 Objective/Criterion Reference: [Code of Federal Regulations 40 part 131.38 Establishment of numeric criteria for priority toxic pollutants for the State of California. 7/1/2011 Edition](#)

Evaluation Guideline:
 Guideline Reference:

Spatial Representation: Data for this line of evidence for Guadalupe Slough was collected at 1 monitoring site [Sunnyvale - C-1-3]

Temporal Representation: Data was collected over the time period 2/1/1994-2/7/2001.

Environmental Conditions: Staff is not aware of any special conditions that might affect interpretation of the data.

QAPP Information: The 1999 Quality Assurance Project Plan Regional Monitoring Program for Trace Substances was used.

QAPP Information Reference(s): [1999 Quality Assurance Project Plan Regional Monitoring Program for Trace Substances](#)

DECISION ID	64619	Region 2
Guadalupe Slough		

Pollutant: Chromium

Final Listing Decision: Do Not List on 303(d) list (TMDL required list)

Last Listing Cycle's Final Listing Decision: New Decision

Revision Status: Revised

Impairment from Pollutant or Pollution: Pollutant

Regional Board Staff Conclusion:

This pollutant is being considered for placement on the CWA section 303(d) List under section 3.1 of the Listing Policy. Under section 3.1 a single line of evidence is necessary to assess listing status.

One line of evidence is available in the administrative record to assess this pollutant. Zero of sixteen samples exceed the guideline.

Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against placing this water segment-pollutant combination on the CWA section 303(d) List in the Water Quality Limited Segments category.

This conclusion is based on the staff findings that:

1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy.
2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy.
3. Zero of sixteen samples exceed the guideline and this does not exceed the allowable frequency

listed in Table 3.1 of the Listing Policy.

4. Pursuant to section 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.

Regional Board Staff Decision Recommendation: After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be placed on the section 303(d) list because applicable water quality standards are not being exceeded.

Line of Evidence (LOE) for Decision ID 64619, Chromium

Region 2

Guadalupe Slough

LOE ID: 91836

Pollutant: Chromium
LOE Subgroup: Pollutant-Water
Matrix: Water
Fraction: Dissolved

Beneficial Use: Estuarine Habitat

Number of Samples: 16
Number of Exceedances: 0

Data and Information Type: PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality: State Water Board staff assessed SFEI data for Guadalupe Slough to determine beneficial use support and results are as follows: 0 of 16 samples exceed the criterion for Chromium.

Data Reference: [Regional Monitoring Program data, Feb. 1993-Sep. 2008](#)

SWAMP Data: Non-SWAMP

Water Quality Objective/Criterion: The dissolved chromium (III) criterion continuous concentration (expressed as a 4-day average) to protect aquatic life in freshwater is 0.180 mg/L (California Toxics Rule, 2000).

Objective/Criterion Reference: [Code of Federal Regulations 40 part 131.38 Establishment of numeric criteria for priority toxic pollutants for the State of California. 7/1/2011 Edition](#)

Evaluation Guideline:
Guideline Reference:

Spatial Representation: Data for this line of evidence for Guadalupe Slough was collected at 1 monitoring site [Sunnyvale - C-1-3]

Temporal Representation: Data was collected over the time period 2/1/1994-7/14/1999.

Environmental Conditions: Staff is not aware of any special conditions that might affect interpretation of the data.

QAPP Information: The 1999 Quality Assurance Project Plan Regional Monitoring Program for Trace Substances was used.

QAPP Information Reference(s): [1999 Quality Assurance Project Plan Regional Monitoring Program for Trace Substances](#)

DECISION ID

64620

Region 2

Guadalupe Slough

Pollutant: Copper
Final Listing Decision: Do Not List on 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision: New Decision
Revision Status: Revised
Impairment from Pollutant or Pollution: Pollutant

Regional Board Staff This pollutant is being considered for placement on the CWA section 303(d) List under section 3.1 of

Conclusion:	<p>the Listing Policy. Under section 3.1 a single line of evidence is necessary to assess listing status.</p> <p>One line of evidence is available in the administrative record to assess this pollutant. Zero of twenty-three samples exceed the guideline.</p> <p>Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against placing this water segment-pollutant combination on the CWA section 303(d) List in the Water Quality Limited Segments category.</p> <p>This conclusion is based on the staff findings that:</p> <ol style="list-style-type: none"> 1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy. 2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy. 3. Zero of twenty-three samples exceed the guideline and this does not exceed the allowable frequency listed in Table 3.1 of the Listing Policy. 4. Pursuant to section 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.
Regional Board Staff Decision Recommendation:	After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be placed on the section 303(d) list because applicable water quality standards are not being exceeded.

**Line of Evidence (LOE) for Decision ID 64620, Copper
Guadalupe Slough**

Region 2

LOE ID:	91837
Pollutant:	Copper
LOE Subgroup:	Pollutant-Water
Matrix:	Water
Fraction:	None
Beneficial Use:	Estuarine Habitat
Number of Samples:	23
Number of Exceedances:	0
Data and Information Type:	PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality:	State Water Board staff assessed SFEI data for Guadalupe Slough to determine beneficial use support and results are as follows: 0 of 23 samples exceed the criterion for Copper.
Data Reference:	Regional Monitoring Program data, Feb. 1993-Sep. 2008
SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	According to table 3-3A, the Copper site-specific objective for Guadalupe Slough is 6 ug/L.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	
Guideline Reference:	
Spatial Representation:	Data for this line of evidence for Guadalupe Slough was collected at 1 monitoring site [Sunnyvale - C-1-3]
Temporal Representation:	Data was collected over the time period 2/1/1994-7/23/2002.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	The 1999 Quality Assurance Project Plan Regional Monitoring Program for Trace Substances was used.
QAPP Information Reference(s):	1999 Quality Assurance Project Plan Regional Monitoring Program for Trace Substances

DECISION ID

64866

Region 2

Guadalupe Slough

Pollutant:	Lead
Final Listing Decision:	Do Not List on 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision:	New Decision
Revision Status	Revised
Impairment from Pollutant or Pollution:	Pollutant

Regional Board Staff Conclusion: This pollutant is being considered for placement on the CWA section 303(d) List under section 3.1 of the Listing Policy. Under section 3.1 a single line of evidence is necessary to assess listing status.

One line of evidence is available in the administrative record to assess this pollutant. Zero of eighteen samples exceed the guideline.

Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against placing this water segment-pollutant combination on the CWA section 303(d) List in the Water Quality Limited Segments category.

This conclusion is based on the staff findings that:

1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy.
2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy.
3. Zero of eighteen samples exceed the guideline and this does not exceed the allowable frequency listed in Table 3.1 of the Listing Policy.
4. Pursuant to section 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.

Regional Board Staff Decision Recommendation: After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be placed on the section 303(d) list because applicable water quality standards are not being exceeded.

Line of Evidence (LOE) for Decision ID 64866, Lead

Region 2

Guadalupe Slough

LOE ID:	91838
Pollutant:	Lead
LOE Subgroup:	Pollutant-Water
Matrix:	Water
Fraction:	Dissolved
Beneficial Use:	Estuarine Habitat
Number of Samples:	18
Number of Exceedances:	0
Data and Information Type:	PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality:	State Water Board staff assessed SFEI data for Guadalupe Slough to determine beneficial use support and results are as follows: 0 of 18 samples exceed the criterion for Lead.
Data Reference:	Regional Monitoring Program data, Feb. 1993-Sep. 2008
SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	The dissolved lead criterion continuous concentration (expressed as a 4-day average) to protect aquatic life in saline water is 0.0081 mg/L (California Toxics Rule, 2000).
Objective/Criterion Reference:	Code of Federal Regulations 40 part 131.38 Establishment of numeric criteria for priority toxic pollutants for the State of California. 7/1/2011 Edition
Evaluation Guideline:	
Guideline Reference:	

Spatial Representation:	Data for this line of evidence for Guadalupe Slough was collected at 1 monitoring site [Sunnyvale - C-1-3]
Temporal Representation:	Data was collected over the time period 2/1/1994-2/7/2001.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	The 1999 Quality Assurance Project Plan Regional Monitoring Program for Trace Substances was used.
QAPP Information Reference(s):	1999 Quality Assurance Project Plan Regional Monitoring Program for Trace Substances

DECISION ID	64867	Region 2
Guadalupe Slough		

Pollutant:	Nickel
Final Listing Decision:	Do Not List on 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision:	New Decision
Revision Status	Revised
Impairment from Pollutant or Pollution:	Pollutant

Regional Board Staff Conclusion: This pollutant is being considered for placement on the CWA section 303(d) List under section 3.1 of the Listing Policy. Under section 3.1 a single line of evidence is necessary to assess listing status.

One line of evidence is available in the administrative record to assess this pollutant. Zero of eighteen samples exceed the guideline.

Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against placing this water segment-pollutant combination on the CWA section 303(d) List in the Water Quality Limited Segments category.

This conclusion is based on the staff findings that:

1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy.
2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy.
3. Zero of eighteen samples exceed the guideline and this does not exceed the allowable frequency listed in Table 3.1 of the Listing Policy.
4. Pursuant to section 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.

Regional Board Staff Decision Recommendation: After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be placed on the section 303(d) list because applicable water quality standards are not being exceeded.

Line of Evidence (LOE) for Decision ID 64867, Nickel		Region 2
Guadalupe Slough		

LOE ID:	91839
Pollutant:	Nickel
LOE Subgroup:	Pollutant-Water
Matrix:	Water
Fraction:	Dissolved
Beneficial Use:	Estuarine Habitat
Number of Samples:	18
Number of Exceedances:	0
Data and Information Type:	PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality:	State Water Board staff assessed SFEI data for Guadalupe Slough to determine beneficial

use support and results are as follows: 0 of 18 samples exceed the criterion for Nickel.
[Regional Monitoring Program data, Feb. 1993-Sep. 2008](#)

Data Reference:

SWAMP Data: Non-SWAMP

Water Quality Objective/Criterion: The dissolved nickel criterion continuous concentration (expressed as a 4-day average) to protect aquatic life in saline water is 0.0082 mg/L (California Toxics Rule, 2000).

Objective/Criterion Reference: [Water Quality Control Plan \(Basin Plan\) San Francisco Bay Basin \(Region 2\)](#)

Evaluation Guideline:

Guideline Reference:

Spatial Representation: Data for this line of evidence for Guadalupe Slough was collected at 1 monitoring site [Sunnyvale - C-1-3]

Temporal Representation: Data was collected over the time period 2/1/1994-2/7/2001.

Environmental Conditions: Staff is not aware of any special conditions that might affect interpretation of the data.

QAPP Information: The 1999 Quality Assurance Project Plan Regional Monitoring Program for Trace Substances was used.

QAPP Information Reference(s): [1999 Quality Assurance Project Plan Regional Monitoring Program for Trace Substances](#)

DECISION ID	64868	Region 2
Guadalupe Slough		

Pollutant: Selenium

Final Listing Decision: Do Not List on 303(d) list (TMDL required list)

Last Listing Cycle's Final Listing Decision: New Decision

Revision Status Revised

Impairment from Pollutant or Pollution: Pollutant

Regional Board Staff Conclusion: This pollutant is being considered for placement on the CWA section 303(d) List under section 3.1 of the Listing Policy. Under section 3.1 a single line of evidence is necessary to assess listing status.

One line of evidence is available in the administrative record to assess this pollutant. Zero of eighteen samples exceed the guideline.

Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against placing this water segment-pollutant combination on the CWA section 303(d) List in the Water Quality Limited Segments category.

This conclusion is based on the staff findings that:

1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy.
2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy.
3. Zero of eighteen samples exceed the guideline and this does not exceed the allowable frequency listed in Table 3.1 of the Listing Policy.
4. Pursuant to section 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.

Regional Board Staff Decision Recommendation: After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be placed on the section 303(d) list because applicable water quality standards are not being exceeded.

Line of Evidence (LOE) for Decision ID 64868, Selenium	Region 2
Guadalupe Slough	

LOE ID: 91840

Pollutant: Selenium

LOE Subgroup:	Pollutant-Water
Matrix:	Water
Fraction:	Dissolved
Beneficial Use:	Estuarine Habitat
Number of Samples:	18
Number of Exceedances:	0
Data and Information Type:	PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality:	State Water Board staff assessed SFEI data for Guadalupe Slough to determine beneficial use support and results are as follows: 0 of 18 samples exceed the criterion for Selenium.
Data Reference:	Regional Monitoring Program data, Feb. 1993-Sep. 2008
SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	The dissolved selenium criterion continuous concentration (expressed as a 4-day average) to protect aquatic life in saline water is 5 ug/L (California Toxics Rule, 2000).
Objective/Criterion Reference:	Code of Federal Regulations 40 part 131.38 Establishment of numeric criteria for priority toxic pollutants for the State of California. 7/1/2011 Edition
Evaluation Guideline:	
Guideline Reference:	
Spatial Representation:	Data for this line of evidence for Guadalupe Slough was collected at 1 monitoring site [Sunnyvale - C-1-3]
Temporal Representation:	Data was collected over the time period 2/1/1994-2/7/2001.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	The 1999 Quality Assurance Project Plan Regional Monitoring Program for Trace Substances was used.
QAPP Information Reference(s):	1999 Quality Assurance Project Plan Regional Monitoring Program for Trace Substances

DECISION ID	64869	Region 2
Guadalupe Slough		

Pollutant:	Silver
Final Listing Decision:	Do Not List on 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision:	New Decision
Revision Status	Revised
Impairment from Pollutant or Pollution:	Pollutant

Regional Board Staff Conclusion:

This pollutant is being considered for placement on the CWA section 303(d) List under section 3.1 of the Listing Policy. Under section 3.1 a single line of evidence is necessary to assess listing status. One line of evidence is available in the administrative record to assess this pollutant. Zero of fifteen samples exceed the guideline.

Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against placing this water segment-pollutant combination on the CWA section 303(d) List.

This conclusion is based on the staff findings that:

1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy.
2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy.
3. Zero of fifteen samples exceed the guideline and this sample size is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating. A minimum of 16 samples is needed to determine if a beneficial use is fully supported using table 3.1.
4. Pursuant to SECTION 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.

Regional Board Staff Decision Recommendation: After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be placed on the section 303(d) list. The readily available data and information is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating.

**Line of Evidence (LOE) for Decision ID 64869, Silver
Guadalupe Slough**

Region 2

LOE ID: 91841

Pollutant: Silver
LOE Subgroup: Pollutant-Water
Matrix: Water
Fraction: Dissolved

Beneficial Use: Estuarine Habitat

Number of Samples: 15
Number of Exceedances: 0

Data and Information Type: PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality: State Water Board staff assessed SFEI data for Guadalupe Slough to determine beneficial use support and results are as follows: 0 of 15 samples exceed the criterion for Silver.
Data Reference: [Regional Monitoring Program data, Feb. 1993-Sep. 2008](#)

SWAMP Data: Non-SWAMP

Water Quality Objective/Criterion: The dissolved silver criterion maximum concentration to protect aquatic life in saline water is 0.0019 mg/L (California Toxics Rule, 2000).
Objective/Criterion Reference: [Code of Federal Regulations 40 part 131.38 Establishment of numeric criteria for priority toxic pollutants for the State of California. 7/1/2011 Edition](#)

Evaluation Guideline:
Guideline Reference:

Spatial Representation: Data for this line of evidence for Guadalupe Slough was collected at 1 monitoring site [Sunnyvale - C-1-3]
Temporal Representation: Data was collected over the time period 2/1/1994-2/7/2001.
Environmental Conditions: Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information: The 1999 Quality Assurance Project Plan Regional Monitoring Program for Trace Substances was used.
QAPP Information Reference(s): [1999 Quality Assurance Project Plan Regional Monitoring Program for Trace Substances](#)

DECISION ID 64870

Region 2

Guadalupe Slough

Pollutant: Zinc
Final Listing Decision: Do Not List on 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision: New Decision
Revision Status: Revised
Impairment from Pollutant or Pollution: Pollutant

Regional Board Staff Conclusion: This pollutant is being considered for placement on the CWA section 303(d) List under section 3.1 of the Listing Policy. Under section 3.1 a single line of evidence is necessary to assess listing status.

One line of evidence is available in the administrative record to assess this pollutant. Zero of eighteen samples exceed the guideline.

Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against placing this water segment-pollutant combination on the CWA section 303(d) List in the Water Quality Limited Segments category.

This conclusion is based on the staff findings that:

1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy.
2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy.
3. Zero of eighteen samples exceed the guideline and this does not exceed the allowable frequency listed in Table 3.1 of the Listing Policy.
4. Pursuant to section 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.

Regional Board Staff Decision Recommendation: After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be placed on the section 303(d) list because applicable water quality standards are not being exceeded.

**Line of Evidence (LOE) for Decision ID 64870, Zinc
Guadalupe Slough**

Region 2

LOE ID: 91842

Pollutant: Zinc
LOE Subgroup: Pollutant-Water
Matrix: Water
Fraction: Dissolved

Beneficial Use: Estuarine Habitat

Number of Samples: 18
Number of Exceedances: 0

Data and Information Type: PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality: State Water Board staff assessed SFEI data for Guadalupe Slough to determine beneficial use support and results are as follows: 0 of 18 samples exceed the criterion for Zinc.

Data Reference: [Regional Monitoring Program data, Feb. 1993-Sep. 2008](#)

SWAMP Data: Non-SWAMP

Water Quality Objective/Criterion: The dissolved zinc criterion continuous concentration (expressed as a 4-day average) to protect aquatic life in saline water is 0.081 mg/L (California Toxics Rule, 2000).

Objective/Criterion Reference: [Code of Federal Regulations 40 part 131.38 Establishment of numeric criteria for priority toxic pollutants for the State of California. 7/1/2011 Edition](#)

Evaluation Guideline:
Guideline Reference:

Spatial Representation: Data for this line of evidence for Guadalupe Slough was collected at 1 monitoring site [Sunnyvale - C-1-3]

Temporal Representation: Data was collected over the time period 2/1/1994-2/7/2001.

Environmental Conditions: Staff is not aware of any special conditions that might affect interpretation of the data.

QAPP Information: The 1999 Quality Assurance Project Plan Regional Monitoring Program for Trace Substances was used.

QAPP Information Reference(s): [1999 Quality Assurance Project Plan Regional Monitoring Program for Trace Substances](#)

**DECISION ID 66762
Guadalupe Slough**

Region 2

Pollutant: Toxicity

Final Listing Decision:	List on 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision:	New Decision
Revision Status	Revised
Sources:	Source Unknown
Expected TMDL Completion Date:	2029
Impairment from Pollutant or Pollution:	Pollutant

Regional Board Staff Conclusion:

This pollutant is being considered for placement on the CWA section 303(d) List under section 3.6 of the Listing Policy. Under section 3.6 a single line of evidence is necessary to assess listing status.

Two lines of evidence are available in the administrative record to assess this pollutant. Two of sixteen samples exceed the guideline for water column toxicity.

Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification in favor of placing this water segment-pollutant combination on the CWA section 303(d) List.

This conclusion is based on the staff findings that:

1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy.
2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy.
3. Two of sixteen samples exceed the guideline and this exceeds the allowable frequency listed in Table 3.1 of the Listing Policy.
4. Pursuant to section 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.

Regional Board Staff Decision Recommendation: After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should be placed on the section 303(d) list because applicable water quality standards are exceeded and a pollutant contributes to or causes the problem.

Line of Evidence (LOE) for Decision ID 66762, Toxicity	Region 2
Guadalupe Slough	

LOE ID:	95813
Pollutant:	Toxicity
LOE Subgroup:	Toxicity
Matrix:	Sediment
Fraction:	None
Beneficial Use:	Estuarine Habitat
Number of Samples:	2
Number of Exceedances:	1
Data and Information Type:	TOXICITY TESTING
Data Used to Assess Water Quality:	<p>One of the 2 samples exhibited toxicity. A sample may have multiple toxicity test results but will be counted only once. A sample is defined as being collected on the same day at the same location with the same lab sample id (if provided).</p> <p>The following test organisms and parameters were utilized for the toxicity tests: Eohaustorius estuarius (mean % survival), 1998; Mytilus galloprovincialis (mean % normal alive), 1998. The sample which exhibited toxicity was for Mytilus galloprovincialis collected August 1998.</p> <p>Additional results were not included in the assessment due to control results of less than 90 percent for test parameter.</p>
Data Reference:	Regional Monitoring Program data, Feb. 1993-Sep. 2008

SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	All waters shall be maintained free of toxic substances in concentrations that are toxic to, or that produce detrimental physiological responses in, human, plant, animal, or aquatic life. Region 2 Basin Plan.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) - San Francisco Bay Region (Region 2)
Evaluation Guideline:	Toxicity is defined as a significant reduction of test organism relative to the control (alpha < 0.01) and test organism survival is 80% or less than the control survival (at least 20% effect).
Guideline Reference:	SWAMP Memo Toxicity Data Interpretation Methods for Assessing the Toxicity of Sediment-associated Contaminants with Estuarine and Marine Amphipods. June 1994. EPA 600/R-94/025
Spatial Representation:	Samples were collected at site C-1-3.
Temporal Representation:	The samples were collected August 1998.
Environmental Conditions:	
QAPP Information:	There is no QAPP available for data collected during this time period.
QAPP Information Reference(s):	

Line of Evidence (LOE) for Decision ID 66762, Toxicity
Guadalupe Slough

Region 2

LOE ID:	95812
Pollutant:	Toxicity
LOE Subgroup:	Toxicity
Matrix:	Water
Fraction:	None
Beneficial Use:	Estuarine Habitat
Number of Samples:	16
Number of Exceedances:	2
Data and Information Type:	TOXICITY TESTING
Data Used to Assess Water Quality:	<p>Two of the 16 samples exhibited toxicity. A sample may have multiple toxicity test results but will be counted only once. A sample is defined as being collected on the same day at the same location with the same lab sample id (if provided).</p> <p>The following test organisms and parameters were utilized for the toxicity tests: <i>Mytilus edulis</i> (mean % normal development), 1996-97; and <i>Americamysis bahia</i> - formerly <i>Mysidopsis bahia</i> (mean % survival), 1994-2001. The two sample which exhibited toxicity were for <i>Americamysis bahia</i> collected January and July 1997.</p> <p>Additional results were not included in the assessment due to control results of less than 90 percent for test parameter.</p>
Data Reference:	Regional Monitoring Program data, Feb. 1993-Sep. 2008
SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	All waters shall be maintained free of toxic substances in concentrations that are toxic to, or that produce detrimental physiological responses in, human, plant, animal, or aquatic life. Region 2 Basin Plan.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) - San Francisco Bay Region (Region 2)
Evaluation Guideline:	Toxicity is defined as a significant reduction of test organism relative to the control (alpha < 0.05) and test organism survival is 80% or less than the control survival (at least 20% effect).
Guideline Reference:	SWAMP Memo Toxicity Data Interpretation Method 1007.0: Mysid, Mysidopsis bahia, Survival, Growth, and Fecundity Test; Chronic Toxicity. Excerpt from: Short-Term Methods for Estimating the Chronic Toxicity of

Spatial Representation:

Samples were collected at site C-1-3.

Temporal Representation:

The samples were collected twice each year (winter and summer) from 1994 - 2001.

Environmental Conditions:

QAPP Information:

Data collected after 1999 follows the San Francisco Estuary Institute 1999 Quality Assurance Project Plan Regional Monitoring Program for Trace Substances.

QAPP Information Reference(s):

[1999 Quality Assurance Project Plan Regional Monitoring Program for Trace Substances](#)

Draft California 2016 Integrated Report (303(d) List/305(b) Report)

Supporting Information

Regional Board 2 - San Francisco Bay Region

Water Body Name: Quimby Creek
Water Body ID: CAR2053006020110723155104
Water Body Type: River & Stream

DECISION ID 65796 **Region 2**
Quimby Creek

Pollutant: Chlordane
Final Listing Decision: Do Not List on 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision: New Decision
Revision Status: Revised
Impairment from Pollutant or Pollution: Pollutant

Regional Board Staff Conclusion: This pollutant is being considered for placement on the CWA section 303(d) List under section 3.6 of the Listing Policy.

One line of evidence is available in the administrative record to assess this pollutant. The single sample does not exceed the evaluation guideline for chlordane.

Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against placing this water segment-pollutant combination on the CWA section 303(d) List.

This conclusion is based on the staff findings that:

1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy.
2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy.
3. The single sample does not exceed the evaluation guideline for chlordane, and this sample size is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating.
4. Pursuant to SECTION 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.

Regional Board Staff Decision Recommendation: After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be placed on the section 303(d) list. The readily available data and information is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating.

Line of Evidence (LOE) for Decision ID 65796, Chlordane **Region 2**
Quimby Creek

LOE ID: 90723
Pollutant: Chlordane
LOE Subgroup: Pollutant-Sediment
Matrix: Sediment
Fraction: Total
Beneficial Use: Cold Freshwater Habitat
Number of Samples: 1

Number of Exceedances:	0
Data and Information Type:	PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality:	Zero of 1 samples collected exceeded the criteria for chlordane concentration (Sum of trans-Chlordane, cis-Chlordane, cis-Nonachlor, trans-Nonachlor, and Oxychlordane).
Data Reference:	Statewide Project Urban Pyrethroid Status Monitoring
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	All waters shall be maintained free of toxic substances in concentrations that are lethal to or that produce other detrimental responses in aquatic organisms. Waters shall not contain substances in concentrations that result in the deposition of material that causes nuisance or adversely affects beneficial uses. (Water Quality Control Plan for the San Francisco Bay Basin).
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) - San Francisco Bay Region (Region 2)
Evaluation Guideline:	The Probable Effect Concentration for Chlordane in freshwater sediments is 17.6 ug/kg(MacDonald et al. 2000).
Guideline Reference:	Development and evaluation of consensus-based sediment quality guidelines for freshwater ecosystems. Environmental Contamination and Toxicology. 39: 20-31
Spatial Representation:	Data were collected at the following station 205SUP103 (Quimby Creek).
Temporal Representation:	The samples were collected on 1/3/2007.
Environmental Conditions:	
QAPP Information:	The SWAMP QAPP (2008) was followed.
QAPP Information Reference(s):	Surface Water Ambient Monitoring Program Quality Assurance Program Plan

DECISION ID	65800	Region 2
Quimby Creek		
Pollutant:	DDD (Dichlorodiphenyldichloroethane)	
Final Listing Decision:	Do Not List on 303(d) list (TMDL required list)	
Last Listing Cycle's Final Listing Decision:	New Decision	
Revision Status	Revised	
Impairment from Pollutant or Pollution:	Pollutant	
Regional Board Staff Conclusion:	<p>This pollutant is being considered for placement on the CWA section 303(d) List under section 3.6 of the Listing Policy.</p> <p>Two lines of evidence are available in the administrative record to assess this pollutant. The single sample did not exceed the evaluation guideline for DDD.</p> <p>Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against placing this water segment-pollutant combination on the CWA section 303(d) List.</p> <p>This conclusion is based on the staff findings that:</p> <ol style="list-style-type: none"> 1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy. 2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy. 3. The single sample did not exceed the evaluation guideline for DDD and this sample size is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating. 4. Pursuant to SECTION 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met. 	
Regional Board Staff Decision Recommendation:	After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be placed on the section 303(d) list. The readily available data and information is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating.	

Line of Evidence (LOE) for Decision ID 65800, DDD (Dichlorodiphenyldichloroethane)**Region 2****Quimby Creek**

LOE ID:	92624
Pollutant:	DDD (Dichlorodiphenyldichloroethane)
LOE Subgroup:	Pollutant-Sediment
Matrix:	Sediment
Fraction:	Total
Beneficial Use:	Warm Freshwater Habitat
Number of Samples:	1
Number of Exceedances:	0
Data and Information Type:	PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality:	Water Board staff assessed SWAMP data for Quimby Creek to determine beneficial use support and results are as follows: 0 of 1 samples exceed the criterion for DDD.
Data Reference:	Statewide Project Urban Pyrethroid Status Monitoring
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	San Francisco Bay Basin Water Quality Control Plan 2007: All waters shall be maintained free of toxic substances in concentrations which are toxic to, or which produce detrimental physiological responses in, human, plant, animal, or aquatic life.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	In freshwater sediments the probable effect concentration (predictive of sediment toxicity for sediment-dwelling organisms) for sum of DDD is 28.0 ug/Kg dry weight (MacDonald et al. 2000).
Guideline Reference:	Development and evaluation of consensus-based sediment quality guidelines for freshwater ecosystems. Environmental Contamination and Toxicology. 39: 20-31
Spatial Representation:	Data for this line of evidence for Quimby Creek was collected at 1 monitoring site [Quimby Creek station (205SUP103).]
Temporal Representation:	Data was collected on a single day 1/3/2007.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	The SWAMP QAPP (2008) was followed.
QAPP Information Reference(s):	Quality Assurance Management Plan for the State of California's Surface Water Ambient Monitoring Program. Sacramento, CA. State Water Resources Control Board. SWAMP. December 2002 (1st version)

Line of Evidence (LOE) for Decision ID 65800, DDD (Dichlorodiphenyldichloroethane)**Region 2****Quimby Creek**

LOE ID:	92625
Pollutant:	DDD (Dichlorodiphenyldichloroethane)
LOE Subgroup:	Pollutant-Sediment
Matrix:	Sediment
Fraction:	Total
Beneficial Use:	Cold Freshwater Habitat
Number of Samples:	1
Number of Exceedances:	0
Data and Information Type:	PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality:	Water Board staff assessed SWAMP data for Quimby Creek to determine beneficial use

Data Reference:	support and results are as follows: 0 of 1 samples exceed the criterion for DDD. Statewide Project Urban Pyrethroid Status Monitoring
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	San Francisco Bay Basin Water Quality Control Plan 2007: All waters shall be maintained free of toxic substances in concentrations which are toxic to, or which produce detrimental physiological responses in, human, plant, animal, or aquatic life.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	In freshwater sediments the probable effect concentration (predictive of sediment toxicity for sediment-dwelling organisms) for sum of DDD is 28.0 ug/Kg dry weight (MacDonald et al. 2000).
Guideline Reference:	Development and evaluation of consensus-based sediment quality guidelines for freshwater ecosystems. Environmental Contamination and Toxicology. 39: 20-31
Spatial Representation:	Data for this line of evidence for Quimby Creek was collected at 1 monitoring site [Quimby Creek station (205SUP103).]
Temporal Representation:	Data was collected on a single day 1/3/2007.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	The SWAMP QAPP (2008) was followed.
QAPP Information Reference(s):	Quality Assurance Management Plan for the State of California's Surface Water Ambient Monitoring Program. Sacramento, CA. State Water Resources Control Board. SWAMP. December 2002 (1st version)

DECISION ID	65801	Region 2
Quimby Creek		
Pollutant:	DDE (Dichlorodiphenyldichloroethylene)	
Final Listing Decision:	Do Not List on 303(d) list (TMDL required list)	
Last Listing Cycle's Final Listing Decision:	New Decision	
Revision Status	Revised	
Impairment from Pollutant or Pollution:	Pollutant	
Regional Board Staff Conclusion:	<p>This pollutant is being considered for placement on the CWA section 303(d) List under section 3.6 of the Listing Policy.</p> <p>Two lines of evidence are available in the administrative record to assess this pollutant. The single sample did not exceed the evaluation guideline for DDE.</p> <p>Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against placing this water segment-pollutant combination on the CWA section 303(d) List.</p> <p>This conclusion is based on the staff findings that:</p> <ol style="list-style-type: none"> 1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy. 2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy. 3. The single sample did not exceed the evaluation guideline for DDE and this sample size is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating. 4. Pursuant to SECTION 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met. 	
Regional Board Staff Decision Recommendation:	After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be placed on the section 303(d) list. The readily available data and information is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating.	

Line of Evidence (LOE) for Decision ID 65801, DDE (Dichlorodiphenyldichloroethylene)**Region 2****Quimby Creek**

LOE ID:	92626
Pollutant:	DDE (Dichlorodiphenyldichloroethylene)
LOE Subgroup:	Pollutant-Sediment
Matrix:	Sediment
Fraction:	Total
Beneficial Use:	Warm Freshwater Habitat
Number of Samples:	1
Number of Exceedances:	0
Data and Information Type:	PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality:	Water Board staff assessed SWAMP data for Quimby Creek to determine beneficial use support and results are as follows: 0 of 1 samples exceed the criterion for DDE.
Data Reference:	Statewide Project Urban Pyrethroid Status Monitoring
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	San Francisco Bay Basin Water Quality Control Plan 2007: All waters shall be maintained free of toxic substances in concentrations which are toxic to, or which produce detrimental physiological responses in, human, plant, animal, or aquatic life.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	In freshwater sediments the probable effect concentration (predictive of sediment toxicity for sediment-dwelling organisms) for sum of DDE is 31.3 ug/Kg dry weight (MacDonald et al. 2000).
Guideline Reference:	Development and evaluation of consensus-based sediment quality guidelines for freshwater ecosystems. Environmental Contamination and Toxicology. 39: 20-31
Spatial Representation:	Data for this line of evidence for Quimby Creek was collected at 1 monitoring site [Quimby Creek station (205SUP103).]
Temporal Representation:	Data was collected on a single day 1/3/2007.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	The SWAMP QAPP (2008) was followed.
QAPP Information Reference(s):	Quality Assurance Management Plan for the State of California's Surface Water Ambient Monitoring Program. Sacramento, CA. State Water Resources Control Board. SWAMP. December 2002 (1st version)

Line of Evidence (LOE) for Decision ID 65801, DDE (Dichlorodiphenyldichloroethylene)**Region 2****Quimby Creek**

LOE ID:	92627
Pollutant:	DDE (Dichlorodiphenyldichloroethylene)
LOE Subgroup:	Pollutant-Sediment
Matrix:	Sediment
Fraction:	Total
Beneficial Use:	Cold Freshwater Habitat
Number of Samples:	1
Number of Exceedances:	0
Data and Information Type:	PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality:	Water Board staff assessed SWAMP data for Quimby Creek to determine beneficial use support and results are as follows: 0 of 1 samples exceed the criterion for DDE.
Data Reference:	Statewide Project Urban Pyrethroid Status Monitoring

SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	San Francisco Bay Basin Water Quality Control Plan 2007: All waters shall be maintained free of toxic substances in concentrations which are toxic to, or which produce detrimental physiological responses in, human, plant, animal, or aquatic life.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	In freshwater sediments the probable effect concentration (predictive of sediment toxicity for sediment-dwelling organisms) for sum of DDE is 31.3 ug/Kg dry weight (MacDonald et al. 2000).
Guideline Reference:	Development and evaluation of consensus-based sediment quality guidelines for freshwater ecosystems. Environmental Contamination and Toxicology. 39: 20-31
Spatial Representation:	Data for this line of evidence for Quimby Creek was collected at 1 monitoring site [Quimby Creek station (205SUP103).]
Temporal Representation:	Data was collected on a single day 1/3/2007.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	The SWAMP QAPP (2008) was followed.
QAPP Information Reference(s):	Quality Assurance Management Plan for the State of California's Surface Water Ambient Monitoring Program. Sacramento, CA. State Water Resources Control Board. SWAMP. December 2002 (1st version)

DECISION ID	65802	Region 2
Quimby Creek		

Pollutant:	DDT (Dichlorodiphenyltrichloroethane)
Final Listing Decision:	Do Not List on 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision:	New Decision
Revision Status	Revised
Impairment from Pollutant or Pollution:	Pollutant
Regional Board Staff Conclusion:	<p>This pollutant is being considered for placement on the CWA section 303(d) List under section 3.6 of the Listing Policy.</p> <p>Four lines of evidence are available in the administrative record to assess this pollutant. The single sample did not exceed the evaluation guideline for DDT.</p> <p>Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against placing this water segment-pollutant combination on the CWA section 303(d) List.</p> <p>This conclusion is based on the staff findings that:</p> <ol style="list-style-type: none"> 1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy. 2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy. 3. The single sample did not exceed the evaluation guideline for DDT and this sample size is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating. 4. Pursuant to SECTION 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.
Regional Board Staff Decision Recommendation:	After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be placed on the section 303(d) list. The readily available data and information is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating.

Line of Evidence (LOE) for Decision ID 65802, DDT (Dichlorodiphenyltrichloroethane)	Region 2
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Quimby Creek

LOE ID:	92629
Pollutant:	DDT (Dichlorodiphenyltrichloroethane)
LOE Subgroup:	Pollutant-Sediment
Matrix:	Sediment
Fraction:	Total
Beneficial Use:	Cold Freshwater Habitat
Number of Samples:	1
Number of Exceedances:	0
Data and Information Type:	PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality:	Water Board staff assessed SWAMP data for Quimby Creek to determine beneficial use support and results are as follows: 0 of 1 samples exceed the criterion for DDT.
Data Reference:	Statewide Project Urban Pyrethroid Status Monitoring
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	San Francisco Bay Basin Water Quality Control Plan 2007: All waters shall be maintained free of toxic substances in concentrations which are toxic to, or which produce detrimental physiological responses in, human, plant, animal, or aquatic life.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	In freshwater sediments the probable effect concentration (predictive of sediment toxicity for sediment-dwelling organisms) for sum of DDT is 62.9 ug/Kg dry weight (MacDonald et al. 2000).
Guideline Reference:	Development and evaluation of consensus-based sediment quality guidelines for freshwater ecosystems. Environmental Contamination and Toxicology. 39: 20-31
Spatial Representation:	Data for this line of evidence for Quimby Creek was collected at 1 monitoring site [Quimby Creek station (205SUP103).]
Temporal Representation:	Data was collected on a single day 1/3/2007.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	The SWAMP QAPP (2008) was followed.
QAPP Information Reference(s):	Quality Assurance Management Plan for the State of California's Surface Water Ambient Monitoring Program. Sacramento, CA. State Water Resources Control Board. SWAMP. December 2002 (1st version)

Line of Evidence (LOE) for Decision ID 65802, DDT (Dichlorodiphenyltrichloroethane)

Region 2

Quimby Creek

LOE ID:	92637
Pollutant:	Total DDT (sum of 4,4'- and 2,4'- isomers of DDT, DDE, and DDD)
LOE Subgroup:	Pollutant-Sediment
Matrix:	Sediment
Fraction:	Total
Beneficial Use:	Cold Freshwater Habitat
Number of Samples:	1
Number of Exceedances:	0
Data and Information Type:	PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality:	Water Board staff assessed SWAMP data for Quimby Creek to determine beneficial use support and results are as follows: 0 of 1 samples exceed the criterion for DDT, Total.
Data Reference:	Statewide Project Urban Pyrethroid Status Monitoring
SWAMP Data:	SWAMP

Water Quality Objective/Criterion:	San Francisco Bay Basin Water Quality Control Plan 2007: All waters shall be maintained free of toxic substances in concentrations which are toxic to, or which produce detrimental physiological responses in, human, plant, animal, or aquatic life.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	In freshwater sediments the probable effect concentration (predictive of sediment toxicity for sediment-dwelling organisms) for total DDTs is 572 ug/Kg dry weight (MacDonald et al. 2000).
Guideline Reference:	Development and evaluation of consensus-based sediment quality guidelines for freshwater ecosystems. Environmental Contamination and Toxicology. 39: 20-31
Spatial Representation:	Data for this line of evidence for Quimby Creek was collected at 1 monitoring site [Quimby Creek station (205SUP103).]
Temporal Representation:	Data was collected on a single day 1/3/2007.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	The SWAMP QAPP (2008) was followed.
QAPP Information Reference(s):	Quality Assurance Management Plan for the State of California's Surface Water Ambient Monitoring Program. Sacramento, CA. State Water Resources Control Board. SWAMP. December 2002 (1st version)

Line of Evidence (LOE) for Decision ID 65802, DDT (Dichlorodiphenyltrichloroethane)

Region 2

Quimby Creek

LOE ID:	92636
Pollutant:	Total DDT (sum of 4,4'- and 2,4'- isomers of DDT, DDE, and DDD)
LOE Subgroup:	Pollutant-Sediment
Matrix:	Sediment
Fraction:	Total
Beneficial Use:	Warm Freshwater Habitat
Number of Samples:	1
Number of Exceedances:	0
Data and Information Type:	PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality:	Water Board staff assessed SWAMP data for Quimby Creek to determine beneficial use support and results are as follows: 0 of 1 samples exceed the criterion for DDT, Total.
Data Reference:	Statewide Project Urban Pyrethroid Status Monitoring
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	San Francisco Bay Basin Water Quality Control Plan 2007: All waters shall be maintained free of toxic substances in concentrations which are toxic to, or which produce detrimental physiological responses in, human, plant, animal, or aquatic life.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	In freshwater sediments the probable effect concentration (predictive of sediment toxicity for sediment-dwelling organisms) for total DDTs is 572 ug/Kg dry weight (MacDonald et al. 2000).
Guideline Reference:	Development and evaluation of consensus-based sediment quality guidelines for freshwater ecosystems. Environmental Contamination and Toxicology. 39: 20-31
Spatial Representation:	Data for this line of evidence for Quimby Creek was collected at 1 monitoring site [Quimby Creek station (205SUP103).]
Temporal Representation:	Data was collected on a single day 1/3/2007.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	The SWAMP QAPP (2008) was followed.
QAPP Information Reference(s):	Quality Assurance Management Plan for the State of California's Surface Water Ambient Monitoring Program. Sacramento, CA. State Water Resources Control Board. SWAMP. December 2002 (1st version)

Quimby Creek

LOE ID:	92628
Pollutant:	DDT (Dichlorodiphenyltrichloroethane)
LOE Subgroup:	Pollutant-Sediment
Matrix:	Sediment
Fraction:	Total
Beneficial Use:	Warm Freshwater Habitat
Number of Samples:	1
Number of Exceedances:	0
Data and Information Type:	PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality:	Water Board staff assessed SWAMP data for Quimby Creek to determine beneficial use support and results are as follows: 0 of 1 samples exceed the criterion for DDT.
Data Reference:	Statewide Project Urban Pyrethroid Status Monitoring
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	San Francisco Bay Basin Water Quality Control Plan 2007: All waters shall be maintained free of toxic substances in concentrations which are toxic to, or which produce detrimental physiological responses in, human, plant, animal, or aquatic life.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	In freshwater sediments the probable effect concentration (predictive of sediment toxicity for sediment-dwelling organisms) for sum of DDT is 62.9 ug/Kg dry weight (MacDonald et al. 2000).
Guideline Reference:	Development and evaluation of consensus-based sediment quality guidelines for freshwater ecosystems. Environmental Contamination and Toxicology. 39: 20-31
Spatial Representation:	Data for this line of evidence for Quimby Creek was collected at 1 monitoring site [Quimby Creek station (205SUP103).]
Temporal Representation:	Data was collected on a single day 1/3/2007.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	The SWAMP QAPP (2008) was followed.
QAPP Information Reference(s):	Quality Assurance Management Plan for the State of California's Surface Water Ambient Monitoring Program. Sacramento, CA. State Water Resources Control Board. SWAMP. December 2002 (1st version)

DECISION ID

65806

Region 2

Quimby Creek

Pollutant:	Dieldrin
Final Listing Decision:	Do Not List on 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision:	New Decision
Revision Status	Revised
Impairment from Pollutant or Pollution:	Pollutant
Regional Board Staff Conclusion:	<p>This pollutant is being considered for placement on the CWA section 303(d) List under section 3.6 of the Listing Policy.</p> <p>Two lines of evidence are available in the administrative record to assess this pollutant. The single sample did not exceed the evaluation guideline for dieldrin.</p>

Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against placing this water segment-pollutant combination on the CWA section 303(d) List.

This conclusion is based on the staff findings that:

1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy.
2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy.
3. The single sample did not exceed the evaluation guideline for dieldrin and this sample size is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating.
4. Pursuant to SECTION 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.

Regional Board Staff Decision Recommendation: After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be placed on the section 303(d) list. The readily available data and information is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating.

Line of Evidence (LOE) for Decision ID 65806, Dieldrin		Region 2
Quimby Creek		
LOE ID:	92630	
Pollutant:	Dieldrin	
LOE Subgroup:	Pollutant-Sediment	
Matrix:	Sediment	
Fraction:	Total	
Beneficial Use:	Warm Freshwater Habitat	
Number of Samples:	1	
Number of Exceedances:	0	
Data and Information Type:	PHYSICAL/CHEMICAL MONITORING	
Data Used to Assess Water Quality:	Water Board staff assessed SWAMP data for Quimby Creek to determine beneficial use support and results are as follows: 0 of 1 samples exceed the criterion for Dieldrin.	
Data Reference:	Statewide Project Urban Pyrethroid Status Monitoring	
SWAMP Data:	SWAMP	
Water Quality Objective/Criterion:	San Francisco Bay Basin Water Quality Control Plan 2007: All waters shall be maintained free of toxic substances in concentrations which are toxic to, or which produce detrimental physiological responses in, human, plant, animal, or aquatic life.	
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)	
Evaluation Guideline:	In freshwater sediments the probable effect concentration (predictive of sediment toxicity for sediment-dwelling organisms) for dieldrin is 61.8 ug/Kg dry weight (MacDonald et al. 2000).	
Guideline Reference:	Development and evaluation of consensus-based sediment quality guidelines for freshwater ecosystems. Environmental Contamination and Toxicology. 39: 20-31	
Spatial Representation:	Data for this line of evidence for Quimby Creek was collected at 1 monitoring site [Quimby Creek station (205SUP103).]	
Temporal Representation:	Data was collected on a single day 1/3/2007.	
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.	
QAPP Information:	The SWAMP QAPP (2008) was followed.	
QAPP Information Reference(s):	Quality Assurance Management Plan for the State of California's Surface Water Ambient Monitoring Program. Sacramento, CA. State Water Resources Control Board. SWAMP. December 2002 (1st version)	
Line of Evidence (LOE) for Decision ID 65806, Dieldrin		Region 2

Quimby Creek

LOE ID:	92631
Pollutant:	Dieldrin
LOE Subgroup:	Pollutant-Sediment
Matrix:	Sediment
Fraction:	Total
Beneficial Use:	Cold Freshwater Habitat
Number of Samples:	1
Number of Exceedances:	0
Data and Information Type:	PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality:	Water Board staff assessed SWAMP data for Quimby Creek to determine beneficial use support and results are as follows: 0 of 1 samples exceed the criterion for Dieldrin.
Data Reference:	Statewide Project Urban Pyrethroid Status Monitoring
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	San Francisco Bay Basin Water Quality Control Plan 2007: All waters shall be maintained free of toxic substances in concentrations which are toxic to, or which produce detrimental physiological responses in, human, plant, animal, or aquatic life.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	In freshwater sediments the probable effect concentration (predictive of sediment toxicity for sediment-dwelling organisms) for dieldrin is 61.8 ug/Kg dry weight (MacDonald et al. 2000).
Guideline Reference:	Development and evaluation of consensus-based sediment quality guidelines for freshwater ecosystems. Environmental Contamination and Toxicology. 39: 20-31
Spatial Representation:	Data for this line of evidence for Quimby Creek was collected at 1 monitoring site [Quimby Creek station (205SUP103).]
Temporal Representation:	Data was collected on a single day 1/3/2007.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	The SWAMP QAPP (2008) was followed.
QAPP Information Reference(s):	Quality Assurance Management Plan for the State of California's Surface Water Ambient Monitoring Program. Sacramento, CA. State Water Resources Control Board. SWAMP. December 2002 (1st version)

DECISION ID

65808

Region 2

Quimby Creek

Pollutant:	Endrin
Final Listing Decision:	Do Not List on 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision:	New Decision
Revision Status	Revised
Impairment from Pollutant or Pollution:	Pollutant
Regional Board Staff Conclusion:	<p>This pollutant is being considered for placement on the CWA section 303(d) List under section 3.6 of the Listing Policy.</p> <p>Two lines of evidence are available in the administrative record to assess this pollutant. The single sample did not exceed the evaluation guideline for endrin.</p> <p>Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against placing this water segment-pollutant combination on the CWA section 303(d) List.</p>

This conclusion is based on the staff findings that:

1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy.
2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy.
3. Two lines of evidence are available in the administrative record to assess this pollutant. The single sample did not exceed the evaluation guideline for endrin and this sample size is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating.
4. Pursuant to SECTION 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.

Regional Board Staff Decision Recommendation: After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be placed on the section 303(d) list. The readily available data and information is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating.

**Line of Evidence (LOE) for Decision ID 65808, Endrin
Quimby Creek**

Region 2

LOE ID:	92633
Pollutant:	Endrin
LOE Subgroup:	Pollutant-Sediment
Matrix:	Sediment
Fraction:	Total
Beneficial Use:	Cold Freshwater Habitat
Number of Samples:	1
Number of Exceedances:	0
Data and Information Type:	PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality:	Water Board staff assessed SWAMP data for Quimby Creek to determine beneficial use support and results are as follows: 0 of 1 samples exceed the criterion for Endrin.
Data Reference:	Statewide Project Urban Pyrethroid Status Monitoring
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	San Francisco Bay Basin Water Quality Control Plan 2007: All waters shall be maintained free of toxic substances in concentrations which are toxic to, or which produce detrimental physiological responses in, human, plant, animal, or aquatic life.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	In freshwater sediments the probable effect concentration (predictive of sediment toxicity for sediment-dwelling organisms) for endrin is 207 ug/Kg dry weight (MacDonald et al. 2000).
Guideline Reference:	Development and evaluation of consensus-based sediment quality guidelines for freshwater ecosystems. Environmental Contamination and Toxicology. 39: 20-31
Spatial Representation:	Data for this line of evidence for Quimby Creek was collected at 1 monitoring site [Quimby Creek station (205SUP103).]
Temporal Representation:	Data was collected on a single day 1/3/2007.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	The SWAMP QAPP (2008) was followed.
QAPP Information Reference(s):	Quality Assurance Management Plan for the State of California's Surface Water Ambient Monitoring Program. Sacramento, CA. State Water Resources Control Board. SWAMP. December 2002 (1st version)

**Line of Evidence (LOE) for Decision ID 65808, Endrin
Quimby Creek**

Region 2

LOE ID:	92632
Pollutant:	Endrin
LOE Subgroup:	Pollutant-Sediment
Matrix:	Sediment
Fraction:	Total
Beneficial Use:	Warm Freshwater Habitat
Number of Samples:	1
Number of Exceedances:	0
Data and Information Type:	PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality:	Water Board staff assessed SWAMP data for Quimby Creek to determine beneficial use support and results are as follows: 0 of 1 samples exceed the criterion for Endrin.
Data Reference:	Statewide Project Urban Pyrethroid Status Monitoring
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	San Francisco Bay Basin Water Quality Control Plan 2007: All waters shall be maintained free of toxic substances in concentrations which are toxic to, or which produce detrimental physiological responses in, human, plant, animal, or aquatic life.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	In freshwater sediments the probable effect concentration (predictive of sediment toxicity for sediment-dwelling organisms) for endrin is 207 ug/Kg dry weight (MacDonald et al. 2000).
Guideline Reference:	Development and evaluation of consensus-based sediment quality guidelines for freshwater ecosystems. Environmental Contamination and Toxicology. 39: 20-31
Spatial Representation:	Data for this line of evidence for Quimby Creek was collected at 1 monitoring site [Quimby Creek station (205SUP103).]
Temporal Representation:	Data was collected on a single day 1/3/2007.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	The SWAMP QAPP (2008) was followed.
QAPP Information Reference(s):	Quality Assurance Management Plan for the State of California's Surface Water Ambient Monitoring Program. Sacramento, CA. State Water Resources Control Board. SWAMP. December 2002 (1st version)

DECISION ID 65811 Region 2	
Quimby Creek	
Pollutant: Final Listing Decision: Last Listing Cycle's Final Listing Decision: Revision Status Impairment from Pollutant or Pollution:	Lindane/gamma Hexachlorocyclohexane (gamma-HCH) Do Not List on 303(d) list (TMDL required list) New Decision Revised Pollutant
Regional Board Staff Conclusion:	<p>This pollutant is being considered for placement on the CWA section 303(d) List under section 3.6 of the Listing Policy.</p> <p>Two lines of evidence are available in the administrative record to assess this pollutant. The single sample did not exceed the evaluation guideline for Lindane/gamma Hexachlorocyclohexane (gamma-HCH).</p> <p>Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against placing this water segment-pollutant combination on the CWA section 303(d) List.</p>

This conclusion is based on the staff findings that:

1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy.
2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy.
3. Two lines of evidence are available in the administrative record to assess this pollutant. The single sample did not exceed the evaluation guideline for Lindane/gamma Hexachlorocyclohexane (gamma-HCH) and this sample size is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating.
4. Pursuant to SECTION 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.

Regional Board Staff Decision Recommendation: After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be placed on the section 303(d) list. The readily available data and information is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating.

Line of Evidence (LOE) for Decision ID 65811, Lindane/gamma Hexachlorocyclohexane (gamma-HCH)
Quimby Creek

Region 2

LOE ID: 92635

Pollutant: Lindane/gamma Hexachlorocyclohexane (gamma-HCH)
LOE Subgroup: Pollutant-Sediment
Matrix: Sediment
Fraction: Total

Beneficial Use: Cold Freshwater Habitat

Number of Samples: 1
Number of Exceedances: 0

Data and Information Type: PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality: Water Board staff assessed SWAMP data for Quimby Creek to determine beneficial use support and results are as follows: 0 of 1 samples exceed the criterion for HCH, gamma.
Data Reference: [Statewide Project Urban Pyrethroid Status Monitoring](#)

SWAMP Data: SWAMP

Water Quality Objective/Criterion: San Francisco Bay Basin Water Quality Control Plan 2007: All waters shall be maintained free of toxic substances in concentrations which are toxic to, or which produce detrimental physiological responses in, human, plant, animal, or aquatic life.
Objective/Criterion Reference: [Water Quality Control Plan \(Basin Plan\) San Francisco Bay Basin \(Region 2\)](#)

Evaluation Guideline: In freshwater sediments the probable effect concentration (predictive of sediment toxicity for sediment-dwelling organisms) for Lindane (gamma-HCH) is 4.99 ug/Kg dry weight (MacDonald et al. 2000).
Guideline Reference: [Development and evaluation of consensus-based sediment quality guidelines for freshwater ecosystems. Environmental Contamination and Toxicology. 39: 20-31](#)

Spatial Representation: Data for this line of evidence for Quimby Creek was collected at 1 monitoring site [Quimby Creek station (205SUP103).]
Temporal Representation: Data was collected on a single day 1/3/2007.
Environmental Conditions: Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information: The SWAMP QAPP (2008) was followed.
QAPP Information Reference(s): [Quality Assurance Management Plan for the State of California's Surface Water Ambient Monitoring Program. Sacramento, CA. State Water Resources Control Board. SWAMP. December 2002 \(1st version\)](#)

Line of Evidence (LOE) for Decision ID 65811, Lindane/gamma Hexachlorocyclohexane (gamma-HCH)

Region 2

Quimby Creek

LOE ID:	92634
Pollutant:	Lindane/gamma Hexachlorocyclohexane (gamma-HCH)
LOE Subgroup:	Pollutant-Sediment
Matrix:	Sediment
Fraction:	Total
Beneficial Use:	Warm Freshwater Habitat
Number of Samples:	1
Number of Exceedances:	0
Data and Information Type:	PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality:	Water Board staff assessed SWAMP data for Quimby Creek to determine beneficial use support and results are as follows: 0 of 1 samples exceed the criterion for HCH, gamma.
Data Reference:	Statewide Project Urban Pyrethroid Status Monitoring
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	San Francisco Bay Basin Water Quality Control Plan 2007: All waters shall be maintained free of toxic substances in concentrations which are toxic to, or which produce detrimental physiological responses in, human, plant, animal, or aquatic life.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	In freshwater sediments the probable effect concentration (predictive of sediment toxicity for sediment-dwelling organisms) for Lindane (gamma-HCH) is 4.99 ug/Kg dry weight (MacDonald et al. 2000).
Guideline Reference:	Development and evaluation of consensus-based sediment quality guidelines for freshwater ecosystems. Environmental Contamination and Toxicology. 39: 20-31
Spatial Representation:	Data for this line of evidence for Quimby Creek was collected at 1 monitoring site [Quimby Creek station (205SUP103).]
Temporal Representation:	Data was collected on a single day 1/3/2007.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	The SWAMP QAPP (2008) was followed.
QAPP Information Reference(s):	Quality Assurance Management Plan for the State of California's Surface Water Ambient Monitoring Program. Sacramento, CA. State Water Resources Control Board. SWAMP. December 2002 (1st version)

DECISION ID	65818	Region 2
Quimby Creek		
Pollutant:	Toxicity	
Final Listing Decision:	Do Not List on 303(d) list (TMDL required list)	
Last Listing Cycle's Final Listing Decision:	New Decision	
Revision Status	Revised	
Impairment from Pollutant or Pollution:	Pollutant	
Regional Board Staff Conclusion:	This pollutant is being considered for placement on the CWA section 303(d) List under section 3.6 of the Listing Policy.	
	One line of evidence is available in the administrative record to assess this pollutant. The single sample exceeds the objective for sediment toxicity.	
	Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against placing this water segment-pollutant combination on the CWA section 303(d) List.	

This conclusion is based on the staff findings that:

1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy.
2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy.
3. The single sample exceeds the objective for sediment toxicity but this sample size is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating.
4. Pursuant to SECTION 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.

Regional Board Staff Decision Recommendation: After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be placed on the section 303(d) list. The readily available data and information is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating.

Line of Evidence (LOE) for Decision ID 65818, Toxicity

Region 2

Quimby Creek

LOE ID:	90509
Pollutant:	Toxicity
LOE Subgroup:	Toxicity
Matrix:	Sediment
Fraction:	None
Beneficial Use:	Cold Freshwater Habitat
Number of Samples:	1
Number of Exceedances:	1
Data and Information Type:	TOXICITY TESTING
Data Used to Assess Water Quality:	One sample was collected to evaluate sediment toxicity. The sample exhibited significant toxicity. The toxicity test included survival and growth of <i>Hyalella azteca</i> . One sample can have multiple toxicity test results but will be counted only once. One sample is defined as being collected on the same day at the same location with the same lab sample id (if provided).
Data Reference:	Statewide Project Urban Pyrethroid Status Monitoring
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	All waters shall be maintained free of toxic substances in concentrations that are toxic to, or that produce detrimental physiological responses in, human, plant, animal, or aquatic life. Region 2 Basin Plan.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) - San Francisco Bay Region (Region 2)
Evaluation Guideline:	Toxicity is defined as a statistically significant effect in the sample exposure compared to the control using EPA-recommended hypothesis testing. For SWAMP data exceedances are counted with the significant effect code SL. SL is defined as the result being significant compared to the negative control based on a statistical test, less than stated the alpha level, AND less than the evaluation threshold.
Guideline Reference:	Methods for Measuring the Toxicity and Bioaccumulation of Sediment-associated Contaminants with Freshwater Invertebrates, Second Edition. U.S. Environmental Protection Agency Office of Research and Development, Duluth, MI, U.S. Environmental Protection Agency Office of Water, Washington, DC EPA-600/R-99/064
Spatial Representation:	The sample was collected at station 205SUP103.
Temporal Representation:	The sample was collected in January 2007.
Environmental Conditions:	
QAPP Information:	All data was collected following the Standard Operating Procedures and Data Quality Objectives outlined in the SWAMP QAMP, (Puckett, 2002). QA data are included in submission.

QAPP Information Reference(s):

[Surface Water Ambient Monitoring Program Quality Assurance Program Plan](#)

Draft California 2016 Integrated Report (303(d) List/305(b) Report)

Supporting Information

Regional Board 2 - San Francisco Bay Region

Water Body Name: Ritchie Creek
Water Body ID: CAR2065002020110629213026
Water Body Type: River & Stream

DECISION ID 65662 **Region 2**
Ritchie Creek

Pollutant: Alkalinity as CaCO₃
Final Listing Decision: Do Not List on 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision: New Decision
Revision Status Revised
Impairment from Pollutant or Pollution: Pollutant

Regional Board Staff Conclusion: This pollutant is being considered for placement on the CWA section 303(d) List under section 3.1 of the Listing Policy. Under section 3.1 a single line of evidence is necessary to assess listing status. Two lines of evidence are available in the administrative record to assess this pollutant. Zero of one samples exceed the objective.

Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against placing this water segment-pollutant combination on the CWA section 303(d) List.

This conclusion is based on the staff findings that:

1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy.
2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy.
3. Zero of one samples exceed the objective and this sample size is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating. Three sample results were not used in the assessment because the laboratory data reporting limit(s) was above the objective and therefore the results could not be quantified with the level of certainty required by the Listing Policy.
4. Pursuant to SECTION 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.

Regional Board Staff Decision Recommendation: After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be placed on the section 303(d) list because it cannot be determined whether or not applicable water quality standards are not being exceeded.

Line of Evidence (LOE) for Decision ID 65662, Alkalinity as CaCO₃ **Region 2**
Ritchie Creek

LOE ID: 92715
Pollutant: Alkalinity as CaCO₃
LOE Subgroup: Pollutant-Water
Matrix: Water
Fraction: Total
Beneficial Use: Warm Freshwater Habitat
Number of Samples: 0

Number of Exceedances:	0
Data and Information Type:	PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality:	State Water Board staff assessed SWAMP data for Ritchie Creek to determine beneficial use support and results are as follows: 0 of 0 samples exceed the criterion for Alkalinity as CaCO3. Three sample results were not used in the assessment because the laboratory data reporting limit(s) was above the objective and therefore the results could not be quantified with the level of certainty required by the Listing Policy.
Data Reference:	RWB2 Reference Study Monitoring 2008
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	Surface?waters?shall?not?contain?concentrations?of?chemical?constituents?in?amounts?that?adversely?affect?any?designated?beneficial?use.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	The Alkalinity as CaCO3 criteria for the protection of freshwater aquatic life is 20000 ug/L (National Recommended Water Quality Criteria, 2009).
Guideline Reference:	National Recommended Water Quality Criteria. United States Environmental Protection Agency. Office of Water. Office of Science and Technology
Spatial Representation:	Data for this line of evidence for Ritchie Creek was collected at 1 monitoring site [Ritchie above gabion wall in Napa-Bothe State Park - 206RIC100]
Temporal Representation:	Data was collected over the time period 5/2/2008-8/14/2008.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	The SWAMP QAPP (2008) was followed.
QAPP Information Reference(s):	Surface Water Ambient Monitoring Program Quality Assurance Program Plan

Line of Evidence (LOE) for Decision ID 65662, Alkalinity as CaCO3

Region 2

Ritchie Creek

LOE ID:	92716
Pollutant:	Alkalinity as CaCO3
LOE Subgroup:	Pollutant-Water
Matrix:	Water
Fraction:	Total
Beneficial Use:	Cold Freshwater Habitat
Number of Samples:	0
Number of Exceedances:	0
Data and Information Type:	PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality:	State Water Board staff assessed SWAMP data for Ritchie Creek to determine beneficial use support and results are as follows: 0 of 0 samples exceed the criterion for Alkalinity as CaCO3. Three sample results were not used in the assessment because the laboratory data reporting limit(s) was above the objective and therefore the results could not be quantified with the level of certainty required by the Listing Policy.
Data Reference:	RWB2 Reference Study Monitoring 2008
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	Surface?waters?shall?not?contain?concentrations?of?chemical?constituents?in?amounts?that?adversely?affect?any?designated?beneficial?use.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	The Alkalinity as CaCO3 criteria for the protection of freshwater aquatic life is 20000 ug/L (National Recommended Water Quality Criteria, 2009).
Guideline Reference:	National Recommended Water Quality Criteria. United States Environmental Protection

Spatial Representation: Data for this line of evidence for Ritchie Creek was collected at 1 monitoring site [Ritchie above gabion wall in Napa-Bothe State Park - 206RIC100]

Temporal Representation: Data was collected over the time period 5/2/2008-8/14/2008.

Environmental Conditions: Staff is not aware of any special conditions that might affect interpretation of the data.

QAPP Information: The SWAMP QAPP (2008) was followed.

QAPP Information Reference(s): [Surface Water Ambient Monitoring Program Quality Assurance Program Plan](#)

DECISION ID	65663	Region 2
Ritchie Creek		

Pollutant: Ammonia (Unionized)

Final Listing Decision: Do Not List on 303(d) list (TMDL required list)

Last Listing Cycle's Final Listing Decision: New Decision

Revision Status: Revised

Impairment from Pollutant or Pollution: Pollutant

Regional Board Staff Conclusion: This pollutant is being considered for placement on the CWA section 303(d) List under section 3.1 of the Listing Policy. Under section 3.1 a single line of evidence is necessary to assess listing status. One line of evidence is available in the administrative record to assess this pollutant. Zero of two samples exceed the guideline.

Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against placing this water segment-pollutant combination on the CWA section 303(d) List.

This conclusion is based on the staff findings that:

1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy.
2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy.
3. Zero of two samples exceed the guideline and this sample size is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating. A minimum of 16 samples is needed to determine if a beneficial use is fully supported using table 3.1.
4. Pursuant to SECTION 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.

Regional Board Staff Decision Recommendation: After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be placed on the section 303(d) list. The readily available data and information is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating.

Line of Evidence (LOE) for Decision ID 65663, Ammonia (Unionized)	Region 2
Ritchie Creek	

LOE ID: 92717

Pollutant: Ammonia (Unionized)

LOE Subgroup: Pollutant-Water

Matrix: Water

Fraction: Total

Beneficial Use: Fish Spawning

Number of Samples: 2

Number of Exceedances: 0

Data and Information Type: PHYSICAL/CHEMICAL MONITORING

Data Used to Assess Water Quality:	0 of 2 samples exceed the Annual Median for Un-ionized Ammonia (as N). Un-ionized ammonia (as N) was calculated from Total Ammonia (as N) from monthly samples reported in the data. The Annual Median of these Un-ionized ammonia (as N) values was then established and compared to the Annual Median for Un-ionized Ammonia (as N) at 0.025 mg/L in the RB2 Basin Plan. Most of the data was reported as non-detects and as underneath the quantitation limit. These non-detects and values under the quantitation limit are less than or equal to the water quality standard, the value will be considered as meeting the water quality standard, objective, criterion, or evaluation guideline.
Data Reference:	RWB2 Reference Study Monitoring 2008
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	Water Quality Control Plan, San Francisco Bay Region (SFBRWQCB 2011): All waters shall be maintained free of toxic substances in concentrations that are toxic to, or that produce detrimental physiological responses in human, plant, animal, or aquatic life.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	
Guideline Reference:	
Spatial Representation:	Samples were collected at 206RIC100 (Ritchie above gabion wall in Napa-Bothe State Park).
Temporal Representation:	Samples collected on 5/14/2008, 6/19/2008, 8/14/2008, 10/8/2008, 12/10/2008, and 2/11/2009.
Environmental Conditions:	
QAPP Information:	SWAMP QAPP (2008) was followed.
QAPP Information Reference(s):	Surface Water Ambient Monitoring Program Quality Assurance Program Plan

DECISION ID	65664	Region 2
Ritchie Creek		

Pollutant:	Benthic Community Effects
Final Listing Decision:	Do Not List on 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision:	New Decision
Revision Status	Revised
Impairment from Pollutant or Pollution:	Pollutant
Regional Board Staff Conclusion:	<p>Benthic Community Effects is being considered for placement on the CWA section 303(d) List under sections 3.9 of the Listing Policy. Under section 3.9, an additional line of evidence associating the Benthic Community Effects with a water or sediment concentration of pollutants is necessary to assess listing status. Two line of evidence is/are available in the administrative record to assess this indicator. Both CSCI scores are above 0.92.</p> <p>Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against placing Benthic Community Effects in this water segment on the CWA section 303(d) List.</p> <p>This conclusion is based on the staff findings that:</p> <ol style="list-style-type: none"> 1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy. 2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy. 3. Both California Stream Condition Index (CSCI) scores are above 0.92. Additionally, this water body passed several screening criteria and was identified as a reference water body for the purposes of developing the CSCI. The State Water Board has redefined the Integrated Reporting categories in order to make them more reflective of actual water quality conditions in the State. This revision allows for the inclusion of minimally disturbed data reference sites that were identified in the development of the California Stream Condition Index (CSCI) tool into Category 1. Reference sites are the core of the State's statewide biological and habitat assessment program and set the benchmark for biological conditions expected when human activity in the landscape is absent or minimal. Unless there is any additional data showing that beneficial uses in a water body are not

being supported, these reference water bodies along with any other bioassessment data sets showing a score of 0.92 or higher will be placed in Category 1 (all core beneficial uses are supported).

4. Pursuant to section 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.

Regional Board Staff Decision Recommendation: After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be placed on the section 303(d) list. The readily available data and information is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating.

Line of Evidence (LOE) for Decision ID 65664, Benthic Community Effects

Region 2

Ritchie Creek

LOE ID:	96004
Pollutant:	Benthic-Macroinvertebrate Bioassessments
LOE Subgroup:	Population/Community Degradation
Matrix:	Water
Fraction:	None
Beneficial Use:	Cold Freshwater Habitat
Number of Samples:	1
Number of Exceedances:	0
Data and Information Type:	Benthic macroinvertebrate surveys
Data Used to Assess Water Quality:	The CSCI score for this site is 1.082893 and is therefore meeting the water quality objective for this water body. This water body passed several screening criteria and was identified as a reference water body for the purposes of developing the CSCI. Reference sites where human disturbance is absent or minimal are used to set benchmark expectations for healthy streams. A large set of nearly 600 reference sites representing the broad diversity of natural stream types found across California was used to develop the CSCI.
Data Reference:	RWB2 Reference Study Monitoring 2008
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	All waters shall be maintained free of toxic substances in concentrations that are lethal to or that produce significant alterations in population or community ecology or receiving water biota. In addition, the health and life history characteristics of aquatic organisms in waters affected by controllable water quality factors shall not differ significantly from those for the same waters in areas unaffected by controllable water quality factors.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	The California Stream Condition Index (CSCI) is a biological scoring tool that helps aquatic resource managers translate complex data about benthic macroinvertebrates found living in a stream into an overall measure of stream health. The CSCI score is calculated by comparing the expected condition with actual (observed) results (Rhen, A.C. et al., 2015). CSCI scores range from 0 (highly degraded) to greater than 1 (equivalent to reference). CSCI scoring of biological condition are as follows (per the scientific paper supporting the development of the CSCI scoring tool): greater than or equal to 0.92 = likely intact condition, 0.91 to 0.80 = possibly altered condition, 0.79 to 0.63 = likely altered condition, less than or equal to 0.62 = very likely altered condition. Sites with scores below 0.79 are considered to have exceeded the water quality objective for the aquatic life beneficial use.
Guideline Reference:	The California Stream Condition Index (CSCI): A New Statewide Biological Scoring Tool for Assessing the Health of Freshwater Streams.
Spatial Representation:	Sampling was done at to following station:206RIT020
Temporal Representation:	Sampling was done on 4/27/2000
Environmental Conditions:	

QAPP Information: Data collected following SWAMP QA protocols.
QAPP Information Reference(s): [Surface Water Ambient Monitoring Program Quality Assurance Program Plan](#)

Line of Evidence (LOE) for Decision ID 65664, Benthic Community Effects

Region 2

Ritchie Creek

LOE ID: 92721

Pollutant: Benthic-Macroinvertebrate Bioassessments
LOE Subgroup: Population/Community Degradation
Matrix: Water
Fraction: None

Beneficial Use: Cold Freshwater Habitat

Number of Samples: 1
Number of Exceedances: 0

Data and Information Type: Benthic macroinvertebrate surveys
Data Used to Assess Water Quality: The CSCI score for this site is 0.95 and is therefore meeting the water quality objective for this water body.
Data Reference: [RWB2 Reference Study Monitoring 2008](#)

SWAMP Data: SWAMP

Water Quality Objective/Criterion: All waters shall be maintained free of toxic substances in concentrations that are lethal to or that produce significant alterations in population or community ecology or receiving water biota. In addition, the health and life history characteristics of aquatic organisms in waters affected by controllable water quality factors shall not differ significantly from those for the same waters in areas unaffected by controllable water quality factors.
Objective/Criterion Reference: [Water Quality Control Plan \(Basin Plan\) San Francisco Bay Basin \(Region 2\)](#)

Evaluation Guideline: The California Stream Condition Index (CSCI) is a biological scoring tool that helps aquatic resource managers translate complex data about benthic macroinvertebrates found living in a stream into an overall measure of stream health. The CSCI score is calculated by comparing the expected condition with actual (observed) results (Rhen, A.C. et al., 2015). CSCI scores range from 0 (highly degraded) to greater than 1 (equivalent to reference). CSCI scoring of biological condition are as follows (per the scientific paper supporting the development of the CSCI scoring tool): greater than or equal to 0.92 = likely intact condition, 0.91 to 0.80 = possibly altered condition, 0.79 to 0.63 = likely altered condition, less than or equal to 0.62 = very likely altered condition. Sites with scores below 0.79 are considered to have exceeded the water quality objective for the aquatic life beneficial use.
Guideline Reference: [The California Stream Condition Index \(CSCI\): A New Statewide Biological Scoring Tool for Assessing the Health of Freshwater Streams.](#)

Spatial Representation: Sampling was done at to following station: 206RIC100-Ritchie above gabion wall in Napa-Bothe State Park
Temporal Representation: Sampling was done on May 2, 2008.
Environmental Conditions:
QAPP Information: Samples were collected for the project titled 'Regional Water Board 2 Reference Study Monitoring 2008' following SWAMP protocols and data were stored in the SWAMP database.
QAPP Information Reference(s): [Surface Water Ambient Monitoring Program Quality Assurance Program Plan](#)

DECISION ID

65665

Region 2

Ritchie Creek

Pollutant: Nitrate/Nitrite (Nitrite + Nitrate as N)
Final Listing Decision: Do Not List on 303(d) list (TMDL required list)
Last Listing Cycle's Final New Decision

Listing Decision:
Revision Status Revised
Impairment from Pollutant or Pollution: Pollutant

Regional Board Staff Conclusion: This pollutant is being considered for placement on the CWA section 303(d) List under section 3.1 of the Listing Policy. Under section 3.1 a single line of evidence is necessary to assess listing status. One line of evidence is available in the administrative record to assess this pollutant. Zero of six samples exceed the guideline.

Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against placing this water segment-pollutant combination on the CWA section 303(d) List.

This conclusion is based on the staff findings that:

1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy.
2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy.
3. Zero of six samples exceed the guideline and this sample size is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating. A minimum of 16 samples is needed to determine if a beneficial use is fully supported using table 3.1.
4. Pursuant to SECTION 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.

Regional Board Staff Decision Recommendation: After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be placed on the section 303(d) list. The readily available data and information is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating.

Line of Evidence (LOE) for Decision ID 65665, Nitrate/Nitrite (Nitrite + Nitrate as N)

Region 2

Ritchie Creek

LOE ID: 92722

Pollutant: Nitrate/Nitrite (Nitrite + Nitrate as N)
LOE Subgroup: Pollutant-Water
Matrix: Water
Fraction: None

Beneficial Use: Municipal & Domestic Supply

Number of Samples: 6
Number of Exceedances: 0

Data and Information Type: PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality: State Water Board staff assessed SWAMP data for Ritchie Creek to determine beneficial use support and results are as follows: 0 of 6 samples exceed the criterion for Nitrate/Nitrite as N.

Data Reference: [RWB2 Reference Study Monitoring 2008](#)

SWAMP Data: SWAMP

Water Quality Objective/Criterion: The California Maximum Contaminant Level for nitrate + nitrite (as N) that is incorporated by reference in the Water Quality Control Plan, San Francisco Bay Region is 10.0 mg/L (Water Quality Control Plan, San Francisco Bay Region).

Objective/Criterion Reference: [Maximum Contaminant Levels for organic and inorganic chemicals. CCR](#)

Evaluation Guideline:
Guideline Reference:

Spatial Representation: Data for this line of evidence for Ritchie Creek was collected at 1 monitoring site [Ritchie above gabion wall in Napa-Bothe State Park - 206RIC100]

Temporal Representation:	Data was collected over the time period 5/14/2008-2/11/2009.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	The SWAMP QAPP (2008) was followed.
QAPP Information Reference(s):	Surface Water Ambient Monitoring Program Quality Assurance Program Plan

DECISION ID	65666	Region 2
Ritchie Creek		

Pollutant:	Nitrogen, ammonia (Total Ammonia)
Final Listing Decision:	Do Not List on 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision:	New Decision
Revision Status	Revised
Impairment from Pollutant or Pollution:	Pollutant

Regional Board Staff Conclusion: This pollutant is being considered for placement on the CWA section 303(d) List under section 3.1 of the Listing Policy. Under section 3.1 a single line of evidence is necessary to assess listing status. Three lines of evidence are available in the administrative record to assess this pollutant. Zero of six samples exceed the guideline.

Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against placing this water segment-pollutant combination on the CWA section 303(d) List.

This conclusion is based on the staff findings that:

1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy.
2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy.
3. Zero of six samples exceed the guideline and this sample size is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating. A minimum of 16 samples is needed to determine if a beneficial use is fully supported using table 3.1.
4. Pursuant to SECTION 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.

Regional Board Staff Decision Recommendation:	After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be placed on the section 303(d) list. The readily available data and information is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating.
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Line of Evidence (LOE) for Decision ID 65666, Nitrogen, ammonia (Total Ammonia)		Region 2
Ritchie Creek		

LOE ID:	92719
Pollutant:	Nitrogen, ammonia (Total Ammonia)
LOE Subgroup:	Pollutant-Water
Matrix:	Water
Fraction:	Total

Beneficial Use:	Warm Freshwater Habitat
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Number of Samples:	6
Number of Exceedances:	0

Data and Information Type:	PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality:	State Water Board staff assessed SWAMP data for Ritchie Creek to determine beneficial use support and results are as follows: 0 of 6 samples exceed the criterion for Ammonia as N, Total.

Data Reference:	RWB2 Reference Study Monitoring 2008
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SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	Surface?waters?shall?not?contain?concentrations?of?chemical?constituents?in?amounts?that?adversely?affect?any?designated?beneficial?use.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	Aquatic Life Ambient Water Quality Criteria for Ammonia ? Freshwater (USEPA 2013): the 30-day rolling average concentration (criterion continuous concentration or CCC) of total ammonia nitrogen(in mg TAN/L) in freshwater are not to be exceeded more than once every three years on average. The CCC values are based on pH and temperature. The CCC formula is found on page 46 and the table of CCC values is on page 49.
Guideline Reference:	Aquatic Life Ambient Water Quality Criteria for Ammonia - Freshwater 2013
Spatial Representation:	Data for this line of evidence for Ritchie Creek was collected at 1 monitoring site [Ritchie above gabion wall in Napa-Bothe State Park - 206RIC100]
Temporal Representation:	Data was collected over the time period 5/14/2008-2/11/2009.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	The SWAMP QAPP (2008) was followed.
QAPP Information Reference(s):	Surface Water Ambient Monitoring Program Quality Assurance Program Plan

Line of Evidence (LOE) for Decision ID 65666, Nitrogen, ammonia (Total Ammonia)

Region 2

Ritchie Creek

LOE ID:	92720
Pollutant:	Nitrogen, ammonia (Total Ammonia)
LOE Subgroup:	Pollutant-Water
Matrix:	Water
Fraction:	Total
Beneficial Use:	Municipal & Domestic Supply
Number of Samples:	6
Number of Exceedances:	0
Data and Information Type:	PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality:	State Water Board staff assessed SWAMP data for Ritchie Creek to determine beneficial use support and results are as follows: 0 of 6 samples exceed the criterion for Ammonia as N, Total.
Data Reference:	RWB2 Reference Study Monitoring 2008
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	Surface?waters?shall?not?contain?concentrations?of?chemical?constituents?in?amounts?that?adversely?affect?any?designated?beneficial?use.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	USEPA's Lifetime Health advisory level for total ammonia is 30.0 mg/L as stated on page 8 of the 2011 edition of the drinking water standards and health advisories. (EPA EPA 820-R-11-002, 2011).
Guideline Reference:	2011 Edition of the Drinking Water Standards and Health Advisories
Spatial Representation:	Data for this line of evidence for Ritchie Creek was collected at 1 monitoring site [Ritchie above gabion wall in Napa-Bothe State Park - 206RIC100]
Temporal Representation:	Data was collected over the time period 5/14/2008-2/11/2009.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	The SWAMP QAPP (2008) was followed.
QAPP Information Reference(s):	Surface Water Ambient Monitoring Program Quality Assurance Program Plan

Ritchie Creek

LOE ID:	92718
Pollutant:	Nitrogen, ammonia (Total Ammonia)
LOE Subgroup:	Pollutant-Water
Matrix:	Water
Fraction:	Total
Beneficial Use:	Cold Freshwater Habitat
Number of Samples:	6
Number of Exceedances:	0
Data and Information Type:	PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality:	State Water Board staff assessed SWAMP data for Ritchie Creek to determine beneficial use support and results are as follows: 0 of 6 samples exceed the criterion for Ammonia as N, Total.
Data Reference:	RWB2 Reference Study Monitoring 2008
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	Surface waters shall not contain concentrations of chemical constituents in amounts that adversely affect any designated beneficial use.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	Aquatic Life Ambient Water Quality Criteria for Ammonia ? Freshwater (USEPA 2013): the 30-day rolling average concentration (criterion continuous concentration or CCC) of total ammonia nitrogen(in mg TAN/L) in freshwater are not to be exceeded more than once every three years on average. The CCC values are based on pH and temperature. The CCC formula is found on page 46 and the table of CCC values is on page 49.
Guideline Reference:	Aquatic Life Ambient Water Quality Criteria for Ammonia - Freshwater 2013
Spatial Representation:	Data for this line of evidence for Ritchie Creek was collected at 1 monitoring site [Ritchie above gabion wall in Napa-Bothe State Park - 206RIC100]
Temporal Representation:	Data was collected over the time period 5/14/2008-2/11/2009.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	The SWAMP QAPP (2008) was followed.
QAPP Information Reference(s):	Surface Water Ambient Monitoring Program Quality Assurance Program Plan

DECISION ID

65667

Region 2

Ritchie Creek

Pollutant:	Oxygen, Dissolved
Final Listing Decision:	Do Not List on 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision:	New Decision
Revision Status	Revised
Impairment from Pollutant or Pollution:	Pollutant
Regional Board Staff Conclusion:	<p>This pollutant is being considered for placement on the CWA section 303(d) List under section 3.2 of the Listing Policy. Under section 3.2 a single line of evidence is necessary to assess listing status. Three lines of evidence are available in the administrative record to assess this pollutant. Zero of eight samples exceed the objective.</p> <p>Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against placing this water segment-pollutant combination on the CWA section</p>

303(d) List.

This conclusion is based on the staff findings that:

1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy.
2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy.
3. Zero of eight samples exceed the objective and this sample size is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating. A minimum of 26 samples is needed to determine if a beneficial use is fully supported using table 3.2.
4. Pursuant to SECTION 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.

Regional Board Staff Decision Recommendation: After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be placed on the section 303(d) list. The readily available data and information is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating.

Line of Evidence (LOE) for Decision ID 65667, Oxygen, Dissolved Ritchie Creek

Region 2

LOE ID: 92725

Pollutant: Oxygen, Dissolved
LOE Subgroup: Pollutant-Water
Matrix: Water
Fraction: Dissolved

Beneficial Use: Cold Freshwater Habitat

Number of Samples: 8
Number of Exceedances: 0

Data and Information Type: PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality: Zero of the 8 samples collected exceeded the objective. One of the samples collected was omitted from the assessment because the laboratory data produced a data point below the detection and/or reporting limit.

Data Reference: [RWB2 Reference Study Monitoring 2008](#)

SWAMP Data: SWAMP

Water Quality Objective/Criterion: The minimum dissolved oxygen content of non-tidal water bodies designated as Cold water habitat is 7.0 mg/L.

Objective/Criterion Reference: [Water Quality Control Plan \(Basin Plan\) San Francisco Bay Basin \(Region 2\)](#)

Evaluation Guideline:
Guideline Reference:

Spatial Representation: Samples were collected from the Ritchie above gabion wall in Napa-Bothe State Park station (206RIC100).

Temporal Representation: Samples were collected on the following dates: 5/2/2008 5/4/2008 5/14/2008 6/19/2008 7/7/2008 8/14/2008 10/8/2008 12/10/2008 2/11/2009

Environmental Conditions:
QAPP Information: The SWAMP QAPP (2008) was followed.
QAPP Information Reference(s):

Line of Evidence (LOE) for Decision ID 65667, Oxygen, Dissolved Ritchie Creek

Region 2

LOE ID: 92723

Pollutant: Oxygen, Dissolved

LOE Subgroup:	Pollutant-Water
Matrix:	Water
Fraction:	Dissolved
Beneficial Use:	Warm Freshwater Habitat
Number of Samples:	8
Number of Exceedances:	0
Data and Information Type:	PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality:	State Water Board staff assessed SWAMP data for Ritchie Creek to determine beneficial use support and results are as follows: 0 of 8 samples exceed the criterion for Oxygen, Dissolved.
Data Reference:	RWB2 Reference Study Monitoring 2008
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	Dissolved oxygen objectives for waters designated as warm water habitat shall be of a 5.0 mg/l minimum. (Water Quality Control Plan, San Francisco Bay Basin, Chapter III Water Quality Objectives.)
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	
Guideline Reference:	
Spatial Representation:	Data for this line of evidence for Ritchie Creek was collected at 1 monitoring site [Ritchie above gabion wall in Napa-Bothe State Park - 206RIC100]
Temporal Representation:	Data was collected over the time period 5/4/2008-2/11/2009.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	The SWAMP QAPP (2008) was followed.
QAPP Information Reference(s):	Surface Water Ambient Monitoring Program Quality Assurance Program Plan

Line of Evidence (LOE) for Decision ID 65667, Oxygen, Dissolved

Region 2

Ritchie Creek

LOE ID:	92724
Pollutant:	Oxygen, Dissolved
LOE Subgroup:	Pollutant-Water
Matrix:	Water
Fraction:	Dissolved
Beneficial Use:	Cold Freshwater Habitat
Number of Samples:	8
Number of Exceedances:	0
Data and Information Type:	PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality:	State Water Board staff assessed SWAMP data for Ritchie Creek to determine beneficial use support and results are as follows: 0 of 8 samples exceed the criterion for Oxygen, Dissolved.
Data Reference:	RWB2 Reference Study Monitoring 2008
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	Dissolved oxygen objectives for waters designated as cold water habitat shall be of a 7.0 mg/l minimum. (Water Quality Control Plan, San Francisco Bay Basin, Chapter III Water Quality Objectives.)
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	
Guideline Reference:	

Spatial Representation:	Data for this line of evidence for Ritchie Creek was collected at 1 monitoring site [Ritchie above gabion wall in Napa-Bothe State Park - 206RIC100]
Temporal Representation:	Data was collected over the time period 5/4/2008-2/11/2009.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	The SWAMP QAPP (2008) was followed.
QAPP Information Reference(s):	Surface Water Ambient Monitoring Program Quality Assurance Program Plan

DECISION ID	65668	Region 2
Ritchie Creek		

Pollutant:	Specific Conductivity
Final Listing Decision:	Do Not List on 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision:	New Decision
Revision Status	Revised
Impairment from Pollutant or Pollution:	Pollutant

Regional Board Staff Conclusion:

This pollutant is being considered for placement on the CWA section 303(d) List under section 3.2 of the Listing Policy. Under section 3.2 a single line of evidence is necessary to assess listing status.

One line of evidence is available in the administrative record to assess this pollutant. None of the 8 samples exceed the MCL for Specific Conductance.

Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against placing this water segment-pollutant combination on the CWA section 303(d) List.

This conclusion is based on the staff findings that:

1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy.
2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy.
3. None of the 8 samples exceed the MCL for Specific Conductance and this does not exceed the allowable frequency listed in Table 3.2 of the Listing Policy.
4. Pursuant to section 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.

Regional Board Staff Decision Recommendation:	After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be placed on the section 303(d) list because applicable water quality standards are not being exceeded.
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Line of Evidence (LOE) for Decision ID 65668, Specific Conductivity	Region 2
Ritchie Creek	

LOE ID:	92731
Pollutant:	Specific Conductivity
LOE Subgroup:	Pollutant-Water
Matrix:	Water
Fraction:	None
Beneficial Use:	Municipal & Domestic Supply
Number of Samples:	8
Number of Exceedances:	0
Data and Information Type:	PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality:	State Water Board staff assessed SWAMP data for Ritchie Creek to determine beneficial use support and results are as follows: 0 of 8 samples exceed the criterion for

Data Reference:	Conductivity(Us). RWB2 Reference Study Monitoring 2008
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	The California Secondary MCL for Specific Conductance is 900 us/cm (Water Quality Control Plan, San Francisco Bay Region).
Objective/Criterion Reference:	Secondary Maximum Contaminant Levels and Compliance. CCR title 22 section 64449.
Evaluation Guideline:	
Guideline Reference:	
Spatial Representation:	Data for this line of evidence for Ritchie Creek was collected at 1 monitoring site [Ritchie above gabion wall in Napa-Bothe State Park - 206RIC100]
Temporal Representation:	Data was collected over the time period 5/4/2008-2/11/2009.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	The SWAMP QAPP (2008) was followed.
QAPP Information Reference(s):	Surface Water Ambient Monitoring Program Quality Assurance Program Plan

DECISION ID	65670	Region 2
Ritchie Creek		

Pollutant:	Temperature, water
Final Listing Decision:	Do Not List on 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision:	New Decision
Revision Status	Revised
Impairment from Pollutant or Pollution:	Pollutant

Regional Board Staff Conclusion:

This pollutant is being considered for placement on the CWA section 303(d) List under section 3.2 of the Listing Policy. Under section 3.2 a single line of evidence is necessary to assess listing status.

Two lines of evidence are available in the administrative record to assess this pollutant. None of the 16 samples exceed the evaluation guideline for temperature.

Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against placing this water segment-pollutant combination on the CWA section 303(d) List.

This conclusion is based on the staff findings that:

1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy.
2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy.
3. None of the 16 samples exceed the evaluation guideline for temperature. and this does not exceed the allowable frequency listed in Table 3.2 of the Listing Policy.
4. Pursuant to section 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.

Regional Board Staff Decision Recommendation:	After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be placed on the section 303(d) list because applicable water quality standards are not being exceeded.
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Line of Evidence (LOE) for Decision ID 65670, Temperature, water	Region 2
Ritchie Creek	

LOE ID:	92732
Pollutant:	Temperature, water
LOE Subgroup:	Pollutant-Water

Matrix:	Water
Fraction:	None
Beneficial Use:	Cold Freshwater Habitat
Number of Samples:	8
Number of Exceedances:	1
Data and Information Type:	PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality:	State Water Board staff assessed SWAMP data for Ritchie Creek to determine beneficial use support and results are as follows: 1 of 8 samples exceed the criterion for Water Temperature.
Data Reference:	RWB2 Reference Study Monitoring 2008
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	The natural receiving water temperature of inland surface waters shall not be altered unless it can be demonstrated to the satisfaction of the Regional Board that such alteration in temperature does not adversely affect beneficial uses. (Water Quality Control Plan, San Francisco Bay Basin, Chapter III Water Quality Objectives.)
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	Inland Fishes of California (Moyle 1976) states that for rainbow trout the optimum range for growth and completion of most life stages is 13-21 degrees C (page 129).
Guideline Reference:	Inland Fishes of California
Spatial Representation:	Data for this line of evidence for Ritchie Creek was collected at 1 monitoring site [Ritchie above gabion wall in Napa-Bothe State Park - 206RIC100]
Temporal Representation:	Data was collected over the time period 5/4/2008-2/11/2009.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	The SWAMP QAPP (2008) was followed.
QAPP Information Reference(s):	Surface Water Ambient Monitoring Program Quality Assurance Program Plan

**Line of Evidence (LOE) for Decision ID 65670, Temperature, water
Ritchie Creek**

Region 2

LOE ID:	92714
Pollutant:	Temperature, water
LOE Subgroup:	Pollutant-Water
Matrix:	Water
Fraction:	None
Beneficial Use:	Cold Freshwater Habitat
Number of Samples:	8
Number of Exceedances:	0
Data and Information Type:	PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality:	Zero of the 8 samples collected exceeded the evaluation guideline. The sample collected on 5/2/2008 was omitted because the sample was not detected.
Data Reference:	RWB2 Reference Study Monitoring 2008
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	Water Quality Control Plan, San Francisco Bay Region: The natural receiving water temperature of inland surface waters shall not be altered unless it can be demonstrated to the satisfaction of the Regional Board that such alteration in temperature does not adversely affect beneficial uses.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	According to Carter (2008) the lethal threshold for juvenile steelhead growth & rearing is

Guideline Reference: 24 degrees Celsius (C).
[Effects of Temperature, Dissolved Oxygen/Total Dissolved Gas, Ammonia, and pH on Salmonids. Implications for California's North Coast TMDLs. California Regional Water Quality Control Board, North Coast Region](#)

Spatial Representation: Grab samples were collected at the Ritchie above gabion wall in Napa-Bothe State Park station (206RIC100).

Temporal Representation: Grab samples were collected on the following dates: 5/2/2008 5/4/2008 5/14/2008 6/19/2008 7/7/2008 8/14/2008 10/8/2008 12/10/2008 2/11/2009

Environmental Conditions:

QAPP Information: The SWAMP QAPP was followed.

QAPP Information Reference(s):

DECISION ID	65669	Region 2
Ritchie Creek		

Pollutant: pH
Final Listing Decision: Do Not List on 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision: New Decision
Revision Status: Revised
Impairment from Pollutant or Pollution: Pollutant

Regional Board Staff Conclusion: This pollutant is being considered for placement on the CWA section 303(d) List under section 3.2 of the Listing Policy. Under section 3.2 a single line of evidence is necessary to assess listing status. Four lines of evidence available in the administrative record to assess this pollutant. Zero of eight samples exceed the objective.

Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against placing this water segment-pollutant combination on the CWA section 303(d) List.

This conclusion is based on the staff findings that:

1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy.
2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy.
3. Zero of eight samples exceed the objective and this sample size is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating. A minimum of 26 samples is needed to determine if a beneficial use is fully supported using table 3.2.
4. Pursuant to SECTION 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.

Regional Board Staff Decision Recommendation: After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be placed on the section 303(d) list. The readily available data and information is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating.

Line of Evidence (LOE) for Decision ID 65669, pH	Region 2
Ritchie Creek	

LOE ID: 92728

Pollutant: pH
LOE Subgroup: Pollutant-Water
Matrix: Water
Fraction: None

Beneficial Use: Cold Freshwater Habitat

Number of Samples:	8
Number of Exceedances:	0
Data and Information Type:	PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality:	State Water Board staff assessed SWAMP data for Ritchie Creek to determine beneficial use support and results are as follows: 0 of 8 samples exceed the criterion for pH.
Data Reference:	RWB2 Reference Study Monitoring 2008
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	The Water Quality Control Plan for the San Francisco Bay Region's water quality objective for all surface waters states the following: The pH shall not be depressed below 6.5 nor raised above 8.5. This encompasses the pH range usually found in waters within the basin. Controllable water quality factors shall not cause changes greater than 0.5 units in normal ambient pH levels.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	
Guideline Reference:	
Spatial Representation:	Data for this line of evidence for Ritchie Creek was collected at 1 monitoring site [Ritchie above gabion wall in Napa-Bothe State Park - 206RIC100]
Temporal Representation:	Data was collected over the time period 5/4/2008-2/11/2009.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	The SWAMP QAPP (2008) was followed.
QAPP Information Reference(s):	Surface Water Ambient Monitoring Program Quality Assurance Program Plan

Line of Evidence (LOE) for Decision ID 65669, pH

Region 2

Ritchie Creek

LOE ID:	92727
Pollutant:	pH
LOE Subgroup:	Pollutant-Water
Matrix:	Water
Fraction:	None
Beneficial Use:	Municipal & Domestic Supply
Number of Samples:	8
Number of Exceedances:	0
Data and Information Type:	PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality:	State Water Board staff assessed SWAMP data for Ritchie Creek to determine beneficial use support and results are as follows: 0 of 8 samples exceed the criterion for pH.
Data Reference:	RWB2 Reference Study Monitoring 2008
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	The Water Quality Control Plan for the San Francisco Bay Region's water quality objective for all surface waters states the following: The pH shall not be depressed below 6.5 nor raised above 8.5. This encompasses the pH range usually found in waters within the basin. Controllable water quality factors shall not cause changes greater than 0.5 units in normal ambient pH levels.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	
Guideline Reference:	
Spatial Representation:	Data for this line of evidence for Ritchie Creek was collected at 1 monitoring site [Ritchie above gabion wall in Napa-Bothe State Park - 206RIC100]
Temporal Representation:	Data was collected over the time period 5/4/2008-2/11/2009.

Environmental Conditions: Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information: The SWAMP QAPP (2008) was followed.
QAPP Information Reference(s): [Surface Water Ambient Monitoring Program Quality Assurance Program Plan](#)

Line of Evidence (LOE) for Decision ID 65669, pH

Region 2

Ritchie Creek

LOE ID: 92726

Pollutant: pH
LOE Subgroup: Pollutant-Water
Matrix: Water
Fraction: None

Beneficial Use: Warm Freshwater Habitat

Number of Samples: 8
Number of Exceedances: 0

Data and Information Type: PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality: State Water Board staff assessed SWAMP data for Ritchie Creek to determine beneficial use support and results are as follows: 0 of 8 samples exceed the criterion for pH.
Data Reference: [RWB2 Reference Study Monitoring 2008](#)

SWAMP Data: SWAMP

Water Quality Objective/Criterion: The Water Quality Control Plan for the San Francisco Bay Region's water quality objective for all surface waters states the following: The pH shall not be depressed below 6.5 nor raised above 8.5. This encompasses the pH range usually found in waters within the basin. Controllable water quality factors shall not cause changes greater than 0.5 units in normal ambient pH levels.
Objective/Criterion Reference: [Water Quality Control Plan \(Basin Plan\) San Francisco Bay Basin \(Region 2\)](#)

Evaluation Guideline:
Guideline Reference:

Spatial Representation: Data for this line of evidence for Ritchie Creek was collected at 1 monitoring site [Ritchie above gabion wall in Napa-Bothe State Park - 206RIC100]

Temporal Representation: Data was collected over the time period 5/4/2008-2/11/2009.

Environmental Conditions: Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information: The SWAMP QAPP (2008) was followed.
QAPP Information Reference(s): [Surface Water Ambient Monitoring Program Quality Assurance Program Plan](#)

Line of Evidence (LOE) for Decision ID 65669, pH

Region 2

Ritchie Creek

LOE ID: 92729

Pollutant: pH
LOE Subgroup: Pollutant-Water
Matrix: Water
Fraction: None

Beneficial Use: Agricultural Supply

Number of Samples: 8
Number of Exceedances: 0

Data and Information Type: PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality: State Water Board staff assessed SWAMP data for Ritchie Creek to determine beneficial use support and results are as follows: 0 of 8 samples exceed the criterion for pH.

Data Reference:	RWB2 Reference Study Monitoring 2008
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	Water Quality Control Plan, San Francisco Bay Basin, Chapter III Water Quality Objectives, Section 3.3.22 Constituents of Concern for Municipal and Agricultural Water Supplies states: At a minimum, surface waters designated for use as agricultural supply (AGR) shall not contain concentrations of constituents in excess of the levels specified in Table 3-6. The limit for pH ranges from 4.5-9.0.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	
Guideline Reference:	
Spatial Representation:	Data for this line of evidence for Ritchie Creek was collected at 1 monitoring site [Ritchie above gabion wall in Napa-Bothe State Park - 206RIC100]
Temporal Representation:	Data was collected over the time period 5/4/2008-2/11/2009.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	The SWAMP QAPP (2008) was followed.
QAPP Information Reference(s):	Surface Water Ambient Monitoring Program Quality Assurance Program Plan

Draft California 2016 Integrated Report (303(d) List/305(b) Report)

Supporting Information

Regional Board 2 - San Francisco Bay Region

Water Body Name: American Canyon Creek
Water Body ID: CAR2065007120110629223224
Water Body Type: River & Stream

DECISION ID 61245 **Region 2**
American Canyon Creek

Pollutant: Chlorpyrifos
Final Listing Decision: Do Not List on 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision: New Decision
Revision Status Revised
Impairment from Pollutant or Pollution: Pollutant

Regional Board Staff Conclusion: This pollutant is being considered for placement on the CWA section 303(d) List under section 3.1 of the Listing Policy. Under section 3.1 a single line of evidence is necessary to assess listing status. One line of evidence is available in the administrative record to assess this pollutant. Zero of zero samples exceed the guideline.

Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against placing this water segment-pollutant combination on the CWA section 303(d) List.

This conclusion is based on the staff findings that:

1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy.
2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy.
3. Zero of zero samples exceed the guideline and this sample size is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating. A minimum of 16 samples is needed to determine if a beneficial use is fully supported using table 3.1.
4. Pursuant to SECTION 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.

Regional Board Staff Decision Recommendation: After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be placed on the section 303(d) list. The readily available data and information is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating.

Line of Evidence (LOE) for Decision ID 61245, Chlorpyrifos **Region 2**
American Canyon Creek

LOE ID: 91062
Pollutant: Chlorpyrifos
LOE Subgroup: Pollutant-Sediment
Matrix: Sediment
Fraction: Total
Beneficial Use: Cold Freshwater Habitat
Number of Samples: 0
Number of Exceedances: 0

Data and Information Type:	PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality:	One of one sample result was not used in the assessment because the sample was non-detect and the laboratory data method detection limit was above the guideline and therefore the results could not be quantified with the level of certainty required by the Listing Policy.
Data Reference:	Statewide Project Urban Pyrethroid Status Monitoring
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	San Francisco Bay Basin Water Quality Control Plan 2007: All waters shall be maintained free of toxic substances in concentrations which are toxic to, or which produce detrimental physiological responses in, human, plant, animal, or aquatic life.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	There is no chlorpyrifos evaluation guideline specific to "sediment, interstitial water" (pore water). The following evaluation guideline was used to evaluate an exceedance in water quality standards: the freshwater criterion continuous concentration to protect aquatic organisms is 0.015 ug/L (Siepmann and Finlayson 2000, with minor corrections to significant figures as described in Beaulaurier et al., 2005).?
Guideline Reference:	Water quality criteria for diazinon and chlorpyrifos. Administrative Report 00-3. Rancho Cordova, CA: Pesticide Investigations Unit, Office of Spills and Response. CA Department of Fish and Game (with minor corrections to significant figures as described in Beaulaurier et al., 2005).
Spatial Representation:	Data for this line of evidence for American Canyon Creek was collected at 1 monitoring site [American Cyn Ck @ Cartanega station (206SUP047).]
Temporal Representation:	Data was collected on a single day 12/28/2006.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	The SWAMP QAPP (2008) was followed.
QAPP Information Reference(s):	Quality Assurance Management Plan for the State of California's Surface Water Ambient Monitoring Program. Sacramento, CA. State Water Resources Control Board. SWAMP. December 2002 (1st version)

DECISION ID	61248	Region 2
American Canyon Creek		

Pollutant:	Diazinon
Final Listing Decision:	Do Not List on 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision:	New Decision
Revision Status	Revised
Impairment from Pollutant or Pollution:	Pollutant
Regional Board Staff Conclusion:	<p>This pollutant is being considered for placement on the CWA section 303(d) List under section 3.1 of the Listing Policy. Under section 3.1 a single line of evidence is necessary to assess listing status. One line of evidence is available in the administrative record to assess this pollutant. Zero of one samples exceed the guideline.</p> <p>Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against placing this water segment-pollutant combination on the CWA section 303(d) List.</p> <p>This conclusion is based on the staff findings that:</p> <ol style="list-style-type: none"> 1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy. 2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy. 3. Zero of one samples exceed the guideline and this sample size is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating. A minimum of 16 samples is needed to determine if a beneficial use is fully supported using table 3.1. 4. Pursuant to SECTION 3.11 of the Listing Policy, no additional data and information are available

indicating that standards are not met.

Regional Board Staff Decision Recommendation: After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be placed on the section 303(d) list. The readily available data and information is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating.

Line of Evidence (LOE) for Decision ID 61248, Diazinon

Region 2

American Canyon Creek

LOE ID: 91063

Pollutant: Diazinon
LOE Subgroup: Pollutant-Sediment
Matrix: Sediment
Fraction: Total

Beneficial Use: Cold Freshwater Habitat

Number of Samples: 1
Number of Exceedances: 0

Data and Information Type: PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality: Water Board staff assessed SWAMP data for American Canyon Creek to determine beneficial use support and results are as follows: 0 of 1 samples exceed the criterion for Diazinon.

Data Reference: [Statewide Project Urban Pyrethroid Status Monitoring](#)

SWAMP Data: SWAMP

Water Quality Objective/Criterion: San Francisco Bay Basin Water Quality Control Plan 2007: All waters shall be maintained free of toxic substances in concentrations which are toxic to, or which produce detrimental physiological responses in, human, plant, animal, or aquatic life.

Objective/Criterion Reference: [Water Quality Control Plan \(Basin Plan\) San Francisco Bay Basin \(Region 2\)](#)

Evaluation Guideline: There is no diazinon evaluation guideline specific to "sediment, interstitial water" (pore water). The following evaluation guideline was used to evaluate an exceedance in water quality standards: the freshwater chronic value for diazinon is 0.1 ug/L, expressed as a continuous concentration (Finlayson, 2004).?

Guideline Reference: [Toxicity of Sediment-Associated Pesticides to Chironomus dilutus and Hyalella azteca. Arch. Environ. Contam. Toxicol. 61:83?92.](#)

Spatial Representation: Data for this line of evidence for American Canyon Creek was collected at 1 monitoring site [American Cyn Ck @ Cartanega station (206SUP047).]

Temporal Representation: Data was collected on a single day 12/28/2006.

Environmental Conditions: Staff is not aware of any special conditions that might affect interpretation of the data.

QAPP Information: The SWAMP QAPP (2008) was followed.

QAPP Information Reference(s): [Quality Assurance Management Plan for the State of California's Surface Water Ambient Monitoring Program. Sacramento, CA. State Water Resources Control Board. SWAMP. December 2002 \(1st version\)](#)

DECISION ID

61249

Region 2

American Canyon Creek

Pollutant: Toxicity
Final Listing Decision: Do Not List on 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision: New Decision
Revision Status: Revised

Impairment from Pollutant or Pollution:

Pollutant

Regional Board Staff Conclusion:

This pollutant is being considered for placement on the CWA section 303(d) List under section 3.1 of the Listing Policy. Under section 3.1 a single line of evidence is necessary to assess listing status. One line of evidence is available in the administrative record to assess this pollutant. One of one samples exceed the guideline.

Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against placing this water segment-pollutant combination on the CWA section 303(d) List.

This conclusion is based on the staff findings that:

1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy.
2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy.
3. One of one samples exceed the guideline and this sample size is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating. A minimum of 16 samples is needed to determine if a beneficial use is fully supported using table 3.1.
4. Pursuant to SECTION 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.

Regional Board Staff Decision Recommendation:

After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be placed on the section 303(d) list. The readily available data and information is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating.

Line of Evidence (LOE) for Decision ID 61249, Toxicity

Region 2

American Canyon Creek

LOE ID: 90512

Pollutant: Toxicity
LOE Subgroup: Toxicity
Matrix: Sediment
Fraction: None

Beneficial Use: Cold Freshwater Habitat

Number of Samples: 1
Number of Exceedances: 1

Data and Information Type: TOXICITY TESTING
Data Used to Assess Water Quality: One sample was collected to evaluate sediment toxicity. The sample exhibited significant toxicity. The toxicity test included survival and growth of *Hyalella azteca*. One sample can have multiple toxicity test results but will be counted only once. One sample is defined as being collected on the same day at the same location with the same lab sample id (if provided).

Data Reference: [Statewide Project Urban Pyrethroid Status Monitoring](#)

SWAMP Data: SWAMP

Water Quality Objective/Criterion: All waters shall be maintained free of toxic substances in concentrations that are toxic to, or that produce detrimental physiological responses in, human, plant, animal, or aquatic life. Region 2 Basin Plan.

Objective/Criterion Reference: [Water Quality Control Plan \(Basin Plan\) - San Francisco Bay Region \(Region 2\)](#)

Evaluation Guideline: Toxicity is defined as a statistically significant effect in the sample exposure compared to the control using EPA-recommended hypothesis testing. For SWAMP data exceedances are counted with the significant effect code SL. SL is defined as the result being significant compared to the negative control based on a statistical test, less than stated the alpha level, AND less than the evaluation threshold.

Guideline Reference: [Methods for Measuring the Toxicity and Bioaccumulation of Sediment-associated Contaminants with Freshwater Invertebrates, Second Edition. U.S. Environmental Protection Agency Office of Research and Development, Duluth, MI, U.S. Environmental Protection Agency Office of Water, Washington, DC EPA-600/R-99/064](#)

Spatial Representation: The sample was collected at station 206SUP047.

Temporal Representation: The sample was collected in December 2006.

Environmental Conditions:

QAPP Information: All data was collected following the Standard Operating Procedures and Data Quality Objectives outlined in the SWAMP QAMP, (Puckett, 2002). QA data are included in submission.

QAPP Information Reference(s): [Surface Water Ambient Monitoring Program Quality Assurance Program Plan](#)

Draft California 2016 Integrated Report (303(d) List/305(b) Report)

Supporting Information

Regional Board 2 - San Francisco Bay Region

Water Body Name: North Slough (Napa County)
Water Body ID: CAR2065008020110829151118
Water Body Type: River & Stream

DECISION ID 66014 **Region 2**
North Slough (Napa County)

Pollutant: Mercury
Final Listing Decision: Do Not List on 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision: New Decision
Revision Status Revised
Impairment from Pollutant or Pollution: Pollutant

Regional Board Staff Conclusion: This pollutant is being considered for placement on the CWA section 303(d) List under section 3.1 of the Listing Policy. Under section 3.1 a single line of evidence is necessary to assess listing status. One line of evidence is available in the administrative record to assess this pollutant. Zero of six samples exceed the guideline.

Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against placing this water segment-pollutant combination on the CWA section 303(d) List.

This conclusion is based on the staff findings that:

1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy.
2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy.
3. Zero of six samples exceed the guideline and this sample size is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating. A minimum of 16 samples is needed to determine if a beneficial use is fully supported using table 3.1.
4. Pursuant to SECTION 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.

Regional Board Staff Decision Recommendation: After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be placed on the section 303(d) list. The readily available data and information is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating.

Line of Evidence (LOE) for Decision ID 66014, Mercury **Region 2**
North Slough (Napa County)

LOE ID: 92326
Pollutant: Mercury
LOE Subgroup: Pollutant-Water
Matrix: Water
Fraction: Total
Beneficial Use: Estuarine Habitat
Number of Samples: 6
Number of Exceedances: 0

Data and Information Type:	Non-fixed station physical/chemical (conventional + toxicants)
Data Used to Assess Water Quality:	None of the six samples exceeded the CTR.
Data Reference:	NPDES receiving water data for bacteria and metals in San Francisco Bay, Jan. 2005-Sep. 2009
SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	All waters shall be maintained free of toxic substances that are lethal to or that produce other detrimental responses in aquatic organisms.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	National Recommended Water Quality Criterion Continuous Concentrations (4-day average concentrations) for saltwater aquatic organisms exposure to elemental mercury is 0.94 ug/L.
Guideline Reference:	National Recommended Water Quality Criteria. United States Environmental Protection Agency. Office of Water. Office of Science and Technology
Spatial Representation:	Samples were taken from one sample locations in the receiving water of an adjacent American Canyon waste-water treatment plant. Samples taken within one-week were averaged.
Temporal Representation:	Samples were collected monthly from January of 2005 through June of 2005.
Environmental Conditions:	
QAPP Information:	Samples were collected for NPDES ORDER No. R2-2010-0054.
QAPP Information Reference(s):	

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Supporting Information

Regional Board 2 - San Francisco Bay Region

Water Body Name: Rheem Creek
Water Body ID: CAR2066001420110810220335
Water Body Type: River & Stream

DECISION ID 65689 **Region 2**
Rheem Creek

Pollutant: Bifenthrin
Final Listing Decision: Do Not List on 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision: New Decision
Revision Status: Revised
Impairment from Pollutant or Pollution: Pollutant

Regional Board Staff Conclusion: This pollutant is being considered for placement on the CWA section 303(d) List under section 3.6 of the Listing Policy.

One line of evidence is available in the administrative record to assess this pollutant. The single sample did not exceed the evaluation guidelines for bifenthrin.

Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against placing this water segment-pollutant combination on the CWA section 303(d) List.

This conclusion is based on the staff findings that:

1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy.
2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy.
3. The single sample did not exceed the evaluation guidelines for bifenthrin but this sample size is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating.
4. Pursuant to SECTION 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.

Regional Board Staff Decision Recommendation: After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be placed on the section 303(d) list. The readily available data and information is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating.

Line of Evidence (LOE) for Decision ID 65689, Bifenthrin **Region 2**
Rheem Creek

LOE ID: 92655
Pollutant: Bifenthrin
LOE Subgroup: Pollutant-Sediment
Matrix: Sediment
Fraction: Total
Beneficial Use: Cold Freshwater Habitat
Number of Samples: 1

Number of Exceedances:	0
Data and Information Type:	PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality:	Water Board staff assessed SWAMP data for Rheem Creek to determine beneficial use support and results are as follows: 0 of 1 samples exceed the criterion for Bifenthrin.
Data Reference:	Statewide Project Urban Pyrethroid Status Monitoring
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	San Francisco Bay Basin Water Quality Control Plan 2007: All waters shall be maintained free of toxic substances in concentrations which are toxic to, or which produce detrimental physiological responses in, human, plant, animal, or aquatic life.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	The evaluation guideline for bifenthrin is the median lethal concentration (LC50) of 0.43 ug/g and is normalized by the percentage of organic carbon in the sediment sample. The LC50 0.43 ug/g is the geometric mean of LC50 values for bifenthrin from Amweg et al. (2005) and Amweg and Weston (2007).
Guideline Reference:	Use and Toxicity of Pyrethroid Pesticides in the Central Valley, California, USA. Environmental Toxicology and Chemistry, 24:966-972, with erratum 24:No. 5 Whole-sediment toxicity identification evaluation tools for pyrethroid insecticides: I. piperonyl butoxide addition. Environ. Toxicol. Chem. 26:2389-2396.
Spatial Representation:	Data for this line of evidence for Rheem Creek was collected at 1 monitoring site [Rheem Ck @ Giant Hwy station (206SUP007).]
Temporal Representation:	Data was collected on a single day 12/28/2006.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	The SWAMP QAPP (2008) was followed.
QAPP Information Reference(s):	Quality Assurance Management Plan for the State of California's Surface Water Ambient Monitoring Program. Sacramento, CA. State Water Resources Control Board. SWAMP. December 2002 (1st version)

DECISION ID	65691	Region 2
Rheem Creek		

Pollutant:	Chlordane
Final Listing Decision:	Do Not List on 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision:	New Decision
Revision Status	Revised
Impairment from Pollutant or Pollution:	Pollutant
Regional Board Staff Conclusion:	<p>This pollutant is being considered for placement on the CWA section 303(d) List under section 3.6 of the Listing Policy.</p> <p>One lines of evidence is available in the administrative record to assess this pollutant. The single sample exceeded the evaluation guideline.</p> <p>Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against placing this water segment-pollutant combination on the CWA section 303(d) List.</p> <p>This conclusion is based on the staff findings that:</p> <ol style="list-style-type: none"> 1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy. 2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy. 3. The single sample exceeded the evaluation guideline but this sample size is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating. 4. Pursuant to SECTION 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.

Regional Board Staff Decision Recommendation: After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be placed on the section 303(d) list. The readily available data and information is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating.

**Line of Evidence (LOE) for Decision ID 65691, Chlordane
Rheem Creek**

Region 2

LOE ID: 90724

Pollutant: Chlordane
LOE Subgroup: Pollutant-Sediment
Matrix: Sediment
Fraction: Total

Beneficial Use: Cold Freshwater Habitat

Number of Samples: 1
Number of Exceedances: 1

Data and Information Type: PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality: 1 of 1 samples collected exceeded the criteria for chlordane concentration (Sum of trans-Chlordane, cis-Chlordane, cis-Nonachlor, trans-Nonachlor, and Oxychlordane).
Data Reference: [Statewide Project Urban Pyrethroid Status Monitoring](#)

SWAMP Data: SWAMP

Water Quality Objective/Criterion: All waters shall be maintained free of toxic substances in concentrations that are lethal to or that produce other detrimental responses in aquatic organisms. Waters shall not contain substances in concentrations that result in the deposition of material that causes nuisance or adversely affects beneficial uses. (Water Quality Control Plan for the San Francisco Bay Basin).
Objective/Criterion Reference: [Water Quality Control Plan \(Basin Plan\) - San Francisco Bay Region \(Region 2\)](#)

Evaluation Guideline: The Probable Effect Concentration for Chlordane in freshwater sediments is 17.6 ug/kg(MacDonald et al. 2000).
Guideline Reference: [Development and evaluation of consensus-based sediment quality guidelines for freshwater ecosystems. Environmental Contamination and Toxicology. 39: 20-31](#)

Spatial Representation: Data were collected at the following station 206SUP007 (Rheem Ck @ Giant Hwy).
Temporal Representation: The samples were collected on 12/28/2006.
Environmental Conditions:
QAPP Information: The SWAMP QAPP (2006) was followed.
QAPP Information Reference(s): [Surface Water Ambient Monitoring Program Quality Assurance Program Plan](#)

**DECISION ID 65692
Rheem Creek**

Region 2

Pollutant: Chlorpyrifos
Final Listing Decision: Do Not List on 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision: New Decision
Revision Status: Revised
Impairment from Pollutant or Pollution: Pollutant

Regional Board Staff Conclusion: This pollutant is being considered for placement on the CWA section 303(d) List under section 3.6 of the Listing Policy.

One lines of evidence is available in the administrative record to assess this pollutant. The single sample result was not used in the assessment because the sample was non-detect and the laboratory data method detection limit was above the guideline.

Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against placing this water segment-pollutant combination on the CWA section 303(d) List.

This conclusion is based on the staff findings that:

1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy.
2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy.
3. The single sample result was not used in the assessment because the sample was non-detect and the laboratory data method detection limit was above the guideline. Even if it could have been used, this sample size is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating.
4. Pursuant to SECTION 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.

Regional Board Staff Decision Recommendation: After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be placed on the section 303(d) list. The readily available data and information is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating.

**Line of Evidence (LOE) for Decision ID 65692, Chlorpyrifos
Rheem Creek**

Region 2

LOE ID:	92656
Pollutant:	Chlorpyrifos
LOE Subgroup:	Pollutant-Sediment
Matrix:	Sediment
Fraction:	Total
Beneficial Use:	Cold Freshwater Habitat
Number of Samples:	0
Number of Exceedances:	0
Data and Information Type:	PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality:	One of one sample result was not used in the assessment because the sample was non-detect and the laboratory data method detection limit was above the guideline and therefore the results could not be quantified with the level of certainty required by the Listing Policy.
Data Reference:	Statewide Project Urban Pyrethroid Status Monitoring
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	San Francisco Bay Basin Water Quality Control Plan 2007: All waters shall be maintained free of toxic substances in concentrations which are toxic to, or which produce detrimental physiological responses in, human, plant, animal, or aquatic life.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	There is no chlorpyrifos evaluation guideline specific to "sediment, interstitial water" (pore water). The following evaluation guideline was used to evaluate an exceedance in water quality standards: the freshwater criterion continuous concentration to protect aquatic organisms is 0.015 ug/L (Siepmann and Finlayson 2000, with minor corrections to significant figures as described in Beaulaurier et al., 2005).?
Guideline Reference:	Water quality criteria for diazinon and chlorpyrifos. Administrative Report 00-3. Rancho Cordova, CA: Pesticide Investigations Unit, Office of Spills and Response. CA Department of Fish and Game (with minor corrections to significant figures as described in Beaulaurier

[et al., 2005\).](#)

Spatial Representation: Data for this line of evidence for Rheem Creek was collected at 1 monitoring site [Rheem Ck @ Giant Hwy station (206SUP007).]

Temporal Representation: Data was collected on a single day 12/28/2006.

Environmental Conditions: Staff is not aware of any special conditions that might affect interpretation of the data.

QAPP Information: The SWAMP QAPP (2008) was followed.

QAPP Information Reference(s): [Quality Assurance Management Plan for the State of California's Surface Water Ambient Monitoring Program. Sacramento, CA. State Water Resources Control Board. SWAMP. December 2002 \(1st version\).](#)

DECISION ID	65718	Region 2
Rheem Creek		

Pollutant: Cyfluthrin

Final Listing Decision: Do Not List on 303(d) list (TMDL required list)

Last Listing Cycle's Final Listing Decision: New Decision

Revision Status: Revised

Impairment from Pollutant or Pollution: Pollutant

Regional Board Staff Conclusion:

This pollutant is being considered for placement on the CWA section 303(d) List under section 3.6 of the Listing Policy.

One line of evidence is available in the administrative record to assess this pollutant. The single sample did not exceed the evaluation guideline for cyfluthrin.

Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against placing this water segment-pollutant combination on the CWA section 303(d) List.

This conclusion is based on the staff findings that:

1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy.
2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy.
3. The single sample did not exceed the evaluation guideline for cyfluthrin and this sample size is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating.
4. Pursuant to SECTION 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.

Regional Board Staff Decision Recommendation: After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be placed on the section 303(d) list. The readily available data and information is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating.

Line of Evidence (LOE) for Decision ID 65718, Cyfluthrin	Region 2
Rheem Creek	

LOE ID: 92657

Pollutant: Cyfluthrin

LOE Subgroup: Pollutant-Sediment

Matrix: Sediment

Fraction: Total

Beneficial Use: Cold Freshwater Habitat

Number of Samples: 1

Number of Exceedances:	0
Data and Information Type:	PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality:	Water Board staff assessed SWAMP data for Rheem Creek to determine beneficial use support and results are as follows: 0 of 1 samples exceed the criterion for Cyfluthrin, total.
Data Reference:	Statewide Project Urban Pyrethroid Status Monitoring
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	San Francisco Bay Basin Water Quality Control Plan 2007: All waters shall be maintained free of toxic substances in concentrations which are toxic to, or which produce detrimental physiological responses in, human, plant, animal, or aquatic life.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	The evaluation guideline for cyfluthrin is the median lethal concentration (LC50) of 1.1 ug/g and is normalized by the percentage of organic carbon in the sediment sample. The LC50 1.1 ug/g is the geometric mean of LC50 values for cyfluthrin from Amweg et al. (2005).
Guideline Reference:	Use and Toxicity of Pyrethroid Pesticides in the Central Valley, California, USA. Environmental Toxicology and Chemistry, 24:966-972, with erratum 24:No. 5
Spatial Representation:	Data for this line of evidence for Rheem Creek was collected at 1 monitoring site [Rheem Ck @ Giant Hwy station (206SUP007).]
Temporal Representation:	Data was collected on a single day 12/28/2006.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	The SWAMP QAPP (2008) was followed.
QAPP Information Reference(s):	Quality Assurance Management Plan for the State of California's Surface Water Ambient Monitoring Program. Sacramento, CA. State Water Resources Control Board. SWAMP. December 2002 (1st version)

DECISION ID	65720	Region 2
Rheem Creek		

Pollutant:	Cyhalothrin, Lambda
Final Listing Decision:	Do Not List on 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision:	New Decision
Revision Status	Revised
Impairment from Pollutant or Pollution:	Pollutant

Regional Board Staff Conclusion: This pollutant is being considered for placement on the CWA section 303(d) List under section 3.6 of the Listing Policy.

One line of evidence is available in the administrative record to assess this pollutant. The single sample did not exceed the evaluation guideline for lambda-cyhalothrin.

Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against placing this water segment-pollutant combination on the CWA section 303(d) List.

This conclusion is based on the staff findings that:

1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy.
2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy.
3. The single sample did not exceed the evaluation guideline for lambda-cyhalothrin and this sample size is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating.
4. Pursuant to SECTION 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.

Regional Board Staff Decision After review of the available data and information, RWQCB staff concludes that the water body-

Recommendation: pollutant combination should not be placed on the section 303(d) list. The readily available data and information is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating.

**Line of Evidence (LOE) for Decision ID 65720, Cyhalothrin, Lambda
Rheem Creek**

Region 2

LOE ID: 92658

Pollutant: Cyhalothrin, Lambda
LOE Subgroup: Pollutant-Sediment
Matrix: Sediment
Fraction: Total

Beneficial Use: Cold Freshwater Habitat

Number of Samples: 1
Number of Exceedances: 0

Data and Information Type: PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality: Water Board staff assessed SWAMP data for Rheem Creek to determine beneficial use support and results are as follows: 0 of 1 samples exceed the criterion for Cyhalothrin, lambda, total.

Data Reference: [Statewide Project Urban Pyrethroid Status Monitoring](#)

SWAMP Data: SWAMP

Water Quality Objective/Criterion: San Francisco Bay Basin Water Quality Control Plan 2007: All waters shall be maintained free of toxic substances in concentrations which are toxic to, or which produce detrimental physiological responses in, human, plant, animal, or aquatic life.

Objective/Criterion Reference: [Water Quality Control Plan \(Basin Plan\) San Francisco Bay Basin \(Region 2\)](#)

Evaluation Guideline: The evaluation guideline for lambda-cyhalothrin is the median lethal concentration (LC50) of 0.44 ug/g and is normalized by the percentage of organic carbon in the sediment sample. The LC50 0.44 ug/g is the geometric mean of LC50 values for lambda-cyhalothrin from Amweg et al. (2005).

Guideline Reference: [Use and Toxicity of Pyrethroid Pesticides in the Central Valley, California, USA. Environmental Toxicology and Chemistry, 24:966-972, with erratum 24:No. 5](#)

Spatial Representation: Data for this line of evidence for Rheem Creek was collected at 1 monitoring site [Rheem Ck @ Giant Hwy station (206SUP007).]

Temporal Representation: Data was collected on a single day 12/28/2006.

Environmental Conditions: Staff is not aware of any special conditions that might affect interpretation of the data.

QAPP Information: The SWAMP QAPP (2008) was followed.

QAPP Information Reference(s): [Quality Assurance Management Plan for the State of California's Surface Water Ambient Monitoring Program. Sacramento, CA. State Water Resources Control Board. SWAMP. December 2002 \(1st version\)](#)

**DECISION ID 65722
Rheem Creek**

Region 2

Pollutant: Cypermethrin
Final Listing Decision: Do Not List on 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision: New Decision
Revision Status: Revised
Impairment from Pollutant or Pollution: Pollutant

Regional Board Staff Conclusion:

This pollutant is being considered for placement on the CWA section 303(d) List under section 3.6 of the Listing Policy.

One line of evidence is available in the administrative record to assess this pollutant. The single sample did not exceed the evaluation guideline for cypermethrin.

Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against placing this water segment-pollutant combination on the CWA section 303(d) List.

This conclusion is based on the staff findings that:

1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy.
2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy.
3. The single sample did not exceed the evaluation guideline for cypermethrin and this sample size is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating.
4. Pursuant to SECTION 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.

Regional Board Staff Decision Recommendation:

After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be placed on the section 303(d) list. The readily available data and information is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating.

**Line of Evidence (LOE) for Decision ID 65722, Cypermethrin
Rheem Creek**

Region 2

LOE ID:	92659
Pollutant:	Cypermethrin
LOE Subgroup:	Pollutant-Sediment
Matrix:	Sediment
Fraction:	Total
Beneficial Use:	Cold Freshwater Habitat
Number of Samples:	1
Number of Exceedances:	0
Data and Information Type:	PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality:	Water Board staff assessed SWAMP data for Rheem Creek to determine beneficial use support and results are as follows: 0 of 1 samples exceed the criterion for Cypermethrin, total.
Data Reference:	Statewide Project Urban Pyrethroid Status Monitoring
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	San Francisco Bay Basin Water Quality Control Plan 2007: All waters shall be maintained free of toxic substances in concentrations which are toxic to, or which produce detrimental physiological responses in, human, plant, animal, or aquatic life.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	The evaluation guideline for cypermethrin is the median lethal concentration (LC50) of 0.3 ug/g and is normalized by the percentage of organic carbon in the sediment sample. The LC50 0.3 ug/g is the geometric mean of LC50 values for cypermethrin from Maund et al. (2002).
Guideline Reference:	Partitioning, bioavailability, and toxicity of the pyrethroid insecticide cypermethrin in sediments. Environmental Toxicology and Chemistry 21:9-15
Spatial Representation:	Data for this line of evidence for Rheem Creek was collected at 1 monitoring site [Rheem Ck @ Giant Hwy station (206SUP007).]

Temporal Representation:	Data was collected on a single day 12/28/2006.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	The SWAMP QAPP (2008) was followed.
QAPP Information Reference(s):	Quality Assurance Management Plan for the State of California's Surface Water Ambient Monitoring Program. Sacramento, CA. State Water Resources Control Board. SWAMP. December 2002 (1st version)

DECISION ID	65725	Region 2
Rheem Creek		

Pollutant:	DDD (Dichlorodiphenyldichloroethane)
Final Listing Decision:	Do Not List on 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision:	New Decision
Revision Status	Revised
Impairment from Pollutant or Pollution:	Pollutant

Regional Board Staff Conclusion: This pollutant is being considered for placement on the CWA section 303(d) List under section 3.6 of the Listing Policy.

One line of evidence are available in the administrative record to assess this pollutant. The single sample did not exceed the evaluation guideline for DDD.

Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against placing this water segment-pollutant combination on the CWA section 303(d) List.

This conclusion is based on the staff findings that:

1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy.
2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy.
3. The single sample did not exceed the evaluation guideline for DDD and this sample size is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating.
4. Pursuant to SECTION 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.

Regional Board Staff Decision Recommendation: After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be placed on the section 303(d) list. The readily available data and information is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating.

Line of Evidence (LOE) for Decision ID 65725, DDD (Dichlorodiphenyldichloroethane)	Region 2
Rheem Creek	

LOE ID: 92665

Pollutant:	DDD (Dichlorodiphenyldichloroethane)
LOE Subgroup:	Pollutant-Sediment
Matrix:	Sediment
Fraction:	Total

Beneficial Use: Cold Freshwater Habitat

Number of Samples:	1
Number of Exceedances:	0

Data and Information Type:	PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality:	Water Board staff assessed SWAMP data for Rheem Creek to determine beneficial use

Data Reference:	support and results are as follows: 0 of 1 samples exceed the criterion for DDD. Statewide Project Urban Pyrethroid Status Monitoring
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	San Francisco Bay Basin Water Quality Control Plan 2007: All waters shall be maintained free of toxic substances in concentrations which are toxic to, or which produce detrimental physiological responses in, human, plant, animal, or aquatic life.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	In freshwater sediments the probable effect concentration (predictive of sediment toxicity for sediment-dwelling organisms) for sum of DDD is 28.0 ug/Kg dry weight (MacDonald et al. 2000).
Guideline Reference:	Development and evaluation of consensus-based sediment quality guidelines for freshwater ecosystems. Environmental Contamination and Toxicology. 39: 20-31
Spatial Representation:	Data for this line of evidence for Rheem Creek was collected at 1 monitoring site [Rheem Ck @ Giant Hwy station (206SUP007).]
Temporal Representation:	Data was collected on a single day 12/28/2006.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	The SWAMP QAPP (2008) was followed.
QAPP Information Reference(s):	Quality Assurance Management Plan for the State of California's Surface Water Ambient Monitoring Program. Sacramento, CA. State Water Resources Control Board. SWAMP. December 2002 (1st version)

DECISION ID	65744	Region 2
Rheem Creek		
Pollutant:	DDE (Dichlorodiphenyldichloroethylene)	
Final Listing Decision:	Do Not List on 303(d) list (TMDL required list)	
Last Listing Cycle's Final Listing Decision:	New Decision	
Revision Status	Revised	
Impairment from Pollutant or Pollution:	Pollutant	
Regional Board Staff Conclusion:	<p>This pollutant is being considered for placement on the CWA section 303(d) List under section 3.6 of the Listing Policy.</p> <p>One line of evidence is available in the administrative record to assess this pollutant. The single sample did not exceed the evaluation guideline for DDE.</p> <p>Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against placing this water segment-pollutant combination on the CWA section 303(d) List.</p> <p>This conclusion is based on the staff findings that:</p> <ol style="list-style-type: none"> 1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy. 2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy. 3. The single sample did not exceed the evaluation guideline for DDE and this sample size is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating. 4. Pursuant to SECTION 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met. 	
Regional Board Staff Decision Recommendation:	After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be placed on the section 303(d) list. The readily available data and information is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating.	

Rheem Creek

LOE ID:	92666
Pollutant:	DDE (Dichlorodiphenyldichloroethylene)
LOE Subgroup:	Pollutant-Sediment
Matrix:	Sediment
Fraction:	Total
Beneficial Use:	Cold Freshwater Habitat
Number of Samples:	1
Number of Exceedances:	0
Data and Information Type:	PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality:	Water Board staff assessed SWAMP data for Rheem Creek to determine beneficial use support and results are as follows: 0 of 1 samples exceed the criterion for DDE.
Data Reference:	Statewide Project Urban Pyrethroid Status Monitoring
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	San Francisco Bay Basin Water Quality Control Plan 2007: All waters shall be maintained free of toxic substances in concentrations which are toxic to, or which produce detrimental physiological responses in, human, plant, animal, or aquatic life.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	In freshwater sediments the probable effect concentration (predictive of sediment toxicity for sediment-dwelling organisms) for sum of DDE is 31.3 ug/Kg dry weight (MacDonald et al. 2000).
Guideline Reference:	Development and evaluation of consensus-based sediment quality guidelines for freshwater ecosystems. Environmental Contamination and Toxicology. 39: 20-31
Spatial Representation:	Data for this line of evidence for Rheem Creek was collected at 1 monitoring site [Rheem Ck @ Giant Hwy station (206SUP007).]
Temporal Representation:	Data was collected on a single day 12/28/2006.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	The SWAMP QAPP (2008) was followed.
QAPP Information Reference(s):	Quality Assurance Management Plan for the State of California's Surface Water Ambient Monitoring Program. Sacramento, CA. State Water Resources Control Board. SWAMP. December 2002 (1st version)

DECISION ID

65774

Region 2

Rheem Creek

Pollutant:	DDT (Dichlorodiphenyltrichloroethane)
Final Listing Decision:	Do Not List on 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision:	New Decision
Revision Status	Revised
Impairment from Pollutant or Pollution:	Pollutant
Regional Board Staff Conclusion:	<p>This pollutant is being considered for placement on the CWA section 303(d) List under section 3.6 of the Listing Policy.</p> <p>One line of evidence is available in the administrative record to assess this pollutant. The single sample did not exceed the evaluation guideline for DDT.</p> <p>Based on the readily available data and information, the weight of evidence indicates that there is</p>

sufficient justification against placing this water segment-pollutant combination on the CWA section 303(d) List.

This conclusion is based on the staff findings that:

1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy.
2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy.
3. The single sample did not exceed the evaluation guideline for DDT and this sample size is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating.
4. Pursuant to SECTION 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.

Regional Board Staff Decision Recommendation: After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be placed on the section 303(d) list. The readily available data and information is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating.

Line of Evidence (LOE) for Decision ID 65774, DDT (Dichlorodiphenyltrichloroethane)

Region 2

Rheem Creek

LOE ID: 92667

Pollutant: DDT (Dichlorodiphenyltrichloroethane)
LOE Subgroup: Pollutant-Sediment
Matrix: Sediment
Fraction: Total

Beneficial Use: Cold Freshwater Habitat

Number of Samples: 1
Number of Exceedances: 0

Data and Information Type: PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality: Water Board staff assessed SWAMP data for Rheem Creek to determine beneficial use support and results are as follows: 0 of 1 samples exceed the criterion for DDT.

Data Reference: [Statewide Project Urban Pyrethroid Status Monitoring](#)

SWAMP Data: SWAMP

Water Quality Objective/Criterion: San Francisco Bay Basin Water Quality Control Plan 2007: All waters shall be maintained free of toxic substances in concentrations which are toxic to, or which produce detrimental physiological responses in, human, plant, animal, or aquatic life.

Objective/Criterion Reference: [Water Quality Control Plan \(Basin Plan\) San Francisco Bay Basin \(Region 2\)](#)

Evaluation Guideline: In freshwater sediments the probable effect concentration (predictive of sediment toxicity for sediment-dwelling organisms) for sum of DDT is 62.9 ug/Kg dry weight (MacDonald et al. 2000).

Guideline Reference: [Development and evaluation of consensus-based sediment quality guidelines for freshwater ecosystems. Environmental Contamination and Toxicology. 39: 20-31](#)

Spatial Representation: Data for this line of evidence for Rheem Creek was collected at 1 monitoring site [Rheem Ck @ Giant Hwy station (206SUP007).]

Temporal Representation: Data was collected on a single day 12/28/2006.

Environmental Conditions: Staff is not aware of any special conditions that might affect interpretation of the data.

QAPP Information: The SWAMP QAPP (2008) was followed.

QAPP Information Reference(s): [Quality Assurance Management Plan for the State of California's Surface Water Ambient Monitoring Program. Sacramento, CA. State Water Resources Control Board. SWAMP. December 2002 \(1st version\)](#)

DECISION ID

65775

Region 2

Rheem Creek

Pollutant: Deltamethrin
Final Listing Decision: Do Not List on 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision: New Decision
Revision Status: Revised
Impairment from Pollutant or Pollution: Pollutant

Regional Board Staff Conclusion: This pollutant is being considered for placement on the CWA section 303(d) List under section 3.6 of the Listing Policy.

One line of evidence is available in the administrative record to assess this pollutant. The single sample does not exceed the evaluation guideline for deltamethrin.

Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against placing this water segment-pollutant combination on the CWA section 303(d) List.

This conclusion is based on the staff findings that:

1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy.
2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy.
3. The single sample does not exceed the evaluation guideline for deltamethrin and this sample size is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating.
4. Pursuant to SECTION 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.

Regional Board Staff Decision Recommendation: After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be placed on the section 303(d) list. The readily available data and information is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating.

Line of Evidence (LOE) for Decision ID 65775, Deltamethrin

Region 2

Rheem Creek

LOE ID: 92668

Pollutant: Deltamethrin
LOE Subgroup: Pollutant-Sediment
Matrix: Sediment
Fraction: Total

Beneficial Use: Cold Freshwater Habitat

Number of Samples: 1
Number of Exceedances: 0

Data and Information Type: PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality: Water Board staff assessed SWAMP data for Rheem Creek to determine beneficial use support and results are as follows: 0 of 1 samples exceed the criterion for Deltamethrin.

Data Reference: [Statewide Project Urban Pyrethroid Status Monitoring](#)

SWAMP Data: SWAMP

Water Quality Objective/Criterion: San Francisco Bay Basin Water Quality Control Plan 2007: All waters shall be maintained free of toxic substances in concentrations which are toxic to, or which produce detrimental physiological responses in, human, plant, animal, or aquatic life.

Objective/Criterion Reference: [Water Quality Control Plan \(Basin Plan\) San Francisco Bay Basin \(Region 2\)](#)

Evaluation Guideline:	The evaluation guideline for deltamethrin is the median lethal concentration (LC50) of 0.79 ug/g and is normalized by the percentage of organic carbon in the sediment sample. The LC50 0.79 ug/g is the geometric mean of LC50 values for deltamethrin from Amweg et al. (2005).
Guideline Reference:	Use and Toxicity of Pyrethroid Pesticides in the Central Valley, California, USA. Environmental Toxicology and Chemistry, 24:966-972, with erratum 24:No. 5
Spatial Representation:	Data for this line of evidence for Rheem Creek was collected at 1 monitoring site [Rheem Ck @ Giant Hwy station (206SUP007).]
Temporal Representation:	Data was collected on a single day 12/28/2006.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	The SWAMP QAPP (2008) was followed.
QAPP Information Reference(s):	Quality Assurance Management Plan for the State of California's Surface Water Ambient Monitoring Program, Sacramento, CA, State Water Resources Control Board, SWAMP, December 2002 (1st version)

DECISION ID	65777	Region 2
Rheem Creek		

Pollutant:	Diazinon
Final Listing Decision:	Do Not List on 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision:	New Decision
Revision Status	Revised
Impairment from Pollutant or Pollution:	Pollutant
Regional Board Staff Conclusion:	<p>This pollutant is being considered for placement on the CWA section 303(d) List under section 3.6 of the Listing Policy. .</p> <p>One line of evidence is available in the administrative record to assess this pollutant. The single sample did not exceed the evaluation guideline for diazinon.</p> <p>Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against placing this water segment-pollutant combination on the CWA section 303(d) List.</p> <p>This conclusion is based on the staff findings that:</p> <ol style="list-style-type: none"> 1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy. 2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy. 3. The single sample did not exceed the evaluation guideline for diazinon and this sample size is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating. 4. Pursuant to SECTION 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.
Regional Board Staff Decision Recommendation:	After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be placed on the section 303(d) list. The readily available data and information is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating.

Line of Evidence (LOE) for Decision ID 65777, Diazinon	Region 2
Rheem Creek	

LOE ID:	92669
Pollutant:	Diazinon
LOE Subgroup:	Pollutant-Sediment
Matrix:	Sediment

Fraction:	Total
Beneficial Use:	Cold Freshwater Habitat
Number of Samples:	1
Number of Exceedances:	0
Data and Information Type:	PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality:	Water Board staff assessed SWAMP data for Rheem Creek to determine beneficial use support and results are as follows: 0 of 1 samples exceed the criterion for Diazinon.
Data Reference:	Statewide Project Urban Pyrethroid Status Monitoring
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	San Francisco Bay Basin Water Quality Control Plan 2007: All waters shall be maintained free of toxic substances in concentrations which are toxic to, or which produce detrimental physiological responses in, human, plant, animal, or aquatic life.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	There is no diazinon evaluation guideline specific to "sediment, interstitial water" (pore water). The following evaluation guideline was used to evaluate an exceedance in water quality standards: the freshwater chronic value for diazinon is 0.1 ug/L, expressed as a continuous concentration (Finlayson, 2004).?
Guideline Reference:	Toxicity of Sediment-Associated Pesticides to Chironomus dilutus and Hyalella azteca. Arch. Environ. Contam. Toxicol. 61:83?92.
Spatial Representation:	Data for this line of evidence for Rheem Creek was collected at 1 monitoring site [Rheem Ck @ Giant Hwy station (206SUP007).]
Temporal Representation:	Data was collected on a single day 12/28/2006.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	The SWAMP QAPP (2008) was followed.
QAPP Information Reference(s):	Quality Assurance Management Plan for the State of California's Surface Water Ambient Monitoring Program. Sacramento, CA. State Water Resources Control Board. SWAMP. December 2002 (1st version)

DECISION ID	65778	Region 2
Rheem Creek		
Pollutant:	Dieldrin	
Final Listing Decision:	Do Not List on 303(d) list (TMDL required list)	
Last Listing Cycle's Final Listing Decision:	New Decision	
Revision Status	Revised	
Impairment from Pollutant or Pollution:	Pollutant	
Regional Board Staff Conclusion:	<p>This pollutant is being considered for placement on the CWA section 303(d) List under section 3.6 of the Listing Policy.</p> <p>One line of evidence is available in the administrative record to assess this pollutant. The single sample did not exceed the evaluation guideline for dieldrin.</p> <p>Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against placing this water segment-pollutant combination on the CWA section 303(d) List.</p> <p>This conclusion is based on the staff findings that:</p> <ol style="list-style-type: none"> 1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy. 2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy. 3. The single sample did not exceed the evaluation guideline for dieldrin and this sample size is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial 	

use support rating.

4. Pursuant to SECTION 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.

Regional Board Staff Decision Recommendation: After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be placed on the section 303(d) list. The readily available data and information is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating.

Line of Evidence (LOE) for Decision ID 65778, Dieldrin

Region 2

Rheem Creek

LOE ID: 92670

Pollutant: Dieldrin
LOE Subgroup: Pollutant-Sediment
Matrix: Sediment
Fraction: Total

Beneficial Use: Cold Freshwater Habitat

Number of Samples: 1
Number of Exceedances: 0

Data and Information Type: PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality: Water Board staff assessed SWAMP data for Rheem Creek to determine beneficial use support and results are as follows: 0 of 1 samples exceed the criterion for Dieldrin.

Data Reference: [Statewide Project Urban Pyrethroid Status Monitoring](#)

SWAMP Data: SWAMP

Water Quality Objective/Criterion: San Francisco Bay Basin Water Quality Control Plan 2007: All waters shall be maintained free of toxic substances in concentrations which are toxic to, or which produce detrimental physiological responses in, human, plant, animal, or aquatic life.

Objective/Criterion Reference: [Water Quality Control Plan \(Basin Plan\) San Francisco Bay Basin \(Region 2\)](#)

Evaluation Guideline: In freshwater sediments the probable effect concentration (predictive of sediment toxicity for sediment-dwelling organisms) for dieldrin is 61.8 ug/Kg dry weight (MacDonald et al. 2000).

Guideline Reference: [Development and evaluation of consensus-based sediment quality guidelines for freshwater ecosystems. Environmental Contamination and Toxicology. 39: 20-31](#)

Spatial Representation: Data for this line of evidence for Rheem Creek was collected at 1 monitoring site [Rheem Ck @ Giant Hwy station (206SUP007).]

Temporal Representation: Data was collected on a single day 12/28/2006.

Environmental Conditions: Staff is not aware of any special conditions that might affect interpretation of the data.

QAPP Information: The SWAMP QAPP (2008) was followed.

QAPP Information Reference(s): [Quality Assurance Management Plan for the State of California's Surface Water Ambient Monitoring Program. Sacramento, CA. State Water Resources Control Board. SWAMP. December 2002 \(1st version\)](#)

DECISION ID

65779

Region 2

Rheem Creek

Pollutant: Endrin
Final Listing Decision: Do Not List on 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision: New Decision
Revision Status: Revised

Impairment from Pollutant or Pollution:	Pollutant
Regional Board Staff Conclusion:	<p>This pollutant is being considered for placement on the CWA section 303(d) List under section 3.6 of the Listing Policy.</p> <p>One line of evidence is available in the administrative record to assess this pollutant. The single sample did not exceed the evaluation guideline for endrin.</p> <p>Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against placing this water segment-pollutant combination on the CWA section 303(d) List.</p> <p>This conclusion is based on the staff findings that:</p> <ol style="list-style-type: none"> 1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy. 2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy. 3. The single sample did not exceed the evaluation guideline for endrin and this sample size is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating. 4. Pursuant to SECTION 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.
Regional Board Staff Decision Recommendation:	After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be placed on the section 303(d) list. The readily available data and information is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating.

**Line of Evidence (LOE) for Decision ID 65779, Endrin
Rheem Creek**

Region 2

LOE ID:	92677
Pollutant:	Endrin
LOE Subgroup:	Pollutant-Sediment
Matrix:	Sediment
Fraction:	Total
Beneficial Use:	Cold Freshwater Habitat
Number of Samples:	1
Number of Exceedances:	0
Data and Information Type:	PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality:	Water Board staff assessed SWAMP data for Rheem Creek to determine beneficial use support and results are as follows: 0 of 1 samples exceed the criterion for Endrin.
Data Reference:	Statewide Project Urban Pyrethroid Status Monitoring
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	San Francisco Bay Basin Water Quality Control Plan 2007: All waters shall be maintained free of toxic substances in concentrations which are toxic to, or which produce detrimental physiological responses in, human, plant, animal, or aquatic life.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	In freshwater sediments the probable effect concentration (predictive of sediment toxicity for sediment-dwelling organisms) for endrin is 207 ug/Kg dry weight (MacDonald et al. 2000).
Guideline Reference:	Development and evaluation of consensus-based sediment quality guidelines for freshwater ecosystems. Environmental Contamination and Toxicology. 39: 20-31
Spatial Representation:	Data for this line of evidence for Rheem Creek was collected at 1 monitoring site [Rheem

Temporal Representation:	Ck @ Giant Hwy station (206SUP007).]
Environmental Conditions:	Data was collected on a single day 12/28/2006.
QAPP Information:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information Reference(s):	The SWAMP QAPP (2008) was followed. Quality Assurance Management Plan for the State of California's Surface Water Ambient Monitoring Program. Sacramento, CA. State Water Resources Control Board. SWAMP. December 2002 (1st version).

DECISION ID	65780	Region 2
Rheem Creek		

Pollutant:	Esfenvalerate/Fenvalerate
Final Listing Decision:	Do Not List on 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision:	New Decision
Revision Status	Revised
Impairment from Pollutant or Pollution:	Pollutant

Regional Board Staff Conclusion: This pollutant is being considered for placement on the CWA section 303(d) List under section 3.6 of the Listing Policy.

One line of evidence is available in the administrative record to assess this pollutant. The single sample did not exceed the evaluation guideline for esfenvalerate/fenvalerate.

Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against placing this water segment-pollutant combination on the CWA section 303(d) List.

This conclusion is based on the staff findings that:

1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy.
2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy.
3. The single sample did not exceed the evaluation guideline for esfenvalerate/fenvalerate and this sample size is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating.
4. Pursuant to SECTION 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.

Regional Board Staff Decision Recommendation: After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be placed on the section 303(d) list. The readily available data and information is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating.

Line of Evidence (LOE) for Decision ID 65780, Esfenvalerate/Fenvalerate	Region 2
Rheem Creek	

LOE ID:	92678
Pollutant:	Esfenvalerate/Fenvalerate
LOE Subgroup:	Pollutant-Sediment
Matrix:	Sediment
Fraction:	Total
Beneficial Use:	Cold Freshwater Habitat
Number of Samples:	1
Number of Exceedances:	0
Data and Information Type:	PHYSICAL/CHEMICAL MONITORING

Data Used to Assess Water Quality:	Water Board staff assessed SWAMP data for Rheem Creek to determine beneficial use support and results are as follows: 0 of 1 samples exceed the criterion for Esfenvalerate/Fenvalerate, total.
Data Reference:	Statewide Project Urban Pyrethroid Status Monitoring
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	San Francisco Bay Basin Water Quality Control Plan 2007: All waters shall be maintained free of toxic substances in concentrations which are toxic to, or which produce detrimental physiological responses in, human, plant, animal, or aquatic life.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	The evaluation guideline for esfenvalerate/fenvalerate is the median lethal concentration (LC50) of 1.5 ug/g and is normalized by the percentage of organic carbon in the sediment sample. The LC50 1.5 ug/g is the geometric mean of LC50 values for esfenvalerate/fenvalerate from Amweg et al. (2005).
Guideline Reference:	Use and Toxicity of Pyrethroid Pesticides in the Central Valley, California, USA. Environmental Toxicology and Chemistry, 24:966-972, with erratum 24:No. 5
Spatial Representation:	Data for this line of evidence for Rheem Creek was collected at 1 monitoring site [Rheem Ck @ Giant Hwy station (206SUP007).]
Temporal Representation:	Data was collected on a single day 12/28/2006.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	The SWAMP QAPP (2008) was followed.
QAPP Information Reference(s):	Quality Assurance Management Plan for the State of California's Surface Water Ambient Monitoring Program. Sacramento, CA. State Water Resources Control Board. SWAMP. December 2002 (1st version)

DECISION ID	65781	Region 2
Rheem Creek		
Pollutant:	Fenpropathrin	
Final Listing Decision:	Do Not List on 303(d) list (TMDL required list)	
Last Listing Cycle's Final Listing Decision:	New Decision	
Revision Status	Revised	
Impairment from Pollutant or Pollution:	Pollutant	
Regional Board Staff Conclusion:	<p>This pollutant is being considered for placement on the CWA section 303(d) List under section 3.6 of the Listing Policy.</p> <p>One line of evidence is available in the administrative record to assess this pollutant. The single sample did not exceed the evaluation guideline for fenpropathrin.</p> <p>Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against placing this water segment-pollutant combination on the CWA section 303(d) List.</p> <p>This conclusion is based on the staff findings that:</p> <ol style="list-style-type: none"> 1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy. 2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy. 3. The single sample did not exceed the evaluation guideline for fenpropathrin and this sample size is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating. 4. Pursuant to SECTION 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met. 	
Regional Board Staff Decision Recommendation:	After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be placed on the section 303(d) list. The readily available data and information is insufficient to determine, with the power and confidence of the Listing Policy, the	

**Line of Evidence (LOE) for Decision ID 65781, Fenpropathrin
Rheem Creek**
Region 2

LOE ID:	92679
Pollutant:	Fenpropathrin
LOE Subgroup:	Pollutant-Sediment
Matrix:	Sediment
Fraction:	Total
Beneficial Use:	Cold Freshwater Habitat
Number of Samples:	1
Number of Exceedances:	0
Data and Information Type:	PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality:	Water Board staff assessed SWAMP data for Rheem Creek to determine beneficial use support and results are as follows: 0 of 1 samples exceed the criterion for Fenpropathrin.
Data Reference:	Statewide Project Urban Pyrethroid Status Monitoring
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	San Francisco Bay Basin Water Quality Control Plan 2007: All waters shall be maintained free of toxic substances in concentrations which are toxic to, or which produce detrimental physiological responses in, human, plant, animal, or aquatic life.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	The evaluation guideline for fenpropathrin is the median lethal concentration (LC50) of 1 ug/g and is normalized by the percentage of organic carbon in the sediment sample. The LC50 1 ug/g is the geometric mean of LC50 values for fenpropathrin from Ding et al. (2011).
Guideline Reference:	Toxicity of Sediment-Associated Pesticides to Chironomus dilutus and Hyalella azteca. Arch. Environ. Contam. Toxicol. 61:83?92.
Spatial Representation:	Data for this line of evidence for Rheem Creek was collected at 1 monitoring site [Rheem Ck @ Giant Hwy station (206SUP007).]
Temporal Representation:	Data was collected on a single day 12/28/2006.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	The SWAMP QAPP (2008) was followed.
QAPP Information Reference(s):	Quality Assurance Management Plan for the State of California's Surface Water Ambient Monitoring Program. Sacramento, CA. State Water Resources Control Board. SWAMP. December 2002 (1st version)

DECISION ID 65782**Region 2****Rheem Creek**

Pollutant:	Fipronil
Final Listing Decision:	Do Not List on 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision:	New Decision
Revision Status	Revised
Impairment from Pollutant or Pollution:	Pollutant
Regional Board Staff Conclusion:	This pollutant is being considered for placement on the CWA section 303(d) List under section 3.6 of the Listing Policy.

One line of evidence is available in the administrative record to assess this pollutant. The single sample result was not used in the assessment because the laboratory data was non-detect and staff determined that the organic carbon normalized method detection limit was above the guideline and therefore the results could not be quantified with the level of certainty required by the Listing Policy.

Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against placing this water segment-pollutant combination on the CWA section 303(d) List.

This conclusion is based on the staff findings that:

1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy.
2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy.
3. The single sample result was not used in the assessment because the laboratory data was non-detect and staff determined that the organic carbon normalized method detection limit was above the guideline and therefore the results could not be quantified with the level of certainty required by the Listing Policy. Therefore, this data is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating.
4. Pursuant to SECTION 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.

Regional Board Staff Decision Recommendation: After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be placed on the section 303(d) list. The readily available data and information is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating.

**Line of Evidence (LOE) for Decision ID 65782, Fipronil
Rheem Creek**

Region 2

LOE ID:	92680
Pollutant:	Fipronil
LOE Subgroup:	Pollutant-Sediment
Matrix:	Sediment
Fraction:	Total
Beneficial Use:	Cold Freshwater Habitat
Number of Samples:	0
Number of Exceedances:	0
Data and Information Type:	PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality:	One of one sample result was not used in the assessment because the laboratory data was non-detect and staff determined that the organic carbon normalized method detection limit was above the guideline and therefore the results could not be quantified with the level of certainty required by the Listing Policy.
Data Reference:	Statewide Project Urban Pyrethroid Status Monitoring
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	San Francisco Bay Basin Water Quality Control Plan 2007: All waters shall be maintained free of toxic substances in concentrations which are toxic to, or which produce detrimental physiological responses in, human, plant, animal, or aquatic life.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	The evaluation guideline for fipronil is the median lethal concentration (LC50) of 0.13 ug/g and is normalized by the percentage of organic carbon in the sediment sample (Maul et al. 2008).
Guideline Reference:	Effect of sediment-associated pyrethroids, fipronil, and metabolites on Chironomus tentans growth rate, body mass, condition index, immobilization, and survival. Environ. Toxicol. Chem. 27(12):2582-2590.

Spatial Representation:	Data for this line of evidence for Rheem Creek was collected at 1 monitoring site [Rheem Ck @ Giant Hwy station (206SUP007).]
Temporal Representation:	Data was collected on a single day 12/28/2006.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	The SWAMP QAPP (2008) was followed.
QAPP Information Reference(s):	Quality Assurance Management Plan for the State of California's Surface Water Ambient Monitoring Program. Sacramento, CA. State Water Resources Control Board. SWAMP. December 2002 (1st version).

DECISION ID	65783	Region 2
Rheem Creek		

Pollutant:	Fipronil Sulfide
Final Listing Decision:	Do Not List on 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision:	New Decision
Revision Status	Revised
Impairment from Pollutant or Pollution:	Pollutant

Regional Board Staff Conclusion: This pollutant is being considered for placement on the CWA section 303(d) List under section 3.6 of the Listing Policy.

One lines of evidence are available in the administrative record to assess this pollutant. The single sample result was not used in the assessment because the laboratory data was non-detect and staff determined that the organic carbon normalized method detection limit was above the guideline and therefore the results could not be quantified with the level of certainty required by the Listing Policy.

Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against placing this water segment-pollutant combination on the CWA section 303(d) List.

This conclusion is based on the staff findings that:

1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy.
2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy.
3. The single sample result was not used in the assessment because the laboratory data was non-detect and staff determined that the organic carbon normalized method detection limit was above the guideline and therefore the results could not be quantified with the level of certainty required by the Listing Policy. Therefore, this data is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating.
4. Pursuant to SECTION 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.

Regional Board Staff Decision Recommendation: After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be placed on the section 303(d) list. The readily available data and information is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating.

Line of Evidence (LOE) for Decision ID 65783, Fipronil Sulfide	Region 2
Rheem Creek	

LOE ID:	92681
Pollutant:	Fipronil Sulfide
LOE Subgroup:	Pollutant-Sediment
Matrix:	Sediment
Fraction:	Total

Beneficial Use:	Cold Freshwater Habitat
Number of Samples:	0
Number of Exceedances:	0
Data and Information Type:	PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality:	One of one sample result was not used in the assessment because the laboratory data was non-detect and staff determined that the organic carbon normalized method detection limit was above the guideline and therefore the results could not be quantified with the level of certainty required by the Listing Policy.
Data Reference:	Statewide Project Urban Pyrethroid Status Monitoring
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	San Francisco Bay Basin Water Quality Control Plan 2007: All waters shall be maintained free of toxic substances in concentrations which are toxic to, or which produce detrimental physiological responses in, human, plant, animal, or aquatic life.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	The evaluation guideline for fipronil sulfide is the median lethal concentration (LC50) of 0.16 ug/g and is normalized by the percentage of organic carbon in the sediment sample (Maul et al. 2008).
Guideline Reference:	Effect of sediment-associated pyrethroids, fipronil, and metabolites on Chironomus tentans growth rate, body mass, condition index, immobilization, and survival. Environ. Toxicol. Chem. 27(12):2582-2590.
Spatial Representation:	Data for this line of evidence for Rheem Creek was collected at 1 monitoring site [Rheem Ck @ Giant Hwy station (206SUP007).]
Temporal Representation:	Data was collected on a single day 12/28/2006.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	The SWAMP QAPP (2008) was followed.
QAPP Information Reference(s):	Quality Assurance Management Plan for the State of California's Surface Water Ambient Monitoring Program. Sacramento, CA. State Water Resources Control Board. SWAMP. December 2002 (1st version)

DECISION ID	65784	Region 2
Rheem Creek		
Pollutant:	Fipronil Sulfone	
Final Listing Decision:	Do Not List on 303(d) list (TMDL required list)	
Last Listing Cycle's Final Listing Decision:	New Decision	
Revision Status	Revised	
Impairment from Pollutant or Pollution:	Pollutant	
Regional Board Staff Conclusion:	<p>This pollutant is being considered for placement on the CWA section 303(d) List under section 3.6 of the Listing Policy.</p> <p>One line of evidence is available in the administrative record to assess this pollutant. The single sample result was not used in the assessment because the laboratory data was non-detect and staff determined that the organic carbon normalized method detection limit was above the guideline and therefore the results could not be quantified with the level of certainty required by the Listing Policy.</p> <p>Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against placing this water segment-pollutant combination on the CWA section 303(d) List.</p> <p>This conclusion is based on the staff findings that:</p> <ol style="list-style-type: none"> 1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy. 	

2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy.
3. The single sample result was not used in the assessment because the laboratory data was non-detect and staff determined that the organic carbon normalized method detection limit was above the guideline and therefore the results could not be quantified with the level of certainty required by the Listing Policy. Therefore, this data is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating.
4. Pursuant to SECTION 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.

Regional Board Staff Decision Recommendation: After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be placed on the section 303(d) list. The readily available data and information is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating.

Line of Evidence (LOE) for Decision ID 65784, Fipronil Sulfone

Region 2

Rheem Creek

LOE ID:	92682
Pollutant:	Fipronil Sulfone
LOE Subgroup:	Pollutant-Sediment
Matrix:	Sediment
Fraction:	Total
Beneficial Use:	Cold Freshwater Habitat
Number of Samples:	0
Number of Exceedances:	0
Data and Information Type:	PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality:	One of one sample result was not used in the assessment because the laboratory data was non-detect and staff determined that the organic carbon normalized method detection limit was above the guideline and therefore the results could not be quantified with the level of certainty required by the Listing Policy.
Data Reference:	Statewide Project Urban Pyrethroid Status Monitoring
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	San Francisco Bay Basin Water Quality Control Plan 2007: All waters shall be maintained free of toxic substances in concentrations which are toxic to, or which produce detrimental physiological responses in, human, plant, animal, or aquatic life.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	The evaluation guideline for fipronil sulfone is the median lethal concentration (LC50) of 0.12 ug/g and is normalized by the percentage of organic carbon in the sediment sample (Maul et al. 2008).
Guideline Reference:	Effect of sediment-associated pyrethroids, fipronil, and metabolites on Chironomus tentans growth rate, body mass, condition index, immobilization, and survival. Environ. Toxicol. Chem. 27(12):2582-2590.
Spatial Representation:	Data for this line of evidence for Rheem Creek was collected at 1 monitoring site [Rheem Ck @ Giant Hwy station (206SUP007).]
Temporal Representation:	Data was collected on a single day 12/28/2006.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	The SWAMP QAPP (2008) was followed.
QAPP Information Reference(s):	Quality Assurance Management Plan for the State of California's Surface Water Ambient Monitoring Program. Sacramento, CA. State Water Resources Control Board. SWAMP. December 2002 (1st version)

DECISION ID

65786

Region 2

Rheem Creek

Pollutant: Lindane/gamma Hexachlorocyclohexane (gamma-HCH)
Final Listing Decision: Do Not List on 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision: New Decision
Revision Status: Revised
Impairment from Pollutant or Pollution: Pollutant

Regional Board Staff Conclusion: This pollutant is being considered for placement on the CWA section 303(d) List under section 3.6 of the Listing Policy.

One line of evidence is available in the administrative record to assess this pollutant. The single sample did not exceed the evaluation guideline for Lindane (gamma-HCH). Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against placing this water segment-pollutant combination on the CWA section 303(d) List.

This conclusion is based on the staff findings that:

1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy.
2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy.
3. The single sample did not exceed the evaluation guideline for Lindane (gamma-HCH) and this sample size is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating.
4. Pursuant to SECTION 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.

Regional Board Staff Decision Recommendation: After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be placed on the section 303(d) list. The readily available data and information is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating.

Line of Evidence (LOE) for Decision ID 65786, Lindane/gamma Hexachlorocyclohexane (gamma-HCH)

Region 2

Rheem Creek

LOE ID: 92683

Pollutant: Lindane/gamma Hexachlorocyclohexane (gamma-HCH)
LOE Subgroup: Pollutant-Sediment
Matrix: Sediment
Fraction: Total

Beneficial Use: Cold Freshwater Habitat

Number of Samples: 1
Number of Exceedances: 0

Data and Information Type: PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality: Water Board staff assessed SWAMP data for Rheem Creek to determine beneficial use support and results are as follows: 0 of 1 samples exceed the criterion for HCH, gamma.

Data Reference: [Statewide Project Urban Pyrethroid Status Monitoring](#)

SWAMP Data: SWAMP

Water Quality Objective/Criterion: San Francisco Bay Basin Water Quality Control Plan 2007: All waters shall be maintained free of toxic substances in concentrations which are toxic to, or which produce detrimental physiological responses in, human, plant, animal, or aquatic life.

Objective/Criterion Reference: [Water Quality Control Plan \(Basin Plan\) San Francisco Bay Basin \(Region 2\)](#)

Evaluation Guideline:	In freshwater sediments the probable effect concentration (predictive of sediment toxicity for sediment-dwelling organisms) for Lindane (gamma-HCH) is 4.99 ug/Kg dry weight (MacDonald et al. 2000).
Guideline Reference:	Development and evaluation of consensus-based sediment quality guidelines for freshwater ecosystems. Environmental Contamination and Toxicology. 39: 20-31
Spatial Representation:	Data for this line of evidence for Rheem Creek was collected at 1 monitoring site [Rheem Ck @ Giant Hwy station (206SUP007).]
Temporal Representation:	Data was collected on a single day 12/28/2006.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	The SWAMP QAPP (2008) was followed.
QAPP Information Reference(s):	Quality Assurance Management Plan for the State of California's Surface Water Ambient Monitoring Program. Sacramento, CA. State Water Resources Control Board. SWAMP. December 2002 (1st version)

DECISION ID	65787	Region 2
Rheem Creek		

Pollutant:	Permethrin
Final Listing Decision:	Do Not List on 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision:	New Decision
Revision Status	Revised
Impairment from Pollutant or Pollution:	Pollutant
Regional Board Staff Conclusion:	<p>This pollutant is being considered for placement on the CWA section 303(d) List under section 3.6 of the Listing Policy.</p> <p>One line of evidence is available in the administrative record to assess this pollutant. The single sample did not exceed the evaluation guideline for permethrin.</p> <p>Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against placing this water segment-pollutant combination on the CWA section 303(d) List.</p> <p>This conclusion is based on the staff findings that:</p> <ol style="list-style-type: none"> 1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy. 2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy. 3. The single sample did not exceed the evaluation guideline for permethrin and this sample size is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating. 4. Pursuant to SECTION 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.
Regional Board Staff Decision Recommendation:	After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be placed on the section 303(d) list. The readily available data and information is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating.

Line of Evidence (LOE) for Decision ID 65787, Permethrin	Region 2
Rheem Creek	

LOE ID:	92684
Pollutant:	Permethrin, total
LOE Subgroup:	Pollutant-Sediment
Matrix:	Sediment
Fraction:	Total

Beneficial Use:	Cold Freshwater Habitat
Number of Samples:	1
Number of Exceedances:	0
Data and Information Type:	PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality:	Water Board staff assessed SWAMP data for Rheem Creek to determine beneficial use support and results are as follows: 0 of 1 samples exceed the criterion for Permethrin, Total.
Data Reference:	Statewide Project Urban Pyrethroid Status Monitoring
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	San Francisco Bay Basin Water Quality Control Plan 2007: All waters shall be maintained free of toxic substances in concentrations which are toxic to, or which produce detrimental physiological responses in, human, plant, animal, or aquatic life.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	The evaluation guideline for permethrin is the median lethal concentration (LC50) of 8.9 ug/g and is normalized by the percentage of organic carbon in the sediment sample. The LC50 8.9 ug/g is the geometric mean of LC50 values for permethrin from Amweg et al. (2005).
Guideline Reference:	Use and Toxicity of Pyrethroid Pesticides in the Central Valley, California, USA. Environmental Toxicology and Chemistry, 24:966-972, with erratum 24:No. 5
Spatial Representation:	Data for this line of evidence for Rheem Creek was collected at 1 monitoring site [Rheem Ck @ Giant Hwy station (206SUP007).]
Temporal Representation:	Data was collected on a single day 12/28/2006.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	The SWAMP QAPP (2008) was followed.
QAPP Information Reference(s):	Quality Assurance Management Plan for the State of California's Surface Water Ambient Monitoring Program. Sacramento, CA. State Water Resources Control Board. SWAMP. December 2002 (1st version)

DECISION ID	65789	Region 2
Rheem Creek		
Pollutant:	Toxicity	
Final Listing Decision:	Do Not List on 303(d) list (TMDL required list)	
Last Listing Cycle's Final Listing Decision:	New Decision	
Revision Status	Revised	
Impairment from Pollutant or Pollution:	Pollutant	
Regional Board Staff Conclusion:	<p>This pollutant is being considered for placement on the CWA section 303(d) List under section 3.6 of the Listing Policy.</p> <p>One line of evidence is available in the administrative record to assess this pollutant. The single sample exceeds the evaluation guideline for sediment toxicity.</p> <p>Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against placing this water segment-pollutant combination on the CWA section 303(d) List.</p> <p>This conclusion is based on the staff findings that:</p> <ol style="list-style-type: none"> 1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy. 2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy. 3. The single sample exceeds the evaluation guideline for sediment toxicity, however, this sample size is insufficient to determine, with the power and confidence of the Listing Policy, the applicable 	

beneficial use support rating.

4. Pursuant to SECTION 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.

Regional Board Staff Decision Recommendation: After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be placed on the section 303(d) list. The readily available data and information is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating.

Line of Evidence (LOE) for Decision ID 65789, Toxicity

Region 2

Rheem Creek

LOE ID: 90514

Pollutant: Toxicity
LOE Subgroup: Toxicity
Matrix: Sediment
Fraction: None

Beneficial Use: Cold Freshwater Habitat

Number of Samples: 1
Number of Exceedances: 1

Data and Information Type: TOXICITY TESTING
Data Used to Assess Water Quality: One samples were collected to evaluate sediment toxicity. The sample exhibited significant toxicity. The toxicity test included survival and growth of *Hyaella azteca*. One sample can have multiple toxicity test results but will be counted only once. One sample is defined as being collected on the same day at the same location with the same lab sample id (if provided).

Data Reference: [Statewide Project Urban Pyrethroid Status Monitoring](#)

SWAMP Data: SWAMP

Water Quality Objective/Criterion: All waters shall be maintained free of toxic substances in concentrations that are toxic to, or that produce detrimental physiological responses in, human, plant, animal, or aquatic life. Region 2 Basin Plan.

Objective/Criterion Reference: [Water Quality Control Plan \(Basin Plan\) - San Francisco Bay Region \(Region 2\)](#)

Evaluation Guideline: Toxicity is defined as a statistically significant effect in the sample exposure compared to the control using EPA-recommended hypothesis testing. For SWAMP data exceedances are counted with the significant effect code SL. SL is defined as the result being significant compared to the negative control based on a statistical test, less than stated the alpha level, AND less than the evaluation threshold.

Guideline Reference: [Methods for Measuring the Toxicity and Bioaccumulation of Sediment-associated Contaminants with Freshwater Invertebrates, Second Edition. U.S. Environmental Protection Agency Office of Research and Development, Duluth, MI, U.S. Environmental Protection Agency Office of Water, Washington, DC EPA-600/R-99/064](#)

Spatial Representation: The samples were collected at station 206SUP007.

Temporal Representation: The samples were collected in December 2006.

Environmental Conditions:

QAPP Information: All data was collected following the Standard Operating Procedures and Data Quality Objectives outlined in the SWAMP QAMP, (Puckett, 2002). QA data are included in submission.

QAPP Information Reference(s): [Surface Water Ambient Monitoring Program Quality Assurance Program Plan](#)

Draft California 2016 Integrated Report (303(d) List/305(b) Report)

Supporting Information

Regional Board 2 - San Francisco Bay Region

Water Body Name: Cordellia Slough, unnamed tributary
Water Body ID: CAR2072104020110629225459
Water Body Type: River & Stream

DECISION ID 61683 **Region 2**
Cordellia Slough, unnamed tributary

Pollutant: Chlordane
Final Listing Decision: Do Not List on 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision: New Decision
Revision Status: Revised
Impairment from Pollutant or Pollution: Pollutant

Regional Board Staff Conclusion: This pollutant is being considered for placement on the CWA section 303(d) List under section 3.6 of the Listing Policy.
Under section 3.6 at least two lines of evidence are necessary to assess listing status for pollutants sediment, and pollutant concentrations in sediment must be associated with sediment toxicity to justify adding that pollutant to the CWA section 303(d) List.

One line of evidence is available in the administrative record to assess this pollutant. Zero of one samples exceed the guideline.
Sediment toxicity data are not relevant to this decision because there is not enough information based on sediment chemistry.

Based on the readily available data and information, the weight of evidence indicates that there is insufficient justification for placing this water segment-pollutant combination on the CWA section 303(d) List.

This conclusion is based on the staff findings that:

1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy.
2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy.
3. Zero of one samples exceed the objective and this sample size is insufficient to determine beneficial use support, with the power and confidence of the Listing Policy. A minimum of 16 samples is needed to determine if a beneficial use is fully supported using table 3.1.
Sediment toxicity data are not associated with this decision because the sediment chemistry data are insufficient.
4. Pursuant to section 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.

Regional Board Staff Decision Recommendation: After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be placed on the section 303(d) list. The readily available data and information is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating.

Line of Evidence (LOE) for Decision ID 61683, Chlordane **Region 2**
Cordellia Slough, unnamed tributary

LOE ID: 90719

Pollutant:	Chlordane
LOE Subgroup:	Pollutant-Sediment
Matrix:	Sediment
Fraction:	Total
Beneficial Use:	Cold Freshwater Habitat
Number of Samples:	1
Number of Exceedances:	0
Data and Information Type:	PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality:	Zero of 1 samples collected exceeded the criteria for chlordane concentration (Sum of trans-Chlordane, cis-Chlordane, cis-Nonachlor, trans-Nonachlor, and Oxychlordane).
Data Reference:	Statewide Stream Pollution Trends Study 2008
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	All waters shall be maintained free of toxic substances in concentrations that are lethal to or that produce other detrimental responses in aquatic organisms. Waters shall not contain substances in concentrations that result in the deposition of material that causes nuisance or adversely affects beneficial uses. (Water Quality Control Plan for the San Francisco Bay Basin).
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	The Probable Effect Concentration for Chlordane in freshwater sediments is 17.6 ug/kg(MacDonald et al. 2000).
Guideline Reference:	Development and evaluation of consensus-based sediment quality guidelines for freshwater ecosystems. Environmental Contamination and Toxicology. 39: 20-31
Spatial Representation:	Data were collected at the following station 207SUP102 (Suisun Slough Tributary).
Temporal Representation:	The samples were collected on 1/3/2007.
Environmental Conditions:	
QAPP Information:	The SWAMP QAPP (2008) was followed.
QAPP Information Reference(s):	Surface Water Ambient Monitoring Program Quality Assurance Program Plan

DECISION ID	61684	Region 2
Cordellia Slough, unnamed tributary		

Pollutant:	DDD (Dichlorodiphenyldichloroethane)
Final Listing Decision:	Do Not List on 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision:	New Decision
Revision Status	Revised
Impairment from Pollutant or Pollution:	Pollutant
Regional Board Staff Conclusion:	<p>This pollutant is being considered for placement on the CWA section 303(d) List under section 3.1 of the Listing Policy. Under section 3.1 a single line of evidence is necessary to assess listing status. One line of evidence is available in the administrative record to assess this pollutant. Zero of one samples exceed the guideline.</p> <p>Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against placing this water segment-pollutant combination on the CWA section 303(d) List.</p> <p>This conclusion is based on the staff findings that:</p> <ol style="list-style-type: none"> 1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy. 2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy. 3. Zero of one samples exceed the guideline and this sample size is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating. A minimum of 16 samples is needed to determine if a beneficial use is fully supported using table 3.1.

4. Pursuant to SECTION 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.

Regional Board Staff Decision Recommendation: After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be placed on the section 303(d) list. The readily available data and information is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating.

Line of Evidence (LOE) for Decision ID 61684, DDD (Dichlorodiphenyldichloroethane)

Region 2

Cordellia Slough, unnamed tributary

LOE ID: 91365

Pollutant: DDD (Dichlorodiphenyldichloroethane)
LOE Subgroup: Pollutant-Sediment
Matrix: Sediment
Fraction: Total

Beneficial Use: Cold Freshwater Habitat

Number of Samples: 1
Number of Exceedances: 0

Data and Information Type: PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality: Water Board staff assessed SWAMP data for Cordellia Slough, unnamed tributary to determine beneficial use support and results are as follows: 0 of 1 samples exceed the criterion for DDD.

Data Reference: [Statewide Project Urban Pyrethroid Status Monitoring](#)

SWAMP Data: SWAMP

Water Quality Objective/Criterion: San Francisco Bay Basin Water Quality Control Plan 2007: All waters shall be maintained free of toxic substances in concentrations which are toxic to, or which produce detrimental physiological responses in, human, plant, animal, or aquatic life.

Objective/Criterion Reference: [Water Quality Control Plan \(Basin Plan\) San Francisco Bay Basin \(Region 2\)](#)

Evaluation Guideline: In freshwater sediments the probable effect concentration (predictive of sediment toxicity for sediment-dwelling organisms) for sum of DDD is 28.0 ug/Kg dry weight (MacDonald et al. 2000).

Guideline Reference: [Development and evaluation of consensus-based sediment quality guidelines for freshwater ecosystems. Environmental Contamination and Toxicology. 39: 20-31](#)

Spatial Representation: Data for this line of evidence for Cordellia Slough, unnamed tributary was collected at 1 monitoring site [Suisun Slough Tributary station (207SUP102).]

Temporal Representation: Data was collected on a single day 1/3/2007.

Environmental Conditions: Staff is not aware of any special conditions that might affect interpretation of the data.

QAPP Information: The SWAMP QAPP (2008) was followed.

QAPP Information Reference(s): [Quality Assurance Management Plan for the State of California's Surface Water Ambient Monitoring Program. Sacramento, CA. State Water Resources Control Board. SWAMP. December 2002 \(1st version\)](#)

DECISION ID 61685

Region 2

Cordellia Slough, unnamed tributary

Pollutant: DDE (Dichlorodiphenyldichloroethylene)
Final Listing Decision: Do Not List on 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision: New Decision
Revision Status: Revised

Impairment from Pollutant or Pollution:	Pollutant
Regional Board Staff Conclusion:	<p>This pollutant is being considered for placement on the CWA section 303(d) List under section 3.6 of the Listing Policy.</p> <p>Under section 3.6 at least two lines of evidence are necessary to assess listing status for pollutants sediment, and pollutant concentrations in sediment must be associated with sediment toxicity to justify adding that pollutant to the CWA section 303(d) List.</p> <p>One line of evidence is available in the administrative record to assess this pollutant. Zero of one samples exceed the guideline.</p> <p>Sediment toxicity data are not relevant to this decision because there is not enough information based on sediment chemistry.</p> <p>Based on the readily available data and information, the weight of evidence indicates that there is insufficient justification for placing this water segment-pollutant combination on the CWA section 303(d) List.</p> <p>This conclusion is based on the staff findings that:</p> <ol style="list-style-type: none"> 1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy. 2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy. 3. Zero of one samples exceed the objective and this sample size is insufficient to determine beneficial use support, with the power and confidence of the Listing Policy. A minimum of 16 samples is needed to determine if a beneficial use is fully supported using table 3.1. <p>Sediment toxicity data are not associated with this decision because the sediment chemistry data are insufficient.</p> <ol style="list-style-type: none"> 4. Pursuant to section 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.
Regional Board Staff Decision Recommendation:	After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be placed on the section 303(d) list. The readily available data and information is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating.

Line of Evidence (LOE) for Decision ID 61685, DDE (Dichlorodiphenyldichloroethylene)		Region 2
Cordellia Slough, unnamed tributary		
LOE ID:	91366	
Pollutant:	DDE (Dichlorodiphenyldichloroethylene)	
LOE Subgroup:	Pollutant-Sediment	
Matrix:	Sediment	
Fraction:	Total	
Beneficial Use:	Cold Freshwater Habitat	
Number of Samples:	1	
Number of Exceedances:	0	
Data and Information Type:	PHYSICAL/CHEMICAL MONITORING	
Data Used to Assess Water Quality:	Water Board staff assessed SWAMP data for Cordellia Slough, unnamed tributary to determine beneficial use support and results are as follows: 0 of 1 samples exceed the criterion for DDE.	
Data Reference:	Statewide Project Urban Pyrethroid Status Monitoring	
SWAMP Data:	SWAMP	
Water Quality Objective/Criterion:	San Francisco Bay Basin Water Quality Control Plan 2007: All waters shall be maintained free of toxic substances in concentrations which are toxic to, or which produce detrimental physiological responses in, human, plant, animal, or aquatic life.	

Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	In freshwater sediments the probable effect concentration (predictive of sediment toxicity for sediment-dwelling organisms) for sum of DDE is 31.3 ug/Kg dry weight (MacDonald et al. 2000).
Guideline Reference:	Development and evaluation of consensus-based sediment quality guidelines for freshwater ecosystems. Environmental Contamination and Toxicology. 39: 20-31
Spatial Representation:	Data for this line of evidence for Cordellia Slough, unnamed tributary was collected at 1 monitoring site [Suisun Slough Tributary station (207SUP102).]
Temporal Representation:	Data was collected on a single day 1/3/2007.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	The SWAMP QAPP (2008) was followed.
QAPP Information Reference(s):	Quality Assurance Management Plan for the State of California's Surface Water Ambient Monitoring Program. Sacramento, CA. State Water Resources Control Board. SWAMP. December 2002 (1st version)

DECISION ID 61780 Region 2	
Cordellia Slough, unnamed tributary	
Pollutant: Final Listing Decision: Last Listing Cycle's Final Listing Decision: Revision Status Impairment from Pollutant or Pollution:	DDT (Dichlorodiphenyltrichloroethane) Do Not List on 303(d) list (TMDL required list) New Decision Revised Pollutant
Regional Board Staff Conclusion:	<p>This pollutant is being considered for placement on the CWA section 303(d) List under section 3.6 of the Listing Policy.</p> <p>Under section 3.6 at least two lines of evidence are necessary to assess listing status for pollutants sediment, and pollutant concentrations in sediment must be associated with sediment toxicity to justify adding that pollutant to the CWA section 303(d) List.</p> <p>Two lines of evidence are available in the administrative record to assess this pollutant. Zero of one samples exceed the guideline.</p> <p>Sediment toxicity data are not relevant to this decision because there is not enough information based on sediment chemistry.</p> <p>Based on the readily available data and information, the weight of evidence indicates that there is insufficient justification for placing this water segment-pollutant combination on the CWA section 303(d) List.</p> <p>This conclusion is based on the staff findings that:</p> <ol style="list-style-type: none"> 1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy. 2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy. 3. Zero of one samples exceed the objective and this sample size is insufficient to determine beneficial use support, with the power and confidence of the Listing Policy. A minimum of 16 samples is needed to determine if a beneficial use is fully supported using table 3.1. <p>Sediment toxicity data are not associated with this decision because the sediment chemistry data are insufficient.</p> <ol style="list-style-type: none"> 4. Pursuant to section 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.
Regional Board Staff Decision Recommendation:	After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be placed on the section 303(d) list. The readily available data and information is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating.

Line of Evidence (LOE) for Decision ID 61780, DDT (Dichlorodiphenyltrichloroethane)**Region 2****Cordellia Slough, unnamed tributary**

LOE ID:	91371
Pollutant:	Total DDT (sum of 4,4'- and 2,4'- isomers of DDT, DDE, and DDD)
LOE Subgroup:	Pollutant-Sediment
Matrix:	Sediment
Fraction:	Total
Beneficial Use:	Cold Freshwater Habitat
Number of Samples:	1
Number of Exceedances:	0
Data and Information Type:	PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality:	Water Board staff assessed SWAMP data for Cordellia Slough, unnamed tributary to determine beneficial use support and results are as follows: 0 of 1 samples exceed the criterion for DDT, Total.
Data Reference:	Statewide Project Urban Pyrethroid Status Monitoring
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	San Francisco Bay Basin Water Quality Control Plan 2007: All waters shall be maintained free of toxic substances in concentrations which are toxic to, or which produce detrimental physiological responses in, human, plant, animal, or aquatic life.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	In freshwater sediments the probable effect concentration (predictive of sediment toxicity for sediment-dwelling organisms) for total DDTs is 572 ug/Kg dry weight (MacDonald et al. 2000).
Guideline Reference:	Development and evaluation of consensus-based sediment quality guidelines for freshwater ecosystems. Environmental Contamination and Toxicology. 39: 20-31
Spatial Representation:	Data for this line of evidence for Cordellia Slough, unnamed tributary was collected at 1 monitoring site [Suisun Slough Tributary station (207SUP102).]
Temporal Representation:	Data was collected on a single day 1/3/2007.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	The SWAMP QAPP (2008) was followed.
QAPP Information Reference(s):	Quality Assurance Management Plan for the State of California's Surface Water Ambient Monitoring Program. Sacramento, CA. State Water Resources Control Board. SWAMP. December 2002 (1st version)

Line of Evidence (LOE) for Decision ID 61780, DDT (Dichlorodiphenyltrichloroethane)**Region 2****Cordellia Slough, unnamed tributary**

LOE ID:	91367
Pollutant:	DDT (Dichlorodiphenyltrichloroethane)
LOE Subgroup:	Pollutant-Sediment
Matrix:	Sediment
Fraction:	Total
Beneficial Use:	Cold Freshwater Habitat
Number of Samples:	1
Number of Exceedances:	0
Data and Information Type:	PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality:	Water Board staff assessed SWAMP data for Cordellia Slough, unnamed tributary to determine beneficial use support and results are as follows: 0 of 1 samples exceed the

Data Reference:	<p>criterion for DDT.</p> <p>Statewide Project Urban Pyrethroid Status Monitoring</p>
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	San Francisco Bay Basin Water Quality Control Plan 2007: All waters shall be maintained free of toxic substances in concentrations which are toxic to, or which produce detrimental physiological responses in, human, plant, animal, or aquatic life.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	In freshwater sediments the probable effect concentration (predictive of sediment toxicity for sediment-dwelling organisms) for sum of DDT is 62.9 ug/Kg dry weight (MacDonald et al. 2000).
Guideline Reference:	Development and evaluation of consensus-based sediment quality guidelines for freshwater ecosystems. Environmental Contamination and Toxicology. 39: 20-31
Spatial Representation:	Data for this line of evidence for Cordellia Slough, unnamed tributary was collected at 1 monitoring site [Suisun Slough Tributary station (207SUP102).]
Temporal Representation:	Data was collected on a single day 1/3/2007.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	The SWAMP QAPP (2008) was followed.
QAPP Information Reference(s):	Quality Assurance Management Plan for the State of California's Surface Water Ambient Monitoring Program. Sacramento, CA. State Water Resources Control Board. SWAMP. December 2002 (1st version)

DECISION ID	61781	Region 2
Cordellia Slough, unnamed tributary		
Pollutant:	Dieldrin	
Final Listing Decision:	Do Not List on 303(d) list (TMDL required list)	
Last Listing Cycle's Final Listing Decision:	New Decision	
Revision Status	Revised	
Impairment from Pollutant or Pollution:	Pollutant	
Regional Board Staff Conclusion:	<p>This pollutant is being considered for placement on the CWA section 303(d) List under section 3.6 of the Listing Policy.</p> <p>Under section 3.6 at least two lines of evidence are necessary to assess listing status for pollutants sediment, and pollutant concentrations in sediment must be associated with sediment toxicity to justify adding that pollutant to the CWA section 303(d) List.</p> <p>One line of evidence is available in the administrative record to assess this pollutant. Zero of one samples exceed the guideline.</p> <p>Sediment toxicity data are not relevant to this decision because there is not enough information based on sediment chemistry.</p> <p>Based on the readily available data and information, the weight of evidence indicates that there is insufficient justification for placing this water segment-pollutant combination on the CWA section 303(d) List.</p> <p>This conclusion is based on the staff findings that:</p> <ol style="list-style-type: none"> 1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy. 2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy. 3. Zero of one samples exceed the objective and this sample size is insufficient to determine beneficial use support, with the power and confidence of the Listing Policy. A minimum of 16 samples is needed to determine if a beneficial use is fully supported using table 3.1. <p>Sediment toxicity data are not associated with this decision because the sediment chemistry data are insufficient.</p> <ol style="list-style-type: none"> 4. Pursuant to section 3.11 of the Listing Policy, no additional data and information are available 	

indicating that standards are not met.

Regional Board Staff Decision Recommendation: After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be placed on the section 303(d) list. The readily available data and information is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating.

**Line of Evidence (LOE) for Decision ID 61781, Dieldrin
Cordellia Slough, unnamed tributary**

Region 2

LOE ID: 91368

Pollutant: Dieldrin
LOE Subgroup: Pollutant-Sediment
Matrix: Sediment
Fraction: Total

Beneficial Use: Cold Freshwater Habitat

Number of Samples: 1
Number of Exceedances: 0

Data and Information Type: PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality: Water Board staff assessed SWAMP data for Cordellia Slough, unnamed tributary to determine beneficial use support and results are as follows: 0 of 1 samples exceed the criterion for Dieldrin.

Data Reference: [Statewide Project Urban Pyrethroid Status Monitoring](#)

SWAMP Data: SWAMP

Water Quality Objective/Criterion: San Francisco Bay Basin Water Quality Control Plan 2007: All waters shall be maintained free of toxic substances in concentrations which are toxic to, or which produce detrimental physiological responses in, human, plant, animal, or aquatic life.

Objective/Criterion Reference: [Water Quality Control Plan \(Basin Plan\) San Francisco Bay Basin \(Region 2\)](#)

Evaluation Guideline: In freshwater sediments the probable effect concentration (predictive of sediment toxicity for sediment-dwelling organisms) for dieldrin is 61.8 ug/Kg dry weight (MacDonald et al. 2000).

Guideline Reference: [Development and evaluation of consensus-based sediment quality guidelines for freshwater ecosystems. Environmental Contamination and Toxicology. 39: 20-31](#)

Spatial Representation: Data for this line of evidence for Cordellia Slough, unnamed tributary was collected at 1 monitoring site [Suisun Slough Tributary station (207SUP102).]

Temporal Representation: Data was collected on a single day 1/3/2007.

Environmental Conditions: Staff is not aware of any special conditions that might affect interpretation of the data.

QAPP Information: The SWAMP QAPP (2008) was followed.

QAPP Information Reference(s): [Quality Assurance Management Plan for the State of California's Surface Water Ambient Monitoring Program. Sacramento, CA. State Water Resources Control Board. SWAMP. December 2002 \(1st version\)](#)

**DECISION ID 61782
Cordellia Slough, unnamed tributary**

Region 2

Pollutant: Endrin
Final Listing Decision: Do Not List on 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision: New Decision
Revision Status: Revised
Impairment from Pollutant or Pollutant

Pollution:**Regional Board Staff
Conclusion:**

This pollutant is being considered for placement on the CWA section 303(d) List under section 3.6 of the Listing Policy.
Under section 3.6 at least two lines of evidence are necessary to assess listing status for pollutants sediment, and pollutant concentrations in sediment must be associated with sediment toxicity to justify adding that pollutant to the CWA section 303(d) List.

One line of evidence is available in the administrative record to assess this pollutant. Zero of one samples exceed the guideline.
Sediment toxicity data are not relevant to this decision because there is not enough information based on sediment chemistry.

Based on the readily available data and information, the weight of evidence indicates that there is insufficient justification for placing this water segment-pollutant combination on the CWA section 303(d) List.

This conclusion is based on the staff findings that:

1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy.
2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy.
3. Zero of one samples exceed the objective and this sample size is insufficient to determine beneficial use support, with the power and confidence of the Listing Policy. A minimum of 16 samples is needed to determine if a beneficial use is fully supported using table 3.1.
Sediment toxicity data are not associated with this decision because the sediment chemistry data are insufficient.
4. Pursuant to section 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.

**Regional Board Staff Decision
Recommendation:**

After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be placed on the section 303(d) list. The readily available data and information is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating.

**Line of Evidence (LOE) for Decision ID 61782, Endrin
Cordellia Slough, unnamed tributary****Region 2**

LOE ID:	91369
Pollutant:	Endrin
LOE Subgroup:	Pollutant-Sediment
Matrix:	Sediment
Fraction:	Total
Beneficial Use:	Cold Freshwater Habitat
Number of Samples:	1
Number of Exceedances:	0
Data and Information Type:	PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality:	Water Board staff assessed SWAMP data for Cordellia Slough, unnamed tributary to determine beneficial use support and results are as follows: 0 of 1 samples exceed the criterion for Endrin.
Data Reference:	Statewide Project Urban Pyrethroid Status Monitoring
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	San Francisco Bay Basin Water Quality Control Plan 2007: All waters shall be maintained free of toxic substances in concentrations which are toxic to, or which produce detrimental physiological responses in, human, plant, animal, or aquatic life.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)

Evaluation Guideline:	In freshwater sediments the probable effect concentration (predictive of sediment toxicity for sediment-dwelling organisms) for endrin is 207 ug/Kg dry weight (MacDonald et al. 2000).
Guideline Reference:	Development and evaluation of consensus-based sediment quality guidelines for freshwater ecosystems. Environmental Contamination and Toxicology. 39: 20-31
Spatial Representation:	Data for this line of evidence for Cordellia Slough, unnamed tributary was collected at 1 monitoring site [Suisun Slough Tributary station (207SUP102).]
Temporal Representation:	Data was collected on a single day 1/3/2007.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	The SWAMP QAPP (2008) was followed.
QAPP Information Reference(s):	Quality Assurance Management Plan for the State of California's Surface Water Ambient Monitoring Program. Sacramento, CA. State Water Resources Control Board. SWAMP. December 2002 (1st version)

DECISION ID 61783 Region 2	
Cordellia Slough, unnamed tributary	
Pollutant:	Lindane/gamma Hexachlorocyclohexane (gamma-HCH)
Final Listing Decision:	Do Not List on 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision:	New Decision
Revision Status	Revised
Impairment from Pollutant or Pollution:	Pollutant
Regional Board Staff Conclusion:	<p>This pollutant is being considered for placement on the CWA section 303(d) List under section 3.6 of the Listing Policy.</p> <p>Under section 3.6 at least two lines of evidence are necessary to assess listing status for pollutants sediment, and pollutant concentrations in sediment must be associated with sediment toxicity to justify adding that pollutant to the CWA section 303(d) List.</p> <p>One line of evidence is available in the administrative record to assess this pollutant. Zero of one samples exceed the guideline.</p> <p>Sediment toxicity data are not relevant to this decision because there is not enough information based on sediment chemistry.</p> <p>Based on the readily available data and information, the weight of evidence indicates that there is insufficient justification for placing this water segment-pollutant combination on the CWA section 303(d) List.</p> <p>This conclusion is based on the staff findings that:</p> <ol style="list-style-type: none"> 1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy. 2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy. 3. Zero of one samples exceed the objective and this sample size is insufficient to determine beneficial use support, with the power and confidence of the Listing Policy. A minimum of 16 samples is needed to determine if a beneficial use is fully supported using table 3.1. <p>Sediment toxicity data are not associated with this decision because the sediment chemistry data are insufficient.</p> <ol style="list-style-type: none"> 4. Pursuant to section 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.
Regional Board Staff Decision Recommendation:	After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be placed on the section 303(d) list. The readily available data and information is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating.

Line of Evidence (LOE) for Decision ID 61783, Lindane/gamma Hexachlorocyclohexane

Cordellia Slough, unnamed tributary

LOE ID:	91370
Pollutant:	Lindane/gamma Hexachlorocyclohexane (gamma-HCH)
LOE Subgroup:	Pollutant-Sediment
Matrix:	Sediment
Fraction:	Total
Beneficial Use:	Cold Freshwater Habitat
Number of Samples:	1
Number of Exceedances:	0
Data and Information Type:	PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality:	Water Board staff assessed SWAMP data for Cordellia Slough, unnamed tributary to determine beneficial use support and results are as follows: 0 of 1 samples exceed the criterion for HCH, gamma.
Data Reference:	Statewide Project Urban Pyrethroid Status Monitoring
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	San Francisco Bay Basin Water Quality Control Plan 2007: All waters shall be maintained free of toxic substances in concentrations which are toxic to, or which produce detrimental physiological responses in, human, plant, animal, or aquatic life.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	In freshwater sediments the probable effect concentration (predictive of sediment toxicity for sediment-dwelling organisms) for Lindane (gamma-HCH) is 4.99 ug/Kg dry weight (MacDonald et al. 2000).
Guideline Reference:	Development and evaluation of consensus-based sediment quality guidelines for freshwater ecosystems. Environmental Contamination and Toxicology. 39: 20-31
Spatial Representation:	Data for this line of evidence for Cordellia Slough, unnamed tributary was collected at 1 monitoring site [Suisun Slough Tributary station (207SUP102).]
Temporal Representation:	Data was collected on a single day 1/3/2007.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	The SWAMP QAPP (2008) was followed.
QAPP Information Reference(s):	Quality Assurance Management Plan for the State of California's Surface Water Ambient Monitoring Program. Sacramento, CA. State Water Resources Control Board. SWAMP. December 2002 (1st version)

DECISION ID

61785

Region 2

Cordellia Slough, unnamed tributary

Pollutant:	Toxicity
Final Listing Decision:	Do Not List on 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision:	New Decision
Revision Status	Revised
Impairment from Pollutant or Pollution:	Pollutant
Regional Board Staff Conclusion:	<p>This pollutant is being considered for placement on the CWA section 303(d) List under section 3.6 of the Listing Policy.</p> <p>Under section 3.6 just one line of evidence is necessary to assess listing status for sediment toxicity to justify adding that pollutant to the CWA section 303(d) List.</p> <p>One line of evidence is available in the administrative record to assess this pollutant. One of one</p>

samples exceed the guideline.

Based on the readily available data and information, the weight of evidence indicates that there is insufficient justification for placing this water segment-pollutant combination on the CWA section 303(d) List.

This conclusion is based on the staff findings that:

1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy.
2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy.
3. One of one samples exceed the guideline and this sample size is insufficient to determine beneficial use support, with the power and confidence of the Listing Policy. A minimum of 16 samples is needed to determine if a beneficial use is fully supported using table 3.1.
4. Pursuant to section 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.

Regional Board Staff Decision Recommendation: After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be placed on the section 303(d) list. The readily available data and information is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating.

Line of Evidence (LOE) for Decision ID 61785, Toxicity

Region 2

Cordellia Slough, unnamed tributary

LOE ID:	90508
Pollutant:	Toxicity
LOE Subgroup:	Toxicity
Matrix:	Sediment
Fraction:	None
Beneficial Use:	Cold Freshwater Habitat
Number of Samples:	1
Number of Exceedances:	1
Data and Information Type:	TOXICITY TESTING
Data Used to Assess Water Quality:	One sample was collected to evaluate sediment toxicity. The sample exhibited significant toxicity. The toxicity test included survival and growth of <i>Hyalella azteca</i> . One sample can have multiple toxicity test results but will be counted only once. One sample is defined as being collected on the same day at the same location with the same lab sample id (if provided).
Data Reference:	Statewide Project Urban Pyrethroid Status Monitoring
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	All waters shall be maintained free of toxic substances in concentrations that are toxic to, or that produce detrimental physiological responses in, human, plant, animal, or aquatic life. Region 2 Basin Plan.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) - San Francisco Bay Region (Region 2)
Evaluation Guideline:	Toxicity is defined as a statistically significant effect in the sample exposure compared to the control using EPA-recommended hypothesis testing. For SWAMP data exceedances are counted with the significant effect code SL. SL is defined as the result being significant compared to the negative control based on a statistical test, less than stated the alpha level, AND less than the evaluation threshold.
Guideline Reference:	Methods for Measuring the Toxicity and Bioaccumulation of Sediment-associated Contaminants with Freshwater Invertebrates, Second Edition, U.S. Environmental Protection Agency Office of Research and Development, Duluth, MI, U.S. Environmental Protection Agency Office of Water, Washington, DC EPA-600/R-99/064
Spatial Representation:	The sample was collected at station 207SUP102.

Temporal Representation:

Environmental Conditions:

QAPP Information:

QAPP Information Reference(s):

The sample was collected in January 2007.

All data was collected following the Standard Operating Procedures and Data Quality Objectives outlined in the SWAMP QAMP, (Puckett, 2002). QA data are included in submission.

[Surface Water Ambient Monitoring Program Quality Assurance Program Plan](#)

Draft California 2016 Integrated Report (303(d) List/305(b) Report)

Supporting Information

Regional Board 2 - San Francisco Bay Region

Water Body Name: Laurel Creek (Solano County)
Water Body ID: CAR2072300020110723181321
Water Body Type: River & Stream

DECISION ID 64988 **Region 2**
Laurel Creek (Solano County)

Pollutant: Anthracene
Final Listing Decision: Do Not List on 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision: New Decision
Revision Status Revised
Impairment from Pollutant or Pollution: Pollutant

Regional Board Staff Conclusion: This pollutant is being considered for placement on the CWA section 303(d) List under section 3.6 of the Listing Policy. Under section 3.6 at least two lines of evidence are necessary to assess listing status for pollutants sediment, and pollutant concentrations in sediment must be associated with sediment toxicity to justify adding that pollutant to the CWA section 303(d) List.

Two lines of evidence are available in the administrative record to assess this pollutant. Zero of one samples exceed the guideline. Sediment toxicity data are not associated with this decision because they are not relevant to this decision because there is insufficient information based on sediment chemistry.

Based on the readily available data and information, the weight of evidence indicates that there is insufficient justification for placing this water segment-pollutant combination on the CWA section 303(d) List.

This conclusion is based on the staff findings that:

1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy.
2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy.
3. Zero of one samples exceed the guideline and this sample size is insufficient to determine beneficial use support, with the power and confidence of the Listing Policy. A minimum of 16 samples is needed to determine if a beneficial use is fully supported using table 3.1. Sediment toxicity data are not associated with this decision because the sediment chemistry data are insufficient.
4. Pursuant to section 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.

Regional Board Staff Decision Recommendation: After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be placed on the section 303(d) list. The readily available data and information is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating.

Line of Evidence (LOE) for Decision ID 64988, Anthracene **Region 2**
Laurel Creek (Solano County)

LOE ID: 92114
Pollutant: Anthracene
LOE Subgroup: Pollutant-Sediment

Matrix:	Sediment
Fraction:	Total
Beneficial Use:	Warm Freshwater Habitat
Number of Samples:	1
Number of Exceedances:	0
Data and Information Type:	PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality:	Water Board staff assessed SWAMP data for Laurel Creek (Solano County) to determine beneficial use support and results are as follows: 0 of 1 samples exceed the criterion for Anthracene.
Data Reference:	Statewide Stream Pollution Trends Study 2008
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	San Francisco Bay Basin Water Quality Control Plan 2007: All waters shall be maintained free of toxic substances in concentrations which are toxic to, or which produce detrimental physiological responses in, human, plant, animal, or aquatic life.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	In freshwater sediments the probable effect concentration (predictive of sediment toxicity for sediment-dwelling organisms) for anthracene is 845 ug/Kg dry weight (MacDonald et al. 2000).
Guideline Reference:	Development and evaluation of consensus-based sediment quality guidelines for freshwater ecosystems. Environmental Contamination and Toxicology. 39: 20-31
Spatial Representation:	Data for this line of evidence for Laurel Creek (Solano County) was collected at 1 monitoring site [Laurel Creek @ Pintail Drive station (207LAU020)]
Temporal Representation:	Data was collected on a single day 6/17/2008.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	SWAMP data collected before September 2008 followed the QAMP (2002), however there may have been overlap in QA with SWAMP QAPP (2008).
QAPP Information Reference(s):	Quality Assurance Management Plan for the State of California's Surface Water Ambient Monitoring Program. Sacramento, CA. State Water Resources Control Board. SWAMP. December 2002 (1st version) Surface Water Ambient Monitoring Program Quality Assurance Program Plan

**Line of Evidence (LOE) for Decision ID 64988, Anthracene
Laurel Creek (Solano County)**

Region 2

LOE ID:	92115
Pollutant:	Anthracene
LOE Subgroup:	Pollutant-Sediment
Matrix:	Sediment
Fraction:	Total
Beneficial Use:	Cold Freshwater Habitat
Number of Samples:	1
Number of Exceedances:	0
Data and Information Type:	PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality:	Water Board staff assessed SWAMP data for Laurel Creek (Solano County) to determine beneficial use support and results are as follows: 0 of 1 samples exceed the criterion for Anthracene.
Data Reference:	Statewide Stream Pollution Trends Study 2008
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	San Francisco Bay Basin Water Quality Control Plan 2007: All waters shall be maintained

Objective/Criterion Reference:	free of toxic substances in concentrations which are toxic to, or which produce detrimental physiological responses in, human, plant, animal, or aquatic life. Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	In freshwater sediments the probable effect concentration (predictive of sediment toxicity for sediment-dwelling organisms) for anthracene is 845 ug/Kg dry weight (MacDonald et al. 2000).
Guideline Reference:	Development and evaluation of consensus-based sediment quality guidelines for freshwater ecosystems. Environmental Contamination and Toxicology. 39: 20-31
Spatial Representation:	Data for this line of evidence for Laurel Creek (Solano County) was collected at 1 monitoring site [Laurel Creek @ Pintail Drive station (207LAU020)]
Temporal Representation:	Data was collected on a single day 6/17/2008.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	SWAMP data collected before September 2008 followed the QAMP (2002), however there may have been overlap in QA with SWAMP QAPP (2008).
QAPP Information Reference(s):	Quality Assurance Management Plan for the State of California's Surface Water Ambient Monitoring Program. Sacramento, CA. State Water Resources Control Board. SWAMP. December 2002 (1st version) Surface Water Ambient Monitoring Program Quality Assurance Program Plan

DECISION ID	64989	Region 2
Laurel Creek (Solano County)		
Pollutant:	Arsenic	
Final Listing Decision:	Do Not List on 303(d) list (TMDL required list)	
Last Listing Cycle's Final Listing Decision:	New Decision	
Revision Status	Revised	
Impairment from Pollutant or Pollution:	Pollutant	
Regional Board Staff Conclusion:	<p>This pollutant is being considered for placement on the CWA section 303(d) List under section 3.6 of the Listing Policy. Under section 3.6 at least two lines of evidence are necessary to assess listing status for pollutants sediment, and pollutant concentrations in sediment must be associated with sediment toxicity to justify adding that pollutant to the CWA section 303(d) List.</p> <p>Two lines of evidence are available in the administrative record to assess this pollutant. Zero of one samples exceed the guideline. Sediment toxicity data are not associated with this decision because they are not relevant to this decision because there is insufficient information based on sediment chemistry.</p> <p>Based on the readily available data and information, the weight of evidence indicates that there is insufficient justification for placing this water segment-pollutant combination on the CWA section 303(d) List.</p> <p>This conclusion is based on the staff findings that:</p> <ol style="list-style-type: none"> 1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy. 2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy. 3. Zero of one samples exceed the guideline and this sample size is insufficient to determine beneficial use support, with the power and confidence of the Listing Policy. A minimum of 16 samples is needed to determine if a beneficial use is fully supported using table 3.1. Sediment toxicity data are not associated with this decision because the sediment chemistry data are insufficient. 4. Pursuant to section 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met. 	
Regional Board Staff Decision Recommendation:	After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be placed on the section 303(d) list. The readily available data and information is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating.	

**Line of Evidence (LOE) for Decision ID 64989, Arsenic
Laurel Creek (Solano County)**

Region 2

LOE ID:	92117
Pollutant:	Arsenic
LOE Subgroup:	Pollutant-Sediment
Matrix:	Sediment
Fraction:	Total
Beneficial Use:	Cold Freshwater Habitat
Number of Samples:	1
Number of Exceedances:	0
Data and Information Type:	PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality:	Water Board staff assessed SWAMP data for Laurel Creek (Solano County) to determine beneficial use support and results are as follows: 0 of 1 samples exceed the criterion for Arsenic.
Data Reference:	Statewide Stream Pollution Trends Study 2008
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	San Francisco Bay Basin Water Quality Control Plan 2007: All waters shall be maintained free of toxic substances in concentrations which are toxic to, or which produce detrimental physiological responses in, human, plant, animal, or aquatic life.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	In freshwater sediments the probable effect concentration (predictive of sediment toxicity for sediment-dwelling organisms) for arsenic is 33 mg/Kg dry weight (MacDonald et al. 2000).
Guideline Reference:	Development and evaluation of consensus-based sediment quality guidelines for freshwater ecosystems. Environmental Contamination and Toxicology. 39: 20-31
Spatial Representation:	Data for this line of evidence for Laurel Creek (Solano County) was collected at 1 monitoring site [Laurel Creek @ Pintail Drive station (207LAU020)]
Temporal Representation:	Data was collected on a single day 6/17/2008.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	SWAMP data collected before September 2008 followed the QAMP (2002), however there may have been overlap in QA with SWAMP QAPP (2008).
QAPP Information Reference(s):	Quality Assurance Management Plan for the State of California's Surface Water Ambient Monitoring Program. Sacramento, CA. State Water Resources Control Board. SWAMP. December 2002 (1st version). Surface Water Ambient Monitoring Program Quality Assurance Program Plan

**Line of Evidence (LOE) for Decision ID 64989, Arsenic
Laurel Creek (Solano County)**

Region 2

LOE ID:	92116
Pollutant:	Arsenic
LOE Subgroup:	Pollutant-Sediment
Matrix:	Sediment
Fraction:	Total
Beneficial Use:	Warm Freshwater Habitat
Number of Samples:	1
Number of Exceedances:	0

Data and Information Type:	PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality:	Water Board staff assessed SWAMP data for Laurel Creek (Solano County) to determine beneficial use support and results are as follows: 0 of 1 samples exceed the criterion for Arsenic.
Data Reference:	Statewide Stream Pollution Trends Study 2008
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	San Francisco Bay Basin Water Quality Control Plan 2007: All waters shall be maintained free of toxic substances in concentrations which are toxic to, or which produce detrimental physiological responses in, human, plant, animal, or aquatic life.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	In freshwater sediments the probable effect concentration (predictive of sediment toxicity for sediment-dwelling organisms) for arsenic is 33 mg/Kg dry weight (MacDonald et al. 2000).
Guideline Reference:	Development and evaluation of consensus-based sediment quality guidelines for freshwater ecosystems. Environmental Contamination and Toxicology. 39: 20-31
Spatial Representation:	Data for this line of evidence for Laurel Creek (Solano County) was collected at 1 monitoring site [Laurel Creek @ Pintail Drive station (207LAU020)]
Temporal Representation:	Data was collected on a single day 6/17/2008.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	SWAMP data collected before September 2008 followed the QAMP (2002), however there may have been overlap in QA with SWAMP QAPP (2008).
QAPP Information Reference(s):	Quality Assurance Management Plan for the State of California's Surface Water Ambient Monitoring Program. Sacramento, CA. State Water Resources Control Board. SWAMP. December 2002 (1st version) Surface Water Ambient Monitoring Program Quality Assurance Program Plan

DECISION ID	64990	Region 2
Laurel Creek (Solano County)		

Pollutant:	Benzo(a)anthracene
Final Listing Decision:	Do Not List on 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision:	New Decision
Revision Status	Revised
Impairment from Pollutant or Pollution:	Pollutant
Regional Board Staff Conclusion:	<p>This pollutant is being considered for placement on the CWA section 303(d) List under section 3.6 of the Listing Policy. Under section 3.6 at least two lines of evidence are necessary to assess listing status for pollutants sediment, and pollutant concentrations in sediment must be associated with sediment toxicity to justify adding that pollutant to the CWA section 303(d) List.</p> <p>Two lines of evidence are available in the administrative record to assess this pollutant. Zero of one samples exceed the guideline. Sediment toxicity data are not associated with this decision because they are not relevant to this decision because there is insufficient information based on sediment chemistry.</p> <p>Based on the readily available data and information, the weight of evidence indicates that there is insufficient justification for placing this water segment-pollutant combination on the CWA section 303(d) List.</p> <p>This conclusion is based on the staff findings that:</p> <ol style="list-style-type: none"> 1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy. 2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy. 3. Zero of one samples exceed the guideline and this sample size is insufficient to determine beneficial use support, with the power and confidence of the Listing Policy. A minimum of 16 samples

is needed to determine if a beneficial use is fully supported using table 3.1.
Sediment toxicity data are not associated with this decision because the sediment chemistry data are insufficient.
4. Pursuant to section 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.

Regional Board Staff Decision Recommendation: After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be placed on the section 303(d) list. The readily available data and information is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating.

**Line of Evidence (LOE) for Decision ID 64990, Benzo(a)anthracene
Laurel Creek (Solano County)**

Region 2

LOE ID:	92118
Pollutant:	Benzo(a)anthracene
LOE Subgroup:	Pollutant-Sediment
Matrix:	Sediment
Fraction:	Total
Beneficial Use:	Warm Freshwater Habitat
Number of Samples:	1
Number of Exceedances:	0
Data and Information Type:	PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality:	Water Board staff assessed SWAMP data for Laurel Creek (Solano County) to determine beneficial use support and results are as follows: 0 of 1 samples exceed the criterion for Benzo(a)anthracene.
Data Reference:	Statewide Stream Pollution Trends Study 2008
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	San Francisco Bay Basin Water Quality Control Plan 2007: All waters shall be maintained free of toxic substances in concentrations which are toxic to, or which produce detrimental physiological responses in, human, plant, animal, or aquatic life.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	In freshwater sediments the probable effect concentration (predictive of sediment toxicity for sediment-dwelling organisms) for Benzo(a)anthracene is 1050 ug/Kg dry weight (MacDonald et al. 2000).
Guideline Reference:	Development and evaluation of consensus-based sediment quality guidelines for freshwater ecosystems. Environmental Contamination and Toxicology. 39: 20-31
Spatial Representation:	Data for this line of evidence for Laurel Creek (Solano County) was collected at 1 monitoring site [Laurel Creek @ Pintail Drive station (207LAU020)]
Temporal Representation:	Data was collected on a single day 6/17/2008.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	SWAMP data collected before September 2008 followed the QAMP (2002), however there may have been overlap in QA with SWAMP QAPP (2008).
QAPP Information Reference(s):	Quality Assurance Management Plan for the State of California's Surface Water Ambient Monitoring Program. Sacramento, CA. State Water Resources Control Board. SWAMP. December 2002 (1st version) Surface Water Ambient Monitoring Program Quality Assurance Program Plan

**Line of Evidence (LOE) for Decision ID 64990, Benzo(a)anthracene
Laurel Creek (Solano County)**

Region 2

LOE ID: 92119

Pollutant:	Benzo(a)anthracene
LOE Subgroup:	Pollutant-Sediment
Matrix:	Sediment
Fraction:	Total
Beneficial Use:	Cold Freshwater Habitat
Number of Samples:	1
Number of Exceedances:	0
Data and Information Type:	PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality:	Water Board staff assessed SWAMP data for Laurel Creek (Solano County) to determine beneficial use support and results are as follows: 0 of 1 samples exceed the criterion for Benzo(a)anthracene.
Data Reference:	Statewide Stream Pollution Trends Study 2008
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	San Francisco Bay Basin Water Quality Control Plan 2007: All waters shall be maintained free of toxic substances in concentrations which are toxic to, or which produce detrimental physiological responses in, human, plant, animal, or aquatic life.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	In freshwater sediments the probable effect concentration (predictive of sediment toxicity for sediment-dwelling organisms) for Benzo(a)anthracene is 1050 ug/Kg dry weight (MacDonald et al. 2000).
Guideline Reference:	Development and evaluation of consensus-based sediment quality guidelines for freshwater ecosystems. Environmental Contamination and Toxicology. 39: 20-31
Spatial Representation:	Data for this line of evidence for Laurel Creek (Solano County) was collected at 1 monitoring site [Laurel Creek @ Pintail Drive station (207LAU020)]
Temporal Representation:	Data was collected on a single day 6/17/2008.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	SWAMP data collected before September 2008 followed the QAMP (2002), however there may have been overlap in QA with SWAMP QAPP (2008).
QAPP Information Reference(s):	Quality Assurance Management Plan for the State of California's Surface Water Ambient Monitoring Program. Sacramento, CA. State Water Resources Control Board. SWAMP. December 2002 (1st version). Surface Water Ambient Monitoring Program Quality Assurance Program Plan

DECISION ID	64991	Region 2
Laurel Creek (Solano County)		

Pollutant:	Benzo(a)pyrene (3,4-Benzopyrene -7-d)
Final Listing Decision:	Do Not List on 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision:	New Decision
Revision Status	Revised
Impairment from Pollutant or Pollution:	Pollutant
Regional Board Staff Conclusion:	<p>This pollutant is being considered for placement on the CWA section 303(d) List under section 3.6 of the Listing Policy. Under section 3.6 at least two lines of evidence are necessary to assess listing status for pollutants sediment, and pollutant concentrations in sediment must be associated with sediment toxicity to justify adding that pollutant to the CWA section 303(d) List.</p> <p>Two lines of evidence are available in the administrative record to assess this pollutant. Zero of one samples exceed the guideline. Sediment toxicity data are not associated with this decision because they are not relevant to this decision because there is insufficient information based on sediment chemistry.</p>

Based on the readily available data and information, the weight of evidence indicates that there is insufficient justification for placing this water segment-pollutant combination on the CWA section 303(d) List.

This conclusion is based on the staff findings that:

1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy.
2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy.
3. Zero of one samples exceed the guideline and this sample size is insufficient to determine beneficial use support, with the power and confidence of the Listing Policy. A minimum of 16 samples is needed to determine if a beneficial use is fully supported using table 3.1. Sediment toxicity data are not associated with this decision because the sediment chemistry data are insufficient.
4. Pursuant to section 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.

Regional Board Staff Decision Recommendation: After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be placed on the section 303(d) list. The readily available data and information is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating.

**Line of Evidence (LOE) for Decision ID 64991, Benzo(a)pyrene (3,4-Benzopyrene -7-d)
Laurel Creek (Solano County)**

Region 2

LOE ID:	92120
Pollutant:	Benzo(a)pyrene (3,4-Benzopyrene -7-d)
LOE Subgroup:	Pollutant-Sediment
Matrix:	Sediment
Fraction:	Total
Beneficial Use:	Warm Freshwater Habitat
Number of Samples:	1
Number of Exceedances:	0
Data and Information Type:	PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality:	Water Board staff assessed SWAMP data for Laurel Creek (Solano County) to determine beneficial use support and results are as follows: 0 of 1 samples exceed the criterion for Benzo(a)pyrene.
Data Reference:	Statewide Stream Pollution Trends Study 2008
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	San Francisco Bay Basin Water Quality Control Plan 2007: All waters shall be maintained free of toxic substances in concentrations which are toxic to, or which produce detrimental physiological responses in, human, plant, animal, or aquatic life.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	In freshwater sediments the probable effects level (predictive of sediment toxicity for sediment-dwelling organisms) for Benzo(a)Pyrene is 1450 ug/Kg dry weight (Macdonald et al. 2000)
Guideline Reference:	Development and evaluation of consensus-based sediment quality guidelines for freshwater ecosystems. Environmental Contamination and Toxicology. 39: 20-31
Spatial Representation:	Data for this line of evidence for Laurel Creek (Solano County) was collected at 1 monitoring site [Laurel Creek @ Pintail Drive station (207LAU020)]
Temporal Representation:	Data was collected on a single day 6/17/2008.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	SWAMP data collected before September 2008 followed the QAMP (2002), however there may have been overlap in QA with SWAMP QAPP (2008).

QAPP Information Reference(s): [Quality Assurance Management Plan for the State of California's Surface Water Ambient Monitoring Program. Sacramento, CA. State Water Resources Control Board. SWAMP. December 2002 \(1st version\)](#)
[Surface Water Ambient Monitoring Program Quality Assurance Program Plan](#)

Line of Evidence (LOE) for Decision ID 64991, Benzo(a)pyrene (3,4-Benzopyrene -7-d)
Laurel Creek (Solano County)

Region 2

LOE ID: 92121

Pollutant: Benzo(a)pyrene (3,4-Benzopyrene -7-d)
LOE Subgroup: Pollutant-Sediment
Matrix: Sediment
Fraction: Total

Beneficial Use: Cold Freshwater Habitat

Number of Samples: 1
Number of Exceedances: 0

Data and Information Type: PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality: Water Board staff assessed SWAMP data for Laurel Creek (Solano County) to determine beneficial use support and results are as follows: 0 of 1 samples exceed the criterion for Benzo(a)pyrene.

Data Reference: [Statewide Stream Pollution Trends Study 2008](#)

SWAMP Data: SWAMP

Water Quality Objective/Criterion: San Francisco Bay Basin Water Quality Control Plan 2007: All waters shall be maintained free of toxic substances in concentrations which are toxic to, or which produce detrimental physiological responses in, human, plant, animal, or aquatic life.

Objective/Criterion Reference: [Water Quality Control Plan \(Basin Plan\) San Francisco Bay Basin \(Region 2\)](#)

Evaluation Guideline: In freshwater sediments the probable effects level (predictive of sediment toxicity for sediment-dwelling organisms) for Benzo(a)Pyrene is 1450 ug/Kg dry weight (Macdonald et al. 2000)

Guideline Reference: [Development and evaluation of consensus-based sediment quality guidelines for freshwater ecosystems. Environmental Contamination and Toxicology. 39: 20-31](#)

Spatial Representation: Data for this line of evidence for Laurel Creek (Solano County) was collected at 1 monitoring site [Laurel Creek @ Pintail Drive station (207LAU020)]

Temporal Representation: Data was collected on a single day 6/17/2008.

Environmental Conditions: Staff is not aware of any special conditions that might affect interpretation of the data.

QAPP Information: SWAMP data collected before September 2008 followed the QAMP (2002), however there may have been overlap in QA with SWAMP QAPP (2008).

QAPP Information Reference(s): [Quality Assurance Management Plan for the State of California's Surface Water Ambient Monitoring Program. Sacramento, CA. State Water Resources Control Board. SWAMP. December 2002 \(1st version\)](#)
[Surface Water Ambient Monitoring Program Quality Assurance Program Plan](#)

DECISION ID 64992

Region 2

Laurel Creek (Solano County)

Pollutant: Bifenthrin
Final Listing Decision: Do Not List on 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision: New Decision
Revision Status: Revised
Impairment from Pollutant or Pollution: Pollutant

**Regional Board Staff
Conclusion:**

This pollutant is being considered for placement on the CWA section 303(d) List under section 3.6 of the Listing Policy. Under section 3.6 at least two lines of evidence are necessary to assess listing status for pollutants sediment, and pollutant concentrations in sediment must be associated with sediment toxicity to justify adding that pollutant to the CWA section 303(d) List.

Two lines of evidence are available in the administrative record to assess this pollutant. One of one samples exceed the guideline. Sediment toxicity data are not associated with this decision because they are not relevant to this decision because there is insufficient information based on sediment chemistry.

Based on the readily available data and information, the weight of evidence indicates that there is insufficient justification for placing this water segment-pollutant combination on the CWA section 303(d) List.

This conclusion is based on the staff findings that:

1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy.
2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy.
3. One of one samples exceed the guideline and this sample size is insufficient to determine beneficial use support, with the power and confidence of the Listing Policy. A minimum of 16 samples is needed to determine if a beneficial use is fully supported using table 3.1. Sediment toxicity data are not associated with this decision because the sediment chemistry data are insufficient.
4. Pursuant to section 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.

**Regional Board Staff Decision
Recommendation:**

After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be placed on the section 303(d) list. The readily available data and information is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating.

**Line of Evidence (LOE) for Decision ID 64992, Bifenthrin
Laurel Creek (Solano County)**

Region 2

LOE ID:	92122
Pollutant:	Bifenthrin
LOE Subgroup:	Pollutant-Sediment
Matrix:	Sediment
Fraction:	Total
Beneficial Use:	Warm Freshwater Habitat
Number of Samples:	1
Number of Exceedances:	1
Data and Information Type:	PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality:	Water Board staff assessed SWAMP data for Laurel Creek (Solano County) to determine beneficial use support and results are as follows: 1 of 1 samples exceed the criterion for Bifenthrin.
Data Reference:	Statewide Stream Pollution Trends Study 2008
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	San Francisco Bay Basin Water Quality Control Plan 2007: All waters shall be maintained free of toxic substances in concentrations which are toxic to, or which produce detrimental physiological responses in, human, plant, animal, or aquatic life.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	The evaluation guideline for bifenthrin is the median lethal concentration (LC50) of 0.43 ug/g and is normalized by the percentage of organic carbon in the sediment sample. The

Guideline Reference:	LC50 0.43 ug/g is the geometric mean of LC50 values for bifenthrin from Amweg et al. (2005) and Amweg and Weston (2007). Use and Toxicity of Pyrethroid Pesticides in the Central Valley, California, USA. Environmental Toxicology and Chemistry, 24:966-972, with erratum 24:No. 5 Whole-sediment toxicity identification evaluation tools for pyrethroid insecticides: I. piperonyl butoxide addition. Environ. Toxicol. Chem. 26:2389-2396.
Spatial Representation:	Data for this line of evidence for Laurel Creek (Solano County) was collected at 1 monitoring site [Laurel Creek @ Pintail Drive station (207LAU020)]
Temporal Representation:	Data was collected on a single day 6/17/2008.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	SWAMP data collected before September 2008 followed the QAMP (2002), however there may have been overlap in QA with SWAMP QAPP (2008).
QAPP Information Reference(s):	Quality Assurance Management Plan for the State of California's Surface Water Ambient Monitoring Program. Sacramento, CA. State Water Resources Control Board. SWAMP. December 2002 (1st version) Surface Water Ambient Monitoring Program Quality Assurance Program Plan

Line of Evidence (LOE) for Decision ID 64992, Bifenthrin

Region 2

Laurel Creek (Solano County)

LOE ID:	92123
Pollutant:	Bifenthrin
LOE Subgroup:	Pollutant-Sediment
Matrix:	Sediment
Fraction:	Total
Beneficial Use:	Cold Freshwater Habitat
Number of Samples:	1
Number of Exceedances:	1
Data and Information Type:	PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality:	Water Board staff assessed SWAMP data for Laurel Creek (Solano County) to determine beneficial use support and results are as follows: 1 of 1 samples exceed the criterion for Bifenthrin.
Data Reference:	Statewide Stream Pollution Trends Study 2008
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	San Francisco Bay Basin Water Quality Control Plan 2007: All waters shall be maintained free of toxic substances in concentrations which are toxic to, or which produce detrimental physiological responses in, human, plant, animal, or aquatic life.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	The evaluation guideline for bifenthrin is the median lethal concentration (LC50) of 0.43 ug/g and is normalized by the percentage of organic carbon in the sediment sample. The LC50 0.43 ug/g is the geometric mean of LC50 values for bifenthrin from Amweg et al. (2005) and Amweg and Weston (2007).
Guideline Reference:	Use and Toxicity of Pyrethroid Pesticides in the Central Valley, California, USA. Environmental Toxicology and Chemistry, 24:966-972, with erratum 24:No. 5 Whole-sediment toxicity identification evaluation tools for pyrethroid insecticides: I. piperonyl butoxide addition. Environ. Toxicol. Chem. 26:2389-2396.
Spatial Representation:	Data for this line of evidence for Laurel Creek (Solano County) was collected at 1 monitoring site [Laurel Creek @ Pintail Drive station (207LAU020)]
Temporal Representation:	Data was collected on a single day 6/17/2008.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	SWAMP data collected before September 2008 followed the QAMP (2002), however there may have been overlap in QA with SWAMP QAPP (2008).
QAPP Information Reference(s):	Quality Assurance Management Plan for the State of California's Surface Water Ambient

DECISION ID	64993	Region 2
Laurel Creek (Solano County)		

Pollutant: Cadmium
Final Listing Decision: Do Not List on 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision: New Decision
Revision Status: Revised
Impairment from Pollutant or Pollution: Pollutant

Regional Board Staff Conclusion: This pollutant is being considered for placement on the CWA section 303(d) List under section 3.6 of the Listing Policy. Under section 3.6 at least two lines of evidence are necessary to assess listing status for pollutants sediment, and pollutant concentrations in sediment must be associated with sediment toxicity to justify adding that pollutant to the CWA section 303(d) List.

Two lines of evidence are available in the administrative record to assess this pollutant. Zero of one samples exceed the guideline. Sediment toxicity data are not associated with this decision because they are not relevant to this decision because there is insufficient information based on sediment chemistry.

Based on the readily available data and information, the weight of evidence indicates that there is insufficient justification for placing this water segment-pollutant combination on the CWA section 303(d) List.

This conclusion is based on the staff findings that:

1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy.
2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy.
3. Zero of one samples exceed the guideline and this sample size is insufficient to determine beneficial use support, with the power and confidence of the Listing Policy. A minimum of 16 samples is needed to determine if a beneficial use is fully supported using table 3.1. Sediment toxicity data are not associated with this decision because the sediment chemistry data are insufficient.
4. Pursuant to section 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.

Regional Board Staff Decision Recommendation: After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be placed on the section 303(d) list. The readily available data and information is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating.

Line of Evidence (LOE) for Decision ID 64993, Cadmium	Region 2
Laurel Creek (Solano County)	

LOE ID: 92125
Pollutant: Cadmium
LOE Subgroup: Pollutant-Sediment
Matrix: Sediment
Fraction: Total
Beneficial Use: Cold Freshwater Habitat
Number of Samples: 1
Number of Exceedances: 0

Data and Information Type:	PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality:	Water Board staff assessed SWAMP data for Laurel Creek (Solano County) to determine beneficial use support and results are as follows: 0 of 1 samples exceed the criterion for Cadmium.
Data Reference:	Statewide Stream Pollution Trends Study 2008
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	San Francisco Bay Basin Water Quality Control Plan 2007: All waters shall be maintained free of toxic substances in concentrations which are toxic to, or which produce detrimental physiological responses in, human, plant, animal, or aquatic life.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	In freshwater sediments the probable effect concentration (predictive of sediment toxicity for sediment-dwelling organisms) for cadmium is 4.98 mg/Kg dry weight (MacDonald et al. 2000).
Guideline Reference:	Development and evaluation of consensus-based sediment quality guidelines for freshwater ecosystems. Environmental Contamination and Toxicology. 39: 20-31
Spatial Representation:	Data for this line of evidence for Laurel Creek (Solano County) was collected at 1 monitoring site [Laurel Creek @ Pintail Drive station (207LAU020)]
Temporal Representation:	Data was collected on a single day 6/17/2008.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	SWAMP data collected before September 2008 followed the QAMP (2002), however there may have been overlap in QA with SWAMP QAPP (2008).
QAPP Information Reference(s):	Quality Assurance Management Plan for the State of California's Surface Water Ambient Monitoring Program. Sacramento, CA. State Water Resources Control Board. SWAMP. December 2002 (1st version) Surface Water Ambient Monitoring Program Quality Assurance Program Plan

**Line of Evidence (LOE) for Decision ID 64993, Cadmium
Laurel Creek (Solano County)**

Region 2

LOE ID:	92124
Pollutant:	Cadmium
LOE Subgroup:	Pollutant-Sediment
Matrix:	Sediment
Fraction:	Total
Beneficial Use:	Warm Freshwater Habitat
Number of Samples:	1
Number of Exceedances:	0
Data and Information Type:	PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality:	Water Board staff assessed SWAMP data for Laurel Creek (Solano County) to determine beneficial use support and results are as follows: 0 of 1 samples exceed the criterion for Cadmium.
Data Reference:	Statewide Stream Pollution Trends Study 2008
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	San Francisco Bay Basin Water Quality Control Plan 2007: All waters shall be maintained free of toxic substances in concentrations which are toxic to, or which produce detrimental physiological responses in, human, plant, animal, or aquatic life.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	In freshwater sediments the probable effect concentration (predictive of sediment toxicity for sediment-dwelling organisms) for cadmium is 4.98 mg/Kg dry weight (MacDonald et al. 2000).

Guideline Reference:	Development and evaluation of consensus-based sediment quality guidelines for freshwater ecosystems. Environmental Contamination and Toxicology. 39: 20-31
Spatial Representation:	Data for this line of evidence for Laurel Creek (Solano County) was collected at 1 monitoring site [Laurel Creek @ Pintail Drive station (207LAU020)]
Temporal Representation:	Data was collected on a single day 6/17/2008.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	SWAMP data collected before September 2008 followed the QAMP (2002), however there may have been overlap in QA with SWAMP QAPP (2008).
QAPP Information Reference(s):	Quality Assurance Management Plan for the State of California's Surface Water Ambient Monitoring Program. Sacramento, CA. State Water Resources Control Board. SWAMP. December 2002 (1st version). Surface Water Ambient Monitoring Program Quality Assurance Program Plan

DECISION ID	64994	Region 2
Laurel Creek (Solano County)		

Pollutant:	Chlordane
Final Listing Decision:	Do Not List on 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision:	New Decision
Revision Status	Revised
Impairment from Pollutant or Pollution:	Pollutant

Regional Board Staff Conclusion:	<p>This pollutant is being considered for placement on the CWA section 303(d) List under section 3.6 of the Listing Policy. Under section 3.6 at least two lines of evidence are necessary to assess listing status for pollutants sediment, and pollutant concentrations in sediment must be associated with sediment toxicity to justify adding that pollutant to the CWA section 303(d) List.</p>
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One line of evidence is available in the administrative record to assess this pollutant. Zero of one samples exceed the guideline. Sediment toxicity data are not associated with this decision because they are not relevant to this decision because there is insufficient information based on sediment chemistry.

Based on the readily available data and information, the weight of evidence indicates that there is insufficient justification for placing this water segment-pollutant combination on the CWA section 303(d) List.

This conclusion is based on the staff findings that:

1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy.
2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy.
3. Zero of one samples exceed the guideline and this sample size is insufficient to determine beneficial use support, with the power and confidence of the Listing Policy. A minimum of 16 samples is needed to determine if a beneficial use is fully supported using table 3.1. Sediment toxicity data are not associated with this decision because the sediment chemistry data are insufficient.
4. Pursuant to section 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.

Regional Board Staff Decision Recommendation:	After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be placed on the section 303(d) list. The readily available data and information is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating.
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Line of Evidence (LOE) for Decision ID 64994, Chlordane	Region 2
Laurel Creek (Solano County)	

LOE ID:	90710
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Pollutant:	Chlordane
LOE Subgroup:	Pollutant-Sediment
Matrix:	Sediment
Fraction:	Total
Beneficial Use:	Cold Freshwater Habitat
Number of Samples:	1
Number of Exceedances:	0
Data and Information Type:	PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality:	Zero of 1 samples collected exceeded the criteria for chlordane concentration (Sum of trans-Chlordane, cis-Chlordane, cis-Nonachlor, trans-Nonachlor, and Oxychlordane).
Data Reference:	Statewide Stream Pollution Trends Study 2008
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	All waters shall be maintained free of toxic substances in concentrations that are lethal to or that produce other detrimental responses in aquatic organisms. Waters shall not contain substances in concentrations that result in the deposition of material that causes nuisance or adversely affects beneficial uses. (Water Quality Control Plan for the San Francisco Bay Basin).
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) - San Francisco Bay Region (Region 2)
Evaluation Guideline:	The Probable Effect Concentration for Chlordane in freshwater sediments is 17.6 ug/kg(MacDonald et al. 2000).
Guideline Reference:	Development and evaluation of consensus-based sediment quality guidelines for freshwater ecosystems. Environmental Contamination and Toxicology. 39: 20-31
Spatial Representation:	Data were collected at the following station 207LAU020 (Laurel Creek @ Pintail Drive).
Temporal Representation:	The samples were collected on 6/17/2008.
Environmental Conditions:	
QAPP Information:	The SWAMP QAPP (2008) was followed.
QAPP Information Reference(s):	Surface Water Ambient Monitoring Program Quality Assurance Program Plan

DECISION ID	64995	Region 2
Laurel Creek (Solano County)		

Pollutant: Final Listing Decision: Last Listing Cycle's Final Listing Decision: Revision Status Impairment from Pollutant or Pollution:	Chlorpyrifos Do Not List on 303(d) list (TMDL required list) New Decision Revised Pollutant
Regional Board Staff Conclusion:	<p>This pollutant is being considered for placement on the CWA section 303(d) List under section 3.6 of the Listing Policy. Under section 3.6 at least two lines of evidence are necessary to assess listing status for pollutants sediment, and pollutant concentrations in sediment must be associated with sediment toxicity to justify adding that pollutant to the CWA section 303(d) List.</p> <p>Two lines of evidence are available in the administrative record to assess this pollutant. Zero of one samples exceed the guideline. Sediment toxicity data are not associated with this decision because they are not relevant to this decision because there is insufficient information based on sediment chemistry.</p> <p>Based on the readily available data and information, the weight of evidence indicates that there is insufficient justification for placing this water segment-pollutant combination on the CWA section 303(d) List.</p>

This conclusion is based on the staff findings that:

1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy.
2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy.
3. Zero of one samples exceed the guideline and this sample size is insufficient to determine beneficial use support, with the power and confidence of the Listing Policy. A minimum of 16 samples is needed to determine if a beneficial use is fully supported using table 3.1. Sediment toxicity data are not associated with this decision because the sediment chemistry data are insufficient.
4. Pursuant to section 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.

Regional Board Staff Decision Recommendation: After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be placed on the section 303(d) list. The readily available data and information is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating.

**Line of Evidence (LOE) for Decision ID 64995, Chlorpyrifos
Laurel Creek (Solano County)**

Region 2

LOE ID:	92126
Pollutant:	Chlorpyrifos
LOE Subgroup:	Pollutant-Sediment
Matrix:	Sediment
Fraction:	Total
Beneficial Use:	Warm Freshwater Habitat
Number of Samples:	1
Number of Exceedances:	0
Data and Information Type:	PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality:	Water Board staff assessed SWAMP data for Laurel Creek (Solano County) to determine beneficial use support and results are as follows: 0 of 1 samples exceed the criterion for Chlorpyrifos.
Data Reference:	Statewide Stream Pollution Trends Study 2008
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	San Francisco Bay Basin Water Quality Control Plan 2007: All waters shall be maintained free of toxic substances in concentrations which are toxic to, or which produce detrimental physiological responses in, human, plant, animal, or aquatic life.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	The evaluation guideline for chlorpyrifos is the median lethal concentration (LC50) of 1.77 ug/g and is normalized by the percentage of organic carbon in the sediment sample (Amweg and Weston, 2007).
Guideline Reference:	Whole-sediment toxicity identification evaluation tools for pyrethroid insecticides: I. piperonyl butoxide addition. Environ. Toxicol. Chem. 26:2389-2396.
Spatial Representation:	Data for this line of evidence for Laurel Creek (Solano County) was collected at 1 monitoring site [Laurel Creek @ Pintail Drive station (207LAU020)]
Temporal Representation:	Data was collected on a single day 6/17/2008.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	SWAMP data collected before September 2008 followed the QAMP (2002), however there may have been overlap in QA with SWAMP QAPP (2008).
QAPP Information Reference(s):	Quality Assurance Management Plan for the State of California's Surface Water Ambient Monitoring Program. Sacramento, CA. State Water Resources Control Board. SWAMP. December 2002 (1st version). Surface Water Ambient Monitoring Program Quality Assurance Program Plan

**Line of Evidence (LOE) for Decision ID 64995, Chlorpyrifos
Laurel Creek (Solano County)**

Region 2

LOE ID:	92127
Pollutant:	Chlorpyrifos
LOE Subgroup:	Pollutant-Sediment
Matrix:	Sediment
Fraction:	Total
Beneficial Use:	Cold Freshwater Habitat
Number of Samples:	1
Number of Exceedances:	0
Data and Information Type:	PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality:	Water Board staff assessed SWAMP data for Laurel Creek (Solano County) to determine beneficial use support and results are as follows: 0 of 1 samples exceed the criterion for Chlorpyrifos.
Data Reference:	Statewide Stream Pollution Trends Study 2008
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	San Francisco Bay Basin Water Quality Control Plan 2007: All waters shall be maintained free of toxic substances in concentrations which are toxic to, or which produce detrimental physiological responses in, human, plant, animal, or aquatic life.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	The evaluation guideline for chlorpyrifos is the median lethal concentration (LC50) of 1.77 ug/g and is normalized by the percentage of organic carbon in the sediment sample (Amweg and Weston, 2007).
Guideline Reference:	Whole-sediment toxicity identification evaluation tools for pyrethroid insecticides: I. piperonyl butoxide addition. Environ. Toxicol. Chem. 26:2389-2396.
Spatial Representation:	Data for this line of evidence for Laurel Creek (Solano County) was collected at 1 monitoring site [Laurel Creek @ Pintail Drive station (207LAU020)]
Temporal Representation:	Data was collected on a single day 6/17/2008.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	SWAMP data collected before September 2008 followed the QAMP (2002), however there may have been overlap in QA with SWAMP QAPP (2008).
QAPP Information Reference(s):	Quality Assurance Management Plan for the State of California's Surface Water Ambient Monitoring Program. Sacramento, CA. State Water Resources Control Board. SWAMP. December 2002 (1st version) Surface Water Ambient Monitoring Program Quality Assurance Program Plan

DECISION ID 64996

Region 2

Laurel Creek (Solano County)

Pollutant:	Chromium
Final Listing Decision:	Do Not List on 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision:	New Decision
Revision Status	Revised
Impairment from Pollutant or Pollution:	Pollutant
Regional Board Staff Conclusion:	This pollutant is being considered for placement on the CWA section 303(d) List under section 3.6 of the Listing Policy. Under section 3.6 at least two lines of evidence are necessary to assess listing status for pollutants sediment, and pollutant concentrations in sediment must be associated with sediment toxicity to justify adding that pollutant to the CWA section 303(d) List.

Two lines of evidence are available in the administrative record to assess this pollutant. Zero of one samples exceed the guideline. Sediment toxicity data are not associated with this decision because they are not relevant to this decision because there is insufficient information based on sediment chemistry.

Based on the readily available data and information, the weight of evidence indicates that there is insufficient justification for placing this water segment-pollutant combination on the CWA section 303(d) List.

This conclusion is based on the staff findings that:

1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy.
2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy.
3. Zero of one samples exceed the guideline and this sample size is insufficient to determine beneficial use support, with the power and confidence of the Listing Policy. A minimum of 16 samples is needed to determine if a beneficial use is fully supported using table 3.1. Sediment toxicity data are not associated with this decision because the sediment chemistry data are insufficient.
4. Pursuant to section 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.

Regional Board Staff Decision Recommendation: After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be placed on the section 303(d) list. The readily available data and information is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating.

**Line of Evidence (LOE) for Decision ID 64996, Chromium
Laurel Creek (Solano County)**

Region 2

LOE ID:	92129
Pollutant:	Chromium
LOE Subgroup:	Pollutant-Sediment
Matrix:	Sediment
Fraction:	Total
Beneficial Use:	Cold Freshwater Habitat
Number of Samples:	1
Number of Exceedances:	0
Data and Information Type:	PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality:	Water Board staff assessed SWAMP data for Laurel Creek (Solano County) to determine beneficial use support and results are as follows: 0 of 1 samples exceed the criterion for Chromium.
Data Reference:	Statewide Stream Pollution Trends Study 2008
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	San Francisco Bay Basin Water Quality Control Plan 2007: All waters shall be maintained free of toxic substances in concentrations which are toxic to, or which produce detrimental physiological responses in, human, plant, animal, or aquatic life.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	In freshwater sediments the probable effect concentration (predictive of sediment toxicity for sediment-dwelling organisms) for chromium is 111 mg/Kg dry weight (MacDonald et al. 2000).
Guideline Reference:	Development and evaluation of consensus-based sediment quality guidelines for freshwater ecosystems. Environmental Contamination and Toxicology. 39: 20-31
Spatial Representation:	Data for this line of evidence for Laurel Creek (Solano County) was collected at 1

Temporal Representation:	monitoring site [Laurel Creek @ Pintail Drive station (207LAU020)]
Environmental Conditions:	Data was collected on a single day 6/17/2008.
QAPP Information:	Staff is not aware of any special conditions that might affect interpretation of the data.
	SWAMP data collected before September 2008 followed the QAMP (2002), however there may have been overlap in QA with SWAMP QAPP (2008).
QAPP Information Reference(s):	Quality Assurance Management Plan for the State of California's Surface Water Ambient Monitoring Program. Sacramento, CA. State Water Resources Control Board. SWAMP. December 2002 (1st version). Surface Water Ambient Monitoring Program Quality Assurance Program Plan

Line of Evidence (LOE) for Decision ID 64996, Chromium

Region 2

Laurel Creek (Solano County)

LOE ID:	92128
Pollutant:	Chromium
LOE Subgroup:	Pollutant-Sediment
Matrix:	Sediment
Fraction:	Total
Beneficial Use:	Warm Freshwater Habitat
Number of Samples:	1
Number of Exceedances:	0
Data and Information Type:	PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality:	Water Board staff assessed SWAMP data for Laurel Creek (Solano County) to determine beneficial use support and results are as follows: 0 of 1 samples exceed the criterion for Chromium.
Data Reference:	Statewide Stream Pollution Trends Study 2008
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	San Francisco Bay Basin Water Quality Control Plan 2007: All waters shall be maintained free of toxic substances in concentrations which are toxic to, or which produce detrimental physiological responses in, human, plant, animal, or aquatic life.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	In freshwater sediments the probable effect concentration (predictive of sediment toxicity for sediment-dwelling organisms) for chromium is 111 mg/Kg dry weight (MacDonald et al. 2000).
Guideline Reference:	Development and evaluation of consensus-based sediment quality guidelines for freshwater ecosystems. Environmental Contamination and Toxicology. 39: 20-31
Spatial Representation:	Data for this line of evidence for Laurel Creek (Solano County) was collected at 1 monitoring site [Laurel Creek @ Pintail Drive station (207LAU020)]
Temporal Representation:	Data was collected on a single day 6/17/2008.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	SWAMP data collected before September 2008 followed the QAMP (2002), however there may have been overlap in QA with SWAMP QAPP (2008).
QAPP Information Reference(s):	Quality Assurance Management Plan for the State of California's Surface Water Ambient Monitoring Program. Sacramento, CA. State Water Resources Control Board. SWAMP. December 2002 (1st version). Surface Water Ambient Monitoring Program Quality Assurance Program Plan

DECISION ID

64997

Region 2

Laurel Creek (Solano County)

Pollutant:	Chrysene (C1-C4)
Final Listing Decision:	Do Not List on 303(d) list (TMDL required list)

Last Listing Cycle's Final Listing Decision:
Revision Status
Impairment from Pollutant or Pollution:

New Decision

Revised

Pollutant

Regional Board Staff Conclusion:

This pollutant is being considered for placement on the CWA section 303(d) List under section 3.6 of the Listing Policy. Under section 3.6 at least two lines of evidence are necessary to assess listing status for pollutants sediment, and pollutant concentrations in sediment must be associated with sediment toxicity to justify adding that pollutant to the CWA section 303(d) List.

Two lines of evidence are available in the administrative record to assess this pollutant. Zero of one samples exceed the guideline. Sediment toxicity data are not associated with this decision because they are not relevant to this decision because there is insufficient information based on sediment chemistry.

Based on the readily available data and information, the weight of evidence indicates that there is insufficient justification for placing this water segment-pollutant combination on the CWA section 303(d) List.

This conclusion is based on the staff findings that:

1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy.
2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy.
3. Zero of one samples exceed the guideline and this sample size is insufficient to determine beneficial use support, with the power and confidence of the Listing Policy. A minimum of 16 samples is needed to determine if a beneficial use is fully supported using table 3.1. Sediment toxicity data are not associated with this decision because the sediment chemistry data are insufficient.
4. Pursuant to section 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.

Regional Board Staff Decision Recommendation:

After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be placed on the section 303(d) list. The readily available data and information is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating.

Line of Evidence (LOE) for Decision ID 64997, Chrysene (C1-C4)
Laurel Creek (Solano County)

Region 2

LOE ID: 92131

Pollutant: Chrysene (C1-C4)
LOE Subgroup: Pollutant-Sediment
Matrix: Sediment
Fraction: Total

Beneficial Use: Cold Freshwater Habitat

Number of Samples: 1
Number of Exceedances: 0

Data and Information Type: PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality: Water Board staff assessed SWAMP data for Laurel Creek (Solano County) to determine beneficial use support and results are as follows: 0 of 1 samples exceed the criterion for Chrysene.

Data Reference: [Statewide Stream Pollution Trends Study 2008](#)

SWAMP Data: SWAMP

Water Quality Objective/Criterion: San Francisco Bay Basin Water Quality Control Plan 2007: All waters shall be maintained free of toxic substances in concentrations which are toxic to, or which produce detrimental

Objective/Criterion Reference:	physiological responses in, human, plant, animal, or aquatic life. Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	In freshwater sediments the probable effects level (predictive of sediment toxicity for sediment-dwelling organisms) for Chrysene is 1290 ug/Kg dry weight (Macdonald et al. 2000)
Guideline Reference:	Development and evaluation of consensus-based sediment quality guidelines for freshwater ecosystems. Environmental Contamination and Toxicology. 39: 20-31
Spatial Representation:	Data for this line of evidence for Laurel Creek (Solano County) was collected at 1 monitoring site [Laurel Creek @ Pintail Drive station (207LAU020)]
Temporal Representation:	Data was collected on a single day 6/17/2008.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	SWAMP data collected before September 2008 followed the QAMP (2002), however there may have been overlap in QA with SWAMP QAPP (2008).
QAPP Information Reference(s):	Quality Assurance Management Plan for the State of California's Surface Water Ambient Monitoring Program. Sacramento, CA. State Water Resources Control Board. SWAMP. December 2002 (1st version) Surface Water Ambient Monitoring Program Quality Assurance Program Plan

Line of Evidence (LOE) for Decision ID 64997, Chrysene (C1-C4)
Laurel Creek (Solano County)

Region 2

LOE ID:	92130
Pollutant:	Chrysene (C1-C4)
LOE Subgroup:	Pollutant-Sediment
Matrix:	Sediment
Fraction:	Total
Beneficial Use:	Warm Freshwater Habitat
Number of Samples:	1
Number of Exceedances:	0
Data and Information Type:	PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality:	Water Board staff assessed SWAMP data for Laurel Creek (Solano County) to determine beneficial use support and results are as follows: 0 of 1 samples exceed the criterion for Chrysene.
Data Reference:	Statewide Stream Pollution Trends Study 2008
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	San Francisco Bay Basin Water Quality Control Plan 2007: All waters shall be maintained free of toxic substances in concentrations which are toxic to, or which produce detrimental physiological responses in, human, plant, animal, or aquatic life.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	In freshwater sediments the probable effects level (predictive of sediment toxicity for sediment-dwelling organisms) for Chrysene is 1290 ug/Kg dry weight (Macdonald et al. 2000)
Guideline Reference:	Development and evaluation of consensus-based sediment quality guidelines for freshwater ecosystems. Environmental Contamination and Toxicology. 39: 20-31
Spatial Representation:	Data for this line of evidence for Laurel Creek (Solano County) was collected at 1 monitoring site [Laurel Creek @ Pintail Drive station (207LAU020)]
Temporal Representation:	Data was collected on a single day 6/17/2008.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	SWAMP data collected before September 2008 followed the QAMP (2002), however there may have been overlap in QA with SWAMP QAPP (2008).
QAPP Information Reference(s):	Quality Assurance Management Plan for the State of California's Surface Water Ambient Monitoring Program. Sacramento, CA. State Water Resources Control Board. SWAMP.

DECISION ID	64998	Region 2
Laurel Creek (Solano County)		

Pollutant:	Copper
Final Listing Decision:	Do Not List on 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision:	New Decision
Revision Status	Revised
Impairment from Pollutant or Pollution:	Pollutant

Regional Board Staff Conclusion: This pollutant is being considered for placement on the CWA section 303(d) List under section 3.6 of the Listing Policy. Under section 3.6 at least two lines of evidence are necessary to assess listing status for pollutants sediment, and pollutant concentrations in sediment must be associated with sediment toxicity to justify adding that pollutant to the CWA section 303(d) List.

Two lines of evidence are available in the administrative record to assess this pollutant. Zero of one samples exceed the guideline. Sediment toxicity data are not associated with this decision because they are not relevant to this decision because there is insufficient information based on sediment chemistry.

Based on the readily available data and information, the weight of evidence indicates that there is insufficient justification for placing this water segment-pollutant combination on the CWA section 303(d) List.

This conclusion is based on the staff findings that:

1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy.
2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy.
3. Zero of one samples exceed the guideline and this sample size is insufficient to determine beneficial use support, with the power and confidence of the Listing Policy. A minimum of 16 samples is needed to determine if a beneficial use is fully supported using table 3.1. Sediment toxicity data are not associated with this decision because the sediment chemistry data are insufficient.
4. Pursuant to section 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.

Regional Board Staff Decision Recommendation: After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be placed on the section 303(d) list. The readily available data and information is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating.

Line of Evidence (LOE) for Decision ID 64998, Copper	Region 2
Laurel Creek (Solano County)	

LOE ID:	92133
Pollutant:	Copper
LOE Subgroup:	Pollutant-Sediment
Matrix:	Sediment
Fraction:	Total
Beneficial Use:	Cold Freshwater Habitat
Number of Samples:	1
Number of Exceedances:	0

Data and Information Type:	PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality:	Water Board staff assessed SWAMP data for Laurel Creek (Solano County) to determine beneficial use support and results are as follows: 0 of 1 samples exceed the criterion for Copper.
Data Reference:	Statewide Stream Pollution Trends Study 2008
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	San Francisco Bay Basin Water Quality Control Plan 2007: All waters shall be maintained free of toxic substances in concentrations which are toxic to, or which produce detrimental physiological responses in, human, plant, animal, or aquatic life.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	In freshwater sediments the probable effect concentration (predictive of sediment toxicity for sediment-dwelling organisms) for copper is 149 mg/Kg dry weight (MacDonald et al. 2000).
Guideline Reference:	Development and evaluation of consensus-based sediment quality guidelines for freshwater ecosystems. Environmental Contamination and Toxicology. 39: 20-31
Spatial Representation:	Data for this line of evidence for Laurel Creek (Solano County) was collected at 1 monitoring site [Laurel Creek @ Pintail Drive station (207LAU020)]
Temporal Representation:	Data was collected on a single day 6/17/2008.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	SWAMP data collected before September 2008 followed the QAMP (2002), however there may have been overlap in QA with SWAMP QAPP (2008).
QAPP Information Reference(s):	Quality Assurance Management Plan for the State of California's Surface Water Ambient Monitoring Program. Sacramento, CA. State Water Resources Control Board. SWAMP. December 2002 (1st version) Surface Water Ambient Monitoring Program Quality Assurance Program Plan

**Line of Evidence (LOE) for Decision ID 64998, Copper
Laurel Creek (Solano County)**

Region 2

LOE ID:	92132
Pollutant:	Copper
LOE Subgroup:	Pollutant-Sediment
Matrix:	Sediment
Fraction:	Total
Beneficial Use:	Warm Freshwater Habitat
Number of Samples:	1
Number of Exceedances:	0
Data and Information Type:	PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality:	Water Board staff assessed SWAMP data for Laurel Creek (Solano County) to determine beneficial use support and results are as follows: 0 of 1 samples exceed the criterion for Copper.
Data Reference:	Statewide Stream Pollution Trends Study 2008
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	San Francisco Bay Basin Water Quality Control Plan 2007: All waters shall be maintained free of toxic substances in concentrations which are toxic to, or which produce detrimental physiological responses in, human, plant, animal, or aquatic life.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	In freshwater sediments the probable effect concentration (predictive of sediment toxicity for sediment-dwelling organisms) for copper is 149 mg/Kg dry weight (MacDonald et al. 2000).
Guideline Reference:	Development and evaluation of consensus-based sediment quality guidelines for

Spatial Representation: Data for this line of evidence for Laurel Creek (Solano County) was collected at 1 monitoring site [Laurel Creek @ Pintail Drive station (207LAU020)]

Temporal Representation: Data was collected on a single day 6/17/2008.

Environmental Conditions: Staff is not aware of any special conditions that might affect interpretation of the data.

QAPP Information: SWAMP data collected before September 2008 followed the QAMP (2002), however there may have been overlap in QA with SWAMP QAPP (2008).

QAPP Information Reference(s): [Quality Assurance Management Plan for the State of California's Surface Water Ambient Monitoring Program. Sacramento, CA. State Water Resources Control Board. SWAMP. December 2002 \(1st version\).](#)
[Surface Water Ambient Monitoring Program Quality Assurance Program Plan](#)

DECISION ID	64999	Region 2
Laurel Creek (Solano County)		

Pollutant:	Cyfluthrin
Final Listing Decision:	Do Not List on 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision:	New Decision
Revision Status	Revised
Impairment from Pollutant or Pollution:	Pollutant

Regional Board Staff Conclusion: This pollutant is being considered for placement on the CWA section 303(d) List under section 3.6 of the Listing Policy. Under section 3.6 at least two lines of evidence are necessary to assess listing status for pollutants sediment, and pollutant concentrations in sediment must be associated with sediment toxicity to justify adding that pollutant to the CWA section 303(d) List.

Two lines of evidence are available in the administrative record to assess this pollutant. Zero of one samples exceed the guideline. Sediment toxicity data are not associated with this decision because they are not relevant to this decision because there is insufficient information based on sediment chemistry.

Based on the readily available data and information, the weight of evidence indicates that there is insufficient justification for placing this water segment-pollutant combination on the CWA section 303(d) List.

This conclusion is based on the staff findings that:

1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy.
2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy.
3. Zero of one samples exceed the guideline and this sample size is insufficient to determine beneficial use support, with the power and confidence of the Listing Policy. A minimum of 16 samples is needed to determine if a beneficial use is fully supported using table 3.1. Sediment toxicity data are not associated with this decision because the sediment chemistry data are insufficient.
4. Pursuant to section 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.

Regional Board Staff Decision Recommendation: After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be placed on the section 303(d) list. The readily available data and information is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating.

Line of Evidence (LOE) for Decision ID 64999, Cyfluthrin	Region 2
Laurel Creek (Solano County)	

LOE ID: 92094

Pollutant:	Cyfluthrin
LOE Subgroup:	Pollutant-Sediment
Matrix:	Sediment
Fraction:	Total
Beneficial Use:	Warm Freshwater Habitat
Number of Samples:	1
Number of Exceedances:	0
Data and Information Type:	PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality:	Water Board staff assessed SWAMP data for Laurel Creek (Solano County) to determine beneficial use support and results are as follows: 0 of 1 samples exceed the criterion for Cyfluthrin, total.
Data Reference:	Statewide Stream Pollution Trends Study 2008
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	San Francisco Bay Basin Water Quality Control Plan 2007: All waters shall be maintained free of toxic substances in concentrations which are toxic to, or which produce detrimental physiological responses in, human, plant, animal, or aquatic life.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	The evaluation guideline for cyfluthrin is the median lethal concentration (LC50) of 1.1 ug/g and is normalized by the percentage of organic carbon in the sediment sample. The LC50 1.1 ug/g is the geometric mean of LC50 values for cyfluthrin from Amweg et al. (2005).
Guideline Reference:	Use and Toxicity of Pyrethroid Pesticides in the Central Valley, California, USA. Environmental Toxicology and Chemistry, 24:966-972, with erratum 24:No. 5
Spatial Representation:	Data for this line of evidence for Laurel Creek (Solano County) was collected at 1 monitoring site [Laurel Creek @ Pintail Drive station (207LAU020)]
Temporal Representation:	Data was collected on a single day 6/17/2008.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	SWAMP data collected before September 2008 followed the QAMP (2002), however there may have been overlap in QA with SWAMP QAPP (2008).
QAPP Information Reference(s):	Quality Assurance Management Plan for the State of California's Surface Water Ambient Monitoring Program. Sacramento, CA. State Water Resources Control Board. SWAMP. December 2002 (1st version). Surface Water Ambient Monitoring Program Quality Assurance Program Plan

**Line of Evidence (LOE) for Decision ID 64999, Cyfluthrin
Laurel Creek (Solano County)**

Region 2

LOE ID:	92095
Pollutant:	Cyfluthrin
LOE Subgroup:	Pollutant-Sediment
Matrix:	Sediment
Fraction:	Total
Beneficial Use:	Cold Freshwater Habitat
Number of Samples:	1
Number of Exceedances:	0
Data and Information Type:	PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality:	Water Board staff assessed SWAMP data for Laurel Creek (Solano County) to determine beneficial use support and results are as follows: 0 of 1 samples exceed the criterion for Cyfluthrin, total.
Data Reference:	Statewide Stream Pollution Trends Study 2008

SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	San Francisco Bay Basin Water Quality Control Plan 2007: All waters shall be maintained free of toxic substances in concentrations which are toxic to, or which produce detrimental physiological responses in, human, plant, animal, or aquatic life.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	The evaluation guideline for cyfluthrin is the median lethal concentration (LC50) of 1.1 ug/g and is normalized by the percentage of organic carbon in the sediment sample. The LC50 1.1 ug/g is the geometric mean of LC50 values for cyfluthrin from Amweg et al. (2005).
Guideline Reference:	Use and Toxicity of Pyrethroid Pesticides in the Central Valley, California, USA. Environmental Toxicology and Chemistry, 24:966-972, with erratum 24:No. 5
Spatial Representation:	Data for this line of evidence for Laurel Creek (Solano County) was collected at 1 monitoring site [Laurel Creek @ Pintail Drive station (207LAU020)]
Temporal Representation:	Data was collected on a single day 6/17/2008.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	SWAMP data collected before September 2008 followed the QAMP (2002), however there may have been overlap in QA with SWAMP QAPP (2008).
QAPP Information Reference(s):	Quality Assurance Management Plan for the State of California's Surface Water Ambient Monitoring Program. Sacramento, CA. State Water Resources Control Board. SWAMP. December 2002 (1st version) Surface Water Ambient Monitoring Program Quality Assurance Program Plan

DECISION ID	65000	Region 2
Laurel Creek (Solano County)		

Pollutant:	Cyhalothrin, Lambda
Final Listing Decision:	Do Not List on 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision:	New Decision
Revision Status	Revised
Impairment from Pollutant or Pollution:	Pollutant

Regional Board Staff Conclusion:	<p>This pollutant is being considered for placement on the CWA section 303(d) List under section 3.6 of the Listing Policy. Under section 3.6 at least two lines of evidence are necessary to assess listing status for pollutants sediment, and pollutant concentrations in sediment must be associated with sediment toxicity to justify adding that pollutant to the CWA section 303(d) List.</p> <p>Two lines of evidence are available in the administrative record to assess this pollutant. Zero of one samples exceed the guideline. Sediment toxicity data are not associated with this decision because they are not relevant to this decision because there is insufficient information based on sediment chemistry.</p> <p>Based on the readily available data and information, the weight of evidence indicates that there is insufficient justification for placing this water segment-pollutant combination on the CWA section 303(d) List.</p> <p>This conclusion is based on the staff findings that:</p> <ol style="list-style-type: none"> 1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy. 2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy. 3. Zero of one samples exceed the guideline and this sample size is insufficient to determine beneficial use support, with the power and confidence of the Listing Policy. A minimum of 16 samples is needed to determine if a beneficial use is fully supported using table 3.1. Sediment toxicity data are not associated with this decision because the sediment chemistry data are insufficient. 4. Pursuant to section 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.
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Regional Board Staff Decision Recommendation: After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be placed on the section 303(d) list. The readily available data and information is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating.

**Line of Evidence (LOE) for Decision ID 65000, Cyhalothrin, Lambda
Laurel Creek (Solano County)**

Region 2

LOE ID: 92096

Pollutant: Cyhalothrin, Lambda
LOE Subgroup: Pollutant-Sediment
Matrix: Sediment
Fraction: Total

Beneficial Use: Warm Freshwater Habitat

Number of Samples: 1
Number of Exceedances: 0

Data and Information Type: PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality: Water Board staff assessed SWAMP data for Laurel Creek (Solano County) to determine beneficial use support and results are as follows: 0 of 1 samples exceed the criterion for Cyhalothrin, lambda, total.

Data Reference: [Statewide Stream Pollution Trends Study 2008](#)

SWAMP Data: SWAMP

Water Quality Objective/Criterion: San Francisco Bay Basin Water Quality Control Plan 2007: All waters shall be maintained free of toxic substances in concentrations which are toxic to, or which produce detrimental physiological responses in, human, plant, animal, or aquatic life.

Objective/Criterion Reference: [Water Quality Control Plan \(Basin Plan\) San Francisco Bay Basin \(Region 2\)](#)

Evaluation Guideline: The evaluation guideline for lambda-cyhalothrin is the median lethal concentration (LC50) of 0.44 ug/g and is normalized by the percentage of organic carbon in the sediment sample. The LC50 0.44 ug/g is the geometric mean of LC50 values for lambda-cyhalothrin from Amweg et al. (2005).

Guideline Reference: [Use and Toxicity of Pyrethroid Pesticides in the Central Valley, California, USA. Environmental Toxicology and Chemistry, 24:966-972, with erratum 24:No. 5](#)

Spatial Representation: Data for this line of evidence for Laurel Creek (Solano County) was collected at 1 monitoring site [Laurel Creek @ Pintail Drive station (207LAU020)]

Temporal Representation: Data was collected on a single day 6/17/2008.

Environmental Conditions: Staff is not aware of any special conditions that might affect interpretation of the data.

QAPP Information: SWAMP data collected before September 2008 followed the QAMP (2002), however there may have been overlap in QA with SWAMP QAPP (2008).

QAPP Information Reference(s): [Quality Assurance Management Plan for the State of California's Surface Water Ambient Monitoring Program. Sacramento, CA. State Water Resources Control Board. SWAMP. December 2002 \(1st version\)](#)
[Surface Water Ambient Monitoring Program Quality Assurance Program Plan](#)

**Line of Evidence (LOE) for Decision ID 65000, Cyhalothrin, Lambda
Laurel Creek (Solano County)**

Region 2

LOE ID: 92097

Pollutant: Cyhalothrin, Lambda
LOE Subgroup: Pollutant-Sediment
Matrix: Sediment
Fraction: Total

Beneficial Use:	Cold Freshwater Habitat
Number of Samples:	1
Number of Exceedances:	0
Data and Information Type:	PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality:	Water Board staff assessed SWAMP data for Laurel Creek (Solano County) to determine beneficial use support and results are as follows: 0 of 1 samples exceed the criterion for Cyhalothrin, lambda, total.
Data Reference:	Statewide Stream Pollution Trends Study 2008
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	San Francisco Bay Basin Water Quality Control Plan 2007: All waters shall be maintained free of toxic substances in concentrations which are toxic to, or which produce detrimental physiological responses in, human, plant, animal, or aquatic life.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	The evaluation guideline for lambda-cyhalothrin is the median lethal concentration (LC50) of 0.44 ug/g and is normalized by the percentage of organic carbon in the sediment sample. The LC50 0.44 ug/g is the geometric mean of LC50 values for lambda-cyhalothrin from Amweg et al. (2005).
Guideline Reference:	Use and Toxicity of Pyrethroid Pesticides in the Central Valley, California, USA. Environmental Toxicology and Chemistry, 24:966-972, with erratum 24:No. 5
Spatial Representation:	Data for this line of evidence for Laurel Creek (Solano County) was collected at 1 monitoring site [Laurel Creek @ Pintail Drive station (207LAU020)]
Temporal Representation:	Data was collected on a single day 6/17/2008.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	SWAMP data collected before September 2008 followed the QAMP (2002), however there may have been overlap in QA with SWAMP QAPP (2008).
QAPP Information Reference(s):	Quality Assurance Management Plan for the State of California's Surface Water Ambient Monitoring Program. Sacramento, CA. State Water Resources Control Board. SWAMP. December 2002 (1st version) Surface Water Ambient Monitoring Program Quality Assurance Program Plan

DECISION ID	65001	Region 2
Laurel Creek (Solano County)		

Pollutant:	Cypermethrin
Final Listing Decision:	Do Not List on 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision:	New Decision
Revision Status	Revised
Impairment from Pollutant or Pollution:	Pollutant
Regional Board Staff Conclusion:	<p>This pollutant is being considered for placement on the CWA section 303(d) List under section 3.6 of the Listing Policy. Under section 3.6 at least two lines of evidence are necessary to assess listing status for pollutants sediment, and pollutant concentrations in sediment must be associated with sediment toxicity to justify adding that pollutant to the CWA section 303(d) List.</p> <p>Two lines of evidence are available in the administrative record to assess this pollutant. Zero of one samples exceed the guideline. Sediment toxicity data are not associated with this decision because they are not relevant to this decision because there is insufficient information based on sediment chemistry.</p> <p>Based on the readily available data and information, the weight of evidence indicates that there is insufficient justification for placing this water segment-pollutant combination on the CWA section 303(d) List.</p>

This conclusion is based on the staff findings that:

1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy.
2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy.
3. Zero of one samples exceed the guideline and this sample size is insufficient to determine beneficial use support, with the power and confidence of the Listing Policy. A minimum of 16 samples is needed to determine if a beneficial use is fully supported using table 3.1. Sediment toxicity data are not associated with this decision because the sediment chemistry data are insufficient.
4. Pursuant to section 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.

Regional Board Staff Decision Recommendation: After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be placed on the section 303(d) list. The readily available data and information is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating.

**Line of Evidence (LOE) for Decision ID 65001, Cypermethrin
Laurel Creek (Solano County)**

Region 2

LOE ID:	92099
Pollutant:	Cypermethrin
LOE Subgroup:	Pollutant-Sediment
Matrix:	Sediment
Fraction:	Total
Beneficial Use:	Cold Freshwater Habitat
Number of Samples:	1
Number of Exceedances:	0
Data and Information Type:	PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality:	Water Board staff assessed SWAMP data for Laurel Creek (Solano County) to determine beneficial use support and results are as follows: 0 of 1 samples exceed the criterion for Cypermethrin, total.
Data Reference:	Statewide Stream Pollution Trends Study 2008
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	San Francisco Bay Basin Water Quality Control Plan 2007: All waters shall be maintained free of toxic substances in concentrations which are toxic to, or which produce detrimental physiological responses in, human, plant, animal, or aquatic life.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	The evaluation guideline for cypermethrin is the median lethal concentration (LC50) of 0.3 ug/g and is normalized by the percentage of organic carbon in the sediment sample. The LC50 0.3 ug/g is the geometric mean of LC50 values for cypermethrin from Maund et al. (2002).
Guideline Reference:	Partitioning, bioavailability, and toxicity of the pyrethroid insecticide cypermethrin in sediments. Environmental Toxicology and Chemistry 21:9-15
Spatial Representation:	Data for this line of evidence for Laurel Creek (Solano County) was collected at 1 monitoring site [Laurel Creek @ Pintail Drive station (207LAU020)]
Temporal Representation:	Data was collected on a single day 6/17/2008.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	SWAMP data collected before September 2008 followed the QAMP (2002), however there may have been overlap in QA with SWAMP QAPP (2008).
QAPP Information Reference(s):	Quality Assurance Management Plan for the State of California's Surface Water Ambient Monitoring Program. Sacramento, CA. State Water Resources Control Board. SWAMP. December 2002 (1st version)

**Line of Evidence (LOE) for Decision ID 65001, Cypermethrin
Laurel Creek (Solano County)**

Region 2

LOE ID:	92098
Pollutant:	Cypermethrin
LOE Subgroup:	Pollutant-Sediment
Matrix:	Sediment
Fraction:	Total
Beneficial Use:	Warm Freshwater Habitat
Number of Samples:	1
Number of Exceedances:	0
Data and Information Type:	PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality:	Water Board staff assessed SWAMP data for Laurel Creek (Solano County) to determine beneficial use support and results are as follows: 0 of 1 samples exceed the criterion for Cypermethrin, total.
Data Reference:	Statewide Stream Pollution Trends Study 2008
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	San Francisco Bay Basin Water Quality Control Plan 2007: All waters shall be maintained free of toxic substances in concentrations which are toxic to, or which produce detrimental physiological responses in, human, plant, animal, or aquatic life.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	The evaluation guideline for cypermethrin is the median lethal concentration (LC50) of 0.3 ug/g and is normalized by the percentage of organic carbon in the sediment sample. The LC50 0.3 ug/g is the geometric mean of LC50 values for cypermethrin from Maund et al. (2002).
Guideline Reference:	Partitioning, bioavailability, and toxicity of the pyrethroid insecticide cypermethrin in sediments. Environmental Toxicology and Chemistry 21:9-15
Spatial Representation:	Data for this line of evidence for Laurel Creek (Solano County) was collected at 1 monitoring site [Laurel Creek @ Pintail Drive station (207LAU020)]
Temporal Representation:	Data was collected on a single day 6/17/2008.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	SWAMP data collected before September 2008 followed the QAMP (2002), however there may have been overlap in QA with SWAMP QAPP (2008).
QAPP Information Reference(s):	Quality Assurance Management Plan for the State of California's Surface Water Ambient Monitoring Program, Sacramento, CA. State Water Resources Control Board. SWAMP. December 2002 (1st version) Surface Water Ambient Monitoring Program Quality Assurance Program Plan

DECISION ID 65002

Region 2

Laurel Creek (Solano County)

Pollutant:	DDD (Dichlorodiphenyldichloroethane)
Final Listing Decision:	Do Not List on 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision:	New Decision
Revision Status	Revised
Impairment from Pollutant or Pollution:	Pollutant

Regional Board Staff This pollutant is being considered for placement on the CWA section 303(d) List under section 3.6 of

Conclusion:

the Listing Policy. Under section 3.6 at least two lines of evidence are necessary to assess listing status for pollutants sediment, and pollutant concentrations in sediment must be associated with sediment toxicity to justify adding that pollutant to the CWA section 303(d) List.

Two lines of evidence are available in the administrative record to assess this pollutant. Zero of one samples exceed the guideline. Sediment toxicity data are not associated with this decision because they are not relevant to this decision because there is insufficient information based on sediment chemistry.

Based on the readily available data and information, the weight of evidence indicates that there is insufficient justification for placing this water segment-pollutant combination on the CWA section 303(d) List.

This conclusion is based on the staff findings that:

1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy.
2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy.
3. Zero of one samples exceed the guideline and this sample size is insufficient to determine beneficial use support, with the power and confidence of the Listing Policy. A minimum of 16 samples is needed to determine if a beneficial use is fully supported using table 3.1. Sediment toxicity data are not associated with this decision because the sediment chemistry data are insufficient.
4. Pursuant to section 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.

Regional Board Staff Decision Recommendation:

After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be placed on the section 303(d) list. The readily available data and information is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating.

**Line of Evidence (LOE) for Decision ID 65002, DDD (Dichlorodiphenyldichloroethane)
Laurel Creek (Solano County)****Region 2**

LOE ID: 92101

Pollutant: DDD (Dichlorodiphenyldichloroethane)

LOE Subgroup: Pollutant-Sediment

Matrix: Sediment

Fraction: Total

Beneficial Use: Cold Freshwater Habitat

Number of Samples: 1

Number of Exceedances: 0

Data and Information Type: PHYSICAL/CHEMICAL MONITORING

Data Used to Assess Water Quality: Water Board staff assessed SWAMP data for Laurel Creek (Solano County) to determine beneficial use support and results are as follows: 0 of 1 samples exceed the criterion for DDD.

Data Reference: [Statewide Stream Pollution Trends Study 2008](#)

SWAMP Data: SWAMP

Water Quality Objective/Criterion: San Francisco Bay Basin Water Quality Control Plan 2007: All waters shall be maintained free of toxic substances in concentrations which are toxic to, or which produce detrimental physiological responses in, human, plant, animal, or aquatic life.

Objective/Criterion Reference: [Water Quality Control Plan \(Basin Plan\) San Francisco Bay Basin \(Region 2\)](#)

Evaluation Guideline: In freshwater sediments the probable effect concentration (predictive of sediment toxicity for sediment-dwelling organisms) for sum of DDD is 28.0 ug/Kg dry weight (MacDonald et al. 2000).

Guideline Reference: [Development and evaluation of consensus-based sediment quality guidelines for](#)

Spatial Representation: Data for this line of evidence for Laurel Creek (Solano County) was collected at 1 monitoring site [Laurel Creek @ Pintail Drive station (207LAU020)]

Temporal Representation: Data was collected on a single day 6/17/2008.

Environmental Conditions: Staff is not aware of any special conditions that might affect interpretation of the data.

QAPP Information: SWAMP data collected before September 2008 followed the QAMP (2002), however there may have been overlap in QA with SWAMP QAPP (2008).

QAPP Information Reference(s): [Quality Assurance Management Plan for the State of California's Surface Water Ambient Monitoring Program. Sacramento, CA. State Water Resources Control Board. SWAMP. December 2002 \(1st version\)](#)
[Surface Water Ambient Monitoring Program Quality Assurance Program Plan](#)

Line of Evidence (LOE) for Decision ID 65002, DDD (Dichlorodiphenyldichloroethane)
Laurel Creek (Solano County)

Region 2

LOE ID: 92100

Pollutant: DDD (Dichlorodiphenyldichloroethane)

LOE Subgroup: Pollutant-Sediment

Matrix: Sediment

Fraction: Total

Beneficial Use: Warm Freshwater Habitat

Number of Samples: 1

Number of Exceedances: 0

Data and Information Type: PHYSICAL/CHEMICAL MONITORING

Data Used to Assess Water Quality: Water Board staff assessed SWAMP data for Laurel Creek (Solano County) to determine beneficial use support and results are as follows: 0 of 1 samples exceed the criterion for DDD.

Data Reference: [Statewide Stream Pollution Trends Study 2008](#)

SWAMP Data: SWAMP

Water Quality Objective/Criterion: San Francisco Bay Basin Water Quality Control Plan 2007: All waters shall be maintained free of toxic substances in concentrations which are toxic to, or which produce detrimental physiological responses in, human, plant, animal, or aquatic life.

Objective/Criterion Reference: [Water Quality Control Plan \(Basin Plan\) San Francisco Bay Basin \(Region 2\)](#)

Evaluation Guideline: In freshwater sediments the probable effect concentration (predictive of sediment toxicity for sediment-dwelling organisms) for sum of DDD is 28.0 ug/Kg dry weight (MacDonald et al. 2000).

Guideline Reference: [Development and evaluation of consensus-based sediment quality guidelines for freshwater ecosystems. Environmental Contamination and Toxicology. 39: 20-31](#)

Spatial Representation: Data for this line of evidence for Laurel Creek (Solano County) was collected at 1 monitoring site [Laurel Creek @ Pintail Drive station (207LAU020)]

Temporal Representation: Data was collected on a single day 6/17/2008.

Environmental Conditions: Staff is not aware of any special conditions that might affect interpretation of the data.

QAPP Information: SWAMP data collected before September 2008 followed the QAMP (2002), however there may have been overlap in QA with SWAMP QAPP (2008).

QAPP Information Reference(s): [Quality Assurance Management Plan for the State of California's Surface Water Ambient Monitoring Program. Sacramento, CA. State Water Resources Control Board. SWAMP. December 2002 \(1st version\)](#)
[Surface Water Ambient Monitoring Program Quality Assurance Program Plan](#)

Pollutant:	DDE (Dichlorodiphenyldichloroethylene)
Final Listing Decision:	Do Not List on 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision:	New Decision
Revision Status	Revised
Impairment from Pollutant or Pollution:	Pollutant

Regional Board Staff Conclusion:

This pollutant is being considered for placement on the CWA section 303(d) List under section 3.6 of the Listing Policy. Under section 3.6 at least two lines of evidence are necessary to assess listing status for pollutants sediment, and pollutant concentrations in sediment must be associated with sediment toxicity to justify adding that pollutant to the CWA section 303(d) List.

Two lines of evidence are available in the administrative record to assess this pollutant. Zero of one samples exceed the guideline. Sediment toxicity data are not associated with this decision because they are not relevant to this decision because there is insufficient information based on sediment chemistry.

Based on the readily available data and information, the weight of evidence indicates that there is insufficient justification for placing this water segment-pollutant combination on the CWA section 303(d) List.

This conclusion is based on the staff findings that:

1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy.
2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy.
3. Zero of one samples exceed the guideline and this sample size is insufficient to determine beneficial use support, with the power and confidence of the Listing Policy. A minimum of 16 samples is needed to determine if a beneficial use is fully supported using table 3.1. Sediment toxicity data are not associated with this decision because the sediment chemistry data are insufficient.
4. Pursuant to section 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.

Regional Board Staff Decision Recommendation:

After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be placed on the section 303(d) list. The readily available data and information is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating.

Line of Evidence (LOE) for Decision ID 65003, DDE (Dichlorodiphenyldichloroethylene)
Laurel Creek (Solano County)

Region 2

LOE ID:	92102
Pollutant:	DDE (Dichlorodiphenyldichloroethylene)
LOE Subgroup:	Pollutant-Sediment
Matrix:	Sediment
Fraction:	Total
Beneficial Use:	Warm Freshwater Habitat
Number of Samples:	1
Number of Exceedances:	0
Data and Information Type:	PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality:	Water Board staff assessed SWAMP data for Laurel Creek (Solano County) to determine beneficial use support and results are as follows: 0 of 1 samples exceed the criterion for DDE.
Data Reference:	Statewide Stream Pollution Trends Study 2008
SWAMP Data:	SWAMP

Water Quality Objective/Criterion:	San Francisco Bay Basin Water Quality Control Plan 2007: All waters shall be maintained free of toxic substances in concentrations which are toxic to, or which produce detrimental physiological responses in, human, plant, animal, or aquatic life.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	In freshwater sediments the probable effect concentration (predictive of sediment toxicity for sediment-dwelling organisms) for sum of DDE is 31.3 ug/Kg dry weight (MacDonald et al. 2000).
Guideline Reference:	Development and evaluation of consensus-based sediment quality guidelines for freshwater ecosystems. Environmental Contamination and Toxicology. 39: 20-31
Spatial Representation:	Data for this line of evidence for Laurel Creek (Solano County) was collected at 1 monitoring site [Laurel Creek @ Pintail Drive station (207LAU020)]
Temporal Representation:	Data was collected on a single day 6/17/2008.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	SWAMP data collected before September 2008 followed the QAMP (2002), however there may have been overlap in QA with SWAMP QAPP (2008).
QAPP Information Reference(s):	Quality Assurance Management Plan for the State of California's Surface Water Ambient Monitoring Program. Sacramento, CA. State Water Resources Control Board. SWAMP. December 2002 (1st version) Surface Water Ambient Monitoring Program Quality Assurance Program Plan

Line of Evidence (LOE) for Decision ID 65003, DDE (Dichlorodiphenyldichloroethylene)

Region 2

Laurel Creek (Solano County)

LOE ID:	92103
Pollutant:	DDE (Dichlorodiphenyldichloroethylene)
LOE Subgroup:	Pollutant-Sediment
Matrix:	Sediment
Fraction:	Total
Beneficial Use:	Cold Freshwater Habitat
Number of Samples:	1
Number of Exceedances:	0
Data and Information Type:	PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality:	Water Board staff assessed SWAMP data for Laurel Creek (Solano County) to determine beneficial use support and results are as follows: 0 of 1 samples exceed the criterion for DDE.
Data Reference:	Statewide Stream Pollution Trends Study 2008
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	San Francisco Bay Basin Water Quality Control Plan 2007: All waters shall be maintained free of toxic substances in concentrations which are toxic to, or which produce detrimental physiological responses in, human, plant, animal, or aquatic life.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	In freshwater sediments the probable effect concentration (predictive of sediment toxicity for sediment-dwelling organisms) for sum of DDE is 31.3 ug/Kg dry weight (MacDonald et al. 2000).
Guideline Reference:	Development and evaluation of consensus-based sediment quality guidelines for freshwater ecosystems. Environmental Contamination and Toxicology. 39: 20-31
Spatial Representation:	Data for this line of evidence for Laurel Creek (Solano County) was collected at 1 monitoring site [Laurel Creek @ Pintail Drive station (207LAU020)]
Temporal Representation:	Data was collected on a single day 6/17/2008.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	SWAMP data collected before September 2008 followed the QAMP (2002), however there

QAPP Information Reference(s):

may have been overlap in QA with SWAMP QAPP (2008).

[Quality Assurance Management Plan for the State of California's Surface Water Ambient Monitoring Program. Sacramento, CA. State Water Resources Control Board. SWAMP. December 2002 \(1st version\)](#)
[Surface Water Ambient Monitoring Program Quality Assurance Program Plan](#)

DECISION ID	65004	Region 2
Laurel Creek (Solano County)		

Pollutant: DDT (Dichlorodiphenyltrichloroethane)
Final Listing Decision: Do Not List on 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision: New Decision
Revision Status: Revised
Impairment from Pollutant or Pollution: Pollutant

Regional Board Staff Conclusion:

This pollutant is being considered for placement on the CWA section 303(d) List under section 3.6 of the Listing Policy. Under section 3.6 at least two lines of evidence are necessary to assess listing status for pollutants sediment, and pollutant concentrations in sediment must be associated with sediment toxicity to justify adding that pollutant to the CWA section 303(d) List.

Four lines of evidence are available in the administrative record to assess this pollutant. Zero of one samples exceed the guideline. Sediment toxicity data are not associated with this decision because they are not relevant to this decision because there is insufficient information based on sediment chemistry.

Based on the readily available data and information, the weight of evidence indicates that there is insufficient justification for placing this water segment-pollutant combination on the CWA section 303(d) List.

This conclusion is based on the staff findings that:

1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy.
2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy.
3. Zero of one samples exceed the guideline and this sample size is insufficient to determine beneficial use support, with the power and confidence of the Listing Policy. A minimum of 16 samples is needed to determine if a beneficial use is fully supported using table 3.1. Sediment toxicity data are not associated with this decision because the sediment chemistry data are insufficient.
4. Pursuant to section 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.

Regional Board Staff Decision Recommendation: After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be placed on the section 303(d) list. The readily available data and information is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating.

Line of Evidence (LOE) for Decision ID 65004, DDT (Dichlorodiphenyltrichloroethane)	Region 2
Laurel Creek (Solano County)	

LOE ID: 92146
Pollutant: Total DDT (sum of 4,4'- and 2,4'- isomers of DDT, DDE, and DDD)
LOE Subgroup: Pollutant-Sediment
Matrix: Sediment
Fraction: Total
Beneficial Use: Warm Freshwater Habitat

Number of Samples:	1
Number of Exceedances:	0
Data and Information Type:	PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality:	Water Board staff assessed SWAMP data for Laurel Creek (Solano County) to determine beneficial use support and results are as follows: 0 of 1 samples exceed the criterion for DDT, Total.
Data Reference:	Statewide Stream Pollution Trends Study 2008
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	San Francisco Bay Basin Water Quality Control Plan 2007: All waters shall be maintained free of toxic substances in concentrations which are toxic to, or which produce detrimental physiological responses in, human, plant, animal, or aquatic life.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	In freshwater sediments the probable effect concentration (predictive of sediment toxicity for sediment-dwelling organisms) for total DDTs is 572 ug/Kg dry weight (MacDonald et al. 2000).
Guideline Reference:	Development and evaluation of consensus-based sediment quality guidelines for freshwater ecosystems. Environmental Contamination and Toxicology. 39: 20-31
Spatial Representation:	Data for this line of evidence for Laurel Creek (Solano County) was collected at 1 monitoring site [Laurel Creek @ Pintail Drive station (207LAU020)]
Temporal Representation:	Data was collected on a single day 6/17/2008.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	SWAMP data collected before September 2008 followed the QAMP (2002), however there may have been overlap in QA with SWAMP QAPP (2008).
QAPP Information Reference(s):	Quality Assurance Management Plan for the State of California's Surface Water Ambient Monitoring Program. Sacramento, CA. State Water Resources Control Board. SWAMP. December 2002 (1st version) Surface Water Ambient Monitoring Program Quality Assurance Program Plan

Line of Evidence (LOE) for Decision ID 65004, DDT (Dichlorodiphenyltrichloroethane)
Laurel Creek (Solano County)

Region 2

LOE ID:	92147
Pollutant:	Total DDT (sum of 4,4'- and 2,4'- isomers of DDT, DDE, and DDD)
LOE Subgroup:	Pollutant-Sediment
Matrix:	Sediment
Fraction:	Total
Beneficial Use:	Cold Freshwater Habitat
Number of Samples:	1
Number of Exceedances:	0
Data and Information Type:	PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality:	Water Board staff assessed SWAMP data for Laurel Creek (Solano County) to determine beneficial use support and results are as follows: 0 of 1 samples exceed the criterion for DDT, Total.
Data Reference:	Statewide Stream Pollution Trends Study 2008
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	San Francisco Bay Basin Water Quality Control Plan 2007: All waters shall be maintained free of toxic substances in concentrations which are toxic to, or which produce detrimental physiological responses in, human, plant, animal, or aquatic life.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	In freshwater sediments the probable effect concentration (predictive of sediment toxicity

	for sediment-dwelling organisms) for total DDTs is 572 ug/Kg dry weight (MacDonald et al. 2000).
Guideline Reference:	Development and evaluation of consensus-based sediment quality guidelines for freshwater ecosystems. Environmental Contamination and Toxicology. 39: 20-31
Spatial Representation:	Data for this line of evidence for Laurel Creek (Solano County) was collected at 1 monitoring site [Laurel Creek @ Pintail Drive station (207LAU020)]
Temporal Representation:	Data was collected on a single day 6/17/2008.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	SWAMP data collected before September 2008 followed the QAMP (2002), however there may have been overlap in QA with SWAMP QAPP (2008).
QAPP Information Reference(s):	Quality Assurance Management Plan for the State of California's Surface Water Ambient Monitoring Program. Sacramento, CA. State Water Resources Control Board. SWAMP. December 2002 (1st version). Surface Water Ambient Monitoring Program Quality Assurance Program Plan

Line of Evidence (LOE) for Decision ID 65004, DDT (Dichlorodiphenyltrichloroethane)

Region 2

Laurel Creek (Solano County)

LOE ID:	92104
Pollutant:	DDT (Dichlorodiphenyltrichloroethane)
LOE Subgroup:	Pollutant-Sediment
Matrix:	Sediment
Fraction:	Total
Beneficial Use:	Warm Freshwater Habitat
Number of Samples:	1
Number of Exceedances:	0
Data and Information Type:	PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality:	Water Board staff assessed SWAMP data for Laurel Creek (Solano County) to determine beneficial use support and results are as follows: 0 of 1 samples exceed the criterion for DDT.
Data Reference:	Statewide Stream Pollution Trends Study 2008
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	San Francisco Bay Basin Water Quality Control Plan 2007: All waters shall be maintained free of toxic substances in concentrations which are toxic to, or which produce detrimental physiological responses in, human, plant, animal, or aquatic life.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	In freshwater sediments the probable effect concentration (predictive of sediment toxicity for sediment-dwelling organisms) for sum of DDT is 62.9 ug/Kg dry weight (MacDonald et al. 2000).
Guideline Reference:	Development and evaluation of consensus-based sediment quality guidelines for freshwater ecosystems. Environmental Contamination and Toxicology. 39: 20-31
Spatial Representation:	Data for this line of evidence for Laurel Creek (Solano County) was collected at 1 monitoring site [Laurel Creek @ Pintail Drive station (207LAU020)]
Temporal Representation:	Data was collected on a single day 6/17/2008.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	SWAMP data collected before September 2008 followed the QAMP (2002), however there may have been overlap in QA with SWAMP QAPP (2008).
QAPP Information Reference(s):	Quality Assurance Management Plan for the State of California's Surface Water Ambient Monitoring Program. Sacramento, CA. State Water Resources Control Board. SWAMP. December 2002 (1st version). Surface Water Ambient Monitoring Program Quality Assurance Program Plan

Line of Evidence (LOE) for Decision ID 65004, DDT (Dichlorodiphenyltrichloroethane)

Region 2

Laurel Creek (Solano County)

LOE ID:	92105
Pollutant:	DDT (Dichlorodiphenyltrichloroethane)
LOE Subgroup:	Pollutant-Sediment
Matrix:	Sediment
Fraction:	Total
Beneficial Use:	Cold Freshwater Habitat
Number of Samples:	1
Number of Exceedances:	0
Data and Information Type:	PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality:	Water Board staff assessed SWAMP data for Laurel Creek (Solano County) to determine beneficial use support and results are as follows: 0 of 1 samples exceed the criterion for DDT.
Data Reference:	Statewide Stream Pollution Trends Study 2008
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	San Francisco Bay Basin Water Quality Control Plan 2007: All waters shall be maintained free of toxic substances in concentrations which are toxic to, or which produce detrimental physiological responses in, human, plant, animal, or aquatic life.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	In freshwater sediments the probable effect concentration (predictive of sediment toxicity for sediment-dwelling organisms) for sum of DDT is 62.9 ug/Kg dry weight (MacDonald et al. 2000).
Guideline Reference:	Development and evaluation of consensus-based sediment quality guidelines for freshwater ecosystems. Environmental Contamination and Toxicology. 39: 20-31
Spatial Representation:	Data for this line of evidence for Laurel Creek (Solano County) was collected at 1 monitoring site [Laurel Creek @ Pintail Drive station (207LAU020)]
Temporal Representation:	Data was collected on a single day 6/17/2008.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	SWAMP data collected before September 2008 followed the QAMP (2002), however there may have been overlap in QA with SWAMP QAPP (2008).
QAPP Information Reference(s):	Quality Assurance Management Plan for the State of California's Surface Water Ambient Monitoring Program. Sacramento, CA. State Water Resources Control Board. SWAMP. December 2002 (1st version) Surface Water Ambient Monitoring Program Quality Assurance Program Plan

DECISION ID	65005	Region 2
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Laurel Creek (Solano County)

Pollutant:	Deltamethrin
Final Listing Decision:	Do Not List on 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision:	New Decision
Revision Status	Revised
Impairment from Pollutant or Pollution:	Pollutant

Regional Board Staff Conclusion: This pollutant is being considered for placement on the CWA section 303(d) List under section 3.6 of the Listing Policy. Under section 3.6 at least two lines of evidence are necessary to assess listing status for pollutants sediment, and pollutant concentrations in sediment must be associated with sediment toxicity to justify adding that pollutant to the CWA section 303(d) List.

Two lines of evidence are available in the administrative record to assess this pollutant. Zero of one

samples exceed the guideline. Sediment toxicity data are not associated with this decision because they are not relevant to this decision because there is insufficient information based on sediment chemistry.

Based on the readily available data and information, the weight of evidence indicates that there is insufficient justification for placing this water segment-pollutant combination on the CWA section 303(d) List.

This conclusion is based on the staff findings that:

1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy.
2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy.
3. Zero of one samples exceed the guideline and this sample size is insufficient to determine beneficial use support, with the power and confidence of the Listing Policy. A minimum of 16 samples is needed to determine if a beneficial use is fully supported using table 3.1. Sediment toxicity data are not associated with this decision because the sediment chemistry data are insufficient.
4. Pursuant to section 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.

Regional Board Staff Decision Recommendation: After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be placed on the section 303(d) list. The readily available data and information is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating.

**Line of Evidence (LOE) for Decision ID 65005, Deltamethrin
Laurel Creek (Solano County)**

Region 2

LOE ID:	92107
Pollutant:	Deltamethrin
LOE Subgroup:	Pollutant-Sediment
Matrix:	Sediment
Fraction:	Total
Beneficial Use:	Cold Freshwater Habitat
Number of Samples:	1
Number of Exceedances:	0
Data and Information Type:	PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality:	Water Board staff assessed SWAMP data for Laurel Creek (Solano County) to determine beneficial use support and results are as follows: 0 of 1 samples exceed the criterion for Deltamethrin.
Data Reference:	Statewide Stream Pollution Trends Study 2008
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	San Francisco Bay Basin Water Quality Control Plan 2007: All waters shall be maintained free of toxic substances in concentrations which are toxic to, or which produce detrimental physiological responses in, human, plant, animal, or aquatic life.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	The evaluation guideline for deltamethrin is the median lethal concentration (LC50) of 0.79 ug/g and is normalized by the percentage of organic carbon in the sediment sample. The LC50 0.79 ug/g is the geometric mean of LC50 values for deltamethrin from Amweg et al. (2005).
Guideline Reference:	Use and Toxicity of Pyrethroid Pesticides in the Central Valley, California, USA. Environmental Toxicology and Chemistry, 24:966-972, with erratum 24:No. 5
Spatial Representation:	Data for this line of evidence for Laurel Creek (Solano County) was collected at 1 monitoring site [Laurel Creek @ Pintail Drive station (207LAU020)]

Temporal Representation:	Data was collected on a single day 6/17/2008.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	SWAMP data collected before September 2008 followed the QAMP (2002), however there may have been overlap in QA with SWAMP QAPP (2008).
QAPP Information Reference(s):	Quality Assurance Management Plan for the State of California's Surface Water Ambient Monitoring Program. Sacramento, CA. State Water Resources Control Board. SWAMP. December 2002 (1st version). Surface Water Ambient Monitoring Program Quality Assurance Program Plan

Line of Evidence (LOE) for Decision ID 65005, Deltamethrin

Region 2

Laurel Creek (Solano County)

LOE ID:	92106
Pollutant:	Deltamethrin
LOE Subgroup:	Pollutant-Sediment
Matrix:	Sediment
Fraction:	Total
Beneficial Use:	Warm Freshwater Habitat
Number of Samples:	1
Number of Exceedances:	0
Data and Information Type:	PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality:	Water Board staff assessed SWAMP data for Laurel Creek (Solano County) to determine beneficial use support and results are as follows: 0 of 1 samples exceed the criterion for Deltamethrin.
Data Reference:	Statewide Stream Pollution Trends Study 2008
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	San Francisco Bay Basin Water Quality Control Plan 2007: All waters shall be maintained free of toxic substances in concentrations which are toxic to, or which produce detrimental physiological responses in, human, plant, animal, or aquatic life.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	The evaluation guideline for deltamethrin is the median lethal concentration (LC50) of 0.79 ug/g and is normalized by the percentage of organic carbon in the sediment sample. The LC50 0.79 ug/g is the geometric mean of LC50 values for deltamethrin from Amweg et al. (2005).
Guideline Reference:	Use and Toxicity of Pyrethroid Pesticides in the Central Valley, California, USA. Environmental Toxicology and Chemistry, 24:966-972, with erratum 24:No. 5
Spatial Representation:	Data for this line of evidence for Laurel Creek (Solano County) was collected at 1 monitoring site [Laurel Creek @ Pintail Drive station (207LAU020)]
Temporal Representation:	Data was collected on a single day 6/17/2008.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	SWAMP data collected before September 2008 followed the QAMP (2002), however there may have been overlap in QA with SWAMP QAPP (2008).
QAPP Information Reference(s):	Quality Assurance Management Plan for the State of California's Surface Water Ambient Monitoring Program. Sacramento, CA. State Water Resources Control Board. SWAMP. December 2002 (1st version). Surface Water Ambient Monitoring Program Quality Assurance Program Plan

DECISION ID 65006

Region 2

Laurel Creek (Solano County)

Pollutant:	Diazinon
Final Listing Decision:	Do Not List on 303(d) list (TMDL required list)

Last Listing Cycle's Final Listing Decision:
Revision Status
Impairment from Pollutant or Pollution:

New Decision

Revised
Pollutant

Regional Board Staff Conclusion:

This pollutant is being considered for placement on the CWA section 303(d) List under section 3.6 of the Listing Policy. Under section 3.6 at least two lines of evidence are necessary to assess listing status for pollutants sediment, and pollutant concentrations in sediment must be associated with sediment toxicity to justify adding that pollutant to the CWA section 303(d) List.

Two lines of evidence are available in the administrative record to assess this pollutant. Zero of one samples exceed the guideline. Sediment toxicity data are not associated with this decision because they are not relevant to this decision because there is insufficient information based on sediment chemistry.

Based on the readily available data and information, the weight of evidence indicates that there is insufficient justification to add this water segment-pollutant combination from the CWA section 303(d) List.

This conclusion is based on the staff findings that:

1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy.
2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy.
3. Zero of one samples exceed the guideline and this sample size is insufficient to determine beneficial use support, with the power and confidence of the Listing Policy. A minimum of 16 samples are needed to determine if a beneficial use is fully supported using table 3.1. Sediment toxicity data are not associated with this decision because the sediment chemistry data are insufficient.
4. Pursuant to section 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.

Regional Board Staff Decision Recommendation:

After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be placed on the section 303(d) list. The readily available data and information is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating.

**Line of Evidence (LOE) for Decision ID 65006, Diazinon
Laurel Creek (Solano County)**

Region 2

LOE ID:	92108
Pollutant:	Diazinon
LOE Subgroup:	Pollutant-Sediment
Matrix:	Sediment
Fraction:	Total
Beneficial Use:	Warm Freshwater Habitat
Number of Samples:	1
Number of Exceedances:	0
Data and Information Type:	PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality:	Water Board staff assessed SWAMP data for Laurel Creek (Solano County) to determine beneficial use support and results are as follows: 0 of 1 samples exceed the criterion for Diazinon.
Data Reference:	Statewide Stream Pollution Trends Study 2008
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	San Francisco Bay Basin Water Quality Control Plan 2007: All waters shall be maintained free of toxic substances in concentrations which are toxic to, or which produce detrimental

Objective/Criterion Reference:	physiological responses in, human, plant, animal, or aquatic life. Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	The evaluation guideline for diazinon is the median lethal concentration (LC50) of 11 ug/g and is normalized by the percentage of organic carbon in the sediment sample. The LC50 11 ug/g is the geometric mean of LC50 values for diazinon from Ding et al. (2011).
Guideline Reference:	Toxicity of Sediment-Associated Pesticides to Chironomus dilutus and Hyalella azteca. Arch. Environ. Contam. Toxicol. 61:83?92.
Spatial Representation:	Data for this line of evidence for Laurel Creek (Solano County) was collected at 1 monitoring site [Laurel Creek @ Pintail Drive station (207LAU020)]
Temporal Representation:	Data was collected on a single day 6/17/2008.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	SWAMP data collected before September 2008 followed the QAMP (2002), however there may have been overlap in QA with SWAMP QAPP (2008).
QAPP Information Reference(s):	Quality Assurance Management Plan for the State of California's Surface Water Ambient Monitoring Program. Sacramento, CA. State Water Resources Control Board. SWAMP. December 2002 (1st version) Surface Water Ambient Monitoring Program Quality Assurance Program Plan

Line of Evidence (LOE) for Decision ID 65006, Diazinon
Laurel Creek (Solano County)

Region 2

LOE ID:	92109
Pollutant:	Diazinon
LOE Subgroup:	Pollutant-Sediment
Matrix:	Sediment
Fraction:	Total
Beneficial Use:	Cold Freshwater Habitat
Number of Samples:	1
Number of Exceedances:	0
Data and Information Type:	PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality:	Water Board staff assessed SWAMP data for Laurel Creek (Solano County) to determine beneficial use support and results are as follows: 0 of 1 samples exceed the criterion for Diazinon.
Data Reference:	Statewide Stream Pollution Trends Study 2008
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	San Francisco Bay Basin Water Quality Control Plan 2007: All waters shall be maintained free of toxic substances in concentrations which are toxic to, or which produce detrimental physiological responses in, human, plant, animal, or aquatic life.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	The evaluation guideline for diazinon is the median lethal concentration (LC50) of 11 ug/g and is normalized by the percentage of organic carbon in the sediment sample. The LC50 11 ug/g is the geometric mean of LC50 values for diazinon from Ding et al. (2011).
Guideline Reference:	Toxicity of Sediment-Associated Pesticides to Chironomus dilutus and Hyalella azteca. Arch. Environ. Contam. Toxicol. 61:83?92.
Spatial Representation:	Data for this line of evidence for Laurel Creek (Solano County) was collected at 1 monitoring site [Laurel Creek @ Pintail Drive station (207LAU020)]
Temporal Representation:	Data was collected on a single day 6/17/2008.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	SWAMP data collected before September 2008 followed the QAMP (2002), however there may have been overlap in QA with SWAMP QAPP (2008).
QAPP Information Reference(s):	Quality Assurance Management Plan for the State of California's Surface Water Ambient Monitoring Program. Sacramento, CA. State Water Resources Control Board. SWAMP.

DECISION ID	65007	Region 2
Laurel Creek (Solano County)		

Pollutant:	Dieldrin
Final Listing Decision:	Do Not List on 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision:	New Decision
Revision Status	Revised
Impairment from Pollutant or Pollution:	Pollutant

Regional Board Staff Conclusion: This pollutant is being considered for placement on the CWA section 303(d) List under section 3.6 of the Listing Policy. Under section 3.6 at least two lines of evidence are necessary to assess listing status for pollutants sediment, and pollutant concentrations in sediment must be associated with sediment toxicity to justify adding that pollutant to the CWA section 303(d) List.

Two lines of evidence are available in the administrative record to assess this pollutant. Zero of one samples exceed the guideline. Sediment toxicity data are not associated with this decision because they are not relevant to this decision because there is insufficient information based on sediment chemistry.

Based on the readily available data and information, the weight of evidence indicates that there is insufficient justification for placing this water segment-pollutant combination on the CWA section 303(d) List.

This conclusion is based on the staff findings that:

1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy.
2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy.
3. Zero of one samples exceed the guideline and this sample size is insufficient to determine beneficial use support, with the power and confidence of the Listing Policy. A minimum of 16 samples is needed to determine if a beneficial use is fully supported using table 3.1. Sediment toxicity data are not associated with this decision because the sediment chemistry data are insufficient.
4. Pursuant to section 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.

Regional Board Staff Decision Recommendation: After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be placed on the section 303(d) list. The readily available data and information is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating.

Line of Evidence (LOE) for Decision ID 65007, Dieldrin	Region 2
Laurel Creek (Solano County)	

LOE ID:	92110
Pollutant:	Dieldrin
LOE Subgroup:	Pollutant-Sediment
Matrix:	Sediment
Fraction:	Total
Beneficial Use:	Warm Freshwater Habitat
Number of Samples:	1
Number of Exceedances:	0

Data and Information Type:	PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality:	Water Board staff assessed SWAMP data for Laurel Creek (Solano County) to determine beneficial use support and results are as follows: 0 of 1 samples exceed the criterion for Dieldrin.
Data Reference:	Statewide Stream Pollution Trends Study 2008
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	San Francisco Bay Basin Water Quality Control Plan 2007: All waters shall be maintained free of toxic substances in concentrations which are toxic to, or which produce detrimental physiological responses in, human, plant, animal, or aquatic life.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	In freshwater sediments the probable effect concentration (predictive of sediment toxicity for sediment-dwelling organisms) for dieldrin is 61.8 ug/Kg dry weight (MacDonald et al. 2000).
Guideline Reference:	Development and evaluation of consensus-based sediment quality guidelines for freshwater ecosystems. Environmental Contamination and Toxicology. 39: 20-31
Spatial Representation:	Data for this line of evidence for Laurel Creek (Solano County) was collected at 1 monitoring site [Laurel Creek @ Pintail Drive station (207LAU020)]
Temporal Representation:	Data was collected on a single day 6/17/2008.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	SWAMP data collected before September 2008 followed the QAMP (2002), however there may have been overlap in QA with SWAMP QAPP (2008).
QAPP Information Reference(s):	Quality Assurance Management Plan for the State of California's Surface Water Ambient Monitoring Program. Sacramento, CA. State Water Resources Control Board. SWAMP. December 2002 (1st version) Surface Water Ambient Monitoring Program Quality Assurance Program Plan

Line of Evidence (LOE) for Decision ID 65007, Dieldrin
Laurel Creek (Solano County)

Region 2

LOE ID:	92111
Pollutant:	Dieldrin
LOE Subgroup:	Pollutant-Sediment
Matrix:	Sediment
Fraction:	Total
Beneficial Use:	Cold Freshwater Habitat
Number of Samples:	1
Number of Exceedances:	0
Data and Information Type:	PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality:	Water Board staff assessed SWAMP data for Laurel Creek (Solano County) to determine beneficial use support and results are as follows: 0 of 1 samples exceed the criterion for Dieldrin.
Data Reference:	Statewide Stream Pollution Trends Study 2008
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	San Francisco Bay Basin Water Quality Control Plan 2007: All waters shall be maintained free of toxic substances in concentrations which are toxic to, or which produce detrimental physiological responses in, human, plant, animal, or aquatic life.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	In freshwater sediments the probable effect concentration (predictive of sediment toxicity for sediment-dwelling organisms) for dieldrin is 61.8 ug/Kg dry weight (MacDonald et al. 2000).
Guideline Reference:	Development and evaluation of consensus-based sediment quality guidelines for

Spatial Representation:	Data for this line of evidence for Laurel Creek (Solano County) was collected at 1 monitoring site [Laurel Creek @ Pintail Drive station (207LAU020)]
Temporal Representation:	Data was collected on a single day 6/17/2008.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	SWAMP data collected before September 2008 followed the QAMP (2002), however there may have been overlap in QA with SWAMP QAPP (2008).
QAPP Information Reference(s):	Quality Assurance Management Plan for the State of California's Surface Water Ambient Monitoring Program. Sacramento, CA. State Water Resources Control Board. SWAMP. December 2002 (1st version) Surface Water Ambient Monitoring Program Quality Assurance Program Plan

DECISION ID	65008	Region 2
Laurel Creek (Solano County)		

Pollutant:	Endrin
Final Listing Decision:	Do Not List on 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision:	New Decision
Revision Status	Revised
Impairment from Pollutant or Pollution:	Pollutant
Regional Board Staff Conclusion:	<p>This pollutant is being considered for placement on the CWA section 303(d) List under section 3.6 of the Listing Policy. Under section 3.6 at least two lines of evidence are necessary to assess listing status for pollutants sediment, and pollutant concentrations in sediment must be associated with sediment toxicity to justify adding that pollutant to the CWA section 303(d) List.</p> <p>Two lines of evidence are available in the administrative record to assess this pollutant. Zero of one samples exceed the guideline. Sediment toxicity data are not associated with this decision because they are not relevant to this decision because there is insufficient information based on sediment chemistry.</p> <p>Based on the readily available data and information, the weight of evidence indicates that there is insufficient justification for placing this water segment-pollutant combination on the CWA section 303(d) List.</p> <p>This conclusion is based on the staff findings that:</p> <ol style="list-style-type: none">1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy.2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy.3. Zero of one samples exceed the guideline and this sample size is insufficient to determine beneficial use support, with the power and confidence of the Listing Policy. A minimum of 16 samples is needed to determine if a beneficial use is fully supported using table 3.1. <p>Sediment toxicity data are not associated with this decision because the sediment chemistry data are insufficient.</p> <ol style="list-style-type: none">4. Pursuant to section 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.
Regional Board Staff Decision Recommendation:	After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be placed on the section 303(d) list. The readily available data and information is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating.

Line of Evidence (LOE) for Decision ID 65008, Endrin	Region 2
Laurel Creek (Solano County)	

LOE ID: 92112

Pollutant:	Endrin
LOE Subgroup:	Pollutant-Sediment
Matrix:	Sediment
Fraction:	Total
Beneficial Use:	Warm Freshwater Habitat
Number of Samples:	1
Number of Exceedances:	0
Data and Information Type:	PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality:	Water Board staff assessed SWAMP data for Laurel Creek (Solano County) to determine beneficial use support and results are as follows: 0 of 1 samples exceed the criterion for Endrin.
Data Reference:	Statewide Stream Pollution Trends Study 2008
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	San Francisco Bay Basin Water Quality Control Plan 2007: All waters shall be maintained free of toxic substances in concentrations which are toxic to, or which produce detrimental physiological responses in, human, plant, animal, or aquatic life.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	In freshwater sediments the probable effect concentration (predictive of sediment toxicity for sediment-dwelling organisms) for endrin is 207 ug/Kg dry weight (MacDonald et al. 2000).
Guideline Reference:	Development and evaluation of consensus-based sediment quality guidelines for freshwater ecosystems. Environmental Contamination and Toxicology. 39: 20-31
Spatial Representation:	Data for this line of evidence for Laurel Creek (Solano County) was collected at 1 monitoring site [Laurel Creek @ Pintail Drive station (207LAU020)]
Temporal Representation:	Data was collected on a single day 6/17/2008.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	SWAMP data collected before September 2008 followed the QAMP (2002), however there may have been overlap in QA with SWAMP QAPP (2008).
QAPP Information Reference(s):	Quality Assurance Management Plan for the State of California's Surface Water Ambient Monitoring Program. Sacramento, CA. State Water Resources Control Board. SWAMP. December 2002 (1st version). Surface Water Ambient Monitoring Program Quality Assurance Program Plan

**Line of Evidence (LOE) for Decision ID 65008, Endrin
Laurel Creek (Solano County)**

Region 2

LOE ID:	92113
Pollutant:	Endrin
LOE Subgroup:	Pollutant-Sediment
Matrix:	Sediment
Fraction:	Total
Beneficial Use:	Cold Freshwater Habitat
Number of Samples:	1
Number of Exceedances:	0
Data and Information Type:	PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality:	Water Board staff assessed SWAMP data for Laurel Creek (Solano County) to determine beneficial use support and results are as follows: 0 of 1 samples exceed the criterion for Endrin.
Data Reference:	Statewide Stream Pollution Trends Study 2008
SWAMP Data:	SWAMP

Water Quality Objective/Criterion:	San Francisco Bay Basin Water Quality Control Plan 2007: All waters shall be maintained free of toxic substances in concentrations which are toxic to, or which produce detrimental physiological responses in, human, plant, animal, or aquatic life.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	In freshwater sediments the probable effect concentration (predictive of sediment toxicity for sediment-dwelling organisms) for endrin is 207 ug/Kg dry weight (MacDonald et al. 2000).
Guideline Reference:	Development and evaluation of consensus-based sediment quality guidelines for freshwater ecosystems. Environmental Contamination and Toxicology. 39: 20-31
Spatial Representation:	Data for this line of evidence for Laurel Creek (Solano County) was collected at 1 monitoring site [Laurel Creek @ Pintail Drive station (207LAU020)]
Temporal Representation:	Data was collected on a single day 6/17/2008.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	SWAMP data collected before September 2008 followed the QAMP (2002), however there may have been overlap in QA with SWAMP QAPP (2008).
QAPP Information Reference(s):	Quality Assurance Management Plan for the State of California's Surface Water Ambient Monitoring Program. Sacramento, CA. State Water Resources Control Board. SWAMP. December 2002 (1st version) Surface Water Ambient Monitoring Program Quality Assurance Program Plan

DECISION ID	65009	Region 2
Laurel Creek (Solano County)		

Pollutant:	Esfenvalerate/Fenvalerate
Final Listing Decision:	Do Not List on 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision:	New Decision
Revision Status	Revised
Impairment from Pollutant or Pollution:	Pollutant

Regional Board Staff Conclusion:	<p>This pollutant is being considered for placement on the CWA section 303(d) List under section 3.6 of the Listing Policy. Under section 3.6 at least two lines of evidence are necessary to assess listing status for pollutants sediment, and pollutant concentrations in sediment must be associated with sediment toxicity to justify adding that pollutant to the CWA section 303(d) List.</p> <p>Two lines of evidence are available in the administrative record to assess this pollutant. Zero of one samples exceed the guideline. Sediment toxicity data are not associated with this decision because they are not relevant to this decision because there is insufficient information based on sediment chemistry.</p> <p>Based on the readily available data and information, the weight of evidence indicates that there is insufficient justification for placing this water segment-pollutant combination on the CWA section 303(d) List.</p> <p>This conclusion is based on the staff findings that:</p> <ol style="list-style-type: none"> 1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy. 2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy. 3. Zero of one samples exceed the guideline and this sample size is insufficient to determine beneficial use support, with the power and confidence of the Listing Policy. A minimum of 16 samples is needed to determine if a beneficial use is fully supported using table 3.1. Sediment toxicity data are not associated with this decision because the sediment chemistry data are insufficient. 4. Pursuant to section 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.
Regional Board Staff Decision Recommendation:	After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be placed on the section 303(d) list. The readily available data and

information is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating.

**Line of Evidence (LOE) for Decision ID 65009, Esfenvalerate/Fenvalerate
Laurel Creek (Solano County)**

Region 2

LOE ID:	92155
Pollutant:	Esfenvalerate/Fenvalerate
LOE Subgroup:	Pollutant-Sediment
Matrix:	Sediment
Fraction:	Total
Beneficial Use:	Warm Freshwater Habitat
Number of Samples:	1
Number of Exceedances:	0
Data and Information Type:	PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality:	Water Board staff assessed SWAMP data for Laurel Creek (Solano County) to determine beneficial use support and results are as follows: 0 of 1 samples exceed the criterion for Esfenvalerate/Fenvalerate, total.
Data Reference:	Statewide Stream Pollution Trends Study 2008
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	San Francisco Bay Basin Water Quality Control Plan 2007: All waters shall be maintained free of toxic substances in concentrations which are toxic to, or which produce detrimental physiological responses in, human, plant, animal, or aquatic life.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	The evaluation guideline for esfenvalerate/fenvalerate is the median lethal concentration (LC50) of 1.5 ug/g and is normalized by the percentage of organic carbon in the sediment sample. The LC50 1.5 ug/g is the geometric mean of LC50 values for esfenvalerate/fenvalerate from Amweg et al. (2005).
Guideline Reference:	Use and Toxicity of Pyrethroid Pesticides in the Central Valley, California, USA. Environmental Toxicology and Chemistry, 24:966-972, with erratum 24:No. 5
Spatial Representation:	Data for this line of evidence for Laurel Creek (Solano County) was collected at 1 monitoring site [Laurel Creek @ Pintail Drive station (207LAU020)]
Temporal Representation:	Data was collected on a single day 6/17/2008.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	SWAMP data collected before September 2008 followed the QAMP (2002), however there may have been overlap in QA with SWAMP QAPP (2008).
QAPP Information Reference(s):	Quality Assurance Management Plan for the State of California's Surface Water Ambient Monitoring Program. Sacramento, CA. State Water Resources Control Board. SWAMP. December 2002 (1st version) Surface Water Ambient Monitoring Program Quality Assurance Program Plan

**Line of Evidence (LOE) for Decision ID 65009, Esfenvalerate/Fenvalerate
Laurel Creek (Solano County)**

Region 2

LOE ID:	92156
Pollutant:	Esfenvalerate/Fenvalerate
LOE Subgroup:	Pollutant-Sediment
Matrix:	Sediment
Fraction:	Total
Beneficial Use:	Cold Freshwater Habitat

Number of Samples:	1
Number of Exceedances:	0
Data and Information Type:	PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality:	Water Board staff assessed SWAMP data for Laurel Creek (Solano County) to determine beneficial use support and results are as follows: 0 of 1 samples exceed the criterion for Esfenvalerate/Fenvalerate, total.
Data Reference:	Statewide Stream Pollution Trends Study 2008
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	San Francisco Bay Basin Water Quality Control Plan 2007: All waters shall be maintained free of toxic substances in concentrations which are toxic to, or which produce detrimental physiological responses in, human, plant, animal, or aquatic life.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	The evaluation guideline for esfenvalerate/fenvalerate is the median lethal concentration (LC50) of 1.5 ug/g and is normalized by the percentage of organic carbon in the sediment sample. The LC50 1.5 ug/g is the geometric mean of LC50 values for esfenvalerate/fenvalerate from Amweg et al. (2005).
Guideline Reference:	Use and Toxicity of Pyrethroid Pesticides in the Central Valley, California, USA. Environmental Toxicology and Chemistry, 24:966-972, with erratum 24:No. 5
Spatial Representation:	Data for this line of evidence for Laurel Creek (Solano County) was collected at 1 monitoring site [Laurel Creek @ Pintail Drive station (207LAU020)]
Temporal Representation:	Data was collected on a single day 6/17/2008.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	SWAMP data collected before September 2008 followed the QAMP (2002), however there may have been overlap in QA with SWAMP QAPP (2008).
QAPP Information Reference(s):	Quality Assurance Management Plan for the State of California's Surface Water Ambient Monitoring Program. Sacramento, CA. State Water Resources Control Board. SWAMP. December 2002 (1st version) Surface Water Ambient Monitoring Program Quality Assurance Program Plan

DECISION ID	65012	Region 2
Laurel Creek (Solano County)		
Pollutant:	Fenpropathrin	
Final Listing Decision:	Do Not List on 303(d) list (TMDL required list)	
Last Listing Cycle's Final Listing Decision:	New Decision	
Revision Status	Revised	
Impairment from Pollutant or Pollution:	Pollutant	
Regional Board Staff Conclusion:	<p>This pollutant is being considered for placement on the CWA section 303(d) List under section 3.6 of the Listing Policy. Under section 3.6 at least two lines of evidence are necessary to assess listing status for pollutants sediment, and pollutant concentrations in sediment must be associated with sediment toxicity to justify adding that pollutant to the CWA section 303(d) List.</p> <p>Two lines of evidence are available in the administrative record to assess this pollutant. Zero of one samples exceed the guideline. Sediment toxicity data are not associated with this decision because they are not relevant to this decision because there is insufficient information based on sediment chemistry.</p> <p>Based on the readily available data and information, the weight of evidence indicates that there is insufficient justification for placing this water segment-pollutant combination on the CWA section 303(d) List.</p> <p>This conclusion is based on the staff findings that:</p>	

1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy.
2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy.
3. Zero of one samples exceed the guideline and this sample size is insufficient to determine beneficial use support, with the power and confidence of the Listing Policy. A minimum of 16 samples is needed to determine if a beneficial use is fully supported using table 3.1. Sediment toxicity data are not associated with this decision because the sediment chemistry data are insufficient.
4. Pursuant to section 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.

Regional Board Staff Decision Recommendation: After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be placed on the section 303(d) list. The readily available data and information is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating.

**Line of Evidence (LOE) for Decision ID 65012, Fenpropathrin
Laurel Creek (Solano County)**

Region 2

LOE ID:	92157
Pollutant:	Fenpropathrin
LOE Subgroup:	Pollutant-Sediment
Matrix:	Sediment
Fraction:	Total
Beneficial Use:	Warm Freshwater Habitat
Number of Samples:	1
Number of Exceedances:	0
Data and Information Type:	PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality:	Water Board staff assessed SWAMP data for Laurel Creek (Solano County) to determine beneficial use support and results are as follows: 0 of 1 samples exceed the criterion for Fenpropathrin.
Data Reference:	Statewide Stream Pollution Trends Study 2008
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	San Francisco Bay Basin Water Quality Control Plan 2007: All waters shall be maintained free of toxic substances in concentrations which are toxic to, or which produce detrimental physiological responses in, human, plant, animal, or aquatic life.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	The evaluation guideline for fenpropathrin is the median lethal concentration (LC50) of 1 ug/g and is normalized by the percentage of organic carbon in the sediment sample. The LC50 1 ug/g is the geometric mean of LC50 values for fenpropathrin from Ding et al. (2011).
Guideline Reference:	Toxicity of Sediment-Associated Pesticides to Chironomus dilutus and Hyalella azteca. Arch. Environ. Contam. Toxicol. 61:83?92.
Spatial Representation:	Data for this line of evidence for Laurel Creek (Solano County) was collected at 1 monitoring site [Laurel Creek @ Pintail Drive station (207LAU020)]
Temporal Representation:	Data was collected on a single day 6/17/2008.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	SWAMP data collected before September 2008 followed the QAMP (2002), however there may have been overlap in QA with SWAMP QAPP (2008).
QAPP Information Reference(s):	Quality Assurance Management Plan for the State of California's Surface Water Ambient Monitoring Program. Sacramento, CA. State Water Resources Control Board. SWAMP. December 2002 (1st version). Surface Water Ambient Monitoring Program Quality Assurance Program Plan

**Line of Evidence (LOE) for Decision ID 65012, Fenpropathrin
Laurel Creek (Solano County)**

Region 2

LOE ID:	92158
Pollutant:	Fenpropathrin
LOE Subgroup:	Pollutant-Sediment
Matrix:	Sediment
Fraction:	Total
Beneficial Use:	Cold Freshwater Habitat
Number of Samples:	1
Number of Exceedances:	0
Data and Information Type:	PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality:	Water Board staff assessed SWAMP data for Laurel Creek (Solano County) to determine beneficial use support and results are as follows: 0 of 1 samples exceed the criterion for Fenpropathrin.
Data Reference:	Statewide Stream Pollution Trends Study 2008
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	San Francisco Bay Basin Water Quality Control Plan 2007: All waters shall be maintained free of toxic substances in concentrations which are toxic to, or which produce detrimental physiological responses in, human, plant, animal, or aquatic life.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	The evaluation guideline for fenpropathrin is the median lethal concentration (LC50) of 1 ug/g and is normalized by the percentage of organic carbon in the sediment sample. The LC50 1 ug/g is the geometric mean of LC50 values for fenpropathrin from Ding et al. (2011).
Guideline Reference:	Toxicity of Sediment-Associated Pesticides to Chironomus dilutus and Hyalella azteca. Arch. Environ. Contam. Toxicol. 61:83?92.
Spatial Representation:	Data for this line of evidence for Laurel Creek (Solano County) was collected at 1 monitoring site [Laurel Creek @ Pintail Drive station (207LAU020)]
Temporal Representation:	Data was collected on a single day 6/17/2008.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	SWAMP data collected before September 2008 followed the QAMP (2002), however there may have been overlap in QA with SWAMP QAPP (2008).
QAPP Information Reference(s):	Quality Assurance Management Plan for the State of California's Surface Water Ambient Monitoring Program. Sacramento, CA. State Water Resources Control Board. SWAMP. December 2002 (1st version) Surface Water Ambient Monitoring Program Quality Assurance Program Plan

DECISION ID 65013

Region 2

Laurel Creek (Solano County)

Pollutant:	Fluoranthene
Final Listing Decision:	Do Not List on 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision:	New Decision
Revision Status	Revised
Impairment from Pollutant or Pollution:	Pollutant

Regional Board Staff Conclusion: This pollutant is being considered for placement on the CWA section 303(d) List under section 3.6 of the Listing Policy. Under section 3.6 at least two lines of evidence are necessary to assess listing status for pollutants sediment, and pollutant concentrations in sediment must be associated with

sediment toxicity to justify adding that pollutant to the CWA section 303(d) List.

Two lines of evidence are available in the administrative record to assess this pollutant. Zero of one samples exceed the guideline. Sediment toxicity data are not associated with this decision because they are not relevant to this decision because there is insufficient information based on sediment chemistry.

Based on the readily available data and information, the weight of evidence indicates that there is insufficient justification for placing this water segment-pollutant combination on the CWA section 303(d) List.

This conclusion is based on the staff findings that:

1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy.
2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy.
3. Zero of one samples exceed the guideline and this sample size is insufficient to determine beneficial use support, with the power and confidence of the Listing Policy. A minimum of 16 samples is needed to determine if a beneficial use is fully supported using table 3.1. Sediment toxicity data are not associated with this decision because the sediment chemistry data are insufficient.
4. Pursuant to section 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.

Regional Board Staff Decision Recommendation: After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be placed on the section 303(d) list. The readily available data and information is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating.

**Line of Evidence (LOE) for Decision ID 65013, Fluoranthene
Laurel Creek (Solano County)**

Region 2

LOE ID:	92160
Pollutant:	Fluoranthene
LOE Subgroup:	Pollutant-Sediment
Matrix:	Sediment
Fraction:	Total
Beneficial Use:	Cold Freshwater Habitat
Number of Samples:	1
Number of Exceedances:	0
Data and Information Type:	PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality:	Water Board staff assessed SWAMP data for Laurel Creek (Solano County) to determine beneficial use support and results are as follows: 0 of 1 samples exceed the criterion for Fluoranthene.
Data Reference:	Statewide Stream Pollution Trends Study 2008
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	San Francisco Bay Basin Water Quality Control Plan 2007: All waters shall be maintained free of toxic substances in concentrations which are toxic to, or which produce detrimental physiological responses in, human, plant, animal, or aquatic life.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	In freshwater sediments the probable effects level (predictive of sediment toxicity for sediment-dwelling organisms) for Fluoranthene is 2,230 ug/Kg dry weight (Macdonald et al. 2000)
Guideline Reference:	Development and evaluation of consensus-based sediment quality guidelines for freshwater ecosystems. Environmental Contamination and Toxicology. 39: 20-31

Spatial Representation:	Data for this line of evidence for Laurel Creek (Solano County) was collected at 1 monitoring site [Laurel Creek @ Pintail Drive station (207LAU020)]
Temporal Representation:	Data was collected on a single day 6/17/2008.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	SWAMP data collected before September 2008 followed the QAMP (2002), however there may have been overlap in QA with SWAMP QAPP (2008).
QAPP Information Reference(s):	Quality Assurance Management Plan for the State of California's Surface Water Ambient Monitoring Program. Sacramento, CA. State Water Resources Control Board. SWAMP. December 2002 (1st version). Surface Water Ambient Monitoring Program Quality Assurance Program Plan

Line of Evidence (LOE) for Decision ID 65013, Fluoranthene
Laurel Creek (Solano County)

Region 2

LOE ID:	92159
Pollutant:	Fluoranthene
LOE Subgroup:	Pollutant-Sediment
Matrix:	Sediment
Fraction:	Total
Beneficial Use:	Warm Freshwater Habitat
Number of Samples:	1
Number of Exceedances:	0
Data and Information Type:	PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality:	Water Board staff assessed SWAMP data for Laurel Creek (Solano County) to determine beneficial use support and results are as follows: 0 of 1 samples exceed the criterion for Fluoranthene.
Data Reference:	Statewide Stream Pollution Trends Study 2008
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	San Francisco Bay Basin Water Quality Control Plan 2007: All waters shall be maintained free of toxic substances in concentrations which are toxic to, or which produce detrimental physiological responses in, human, plant, animal, or aquatic life.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	In freshwater sediments the probable effects level (predictive of sediment toxicity for sediment-dwelling organisms) for Fluoranthene is 2,230 ug/Kg dry weight (Macdonald et al. 2000)
Guideline Reference:	Development and evaluation of consensus-based sediment quality guidelines for freshwater ecosystems. Environmental Contamination and Toxicology. 39: 20-31
Spatial Representation:	Data for this line of evidence for Laurel Creek (Solano County) was collected at 1 monitoring site [Laurel Creek @ Pintail Drive station (207LAU020)]
Temporal Representation:	Data was collected on a single day 6/17/2008.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	SWAMP data collected before September 2008 followed the QAMP (2002), however there may have been overlap in QA with SWAMP QAPP (2008).
QAPP Information Reference(s):	Quality Assurance Management Plan for the State of California's Surface Water Ambient Monitoring Program. Sacramento, CA. State Water Resources Control Board. SWAMP. December 2002 (1st version). Surface Water Ambient Monitoring Program Quality Assurance Program Plan

DECISION ID 65014
Laurel Creek (Solano County)

Region 2

Pollutant: Fluorene

Final Listing Decision:
Last Listing Cycle's Final Listing Decision:
Revision Status
Impairment from Pollutant or Pollution:

Do Not List on 303(d) list (TMDL required list)
New Decision

Revised
Pollutant

Regional Board Staff Conclusion:

This pollutant is being considered for placement on the CWA section 303(d) List under section 3.6 of the Listing Policy. Under section 3.6 at least two lines of evidence are necessary to assess listing status for pollutants sediment, and pollutant concentrations in sediment must be associated with sediment toxicity to justify adding that pollutant to the CWA section 303(d) List.

Two lines of evidence are available in the administrative record to assess this pollutant. Zero of one samples exceed the guideline. Sediment toxicity data are not associated with this decision because they are not relevant to this decision because there is insufficient information based on sediment chemistry.

Based on the readily available data and information, the weight of evidence indicates that there is insufficient justification for placing this water segment-pollutant combination on the CWA section 303(d) List.

This conclusion is based on the staff findings that:

1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy.
2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy.
3. Zero of one samples exceed the guideline and this sample size is insufficient to determine beneficial use support, with the power and confidence of the Listing Policy. A minimum of 16 samples is needed to determine if a beneficial use is fully supported using table 3.1. Sediment toxicity data are not associated with this decision because the sediment chemistry data are insufficient.
4. Pursuant to section 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.

Regional Board Staff Decision Recommendation:

After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be placed on the section 303(d) list. The readily available data and information is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating.

**Line of Evidence (LOE) for Decision ID 65014, Fluorene
Laurel Creek (Solano County)**

Region 2

LOE ID:	92161
Pollutant:	Fluorene
LOE Subgroup:	Pollutant-Sediment
Matrix:	Sediment
Fraction:	Total
Beneficial Use:	Warm Freshwater Habitat
Number of Samples:	1
Number of Exceedances:	0
Data and Information Type:	PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality:	Water Board staff assessed SWAMP data for Laurel Creek (Solano County) to determine beneficial use support and results are as follows: 0 of 1 samples exceed the criterion for Fluorene.
Data Reference:	Statewide Stream Pollution Trends Study 2008
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	San Francisco Bay Basin Water Quality Control Plan 2007: All waters shall be maintained

Objective/Criterion Reference:	free of toxic substances in concentrations which are toxic to, or which produce detrimental physiological responses in, human, plant, animal, or aquatic life. Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	In freshwater sediments the probable effect concentration (predictive of sediment toxicity for sediment-dwelling organisms) for fluorene is 536 ug/Kg dry weight (MacDonald et al. 2000).
Guideline Reference:	Development and evaluation of consensus-based sediment quality guidelines for freshwater ecosystems. Environmental Contamination and Toxicology. 39: 20-31
Spatial Representation:	Data for this line of evidence for Laurel Creek (Solano County) was collected at 1 monitoring site [Laurel Creek @ Pintail Drive station (207LAU020)]
Temporal Representation:	Data was collected on a single day 6/17/2008.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	SWAMP data collected before September 2008 followed the QAMP (2002), however there may have been overlap in QA with SWAMP QAPP (2008).
QAPP Information Reference(s):	Quality Assurance Management Plan for the State of California's Surface Water Ambient Monitoring Program. Sacramento, CA. State Water Resources Control Board. SWAMP. December 2002 (1st version) Surface Water Ambient Monitoring Program Quality Assurance Program Plan

Line of Evidence (LOE) for Decision ID 65014, Fluorene
Laurel Creek (Solano County)

Region 2

LOE ID:	92162
Pollutant:	Fluorene
LOE Subgroup:	Pollutant-Sediment
Matrix:	Sediment
Fraction:	Total
Beneficial Use:	Cold Freshwater Habitat
Number of Samples:	1
Number of Exceedances:	0
Data and Information Type:	PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality:	Water Board staff assessed SWAMP data for Laurel Creek (Solano County) to determine beneficial use support and results are as follows: 0 of 1 samples exceed the criterion for Fluorene.
Data Reference:	Statewide Stream Pollution Trends Study 2008
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	San Francisco Bay Basin Water Quality Control Plan 2007: All waters shall be maintained free of toxic substances in concentrations which are toxic to, or which produce detrimental physiological responses in, human, plant, animal, or aquatic life.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	In freshwater sediments the probable effect concentration (predictive of sediment toxicity for sediment-dwelling organisms) for fluorene is 536 ug/Kg dry weight (MacDonald et al. 2000).
Guideline Reference:	Development and evaluation of consensus-based sediment quality guidelines for freshwater ecosystems. Environmental Contamination and Toxicology. 39: 20-31
Spatial Representation:	Data for this line of evidence for Laurel Creek (Solano County) was collected at 1 monitoring site [Laurel Creek @ Pintail Drive station (207LAU020)]
Temporal Representation:	Data was collected on a single day 6/17/2008.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	SWAMP data collected before September 2008 followed the QAMP (2002), however there may have been overlap in QA with SWAMP QAPP (2008).
QAPP Information Reference(s):	Quality Assurance Management Plan for the State of California's Surface Water Ambient

DECISION ID	65015	Region 2
Laurel Creek (Solano County)		

Pollutant: **Lead**
Final Listing Decision: **Do Not List on 303(d) list (TMDL required list)**
Last Listing Cycle's Final Listing Decision: New Decision
Revision Status: Revised
Impairment from Pollutant or Pollution: Pollutant

Regional Board Staff Conclusion: This pollutant is being considered for placement on the CWA section 303(d) List under section 3.6 of the Listing Policy. Under section 3.6 at least two lines of evidence are necessary to assess listing status for pollutants sediment, and pollutant concentrations in sediment must be associated with sediment toxicity to justify adding that pollutant to the CWA section 303(d) List.

Two lines of evidence are available in the administrative record to assess this pollutant. Zero of one samples exceed the guideline. Sediment toxicity data are not associated with this decision because they are not relevant to this decision because there is insufficient information based on sediment chemistry.

Based on the readily available data and information, the weight of evidence indicates that there is insufficient justification for placing this water segment-pollutant combination on the CWA section 303(d) List.

This conclusion is based on the staff findings that:

1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy.
2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy.
3. Zero of one samples exceed the guideline and this sample size is insufficient to determine beneficial use support, with the power and confidence of the Listing Policy. A minimum of 16 samples is needed to determine if a beneficial use is fully supported using table 3.1. Sediment toxicity data are not associated with this decision because the sediment chemistry data are insufficient.
4. Pursuant to section 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.

Regional Board Staff Decision Recommendation: After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be placed on the section 303(d) list. The readily available data and information is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating.

Line of Evidence (LOE) for Decision ID 65015, Lead	Region 2
Laurel Creek (Solano County)	

LOE ID: 92164
Pollutant: Lead
LOE Subgroup: Pollutant-Sediment
Matrix: Sediment
Fraction: Total
Beneficial Use: Cold Freshwater Habitat
Number of Samples: 1
Number of Exceedances: 0

Data and Information Type:	PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality:	Water Board staff assessed SWAMP data for Laurel Creek (Solano County) to determine beneficial use support and results are as follows: 0 of 1 samples exceed the criterion for Lead.
Data Reference:	Statewide Stream Pollution Trends Study 2008
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	San Francisco Bay Basin Water Quality Control Plan 2007: All waters shall be maintained free of toxic substances in concentrations which are toxic to, or which produce detrimental physiological responses in, human, plant, animal, or aquatic life.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	In freshwater sediments the probable effect concentration (predictive of sediment toxicity for sediment-dwelling organisms) for lead is 128 mg/Kg dry weight (MacDonald et al. 2000).
Guideline Reference:	Development and evaluation of consensus-based sediment quality guidelines for freshwater ecosystems. Environmental Contamination and Toxicology. 39: 20-31
Spatial Representation:	Data for this line of evidence for Laurel Creek (Solano County) was collected at 1 monitoring site [Laurel Creek @ Pintail Drive station (207LAU020)]
Temporal Representation:	Data was collected on a single day 6/17/2008.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	SWAMP data collected before September 2008 followed the QAMP (2002), however there may have been overlap in QA with SWAMP QAPP (2008).
QAPP Information Reference(s):	Quality Assurance Management Plan for the State of California's Surface Water Ambient Monitoring Program. Sacramento, CA. State Water Resources Control Board. SWAMP. December 2002 (1st version) Surface Water Ambient Monitoring Program Quality Assurance Program Plan

**Line of Evidence (LOE) for Decision ID 65015, Lead
Laurel Creek (Solano County)**

Region 2

LOE ID:	92163
Pollutant:	Lead
LOE Subgroup:	Pollutant-Sediment
Matrix:	Sediment
Fraction:	Total
Beneficial Use:	Warm Freshwater Habitat
Number of Samples:	1
Number of Exceedances:	0
Data and Information Type:	PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality:	Water Board staff assessed SWAMP data for Laurel Creek (Solano County) to determine beneficial use support and results are as follows: 0 of 1 samples exceed the criterion for Lead.
Data Reference:	Statewide Stream Pollution Trends Study 2008
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	San Francisco Bay Basin Water Quality Control Plan 2007: All waters shall be maintained free of toxic substances in concentrations which are toxic to, or which produce detrimental physiological responses in, human, plant, animal, or aquatic life.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	In freshwater sediments the probable effect concentration (predictive of sediment toxicity for sediment-dwelling organisms) for lead is 128 mg/Kg dry weight (MacDonald et al. 2000).

Guideline Reference:	Development and evaluation of consensus-based sediment quality guidelines for freshwater ecosystems. Environmental Contamination and Toxicology. 39: 20-31
Spatial Representation:	Data for this line of evidence for Laurel Creek (Solano County) was collected at 1 monitoring site [Laurel Creek @ Pintail Drive station (207LAU020)]
Temporal Representation:	Data was collected on a single day 6/17/2008.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	SWAMP data collected before September 2008 followed the QAMP (2002), however there may have been overlap in QA with SWAMP QAPP (2008).
QAPP Information Reference(s):	Quality Assurance Management Plan for the State of California's Surface Water Ambient Monitoring Program. Sacramento, CA. State Water Resources Control Board. SWAMP. December 2002 (1st version). Surface Water Ambient Monitoring Program Quality Assurance Program Plan

DECISION ID	65016	Region 2
Laurel Creek (Solano County)		
Pollutant:	Lindane/gamma Hexachlorocyclohexane (gamma-HCH)	
Final Listing Decision:	Do Not List on 303(d) list (TMDL required list)	
Last Listing Cycle's Final Listing Decision:	New Decision	
Revision Status	Revised	
Impairment from Pollutant or Pollution:	Pollutant	
Regional Board Staff Conclusion:	<p>This pollutant is being considered for placement on the CWA section 303(d) List under section 3.6 of the Listing Policy. Under section 3.6 at least two lines of evidence are necessary to assess listing status for pollutants sediment, and pollutant concentrations in sediment must be associated with sediment toxicity to justify adding that pollutant to the CWA section 303(d) List.</p> <p>Two lines of evidence are available in the administrative record to assess this pollutant. Zero of one samples exceed the guideline. Sediment toxicity data are not associated with this decision because they are not relevant to this decision because there is insufficient information based on sediment chemistry.</p> <p>Based on the readily available data and information, the weight of evidence indicates that there is insufficient justification for placing this water segment-pollutant combination on the CWA section 303(d) List.</p> <p>This conclusion is based on the staff findings that:</p> <ol style="list-style-type: none"> 1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy. 2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy. 3. Zero of one samples exceed the guideline and this sample size is insufficient to determine beneficial use support, with the power and confidence of the Listing Policy. A minimum of 16 samples is needed to determine if a beneficial use is fully supported using table 3.1. Sediment toxicity data are not associated with this decision because the sediment chemistry data are insufficient. 4. Pursuant to section 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met. 	
Regional Board Staff Decision Recommendation:	After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be placed on the section 303(d) list. The readily available data and information is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating.	
Line of Evidence (LOE) for Decision ID 65016, Lindane/gamma Hexachlorocyclohexane (gamma-HCH)		Region 2
Laurel Creek (Solano County)		

LOE ID:	92165
Pollutant:	Lindane/gamma Hexachlorocyclohexane (gamma-HCH)
LOE Subgroup:	Pollutant-Sediment
Matrix:	Sediment
Fraction:	Total
Beneficial Use:	Warm Freshwater Habitat
Number of Samples:	1
Number of Exceedances:	0
Data and Information Type:	PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality:	Water Board staff assessed SWAMP data for Laurel Creek (Solano County) to determine beneficial use support and results are as follows: 0 of 1 samples exceed the criterion for HCH, gamma.
Data Reference:	Statewide Stream Pollution Trends Study 2008
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	San Francisco Bay Basin Water Quality Control Plan 2007: All waters shall be maintained free of toxic substances in concentrations which are toxic to, or which produce detrimental physiological responses in, human, plant, animal, or aquatic life.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	In freshwater sediments the probable effect concentration (predictive of sediment toxicity for sediment-dwelling organisms) for Lindane (gamma-HCH) is 4.99 ug/Kg dry weight (MacDonald et al. 2000).
Guideline Reference:	Development and evaluation of consensus-based sediment quality guidelines for freshwater ecosystems. Environmental Contamination and Toxicology. 39: 20-31
Spatial Representation:	Data for this line of evidence for Laurel Creek (Solano County) was collected at 1 monitoring site [Laurel Creek @ Pintail Drive station (207LAU020)]
Temporal Representation:	Data was collected on a single day 6/17/2008.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	SWAMP data collected before September 2008 followed the QAMP (2002), however there may have been overlap in QA with SWAMP QAPP (2008).
QAPP Information Reference(s):	Quality Assurance Management Plan for the State of California's Surface Water Ambient Monitoring Program. Sacramento, CA. State Water Resources Control Board. SWAMP. December 2002 (1st version). Surface Water Ambient Monitoring Program Quality Assurance Program Plan

Line of Evidence (LOE) for Decision ID 65016, Lindane/gamma Hexachlorocyclohexane (gamma-HCH)

Region 2

Laurel Creek (Solano County)

LOE ID:	92166
Pollutant:	Lindane/gamma Hexachlorocyclohexane (gamma-HCH)
LOE Subgroup:	Pollutant-Sediment
Matrix:	Sediment
Fraction:	Total
Beneficial Use:	Cold Freshwater Habitat
Number of Samples:	1
Number of Exceedances:	0
Data and Information Type:	PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality:	Water Board staff assessed SWAMP data for Laurel Creek (Solano County) to determine beneficial use support and results are as follows: 0 of 1 samples exceed the criterion for HCH, gamma.

Data Reference:	Statewide Stream Pollution Trends Study 2008
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	San Francisco Bay Basin Water Quality Control Plan 2007: All waters shall be maintained free of toxic substances in concentrations which are toxic to, or which produce detrimental physiological responses in, human, plant, animal, or aquatic life.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	In freshwater sediments the probable effect concentration (predictive of sediment toxicity for sediment-dwelling organisms) for Lindane (gamma-HCH) is 4.99 ug/Kg dry weight (MacDonald et al. 2000).
Guideline Reference:	Development and evaluation of consensus-based sediment quality guidelines for freshwater ecosystems. Environmental Contamination and Toxicology. 39: 20-31
Spatial Representation:	Data for this line of evidence for Laurel Creek (Solano County) was collected at 1 monitoring site [Laurel Creek @ Pintail Drive station (207LAU020)]
Temporal Representation:	Data was collected on a single day 6/17/2008.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	SWAMP data collected before September 2008 followed the QAMP (2002), however there may have been overlap in QA with SWAMP QAPP (2008).
QAPP Information Reference(s):	Quality Assurance Management Plan for the State of California's Surface Water Ambient Monitoring Program. Sacramento, CA. State Water Resources Control Board. SWAMP. December 2002 (1st version) Surface Water Ambient Monitoring Program Quality Assurance Program Plan

DECISION ID	65017	Region 2
Laurel Creek (Solano County)		

Pollutant:	Mercury
Final Listing Decision:	Do Not List on 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision:	New Decision
Revision Status	Revised
Impairment from Pollutant or Pollution:	Pollutant

Regional Board Staff Conclusion: This pollutant is being considered for placement on the CWA section 303(d) List under section 3.6 of the Listing Policy. Under section 3.6 at least two lines of evidence are necessary to assess listing status for pollutants sediment, and pollutant concentrations in sediment must be associated with sediment toxicity to justify adding that pollutant to the CWA section 303(d) List.

Two lines of evidence are available in the administrative record to assess this pollutant. Zero of one samples exceed the guideline. Sediment toxicity data are not associated with this decision because they are not relevant to this decision because there is insufficient information based on sediment chemistry.

Based on the readily available data and information, the weight of evidence indicates that there is insufficient justification for placing this water segment-pollutant combination on the CWA section 303(d) List.

This conclusion is based on the staff findings that:

1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy.
2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy.
3. Zero of one samples exceed the guideline and this sample size is insufficient to determine beneficial use support, with the power and confidence of the Listing Policy. A minimum of 16 samples is needed to determine if a beneficial use is fully supported using table 3.1. Sediment toxicity data are not associated with this decision because the sediment chemistry data are insufficient.
4. Pursuant to section 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.

Regional Board Staff Decision Recommendation: After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be placed on the section 303(d) list. The readily available data and information is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating.

**Line of Evidence (LOE) for Decision ID 65017, Mercury
Laurel Creek (Solano County)**

Region 2

LOE ID: 92167

Pollutant: Mercury
LOE Subgroup: Pollutant-Sediment
Matrix: Sediment
Fraction: Total

Beneficial Use: Warm Freshwater Habitat

Number of Samples: 1
Number of Exceedances: 0

Data and Information Type: PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality: Water Board staff assessed SWAMP data for Laurel Creek (Solano County) to determine beneficial use support and results are as follows: 0 of 1 samples exceed the criterion for Mercury.

Data Reference: [Statewide Stream Pollution Trends Study 2008](#)

SWAMP Data: SWAMP

Water Quality Objective/Criterion: San Francisco Bay Basin Water Quality Control Plan 2007: All waters shall be maintained free of toxic substances in concentrations which are toxic to, or which produce detrimental physiological responses in, human, plant, animal, or aquatic life.

Objective/Criterion Reference: [Water Quality Control Plan \(Basin Plan\) San Francisco Bay Basin \(Region 2\)](#)

Evaluation Guideline: In freshwater sediments the probable effect concentration (predictive of sediment toxicity for sediment-dwelling organisms) for mercury is 1.06 mg/Kg dry weight (MacDonald et al. 2000).

Guideline Reference: [Development and evaluation of consensus-based sediment quality guidelines for freshwater ecosystems. Environmental Contamination and Toxicology. 39: 20-31](#)

Spatial Representation: Data for this line of evidence for Laurel Creek (Solano County) was collected at 1 monitoring site [Laurel Creek @ Pintail Drive station (207LAU020)]

Temporal Representation: Data was collected on a single day 6/17/2008.

Environmental Conditions: Staff is not aware of any special conditions that might affect interpretation of the data.

QAPP Information: SWAMP data collected before September 2008 followed the QAMP (2002), however there may have been overlap in QA with SWAMP QAPP (2008).

QAPP Information Reference(s): [Quality Assurance Management Plan for the State of California's Surface Water Ambient Monitoring Program. Sacramento, CA. State Water Resources Control Board. SWAMP. December 2002 \(1st version\)](#)
[Surface Water Ambient Monitoring Program Quality Assurance Program Plan](#)

**Line of Evidence (LOE) for Decision ID 65017, Mercury
Laurel Creek (Solano County)**

Region 2

LOE ID: 92168

Pollutant: Mercury
LOE Subgroup: Pollutant-Sediment
Matrix: Sediment
Fraction: Total

Beneficial Use:	Cold Freshwater Habitat
Number of Samples:	1
Number of Exceedances:	0
Data and Information Type:	PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality:	Water Board staff assessed SWAMP data for Laurel Creek (Solano County) to determine beneficial use support and results are as follows: 0 of 1 samples exceed the criterion for Mercury.
Data Reference:	Statewide Stream Pollution Trends Study 2008
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	San Francisco Bay Basin Water Quality Control Plan 2007: All waters shall be maintained free of toxic substances in concentrations which are toxic to, or which produce detrimental physiological responses in, human, plant, animal, or aquatic life.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	In freshwater sediments the probable effect concentration (predictive of sediment toxicity for sediment-dwelling organisms) for mercury is 1.06 mg/Kg dry weight (MacDonald et al. 2000).
Guideline Reference:	Development and evaluation of consensus-based sediment quality guidelines for freshwater ecosystems. Environmental Contamination and Toxicology. 39: 20-31
Spatial Representation:	Data for this line of evidence for Laurel Creek (Solano County) was collected at 1 monitoring site [Laurel Creek @ Pintail Drive station (207LAU020)]
Temporal Representation:	Data was collected on a single day 6/17/2008.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	SWAMP data collected before September 2008 followed the QAMP (2002), however there may have been overlap in QA with SWAMP QAPP (2008).
QAPP Information Reference(s):	Quality Assurance Management Plan for the State of California's Surface Water Ambient Monitoring Program. Sacramento, CA. State Water Resources Control Board. SWAMP. December 2002 (1st version) Surface Water Ambient Monitoring Program Quality Assurance Program Plan

DECISION ID	65018	Region 2
Laurel Creek (Solano County)		

Pollutant:	Methyl Parathion
Final Listing Decision:	Do Not List on 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision:	New Decision
Revision Status	Revised
Impairment from Pollutant or Pollution:	Pollutant
Regional Board Staff Conclusion:	<p>This pollutant is being considered for placement on the CWA section 303(d) List under section 3.6 of the Listing Policy. Under section 3.6 at least two lines of evidence are necessary to assess listing status for pollutants sediment, and pollutant concentrations in sediment must be associated with sediment toxicity to justify adding that pollutant to the CWA section 303(d) List.</p> <p>Two lines of evidence are available in the administrative record to assess this pollutant. Zero of one samples exceed the guideline. Sediment toxicity data are not associated with this decision because they are not relevant to this decision because there is insufficient information based on sediment chemistry.</p> <p>Based on the readily available data and information, the weight of evidence indicates that there is insufficient justification for placing this water segment-pollutant combination on the CWA section 303(d) List.</p>

This conclusion is based on the staff findings that:

1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy.
2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy.
3. Zero of one samples exceed the guideline and this sample size is insufficient to determine beneficial use support, with the power and confidence of the Listing Policy. A minimum of 16 samples is needed to determine if a beneficial use is fully supported using table 3.1. Sediment toxicity data are not associated with this decision because the sediment chemistry data are insufficient.
4. Pursuant to section 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.

Regional Board Staff Decision Recommendation: After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be placed on the section 303(d) list. The readily available data and information is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating.

**Line of Evidence (LOE) for Decision ID 65018, Methyl Parathion
Laurel Creek (Solano County)**

Region 2

LOE ID:	92170
Pollutant:	Methyl Parathion
LOE Subgroup:	Pollutant-Sediment
Matrix:	Sediment
Fraction:	Total
Beneficial Use:	Cold Freshwater Habitat
Number of Samples:	1
Number of Exceedances:	0
Data and Information Type:	PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality:	Water Board staff assessed SWAMP data for Laurel Creek (Solano County) to determine beneficial use support and results are as follows: 0 of 1 samples exceed the criterion for Parathion, Methyl.
Data Reference:	Statewide Stream Pollution Trends Study 2008
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	San Francisco Bay Basin Water Quality Control Plan 2007: All waters shall be maintained free of toxic substances in concentrations which are toxic to, or which produce detrimental physiological responses in, human, plant, animal, or aquatic life.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	The evaluation guideline for methyl parathion is the median lethal concentration (LC50) of 6 ug/g and is normalized by the percentage of organic carbon in the sediment sample. The LC50 6 ug/g is the geometric mean of LC50 values for methyl parathion from Ding et al. (2011).
Guideline Reference:	Toxicity of Sediment-Associated Pesticides to Chironomus dilutus and Hyalella azteca. Arch. Environ. Contam. Toxicol. 61:83?92.
Spatial Representation:	Data for this line of evidence for Laurel Creek (Solano County) was collected at 1 monitoring site [Laurel Creek @ Pintail Drive station (207LAU020)]
Temporal Representation:	Data was collected on a single day 6/17/2008.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	SWAMP data collected before September 2008 followed the QAMP (2002), however there may have been overlap in QA with SWAMP QAPP (2008).
QAPP Information Reference(s):	Quality Assurance Management Plan for the State of California's Surface Water Ambient Monitoring Program. Sacramento, CA. State Water Resources Control Board. SWAMP. December 2002 (1st version). Surface Water Ambient Monitoring Program Quality Assurance Program Plan

**Line of Evidence (LOE) for Decision ID 65018, Methyl Parathion
Laurel Creek (Solano County)**

Region 2

LOE ID:	92169
Pollutant:	Methyl Parathion
LOE Subgroup:	Pollutant-Sediment
Matrix:	Sediment
Fraction:	Total
Beneficial Use:	Warm Freshwater Habitat
Number of Samples:	1
Number of Exceedances:	0
Data and Information Type:	PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality:	Water Board staff assessed SWAMP data for Laurel Creek (Solano County) to determine beneficial use support and results are as follows: 0 of 1 samples exceed the criterion for Parathion, Methyl.
Data Reference:	Statewide Stream Pollution Trends Study 2008
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	San Francisco Bay Basin Water Quality Control Plan 2007: All waters shall be maintained free of toxic substances in concentrations which are toxic to, or which produce detrimental physiological responses in, human, plant, animal, or aquatic life.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	The evaluation guideline for methyl parathion is the median lethal concentration (LC50) of 6 ug/g and is normalized by the percentage of organic carbon in the sediment sample. The LC50 6 ug/g is the geometric mean of LC50 values for methyl parathion from Ding et al. (2011).
Guideline Reference:	Toxicity of Sediment-Associated Pesticides to Chironomus dilutus and Hyalella azteca. Arch. Environ. Contam. Toxicol. 61:83?92.
Spatial Representation:	Data for this line of evidence for Laurel Creek (Solano County) was collected at 1 monitoring site [Laurel Creek @ Pintail Drive station (207LAU020)]
Temporal Representation:	Data was collected on a single day 6/17/2008.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	SWAMP data collected before September 2008 followed the QAMP (2002), however there may have been overlap in QA with SWAMP QAPP (2008).
QAPP Information Reference(s):	Quality Assurance Management Plan for the State of California's Surface Water Ambient Monitoring Program. Sacramento, CA. State Water Resources Control Board. SWAMP. December 2002 (1st version). Surface Water Ambient Monitoring Program Quality Assurance Program Plan

DECISION ID 65019

Region 2

Laurel Creek (Solano County)

Pollutant:	Naphthalene
Final Listing Decision:	Do Not List on 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision:	New Decision
Revision Status	Revised
Impairment from Pollutant or Pollution:	Pollutant

Regional Board Staff Conclusion: This pollutant is being considered for placement on the CWA section 303(d) List under section 3.6 of the Listing Policy. Under section 3.6 at least two lines of evidence are necessary to assess listing

status for pollutants sediment, and pollutant concentrations in sediment must be associated with sediment toxicity to justify adding that pollutant to the CWA section 303(d) List.

Two lines of evidence are available in the administrative record to assess this pollutant. Zero of one samples exceed the guideline. Sediment toxicity data are not associated with this decision because they are not relevant to this decision because there is insufficient information based on sediment chemistry.

Based on the readily available data and information, the weight of evidence indicates that there is insufficient justification for placing this water segment-pollutant combination on the CWA section 303(d) List.

This conclusion is based on the staff findings that:

1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy.
2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy.
3. Zero of one samples exceed the guideline and this sample size is insufficient to determine beneficial use support, with the power and confidence of the Listing Policy. A minimum of 16 samples is needed to determine if a beneficial use is fully supported using table 3.1. Sediment toxicity data are not associated with this decision because the sediment chemistry data are insufficient.
4. Pursuant to section 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.

Regional Board Staff Decision Recommendation: After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be placed on the section 303(d) list. The readily available data and information is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating.

**Line of Evidence (LOE) for Decision ID 65019, Naphthalene
Laurel Creek (Solano County)**

Region 2

LOE ID:	92171
Pollutant:	Naphthalene
LOE Subgroup:	Pollutant-Sediment
Matrix:	Sediment
Fraction:	Total
Beneficial Use:	Warm Freshwater Habitat
Number of Samples:	1
Number of Exceedances:	0
Data and Information Type:	PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality:	Water Board staff assessed SWAMP data for Laurel Creek (Solano County) to determine beneficial use support and results are as follows: 0 of 1 samples exceed the criterion for Naphthalene.
Data Reference:	Statewide Stream Pollution Trends Study 2008
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	San Francisco Bay Basin Water Quality Control Plan 2007: All waters shall be maintained free of toxic substances in concentrations which are toxic to, or which produce detrimental physiological responses in, human, plant, animal, or aquatic life.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	In freshwater sediments the probable effect concentration (predictive of sediment toxicity for sediment-dwelling organisms) for naphthalene is 561 ug/Kg dry weight (MacDonald et al. 2000).
Guideline Reference:	Development and evaluation of consensus-based sediment quality guidelines for freshwater ecosystems. Environmental Contamination and Toxicology. 39: 20-31

Spatial Representation:	Data for this line of evidence for Laurel Creek (Solano County) was collected at 1 monitoring site [Laurel Creek @ Pintail Drive station (207LAU020)]
Temporal Representation:	Data was collected on a single day 6/17/2008.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	SWAMP data collected before September 2008 followed the QAMP (2002), however there may have been overlap in QA with SWAMP QAPP (2008).
QAPP Information Reference(s):	Quality Assurance Management Plan for the State of California's Surface Water Ambient Monitoring Program. Sacramento, CA. State Water Resources Control Board. SWAMP. December 2002 (1st version). Surface Water Ambient Monitoring Program Quality Assurance Program Plan

Line of Evidence (LOE) for Decision ID 65019, Naphthalene
Laurel Creek (Solano County)

Region 2

LOE ID:	92135
Pollutant:	Naphthalene
LOE Subgroup:	Pollutant-Sediment
Matrix:	Sediment
Fraction:	Total
Beneficial Use:	Cold Freshwater Habitat
Number of Samples:	1
Number of Exceedances:	0
Data and Information Type:	PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality:	Water Board staff assessed SWAMP data for Laurel Creek (Solano County) to determine beneficial use support and results are as follows: 0 of 1 samples exceed the criterion for Naphthalene.
Data Reference:	Statewide Stream Pollution Trends Study 2008
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	San Francisco Bay Basin Water Quality Control Plan 2007: All waters shall be maintained free of toxic substances in concentrations which are toxic to, or which produce detrimental physiological responses in, human, plant, animal, or aquatic life.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	In freshwater sediments the probable effect concentration (predictive of sediment toxicity for sediment-dwelling organisms) for naphthalene is 561 ug/Kg dry weight (MacDonald et al. 2000).
Guideline Reference:	Development and evaluation of consensus-based sediment quality guidelines for freshwater ecosystems. Environmental Contamination and Toxicology. 39: 20-31
Spatial Representation:	Data for this line of evidence for Laurel Creek (Solano County) was collected at 1 monitoring site [Laurel Creek @ Pintail Drive station (207LAU020)]
Temporal Representation:	Data was collected on a single day 6/17/2008.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	SWAMP data collected before September 2008 followed the QAMP (2002), however there may have been overlap in QA with SWAMP QAPP (2008).
QAPP Information Reference(s):	Quality Assurance Management Plan for the State of California's Surface Water Ambient Monitoring Program. Sacramento, CA. State Water Resources Control Board. SWAMP. December 2002 (1st version). Surface Water Ambient Monitoring Program Quality Assurance Program Plan

DECISION ID **65020**
Laurel Creek (Solano County)

Region 2

Pollutant:	Nickel
Final Listing Decision:	Do Not List on 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision:	New Decision
Revision Status	Revised
Impairment from Pollutant or Pollution:	Pollutant

Regional Board Staff Conclusion: This pollutant is being considered for placement on the CWA section 303(d) List under section 3.6 of the Listing Policy. Under section 3.6 at least two lines of evidence are necessary to assess listing status for pollutants sediment, and pollutant concentrations in sediment must be associated with sediment toxicity to justify adding that pollutant to the CWA section 303(d) List.

Two lines of evidence are available in the administrative record to assess this pollutant. Zero of one samples exceed the guideline. Sediment toxicity data are not associated with this decision because they are not relevant to this decision because there is insufficient information based on sediment chemistry.

Based on the readily available data and information, the weight of evidence indicates that there is insufficient justification for placing this water segment-pollutant combination on the CWA section 303(d) List.

This conclusion is based on the staff findings that:

1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy.
2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy.
3. Zero of one samples exceed the guideline and this sample size is insufficient to determine beneficial use support, with the power and confidence of the Listing Policy. A minimum of 16 samples is needed to determine if a beneficial use is fully supported using table 3.1. Sediment toxicity data are not associated with this decision because the sediment chemistry data are insufficient.
4. Pursuant to section 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.

Regional Board Staff Decision Recommendation: After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be placed on the section 303(d) list. The readily available data and information is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating.

Line of Evidence (LOE) for Decision ID 65020, Nickel Laurel Creek (Solano County)

Region 2

LOE ID:	92136
Pollutant:	Nickel
LOE Subgroup:	Pollutant-Sediment
Matrix:	Sediment
Fraction:	Total
Beneficial Use:	Warm Freshwater Habitat
Number of Samples:	1
Number of Exceedances:	0
Data and Information Type:	PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality:	Water Board staff assessed SWAMP data for Laurel Creek (Solano County) to determine beneficial use support and results are as follows: 0 of 1 samples exceed the criterion for Nickel.
Data Reference:	Statewide Stream Pollution Trends Study 2008
SWAMP Data:	SWAMP

Water Quality Objective/Criterion:	San Francisco Bay Basin Water Quality Control Plan 2007: All waters shall be maintained free of toxic substances in concentrations which are toxic to, or which produce detrimental physiological responses in, human, plant, animal, or aquatic life.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	In freshwater sediments the probable effect concentration (predictive of sediment toxicity for sediment-dwelling organisms) for nickel is 48.6 mg/Kg dry weight (MacDonald et al. 2000).
Guideline Reference:	Development and evaluation of consensus-based sediment quality guidelines for freshwater ecosystems. Environmental Contamination and Toxicology. 39: 20-31
Spatial Representation:	Data for this line of evidence for Laurel Creek (Solano County) was collected at 1 monitoring site [Laurel Creek @ Pintail Drive station (207LAU020)]
Temporal Representation:	Data was collected on a single day 6/17/2008.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	SWAMP data collected before September 2008 followed the QAMP (2002), however there may have been overlap in QA with SWAMP QAPP (2008).
QAPP Information Reference(s):	Quality Assurance Management Plan for the State of California's Surface Water Ambient Monitoring Program. Sacramento, CA. State Water Resources Control Board. SWAMP. December 2002 (1st version) Surface Water Ambient Monitoring Program Quality Assurance Program Plan

Line of Evidence (LOE) for Decision ID 65020, Nickel

Region 2

Laurel Creek (Solano County)

LOE ID:	92137
Pollutant:	Nickel
LOE Subgroup:	Pollutant-Sediment
Matrix:	Sediment
Fraction:	Total
Beneficial Use:	Cold Freshwater Habitat
Number of Samples:	1
Number of Exceedances:	0
Data and Information Type:	PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality:	Water Board staff assessed SWAMP data for Laurel Creek (Solano County) to determine beneficial use support and results are as follows: 0 of 1 samples exceed the criterion for Nickel.
Data Reference:	Statewide Stream Pollution Trends Study 2008
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	San Francisco Bay Basin Water Quality Control Plan 2007: All waters shall be maintained free of toxic substances in concentrations which are toxic to, or which produce detrimental physiological responses in, human, plant, animal, or aquatic life.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	In freshwater sediments the probable effect concentration (predictive of sediment toxicity for sediment-dwelling organisms) for nickel is 48.6 mg/Kg dry weight (MacDonald et al. 2000).
Guideline Reference:	Development and evaluation of consensus-based sediment quality guidelines for freshwater ecosystems. Environmental Contamination and Toxicology. 39: 20-31
Spatial Representation:	Data for this line of evidence for Laurel Creek (Solano County) was collected at 1 monitoring site [Laurel Creek @ Pintail Drive station (207LAU020)]
Temporal Representation:	Data was collected on a single day 6/17/2008.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	SWAMP data collected before September 2008 followed the QAMP (2002), however there may have been overlap in QA with SWAMP QAPP (2008).

DECISION ID	65021	Region 2
Laurel Creek (Solano County)		

Pollutant: PAHs (Polycyclic Aromatic Hydrocarbons)
Final Listing Decision: Do Not List on 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision: New Decision
Revision Status: Revised
Impairment from Pollutant or Pollution: Pollutant

Regional Board Staff Conclusion:

This pollutant is being considered for placement on the CWA section 303(d) List under section 3.6 of the Listing Policy. Under section 3.6 at least two lines of evidence are necessary to assess listing status for pollutants sediment, and pollutant concentrations in sediment must be associated with sediment toxicity to justify adding that pollutant to the CWA section 303(d) List.

Two lines of evidence are available in the administrative record to assess this pollutant. Zero of one samples exceed the guideline. Sediment toxicity data are not associated with this decision because they are not relevant to this decision because there is insufficient information based on sediment chemistry.

Based on the readily available data and information, the weight of evidence indicates that there is insufficient justification for placing this water segment-pollutant combination on the CWA section 303(d) List.

This conclusion is based on the staff findings that:

1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy.
2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy.
3. Zero of one samples exceed the guideline and this sample size is insufficient to determine beneficial use support, with the power and confidence of the Listing Policy. A minimum of 16 samples is needed to determine if a beneficial use is fully supported using table 3.1. Sediment toxicity data are not associated with this decision because the sediment chemistry data are insufficient.
4. Pursuant to section 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.

Regional Board Staff Decision Recommendation:

After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be placed on the section 303(d) list. The readily available data and information is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating.

Line of Evidence (LOE) for Decision ID 65021, PAHs (Polycyclic Aromatic Hydrocarbons)	Region 2
Laurel Creek (Solano County)	

LOE ID: 92138

Pollutant: PAHs (Polycyclic Aromatic Hydrocarbons)
LOE Subgroup: Pollutant-Sediment
Matrix: Sediment
Fraction: Total

Beneficial Use: Warm Freshwater Habitat

Number of Samples: 1

Number of Exceedances:	0
Data and Information Type:	PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality:	Water Board staff assessed SWAMP data for Laurel Creek (Solano County) to determine beneficial use support and results are as follows: 0 of 1 samples exceed the criterion for PAHs (Polycyclic Aromatic Hydrocarbons).
Data Reference:	Statewide Stream Pollution Trends Study 2008
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	San Francisco Bay Basin Water Quality Control Plan 2007: All waters shall be maintained free of toxic substances in concentrations which are toxic to, or which produce detrimental physiological responses in, human, plant, animal, or aquatic life.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	In freshwater sediments the probable effects level (predictive of sediment toxicity for sediment-dwelling organisms) for PAH, Total is 22,800 ug/Kg dry weight (Macdonald et al. 2000)
Guideline Reference:	Development and evaluation of consensus-based sediment quality guidelines for freshwater ecosystems. Environmental Contamination and Toxicology. 39: 20-31
Spatial Representation:	Data for this line of evidence for Laurel Creek (Solano County) was collected at 1 monitoring site [Laurel Creek @ Pintail Drive station (207LAU020)]
Temporal Representation:	Data was collected on a single day 6/17/2008.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	SWAMP data collected before September 2008 followed the QAMP (2002), however there may have been overlap in QA with SWAMP QAPP (2008).
QAPP Information Reference(s):	Quality Assurance Management Plan for the State of California's Surface Water Ambient Monitoring Program. Sacramento, CA. State Water Resources Control Board. SWAMP. December 2002 (1st version) Surface Water Ambient Monitoring Program Quality Assurance Program Plan

Line of Evidence (LOE) for Decision ID 65021, PAHs (Polycyclic Aromatic Hydrocarbons)
Laurel Creek (Solano County)

Region 2

LOE ID:	92139
Pollutant:	PAHs (Polycyclic Aromatic Hydrocarbons)
LOE Subgroup:	Pollutant-Sediment
Matrix:	Sediment
Fraction:	Total
Beneficial Use:	Cold Freshwater Habitat
Number of Samples:	1
Number of Exceedances:	0
Data and Information Type:	PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality:	Water Board staff assessed SWAMP data for Laurel Creek (Solano County) to determine beneficial use support and results are as follows: 0 of 1 samples exceed the criterion for PAHs (Polycyclic Aromatic Hydrocarbons).
Data Reference:	Statewide Stream Pollution Trends Study 2008
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	San Francisco Bay Basin Water Quality Control Plan 2007: All waters shall be maintained free of toxic substances in concentrations which are toxic to, or which produce detrimental physiological responses in, human, plant, animal, or aquatic life.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	In freshwater sediments the probable effects level (predictive of sediment toxicity for sediment-dwelling organisms) for PAH, Total is 22,800 ug/Kg dry weight (Macdonald et al.

Guideline Reference:	2000) Development and evaluation of consensus-based sediment quality guidelines for freshwater ecosystems. Environmental Contamination and Toxicology. 39: 20-31
Spatial Representation:	Data for this line of evidence for Laurel Creek (Solano County) was collected at 1 monitoring site [Laurel Creek @ Pintail Drive station (207LAU020)]
Temporal Representation:	Data was collected on a single day 6/17/2008.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	SWAMP data collected before September 2008 followed the QAMP (2002), however there may have been overlap in QA with SWAMP QAPP (2008).
QAPP Information Reference(s):	Quality Assurance Management Plan for the State of California's Surface Water Ambient Monitoring Program. Sacramento, CA. State Water Resources Control Board. SWAMP. December 2002 (1st version). Surface Water Ambient Monitoring Program Quality Assurance Program Plan

DECISION ID 65022		Region 2
Laurel Creek (Solano County)		
Pollutant:	PCBs (Polychlorinated biphenyls)	
Final Listing Decision:	Do Not List on 303(d) list (TMDL required list)	
Last Listing Cycle's Final Listing Decision:	New Decision	
Revision Status	Revised	
Impairment from Pollutant or Pollution:	Pollutant	
Regional Board Staff Conclusion:	<p>This pollutant is being considered for placement on the CWA section 303(d) List under section 3.6 of the Listing Policy. Under section 3.6 at least two lines of evidence are necessary to assess listing status for pollutants sediment, and pollutant concentrations in sediment must be associated with sediment toxicity to justify adding that pollutant to the CWA section 303(d) List.</p> <p>Two lines of evidence are available in the administrative record to assess this pollutant. Zero of one samples exceed the guideline. Sediment toxicity data are not associated with this decision because they are not relevant to this decision because there is insufficient information based on sediment chemistry.</p> <p>Based on the readily available data and information, the weight of evidence indicates that there is insufficient justification for placing this water segment-pollutant combination on the CWA section 303(d) List.</p> <p>This conclusion is based on the staff findings that:</p> <ol style="list-style-type: none"> 1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy. 2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy. 3. Zero of one samples exceed the guideline and this sample size is insufficient to determine beneficial use support, with the power and confidence of the Listing Policy. A minimum of 16 samples is needed to determine if a beneficial use is fully supported using table 3.1. Sediment toxicity data are not associated with this decision because the sediment chemistry data are insufficient. 4. Pursuant to section 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met. 	
Regional Board Staff Decision Recommendation:	After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be placed on the section 303(d) list. The readily available data and information is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating.	

Line of Evidence (LOE) for Decision ID 65022, PCBs (Polychlorinated biphenyls)		Region 2
Laurel Creek (Solano County)		

LOE ID:	90586
Pollutant:	PCBs (Polychlorinated biphenyls)
LOE Subgroup:	Pollutant-Sediment
Matrix:	Sediment
Fraction:	Total
Beneficial Use:	Cold Freshwater Habitat
Number of Samples:	1
Number of Exceedances:	0
Data and Information Type:	PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality:	Zero of 1 sample collected for Total PCBs exceeded the evaluation guideline.
Data Reference:	Statewide Stream Pollution Trends Study 2008
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	Waters shall not contain substances in concentrations that result in the deposition of material that causes nuisance or adversely affects beneficial uses (Water Quality Control Plan for the San Francisco Bay Region).
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) - San Francisco Bay Region (Region 2)
Evaluation Guideline:	In freshwater sediments the probable effect concentration (predictive of sediment toxicity) for total PCB is 676 ug/Kg dry weight (MacDonald et al. 2000).
Guideline Reference:	Development and evaluation of consensus-based sediment quality guidelines for freshwater ecosystems. Environmental Contamination and Toxicology. 39: 20-31
Spatial Representation:	Data were collected at the following station 207LAU020 (Laurel Creek @ Pintail Drive).
Temporal Representation:	The samples were collected on 6/17/2008.
Environmental Conditions:	
QAPP Information:	The SWAMP QAPP (2008) was followed.
QAPP Information Reference(s):	Surface Water Ambient Monitoring Program Quality Assurance Program Plan

DECISION ID	65023	Region 2
Laurel Creek (Solano County)		

Pollutant:	Permethrin
Final Listing Decision:	Do Not List on 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision:	New Decision
Revision Status	Revised
Impairment from Pollutant or Pollution:	Pollutant
Regional Board Staff Conclusion:	<p>This pollutant is being considered for placement on the CWA section 303(d) List under section 3.6 of the Listing Policy. Under section 3.6 at least two lines of evidence are necessary to assess listing status for pollutants sediment, and pollutant concentrations in sediment must be associated with sediment toxicity to justify adding that pollutant to the CWA section 303(d) List.</p> <p>Two lines of evidence are available in the administrative record to assess this pollutant. Zero of one samples exceed the guideline. Sediment toxicity data are not associated with this decision because they are not relevant to this decision because there is insufficient information based on sediment chemistry.</p> <p>Based on the readily available data and information, the weight of evidence indicates that there is insufficient justification for placing this water segment-pollutant combination on the CWA section 303(d) List.</p> <p>This conclusion is based on the staff findings that:</p> <ol style="list-style-type: none"> 1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy.

2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy.
3. Zero of one samples exceed the guideline and this sample size is insufficient to determine beneficial use support, with the power and confidence of the Listing Policy. A minimum of 16 samples is needed to determine if a beneficial use is fully supported using table 3.1. Sediment toxicity data are not associated with this decision because the sediment chemistry data are insufficient.
4. Pursuant to section 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.

Regional Board Staff Decision Recommendation: After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be placed on the section 303(d) list. The readily available data and information is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating.

**Line of Evidence (LOE) for Decision ID 65023, Permethrin
Laurel Creek (Solano County)**

Region 2

LOE ID:	92141
Pollutant:	Permethrin, total
LOE Subgroup:	Pollutant-Sediment
Matrix:	Sediment
Fraction:	Total
Beneficial Use:	Cold Freshwater Habitat
Number of Samples:	1
Number of Exceedances:	0
Data and Information Type:	PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality:	Water Board staff assessed SWAMP data for Laurel Creek (Solano County) to determine beneficial use support and results are as follows: 0 of 1 samples exceed the criterion for Permethrin, Total.
Data Reference:	Statewide Stream Pollution Trends Study 2008
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	San Francisco Bay Basin Water Quality Control Plan 2007: All waters shall be maintained free of toxic substances in concentrations which are toxic to, or which produce detrimental physiological responses in, human, plant, animal, or aquatic life.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	The evaluation guideline for permethrin is the median lethal concentration (LC50) of 8.9 ug/g and is normalized by the percentage of organic carbon in the sediment sample. The LC50 8.9 ug/g is the geometric mean of LC50 values for permethrin from Amweg et al. (2005).
Guideline Reference:	Use and Toxicity of Pyrethroid Pesticides in the Central Valley, California, USA. Environmental Toxicology and Chemistry, 24:966-972, with erratum 24:No. 5
Spatial Representation:	Data for this line of evidence for Laurel Creek (Solano County) was collected at 1 monitoring site [Laurel Creek @ Pintail Drive station (207LAU020)]
Temporal Representation:	Data was collected on a single day 6/17/2008.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	SWAMP data collected before September 2008 followed the QAMP (2002), however there may have been overlap in QA with SWAMP QAPP (2008).
QAPP Information Reference(s):	Quality Assurance Management Plan for the State of California's Surface Water Ambient Monitoring Program, Sacramento, CA. State Water Resources Control Board. SWAMP. December 2002 (1st version) Surface Water Ambient Monitoring Program Quality Assurance Program Plan

Line of Evidence (LOE) for Decision ID 65023, Permethrin

Region 2

Laurel Creek (Solano County)

LOE ID:	92140
Pollutant:	Permethrin, total
LOE Subgroup:	Pollutant-Sediment
Matrix:	Sediment
Fraction:	Total
Beneficial Use:	Warm Freshwater Habitat
Number of Samples:	1
Number of Exceedances:	0
Data and Information Type:	PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality:	Water Board staff assessed SWAMP data for Laurel Creek (Solano County) to determine beneficial use support and results are as follows: 0 of 1 samples exceed the criterion for Permethrin, Total.
Data Reference:	Statewide Stream Pollution Trends Study 2008
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	San Francisco Bay Basin Water Quality Control Plan 2007: All waters shall be maintained free of toxic substances in concentrations which are toxic to, or which produce detrimental physiological responses in, human, plant, animal, or aquatic life.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	The evaluation guideline for permethrin is the median lethal concentration (LC50) of 8.9 ug/g and is normalized by the percentage of organic carbon in the sediment sample. The LC50 8.9 ug/g is the geometric mean of LC50 values for permethrin from Amweg et al. (2005).
Guideline Reference:	Use and Toxicity of Pyrethroid Pesticides in the Central Valley, California, USA. Environmental Toxicology and Chemistry, 24:966-972, with erratum 24:No. 5
Spatial Representation:	Data for this line of evidence for Laurel Creek (Solano County) was collected at 1 monitoring site [Laurel Creek @ Pintail Drive station (207LAU020)]
Temporal Representation:	Data was collected on a single day 6/17/2008.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	SWAMP data collected before September 2008 followed the QAMP (2002), however there may have been overlap in QA with SWAMP QAPP (2008).
QAPP Information Reference(s):	Quality Assurance Management Plan for the State of California's Surface Water Ambient Monitoring Program. Sacramento, CA. State Water Resources Control Board. SWAMP. December 2002 (1st version) Surface Water Ambient Monitoring Program Quality Assurance Program Plan

DECISION ID	65024	Region 2
Laurel Creek (Solano County)		
Pollutant:	Phenanthrene	
Final Listing Decision:	Do Not List on 303(d) list (TMDL required list)	
Last Listing Cycle's Final Listing Decision:	New Decision	
Revision Status	Revised	
Impairment from Pollutant or Pollution:	Pollutant	
Regional Board Staff Conclusion:	This pollutant is being considered for placement on the CWA section 303(d) List under section 3.6 of the Listing Policy. Under section 3.6 at least two lines of evidence are necessary to assess listing status for pollutants sediment, and pollutant concentrations in sediment must be associated with sediment toxicity to justify adding that pollutant to the CWA section 303(d) List.	

Two lines of evidence are available in the administrative record to assess this pollutant. Zero of one samples exceed the guideline. Sediment toxicity data are not associated with this decision because they are not relevant to this decision because there is insufficient information based on sediment chemistry.

Based on the readily available data and information, the weight of evidence indicates that there is insufficient justification for placing this water segment-pollutant combination on the CWA section 303(d) List.

This conclusion is based on the staff findings that:

1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy.
2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy.
3. Zero of one samples exceed the guideline and this sample size is insufficient to determine beneficial use support, with the power and confidence of the Listing Policy. A minimum of 16 samples is needed to determine if a beneficial use is fully supported using table 3.1. Sediment toxicity data are not associated with this decision because the sediment chemistry data are insufficient.
4. Pursuant to section 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.

Regional Board Staff Decision Recommendation: After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be placed on the section 303(d) list. The readily available data and information is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating.

**Line of Evidence (LOE) for Decision ID 65024, Phenanthrene
Laurel Creek (Solano County)**

Region 2

LOE ID:	92143
Pollutant:	Phenanthrene
LOE Subgroup:	Pollutant-Sediment
Matrix:	Sediment
Fraction:	Total
Beneficial Use:	Cold Freshwater Habitat
Number of Samples:	1
Number of Exceedances:	0
Data and Information Type:	PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality:	Water Board staff assessed SWAMP data for Laurel Creek (Solano County) to determine beneficial use support and results are as follows: 0 of 1 samples exceed the criterion for Phenanthrene.
Data Reference:	Statewide Stream Pollution Trends Study 2008
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	San Francisco Bay Basin Water Quality Control Plan 2007: All waters shall be maintained free of toxic substances in concentrations which are toxic to, or which produce detrimental physiological responses in, human, plant, animal, or aquatic life.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	In freshwater sediments the probable effects level (predictive of sediment toxicity for sediment-dwelling organisms) for Phenanthrene is 1170 ug/Kg dry weight (Macdonald et al. 2000)
Guideline Reference:	Development and evaluation of consensus-based sediment quality guidelines for freshwater ecosystems. Environmental Contamination and Toxicology. 39: 20-31
Spatial Representation:	Data for this line of evidence for Laurel Creek (Solano County) was collected at 1 monitoring site [Laurel Creek @ Pintail Drive station (207LAU020)]

Temporal Representation:	Data was collected on a single day 6/17/2008.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	SWAMP data collected before September 2008 followed the QAMP (2002), however there may have been overlap in QA with SWAMP QAPP (2008).
QAPP Information Reference(s):	Quality Assurance Management Plan for the State of California's Surface Water Ambient Monitoring Program. Sacramento, CA. State Water Resources Control Board. SWAMP. December 2002 (1st version) Surface Water Ambient Monitoring Program Quality Assurance Program Plan

Line of Evidence (LOE) for Decision ID 65024, Phenanthrene

Region 2

Laurel Creek (Solano County)

LOE ID:	92142
Pollutant:	Phenanthrene
LOE Subgroup:	Pollutant-Sediment
Matrix:	Sediment
Fraction:	Total
Beneficial Use:	Warm Freshwater Habitat
Number of Samples:	1
Number of Exceedances:	0
Data and Information Type:	PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality:	Water Board staff assessed SWAMP data for Laurel Creek (Solano County) to determine beneficial use support and results are as follows: 0 of 1 samples exceed the criterion for Phenanthrene.
Data Reference:	Statewide Stream Pollution Trends Study 2008
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	San Francisco Bay Basin Water Quality Control Plan 2007: All waters shall be maintained free of toxic substances in concentrations which are toxic to, or which produce detrimental physiological responses in, human, plant, animal, or aquatic life.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	In freshwater sediments the probable effects level (predictive of sediment toxicity for sediment-dwelling organisms) for Phenanthrene is 1170 ug/Kg dry weight (Macdonald et al. 2000)
Guideline Reference:	Development and evaluation of consensus-based sediment quality guidelines for freshwater ecosystems. Environmental Contamination and Toxicology. 39: 20-31
Spatial Representation:	Data for this line of evidence for Laurel Creek (Solano County) was collected at 1 monitoring site [Laurel Creek @ Pintail Drive station (207LAU020)]
Temporal Representation:	Data was collected on a single day 6/17/2008.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	SWAMP data collected before September 2008 followed the QAMP (2002), however there may have been overlap in QA with SWAMP QAPP (2008).
QAPP Information Reference(s):	Quality Assurance Management Plan for the State of California's Surface Water Ambient Monitoring Program. Sacramento, CA. State Water Resources Control Board. SWAMP. December 2002 (1st version) Surface Water Ambient Monitoring Program Quality Assurance Program Plan

DECISION ID 65025

Region 2

Laurel Creek (Solano County)

Pollutant:	Pyrene
Final Listing Decision:	Do Not List on 303(d) list (TMDL required list)
Last Listing Cycle's Final	New Decision

Listing Decision:**Revision Status**

Revised

Impairment from Pollutant or Pollution:

Pollutant

Regional Board Staff**Conclusion:**

This pollutant is being considered for placement on the CWA section 303(d) List under section 3.6 of the Listing Policy. Under section 3.6 at least two lines of evidence are necessary to assess listing status for pollutants sediment, and pollutant concentrations in sediment must be associated with sediment toxicity to justify adding that pollutant to the CWA section 303(d) List.

Two lines of evidence are available in the administrative record to assess this pollutant. Zero of one samples exceed the guideline. Sediment toxicity data are not associated with this decision because they are not relevant to this decision because there is insufficient information based on sediment chemistry.

Based on the readily available data and information, the weight of evidence indicates that there is insufficient justification for placing this water segment-pollutant combination on the CWA section 303(d) List.

This conclusion is based on the staff findings that:

1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy.
2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy.
3. Zero of one samples exceed the guideline and this sample size is insufficient to determine beneficial use support, with the power and confidence of the Listing Policy. A minimum of 16 samples is needed to determine if a beneficial use is fully supported using table 3.1. Sediment toxicity data are not associated with this decision because the sediment chemistry data are insufficient.
4. Pursuant to section 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.

Regional Board Staff Decision**Recommendation:**

After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be placed on the section 303(d) list. The readily available data and information is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating.

Line of Evidence (LOE) for Decision ID 65025, Pyrene**Region 2****Laurel Creek (Solano County)**

LOE ID: 92145

Pollutant: Pyrene

LOE Subgroup: Pollutant-Sediment

Matrix: Sediment

Fraction: Total

Beneficial Use: Cold Freshwater Habitat

Number of Samples: 1

Number of Exceedances: 0

Data and Information Type: PHYSICAL/CHEMICAL MONITORING

Data Used to Assess Water Quality: Water Board staff assessed SWAMP data for Laurel Creek (Solano County) to determine beneficial use support and results are as follows: 0 of 1 samples exceed the criterion for Pyrene.

Data Reference: [Statewide Stream Pollution Trends Study 2008](#)

SWAMP Data: SWAMP

Water Quality Objective/Criterion: San Francisco Bay Basin Water Quality Control Plan 2007: All waters shall be maintained free of toxic substances in concentrations which are toxic to, or which produce detrimental physiological responses in, human, plant, animal, or aquatic life.

Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	In freshwater sediments the probable effects level (predictive of sediment toxicity for sediment-dwelling organisms) for Pyrene is 1520 ug/Kg dry weight (Macdonald et al. 2000)
Guideline Reference:	Development and evaluation of consensus-based sediment quality guidelines for freshwater ecosystems. Environmental Contamination and Toxicology. 39: 20-31
Spatial Representation:	Data for this line of evidence for Laurel Creek (Solano County) was collected at 1 monitoring site [Laurel Creek @ Pintail Drive station (207LAU020)]
Temporal Representation:	Data was collected on a single day 6/17/2008.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	SWAMP data collected before September 2008 followed the QAMP (2002), however there may have been overlap in QA with SWAMP QAPP (2008).
QAPP Information Reference(s):	Quality Assurance Management Plan for the State of California's Surface Water Ambient Monitoring Program. Sacramento, CA. State Water Resources Control Board. SWAMP. December 2002 (1st version) Surface Water Ambient Monitoring Program Quality Assurance Program Plan

**Line of Evidence (LOE) for Decision ID 65025, Pyrene
Laurel Creek (Solano County)**

Region 2

LOE ID:	92144
Pollutant:	Pyrene
LOE Subgroup:	Pollutant-Sediment
Matrix:	Sediment
Fraction:	Total
Beneficial Use:	Warm Freshwater Habitat
Number of Samples:	1
Number of Exceedances:	0
Data and Information Type:	PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality:	Water Board staff assessed SWAMP data for Laurel Creek (Solano County) to determine beneficial use support and results are as follows: 0 of 1 samples exceed the criterion for Pyrene.
Data Reference:	Statewide Stream Pollution Trends Study 2008
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	San Francisco Bay Basin Water Quality Control Plan 2007: All waters shall be maintained free of toxic substances in concentrations which are toxic to, or which produce detrimental physiological responses in, human, plant, animal, or aquatic life.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	In freshwater sediments the probable effects level (predictive of sediment toxicity for sediment-dwelling organisms) for Pyrene is 1520 ug/Kg dry weight (Macdonald et al. 2000)
Guideline Reference:	Development and evaluation of consensus-based sediment quality guidelines for freshwater ecosystems. Environmental Contamination and Toxicology. 39: 20-31
Spatial Representation:	Data for this line of evidence for Laurel Creek (Solano County) was collected at 1 monitoring site [Laurel Creek @ Pintail Drive station (207LAU020)]
Temporal Representation:	Data was collected on a single day 6/17/2008.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	SWAMP data collected before September 2008 followed the QAMP (2002), however there may have been overlap in QA with SWAMP QAPP (2008).
QAPP Information Reference(s):	Quality Assurance Management Plan for the State of California's Surface Water Ambient Monitoring Program. Sacramento, CA. State Water Resources Control Board. SWAMP. December 2002 (1st version)

DECISION ID	65027	Region 2
Laurel Creek (Solano County)		

Pollutant:	Toxicity
Final Listing Decision:	Do Not List on 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision:	New Decision
Revision Status	Revised
Impairment from Pollutant or Pollution:	Pollutant

Regional Board Staff Conclusion: This pollutant is being considered for placement on the CWA section 303(d) List under section 3.6 of the Listing Policy. Under section 3.6 at least one line of evidence is necessary to assess listing status for sediment toxicity to justify adding that pollutant to the CWA section 303(d) List.

One line of evidence is available in the administrative record to assess this pollutant. Zero of one samples exceed the guideline.

Based on the readily available data and information, the weight of evidence indicates that there is insufficient justification for placing this water segment-pollutant combination on the CWA section 303(d) List.

This conclusion is based on the staff findings that:

1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy.
2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy.
3. Zero of one samples exceed the guideline and this sample size is insufficient to determine beneficial use support, with the power and confidence of the Listing Policy. A minimum of 16 samples is needed to determine if a beneficial use is fully supported using table 3.1.
4. Pursuant to section 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.

Regional Board Staff Decision Recommendation: After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be placed on the section 303(d) list. The readily available data and information is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating.

Line of Evidence (LOE) for Decision ID 65027, Toxicity	Region 2
Laurel Creek (Solano County)	

LOE ID:	90513
Pollutant:	Toxicity
LOE Subgroup:	Toxicity
Matrix:	Sediment
Fraction:	None
Beneficial Use:	Cold Freshwater Habitat
Number of Samples:	1
Number of Exceedances:	1
Data and Information Type:	TOXICITY TESTING
Data Used to Assess Water Quality:	One sample was collected to evaluate sediment toxicity. The sample exhibited significant toxicity. The toxicity test included survival of <i>Hyalella azteca</i> . One sample can have multiple toxicity test results but will be counted only once. One sample is defined as being collected on the same day at the same location with the same lab sample id (if provided).
Data Reference:	Statewide Stream Pollution Trends Study 2008

SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	All waters shall be maintained free of toxic substances in concentrations that are toxic to, or that produce detrimental physiological responses in, human, plant, animal, or aquatic life. Region 2 Basin Plan.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) - San Francisco Bay Region (Region 2)
Evaluation Guideline:	Toxicity is defined as a statistically significant effect in the sample exposure compared to the control using EPA-recommended hypothesis testing. For SWAMP data exceedances are counted with the significant effect code SL. SL is defined as the result being significant compared to the negative control based on a statistical test, less than stated the alpha level, AND less than the evaluation threshold.
Guideline Reference:	Methods for Measuring the Toxicity and Bioaccumulation of Sediment-associated Contaminants with Freshwater Invertebrates, Second Edition. U.S. Environmental Protection Agency Office of Research and Development, Duluth, MI. U.S. Environmental Protection Agency Office of Water, Washington, DC EPA-600/R-99/064
Spatial Representation:	The sample was collected at station 207LAU020.
Temporal Representation:	The sample was collected in June 2008.
Environmental Conditions:	
QAPP Information:	All data was collected following the Standard Operating Procedures and Data Quality Objectives outlined in the SWAMP QAMP, (Puckett, 2002). QA data are included in submission.
QAPP Information Reference(s):	Surface Water Ambient Monitoring Program Quality Assurance Program Plan

DECISION ID	65028	Region 2
Laurel Creek (Solano County)		

Pollutant:	Zinc
Final Listing Decision:	Do Not List on 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision:	New Decision
Revision Status	Revised
Impairment from Pollutant or Pollution:	Pollutant

Regional Board Staff Conclusion:	<p>This pollutant is being considered for placement on the CWA section 303(d) List under section 3.6 of the Listing Policy. Under section 3.6 at least two lines of evidence are necessary to assess listing status for pollutants in sediment, and pollutant concentrations in sediment must be associated with sediment toxicity to justify adding that pollutant to the CWA section 303(d) List.</p> <p>Two lines of evidence are available in the administrative record to assess this pollutant. Zero of one samples exceed the guideline. Sediment toxicity data are not associated with this decision because they are not relevant to this decision because there is insufficient information based on sediment chemistry.</p> <p>Based on the readily available data and information, the weight of evidence indicates that there is insufficient justification for placing this water segment-pollutant combination on the CWA section 303(d) List.</p> <p>This conclusion is based on the staff findings that:</p> <ol style="list-style-type: none"> 1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy. 2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy. 3. Zero of one samples exceed the guideline and this sample size is insufficient to determine beneficial use support, with the power and confidence of the Listing Policy. A minimum of 16 samples is needed to determine if a beneficial use is fully supported using table 3.1. Sediment toxicity data are not associated with this decision because the sediment chemistry data are insufficient. 4. Pursuant to section 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.
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Regional Board Staff Decision Recommendation: After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be placed on the section 303(d) list. The readily available data and information is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating.

**Line of Evidence (LOE) for Decision ID 65028, Zinc
Laurel Creek (Solano County)**

Region 2

LOE ID: 92149

Pollutant: Zinc
LOE Subgroup: Pollutant-Sediment
Matrix: Sediment
Fraction: Total

Beneficial Use: Cold Freshwater Habitat

Number of Samples: 1
Number of Exceedances: 0

Data and Information Type: PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality: Water Board staff assessed SWAMP data for Laurel Creek (Solano County) to determine beneficial use support and results are as follows: 0 of 1 samples exceed the criterion for Zinc.

Data Reference: [Statewide Stream Pollution Trends Study 2008](#)

SWAMP Data: SWAMP

Water Quality Objective/Criterion: San Francisco Bay Basin Water Quality Control Plan 2007: All waters shall be maintained free of toxic substances in concentrations which are toxic to, or which produce detrimental physiological responses in, human, plant, animal, or aquatic life.

Objective/Criterion Reference: [Water Quality Control Plan \(Basin Plan\) San Francisco Bay Basin \(Region 2\)](#)

Evaluation Guideline: In freshwater sediments the probable effect concentration (predictive of sediment toxicity for sediment-dwelling organisms) for zinc is 459 mg/Kg dry weight (MacDonald et al. 2000).

Guideline Reference: [Development and evaluation of consensus-based sediment quality guidelines for freshwater ecosystems. Environmental Contamination and Toxicology. 39: 20-31](#)

Spatial Representation: Data for this line of evidence for Laurel Creek (Solano County) was collected at 1 monitoring site [Laurel Creek @ Pintail Drive station (207LAU020)]

Temporal Representation: Data was collected on a single day 6/17/2008.

Environmental Conditions: Staff is not aware of any special conditions that might affect interpretation of the data.

QAPP Information: SWAMP data collected before September 2008 followed the QAMP (2002), however there may have been overlap in QA with SWAMP QAPP (2008).

QAPP Information Reference(s): [Quality Assurance Management Plan for the State of California's Surface Water Ambient Monitoring Program. Sacramento, CA. State Water Resources Control Board. SWAMP. December 2002 \(1st version\)](#)
[Surface Water Ambient Monitoring Program Quality Assurance Program Plan](#)

**Line of Evidence (LOE) for Decision ID 65028, Zinc
Laurel Creek (Solano County)**

Region 2

LOE ID: 92148

Pollutant: Zinc
LOE Subgroup: Pollutant-Sediment
Matrix: Sediment
Fraction: Total

Beneficial Use:	Warm Freshwater Habitat
Number of Samples:	1
Number of Exceedances:	0
Data and Information Type:	PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality:	Water Board staff assessed SWAMP data for Laurel Creek (Solano County) to determine beneficial use support and results are as follows: 0 of 1 samples exceed the criterion for Zinc.
Data Reference:	Statewide Stream Pollution Trends Study 2008
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	San Francisco Bay Basin Water Quality Control Plan 2007: All waters shall be maintained free of toxic substances in concentrations which are toxic to, or which produce detrimental physiological responses in, human, plant, animal, or aquatic life.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	In freshwater sediments the probable effect concentration (predictive of sediment toxicity for sediment-dwelling organisms) for zinc is 459 mg/Kg dry weight (MacDonald et al. 2000).
Guideline Reference:	Development and evaluation of consensus-based sediment quality guidelines for freshwater ecosystems. Environmental Contamination and Toxicology. 39: 20-31
Spatial Representation:	Data for this line of evidence for Laurel Creek (Solano County) was collected at 1 monitoring site [Laurel Creek @ Pintail Drive station (207LAU020)]
Temporal Representation:	Data was collected on a single day 6/17/2008.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	SWAMP data collected before September 2008 followed the QAMP (2002), however there may have been overlap in QA with SWAMP QAPP (2008).
QAPP Information Reference(s):	Quality Assurance Management Plan for the State of California's Surface Water Ambient Monitoring Program. Sacramento, CA. State Water Resources Control Board. SWAMP. December 2002 (1st version) Surface Water Ambient Monitoring Program Quality Assurance Program Plan

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Supporting Information

Regional Board 2 - San Francisco Bay Region

Water Body Name: Mitchell Creek
Water Body ID: CAR2073101020110723172729
Water Body Type: River & Stream

DECISION ID 65137 **Region 2**
Mitchell Creek

Pollutant: Alkalinity as CaCO₃
Final Listing Decision: Do Not List on 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision: New Decision
Revision Status Revised
Impairment from Pollutant or Pollution: Pollutant

Regional Board Staff Conclusion: This pollutant is being considered for placement on the CWA section 303(d) List under section 3.1 of the Listing Policy. Under section 3.1 a single line of evidence is necessary to assess listing status. Two lines of evidence are available in the administrative record to assess this pollutant. Zero of zero samples exceed the guideline.

Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against placing this water segment-pollutant combination on the CWA section 303(d) List.

This conclusion is based on the staff findings that:

1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy.
2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy.
3. Zero of zero samples exceed the guideline and this sample size is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating. A minimum of 16 samples is needed to determine if a beneficial use is fully supported using table 3.1.
4. Pursuant to SECTION 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.

Regional Board Staff Decision Recommendation: After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be placed on the section 303(d) list. The readily available data and information is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating.

Line of Evidence (LOE) for Decision ID 65137, Alkalinity as CaCO₃ **Region 2**
Mitchell Creek

LOE ID: 92250
Pollutant: Alkalinity as CaCO₃
LOE Subgroup: Pollutant-Water
Matrix: Water
Fraction: Total
Beneficial Use: Cold Freshwater Habitat
Number of Samples: 0
Number of Exceedances: 0

Data and Information Type:	PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality:	State Water Board staff assessed SWAMP data for Mitchell Canyon to determine beneficial use support and results are as follows: 0 of 0 samples exceed the criterion for Alkalinity as CaCO ₃ . One sample result was not used in the assessment because the laboratory data reporting limit(s) was above the objective and therefore the results could not be quantified with the level of certainty required by the Listing Policy.
Data Reference:	RWB2 Reference Study Monitoring 2008
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	Surface waters shall not contain concentrations of chemical constituents in amounts that adversely affect any designated beneficial use.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	The Alkalinity as CaCO ₃ criteria for the protection of freshwater aquatic life is 20000 ug/L (National Recommended Water Quality Criteria, 2009).
Guideline Reference:	National Recommended Water Quality Criteria. United States Environmental Protection Agency. Office of Water. Office of Science and Technology
Spatial Representation:	Data for this line of evidence for Mitchell Canyon was collected at 1 monitoring site [Mitchell approx 250 m upstream of bridge at Mt. Diablo SP entrance - 207MTD117]
Temporal Representation:	Data was collected on a single day 5/6/2008.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	The SWAMP QAPP (2008) was followed.
QAPP Information Reference(s):	Surface Water Ambient Monitoring Program Quality Assurance Program Plan

Line of Evidence (LOE) for Decision ID 65137, Alkalinity as CaCO₃

Region 2

Mitchell Creek

LOE ID:	92249
Pollutant:	Alkalinity as CaCO ₃
LOE Subgroup:	Pollutant-Water
Matrix:	Water
Fraction:	Total
Beneficial Use:	Warm Freshwater Habitat
Number of Samples:	0
Number of Exceedances:	0
Data and Information Type:	PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality:	State Water Board staff assessed SWAMP data for Mitchell Canyon to determine beneficial use support and results are as follows: 0 of 0 samples exceed the criterion for Alkalinity as CaCO ₃ . One sample result was not used in the assessment because the laboratory data reporting limit(s) was above the objective and therefore the results could not be quantified with the level of certainty required by the Listing Policy.
Data Reference:	RWB2 Reference Study Monitoring 2008
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	Surface waters shall not contain concentrations of chemical constituents in amounts that adversely affect any designated beneficial use.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	The Alkalinity as CaCO ₃ criteria for the protection of freshwater aquatic life is 20000 ug/L (National Recommended Water Quality Criteria, 2009).
Guideline Reference:	National Recommended Water Quality Criteria. United States Environmental Protection Agency. Office of Water. Office of Science and Technology

Spatial Representation: Data for this line of evidence for Mitchell Canyon was collected at 1 monitoring site [Mitchell approx 250 m upstream of bridge at Mt. Diablo SP entrance - 207MTD117]

Temporal Representation: Data was collected on a single day 5/6/2008.

Environmental Conditions: Staff is not aware of any special conditions that might affect interpretation of the data.

QAPP Information: The SWAMP QAPP (2008) was followed.

QAPP Information Reference(s): [Surface Water Ambient Monitoring Program Quality Assurance Program Plan](#)

DECISION ID	65138	Region 2
Mitchell Creek		

Pollutant: Ammonia (Unionized)

Final Listing Decision: Do Not List on 303(d) list (TMDL required list)

Last Listing Cycle's Final Listing Decision: New Decision

Revision Status: Revised

Impairment from Pollutant or Pollution: Pollutant

Regional Board Staff Conclusion: This pollutant is being considered for placement on the CWA section 303(d) List under section 3.1 of the Listing Policy. Under section 3.1 a single line of evidence is necessary to assess listing status. One line of evidence is available in the administrative record to assess this pollutant. Zero of one samples exceed the guideline.

Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against placing this water segment-pollutant combination on the CWA section 303(d) List.

This conclusion is based on the staff findings that:

1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy.
2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy.
3. Zero of one samples exceed the guideline and this sample size is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating. A minimum of 16 samples is needed to determine if a beneficial use is fully supported using table 3.1.
4. Pursuant to SECTION 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.

Regional Board Staff Decision Recommendation: After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be placed on the section 303(d) list. The readily available data and information is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating.

Line of Evidence (LOE) for Decision ID 65138, Ammonia (Unionized)	Region 2
Mitchell Creek	

LOE ID: 92251

Pollutant: Ammonia (Unionized)

LOE Subgroup: Pollutant-Water

Matrix: Water

Fraction: Total

Beneficial Use: Fish Spawning

Number of Samples: 1

Number of Exceedances: 0

Data and Information Type: PHYSICAL/CHEMICAL MONITORING

Data Used to Assess Water Quality: 0 of 1 samples exceed the Annual Median for Un-ionized Ammonia (as N). Un-ionized

ammonia (as N) was calculated from Total Ammonia (as N) from monthly samples reported in the data. The Annual Median of these Un-ionized ammonia (as N) values was then established and compared to the Annual Median for Un-ionized Ammonia (as N) at 0.025 mg/L in the RB2 Basin Plan. The data value is reported as underneath the quantitation limit. This value under the quantitation limit is less than or equal to the water quality standard, the value will be considered as meeting the water quality standard, objective, criterion, or evaluation guideline.

Data Reference:

[RWB2 Reference Study Monitoring 2008](#)

SWAMP Data:

SWAMP

Water Quality Objective/Criterion:

Water Quality Control Plan, San Francisco Bay Region (SFBRWQCB 2011): All waters shall be maintained free of toxic substances in concentrations that are toxic to, or that produce detrimental physiological responses in human, plant, animal, or aquatic life.

Objective/Criterion Reference:

[Water Quality Control Plan \(Basin Plan\) San Francisco Bay Basin \(Region 2\)](#)

Evaluation Guideline:

Guideline Reference:

Spatial Representation:

Samples were collected at 207MTD117 (Mitchell approx 250 m upstream of bridge at Mt. Diablo SP entrance).

Temporal Representation:

Samples collected on 2/23/2009.

Environmental Conditions:

QAPP Information:

SWAMP QAPP (2008) was followed.

QAPP Information Reference(s):

[Surface Water Ambient Monitoring Program Quality Assurance Program Plan](#)

DECISION ID	65139	Region 2
Mitchell Creek		

Pollutant: Nitrate/Nitrite (Nitrite + Nitrate as N)
Final Listing Decision: Do Not List on 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision: New Decision
Revision Status: Revised
Impairment from Pollutant or Pollution: Pollutant

Regional Board Staff Conclusion:

This pollutant is being considered for placement on the CWA section 303(d) List under section 3.1 of the Listing Policy. Under section 3.1 a single line of evidence is necessary to assess listing status. Two lines of evidence are available in the administrative record to assess this pollutant. Zero of one samples exceed the guideline.

Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against placing this water segment-pollutant combination on the CWA section 303(d) List.

This conclusion is based on the staff findings that:

1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy.
2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy.
3. Zero of one samples exceed the guideline and this sample size is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating. A minimum of 16 samples is needed to determine if a beneficial use is fully supported using table 3.1.
4. Pursuant to SECTION 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.

Regional Board Staff Decision Recommendation:

After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be placed on the section 303(d) list. The readily available data and information is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating.

Mitchell Creek

LOE ID:	92255
Pollutant:	Nitrate/Nitrite (Nitrite + Nitrate as N)
LOE Subgroup:	Pollutant-Water
Matrix:	Water
Fraction:	None
Beneficial Use:	Municipal & Domestic Supply
Number of Samples:	1
Number of Exceedances:	0
Data and Information Type:	PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality:	State Water Board staff assessed SWAMP data for Mitchell Canyon to determine beneficial use support and results are as follows: 0 of 1 samples exceed the criterion for Nitrate/Nitrite as N.
Data Reference:	RWB2 Reference Study Monitoring 2008
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	The California Maximum Contaminant Level for nitrate + nitrite (as N) that is incorporated by reference in the Water Quality Control Plan, San Francisco Bay Region is 10.0 mg/L (Water Quality Control Plan, San Francisco Bay Region).
Objective/Criterion Reference:	Maximum Contaminant Levels for organic and inorganic chemicals. CCR
Evaluation Guideline:	
Guideline Reference:	
Spatial Representation:	Data for this line of evidence for Mitchell Canyon was collected at 1 monitoring site [Mitchell approx 250 m upstream of bridge at Mt. Diablo SP entrance - 207MTD117]
Temporal Representation:	Data was collected on a single day 2/23/2009.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	The SWAMP QAPP (2008) was followed.
QAPP Information Reference(s):	Surface Water Ambient Monitoring Program Quality Assurance Program Plan

DECISION ID

65140

Region 2

Mitchell Creek

Pollutant:	Nitrogen, ammonia (Total Ammonia)
Final Listing Decision:	Do Not List on 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision:	New Decision
Revision Status	Revised
Impairment from Pollutant or Pollution:	Pollutant
Regional Board Staff Conclusion:	<p>This pollutant is being considered for placement on the CWA section 303(d) List under section 3.1 of the Listing Policy. Under section 3.1 a single line of evidence is necessary to assess listing status. Three lines of evidence are available in the administrative record to assess this pollutant. Zero of one samples exceed the guideline.</p> <p>Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against placing this water segment-pollutant combination on the CWA section 303(d) List.</p> <p>This conclusion is based on the staff findings that:</p> <ol style="list-style-type: none"> 1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy.

2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy.
3. Zero of one samples exceed the guideline and this sample size is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating. A minimum of 16 samples is needed to determine if a beneficial use is fully supported using table 3.1.
4. Pursuant to SECTION 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.

Regional Board Staff Decision Recommendation: After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be placed on the section 303(d) list. The readily available data and information is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating.

Line of Evidence (LOE) for Decision ID 65140, Nitrogen, ammonia (Total Ammonia)

Region 2

Mitchell Creek

LOE ID: 92254

Pollutant: Nitrogen, ammonia (Total Ammonia)
 LOE Subgroup: Pollutant-Water
 Matrix: Water
 Fraction: Total

Beneficial Use: Municipal & Domestic Supply

Number of Samples: 1
 Number of Exceedances: 0

Data and Information Type: PHYSICAL/CHEMICAL MONITORING
 Data Used to Assess Water Quality: State Water Board staff assessed SWAMP data for Mitchell Canyon to determine beneficial use support and results are as follows: 0 of 1 samples exceed the criterion for Ammonia as N, Total.

Data Reference: [RWB2 Reference Study Monitoring 2008](#)

SWAMP Data: SWAMP

Water Quality Objective/Criterion: Surface waters shall not contain concentrations of chemical constituents in amounts that adversely affect any designated beneficial use.

Objective/Criterion Reference: [Water Quality Control Plan \(Basin Plan\) San Francisco Bay Basin \(Region 2\)](#)

Evaluation Guideline: USEPA's Lifetime Health advisory level for total ammonia is 30.0 mg/L as stated on page 8 of the 2011 edition of the drinking water standards and health advisories. (EPA EPA 820-R-11-002, 2011).

Guideline Reference: [2011 Edition of the Drinking Water Standards and Health Advisories](#)

Spatial Representation: Data for this line of evidence for Mitchell Canyon was collected at 1 monitoring site [Mitchell approx 250 m upstream of bridge at Mt. Diablo SP entrance - 207MTD117]

Temporal Representation: Data was collected on a single day 2/23/2009.

Environmental Conditions: Staff is not aware of any special conditions that might affect interpretation of the data.

QAPP Information: The SWAMP QAPP (2008) was followed.

QAPP Information Reference(s): [Surface Water Ambient Monitoring Program Quality Assurance Program Plan](#)

Line of Evidence (LOE) for Decision ID 65140, Nitrogen, ammonia (Total Ammonia)

Region 2

Mitchell Creek

LOE ID: 92253

Pollutant: Nitrogen, ammonia (Total Ammonia)
 LOE Subgroup: Pollutant-Water
 Matrix: Water

Fraction:	Total
Beneficial Use:	Cold Freshwater Habitat
Number of Samples:	1
Number of Exceedances:	0
Data and Information Type:	PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality:	State Water Board staff assessed SWAMP data for Mitchell Canyon to determine beneficial use support and results are as follows: 0 of 1 samples exceed the criterion for Ammonia as N, Total.
Data Reference:	RWB2 Reference Study Monitoring 2008
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	Surface?waters?shall?not?contain?concentrations?of?chemical?constituents?in? amounts?that? adversely?affect?any?designated?beneficial?use.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	Aquatic Life Ambient Water Quality Criteria for Ammonia ? Freshwater (USEPA 2013): the 30-day rolling average concentration (criterion continuous concentration or CCC) of total ammonia nitrogen(in mg TAN/L) in freshwater are not to be exceeded more than once every three years on average. The CCC values are based on pH and temperature. The CCC formula is found on page 46 and the table of CCC values is on page 49.
Guideline Reference:	Aquatic Life Ambient Water Quality Criteria for Ammonia - Freshwater 2013
Spatial Representation:	Data for this line of evidence for Mitchell Canyon was collected at 1 monitoring site [Mitchell approx 250 m upstream of bridge at Mt. Diablo SP entrance - 207MTD117]
Temporal Representation:	Data was collected on a single day 2/23/2009.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	The SWAMP QAPP (2008) was followed.
QAPP Information Reference(s):	Surface Water Ambient Monitoring Program Quality Assurance Program Plan

Line of Evidence (LOE) for Decision ID 65140, Nitrogen, ammonia (Total Ammonia)

Region 2

Mitchell Creek

LOE ID:	92252
Pollutant:	Nitrogen, ammonia (Total Ammonia)
LOE Subgroup:	Pollutant-Water
Matrix:	Water
Fraction:	Total
Beneficial Use:	Warm Freshwater Habitat
Number of Samples:	1
Number of Exceedances:	0
Data and Information Type:	PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality:	State Water Board staff assessed SWAMP data for Mitchell Canyon to determine beneficial use support and results are as follows: 0 of 1 samples exceed the criterion for Ammonia as N, Total.
Data Reference:	RWB2 Reference Study Monitoring 2008
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	Surface?waters?shall?not?contain?concentrations?of?chemical?constituents?in? amounts?that? adversely?affect?any?designated?beneficial?use.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)

Evaluation Guideline:	Aquatic Life Ambient Water Quality Criteria for Ammonia ? Freshwater (USEPA 2013): the 30-day rolling average concentration (criterion continuous concentration or CCC) of total ammonia nitrogen(in mg TAN/L) in freshwater are not to be exceeded more than once every three years on average. The CCC values are based on pH and temperature. The CCC formula is found on page 46 and the table of CCC values is on page 49.
Guideline Reference:	Aquatic Life Ambient Water Quality Criteria for Ammonia - Freshwater 2013
Spatial Representation:	Data for this line of evidence for Mitchell Canyon was collected at 1 monitoring site [Mitchell approx 250 m upstream of bridge at Mt. Diablo SP entrance - 207MTD117]
Temporal Representation:	Data was collected on a single day 2/23/2009.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	The SWAMP QAPP (2008) was followed.
QAPP Information Reference(s):	Surface Water Ambient Monitoring Program Quality Assurance Program Plan

DECISION ID 65141 Region 2	
Mitchell Creek	
Pollutant:	Oxygen, Dissolved
Final Listing Decision:	Do Not List on 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision:	New Decision
Revision Status	Revised
Impairment from Pollutant or Pollution:	Pollutant
Regional Board Staff Conclusion:	<p>This pollutant is being considered for placement on the CWA section 303(d) List under section 3.2 of the Listing Policy. Under section 3.2 a single line of evidence is necessary to assess listing status. Three lines of evidence are available in the administrative record to assess this pollutant. Two of four samples exceed the objective.</p> <p>Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against placing this water segment-pollutant combination on the CWA section 303(d) List.</p> <p>This conclusion is based on the staff findings that:</p> <ol style="list-style-type: none"> 1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy. 2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy. 3. Two of four samples exceed the objective and this sample size is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating. A minimum of 26 samples is needed to determine if a beneficial use is fully supported using table 3.2. 4. Pursuant to SECTION 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.
Regional Board Staff Decision Recommendation:	After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be placed on the section 303(d) list. The readily available data and information is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating.

Line of Evidence (LOE) for Decision ID 65141, Oxygen, Dissolved Region 2	
Mitchell Creek	
LOE ID:	92256
Pollutant:	Oxygen, Dissolved
LOE Subgroup:	Pollutant-Water
Matrix:	Water
Fraction:	Dissolved
Beneficial Use:	Warm Freshwater Habitat

Number of Samples:	2
Number of Exceedances:	0
Data and Information Type:	PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality:	State Water Board staff assessed SWAMP data for Mitchell Canyon to determine beneficial use support and results are as follows: 0 of 2 samples exceed the criterion for Oxygen, Dissolved.
Data Reference:	RWB2 Reference Study Monitoring 2008
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	Dissolved oxygen objectives for waters designated as warm water habitat shall be of a 5.0 mg/l minimum. (Water Quality Control Plan, San Francisco Bay Basin, Chapter III Water Quality Objectives.)
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	
Guideline Reference:	
Spatial Representation:	Data for this line of evidence for Mitchell Canyon was collected at 1 monitoring site [Mitchell approx 250 m upstream of bridge at Mt. Diablo SP entrance - 207MTD117]
Temporal Representation:	Data was collected over the time period 5/6/2008-2/23/2009.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	The SWAMP QAPP (2008) was followed.
QAPP Information Reference(s):	Surface Water Ambient Monitoring Program Quality Assurance Program Plan

Line of Evidence (LOE) for Decision ID 65141, Oxygen, Dissolved

Region 2

Mitchell Creek

LOE ID:	92257
Pollutant:	Oxygen, Dissolved
LOE Subgroup:	Pollutant-Water
Matrix:	Water
Fraction:	Dissolved
Beneficial Use:	Cold Freshwater Habitat
Number of Samples:	2
Number of Exceedances:	1
Data and Information Type:	PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality:	State Water Board staff assessed SWAMP data for Mitchell Canyon to determine beneficial use support and results are as follows: 1 of 2 samples exceed the criterion for Oxygen, Dissolved.
Data Reference:	RWB2 Reference Study Monitoring 2008
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	Dissolved oxygen objectives for waters designated as cold water habitat shall be of a 7.0 mg/l minimum. (Water Quality Control Plan, San Francisco Bay Basin, Chapter III Water Quality Objectives.)
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	
Guideline Reference:	
Spatial Representation:	Data for this line of evidence for Mitchell Canyon was collected at 1 monitoring site [Mitchell approx 250 m upstream of bridge at Mt. Diablo SP entrance - 207MTD117]
Temporal Representation:	Data was collected over the time period 5/6/2008-2/23/2009.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.

QAPP Information: The SWAMP QAPP (2008) was followed.
QAPP Information Reference(s): [Surface Water Ambient Monitoring Program Quality Assurance Program Plan](#)

**Line of Evidence (LOE) for Decision ID 65141, Oxygen, Dissolved
Mitchell Creek**

Region 2

LOE ID: 92258

Pollutant: Oxygen, Dissolved
LOE Subgroup: Pollutant-Water
Matrix: Water
Fraction: Dissolved

Beneficial Use: Cold Freshwater Habitat

Number of Samples: 2
Number of Exceedances: 1

Data and Information Type: PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality: One of the 2 samples collected exceeded the objective.
Data Reference: [RWB2 Reference Study Monitoring 2008](#)

SWAMP Data: SWAMP

Water Quality Objective/Criterion: The minimum dissolved oxygen content of non-tidal water bodies designated as Cold water habitat is 7.0 mg/L.
Objective/Criterion Reference: [Water Quality Control Plan \(Basin Plan\) San Francisco Bay Basin \(Region 2\)](#)

Evaluation Guideline:
Guideline Reference:

Spatial Representation: Samples were collected from the Mitchell approx 250 m upstream of bridge at Mt. Diablo SP entrance station (207MTD117).

Temporal Representation: Samples were collected on the following dates: 5/6/2008 2/23/2009

Environmental Conditions:
QAPP Information: The SWAMP QAPP (2008) was followed.
QAPP Information Reference(s):

**DECISION ID 65144
Mitchell Creek**

Region 2

Pollutant: Specific Conductivity
Final Listing Decision: Do Not List on 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision: New Decision
Revision Status: Revised
Impairment from Pollutant or Pollution: Pollutant

Regional Board Staff Conclusion:

This pollutant is being considered for placement on the CWA section 303(d) List under section 3.1 of the Listing Policy. Under section 3.1 a single line of evidence is necessary to assess listing status. One line of evidence is available in the administrative record to assess this pollutant. Zero of two samples exceed the guideline.

Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against placing this water segment-pollutant combination on the CWA section 303(d) List.

This conclusion is based on the staff findings that:

1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy.

2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy.
3. Zero of two samples exceed the guideline and this sample size is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating. A minimum of 16 samples is needed to determine if a beneficial use is fully supported using table 3.1.
4. Pursuant to SECTION 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.

Regional Board Staff Decision Recommendation: After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be placed on the section 303(d) list. The readily available data and information is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating.

Line of Evidence (LOE) for Decision ID 65144, Specific Conductivity

Region 2

Mitchell Creek

LOE ID:	92264
Pollutant:	Specific Conductivity
LOE Subgroup:	Pollutant-Water
Matrix:	Water
Fraction:	None
Beneficial Use:	Municipal & Domestic Supply
Number of Samples:	2
Number of Exceedances:	0
Data and Information Type:	PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality:	State Water Board staff assessed SWAMP data for Mitchell Canyon to determine beneficial use support and results are as follows: 0 of 2 samples exceed the criterion for Conductivity(Us).
Data Reference:	RWB2 Reference Study Monitoring 2008
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	The California Secondary MCL for Specific Conductance is 900 us/cm (Water Quality Control Plan, San Francisco Bay Region).
Objective/Criterion Reference:	Secondary Maximum Contaminant Levels and Compliance. CCR title 22 section 64449.
Evaluation Guideline:	
Guideline Reference:	
Spatial Representation:	Data for this line of evidence for Mitchell Canyon was collected at 1 monitoring site [Mitchell approx 250 m upstream of bridge at Mt. Diablo SP entrance - 207MTD117]
Temporal Representation:	Data was collected over the time period 5/6/2008-2/23/2009.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	The SWAMP QAPP (2008) was followed.
QAPP Information Reference(s):	Surface Water Ambient Monitoring Program Quality Assurance Program Plan

DECISION ID

65143

Region 2

Mitchell Creek

Pollutant:	Temperature, water
Final Listing Decision:	Do Not List on 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision:	New Decision
Revision Status	Revised
Impairment from Pollutant or Pollution:	Pollutant

**Regional Board Staff
Conclusion:**

This pollutant is being considered for placement on the CWA section 303(d) List under section 3.2 of the Listing Policy. Under section 3.2 a single line of evidence is necessary to assess listing status. Two lines of evidence are available in the administrative record to assess this pollutant. Zero of two samples exceed the objective.

Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against placing this water segment-pollutant combination on the CWA section 303(d) List.

This conclusion is based on the staff findings that:

1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy.
2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy.
3. Zero of two samples exceed the objective and this sample size is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating. A minimum of 26 samples is needed to determine if a beneficial use is fully supported using table 3.2.
4. Pursuant to SECTION 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.

**Regional Board Staff Decision
Recommendation:**

After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be placed on the section 303(d) list. The readily available data and information is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating.

**Line of Evidence (LOE) for Decision ID 65143, Temperature, water
Mitchell Creek**

Region 2

LOE ID:	92266
Pollutant:	Temperature, water
LOE Subgroup:	Pollutant-Water
Matrix:	Water
Fraction:	None
Beneficial Use:	Cold Freshwater Habitat
Number of Samples:	2
Number of Exceedances:	0
Data and Information Type:	PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality:	Zero of the 2 samples collected exceeded the evaluation guideline.
Data Reference:	RWB2 Reference Study Monitoring 2008
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	Water Quality Control Plan, San Francisco Bay Region: The natural receiving water temperature of inland surface waters shall not be altered unless it can be demonstrated to the satisfaction of the Regional Board that such alteration in temperature does not adversely affect beneficial uses.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	According to Carter (2008) the lethal threshold for juvenile steelhead growth & rearing is 24 degrees Celsius (C).
Guideline Reference:	Effects of Temperature, Dissolved Oxygen/Total Dissolved Gas, Ammonia, and pH on Salmonids. Implications for California's North Coast TMDLs. California Regional Water Quality Control Board, North Coast Region
Spatial Representation:	Grab samples were collected at the Mitchell approx 250 m upstream of bridge at Mt. Diablo SP entrance station (207MTD117).
Temporal Representation:	Grab samples were collected on the following dates: 5/6/2008 2/23/2009
Environmental Conditions:	

QAPP Information: The SWAMP QAPP was followed.
QAPP Information Reference(s):

**Line of Evidence (LOE) for Decision ID 65143, Temperature, water
Mitchell Creek**

Region 2

LOE ID: 92265

Pollutant: Temperature, water
LOE Subgroup: Pollutant-Water
Matrix: Water
Fraction: None

Beneficial Use: Cold Freshwater Habitat

Number of Samples: 2
Number of Exceedances: 0

Data and Information Type: PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality: State Water Board staff assessed SWAMP data for Mitchell Canyon to determine beneficial use support and results are as follows: 0 of 2 samples exceed the criterion for Water Temperature.

Data Reference: [RWB2 Reference Study Monitoring 2008](#)

SWAMP Data: SWAMP

Water Quality Objective/Criterion: The natural receiving water temperature of inland surface waters shall not be altered unless it can be demonstrated to the satisfaction of the Regional Board that such alteration in temperature does not adversely affect beneficial uses. (Water Quality Control Plan, San Francisco Bay Basin, Chapter III Water Quality Objectives.)

Objective/Criterion Reference: [Water Quality Control Plan \(Basin Plan\) San Francisco Bay Basin \(Region 2\)](#)

Evaluation Guideline: Inland Fishes of California (Moyle 1976) states that for rainbow trout the optimum range for growth and completion of most life stages is 13-21 degrees C (page 129).

Guideline Reference: [Inland Fishes of California](#)

Spatial Representation: Data for this line of evidence for Mitchell Canyon was collected at 1 monitoring site [Mitchell approx 250 m upstream of bridge at Mt. Diablo SP entrance - 207MTD117]

Temporal Representation: Data was collected over the time period 5/6/2008-2/23/2009.

Environmental Conditions: Staff is not aware of any special conditions that might affect interpretation of the data.

QAPP Information: The SWAMP QAPP (2008) was followed.

QAPP Information Reference(s): [Surface Water Ambient Monitoring Program Quality Assurance Program Plan](#)

**DECISION ID 65142
Mitchell Creek**

Region 2

Pollutant: pH
Final Listing Decision: Do Not List on 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision: New Decision
Revision Status: Revised
Impairment from Pollutant or Pollution: Pollutant

Regional Board Staff Conclusion: This pollutant is being considered for placement on the CWA section 303(d) List under section 3.2 of the Listing Policy. Under section 3.2 a single line of evidence is necessary to assess listing status. Five lines of evidence are available in the administrative record to assess this pollutant. Zero of two samples exceed the objective.

Based on the readily available data and information, the weight of evidence indicates that there is

sufficient justification against placing this water segment-pollutant combination on the CWA section 303(d) List.

This conclusion is based on the staff findings that:

1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy.
2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy.
3. Zero of two samples exceed the objective and this sample size is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating. A minimum of 26 samples is needed to determine if a beneficial use is fully supported using table 3.2.
4. Pursuant to SECTION 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.

Regional Board Staff Decision Recommendation: After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be placed on the section 303(d) list. The readily available data and information is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating.

Line of Evidence (LOE) for Decision ID 65142, pH

Region 2

Mitchell Creek

LOE ID: 92261

Pollutant: pH
LOE Subgroup: Pollutant-Water
Matrix: Water
Fraction: None

Beneficial Use: Cold Freshwater Habitat

Number of Samples: 2
Number of Exceedances: 0

Data and Information Type: PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality: State Water Board staff assessed SWAMP data for Mitchell Canyon to determine beneficial use support and results are as follows: 0 of 2 samples exceed the criterion for pH.

Data Reference: [RWB2 Reference Study Monitoring 2008](#)

SWAMP Data: SWAMP

Water Quality Objective/Criterion: The Water Quality Control Plan for the San Francisco Bay Region's water quality objective for all surface waters states the following: The pH shall not be depressed below 6.5 nor raised above 8.5. This encompasses the pH range usually found in waters within the basin. Controllable water quality factors shall not cause changes greater than 0.5 units in normal ambient pH levels.

Objective/Criterion Reference: [Water Quality Control Plan \(Basin Plan\) San Francisco Bay Basin \(Region 2\)](#)

Evaluation Guideline:
Guideline Reference:

Spatial Representation: Data for this line of evidence for Mitchell Canyon was collected at 1 monitoring site [Mitchell approx 250 m upstream of bridge at Mt. Diablo SP entrance - 207MTD117]

Temporal Representation: Data was collected over the time period 5/6/2008-2/23/2009.

Environmental Conditions: Staff is not aware of any special conditions that might affect interpretation of the data.

QAPP Information: The SWAMP QAPP (2008) was followed.

QAPP Information Reference(s): [Surface Water Ambient Monitoring Program Quality Assurance Program Plan](#)

Line of Evidence (LOE) for Decision ID 65142, pH

Region 2

Mitchell Creek

LOE ID:	92260
Pollutant:	pH
LOE Subgroup:	Pollutant-Water
Matrix:	Water
Fraction:	None
Beneficial Use:	Municipal & Domestic Supply
Number of Samples:	2
Number of Exceedances:	0
Data and Information Type:	PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality:	State Water Board staff assessed SWAMP data for Mitchell Canyon to determine beneficial use support and results are as follows: 0 of 2 samples exceed the criterion for pH.
Data Reference:	RWB2 Reference Study Monitoring 2008
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	The Water Quality Control Plan for the San Francisco Bay Region's water quality objective for all surface waters states the following: The pH shall not be depressed below 6.5 nor raised above 8.5. This encompasses the pH range usually found in waters within the basin. Controllable water quality factors shall not cause changes greater than 0.5 units in normal ambient pH levels.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	
Guideline Reference:	
Spatial Representation:	Data for this line of evidence for Mitchell Canyon was collected at 1 monitoring site [Mitchell approx 250 m upstream of bridge at Mt. Diablo SP entrance - 207MTD117]
Temporal Representation:	Data was collected over the time period 5/6/2008-2/23/2009.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	The SWAMP QAPP (2008) was followed.
QAPP Information Reference(s):	Surface Water Ambient Monitoring Program Quality Assurance Program Plan

Line of Evidence (LOE) for Decision ID 65142, pH

Region 2

Mitchell Creek

LOE ID:	92259
Pollutant:	pH
LOE Subgroup:	Pollutant-Water
Matrix:	Water
Fraction:	None
Beneficial Use:	Warm Freshwater Habitat
Number of Samples:	2
Number of Exceedances:	0
Data and Information Type:	PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality:	State Water Board staff assessed SWAMP data for Mitchell Canyon to determine beneficial use support and results are as follows: 0 of 2 samples exceed the criterion for pH.
Data Reference:	RWB2 Reference Study Monitoring 2008
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	The Water Quality Control Plan for the San Francisco Bay Region's water quality objective for all surface waters states the following: The pH shall not be depressed below

6.5 nor raised above 8.5. This encompasses the pH range usually found in waters within the basin. Controllable water quality factors shall not cause changes greater than 0.5 units in normal ambient pH levels.

Objective/Criterion Reference:

[Water Quality Control Plan \(Basin Plan\) San Francisco Bay Basin \(Region 2\)](#)

Evaluation Guideline:

Guideline Reference:

Spatial Representation:

Data for this line of evidence for Mitchell Canyon was collected at 1 monitoring site [Mitchell approx 250 m upstream of bridge at Mt. Diablo SP entrance - 207MTD117]

Temporal Representation:

Data was collected over the time period 5/6/2008-2/23/2009.

Environmental Conditions:

Staff is not aware of any special conditions that might affect interpretation of the data.

QAPP Information:

The SWAMP QAPP (2008) was followed.

QAPP Information Reference(s):

[Surface Water Ambient Monitoring Program Quality Assurance Program Plan](#)

Line of Evidence (LOE) for Decision ID 65142, pH

Region 2

Mitchell Creek

LOE ID: 92263

Pollutant: pH
LOE Subgroup: Pollutant-Water
Matrix: Water
Fraction: Total

Beneficial Use: Cold Freshwater Habitat

Number of Samples: 2
Number of Exceedances: 0

Data and Information Type: PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality: 0 of 2 samples exceed the water quality objective.
Data Reference: [RWB2 Reference Study Monitoring 2008](#)

SWAMP Data: SWAMP

Water Quality Objective/Criterion: Water Quality Control Plan, San Francisco Bay Region (SFBRWQCB 2011): In inland surface waters the pH shall not be depressed below 6.5 nor raised above 8.5.

Objective/Criterion Reference: [Water Quality Control Plan \(Basin Plan\) San Francisco Bay Basin \(Region 2\)](#)

Evaluation Guideline:

Guideline Reference:

Spatial Representation: Samples were collected at 207MTD117 (Mitchell approx 250 m upstream of bridge at Mt. Diablo SP entrance).

Temporal Representation: Samples collected on 5/6/2008 and 2/23/2009.

Environmental Conditions:

QAPP Information:

SWAMP QAPP (2008) was followed.

QAPP Information Reference(s):

[Surface Water Ambient Monitoring Program Quality Assurance Program Plan](#)

Line of Evidence (LOE) for Decision ID 65142, pH

Region 2

Mitchell Creek

LOE ID: 92262

Pollutant: pH
LOE Subgroup: Pollutant-Water
Matrix: Water
Fraction: None

Beneficial Use: Agricultural Supply

Number of Samples:	2
Number of Exceedances:	0
Data and Information Type:	PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality:	State Water Board staff assessed SWAMP data for Mitchell Canyon to determine beneficial use support and results are as follows: 0 of 2 samples exceed the criterion for pH.
Data Reference:	RWB2 Reference Study Monitoring 2008
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	Water Quality Control Plan, San Francisco Bay Basin, Chapter III Water Quality Objectives, Section 3.3.22 Constituents of Concern for Municipal and Agricultural Water Supplies states: At a minimum, surface waters designated for use as agricultural supply (AGR) shall not contain concentrations of constituents in excess of the levels specified in Table 3-6. The limit for pH ranges from 4.5-9.0.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	
Guideline Reference:	
Spatial Representation:	Data for this line of evidence for Mitchell Canyon was collected at 1 monitoring site [Mitchell approx 250 m upstream of bridge at Mt. Diablo SP entrance - 207MTD117]
Temporal Representation:	Data was collected over the time period 5/6/2008-2/23/2009.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	The SWAMP QAPP (2008) was followed.
QAPP Information Reference(s):	Surface Water Ambient Monitoring Program Quality Assurance Program Plan

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Supporting Information

Regional Board 2 - San Francisco Bay Region

Water Body Name: Las Trampas Creek
Water Body ID: CAR2073201120110723171335
Water Body Type: River & Stream

DECISION ID 64980 **Region 2**
Las Trampas Creek

Pollutant: Alkalinity as CaCO₃
Final Listing Decision: Do Not List on 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision: New Decision
Revision Status Revised
Impairment from Pollutant or Pollution: Pollutant

Regional Board Staff Conclusion: This pollutant is being considered for placement on the CWA section 303(d) List under section 3.1 of the Listing Policy. Under section 3.1 a single line of evidence is necessary to assess listing status. Two lines of evidence are available in the administrative record to assess this pollutant. Zero of four samples exceed the guideline.

Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against placing this water segment-pollutant combination on the CWA section 303(d) List.

This conclusion is based on the staff findings that:

1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy.
2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy.
3. Zero of four samples exceed the guideline and this sample size is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating. A minimum of 16 samples is needed to determine if a beneficial use is fully supported using table 3.1.
4. Pursuant to SECTION 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.

Regional Board Staff Decision Recommendation: After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be placed on the section 303(d) list. The readily available data and information is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating.

Line of Evidence (LOE) for Decision ID 64980, Alkalinity as CaCO₃ **Region 2**
Las Trampas Creek

LOE ID: 92072
Pollutant: Alkalinity as CaCO₃
LOE Subgroup: Pollutant-Water
Matrix: Water
Fraction: Total
Beneficial Use: Cold Freshwater Habitat
Number of Samples: 4
Number of Exceedances: 0

Data and Information Type:	PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality:	State Water Board staff assessed SWAMP data for Las Trampas Creek to determine beneficial use support and results are as follows: 0 of 4 samples exceed the criterion for Alkalinity as CaCO ₃ .
Data Reference:	RWB2 Urbanization Study 2008
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	Surface waters shall not contain concentrations of chemical constituents in amounts that adversely affect any designated beneficial use.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	The Alkalinity as CaCO ₃ criteria for the protection of freshwater aquatic life is 20000 ug/L (National Recommended Water Quality Criteria, 2009).
Guideline Reference:	National Recommended Water Quality Criteria. United States Environmental Protection Agency. Office of Water. Office of Science and Technology
Spatial Representation:	Data for this line of evidence for Las Trampas Creek was collected at 4 monitoring sites [Las Trampas above dirt bike jumps - 206WAL410, Las Trampas at 900 Bollinger Canyon Road - 206WAL420, Las Trampas above St. Mary's Road bridge - 206WAL412, Las Trampas below St. Mary's and Bollinger Canyon Roads - 206WAL415]
Temporal Representation:	Data was collected over the time period 5/8/2008-5/20/2008.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	The SWAMP QAPP (2008) was followed.
QAPP Information Reference(s):	Surface Water Ambient Monitoring Program Quality Assurance Program Plan

Line of Evidence (LOE) for Decision ID 64980, Alkalinity as CaCO₃

Region 2

Las Trampas Creek

LOE ID:	92071
Pollutant:	Alkalinity as CaCO ₃
LOE Subgroup:	Pollutant-Water
Matrix:	Water
Fraction:	Total
Beneficial Use:	Warm Freshwater Habitat
Number of Samples:	4
Number of Exceedances:	0
Data and Information Type:	PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality:	State Water Board staff assessed SWAMP data for Las Trampas Creek to determine beneficial use support and results are as follows: 0 of 4 samples exceed the criterion for Alkalinity as CaCO ₃ .
Data Reference:	RWB2 Urbanization Study 2008
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	Surface waters shall not contain concentrations of chemical constituents in amounts that adversely affect any designated beneficial use.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	The Alkalinity as CaCO ₃ criteria for the protection of freshwater aquatic life is 20000 ug/L (National Recommended Water Quality Criteria, 2009).
Guideline Reference:	National Recommended Water Quality Criteria. United States Environmental Protection Agency. Office of Water. Office of Science and Technology
Spatial Representation:	Data for this line of evidence for Las Trampas Creek was collected at 4 monitoring sites [

Temporal Representation:
Environmental Conditions:
QAPP Information:
QAPP Information Reference(s):

Las Trampas above dirt bike jumps - 206WAL410, Las Trampas at 900 Bollinger Canyon Road - 206WAL420, Las Trampas above St. Mary's Road bridge - 206WAL412, Las Trampas below St. Mary's and Bollinger Canyon Roads - 206WAL415]
Data was collected over the time period 5/8/2008-5/20/2008.
Staff is not aware of any special conditions that might affect interpretation of the data.
The SWAMP QAPP (2008) was followed.
[Surface Water Ambient Monitoring Program Quality Assurance Program Plan](#)

DECISION ID	64981	Region 2
Las Trampas Creek		

Pollutant:	Ammonia (Unionized)
Final Listing Decision:	Do Not List on 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision:	New Decision
Revision Status	Revised
Impairment from Pollutant or Pollution:	Pollutant

Regional Board Staff Conclusion: This pollutant is being considered for placement on the CWA section 303(d) List under section 3.1 of the Listing Policy. Under section 3.1 a single line of evidence is necessary to assess listing status. One line of evidence is available in the administrative record to assess this pollutant. Zero of one samples exceed the guideline.

Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against placing this water segment-pollutant combination on the CWA section 303(d) List.

This conclusion is based on the staff findings that:

1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy.
2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy.
3. Zero of four samples exceed the guideline and this sample size is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating. A minimum of 16 samples is needed to determine if a beneficial use is fully supported using table 3.1.
4. Pursuant to SECTION 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.

Regional Board Staff Decision Recommendation: After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be placed on the section 303(d) list. The readily available data and information is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating.

Line of Evidence (LOE) for Decision ID 64981, Ammonia (Unionized)	Region 2
Las Trampas Creek	

LOE ID:	92073
Pollutant:	Ammonia (Unionized)
LOE Subgroup:	Pollutant-Water
Matrix:	Water
Fraction:	Total
Beneficial Use:	Warm Freshwater Habitat
Number of Samples:	4
Number of Exceedances:	0
Data and Information Type:	PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality:	0 of 4 samples exceed the Maximum for the Central Bay at 0.16 mg/L Un-ionized

Ammonia (as N). Un-ionized ammonia (as N) was calculated from Total Ammonia (as N) from monthly samples reported in the data. 2 of the 4 data values are reported as underneath the quantitation limit. These values under the quantitation limit are less than or equal to the water quality standard, the value will be considered as meeting the water quality standard, objective, criterion, or evaluation guideline.

Data Reference:

[RWB2 Urbanization Study 2008](#)

SWAMP Data:

SWAMP

Water Quality Objective/Criterion:

Water Quality Control Plan, San Francisco Bay Region (SFBRWQCB 2011): All waters shall be maintained free of toxic substances in concentrations that are toxic to, or that produce detrimental physiological responses in human, plant, animal, or aquatic life.

Objective/Criterion Reference:

[Water Quality Control Plan \(Basin Plan\) San Francisco Bay Basin \(Region 2\)](#)

Evaluation Guideline:

Guideline Reference:

Spatial Representation:

Samples were collected at 206WAL410 (Las Trampas above dirt bike jumps), 206WAL412 (Las Trampas above St. Mary's Road bridge), 206WAL415 (Las Trampas below St. Mary's and Bollinger Canyon Roads) and 206WAL420 (Las Trampas at 900 Bollinger Canyon Road).

Temporal Representation:

Samples collected on 5/20/2008.

Environmental Conditions:

QAPP Information:

SWAMP QAPP (2008) was followed.

QAPP Information Reference(s):

[Surface Water Ambient Monitoring Program Quality Assurance Program Plan](#)

DECISION ID	64982	Region 2
Las Trampas Creek		

Pollutant:	Nitrate/Nitrite (Nitrite + Nitrate as N)
Final Listing Decision:	Do Not List on 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision:	New Decision
Revision Status	Revised
Impairment from Pollutant or Pollution:	Pollutant

Regional Board Staff Conclusion:

This pollutant is being considered for placement on the CWA section 303(d) List under section 3.1 of the Listing Policy. Under section 3.1 a single line of evidence is necessary to assess listing status. One line of evidence is available in the administrative record to assess this pollutant. Zero of four samples exceed the guideline.

Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against placing this water segment-pollutant combination on the CWA section 303(d) List.

This conclusion is based on the staff findings that:

1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy.
2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy.
3. Zero of four samples exceed the guideline and this sample size is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating. A minimum of 16 samples is needed to determine if a beneficial use is fully supported using table 3.1.
4. Pursuant to SECTION 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.

Regional Board Staff Decision Recommendation:

After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be placed on the section 303(d) list. The readily available data and information is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating.

Las Trampas Creek

LOE ID:	92077
Pollutant:	Nitrate/Nitrite (Nitrite + Nitrate as N)
LOE Subgroup:	Pollutant-Water
Matrix:	Water
Fraction:	None
Beneficial Use:	Municipal & Domestic Supply
Number of Samples:	4
Number of Exceedances:	0
Data and Information Type:	PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality:	State Water Board staff assessed SWAMP data for Las Trampas Creek to determine beneficial use support and results are as follows: 0 of 4 samples exceed the criterion for Nitrate/Nitrite as N.
Data Reference:	RWB2 Urbanization Study 2008
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	The California Maximum Contaminant Level for nitrate + nitrite (as N) that is incorporated by reference in the Water Quality Control Plan, San Francisco Bay Region is 10.0 mg/L (Water Quality Control Plan, San Francisco Bay Region).
Objective/Criterion Reference:	Maximum Contaminant Levels for organic and inorganic chemicals. CCR
Evaluation Guideline:	
Guideline Reference:	
Spatial Representation:	Data for this line of evidence for Las Trampas Creek was collected at 4 monitoring sites [Las Trampas at 900 Bollinger Canyon Road - 206WAL420, Las Trampas below St. Mary's and Bollinger Canyon Roads - 206WAL415, Las Trampas above St. Mary's Road bridge - 206WAL412, Las Trampas above dirt bike jumps - 206WAL410]
Temporal Representation:	Data was collected on a single day 5/20/2008.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	The SWAMP QAPP (2008) was followed.
QAPP Information Reference(s):	Surface Water Ambient Monitoring Program Quality Assurance Program Plan

DECISION ID

64983

Region 2

Las Trampas Creek

Pollutant:	Nitrogen, ammonia (Total Ammonia)
Final Listing Decision:	Do Not List on 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision:	New Decision
Revision Status	Revised
Impairment from Pollutant or Pollution:	Pollutant
Regional Board Staff Conclusion:	<p>This pollutant is being considered for placement on the CWA section 303(d) List under section 3.1 of the Listing Policy. Under section 3.1 a single line of evidence is necessary to assess listing status. Three lines of evidence are available in the administrative record to assess this pollutant. Zero of four samples exceed the guideline.</p> <p>Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against placing this water segment-pollutant combination on the CWA section 303(d) List.</p>

This conclusion is based on the staff findings that:

1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy.
2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy.
3. Zero of four samples exceed the guideline and this sample size is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating. A minimum of 16 samples is needed to determine if a beneficial use is fully supported using table 3.1.
4. Pursuant to SECTION 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.

Regional Board Staff Decision Recommendation: After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be placed on the section 303(d) list. The readily available data and information is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating.

Line of Evidence (LOE) for Decision ID 64983, Nitrogen, ammonia (Total Ammonia)

Region 2

Las Trampas Creek

LOE ID: 92074

Pollutant: Nitrogen, ammonia (Total Ammonia)
LOE Subgroup: Pollutant-Water
Matrix: Water
Fraction: Total

Beneficial Use: Warm Freshwater Habitat

Number of Samples: 4
Number of Exceedances: 0

Data and Information Type: PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality: State Water Board staff assessed SWAMP data for Las Trampas Creek to determine beneficial use support and results are as follows: 0 of 4 samples exceed the criterion for Ammonia as N, Total.

Data Reference: [RWB2 Urbanization Study 2008](#)

SWAMP Data: SWAMP

Water Quality Objective/Criterion: Surface waters shall not contain concentrations of chemical constituents in amounts that adversely affect any designated beneficial use.

Objective/Criterion Reference: [Water Quality Control Plan \(Basin Plan\) San Francisco Bay Basin \(Region 2\)](#)

Evaluation Guideline: Aquatic Life Ambient Water Quality Criteria for Ammonia ? Freshwater (USEPA 2013): the 30-day rolling average concentration (criterion continuous concentration or CCC) of total ammonia nitrogen (in mg TAN/L) in freshwater are not to be exceeded more than once every three years on average. The CCC values are based on pH and temperature. The CCC formula is found on page 46 and the table of CCC values is on page 49.

Guideline Reference: [Aquatic Life Ambient Water Quality Criteria for Ammonia - Freshwater 2013](#)

Spatial Representation: Data for this line of evidence for Las Trampas Creek was collected at 4 monitoring sites [Las Trampas at 900 Bollinger Canyon Road - 206WAL420, Las Trampas below St. Mary's and Bollinger Canyon Roads - 206WAL415, Las Trampas above St. Mary's Road bridge - 206WAL412, Las Trampas above dirt bike jumps - 206WAL410]

Temporal Representation: Data was collected on a single day 5/20/2008.

Environmental Conditions: Staff is not aware of any special conditions that might affect interpretation of the data.

QAPP Information: The SWAMP QAPP (2008) was followed.

QAPP Information Reference(s): [Surface Water Ambient Monitoring Program Quality Assurance Program Plan](#)

Line of Evidence (LOE) for Decision ID 64983, Nitrogen, ammonia (Total Ammonia)

Region 2

Las Trampas Creek

LOE ID:	92076
Pollutant:	Nitrogen, ammonia (Total Ammonia)
LOE Subgroup:	Pollutant-Water
Matrix:	Water
Fraction:	Total
Beneficial Use:	Municipal & Domestic Supply
Number of Samples:	4
Number of Exceedances:	0
Data and Information Type:	PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality:	State Water Board staff assessed SWAMP data for Las Trampas Creek to determine beneficial use support and results are as follows: 0 of 4 samples exceed the criterion for Ammonia as N, Total.
Data Reference:	RWB2 Urbanization Study 2008
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	Surface waters shall not contain concentrations of chemical constituents in amounts that adversely affect any designated beneficial use.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	USEPA's Lifetime Health advisory level for total ammonia is 30.0 mg/L as stated on page 8 of the 2011 edition of the drinking water standards and health advisories. (EPA EPA 820-R-11-002, 2011).
Guideline Reference:	2011 Edition of the Drinking Water Standards and Health Advisories
Spatial Representation:	Data for this line of evidence for Las Trampas Creek was collected at 4 monitoring sites [Las Trampas at 900 Bollinger Canyon Road - 206WAL420, Las Trampas below St. Mary's and Bollinger Canyon Roads - 206WAL415, Las Trampas above St. Mary's Road bridge - 206WAL412, Las Trampas above dirt bike jumps - 206WAL410]
Temporal Representation:	Data was collected on a single day 5/20/2008.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	The SWAMP QAPP (2008) was followed.
QAPP Information Reference(s):	Surface Water Ambient Monitoring Program Quality Assurance Program Plan

Line of Evidence (LOE) for Decision ID 64983, Nitrogen, ammonia (Total Ammonia)
Las Trampas Creek

Region 2

LOE ID:	92075
Pollutant:	Nitrogen, ammonia (Total Ammonia)
LOE Subgroup:	Pollutant-Water
Matrix:	Water
Fraction:	Total
Beneficial Use:	Cold Freshwater Habitat
Number of Samples:	4
Number of Exceedances:	0
Data and Information Type:	PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality:	State Water Board staff assessed SWAMP data for Las Trampas Creek to determine beneficial use support and results are as follows: 0 of 4 samples exceed the criterion for Ammonia as N, Total.
Data Reference:	RWB2 Urbanization Study 2008
SWAMP Data:	SWAMP

Water Quality Objective/Criterion:	Surface waters shall not contain concentrations of chemical constituents in amounts that adversely affect any designated beneficial use.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	Aquatic Life Ambient Water Quality Criteria for Ammonia ? Freshwater (USEPA 2013): the 30-day rolling average concentration (criterion continuous concentration or CCC) of total ammonia nitrogen(in mg TAN/L) in freshwater are not to be exceeded more than once every three years on average. The CCC values are based on pH and temperature. The CCC formula is found on page 46 and the table of CCC values is on page 49.
Guideline Reference:	Aquatic Life Ambient Water Quality Criteria for Ammonia - Freshwater 2013
Spatial Representation:	Data for this line of evidence for Las Trampas Creek was collected at 4 monitoring sites [Las Trampas at 900 Bollinger Canyon Road - 206WAL420, Las Trampas below St. Mary's and Bollinger Canyon Roads - 206WAL415, Las Trampas above St. Mary's Road bridge - 206WAL412, Las Trampas above dirt bike jumps - 206WAL410]
Temporal Representation:	Data was collected on a single day 5/20/2008.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	The SWAMP QAPP (2008) was followed.
QAPP Information Reference(s):	Surface Water Ambient Monitoring Program Quality Assurance Program Plan

DECISION ID	64984	Region 2
Las Trampas Creek		
Pollutant:	Oxygen, Dissolved	
Final Listing Decision:	Do Not List on 303(d) list (TMDL required list)	
Last Listing Cycle's Final Listing Decision:	New Decision	
Revision Status	Revised	
Impairment from Pollutant or Pollution:	Pollutant	
Regional Board Staff Conclusion:	<p>This pollutant is being considered for placement on the CWA section 303(d) List under section 3.2 of the Listing Policy. Under section 3.2 a single line of evidence is necessary to assess listing status. Three lines of evidence are available in the administrative record to assess this pollutant. Zero of fourteen samples exceed the objective.</p> <p>Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against placing this water segment-pollutant combination on the CWA section 303(d) List.</p> <p>This conclusion is based on the staff findings that:</p> <ol style="list-style-type: none"> 1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy. 2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy. 3. Zero of fourteen samples exceed the objective and this sample size is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating. A minimum of 26 samples is needed to determine if a beneficial use is fully supported using table 3.2. 4. Pursuant to SECTION 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met. 	
Regional Board Staff Decision Recommendation:	After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be placed on the section 303(d) list. The readily available data and information is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating.	
Line of Evidence (LOE) for Decision ID 64984, Oxygen, Dissolved		Region 2
Las Trampas Creek		

LOE ID: 92079

Pollutant: Oxygen, Dissolved
 LOE Subgroup: Pollutant-Water
 Matrix: Water
 Fraction: Dissolved

Beneficial Use: Cold Freshwater Habitat

Number of Samples: 7
 Number of Exceedances: 0

Data and Information Type: PHYSICAL/CHEMICAL MONITORING
 Data Used to Assess Water Quality: State Water Board staff assessed SWAMP data for Las Trampas Creek to determine beneficial use support and results are as follows: 0 of 7 samples exceed the criterion for Oxygen, Dissolved.
 Data Reference: [RWB2 Urbanization Study 2008](#)

SWAMP Data: SWAMP

Water Quality Objective/Criterion: Dissolved oxygen objectives for waters designated as cold water habitat shall be of a 7.0 mg/l minimum. (Water Quality Control Plan, San Francisco Bay Basin, Chapter III Water Quality Objectives.)
 Objective/Criterion Reference: [Water Quality Control Plan \(Basin Plan\) San Francisco Bay Basin \(Region 2\)](#)

Evaluation Guideline:
 Guideline Reference:

Spatial Representation: Data for this line of evidence for Las Trampas Creek was collected at 4 monitoring sites [Las Trampas above dirt bike jumps - 206WAL410, Las Trampas at 900 Bollinger Canyon Road - 206WAL420, Las Trampas below St. Mary's and Bollinger Canyon Roads - 206WAL415, Las Trampas above St. Mary's Road bridge - 206WAL412]

Temporal Representation: Data was collected over the time period 5/8/2008-5/20/2008.
 Environmental Conditions: Staff is not aware of any special conditions that might affect interpretation of the data.
 QAPP Information: The SWAMP QAPP (2008) was followed.
 QAPP Information Reference(s): [Surface Water Ambient Monitoring Program Quality Assurance Program Plan](#)

Line of Evidence (LOE) for Decision ID 64984, Oxygen, Dissolved
Las Trampas Creek

Region 2

LOE ID: 92080

Pollutant: Oxygen, Dissolved
 LOE Subgroup: Pollutant-Water
 Matrix: Water
 Fraction: Dissolved

Beneficial Use: Cold Freshwater Habitat

Number of Samples: 7
 Number of Exceedances: 0

Data and Information Type: PHYSICAL/CHEMICAL MONITORING
 Data Used to Assess Water Quality: Zero of the 7 samples collected exceeded the objective.
 Data Reference: [RWB2 Urbanization Study 2008](#)

SWAMP Data: SWAMP

Water Quality Objective/Criterion: The minimum dissolved oxygen content of non-tidal water bodies designated as Cold water habitat is 7.0 mg/L.
 Objective/Criterion Reference: [Water Quality Control Plan \(Basin Plan\) San Francisco Bay Basin \(Region 2\)](#)

Evaluation Guideline:

Guideline Reference:

Spatial Representation:

Samples were collected from the Las Trampas above dirt bike jumps station (206WAL410), Las Trampas above St. Mary's Road bridge station (206WAL412), Las Trampas at 900 Bollinger Canyon Road station (206WAL420), and the Las Trampas below St. Mary's and Bollinger Canyon Roads station (206WAL415).

Temporal Representation:

Samples were collected on the following dates: 5/8/2008 5/20/2008

Environmental Conditions:

QAPP Information:

The SWAMP QAPP (2008) was followed.

QAPP Information Reference(s):

Line of Evidence (LOE) for Decision ID 64984, Oxygen, Dissolved

Region 2

Las Trampas Creek

LOE ID: 92078

Pollutant: Oxygen, Dissolved

LOE Subgroup: Pollutant-Water

Matrix: Water

Fraction: Dissolved

Beneficial Use: Warm Freshwater Habitat

Number of Samples: 7

Number of Exceedances: 0

Data and Information Type: PHYSICAL/CHEMICAL MONITORING

Data Used to Assess Water Quality: State Water Board staff assessed SWAMP data for Las Trampas Creek to determine beneficial use support and results are as follows: 0 of 7 samples exceed the criterion for Oxygen, Dissolved.

Data Reference: [RWB2 Urbanization Study 2008](#)

SWAMP Data: SWAMP

Water Quality Objective/Criterion: Dissolved oxygen objectives for waters designated as warm water habitat shall be of a 5.0 mg/l minimum. (Water Quality Control Plan, San Francisco Bay Basin, Chapter III Water Quality Objectives.)

Objective/Criterion Reference: [Water Quality Control Plan \(Basin Plan\) San Francisco Bay Basin \(Region 2\)](#)

Evaluation Guideline:

Guideline Reference:

Spatial Representation:

Data for this line of evidence for Las Trampas Creek was collected at 4 monitoring sites [Las Trampas above dirt bike jumps - 206WAL410, Las Trampas at 900 Bollinger Canyon Road - 206WAL420, Las Trampas below St. Mary's and Bollinger Canyon Roads - 206WAL415, Las Trampas above St. Mary's Road bridge - 206WAL412]

Temporal Representation:

Data was collected over the time period 5/8/2008-5/20/2008.

Environmental Conditions:

Staff is not aware of any special conditions that might affect interpretation of the data.

QAPP Information:

The SWAMP QAPP (2008) was followed.

QAPP Information Reference(s):

[Surface Water Ambient Monitoring Program Quality Assurance Program Plan](#)

DECISION ID 64985

Region 2

Las Trampas Creek

Pollutant: Specific Conductivity

Final Listing Decision: Do Not List on 303(d) list (TMDL required list)

Last Listing Cycle's Final Listing Decision: New Decision

Revision Status: Revised

Impairment from Pollutant or Pollution: Pollutant

Regional Board Staff Conclusion:

This pollutant is being considered for placement on the CWA section 303(d) List under section 3.2 of the Listing Policy. Under section 3.2 a single line of evidence is necessary to assess listing status. One line of evidence is available in the administrative record to assess this pollutant. Two of seven samples exceed the objective.

Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against placing this water segment-pollutant combination on the CWA section 303(d) List.

This conclusion is based on the staff findings that:

1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy.
2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy.
3. Two of seven samples exceed the objective and this sample size is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating. A minimum of 26 samples is needed to determine if a beneficial use is fully supported using table 3.2.
4. Pursuant to SECTION 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.

Regional Board Staff Decision Recommendation:

After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be placed on the section 303(d) list. The readily available data and information is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating.

Line of Evidence (LOE) for Decision ID 64985, Specific Conductivity

Region 2

Las Trampas Creek

LOE ID:	92085
Pollutant:	Specific Conductivity
LOE Subgroup:	Pollutant-Water
Matrix:	Water
Fraction:	None
Beneficial Use:	Municipal & Domestic Supply
Number of Samples:	7
Number of Exceedances:	2
Data and Information Type:	PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality:	State Water Board staff assessed SWAMP data for Las Trampas Creek to determine beneficial use support and results are as follows: 2 of 7 samples exceed the criterion for Conductivity(Us).
Data Reference:	RWB2 Urbanization Study 2008
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	The California Secondary MCL for Specific Conductance is 900 us/cm (Water Quality Control Plan, San Francisco Bay Region).
Objective/Criterion Reference:	Secondary Maximum Contaminant Levels and Compliance. CCR title 22 section 64449.
Evaluation Guideline:	
Guideline Reference:	
Spatial Representation:	Data for this line of evidence for Las Trampas Creek was collected at 4 monitoring sites [Las Trampas above dirt bike jumps - 206WAL410, Las Trampas at 900 Bollinger Canyon Road - 206WAL420, Las Trampas below St. Mary's and Bollinger Canyon Roads - 206WAL415, Las Trampas above St. Mary's Road bridge - 206WAL412]
Temporal Representation:	Data was collected over the time period 5/8/2008-5/20/2008.

Environmental Conditions:
QAPP Information:
QAPP Information Reference(s):

Staff is not aware of any special conditions that might affect interpretation of the data.
The SWAMP QAPP (2008) was followed.
[Surface Water Ambient Monitoring Program Quality Assurance Program Plan](#)

DECISION ID	64986	Region 2
Las Trampas Creek		

Pollutant: Temperature, water
Final Listing Decision: Do Not List on 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision: New Decision
Revision Status: Revised
Impairment from Pollutant or Pollution: Pollutant

Regional Board Staff Conclusion: This pollutant is being considered for placement on the CWA section 303(d) List under section 3.2 of the Listing Policy. Under section 3.2 a single line of evidence is necessary to assess listing status. Two lines of evidence are available in the administrative record to assess this pollutant. Zero of eight samples exceed the objective.

Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against placing this water segment-pollutant combination on the CWA section 303(d) List.

This conclusion is based on the staff findings that:

1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy.
2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy.
3. Zero of eight samples exceed the objective and this sample size is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating. A minimum of 26 samples is needed to determine if a beneficial use is fully supported using table 3.2.
4. Pursuant to SECTION 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.

Regional Board Staff Decision Recommendation: After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be placed on the section 303(d) list. The readily available data and information is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating.

Line of Evidence (LOE) for Decision ID 64986, Temperature, water	Region 2
Las Trampas Creek	

LOE ID: 92086

Pollutant: Temperature, water
LOE Subgroup: Pollutant-Water
Matrix: Water
Fraction: None

Beneficial Use: Cold Freshwater Habitat

Number of Samples: 7
Number of Exceedances: 0

Data and Information Type: PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality: State Water Board staff assessed SWAMP data for Las Trampas Creek to determine beneficial use support and results are as follows: 0 of 7 samples exceed the criterion for Water Temperature.

Data Reference: [RWB2 Urbanization Study 2008](#)

SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	The natural receiving water temperature of inland surface waters shall not be altered unless it can be demonstrated to the satisfaction of the Regional Board that such alteration in temperature does not adversely affect beneficial uses. (Water Quality Control Plan, San Francisco Bay Basin, Chapter III Water Quality Objectives.)
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	Inland Fishes of California (Moyle 1976) states that for rainbow trout the optimum range for growth and completion of most life stages is 13-21 degrees C (page 129).
Guideline Reference:	Inland Fishes of California
Spatial Representation:	Data for this line of evidence for Las Trampas Creek was collected at 4 monitoring sites [Las Trampas above dirt bike jumps - 206WAL410, Las Trampas at 900 Bollinger Canyon Road - 206WAL420, Las Trampas below St. Mary's and Bollinger Canyon Roads - 206WAL415, Las Trampas above St. Mary's Road bridge - 206WAL412]
Temporal Representation:	Data was collected over the time period 5/8/2008-5/20/2008.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	The SWAMP QAPP (2008) was followed.
QAPP Information Reference(s):	Surface Water Ambient Monitoring Program Quality Assurance Program Plan

Line of Evidence (LOE) for Decision ID 64986, Temperature, water

Region 2

Las Trampas Creek

LOE ID:	92087
Pollutant:	Temperature, water
LOE Subgroup:	Pollutant-Water
Matrix:	Water
Fraction:	None
Beneficial Use:	Cold Freshwater Habitat
Number of Samples:	1
Number of Exceedances:	0
Data and Information Type:	PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality:	The sample collected did not exceed the evaluation guideline
Data Reference:	RWB2 Urbanization Study 2008
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	Water Quality Control Plan, San Francisco Bay Region: The natural receiving water temperature of inland surface waters shall not be altered unless it can be demonstrated to the satisfaction of the Regional Board that such alteration in temperature does not adversely affect beneficial uses.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	According to Carter (2008) the lethal threshold for juvenile steelhead growth & rearing is 24 degrees Celsius (C).
Guideline Reference:	Effects of Temperature, Dissolved Oxygen/Total Dissolved Gas, Ammonia, and pH on Salmonids. Implications for California's North Coast TMDLs. California Regional Water Quality Control Board, North Coast Region
Spatial Representation:	The grab sample was collected at Las Trampas at 900 Bollinger Canyon Road station (206WAL420).
Temporal Representation:	One grab sample was collected on 5/20/2008.
Environmental Conditions:	
QAPP Information:	The SWAMP QAPP was followed.
QAPP Information Reference(s):	

Pollutant: pH
Final Listing Decision: Do Not List on 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision: New Decision
Revision Status: Revised
Impairment from Pollutant or Pollution: Pollutant

Regional Board Staff Conclusion: This pollutant is being considered for placement on the CWA section 303(d) List under section 3.2 of the Listing Policy. Under section 3.2 a single line of evidence is necessary to assess listing status. Four lines of evidence are available in the administrative record to assess this pollutant. One of seven samples exceed the objective.

Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against placing this water segment-pollutant combination on the CWA section 303(d) List.

This conclusion is based on the staff findings that:
 1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy.
 2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy.
 3. One of seven samples exceed the objective and this sample size is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating. A minimum of 26 samples is needed to determine if a beneficial use is fully supported using table 3.2.
 4. Pursuant to SECTION 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.

Regional Board Staff Decision Recommendation: After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be placed on the section 303(d) list. The readily available data and information is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating.

Line of Evidence (LOE) for Decision ID 64987, pH	Region 2
Las Trampas Creek	

LOE ID: 92082
Pollutant: pH
LOE Subgroup: Pollutant-Water
Matrix: Water
Fraction: None
Beneficial Use: Municipal & Domestic Supply
Number of Samples: 7
Number of Exceedances: 1
Data and Information Type: PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality: State Water Board staff assessed SWAMP data for Las Trampas Creek to determine beneficial use support and results are as follows: 1 of 7 samples exceed the criterion for pH.
Data Reference: [RWB2 Urbanization Study 2008](#)
SWAMP Data: SWAMP
Water Quality Objective/Criterion: The Water Quality Control Plan for the San Francisco Bay Region's water quality objective for all surface waters states the following: The pH shall not be depressed below 6.5 nor raised above 8.5. This encompasses the pH range usually found in waters within

the basin. Controllable water quality factors shall not cause changes greater than 0.5 units in normal ambient pH levels.

Objective/Criterion Reference: [Water Quality Control Plan \(Basin Plan\) San Francisco Bay Basin \(Region 2\)](#)

Evaluation Guideline:

Guideline Reference:

Spatial Representation:

Data for this line of evidence for Las Trampas Creek was collected at 4 monitoring sites [Las Trampas above dirt bike jumps - 206WAL410, Las Trampas at 900 Bollinger Canyon Road - 206WAL420, Las Trampas below St. Mary's and Bollinger Canyon Roads - 206WAL415, Las Trampas above St. Mary's Road bridge - 206WAL412]

Temporal Representation:

Data was collected over the time period 5/8/2008-5/20/2008.

Environmental Conditions:

Staff is not aware of any special conditions that might affect interpretation of the data.

QAPP Information:

The SWAMP QAPP (2008) was followed.

QAPP Information Reference(s):

[Surface Water Ambient Monitoring Program Quality Assurance Program Plan](#)

Line of Evidence (LOE) for Decision ID 64987, pH

Region 2

Las Trampas Creek

LOE ID: 92081

Pollutant: pH
LOE Subgroup: Pollutant-Water
Matrix: Water
Fraction: None

Beneficial Use: Warm Freshwater Habitat

Number of Samples: 7

Number of Exceedances: 1

Data and Information Type: PHYSICAL/CHEMICAL MONITORING

Data Used to Assess Water Quality: State Water Board staff assessed SWAMP data for Las Trampas Creek to determine beneficial use support and results are as follows: 1 of 7 samples exceed the criterion for pH.

Data Reference: [RWB2 Urbanization Study 2008](#)

SWAMP Data: SWAMP

Water Quality Objective/Criterion: The Water Quality Control Plan for the San Francisco Bay Region's water quality objective for all surface waters states the following: The pH shall not be depressed below 6.5 nor raised above 8.5. This encompasses the pH range usually found in waters within the basin. Controllable water quality factors shall not cause changes greater than 0.5 units in normal ambient pH levels.

Objective/Criterion Reference: [Water Quality Control Plan \(Basin Plan\) San Francisco Bay Basin \(Region 2\)](#)

Evaluation Guideline:

Guideline Reference:

Spatial Representation:

Data for this line of evidence for Las Trampas Creek was collected at 4 monitoring sites [Las Trampas above dirt bike jumps - 206WAL410, Las Trampas at 900 Bollinger Canyon Road - 206WAL420, Las Trampas below St. Mary's and Bollinger Canyon Roads - 206WAL415, Las Trampas above St. Mary's Road bridge - 206WAL412]

Temporal Representation:

Data was collected over the time period 5/8/2008-5/20/2008.

Environmental Conditions:

Staff is not aware of any special conditions that might affect interpretation of the data.

QAPP Information:

The SWAMP QAPP (2008) was followed.

QAPP Information Reference(s):

[Surface Water Ambient Monitoring Program Quality Assurance Program Plan](#)

Line of Evidence (LOE) for Decision ID 64987, pH

Region 2

Las Trampas Creek

LOE ID:	92084
Pollutant:	pH
LOE Subgroup:	Pollutant-Water
Matrix:	Water
Fraction:	Total
Beneficial Use:	Cold Freshwater Habitat
Number of Samples:	7
Number of Exceedances:	1
Data and Information Type:	PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality:	1 of 7 samples exceed the water quality objective.
Data Reference:	RWB2 Urbanization Study 2008
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	Water Quality Control Plan, San Francisco Bay Region (SFBRWQCB 2011): In inland surface waters the pH shall not be depressed below 6.5 nor raised above 8.5.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	
Guideline Reference:	
Spatial Representation:	Samples were collected at 206WAL410 (Las Trampas above dirt bike jumps), 206WAL412 (Las Trampas above St. Mary's Road bridge), 206WAL415 (Las Trampas below St. Mary's and Bollinger Canyon Roads) and 206WAL420 (Las Trampas at 900 Bollinger Canyon Road).
Temporal Representation:	Samples collected on 5/8/2008 and 5/20/2008.
Environmental Conditions:	
QAPP Information:	SWAMP QAPP (2008) was followed.
QAPP Information Reference(s):	Surface Water Ambient Monitoring Program Quality Assurance Program Plan

Line of Evidence (LOE) for Decision ID 64987, pH

Region 2

Las Trampas Creek

LOE ID:	92083
Pollutant:	pH
LOE Subgroup:	Pollutant-Water
Matrix:	Water
Fraction:	None
Beneficial Use:	Cold Freshwater Habitat
Number of Samples:	7
Number of Exceedances:	1
Data and Information Type:	PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality:	State Water Board staff assessed SWAMP data for Las Trampas Creek to determine beneficial use support and results are as follows: 1 of 7 samples exceed the criterion for pH.
Data Reference:	RWB2 Urbanization Study 2008
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	The Water Quality Control Plan for the San Francisco Bay Region's water quality objective for all surface waters states the following: The pH shall not be depressed below 6.5 nor raised above 8.5. This encompasses the pH range usually found in waters within the basin. Controllable water quality factors shall not cause changes greater than 0.5 units in normal ambient pH levels.

Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	
Guideline Reference:	
Spatial Representation:	Data for this line of evidence for Las Trampas Creek was collected at 4 monitoring sites [Las Trampas above dirt bike jumps - 206WAL410, Las Trampas at 900 Bollinger Canyon Road - 206WAL420, Las Trampas below St. Mary's and Bollinger Canyon Roads - 206WAL415, Las Trampas above St. Mary's Road bridge - 206WAL412]
Temporal Representation:	Data was collected over the time period 5/8/2008-5/20/2008.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	The SWAMP QAPP (2008) was followed.
QAPP Information Reference(s):	Surface Water Ambient Monitoring Program Quality Assurance Program Plan

Draft California 2016 Integrated Report (303(d) List/305(b) Report)

Supporting Information

Regional Board 2 - San Francisco Bay Region

Water Body Name: Vista Grande Canal
Water Body ID: CAR2021001020120409133758
Water Body Type: River & Stream

DECISION ID 66758 **Region 2**
Vista Grande Canal

Pollutant: Trash
Final Listing Decision: Do Not List on 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision: New Decision
Revision Status Revised
Impairment from Pollutant or Pollution: Pollutant

Regional Board Staff Conclusion: This pollutant is being considered for placement on the CWA section 303(d) List under section 3.11 of the Listing Policy. Under this section a single line of evidence is necessary to assess listing status.

Two lines of evidence are available in the administrative record to assess pollutant. One of two samples exceed the evaluation guideline for non-contact recreation and threat to aquatic life.

Based on the readily available data and information, the weight of evidence indicates that there is not sufficient justification for placing this water segment-pollutant combination on the CWA section 303(d) List.

This conclusion is based on the staff findings that:

1. Two lines of evidence are available in the administrative record to assess this pollutant. All lines of evidence involve inspection of photographic evidence by Regional Water Board staff trained to conduct the Rapid Trash Assessment (RTA) methodology. The staff inspected these photos and applied the RTA methodology to develop Category 1 (Level of Trash) and Category 3 (Threat to Aquatic Life) scores for each photograph. Based on the readily available photographic evidence for this waterbody, the weight of evidence indicates that there is not sufficient justification available for placing this water segment-pollutant combination on the section 303(d) list in the Water Quality Limited Segments category.
2. Applying the Rapid Trash Assessment methodology to the photographic evidence suggests that this waterbody had level of trash parameter scores in the poor category (indicating impairment of non-contact water recreational beneficial uses) for 1 of 2 samples.
3. This waterbody also had threat to aquatic life parameter scores in the poor category (indicating threat to Wildlife Habitat beneficial uses) for 1 of 2 samples.
4. Pursuant to section 3.11 of the Listing Policy, no additional data and information are available indicating that standards are met.
5. The data used satisfy the data quality requirements of section 6.1.4 of the Policy.
6. The data used satisfy the data quantity requirements of section 6.1.5 of the Policy.

Regional Board Staff Decision Recommendation: After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be placed on the section 303(d) list. The readily available data and information is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating.

Line of Evidence (LOE) for Decision ID 66758, Trash

Region 2

Vista Grande Canal

LOE ID:	93529
Pollutant:	Trash
LOE Subgroup:	Pollutant-Nuisance
Matrix:	Not Specified
Fraction:	Not Recorded
Beneficial Use:	Non-Contact Recreation
Number of Samples:	2
Number of Exceedances:	1
Data and Information Type:	Occurrence of conditions judged to cause impairment
Data Used to Assess Water Quality:	Data available consist of photographic evidence of trash and interpretation of these photos by an experienced trash assessment specialist. Each photograph was analyzed to establish the RTA score for the level of trash and threat to aquatic life parameters, which relate to impairment of REC2 and WILD, respectively. Only those photos clear enough to establish these RTA scores were relied on for the listing determination. These results are available for photos taken on 3/27/07 and 12/18/07 John Muir Drive and Lake Merced Blvd to Outlet Bar Rack. This waterbody had level of trash parameter scores in the poor category for 12/18/07 (indicating impairment of non-contact water recreational beneficial uses). Only photos from 12/18/07 had enough evidence to establish an assessment score in poor condition category.
Data Reference:	Photos of trash in various San Francisco Bay water bodies, Mar. 2007-Mar. 2008
SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	The Basin Plan prohibits discharge of Rubbish, refuse, bark, sawdust, or other solid wastes into surface waters or at any place where they would contact or where they would be eventually transported to surface waters, including flood plain areas. The Basin Plan has a narrative objective for floating material, Waters shall not contain floating material, including solids, liquids, foams, and scum, in concentrations that cause nuisance or adversely affect beneficial uses. The Basin Plan has a narrative objective for settleable material, Waters shall not contain substances in concentrations that result in the deposition of material that cause nuisance or adversely affect beneficial uses.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	If the Rapid Trash Assessment (RTA) Parameter 1 (Level of Trash) is in the poor condition category (scores 0-5), REC2 is not supported. This level of trash distracts the eye on first glance, making the site unsuitable for recreation. The RTA defines poor condition for this parameter as follows, trash distracts the eye on first glance. Stream, bank surfaces, and immediate riparian zone contain substantial levels of litter and debris (>100 pieces). Evidence of site being used frequently by people: many cans, bottles, and food wrappers, blankets, clothing. State Water Board staff trained in the RTA inspected the available photographic evidence and applied the assessment method to determine the Level of Trash score. If the RTA Parameter 3 (Threat to Aquatic Life) is in the poor condition category (scores 0-5), then WILD is not supported. This level of trash is a large amount (>50 pieces) of transportable, persistent, buoyant litter that is detrimental to aquatic life. The RTA defines poor condition for this parameter as follows, large amount (>50 pieces) of transportable, persistent, buoyant litter such as: hard or soft plastics, balloons, Styrofoam, cigarette butts; toxic items such as batteries, lighters, or spray cans; large clumps of yard waste or dumped leaf litter; or large amount (>50 pieces) of settleable glass or metal. State Water Board staff trained in the RTA inspected the available photographic evidence and applied the assessment method to determine the Threat to Aquatic Life score.
Guideline Reference:	A Rapid Trash Assessment Method Applied to Waters of the San Francisco Bay Region:Trash Measurement in Streams
Spatial Representation:	Photos taken at John Muir Drive and Lake Merced Blvd to Outlet Bar Rack on 3/27/07, 12/18/07, and possibly several other dates, but no dates were provided.

Temporal Representation: Photos taken at John Muir Drive and Lake Merced Blvd to Outlet Bar Rack. Five photos taken on 3/27/07, and five taken on 12/18/07, and 27 other photos taken on possibly several other dates, but no dates were provided.

Environmental Conditions: This storm drain channel receives runoff from the City of Daly City and Westlake Shopping Center, and is likely a major source of trash and litter found on San Francisco's Ocean Beach. The open canal portion of the canal along John Daly Boulevard terminat

QAPP Information: Quality Assurance Information Assessments of the photographic evidence using the RTA were performed by a State Water Board staff person. Assessments based on photographic evidence were only conducted when sufficient reach-scale and close-up photos were available for a site on a specific date. Photos used for the evaluation needed to be numerous enough and clear enough to document the level of trash at the site in a similar way as the assessor would experience during an actual site visit in the field. For example, at a minimum, one reach-scale photograph (showing at least a 100 linear foot section of the waterbody) and two close-up photographs (of representative trash deposits) were required.

QAPP Information Reference(s):

**Line of Evidence (LOE) for Decision ID 66758, Trash
Vista Grande Canal**

Region 2

LOE ID: 93535

Pollutant: Trash

LOE Subgroup: Pollutant-Nuisance

Matrix: Not Specified

Fraction: Not Recorded

Beneficial Use: Wildlife Habitat

Number of Samples: 2

Number of Exceedances: 1

Data and Information Type: Occurrence of conditions judged to cause impairment

Data Used to Assess Water Quality: Data available consist of photographic evidence of trash and interpretation of these photos by an experienced trash assessment specialist. Each photograph was analyzed to establish the RTA score for the level of trash and threat to aquatic life parameters, which relate to impairment of REC2 and WILD, respectively. Only those photos clear enough to establish these RTA scores were relied on for the listing determination. These results are available for photos taken on 3/27/07 and 12/18/07 John Muir Drive and Lake Merced Blvd to Outlet Bar Rack. This waterbody had threat to aquatic life parameter scores in the poor category for 12/18/07 (indicating threat to Wildlife Habitat beneficial uses). Only photos from 12/18/07 had enough evidence to establish a poor condition score for the threat to aquatic life category.

Data Reference: [Photos of trash in various San Francisco Bay water bodies, Mar. 2007-Mar. 2008](#)

SWAMP Data: Non-SWAMP

Water Quality Objective/Criterion: The Basin Plan prohibits discharge of Rubbish, refuse, bark, sawdust, or other solid wastes into surface waters or at any place where they would contact or where they would be eventually transported to surface waters, including flood plain areas. The Basin Plan has a narrative objective for floating material, Waters shall not contain floating material, including solids, liquids, foams, and scum, in concentrations that cause nuisance or adversely affect beneficial uses. The Basin Plan has a narrative objective for settleable material, Waters shall not contain substances in concentrations that result in the deposition of material that cause nuisance or adversely affect beneficial uses.

Objective/Criterion Reference: [Water Quality Control Plan \(Basin Plan\) San Francisco Bay Basin \(Region 2\)](#)

Evaluation Guideline: If the Rapid Trash Assessment (RTA) Parameter 1 (Level of Trash) is in the poor condition category (scores 0-5), REC2 is not supported. This level of trash distracts the eye on first glance, making the site unsuitable for recreation. The RTA defines poor condition for this parameter as follows, trash distracts the eye on first glance. Stream, bank surfaces, and immediate riparian zone contain substantial levels of litter and debris

(>100 pieces). Evidence of site being used frequently by people: many cans, bottles, and food wrappers, blankets, clothing. State Water Board staff trained in the RTA inspected the available photographic evidence and applied the assessment method to determine the Level of Trash score. If the RTA Parameter 3 (Threat to Aquatic Life) is in the poor condition category (scores 0-5), then WILD is not supported. This level of trash is a large amount (>50 pieces) of transportable, persistent, buoyant litter that is detrimental to aquatic life. The RTA defines poor condition for this parameter as follows, large amount (>50 pieces) of transportable, persistent, buoyant litter such as: hard or soft plastics, balloons, Styrofoam, cigarette butts; toxic items such as batteries, lighters, or spray cans; large clumps of yard waste or dumped leaf litter; or large amount (>50 pieces) of settleable glass or metal. State Water Board staff trained in the RTA inspected the available photographic evidence and applied the assessment method to determine the Threat to Aquatic Life score.

Guideline Reference:

[A Rapid Trash Assessment Method Applied to Waters of the San Francisco Bay Region: Trash Measurement in Streams](#)

Spatial Representation:

Photos taken at John Muir Drive and Lake Merced Blvd to Outlet Bar Rack on 3/27/07, 12/18/07, and possibly several other dates, but no dates were provided.

Temporal Representation:

Photos taken at John Muir Drive and Lake Merced Blvd to Outlet Bar Rack. Five photos taken on 3/27/07, and five taken on 12/18/07, and 27 other photos taken on possibly several other dates, but no dates were provided.

Environmental Conditions:

This storm drain channel receives runoff from the City of Daly City and Westlake Shopping Center, and is likely a major source of trash and litter found on San Francisco's Ocean Beach. The open canal portion of the canal along John Daly Boulevard terminates

QAPP Information:

Assessments of the photographic evidence using the RTA were performed by a State Water Board staff person. Assessments based on photographic evidence were only conducted when sufficient reach-scale and close-up photos were available for a site on a specific date. Photos used for the evaluation needed to be numerous enough and clear enough to document the level of trash at the site in a similar way as the assessor would experience during an actual site visit in the field. For example, at a minimum, one reach-scale photograph (showing at least a 100 linear foot section of the waterbody) and two close-up photographs (of representative trash deposits) were required.

QAPP Information Reference(s):

Draft California 2016 Integrated Report (303(d) List/305(b) Report)

Supporting Information

Regional Board 2 - San Francisco Bay Region

Water Body Name: Calabazas Creek (Santa Clara County)
Water Body ID: CAR2055004020120423095155
Water Body Type: River & Stream

DECISION ID 65147 **Region 2**
Calabazas Creek (Santa Clara County)

Pollutant: Diazinon
Final Listing Decision: List on 303(d) list (being addressed by USEPA approved TMDL)
Last Listing Cycle's Final Listing Decision: New Decision
Revision Status Revised
Sources: Source Unknown
TMDL Name: San Francisco Bay Urban Creeks Diazinon
TMDL Project Code: 9
Date TMDL Approved by USEPA: 05/16/2007
Impairment from Pollutant or Pollution: Pollutant

Regional Board Staff Conclusion: 303(d) listing decisions made prior to 2006 were not held in an assessment database. The Regional Boards will update this decision when new data and information become available and are assessed. The USEPA final decision on the 2006 303(d) list was to move this listing to the being addressed by a USEPA approved TMDL portion of the 303(d) list, because the San Francisco Bay Urban Creeks Diazinon TMDL was approved by USEPA on 5/16/07 (USEPA, 2007).

Regional Board Staff Decision Recommendation: After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should be placed on the section 303(d) list because applicable water quality standards are exceeded and a pollutant contributes to or causes the problem.

Line of Evidence (LOE) for Decision ID 65147, Diazinon **Region 2**
Calabazas Creek (Santa Clara County)

LOE ID: 95798
Pollutant: Diazinon
LOE Subgroup: Pollutant-Water
Matrix: Water
Fraction: None
Beneficial Use: Cold Freshwater Habitat
Number of Samples: 0
Number of Exceedances: 0
Data and Information Type: Not Specified
Data Used to Assess Water Quality: Unspecified---This LOE is a placeholder to support a 303(d) listing decision made prior to 2006.
Data Reference: [Placeholder reference 2006 303\(d\)](#)
SWAMP Data: Non-SWAMP

Water Quality Objective/Criterion:
Objective/Criterion Reference:

Evaluation Guideline:
Guideline Reference:

Spatial Representation:
Temporal Representation:
Environmental Conditions:

QAPP Information: QA Info Missing
QAPP Information Reference(s):

Draft California 2016 Integrated Report (303(d) List/305(b) Report)

Supporting Information

Regional Board 2 - San Francisco Bay Region

Water Body Name: Crissy Field Beach West
Water Body ID: CAC2034001020120427134237
Water Body Type: Coastal & Bay Shoreline

DECISION ID 64290 **Region 2**
Crissy Field Beach West

Pollutant: Indicator Bacteria
Final Listing Decision: Do Not List on 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision: New Decision
Revision Status Revised
Impairment from Pollutant or Pollution: Pollutant

Regional Board Staff Conclusion: This pollutant is being considered for placement on the CWA section 303(d) List under section 3.3 of the Listing Policy. Under section 3.3 of the Policy, a minimum of one line of evidence is needed to assess listing status.

Three lines of evidence are available in the administrative record to assess this pollutant.

Based on the readily available data and information, the weight of evidence indicates that there is not sufficient justification to place this water segment-pollutant combination on the CWA section 303(d) List.

This conclusion is based on the staff findings that:

1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy.
2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy.
3. Seven of one hundred thirty four samples exceeded the enterococcus geomean objective. This does not exceed the allowable frequency listed in Table 3.2 of the Listing Policy.
4. Pursuant to section 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.

Regional Board Staff Decision Recommendation: After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be placed on the section 303(d) list because applicable water quality standards are not being exceeded.

Line of Evidence (LOE) for Decision ID 64290, Indicator Bacteria **Region 2**
Crissy Field Beach West

LOE ID: 91594
Pollutant: Fecal Coliform
LOE Subgroup: Pollutant-Water
Matrix: Water
Fraction: None
Beneficial Use: Water Contact Recreation
Number of Samples: 134
Number of Exceedances: 0

Data and Information Type:	Not Specified
Data Used to Assess Water Quality:	Zero of the 134 geomeans exceeded the objective.
Data Reference:	Data for Region 2 Beach Watch.
SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	The geometric mean standard for fecal coliform states that the fecal coliform density shall not exceed 200 per 100 mL. San Francisco Bay Basin Water Quality Control Plan.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	
Guideline Reference:	
Spatial Representation:	Samples were collected at the Crissy Field West site.
Temporal Representation:	Samples were collected from March 2008 to August 2010.
Environmental Conditions:	
QAPP Information:	The samples were collected for the beach watch program.
QAPP Information Reference(s):	

Line of Evidence (LOE) for Decision ID 64290, Indicator Bacteria

Region 2

Crissy Field Beach West

LOE ID:	91592
Pollutant:	Enterococcus
LOE Subgroup:	Pollutant-Water
Matrix:	Water
Fraction:	None
Beneficial Use:	Water Contact Recreation
Number of Samples:	134
Number of Exceedances:	7
Data and Information Type:	Not Specified
Data Used to Assess Water Quality:	Seven of the 134 geomeans exceeded the objective.
Data Reference:	Data for Region 2 Beach Watch.
SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	The geometric mean standard for enterococcus states that the enterococcus density shall not exceed 35 per 100 mL. San Francisco Bay Basin Water Quality Control Plan.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	
Guideline Reference:	
Spatial Representation:	Samples were collected at the Crissy Field West site.
Temporal Representation:	Samples were collected from April 2008 to August 2010.
Environmental Conditions:	
QAPP Information:	The samples were collected for the Beach Watch program.
QAPP Information Reference(s):	

Line of Evidence (LOE) for Decision ID 64290, Indicator Bacteria

Region 2

Crissy Field Beach West

LOE ID:	91596
Pollutant:	Total Coliform
LOE Subgroup:	Pollutant-Water

Matrix:	Water
Fraction:	None
Beneficial Use:	Water Contact Recreation
Number of Samples:	29
Number of Exceedances:	2
Data and Information Type:	Not Specified
Data Used to Assess Water Quality:	Two of the twenty-nine monthly medians exceeded the objective.
Data Reference:	Data for Region 2 Beach Watch.
SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	The standard for total coliform states that the coliform density shall not exceed a monthly median of 240 per 100 mL. San Francisco Bay Basin Water Quality Control Plan.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	
Guideline Reference:	
Spatial Representation:	Samples were collected at the Crissy Field West site.
Temporal Representation:	Samples were collected from April 2005 to August 2010.
Environmental Conditions:	
QAPP Information:	The samples were collected for the Beach Watch program.
QAPP Information Reference(s):	

Draft California 2016 Integrated Report (303(d) List/305(b) Report)

Supporting Information

Regional Board 2 - San Francisco Bay Region

Water Body Name: Kiteboard Beach (San Francisco Bay, Lower)
Water Body ID: CAC2041001020120427112411
Water Body Type: Coastal & Bay Shoreline

DECISION ID 65919 **Region 2**
Kiteboard Beach (San Francisco Bay, Lower)

Pollutant: Indicator Bacteria
Final Listing Decision: List on 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision: New Decision
Revision Status Revised
Sources: Source Unknown
Expected TMDL Completion Date: 2029
Impairment from Pollutant or Pollution: Pollutant

Regional Board Staff Conclusion: This pollutant is being considered for placement on the CWA section 303(d) List under section 3.3 of the Listing Policy. Under section 3.3 a single line of evidence is necessary to assess listing status.

Six lines of evidence are available in the administrative record to assess this pollutant. Eleven of forty-eight samples exceed the enterococcus geometric mean objective.

Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification for placing this water segment-pollutant combination on the CWA section 303(d) List.

This conclusion is based on the staff findings that:

1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy.
2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy.
3. Eleven of forty-eight samples exceed the enterococcus geometric mean objective and this exceeds the allowable frequency listed in Table 3.2 of the Listing Policy.
4. Pursuant to section 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.

Regional Board Staff Decision Recommendation: After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should be placed on the section 303(d) list because applicable water quality standards are exceeded and a pollutant contributes to or causes the problem.

Line of Evidence (LOE) for Decision ID 65919, Indicator Bacteria **Region 2**
Kiteboard Beach (San Francisco Bay, Lower)

LOE ID: 90617
Pollutant: Enterococcus
LOE Subgroup: Pollutant-Water
Matrix: Water
Fraction: None
Beneficial Use: Water Contact Recreation

Number of Samples:	48
Number of Exceedances:	11
Data and Information Type:	Not Specified
Data Used to Assess Water Quality:	Eleven of the 48 geomeans exceeded the objective.
Data Reference:	Data for Region 2 Beach Watch.
SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	The geometric mean standard for enterococcus states that the enterococcus density shall not exceed 35 per 100 mL. San Francisco Bay Basin Water Quality Control Plan.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	
Guideline Reference:	
Spatial Representation:	Samples were collected at the Kiteboard Beach site.
Temporal Representation:	Samples were collected from March 2008 to August 2010.
Environmental Conditions:	
QAPP Information:	The samples were collected for the Beach Watch program.
QAPP Information Reference(s):	

Line of Evidence (LOE) for Decision ID 65919, Indicator Bacteria

Region 2

Kiteboard Beach (San Francisco Bay, Lower)

LOE ID:	90892
Pollutant:	Total Coliform
LOE Subgroup:	Pollutant-Water
Matrix:	Water
Fraction:	None
Beneficial Use:	Water Contact Recreation
Number of Samples:	77
Number of Exceedances:	0
Data and Information Type:	PATHOGEN MONITORING
Data Used to Assess Water Quality:	Water Board staff assessed BeachWatch data for Kiteboard Beach to determine beneficial use support and results are as follows: 0 of 77 samples exceed the criterion for Enterococci.
Data Reference:	Data for Region 2 Beach Watch.
SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	The San Francisco Bay Basin Plan states that the single sample maximum for total coliform shall not exceed 10,000 MPN/100 mL
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	
Guideline Reference:	
Spatial Representation:	Data for this line of evidence for Kiteboard Beach (San Francisco Bay, Lower) was collected at 1 monitoring site [Kiteboard Beach]
Temporal Representation:	Data was collected over the time period 3/24/2008-8/16/2010.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	The samples were collected for the Beach Watch program.
QAPP Information Reference(s):	

Line of Evidence (LOE) for Decision ID 65919, Indicator Bacteria

Region 2

Kiteboard Beach (San Francisco Bay, Lower)

LOE ID:	90773
Pollutant:	Enterococcus
LOE Subgroup:	Pollutant-Water
Matrix:	Water
Fraction:	None
Beneficial Use:	Water Contact Recreation
Number of Samples:	77
Number of Exceedances:	10
Data and Information Type:	PATHOGEN MONITORING
Data Used to Assess Water Quality:	Water Board staff assessed BeachWatch data for Kiteboard Beach to determine beneficial use support and results are as follows: 10 of 77 samples exceed the criterion for Enterococci.
Data Reference:	Data for Region 2 Beach Watch.
SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	The San Francisco Bay Basin Plan states that the single sample maximum for Enterococcus shall not exceed 104 MPN/100 mL.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	
Guideline Reference:	
Spatial Representation:	Data for this line of evidence for Kiteboard Beach (San Francisco Bay, Lower) was collected at 1 monitoring site [Kiteboard Beach]
Temporal Representation:	Data was collected over the time period 3/24/2008-8/16/2010.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	The samples were collected for the Beach Watch program.
QAPP Information Reference(s):	

Line of Evidence (LOE) for Decision ID 65919, Indicator Bacteria

Region 2

Kiteboard Beach (San Francisco Bay, Lower)

LOE ID:	90616
Pollutant:	Total Coliform
LOE Subgroup:	Pollutant-Water
Matrix:	Water
Fraction:	None
Beneficial Use:	Water Contact Recreation
Number of Samples:	27
Number of Exceedances:	14
Data and Information Type:	Not Specified
Data Used to Assess Water Quality:	Fourteen of the twenty-seven monthly medians exceeded the objective.
Data Reference:	Data for Region 2 Beach Watch.
SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	The standard for total coliform states that the coliform density shall not exceed a monthly median of 240 per 100 mL. San Francisco Bay Basin Water Quality Control Plan.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	
Guideline Reference:	

Spatial Representation:	Samples were collected at the Kiteboard Beach site.
Temporal Representation:	Samples were collected from March 2008 to August 2010.
Environmental Conditions:	
QAPP Information:	The samples were collected for the Beach Watch program.
QAPP Information Reference(s):	

Line of Evidence (LOE) for Decision ID 65919, Indicator Bacteria

Region 2

Kiteboard Beach (San Francisco Bay, Lower)

LOE ID:	90615
Pollutant:	Fecal Coliform
LOE Subgroup:	Pollutant-Water
Matrix:	Water
Fraction:	None
Beneficial Use:	Water Contact Recreation
Number of Samples:	48
Number of Exceedances:	0
Data and Information Type:	Not Specified
Data Used to Assess Water Quality:	Zero of the 48 geomeans exceeded the objective.
Data Reference:	Data for Region 2 Beach Watch.
SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	The geometric mean standard for fecal coliform states that the fecal coliform density shall not exceed 200 per 100 mL. San Francisco Bay Basin Water Quality Control Plan.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	
Guideline Reference:	
Spatial Representation:	Samples were collected at the Kiteboard Beach site.
Temporal Representation:	Samples were collected from March 2008 to August 2010.
Environmental Conditions:	
QAPP Information:	The samples were collected for the beach watch program.
QAPP Information Reference(s):	

Line of Evidence (LOE) for Decision ID 65919, Indicator Bacteria

Region 2

Kiteboard Beach (San Francisco Bay, Lower)

LOE ID:	90868
Pollutant:	Fecal Coliform
LOE Subgroup:	Pollutant-Water
Matrix:	Water
Fraction:	None
Beneficial Use:	Water Contact Recreation
Number of Samples:	77
Number of Exceedances:	5
Data and Information Type:	PATHOGEN MONITORING
Data Used to Assess Water Quality:	Water Board staff assessed BeachWatch data for Kiteboard Beach to determine beneficial use support and results are as follows: 5 of 77 samples exceed the criterion for Enterococci.
Data Reference:	Data for Region 2 Beach Watch.

SWAMP Data:

Non-SWAMP

Water Quality Objective/Criterion:

The San Francisco Bay Basin Plan states that the single sample maximum for fecal coliform shall not exceed 400 MPN/100 mL

Objective/Criterion Reference:

[Water Quality Control Plan \(Basin Plan\) San Francisco Bay Basin \(Region 2\)](#)

Evaluation Guideline:

Guideline Reference:

Spatial Representation:

Data for this line of evidence for Kiteboard Beach (San Francisco Bay, Lower) was collected at 1 monitoring site [Kiteboard Beach]

Temporal Representation:

Data was collected over the time period 3/24/2008-8/16/2010.

Environmental Conditions:

Staff is not aware of any special conditions that might affect interpretation of the data.

QAPP Information:

The samples were collected for the Beach Watch program.

QAPP Information Reference(s):

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Supporting Information

Regional Board 2 - San Francisco Bay Region

Water Body Name: Lakeshore Park Beach (Marina Lagoon, San Mateo County)
Water Body ID: CAC2044004020120427120721
Water Body Type: Coastal & Bay Shoreline

DECISION ID 65997 **Region 2**
Lakeshore Park Beach (Marina Lagoon, San Mateo County)

Pollutant: Indicator Bacteria
Final Listing Decision: List on 303(d) list (being addressed by USEPA approved TMDL)
Last Listing Cycle's Final Listing Decision: New Decision
Revision Status Revised
Sources: Source Unknown
TMDL Name: San Francisco Bay Beaches, Pathogens
TMDL Project Code: 995
Date TMDL Approved by USEPA: 02/24/2017
Impairment from Pollutant or Pollution: Pollutant

Regional Board Staff Conclusion: This pollutant is being considered for placement on the CWA section 303(d) List under sections 2.2 and 3.3 of the Listing Policy. Under section 3.3 of the Policy, a minimum of one line of evidence is needed to assess listing status.

Six lines of evidence are available in the administrative record to assess this pollutant. Thirty-four of eighty-seven samples exceed the enterococcus geometric mean objective.

Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification for placing this water segment-pollutant combination from the CWA section 303(d) List. There is sufficient justification to place it in the Being Addressed portion of the CWA 303(d) List because a TMDL has been completed and approved by RWQCB and USEPA, and is expected to result in attainment of the standard.

This conclusion is based on the staff findings that:

1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy.
2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy.
3. Thirty-four of eighty-seven samples exceed the enterococcus geometric mean objective and these exceed the allowable frequency listed in Table 3.2 of the Listing Policy.
4. The SF Bay Beaches Pathogen TMDL was approved by USEPA on 2/24/2017.
5. Pursuant to section 4.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.

Regional Board Staff Decision Recommendation: After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should be placed on the section 303(d) list because applicable water quality standards are exceeded and a pollutant contributes to or causes the problem.

Line of Evidence (LOE) for Decision ID 65997, Indicator Bacteria **Region 2**
Lakeshore Park Beach (Marina Lagoon, San Mateo County)

LOE ID: 92090
Pollutant: Fecal Coliform

LOE Subgroup:	Pollutant-Water
Matrix:	Water
Fraction:	None
Beneficial Use:	Water Contact Recreation
Number of Samples:	99
Number of Exceedances:	19
Data and Information Type:	PATHOGEN MONITORING
Data Used to Assess Water Quality:	Water Board staff assessed BeachWatch data for Lakeshore Park Beach Marina to determine beneficial use support and results are as follows: 19 of 99 samples exceed the criterion for fecal coliform.
Data Reference:	Data for Region 2 Beach Watch.
SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	The San Francisco Bay Basin Plan states that the single sample maximum for fecal coliform shall not exceed 400 MPN/100 mL
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	
Guideline Reference:	
Spatial Representation:	Data for this line of evidence for Lakeshore Park Beach (Marina Lagoon, San Mateo County) was collected at 1 monitoring site [Lakeshore Park Rec Center]
Temporal Representation:	Data was collected over the time period 4/7/2008-8/30/2010.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	The samples were collected for the Beach Watch program.
QAPP Information Reference(s):	

Line of Evidence (LOE) for Decision ID 65997, Indicator Bacteria
Lakeshore Park Beach (Marina Lagoon, San Mateo County)

Region 2

LOE ID:	94982
Pollutant:	Enterococcus
LOE Subgroup:	Pollutant-Water
Matrix:	Water
Fraction:	None
Beneficial Use:	Water Contact Recreation
Number of Samples:	99
Number of Exceedances:	20
Data and Information Type:	Not Specified
Data Used to Assess Water Quality:	20 of the 99 samples exceeded the objective.
Data Reference:	Data for Region 2 Beach Watch.
SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	The San Francisco Bay Basin Plan states that the single sample maximum for Enterococcus shall not exceed 104 MPN/100 mL.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	
Guideline Reference:	
Spatial Representation:	Data for this line of evidence for Lakeshore Park Beach (Marina Lagoon, San Mateo County) was collected at 1 monitoring site [Lakeshore Park Rec Center]
Temporal Representation:	Samples were collected from April 2008 to August 2010.

Environmental Conditions:

QAPP Information:

The samples were collected for the Beach Watch program.

QAPP Information Reference(s):

Line of Evidence (LOE) for Decision ID 65997, Indicator Bacteria

Region 2

Lakeshore Park Beach (Marina Lagoon, San Mateo County)

LOE ID: 92089

Pollutant: Enterococcus
LOE Subgroup: Pollutant-Water
Matrix: Water
Fraction: None

Beneficial Use: Water Contact Recreation

Number of Samples: 87
Number of Exceedances: 34

Data and Information Type: Not Specified
Data Used to Assess Water Quality: Thirty four of the 87 geomeans exceeded the objective.
Data Reference: [Data for Region 2 Beach Watch.](#)

SWAMP Data: Non-SWAMP

Water Quality Objective/Criterion: The geometric mean standard for enterococcus states that the enterococcus density shall not exceed 35 per 100 mL. San Francisco Bay Basin Water Quality Control Plan.
Objective/Criterion Reference: [Water Quality Control Plan \(Basin Plan\) San Francisco Bay Basin \(Region 2\)](#)

Evaluation Guideline:
Guideline Reference:

Spatial Representation: Samples were collected at the Lakeshore Park Rec Center site.
Temporal Representation: Samples were collected from April 2008 to August 2010.
Environmental Conditions:
QAPP Information: The samples were collected for the Beach Watch program.
QAPP Information Reference(s):

Line of Evidence (LOE) for Decision ID 65997, Indicator Bacteria

Region 2

Lakeshore Park Beach (Marina Lagoon, San Mateo County)

LOE ID: 92091

Pollutant: Fecal Coliform
LOE Subgroup: Pollutant-Water
Matrix: Water
Fraction: None

Beneficial Use: Water Contact Recreation

Number of Samples: 88
Number of Exceedances: 23

Data and Information Type: Not Specified
Data Used to Assess Water Quality: Twenty three of the 88 geomeans exceeded the objective.
Data Reference: [Data for Region 2 Beach Watch.](#)

SWAMP Data: Non-SWAMP

Water Quality Objective/Criterion: The geometric mean standard for fecal coliform states that the fecal coliform density shall not exceed 200 per 100 mL. San Francisco Bay Basin Water Quality Control Plan.

Objective/Criterion Reference: [Water Quality Control Plan \(Basin Plan\) San Francisco Bay Basin \(Region 2\)](#)

Evaluation Guideline:

Guideline Reference:

Spatial Representation:

Samples were collected at the Lakeshore Park Rec Center site.

Temporal Representation:

Samples were collected from March 2008 to August 2010.

Environmental Conditions:

QAPP Information:

The samples were collected for the beach watch program.

QAPP Information Reference(s):

Line of Evidence (LOE) for Decision ID 65997, Indicator Bacteria

Region 2

Lakeshore Park Beach (Marina Lagoon, San Mateo County)

LOE ID: 92093

Pollutant: Total Coliform
LOE Subgroup: Pollutant-Water
Matrix: Water
Fraction: None

Beneficial Use: Water Contact Recreation

Number of Samples: 26
Number of Exceedances: 25

Data and Information Type: Not Specified
Data Used to Assess Water Quality: Twenty-five of the twenty-six monthly medians exceeded the objective.
Data Reference: [Data for Region 2 Beach Watch.](#)

SWAMP Data: Non-SWAMP

Water Quality Objective/Criterion: The standard for total coliform states that the coliform density shall not exceed a monthly median of 240 per 100 mL. San Francisco Bay Basin Water Quality Control Plan.

Objective/Criterion Reference: [Water Quality Control Plan \(Basin Plan\) San Francisco Bay Basin \(Region 2\)](#)

Evaluation Guideline:

Guideline Reference:

Spatial Representation:

Samples were collected at the Lakeshore Park Rec Center site.

Temporal Representation:

Samples were collected from March 2008 to August 2010.

Environmental Conditions:

QAPP Information:

The samples were collected for the Beach Watch program.

QAPP Information Reference(s):

Line of Evidence (LOE) for Decision ID 65997, Indicator Bacteria

Region 2

Lakeshore Park Beach (Marina Lagoon, San Mateo County)

LOE ID: 92092

Pollutant: Total Coliform
LOE Subgroup: Pollutant-Water
Matrix: Water
Fraction: None

Beneficial Use: Water Contact Recreation

Number of Samples: 99
Number of Exceedances: 18

Data and Information Type: PATHOGEN MONITORING

Data Used to Assess Water Quality:	Water Board staff assessed BeachWatch data for Lakeshore Park Beach Marina to determine beneficial use support and results are as follows: 18 of 99 samples exceed the criterion for total coliform.
Data Reference:	Data for Region 2 Beach Watch.
SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	The San Francisco Bay Basin Plan states that the single sample maximum for total coliform shall not exceed 10,000 MPN/100 mL
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	
Guideline Reference:	
Spatial Representation:	Data for this line of evidence for Lakeshore Park Beach (Marina Lagoon, San Mateo County) was collected at 1 monitoring site [Lakeshore Park Rec Center]
Temporal Representation:	Data was collected over the time period 4/7/2008-8/30/2010.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	The samples were collected for the Beach Watch program.
QAPP Information Reference(s):	

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Supporting Information

Regional Board 2 - San Francisco Bay Region

Water Body Name: Pacific Ocean at Dunes State Beach
Water Body ID: CAC2022101220120427110211
Water Body Type: Coastal & Bay Shoreline

DECISION ID 65105 **Region 2**
Pacific Ocean at Dunes State Beach

Pollutant: Indicator Bacteria
Final Listing Decision: Do Not List on 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision: New Decision
Revision Status Revised
Impairment from Pollutant or Pollution: Pollutant

Regional Board Staff Conclusion: This pollutant is being considered for placement on the CWA section 303(d) List under section 3.3 of the Listing Policy. Under section 3.3 a single line of evidence is necessary to assess listing status.

Six lines of evidence are available in the administrative record to assess this pollutant. Nineteen of two hundred twelve samples exceed the objective.

Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against placing this water segment-pollutant combination on the CWA section 303(d) List.

This conclusion is based on the staff findings that:

1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy.
2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy.
3. Nineteen of two hundred twelve samples exceed the objective and this does not exceed the allowable frequency listed in Table 3.2 of the Listing Policy.
4. Pursuant to section 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.

Regional Board Staff Decision Recommendation: After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be placed on the section 303(d) list because applicable water quality standards are not being exceeded.

Line of Evidence (LOE) for Decision ID 65105, Indicator Bacteria **Region 2**
Pacific Ocean at Dunes State Beach

LOE ID: 92431
Pollutant: Total Coliform
LOE Subgroup: Pollutant-Water
Matrix: Water
Fraction: None
Beneficial Use: Water Contact Recreation
Number of Samples: 214
Number of Exceedances: 0

Data and Information Type:	Not Specified
Data Used to Assess Water Quality:	Zero of the 214 geomeans exceeded the total coliform objective.
Data Reference:	Data for Region 2 Beach Watch.
SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	The geometric mean standard for total coliform states that the total coliform density shall not exceed 1,000 per 100 mL. Water Quality Control Plan for Ocean Waters 2009.
Objective/Criterion Reference:	California Ocean Plan Water Quality Control Plan Ocean Waters of California 2009
Evaluation Guideline:	
Guideline Reference:	
Spatial Representation:	Samples were collected at station Dunes State Beach.
Temporal Representation:	Samples were collected approximately once a week from February 2005 to September 2010.
Environmental Conditions:	
QAPP Information:	The samples were collected for the Beach Watch program.
QAPP Information Reference(s):	

Line of Evidence (LOE) for Decision ID 65105, Indicator Bacteria

Region 2

Pacific Ocean at Dunes State Beach

LOE ID:	92428
Pollutant:	Fecal Coliform
LOE Subgroup:	Pollutant-Water
Matrix:	Water
Fraction:	None
Beneficial Use:	Water Contact Recreation
Number of Samples:	244
Number of Exceedances:	2
Data and Information Type:	PATHOGEN MONITORING
Data Used to Assess Water Quality:	Water Board staff assessed BeachWatch data for Pacific Ocean at Dunes State Beach to determine beneficial use support and results are as follows: 2 of 244 samples exceed the criterion for Coliform, Fecal.
Data Reference:	Data for Region 2 Beach Watch.
SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	California Ocean Plan (SWRCB 2009) states that the single sample maximum for fecal coliform shall not exceed 400 MPN/100 mL
Objective/Criterion Reference:	California Ocean Plan Water Quality Control Plan Ocean Waters of California 2009
Evaluation Guideline:	
Guideline Reference:	
Spatial Representation:	Data for this line of evidence for Pacific Ocean at Dunes State Beach was collected at 1 monitoring site [Dunes State Beach]
Temporal Representation:	Data was collected over the time period 2/28/2005-8/30/2010.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	The samples were collected for the Beach Watch program.
QAPP Information Reference(s):	

Line of Evidence (LOE) for Decision ID 65105, Indicator Bacteria

Region 2

Pacific Ocean at Dunes State Beach

LOE ID:	92427
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Pollutant:	Enterococcus
LOE Subgroup:	Pollutant-Water
Matrix:	Water
Fraction:	None
Beneficial Use:	Water Contact Recreation
Number of Samples:	212
Number of Exceedances:	19
Data and Information Type:	Not Specified
Data Used to Assess Water Quality:	Nineteen of the 212 geomeans exceeded the enterococcus objective.
Data Reference:	Data for Region 2 Beach Watch.
SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	The geometric mean standard for enterococcus states that the enterococcus density shall not exceed 35 per 100 mL. Water Quality Control Plan for Ocean Waters 2009.
Objective/Criterion Reference:	California Ocean Plan Water Quality Control Plan Ocean Waters of California 2009
Evaluation Guideline:	
Guideline Reference:	
Spatial Representation:	Samples were collected at station Dunes State Beach.
Temporal Representation:	Samples were collected approximately once a week from March 2005 to September 2010.
Environmental Conditions:	
QAPP Information:	The samples were collected for the Beach Watch program.
QAPP Information Reference(s):	

Line of Evidence (LOE) for Decision ID 65105, Indicator Bacteria
Pacific Ocean at Dunes State Beach

Region 2

LOE ID:	92424
Pollutant:	Enterococcus
LOE Subgroup:	Pollutant-Water
Matrix:	Water
Fraction:	None
Beneficial Use:	Water Contact Recreation
Number of Samples:	244
Number of Exceedances:	11
Data and Information Type:	PATHOGEN MONITORING
Data Used to Assess Water Quality:	Water Board staff assessed BeachWatch data for Pacific Ocean at Dunes State Beach to determine beneficial use support and results are as follows: 11 of 244 samples exceed the criterion for Enterococci.
Data Reference:	Data for Region 2 Beach Watch.
SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	California Ocean Plan (SWRCB 2009) states that the single sample maximum for Enterococcus shall not exceed 104 MPN/100 mL.
Objective/Criterion Reference:	California Ocean Plan Water Quality Control Plan Ocean Waters of California 2009
Evaluation Guideline:	
Guideline Reference:	
Spatial Representation:	Data for this line of evidence for Pacific Ocean at Dunes State Beach was collected at 1 monitoring site [Dunes State Beach]

Temporal Representation:	Data was collected over the time period 2/28/2005-8/30/2010.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	The samples were collected for the Beach Watch program.
QAPP Information Reference(s):	

Line of Evidence (LOE) for Decision ID 65105, Indicator Bacteria**Region 2****Pacific Ocean at Dunes State Beach**

LOE ID:	92430
Pollutant:	Total Coliform
LOE Subgroup:	Pollutant-Water
Matrix:	Water
Fraction:	None
Beneficial Use:	Water Contact Recreation
Number of Samples:	244
Number of Exceedances:	1
Data and Information Type:	PATHOGEN MONITORING
Data Used to Assess Water Quality:	Water Board staff assessed BeachWatch data for Pacific Ocean at Dunes State Beach to determine beneficial use support and results are as follows: 1 of 244 samples exceed the criterion for Coliform, Total.
Data Reference:	Data for Region 2 Beach Watch.
SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	California Ocean Plan (2009) single sample maximum states that total coliform density shall not exceed 10,000 MPN/100 mL
Objective/Criterion Reference:	California Ocean Plan Water Quality Control Plan Ocean Waters of California 2009
Evaluation Guideline:	
Guideline Reference:	
Spatial Representation:	Data for this line of evidence for Pacific Ocean at Dunes State Beach was collected at 1 monitoring site [Dunes State Beach]
Temporal Representation:	Data was collected over the time period 2/28/2005-8/30/2010.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	The samples were collected for the Beach Watch program.
QAPP Information Reference(s):	

Line of Evidence (LOE) for Decision ID 65105, Indicator Bacteria**Region 2****Pacific Ocean at Dunes State Beach**

LOE ID:	92429
Pollutant:	Fecal Coliform
LOE Subgroup:	Pollutant-Water
Matrix:	Water
Fraction:	None
Beneficial Use:	Water Contact Recreation
Number of Samples:	214
Number of Exceedances:	0
Data and Information Type:	Not Specified
Data Used to Assess Water Quality:	Zero of the 214 geomeans exceeded the fecal coliform objective.
Data Reference:	Data for Region 2 Beach Watch.

SWAMP Data:

Non-SWAMP

Water Quality Objective/Criterion:

The geometric mean standard for fecal coliform states that the fecal coliform density shall not exceed 200 per 100 mL. Water Quality Control Plan for Ocean Waters 2009.

Objective/Criterion Reference:

[California Ocean Plan Water Quality Control Plan Ocean Waters of California 2009](#)

Evaluation Guideline:

Guideline Reference:

Spatial Representation:

Samples were collected at station Dunes State Beach.

Temporal Representation:

Samples were collected approximately once a week from February 2005 to September 2010.

Environmental Conditions:

QAPP Information:

The samples were collected for the Beach Watch program.

QAPP Information Reference(s):

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Supporting Information

Regional Board 2 - San Francisco Bay Region

Water Body Name: Pacific Ocean at Encinal Beach
Water Body ID: CAC2041001020120427105358
Water Body Type: Coastal & Bay Shoreline

DECISION ID 65516 **Region 2**
Pacific Ocean at Encinal Beach

Pollutant: Indicator Bacteria
Final Listing Decision: Do Not List on 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision: New Decision
Revision Status Revised
Impairment from Pollutant or Pollution: Pollutant

Regional Board Staff Conclusion: This pollutant is being considered for placement on the CWA section 303(d) List under section 3.3 of the Listing Policy. Under section 3.3 a single line of evidence is necessary to assess listing status.

Nine lines of evidence are available in the administrative record to assess this pollutant. Four of the two hundred thirty-six samples exceed the enterococcus single sample maximum objective.

Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against placing this water segment-pollutant combination on the CWA section 303(d) List.

This conclusion is based on the staff findings that:

1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy.
2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy.
3. Four of the two hundred thirty-six samples exceed the enterococcus single sample maximum objective and this does not exceed the allowable frequency listed in Table 3.2 of the Listing Policy.
4. Pursuant to section 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.

Regional Board Staff Decision Recommendation: After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be placed on the section 303(d) list because applicable water quality standards are not being exceeded.

Line of Evidence (LOE) for Decision ID 65516, Indicator Bacteria **Region 2**
Pacific Ocean at Encinal Beach

LOE ID: 90886
Pollutant: Total Coliform
LOE Subgroup: Pollutant-Water
Matrix: Water
Fraction: None
Beneficial Use: Water Contact Recreation
Number of Samples: 236
Number of Exceedances: 0

Data and Information Type:	PATHOGEN MONITORING
Data Used to Assess Water Quality:	Water Board staff assessed BeachWatch data for Pacific Ocean at Encinal Beach to determine beneficial use support and results are as follows: 0 of 236 samples exceed the criterion for Coliform, Total.
Data Reference:	Data for Region 2 Beach Watch.
SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	California Ocean Plan (2009) single sample maximum states that total coliform density shall not exceed 10,000 MPN/100 mL
Objective/Criterion Reference:	California Ocean Plan Water Quality Control Plan Ocean Waters of California 2009
Evaluation Guideline:	
Guideline Reference:	
Spatial Representation:	Data for this line of evidence for Pacific Ocean at Encinal Beach was collected at 4 monitoring sites [Middle Harbor North, Middle Harbor South, Alameda Point-North, Alameda Point-South]
Temporal Representation:	Data was collected over the time period 10/9/2007-8/30/2010.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	The samples were collected for the Beach Watch program.
QAPP Information Reference(s):	

Line of Evidence (LOE) for Decision ID 65516, Indicator Bacteria
Pacific Ocean at Encinal Beach

Region 2

LOE ID:	90801
Pollutant:	Enterococcus
LOE Subgroup:	Pollutant-Water
Matrix:	Water
Fraction:	None
Beneficial Use:	Water Contact Recreation
Number of Samples:	236
Number of Exceedances:	4
Data and Information Type:	PATHOGEN MONITORING
Data Used to Assess Water Quality:	Water Board staff assessed BeachWatch data for Pacific Ocean at Encinal Beach to determine beneficial use support and results are as follows: 4 of 236 samples exceed the criterion for Enterococci.
Data Reference:	Data for Region 2 Beach Watch.
SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	California Ocean Plan (SWRCB 2009) states that the single sample maximum for Enterococcus shall not exceed 104 MPN/100 mL.
Objective/Criterion Reference:	California Ocean Plan Water Quality Control Plan Ocean Waters of California 2009
Evaluation Guideline:	
Guideline Reference:	
Spatial Representation:	Data for this line of evidence for Pacific Ocean at Encinal Beach was collected at 4 monitoring sites [Middle Harbor North, Middle Harbor South, Alameda Point-North, Alameda Point-South]
Temporal Representation:	Data was collected over the time period 10/9/2007-8/30/2010.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	The samples were collected for the Beach Watch program.
QAPP Information Reference(s):	

Line of Evidence (LOE) for Decision ID 65516, Indicator Bacteria

Region 2

Pacific Ocean at Encinal Beach

LOE ID:	90684
Pollutant:	Enterococcus
LOE Subgroup:	Pollutant-Water
Matrix:	Water
Fraction:	None
Beneficial Use:	Water Contact Recreation
Number of Samples:	82
Number of Exceedances:	0
Data and Information Type:	Not Specified
Data Used to Assess Water Quality:	Zero of the 82 geomeans exceeded the objective.
Data Reference:	Data for Region 2 Beach Watch.
SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	The geometric mean standard for enterococcus states that the enterococcus density shall not exceed 35 per 100 mL. Water Quality Control Plan for Ocean Waters 2009.
Objective/Criterion Reference:	California Ocean Plan Water Quality Control Plan Ocean Waters of California 2009
Evaluation Guideline:	
Guideline Reference:	
Spatial Representation:	Samples were collected at the Alameda Point-North site.
Temporal Representation:	Samples were collected from October 2007 to August 2010.
Environmental Conditions:	
QAPP Information:	The samples were collected for the Beach Watch program.
QAPP Information Reference(s):	

Line of Evidence (LOE) for Decision ID 65516, Indicator Bacteria

Region 2

Pacific Ocean at Encinal Beach

LOE ID:	90685
Pollutant:	Total Coliform
LOE Subgroup:	Pollutant-Water
Matrix:	Water
Fraction:	None
Beneficial Use:	Water Contact Recreation
Number of Samples:	81
Number of Exceedances:	0
Data and Information Type:	Not Specified
Data Used to Assess Water Quality:	Zero of the 81 geomeans exceeded the objective.
Data Reference:	Data for Region 2 Beach Watch.
SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	The geometric mean standard for total coliform states that the coliform density shall not exceed 1000 per 100 mL. Water Quality Control Plan for Ocean Waters 2009.
Objective/Criterion Reference:	California Ocean Plan Water Quality Control Plan Ocean Waters of California 2009
Evaluation Guideline:	
Guideline Reference:	
Spatial Representation:	Samples were collected at the Alameda Point-North site.

Temporal Representation: Samples were collected from October 2007 to August 2010.
Environmental Conditions:
QAPP Information: The samples were collected for the Beach Watch program.
QAPP Information Reference(s):

Line of Evidence (LOE) for Decision ID 65516, Indicator Bacteria
Pacific Ocean at Encinal Beach

Region 2

LOE ID: 90835

Pollutant: Fecal Coliform
LOE Subgroup: Pollutant-Water
Matrix: Water
Fraction: None

Beneficial Use: Water Contact Recreation

Number of Samples: 236
Number of Exceedances: 3

Data and Information Type: PATHOGEN MONITORING
Data Used to Assess Water Quality: Water Board staff assessed BeachWatch data for Pacific Ocean at Encinal Beach to determine beneficial use support and results are as follows: 3 of 236 samples exceed the criterion for Coliform, Fecal.
Data Reference: [Data for Region 2 Beach Watch.](#)

SWAMP Data: Non-SWAMP

Water Quality Objective/Criterion: California Ocean Plan (SWRCB 2009) states that the single sample maximum for fecal coliform shall not exceed 400 MPN/100 mL
Objective/Criterion Reference: [California Ocean Plan Water Quality Control Plan Ocean Waters of California 2009](#)

Evaluation Guideline:
Guideline Reference:

Spatial Representation: Data for this line of evidence for Pacific Ocean at Encinal Beach was collected at 4 monitoring sites [Middle Harbor North, Middle Harbor South, Alameda Point-North, Alameda Point-South]

Temporal Representation: Data was collected over the time period 10/9/2007-8/30/2010.
Environmental Conditions: Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information: The samples were collected for the Beach Watch program.
QAPP Information Reference(s):

Line of Evidence (LOE) for Decision ID 65516, Indicator Bacteria
Pacific Ocean at Encinal Beach

Region 2

LOE ID: 90687

Pollutant: Fecal Coliform
LOE Subgroup: Pollutant-Water
Matrix: Water
Fraction: None

Beneficial Use: Water Contact Recreation

Number of Samples: 84
Number of Exceedances: 0

Data and Information Type: Not Specified
Data Used to Assess Water Quality: Zero of the 84 geomeans exceeded the objective.
Data Reference: [Data for Region 2 Beach Watch.](#)

SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	The geometric mean standard for fecal coliform states that the fecal coliform density shall not exceed 200 per 100 mL. Water Quality Control Plan for Ocean Waters 2009.
Objective/Criterion Reference:	California Ocean Plan Water Quality Control Plan Ocean Waters of California 2009
Evaluation Guideline:	
Guideline Reference:	
Spatial Representation:	Samples were collected at the Alameda Point-South site.
Temporal Representation:	Samples were collected from October 2007 to August 2010.
Environmental Conditions:	
QAPP Information:	The samples were collected for the beach watch program.
QAPP Information Reference(s):	

Line of Evidence (LOE) for Decision ID 65516, Indicator Bacteria

Region 2

Pacific Ocean at Encinal Beach

LOE ID:	90688
Pollutant:	Total Coliform
LOE Subgroup:	Pollutant-Water
Matrix:	Water
Fraction:	None
Beneficial Use:	Water Contact Recreation
Number of Samples:	84
Number of Exceedances:	0
Data and Information Type:	Not Specified
Data Used to Assess Water Quality:	Zero of the 84 geomeans exceeded the objective.
Data Reference:	Data for Region 2 Beach Watch.
SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	The geometric mean standard for total coliform states that the coliform density shall not exceed 1000 per 100 mL. Water Quality Control Plan for Ocean Waters 2009.
Objective/Criterion Reference:	California Ocean Plan Water Quality Control Plan Ocean Waters of California 2009
Evaluation Guideline:	
Guideline Reference:	
Spatial Representation:	Samples were collected at the Alameda Point-South site.
Temporal Representation:	Samples were collected from October 2007 to August 2010.
Environmental Conditions:	
QAPP Information:	The samples were collected for the Beach Watch program.
QAPP Information Reference(s):	

Line of Evidence (LOE) for Decision ID 65516, Indicator Bacteria

Region 2

Pacific Ocean at Encinal Beach

LOE ID:	90695
Pollutant:	Enterococcus
LOE Subgroup:	Pollutant-Water
Matrix:	Water
Fraction:	None
Beneficial Use:	Water Contact Recreation

Number of Samples:	84
Number of Exceedances:	0
Data and Information Type:	Not Specified
Data Used to Assess Water Quality:	Zero of the 84 geomeans exceeded the objective.
Data Reference:	Data for Region 2 Beach Watch.
SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	The geometric mean standard for enterococcus states that the enterococcus density shall not exceed 35 per 100 mL. Water Quality Control Plan for Ocean Waters 2009.
Objective/Criterion Reference:	California Ocean Plan Water Quality Control Plan Ocean Waters of California 2009
Evaluation Guideline:	
Guideline Reference:	
Spatial Representation:	Samples were collected at the Alameda Point-South site.
Temporal Representation:	Samples were collected from October 2007 to August 2010.
Environmental Conditions:	
QAPP Information:	The samples were collected for the Beach Watch program.
QAPP Information Reference(s):	

**Line of Evidence (LOE) for Decision ID 65516, Indicator Bacteria
Pacific Ocean at Encinal Beach**

Region 2

LOE ID:	90686
Pollutant:	Fecal Coliform
LOE Subgroup:	Pollutant-Water
Matrix:	Water
Fraction:	None
Beneficial Use:	Water Contact Recreation
Number of Samples:	81
Number of Exceedances:	0
Data and Information Type:	Not Specified
Data Used to Assess Water Quality:	Zero of the 81 geomeans exceeded the objective.
Data Reference:	Data for Region 2 Beach Watch.
SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	The geometric mean standard for fecal coliform states that the fecal coliform density shall not exceed 200 per 100 mL. Water Quality Control Plan for Ocean Waters 2009.
Objective/Criterion Reference:	California Ocean Plan Water Quality Control Plan Ocean Waters of California 2009
Evaluation Guideline:	
Guideline Reference:	
Spatial Representation:	Samples were collected at the Alameda Point-North site.
Temporal Representation:	Samples were collected from October 2007 to August 2010.
Environmental Conditions:	
QAPP Information:	The samples were collected for the beach watch program.
QAPP Information Reference(s):	

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Supporting Information

Regional Board 2 - San Francisco Bay Region

Water Body Name: Adobe Creek (Santa Clara County)
Water Body ID: CAR2055004020120608111423
Water Body Type: River & Stream

DECISION ID 61047 **Region 2**
Adobe Creek (Santa Clara County)

Pollutant: Trash
Final Listing Decision: Do Not List on 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision: New Decision
Revision Status Original
Impairment from Pollutant or Pollution: Pollutant

Regional Board Staff Conclusion: This pollutant is being considered for placement on the CWA section 303(d) List under section 3.1 of the Listing Policy. Under section 3.1 a single line of evidence is necessary to assess listing status. Two lines of evidence are available in the administrative record to assess this pollutant. One of one samples exceed the guideline.

Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against placing this water segment-pollutant combination on the CWA section 303(d) List.

This conclusion is based on the staff findings that:

1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy.
2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy.
3. One of one samples exceed the guideline and this sample size is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating. A minimum of 16 samples is needed to determine if a beneficial use is fully supported using table 3.1.
4. Pursuant to SECTION 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.

Regional Board Staff Decision Recommendation: After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be placed on the section 303(d) list. The readily available data and information is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating.

Line of Evidence (LOE) for Decision ID 61047, Trash **Region 2**
Adobe Creek (Santa Clara County)

LOE ID: 90907
Pollutant: Trash
LOE Subgroup: Pollutant-Nuisance
Matrix: Not Specified
Fraction: None
Beneficial Use: Wildlife Habitat
Number of Samples: 1
Number of Exceedances: 1

Data and Information Type:	Occurrence of conditions judged to cause impairment
Data Used to Assess Water Quality:	Data available consist of photographic evidence of trash and interpretation of these photos by an experienced trash assessment specialist. Each photograph was analyzed to establish the RTA score for the level of trash and threat to aquatic life parameters, which relate to impairment of REC2 and WILD, respectively. Only those photos clear enough to establish these RTA scores were relied on for the listing determination. These results are available for photos taken on 4/18/10 at Adobe Creek (Santa Clara County) 300 yards downstream of US 101. This waterbody had threat to aquatic life parameter scores in the poor category (indicating threat to Wildlife Habitat beneficial uses).
Data Reference:	Photos of trash in various San Francisco Bay water bodies, Oct. 2008-Aug. 2010
SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	The Basin Plan prohibits discharge of Rubbish, refuse, bark, sawdust, or other solid wastes into surface waters or at any place where they would contact or where they would be eventually transported to surface waters, including flood plain areas. The Basin Plan has a narrative objective for floating material, Waters shall not contain floating material, including solids, liquids, foams, and scum, in concentrations that cause nuisance or adversely affect beneficial uses. The Basin Plan has a narrative objective for settleable material, Waters shall not contain substances in concentrations that result in the deposition of material that cause nuisance or adversely affect beneficial uses.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	If the Rapid Trash Assessment (RTA) Parameter 1 (Level of Trash) is in the poor condition category (scores 0-5), REC2 is not supported. This level of trash distracts the eye on first glance, making the site unsuitable for recreation. The RTA defines poor condition for this parameter as follows, trash distracts the eye on first glance. Stream, bank surfaces, and immediate riparian zone contain substantial levels of litter and debris (>100 pieces). Evidence of site being used frequently by people: many cans, bottles, and food wrappers, blankets, clothing. State Water Board staff trained in the RTA inspected the available photographic evidence and applied the assessment method to determine the Level of Trash score. If the RTA Parameter 3 (Threat to Aquatic Life) is in the poor condition category (scores 0-5), then WILD is not supported. This level of trash is a large amount (>50 pieces) of transportable, persistent, buoyant litter that is detrimental to aquatic life. The RTA defines poor condition for this parameter as follows, large amount (>50 pieces) of transportable, persistent, buoyant litter such as: hard or soft plastics, balloons, Styrofoam, cigarette butts; toxic items such as batteries, lighters, or spray cans; large clumps of yard waste or dumped leaf litter; or large amount (>50 pieces) of settleable glass or metal. State Water Board staff trained in the RTA inspected the available photographic evidence and applied the assessment method to determine the Threat to Aquatic Life score.
Guideline Reference:	A Rapid Trash Assessment Method Applied to Waters of the San Francisco Bay Region:Trash Measurement in Streams
Spatial Representation:	Photos taken on 4/18/10 300 yards downstream of US 101.
Temporal Representation:	Photos taken on 4/18/10 300 yards downstream of US 101.
Environmental Conditions:	
QAPP Information:	None
QAPP Information Reference(s):	

Line of Evidence (LOE) for Decision ID 61047, Trash
Adobe Creek (Santa Clara County)

Region 2

LOE ID:	90906
Pollutant:	Trash
LOE Subgroup:	Pollutant-Nuisance
Matrix:	Not Specified
Fraction:	None
Beneficial Use:	Non-Contact Recreation

Number of Samples:	1
Number of Exceedances:	1
Data and Information Type:	Occurrence of conditions judged to cause impairment
Data Used to Assess Water Quality:	Data available consist of photographic evidence of trash and interpretation of these photos by an experienced trash assessment specialist. Each photograph was analyzed to establish the RTA score for the level of trash and threat to aquatic life parameters, which relate to impairment of REC2 and WILD, respectively. Only those photos clear enough to establish these RTA scores were relied on for the listing determination. These results are available for photos taken on 4/18/10 at Adobe Creek (Santa Clara County) 300 yards downstream of US 101. This waterbody had level of trash parameter scores in the poor category (indicating impairment of non-contact water recreational beneficial uses).
Data Reference:	Photos of trash in various San Francisco Bay water bodies, Oct. 2008-Aug. 2010
SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	The Basin Plan prohibits discharge of Rubbish, refuse, bark, sawdust, or other solid wastes into surface waters or at any place where they would contact or where they would be eventually transported to surface waters, including flood plain areas. The Basin Plan has a narrative objective for floating material, Waters shall not contain floating material, including solids, liquids, foams, and scum, in concentrations that cause nuisance or adversely affect beneficial uses. The Basin Plan has a narrative objective for settleable material, Waters shall not contain substances in concentrations that result in the deposition of material that cause nuisance or adversely affect beneficial uses.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	If the Rapid Trash Assessment (RTA) Parameter 1 (Level of Trash) is in the poor condition category (scores 0-5), REC2 is not supported. This level of trash distracts the eye on first glance, making the site unsuitable for recreation. The RTA defines poor condition for this parameter as follows, trash distracts the eye on first glance. Stream, bank surfaces, and immediate riparian zone contain substantial levels of litter and debris (>100 pieces). Evidence of site being used frequently by people: many cans, bottles, and food wrappers, blankets, clothing. State Water Board staff trained in the RTA inspected the available photographic evidence and applied the assessment method to determine the Level of Trash score. If the RTA Parameter 3 (Threat to Aquatic Life) is in the poor condition category (scores 0-5), then WILD is not supported. This level of trash is a large amount (>50 pieces) of transportable, persistent, buoyant litter that is detrimental to aquatic life. The RTA defines poor condition for this parameter as follows, large amount (>50 pieces) of transportable, persistent, buoyant litter such as: hard or soft plastics, balloons, Styrofoam, cigarette butts; toxic items such as batteries, lighters, or spray cans; large clumps of yard waste or dumped leaf litter; or large amount (>50 pieces) of settleable glass or metal. State Water Board staff trained in the RTA inspected the available photographic evidence and applied the assessment method to determine the Threat to Aquatic Life score.
Guideline Reference:	A Rapid Trash Assessment Method Applied to Waters of the San Francisco Bay Region:Trash Measurement in Streams
Spatial Representation:	Photos taken on 4/18/10 300 yards downstream of US 101.
Temporal Representation:	Photos taken on 4/18/10 300 yards downstream of US 101.
Environmental Conditions:	
QAPP Information:	None
QAPP Information Reference(s):	

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Supporting Information

Regional Board 2 - San Francisco Bay Region

Water Body Name: Pacific Ocean at Mussel Rock Park (at Skyline Drive)
Water Body ID: CAC2021001020120608114332
Water Body Type: Coastal & Bay Shoreline

DECISION ID 66766 **Region 2**
Pacific Ocean at Mussel Rock Park (at Skyline Drive)

Pollutant: Trash
Final Listing Decision: Do Not List on 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision: New Decision
Revision Status Revised
Impairment from Pollutant or Pollution: Pollutant

Regional Board Staff Conclusion: This pollutant is being considered for placement on the CWA section 303(d) List under section 3.1 of the Listing Policy. Under section 3.1 a single line of evidence is necessary to assess listing status.

Two lines of evidence are available in the administrative record to assess this pollutant. One of one samples exceed the guideline.

Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against placing this water segment-pollutant combination on the CWA section 303(d) List.

This conclusion is based on the staff findings that: 1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy. 2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy. 3. One of one samples exceed the guideline and this sample size is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating. A minimum of 16 samples is needed to determine if a beneficial use is fully supported using table 3.1. 4. Pursuant to SECTION 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.

Regional Board Staff Decision Recommendation: After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be placed on the section 303(d) list. The readily available data and information is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating.

Line of Evidence (LOE) for Decision ID 66766, Trash **Region 2**
Pacific Ocean at Mussel Rock Park (at Skyline Drive)

LOE ID: 92506
Pollutant: Trash
LOE Subgroup: Pollutant-Nuisance
Matrix: Not Specified
Fraction: None
Beneficial Use: Wildlife Habitat
Number of Samples: 1
Number of Exceedances: 1

Data and Information Type:	Occurrence of conditions judged to cause impairment
Data Used to Assess Water Quality:	Data available consist of photographic evidence of trash and interpretation of these photos by an experienced trash assessment specialist. Each photograph was analyzed to establish the RTA score for the level of trash and threat to aquatic life parameters, which relate to impairment of REC2 and WILD, respectively. Only those photos clear enough to establish these RTA scores were relied on for the listing determination. These results are available for photos taken on 1/20/10 on the small beach on the Pacific Ocean at Mussel Rock Park, at the border between Pacifica and Daly City. This waterbody had threat to aquatic life parameter scores in the poor category (indicating threat to Wildlife Habitat beneficial uses).
Data Reference:	Photos of trash in various San Francisco Bay water bodies, Oct. 2008-Aug. 2010
SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	The Basin Plan prohibits discharge of Rubbish, refuse, bark, sawdust, or other solid wastes into surface waters or at any place where they would contact or where they would be eventually transported to surface waters, including flood plain areas. The Basin Plan has a narrative objective for floating material, Waters shall not contain floating material, including solids, liquids, foams, and scum, in concentrations that cause nuisance or adversely affect beneficial uses. The Basin Plan has a narrative objective for settleable material, Waters shall not contain substances in concentrations that result in the deposition of material that cause nuisance or adversely affect beneficial uses.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	If the Rapid Trash Assessment (RTA) Parameter 1 (Level of Trash) is in the poor condition category (scores 0-5), REC2 is not supported. This level of trash distracts the eye on first glance, making the site unsuitable for recreation. The RTA defines poor condition for this parameter as follows, trash distracts the eye on first glance. Stream, bank surfaces, and immediate riparian zone contain substantial levels of litter and debris (>100 pieces). Evidence of site being used frequently by people: many cans, bottles, and food wrappers, blankets, clothing. State Water Board staff trained in the RTA inspected the available photographic evidence and applied the assessment method to determine the Level of Trash score. If the RTA Parameter 3 (Threat to Aquatic Life) is in the poor condition category (scores 0-5), then WILD is not supported. This level of trash is a large amount (>50 pieces) of transportable, persistent, buoyant litter that is detrimental to aquatic life. The RTA defines poor condition for this parameter as follows, large amount (>50 pieces) of transportable, persistent, buoyant litter such as: hard or soft plastics, balloons, Styrofoam, cigarette butts; toxic items such as batteries, lighters, or spray cans; large clumps of yard waste or dumped leaf litter; or State Water Board staff trained in the RTA inspected the available photographic evidence and applied the assessment method to determine the Threat to Aquatic Life score.
Guideline Reference:	A Rapid Trash Assessment Method Applied to Waters of the San Francisco Bay Region: Trash Measurement in Streams
Spatial Representation:	Photo taken on 1/20/10 on the small beach on the Pacific Ocean at Mussel Rock Park, at the border between Pacifica and Daly City.
Temporal Representation:	Photo taken on 1/20/10 on the small beach on the Pacific Ocean at Mussel Rock Park, at the border between Pacifica and Daly City.
Environmental Conditions:	
QAPP Information:	None
QAPP Information Reference(s):	

**Line of Evidence (LOE) for Decision ID 66766, Trash
Pacific Ocean at Mussel Rock Park (at Skyline Drive)**

Region 2

LOE ID:	92505
Pollutant:	Trash
LOE Subgroup:	Pollutant-Nuisance
Matrix:	Not Specified
Fraction:	None

Beneficial Use:	Non-Contact Recreation
Number of Samples:	1
Number of Exceedances:	1
Data and Information Type:	Occurrence of conditions judged to cause impairment
Data Used to Assess Water Quality:	Data available consist of photographic evidence of trash and interpretation of these photos by an experienced trash assessment specialist. Each photograph was analyzed to establish the RTA score for the level of trash and threat to aquatic life parameters, which relate to impairment of REC2 and WILD, respectively. Only those photos clear enough to establish these RTA scores were relied on for the listing determination. These results are available for photos taken on 1/20/10 on the small beach on the Pacific Ocean at Mussel Rock Park, at the border between Pacifica and Daly City. This waterbody had level of trash parameter scores in the poor category (indicating impairment of non-contact water recreational beneficial uses).
Data Reference:	Photos of trash in various San Francisco Bay water bodies, Oct. 2008-Aug. 2010
SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	The Basin Plan prohibits discharge of Rubbish, refuse, bark, sawdust, or other solid wastes into surface waters or at any place where they would contact or where they would be eventually transported to surface waters, including flood plain areas. The Basin Plan has a narrative objective for floating material, Waters shall not contain floating material, including solids, liquids, foams, and scum, in concentrations that cause nuisance or adversely affect beneficial uses. The Basin Plan has a narrative objective for settleable material, Waters shall not contain substances in concentrations that result in the deposition of material that cause nuisance or adversely affect beneficial uses.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	If the Rapid Trash Assessment (RTA) Parameter 1 (Level of Trash) is in the poor condition category (scores 0-5), REC2 is not supported. This level of trash distracts the eye on first glance, making the site unsuitable for recreation. The RTA defines poor condition for this parameter as follows, trash distracts the eye on first glance. Stream, bank surfaces, and immediate riparian zone contain substantial levels of litter and debris (>100 pieces). Evidence of site being used frequently by people: many cans, bottles, and food wrappers, blankets, clothing. State Water Board staff trained in the RTA inspected the available photographic evidence and applied the assessment method to determine the Level of Trash score. If the RTA Parameter 3 (Threat to Aquatic Life) is in the poor condition category (scores 0-5), then WILD is not supported. This level of trash is a large amount (>50 pieces) of transportable, persistent, buoyant litter that is detrimental to aquatic life. The RTA defines poor condition for this parameter as follows, large amount (>50 pieces) of transportable, persistent, buoyant litter such as: hard or soft plastics, balloons, Styrofoam, cigarette butts; toxic items such as batteries, lighters, or spray cans; large clumps of yard waste or dumped leaf litter; or State Water Board staff trained in the RTA inspected the available photographic evidence and applied the assessment method to determine the Threat to Aquatic Life score.
Guideline Reference:	A Rapid Trash Assessment Method Applied to Waters of the San Francisco Bay Region: Trash Measurement in Streams
Spatial Representation:	Photo taken on 1/20/10 on the small beach on the Pacific Ocean at Mussel Rock Park, at the border between Pacifica and Daly City.
Temporal Representation:	Photo taken on 1/20/10 on the small beach on the Pacific Ocean at Mussel Rock Park, at the border between Pacifica and Daly City.
Environmental Conditions:	
QAPP Information:	None
QAPP Information Reference(s):	

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Supporting Information

Regional Board 2 - San Francisco Bay Region

Water Body Name: Oiger Quarry Ponds
Water Body ID: CAL2053005120091215002139
Water Body Type: Lake & Reservoir

DECISION ID	65029	Region 2
Oiger Quarry Ponds		

Pollutant: Aldrin
Final Listing Decision: Do Not List on 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision: New Decision
Revision Status: Revised
Impairment from Pollutant or Pollution: Pollutant

Regional Board Staff Conclusion: This pollutant is being considered for placement on the CWA section 303(d) List under section 3.5 of the Listing Policy. Under section 3.5 a single line of evidence is necessary to assess listing status. Two lines of evidence are available in the administrative record to assess this pollutant. Zero of one samples exceed the OEHHHA guideline.

Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against placing this water segment-pollutant combination on the CWA section 303(d) List.

This conclusion is based on the staff findings that:

1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy.
2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy.
3. Zero of one samples exceed the OEHHHA guideline and this sample size is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating. A minimum of 16 samples is needed to determine if a beneficial use is fully supported using table 3.1.
4. Pursuant to SECTION 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.

Regional Board Staff Decision Recommendation: After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be placed on the section 303(d) list. The readily available data and information is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating.

Line of Evidence (LOE) for Decision ID 65029, Aldrin

Oiger Quarry Ponds

Region 2

LOE ID: 92337
Pollutant: Aldrin
LOE Subgroup: Pollutant-Tissue
Matrix: Tissue
Fraction: Fish fillet
Beneficial Use: Warm Freshwater Habitat
Number of Samples: 1

Number of Exceedances:	0
Data and Information Type:	Fish tissue analysis
Data Used to Assess Water Quality:	State Water Board staff assessed SWAMP data for Oiger Quarry Ponds to determine beneficial use support and results are as follows: 0 of 1 samples exceed the criterion for Aldrin. One composite (5 fish per composite) was generated from one species: Sacramento Sucker. Details of the compositing protocol can be found in the March 2009 report entitled: "Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Study" (SWAMP, 2009).
Data Reference:	Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Survey. A Report of the Surface Water Ambient Monitoring Program (SWAMP). California State Water Resources Control Board, Sacramento, CA Cruise Report for the Surface Waters Ambient Monitoring Program (SWAMP) Bioaccumulation Screening Study in California Lakes and Reservoirs, Sampling Dates: June 2007- March 2008 Statewide Lakes Sportfish Contamination Study 2007 2008 Contaminants in Fish from California Lakes and Reservoirs, 2007-2008: Summary Report on a Two-Year Screening Survey
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	Water Quality Control Plan for the San Francisco Bay Basin: Controllable water quality factors shall not cause a detrimental increase in concentrations of toxic substances found in bottom sediments or aquatic life. Effects on aquatic organisms, wildlife, and human health will be considered.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	National Academy of Science guidelines (NAS 1972) establish a maximum Aldrin concentration of 100 ug/Kg (wet weight) in tissue samples for protection of aquatic life from bioaccumulation of toxic substances.
Guideline Reference:	National Academy of Sciences. Water Quality Criteria 1972. EPA-R3-73-033. Washington, D.C.: U.S. Environmental Protection Agency
Spatial Representation:	Data for this assessment unit was collected by one monitoring project: (SWB_FishLk)
Temporal Representation:	Data was collected on a single day 7/17/2007.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	Samples were collected, processed, and analyzed in accordance with the methods described in Quality Assurance Project Plan "Screening Study of Bioaccumulation in California Lakes and Reservoirs." (SWAMP, 2008).
QAPP Information Reference(s):	Quality Assurance Project Plan Screening Study of Bioaccumulation in California Lakes and Reservoirs. Moss Landing Marine Labs. Prepared for SWAMP BOG, 49 pages plus appendices and attachments

Line of Evidence (LOE) for Decision ID 65029, Aldrin

Region 2

Oiger Quarry Ponds

LOE ID:	92342
Pollutant:	Aldrin
LOE Subgroup:	Pollutant-Tissue
Matrix:	Tissue
Fraction:	Fish fillet
Beneficial Use:	Cold Freshwater Habitat
Number of Samples:	1
Number of Exceedances:	0
Data and Information Type:	Fish tissue analysis
Data Used to Assess Water Quality:	State Water Board staff assessed SWAMP data for Oiger Quarry Ponds to determine beneficial use support and results are as follows: 0 of 1 samples exceed the criterion for Aldrin. One composite (5 fish per composite) was generated from one species:

Data Reference:	<p>Sacramento Sucker. Details of the compositing protocol can be found in the March 2009 report entitled: "Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Study" (SWAMP, 2009).</p> <p>Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Survey. A Report of the Surface Water Ambient Monitoring Program (SWAMP). California State Water Resources Control Board, Sacramento, CA</p> <p>Cruise Report for the Surface Waters Ambient Monitoring Program (SWAMP)</p> <p>Bioaccumulation Screening Study in California Lakes and Reservoirs. Sampling Dates: June 2007- March 2008</p> <p>Statewide Lakes Sportfish Contamination Study 2007 2008</p> <p>Contaminants in Fish from California Lakes and Reservoirs, 2007-2008: Summary Report on a Two-Year Screening Survey</p>
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	Water Quality Control Plan for the San Francisco Bay Basin: Controllable water quality factors shall not cause a detrimental increase in concentrations of toxic substances found in bottom sediments or aquatic life. Effects on aquatic organisms, wildlife, and human health will be considered.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	National Academy of Science guidelines (NAS 1972) establish a maximum Aldrin concentration of 100 ug/Kg (wet weight) in tissue samples for protection of aquatic life from bioaccumulation of toxic substances.
Guideline Reference:	National Academy of Sciences. Water Quality Criteria 1972. EPA-R3-73-033. Washington, D.C.: U.S. Environmental Protection Agency
Spatial Representation:	Data for this assessment unit was collected by one monitoring project: (SWB_FishLk)
Temporal Representation:	Data was collected on a single day 7/17/2007.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	Samples were collected, processed, and analyzed in accordance with the methods described in Quality Assurance Project Plan "Screening Study of Bioaccumulation in California Lakes and Reservoirs." (SWAMP, 2008).
QAPP Information Reference(s):	Quality Assurance Project Plan Screening Study of Bioaccumulation in California Lakes and Reservoirs. Moss Landing Marine Labs. Prepared for SWAMP BOG. 49 pages plus appendices and attachments

DECISION ID	65043	Region 2
Oiger Quarry Ponds		
Pollutant:	Chlordane	
Final Listing Decision:	Do Not List on 303(d) list (TMDL required list)	
Last Listing Cycle's Final Listing Decision:	New Decision	
Revision Status	Revised	
Impairment from Pollutant or Pollution:	Pollutant	
Regional Board Staff Conclusion:	<p>This pollutant is being considered for placement on the CWA section 303(d) List under section 3.5 of the Listing Policy. Under section 3.5 a single line of evidence is necessary to assess listing status. Three lines of evidence are available in the administrative record to assess this pollutant. Zero of one samples exceed the OEHHHA guideline.</p> <p>Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against placing this water segment-pollutant combination on the CWA section 303(d) List.</p> <p>This conclusion is based on the staff findings that:</p> <ol style="list-style-type: none"> 1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy. 2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy. 3. Zero of one samples exceed the OEHHHA guideline and this sample size is insufficient to 	

determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating. A minimum of 16 samples is needed to determine if a beneficial use is fully supported using table 3.1.

4. Pursuant to SECTION 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.

Regional Board Staff Decision Recommendation: After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be placed on the section 303(d) list. The readily available data and information is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating.

Line of Evidence (LOE) for Decision ID 65043, Chlordane

Region 2

Oiger Quarry Ponds

LOE ID:	92343
Pollutant:	Chlordane
LOE Subgroup:	Pollutant-Tissue
Matrix:	Tissue
Fraction:	Fish fillet
Beneficial Use:	Warm Freshwater Habitat
Number of Samples:	1
Number of Exceedances:	0
Data and Information Type:	Fish tissue analysis
Data Used to Assess Water Quality:	State Water Board staff assessed SWAMP data for Oiger Quarry Ponds to determine beneficial use support and results are as follows: 0 of 1 samples exceed the criterion for Chlordane, Total. One composite (5 fish per composite) was generated from one species: Sacramento Sucker. Details of the compositing protocol can be found in the March 2009 report entitled: "Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Study" (SWAMP, 2009). Total chlordane was calculated as the sum of the following chlordane isomers: cis- and trans-chlordane, cis- and trans-nonachlor, and oxychlordane.
Data Reference:	Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Survey. A Report of the Surface Water Ambient Monitoring Program (SWAMP). California State Water Resources Control Board, Sacramento, CA Cruise Report for the Surface Waters Ambient Monitoring Program (SWAMP) Bioaccumulation Screening Study in California Lakes and Reservoirs. Sampling Dates: June 2007- March 2008 Statewide Lakes Sportfish Contamination Study 2007 2008 Contaminants in Fish from California Lakes and Reservoirs, 2007-2008: Summary Report on a Two-Year Screening Survey
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	Water Quality Control Plan for the San Francisco Bay Basin: Controllable water quality factors shall not cause a detrimental increase in concentrations of toxic substances found in bottom sediments or aquatic life. Effects on aquatic organisms, wildlife, and human health will be considered.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	National Academy of Science guidelines (NAS 1972) establish a maximum total Chlordane concentration of 100 ug/Kg (wet weight) in tissue samples for protection of aquatic life from bioaccumulation of toxic substances.
Guideline Reference:	National Academy of Sciences. Water Quality Criteria 1972. EPA-R3-73-033. Washington, D.C.: U.S. Environmental Protection Agency
Spatial Representation:	Data for this assessment unit was collected by one monitoring project: (SWB_FishLk)
Temporal Representation:	Data was collected on a single day 7/17/2007.

Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	Samples were collected, processed, and analyzed in accordance with the methods described in Quality Assurance Project Plan "Screening Study of Bioaccumulation in California Lakes and Reservoirs." (SWAMP, 2008).
QAPP Information Reference(s):	Quality Assurance Project Plan Screening Study of Bioaccumulation in California Lakes and Reservoirs. Moss Landing Marine Labs. Prepared for SWAMP BOG. 49 pages plus appendices and attachments

Line of Evidence (LOE) for Decision ID 65043, Chlordane
Oiger Quarry Ponds

Region 2

LOE ID:	92344
Pollutant:	Chlordane
LOE Subgroup:	Pollutant-Tissue
Matrix:	Tissue
Fraction:	Fish fillet
Beneficial Use:	Cold Freshwater Habitat
Number of Samples:	1
Number of Exceedances:	0
Data and Information Type:	Fish tissue analysis
Data Used to Assess Water Quality:	State Water Board staff assessed SWAMP data for Oiger Quarry Ponds to determine beneficial use support and results are as follows: 0 of 1 samples exceed the criterion for Chlordane, Total. One composite (5 fish per composite) was generated from one species: Sacramento Sucker. Details of the compositing protocol can be found in the March 2009 report entitled: "Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Study" (SWAMP, 2009). Total chlordane was calculated as the sum of the following chlordane isomers: cis- and trans-chlordane, cis- and trans-nonachlor, and oxychlordane.
Data Reference:	Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Survey. A Report of the Surface Water Ambient Monitoring Program (SWAMP). California State Water Resources Control Board, Sacramento, CA Cruise Report for the Surface Waters Ambient Monitoring Program (SWAMP) Bioaccumulation Screening Study in California Lakes and Reservoirs. Sampling Dates: June 2007- March 2008 Statewide Lakes Sportfish Contamination Study 2007 2008 Contaminants in Fish from California Lakes and Reservoirs, 2007-2008: Summary Report on a Two-Year Screening Survey
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	Water Quality Control Plan for the San Francisco Bay Basin: Controllable water quality factors shall not cause a detrimental increase in concentrations of toxic substances found in bottom sediments or aquatic life. Effects on aquatic organisms, wildlife, and human health will be considered.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	National Academy of Science guidelines (NAS 1972) establish a maximum total Chlordane concentration of 100 ug/Kg (wet weight) in tissue samples for protection of aquatic life from bioaccumulation of toxic substances.
Guideline Reference:	National Academy of Sciences. Water Quality Criteria 1972. EPA-R3-73-033. Washington, D.C.: U.S. Environmental Protection Agency
Spatial Representation:	Data for this assessment unit was collected by one monitoring project: (SWB_FishLk)
Temporal Representation:	Data was collected on a single day 7/17/2007.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	Samples were collected, processed, and analyzed in accordance with the methods described in Quality Assurance Project Plan "Screening Study of Bioaccumulation in California Lakes and Reservoirs." (SWAMP, 2008).

QAPP Information Reference(s): [Quality Assurance Project Plan Screening Study of Bioaccumulation in California Lakes and Reservoirs. Moss Landing Marine Labs. Prepared for SWAMP BOG. 49 pages plus appendices and attachments](#)

Line of Evidence (LOE) for Decision ID 65043, Chlordane

Region 2

Oiger Quarry Ponds

LOE ID: 92348

Pollutant: Chlordane
LOE Subgroup: Pollutant-Tissue
Matrix: Tissue
Fraction: Fish fillet

Beneficial Use: Commercial or recreational collection of fish, shellfish, or organisms

Number of Samples: 1
Number of Exceedances: 0

Data and Information Type: Fish tissue analysis
Data Used to Assess Water Quality: State Water Board staff assessed SWAMP data for Oiger Quarry Ponds to determine beneficial use support and results are as follows: 0 of 1 samples exceed the criterion for Chlordane, Total. One composite (5 fish per composite) was generated from one species: Sacramento Sucker. Details of the compositing protocol can be found in the March 2009 report entitled: "Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Study" (SWAMP, 2009). Total chlordane was calculated as the sum of the following chlordane isomers: cis- and trans-chlordane, cis- and trans-nonachlor, and oxychlordane.

Data Reference: [Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Survey. A Report of the Surface Water Ambient Monitoring Program \(SWAMP\). California State Water Resources Control Board, Sacramento, CA Cruise Report for the Surface Waters Ambient Monitoring Program \(SWAMP\) Bioaccumulation Screening Study in California Lakes and Reservoirs, Sampling Dates: June 2007- March 2008](#)
[Statewide Lakes Sportfish Contamination Study 2007 2008](#)
[Contaminants in Fish from California Lakes and Reservoirs, 2007-2008: Summary Report on a Two-Year Screening Survey](#)

SWAMP Data: SWAMP

Water Quality Objective/Criterion: Water Quality Control Plan for the San Francisco Bay Basin: Controllable water quality factors shall not cause a detrimental increase in concentrations of toxic substances found in bottom sediments or aquatic life. Effects on aquatic organisms, wildlife, and human health will be considered.

Objective/Criterion Reference: [Water Quality Control Plan \(Basin Plan\) San Francisco Bay Basin \(Region 2\)](#)

Evaluation Guideline: The modified OEHHA Fish Contaminant Goal for total chlordane in fish tissue is 3.9 ppb. This screening level assumes an average body weight of 70 kg and a consumption rate of 32 g/day for a 30 year exposure over a 70-year lifetime. This constituent is a carcinogen therefore the risk level is set to one in a million. A cooking reduction factor of 1 is applied for skin-off fillets. (Klasing, S., and R. Brodberg, 2008)

Guideline Reference: [Development of Fish Contaminant Goals and Advisory Tissue Levels for Common Contaminants in California Sport Fish: Chlordane, DDTs, Dieldrin, Methylmercury, PCBs, Selenium, and Toxaphene](#)

Spatial Representation: Data for this assessment unit was collected by one monitoring project: (SWB_FishLk)
Temporal Representation: Data was collected on a single day 7/17/2007.
Environmental Conditions: Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information: Samples were collected, processed, and analyzed in accordance with the methods described in Quality Assurance Project Plan "Screening Study of Bioaccumulation in California Lakes and Reservoirs." (SWAMP, 2008).

QAPP Information Reference(s): [Quality Assurance Project Plan Screening Study of Bioaccumulation in California Lakes](#)

DECISION ID	65063	Region 2
Oiger Quarry Ponds		

Pollutant: DDT (Dichlorodiphenyltrichloroethane)
Final Listing Decision: Do Not List on 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision: New Decision
Revision Status: Revised
Impairment from Pollutant or Pollution: Pollutant

Regional Board Staff Conclusion: This pollutant is being considered for placement on the CWA section 303(d) List under section 3.5 of the Listing Policy. Under section 3.5 a single line of evidence is necessary to assess listing status. Three lines of evidence are available in the administrative record to assess this pollutant. One of one samples exceed the OEHHHA guideline.

Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against placing this water segment-pollutant combination on the CWA section 303(d) List.

This conclusion is based on the staff findings that:

1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy.
2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy.
3. One of one samples exceed the OEHHHA guideline and this sample size is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating. A minimum of 16 samples is needed to determine if a beneficial use is fully supported using table 3.1.
4. Pursuant to SECTION 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.

Regional Board Staff Decision Recommendation: After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be placed on the section 303(d) list. The readily available data and information is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating.

Line of Evidence (LOE) for Decision ID 65063, DDT (Dichlorodiphenyltrichloroethane)	Region 2
Oiger Quarry Ponds	

LOE ID: 92412
Pollutant: Total DDT (sum of 4,4'- and 2,4'- isomers of DDT, DDE, and DDD)
LOE Subgroup: Pollutant-Tissue
Matrix: Tissue
Fraction: Fish fillet
Beneficial Use: Warm Freshwater Habitat
Number of Samples: 1
Number of Exceedances: 0
Data and Information Type: Fish tissue analysis
Data Used to Assess Water Quality: State Water Board staff assessed SWAMP data for Oiger Quarry Ponds to determine beneficial use support and results are as follows: 0 of 1 samples exceed the criterion for DDT, Total. One composite (5 fish per composite) was generated from one species: Sacramento Sucker. Details of the compositing protocol can be found in the March 2009 report entitled: "Contaminants in Fish from California Lakes and Reservoirs: Technical

Data Reference:	Report on Year One of a Two-Year Screening Study" (SWAMP, 2009). Total DDT was calculated as the sum of 4,4'- and 2,4'- isomers of DDT, DDE, and DDD. Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Survey. A Report of the Surface Water Ambient Monitoring Program (SWAMP). California State Water Resources Control Board, Sacramento, CA Cruise Report for the Surface Waters Ambient Monitoring Program (SWAMP) Bioaccumulation Screening Study in California Lakes and Reservoirs. Sampling Dates: June 2007- March 2008 Statewide Lakes Sportfish Contamination Study 2007 2008 Contaminants in Fish from California Lakes and Reservoirs, 2007-2008: Summary Report on a Two-Year Screening Survey
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	Water Quality Control Plan for the San Francisco Bay Basin: Controllable water quality factors shall not cause a detrimental increase in concentrations of toxic substances found in bottom sediments or aquatic life. Effects on aquatic organisms, wildlife, and human health will be considered.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	National Academy of Science guidelines (NAS 1972) establish a maximum total DDT concentration of 1000 ug/Kg (wet weight) in tissue samples for protection of aquatic life from bioaccumulation of toxic substances.
Guideline Reference:	National Academy of Sciences. Water Quality Criteria 1972. EPA-R3-73-033. Washington, D.C.: U.S. Environmental Protection Agency
Spatial Representation:	Data for this assessment unit was collected by one monitoring project: (SWB_FishLk)
Temporal Representation:	Data was collected on a single day 7/17/2007.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	Samples were collected, processed, and analyzed in accordance with the methods described in Quality Assurance Project Plan "Screening Study of Bioaccumulation in California Lakes and Reservoirs." (SWAMP, 2008).
QAPP Information Reference(s):	Quality Assurance Project Plan Screening Study of Bioaccumulation in California Lakes and Reservoirs. Moss Landing Marine Labs. Prepared for SWAMP BOG. 49 pages plus appendices and attachments

Line of Evidence (LOE) for Decision ID 65063, DDT (Dichlorodiphenyltrichloroethane)

Region 2

Oiger Quarry Ponds

LOE ID:	92413
Pollutant:	Total DDT (sum of 4,4'- and 2,4'- isomers of DDT, DDE, and DDD)
LOE Subgroup:	Pollutant-Tissue
Matrix:	Tissue
Fraction:	Fish fillet
Beneficial Use:	Cold Freshwater Habitat
Number of Samples:	1
Number of Exceedances:	0
Data and Information Type:	Fish tissue analysis
Data Used to Assess Water Quality:	State Water Board staff assessed SWAMP data for Oiger Quarry Ponds to determine beneficial use support and results are as follows: 0 of 1 samples exceed the criterion for DDT, Total. One composite (5 fish per composite) was generated from one species: Sacramento Sucker. Details of the compositing protocol can be found in the March 2009 report entitled: "Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Study" (SWAMP, 2009). Total DDT was calculated as the sum of 4,4'- and 2,4'- isomers of DDT, DDE, and DDD.
Data Reference:	Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Survey. A Report of the Surface Water Ambient Monitoring Program (SWAMP). California State Water Resources Control Board, Sacramento, CA

[Cruise Report for the Surface Waters Ambient Monitoring Program \(SWAMP\) Bioaccumulation Screening Study in California Lakes and Reservoirs. Sampling Dates: June 2007- March 2008](#)
[Statewide Lakes Sportfish Contamination Study 2007 2008](#)
[Contaminants in Fish from California Lakes and Reservoirs, 2007-2008: Summary Report on a Two-Year Screening Survey](#)

SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	Water Quality Control Plan for the San Francisco Bay Basin: Controllable water quality factors shall not cause a detrimental increase in concentrations of toxic substances found in bottom sediments or aquatic life. Effects on aquatic organisms, wildlife, and human health will be considered.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	National Academy of Science guidelines (NAS 1972) establish a maximum total DDT concentration of 1000 ug/Kg (wet weight) in tissue samples for protection of aquatic life from bioaccumulation of toxic substances.
Guideline Reference:	National Academy of Sciences. Water Quality Criteria 1972. EPA-R3-73-033. Washington, D.C.: U.S. Environmental Protection Agency
Spatial Representation:	Data for this assessment unit was collected by one monitoring project: (SWB_FishLk)
Temporal Representation:	Data was collected on a single day 7/17/2007.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	Samples were collected, processed, and analyzed in accordance with the methods described in Quality Assurance Project Plan "Screening Study of Bioaccumulation in California Lakes and Reservoirs." (SWAMP, 2008).
QAPP Information Reference(s):	Quality Assurance Project Plan Screening Study of Bioaccumulation in California Lakes and Reservoirs. Moss Landing Marine Labs. Prepared for SWAMP BOG, 49 pages plus appendices and attachments

Line of Evidence (LOE) for Decision ID 65063, DDT (Dichlorodiphenyltrichloroethane)
Oiger Quarry Ponds

Region 2

LOE ID:	92385
Pollutant:	Total DDT (sum of 4,4'- and 2,4'- isomers of DDT, DDE, and DDD)
LOE Subgroup:	Pollutant-Tissue
Matrix:	Tissue
Fraction:	Fish fillet
Beneficial Use:	Commercial or recreational collection of fish, shellfish, or organisms
Number of Samples:	1
Number of Exceedances:	1
Data and Information Type:	Fish tissue analysis
Data Used to Assess Water Quality:	State Water Board staff assessed SWAMP data for Oiger Quarry Ponds to determine beneficial use support and results are as follows: 1 of 1 samples exceed the criterion for DDT, Total. One composite (5 fish per composite) was generated from one species: Sacramento Sucker. Details of the compositing protocol can be found in the March 2009 report entitled: "Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Study" (SWAMP, 2009). Total DDT was calculated as the sum of 4,4'- and 2,4'- isomers of DDT, DDE, and DDD.
Data Reference:	Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Survey. A Report of the Surface Water Ambient Monitoring Program (SWAMP). California State Water Resources Control Board, Sacramento, CA Cruise Report for the Surface Waters Ambient Monitoring Program (SWAMP) Bioaccumulation Screening Study in California Lakes and Reservoirs. Sampling Dates: June 2007- March 2008 Statewide Lakes Sportfish Contamination Study 2007 2008 Contaminants in Fish from California Lakes and Reservoirs, 2007-2008: Summary Report

SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	Water Quality Control Plan for the San Francisco Bay Basin: Controllable water quality factors shall not cause a detrimental increase in concentrations of toxic substances found in bottom sediments or aquatic life. Effects on aquatic organisms, wildlife, and human health will be considered.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	The modified OEHHA Fish Contaminant Goal for total DDT in fish tissue is 15 ppb. This screening level assumes an average body weight of 70 kg and a consumption rate of 32 g/day for a 30 year exposure over a 70-year lifetime. This constituent is a carcinogen therefore the risk level is set to one in a million. A cooking reduction factor of 1 is applied for skin-off fillets. (Klasing, S., and R. Brodberg, 2008)
Guideline Reference:	Development of Fish Contaminant Goals and Advisory Tissue Levels for Common Contaminants in California Sport Fish: Chlordane, DDTs, Dieldrin, Methylmercury, PCBs, Selenium, and Toxaphene
Spatial Representation:	Data for this assessment unit was collected by one monitoring project: (SWB_FishLk)
Temporal Representation:	Data was collected on a single day 7/17/2007.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	Samples were collected, processed, and analyzed in accordance with the methods described in Quality Assurance Project Plan "Screening Study of Bioaccumulation in California Lakes and Reservoirs." (SWAMP, 2008).
QAPP Information Reference(s):	Quality Assurance Project Plan Screening Study of Bioaccumulation in California Lakes and Reservoirs. Moss Landing Marine Labs. Prepared for SWAMP BOG, 49 pages plus appendices and attachments

DECISION ID	65044	Region 2
Oiger Quarry Ponds		

Pollutant:	Dieldrin
Final Listing Decision:	Do Not List on 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision:	New Decision
Revision Status	Revised
Impairment from Pollutant or Pollution:	Pollutant
Regional Board Staff Conclusion:	<p>This pollutant is being considered for placement on the CWA section 303(d) List under section 3.5 of the Listing Policy. Under section 3.5 a single line of evidence is necessary to assess listing status. Three lines of evidence are available in the administrative record to assess this pollutant. Zero of one samples exceed the OEHHA guideline.</p> <p>Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against placing this water segment-pollutant combination on the CWA section 303(d) List.</p> <p>This conclusion is based on the staff findings that:</p> <ol style="list-style-type: none"> 1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy. 2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy. 3. Zero of one samples exceed the OEHHA guideline and this sample size is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating. A minimum of 16 samples is needed to determine if a beneficial use is fully supported using table 3.1. 4. Pursuant to SECTION 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.
Regional Board Staff Decision Recommendation:	After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be placed on the section 303(d) list. The readily available data and

information is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating.

Line of Evidence (LOE) for Decision ID 65044, Dieldrin

Region 2

Oiger Quarry Ponds

LOE ID:	92349
Pollutant:	Dieldrin
LOE Subgroup:	Pollutant-Tissue
Matrix:	Tissue
Fraction:	Fish fillet
Beneficial Use:	Warm Freshwater Habitat
Number of Samples:	1
Number of Exceedances:	0
Data and Information Type:	Fish tissue analysis
Data Used to Assess Water Quality:	State Water Board staff assessed SWAMP data for Oiger Quarry Ponds to determine beneficial use support and results are as follows: 0 of 1 samples exceed the criterion for Dieldrin. One composite (5 fish per composite) was generated from one species: Sacramento Sucker. Details of the compositing protocol can be found in the March 2009 report entitled: "Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Study" (SWAMP, 2009).
Data Reference:	Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Survey. A Report of the Surface Water Ambient Monitoring Program (SWAMP). California State Water Resources Control Board, Sacramento, CA Cruise Report for the Surface Waters Ambient Monitoring Program (SWAMP) Bioaccumulation Screening Study in California Lakes and Reservoirs. Sampling Dates: June 2007- March 2008 Statewide Lakes Sportfish Contamination Study 2007 2008 Contaminants in Fish from California Lakes and Reservoirs, 2007-2008: Summary Report on a Two-Year Screening Survey
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	Water Quality Control Plan for the San Francisco Bay Basin: Controllable water quality factors shall not cause a detrimental increase in concentrations of toxic substances found in bottom sediments or aquatic life. Effects on aquatic organisms, wildlife, and human health will be considered.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	National Academy of Science guidelines (NAS 1972) establish a maximum Dieldrin concentration of 100 ug/Kg (wet weight) in tissue samples for protection of aquatic life from bioaccumulation of toxic substances.
Guideline Reference:	National Academy of Sciences. Water Quality Criteria 1972. EPA-R3-73-033. Washington, D.C.: U.S. Environmental Protection Agency
Spatial Representation:	Data for this assessment unit was collected by one monitoring project: (SWB_FishLk)
Temporal Representation:	Data was collected on a single day 7/17/2007.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	Samples were collected, processed, and analyzed in accordance with the methods described in Quality Assurance Project Plan "Screening Study of Bioaccumulation in California Lakes and Reservoirs." (SWAMP, 2008).
QAPP Information Reference(s):	Quality Assurance Project Plan Screening Study of Bioaccumulation in California Lakes and Reservoirs. Moss Landing Marine Labs. Prepared for SWAMP BOG, 49 pages plus appendices and attachments

Line of Evidence (LOE) for Decision ID 65044, Dieldrin

Region 2

Oiger Quarry Ponds

LOE ID:	92303
Pollutant:	Dieldrin
LOE Subgroup:	Pollutant-Tissue
Matrix:	Tissue
Fraction:	Fish fillet
Beneficial Use:	Commercial or recreational collection of fish, shellfish, or organisms
Number of Samples:	1
Number of Exceedances:	1
Data and Information Type:	Fish tissue analysis
Data Used to Assess Water Quality:	State Water Board staff assessed SWAMP data for Oiger Quarry Ponds to determine beneficial use support and results are as follows: 1 of 1 samples exceed the criterion for Dieldrin. One composite (5 fish per composite) was generated from one species: Sacramento Sucker. Details of the compositing protocol can be found in the March 2009 report entitled: "Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Study" (SWAMP, 2009).
Data Reference:	Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Survey. A Report of the Surface Water Ambient Monitoring Program (SWAMP). California State Water Resources Control Board, Sacramento, CA Cruise Report for the Surface Waters Ambient Monitoring Program (SWAMP) Bioaccumulation Screening Study in California Lakes and Reservoirs, Sampling Dates: June 2007- March 2008 Statewide Lakes Sportfish Contamination Study 2007 2008 Contaminants in Fish from California Lakes and Reservoirs, 2007-2008: Summary Report on a Two-Year Screening Survey
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	Water Quality Control Plan for the San Francisco Bay Basin: Controllable water quality factors shall not cause a detrimental increase in concentrations of toxic substances found in bottom sediments or aquatic life. Effects on aquatic organisms, wildlife, and human health will be considered.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	The modified OEHHA Fish Contaminant Goal for dieldrin in fish tissue is 0.32 ppb. This screening level assumes an average body weight of 70 kg and a consumption rate of 32 g/day for a 30 year exposure over a 70-year lifetime. This constituent is a carcinogen therefore the risk level is set to one in a million. A cooking reduction factor of 1 is applied for skin-off fillets. (Klasing, S., and R. Brodberg, 2008)
Guideline Reference:	Development of Fish Contaminant Goals and Advisory Tissue Levels for Common Contaminants in California Sport Fish: Chlordane, DDTs, Dieldrin, Methylmercury, PCBs, Selenium, and Toxaphene
Spatial Representation:	Data for this assessment unit was collected by one monitoring project: (SWB_FishLk)
Temporal Representation:	Data was collected on a single day 7/17/2007.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	Samples were collected, processed, and analyzed in accordance with the methods described in Quality Assurance Project Plan "Screening Study of Bioaccumulation in California Lakes and Reservoirs." (SWAMP, 2008).
QAPP Information Reference(s):	Quality Assurance Project Plan Screening Study of Bioaccumulation in California Lakes and Reservoirs. Moss Landing Marine Labs. Prepared for SWAMP BOG, 49 pages plus appendices and attachments

Line of Evidence (LOE) for Decision ID 65044, Dieldrin

Region 2

Oiger Quarry Ponds

LOE ID: 92350

Pollutant:	Dieldrin
LOE Subgroup:	Pollutant-Tissue
Matrix:	Tissue
Fraction:	Fish fillet
Beneficial Use:	Cold Freshwater Habitat
Number of Samples:	1
Number of Exceedances:	0
Data and Information Type:	Fish tissue analysis
Data Used to Assess Water Quality:	State Water Board staff assessed SWAMP data for Oiger Quarry Ponds to determine beneficial use support and results are as follows: 0 of 1 samples exceed the criterion for Dieldrin. One composite (5 fish per composite) was generated from one species: Sacramento Sucker. Details of the compositing protocol can be found in the March 2009 report entitled: "Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Study" (SWAMP, 2009).
Data Reference:	Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Survey. A Report of the Surface Water Ambient Monitoring Program (SWAMP). California State Water Resources Control Board, Sacramento, CA Cruise Report for the Surface Waters Ambient Monitoring Program (SWAMP) Bioaccumulation Screening Study in California Lakes and Reservoirs, Sampling Dates: June 2007- March 2008 Statewide Lakes Sportfish Contamination Study 2007 2008 Contaminants in Fish from California Lakes and Reservoirs, 2007-2008: Summary Report on a Two-Year Screening Survey
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	Water Quality Control Plan for the San Francisco Bay Basin: Controllable water quality factors shall not cause a detrimental increase in concentrations of toxic substances found in bottom sediments or aquatic life. Effects on aquatic organisms, wildlife, and human health will be considered.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	National Academy of Science guidelines (NAS 1972) establish a maximum Dieldrin concentration of 100 ug/Kg (wet weight) in tissue samples for protection of aquatic life from bioaccumulation of toxic substances.
Guideline Reference:	National Academy of Sciences. Water Quality Criteria 1972. EPA-R3-73-033. Washington, D.C.: U.S. Environmental Protection Agency
Spatial Representation:	Data for this assessment unit was collected by one monitoring project: (SWB_FishLk)
Temporal Representation:	Data was collected on a single day 7/17/2007.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	Samples were collected, processed, and analyzed in accordance with the methods described in Quality Assurance Project Plan "Screening Study of Bioaccumulation in California Lakes and Reservoirs." (SWAMP, 2008).
QAPP Information Reference(s):	Quality Assurance Project Plan Screening Study of Bioaccumulation in California Lakes and Reservoirs. Moss Landing Marine Labs. Prepared for SWAMP BOG. 49 pages plus appendices and attachments

DECISION ID	65045	Region 2
Oiger Quarry Ponds		

Pollutant:	Endosulfan
Final Listing Decision:	Do Not List on 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision:	New Decision
Revision Status	Revised
Impairment from Pollutant or	Pollutant

Pollution:**Regional Board Staff Conclusion:**

This pollutant is being considered for placement on the CWA section 303(d) List under section 3.5 of the Listing Policy. Under section 3.5 a single line of evidence is necessary to assess listing status. Three lines of evidence are available in the administrative record to assess this pollutant. Zero of one samples exceed the OEHHHA guideline.

Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against placing this water segment-pollutant combination on the CWA section 303(d) List.

This conclusion is based on the staff findings that:

1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy.
2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy.
3. Zero of one samples exceed the OEHHHA guideline and this sample size is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating. A minimum of 16 samples is needed to determine if a beneficial use is fully supported using table 3.1.
4. Pursuant to SECTION 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.

Regional Board Staff Decision Recommendation:

After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be placed on the section 303(d) list. The readily available data and information is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating.

Line of Evidence (LOE) for Decision ID 65045, Endosulfan**Region 2****Oiger Quarry Ponds**

LOE ID: 92304

Pollutant: Endosulfan
LOE Subgroup: Pollutant-Tissue
Matrix: Tissue
Fraction: Fish fillet

Beneficial Use: Warm Freshwater Habitat

Number of Samples: 1
Number of Exceedances: 0

Data and Information Type: Fish tissue analysis

Data Used to Assess Water Quality: State Water Board staff assessed SWAMP data for Oiger Quarry Ponds to determine beneficial use support and results are as follows: 0 of 1 samples exceed the criterion for Endosulfan I. One composite (5 fish per composite) was generated from one species: Sacramento Sucker. Details of the compositing protocol can be found in the March 2009 report entitled: "Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Study" (SWAMP, 2009).

Data Reference: [Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Survey. A Report of the Surface Water Ambient Monitoring Program \(SWAMP\). California State Water Resources Control Board, Sacramento, CA](#)
[Cruise Report for the Surface Waters Ambient Monitoring Program \(SWAMP\)](#)
[Bioaccumulation Screening Study in California Lakes and Reservoirs. Sampling Dates: June 2007- March 2008](#)
[Statewide Lakes Sportfish Contamination Study 2007 2008](#)
[Contaminants in Fish from California Lakes and Reservoirs, 2007-2008: Summary Report on a Two-Year Screening Survey](#)

SWAMP Data: SWAMP

Water Quality Objective/Criterion: Water Quality Control Plan for the San Francisco Bay Basin: Controllable water quality

factors shall not cause a detrimental increase in concentrations of toxic substances found in bottom sediments or aquatic life. Effects on aquatic organisms, wildlife, and human health will be considered.

Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	National Academy of Science guidelines (NAS 1972) establish a maximum Endosulfan, Total concentration of 100 ug/Kg (wet weight) in tissue samples for protection of aquatic life from bioaccumulation of toxic substances.
Guideline Reference:	National Academy of Sciences. Water Quality Criteria 1972. EPA-R3-73-033. Washington, D.C.: U.S. Environmental Protection Agency
Spatial Representation:	Data for this assessment unit was collected by one monitoring project: (SWB_FishLk)
Temporal Representation:	Data was collected on a single day 7/17/2007.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	Samples were collected, processed, and analyzed in accordance with the methods described in Quality Assurance Project Plan "Screening Study of Bioaccumulation in California Lakes and Reservoirs." (SWAMP, 2008).
QAPP Information Reference(s):	Quality Assurance Project Plan Screening Study of Bioaccumulation in California Lakes and Reservoirs. Moss Landing Marine Labs. Prepared for SWAMP BOG. 49 pages plus appendices and attachments

Line of Evidence (LOE) for Decision ID 65045, Endosulfan

Region 2

Oiger Quarry Ponds

LOE ID:	92306
Pollutant:	Endosulfan
LOE Subgroup:	Pollutant-Tissue
Matrix:	Tissue
Fraction:	Fish fillet
Beneficial Use:	Commercial or recreational collection of fish, shellfish, or organisms
Number of Samples:	1
Number of Exceedances:	0
Data and Information Type:	Fish tissue analysis
Data Used to Assess Water Quality:	State Water Board staff assessed SWAMP data for Oiger Quarry Ponds to determine beneficial use support and results are as follows: 0 of 1 samples exceed the criterion for Endosulfan I. One composite (5 fish per composite) was generated from one species: Sacramento Sucker. Details of the compositing protocol can be found in the March 2009 report entitled: "Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Study" (SWAMP, 2009).
Data Reference:	Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Survey. A Report of the Surface Water Ambient Monitoring Program (SWAMP). California State Water Resources Control Board, Sacramento, CA Cruise Report for the Surface Waters Ambient Monitoring Program (SWAMP) Bioaccumulation Screening Study in California Lakes and Reservoirs, Sampling Dates: June 2007- March 2008 Statewide Lakes Sportfish Contamination Study 2007 2008 Contaminants in Fish from California Lakes and Reservoirs, 2007-2008: Summary Report on a Two-Year Screening Survey
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	Water Quality Control Plan for the San Francisco Bay Basin: Controllable water quality factors shall not cause a detrimental increase in concentrations of toxic substances found in bottom sediments or aquatic life. Effects on aquatic organisms, wildlife, and human health will be considered.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	The modified OEHHA Fish Contaminant Goal for endosulfan (I and II) in fish tissue is

	13,000 ppb. This screening level assumes an average body weight of 70 kg and a consumption rate of 32 g/day. A cooking reduction factor of 1 is applied for skin-off fillets. (Klasing, S., and R. Brodberg, 2008; USEPA, 2000)
Guideline Reference:	Development of Fish Contaminant Goals and Advisory Tissue Levels for Common Contaminants in California Sport Fish: Chlordane, DDTs, Dieldrin, Methylmercury, PCBs, Selenium, and Toxaphene Guidance for Assessing Chemical Contaminant Data for Use In Fish Advisories Volume 1: Fish Sampling and Analysis
Spatial Representation:	Data for this assessment unit was collected by one monitoring project: (SWB_FishLk)
Temporal Representation:	Data was collected on a single day 7/17/2007.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	Samples were collected, processed, and analyzed in accordance with the methods described in Quality Assurance Project Plan "Screening Study of Bioaccumulation in California Lakes and Reservoirs." (SWAMP, 2008).
QAPP Information Reference(s):	Quality Assurance Project Plan Screening Study of Bioaccumulation in California Lakes and Reservoirs. Moss Landing Marine Labs. Prepared for SWAMP BOG. 49 pages plus appendices and attachments

Line of Evidence (LOE) for Decision ID 65045, Endosulfan
Oiger Quarry Ponds

Region 2

LOE ID:	92305
Pollutant:	Endosulfan
LOE Subgroup:	Pollutant-Tissue
Matrix:	Tissue
Fraction:	Fish fillet
Beneficial Use:	Cold Freshwater Habitat
Number of Samples:	1
Number of Exceedances:	0
Data and Information Type:	Fish tissue analysis
Data Used to Assess Water Quality:	State Water Board staff assessed SWAMP data for Oiger Quarry Ponds to determine beneficial use support and results are as follows: 0 of 1 samples exceed the criterion for Endosulfan I. One composite (5 fish per composite) was generated from one species: Sacramento Sucker. Details of the compositing protocol can be found in the March 2009 report entitled: "Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Study" (SWAMP, 2009).
Data Reference:	Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Survey. A Report of the Surface Water Ambient Monitoring Program (SWAMP). California State Water Resources Control Board, Sacramento, CA Cruise Report for the Surface Waters Ambient Monitoring Program (SWAMP) Bioaccumulation Screening Study in California Lakes and Reservoirs, Sampling Dates: June 2007- March 2008 Statewide Lakes Sportfish Contamination Study 2007 2008 Contaminants in Fish from California Lakes and Reservoirs, 2007-2008: Summary Report on a Two-Year Screening Survey
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	Water Quality Control Plan for the San Francisco Bay Basin: Controllable water quality factors shall not cause a detrimental increase in concentrations of toxic substances found in bottom sediments or aquatic life. Effects on aquatic organisms, wildlife, and human health will be considered.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	National Academy of Science guidelines (NAS 1972) establish a maximum Endosulfan, Total concentration of 100 ug/Kg (wet weight) in tissue samples for protection of aquatic life from bioaccumulation of toxic substances.

Guideline Reference:	National Academy of Sciences. Water Quality Criteria 1972. EPA-R3-73-033. Washington, D.C.: U.S. Environmental Protection Agency
Spatial Representation:	Data for this assessment unit was collected by one monitoring project: (SWB_FishLk)
Temporal Representation:	Data was collected on a single day 7/17/2007.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	Samples were collected, processed, and analyzed in accordance with the methods described in Quality Assurance Project Plan "Screening Study of Bioaccumulation in California Lakes and Reservoirs." (SWAMP, 2008).
QAPP Information Reference(s):	Quality Assurance Project Plan Screening Study of Bioaccumulation in California Lakes and Reservoirs. Moss Landing Marine Labs. Prepared for SWAMP BOG. 49 pages plus appendices and attachments

DECISION ID	65046	Region 2
Oiger Quarry Ponds		
Pollutant:	Endrin	
Final Listing Decision:	Do Not List on 303(d) list (TMDL required list)	
Last Listing Cycle's Final Listing Decision:	New Decision	
Revision Status	Revised	
Impairment from Pollutant or Pollution:	Pollutant	
Regional Board Staff Conclusion:	<p>This pollutant is being considered for placement on the CWA section 303(d) List under section 3.5 of the Listing Policy. Under section 3.5 a single line of evidence is necessary to assess listing status. Three lines of evidence are available in the administrative record to assess this pollutant. Zero of one samples exceed the OEHHA guideline.</p> <p>Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against placing this water segment-pollutant combination on the CWA section 303(d) List.</p> <p>This conclusion is based on the staff findings that:</p> <ol style="list-style-type: none"> 1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy. 2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy. 3. Zero of one samples exceed the OEHHA guideline and this sample size is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating. A minimum of 16 samples is needed to determine if a beneficial use is fully supported using table 3.1. 4. Pursuant to SECTION 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met. 	
Regional Board Staff Decision Recommendation:	After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be placed on the section 303(d) list. The readily available data and information is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating.	

Line of Evidence (LOE) for Decision ID 65046, Endrin		Region 2
Oiger Quarry Ponds		
LOE ID:	92307	
Pollutant:	Endrin	
LOE Subgroup:	Pollutant-Tissue	
Matrix:	Tissue	
Fraction:	Fish fillet	
Beneficial Use:	Warm Freshwater Habitat	

Number of Samples:	1
Number of Exceedances:	0
Data and Information Type:	Fish tissue analysis
Data Used to Assess Water Quality:	State Water Board staff assessed SWAMP data for Oiger Quarry Ponds to determine beneficial use support and results are as follows: 0 of 1 samples exceed the criterion for Endrin. One composite (5 fish per composite) was generated from one species: Sacramento Sucker. Details of the compositing protocol can be found in the March 2009 report entitled: "Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Study" (SWAMP, 2009).
Data Reference:	Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Survey. A Report of the Surface Water Ambient Monitoring Program (SWAMP). California State Water Resources Control Board, Sacramento, CA Cruise Report for the Surface Waters Ambient Monitoring Program (SWAMP) Bioaccumulation Screening Study in California Lakes and Reservoirs. Sampling Dates: June 2007- March 2008 Statewide Lakes Sportfish Contamination Study 2007 2008 Contaminants in Fish from California Lakes and Reservoirs, 2007-2008: Summary Report on a Two-Year Screening Survey
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	Water Quality Control Plan for the San Francisco Bay Basin: Controllable water quality factors shall not cause a detrimental increase in concentrations of toxic substances found in bottom sediments or aquatic life. Effects on aquatic organisms, wildlife, and human health will be considered.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	National Academy of Science guidelines (NAS 1972) establish a maximum Endrin concentration of 100 ug/Kg (wet weight) in tissue samples for protection of aquatic life from bioaccumulation of toxic substances.
Guideline Reference:	National Academy of Sciences. Water Quality Criteria 1972. EPA-R3-73-033. Washington, D.C.: U.S. Environmental Protection Agency
Spatial Representation:	Data for this assessment unit was collected by one monitoring project: (SWB_FishLk)
Temporal Representation:	Data was collected on a single day 7/17/2007.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	Samples were collected, processed, and analyzed in accordance with the methods described in Quality Assurance Project Plan "Screening Study of Bioaccumulation in California Lakes and Reservoirs." (SWAMP, 2008).
QAPP Information Reference(s):	Quality Assurance Project Plan Screening Study of Bioaccumulation in California Lakes and Reservoirs. Moss Landing Marine Labs. Prepared for SWAMP BOG. 49 pages plus appendices and attachments

Line of Evidence (LOE) for Decision ID 65046, Endrin

Region 2

Oiger Quarry Ponds

LOE ID:	92308
Pollutant:	Endrin
LOE Subgroup:	Pollutant-Tissue
Matrix:	Tissue
Fraction:	Fish fillet
Beneficial Use:	Cold Freshwater Habitat
Number of Samples:	1
Number of Exceedances:	0
Data and Information Type:	Fish tissue analysis
Data Used to Assess Water Quality:	State Water Board staff assessed SWAMP data for Oiger Quarry Ponds to determine

Data Reference:	beneficial use support and results are as follows: 0 of 1 samples exceed the criterion for Endrin. One composite (5 fish per composite) was generated from one species: Sacramento Sucker. Details of the compositing protocol can be found in the March 2009 report entitled: "Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Study" (SWAMP, 2009). Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Survey. A Report of the Surface Water Ambient Monitoring Program (SWAMP). California State Water Resources Control Board, Sacramento, CA Cruise Report for the Surface Waters Ambient Monitoring Program (SWAMP) Bioaccumulation Screening Study in California Lakes and Reservoirs. Sampling Dates: June 2007- March 2008 Statewide Lakes Sportfish Contamination Study 2007 2008 Contaminants in Fish from California Lakes and Reservoirs, 2007-2008: Summary Report on a Two-Year Screening Survey
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	Water Quality Control Plan for the San Francisco Bay Basin: Controllable water quality factors shall not cause a detrimental increase in concentrations of toxic substances found in bottom sediments or aquatic life. Effects on aquatic organisms, wildlife, and human health will be considered.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	National Academy of Science guidelines (NAS 1972) establish a maximum Endrin concentration of 100 ug/Kg (wet weight) in tissue samples for protection of aquatic life from bioaccumulation of toxic substances.
Guideline Reference:	National Academy of Sciences. Water Quality Criteria 1972. EPA-R3-73-033. Washington, D.C.: U.S. Environmental Protection Agency
Spatial Representation:	Data for this assessment unit was collected by one monitoring project: (SWB_FishLk)
Temporal Representation:	Data was collected on a single day 7/17/2007.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	Samples were collected, processed, and analyzed in accordance with the methods described in Quality Assurance Project Plan "Screening Study of Bioaccumulation in California Lakes and Reservoirs." (SWAMP, 2008).
QAPP Information Reference(s):	Quality Assurance Project Plan Screening Study of Bioaccumulation in California Lakes and Reservoirs. Moss Landing Marine Labs. Prepared for SWAMP BOG. 49 pages plus appendices and attachments

Line of Evidence (LOE) for Decision ID 65046, Endrin

Region 2

Oiger Quarry Ponds

LOE ID:	92309
Pollutant:	Endrin
LOE Subgroup:	Pollutant-Tissue
Matrix:	Tissue
Fraction:	Fish fillet
Beneficial Use:	Commercial or recreational collection of fish, shellfish, or organisms
Number of Samples:	1
Number of Exceedances:	0
Data and Information Type:	Fish tissue analysis
Data Used to Assess Water Quality:	State Water Board staff assessed SWAMP data for Oiger Quarry Ponds to determine beneficial use support and results are as follows: 0 of 1 samples exceed the criterion for Endrin. One composite (5 fish per composite) was generated from one species: Sacramento Sucker. Details of the compositing protocol can be found in the March 2009 report entitled: "Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Study" (SWAMP, 2009).
Data Reference:	Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year

[One of a Two-Year Screening Survey. A Report of the Surface Water Ambient Monitoring Program \(SWAMP\). California State Water Resources Control Board, Sacramento, CA](#)
[Cruise Report for the Surface Waters Ambient Monitoring Program \(SWAMP\)](#)
[Bioaccumulation Screening Study in California Lakes and Reservoirs. Sampling Dates: June 2007- March 2008](#)
[Statewide Lakes Sportfish Contamination Study 2007 2008](#)
[Contaminants in Fish from California Lakes and Reservoirs, 2007-2008: Summary Report on a Two-Year Screening Survey](#)

SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	Water Quality Control Plan for the San Francisco Bay Basin: Controllable water quality factors shall not cause a detrimental increase in concentrations of toxic substances found in bottom sediments or aquatic life. Effects on aquatic organisms, wildlife, and human health will be considered.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	The modified OEHHA Fish Contaminant Goal for endrin in fish tissue is 660 ppb. This screening level assumes an average body weight of 70 kg and a consumption rate of 32 g/day. A cooking reduction factor of 1 is applied for skin-off fillets. (Klasing, S., and R. Brodberg, 2008; USEPA, 2000)
Guideline Reference:	Development of Fish Contaminant Goals and Advisory Tissue Levels for Common Contaminants in California Sport Fish: Chlordane, DDTs, Dieldrin, Methylmercury, PCBs, Selenium, and Toxaphene Guidance for Assessing Chemical Contaminant Data for Use In Fish Advisories Volume 1: Fish Sampling and Analysis
Spatial Representation:	Data for this assessment unit was collected by one monitoring project: (SWB_FishLk)
Temporal Representation:	Data was collected on a single day 7/17/2007.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	Samples were collected, processed, and analyzed in accordance with the methods described in Quality Assurance Project Plan "Screening Study of Bioaccumulation in California Lakes and Reservoirs." (SWAMP, 2008).
QAPP Information Reference(s):	Quality Assurance Project Plan Screening Study of Bioaccumulation in California Lakes and Reservoirs. Moss Landing Marine Labs. Prepared for SWAMP BOG. 49 pages plus appendices and attachments

DECISION ID	65055	Region 2
Oiger Quarry Ponds		
Pollutant:	Heptachlor	
Final Listing Decision:	Do Not List on 303(d) list (TMDL required list)	
Last Listing Cycle's Final Listing Decision:	New Decision	
Revision Status	Revised	
Impairment from Pollutant or Pollution:	Pollutant	
Regional Board Staff Conclusion:	<p>This pollutant is being considered for placement on the CWA section 303(d) List under section 3.5 of the Listing Policy. Under section 3.5 a single line of evidence is necessary to assess listing status. Two lines of evidence are available in the administrative record to assess this pollutant. Zero of one samples exceed the OEHHA guideline.</p> <p>Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against placing this water segment-pollutant combination on the CWA section 303(d) List.</p> <p>This conclusion is based on the staff findings that:</p> <ol style="list-style-type: none"> 1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy. 2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy. 3. Zero of one samples exceed the OEHHA guideline and this sample size is insufficient to 	

determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating. A minimum of 16 samples is needed to determine if a beneficial use is fully supported using table 3.1.

4. Pursuant to SECTION 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.

Regional Board Staff Decision Recommendation: After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be placed on the section 303(d) list. The readily available data and information is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating.

**Line of Evidence (LOE) for Decision ID 65055, Heptachlor
Oiger Quarry Ponds**

Region 2

LOE ID:	92310
Pollutant:	Heptachlor
LOE Subgroup:	Pollutant-Tissue
Matrix:	Tissue
Fraction:	Fish fillet
Beneficial Use:	Warm Freshwater Habitat
Number of Samples:	1
Number of Exceedances:	0
Data and Information Type:	Fish tissue analysis
Data Used to Assess Water Quality:	State Water Board staff assessed SWAMP data for Oiger Quarry Ponds to determine beneficial use support and results are as follows: 0 of 1 samples exceed the criterion for Heptachlor. One composite (5 fish per composite) was generated from one species: Sacramento Sucker. Details of the compositing protocol can be found in the March 2009 report entitled: "Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Study" (SWAMP, 2009).
Data Reference:	Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Survey. A Report of the Surface Water Ambient Monitoring Program (SWAMP). California State Water Resources Control Board, Sacramento, CA Cruise Report for the Surface Waters Ambient Monitoring Program (SWAMP) Bioaccumulation Screening Study in California Lakes and Reservoirs, Sampling Dates: June 2007- March 2008 Statewide Lakes Sportfish Contamination Study 2007 2008 Contaminants in Fish from California Lakes and Reservoirs, 2007-2008: Summary Report on a Two-Year Screening Survey
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	Water Quality Control Plan for the San Francisco Bay Basin: Controllable water quality factors shall not cause a detrimental increase in concentrations of toxic substances found in bottom sediments or aquatic life. Effects on aquatic organisms, wildlife, and human health will be considered.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	National Academy of Science guidelines (NAS 1972) establish a maximum Heptachlor concentration of 100 ug/Kg (wet weight) in tissue samples for protection of aquatic life from bioaccumulation of toxic substances.
Guideline Reference:	National Academy of Sciences. Water Quality Criteria 1972. EPA-R3-73-033. Washington, D.C.: U.S. Environmental Protection Agency
Spatial Representation:	Data for this assessment unit was collected by one monitoring project: (SWB_FishLk)
Temporal Representation:	Data was collected on a single day 7/17/2007.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	Samples were collected, processed, and analyzed in accordance with the methods

QAPP Information Reference(s):	described in Quality Assurance Project Plan "Screening Study of Bioaccumulation in California Lakes and Reservoirs." (SWAMP, 2008). Quality Assurance Project Plan Screening Study of Bioaccumulation in California Lakes and Reservoirs. Moss Landing Marine Labs. Prepared for SWAMP BOG, 49 pages plus appendices and attachments
Line of Evidence (LOE) for Decision ID 65055, Heptachlor	
Oiger Quarry Ponds	
LOE ID:	92311
Pollutant:	Heptachlor
LOE Subgroup:	Pollutant-Tissue
Matrix:	Tissue
Fraction:	Fish fillet
Beneficial Use:	Cold Freshwater Habitat
Number of Samples:	1
Number of Exceedances:	0
Data and Information Type:	Fish tissue analysis
Data Used to Assess Water Quality:	State Water Board staff assessed SWAMP data for Oiger Quarry Ponds to determine beneficial use support and results are as follows: 0 of 1 samples exceed the criterion for Heptachlor. One composite (5 fish per composite) was generated from one species: Sacramento Sucker. Details of the compositing protocol can be found in the March 2009 report entitled: "Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Study" (SWAMP, 2009).
Data Reference:	Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Survey. A Report of the Surface Water Ambient Monitoring Program (SWAMP). California State Water Resources Control Board, Sacramento, CA Cruise Report for the Surface Waters Ambient Monitoring Program (SWAMP) Bioaccumulation Screening Study in California Lakes and Reservoirs, Sampling Dates: June 2007- March 2008 Statewide Lakes Sportfish Contamination Study 2007 2008 Contaminants in Fish from California Lakes and Reservoirs, 2007-2008: Summary Report on a Two-Year Screening Survey
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	Water Quality Control Plan for the San Francisco Bay Basin: Controllable water quality factors shall not cause a detrimental increase in concentrations of toxic substances found in bottom sediments or aquatic life. Effects on aquatic organisms, wildlife, and human health will be considered.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	National Academy of Science guidelines (NAS 1972) establish a maximum Heptachlor concentration of 100 ug/Kg (wet weight) in tissue samples for protection of aquatic life from bioaccumulation of toxic substances.
Guideline Reference:	National Academy of Sciences. Water Quality Criteria 1972. EPA-R3-73-033. Washington, D.C.: U.S. Environmental Protection Agency
Spatial Representation:	Data for this assessment unit was collected by one monitoring project: (SWB_FishLk)
Temporal Representation:	Data was collected on a single day 7/17/2007.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	Samples were collected, processed, and analyzed in accordance with the methods described in Quality Assurance Project Plan "Screening Study of Bioaccumulation in California Lakes and Reservoirs." (SWAMP, 2008).
QAPP Information Reference(s):	Quality Assurance Project Plan Screening Study of Bioaccumulation in California Lakes and Reservoirs. Moss Landing Marine Labs. Prepared for SWAMP BOG, 49 pages plus appendices and attachments

DECISION ID	65056	Region 2
Oiger Quarry Ponds		

Pollutant:	Heptachlor epoxide
Final Listing Decision:	Do Not List on 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision:	New Decision
Revision Status	Revised
Impairment from Pollutant or Pollution:	Pollutant
Regional Board Staff Conclusion:	<p>This pollutant is being considered for placement on the CWA section 303(d) List under section 3.5 of the Listing Policy. Under section 3.5 a single line of evidence is necessary to assess listing status. Three lines of evidence are available in the administrative record to assess this pollutant. Zero of one samples exceed the OEHHA guideline.</p> <p>Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against placing this water segment-pollutant combination on the CWA section 303(d) List.</p> <p>This conclusion is based on the staff findings that:</p> <ol style="list-style-type: none"> 1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy. 2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy. 3. Zero of one samples exceed the OEHHA guideline and this sample size is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating. A minimum of 16 samples is needed to determine if a beneficial use is fully supported using table 3.1. 4. Pursuant to SECTION 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.
Regional Board Staff Decision Recommendation:	After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be placed on the section 303(d) list. The readily available data and information is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating.

Line of Evidence (LOE) for Decision ID 65056, Heptachlor epoxide	Region 2
Oiger Quarry Ponds	

LOE ID:	92312
Pollutant:	Heptachlor epoxide
LOE Subgroup:	Pollutant-Tissue
Matrix:	Tissue
Fraction:	Fish fillet
Beneficial Use:	Warm Freshwater Habitat
Number of Samples:	1
Number of Exceedances:	0
Data and Information Type:	Fish tissue analysis
Data Used to Assess Water Quality:	State Water Board staff assessed SWAMP data for Oiger Quarry Ponds to determine beneficial use support and results are as follows: 0 of 1 samples exceed the criterion for Heptachlor epoxide. One composite (5 fish per composite) was generated from one species: Sacramento Sucker. Details of the compositing protocol can be found in the March 2009 report entitled: "Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Study" (SWAMP, 2009).
Data Reference:	Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Survey. A Report of the Surface Water Ambient Monitoring

[Program \(SWAMP\). California State Water Resources Control Board, Sacramento, CA](#)
[Cruise Report for the Surface Waters Ambient Monitoring Program \(SWAMP\)](#)
[Bioaccumulation Screening Study in California Lakes and Reservoirs. Sampling Dates: June 2007- March 2008](#)
[Statewide Lakes Sportfish Contamination Study 2007 2008](#)
[Contaminants in Fish from California Lakes and Reservoirs, 2007-2008: Summary Report on a Two-Year Screening Survey](#)

SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	Water Quality Control Plan for the San Francisco Bay Basin: Controllable water quality factors shall not cause a detrimental increase in concentrations of toxic substances found in bottom sediments or aquatic life. Effects on aquatic organisms, wildlife, and human health will be considered.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	National Academy of Science guidelines (NAS 1972) establish a maximum Heptachlor Epoxide concentration of 100 ug/Kg (wet weight) in tissue samples for protection of aquatic life from bioaccumulation of toxic substances.
Guideline Reference:	National Academy of Sciences. Water Quality Criteria 1972. EPA-R3-73-033. Washington, D.C.: U.S. Environmental Protection Agency
Spatial Representation:	Data for this assessment unit was collected by one monitoring project: (SWB_FishLk)
Temporal Representation:	Data was collected on a single day 7/17/2007.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	Samples were collected, processed, and analyzed in accordance with the methods described in Quality Assurance Project Plan "Screening Study of Bioaccumulation in California Lakes and Reservoirs." (SWAMP, 2008).
QAPP Information Reference(s):	Quality Assurance Project Plan Screening Study of Bioaccumulation in California Lakes and Reservoirs. Moss Landing Marine Labs. Prepared for SWAMP BOG. 49 pages plus appendices and attachments

Line of Evidence (LOE) for Decision ID 65056, Heptachlor epoxide Oiger Quarry Ponds

Region 2

LOE ID:	92313
Pollutant:	Heptachlor epoxide
LOE Subgroup:	Pollutant-Tissue
Matrix:	Tissue
Fraction:	Fish fillet
Beneficial Use:	Cold Freshwater Habitat
Number of Samples:	1
Number of Exceedances:	0
Data and Information Type:	Fish tissue analysis
Data Used to Assess Water Quality:	State Water Board staff assessed SWAMP data for Oiger Quarry Ponds to determine beneficial use support and results are as follows: 0 of 1 samples exceed the criterion for Heptachlor epoxide. One composite (5 fish per composite) was generated from one species: Sacramento Sucker. Details of the compositing protocol can be found in the March 2009 report entitled: "Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Study" (SWAMP, 2009).
Data Reference:	Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Survey. A Report of the Surface Water Ambient Monitoring Program (SWAMP). California State Water Resources Control Board, Sacramento, CA Cruise Report for the Surface Waters Ambient Monitoring Program (SWAMP) Bioaccumulation Screening Study in California Lakes and Reservoirs. Sampling Dates: June 2007- March 2008 Statewide Lakes Sportfish Contamination Study 2007 2008 Contaminants in Fish from California Lakes and Reservoirs, 2007-2008: Summary Report

SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	Water Quality Control Plan for the San Francisco Bay Basin: Controllable water quality factors shall not cause a detrimental increase in concentrations of toxic substances found in bottom sediments or aquatic life. Effects on aquatic organisms, wildlife, and human health will be considered.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	National Academy of Science guidelines (NAS 1972) establish a maximum Heptachlor Epoxide concentration of 100 ug/Kg (wet weight) in tissue samples for protection of aquatic life from bioaccumulation of toxic substances.
Guideline Reference:	National Academy of Sciences. Water Quality Criteria 1972. EPA-R3-73-033. Washington, D.C.: U.S. Environmental Protection Agency
Spatial Representation:	Data for this assessment unit was collected by one monitoring project: (SWB_FishLk)
Temporal Representation:	Data was collected on a single day 7/17/2007.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	Samples were collected, processed, and analyzed in accordance with the methods described in Quality Assurance Project Plan "Screening Study of Bioaccumulation in California Lakes and Reservoirs." (SWAMP, 2008).
QAPP Information Reference(s):	Quality Assurance Project Plan Screening Study of Bioaccumulation in California Lakes and Reservoirs. Moss Landing Marine Labs. Prepared for SWAMP BOG. 49 pages plus appendices and attachments

Line of Evidence (LOE) for Decision ID 65056, Heptachlor epoxide

Region 2

Oiger Quarry Ponds

LOE ID:	92314
Pollutant:	Heptachlor epoxide
LOE Subgroup:	Pollutant-Tissue
Matrix:	Tissue
Fraction:	Fish fillet
Beneficial Use:	Commercial or recreational collection of fish, shellfish, or organisms
Number of Samples:	0
Number of Exceedances:	0
Data and Information Type:	Fish tissue analysis
Data Used to Assess Water Quality:	State Water Board staff assessed SWAMP data for Oiger Quarry Ponds to determine beneficial use support and results are as follows: 0 of 0 samples exceed the criterion for Heptachlor epoxide. One composite (5 fish per composite) was generated from one species: Sacramento Sucker. Details of the compositing protocol can be found in the March 2009 report entitled: "Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Study" (SWAMP, 2009). One composite was not used in the assessment because the laboratory data reporting limit(s) was above the objective and therefore the results could not be quantified with the level of certainty required by the Listing Policy.
Data Reference:	Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Survey. A Report of the Surface Water Ambient Monitoring Program (SWAMP). California State Water Resources Control Board, Sacramento, CA Cruise Report for the Surface Waters Ambient Monitoring Program (SWAMP) Bioaccumulation Screening Study in California Lakes and Reservoirs. Sampling Dates: June 2007- March 2008 Statewide Lakes Sportfish Contamination Study 2007 2008 Contaminants in Fish from California Lakes and Reservoirs, 2007-2008: Summary Report on a Two-Year Screening Survey

SWAMP Data: SWAMP

Water Quality Objective/Criterion:	Water Quality Control Plan for the San Francisco Bay Basin: Controllable water quality factors shall not cause a detrimental increase in concentrations of toxic substances found in bottom sediments or aquatic life. Effects on aquatic organisms, wildlife, and human health will be considered.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	The modified OEHHA Fish Contaminant Goal for heptachlor epoxide in fish tissue is 0.93 ppb. This screening level assumes an average body weight of 70 kg and a consumption rate of 32 g/day for a 30 year exposure over a 70-year lifetime. This constituent is a carcinogen therefore the risk level is set to one in a million. A cooking reduction factor of 1 is applied for skin-off fillets. (Klasing, S., and R. Brodberg, 2008; OEHHA, 1999)
Guideline Reference:	Development of Fish Contaminant Goals and Advisory Tissue Levels for Common Contaminants in California Sport Fish: Chlordane, DDTs, Dieldrin, Methylmercury, PCBs, Selenium, and Toxaphene Public Health Goal for Heptachlor and Heptachlor Epoxide in Drinking Water
Spatial Representation:	Data for this assessment unit was collected by one monitoring project: (SWB_FishLk)
Temporal Representation:	Data was collected on a single day 7/17/2007.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	Samples were collected, processed, and analyzed in accordance with the methods described in Quality Assurance Project Plan "Screening Study of Bioaccumulation in California Lakes and Reservoirs." (SWAMP, 2008).
QAPP Information Reference(s):	Quality Assurance Project Plan Screening Study of Bioaccumulation in California Lakes and Reservoirs. Moss Landing Marine Labs. Prepared for SWAMP BOG. 49 pages plus appendices and attachments

DECISION ID	65057	Region 2
Oiger Quarry Ponds		
Pollutant:	Hexachlorobenzene/ HCB	
Final Listing Decision:	Do Not List on 303(d) list (TMDL required list)	
Last Listing Cycle's Final Listing Decision:	New Decision	
Revision Status	Revised	
Impairment from Pollutant or Pollution:	Pollutant	
Regional Board Staff Conclusion:	<p>This pollutant is being considered for placement on the CWA section 303(d) List under section 3.5 of the Listing Policy. Under section 3.5 a single line of evidence is necessary to assess listing status. One line of evidence is available in the administrative record to assess this pollutant. Zero of one samples exceed the OEHHA guideline.</p> <p>Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against placing this water segment-pollutant combination on the CWA section 303(d) List.</p> <p>This conclusion is based on the staff findings that:</p> <ol style="list-style-type: none"> 1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy. 2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy. 3. Zero of one samples exceed the OEHHA guideline and this sample size is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating. A minimum of 16 samples is needed to determine if a beneficial use is fully supported using table 3.1. 4. Pursuant to SECTION 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met. 	
Regional Board Staff Decision Recommendation:	After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be placed on the section 303(d) list. The readily available data and information is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating.	

Oiger Quarry Ponds

LOE ID:	92315
Pollutant:	Hexachlorobenzene/ HCB
LOE Subgroup:	Pollutant-Tissue
Matrix:	Tissue
Fraction:	Fish fillet
Beneficial Use:	Commercial or recreational collection of fish, shellfish, or organisms
Number of Samples:	1
Number of Exceedances:	0
Data and Information Type:	Fish tissue analysis
Data Used to Assess Water Quality:	State Water Board staff assessed SWAMP data for Oiger Quarry Ponds to determine beneficial use support and results are as follows: 0 of 1 samples exceed the criterion for Hexachlorobenzene. One composite (5 fish per composite) was generated from one species: Sacramento Sucker. Details of the compositing protocol can be found in the March 2009 report entitled: "Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Study" (SWAMP, 2009).
Data Reference:	Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Survey. A Report of the Surface Water Ambient Monitoring Program (SWAMP). California State Water Resources Control Board, Sacramento, CA Cruise Report for the Surface Waters Ambient Monitoring Program (SWAMP) Bioaccumulation Screening Study in California Lakes and Reservoirs, Sampling Dates: June 2007- March 2008 Statewide Lakes Sportfish Contamination Study 2007 2008 Contaminants in Fish from California Lakes and Reservoirs, 2007-2008: Summary Report on a Two-Year Screening Survey
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	Water Quality Control Plan for the San Francisco Bay Basin: Controllable water quality factors shall not cause a detrimental increase in concentrations of toxic substances found in bottom sediments or aquatic life. Effects on aquatic organisms, wildlife, and human health will be considered.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	The modified OEHHA Fish Contaminant Goal for hexachlorobenzene in fish tissue is 2.8 ppb. This screening level assumes an average body weight of 70 kg and a consumption rate of 32 g/day for a 30 year exposure over a 70-year lifetime. This constituent is a carcinogen therefore the risk level is set to one in a million. A cooking reduction factor of 1 is applied for skin-off fillets. (Klasing, S., and R. Brodberg, 2008; OEHHA, 2005)
Guideline Reference:	Development of Fish Contaminant Goals and Advisory Tissue Levels for Common Contaminants in California Sport Fish: Chlordane, DDTs, Dieldrin, Methylmercury, PCBs, Selenium, and Toxaphene Air Toxics Hotspots Program Risk Assessment Guidelines. Part II Technical Support Document for Describing Available Cancer Potency Values.
Spatial Representation:	Data for this assessment unit was collected by one monitoring project: (SWB_FishLk)
Temporal Representation:	Data was collected on a single day 7/17/2007.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	Samples were collected, processed, and analyzed in accordance with the methods described in Quality Assurance Project Plan "Screening Study of Bioaccumulation in California Lakes and Reservoirs." (SWAMP, 2008).
QAPP Information Reference(s):	Quality Assurance Project Plan Screening Study of Bioaccumulation in California Lakes and Reservoirs. Moss Landing Marine Labs. Prepared for SWAMP BOG, 49 pages plus appendices and attachments

DECISION ID	65058	Region 2
Oiger Quarry Ponds		

Pollutant: Lindane/gamma Hexachlorocyclohexane (gamma-HCH)
Final Listing Decision: Do Not List on 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision: New Decision
Revision Status: Revised
Impairment from Pollutant or Pollution: Pollutant

Regional Board Staff Conclusion: This pollutant is being considered for placement on the CWA section 303(d) List under section 3.5 of the Listing Policy. Under section 3.5 a single line of evidence is necessary to assess listing status. Three lines of evidence are available in the administrative record to assess this pollutant. Zero of one samples exceed the OEHHHA guideline.

Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against placing this water segment-pollutant combination on the CWA section 303(d) List.

This conclusion is based on the staff findings that:

1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy.
2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy.
3. Zero of one samples exceed the OEHHHA guideline and this sample size is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating. A minimum of 16 samples is needed to determine if a beneficial use is fully supported using table 3.1.
4. Pursuant to SECTION 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.

Regional Board Staff Decision Recommendation: After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be placed on the section 303(d) list. The readily available data and information is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating.

Line of Evidence (LOE) for Decision ID 65058, Lindane/gamma Hexachlorocyclohexane (gamma-HCH)	Region 2
Oiger Quarry Ponds	

LOE ID: 92405
Pollutant: Lindane/gamma Hexachlorocyclohexane (gamma-HCH)
LOE Subgroup: Pollutant-Tissue
Matrix: Tissue
Fraction: Fish fillet
Beneficial Use: Cold Freshwater Habitat
Number of Samples: 1
Number of Exceedances: 0
Data and Information Type: Fish tissue analysis
Data Used to Assess Water Quality: State Water Board staff assessed SWAMP data for Oiger Quarry Ponds to determine beneficial use support and results are as follows: 0 of 1 samples exceed the criterion for HCH, gamma. One composite (5 fish per composite) was generated from one species: Sacramento Sucker. Details of the compositing protocol can be found in the March 2009 report entitled: "Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Study" (SWAMP, 2009).

Data Reference:	Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Survey. A Report of the Surface Water Ambient Monitoring Program (SWAMP). California State Water Resources Control Board, Sacramento, CA Cruise Report for the Surface Waters Ambient Monitoring Program (SWAMP) Bioaccumulation Screening Study in California Lakes and Reservoirs. Sampling Dates: June 2007- March 2008 Statewide Lakes Sportfish Contamination Study 2007 2008 Contaminants in Fish from California Lakes and Reservoirs, 2007-2008: Summary Report on a Two-Year Screening Survey
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	Water Quality Control Plan for the San Francisco Bay Basin: Controllable water quality factors shall not cause a detrimental increase in concentrations of toxic substances found in bottom sediments or aquatic life. Effects on aquatic organisms, wildlife, and human health will be considered.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	The modified OEHHA Fish Contaminant Goal for lindane in fish tissue is 4.6 ppb. This screening level assumes an average body weight of 70 kg and a consumption rate of 32 g/day for a 30 year exposure over a 70-year lifetime. This constituent is a carcinogen therefore the risk level is set to one in a million. A cooking reduction factor of 1 is applied for skin-off fillets. (Klasing, S., and R. Brodberg, 2008; OEHHA, 2005)
Guideline Reference:	National Academy of Sciences. Water Quality Criteria 1972. EPA-R3-73-033. Washington, D.C.: U.S. Environmental Protection Agency
Spatial Representation:	Data for this assessment unit was collected by one monitoring project: (SWB_FishLk)
Temporal Representation:	Data was collected on a single day 7/17/2007.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	Samples were collected, processed, and analyzed in accordance with the methods described in Quality Assurance Project Plan "Screening Study of Bioaccumulation in California Lakes and Reservoirs." (SWAMP, 2008).
QAPP Information Reference(s):	Quality Assurance Project Plan Screening Study of Bioaccumulation in California Lakes and Reservoirs. Moss Landing Marine Labs. Prepared for SWAMP BOG. 49 pages plus appendices and attachments

Line of Evidence (LOE) for Decision ID 65058, Lindane/gamma Hexachlorocyclohexane (gamma-HCH)

Region 2

Oiger Quarry Ponds

LOE ID:	92404
Pollutant:	Lindane/gamma Hexachlorocyclohexane (gamma-HCH)
LOE Subgroup:	Pollutant-Tissue
Matrix:	Tissue
Fraction:	Fish fillet
Beneficial Use:	Commercial or recreational collection of fish, shellfish, or organisms
Number of Samples:	1
Number of Exceedances:	0
Data and Information Type:	Fish tissue analysis
Data Used to Assess Water Quality:	State Water Board staff assessed SWAMP data for Oiger Quarry Ponds to determine beneficial use support and results are as follows: 0 of 1 samples exceed the criterion for HCH, gamma. One composite (5 fish per composite) was generated from one species: Sacramento Sucker. Details of the compositing protocol can be found in the March 2009 report entitled: "Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Study" (SWAMP, 2009).
Data Reference:	Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Survey. A Report of the Surface Water Ambient Monitoring Program (SWAMP). California State Water Resources Control Board, Sacramento, CA

[Cruise Report for the Surface Waters Ambient Monitoring Program \(SWAMP\) Bioaccumulation Screening Study in California Lakes and Reservoirs. Sampling Dates: June 2007- March 2008](#)
[Statewide Lakes Sportfish Contamination Study 2007 2008](#)
[Contaminants in Fish from California Lakes and Reservoirs, 2007-2008: Summary Report on a Two-Year Screening Survey](#)

SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	Water Quality Control Plan for the San Francisco Bay Basin: Controllable water quality factors shall not cause a detrimental increase in concentrations of toxic substances found in bottom sediments or aquatic life. Effects on aquatic organisms, wildlife, and human health will be considered.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	The modified OEHHA Fish Contaminant Goal for lindane in fish tissue is 4.6 ppb. This screening level assumes an average body weight of 70 kg and a consumption rate of 32 g/day for a 30 year exposure over a 70-year lifetime. This constituent is a carcinogen therefore the risk level is set to one in a million. A cooking reduction factor of 1 is applied for skin-off fillets.
Guideline Reference:	Development of Fish Contaminant Goals and Advisory Tissue Levels for Common Contaminants in California Sport Fish: Chlordane, DDTs, Dieldrin, Methylmercury, PCBs, Selenium, and Toxaphene Air Toxics Hotspots Program Risk Assessment Guidelines. Part II Technical Support Document for Describing Available Cancer Potency Values.
Spatial Representation:	Data for this assessment unit was collected by one monitoring project: (SWB_FishLk)
Temporal Representation:	Data was collected on a single day 7/17/2007.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	Samples were collected, processed, and analyzed in accordance with the methods described in Quality Assurance Project Plan "Screening Study of Bioaccumulation in California Lakes and Reservoirs." (SWAMP, 2008).
QAPP Information Reference(s):	Quality Assurance Project Plan Screening Study of Bioaccumulation in California Lakes and Reservoirs. Moss Landing Marine Labs. Prepared for SWAMP BOG. 49 pages plus appendices and attachments

Line of Evidence (LOE) for Decision ID 65058, Lindane/gamma Hexachlorocyclohexane (gamma-HCH)

Region 2

Oiger Quarry Ponds

LOE ID:	92316
Pollutant:	Lindane/gamma Hexachlorocyclohexane (gamma-HCH)
LOE Subgroup:	Pollutant-Tissue
Matrix:	Tissue
Fraction:	Fish fillet
Beneficial Use:	Warm Freshwater Habitat
Number of Samples:	1
Number of Exceedances:	0
Data and Information Type:	Fish tissue analysis
Data Used to Assess Water Quality:	State Water Board staff assessed SWAMP data for Oiger Quarry Ponds to determine beneficial use support and results are as follows: 0 of 1 samples exceed the criterion for HCH, gamma. One composite (5 fish per composite) was generated from one species: Sacramento Sucker. Details of the compositing protocol can be found in the March 2009 report entitled: "Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Study" (SWAMP, 2009).
Data Reference:	Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Survey. A Report of the Surface Water Ambient Monitoring Program (SWAMP). California State Water Resources Control Board, Sacramento, CA

[Cruise Report for the Surface Waters Ambient Monitoring Program \(SWAMP\) Bioaccumulation Screening Study in California Lakes and Reservoirs. Sampling Dates: June 2007- March 2008](#)
[Statewide Lakes Sportfish Contamination Study 2007 2008](#)
[Contaminants in Fish from California Lakes and Reservoirs, 2007-2008: Summary Report on a Two-Year Screening Survey](#)

SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	Water Quality Control Plan for the San Francisco Bay Basin: Controllable water quality factors shall not cause a detrimental increase in concentrations of toxic substances found in bottom sediments or aquatic life. Effects on aquatic organisms, wildlife, and human health will be considered.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	The modified OEHHA Fish Contaminant Goal for lindane in fish tissue is 4.6 ppb. This screening level assumes an average body weight of 70 kg and a consumption rate of 32 g/day for a 30 year exposure over a 70-year lifetime. This constituent is a carcinogen therefore the risk level is set to one in a million. A cooking reduction factor of 1 is applied for skin-off fillets. (Klasing, S., and R. Brodberg, 2008; OEHHA, 2005)
Guideline Reference:	National Academy of Sciences. Water Quality Criteria 1972. EPA-R3-73-033. Washington, D.C.: U.S. Environmental Protection Agency
Spatial Representation:	Data for this assessment unit was collected by one monitoring project: (SWB_FishLk)
Temporal Representation:	Data was collected on a single day 7/17/2007.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	Samples were collected, processed, and analyzed in accordance with the methods described in Quality Assurance Project Plan "Screening Study of Bioaccumulation in California Lakes and Reservoirs." (SWAMP, 2008).
QAPP Information Reference(s):	Quality Assurance Project Plan Screening Study of Bioaccumulation in California Lakes and Reservoirs. Moss Landing Marine Labs. Prepared for SWAMP BOG. 49 pages plus appendices and attachments

DECISION ID	65060	Region 2
Oiger Quarry Ponds		

Pollutant: Final Listing Decision: Last Listing Cycle's Final Listing Decision: Revision Status Impairment from Pollutant or Pollution:	Mirex Do Not List on 303(d) list (TMDL required list) New Decision Revised Pollutant
Regional Board Staff Conclusion:	<p>This pollutant is being considered for placement on the CWA section 303(d) List under section 3.5 of the Listing Policy. Under section 3.5 a single line of evidence is necessary to assess listing status. One line of evidence is available in the administrative record to assess this pollutant. Zero of zero samples exceed the OEHHA guideline.</p> <p>Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against placing this water segment-pollutant combination on the CWA section 303(d) List.</p> <p>This conclusion is based on the staff findings that:</p> <ol style="list-style-type: none"> 1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy. 2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy. 3. Zero of zero samples exceed the OEHHA guideline and this sample size is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating. A minimum of 16 samples is needed to determine if a beneficial use is fully supported using table 3.1. 4. Pursuant to SECTION 3.11 of the Listing Policy, no additional data and information are available

indicating that standards are not met.

Regional Board Staff Decision Recommendation: After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be placed on the section 303(d) list. The readily available data and information is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating.

**Line of Evidence (LOE) for Decision ID 65060, Mirex
Oiger Quarry Ponds**

Region 2

LOE ID:	92407
Pollutant:	Mirex
LOE Subgroup:	Pollutant-Tissue
Matrix:	Tissue
Fraction:	Fish fillet
Beneficial Use:	Commercial or recreational collection of fish, shellfish, or organisms
Number of Samples:	0
Number of Exceedances:	0
Data and Information Type:	Fish tissue analysis
Data Used to Assess Water Quality:	State Water Board staff assessed SWAMP data for Oiger Quarry Ponds to determine beneficial use support and results are as follows: 0 of 0 samples exceed the criterion for Mirex. One composite (5 fish per composite) was generated from one species: Sacramento Sucker. Details of the compositing protocol can be found in the March 2009 report entitled: "Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Study" (SWAMP, 2009). One composite was not used in the assessment because the laboratory data reporting limit(s) was above the objective and therefore the results could not be quantified with the level of certainty required by the Listing Policy.
Data Reference:	Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Survey. A Report of the Surface Water Ambient Monitoring Program (SWAMP). California State Water Resources Control Board, Sacramento, CA Cruise Report for the Surface Waters Ambient Monitoring Program (SWAMP) Bioaccumulation Screening Study in California Lakes and Reservoirs. Sampling Dates: June 2007- March 2008 Statewide Lakes Sportfish Contamination Study 2007 2008 Contaminants in Fish from California Lakes and Reservoirs, 2007-2008: Summary Report on a Two-Year Screening Survey
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	Water Quality Control Plan for the San Francisco Bay Basin: Controllable water quality factors shall not cause a detrimental increase in concentrations of toxic substances found in bottom sediments or aquatic life. Effects on aquatic organisms, wildlife, and human health will be considered.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	The modified OEHHA Fish Contaminant Goal for mirex in fish tissue is 0.28 ppb. This screening level assumes an average body weight of 70 kg and a consumption rate of 32 g/day. A cooking reduction factor of 1 is applied for skin-off fillets. (Klasing, S., and R. Brodberg, 2008; OEHHA, 1992)
Guideline Reference:	Development of Fish Contaminant Goals and Advisory Tissue Levels for Common Contaminants in California Sport Fish: Chlordane, DDTs, Dieldrin, Methylmercury, PCBs, Selenium, and Toxaphene Expedited Cancer Potency Values and Proposed Regulatory Levels for Certain Proposition 65 Carcinogens.
Spatial Representation:	Data for this assessment unit was collected by one monitoring project: (SWB_FishLk)

Temporal Representation:	Data was collected on a single day 7/17/2007.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	Samples were collected, processed, and analyzed in accordance with the methods described in Quality Assurance Project Plan "Screening Study of Bioaccumulation in California Lakes and Reservoirs." (SWAMP, 2008).
QAPP Information Reference(s):	Quality Assurance Project Plan Screening Study of Bioaccumulation in California Lakes and Reservoirs. Moss Landing Marine Labs. Prepared for SWAMP BOG. 49 pages plus appendices and attachments

DECISION ID	65061	Region 2
Oiger Quarry Ponds		

Pollutant:	PCBs (Polychlorinated biphenyls)
Final Listing Decision:	Do Not List on 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision:	New Decision
Revision Status	Revised
Impairment from Pollutant or Pollution:	Pollutant

Regional Board Staff Conclusion: This pollutant is being considered for placement on the CWA section 303(d) List under section 3.5 of the Listing Policy. Under section 3.5 a single line of evidence is necessary to assess listing status. Three lines of evidence are available in the administrative record to assess this pollutant. One of one samples exceed the OEHHHA guideline.

Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against placing this water segment-pollutant combination on the CWA section 303(d) List.

This conclusion is based on the staff findings that:

1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy.
2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy.
3. One of one samples exceed the OEHHHA guideline and this sample size is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating. A minimum of 16 samples is needed to determine if a beneficial use is fully supported using table 3.1.
4. Pursuant to SECTION 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.

Regional Board Staff Decision Recommendation: After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be placed on the section 303(d) list. The readily available data and information is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating.

Line of Evidence (LOE) for Decision ID 65061, PCBs (Polychlorinated biphenyls)	Region 2
Oiger Quarry Ponds	

LOE ID:	92410
Pollutant:	PCBs (Polychlorinated biphenyls)
LOE Subgroup:	Pollutant-Tissue
Matrix:	Tissue
Fraction:	Fish fillet
Beneficial Use:	Commercial or recreational collection of fish, shellfish, or organisms
Number of Samples:	1
Number of Exceedances:	1

Data and Information Type:	Fish tissue analysis
Data Used to Assess Water Quality:	State Water Board staff assessed SWAMP data for Oiger Quarry Ponds to determine beneficial use support and results are as follows: 1 of 1 samples exceed the criterion for PCB, Total. One composite (5 fish per composite) was generated from one species: Sacramento Sucker. Details of the compositing protocol can be found in the March 2009 report entitled: "Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Study" (SWAMP, 2009). Total PCB was assessed for as follows: PCB aroclors and congeners were summed separately and the sum that yielded the highest value was used for the assessment.
Data Reference:	Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Survey. A Report of the Surface Water Ambient Monitoring Program (SWAMP). California State Water Resources Control Board, Sacramento, CA Cruise Report for the Surface Waters Ambient Monitoring Program (SWAMP) Bioaccumulation Screening Study in California Lakes and Reservoirs, Sampling Dates: June 2007- March 2008 Statewide Lakes Sportfish Contamination Study 2007 2008 Contaminants in Fish from California Lakes and Reservoirs, 2007-2008: Summary Report on a Two-Year Screening Survey
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	Water Quality Control Plan for the San Francisco Bay Basin (2013): Controllable water quality factors shall not cause a detrimental increase in concentrations of toxic substances found in bottom sediments or aquatic life. Effects on aquatic organisms, wildlife, and human health will be considered.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	The modified OEHHA Fish Contaminant Goal for polychlorinated biphenyls in fish tissue is 2.6 ppb. This screening level assumes an average body weight of 70 kg and a consumption rate of 32 g/day for a 30 year exposure over a 70-year lifetime. This constituent is a carcinogen therefore the risk level is set to one in a million. A cooking reduction factor of 1 is applied for skin-off fillets. (Klasing, S., and R. Brodberg, 2008)
Guideline Reference:	Development of Fish Contaminant Goals and Advisory Tissue Levels for Common Contaminants in California Sport Fish: Chlordane, DDTs, Dieldrin, Methylmercury, PCBs, Selenium, and Toxaphene
Spatial Representation:	Data for this assessment unit was collected by one monitoring project: (SWB_FishLk)
Temporal Representation:	Data was collected on a single day 7/17/2007.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	Samples were collected, processed, and analyzed in accordance with the methods described in Quality Assurance Project Plan "Screening Study of Bioaccumulation in California Lakes and Reservoirs." (SWAMP, 2008).
QAPP Information Reference(s):	Quality Assurance Project Plan Screening Study of Bioaccumulation in California Lakes and Reservoirs. Moss Landing Marine Labs. Prepared for SWAMP BOG. 49 pages plus appendices and attachments

Line of Evidence (LOE) for Decision ID 65061, PCBs (Polychlorinated biphenyls)

Region 2

Oiger Quarry Ponds

LOE ID:	92408
Pollutant:	PCBs (Polychlorinated biphenyls)
LOE Subgroup:	Pollutant-Tissue
Matrix:	Tissue
Fraction:	Fish fillet
Beneficial Use:	Warm Freshwater Habitat
Number of Samples:	1
Number of Exceedances:	0
Data and Information Type:	Fish tissue analysis

Data Used to Assess Water Quality:	State Water Board staff assessed SWAMP data for Oiger Quarry Ponds to determine beneficial use support and results are as follows: 0 of 1 samples exceed the criterion for PCB, Total. One composite (5 fish per composite) was generated from one species: Sacramento Sucker. Details of the compositing protocol can be found in the March 2009 report entitled: "Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Study" (SWAMP, 2009). Total PCB was assessed for as follows: PCB aroclors and congeners were summed separately and the sum that yielded the highest value was used for the assessment.
Data Reference:	Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Survey. A Report of the Surface Water Ambient Monitoring Program (SWAMP). California State Water Resources Control Board, Sacramento, CA Cruise Report for the Surface Waters Ambient Monitoring Program (SWAMP) Bioaccumulation Screening Study in California Lakes and Reservoirs, Sampling Dates: June 2007- March 2008 Statewide Lakes Sportfish Contamination Study 2007 2008 Contaminants in Fish from California Lakes and Reservoirs, 2007-2008: Summary Report on a Two-Year Screening Survey
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	Water Quality Control Plan for the San Francisco Bay Basin (2013): Controllable water quality factors shall not cause a detrimental increase in concentrations of toxic substances found in bottom sediments or aquatic life. Effects on aquatic organisms, wildlife, and human health will be considered.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	National Academy of Science guidelines (NAS 1972) establish a maximum total PCB concentration of 500 ug/Kg (wet weight) in tissue samples for protection of aquatic life from bioaccumulation of toxic substances.
Guideline Reference:	National Academy of Sciences. Water Quality Criteria 1972. EPA-R3-73-033. Washington, D.C.: U.S. Environmental Protection Agency
Spatial Representation:	Data for this assessment unit was collected by one monitoring project: (SWB_FishLk)
Temporal Representation:	Data was collected on a single day 7/17/2007.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	Samples were collected, processed, and analyzed in accordance with the methods described in Quality Assurance Project Plan "Screening Study of Bioaccumulation in California Lakes and Reservoirs." (SWAMP, 2008).
QAPP Information Reference(s):	Quality Assurance Project Plan Screening Study of Bioaccumulation in California Lakes and Reservoirs. Moss Landing Marine Labs. Prepared for SWAMP BOG, 49 pages plus appendices and attachments

Line of Evidence (LOE) for Decision ID 65061, PCBs (Polychlorinated biphenyls)

Region 2

Oiger Quarry Ponds

LOE ID:	92409
Pollutant:	PCBs (Polychlorinated biphenyls)
LOE Subgroup:	Pollutant-Tissue
Matrix:	Tissue
Fraction:	Fish fillet
Beneficial Use:	Cold Freshwater Habitat
Number of Samples:	1
Number of Exceedances:	0
Data and Information Type:	Fish tissue analysis
Data Used to Assess Water Quality:	State Water Board staff assessed SWAMP data for Oiger Quarry Ponds to determine beneficial use support and results are as follows: 0 of 1 samples exceed the criterion for PCB, Total. One composite (5 fish per composite) was generated from one species: Sacramento Sucker. Details of the compositing protocol can be found in the March 2009

Data Reference:	<p>report entitled: "Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Study" (SWAMP, 2009). Total PCB was assessed for as follows: PCB aroclors and congeners were summed separately and the sum that yielded the highest value was used for the assessment.</p> <p>Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Survey. A Report of the Surface Water Ambient Monitoring Program (SWAMP). California State Water Resources Control Board, Sacramento, CA Cruise Report for the Surface Waters Ambient Monitoring Program (SWAMP) Bioaccumulation Screening Study in California Lakes and Reservoirs, Sampling Dates: June 2007- March 2008 Statewide Lakes Sportfish Contamination Study 2007 2008 Contaminants in Fish from California Lakes and Reservoirs, 2007-2008: Summary Report on a Two-Year Screening Survey</p>
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	Water Quality Control Plan for the San Francisco Bay Basin (2013): Controllable water quality factors shall not cause a detrimental increase in concentrations of toxic substances found in bottom sediments or aquatic life. Effects on aquatic organisms, wildlife, and human health will be considered.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	National Academy of Science guidelines (NAS 1972) establish a maximum total PCB concentration of 500 ug/Kg (wet weight) in tissue samples for protection of aquatic life from bioaccumulation of toxic substances.
Guideline Reference:	National Academy of Sciences. Water Quality Criteria 1972. EPA-R3-73-033. Washington, D.C.: U.S. Environmental Protection Agency
Spatial Representation:	Data for this assessment unit was collected by one monitoring project: (SWB_FishLk)
Temporal Representation:	Data was collected on a single day 7/17/2007.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	Samples were collected, processed, and analyzed in accordance with the methods described in Quality Assurance Project Plan "Screening Study of Bioaccumulation in California Lakes and Reservoirs." (SWAMP, 2008).
QAPP Information Reference(s):	Quality Assurance Project Plan Screening Study of Bioaccumulation in California Lakes and Reservoirs. Moss Landing Marine Labs. Prepared for SWAMP BOG. 49 pages plus appendices and attachments

DECISION ID	65062	Region 2
Oiger Quarry Ponds		
Pollutant:	Selenium	
Final Listing Decision:	Do Not List on 303(d) list (TMDL required list)	
Last Listing Cycle's Final Listing Decision:	New Decision	
Revision Status	Revised	
Impairment from Pollutant or Pollution:	Pollutant	
Regional Board Staff Conclusion:	<p>This pollutant is being considered for placement on the CWA section 303(d) List under section 3.5 of the Listing Policy. Under section 3.5 a single line of evidence is necessary to assess listing status. One line of evidence is available in the administrative record to assess this pollutant. Zero of one samples exceed the OEHHHA guideline.</p> <p>Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against placing this water segment-pollutant combination on the CWA section 303(d) List.</p> <p>This conclusion is based on the staff findings that:</p> <ol style="list-style-type: none"> 1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy. 2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy. 	

3. Zero of one samples exceed the OEHHA guideline and this sample size is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating. A minimum of 16 samples is needed to determine if a beneficial use is fully supported using table 3.1.
4. Pursuant to SECTION 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.

Regional Board Staff Decision Recommendation: After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be placed on the section 303(d) list. The readily available data and information is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating.

Line of Evidence (LOE) for Decision ID 65062, Selenium

Region 2

Oiger Quarry Ponds

LOE ID:	92411
Pollutant:	Selenium
LOE Subgroup:	Pollutant-Tissue
Matrix:	Tissue
Fraction:	Fish fillet
Beneficial Use:	Commercial or recreational collection of fish, shellfish, or organisms
Number of Samples:	1
Number of Exceedances:	0
Data and Information Type:	Fish tissue analysis
Data Used to Assess Water Quality:	State Water Board staff assessed SWAMP data for Oiger Quarry Ponds to determine beneficial use support and results are as follows: 0 of 1 samples exceed the criterion for Selenium. One composite (5 fish per composite) was generated from one species: Sacramento Sucker. Details of the compositing protocol can be found in the March 2009 report entitled: "Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Study" (SWAMP, 2009).
Data Reference:	Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Survey. A Report of the Surface Water Ambient Monitoring Program (SWAMP). California State Water Resources Control Board, Sacramento, CA Cruise Report for the Surface Waters Ambient Monitoring Program (SWAMP) Bioaccumulation Screening Study in California Lakes and Reservoirs, Sampling Dates: June 2007- March 2008 Statewide Lakes Sportfish Contamination Study 2007 2008 Contaminants in Fish from California Lakes and Reservoirs, 2007-2008: Summary Report on a Two-Year Screening Survey
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	Water Quality Control Plan for the San Francisco Bay Basin (2013): Controllable water quality factors shall not cause a detrimental increase in concentrations of toxic substances found in bottom sediments or aquatic life. Effects on aquatic organisms, wildlife, and human health will be considered.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	The OEHHA Fish Contaminant Goal for selenium in fish tissue is 7.4 ppm. This screening level assumes an average body weight of 70 kg and a consumption rate of 32 g/day. A background dietary consumption rate of 0.114 mg/day is applied for this micronutrient. (Klasing, S., and R. Brodberg, 2008)
Guideline Reference:	Development of Fish Contaminant Goals and Advisory Tissue Levels for Common Contaminants in California Sport Fish: Chlordane, DDTs, Dieldrin, Methylmercury, PCBs, Selenium, and Toxaphene
Spatial Representation:	Data for this assessment unit was collected by one monitoring project: (SWB_FishLk)

Temporal Representation:	Data was collected on a single day 7/17/2007.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	Samples were collected, processed, and analyzed in accordance with the methods described in Quality Assurance Project Plan "Screening Study of Bioaccumulation in California Lakes and Reservoirs." (SWAMP, 2008).
QAPP Information Reference(s):	Quality Assurance Project Plan Screening Study of Bioaccumulation in California Lakes and Reservoirs. Moss Landing Marine Labs. Prepared for SWAMP BOG. 49 pages plus appendices and attachments

DECISION ID	65059	Region 2
Oiger Quarry Ponds		

Pollutant:	Mercury
Final Listing Decision:	List on 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision:	New Decision
Revision Status	Revised
Sources:	Source Unknown
Expected TMDL Completion Date:	2029
Impairment from Pollutant or Pollution:	Pollutant
Regional Board Staff Conclusion:	<p>This pollutant is being considered for placement on the CWA section 303(d) List under section 3.5 of the Listing Policy. Under section 3.5 a single line of evidence is necessary to assess listing status.</p> <p>One line of evidence is available in the administrative record to assess this pollutant. Two of Two samples exceed the guideline.</p> <p>Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification in favor of placing this water segment-pollutant combination on the CWA section 303(d) List.</p> <p>This conclusion is based on the staff findings that:</p> <ol style="list-style-type: none"> 1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy. 2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy. 3. Two of two samples exceed the OEHHHA guideline and this number exceeds the allowable frequency listed in Table 3.1 of the Listing Policy. 4. There is not a fish consumption advisory in effect for this waterbody. 5. Pursuant to section 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.
Regional Board Staff Decision Recommendation:	After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should be placed on the section 303(d) list because applicable water quality standards are exceeded and a pollutant contributes to or causes the problem.

Line of Evidence (LOE) for Decision ID 65059, Mercury	Region 2
Oiger Quarry Ponds	

LOE ID:	92406
Pollutant:	Mercury
LOE Subgroup:	Pollutant-Tissue
Matrix:	Tissue
Fraction:	Fish fillet
Beneficial Use:	Commercial or recreational collection of fish, shellfish, or organisms
Number of Samples:	2

Number of Exceedances:	2
Data and Information Type:	Fish tissue analysis
Data Used to Assess Water Quality:	State Water Board staff assessed SWAMP data for Oiger Quarry Ponds to determine beneficial use support and results are as follows: 2 of 2 samples exceed the criterion for Mercury. Composites were generated from largemouth bass (11 composites - 1 fish per composite) and Sacramento sucker (2 composites - 5 fish per composite). Composites were not spatially independent (as defined in the Listing Policy) and so were averaged by species. The samples for largemouth bass and Sacramento sucker exceeded the criterion. One largemouth bass composite could not be used in the assessment due to total fish lengths that did not fall within lengths noted in the guideline.
Data Reference:	Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Survey. A Report of the Surface Water Ambient Monitoring Program (SWAMP). California State Water Resources Control Board, Sacramento, CA Cruise Report for the Surface Waters Ambient Monitoring Program (SWAMP) Bioaccumulation Screening Study in California Lakes and Reservoirs. Sampling Dates: June 2007- March 2008 Statewide Lakes Sportfish Contamination Study 2007 2008 Contaminants in Fish from California Lakes and Reservoirs, 2007-2008: Summary Report on a Two-Year Screening Survey
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	Water Quality Control Plan for the San Francisco Bay Basin (2013): Controllable water quality factors shall not cause a detrimental increase in concentrations of toxic substances found in bottom sediments or aquatic life. Effects on aquatic organisms, wildlife, and human health will be considered.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	The USEPA 304(a) recommended water quality criterion for concentrations of methylmercury in fish tissue of trophic level 4 fish (150 - 500 mm; fillet wet weight) is 0.2 mg/kg. This assumes a consumption rate of 32 g/day. (USEPA, 2001)
Guideline Reference:	Water Quality Criterion for the Protection of Human Health: Methylmercury. Final. United States Environmental Protection Agency Office of Science and Technology Office of Water. EPA-823-R-01-001. January 2001
Spatial Representation:	Data for this assessment unit was collected by one monitoring project: (SWB_FishLk)
Temporal Representation:	Data was collected on a single day 7/17/2007.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	Samples were collected, processed, and analyzed in accordance with the methods described in Quality Assurance Project Plan "Screening Study of Bioaccumulation in California Lakes and Reservoirs." (SWAMP, 2008).
QAPP Information Reference(s):	Quality Assurance Project Plan Screening Study of Bioaccumulation in California Lakes and Reservoirs. Moss Landing Marine Labs. Prepared for SWAMP BOG. 49 pages plus appendices and attachments

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Supporting Information

Regional Board 2 - San Francisco Bay Region

Water Body Name: Sonoma Creek, non-tidal
Water Body ID: CAR2064001020160627057356
Water Body Type: River & Stream

DECISION ID 53923 **Region 2**
Sonoma Creek, non-tidal

Pollutant: Sedimentation/Siltation
Final Listing Decision: Do Not Delist from 303(d) list (being addressed with USEPA approved TMDL)
Last Listing Cycle's Final Listing Decision: List on 303(d) list (TMDL required list)(2012)
Revision Status Revised
Sources: Source Unknown
TMDL Name: Sonoma Creek Sediment
TMDL Project Code: 64
Date TMDL Approved by USEPA: 07/12/2010
Impairment from Pollutant or Pollution: Pollutant

Regional Board Staff Conclusion: This decision is related to a mapping change. Sonoma Creek split into tidal and non-tidal portions. Data supporting impairment associated with this non-tidal portion.

The listing for sediment in Sonoma Creek originated from fine sediment impacts to spawning and rearing habitat as noted in the TMDL. The TMDL provides actions to reduce fine sediment input to the non-tidal portions of the main stems and all freshwater tributaries. When Sonoma Creek was one water body segment, the impairment and TMDL applied to entire main stem segment. Now that we have separated Sonoma Creek into tidal and non-tidal segments for the Integrated Report, we apply the listing for sediment only to the non-tidal segment to be consistent with the impairment analyses and implementation actions required in the TMDL.

Regional Board Staff Decision Recommendation: After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be removed from the section 303(d) list because applicable water quality standards for the pollutant are being exceeded.

Line of Evidence (LOE) for Decision ID 53923, Sedimentation/Siltation **Region 2**
Sonoma Creek, non-tidal

LOE ID: 94540
Pollutant: Sedimentation/Siltation
LOE Subgroup: Pollutant-Water
Matrix: Water
Fraction: Not Recorded
Beneficial Use: Cold Freshwater Habitat
Number of Samples: 0
Number of Exceedances: 0
Data and Information Type: Not Specified
Data Used to Assess Water Quality: Unspecified--This LOE is a placeholder to support a 303(d) listing decision made prior to

Data Reference:	2006. Placeholder reference pre-2006 303(d)
SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion: Objective/Criterion Reference:	Unspecified Placeholder reference pre-2006 303(d)
Evaluation Guideline: Guideline Reference:	Unspecified Placeholder reference pre-2006 303(d)
Spatial Representation:	Unspecified
Temporal Representation:	Unspecified
Environmental Conditions:	Unspecified
QAPP Information:	Unspecified
QAPP Information Reference(s):	

DECISION ID	53919	Region 2
Sonoma Creek, non-tidal		

Pollutant:	Nutrients
Final Listing Decision:	Do Not Delist from 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision:	List on 303(d) list (TMDL required list)(2012)
Revision Status	Original
Sources:	Agriculture
Expected TMDL Completion Date:	2018
Impairment from Pollutant or Pollution:	Pollutant

Regional Board Staff Conclusion:	Region 2 data was not included in the 2012 Integrated Report so all decisions are carried over from the 2010 listing cycle.
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Regional Board Staff Decision Recommendation:	This is a decision previously approved by the State Water Resources Control Board and the USEPA. No new data were assessed by the Regional Board for the current. The decision has not changed.
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Line of Evidence (LOE) for Decision ID 53919, Nutrients	Region 2
Sonoma Creek, non-tidal	

LOE ID:	94536
Pollutant:	Nutrients
LOE Subgroup:	Pollutant-Water
Matrix:	Water
Fraction:	Not Recorded
Beneficial Use:	Warm Freshwater Habitat
Number of Samples:	0
Number of Exceedances:	0
Data and Information Type:	Not Specified
Data Used to Assess Water Quality:	Unspecified--This LOE is a placeholder to support a 303(d) listing decision made prior to 2006.
Data Reference:	Placeholder reference pre-2006 303(d)
SWAMP Data:	Non-SWAMP

Water Quality Objective/Criterion:	Unspecified
Objective/Criterion Reference:	Placeholder reference pre-2006 303(d)
Evaluation Guideline:	Unspecified
Guideline Reference:	Placeholder reference pre-2006 303(d)
Spatial Representation:	Unspecified
Temporal Representation:	Unspecified
Environmental Conditions:	Unspecified
QAPP Information:	Unspecified
QAPP Information Reference(s):	

DECISION ID	53921	Region 2
Sonoma Creek, non-tidal		

Pollutant:	Pathogens
Final Listing Decision:	Do Not Delist from 303(d) list (being addressed with USEPA approved TMDL)
Last Listing Cycle's Final Listing Decision:	List on 303(d) list (being addressed by USEPA approved TMDL)(2012)
Revision Status	Original
Sources:	Agriculture
TMDL Name:	Sonoma Creek Pathogens
TMDL Project Code:	63
Date TMDL Approved by USEPA:	02/29/2008
Impairment from Pollutant or Pollution:	Pollutant
Regional Board Staff Conclusion:	<p>This pollutant is being considered for removal on the CWA section 303(d) List under sections 2.2 and section 4.1 of the Listing Policy. Under section 4.1 of the Policy, a minimum of one line of evidence is needed to assess listing status.</p> <p>One line of evidence are available in the administrative record to assess this pollutant.</p> <p>Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against removing this water segment-pollutant combination from the CWA section 303(d) List. There is sufficient justification to place it in the Being Addressed portion of the CWA 303(d) List because a TMDL has been completed and approved by RWQCB and USEPA, and is expected to result in attainment of the standard.</p> <p>This conclusion is based on the staff findings that:</p> <ol style="list-style-type: none"> 1. There are no new data that can be used to assess whether or not to remove this waterbody from the impaired waters list. 2. The Sonoma Creek Pathogens TMDL was approved by USEPA on 2/29/2008. 3. Pursuant to section 4.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.
Regional Board Staff Decision Recommendation:	This is a decision previously approved by the State Water Resources Control Board and the USEPA. No new data were assessed by the Regional Board for the current. The decision has not changed.

Line of Evidence (LOE) for Decision ID 53921, Pathogens	Region 2
Sonoma Creek, non-tidal	

LOE ID:	94538
Pollutant:	Pathogens
LOE Subgroup:	Pollutant-Water
Matrix:	Water
Fraction:	Not Recorded

Beneficial Use:	Water Contact Recreation
Number of Samples:	
Number of Exceedances:	
Data and Information Type:	Not Specified
Data Used to Assess Water Quality:	Unspecified--This LOE is a placeholder to support a 303(d) listing decision made prior to 2006.
Data Reference:	Placeholder reference 2006 303(d)
SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	
Objective/Criterion Reference:	
Evaluation Guideline:	
Guideline Reference:	
Spatial Representation:	
Temporal Representation:	
Environmental Conditions:	
QAPP Information:	QA Info Missing
QAPP Information Reference(s):	

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Supporting Information

Regional Board 2 - San Francisco Bay Region

Water Body Name: Sonoma Creek, tidal
Water Body ID: CAR2064002020160627047319
Water Body Type: River & Stream

DECISION ID 53924 **Region 2**
Sonoma Creek, tidal

Pollutant: Sedimentation/Siltation
Final Listing Decision: Delist from 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision: List on 303(d) list (TMDL required list)(2012)
Revision Status: Revised
Reason for Delisting: Delisting due to spatial change or other CalWQA administrative reason
Impairment from Pollutant or Pollution: Pollutant

Regional Board Staff Conclusion: De-listing due to a mapping change. The listing for sediment Sonoma Creek originated from fine sediment impacts to spawning and rearing habitat as noted in the TMDL. The TMDL provides actions to reduce fine sediment input to the non-tidal portion of the main stem and all freshwater tributaries. When Sonoma Creek was a single water body segment, the impairment and TMDL applied to entire main stem segment. Now that we have separated Sonoma Creek into tidal and non-tidal segments for the Integrated Report purposes, we removed the listing for sediment from the tidal segment to be consistent with the impairment analyses and implementation actions required in the TMDL.

Regional Board Staff Decision Recommendation: After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should be removed from the section 303(d) list because applicable water quality standards for the pollutant are not being exceeded.

Line of Evidence (LOE) for Decision ID 53924, Sedimentation/Siltation **Region 2**
Sonoma Creek, tidal

LOE ID: 94541
Pollutant: Sedimentation/Siltation
LOE Subgroup: Pollutant-Water
Matrix: Water
Fraction: Not Recorded
Beneficial Use: Cold Freshwater Habitat
Number of Samples: 0
Number of Exceedances: 0
Data and Information Type: Not Specified
Data Used to Assess Water Quality: Unspecified--This LOE is a placeholder to support a 303(d) listing decision made prior to 2006.
Data Reference: [Placeholder reference pre-2006 303\(d\)](#)
SWAMP Data: Non-SWAMP
Water Quality Objective/Criterion: Unspecified
Objective/Criterion Reference: [Placeholder reference pre-2006 303\(d\)](#)

Evaluation Guideline:	Unspecified
Guideline Reference:	Placeholder reference pre-2006 303(d)
Spatial Representation:	Unspecified
Temporal Representation:	Unspecified
Environmental Conditions:	Unspecified
QAPP Information:	Unspecified
QAPP Information Reference(s):	

DECISION ID	53920	Region 2
Sonoma Creek, tidal		

Pollutant:	Nutrients
Final Listing Decision:	Do Not Delist from 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision:	List on 303(d) list (TMDL required list)(2012)
Revision Status	Original
Sources:	Agriculture Onsite Wastewater Systems (Septic Tanks)
Expected TMDL Completion Date:	2018
Impairment from Pollutant or Pollution:	Pollutant
Regional Board Staff Conclusion:	Region 2 data was not included in the 2012 Integrated Report so all decisions are carried over from the 2010 listing cycle.
Regional Board Staff Decision Recommendation:	This is a decision previously approved by the State Water Resources Control Board and the USEPA. No new data were assessed by the Regional Board for the current. The decision has not changed.

Line of Evidence (LOE) for Decision ID 53920, Nutrients	Region 2
Sonoma Creek, tidal	

LOE ID:	94537
Pollutant:	Nutrients
LOE Subgroup:	Pollutant-Water
Matrix:	Water
Fraction:	Not Recorded
Beneficial Use:	Warm Freshwater Habitat
Number of Samples:	0
Number of Exceedances:	0
Data and Information Type:	Not Specified
Data Used to Assess Water Quality:	Unspecified--This LOE is a placeholder to support a 303(d) listing decision made prior to 2006.
Data Reference:	Placeholder reference pre-2006 303(d)
SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	Unspecified
Objective/Criterion Reference:	Placeholder reference pre-2006 303(d)
Evaluation Guideline:	Unspecified
Guideline Reference:	Placeholder reference pre-2006 303(d)
Spatial Representation:	Unspecified

Temporal Representation:	Unspecified
Environmental Conditions:	Unspecified
QAPP Information:	Unspecified
QAPP Information Reference(s):	

DECISION ID	53922	Region 2
Sonoma Creek, tidal		

Pollutant:	Pathogens
Final Listing Decision:	Do Not Delist from 303(d) list (being addressed with USEPA approved TMDL)
Last Listing Cycle's Final Listing Decision:	List on 303(d) list (being addressed by USEPA approved TMDL)(2012)
Revision Status	Original
Sources:	Onsite Wastewater Systems (Septic Tanks)
TMDL Name:	Sonoma Creek Pathogens
TMDL Project Code:	63
Date TMDL Approved by USEPA:	02/29/2008
Impairment from Pollutant or Pollution:	Pollutant
Regional Board Staff Conclusion:	303(d) listing decisions made prior to 2006 were not held in an assessment database. The Regional Boards will update this decision when new data and information become available and are assessed. A TMDL has been developed and approved by USEPA (2/29/2008) and an approved implementation plan is expected to result in attainment of the standard. This provides a sufficient justification in favor of placing this water segment-pollutant combination in the Water Quality Limited Segments Being Addressed portion of the section 303(d) list.
Regional Board Staff Decision Recommendation:	This is a decision previously approved by the State Water Resources Control Board and the USEPA. No new data were assessed by the Regional Board for the current. The decision has not changed.

Line of Evidence (LOE) for Decision ID 53922, Pathogens	Region 2
Sonoma Creek, tidal	

LOE ID:	94539
Pollutant:	Pathogens
LOE Subgroup:	Pollutant-Water
Matrix:	Water
Fraction:	Not Recorded
Beneficial Use:	Water Contact Recreation
Number of Samples:	
Number of Exceedances:	
Data and Information Type:	Not Specified
Data Used to Assess Water Quality:	Unspecified--This LOE is a placeholder to support a 303(d) listing decision made prior to 2006.
Data Reference:	Placeholder reference 2006 303(d)
SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	
Objective/Criterion Reference:	
Evaluation Guideline:	
Guideline Reference:	

Spatial Representation:
Temporal Representation:
Environmental Conditions:
QAPP Information:
QAPP Information Reference(s):

QA Info Missing

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Supporting Information

Regional Board 2 - San Francisco Bay Region

Water Body Name: Napa River, tidal
Water Body ID: CAR2065004020160701060277
Water Body Type: River & Stream

DECISION ID 54408 **Region 2**
Napa River, tidal

Pollutant: Sedimentation/Siltation
Final Listing Decision: Delist from 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision: List on 303(d) list (TMDL required list)(2012)
Revision Status Revised
Reason for Delisting: Delisting due to spatial change or other CalWQA administrative reason
Impairment from Pollutant or Pollution: Pollutant

Regional Board Staff Conclusion: De-listing due to a mapping change. Napa River was split into a tidal and non-tidal portion. The impairment for sedimentation-siltation was for the non-tidal portion, and all of the data supporting the listing was for that portion.

The listing for sediment in Napa River originated from fine sediment impacts to spawning and rearing habitat as noted in the TMDL. The TMDL provides actions to reduce fine sediment input to the non-tidal portions of the main stem and all freshwater tributaries. When the Napa River was a single water body segment, the impairment and TMDL applied to entire main stem segment. Now that we have separated Napa River into tidal and non-tidal segments for the Integrated Report purposes, we removed the listing for sediment from the tidal segment to be consistent with the impairment analyses and implementation actions required in the TMDLs.

Regional Board Staff Decision Recommendation: After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should be removed from the section 303(d) list because applicable water quality standards for the pollutant are not being exceeded.

This is due to a mapping change. The sedimentation/siltation impaired portion of Napa River is the non-tidal portion.

Line of Evidence (LOE) for Decision ID 54408, Sedimentation/Siltation **Region 2**
Napa River, tidal

LOE ID: 94603

Pollutant: Sedimentation/Siltation
LOE Subgroup: Pollutant-Water
Matrix: Water
Fraction: Not Recorded

Beneficial Use: Estuarine Habitat

Number of Samples: 0
Number of Exceedances: 0

Data and Information Type: Not Specified
Data Used to Assess Water Quality: Unspecified--This LOE is a placeholder to support a 303(d) listing decision made prior to

Data Reference:	2006. Placeholder reference pre-2006 303(d)
SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion: Objective/Criterion Reference:	Unspecified Placeholder reference pre-2006 303(d)
Evaluation Guideline: Guideline Reference:	Unspecified Placeholder reference pre-2006 303(d)
Spatial Representation:	Unspecified
Temporal Representation:	Unspecified
Environmental Conditions:	Unspecified
QAPP Information:	Unspecified
QAPP Information Reference(s):	

DECISION ID	54401	Region 2
Napa River, tidal		

Pollutant:	Nutrients
Final Listing Decision:	Do Not Delist from 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision:	List on 303(d) list (TMDL required list)(2012)
Revision Status	Original
Sources:	Agriculture Onsite Wastewater Systems (Septic Tanks)
Expected TMDL Completion Date:	2018
Impairment from Pollutant or Pollution:	Pollutant

Regional Board Staff Conclusion: This pollutant is being considered for removal from the CWA section 303(d) List under section 4.1 of the Listing Policy. Under this section a single line of evidence is necessary to assess listing status.

One line of evidence is available in the administrative record to assess pollutant.

Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against removing this water segment-pollutant combination from the CWA section 303(d) List.

This conclusion is based on the staff findings that:

1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy.
2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy.
3. This waterbody was placed on the 303(d) list based on data collected prior to year 2000.
4. There are not enough recent samples to justify removing this waterbody from the impaired waters list according to Table 4.1 of the Listing Policy.
5. Pursuant to section 4.11 of the Listing Policy, no additional data and information are available indicating that standards are met.

Regional Board Staff Decision Recommendation: After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be removed from the section 303(d) list because applicable water quality standards for the pollutant are being exceeded.

Line of Evidence (LOE) for Decision ID 54401, Nutrients	Region 2
Napa River, tidal	

LOE ID:	94596
Pollutant:	Nutrients

LOE Subgroup:	Pollutant-Water
Matrix:	Water
Fraction:	Not Recorded
Beneficial Use:	Estuarine Habitat
Number of Samples:	0
Number of Exceedances:	0
Data and Information Type:	Not Specified
Data Used to Assess Water Quality:	Unspecified--This LOE is a placeholder to support a 303(d) listing decision made prior to 2006.
Data Reference:	Placeholder reference pre-2006 303(d)
SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	Unspecified
Objective/Criterion Reference:	Placeholder reference pre-2006 303(d)
Evaluation Guideline:	Unspecified
Guideline Reference:	Placeholder reference pre-2006 303(d)
Spatial Representation:	Unspecified
Temporal Representation:	Unspecified
Environmental Conditions:	Unspecified
QAPP Information:	Unspecified
QAPP Information Reference(s):	

DECISION ID	54404	Region 2
Napa River, tidal		

Pollutant:	Pathogens
Final Listing Decision:	Do Not Delist from 303(d) list (being addressed with USEPA approved TMDL)
Last Listing Cycle's Final Listing Decision:	List on 303(d) list (being addressed by USEPA approved TMDL)(2012)
Revision Status	Original
Sources:	Agriculture Onsite Wastewater Systems (Septic Tanks)
TMDL Name:	Napa River Pathogens
TMDL Project Code:	60
Date TMDL Approved by USEPA:	11/01/2001
Impairment from Pollutant or Pollution:	Pollutant
Regional Board Staff Conclusion:	<p>This pollutant is being considered for removal on the CWA section 303(d) List under sections 2.2 and 4.1 of the Listing Policy. Under Section 4.1 of the Policy, a minimum of one line of evidence is needed to assess listing status.</p> <p>One line of evidence are available in the administrative record to assess this pollutant.</p> <p>Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against removing this water segment-pollutant combination from the CWA section 303(d) List. There is sufficient justification to place it in the Being Addressed portion of the CWA 303(d) List because a TMDL has been completed and approved by RWQCB and USEPA, and is expected to result in attainment of the standard.</p> <p>This conclusion is based on the staff findings that:</p> <ol style="list-style-type: none"> 1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy. 2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy. 3. The Napa River Pathogen TMDL was approved by USEPA on 11/1/2006. 4. This waterbody was placed on the 303(d) list based on data collected prior to year 2000.

5. There are not enough recent samples to justify removing this waterbody from the impaired waters list according to Table 4.1 of the Listing Policy.

6. Pursuant to section 4.11 of the Listing Policy, no additional data and information are available indicating that standards are met.

Regional Board Staff Decision Recommendation: After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be removed from the section 303(d) list because applicable water quality standards for the pollutant are being exceeded.

Line of Evidence (LOE) for Decision ID 54404, Pathogens

Region 2

Napa River, tidal

LOE ID: 94599

Pollutant: Pathogens
LOE Subgroup: Pollutant-Water
Matrix: Water
Fraction: Not Recorded

Beneficial Use: Water Contact Recreation

Number of Samples: 0
Number of Exceedances: 0

Data and Information Type: Not Specified
Data Used to Assess Water Quality: Unspecified--This LOE is a placeholder to support a 303(d) listing decision made prior to 2006.

Data Reference: [Placeholder reference 2006 303\(d\)](#)

SWAMP Data: Non-SWAMP

Water Quality Objective/Criterion:
Objective/Criterion Reference:

Evaluation Guideline:
Guideline Reference:

Spatial Representation:
Temporal Representation:
Environmental Conditions:
QAPP Information: QA Info Missing
QAPP Information Reference(s):

DECISION ID

54406

Region 2

Napa River, tidal

Pollutant: Mercury
Final Listing Decision: Do Not List on 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision: Do Not List on 303(d) list (TMDL required list)(2012)
Revision Status Original
Impairment from Pollutant or Pollution: Pollutant

Regional Board Staff Conclusion: This pollutant is being considered for placement on the CWA section 303(d) List under section 3.1 of the Listing Policy. Under section 3.1 at least one line(s) of evidence are necessary to assess listing status.

One lines of evidence are available in the administrative record to assess this pollutant. One of two

samples exceed the guideline.

Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against placing this water segment-pollutant combination on the CWA section 303(d) List.

This conclusion is based on the staff findings that:

1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy.
2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy.
3. One of two samples exceed the guideline, and this sample size is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating. A minimum of sixteen samples is needed to determine if a beneficial use is fully supported using table 3.1.
4. Pursuant to section 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.

Regional Board Staff Decision Recommendation: After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be placed on the section 303(d) list. The readily available data and information is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating.

Line of Evidence (LOE) for Decision ID 54406, Mercury

Region 2

Napa River, tidal

LOE ID:	94601
Pollutant:	Mercury
LOE Subgroup:	Pollutant-Tissue
Matrix:	Tissue
Fraction:	Fish fillet
Beneficial Use:	Commercial or recreational collection of fish, shellfish, or organisms
Number of Samples:	2
Number of Exceedances:	1
Data and Information Type:	Fish tissue analysis
Data Used to Assess Water Quality:	One out of 2 samples exceeded. One filet composite sample of bluegill (1995) and two individual samples of brown bullhead (1995) and Sacramento pike minnow (1997) were collected. These values were averaged. The 1995 samples taken near Elm Street exceeded the guideline. The 1997 pike minnow taken near the J.F.K. boat ramp did not exceed (TSMP, 2002).
Data Reference:	Placeholder reference 2006 303(d)
SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	San Francisco Bay RWQCB Basin Plan: Many pollutants can accumulate on particles, in sediment, or bioaccumulate in fish and other aquatic organisms. Controllable water quality factors shall not cause a detrimental increase in concentrations of toxic substances found in bottom sediments or aquatic life. Effects on aquatic organisms, wildlife, and human health will be considered.
Objective/Criterion Reference:	Placeholder reference 2006 303(d)
Evaluation Guideline:	Mercury 0.3 ug/g (OEHHA Screening Value) (Brodberg and Pollock, 1999).
Guideline Reference:	Placeholder reference 2006 303(d)
Spatial Representation:	Two stations were sampled: in Calistoga at Elm Street and 1/2 mile upstream from the J.F.K. Park boat ramp.
Temporal Representation:	Samples were collected in 1995 and 1997.
Environmental Conditions:	
QAPP Information:	Toxic Substances Monitoring Program 1994-95 Data Report. Environmental Chemistry

QAPP Information Reference(s):

Draft California 2016 Integrated Report (303(d) List/305(b) Report)

Supporting Information

Regional Board 2 - San Francisco Bay Region

Water Body Name: Napa River, non-tidal
Water Body ID: CAR2065002020160701061256
Water Body Type: River & Stream

DECISION ID 54405 **Region 2**
Napa River, non-tidal

Pollutant: Pathogens
Final Listing Decision: Do Not Delist from 303(d) list (being addressed with USEPA approved TMDL)
Last Listing Cycle's Final Listing Decision: List on 303(d) list (being addressed by USEPA approved TMDL)(2012)
Revision Status Revised
Sources: Onsite Wastewater Systems (Septic Tanks)
TMDL Name: Napa River Pathogens
TMDL Project Code: 60
Date TMDL Approved by USEPA: 12/06/2007
Impairment from Pollutant or Pollution: Pollutant

Regional Board Staff Conclusion: This pollutant is being considered for removal on the CWA section 303(d) List under sections 2.2 and 3.1 of the Listing Policy. Under Section 3.1 of the Policy, a minimum of one line of evidence is needed to assess listing status. One line of evidence is available in the administrative record to assess this pollutant. Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against removing this water segment-pollutant combination from the CWA section 303(d) List. There is sufficient justification to place it in the Being Addressed portion of the CWA 303(d) List because a TMDL has been completed and approved by RWQCB and USEPA, and is expected to result in attainment of the standard. This conclusion is based on the staff findings that: 1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy. 2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy. 3. Pursuant to section 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.

The original decision was for the entire Napa River. The Napa River was re-mapped into three segments, and the original listing and decision applies to this non-tidal segment of the Napa River.

4. A TMDL has been developed and approved by USEPA (December 6, 2007) and an approved implementation plan is expected to result in attainment of the standard. This provides a sufficient justification in favor of placing this water segment-pollutant combination in the Water Quality Limited Segments Being Addressed portion of the section 303(d) list.

Regional Board Staff Decision Recommendation: After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be removed from the section 303(d) list because applicable water quality standards for the pollutant are being exceeded.

Line of Evidence (LOE) for Decision ID 54405, Pathogens **Region 2**
Napa River, non-tidal

LOE ID: 94600
Pollutant: Pathogens
LOE Subgroup: Pollutant-Water

Matrix:	Water
Fraction:	Not Recorded
Beneficial Use:	Water Contact Recreation
Number of Samples:	0
Number of Exceedances:	0
Data and Information Type:	Not Specified
Data Used to Assess Water Quality:	Unspecified--This LOE is a placeholder to support a 303(d) listing decision made prior to 2006.
Data Reference:	Placeholder reference 2006 303(d)
SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	
Objective/Criterion Reference:	
Evaluation Guideline:	
Guideline Reference:	
Spatial Representation:	
Temporal Representation:	
Environmental Conditions:	
QAPP Information:	QA Info Missing
QAPP Information Reference(s):	

DECISION ID	54409	Region 2
Napa River, non-tidal		

Pollutant:	Sedimentation/Siltation
Final Listing Decision:	Do Not Delist from 303(d) list (being addressed with USEPA approved TMDL)
Last Listing Cycle's Final Listing Decision:	List on 303(d) list (TMDL required list)(2012)
Revision Status	Revised
Sources:	Agriculture Road Construction
TMDL Name:	Napa River Sediment
TMDL Project Code:	58
Date TMDL Approved by USEPA:	01/20/2011
Impairment from Pollutant or Pollution:	Pollutant

Regional Board Staff Conclusion:	The listing for sediment in Napa River originated from fine sediment impacts to spawning and rearing habitat as noted in the TMDL. The TMDL provides actions to reduce fine sediment input to the non-tidal portions of the main stems and all freshwater tributaries. When the Napa River was a single water body segment, the impairment and TMDL applied to entire main stem segment. Now that we have separated Napa River into tidal and non-tidal segments for the Integrated Repot purposes, we apply the listing for sediment to the non-tidal segments to be consistent with the impairment analyses and implementation actions required in the TMDLs.
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Regional Board Staff Decision Recommendation:	After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be removed from the section 303(d) list because applicable water quality standards for the pollutant are being exceeded.
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Line of Evidence (LOE) for Decision ID 54409, Sedimentation/Siltation		Region 2
Napa River, non-tidal		

LOE ID:	94604
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Pollutant:	Sedimentation/Siltation
LOE Subgroup:	Pollutant-Water
Matrix:	Water
Fraction:	Not Recorded
Beneficial Use:	Cold Freshwater Habitat
Number of Samples:	0
Number of Exceedances:	0
Data and Information Type:	Not Specified
Data Used to Assess Water Quality:	Unspecified--This LOE is a placeholder to support a 303(d) listing decision made prior to 2006.
Data Reference:	Placeholder reference pre-2006 303(d)
SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	Unspecified
Objective/Criterion Reference:	Placeholder reference pre-2006 303(d)
Evaluation Guideline:	Unspecified
Guideline Reference:	Placeholder reference pre-2006 303(d)
Spatial Representation:	Unspecified
Temporal Representation:	Unspecified
Environmental Conditions:	Unspecified
QAPP Information:	Unspecified
QAPP Information Reference(s):	

DECISION ID	54407	Region 2
Napa River, non-tidal		

Pollutant:	Mercury
Final Listing Decision:	Do Not List on 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision:	Do Not List on 303(d) list (TMDL required list)(2012)
Revision Status	Revised
Impairment from Pollutant or Pollution:	Pollutant

Regional Board Staff Conclusion:

This pollutant is being considered for placement on the CWA section 303(d) List under section 3.1 of the Listing Policy. Under section 3.1 a single line of evidence are necessary to assess listing status.

Two lines of evidence are available in the administrative record to assess this pollutant. One of eight samples exceed the guideline.

Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against placing this water segment-pollutant combination on the CWA section 303(d) List.

This conclusion is based on the staff findings that:

1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy.
2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy.
3. One of eight samples exceed the guideline and this sample size is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating. A minimum of sixteen samples is needed to determine if a beneficial use is fully supported using table 3.1.
4. Pursuant to Section 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.

Regional Board Staff Decision Recommendation: After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be placed on the section 303(d) list. The readily available data and information is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating.

Line of Evidence (LOE) for Decision ID 54407, Mercury
Napa River, non-tidal

Region 2

LOE ID: 94602

Pollutant: Mercury
LOE Subgroup: Pollutant-Tissue
Matrix: Tissue
Fraction: Fish fillet

Beneficial Use: Commercial or recreational collection of fish, shellfish, or organisms

Number of Samples: 2
Number of Exceedances: 1

Data and Information Type: Fish tissue analysis
Data Used to Assess Water Quality: One out of 2 samples exceeded. One filet composite sample of bluegill (1995) and two individual samples of brown bullhead (1995) and Sacramento pike minnow (1997) were collected. These values were averaged. The 1995 samples taken near Elm Street exceeded the guideline. The 1997 pike minnow taken near the J.F.K. boat ramp did not exceed (TSMP, 2002).

Data Reference: [Placeholder reference 2006 303\(d\)](#)

SWAMP Data: Non-SWAMP

Water Quality Objective/Criterion: San Francisco Bay RWQCB Basin Plan: Many pollutants can accumulate on particles, in sediment, or bioaccumulate in fish and other aquatic organisms. Controllable water quality factors shall not cause a detrimental increase in concentrations of toxic substances found in bottom sediments or aquatic life. Effects on aquatic organisms, wildlife, and human health will be considered.

Objective/Criterion Reference: [Placeholder reference 2006 303\(d\)](#)

Evaluation Guideline: Mercury 0.3 ug/g (OEHHA Screening Value) (Brodberg and Pollock, 1999).
Guideline Reference: [Placeholder reference 2006 303\(d\)](#)

Spatial Representation: Two stations were sampled: in Calistoga at Elm Street and 1/2 mile upstream from the J.F.K. Park boat ramp.

Temporal Representation: Samples were collected in 1995 and 1997.

Environmental Conditions:

QAPP Information: Toxic Substances Monitoring Program 1994-95 Data Report. Environmental Chemistry Quality Assurance and Data Report for the Toxic Substances Monitoring Program, 1996 to 2000. Department of Fish and Game.

QAPP Information Reference(s):

Line of Evidence (LOE) for Decision ID 54407, Mercury
Napa River, non-tidal

Region 2

LOE ID: 94598

Pollutant: Mercury
LOE Subgroup: Pollutant-Water
Matrix: Water
Fraction: Total

Beneficial Use: Cold Freshwater Habitat

Number of Samples:	6
Number of Exceedances:	0
Data and Information Type:	Not Specified
Data Used to Assess Water Quality:	Six samples were collected with no exceedances (Napa Sanitation District, 2006).
Data Reference:	Placeholder reference 2006 303(d)
SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	Basin Plan Objective: 0.0250 ug/l
Objective/Criterion Reference:	Placeholder reference 2006 303(d)
Evaluation Guideline:	
Guideline Reference:	
Spatial Representation:	Two stations were sampled: Napa River at Calistoga and Napa River at Napa.
Temporal Representation:	Samples were collected in April, July and October of 2002.
Environmental Conditions:	
QAPP Information:	QA Info Missing
QAPP Information Reference(s):	

DECISION ID	54402	Region 2
Napa River, non-tidal		

Pollutant:	Nutrients
Final Listing Decision:	Do Not Delist from 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision:	List on 303(d) list (TMDL required list)(2012)
Revision Status	Original
Sources:	Agriculture Onsite Wastewater Systems (Septic Tanks)
Expected TMDL Completion Date:	2018
Impairment from Pollutant or Pollution:	Pollutant

Regional Board Staff Conclusion: This pollutant is being considered for removal from the CWA section 303(d) List under section 4.1 of the Listing Policy. Under this section a single line of evidence is necessary to assess listing status.

One lines of evidence are available in the administrative record to assess pollutant.

Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against removing this water segment-pollutant combination from the CWA section 303(d) List.

This conclusion is based on the staff findings that:

1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy.
2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy.
3. This decision is carried over from a previous listing cycle for a listing involving the Napa River. This waterbody was re-mapped into three segments - the original listing applies to this segment (non-tidal).
4. Pursuant to section 4.11 of the Listing Policy, no additional data and information are available indicating that standards are met.

Regional Board Staff Decision Recommendation: This is a decision previously approved by the State Water Resources Control Board and the USEPA. No new data were assessed by the Regional Board for the current cycle. The decision has not changed.

Line of Evidence (LOE) for Decision ID 54402, Nutrients	Region 2
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Napa River, non-tidal

LOE ID:	94597
Pollutant:	Nutrients
LOE Subgroup:	Pollutant-Water
Matrix:	Water
Fraction:	Not Recorded
Beneficial Use:	Warm Freshwater Habitat
Number of Samples:	0
Number of Exceedances:	0
Data and Information Type:	Not Specified
Data Used to Assess Water Quality:	Unspecified--This LOE is a placeholder to support a 303(d) listing decision made prior to 2006.
Data Reference:	Placeholder reference pre-2006 303(d)
SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	Unspecified
Objective/Criterion Reference:	Placeholder reference pre-2006 303(d)
Evaluation Guideline:	Unspecified
Guideline Reference:	Placeholder reference pre-2006 303(d)
Spatial Representation:	Unspecified
Temporal Representation:	Unspecified
Environmental Conditions:	Unspecified
QAPP Information:	Unspecified
QAPP Information Reference(s):	

Draft California 2016 Integrated Report (303(d) List/305(b) Report)

Supporting Information

Regional Board 2 - San Francisco Bay Region

Water Body Name: Napa River, Mare Island Strait
Water Body ID: CAR2061000020160627048321
Water Body Type: River & Stream

DECISION ID 65145 **Region 2**
Napa River, Mare Island Strait

Pollutant: Acenaphthene
Final Listing Decision: Do Not List on 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision: New Decision
Revision Status Revised
Impairment from Pollutant or Pollution: Pollutant

Regional Board Staff Conclusion: This pollutant is being considered for placement on the CWA section 303(d) List under section 3.5 of the Listing Policy. Under section 3.5 a single line of evidence is necessary to assess listing status. One line of evidence is available in the administrative record to assess this pollutant. Zero of eleven samples exceed the OEHHHA guideline.

Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against placing this water segment-pollutant combination on the CWA section 303(d) List.

This conclusion is based on the staff findings that:

1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy.
2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy.
3. Zero of eleven samples exceed the OEHHHA guideline and this sample size is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating. A minimum of 16 samples is needed to determine if a beneficial use is fully supported using table 3.1.
4. Pursuant to SECTION 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.

Regional Board Staff Decision Recommendation: After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be placed on the section 303(d) list. The readily available data and information is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating.

Line of Evidence (LOE) for Decision ID 65145, Acenaphthene **Region 2**
Napa River, Mare Island Strait

LOE ID: 94587
Pollutant: Acenaphthene
LOE Subgroup: Pollutant-Water
Matrix: Water
Fraction: Total
Beneficial Use: Commercial or recreational collection of fish, shellfish, or organisms
Number of Samples: 11

Number of Exceedances:	0
Data and Information Type:	PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality:	State Water Board staff assessed SFEI data for Napa River - Mare Island Strait - to determine beneficial use support and results are as follows: 0 of 11 samples exceed the criterion for Acenaphthene.
Data Reference:	Regional Monitoring Program data, Feb. 1993-Sep. 2008
SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	The Acenaphthene criteria for the protection of human health from consumption of organisms only is 2,700 ug/L (California Toxics Rule, 2000).
Objective/Criterion Reference:	Code of Federal Regulations 40 part 131.38 Establishment of numeric criteria for priority toxic pollutants for the State of California. 7/1/2011 Edition
Evaluation Guideline:	
Guideline Reference:	
Spatial Representation:	Data for this line of evidence for Napa River - Mare Island Strait - was collected at 1 monitoring site [Napa River - BD50]
Temporal Representation:	Data was collected over the time period 2/13/1996-7/17/2000.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	The 1999 Quality Assurance Project Plan Regional Monitoring Program for Trace Substances was used.
QAPP Information Reference(s):	1999 Quality Assurance Project Plan Regional Monitoring Program for Trace Substances

DECISION ID	65155	Region 2
Napa River, Mare Island Strait		

Pollutant:	Anthracene
Final Listing Decision:	Do Not List on 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision:	New Decision
Revision Status	Revised
Impairment from Pollutant or Pollution:	Pollutant

Regional Board Staff Conclusion: This pollutant is being considered for placement on the CWA section 303(d) List under section 3.1 of the Listing Policy. Under section 3.1 a single line of evidence is necessary to assess listing status.

One line of evidence is available in the administrative record to assess this pollutant. Zero of eighteen samples exceed the guideline.

Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against placing this water segment-pollutant combination on the CWA section 303(d) List in the Water Quality Limited Segments category.

This conclusion is based on the staff findings that:

1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy.
2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy.
3. Zero of eighteen samples exceed the guideline and this does not exceed the allowable frequency listed in Table 3.1 of the Listing Policy.
4. Pursuant to section 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.

Regional Board Staff Decision Recommendation: After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be placed on the section 303(d) list because applicable water quality standards are not being exceeded.

Line of Evidence (LOE) for Decision ID 65155, Anthracene	Region 2
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Napa River, Mare Island Strait

LOE ID:	94585
Pollutant:	Anthracene
LOE Subgroup:	Pollutant-Water
Matrix:	Water
Fraction:	Total
Beneficial Use:	Commercial or recreational collection of fish, shellfish, or organisms
Number of Samples:	18
Number of Exceedances:	0
Data and Information Type:	PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality:	State Water Board staff assessed SFEI data for Napa River, Mare Island Strait to determine beneficial use support and results are as follows: 0 of 18 samples exceed the criterion for Anthracene.
Data Reference:	Regional Monitoring Program data, Feb. 1993-Sep. 2008
SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	The Anthracene criteria for the protection of human health from consumption of organisms only is 110,000 ug/L (California Toxics Rule, 2000).
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	
Guideline Reference:	Code of Federal Regulations 40 part 131.38 Establishment of numeric criteria for priority toxic pollutants for the State of California. 7/1/2011 Edition
Spatial Representation:	Data for this line of evidence for Napa River, Mare Island Strait was collected at 1 monitoring site [Napa River - BD50]
Temporal Representation:	Data was collected over the time period 3/4/1993-8/7/2001.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	The 1999 Quality Assurance Project Plan Regional Monitoring Program for Trace Substances was used.
QAPP Information Reference(s):	1999 Quality Assurance Project Plan Regional Monitoring Program for Trace Substances

DECISION ID	65156	Region 2
Napa River, Mare Island Strait		

Pollutant:	Arsenic
Final Listing Decision:	Do Not List on 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision:	New Decision
Revision Status	Revised
Impairment from Pollutant or Pollution:	Pollutant
Regional Board Staff Conclusion:	<p>This pollutant is being considered for placement on the CWA section 303(d) List under section 3.1 of the Listing Policy. Under section 3.1 a single line of evidence is necessary to assess listing status.</p> <p>Three lines of evidence are available in the administrative record to assess this pollutant. Zero of twenty-five samples exceed the guideline.</p> <p>Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against placing this water segment-pollutant combination on the CWA section 303(d) List in the Water Quality Limited Segments category.</p> <p>This conclusion is based on the staff findings that:</p> <ol style="list-style-type: none">1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy.

2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy.
3. Zero of twenty-five samples exceed the guideline and this does not exceed the allowable frequency listed in Table 3.1 of the Listing Policy.
4. Pursuant to section 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.

Regional Board Staff Decision Recommendation: After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be placed on the section 303(d) list because applicable water quality standards are not being exceeded.

**Line of Evidence (LOE) for Decision ID 65156, Arsenic
Napa River, Mare Island Strait**

Region 2

LOE ID:	94561
Pollutant:	Arsenic
LOE Subgroup:	Pollutant-Tissue
Matrix:	Tissue
Fraction:	Shellfish
Beneficial Use:	Commercial or recreational collection of fish, shellfish, or organisms
Number of Samples:	13
Number of Exceedances:	0
Data and Information Type:	Shellfish surveys
Data Used to Assess Water Quality:	Zero of the thirteen exceeded the guideline. All composite samples were comprised of <i>Crassostrea gigas</i> except for one that was comprised of <i>Mytilus californianus</i> . Data were reported on a dry weight basis and were converted to a wet weight basis by multiplying the dry-weight concentration by a factor of 1 minus the percentage of moisture content expressed as a decimal. If a dry weight result did not have a corresponding moisture result for conversion to wet weight, the sample was not included in the assessment. The fraction of total arsenic in inorganic form was taken to be 0.115%, which was the maximum fraction of inorganic arsenic found in shellfish tissue from SF Bay.
Data Reference:	Regional Monitoring Program data, Feb. 1993-Sep. 2008 Contaminant Concentrations in Fish from San Francisco Bay, 2000 Calculating Fraction of Inorganic Arsenic in SF Bay Fish and Shellfish
SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	Water Quality Control Plan for the San Francisco Bay Basin: Controllable water quality factors shall not cause a detrimental increase in concentrations of toxic substances found in bottom sediments or aquatic life. Effects on aquatic organisms, wildlife, and human health will be considered.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	<p>The modified OEHHA Advisory Tissue Level for arsenic in shellfish tissue is 0.52 ppm. This screening level assumes an average body weight of 70 kg and a consumption rate of 21 g/day for a 30 year exposure over a 70-year lifetime. This constituent is a carcinogen therefore the risk level is set to one in ten thousand. (Brodberg, R.K., and G.A. Pollock, 1999; Klasing, S., and R. Brodberg, 2008; OEHHA, 2004)</p> <p>Advisory Tissue Levels (ATLs), while still conferring no significant health risk to individuals consuming sport fish in the quantities shown over a lifetime, were developed with the recognition that there are unique health benefits associated with fish consumption and that the advisory process should be expanded beyond a simple risk paradigm in order to best promote the overall health of the fish consumer. ATLs provide a number of recommended fish servings that correspond to the range of contaminant concentrations found in fish and are used to provide consumption advice to prevent consumers from being exposed to more than the average daily reference dose for noncarcinogens</p>

or to a risk level greater than 1×10^{-4} for carcinogens (not more than one additional cancer case in a population of 10,000 people consuming fish at the given consumption rate over a lifetime). ATLS are designed to encourage consumption of fish that can be eaten in quantities likely to provide significant health benefits, while discouraging consumption of fish that, because of contaminant concentrations, should not be eaten or cannot be eaten in amounts recommended for improving overall health (eight ounces total, prior to cooking, per week). ATLS are one of the criteria that will be used by OEHHA for issuing fish consumption guidelines.

Guideline Reference:

[Prevalence of Selected Target Chemical Contaminants in Sport Fish From Two California Lakes: Public health designed screening study. Sacramento, CA: Office of Environmental Health Hazard Assessment](#)
[Development of Fish Contaminant Goals and Advisory Tissue Levels for Common Contaminants in California Sport Fish: Chlordane, DDTs, Dieldrin, Methylmercury, PCBs, Selenium, and Toxaphene](#)
[Air Toxics Hotspots Program Risk Assessment Guidelines. Part II Technical Support Document for Describing Available Cancer Potency Values.](#)

Spatial Representation:

Samples were collected at the following station: BD50 - Napa River, Mare Island Strait.

Temporal Representation:

Samples were generally collected in spring and fall seasons from years 1993 - 1999.

Environmental Conditions:

QAPP Information:

1999 Quality Assurance Project Plan Regional Monitoring Program for Trace Substances.

QAPP Information Reference(s):

[1999 Quality Assurance Project Plan Regional Monitoring Program for Trace Substances](#)

Line of Evidence (LOE) for Decision ID 65156, Arsenic

Region 2

Napa River, Mare Island Strait

LOE ID:

95212

Pollutant:

Arsenic

LOE Subgroup:

Pollutant-Tissue

Matrix:

Tissue

Fraction:

Fish fillet

Beneficial Use:

Commercial or recreational collection of fish, shellfish, or organisms

Number of Samples:

4

Number of Exceedances:

0

Data and Information Type:

Fish tissue analysis

Data Used to Assess Water Quality:

Water Board staff assessed Regional Monitoring Program data for the Mare Island Strait portion of the Napa River to determine beneficial use support and results are as follows: 0 of 4 samples exceed the criterion for Arsenic. The fraction of total arsenic in inorganic form was taken to be 3.2%, which was the maximum fraction of inorganic arsenic found in shark tissue from SF Bay data. No samples were discarded for being non-detect, unquantifiable or the reporting limit exceeding the water quality objective.

Data Reference:

[Regional Monitoring Program data, Feb. 1993-Sep. 2008](#)
[Calculating Fraction of Inorganic Arsenic in SF Bay Fish and Shellfish](#)

SWAMP Data:

Non-SWAMP

Water Quality Objective/Criterion:

Water Quality Control Plan for the San Francisco Bay Basin: Controllable water quality factors shall not cause a detrimental increase in concentrations of toxic substances found in bottom sediments or aquatic life. Effects on aquatic organisms, wildlife, and human health will be considered.

Objective/Criterion Reference:

[Water Quality Control Plan \(Basin Plan\) San Francisco Bay Basin \(Region 2\)](#)

Evaluation Guideline:

The modified OEHHA Advisory Tissue Level for arsenic in fish tissue is 0.34 ppm. This screening level assumes an average body weight of 70 kg and a consumption rate of 32 g/day for a 30 year exposure over a 70-year lifetime. This constituent is a carcinogen therefore the risk level is set to one in ten thousand. (Klasing, S., and R. Brodberg, 2008; OEHHA, 2004).

Advisory Tissue Levels (ATLs), while still conferring no significant health risk to individuals consuming sport fish in the quantities shown over a lifetime, were developed with the recognition that there are unique health benefits associated with fish consumption and that the advisory process should be expanded beyond a simple risk paradigm in order to best promote the overall health of the fish consumer. ATLs provide a number of recommended fish servings that correspond to the range of contaminant concentrations found in fish and are used to provide consumption advice to prevent consumers from being exposed to more than the average daily reference dose for noncarcinogens or to a risk level greater than 1×10^{-4} for carcinogens (not more than one additional cancer case in a population of 10,000 people consuming fish at the given consumption rate over a lifetime). ATLs are designed to encourage consumption of fish that can be eaten in quantities likely to provide significant health benefits, while discouraging consumption of fish that, because of contaminant concentrations, should not be eaten or cannot be eaten in amounts recommended for improving overall health (eight ounces total, prior to cooking, per week). ATLs are one of the criteria that will be used by OEHHA for issuing fish consumption guidelines.

Guideline Reference:	Development of Fish Contaminant Goals and Advisory Tissue Levels for Common Contaminants in California Sport Fish: Chlordane, DDTs, Dieldrin, Methylmercury, PCBs, Selenium, and Toxaphene Air Toxics Hotspots Program Risk Assessment Guidelines. Part II Technical Support Document for Describing Available Cancer Potency Values.
Spatial Representation:	The samples were collected at one site in Mare Island Strait in the lower portion of the Napa River
Temporal Representation:	The samples were collected in June 1994.
Environmental Conditions:	
QAPP Information:	The 1999 Quality Assurance Project Plan Regional Monitoring Program for Trace Substances was used.
QAPP Information Reference(s):	1999 Quality Assurance Project Plan Regional Monitoring Program for Trace Substances

Line of Evidence (LOE) for Decision ID 65156, Arsenic Napa River, Mare Island Strait

Region 2

LOE ID:	94584
Pollutant:	Arsenic
LOE Subgroup:	Pollutant-Water
Matrix:	Water
Fraction:	Total
Beneficial Use:	Commercial or recreational collection of fish, shellfish, or organisms
Number of Samples:	25
Number of Exceedances:	0
Data and Information Type:	PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality:	State Water Board staff assessed SFEI data for Napa River, Mare Island Strait to determine beneficial use support and results are as follows: 0 of 25 samples exceed the criterion for Arsenic.
Data Reference:	Regional Monitoring Program data, Feb. 1993-Sep. 2008
SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	Surface?waters?shall?not?contain?concentrations?of?chemical?constituents?in?amounts?that?adversely?affect?any?designated?beneficial?use.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	The Arsenic criteria for the protection of human health from consumption of organisms only is 0.14 ug/L (National Recommended Water Quality Criteria, 2009).
Guideline Reference:	National Recommended Water Quality Criteria. United States Environmental Protection Agency. Office of Water. Office of Science and Technology

Spatial Representation:	Data for this line of evidence for Napa River, Mare Island Strait was collected at 1 monitoring site [Napa River - BD50]
Temporal Representation:	Data was collected over the time period 3/4/1993-8/7/2001.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	The 1999 Quality Assurance Project Plan Regional Monitoring Program for Trace Substances was used.
QAPP Information Reference(s):	1999 Quality Assurance Project Plan Regional Monitoring Program for Trace Substances

DECISION ID	65161	Region 2
Napa River, Mare Island Strait		

Pollutant:	Benzo(a)pyrene (3,4-Benzopyrene -7-d)
Final Listing Decision:	Do Not List on 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision:	New Decision
Revision Status	Revised
Impairment from Pollutant or Pollution:	Pollutant

Regional Board Staff Conclusion: This pollutant is being considered for placement on the CWA section 303(d) List under section 3.1 of the Listing Policy. Under section 3.1 a single line of evidence is necessary to assess listing status.

One line of evidence is available in the administrative record to assess this pollutant. Zero of twenty samples exceed the guideline.

Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against placing this water segment-pollutant combination on the CWA section 303(d) List in the Water Quality Limited Segments category.

This conclusion is based on the staff findings that:

1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy.
2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy.
3. Zero of twenty samples exceed the guideline and this does not exceed the allowable frequency listed in Table 3.1 of the Listing Policy.
4. Pursuant to section 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.

Regional Board Staff Decision Recommendation: After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be placed on the section 303(d) list because applicable water quality standards are not being exceeded.

Line of Evidence (LOE) for Decision ID 65161, Benzo(a)pyrene (3,4-Benzopyrene -7-d)	Region 2
Napa River, Mare Island Strait	

LOE ID:	94583
Pollutant:	Benzo(a)pyrene (3,4-Benzopyrene -7-d)
LOE Subgroup:	Pollutant-Water
Matrix:	Water
Fraction:	Total
Beneficial Use:	Commercial or recreational collection of fish, shellfish, or organisms
Number of Samples:	20
Number of Exceedances:	0
Data and Information Type:	PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality:	State Water Board staff assessed SFEI data for Napa River, Mare Island Strait to

	determine beneficial use support and results are as follows: 0 of 20 samples exceed the criterion for Indeno(1, 2, 3-C, D)Pyrene.
Data Reference:	Regional Monitoring Program data, Feb. 1993-Sep. 2008
SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	The Benzo(a)Pyrene criteria for the protection of human health from consumption of organisms only is 0.049 ug/L (California Toxics Rule, 2000).
Objective/Criterion Reference:	Code of Federal Regulations 40 part 131.38 Establishment of numeric criteria for priority toxic pollutants for the State of California. 7/1/2011 Edition
Evaluation Guideline:	
Guideline Reference:	
Spatial Representation:	Data for this line of evidence for Napa River, Mare Island Strait was collected at 1 monitoring site [Napa River - BD50]
Temporal Representation:	Data was collected over the time period 3/4/1993-8/7/2001.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	The 1999 Quality Assurance Project Plan Regional Monitoring Program for Trace Substances was used.
QAPP Information Reference(s):	1999 Quality Assurance Project Plan Regional Monitoring Program for Trace Substances

DECISION ID	65162	Region 2
Napa River, Mare Island Strait		
Pollutant:	Cadmium	
Final Listing Decision:	Do Not List on 303(d) list (TMDL required list)	
Last Listing Cycle's Final Listing Decision:	New Decision	
Revision Status	Revised	
Impairment from Pollutant or Pollution:	Pollutant	
Regional Board Staff Conclusion:	<p>This pollutant is being considered for placement on the CWA section 303(d) List under section 3.5 of the Listing Policy. Under section 3.5 a single line of evidence is necessary to assess listing status. Two lines of evidence are available in the administrative record to assess this pollutant. Zero of fifteen samples exceed the OEHHHA guideline.</p> <p>Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against placing this water segment-pollutant combination on the CWA section 303(d) List.</p> <p>This conclusion is based on the staff findings that:</p> <ol style="list-style-type: none"> 1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy. 2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy. 3. Zero of fifteen samples exceed the OEHHHA guideline and this sample size is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating. A minimum of 16 samples is needed to determine if a beneficial use is fully supported using table 3.1. 4. Pursuant to SECTION 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met. 	
Regional Board Staff Decision Recommendation:	After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be placed on the section 303(d) list. The readily available data and information is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating.	

Line of Evidence (LOE) for Decision ID 65162, Cadmium	Region 2
Napa River, Mare Island Strait	

LOE ID:	95141
Pollutant:	Cadmium
LOE Subgroup:	Pollutant-Tissue
Matrix:	Tissue
Fraction:	Fish fillet
Beneficial Use:	Commercial or recreational collection of fish, shellfish, or organisms
Number of Samples:	4
Number of Exceedances:	0
Data and Information Type:	Fish tissue analysis
Data Used to Assess Water Quality:	Water Board staff assessed Regional Monitoring Program data for the Mare Island Strait portion of the Napa River to determine beneficial use support and results are as follows: 0 of 4 samples exceed the criterion for cadmium. No samples were discarded for being non-detect, unquantifiable or the reporting limit exceeding the water quality objective.
Data Reference:	Regional Monitoring Program data, Feb. 1993-Sep. 2008
SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	Water Quality Control Plan for the San Francisco Bay Basin: Controllable water quality factors shall not cause a detrimental increase in concentrations of toxic substances found in bottom sediments or aquatic life. Effects on aquatic organisms, wildlife, and human health will be considered.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	The modified OEHHA Fish Contaminant Goal for cadmium in fish tissue is 2.2 ppm. This screening level assumes an average body weight of 70 kg and a consumption rate of 32 g/day. (Klasing, S., and R. Brodberg, 2008; USEPA, 2000)
Guideline Reference:	Development of Fish Contaminant Goals and Advisory Tissue Levels for Common Contaminants in California Sport Fish: Chlordane, DDTs, Dieldrin, Methylmercury, PCBs, Selenium, and Toxaphene Guidance for Assessing Chemical Contaminant Data for Use In Fish Advisories Volume 1: Fish Sampling and Analysis
Spatial Representation:	The samples were collected at one site in Mare Island Strait in the lower portion of the Napa River
Temporal Representation:	The samples were collected in June 1994.
Environmental Conditions:	
QAPP Information:	The 1999 Quality Assurance Project Plan Regional Monitoring Program for Trace Substances was used.
QAPP Information Reference(s):	1999 Quality Assurance Project Plan Regional Monitoring Program for Trace Substances

Line of Evidence (LOE) for Decision ID 65162, Cadmium

Region 2

Napa River, Mare Island Strait

LOE ID:	94559
Pollutant:	Cadmium
LOE Subgroup:	Pollutant-Tissue
Matrix:	Tissue
Fraction:	Shellfish
Beneficial Use:	Commercial or recreational collection of fish, shellfish, or organisms
Number of Samples:	15
Number of Exceedances:	0
Data and Information Type:	Shellfish surveys
Data Used to Assess Water Quality:	None of the 15 samples exceeded the guideline. All composite samples were comprised

of *Crassostrea gigas* except for one that was comprised of *Mytilus californianus*. Data were reported on a dry weight basis and were converted to a wet weight basis by multiplying the dry-weight concentration by a factor of 1 minus the percentage of moisture content expressed as a decimal. If a dry weight result did not have a corresponding moisture result for conversion to wet weight, the sample was not included in the assessment.

Data Reference: [Regional Monitoring Program data, Feb. 1993-Sep. 2008](#)

SWAMP Data: Non-SWAMP

Water Quality Objective/Criterion: Water Quality Control Plan for the San Francisco Bay Basin: Controllable water quality factors shall not cause a detrimental increase in concentrations of toxic substances found in bottom sediments or aquatic life. Effects on aquatic organisms, wildlife, and human health will be considered.

Objective/Criterion Reference: [Water Quality Control Plan \(Basin Plan\) San Francisco Bay Basin \(Region 2\)](#)

Evaluation Guideline: The modified OEHHA Fish Contaminant Goal for cadmium in shellfish tissue is 3.3 ppm. This screening level assumes an average body weight of 70 kg and a consumption rate of 21 g/day. (Brodberg, R.K., and G.A. Pollock, 1999; Klasing, S., and R. Brodberg, 2008; USEPA, 2000)

Guideline Reference: [Prevalence of Selected Target Chemical Contaminants in Sport Fish From Two California Lakes: Public health designed screening study. Sacramento, CA: Office of Environmental Health Hazard Assessment](#)
[Development of Fish Contaminant Goals and Advisory Tissue Levels for Common Contaminants in California Sport Fish: Chlordane, DDTs, Dieldrin, Methylmercury, PCBs, Selenium, and Toxaphene](#)
[Guidance for Assessing Chemical Contaminant Data for Use In Fish Advisories Volume 1: Fish Sampling and Analysis](#)

Spatial Representation: Samples were collected at the following station: BD50 - Napa River, Mare Island Strait.
 Temporal Representation: Samples were generally collected in spring and fall seasons from years 1993 - 1999 and during fall 2000 and 2001.

Environmental Conditions:
 QAPP Information: 1999 Quality Assurance Project Plan Regional Monitoring Program for Trace Substances.
 QAPP Information Reference(s): [1999 Quality Assurance Project Plan Regional Monitoring Program for Trace Substances](#)

DECISION ID	65306	Region 2
Napa River, Mare Island Strait		

Pollutant: Chlorpyrifos
Final Listing Decision: Do Not List on 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision: New Decision
Revision Status: Revised
Impairment from Pollutant or Pollution: Pollutant

Regional Board Staff Conclusion: This pollutant is being considered for placement on the CWA section 303(d) List under section 3.5 of the Listing Policy. Under section 3.5 a single line of evidence is necessary to assess listing status. One line of evidence is available in the administrative record to assess this pollutant. Zero of four samples exceed the OEHHA guideline.

Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against placing this water segment-pollutant combination on the CWA section 303(d) List.

This conclusion is based on the staff findings that:
 1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy.
 2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy.
 3. Zero of four samples exceed the OEHHA guideline and this sample size is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support

rating. A minimum of 16 samples is needed to determine if a beneficial use is fully supported using table 3.1.

4. Pursuant to SECTION 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.

Regional Board Staff Decision Recommendation: After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be placed on the section 303(d) list. The readily available data and information is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating.

**Line of Evidence (LOE) for Decision ID 65306, Chlorpyrifos
Napa River, Mare Island Strait**

Region 2

LOE ID:	95148
Pollutant:	Chlorpyrifos
LOE Subgroup:	Pollutant-Tissue
Matrix:	Tissue
Fraction:	Fish fillet
Beneficial Use:	Commercial or recreational collection of fish, shellfish, or organisms
Number of Samples:	4
Number of Exceedances:	0
Data and Information Type:	Fish tissue analysis
Data Used to Assess Water Quality:	Water Board staff assessed Regional Monitoring Program data for the Mare Island Strait portion of the Napa River to determine beneficial use support and results are as follows: 0 of 4 samples exceed the criterion for chlorpyrifos. No samples were discarded for being non-detect, unquantifiable or the reporting limit exceeding the water quality objective.
Data Reference:	Regional Monitoring Program data, Feb. 1993-Sep. 2008
SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	Water Quality Control Plan for the San Francisco Bay Basin: Controllable water quality factors shall not cause a detrimental increase in concentrations of toxic substances found in bottom sediments or aquatic life. Effects on aquatic organisms, wildlife, and human health will be considered.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	The modified OEHHA Fish Contaminant Goal for chlorpyrifos in fish tissue is 660 ppb. This screening level assumes an average body weight of 70 kg and a consumption rate of 32 g/day. A cooking reduction factor of 1 is applied for skin-off fillets. (Klasing, S., and R. Brodberg, 2008; USEPA, 2000)
Guideline Reference:	Development of Fish Contaminant Goals and Advisory Tissue Levels for Common Contaminants in California Sport Fish: Chlordane, DDTs, Dieldrin, Methylmercury, PCBs, Selenium, and Toxaphene Guidance for Assessing Chemical Contaminant Data for Use In Fish Advisories Volume 1: Fish Sampling and Analysis
Spatial Representation:	The samples were collected at one site in Mare Island Strait in the lower portion of the Napa River
Temporal Representation:	The samples were collected in June 1994.
Environmental Conditions:	
QAPP Information:	The 1999 Quality Assurance Project Plan Regional Monitoring Program for Trace Substances was used.
QAPP Information Reference(s):	1999 Quality Assurance Project Plan Regional Monitoring Program for Trace Substances

DECISION ID

65307

Region 2

Napa River, Mare Island Strait

Pollutant: Chrysene (C1-C4)
Final Listing Decision: Do Not List on 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision: New Decision
Revision Status: Revised
Impairment from Pollutant or Pollution: Pollutant

Regional Board Staff Conclusion: This pollutant is being considered for placement on the CWA section 303(d) List under section 3.1 of the Listing Policy. Under section 3.1 a single line of evidence is necessary to assess listing status.

One line of evidence is available in the administrative record to assess this pollutant. Zero of twenty-one samples exceed the guideline.

Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against placing this water segment-pollutant combination on the CWA section 303(d) List in the Water Quality Limited Segments category.

This conclusion is based on the staff findings that:

1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy.
2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy.
3. Zero of twenty-one samples exceed the guideline and this does not exceed the allowable frequency listed in Table 3.1 of the Listing Policy.
4. Pursuant to section 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.

Regional Board Staff Decision Recommendation: After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be placed on the section 303(d) list because applicable water quality standards are not being exceeded.

Line of Evidence (LOE) for Decision ID 65307, Chrysene (C1-C4)

Region 2

Napa River, Mare Island Strait

LOE ID: 94579

Pollutant: Chrysene (C1-C4)
LOE Subgroup: Pollutant-Water
Matrix: Water
Fraction: Total

Beneficial Use: Commercial or recreational collection of fish, shellfish, or organisms

Number of Samples: 21
Number of Exceedances: 0

Data and Information Type: PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality: State Water Board staff assessed Regional Monitoring Program data for Napa River, Mare Island Strait to determine beneficial use support and results are as follows: 0 of 21 samples exceed the criterion for Chrysene.

Data Reference: [Regional Monitoring Program data, Feb. 1993-Sep. 2008](#)

SWAMP Data: Non-SWAMP

Water Quality Objective/Criterion: The Chrysene criteria for the protection of human health from consumption of organisms only is 0.049 ug/L (California Toxics Rule, 2000).

Objective/Criterion Reference: [Code of Federal Regulations 40 part 131.38 Establishment of numeric criteria for priority toxic pollutants for the State of California. 7/1/2011 Edition](#)

Evaluation Guideline:

Guideline Reference:

Spatial Representation: Data for this line of evidence for Napa River, Mare Island Strait was collected at 1 monitoring site [Napa River - BD50]

Temporal Representation: Data was collected over the time period 3/4/1993-8/7/2001.

Environmental Conditions: Staff is not aware of any special conditions that might affect interpretation of the data.

QAPP Information: The 1999 Quality Assurance Project Plan Regional Monitoring Program for Trace Substances was used.

QAPP Information Reference(s): [1999 Quality Assurance Project Plan Regional Monitoring Program for Trace Substances](#)

DECISION ID	65308	Region 2
Napa River, Mare Island Strait		

Pollutant: Copper
Final Listing Decision: Do Not List on 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision: New Decision
Revision Status Revised
Impairment from Pollutant or Pollution: Pollutant

Regional Board Staff Conclusion: This pollutant is being considered for placement on the CWA section 303(d) List under section 3.1 of the Listing Policy. Under section 3.1 a single line of evidence is necessary to assess listing status.

Two lines of evidence are available in the administrative record to assess this pollutant. Zero of twenty-five samples exceed the guideline.

Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against placing this water segment-pollutant combination on the CWA section 303(d) List in the Water Quality Limited Segments category.

This conclusion is based on the staff findings that:

1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy.
2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy.
3. Zero of twenty-five samples exceed the guideline and this does not exceed the allowable frequency listed in Table 3.1 of the Listing Policy.
4. Pursuant to section 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.

Regional Board Staff Decision Recommendation: After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be placed on the section 303(d) list because applicable water quality standards are not being exceeded.

Line of Evidence (LOE) for Decision ID 65308, Copper	Region 2
Napa River, Mare Island Strait	

LOE ID: 94578

Pollutant: Copper
LOE Subgroup: Pollutant-Water
Matrix: Water
Fraction: None

Beneficial Use: Estuarine Habitat

Number of Samples: 25
Number of Exceedances: 0

Data and Information Type: PHYSICAL/CHEMICAL MONITORING

Data Used to Assess Water Quality:	State Water Board staff assessed SFEI data for Napa River, Mare Island Strait to determine beneficial use support and results are as follows: 0 of 25 samples exceed the criterion for Copper.
Data Reference:	Regional Monitoring Program data, Feb. 1993-Sep. 2008
SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	According to table 3-3A, the Copper site-specific objective for Napa River is 6 ug/L.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	
Guideline Reference:	
Spatial Representation:	Data for this line of evidence for Napa River, Mare Island Strait was collected at 1 monitoring site [Napa River - BD50]
Temporal Representation:	Data was collected over the time period 3/4/1993-8/7/2001.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	The 1999 Quality Assurance Project Plan Regional Monitoring Program for Trace Substances was used.
QAPP Information Reference(s):	1999 Quality Assurance Project Plan Regional Monitoring Program for Trace Substances

Line of Evidence (LOE) for Decision ID 65308, Copper

Region 2

Napa River, Mare Island Strait

LOE ID:	94577
Pollutant:	Copper
LOE Subgroup:	Pollutant-Water
Matrix:	Water
Fraction:	Dissolved
Beneficial Use:	Estuarine Habitat
Number of Samples:	3
Number of Exceedances:	0
Data and Information Type:	Fixed station physical/chemical (conventional plus toxic pollutants)
Data Used to Assess Water Quality:	None of the three samples exceeded the SSO value of 6 ug/L for dissolved copper.
Data Reference:	Data for Various Pollutants in California Marinas, 2006.
SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	Waters shall not contain chemical constituents in concentrations that adversely affect beneficial uses. Table 3.3A lists a site specific objective (SSO) for criteria continuous concentration of dissolved copper. The SSO for dissolved copper in this portion of the San Francisco Bay Delta is 6.0 ug/L.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	
Guideline Reference:	
Spatial Representation:	A total of four separate grab samples were collected from outside the Vallejo Marina basin (Sites 5, 6, 7, & 8), these sites were averaged per sample event.
Temporal Representation:	Samples were collected on three separate sampling events during the dry season (July - October) in 2006.
Environmental Conditions:	Samples were collected during the dry season only.
QAPP Information:	Samples were collected and analyzed in accordance with a Quality Assurance Project Plan that was prepared per State Water Resources Control Board Agreement No. 05-218-250 California Department of Pesticide Regulation, Sacramento, CA. (Available online at http://www.cdpr.ca.gov/docs/emon/surfwttr/protocols/qapp_study236.pdf)
QAPP Information Reference(s):	

DECISION ID	65309	Region 2
Napa River, Mare Island Strait		

Pollutant:	Cyanide
Final Listing Decision:	Do Not List on 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision:	New Decision
Revision Status	Revised
Impairment from Pollutant or Pollution:	Pollutant
Regional Board Staff Conclusion:	<p>This pollutant is being considered for placement on the CWA section 303(d) List under section 3.1 of the Listing Policy. Under section 3.1 a single line of evidence is necessary to assess listing status. Two lines of evidence are available in the administrative record to assess this pollutant. Zero of three samples exceed the guideline.</p> <p>Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against placing this water segment-pollutant combination on the CWA section 303(d) List.</p> <p>This conclusion is based on the staff findings that:</p> <ol style="list-style-type: none"> 1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy. 2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy. 3. Zero of three samples exceed the guideline and this sample size is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating. A minimum of 16 samples is needed to determine if a beneficial use is fully supported using table 3.1. 4. Pursuant to SECTION 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.
Regional Board Staff Decision Recommendation:	After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be placed on the section 303(d) list. The readily available data and information is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating.

Line of Evidence (LOE) for Decision ID 65309, Cyanide		Region 2
Napa River, Mare Island Strait		
LOE ID:	94568	
Pollutant:	Cyanide	
LOE Subgroup:	Pollutant-Water	
Matrix:	Water	
Fraction:	Total	
Beneficial Use:	Commercial or recreational collection of fish, shellfish, or organisms	
Number of Samples:	3	
Number of Exceedances:	0	
Data and Information Type:	PHYSICAL/CHEMICAL MONITORING	
Data Used to Assess Water Quality:	State Water Board staff assessed SFEI data for Napa River, Mare Island Strait to determine beneficial use support and results are as follows: 0 of 3 samples exceed the criterion for Cyanide.	
Data Reference:	Regional Monitoring Program data, Feb. 1993-Sep. 2008	
SWAMP Data:	Non-SWAMP	
Water Quality Objective/Criterion:	The cyanide criteria for the protection of human health from consumption of organisms only is 220,000 ug/L (California Toxics Rule, 2000).	

Objective/Criterion Reference: [Code of Federal Regulations 40 part 131.38 Establishment of numeric criteria for priority toxic pollutants for the State of California. 7/1/2011 Edition](#)

Evaluation Guideline:
Guideline Reference:

Spatial Representation: Data for this line of evidence for Napa River, Mare Island Strait was collected at 1 monitoring site [Napa River - BD50]

Temporal Representation: Data was collected over the time period 3/4/1993-9/15/1993.

Environmental Conditions: Staff is not aware of any special conditions that might affect interpretation of the data.

QAPP Information: The 1999 Quality Assurance Project Plan Regional Monitoring Program for Trace Substances was used.

QAPP Information Reference(s): [1999 Quality Assurance Project Plan Regional Monitoring Program for Trace Substances](#)

Line of Evidence (LOE) for Decision ID 65309, Cyanide

Region 2

Napa River, Mare Island Strait

LOE ID: 94569

Pollutant: Cyanide

LOE Subgroup: Pollutant-Water

Matrix: Water

Fraction: None

Beneficial Use: Estuarine Habitat

Number of Samples: 3

Number of Exceedances: 0

Data and Information Type: PHYSICAL/CHEMICAL MONITORING

Data Used to Assess Water Quality: State Water Board staff assessed SFEI data for Napa River, Mare Island Strait to determine beneficial use support and results are as follows: 0 of 3 samples exceed the criterion for Cyanide.

Data Reference: [Regional Monitoring Program data, Feb. 1993-Sep. 2008](#)

SWAMP Data: Non-SWAMP

Water Quality Objective/Criterion: According to table 3-3C, the Cyanide site-specific objective for Napa River is 2.9 ug/L.

Objective/Criterion Reference: [Water Quality Control Plan \(Basin Plan\) San Francisco Bay Basin \(Region 2\)](#)

Evaluation Guideline:
Guideline Reference:

Spatial Representation: Data for this line of evidence for Napa River, Mare Island Strait was collected at 1 monitoring site [Napa River - BD50]

Temporal Representation: Data was collected over the time period 3/4/1993-9/15/1993.

Environmental Conditions: Staff is not aware of any special conditions that might affect interpretation of the data.

QAPP Information: The 1999 Quality Assurance Project Plan Regional Monitoring Program for Trace Substances was used.

QAPP Information Reference(s): [1999 Quality Assurance Project Plan Regional Monitoring Program for Trace Substances](#)

DECISION ID 65313

Region 2

Napa River, Mare Island Strait

Pollutant: Endosulfan

Final Listing Decision: Do Not List on 303(d) list (TMDL required list)

Last Listing Cycle's Final Listing Decision: New Decision

Revision Status: Revised

Impairment from Pollutant or: Pollutant

Pollution:**Regional Board Staff Conclusion:**

This pollutant is being considered for placement on the CWA section 303(d) List under section 3.5 of the Listing Policy. Under section 3.5 a single line of evidence is necessary to assess listing status. Two lines of evidence are available in the administrative record to assess this pollutant. Zero of four samples exceed the OEHHHA guideline.

Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against placing this water segment-pollutant combination on the CWA section 303(d) List.

This conclusion is based on the staff findings that:

1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy.
2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy.
3. Zero of four samples exceed the OEHHHA guideline and this sample size is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating. A minimum of 16 samples is needed to determine if a beneficial use is fully supported using table 3.1.
4. Pursuant to SECTION 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.

Regional Board Staff Decision Recommendation:

After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be placed on the section 303(d) list. The readily available data and information is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating.

Line of Evidence (LOE) for Decision ID 65313, Endosulfan**Region 2****Napa River, Mare Island Strait**

LOE ID:	94572
Pollutant:	Endosulfan
LOE Subgroup:	Pollutant-Tissue
Matrix:	Tissue
Fraction:	Shellfish
Beneficial Use:	Commercial or recreational collection of fish, shellfish, or organisms
Number of Samples:	1
Number of Exceedances:	0
Data and Information Type:	Shellfish surveys
Data Used to Assess Water Quality:	The 1 sample did not exceed the guideline. The composite sample was comprised of <i>Crassostrea gigas</i> . Data were reported on a dry weight basis and were converted to a wet weight basis by multiplying the dry-weight concentration by a factor of 1 minus the percentage of moisture content expressed as a decimal.
Data Reference:	Regional Monitoring Program data, Feb. 1993-Sep. 2008
SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	Water Quality Control Plan for the San Francisco Bay Basin: Controllable water quality factors shall not cause a detrimental increase in concentrations of toxic substances found in bottom sediments or aquatic life. Effects on aquatic organisms, wildlife, and human health will be considered.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	The modified OEHHHA Fish Contaminant Goal for endosulfan (I and II) in shellfish tissue is 20,000 ppb. This screening level assumes an average body weight of 70 kg and a consumption rate of 21 g/day. (Brodberg, R.K., and G.A. Pollock, 1999; Klasing, S., and R. Brodberg, 2008; USEPA, 2000)
Guideline Reference:	Prevalence of Selected Target Chemical Contaminants in Sport Fish From Two California

[Lakes: Public health designed screening study. Sacramento, CA: Office of Environmental Health Hazard Assessment](#)
[Development of Fish Contaminant Goals and Advisory Tissue Levels for Common Contaminants in California Sport Fish: Chlordane, DDTs, Dieldrin, Methylmercury, PCBs, Selenium, and Toxaphene](#)
[Guidance for Assessing Chemical Contaminant Data for Use In Fish Advisories Volume 1: Fish Sampling and Analysis](#)

Spatial Representation: Samples were collected at the following station: BD50 - Napa River, Mare Island Strait.
 Temporal Representation: The sample was collected on 9/6/2002.
 Environmental Conditions:
 QAPP Information: 1999 Quality Assurance Project Plan Regional Monitoring Program for Trace Substances.
 QAPP Information Reference(s): [1999 Quality Assurance Project Plan Regional Monitoring Program for Trace Substances](#)

Line of Evidence (LOE) for Decision ID 65313, Endosulfan
Napa River, Mare Island Strait

Region 2

LOE ID: 95131

Pollutant: Endosulfan
 LOE Subgroup: Pollutant-Tissue
 Matrix: Tissue
 Fraction: Fish fillet

Beneficial Use: Commercial or recreational collection of fish, shellfish, or organisms

Number of Samples: 4
 Number of Exceedances: 0

Data and Information Type: Fish tissue analysis
 Data Used to Assess Water Quality: Water Board staff assessed Regional Monitoring Program data for the Mare Island Strait portion of the Napa River to determine beneficial use support and results are as follows: 0 of 4 samples exceed the criterion for endosulfan. No samples were discarded for being non-detect, unquantifiable or the reporting limit exceeding the water quality objective.

Data Reference: [Regional Monitoring Program data, Feb. 1993-Sep. 2008](#)

SWAMP Data: Non-SWAMP

Water Quality Objective/Criterion: Water Quality Control Plan for the San Francisco Bay Basin: Controllable water quality factors shall not cause a detrimental increase in concentrations of toxic substances found in bottom sediments or aquatic life. Effects on aquatic organisms, wildlife, and human health will be considered.

Objective/Criterion Reference: [Water Quality Control Plan \(Basin Plan\) San Francisco Bay Basin \(Region 2\)](#)

Evaluation Guideline: The modified OEHHA Fish Contaminant Goal for endosulfan (I and II) in fish tissue is 13,000 ppb. This screening level assumes an average body weight of 70 kg and a consumption rate of 32 g/day. A cooking reduction factor of 1 is applied for skin-off fillets. (Klasing, S., and R. Brodberg, 2008; USEPA, 2000)

Guideline Reference: [Development of Fish Contaminant Goals and Advisory Tissue Levels for Common Contaminants in California Sport Fish: Chlordane, DDTs, Dieldrin, Methylmercury, PCBs, Selenium, and Toxaphene](#)
[Guidance for Assessing Chemical Contaminant Data for Use In Fish Advisories Volume 1: Fish Sampling and Analysis](#)

Spatial Representation: The samples were collected at one site in Mare Island Strait in the lower portion of the Napa River

Temporal Representation: The samples were collected in June 1994.

Environmental Conditions:
 QAPP Information: The 1999 Quality Assurance Project Plan Regional Monitoring Program for Trace Substances was used.
 QAPP Information Reference(s): [1999 Quality Assurance Project Plan Regional Monitoring Program for Trace Substances](#)

DECISION ID	65314	Region 2
Napa River, Mare Island Strait		

Pollutant:	Endosulfan sulfate
Final Listing Decision:	Do Not List on 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision:	New Decision
Revision Status	Revised
Impairment from Pollutant or Pollution:	Pollutant

Regional Board Staff Conclusion: This pollutant is being considered for placement on the CWA section 303(d) List under section 3.1 of the Listing Policy. Under section 3.1 a single line of evidence is necessary to assess listing status.

One line of evidence is available in the administrative record to assess this pollutant. Zero of nineteen samples exceed the guideline.

Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against placing this water segment-pollutant combination on the CWA section 303(d) List in the Water Quality Limited Segments category.

This conclusion is based on the staff findings that:

1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy.
2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy.
3. Zero of nineteen samples exceed the guideline and this does not exceed the allowable frequency listed in Table 3.1 of the Listing Policy.
4. Pursuant to section 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.

Regional Board Staff Decision Recommendation: After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be placed on the section 303(d) list because applicable water quality standards are not being exceeded.

Line of Evidence (LOE) for Decision ID 65314, Endosulfan sulfate	Region 2
Napa River, Mare Island Strait	

LOE ID:	94566
Pollutant:	Endosulfan sulfate
LOE Subgroup:	Pollutant-Water
Matrix:	Water
Fraction:	Total
Beneficial Use:	Commercial or recreational collection of fish, shellfish, or organisms
Number of Samples:	19
Number of Exceedances:	0
Data and Information Type:	PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality:	State Water Board staff assessed SFEI data for Napa River, Mare Island Strait to determine beneficial use support and results are as follows: 0 of 19 samples exceed the criterion for Endosulfan Sulfate.
Data Reference:	Regional Monitoring Program data, Feb. 1993-Sep. 2008
SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	The Endosulfan Sulfate criteria for the protection of human health from consumption of organisms only is 240 ug/L (California Toxics Rule, 2000).
Objective/Criterion Reference:	Code of Federal Regulations 40 part 131.38 Establishment of numeric criteria for priority

Evaluation Guideline:

Guideline Reference:

Spatial Representation:

Data for this line of evidence for Napa River, Mare Island Strait was collected at 1 monitoring site [Napa River - BD50]

Temporal Representation:

Data was collected over the time period 4/27/1994-8/7/2001.

Environmental Conditions:

Staff is not aware of any special conditions that might affect interpretation of the data.

QAPP Information:

The 1999 Quality Assurance Project Plan Regional Monitoring Program for Trace Substances was used.

QAPP Information Reference(s):

[1999 Quality Assurance Project Plan Regional Monitoring Program for Trace Substances](#)

DECISION ID	65315	Region 2
Napa River, Mare Island Strait		

Pollutant:	Endrin
Final Listing Decision:	Do Not List on 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision:	New Decision
Revision Status	Revised
Impairment from Pollutant or Pollution:	Pollutant

Regional Board Staff Conclusion:

This pollutant is being considered for placement on the CWA section 303(d) List under section 3.1 of the Listing Policy. Under section 3.1 a single line of evidence is necessary to assess listing status.

Three lines of evidence are available in the administrative record to assess this pollutant. Zero of seventeen samples exceed the guideline.

Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against placing this water segment-pollutant combination on the CWA section 303(d) List in the Water Quality Limited Segments category.

This conclusion is based on the staff findings that:

1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy.
2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy.
3. Zero of seventeen samples exceed the guideline and this does not exceed the allowable frequency listed in Table 3.1 of the Listing Policy.
4. Pursuant to section 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.

Regional Board Staff Decision Recommendation:

After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be removed from the section 303(d) list because applicable water quality standards for the pollutant are being exceeded.

Line of Evidence (LOE) for Decision ID 65315, Endrin	Region 2
Napa River, Mare Island Strait	

LOE ID: 94565

Pollutant:	Endrin
LOE Subgroup:	Pollutant-Water
Matrix:	Water
Fraction:	Total

Beneficial Use: Commercial or recreational collection of fish, shellfish, or organisms

Number of Samples: 17

Number of Exceedances:	0
Data and Information Type:	PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality:	State Water Board staff assessed SFEI data for Napa River, Mare Island Strait to determine beneficial use support and results are as follows: 0 of 17 samples exceed the criterion for Endrin.
Data Reference:	Regional Monitoring Program data, Feb. 1993-Sep. 2008
SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	The Endrin criteria for the protection of human health from consumption of organisms only is 0.81ug/L (California Toxics Rule, 2000).
Objective/Criterion Reference:	Code of Federal Regulations 40 part 131.38 Establishment of numeric criteria for priority toxic pollutants for the State of California. 7/1/2011 Edition
Evaluation Guideline:	
Guideline Reference:	
Spatial Representation:	Data for this line of evidence for Napa River, Mare Island Strait was collected at 1 monitoring site [Napa River - BD50]
Temporal Representation:	Data was collected over the time period 8/23/1994-8/7/2001.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	The 1999 Quality Assurance Project Plan Regional Monitoring Program for Trace Substances was used.
QAPP Information Reference(s):	1999 Quality Assurance Project Plan Regional Monitoring Program for Trace Substances

Line of Evidence (LOE) for Decision ID 65315, Endrin

Region 2

Napa River, Mare Island Strait

LOE ID:	95231
Pollutant:	Endrin
LOE Subgroup:	Pollutant-Tissue
Matrix:	Tissue
Fraction:	Fish fillet
Beneficial Use:	Commercial or recreational collection of fish, shellfish, or organisms
Number of Samples:	4
Number of Exceedances:	0
Data and Information Type:	Fish tissue analysis
Data Used to Assess Water Quality:	Water Board staff assessed Regional Monitoring Program data for Mare Island Strait in the lower portion of the Napa River to determine beneficial use support and results are as follows: 0 of 4 samples exceed the criterion for endrin. No samples were discarded for being non-detect, unquantifiable or the reporting limit exceeding the water quality objective.
Data Reference:	Regional Monitoring Program data, Feb. 1993-Sep. 2008
SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	Water Quality Control Plan for the San Francisco Bay Basin: Controllable water quality factors shall not cause a detrimental increase in concentrations of toxic substances found in bottom sediments or aquatic life. Effects on aquatic organisms, wildlife, and human health will be considered.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	The modified OEHHA Fish Contaminant Goal for endrin in fish tissue is 660 ppb. This screening level assumes an average body weight of 70 kg and a consumption rate of 32 g/day. A cooking reduction factor of 1 is applied for skin-off fillets. (Klasing, S., and R. Brodberg, 2008; USEPA, 2000)
Guideline Reference:	Development of Fish Contaminant Goals and Advisory Tissue Levels for Common

[Contaminants in California Sport Fish: Chlordane, DDTs, Dieldrin, Methylmercury, PCBs, Selenium, and Toxaphene](#)
[Guidance for Assessing Chemical Contaminant Data for Use In Fish Advisories Volume 1: Fish Sampling and Analysis](#)

Spatial Representation: The samples were collected at one site in Mare Island Strait in the lower portion of the Napa River

Temporal Representation: The samples were collected in June 1994.

Environmental Conditions:

QAPP Information: The 1999 Quality Assurance Project Plan Regional Monitoring Program for Trace Substances was used.

QAPP Information Reference(s): [1999 Quality Assurance Project Plan Regional Monitoring Program for Trace Substances](#)

Line of Evidence (LOE) for Decision ID 65315, Endrin
Napa River, Mare Island Strait

Region 2

LOE ID: 94571

Pollutant: Endrin

LOE Subgroup: Pollutant-Tissue

Matrix: Tissue

Fraction: Shellfish

Beneficial Use: Commercial or recreational collection of fish, shellfish, or organisms

Number of Samples: 16

Number of Exceedances: 0

Data and Information Type: Shellfish surveys

Data Used to Assess Water Quality: None of the 16 samples exceeded the guideline. All composite samples were comprised of *Crassostrea gigas* except for one that was comprised of *Mytilus californianus*. Data were reported on a dry weight basis and were converted to a wet weight basis by multiplying the dry-weight concentration by a factor of 1 minus the percentage of moisture content expressed as a decimal. Composite replicates were averaged.

Data Reference: [Regional Monitoring Program data, Feb. 1993-Sep. 2008](#)

SWAMP Data: Non-SWAMP

Water Quality Objective/Criterion: Water Quality Control Plan for the San Francisco Bay Basin: Controllable water quality factors shall not cause a detrimental increase in concentrations of toxic substances found in bottom sediments or aquatic life. Effects on aquatic organisms, wildlife, and human health will be considered.

Objective/Criterion Reference: [Water Quality Control Plan \(Basin Plan\) San Francisco Bay Basin \(Region 2\)](#)

Evaluation Guideline: The modified OEHHA Fish Contaminant Goal for endrin in shellfish tissue is 1,000 ppb. This screening level assumes an average body weight of 70 kg and a consumption rate of 21 g/day. (Brodberg, R.K., and G.A. Pollock, 1999; Klasing, S., and R. Brodberg, 2008; USEPA, 2000)

Guideline Reference: [Prevalence of Selected Target Chemical Contaminants in Sport Fish From Two California Lakes: Public health designed screening study. Sacramento, CA: Office of Environmental Health Hazard Assessment](#)
[Development of Fish Contaminant Goals and Advisory Tissue Levels for Common Contaminants in California Sport Fish: Chlordane, DDTs, Dieldrin, Methylmercury, PCBs, Selenium, and Toxaphene](#)
[Guidance for Assessing Chemical Contaminant Data for Use In Fish Advisories Volume 1: Fish Sampling and Analysis](#)

Spatial Representation: Samples were collected at the following station: BD50 - Napa River, Mare Island Strait.

Temporal Representation: Samples were generally collected in spring and fall seasons from years 1993 - 1999 and then during fall season from years 2000 - 2002.

Environmental Conditions:

QAPP Information: 1999 Quality Assurance Project Plan Regional Monitoring Program for Trace Substances.

DECISION ID	65316	Region 2
Napa River, Mare Island Strait		

Pollutant: Fluoranthene
Final Listing Decision: Do Not List on 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision: New Decision
Revision Status: Revised
Impairment from Pollutant or Pollution: Pollutant

Regional Board Staff Conclusion: This pollutant is being considered for placement on the CWA section 303(d) List under section 3.1 of the Listing Policy. Under section 3.1 a single line of evidence is necessary to assess listing status.

One line of evidence is available in the administrative record to assess this pollutant. Zero of twenty-one samples exceed the guideline.

Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against placing this water segment-pollutant combination on the CWA section 303(d) List in the Water Quality Limited Segments category.

This conclusion is based on the staff findings that:

1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy.
2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy.
3. Zero of twenty-one samples exceed the guideline and this does not exceed the allowable frequency listed in Table 3.1 of the Listing Policy.
4. Pursuant to section 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.

Regional Board Staff Decision Recommendation: After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be removed from the section 303(d) list because applicable water quality standards for the pollutant are being exceeded.

Line of Evidence (LOE) for Decision ID 65316, Fluoranthene	Region 2
Napa River, Mare Island Strait	

LOE ID: 94564

Pollutant: Fluoranthene
LOE Subgroup: Pollutant-Water
Matrix: Water
Fraction: Total

Beneficial Use: Commercial or recreational collection of fish, shellfish, or organisms

Number of Samples: 21
Number of Exceedances: 0

Data and Information Type: PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality: State Water Board staff assessed SFEI data for Napa River, Mare Island Strait to determine beneficial use support and results are as follows: 0 of 21 samples exceed the criterion for Fluoranthene.

Data Reference: [Regional Monitoring Program data, Feb. 1993-Sep. 2008](#)

SWAMP Data: Non-SWAMP

Water Quality Objective/Criterion: The Fluoranthene criteria for the protection of human health from consumption of

Objective/Criterion Reference: organisms only is 370 ug/L (California Toxics Rule, 2000).
[Code of Federal Regulations 40 part 131.38 Establishment of numeric criteria for priority toxic pollutants for the State of California. 7/1/2011 Edition](#)

Evaluation Guideline:
Guideline Reference:

Spatial Representation: Data for this line of evidence for Napa River, Mare Island Strait was collected at 1 monitoring site [Napa River - BD50]

Temporal Representation: Data was collected over the time period 3/4/1993-8/7/2001.

Environmental Conditions: Staff is not aware of any special conditions that might affect interpretation of the data.

QAPP Information: The 1999 Quality Assurance Project Plan Regional Monitoring Program for Trace Substances was used.

QAPP Information Reference(s): [1999 Quality Assurance Project Plan Regional Monitoring Program for Trace Substances](#)

DECISION ID	65317	Region 2
Napa River, Mare Island Strait		

Pollutant: Fluorene
Final Listing Decision: Do Not List on 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision: New Decision
Revision Status Revised
Impairment from Pollutant or Pollution: Pollutant

Regional Board Staff Conclusion: This pollutant is being considered for placement on the CWA section 303(d) List under section 3.1 of the Listing Policy. Under section 3.1 a single line of evidence is necessary to assess listing status. One line of evidence is available in the administrative record to assess this pollutant. Zero of twelve samples exceed the guideline.

Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against placing this water segment-pollutant combination on the CWA section 303(d) List.

This conclusion is based on the staff findings that:

1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy.
2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy.
3. Zero of twelve samples exceed the guideline and this sample size is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating. A minimum of 16 samples is needed to determine if a beneficial use is fully supported using table 3.1.
4. Pursuant to SECTION 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.

Regional Board Staff Decision Recommendation: After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be placed on the section 303(d) list. The readily available data and information is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating.

Line of Evidence (LOE) for Decision ID 65317, Fluorene	Region 2
Napa River, Mare Island Strait	

LOE ID: 94563

Pollutant: Fluorene
LOE Subgroup: Pollutant-Water
Matrix: Water
Fraction: Total

Beneficial Use:	Commercial or recreational collection of fish, shellfish, or organisms
Number of Samples:	12
Number of Exceedances:	0
Data and Information Type:	PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality:	State Water Board staff assessed SFEI data for Napa River, Mare Island Strait to determine beneficial use support and results are as follows: 0 of 12 samples exceed the criterion for Fluorene.
Data Reference:	Regional Monitoring Program data, Feb. 1993-Sep. 2008
SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	The Fluorene criteria for the protection of human health from consumption of organisms only is 14,000 ug/L (California Toxics Rule, 2000).
Objective/Criterion Reference:	Code of Federal Regulations 40 part 131.38 Establishment of numeric criteria for priority toxic pollutants for the State of California. 7/1/2011 Edition
Evaluation Guideline:	
Guideline Reference:	
Spatial Representation:	Data for this line of evidence for Napa River, Mare Island Strait was collected at 1 monitoring site [Napa River - BD50]
Temporal Representation:	Data was collected over the time period 2/13/1996-8/7/2001.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	The 1999 Quality Assurance Project Plan Regional Monitoring Program for Trace Substances was used.
QAPP Information Reference(s):	1999 Quality Assurance Project Plan Regional Monitoring Program for Trace Substances

DECISION ID	65318	Region 2
Napa River, Mare Island Strait		

Pollutant:	Heptachlor
Final Listing Decision:	Do Not List on 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision:	New Decision
Revision Status	Revised
Impairment from Pollutant or Pollution:	Pollutant

Regional Board Staff Conclusion: This pollutant is being considered for placement on the CWA section 303(d) List under section 3.1 of the Listing Policy. Under section 3.1 a single line of evidence is necessary to assess listing status.

One line of evidence is available in the administrative record to assess this pollutant. Zero of sixteen samples exceed the guideline.

Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against placing this water segment-pollutant combination on the CWA section 303(d) List in the Water Quality Limited Segments category.

This conclusion is based on the staff findings that:

1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy.
2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy.
3. Zero of sixteen samples exceed the guideline and this does not exceed the allowable frequency listed in Table 3.1 of the Listing Policy.
4. Pursuant to section 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.

Regional Board Staff Decision Recommendation: After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be placed on the section 303(d) list because applicable water quality standards are not being exceeded.

Line of Evidence (LOE) for Decision ID 65318, Heptachlor**Region 2****Napa River, Mare Island Strait**

LOE ID:	94562
Pollutant:	Heptachlor
LOE Subgroup:	Pollutant-Water
Matrix:	Water
Fraction:	Total
Beneficial Use:	Commercial or recreational collection of fish, shellfish, or organisms
Number of Samples:	16
Number of Exceedances:	0
Data and Information Type:	PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality:	State Water Board staff assessed SFEI data for Napa River, Mare Island Strait to determine beneficial use support and results are as follows: 0 of 16 samples exceed the criterion for Heptachlor.
Data Reference:	Regional Monitoring Program data, Feb. 1993-Sep. 2008
SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	The Heptachlor criteria for the protection of human health from consumption of organisms only is 0.00021 ug/L (California Toxics Rule, 2000).
Objective/Criterion Reference:	Code of Federal Regulations 40 part 131.38 Establishment of numeric criteria for priority toxic pollutants for the State of California. 7/1/2011 Edition
Evaluation Guideline:	
Guideline Reference:	
Spatial Representation:	Data for this line of evidence for Napa River, Mare Island Strait was collected at 1 monitoring site [Napa River - BD50]
Temporal Representation:	Data was collected over the time period 4/27/1994-8/7/2001.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	The 1999 Quality Assurance Project Plan Regional Monitoring Program for Trace Substances was used.
QAPP Information Reference(s):	1999 Quality Assurance Project Plan Regional Monitoring Program for Trace Substances

DECISION ID**65319****Region 2****Napa River, Mare Island Strait**

Pollutant:	Heptachlor epoxide
Final Listing Decision:	Do Not List on 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision:	New Decision
Revision Status	Revised
Impairment from Pollutant or Pollution:	Pollutant
Regional Board Staff Conclusion:	<p>This pollutant is being considered for placement on the CWA section 303(d) List under section 3.1 of the Listing Policy. Under section 3.1 a single line of evidence is necessary to assess listing status.</p> <p>Three lines of evidence are available in the administrative record to assess this pollutant. One of nineteen samples exceed the guideline.</p> <p>Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against placing this water segment-pollutant combination on the CWA section</p>

303(d) List in the Water Quality Limited Segments category.

This conclusion is based on the staff findings that:

1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy.
2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy.
3. One of nineteen samples exceed the guideline and this does not exceed the allowable frequency listed in Table 3.1 of the Listing Policy.
4. Pursuant to section 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.

Regional Board Staff Decision Recommendation: After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be placed on the section 303(d) list because applicable water quality standards are not being exceeded.

Line of Evidence (LOE) for Decision ID 65319, Heptachlor epoxide

Region 2

Napa River, Mare Island Strait

LOE ID:	94570
Pollutant:	Heptachlor epoxide
LOE Subgroup:	Pollutant-Tissue
Matrix:	Tissue
Fraction:	Shellfish
Beneficial Use:	Commercial or recreational collection of fish, shellfish, or organisms
Number of Samples:	12
Number of Exceedances:	0
Data and Information Type:	Shellfish surveys
Data Used to Assess Water Quality:	None of the 12 samples exceeded the guideline. All composite samples were comprised of <i>Crassostrea gigas</i> except for one that was comprised of <i>Mytilus californianus</i> . Data were reported on a dry weight basis and were converted to a wet weight basis by multiplying the dry-weight concentration by a factor of 1 minus the percentage of moisture content expressed as a decimal. Four samples were not used in the assessment because the laboratory data reporting limit(s) were above the objective and therefore the results could not be quantified with the level of certainty required by the Listing Policy.
Data Reference:	Regional Monitoring Program data, Feb. 1993-Sep. 2008
SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	Water Quality Control Plan for the San Francisco Bay Basin: Controllable water quality factors shall not cause a detrimental increase in concentrations of toxic substances found in bottom sediments or aquatic life. Effects on aquatic organisms, wildlife, and human health will be considered.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	The modified OEHHA Fish Contaminant Goal for heptachlor epoxide in shellfish tissue is 1.4 ppb. This screening level assumes an average body weight of 70 kg and a consumption rate of 21 g/day for a 30 year exposure over a 70-year lifetime. This constituent is a carcinogen therefore the risk level is set to one in a million. (Brodberg, R.K., and G.A. Pollock, 1999; Klasing, S., and R. Brodberg, 2008; OEHHA, 1999)
Guideline Reference:	Prevalence of Selected Target Chemical Contaminants in Sport Fish From Two California Lakes: Public health designed screening study. Sacramento, CA: Office of Environmental Health Hazard Assessment Development of Fish Contaminant Goals and Advisory Tissue Levels for Common Contaminants in California Sport Fish: Chlordane, DDTs, Dieldrin, Methylmercury, PCBs, Selenium, and Toxaphene Public Health Goal for Heptachlor and Heptachlor Epoxide in Drinking Water
Spatial Representation:	Samples were collected at the following station: BD50 - Napa River, Mare Island Strait.

Temporal Representation:	Samples were generally collected in spring and fall seasons from years 1993 - 1999 and then during fall season from years 2000 - 2002.
Environmental Conditions:	
QAPP Information:	1999 Quality Assurance Project Plan Regional Monitoring Program for Trace Substances.
QAPP Information Reference(s):	1999 Quality Assurance Project Plan Regional Monitoring Program for Trace Substances

Line of Evidence (LOE) for Decision ID 65319, Heptachlor epoxide
Napa River, Mare Island Strait

Region 2

LOE ID:	94560
Pollutant:	Heptachlor epoxide
LOE Subgroup:	Pollutant-Water
Matrix:	Water
Fraction:	Total
Beneficial Use:	Commercial or recreational collection of fish, shellfish, or organisms
Number of Samples:	19
Number of Exceedances:	1
Data and Information Type:	PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality:	State Water Board staff assessed SFEI data for Napa River, Mare Island Strait to determine beneficial use support and results are as follows: 1 of 19 samples exceed the criterion for Heptachlor Epoxide.
Data Reference:	Regional Monitoring Program data, Feb. 1993-Sep. 2008
SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	The Heptachlor Epoxide criteria for the protection of human health from consumption of organisms only is 0.00011 ug/L (California Toxics Rule, 2000).
Objective/Criterion Reference:	Code of Federal Regulations 40 part 131.38 Establishment of numeric criteria for priority toxic pollutants for the State of California. 7/1/2011 Edition
Evaluation Guideline:	
Guideline Reference:	
Spatial Representation:	Data for this line of evidence for Napa River, Mare Island Strait was collected at 1 monitoring site [Napa River - BD50]
Temporal Representation:	Data was collected over the time period 2/8/1994-8/7/2001.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	The 1999 Quality Assurance Project Plan Regional Monitoring Program for Trace Substances was used.
QAPP Information Reference(s):	1999 Quality Assurance Project Plan Regional Monitoring Program for Trace Substances

Line of Evidence (LOE) for Decision ID 65319, Heptachlor epoxide
Napa River, Mare Island Strait

Region 2

LOE ID:	95082
Pollutant:	Heptachlor epoxide
LOE Subgroup:	Pollutant-Tissue
Matrix:	Tissue
Fraction:	Fish fillet
Beneficial Use:	Commercial or recreational collection of fish, shellfish, or organisms
Number of Samples:	4
Number of Exceedances:	0
Data and Information Type:	Fish tissue analysis

Data Used to Assess Water Quality:	Water Board staff assessed Regional Monitoring Program data for the Mare Island Strait portion of the Napa River to determine beneficial use support and results are as follows: 0 of 4 samples exceed the criterion for Heptachlor epoxide. No samples were discarded for being non-detect, unquantifiable or the reporting limit exceeding the water quality objective.
Data Reference:	Regional Monitoring Program data, Feb. 1993-Sep. 2008
SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	Water Quality Control Plan for the San Francisco Bay Basin: Controllable water quality factors shall not cause a detrimental increase in concentrations of toxic substances found in bottom sediments or aquatic life. Effects on aquatic organisms, wildlife, and human health will be considered.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	The modified OEHHA Fish Contaminant Goal for heptachlor epoxide in fish tissue is 0.93 ppb. This screening level assumes an average body weight of 70 kg and a consumption rate of 32 g/day for a 30 year exposure over a 70-year lifetime. This constituent is a carcinogen therefore the risk level is set to one in a million. A cooking reduction factor of 1 is applied for skin-off fillets. (Klasing, S., and R. Brodberg, 2008; OEHHA, 1999)
Guideline Reference:	Development of Fish Contaminant Goals and Advisory Tissue Levels for Common Contaminants in California Sport Fish: Chlordane, DDTs, Dieldrin, Methylmercury, PCBs, Selenium, and Toxaphene Public Health Goal for Heptachlor and Heptachlor Epoxide in Drinking Water
Spatial Representation:	The samples were collected at one site in Mare Island Strait in the lower portion of the Napa River
Temporal Representation:	The samples were collected in June 1994.
Environmental Conditions:	
QAPP Information:	The 1999 Quality Assurance Project Plan Regional Monitoring Program for Trace Substances was used.
QAPP Information Reference(s):	1999 Quality Assurance Project Plan Regional Monitoring Program for Trace Substances

DECISION ID	65320	Region 2
Napa River, Mare Island Strait		
Pollutant:	Hexachlorobenzene/ HCB	
Final Listing Decision:	Do Not List on 303(d) list (TMDL required list)	
Last Listing Cycle's Final Listing Decision:	New Decision	
Revision Status	Revised	
Impairment from Pollutant or Pollution:	Pollutant	
Regional Board Staff Conclusion:	<p>This pollutant is being considered for placement on the CWA section 303(d) List under section 3.1 of the Listing Policy. Under section 3.1 a single line of evidence is necessary to assess listing status.</p> <p>Three lines of evidence are available in the administrative record to assess this pollutant. Zero of twenty samples exceed the guideline.</p> <p>Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against placing this water segment-pollutant combination on the CWA section 303(d) List in the Water Quality Limited Segments category.</p> <p>This conclusion is based on the staff findings that:</p> <ol style="list-style-type: none"> 1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy. 2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy. 3. Zero of twenty samples exceed the guideline and this does not exceed the allowable frequency listed in Table 3.1 of the Listing Policy. 4. Pursuant to section 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met. 	

Regional Board Staff Decision Recommendation: After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be placed on the section 303(d) list because applicable water quality standards are not being exceeded.

Line of Evidence (LOE) for Decision ID 65320, Hexachlorobenzene/ HCB
Napa River, Mare Island Strait

Region 2

LOE ID: 94558

Pollutant: Hexachlorobenzene/ HCB
LOE Subgroup: Pollutant-Water
Matrix: Water
Fraction: Total

Beneficial Use: Commercial or recreational collection of fish, shellfish, or organisms

Number of Samples: 20
Number of Exceedances: 0

Data and Information Type: PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality: State Water Board staff assessed SFEI data for Napa River, Mare Island Strait to determine beneficial use support and results are as follows: 0 of 20 samples exceed the criterion for Hexachlorobenzene.

Data Reference: [Regional Monitoring Program data, Feb. 1993-Sep. 2008](#)

SWAMP Data: Non-SWAMP

Water Quality Objective/Criterion: The Hexachlorobenzene criteria for the protection of human health from consumption of organisms only is 0.00077 ug/L (California Toxics Rule, 2000).

Objective/Criterion Reference: [Code of Federal Regulations 40 part 131.38 Establishment of numeric criteria for priority toxic pollutants for the State of California. 7/1/2011 Edition](#)

Evaluation Guideline:
Guideline Reference:

Spatial Representation: Data for this line of evidence for Napa River, Mare Island Strait was collected at 1 monitoring site [Napa River - BD50]

Temporal Representation: Data was collected over the time period 3/4/1993-8/7/2001.

Environmental Conditions: Staff is not aware of any special conditions that might affect interpretation of the data.

QAPP Information: The 1999 Quality Assurance Project Plan Regional Monitoring Program for Trace Substances was used.

QAPP Information Reference(s): [1999 Quality Assurance Project Plan Regional Monitoring Program for Trace Substances](#)

Line of Evidence (LOE) for Decision ID 65320, Hexachlorobenzene/ HCB
Napa River, Mare Island Strait

Region 2

LOE ID: 95078

Pollutant: Hexachlorobenzene/ HCB
LOE Subgroup: Pollutant-Tissue
Matrix: Tissue
Fraction: Fish fillet

Beneficial Use: Commercial or recreational collection of fish, shellfish, or organisms

Number of Samples: 4
Number of Exceedances: 0

Data and Information Type: Fish tissue analysis

Data Used to Assess Water Quality:	Water Board staff assessed Regional Monitoring Program data for the Mare Island Strait portion of the Napa River to determine beneficial use support and results are as follows: 0 of 4 samples exceed the criterion for hexachlorobenzene. No samples were discarded for being non-detect, unquantifiable or the reporting limit exceeding the water quality objective.
Data Reference:	Regional Monitoring Program data, Feb. 1993-Sep. 2008
SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	Water Quality Control Plan for the San Francisco Bay Basin: Controllable water quality factors shall not cause a detrimental increase in concentrations of toxic substances found in bottom sediments or aquatic life. Effects on aquatic organisms, wildlife, and human health will be considered.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	The modified OEHHA Fish Contaminant Goal for hexachlorobenzene in fish tissue is 2.8 ppb. This screening level assumes an average body weight of 70 kg and a consumption rate of 32 g/day for a 30 year exposure over a 70-year lifetime. This constituent is a carcinogen therefore the risk level is set to one in a million. A cooking reduction factor of 1 is applied for skin-off fillets. (Klasing, S., and R. Brodberg, 2008; OEHHA, 2005)
Guideline Reference:	Development of Fish Contaminant Goals and Advisory Tissue Levels for Common Contaminants in California Sport Fish: Chlordane, DDTs, Dieldrin, Methylmercury, PCBs, Selenium, and Toxaphene Air Toxics Hotspots Program Risk Assessment Guidelines. Part II Technical Support Document for Describing Available Cancer Potency Values.
Spatial Representation:	The samples were collected at one site in Mare Island Strait in the lower portion of the Napa River
Temporal Representation:	The samples were collected in June 1994.
Environmental Conditions:	
QAPP Information:	The 1999 Quality Assurance Project Plan Regional Monitoring Program for Trace Substances was used.
QAPP Information Reference(s):	1999 Quality Assurance Project Plan Regional Monitoring Program for Trace Substances

**Line of Evidence (LOE) for Decision ID 65320, Hexachlorobenzene/ HCB
Napa River, Mare Island Strait**

Region 2

LOE ID:	94556
Pollutant:	Hexachlorobenzene/ HCB
LOE Subgroup:	Pollutant-Tissue
Matrix:	Tissue
Fraction:	Shellfish
Beneficial Use:	Commercial or recreational collection of fish, shellfish, or organisms
Number of Samples:	16
Number of Exceedances:	0
Data and Information Type:	Shellfish surveys
Data Used to Assess Water Quality:	None of the 16 samples exceeded the guideline. All composite samples were comprised of Crassostrea gigas except for one that was comprised of Mytilus californianus. Data were reported on a dry weight basis and were converted to a wet weight basis by multiplying the dry-weight concentration by a factor of 1 minus the percentage of moisture content expressed as a decimal. Composite replicates were averaged.
Data Reference:	Regional Monitoring Program data, Feb. 1993-Sep. 2008
SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	Water Quality Control Plan for the San Francisco Bay Basin: Controllable water quality factors shall not cause a detrimental increase in concentrations of toxic substances found in bottom sediments or aquatic life. Effects on aquatic organisms, wildlife, and human

Objective/Criterion Reference:	health will be considered. Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	The modified OEHHA Fish Contaminant Goal for hexachlorobenzene in shellfish tissue is 4.3 ppb. This screening level assumes an average body weight of 70 kg and a consumption rate of 21 g/day for a 30 year exposure over a 70-year lifetime. This constituent is a carcinogen therefore the risk level is set to one in a million. (Brodberg, R.K., and G.A. Pollock, 1999; Klasing, S., and R. Brodberg, 2008; OEHHA, 2005)
Guideline Reference:	Prevalence of Selected Target Chemical Contaminants in Sport Fish From Two California Lakes: Public health designed screening study. Sacramento, CA: Office of Environmental Health Hazard Assessment Development of Fish Contaminant Goals and Advisory Tissue Levels for Common Contaminants in California Sport Fish: Chlordane, DDTs, Dieldrin, Methylmercury, PCBs, Selenium, and Toxaphene Air Toxics Hotspots Program Risk Assessment Guidelines. Part II Technical Support Document for Describing Available Cancer Potency Values.
Spatial Representation:	Samples were collected at the following station: BD50 - Napa River, Mare Island Strait.
Temporal Representation:	Samples were generally collected in spring and fall seasons from years 1993 - 1999 and then during fall season from years 2000 - 2002.
Environmental Conditions:	
QAPP Information:	1999 Quality Assurance Project Plan Regional Monitoring Program for Trace Substances.
QAPP Information Reference(s):	1999 Quality Assurance Project Plan Regional Monitoring Program for Trace Substances

DECISION ID 65321 Region 2	
Napa River, Mare Island Strait	
Pollutant:	Lindane/gamma Hexachlorocyclohexane (gamma-HCH)
Final Listing Decision:	Do Not List on 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision:	New Decision
Revision Status	Revised
Impairment from Pollutant or Pollution:	Pollutant
Regional Board Staff Conclusion:	<p>This pollutant is being considered for placement on the CWA section 303(d) List under section 3.5 of the Listing Policy. Under section 3.5 a single line of evidence is necessary to assess listing status.</p> <p>One line of evidence is available in the administrative record to assess this pollutant. Zero of sixteen samples exceed the guideline.</p> <p>Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against placing this water segment-pollutant combination on the CWA section 303(d) List in the Water Quality Limited Segments category.</p> <p>This conclusion is based on the staff findings that:</p> <ol style="list-style-type: none"> 1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy. 2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy. 3. Zero of sixteen samples exceed the guideline and this does not exceed the allowable frequency listed in Table 3.1 of the Listing Policy. 4. Pursuant to section 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.
Regional Board Staff Decision Recommendation:	After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be placed on the section 303(d) list because applicable water quality standards are not being exceeded.

Line of Evidence (LOE) for Decision ID 65321, Lindane/gamma Hexachlorocyclohexane (gamma-HCH)	Region 2
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Napa River, Mare Island Strait

LOE ID:	94554
Pollutant:	Lindane/gamma Hexachlorocyclohexane (gamma-HCH)
LOE Subgroup:	Pollutant-Tissue
Matrix:	Tissue
Fraction:	Shellfish
Beneficial Use:	Commercial or recreational collection of fish, shellfish, or organisms
Number of Samples:	16
Number of Exceedances:	0
Data and Information Type:	Shellfish surveys
Data Used to Assess Water Quality:	None of the 16 samples exceeded the guideline. All composite samples were comprised of <i>Crassostrea gigas</i> except for one that was comprised of <i>Mytilus californianus</i> . Data were reported on a dry weight basis and were converted to a wet weight basis by multiplying the dry-weight concentration by a factor of 1 minus the percentage of moisture content expressed as a decimal. Composite replicates were averaged.
Data Reference:	Regional Monitoring Program data, Feb. 1993-Sep. 2008
SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	Water Quality Control Plan for the San Francisco Bay Basin: Controllable water quality factors shall not cause a detrimental increase in concentrations of toxic substances found in bottom sediments or aquatic life. Effects on aquatic organisms, wildlife, and human health will be considered.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	The modified OEHHA Fish Contaminant Goal for lindane in shellfish tissue is 7.1 ppb. This screening level assumes an average body weight of 70 kg and a consumption rate of 21 g/day for a 30 year exposure over a 70-year lifetime. This constituent is a carcinogen therefore the risk level is set to one in a million. (Brodberg, R.K., and G.A. Pollock, 1999; Klasing, S., and R. Brodberg, 2008; OEHHA, 2005)
Guideline Reference:	Prevalence of Selected Target Chemical Contaminants in Sport Fish From Two California Lakes: Public health designed screening study. Sacramento, CA: Office of Environmental Health Hazard Assessment Development of Fish Contaminant Goals and Advisory Tissue Levels for Common Contaminants in California Sport Fish: Chlordane, DDTs, Dieldrin, Methylmercury, PCBs, Selenium, and Toxaphene Air Toxics Hotspots Program Risk Assessment Guidelines. Part II Technical Support Document for Describing Available Cancer Potency Values.
Spatial Representation:	Samples were collected at the following station: BD50 - Napa River, Mare Island Strait.
Temporal Representation:	Samples were generally collected in spring and fall seasons from years 1993 - 1999 and then during fall season from years 2000 - 2002.
Environmental Conditions:	
QAPP Information:	1999 Quality Assurance Project Plan Regional Monitoring Program for Trace Substances.
QAPP Information Reference(s):	1999 Quality Assurance Project Plan Regional Monitoring Program for Trace Substances

DECISION ID	65322	Region 2
Napa River, Mare Island Strait		
Pollutant:	Manganese	
Final Listing Decision:	Do Not List on 303(d) list (TMDL required list)	
Last Listing Cycle's Final Listing Decision:	New Decision	
Revision Status	Revised	
Impairment from Pollutant or Pollution:	Pollutant	

**Regional Board Staff
Conclusion:**

This pollutant is being considered for placement on the CWA section 303(d) List under section 3.1 of the Listing Policy. Under section 3.1 a single line of evidence is necessary to assess listing status. One line of evidence is available in the administrative record to assess this pollutant. Zero of four samples exceed the guideline.

Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against placing this water segment-pollutant combination on the CWA section 303(d) List.

This conclusion is based on the staff findings that:

1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy.
2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy.
3. Zero of four samples exceed the guideline and this sample size is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating. A minimum of 16 samples is needed to determine if a beneficial use is fully supported using table 3.1.
4. Pursuant to SECTION 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.

**Regional Board Staff Decision
Recommendation:**

After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be placed on the section 303(d) list. The readily available data and information is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating.

**Line of Evidence (LOE) for Decision ID 65322, Manganese
Napa River, Mare Island Strait**

Region 2

LOE ID:	94550
Pollutant:	Manganese
LOE Subgroup:	Pollutant-Water
Matrix:	Water
Fraction:	Total
Beneficial Use:	Commercial or recreational collection of fish, shellfish, or organisms
Number of Samples:	4
Number of Exceedances:	0
Data and Information Type:	PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality:	State Water Board staff assessed SFEI data for Napa River, Mare Island Strait to determine beneficial use support and results are as follows: 0 of 4 samples exceed the criterion for Manganese.
Data Reference:	Regional Monitoring Program data, Feb. 1993-Sep. 2008
SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	The Manganese criteria for the protection of human health from the consumption of organisms only is 100 ug/L (California Toxics Rule, 2000).
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	The Lead criteria for the protection of human health from fish consumption only is 100 ug/L (National Recommended Water Quality Criteria, 2009).
Guideline Reference:	National Recommended Water Quality Criteria. United States Environmental Protection Agency. Office of Water. Office of Science and Technology
Spatial Representation:	Data for this line of evidence for Napa River, Mare Island Strait was collected at 1 monitoring site [Napa River - BD50]
Temporal Representation:	Data was collected over the time period 2/8/2000-8/7/2001.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	The 1999 Quality Assurance Project Plan Regional Monitoring Program for Trace

DECISION ID	65324	Region 2
Napa River, Mare Island Strait		

Pollutant: Mirex
Final Listing Decision: Do Not List on 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision: New Decision
Revision Status: Revised
Impairment from Pollutant or Pollution: Pollutant

Regional Board Staff Conclusion: This pollutant is being considered for placement on the CWA section 303(d) List under section 3.1 of the Listing Policy. Under section 3.1 a single line of evidence is necessary to assess listing status.

Three lines of evidence are available in the administrative record to assess this pollutant. Zero of nineteen samples exceed the guideline.

Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against placing this water segment-pollutant combination on the CWA section 303(d) List in the Water Quality Limited Segments category.

This conclusion is based on the staff findings that:

1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy.
2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy.
3. Zero of nineteen samples exceed the guideline and this does not exceed the allowable frequency listed in Table 3.1 of the Listing Policy.
4. Pursuant to section 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.

Regional Board Staff Decision Recommendation: After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be placed on the section 303(d) list because applicable water quality standards are not being exceeded.

Line of Evidence (LOE) for Decision ID 65324, Mirex	Region 2
Napa River, Mare Island Strait	

LOE ID: 94552

Pollutant: Mirex
LOE Subgroup: Pollutant-Tissue
Matrix: Tissue
Fraction: Shellfish

Beneficial Use: Commercial or recreational collection of fish, shellfish, or organisms

Number of Samples: 3
Number of Exceedances: 0

Data and Information Type: Shellfish surveys
Data Used to Assess Water Quality: None of the 3 samples exceeded the guideline. All composite samples were comprised of Crassostrea gigas except for one that was comprised of Mytilus californianus. Data were reported on a dry weight basis and were converted to a wet weight basis by multiplying the dry-weight concentration by a factor of 1 minus the percentage of moisture content expressed as a decimal. Thirteen samples were not used in the assessment because the laboratory data reporting limit(s) were above the objective and therefore the results could not be quantified with the level of certainty required by the Listing Policy.

Data Reference:	Regional Monitoring Program data, Feb. 1993-Sep. 2008
SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	Water Quality Control Plan for the San Francisco Bay Basin: Controllable water quality factors shall not cause a detrimental increase in concentrations of toxic substances found in bottom sediments or aquatic life. Effects on aquatic organisms, wildlife, and human health will be considered.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	The modified OEHHA Fish Contaminant Goal for mirex in shellfish tissue is 0.43 ppb. This screening level assumes an average body weight of 70 kg and a consumption rate of 21 g/day. This constituent is a carcinogen therefore the risk level is set to one in a million. (Brodberg, R.K., and G.A. Pollock, 1999; Klasing, S., and R. Brodberg, 2008; OEHHA, 1992)
Guideline Reference:	Prevalence of Selected Target Chemical Contaminants in Sport Fish From Two California Lakes: Public health designed screening study. Sacramento, CA: Office of Environmental Health Hazard Assessment Development of Fish Contaminant Goals and Advisory Tissue Levels for Common Contaminants in California Sport Fish: Chlordane, DDTs, Dieldrin, Methylmercury, PCBs, Selenium, and Toxaphene Expedited Cancer Potency Values and Proposed Regulatory Levels for Certain Proposition 65 Carcinogens.
Spatial Representation:	Samples were collected at the following station: BD50 - Napa River, Mare Island Strait
Temporal Representation:	Samples were generally collected in spring and fall seasons from years 1993 - 1999 and then during fall season from years 2000 - 2002.
Environmental Conditions:	
QAPP Information:	1999 Quality Assurance Project Plan Regional Monitoring Program for Trace Substances.
QAPP Information Reference(s):	1999 Quality Assurance Project Plan Regional Monitoring Program for Trace Substances

Line of Evidence (LOE) for Decision ID 65324, Mirex

Region 2

Napa River, Mare Island Strait

LOE ID:	94548
Pollutant:	Mirex
LOE Subgroup:	Pollutant-Water
Matrix:	Water
Fraction:	Total
Beneficial Use:	Commercial or recreational collection of fish, shellfish, or organisms
Number of Samples:	19
Number of Exceedances:	0
Data and Information Type:	PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality:	State Water Board staff assessed SFEI data for Napa River, Mare Island Strait to determine beneficial use support and results are as follows: 0 of 19 samples exceed the criterion for Mirex.
Data Reference:	Regional Monitoring Program data, Feb. 1993-Sep. 2008
SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	No individual pesticide or combination of pesticides shall be present in concentrations that adversely affect beneficial uses.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	The Mirex criteria for the protection of human health from consumption of organisms only is 0.000097 ug/L (National Recommended Water Quality Criteria, 2009).
Guideline Reference:	National Recommended Water Quality Criteria. United States Environmental Protection Agency. Office of Water. Office of Science and Technology

Spatial Representation:	Data for this line of evidence for Napa River, Mare Island Strait was collected at 1 monitoring site [Napa River - BD50]
Temporal Representation:	Data was collected over the time period 4/27/1994-8/7/2001.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	The 1999 Quality Assurance Project Plan Regional Monitoring Program for Trace Substances was used.
QAPP Information Reference(s):	1999 Quality Assurance Project Plan Regional Monitoring Program for Trace Substances

Line of Evidence (LOE) for Decision ID 65324, Mirex	Region 2
Napa River, Mare Island Strait	

LOE ID:	95225
Pollutant:	Mirex
LOE Subgroup:	Pollutant-Tissue
Matrix:	Tissue
Fraction:	Fish fillet
Beneficial Use:	Commercial or recreational collection of fish, shellfish, or organisms
Number of Samples:	0
Number of Exceedances:	0
Data and Information Type:	Fish tissue analysis
Data Used to Assess Water Quality:	Water Board staff assessed Regional Monitoring Program data for the Mare Island Strait portion of the Napa River to determine beneficial use support and results are as follows: 0 of 0 samples exceed the criterion for Mirex. Four samples were discarded for being non-detect, unquantifiable or the reporting limit exceeding the water quality objective.
Data Reference:	Regional Monitoring Program data, Feb. 1993-Sep. 2008
SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	Water Quality Control Plan for the San Francisco Bay Basin: Controllable water quality factors shall not cause a detrimental increase in concentrations of toxic substances found in bottom sediments or aquatic life. Effects on aquatic organisms, wildlife, and human health will be considered.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	The modified OEHHA Fish Contaminant Goal for mirex in fish tissue is 0.28 ppb. This screening level assumes an average body weight of 70 kg and a consumption rate of 32 g/day. A cooking reduction factor of 1 is applied for skin-off fillets. (Klasing, S., and R. Brodberg, 2008; OEHHA, 1992)
Guideline Reference:	Development of Fish Contaminant Goals and Advisory Tissue Levels for Common Contaminants in California Sport Fish: Chlordane, DDTs, Dieldrin, Methylmercury, PCBs, Selenium, and Toxaphene Expedited Cancer Potency Values and Proposed Regulatory Levels for Certain Proposition 65 Carcinogens.
Spatial Representation:	The samples were collected at one site in Mare Island Strait in the lower portion of the Napa River
Temporal Representation:	The samples were collected in June 1994.
Environmental Conditions:	
QAPP Information:	The 1999 Quality Assurance Project Plan Regional Monitoring Program for Trace Substances was used.
QAPP Information Reference(s):	1999 Quality Assurance Project Plan Regional Monitoring Program for Trace Substances

DECISION ID	65325	Region 2
Napa River, Mare Island Strait		

Pollutant:	Nickel
Final Listing Decision:	Do Not List on 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision:	New Decision
Revision Status	Revised
Impairment from Pollutant or Pollution:	Pollutant

Regional Board Staff Conclusion: This pollutant is being considered for placement on the CWA section 303(d) List under section 3.1 of the Listing Policy. Under section 3.1 a single line of evidence is necessary to assess listing status.

One line of evidence is available in the administrative record to assess this pollutant. Zero of twenty-five samples exceed the guideline.

Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against placing this water segment-pollutant combination on the CWA section 303(d) List in the Water Quality Limited Segments category.

This conclusion is based on the staff findings that:

1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy.
2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy.
3. Zero of twenty-five samples exceed the guideline and this does not exceed the allowable frequency listed in Table 3.1 of the Listing Policy.
4. Pursuant to section 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.

Regional Board Staff Decision Recommendation: After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be placed on the section 303(d) list because applicable water quality standards are not being exceeded.

Line of Evidence (LOE) for Decision ID 65325, Nickel Napa River, Mare Island Strait

Region 2

LOE ID:	94595
Pollutant:	Nickel
LOE Subgroup:	Pollutant-Water
Matrix:	Water
Fraction:	Total
Beneficial Use:	Commercial or recreational collection of fish, shellfish, or organisms
Number of Samples:	25
Number of Exceedances:	0
Data and Information Type:	PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality:	State Water Board staff assessed SFEI data for Napa River, Mare Island Strait to determine beneficial use support and results are as follows: 0 of 25 samples exceed the criterion for Nickel.
Data Reference:	Regional Monitoring Program data, Feb. 1993-Sep. 2008
SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	The Nickel criteria for the protection of human health from consumption of organisms only is 4.6 mg/L (California Toxics Rule, 2000).
Objective/Criterion Reference:	Code of Federal Regulations 40 part 131.38 Establishment of numeric criteria for priority toxic pollutants for the State of California. 7/1/2011 Edition
Evaluation Guideline:	
Guideline Reference:	

Spatial Representation:	Data for this line of evidence for Napa River, Mare Island Strait was collected at 1 monitoring site [Napa River - BD50]
Temporal Representation:	Data was collected over the time period 3/4/1993-8/7/2001.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	The 1999 Quality Assurance Project Plan Regional Monitoring Program for Trace Substances was used.
QAPP Information Reference(s):	1999 Quality Assurance Project Plan Regional Monitoring Program for Trace Substances

DECISION ID	65326	Region 2
Napa River, Mare Island Strait		

Pollutant:	Oxygen, Dissolved
Final Listing Decision:	Do Not List on 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision:	New Decision
Revision Status	Revised
Impairment from Pollutant or Pollution:	Pollutant

Regional Board Staff Conclusion: This pollutant is being considered for placement on the CWA section 303(d) List under section 3.2 of the Listing Policy. Under section 3.2 a single line of evidence is necessary to assess listing status. One line of evidence is available in the administrative record to assess this pollutant. Zero of twelve samples exceed the objective.

Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against placing this water segment-pollutant combination on the CWA section 303(d) List.

This conclusion is based on the staff findings that:

1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy.
2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy.
3. Zero of twelve samples exceed the objective and this sample size is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating. A minimum of 26 samples is needed to determine if a beneficial use is fully supported using table 3.2.
4. Pursuant to SECTION 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.

Regional Board Staff Decision Recommendation: After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be placed on the section 303(d) list. The readily available data and information is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating.

Line of Evidence (LOE) for Decision ID 65326, Oxygen, Dissolved		Region 2
Napa River, Mare Island Strait		

LOE ID:	94594
Pollutant:	Oxygen, Dissolved
LOE Subgroup:	Pollutant-Water
Matrix:	Water
Fraction:	Dissolved
Beneficial Use:	Estuarine Habitat
Number of Samples:	12
Number of Exceedances:	0
Data and Information Type:	PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality:	Numeric data generated from 12 minimum samples of Dissolved Oxygen concentrations

had no exceedences.

Data Reference: [Data for Various Pollutants in California Marinas, 2006.](#)

SWAMP Data: Non-SWAMP

Water Quality Objective/Criterion: The dissolved oxygen content of bays/estuaries downstream of the Carquinez Bridge must be above 5 mg/L.

Objective/Criterion Reference: [Water Quality Control Plan \(Basin Plan\) San Francisco Bay Basin \(Region 2\)](#)

Evaluation Guideline:
Guideline Reference:

Spatial Representation: Samples were collected from the following stations: Vallejo Municipal Marina 5.1 Vallejo Municipal Marina 5.2 Vallejo Municipal Marina 5.3 Vallejo Municipal Marina 6.1 Vallejo Municipal Marina 6.2 Vallejo Municipal Marina 6.3 Vallejo Municipal Marina 7.1 Vallejo Municipal Marina 7.2 Vallejo Municipal Marina 7.3 Vallejo Municipal Marina 8.1 Vallejo Municipal Marina 8.2 Vallejo Municipal Marina 8.3

Temporal Representation: Samples were collected on the following dates: 8/7/2006 9/5/2006 10/3/2006

Environmental Conditions:

QAPP Information: Samples were collected and analyzed in accordance with a Quality Assurance Project Plan that was prepared per State Water Resources Control Board Agreement No. 05-218-250 California Department of Pesticide Regulation, Sacramento, CA. (Available online at http://www.cdpr.ca.gov/docs/emon/surfwttr/protocols/qapp_study236.pdf)

QAPP Information Reference(s):

DECISION ID 65327		Region 2
Napa River, Mare Island Strait		
Pollutant:	PAHs (Polycyclic Aromatic Hydrocarbons)	
Final Listing Decision:	Do Not List on 303(d) list (TMDL required list)	
Last Listing Cycle's Final Listing Decision:	New Decision	
Revision Status	Revised	
Impairment from Pollutant or Pollution:	Pollutant	
Regional Board Staff Conclusion:	<p>This pollutant is being considered for placement on the CWA section 303(d) List under section 3.5 of the Listing Policy. Under section 3.5 a single line of evidence is necessary to assess listing status.</p> <p>Two lines of evidence are available in the administrative record to assess this pollutant. Zero of sixteen samples exceed the guideline.</p> <p>Based on the readily available data and information, the weight of evidence indicates that there is not sufficient justification in favor of placing this water segment-pollutant combination on the CWA section 303(d) List.</p> <p>This conclusion is based on the staff findings that:</p> <ol style="list-style-type: none"> 1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy. 2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy. 3. Zero of sixteen samples exceed the OEHHHA guideline and this number does not exceed the allowable frequency listed in Table 3.1 of the Listing Policy. 4. There is not a fish consumption advisory in effect for this waterbody. 5. Pursuant to section 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met. 	
Regional Board Staff Decision Recommendation:	After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be placed on the section 303(d) list because applicable water quality standards are not being exceeded.	
Line of Evidence (LOE) for Decision ID 65327, PAHs (Polycyclic Aromatic Hydrocarbons)		Region 2

Napa River, Mare Island Strait

LOE ID:	94581
Pollutant:	PAHs (Polycyclic Aromatic Hydrocarbons)
LOE Subgroup:	Pollutant-Tissue
Matrix:	Tissue
Fraction:	Shellfish
Beneficial Use:	Commercial or recreational collection of fish, shellfish, or organisms
Number of Samples:	16
Number of Exceedances:	0
Data and Information Type:	Shellfish surveys
Data Used to Assess Water Quality:	Zero of the 16 samples exceeded the guideline. Composite samples were comprised of <i>Crassostrea gigas</i> or <i>Mytilus californianus</i> . Data were reported on a dry weight basis and were converted to a wet weight basis by multiplying the dry-weight concentration by a factor of 1 minus the percentage of moisture content expressed as a decimal. Laboratory replicates were averaged. PAH, Total is calculated as a potency weighted concentration with respect to benzo(a)pyrene and was calculated based on the following analytes: Dibenzo(a,h)anthracene, Benzo(a)pyrene, Benz(a)anthracene, Benzo(b)fluoranthene, Benzo(k)fluoranthene, Indeno(1,2,3-c,d)pyrene, Anthracene, Benzo(g,h,i)perylene, Chrysene, Acenaphthene, Acenaphthylene, Fluoranthene, Fluorene, Phenanthrene, and Pyrene.
Data Reference:	Regional Monitoring Program data, Feb. 1993-Sep. 2008
SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	Water Quality Control Plan for the San Francisco Bay Basin: Controllable water quality factors shall not cause a detrimental increase in concentrations of toxic substances found in bottom sediments or aquatic life. Effects on aquatic organisms, wildlife, and human health will be considered.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	<p>The modified OEHHA Advisory Tissue Level for polycyclic aromatic hydrocarbons in shellfish tissue is 110 ppb. This screening level assumes an average body weight of 70 kg and a consumption rate of 21 g/day for a 30 year exposure over a 70-year lifetime. This constituent is a carcinogen therefore the risk level is set to one in ten thousand. (Brodberg, R.K., and G.A. Pollock, 1999; Klasing, S., and R. Brodberg, 2008; USEPA, 2000)</p> <p>Advisory Tissue Levels (ATLs), while still conferring no significant health risk to individuals consuming sport fish in the quantities shown over a lifetime, were developed with the recognition that there are unique health benefits associated with fish consumption and that the advisory process should be expanded beyond a simple risk paradigm in order to best promote the overall health of the fish consumer. ATLs provide a number of recommended fish servings that correspond to the range of contaminant concentrations found in fish and are used to provide consumption advice to prevent consumers from being exposed to more than the average daily reference dose for noncarcinogens or to a risk level greater than 1×10^{-4} for carcinogens (not more than one additional cancer case in a population of 10,000 people consuming fish at the given consumption rate over a lifetime). ATLs are designed to encourage consumption of fish that can be eaten in quantities likely to provide significant health benefits, while discouraging consumption of fish that, because of contaminant concentrations, should not be eaten or cannot be eaten in amounts recommended for improving overall health (eight ounces total, prior to cooking, per week). ATLs are one of the criteria that will be used by OEHHA for issuing fish consumption guidelines.</p>
Guideline Reference:	Prevalence of Selected Target Chemical Contaminants in Sport Fish From Two California Lakes: Public health designed screening study. Sacramento, CA: Office of Environmental Health Hazard Assessment

[Development of Fish Contaminant Goals and Advisory Tissue Levels for Common Contaminants in California Sport Fish: Chlordane, DDTs, Dieldrin, Methylmercury, PCBs, Selenium, and Toxaphene](#)
[Guidance for Assessing Chemical Contaminant Data for Use In Fish Advisories Volume 1: Fish Sampling and Analysis](#)

Spatial Representation: Samples were collected at the following station: BD50 - Napa River, Mare Island Strait
Temporal Representation: Samples were generally collected in spring and fall seasons from years 1993 - 2002.
Environmental Conditions:
QAPP Information: 1999 Quality Assurance Project Plan Regional Monitoring Program for Trace Substances.
QAPP Information Reference(s): [1999 Quality Assurance Project Plan Regional Monitoring Program for Trace Substances](#)

Line of Evidence (LOE) for Decision ID 65327, PAHs (Polycyclic Aromatic Hydrocarbons)

Region 2

Napa River, Mare Island Strait

LOE ID: 95066

Pollutant: PAHs (Polycyclic Aromatic Hydrocarbons)
LOE Subgroup: Pollutant-Tissue
Matrix: Tissue
Fraction: Fish fillet

Beneficial Use: Commercial or recreational collection of fish, shellfish, or organisms

Number of Samples: 4
Number of Exceedances: 0

Data and Information Type: Fish tissue analysis
Data Used to Assess Water Quality: Water Board staff assessed Regional Monitoring Program data for the Mare Island Strait portion of the Napa River to determine beneficial use support and results are as follows: 0 of 4 samples exceed the criterion for polyaromatic hydrocarbons. No samples were discarded for being non-detect, unquantifiable or the reporting limit exceeding the water quality objective.

Data Reference: [Regional Monitoring Program data, Feb. 1993-Sep. 2008](#)

SWAMP Data: Non-SWAMP

Water Quality Objective/Criterion: Water Quality Control Plan for the San Francisco Bay Basin: Controllable water quality factors shall not cause a detrimental increase in concentrations of toxic substances found in bottom sediments or aquatic life. Effects on aquatic organisms, wildlife, and human health will be considered.

Objective/Criterion Reference: [Water Quality Control Plan \(Basin Plan\) San Francisco Bay Basin \(Region 2\)](#)

Evaluation Guideline: The modified OEHHA Fish Contaminant Goal for polycyclic aromatic hydrocarbons in fish tissue is 0.7 ppb. This screening level assumes an average body weight of 70 kg and a consumption rate of 32 g/day for a 30 year exposure over a 70-year lifetime. This constituent is a carcinogen therefore the risk level is set to one in a million. (Klasing, S., and R. Brodberg, 2008; USEPA, 2000)

Guideline Reference: [Development of Fish Contaminant Goals and Advisory Tissue Levels for Common Contaminants in California Sport Fish: Chlordane, DDTs, Dieldrin, Methylmercury, PCBs, Selenium, and Toxaphene](#)
[Guidance for Assessing Chemical Contaminant Data for Use In Fish Advisories Volume 1: Fish Sampling and Analysis](#)

Spatial Representation: The samples were collected at one site in Mare Island Strait in the lower portion of the Napa River
Temporal Representation: The samples were collected in June 1994.
Environmental Conditions:
QAPP Information: The 1999 Quality Assurance Project Plan Regional Monitoring Program for Trace Substances was used.
QAPP Information Reference(s): [1999 Quality Assurance Project Plan Regional Monitoring Program for Trace Substances](#)

DECISION ID	65345	Region 2
Napa River, Mare Island Strait		

Pollutant:	Pyrene
Final Listing Decision:	Do Not List on 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision:	New Decision
Revision Status	Revised
Impairment from Pollutant or Pollution:	Pollutant

Regional Board Staff Conclusion: This pollutant is being considered for placement on the CWA section 303(d) List under section 3.1 of the Listing Policy. Under section 3.1 a single line of evidence is necessary to assess listing status.

One line of evidence is available in the administrative record to assess this pollutant. Zero of nineteen samples exceed the guideline.

Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against placing this water segment-pollutant combination on the CWA section 303(d) List in the Water Quality Limited Segments category.

This conclusion is based on the staff findings that:

1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy.
2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy.
3. Zero of nineteen samples exceed the guideline and this does not exceed the allowable frequency listed in Table 3.1 of the Listing Policy.
4. Pursuant to section 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.

Regional Board Staff Decision Recommendation: After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be placed on the section 303(d) list because applicable water quality standards are not being exceeded.

Line of Evidence (LOE) for Decision ID 65345, Pyrene	Region 2
Napa River, Mare Island Strait	

LOE ID:	94592
Pollutant:	Pyrene
LOE Subgroup:	Pollutant-Water
Matrix:	Water
Fraction:	Total
Beneficial Use:	Commercial or recreational collection of fish, shellfish, or organisms
Number of Samples:	19
Number of Exceedances:	0
Data and Information Type:	PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality:	State Water Board staff assessed SFEI data for Napa River, Mare Island Strait to determine beneficial use support and results are as follows: 0 of 19 samples exceed the criterion for Pyrene.
Data Reference:	Regional Monitoring Program data, Feb. 1993-Sep. 2008
SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	The Pyrene criteria for the protection of human health from consumption of organisms only is 11,000 ug/L (California Toxics Rule, 2000).
Objective/Criterion Reference:	Code of Federal Regulations 40 part 131.38 Establishment of numeric criteria for priority

Evaluation Guideline:

Guideline Reference:

Spatial Representation:

Data for this line of evidence for Napa River, Mare Island Strait was collected at 1 monitoring site [Napa River - BD50]

Temporal Representation:

Data was collected over the time period 3/4/1993-8/7/2001.

Environmental Conditions:

Staff is not aware of any special conditions that might affect interpretation of the data.

QAPP Information:

The 1999 Quality Assurance Project Plan Regional Monitoring Program for Trace Substances was used.

QAPP Information Reference(s):

[1999 Quality Assurance Project Plan Regional Monitoring Program for Trace Substances](#)

DECISION ID	65346	Region 2
Napa River, Mare Island Strait		

Pollutant:	Selenium
Final Listing Decision:	Do Not List on 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision:	New Decision
Revision Status	Revised
Impairment from Pollutant or Pollution:	Pollutant

Regional Board Staff Conclusion:

This pollutant is being considered for placement on the CWA section 303(d) List under section 3.5 of the Listing Policy. Under section 3.5 a single line of evidence is necessary to assess listing status. Two lines of evidence are available in the administrative record to assess this pollutant. Zero of fifteen samples exceed the OEHHHA guideline.

Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against placing this water segment-pollutant combination on the CWA section 303(d) List.

This conclusion is based on the staff findings that:

1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy.
2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy.
3. Zero of fifteen samples exceed the OEHHHA guideline and this sample size is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating. A minimum of 16 samples is needed to determine if a beneficial use is fully supported using table 3.1.
4. Pursuant to SECTION 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.

Regional Board Staff Decision Recommendation:

After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be placed on the section 303(d) list. The readily available data and information is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating.

Line of Evidence (LOE) for Decision ID 65346, Selenium	Region 2
Napa River, Mare Island Strait	

LOE ID: 95097

Pollutant:	Selenium
LOE Subgroup:	Pollutant-Tissue
Matrix:	Tissue
Fraction:	Fish fillet

Beneficial Use: Commercial or recreational collection of fish, shellfish, or organisms

Number of Samples:	4
Number of Exceedances:	0
Data and Information Type:	Fish tissue analysis
Data Used to Assess Water Quality:	Water Board staff assessed Regional Monitoring Program data for the Mare Island Strait portion of the Napa River to determine beneficial use support and results are as follows: 0 of 4 samples exceed the criterion for selenium. No samples were discarded for being non-detect, unquantifiable or the reporting limit exceeding the water quality objective.
Data Reference:	Regional Monitoring Program data, Feb. 1993-Sep. 2008
SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	Water Quality Control Plan for the San Francisco Bay Basin: Controllable water quality factors shall not cause a detrimental increase in concentrations of toxic substances found in bottom sediments or aquatic life. Effects on aquatic organisms, wildlife, and human health will be considered.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	The OEHHA Fish Contaminant Goal for selenium in fish tissue is 7.4 ppm. This screening level assumes an average body weight of 70 kg and a consumption rate of 32 g/day. A background dietary consumption rate of 0.114 mg/day is applied for this micronutrient. (Klasing, S., and R. Brodberg, 2008)
Guideline Reference:	Development of Fish Contaminant Goals and Advisory Tissue Levels for Common Contaminants in California Sport Fish: Chlordane, DDTs, Dieldrin, Methylmercury, PCBs, Selenium, and Toxaphene
Spatial Representation:	The samples were collected at one site in Mare Island Strait in the lower portion of the Napa River
Temporal Representation:	The samples were collected in June 1994.
Environmental Conditions:	
QAPP Information:	The 1999 Quality Assurance Project Plan Regional Monitoring Program for Trace Substances was used.
QAPP Information Reference(s):	1999 Quality Assurance Project Plan Regional Monitoring Program for Trace Substances

Line of Evidence (LOE) for Decision ID 65346, Selenium
Napa River, Mare Island Strait

Region 2

LOE ID:	94555
Pollutant:	Selenium
LOE Subgroup:	Pollutant-Tissue
Matrix:	Tissue
Fraction:	Shellfish
Beneficial Use:	Commercial or recreational collection of fish, shellfish, or organisms
Number of Samples:	15
Number of Exceedances:	0
Data and Information Type:	Shellfish surveys
Data Used to Assess Water Quality:	None of the 15 samples exceeded the guideline. All composite samples were comprised of Crassostrea gigas except for one that was comprised of Mytilus californianus. Data were reported on a dry weight basis and were converted to a wet weight basis by multiplying the dry-weight concentration by a factor of 1 minus the percentage of moisture content expressed as a decimal. If a dry weight result did not have a corresponding moisture result for conversion to wet weight, the sample was not included in the assessment.
Data Reference:	Regional Monitoring Program data, Feb. 1993-Sep. 2008
SWAMP Data:	Non-SWAMP

Water Quality Objective/Criterion:	Water Quality Control Plan for the San Francisco Bay Basin: Controllable water quality factors shall not cause a detrimental increase in concentrations of toxic substances found in bottom sediments or aquatic life. Effects on aquatic organisms, wildlife, and human health will be considered.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	The modified OEHHA Fish Contaminant Goal for selenium in shellfish tissue is 11 ppm. This screening level assumes an average body weight of 70 kg and a consumption rate of 21 g/day. A background dietary consumption rate of 0.114 mg/day is applied for this micronutrient. (Brodberg, R.K., and G.A. Pollock, 1999; Klasing, S., and R. Brodberg, 2008)
Guideline Reference:	Prevalence of Selected Target Chemical Contaminants in Sport Fish From Two California Lakes: Public health designed screening study. Sacramento, CA: Office of Environmental Health Hazard Assessment Development of Fish Contaminant Goals and Advisory Tissue Levels for Common Contaminants in California Sport Fish: Chlordane, DDTs, Dieldrin, Methylmercury, PCBs, Selenium, and Toxaphene
Spatial Representation:	Samples were collected at the following station: BD50 - Napa River, Mare Island Strait
Temporal Representation:	Samples were generally collected in spring and fall seasons from years 1993 - 1999 and fall of years 2001 and 2002.
Environmental Conditions:	
QAPP Information:	1999 Quality Assurance Project Plan Regional Monitoring Program for Trace Substances.
QAPP Information Reference(s):	1999 Quality Assurance Project Plan Regional Monitoring Program for Trace Substances

DECISION ID 65348 Region 2	
Napa River, Mare Island Strait	
Pollutant: Final Listing Decision: Last Listing Cycle's Final Listing Decision: Revision Status Impairment from Pollutant or Pollution:	Toxaphene Do Not List on 303(d) list (TMDL required list) New Decision Revised Pollutant
Regional Board Staff Conclusion:	<p>This pollutant is being considered for placement on the CWA section 303(d) List under section 3.5 of the Listing Policy. Under section 3.5 a single line of evidence is necessary to assess listing status. One line of evidence is available in the administrative record to assess this pollutant. Zero of zero samples exceed the OEHHA guideline.</p> <p>Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against placing this water segment-pollutant combination on the CWA section 303(d) List.</p> <p>This conclusion is based on the staff findings that:</p> <ol style="list-style-type: none"> 1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy. 2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy. 3. Zero of zero samples exceed the OEHHA guideline and this sample size is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating. A minimum of 16 samples is needed to determine if a beneficial use is fully supported using table 3.1. 4. Pursuant to SECTION 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.
Regional Board Staff Decision Recommendation:	After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be placed on the section 303(d) list. The readily available data and information is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating.

Line of Evidence (LOE) for Decision ID 65348, Toxaphene**Region 2****Napa River, Mare Island Strait**

LOE ID:	94551
Pollutant:	Toxaphene
LOE Subgroup:	Pollutant-Tissue
Matrix:	Tissue
Fraction:	Shellfish
Beneficial Use:	Commercial or recreational collection of fish, shellfish, or organisms
Number of Samples:	0
Number of Exceedances:	0
Data and Information Type:	Shellfish surveys
Data Used to Assess Water Quality:	The one sample was not used in the assessment because the laboratory data reporting limit(s) was above the objective and therefore the result could not be quantified with the level of certainty required by the Listing Policy. The composite sample was comprised of <i>Crassostrea gigas</i> .
Data Reference:	Regional Monitoring Program data, Feb. 1993-Sep. 2008
SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	Water Quality Control Plan for the San Francisco Bay Basin: Controllable water quality factors shall not cause a detrimental increase in concentrations of toxic substances found in bottom sediments or aquatic life. Effects on aquatic organisms, wildlife, and human health will be considered.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	The modified OEHHA Fish Contaminant Goal for toxaphene in shellfish tissue is 6.5 ppb. This screening level assumes an average body weight of 70 kg and a consumption rate of 21 g/day for a 30 year exposure over a 70-year lifetime. This constituent is a carcinogen therefore the risk level is set to one in a million. (Brodberg, R.K., and G.A. Pollock, 1999; Klasing, S., and R. Brodberg, 2008)
Guideline Reference:	Prevalence of Selected Target Chemical Contaminants in Sport Fish From Two California Lakes: Public health designed screening study. Sacramento, CA: Office of Environmental Health Hazard Assessment Development of Fish Contaminant Goals and Advisory Tissue Levels for Common Contaminants in California Sport Fish: Chlordane, DDTs, Dieldrin, Methylmercury, PCBs, Selenium, and Toxaphene
Spatial Representation:	Samples were collected at the following station: BD50 - Napa River, Mare Island Strait
Temporal Representation:	The sample was collected on 9/6/2002.
Environmental Conditions:	
QAPP Information:	1999 Quality Assurance Project Plan Regional Monitoring Program for Trace Substances.
QAPP Information Reference(s):	1999 Quality Assurance Project Plan Regional Monitoring Program for Trace Substances

Line of Evidence (LOE) for Decision ID 65348, Toxaphene**Region 2****Napa River, Mare Island Strait**

LOE ID:	95120
Pollutant:	Toxaphene
LOE Subgroup:	Pollutant-Tissue
Matrix:	Tissue
Fraction:	Fish fillet
Beneficial Use:	Commercial or recreational collection of fish, shellfish, or organisms
Number of Samples:	0

Number of Exceedances:	0
Data and Information Type:	Fish tissue analysis
Data Used to Assess Water Quality:	Water Board staff assessed Regional Monitoring Program data for the Mare Island Strait portion of the Napa River to determine beneficial use support and results are as follows: 0 of 0 samples exceed the criterion for toxaphene. Four samples were discarded for being non-detect, unquantifiable or the reporting limit exceeding the water quality objective.
Data Reference:	Regional Monitoring Program data, Feb. 1993-Sep. 2008
SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	Water Quality Control Plan for the San Francisco Bay Basin: Controllable water quality factors shall not cause a detrimental increase in concentrations of toxic substances found in bottom sediments or aquatic life. Effects on aquatic organisms, wildlife, and human health will be considered.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	The modified OEHHA Fish Contaminant Goal for toxaphene in fish tissue is 4.3 ppb. This screening level assumes an average body weight of 70 kg and a consumption rate of 32 g/day for a 30 year exposure over a 70-year lifetime. This constituent is a carcinogen therefore the risk level is set to one in a million. A cooking reduction factor of 1 is applied for skin-off fillets. (Klasing, S., and R. Brodberg, 2008)
Guideline Reference:	Development of Fish Contaminant Goals and Advisory Tissue Levels for Common Contaminants in California Sport Fish: Chlordane, DDTs, Dieldrin, Methylmercury, PCBs, Selenium, and Toxaphene
Spatial Representation:	The samples were collected at one site in Mare Island Strait in the lower portion of the Napa River
Temporal Representation:	The samples were collected in June 1994.
Environmental Conditions:	
QAPP Information:	The 1999 Quality Assurance Project Plan Regional Monitoring Program for Trace Substances was used.
QAPP Information Reference(s):	1999 Quality Assurance Project Plan Regional Monitoring Program for Trace Substances

DECISION ID	65349	Region 2
Napa River, Mare Island Strait		

Pollutant:	Tributyltin TBT (Tributylstanne)
Final Listing Decision:	Do Not List on 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision:	New Decision
Revision Status	Revised
Impairment from Pollutant or Pollution:	Pollutant

Regional Board Staff Conclusion:	<p>This pollutant is being considered for placement on the CWA section 303(d) List under section 3.5 of the Listing Policy. Under section 3.5 a single line of evidence is necessary to assess listing status. One line of evidence is available in the administrative record to assess this pollutant. Zero of fifteen samples exceed the OEHHA guideline.</p> <p>Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against placing this water segment-pollutant combination on the CWA section 303(d) List.</p> <p>This conclusion is based on the staff findings that:</p> <ol style="list-style-type: none"> 1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy. 2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy. 3. Zero of fifteen samples exceed the OEHHA guideline and this sample size is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating. A minimum of 16 samples is needed to determine if a beneficial use is fully supported using table 3.1.
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4. Pursuant to SECTION 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.

Regional Board Staff Decision Recommendation: After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be placed on the section 303(d) list. The readily available data and information is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating.

Line of Evidence (LOE) for Decision ID 65349, Tributyltin TBT (Tributylstanne)

Region 2

Napa River, Mare Island Strait

LOE ID:	94553
Pollutant:	Tributyltin TBT (Tributylstanne)
LOE Subgroup:	Pollutant-Tissue
Matrix:	Tissue
Fraction:	Shellfish
Beneficial Use:	Commercial or recreational collection of fish, shellfish, or organisms
Number of Samples:	15
Number of Exceedances:	0
Data and Information Type:	Shellfish surveys
Data Used to Assess Water Quality:	None of the 15 samples exceeded the guideline. All composite samples were comprised of Crassostrea gigas except for one that was comprised of Mytilus californianus. Data were reported on a dry weight basis and were converted to a wet weight basis by multiplying the dry-weight concentration by a factor of 1 minus the percentage of moisture content expressed as a decimal. If a dry weight result did not have a corresponding moisture result for conversion to wet weight, the sample was not included in the assessment.
Data Reference:	Regional Monitoring Program data, Feb. 1993-Sep. 2008
SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	Water Quality Control Plan for the San Francisco Bay Basin: Controllable water quality factors shall not cause a detrimental increase in concentrations of toxic substances found in bottom sediments or aquatic life. Effects on aquatic organisms, wildlife, and human health will be considered.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	The modified OEHHA Fish Contaminant Goal for tributyltin in shellfish tissue is 1 ppm. This screening level assumes an average body weight of 70 kg and a consumption rate of 21 g/day. (Brodberg, R.K., and G.A. Pollock, 1999; Klasing, S., and R. Brodberg, 2008; USEPA, 2000)
Guideline Reference:	Prevalence of Selected Target Chemical Contaminants in Sport Fish From Two California Lakes: Public health designed screening study. Sacramento, CA: Office of Environmental Health Hazard Assessment Development of Fish Contaminant Goals and Advisory Tissue Levels for Common Contaminants in California Sport Fish: Chlordane, DDTs, Dieldrin, Methylmercury, PCBs, Selenium, and Toxaphene Guidance for Assessing Chemical Contaminant Data for Use In Fish Advisories Volume 1: Fish Sampling and Analysis
Spatial Representation:	Samples were collected at the following station: BD50 - Napa River, Mare Island Strait
Temporal Representation:	Samples were generally collected in spring and fall seasons from years 1993 - 1999 and fall of years 2000 and 2001.
Environmental Conditions:	
QAPP Information:	1999 Quality Assurance Project Plan Regional Monitoring Program for Trace Substances.
QAPP Information Reference(s):	1999 Quality Assurance Project Plan Regional Monitoring Program for Trace Substances

DECISION ID	65350	Region 2
Napa River, Mare Island Strait		

Pollutant:	Zinc
Final Listing Decision:	Do Not List on 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision:	New Decision
Revision Status	Revised
Impairment from Pollutant or Pollution:	Pollutant

Regional Board Staff Conclusion: This pollutant is being considered for placement on the CWA section 303(d) List under section 3.1 of the Listing Policy. Under section 3.1 a single line of evidence is necessary to assess listing status.

Two lines of evidence are available in the administrative record to assess this pollutant. Zero of twenty-five samples exceed the guideline.

Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against placing this water segment-pollutant combination on the CWA section 303(d) List in the Water Quality Limited Segments category.

This conclusion is based on the staff findings that:

1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy.
2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy.
3. Zero of twenty-five samples exceed the guideline and this does not exceed the allowable frequency listed in Table 3.1 of the Listing Policy.
4. Pursuant to section 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.

Regional Board Staff Decision Recommendation: After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be placed on the section 303(d) list because applicable water quality standards are not being exceeded.

Line of Evidence (LOE) for Decision ID 65350, Zinc	Region 2
Napa River, Mare Island Strait	

LOE ID:	94589
Pollutant:	Zinc
LOE Subgroup:	Pollutant-Water
Matrix:	Water
Fraction:	Dissolved
Beneficial Use:	Estuarine Habitat
Number of Samples:	3
Number of Exceedances:	0
Data and Information Type:	Fixed station physical/chemical (conventional plus toxic pollutants)
Data Used to Assess Water Quality:	None of the three samples exceeded the CTR value of 81 ug/L for dissolved zinc in brackish water.
Data Reference:	Data for Various Pollutants in California Marinas, 2006.
SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	Waters shall not contain chemical constituents in concentrations that adversely affect beneficial uses. California Toxics Rule (CTR) lists criterion continuous concentrations to protect aquatic life in saline water. The CTR value is 81 ug/L.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)

Evaluation Guideline:
Guideline Reference:

Spatial Representation:

A total of four separate grab samples were collected from outside the Vallejo marina basin (Sites 5, 6, 7, & 8), these sites were averaged per sample event.

Temporal Representation:

Samples were collected on three separate sampling events during the dry season (July - October) in 2006.

Environmental Conditions:

Samples were collected during the dry season only.

QAPP Information:

Samples were collected and analyzed in accordance with a Quality Assurance Project Plan that was prepared per State Water Resources Control Board Agreement No. 05-218-250 California Department of Pesticide Regulation, Sacramento, CA. (Available online at http://www.cdpr.ca.gov/docs/emon/surfwttr/protocols/qapp_study236.pdf)

QAPP Information Reference(s):

Line of Evidence (LOE) for Decision ID 65350, Zinc

Region 2

Napa River, Mare Island Strait

LOE ID: 94590

Pollutant: Zinc
LOE Subgroup: Pollutant-Water
Matrix: Water
Fraction: Total

Beneficial Use: Commercial or recreational collection of fish, shellfish, or organisms

Number of Samples: 25
Number of Exceedances: 0

Data and Information Type: PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality: State Water Board staff assessed SFEI data for Napa River to determine beneficial use support and results are as follows: 0 of 25 samples exceed the criterion for Zinc.

Data Reference: [Regional Monitoring Program data, Feb. 1993-Sep. 2008](#)

SWAMP Data: Non-SWAMP

Water Quality Objective/Criterion: Surface waters shall not contain concentrations of chemical constituents in amounts that adversely affect any designated beneficial use.

Objective/Criterion Reference: [Water Quality Control Plan \(Basin Plan\) San Francisco Bay Basin \(Region 2\)](#)

Evaluation Guideline: The Zinc criteria for the protection of human health from consumption of fish only is 26000 ug/L (National Recommended Water Quality Criteria, 2009).

Guideline Reference: [National Recommended Water Quality Criteria. United States Environmental Protection Agency. Office of Water. Office of Science and Technology](#)

Spatial Representation: Data for this line of evidence for Napa River, Mare Island Strait was collected at 1 monitoring site [Napa River - BD50]

Temporal Representation: Data was collected over the time period 3/4/1993-8/7/2001.

Environmental Conditions: Staff is not aware of any special conditions that might affect interpretation of the data.

QAPP Information: The 1999 Quality Assurance Project Plan Regional Monitoring Program for Trace Substances was used.

QAPP Information Reference(s): [1999 Quality Assurance Project Plan Regional Monitoring Program for Trace Substances](#)

DECISION ID 65157

Region 2

Napa River, Mare Island Strait

Pollutant: alpha-Endosulfan (Endosulfan 1)
Final Listing Decision: Do Not List on 303(d) list (TMDL required list)
Last Listing Cycle's Final: New Decision

Listing Decision:**Revision Status**

Revised

Impairment from Pollutant or Pollution:

Pollutant

Regional Board Staff**Conclusion:**

This pollutant is being considered for placement on the CWA section 303(d) List under section 3.1 of the Listing Policy. Under section 3.1 a single line of evidence is necessary to assess listing status.

One line of evidence is available in the administrative record to assess this pollutant. Zero of twenty-one samples exceed the guideline.

Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against placing this water segment-pollutant combination on the CWA section 303(d) List in the Water Quality Limited Segments category.

This conclusion is based on the staff findings that:

1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy.
2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy.
3. Zero of twenty-one samples exceed the guideline and this does not exceed the allowable frequency listed in Table 3.1 of the Listing Policy.
4. Pursuant to section 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.

Regional Board Staff Decision Recommendation:

After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be placed on the section 303(d) list because applicable water quality standards are not being exceeded.

Line of Evidence (LOE) for Decision ID 65157, alpha-Endosulfan (Endosulfan 1)**Region 2****Napa River, Mare Island Strait**

LOE ID: 94586

Pollutant: alpha-Endosulfan (Endosulfan 1)

LOE Subgroup: Pollutant-Water

Matrix: Water

Fraction: Total

Beneficial Use: Commercial or recreational collection of fish, shellfish, or organisms

Number of Samples: 21

Number of Exceedances: 0

Data and Information Type: PHYSICAL/CHEMICAL MONITORING

Data Used to Assess Water Quality: State Water Board staff assessed SFEI data for Napa River (Mare Island Strait) to determine beneficial use support and results are as follows: 0 of 21 samples exceed the criterion for Endosulfan I.

Data Reference: [Regional Monitoring Program data, Feb. 1993-Sep. 2008](#)

SWAMP Data: Non-SWAMP

Water Quality Objective/Criterion: The Endosulfan I criteria for the protection of human health from consumption of organisms only is 240 ug/L (California Toxics Rule, 2000).

Objective/Criterion Reference: [Code of Federal Regulations 40 part 131.38 Establishment of numeric criteria for priority toxic pollutants for the State of California. 7/1/2011 Edition](#)

Evaluation Guideline:

Guideline Reference:

Spatial Representation: Data for this line of evidence for Napa River (Mare Island Strait) was collected at 1 monitoring site [Napa River - BD50]

Temporal Representation: Data was collected over the time period 3/4/1993-8/7/2001.

Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	The 1999 Quality Assurance Project Plan Regional Monitoring Program for Trace Substances was used.
QAPP Information Reference(s):	1999 Quality Assurance Project Plan Regional Monitoring Program for Trace Substances

DECISION ID	65163	Region 2
Napa River, Mare Island Strait		

Pollutant:	beta-Endosulfan (Endosulfan 2)
Final Listing Decision:	Do Not List on 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision:	New Decision
Revision Status	Revised
Impairment from Pollutant or Pollution:	Pollutant

Regional Board Staff Conclusion: This pollutant is being considered for placement on the CWA section 303(d) List under section 3.1 of the Listing Policy. Under section 3.1 a single line of evidence is necessary to assess listing status.

One line of evidence is available in the administrative record to assess this pollutant. Zero of twenty samples exceed the guideline.

Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against placing this water segment-pollutant combination on the CWA section 303(d) List in the Water Quality Limited Segments category.

This conclusion is based on the staff findings that:

1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy.
2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy.
3. Zero of twenty samples exceed the guideline and this does not exceed the allowable frequency listed in Table 3.1 of the Listing Policy.
4. Pursuant to section 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.

Regional Board Staff Decision Recommendation: After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be placed on the section 303(d) list because applicable water quality standards are not being exceeded.

Line of Evidence (LOE) for Decision ID 65163, beta-Endosulfan (Endosulfan 2)	Region 2
Napa River, Mare Island Strait	

LOE ID:	94582
Pollutant:	beta-Endosulfan (Endosulfan 2)
LOE Subgroup:	Pollutant-Water
Matrix:	Water
Fraction:	Total
Beneficial Use:	Commercial or recreational collection of fish, shellfish, or organisms
Number of Samples:	20
Number of Exceedances:	0
Data and Information Type:	PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality:	State Water Board staff assessed SFEI data for Napa River, Mare Island Strait to determine beneficial use support and results are as follows: 0 of 20 samples exceed the criterion for Endosulfan II.
Data Reference:	Regional Monitoring Program data, Feb. 1993-Sep. 2008

SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	The Endosulfan II criteria for the protection of human health from consumption of organisms only is 240 ug/L (California Toxics Rule, 2000).
Objective/Criterion Reference:	Code of Federal Regulations 40 part 131.38 Establishment of numeric criteria for priority toxic pollutants for the State of California. 7/1/2011 Edition
Evaluation Guideline:	
Guideline Reference:	
Spatial Representation:	Data for this line of evidence for Napa River, Mare Island Strait was collected at 1 monitoring site [Napa River - BD50]
Temporal Representation:	Data was collected over the time period 2/8/1994-8/7/2001.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	The 1999 Quality Assurance Project Plan Regional Monitoring Program for Trace Substances was used.
QAPP Information Reference(s):	1999 Quality Assurance Project Plan Regional Monitoring Program for Trace Substances

DECISION ID	65341	Region 2
Napa River, Mare Island Strait		
Pollutant:	pH	
Final Listing Decision:	Do Not List on 303(d) list (TMDL required list)	
Last Listing Cycle's Final Listing Decision:	New Decision	
Revision Status	Revised	
Impairment from Pollutant or Pollution:	Pollutant	
Regional Board Staff Conclusion:	<p>This pollutant is being considered for placement on the CWA section 303(d) List under section 3.2 of the Listing Policy. Under section 3.2 a single line of evidence is necessary to assess listing status. One line of evidence is available in the administrative record to assess this pollutant. One of twelve samples exceed the objective.</p> <p>Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against placing this water segment-pollutant combination on the CWA section 303(d) List.</p> <p>This conclusion is based on the staff findings that:</p> <ol style="list-style-type: none"> 1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy. 2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy. 3. One of twelve samples exceed the objective and this sample size is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating. A minimum of 26 samples is needed to determine if a beneficial use is fully supported using table 3.2. 4. Pursuant to SECTION 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met. 	
Regional Board Staff Decision Recommendation:	After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be placed on the section 303(d) list. The readily available data and information is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating.	

Line of Evidence (LOE) for Decision ID 65341, pH	Region 2
Napa River, Mare Island Strait	
LOE ID:	94576
Pollutant:	pH
LOE Subgroup:	Pollutant-Water

Matrix:	Water
Fraction:	Dissolved
Beneficial Use:	Estuarine Habitat
Number of Samples:	12
Number of Exceedances:	1
Data and Information Type:	PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality:	Numeric data generated from 12 minimums and maximums had 1 exceedence.
Data Reference:	Data for Various Pollutants in California Marinas. 2006.
SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	The pH shall not be depressed below 6.5 nor raised above 8.5.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	
Guideline Reference:	
Spatial Representation:	Samples were collected from the following stations: Vallejo Municipal Marina 5.1 Vallejo Municipal Marina 5.2 Vallejo Municipal Marina 5.3 Vallejo Municipal Marina 6.1 Vallejo Municipal Marina 6.2 Vallejo Municipal Marina 6.3 Vallejo Municipal Marina 7.1 Vallejo Municipal Marina 7.2 Vallejo Municipal Marina 7.3 Vallejo Municipal Marina 8.1 Vallejo Municipal Marina 8.2 Vallejo Municipal Marina 8.3
Temporal Representation:	Samples were collected once a month from August 2006 to October 2006.
Environmental Conditions:	
QAPP Information:	NPDES quality assurance.
QAPP Information Reference(s):	Study report on paint data collected in California Marinas.

DECISION ID	65305	Region 2
Napa River, Mare Island Strait		

Pollutant:	Chlordane
Final Listing Decision:	List on 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision:	New Decision
Revision Status	Revised
Sources:	Source Unknown
Expected TMDL Completion Date:	2029
Impairment from Pollutant or Pollution:	Pollutant

Regional Board Staff Conclusion:	<p>This pollutant is being considered for placement on the CWA section 303(d) List under section 3.5 of the Listing Policy. Under section 3.5 a single line of evidence is necessary to assess listing status.</p> <p>Three lines of evidence are available in the administrative record to assess this pollutant. Four of four samples exceed the guideline.</p> <p>Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification in favor of placing this water segment-pollutant combination on the CWA section 303(d) List.</p> <p>This conclusion is based on the staff findings that:</p> <ol style="list-style-type: none"> 1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy. 2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy. 3. Four of four samples exceed the OEHHHA guideline and this number exceeds the allowable frequency listed in Table 3.1 of the Listing Policy. 4. There is not a fish consumption advisory in effect for this waterbody. 5. Pursuant to section 3.11 of the Listing Policy, no additional data and information are available
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indicating that standards are not met.

Regional Board Staff Decision Recommendation: After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should be placed on the section 303(d) list because applicable water quality standards are exceeded and a pollutant contributes to or causes the problem.

Line of Evidence (LOE) for Decision ID 65305, Chlordane
Napa River, Mare Island Strait

Region 2

LOE ID: 94575

Pollutant: Chlordane
LOE Subgroup: Pollutant-Tissue
Matrix: Tissue
Fraction: Shellfish

Beneficial Use: Commercial or recreational collection of fish, shellfish, or organisms

Number of Samples: 15
Number of Exceedances: 0

Data and Information Type: Shellfish surveys
Data Used to Assess Water Quality: None of the 15 samples exceeded the guideline. All composite samples were comprised of *Crassostrea gigas* except for one that was comprised of *Mytilus californianus*. Data were reported on a dry weight basis and were converted to a wet weight basis by multiplying the dry-weight concentration by a factor of 1 minus the percentage of moisture content expressed as a decimal. Composite replicates were averaged. One sample was not used in the assessment because the laboratory data reporting limit(s) was above the objective and therefore the result could not be quantified with the level of certainty required by the Listing Policy. Total chlordane was calculated as the sum of the following chlordane isomers: cis- and trans-chlordane, cis- and trans-nonachlor, and oxychlordane.

Data Reference: [Regional Monitoring Program data, Feb. 1993-Sep. 2008](#)

SWAMP Data: Non-SWAMP

Water Quality Objective/Criterion: Water Quality Control Plan for the San Francisco Bay Basin: Controllable water quality factors shall not cause a detrimental increase in concentrations of toxic substances found in bottom sediments or aquatic life. Effects on aquatic organisms, wildlife, and human health will be considered.

Objective/Criterion Reference: [Water Quality Control Plan \(Basin Plan\) San Francisco Bay Basin \(Region 2\)](#)

Evaluation Guideline: The modified OEHHA Fish Contaminant Goal for total chlordane in shellfish tissue is 6.0 ppb. This screening level assumes an average body weight of 70 kg and a consumption rate of 21 g/day for a 30 year exposure over a 70-year lifetime. This constituent is a carcinogen therefore the risk level is set to one in a million. (Brodberg, R.K., and G.A. Pollock, 1999; Klasing, S., and R. Brodberg, 2008)

Guideline Reference: [Prevalence of Selected Target Chemical Contaminants in Sport Fish From Two California Lakes: Public health designed screening study. Sacramento, CA: Office of Environmental Health Hazard Assessment](#)
[Development of Fish Contaminant Goals and Advisory Tissue Levels for Common Contaminants in California Sport Fish: Chlordane, DDTs, Dieldrin, Methylmercury, PCBs, Selenium, and Toxaphene](#)

Spatial Representation: Samples were collected at the following station: BD50 - Napa River, Mare Island Strait.
Temporal Representation: Samples were generally collected in spring and fall seasons from years 1993 - 1999 and then during fall season from years 2000 - 2002.

Environmental Conditions:
QAPP Information: 1999 Quality Assurance Project Plan Regional Monitoring Program for Trace Substances.
QAPP Information Reference(s): [1999 Quality Assurance Project Plan Regional Monitoring Program for Trace Substances](#)

Line of Evidence (LOE) for Decision ID 65305, Chlordane

Region 2

Napa River, Mare Island Strait

LOE ID:	95202
Pollutant:	Chlordane
LOE Subgroup:	Pollutant-Tissue
Matrix:	Tissue
Fraction:	Fish fillet
Beneficial Use:	Commercial or recreational collection of fish, shellfish, or organisms
Number of Samples:	4
Number of Exceedances:	4
Data and Information Type:	Fish tissue analysis
Data Used to Assess Water Quality:	Water Board staff assessed Regional Monitoring Program data for the Mare Island Strait portion of the Napa River to determine beneficial use support and results are as follows: 4 of 4 samples exceed the criterion for chlordane. No samples were discarded for being non-detect, unquantifiable or the reporting limit exceeding the water quality objective.
Data Reference:	Regional Monitoring Program data, Feb. 1993-Sep. 2008
SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	Water Quality Control Plan for the San Francisco Bay Basin: Controllable water quality factors shall not cause a detrimental increase in concentrations of toxic substances found in bottom sediments or aquatic life. Effects on aquatic organisms, wildlife, and human health will be considered.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	The modified OEHHA Fish Contaminant Goal for total chlordane in fish tissue is 3.9 ppb. This screening level assumes an average body weight of 70 kg and a consumption rate of 32 g/day for a 30 year exposure over a 70-year lifetime. This constituent is a carcinogen therefore the risk level is set to one in a million. A cooking reduction factor of 1 is applied for skin-off fillets. (Klasing, S., and R. Brodberg, 2008)
Guideline Reference:	Development of Fish Contaminant Goals and Advisory Tissue Levels for Common Contaminants in California Sport Fish: Chlordane, DDTs, Dieldrin, Methylmercury, PCBs, Selenium, and Toxaphene
Spatial Representation:	The samples were collected at one site in Mare Island Strait in the lower portion of the Napa River
Temporal Representation:	The samples were collected in June 1994.
Environmental Conditions:	
QAPP Information:	The 1999 Quality Assurance Project Plan Regional Monitoring Program for Trace Substances was used.
QAPP Information Reference(s):	1999 Quality Assurance Project Plan Regional Monitoring Program for Trace Substances

Line of Evidence (LOE) for Decision ID 65305, Chlordane**Region 2****Napa River, Mare Island Strait**

LOE ID:	94580
Pollutant:	Chlordane
LOE Subgroup:	Pollutant-Water
Matrix:	Water
Fraction:	Total
Beneficial Use:	Commercial or recreational collection of fish, shellfish, or organisms
Number of Samples:	21
Number of Exceedances:	1
Data and Information Type:	PHYSICAL/CHEMICAL MONITORING

Data Used to Assess Water Quality: State Water Board staff assessed SFEI data for Napa River, Mare Island Strait to determine beneficial use support and results are as follows: 1 of 21 samples exceed the criterion for Chlordane, Total.

Data Reference: [Regional Monitoring Program data, Feb. 1993-Sep. 2008](#)

SWAMP Data: Non-SWAMP

Water Quality Objective/Criterion: The Chlordane, Total criteria for the protection of human health from consumption of organisms only is 0.00059 ug/L (California Toxics Rule, 2000).

Objective/Criterion Reference: [Code of Federal Regulations 40 part 131.38 Establishment of numeric criteria for priority toxic pollutants for the State of California. 7/1/2011 Edition](#)

Evaluation Guideline:

Guideline Reference:

Spatial Representation: Data for this line of evidence for Napa River, Mare Island Strait was collected at 1 monitoring site [Napa River - BD50]

Temporal Representation: Data was collected over the time period 3/4/1993-8/7/2001.

Environmental Conditions: Staff is not aware of any special conditions that might affect interpretation of the data.

QAPP Information: The 1999 Quality Assurance Project Plan Regional Monitoring Program for Trace Substances was used.

QAPP Information Reference(s): [1999 Quality Assurance Project Plan Regional Monitoring Program for Trace Substances](#)

DECISION ID	65312	Region 2
Napa River, Mare Island Strait		

Pollutant: Dieldrin

Final Listing Decision: List on 303(d) list (TMDL required list)

Last Listing Cycle's Final Listing Decision: New Decision

Revision Status: Revised

Sources: Source Unknown

Expected TMDL Completion Date: 2029

Impairment from Pollutant or Pollution: Pollutant

Regional Board Staff Conclusion: This pollutant is being considered for placement on the CWA section 303(d) List under section 3.5 of the Listing Policy. Under section 3.5 a single line of evidence is necessary to assess listing status.

Three lines of evidence are available in the administrative record to assess this pollutant. Seven of fourteen samples exceed the guideline.

Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification in favor of placing this water segment-pollutant combination on the CWA section 303(d) List.

This conclusion is based on the staff findings that:

1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy.
2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy.
3. Seven of fourteen samples exceed the OEHA guideline and this number exceeds the allowable frequency listed in Table 3.1 of the Listing Policy.
4. There is not a fish consumption advisory in effect for this waterbody.
5. Pursuant to section 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.

Regional Board Staff Decision Recommendation: After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should be placed on the section 303(d) list because applicable water quality standards are exceeded and a pollutant contributes to or causes the problem.

Line of Evidence (LOE) for Decision ID 65312, Dieldrin**Region 2****Napa River, Mare Island Strait**

LOE ID:	95221
Pollutant:	Dieldrin
LOE Subgroup:	Pollutant-Tissue
Matrix:	Tissue
Fraction:	Fish fillet
Beneficial Use:	Commercial or recreational collection of fish, shellfish, or organisms
Number of Samples:	4
Number of Exceedances:	4
Data and Information Type:	Fish tissue analysis
Data Used to Assess Water Quality:	Water Board staff assessed Regional Monitoring Program data for the Mare Island Strait portion of the Napa River to determine beneficial use support and results are as follows: 4 of 4 samples exceed the criterion for dieldrin. No samples were discarded for being non-detect, unquantifiable or the reporting limit exceeding the water quality objective.
Data Reference:	Regional Monitoring Program data, Feb. 1993-Sep. 2008
SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	Water Quality Control Plan for the San Francisco Bay Basin: Controllable water quality factors shall not cause a detrimental increase in concentrations of toxic substances found in bottom sediments or aquatic life. Effects on aquatic organisms, wildlife, and human health will be considered.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	The modified OEHHA Fish Contaminant Goal for dieldrin in fish tissue is 0.32 ppb. This screening level assumes an average body weight of 70 kg and a consumption rate of 32 g/day for a 30 year exposure over a 70-year lifetime. This constituent is a carcinogen therefore the risk level is set to one in a million. A cooking reduction factor of 1 is applied for skin-off fillets. (Klasing, S., and R. Brodberg, 2008)
Guideline Reference:	Development of Fish Contaminant Goals and Advisory Tissue Levels for Common Contaminants in California Sport Fish: Chlordane, DDTs, Dieldrin, Methylmercury, PCBs, Selenium, and Toxaphene
Spatial Representation:	The samples were collected at one site in Mare Island Strait in the lower portion of the Napa River
Temporal Representation:	The samples were collected in June 1994.
Environmental Conditions:	
QAPP Information:	The 1999 Quality Assurance Project Plan Regional Monitoring Program for Trace Substances was used.
QAPP Information Reference(s):	1999 Quality Assurance Project Plan Regional Monitoring Program for Trace Substances

Line of Evidence (LOE) for Decision ID 65312, Dieldrin**Region 2****Napa River, Mare Island Strait**

LOE ID:	94567
Pollutant:	Dieldrin
LOE Subgroup:	Pollutant-Water
Matrix:	Water
Fraction:	Total
Beneficial Use:	Commercial or recreational collection of fish, shellfish, or organisms
Number of Samples:	21
Number of Exceedances:	2

Data and Information Type:	PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality:	State Water Board staff assessed SFEI data for Napa River, Mare Island Strait to determine beneficial use support and results are as follows: 2 of 21 samples exceed the criterion for Dieldrin.
Data Reference:	Regional Monitoring Program data, Feb. 1993-Sep. 2008
SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	The Dieldrin criteria for the protection of human health from consumption of organisms only is 0.00014 ug/L (California Toxics Rule, 2000).
Objective/Criterion Reference:	Code of Federal Regulations 40 part 131.38 Establishment of numeric criteria for priority toxic pollutants for the State of California. 7/1/2011 Edition
Evaluation Guideline:	
Guideline Reference:	
Spatial Representation:	Data for this line of evidence for Napa River, Mare Island Strait was collected at 1 monitoring site [Napa River - BD50]
Temporal Representation:	Data was collected over the time period 3/4/1993-8/7/2001.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	The 1999 Quality Assurance Project Plan Regional Monitoring Program for Trace Substances was used.
QAPP Information Reference(s):	1999 Quality Assurance Project Plan Regional Monitoring Program for Trace Substances

Line of Evidence (LOE) for Decision ID 65312, Dieldrin
Napa River, Mare Island Strait

Region 2

LOE ID:	94573
Pollutant:	Dieldrin
LOE Subgroup:	Pollutant-Tissue
Matrix:	Tissue
Fraction:	Shellfish
Beneficial Use:	Commercial or recreational collection of fish, shellfish, or organisms
Number of Samples:	14
Number of Exceedances:	7
Data and Information Type:	Shellfish surveys
Data Used to Assess Water Quality:	Seven of the 14 samples exceeded the guideline. All composite samples were comprised of Crassostrea gigas except for one that was comprised of Mytilus californianus. Data were reported on a dry weight basis and were converted to a wet weight basis by multiplying the dry-weight concentration by a factor of 1 minus the percentage of moisture content expressed as a decimal. Composite replicates were averaged. Two samples were not used in the assessment because the laboratory data reporting limit(s) was above the objective and therefore the result could not be quantified with the level of certainty required by the Listing Policy.
Data Reference:	Regional Monitoring Program data, Feb. 1993-Sep. 2008
SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	Water Quality Control Plan for the San Francisco Bay Basin: Controllable water quality factors shall not cause a detrimental increase in concentrations of toxic substances found in bottom sediments or aquatic life. Effects on aquatic organisms, wildlife, and human health will be considered.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	The modified OEHHA Fish Contaminant Goal for dieldrin in shellfish tissue is 0.49 ppb. This screening level assumes an average body weight of 70 kg and a consumption rate of 21 g/day for a 30 year exposure over a 70-year lifetime. This constituent is a carcinogen

Guideline Reference:	therefore the risk level is set to one in a million. (Brodberg, R.K., and G.A. Pollock, 1999; Klasing, S., and R. Brodberg, 2008) Prevalence of Selected Target Chemical Contaminants in Sport Fish From Two California Lakes: Public health designed screening study. Sacramento, CA: Office of Environmental Health Hazard Assessment Development of Fish Contaminant Goals and Advisory Tissue Levels for Common Contaminants in California Sport Fish: Chlordane, DDTs, Dieldrin, Methylmercury, PCBs, Selenium, and Toxaphene
Spatial Representation:	Samples were collected at the following station: BD50 - Napa River, Mare Island Strait.
Temporal Representation:	Samples were generally collected in spring and fall seasons from years 1993 - 1999 and then during fall season from years 2000 - 2002.
Environmental Conditions:	
QAPP Information:	1999 Quality Assurance Project Plan Regional Monitoring Program for Trace Substances.
QAPP Information Reference(s):	1999 Quality Assurance Project Plan Regional Monitoring Program for Trace Substances

DECISION ID	67328	Region 2
Napa River, Mare Island Strait		

Pollutant:	Total DDT (sum of 4,4'- and 2,4'- isomers of DDT, DDE, and DDD)
Final Listing Decision:	List on 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision:	New Decision
Revision Status	Revised
Sources:	Source Unknown
Expected TMDL Completion Date:	2029
Impairment from Pollutant or Pollution:	Pollutant
Regional Board Staff Conclusion:	<p>This pollutant is being considered for placement on the CWA section 303(d) List under section 3.1 of the Listing Policy. Under section 3.1 a single line of evidence is necessary to assess listing status.</p> <p>Three lines of evidence are available in the administrative record to assess this pollutant. Eleven of twenty-one samples exceed the guideline.</p> <p>Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification in favor of placing this water segment-pollutant combination on the CWA section 303(d) List.</p> <p>This conclusion is based on the staff findings that:</p> <ol style="list-style-type: none"> 1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy. 2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy. 3. Eleven of twenty-one samples exceed the guideline and this exceeds the allowable frequency listed in Table 3.1 of the Listing Policy. 4. Pursuant to section 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.
Regional Board Staff Decision Recommendation:	After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should be placed on the section 303(d) list because applicable water quality standards are exceeded and a pollutant contributes to or causes the problem.

Line of Evidence (LOE) for Decision ID 67328, Total DDT (sum of 4,4'- and 2,4'- isomers of DDT, DDE, and DDD)	Region 2
Napa River, Mare Island Strait	

LOE ID:	95191
Pollutant:	DDT (Dichlorodiphenyltrichloroethane)

LOE Subgroup:	Pollutant-Tissue
Matrix:	Tissue
Fraction:	Fish fillet
Beneficial Use:	Commercial or recreational collection of fish, shellfish, or organisms
Number of Samples:	4
Number of Exceedances:	4
Data and Information Type:	Fish tissue analysis
Data Used to Assess Water Quality:	Water Board staff assessed Regional Monitoring Program data for the Mare Island Strait portion of the Napa River to determine beneficial use support and results are as follows: 4 of 4 samples exceed the criterion for DDT. No samples were discarded for being non-detect, unquantifiable or the reporting limit exceeding the water quality objective.
Data Reference:	Regional Monitoring Program data, Feb. 1993-Sep. 2008
SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	Water Quality Control Plan for the San Francisco Bay Basin: Controllable water quality factors shall not cause a detrimental increase in concentrations of toxic substances found in bottom sediments or aquatic life. Effects on aquatic organisms, wildlife, and human health will be considered.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	The modified OEHHA Fish Contaminant Goal for total DDT in fish tissue is 15 ppb. This screening level assumes an average body weight of 70 kg and a consumption rate of 32 g/day for a 30 year exposure over a 70-year lifetime. This constituent is a carcinogen therefore the risk level is set to one in a million. A cooking reduction factor of 1 is applied for skin-off fillets. (Klasing, S., and R. Brodberg, 2008)
Guideline Reference:	Development of Fish Contaminant Goals and Advisory Tissue Levels for Common Contaminants in California Sport Fish: Chlordane, DDTs, Dieldrin, Methylmercury, PCBs, Selenium, and Toxaphene
Spatial Representation:	The samples were collected at one site in Mare Island Strait in the lower portion of the Napa River
Temporal Representation:	The samples were collected in June 1994.
Environmental Conditions:	
QAPP Information:	The 1999 Quality Assurance Project Plan Regional Monitoring Program for Trace Substances was used.
QAPP Information Reference(s):	1999 Quality Assurance Project Plan Regional Monitoring Program for Trace Substances

Line of Evidence (LOE) for Decision ID 67328, Total DDT (sum of 4,4'- and 2,4'- isomers of DDT, DDE, and DDD)

Region 2

Napa River, Mare Island Strait

LOE ID:	94574
Pollutant:	Total DDT (sum of 4,4'- and 2,4'- isomers of DDT, DDE, and DDD)
LOE Subgroup:	Pollutant-Tissue
Matrix:	Tissue
Fraction:	Shellfish
Beneficial Use:	Commercial or recreational collection of fish, shellfish, or organisms
Number of Samples:	16
Number of Exceedances:	1
Data and Information Type:	Shellfish surveys
Data Used to Assess Water Quality:	One of the 16 samples exceeded the guideline. All composite samples were comprised of Crassostrea gigas except for one that was comprised of Mytilus californianus. Data were reported on a dry weight basis and were converted to a wet weight basis by multiplying the dry-weight concentration by a factor of 1 minus the percentage of moisture content

expressed as a decimal. Composite replicates were averaged. One sample was not used in the assessment because the laboratory data reporting limit(s) was above the objective and therefore the result could not be quantified with the level of certainty required by the Listing Policy. Total DDT was calculated as the sum of 4,4'- and 2,4'- isomers of DDT, DDE, and DDD.

Data Reference: [Regional Monitoring Program data, Feb. 1993-Sep. 2008](#)

SWAMP Data: Non-SWAMP

Water Quality Objective/Criterion: Water Quality Control Plan for the San Francisco Bay Basin: Controllable water quality factors shall not cause a detrimental increase in concentrations of toxic substances found in bottom sediments or aquatic life. Effects on aquatic organisms, wildlife, and human health will be considered.

Objective/Criterion Reference: [Water Quality Control Plan \(Basin Plan\) San Francisco Bay Basin \(Region 2\)](#)

Evaluation Guideline: The modified OEHHA Fish Contaminant Goal for total DDT in shellfish tissue is 23 ppb. This screening level assumes an average body weight of 70 kg and a consumption rate of 21 g/day for a 30 year exposure over a 70-year lifetime. This constituent is a carcinogen therefore the risk level is set to one in a million. (Brodberg, R.K., and G.A. Pollock, 1999; Klasing, S., and R. Brodberg, 2008)

Guideline Reference: [Prevalence of Selected Target Chemical Contaminants in Sport Fish From Two California Lakes: Public health designed screening study. Sacramento, CA: Office of Environmental Health Hazard Assessment](#)
[Development of Fish Contaminant Goals and Advisory Tissue Levels for Common Contaminants in California Sport Fish: Chlordane, DDTs, Dieldrin, Methylmercury, PCBs, Selenium, and Toxaphene](#)

Spatial Representation: Samples were collected at the following station: BD50 - Napa River, Mare Island Strait
Temporal Representation: Samples were generally collected in spring and fall seasons from years 1993 - 1999 and then during fall season from years 2000 - 2002.

Environmental Conditions:
QAPP Information: 1999 Quality Assurance Project Plan Regional Monitoring Program for Trace Substances.
QAPP Information Reference(s): [1999 Quality Assurance Project Plan Regional Monitoring Program for Trace Substances](#)

Line of Evidence (LOE) for Decision ID 67328, Total DDT (sum of 4,4'- and 2,4'- isomers of DDT, DDE, and DDD)

Region 2

Napa River, Mare Island Strait

LOE ID: 94591

Pollutant: Total DDT (sum of 4,4'- and 2,4'- isomers of DDT, DDE, and DDD)
LOE Subgroup: Pollutant-Water
Matrix: Water
Fraction: Total

Beneficial Use: Commercial or recreational collection of fish, shellfish, or organisms

Number of Samples: 21
Number of Exceedances: 11

Data and Information Type: PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality: State Water Board staff assessed SFEI data for Napa River, Mare Island Strait to determine beneficial use support and results are as follows: 11 of 21 samples exceed the criterion for DDT, Total.

Data Reference: [Regional Monitoring Program data, Feb. 1993-Sep. 2008](#)

SWAMP Data: Non-SWAMP

Water Quality Objective/Criterion: The DDT, Total criteria for the protection of human health from consumption of organisms only is 0.00059 ug/L (California Toxics Rule, 2000).

Objective/Criterion Reference: [Code of Federal Regulations 40 part 131.38 Establishment of numeric criteria for priority toxic pollutants for the State of California. 7/1/2011 Edition](#)

Evaluation Guideline:
Guideline Reference:

Spatial Representation:

Data for this line of evidence for Napa River, Mare Island Strait was collected at 1 monitoring site [Napa River - BD50]

Temporal Representation:

Data was collected over the time period 3/4/1993-8/7/2001.

Environmental Conditions:

Staff is not aware of any special conditions that might affect interpretation of the data.

QAPP Information:

The 1999 Quality Assurance Project Plan Regional Monitoring Program for Trace Substances was used.

QAPP Information Reference(s):

[1999 Quality Assurance Project Plan Regional Monitoring Program for Trace Substances](#)

DECISION ID	66871	Region 2
Napa River, Mare Island Strait		

Pollutant:	Toxicity
Final Listing Decision:	List on 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision:	New Decision
Revision Status	Revised
Sources:	Source Unknown
Expected TMDL Completion Date:	2029
Impairment from Pollutant or Pollution:	Pollutant

Regional Board Staff Conclusion:

This pollutant is being considered for placement on the CWA section 303(d) List under section 3.6 of the Listing Policy. Under section 3.6 a single line of evidence is necessary to assess listing status.

Two lines of evidence are available in the administrative record to assess this pollutant. Eleven of sixteen samples exceed the guideline.

Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification in favor of placing this water segment-pollutant combination on the CWA section 303(d) List.

This conclusion is based on the staff findings that:

1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy.
2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy.
3. Eleven of sixteen samples exceed the guideline and this exceeds the allowable frequency listed in Table 3.1 of the Listing Policy.
4. Pursuant to section 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.

Regional Board Staff Decision Recommendation:

After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should be placed on the section 303(d) list because applicable water quality standards are exceeded and a pollutant contributes to or causes the problem.

Line of Evidence (LOE) for Decision ID 66871, Toxicity	Region 2
Napa River, Mare Island Strait	

LOE ID:	95814
Pollutant:	Toxicity
LOE Subgroup:	Toxicity
Matrix:	Sediment
Fraction:	None
Beneficial Use:	Estuarine Habitat

Number of Samples:	16
Number of Exceedances:	11
Data and Information Type:	TOXICITY TESTING
Data Used to Assess Water Quality:	Twelve of the 15 samples exhibited toxicity. A sample may have multiple toxicity test results but will be counted only once. A sample is defined as being collected on the same day at the same location with the same lab sample id (if provided).
	The following test organisms and parameters were utilized for the toxicity tests: Eohaustorius estuarius (mean % survival), 1993-2001; Mytilus edulis (mean % normal alive), 1993-95 1997; Mytilus galloprovincialis (mean % normal alive), 1998-2001; and Strongylocentrotus purpuratus (mean % normal development), 1998. The following samples exhibited toxicity: Eohaustorius estuarius collected 1993-94, 1996-2001; Mytilus edulis collected 1997; Mytilus galloprovincialis collected 1998; Strongylocentrotus purpuratus collected 1998.
	Additional results were not included in the assessment due to control results of less than 90 percent for test parameter.
Data Reference:	Regional Monitoring Program data, Feb. 1993-Sep. 2008
SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	All waters shall be maintained free of toxic substances in concentrations that are toxic to, or that produce detrimental physiological responses in, human, plant, animal, or aquatic life. Region 2 Basin Plan.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) - San Francisco Bay Region (Region 2)
Evaluation Guideline:	Toxicity is defined as a significant reduction of test organism relative to the control (alpha < 0.01) and test organism survival is 80% or less than the control survival (at least 20% effect).
Guideline Reference:	SWAMP Memo Toxicity Data Interpretation Methods for Assessing the Toxicity of Sediment-associated Contaminants with Estuarine and Marine Amphipods. June 1994. EPA 600/R-94/025
Spatial Representation:	Samples were collected at site BD50.
Temporal Representation:	The samples were collected twice each year (winter and summer) from 1993 - 1999 and the summers of 2000 and 2001.
Environmental Conditions:	
QAPP Information:	Data collected after 1999 follows the San Francisco Estuary Institute 1999 Quality Assurance Project Plan Regional Monitoring Program for Trace Substances.
QAPP Information Reference(s):	1999 Quality Assurance Project Plan Regional Monitoring Program for Trace Substances

Line of Evidence (LOE) for Decision ID 66871, Toxicity
Napa River, Mare Island Strait

Region 2

LOE ID:	95815
Pollutant:	Toxicity
LOE Subgroup:	Toxicity
Matrix:	Water
Fraction:	None
Beneficial Use:	Estuarine Habitat
Number of Samples:	10
Number of Exceedances:	1
Data and Information Type:	TOXICITY TESTING
Data Used to Assess Water Quality:	One of the 10 samples exhibited toxicity. A sample may have multiple toxicity test results but will be counted only once. A sample is defined as being collected on the same day at the same location with the same lab sample id (if provided).

The following test organisms and parameters were utilized for the toxicity tests: *Thalassiosira pseudonana* (cell count), 1993; *Crassostrea gigas* (mean % normal development), 1993; *Mytilus edulis* (mean % normal development), 1993, 1996-97; and *Americamysis bahia* - formerly *Mysidopsis bahia* (mean % survival), 1994-97. The sample which exhibited toxicity was for *Americamysis bahia* collected February 1997.

Additional results were not included in the assessment due to control results of less than 90 percent for test parameter.

Data Reference:

[Regional Monitoring Program data, Feb. 1993-Sep. 2008](#)

SWAMP Data:

Non-SWAMP

Water Quality Objective/Criterion:

All waters shall be maintained free of toxic substances in concentrations that are toxic to, or that produce detrimental physiological responses in, human, plant, animal, or aquatic life. Region 2 Basin Plan.

Objective/Criterion Reference:

[Water Quality Control Plan \(Basin Plan\) - San Francisco Bay Region \(Region 2\)](#)

Evaluation Guideline:

Toxicity is defined as a significant reduction of test organism relative to the control ($\alpha < 0.05$) and test organism survival is 80% or less than the control survival (at least 20% effect).

Guideline Reference:

[SWAMP Memo Toxicity Data Interpretation](#)
[Method 1007.0: Mysid, Mysidopsis bahia, Survival, Growth, and Fecundity Test; Chronic Toxicity. Excerpt from: Short-Term Methods for Estimating the Chronic Toxicity of Effluents and Receiving Waters to Marine and Estuarine Organisms. 3rd edition EPA-821-R-02-014](#)

Spatial Representation:

Samples were collected at site BD50.

Temporal Representation:

The samples were collected twice each year (winter and summer) from 1993 - 1997.

Environmental Conditions:

QAPP Information:

A Quality Assurance Project Plan for the Regional Monitoring Program for Trace Substances was not available for this data.

QAPP Information Reference(s):

DECISION ID	65323	Region 2
Napa River, Mare Island Strait		

Pollutant:	Mercury
Final Listing Decision:	List on 303(d) list (being addressed by USEPA approved TMDL)
Last Listing Cycle's Final Listing Decision:	New Decision
Revision Status	Revised
Sources:	Source Unknown
TMDL Name:	San Francisco Bay Mercury
TMDL Project Code:	6
Date TMDL Approved by USEPA:	02/12/2008
Impairment from Pollutant or Pollution:	Pollutant

Regional Board Staff Conclusion:

This pollutant is being considered for placement on the CWA section 303(d) List under section 3.5 of the Listing Policy. Under section 3.5 a single line of evidence is necessary to assess listing status.

Three lines of evidence are available in the administrative record to assess this pollutant. Four of four samples exceed the guideline.

Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification in favor of placing this water segment-pollutant combination on the CWA section 303(d) List.

This conclusion is based on the staff findings that:

1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy.
2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy.
3. Four of four samples exceed the OEHHA guideline and this number exceeds the allowable frequency listed in Table 3.1 of the Listing Policy.
4. There is not a fish consumption advisory in effect for this waterbody.
5. Pursuant to section 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.
6. The San Francisco Bay mercury TMDL was approved on March 12, 2008.

Regional Board Staff Decision Recommendation: After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should be placed on the section 303(d) list because applicable water quality standards are exceeded and a pollutant contributes to or causes the problem.

**Line of Evidence (LOE) for Decision ID 65323, Mercury
Napa River, Mare Island Strait**

Region 2

LOE ID:	94557
Pollutant:	Mercury
LOE Subgroup:	Pollutant-Tissue
Matrix:	Tissue
Fraction:	Shellfish
Beneficial Use:	Commercial or recreational collection of fish, shellfish, or organisms
Number of Samples:	13
Number of Exceedances:	0
Data and Information Type:	Shellfish surveys
Data Used to Assess Water Quality:	None of the 13 samples exceeded the guideline. All composite samples were comprised of <i>Crassostrea gigas</i> except for one that was comprised of <i>Mytilus californianus</i> . Data were reported on a dry weight basis and were converted to a wet weight basis by multiplying the dry-weight concentration by a factor of 1 minus the percentage of moisture content expressed as a decimal. If a dry weight result did not have a corresponding moisture result for conversion to wet weight, the sample was not included in the assessment.
Data Reference:	Regional Monitoring Program data, Feb. 1993-Sep. 2008
SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	Water Quality Control Plan for the San Francisco Bay Basin: Controllable water quality factors shall not cause a detrimental increase in concentrations of toxic substances found in bottom sediments or aquatic life. Effects on aquatic organisms, wildlife, and human health will be considered.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	The USEPA 304(a) recommended water quality criterion for concentrations of methylmercury in shellfish tissue (wet weight) is 0.20 ppm. (Brodberg, R.K., and G.A. Pollock, 1999; USEPA, 2001)
Guideline Reference:	Prevalence of Selected Target Chemical Contaminants in Sport Fish From Two California Lakes: Public health designed screening study. Sacramento, CA: Office of Environmental Health Hazard Assessment Water Quality Criterion for the Protection of Human Health: Methylmercury. Final. United States Environmental Protection Agency Office of Science and Technology Office of Water. EPA-823-R-01-001. January 2001
Spatial Representation:	Samples were collected at the following station: BD50 - Napa River, Mare Island Strait.
Temporal Representation:	Samples were generally collected in spring and fall seasons from years 1993 - 1999.
Environmental Conditions:	
QAPP Information:	1999 Quality Assurance Project Plan Regional Monitoring Program for Trace Substances.
QAPP Information Reference(s):	1999 Quality Assurance Project Plan Regional Monitoring Program for Trace Substances

Line of Evidence (LOE) for Decision ID 65323, Mercury
Napa River, Mare Island Strait

Region 2

LOE ID:	94549
Pollutant:	Mercury
LOE Subgroup:	Pollutant-Water
Matrix:	Water
Fraction:	Total
Beneficial Use:	Commercial or recreational collection of fish, shellfish, or organisms
Number of Samples:	1
Number of Exceedances:	0
Data and Information Type:	PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality:	State Water Board staff assessed SFEI data for Napa River, Mare Island Strait to determine beneficial use support and results are as follows: 0 of 1 samples exceed the criterion for Mercury, methyl.
Data Reference:	Regional Monitoring Program data, Feb. 1993-Sep. 2008
SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	The Mercury, methyl criteria for the protection of human health from consumption of organisms only is 0.051 ug/L (California Toxics Rule, 2000).
Objective/Criterion Reference:	Code of Federal Regulations 40 part 131.38 Establishment of numeric criteria for priority toxic pollutants for the State of California. 7/1/2011 Edition
Evaluation Guideline:	
Guideline Reference:	
Spatial Representation:	Data for this line of evidence for Napa River, Mare Island Strait was collected at 1 monitoring site [Napa River - BD50]
Temporal Representation:	Data was collected on a single day 8/7/2001.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	The 1999 Quality Assurance Project Plan Regional Monitoring Program for Trace Substances was used.
QAPP Information Reference(s):	1999 Quality Assurance Project Plan Regional Monitoring Program for Trace Substances

Line of Evidence (LOE) for Decision ID 65323, Mercury
Napa River, Mare Island Strait

Region 2

LOE ID:	95175
Pollutant:	Mercury
LOE Subgroup:	Pollutant-Tissue
Matrix:	Tissue
Fraction:	Fish fillet
Beneficial Use:	Commercial or recreational collection of fish, shellfish, or organisms
Number of Samples:	4
Number of Exceedances:	4
Data and Information Type:	Fish tissue analysis
Data Used to Assess Water Quality:	Water Board staff assessed Regional Monitoring Program data for the Mare Island Strait portion of the Napa River to determine beneficial use support and results are as follows: 4 of 4 samples exceed the criterion for mercury. No samples were discarded for being non-detect, unquantifiable or the reporting limit exceeding the water quality objective.
Data Reference:	Regional Monitoring Program data, Feb. 1993-Sep. 2008

SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	Water Quality Control Plan for the San Francisco Bay Basin: Controllable water quality factors shall not cause a detrimental increase in concentrations of toxic substances found in bottom sediments or aquatic life. Effects on aquatic organisms, wildlife, and human health will be considered.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	The USEPA 304(a) recommended water quality criterion for concentrations of methylmercury in fish tissue of trophic level 4 fish (150 - 500 mm; fillet wet weight) is 0.20 mg/kg. (USEPA, 2001)
Guideline Reference:	Water Quality Criterion for the Protection of Human Health: Methylmercury. Final. United States Environmental Protection Agency Office of Science and Technology Office of Water. EPA-823-R-01-001. January 2001
Spatial Representation:	The samples were collected at one site in Mare Island Strait in the lower portion of the Napa River
Temporal Representation:	The samples were collected in June 1994.
Environmental Conditions:	
QAPP Information:	The 1999 Quality Assurance Project Plan Regional Monitoring Program for Trace Substances was used.
QAPP Information Reference(s):	1999 Quality Assurance Project Plan Regional Monitoring Program for Trace Substances

DECISION ID	65340	Region 2
Napa River, Mare Island Strait		

Pollutant:	PCBs (Polychlorinated biphenyls)
Final Listing Decision:	List on 303(d) list (being addressed by USEPA approved TMDL)
Last Listing Cycle's Final Listing Decision:	New Decision
Revision Status	Revised
Sources:	Source Unknown
TMDL Name:	San Francisco Bay PCBs
TMDL Project Code:	7
Date TMDL Approved by USEPA:	03/29/2010
Impairment from Pollutant or Pollution:	Pollutant

Regional Board Staff Conclusion: This pollutant is being considered for placement on the CWA section 303(d) List under section 3.1 of the Listing Policy. Under section 3.1 a single line of evidence is necessary to assess listing status.

Three lines of evidence are available in the administrative record to assess this pollutant. Nineteen of twenty-one samples exceed the guideline.

Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification in favor of placing this water segment-pollutant combination on the CWA section 303(d) List.

This conclusion is based on the staff findings that:

1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy.
2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy.
3. Nineteen of twenty-one samples exceed the guideline and this exceeds the allowable frequency listed in Table 3.1 of the Listing Policy.
4. Pursuant to section 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.
5. The SF Bay PCBs TMDL was approved on 3/29/2010.

Regional Board Staff Decision Recommendation: After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should be placed on the section 303(d) list because applicable water quality

standards are exceeded and a pollutant contributes to or causes the problem.

Line of Evidence (LOE) for Decision ID 65340, PCBs (Polychlorinated biphenyls)

Region 2

Napa River, Mare Island Strait

LOE ID:	94588
Pollutant:	PCBs (Polychlorinated biphenyls)
LOE Subgroup:	Pollutant-Tissue
Matrix:	Tissue
Fraction:	Shellfish
Beneficial Use:	Commercial or recreational collection of fish, shellfish, or organisms
Number of Samples:	16
Number of Exceedances:	11
Data and Information Type:	Shellfish surveys
Data Used to Assess Water Quality:	Eleven of the 16 samples exceeded the guideline. Composite samples were comprised of <i>Crassostrea gigas</i> or <i>Mytilus californianus</i> . Data were reported on a dry weight basis and were converted to a wet weight basis by multiplying the dry-weight concentration by a factor of 1 minus the percentage of moisture content expressed as a decimal. Composite replicates were averaged. Laboratory replicates were averaged. Total PCB was assessed for as follows: PCB aroclors and congeners were summed separately and the sum that yielded the highest value was used for the assessment.
Data Reference:	Regional Monitoring Program data, Feb. 1993-Sep. 2008
SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	Water Quality Control Plan for the San Francisco Bay Basin: Controllable water quality factors shall not cause a detrimental increase in concentrations of toxic substances found in bottom sediments or aquatic life. Effects on aquatic organisms, wildlife, and human health will be considered.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	The modified OEHHA Fish Contaminant Goal for polychlorinated biphenyls in shellfish tissue is 3.9 ppb. This screening level assumes an average body weight of 70 kg and a consumption rate of 21 g/day for a 30 year exposure over a 70-year lifetime. This constituent is a carcinogen therefore the risk level is set to one in a million. (Brodberg, R.K., and G.A. Pollock, 1999; Klasing, S., and R. Brodberg, 2008)
Guideline Reference:	Prevalence of Selected Target Chemical Contaminants in Sport Fish From Two California Lakes: Public health designed screening study. Sacramento, CA: Office of Environmental Health Hazard Assessment Development of Fish Contaminant Goals and Advisory Tissue Levels for Common Contaminants in California Sport Fish: Chlordane, DDTs, Dieldrin, Methylmercury, PCBs, Selenium, and Toxaphene
Spatial Representation:	Samples were collected at the following station: BD50 - Napa River, Mare Island Strait
Temporal Representation:	Samples were generally collected in spring and fall seasons from years 1993 - 1999 and then during fall season from years 2000 - 2008.
Environmental Conditions:	
QAPP Information:	1999 Quality Assurance Project Plan Regional Monitoring Program for Trace Substances.
QAPP Information Reference(s):	1999 Quality Assurance Project Plan Regional Monitoring Program for Trace Substances

Line of Evidence (LOE) for Decision ID 65340, PCBs (Polychlorinated biphenyls)

Region 2

Napa River, Mare Island Strait

LOE ID:	95111
Pollutant:	PCBs (Polychlorinated biphenyls)

LOE Subgroup:	Pollutant-Tissue
Matrix:	Tissue
Fraction:	Fish fillet
Beneficial Use:	Commercial or recreational collection of fish, shellfish, or organisms
Number of Samples:	4
Number of Exceedances:	3
Data and Information Type:	Fish tissue analysis
Data Used to Assess Water Quality:	Water Board staff assessed Regional Monitoring Program data for the Mare Island Strait portion of the Napa River to determine beneficial use support and results are as follows: 3 of 4 samples exceed the criterion for PCBs. No samples were discarded for being non-detect, unquantifiable or the reporting limit exceeding the water quality objective.
Data Reference:	Regional Monitoring Program data, Feb. 1993-Sep. 2008
SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	Water Quality Control Plan for the San Francisco Bay Basin: Controllable water quality factors shall not cause a detrimental increase in concentrations of toxic substances found in bottom sediments or aquatic life. Effects on aquatic organisms, wildlife, and human health will be considered.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	The modified OEHHA Fish Contaminant Goal for polychlorinated biphenyls in fish tissue is 2.6 ppb. This screening level assumes an average body weight of 70 kg and a consumption rate of 32 g/day for a 30 year exposure over a 70-year lifetime. This constituent is a carcinogen therefore the risk level is set to one in a million. A cooking reduction factor of 1 is applied for skin-off fillets. (Klasing, S., and R. Brodberg, 2008)
Guideline Reference:	Development of Fish Contaminant Goals and Advisory Tissue Levels for Common Contaminants in California Sport Fish: Chlordane, DDTs, Dieldrin, Methylmercury, PCBs, Selenium, and Toxaphene
Spatial Representation:	The samples were collected at one site in Mare Island Strait in the lower portion of the Napa River
Temporal Representation:	The samples were collected in June 1994.
Environmental Conditions:	
QAPP Information:	The 1999 Quality Assurance Project Plan Regional Monitoring Program for Trace Substances was used.
QAPP Information Reference(s):	1999 Quality Assurance Project Plan Regional Monitoring Program for Trace Substances

Line of Evidence (LOE) for Decision ID 65340, PCBs (Polychlorinated biphenyls)
Napa River, Mare Island Strait

Region 2

LOE ID:	94593
Pollutant:	PCBs (Polychlorinated biphenyls)
LOE Subgroup:	Pollutant-Water
Matrix:	Water
Fraction:	Total
Beneficial Use:	Commercial or recreational collection of fish, shellfish, or organisms
Number of Samples:	21
Number of Exceedances:	19
Data and Information Type:	PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality:	State Water Board staff assessed SFEI data for Napa River, Mare Island Strait to determine beneficial use support and results are as follows: 19 of 21 samples exceed the criterion for PCB, Total.
Data Reference:	Regional Monitoring Program data, Feb. 1993-Sep. 2008

SWAMP Data:

Non-SWAMP

Water Quality Objective/Criterion:

The Polychlorinated Biphenyls criteria for the protection of human health from consumption of organisms only is 0.00017 ug/L (California Toxics Rule, 2000).

Objective/Criterion Reference:

[Code of Federal Regulations 40 part 131.38 Establishment of numeric criteria for priority toxic pollutants for the State of California. 7/1/2011 Edition](#)

Evaluation Guideline:

Guideline Reference:

Spatial Representation:

Data for this line of evidence for Napa River, Mare Island Strait was collected at 1 monitoring site [Napa River - BD50]

Temporal Representation:

Data was collected over the time period 3/4/1993-8/7/2001.

Environmental Conditions:

Staff is not aware of any special conditions that might affect interpretation of the data.

QAPP Information:

The 1999 Quality Assurance Project Plan Regional Monitoring Program for Trace Substances was used.

QAPP Information Reference(s):

[1999 Quality Assurance Project Plan Regional Monitoring Program for Trace Substances](#)

Draft California 2016 Integrated Report (303(d) List/305(b) Report)

Supporting Information

Regional Board 2 - San Francisco Bay Region

Water Body Name: Crown Beach (San Francisco Bay, Lower)
Water Body ID: CAC2042004020161017060616
Water Body Type: Coastal & Bay Shoreline

DECISION ID 65965 **Region 2**
Crown Beach (San Francisco Bay, Lower)

Pollutant: Indicator Bacteria
Final Listing Decision: List on 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision: New Decision
Revision Status Revised
Sources: Source Unknown
Expected TMDL Completion Date: 2029
Impairment from Pollutant or Pollution: Pollutant

Regional Board Staff Conclusion: This pollutant is being considered for placement on the CWA section 303(d) List under section 3.3 of the Listing Policy. Under section 3.3 a single line of evidence is necessary to assess listing status.

Thirty lines of evidence are available in the administrative record to assess this pollutant. One hundred twenty-one of three hundred twenty-nine samples exceed the total coliform monthly median objective.

Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification for placing this water segment-pollutant combination on the CWA section 303(d) List.

This conclusion is based on the staff findings that:

1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy.
2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy.
3. One hundred twenty-one of three hundred twenty-nine samples exceed the total coliform monthly median objective and this exceeds the allowable frequency listed in Table 3.2 of the Listing Policy.
4. Pursuant to section 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.

Regional Board Staff Decision Recommendation: After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should be placed on the section 303(d) list because applicable water quality standards are exceeded and a pollutant contributes to or causes the problem.

Line of Evidence (LOE) for Decision ID 65965, Indicator Bacteria **Region 2**
Crown Beach (San Francisco Bay, Lower)

LOE ID: 95877
Pollutant: Total Coliform
LOE Subgroup: Pollutant-Water
Matrix: Water
Fraction: None

Beneficial Use:	Water Contact Recreation
Number of Samples:	66
Number of Exceedances:	37
Data and Information Type:	Not Specified
Data Used to Assess Water Quality:	Thirty-seven of the sixty-six monthly medians exceeded the objective.
Data Reference:	Data for Region 2 Beach Watch.
SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	The standard for total coliform states that the coliform density shall not exceed a monthly median of 240 per 100 mL. San Francisco Bay Basin Water Quality Control Plan.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	
Guideline Reference:	
Spatial Representation:	Samples were collected at the bird sanctuary site.
Temporal Representation:	Samples were collected from January 2005 to August 2010.
Environmental Conditions:	
QAPP Information:	The samples were collected for the Beach Watch program.
QAPP Information Reference(s):	

Line of Evidence (LOE) for Decision ID 65965, Indicator Bacteria
Crown Beach (San Francisco Bay, Lower)

Region 2

LOE ID:	95876
Pollutant:	Enterococcus
LOE Subgroup:	Pollutant-Water
Matrix:	Water
Fraction:	None
Beneficial Use:	Water Contact Recreation
Number of Samples:	134
Number of Exceedances:	23
Data and Information Type:	Not Specified
Data Used to Assess Water Quality:	Twenty three of the 134 geomeans exceeded the objective.
Data Reference:	Data for Region 2 Beach Watch.
SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	The geometric mean standard for enterococcus states that the enterococcus density shall not exceed 35 per 100 mL. San Francisco Bay Basin Water Quality Control Plan.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	
Guideline Reference:	
Spatial Representation:	Samples were collected at the bird sanctuary site.
Temporal Representation:	Samples were collected from September 2006 to August 2010.
Environmental Conditions:	
QAPP Information:	The samples were collected for the Beach Watch program.
QAPP Information Reference(s):	

Line of Evidence (LOE) for Decision ID 65965, Indicator Bacteria
Crown Beach (San Francisco Bay, Lower)

Region 2

LOE ID:	95875
Pollutant:	Fecal Coliform
LOE Subgroup:	Pollutant-Water
Matrix:	Water
Fraction:	None
Beneficial Use:	Water Contact Recreation
Number of Samples:	307
Number of Exceedances:	47
Data and Information Type:	PATHOGEN MONITORING
Data Used to Assess Water Quality:	Water Board staff assessed BeachWatch data for Crown Beach at Bird Sanctuary (San Francisco Bay, Lower) to determine beneficial use support and results are as follows: 47 of 307 samples exceed the criterion for Coliform, Fecal.
Data Reference:	Data for Region 2 Beach Watch.
SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	The San Francisco Bay Basin Plan states that the single sample maximum for fecal coliform shall not exceed 400 MPN/100 mL
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	
Guideline Reference:	
Spatial Representation:	Data for this line of evidence for Crown Beach at Bird Sanctuary (San Francisco Bay, Lower) was collected at 1 monitoring site [Bird Sanctuary]
Temporal Representation:	Data was collected over the time period 1/10/2005-8/30/2010.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	The samples were collected for the Beach Watch program.
QAPP Information Reference(s):	

Line of Evidence (LOE) for Decision ID 65965, Indicator Bacteria
Crown Beach (San Francisco Bay, Lower)

Region 2

LOE ID:	95878
Pollutant:	Fecal Coliform
LOE Subgroup:	Pollutant-Water
Matrix:	Water
Fraction:	None
Beneficial Use:	Water Contact Recreation
Number of Samples:	203
Number of Exceedances:	18
Data and Information Type:	Not Specified
Data Used to Assess Water Quality:	Eighteen of the 203 geomeans exceeded the objective.
Data Reference:	Data for Region 2 Beach Watch.
SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	The geometric mean standard for fecal coliform states that the fecal coliform density shall not exceed 200 per 100 mL. San Francisco Bay Basin Water Quality Control Plan.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	
Guideline Reference:	

Spatial Representation:	Samples were collected at the bird sanctuary site.
Temporal Representation:	Samples were collected from January 2005 to August 2010.
Environmental Conditions:	
QAPP Information:	The samples were collected for the beach watch program.
QAPP Information Reference(s):	

Line of Evidence (LOE) for Decision ID 65965, Indicator Bacteria
Crown Beach (San Francisco Bay, Lower)

Region 2

LOE ID:	95855
Pollutant:	Enterococcus
LOE Subgroup:	Pollutant-Water
Matrix:	Water
Fraction:	None
Beneficial Use:	Water Contact Recreation
Number of Samples:	190
Number of Exceedances:	11
Data and Information Type:	PATHOGEN MONITORING
Data Used to Assess Water Quality:	Water Board staff assessed BeachWatch data for Crown Beach at Bath House (San Francisco Bay, Lower) to determine beneficial use support and results are as follows: 11 of 190 samples exceed the criterion for Enterococci.
Data Reference:	Data for Region 2 Beach Watch.
SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	The San Francisco Bay Basin Plan states that the single sample maximum for Enterococcus shall not exceed 104 MPN/100 mL.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	
Guideline Reference:	
Spatial Representation:	Data for this line of evidence for Crown Beach at Bath House (San Francisco Bay, Lower) was collected at 1 monitoring site [Bath House]
Temporal Representation:	Data was collected over the time period 3/7/2006-8/30/2010.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	The samples were collected for the Beach Watch program.
QAPP Information Reference(s):	

Line of Evidence (LOE) for Decision ID 65965, Indicator Bacteria
Crown Beach (San Francisco Bay, Lower)

Region 2

LOE ID:	95856
Pollutant:	Total Coliform
LOE Subgroup:	Pollutant-Water
Matrix:	Water
Fraction:	None
Beneficial Use:	Water Contact Recreation
Number of Samples:	253
Number of Exceedances:	2
Data and Information Type:	PATHOGEN MONITORING
Data Used to Assess Water Quality:	Water Board staff assessed BeachWatch data for Crown Beach at Bath House (San Francisco Bay, Lower) to determine beneficial use support and results are as follows: 2 of

253 samples exceed the criterion for Coliform, Total.
[Data for Region 2 Beach Watch.](#)

Data Reference:

SWAMP Data: Non-SWAMP

Water Quality Objective/Criterion: The San Francisco Bay Basin Plan states that the single sample maximum for total coliform shall not exceed 10,000 MPN/100 mL

Objective/Criterion Reference: [Water Quality Control Plan \(Basin Plan\) San Francisco Bay Basin \(Region 2\)](#)

Evaluation Guideline:

Guideline Reference:

Spatial Representation: Data for this line of evidence for Crown Beach at Bath House (San Francisco Bay, Lower) was collected at 1 monitoring site [Bath House]

Temporal Representation: Data was collected over the time period 1/10/2005-8/30/2010.

Environmental Conditions: Staff is not aware of any special conditions that might affect interpretation of the data.

QAPP Information: The samples were collected for the Beach Watch program.

QAPP Information Reference(s):

Line of Evidence (LOE) for Decision ID 65965, Indicator Bacteria
Crown Beach (San Francisco Bay, Lower)

Region 2

LOE ID: 95857

Pollutant: Fecal Coliform

LOE Subgroup: Pollutant-Water

Matrix: Water

Fraction: None

Beneficial Use: Water Contact Recreation

Number of Samples: 302

Number of Exceedances: 17

Data and Information Type: PATHOGEN MONITORING

Data Used to Assess Water Quality: Water Board staff assessed BeachWatch data for Crown Beach at Bath House (San Francisco Bay, Lower) to determine beneficial use support and results are as follows: 17 of 302 samples exceed the criterion for Coliform, Fecal.

Data Reference: [Data for Region 2 Beach Watch.](#)

SWAMP Data: Non-SWAMP

Water Quality Objective/Criterion: The San Francisco Bay Basin Plan states that the single sample maximum for fecal coliform shall not exceed 400 MPN/100 mL

Objective/Criterion Reference: [Water Quality Control Plan \(Basin Plan\) San Francisco Bay Basin \(Region 2\)](#)

Evaluation Guideline:

Guideline Reference:

Spatial Representation: Data for this line of evidence for Crown Beach at Bath House (San Francisco Bay, Lower) was collected at 1 monitoring site [Bath House]

Temporal Representation: Data was collected over the time period 1/10/2005-8/30/2010.

Environmental Conditions: Staff is not aware of any special conditions that might affect interpretation of the data.

QAPP Information: The samples were collected for the Beach Watch program.

QAPP Information Reference(s):

Line of Evidence (LOE) for Decision ID 65965, Indicator Bacteria
Crown Beach (San Francisco Bay, Lower)

Region 2

LOE ID: 95858

Pollutant:	Fecal Coliform
LOE Subgroup:	Pollutant-Water
Matrix:	Water
Fraction:	None
Beneficial Use:	Water Contact Recreation
Number of Samples:	198
Number of Exceedances:	0
Data and Information Type:	Not Specified
Data Used to Assess Water Quality:	Zero of the 198 geomeans exceeded the objective.
Data Reference:	Data for Region 2 Beach Watch.
SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	The geometric mean standard for fecal coliform states that the fecal coliform density shall not exceed 200 per 100 mL. San Francisco Bay Basin Water Quality Control Plan.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	
Guideline Reference:	
Spatial Representation:	Samples were collected at the bath house site.
Temporal Representation:	Samples were collected from January 2005 to August 2010.
Environmental Conditions:	
QAPP Information:	The samples were collected for the beach watch program.
QAPP Information Reference(s):	

Line of Evidence (LOE) for Decision ID 65965, Indicator Bacteria
Crown Beach (San Francisco Bay, Lower)

Region 2

LOE ID:	95859
Pollutant:	Total Coliform
LOE Subgroup:	Pollutant-Water
Matrix:	Water
Fraction:	None
Beneficial Use:	Water Contact Recreation
Number of Samples:	65
Number of Exceedances:	22
Data and Information Type:	Not Specified
Data Used to Assess Water Quality:	Twenty-two of the sixty-five monthly medians exceeded the objective.
Data Reference:	Data for Region 2 Beach Watch.
SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	The standard for total coliform states that the coliform density shall not exceed a monthly median of 240 per 100 mL. San Francisco Bay Basin Water Quality Control Plan.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	
Guideline Reference:	
Spatial Representation:	Samples were collected at the bath house site.
Temporal Representation:	Samples were collected from January 2005 to August 2010.
Environmental Conditions:	
QAPP Information:	The samples were collected for the Beach Watch program.
QAPP Information Reference(s):	

Line of Evidence (LOE) for Decision ID 65965, Indicator Bacteria**Region 2****Crown Beach (San Francisco Bay, Lower)**

LOE ID:	95874
Pollutant:	Total Coliform
LOE Subgroup:	Pollutant-Water
Matrix:	Water
Fraction:	None
Beneficial Use:	Water Contact Recreation
Number of Samples:	258
Number of Exceedances:	8
Data and Information Type:	PATHOGEN MONITORING
Data Used to Assess Water Quality:	Water Board staff assessed BeachWatch data for Crown Beach at Bird Sanctuary (San Francisco Bay, Lower) to determine beneficial use support and results are as follows: 8 of 258 samples exceed the criterion for Coliform, Total.
Data Reference:	Data for Region 2 Beach Watch.
SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	The San Francisco Bay Basin Plan states that the single sample maximum for total coliform shall not exceed 10,000 MPN/100 mL
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	
Guideline Reference:	
Spatial Representation:	Data for this line of evidence for Crown Beach at Bird Sanctuary (San Francisco Bay, Lower) was collected at 1 monitoring site [Bird Sanctuary]
Temporal Representation:	Data was collected over the time period 1/10/2005-8/30/2010.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	The samples were collected for the Beach Watch program.
QAPP Information Reference(s):	

Line of Evidence (LOE) for Decision ID 65965, Indicator Bacteria**Region 2****Crown Beach (San Francisco Bay, Lower)**

LOE ID:	95873
Pollutant:	Enterococcus
LOE Subgroup:	Pollutant-Water
Matrix:	Water
Fraction:	None
Beneficial Use:	Water Contact Recreation
Number of Samples:	195
Number of Exceedances:	20
Data and Information Type:	PATHOGEN MONITORING
Data Used to Assess Water Quality:	Water Board staff assessed BeachWatch data for Crown Beach at Bird Sanctuary (San Francisco Bay, Lower) to determine beneficial use support and results are as follows: 20 of 195 samples exceed the criterion for Enterococci.
Data Reference:	Data for Region 2 Beach Watch.
SWAMP Data:	Non-SWAMP

Water Quality Objective/Criterion:	The San Francisco Bay Basin Plan states that the single sample maximum for Enterococcus shall not exceed 104 MPN/100 mL.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	
Guideline Reference:	
Spatial Representation:	Data for this line of evidence for Crown Beach at Bird Sanctuary (San Francisco Bay, Lower) was collected at 1 monitoring site [Bird Sanctuary]
Temporal Representation:	Data was collected over the time period 3/7/2006-8/30/2010.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	The samples were collected for the Beach Watch program.
QAPP Information Reference(s):	

Line of Evidence (LOE) for Decision ID 65965, Indicator Bacteria
Crown Beach (San Francisco Bay, Lower)

Region 2

LOE ID:	95872
Pollutant:	Fecal Coliform
LOE Subgroup:	Pollutant-Water
Matrix:	Water
Fraction:	None
Beneficial Use:	Water Contact Recreation
Number of Samples:	191
Number of Exceedances:	11
Data and Information Type:	Not Specified
Data Used to Assess Water Quality:	Eleven of the 191 geomeans exceeded the fecal coliform objective.
Data Reference:	Data for Region 2 Beach Watch.
SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	The geometric mean standard for fecal coliform states that the fecal coliform density shall not exceed 200 per 100 mL. San Francisco Bay Basin Water Quality Control Plan.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	
Guideline Reference:	
Spatial Representation:	Samples were collected at station 2001 Shoreline Dr.
Temporal Representation:	Samples were collected approximately once a week from January 2005 to August 2010.
Environmental Conditions:	
QAPP Information:	The samples were collected for the Beach Watch program.
QAPP Information Reference(s):	

Line of Evidence (LOE) for Decision ID 65965, Indicator Bacteria
Crown Beach (San Francisco Bay, Lower)

Region 2

LOE ID:	95871
Pollutant:	Total Coliform
LOE Subgroup:	Pollutant-Water
Matrix:	Water
Fraction:	None
Beneficial Use:	Water Contact Recreation
Number of Samples:	66

Number of Exceedances:	23
Data and Information Type:	Not Specified
Data Used to Assess Water Quality:	Twenty-three of the sixty-six monthly medians exceeded the objective.
Data Reference:	Data for Region 2 Beach Watch.
SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	The standard for total coliform states that the coliform density shall not exceed a monthly median of 240 per 100 mL. San Francisco Bay Basin Water Quality Control Plan.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	
Guideline Reference:	
Spatial Representation:	Samples were collected at the 2001 Shoreline Drive site.
Temporal Representation:	Samples were collected from January 2005 to August 2010.
Environmental Conditions:	
QAPP Information:	The samples were collected for the Beach Watch program.
QAPP Information Reference(s):	

Line of Evidence (LOE) for Decision ID 65965, Indicator Bacteria
Crown Beach (San Francisco Bay, Lower)

Region 2

LOE ID:	95870
Pollutant:	Enterococcus
LOE Subgroup:	Pollutant-Water
Matrix:	Water
Fraction:	None
Beneficial Use:	Water Contact Recreation
Number of Samples:	124
Number of Exceedances:	12
Data and Information Type:	Not Specified
Data Used to Assess Water Quality:	Twelve of the 124 geomeans exceeded the objective.
Data Reference:	Data for Region 2 Beach Watch.
SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	The geometric mean standard for enterococcus states that the enterococcus density shall not exceed 35 per 100 mL. San Francisco Bay Basin Water Quality Control Plan.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	
Guideline Reference:	
Spatial Representation:	Samples were collected at the 2001 Shoreline Drive site.
Temporal Representation:	Samples were collected from September 2006 to August 2010.
Environmental Conditions:	
QAPP Information:	The samples were collected for the Beach Watch program.
QAPP Information Reference(s):	

Line of Evidence (LOE) for Decision ID 65965, Indicator Bacteria
Crown Beach (San Francisco Bay, Lower)

Region 2

LOE ID:	95849
Pollutant:	Enterococcus

LOE Subgroup:	Pollutant-Water
Matrix:	Water
Fraction:	None
Beneficial Use:	Water Contact Recreation
Number of Samples:	187
Number of Exceedances:	8
Data and Information Type:	PATHOGEN MONITORING
Data Used to Assess Water Quality:	Water Board staff assessed BeachWatch data for Crown Beach at Sunset Rd (San Francisco Bay, Lower) to determine beneficial use support and results are as follows: 8 of 187 samples exceed the criterion for Enterococci.
Data Reference:	Data for Region 2 Beach Watch.
SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	The San Francisco Bay Basin Plan states that the single sample maximum for Enterococcus shall not exceed 104 MPN/100 mL.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	
Guideline Reference:	
Spatial Representation:	Data for this line of evidence for Crown Beach at Sunset Rd (San Francisco Bay, Lower) was collected at 1 monitoring site [Sunset Rd.]
Temporal Representation:	Data was collected over the time period 3/7/2006-8/30/2010.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	The samples were collected for the Beach Watch program.
QAPP Information Reference(s):	

Line of Evidence (LOE) for Decision ID 65965, Indicator Bacteria
Crown Beach (San Francisco Bay, Lower)

Region 2

LOE ID:	95850
Pollutant:	Total Coliform
LOE Subgroup:	Pollutant-Water
Matrix:	Water
Fraction:	None
Beneficial Use:	Water Contact Recreation
Number of Samples:	250
Number of Exceedances:	3
Data and Information Type:	PATHOGEN MONITORING
Data Used to Assess Water Quality:	Water Board staff assessed BeachWatch data for Crown Beach at Sunset Rd (San Francisco Bay, Lower) to determine beneficial use support and results are as follows: 3 of 250 samples exceed the criterion for Coliform, Total.
Data Reference:	Data for Region 2 Beach Watch.
SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	The San Francisco Bay Basin Plan states that the single sample maximum for total coliform shall not exceed 10,000 MPN/100 mL
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	
Guideline Reference:	
Spatial Representation:	Data for this line of evidence for Crown Beach at Sunset Rd (San Francisco Bay, Lower)

Temporal Representation:	was collected at 1 monitoring site [Sunset Rd.]
Environmental Conditions:	Data was collected over the time period 1/10/2005-8/30/2010.
QAPP Information:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information Reference(s):	The samples were collected for the Beach Watch program.

Line of Evidence (LOE) for Decision ID 65965, Indicator Bacteria
Crown Beach (San Francisco Bay, Lower)

Region 2

LOE ID:	95851
Pollutant:	Fecal Coliform
LOE Subgroup:	Pollutant-Water
Matrix:	Water
Fraction:	None
Beneficial Use:	Water Contact Recreation
Number of Samples:	299
Number of Exceedances:	16
Data and Information Type:	PATHOGEN MONITORING
Data Used to Assess Water Quality:	Water Board staff assessed BeachWatch data for Crown Beach at Sunset Rd (San Francisco Bay, Lower) to determine beneficial use support and results are as follows: 16 of 299 samples exceed the criterion for Coliform, Fecal.
Data Reference:	Data for Region 2 Beach Watch.
SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	The San Francisco Bay Basin Plan states that the single sample maximum for fecal coliform shall not exceed 400 MPN/100 mL
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	
Guideline Reference:	
Spatial Representation:	Data for this line of evidence for Crown Beach at Sunset Rd (San Francisco Bay, Lower) was collected at 1 monitoring site [Sunset Rd.]
Temporal Representation:	Data was collected over the time period 1/10/2005-8/30/2010.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	The samples were collected for the Beach Watch program.
QAPP Information Reference(s):	

Line of Evidence (LOE) for Decision ID 65965, Indicator Bacteria
Crown Beach (San Francisco Bay, Lower)

Region 2

LOE ID:	95852
Pollutant:	Fecal Coliform
LOE Subgroup:	Pollutant-Water
Matrix:	Water
Fraction:	None
Beneficial Use:	Water Contact Recreation
Number of Samples:	191
Number of Exceedances:	6
Data and Information Type:	Not Specified
Data Used to Assess Water Quality:	Six of the 191 geomeans exceeded the objective.
Data Reference:	Data for Region 2 Beach Watch.

SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	The geometric mean standard for fecal coliform states that the fecal coliform density shall not exceed 200 per 100 mL. San Francisco Bay Basin Water Quality Control Plan.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	
Guideline Reference:	
Spatial Representation:	Samples were collected at the Sunset Road site.
Temporal Representation:	Samples were collected from January 2005 to August 2010.
Environmental Conditions:	
QAPP Information:	The samples were collected for the beach watch program.
QAPP Information Reference(s):	

Line of Evidence (LOE) for Decision ID 65965, Indicator Bacteria

Region 2

Crown Beach (San Francisco Bay, Lower)

LOE ID:	95853
Pollutant:	Total Coliform
LOE Subgroup:	Pollutant-Water
Matrix:	Water
Fraction:	None
Beneficial Use:	Water Contact Recreation
Number of Samples:	66
Number of Exceedances:	22
Data and Information Type:	Not Specified
Data Used to Assess Water Quality:	Twenty-two of the sixty-six monthly medians exceeded the objective.
Data Reference:	Data for Region 2 Beach Watch.
SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	The standard for total coliform states that the coliform density shall not exceed a monthly median of 240 per 100 mL. San Francisco Bay Basin Water Quality Control Plan.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	
Guideline Reference:	
Spatial Representation:	Samples were collected at the Sunset Road site.
Temporal Representation:	Samples were collected from January 2005 to August 2010.
Environmental Conditions:	
QAPP Information:	The samples were collected for the Beach Watch program.
QAPP Information Reference(s):	

Line of Evidence (LOE) for Decision ID 65965, Indicator Bacteria

Region 2

Crown Beach (San Francisco Bay, Lower)

LOE ID:	95854
Pollutant:	Enterococcus
LOE Subgroup:	Pollutant-Water
Matrix:	Water
Fraction:	None
Beneficial Use:	Water Contact Recreation

Number of Samples:	124
Number of Exceedances:	7
Data and Information Type:	Not Specified
Data Used to Assess Water Quality:	Seven of the 124 geomeans exceeded the objective.
Data Reference:	Data for Region 2 Beach Watch.
SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	The geometric mean standard for enterococcus states that the enterococcus density shall not exceed 35 per 100 mL. San Francisco Bay Basin Water Quality Control Plan.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	
Guideline Reference:	
Spatial Representation:	Samples were collected at the Sunset Road site.
Temporal Representation:	Samples were collected from April 2007 to August 2010.
Environmental Conditions:	
QAPP Information:	The samples were collected for the Beach Watch program.
QAPP Information Reference(s):	

Line of Evidence (LOE) for Decision ID 65965, Indicator Bacteria
Crown Beach (San Francisco Bay, Lower)

Region 2

LOE ID:	95869
Pollutant:	Fecal Coliform
LOE Subgroup:	Pollutant-Water
Matrix:	Water
Fraction:	None
Beneficial Use:	Water Contact Recreation
Number of Samples:	297
Number of Exceedances:	24
Data and Information Type:	PATHOGEN MONITORING
Data Used to Assess Water Quality:	Water Board staff assessed BeachWatch data for Crown Beach at 2001 Shoreline Dr (San Francisco Bay, Lower) to determine beneficial use support and results are as follows: 24 of 297 samples exceed the criterion for Coliform, Fecal.
Data Reference:	Data for Region 2 Beach Watch.
SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	The San Francisco Bay Basin Plan states that the single sample maximum for fecal coliform shall not exceed 400 MPN/100 mL
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	
Guideline Reference:	
Spatial Representation:	Data for this line of evidence for Crown Beach at 2001 Shoreline Dr (San Francisco Bay, Lower) was collected at 1 monitoring site [2001 Shoreline Dr.]
Temporal Representation:	Data was collected over the time period 1/10/2005-8/30/2010.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	The samples were collected for the Beach Watch program.
QAPP Information Reference(s):	

Line of Evidence (LOE) for Decision ID 65965, Indicator Bacteria

Region 2

Crown Beach (San Francisco Bay, Lower)

LOE ID:	95868
Pollutant:	Total Coliform
LOE Subgroup:	Pollutant-Water
Matrix:	Water
Fraction:	None
Beneficial Use:	Water Contact Recreation
Number of Samples:	248
Number of Exceedances:	3
Data and Information Type:	PATHOGEN MONITORING
Data Used to Assess Water Quality:	Water Board staff assessed BeachWatch data for Crown Beach at 2001 Shoreline Dr (San Francisco Bay, Lower) to determine beneficial use support and results are as follows: 3 of 248 samples exceed the criterion for Coliform, Total.
Data Reference:	Data for Region 2 Beach Watch.
SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	The San Francisco Bay Basin Plan states that the single sample maximum for total coliform shall not exceed 10,000 MPN/100 mL
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	
Guideline Reference:	
Spatial Representation:	Data for this line of evidence for Crown Beach at 2001 Shoreline Dr (San Francisco Bay, Lower) was collected at 1 monitoring site [2001 Shoreline Dr.]
Temporal Representation:	Data was collected over the time period 1/10/2005-8/30/2010.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	The samples were collected for the Beach Watch program.
QAPP Information Reference(s):	

Line of Evidence (LOE) for Decision ID 65965, Indicator Bacteria**Region 2****Crown Beach (San Francisco Bay, Lower)**

LOE ID:	95867
Pollutant:	Enterococcus
LOE Subgroup:	Pollutant-Water
Matrix:	Water
Fraction:	None
Beneficial Use:	Water Contact Recreation
Number of Samples:	185
Number of Exceedances:	12
Data and Information Type:	PATHOGEN MONITORING
Data Used to Assess Water Quality:	Water Board staff assessed BeachWatch data for Crown Beach at 2001 Shoreline Dr (San Francisco Bay, Lower) to determine beneficial use support and results are as follows: 12 of 185 samples exceed the criterion for Enterococci.
Data Reference:	Data for Region 2 Beach Watch.
SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	The San Francisco Bay Basin Plan states that the single sample maximum for Enterococcus shall not exceed 104 MPN/100 mL.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)

Evaluation Guideline:
Guideline Reference:

Spatial Representation: Data for this line of evidence for Crown Beach at 2001 Shoreline Dr (San Francisco Bay, Lower) was collected at 1 monitoring site [2001 Shoreline Dr.]

Temporal Representation: Data was collected over the time period 3/7/2006-8/30/2010.

Environmental Conditions: Staff is not aware of any special conditions that might affect interpretation of the data.

QAPP Information: The samples were collected for the Beach Watch program.

QAPP Information Reference(s):

Line of Evidence (LOE) for Decision ID 65965, Indicator Bacteria
Crown Beach (San Francisco Bay, Lower)

Region 2

LOE ID: 95866

Pollutant: Fecal Coliform
LOE Subgroup: Pollutant-Water
Matrix: Water
Fraction: None

Beneficial Use: Water Contact Recreation

Number of Samples: 187
Number of Exceedances: 0

Data and Information Type: Not Specified
Data Used to Assess Water Quality: Zero of the 187 geomeans exceeded the objective.
Data Reference: [Data for Region 2 Beach Watch.](#)

SWAMP Data: Non-SWAMP

Water Quality Objective/Criterion: The geometric mean standard for fecal coliform states that the fecal coliform density shall not exceed 200 per 100 mL. San Francisco Bay Basin Water Quality Control Plan.
Objective/Criterion Reference: [Water Quality Control Plan \(Basin Plan\) San Francisco Bay Basin \(Region 2\)](#)

Evaluation Guideline:
Guideline Reference:

Spatial Representation: Samples were collected at the Windsurfer Corner site.
Temporal Representation: Samples were collected from January 2005 to August 2010.
Environmental Conditions:
QAPP Information: The samples were collected for the beach watch program.
QAPP Information Reference(s):

Line of Evidence (LOE) for Decision ID 65965, Indicator Bacteria
Crown Beach (San Francisco Bay, Lower)

Region 2

LOE ID: 95865

Pollutant: Total Coliform
LOE Subgroup: Pollutant-Water
Matrix: Water
Fraction: None

Beneficial Use: Water Contact Recreation

Number of Samples: 66
Number of Exceedances: 17

Data and Information Type: Not Specified

Data Used to Assess Water Quality:	Seventeen of the sixty-six monthly medians exceeded the objective.
Data Reference:	Data for Region 2 Beach Watch.
SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	The standard for total coliform states that the coliform density shall not exceed a monthly median of 240 per 100 mL. San Francisco Bay Basin Water Quality Control Plan.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	
Guideline Reference:	
Spatial Representation:	Samples were collected at the Windsurfer Corner site.
Temporal Representation:	Samples were collected from January 2005 to August 2010.
Environmental Conditions:	
QAPP Information:	The samples were collected for the Beach Watch program.
QAPP Information Reference(s):	

Line of Evidence (LOE) for Decision ID 65965, Indicator Bacteria

Region 2

Crown Beach (San Francisco Bay, Lower)

LOE ID:	95864
Pollutant:	Enterococcus
LOE Subgroup:	Pollutant-Water
Matrix:	Water
Fraction:	None
Beneficial Use:	Water Contact Recreation
Number of Samples:	120
Number of Exceedances:	2
Data and Information Type:	Not Specified
Data Used to Assess Water Quality:	Two of the 120 geomeans exceeded the objective.
Data Reference:	Data for Region 2 Beach Watch.
SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	The geometric mean standard for enterococcus states that the enterococcus density shall not exceed 35 per 100 mL. San Francisco Bay Basin Water Quality Control Plan.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	
Guideline Reference:	
Spatial Representation:	Samples were collected at the Windsurfer Corner site.
Temporal Representation:	Samples were collected from April 2007 to August 2010.
Environmental Conditions:	
QAPP Information:	The samples were collected for the Beach Watch program.
QAPP Information Reference(s):	

Line of Evidence (LOE) for Decision ID 65965, Indicator Bacteria

Region 2

Crown Beach (San Francisco Bay, Lower)

LOE ID:	95863
Pollutant:	Fecal Coliform
LOE Subgroup:	Pollutant-Water
Matrix:	Water
Fraction:	None

Beneficial Use:	Water Contact Recreation
Number of Samples:	295
Number of Exceedances:	10
Data and Information Type:	PATHOGEN MONITORING
Data Used to Assess Water Quality:	Water Board staff assessed BeachWatch data for Crown Beach at Windsurfer Corner (San Francisco Bay, Lower) to determine beneficial use support and results are as follows: 10 of 295 samples exceed the criterion for Coliform, Fecal.
Data Reference:	Data for Region 2 Beach Watch.
SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	The San Francisco Bay Basin Plan states that the single sample maximum for fecal coliform shall not exceed 400 MPN/100 mL
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	
Guideline Reference:	
Spatial Representation:	Data for this line of evidence for Crown Beach at Windsurfer Corner (San Francisco Bay, Lower) was collected at 1 monitoring site [Windsurf Corner]
Temporal Representation:	Data was collected over the time period 1/10/2005-8/30/2010.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	The samples were collected for the Beach Watch program.
QAPP Information Reference(s):	

Line of Evidence (LOE) for Decision ID 65965, Indicator Bacteria

Region 2

Crown Beach (San Francisco Bay, Lower)

LOE ID:	95862
Pollutant:	Total Coliform
LOE Subgroup:	Pollutant-Water
Matrix:	Water
Fraction:	None
Beneficial Use:	Water Contact Recreation
Number of Samples:	246
Number of Exceedances:	1
Data and Information Type:	PATHOGEN MONITORING
Data Used to Assess Water Quality:	Water Board staff assessed BeachWatch data for Crown Beach at Windsurfer Corner (San Francisco Bay, Lower) to determine beneficial use support and results are as follows: 1 of 246 samples exceed the criterion for Coliform, Total.
Data Reference:	Data for Region 2 Beach Watch.
SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	The San Francisco Bay Basin Plan states that the single sample maximum for total coliform shall not exceed 10,000 MPN/100 mL
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	
Guideline Reference:	
Spatial Representation:	Data for this line of evidence for Crown Beach at Windsurfer Corner (San Francisco Bay, Lower) was collected at 1 monitoring site [Windsurf Corner]
Temporal Representation:	Data was collected over the time period 1/10/2005-8/30/2010.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.

QAPP Information: The samples were collected for the Beach Watch program.
QAPP Information Reference(s):

Line of Evidence (LOE) for Decision ID 65965, Indicator Bacteria
Crown Beach (San Francisco Bay, Lower)

Region 2

LOE ID: 95861

Pollutant: Enterococcus
LOE Subgroup: Pollutant-Water
Matrix: Water
Fraction: None

Beneficial Use: Water Contact Recreation

Number of Samples: 183
Number of Exceedances: 3

Data and Information Type: PATHOGEN MONITORING
Data Used to Assess Water Quality: Water Board staff assessed BeachWatch data for Crown Beach at Windsurfer Corner (San Francisco Bay, Lower) to determine beneficial use support and results are as follows: 3 of 183 samples exceed the criterion for Enterococci.

Data Reference: [Data for Region 2 Beach Watch.](#)

SWAMP Data: Non-SWAMP

Water Quality Objective/Criterion: The San Francisco Bay Basin Plan states that the single sample maximum for Enterococcus shall not exceed 104 MPN/100 mL.

Objective/Criterion Reference: [Water Quality Control Plan \(Basin Plan\) San Francisco Bay Basin \(Region 2\)](#)

Evaluation Guideline:
Guideline Reference:

Spatial Representation: Data for this line of evidence for Crown Beach at Windsurfer Corner (San Francisco Bay, Lower) was collected at 1 monitoring site [Windsurf Corner]

Temporal Representation: Data was collected over the time period 3/7/2006-8/30/2010.

Environmental Conditions: Staff is not aware of any special conditions that might affect interpretation of the data.

QAPP Information: The samples were collected for the Beach Watch program.

QAPP Information Reference(s):

Line of Evidence (LOE) for Decision ID 65965, Indicator Bacteria
Crown Beach (San Francisco Bay, Lower)

Region 2

LOE ID: 95860

Pollutant: Enterococcus
LOE Subgroup: Pollutant-Water
Matrix: Water
Fraction: None

Beneficial Use: Water Contact Recreation

Number of Samples: 132
Number of Exceedances: 8

Data and Information Type: Not Specified
Data Used to Assess Water Quality: Eight of the 132 geomeans exceeded the objective.

Data Reference: [Data for Region 2 Beach Watch.](#)

SWAMP Data: Non-SWAMP

Water Quality Objective/Criterion:	The geometric mean standard for enterococcus states that the enterococcus density shall not exceed 35 per 100 mL. San Francisco Bay Basin Water Quality Control Plan.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	
Guideline Reference:	
Spatial Representation:	Samples were collected at the bath house site.
Temporal Representation:	Samples were collected from September 2006 to August 2010.
Environmental Conditions:	
QAPP Information:	The samples were collected for the Beach Watch program.
QAPP Information Reference(s):	

Draft California 2016 Integrated Report (303(d) List/305(b) Report)

Supporting Information

Regional Board 2 - San Francisco Bay Region

Water Body Name: Pacific Ocean at Ocean Beach
Water Body ID: CAC2021000020161017061298
Water Body Type: Coastal & Bay Shoreline

DECISION ID 65990 **Region 2**
Pacific Ocean at Ocean Beach

Pollutant: Indicator Bacteria
Final Listing Decision: Do Not List on 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision: New Decision
Revision Status Revised
Impairment from Pollutant or Pollution: Pollutant

Regional Board Staff Conclusion: This pollutant is being considered for placement on the CWA section 303(d) List under section 3.3 of the Listing Policy. Under section 3.3 a single line of evidence is necessary to assess listing status.

Thirty lines of evidence are available in the administrative record to assess this pollutant. Sixty-eight of nine hundred sixty-three samples exceed the enterococcus geometric mean objective.

Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against placing this water segment-pollutant combination on the CWA section 303(d) List.

This conclusion is based on the staff findings that:

1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy.
2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy.
3. Sixty-eight of nine hundred sixty-three samples exceed the enterococcus geometric mean objective objective and this does not exceed the allowable frequency listed in Table 3.2 of the Listing Policy.
4. Pursuant to section 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.

Regional Board Staff Decision Recommendation: After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be placed on the section 303(d) list because applicable water quality standards are not being exceeded.

Line of Evidence (LOE) for Decision ID 65990, Indicator Bacteria **Region 2**
Pacific Ocean at Ocean Beach

LOE ID: 95841
Pollutant: Total Coliform
LOE Subgroup: Pollutant-Water
Matrix: Water
Fraction: None
Beneficial Use: Water Contact Recreation
Number of Samples: 3
Number of Exceedances: 2

Data and Information Type:	Not Specified
Data Used to Assess Water Quality:	Two of the 3 geomeans exceeded the total coliform objective.
Data Reference:	Data for Region 2 Beach Watch.
SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	The geometric mean standard for total coliform states that the total coliform density shall not exceed 1,000 per 100 mL. Water Quality Control Plan for Ocean Waters 2009.
Objective/Criterion Reference:	California Ocean Plan Water Quality Control Plan Ocean Waters of California 2009
Evaluation Guideline:	
Guideline Reference:	
Spatial Representation:	Samples were collected at station Ocean Beach, at Vicente St.
Temporal Representation:	Samples were collected approximately five times a year from January 2005 to January 2010.
Environmental Conditions:	
QAPP Information:	The samples were collected for the Beach Watch program.
QAPP Information Reference(s):	

Line of Evidence (LOE) for Decision ID 65990, Indicator Bacteria
Pacific Ocean at Ocean Beach

Region 2

LOE ID:	95834
Pollutant:	Enterococcus
LOE Subgroup:	Pollutant-Water
Matrix:	Water
Fraction:	None
Beneficial Use:	Water Contact Recreation
Number of Samples:	6
Number of Exceedances:	1
Data and Information Type:	Not Specified
Data Used to Assess Water Quality:	One of the 6 geomeans exceeded the enterococcus objective.
Data Reference:	Data for Region 2 Beach Watch.
SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	The geometric mean standard for enterococcus states that the enterococcus density shall not exceed 35 per 100 mL. Water Quality Control Plan for Ocean Waters 2009.
Objective/Criterion Reference:	California Ocean Plan Water Quality Control Plan Ocean Waters of California 2009
Evaluation Guideline:	
Guideline Reference:	
Spatial Representation:	Samples were collected at station Ocean Beach, at Pacheco St.
Temporal Representation:	Samples were collected approximately five times a year from January 2005 to August 2010.
Environmental Conditions:	
QAPP Information:	The samples were collected for the Beach Watch program.
QAPP Information Reference(s):	

Line of Evidence (LOE) for Decision ID 65990, Indicator Bacteria
Pacific Ocean at Ocean Beach

Region 2

LOE ID:	95843
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Pollutant:	Enterococcus
LOE Subgroup:	Pollutant-Water
Matrix:	Water
Fraction:	None
Beneficial Use:	Water Contact Recreation
Number of Samples:	323
Number of Exceedances:	15
Data and Information Type:	PATHOGEN MONITORING
Data Used to Assess Water Quality:	Water Board staff assessed BeachWatch data for Pacific Ocean at Ocean Beach (at Sloat Blvd) to determine beneficial use support and results are as follows: 15 of 323 samples exceed the criterion for Enterococci.
Data Reference:	Data for Region 2 Beach Watch.
SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	California Ocean Plan (SWRCB 2009) states that the single sample maximum for Enterococcus shall not exceed 104 MPN/100 mL.
Objective/Criterion Reference:	California Ocean Plan Water Quality Control Plan Ocean Waters of California 2009
Evaluation Guideline:	
Guideline Reference:	
Spatial Representation:	Data for this line of evidence for Pacific Ocean at Ocean Beach (at Sloat Blvd) was collected at 1 monitoring site [Ocean Beach, at Sloat Blvd.]
Temporal Representation:	Data was collected over the time period 1/4/2005-8/25/2010.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	The samples were collected for the Beach Watch program.
QAPP Information Reference(s):	

Line of Evidence (LOE) for Decision ID 65990, Indicator Bacteria

Region 2

Pacific Ocean at Ocean Beach

LOE ID:	95844
Pollutant:	Total Coliform
LOE Subgroup:	Pollutant-Water
Matrix:	Water
Fraction:	None
Beneficial Use:	Water Contact Recreation
Number of Samples:	323
Number of Exceedances:	2
Data and Information Type:	PATHOGEN MONITORING
Data Used to Assess Water Quality:	Water Board staff assessed BeachWatch data for Pacific Ocean at Ocean Beach (at Sloat Blvd) to determine beneficial use support and results are as follows: 2 of 323 samples exceed the criterion for Coliform, Total.
Data Reference:	Data for Region 2 Beach Watch.
SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	California Ocean Plan (2009) single sample maximum states that total coliform density shall not exceed 10,000 MPN/100 mL
Objective/Criterion Reference:	California Ocean Plan Water Quality Control Plan Ocean Waters of California 2009
Evaluation Guideline:	
Guideline Reference:	

Spatial Representation:	Data for this line of evidence for Pacific Ocean at Ocean Beach (at Sloat Blvd) was collected at 1 monitoring site [Ocean Beach, at Sloat Blvd.]
Temporal Representation:	Data was collected over the time period 1/4/2005-8/25/2010.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	The samples were collected for the Beach Watch program.
QAPP Information Reference(s):	

Line of Evidence (LOE) for Decision ID 65990, Indicator Bacteria

Region 2

Pacific Ocean at Ocean Beach

LOE ID:	95845
Pollutant:	Fecal Coliform
LOE Subgroup:	Pollutant-Water
Matrix:	Water
Fraction:	None
Beneficial Use:	Water Contact Recreation
Number of Samples:	323
Number of Exceedances:	8
Data and Information Type:	PATHOGEN MONITORING
Data Used to Assess Water Quality:	Water Board staff assessed BeachWatch data for Pacific Ocean at Ocean Beach (at Sloat Blvd) to determine beneficial use support and results are as follows: 8 of 323 samples exceed the criterion for Coliform, Fecal.
Data Reference:	Data for Region 2 Beach Watch.
SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	California Ocean Plan (SWRCB 2009) states that the single sample maximum for fecal coliform shall not exceed 400 MPN/100 mL
Objective/Criterion Reference:	California Ocean Plan Water Quality Control Plan Ocean Waters of California 2009
Evaluation Guideline:	
Guideline Reference:	
Spatial Representation:	Data for this line of evidence for Pacific Ocean at Ocean Beach (at Sloat Blvd) was collected at 1 monitoring site [Ocean Beach, at Sloat Blvd.]
Temporal Representation:	Data was collected over the time period 1/4/2005-8/25/2010.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	The samples were collected for the Beach Watch program.
QAPP Information Reference(s):	

Line of Evidence (LOE) for Decision ID 65990, Indicator Bacteria

Region 2

Pacific Ocean at Ocean Beach

LOE ID:	95846
Pollutant:	Enterococcus
LOE Subgroup:	Pollutant-Water
Matrix:	Water
Fraction:	None
Beneficial Use:	Water Contact Recreation
Number of Samples:	318
Number of Exceedances:	15
Data and Information Type:	Not Specified
Data Used to Assess Water Quality:	Fifteen of the 318 geomeans exceeded the enterococcus objective.

Data Reference:	Data for Region 2 Beach Watch.
SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	The geometric mean standard for enterococcus states that the enterococcus density shall not exceed 35 per 100 mL. Water Quality Control Plan for Ocean Waters 2009.
Objective/Criterion Reference:	California Ocean Plan Water Quality Control Plan Ocean Waters of California 2009
Evaluation Guideline:	
Guideline Reference:	
Spatial Representation:	Samples were collected at station Ocean Beach, at Sloat Blvd.
Temporal Representation:	Samples were collected approximately once a week from January 2005 to September 2010.
Environmental Conditions:	
QAPP Information:	The samples were collected for the Beach Watch program.
QAPP Information Reference(s):	

Line of Evidence (LOE) for Decision ID 65990, Indicator Bacteria
Pacific Ocean at Ocean Beach

Region 2

LOE ID:	95847
Pollutant:	Total Coliform
LOE Subgroup:	Pollutant-Water
Matrix:	Water
Fraction:	None
Beneficial Use:	Water Contact Recreation
Number of Samples:	318
Number of Exceedances:	0
Data and Information Type:	Not Specified
Data Used to Assess Water Quality:	Zero of the 318 geomeans exceeded the total coliform objective.
Data Reference:	Data for Region 2 Beach Watch.
SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	The geometric mean standard for total coliform states that the total coliform density shall not exceed 1,000 per 100 mL. Water Quality Control Plan for Ocean Waters 2009.
Objective/Criterion Reference:	California Ocean Plan Water Quality Control Plan Ocean Waters of California 2009
Evaluation Guideline:	
Guideline Reference:	
Spatial Representation:	Samples were collected at station Ocean Beach, at Sloat Blvd.
Temporal Representation:	Samples were collected approximately once a week from January 2005 to September 2010.
Environmental Conditions:	
QAPP Information:	The samples were collected for the Beach Watch program.
QAPP Information Reference(s):	

Line of Evidence (LOE) for Decision ID 65990, Indicator Bacteria
Pacific Ocean at Ocean Beach

Region 2

LOE ID:	95848
Pollutant:	Fecal Coliform
LOE Subgroup:	Pollutant-Water
Matrix:	Water

Fraction:	None
Beneficial Use:	Water Contact Recreation
Number of Samples:	318
Number of Exceedances:	0
Data and Information Type:	Not Specified
Data Used to Assess Water Quality:	Zero of the 318 geomeans exceeded the fecal coliform objective.
Data Reference:	Data for Region 2 Beach Watch.
SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	The geometric mean standard for fecal coliform states that the fecal coliform density shall not exceed 200 per 100 mL. Water Quality Control Plan for Ocean Waters 2009.
Objective/Criterion Reference:	California Ocean Plan Water Quality Control Plan Ocean Waters of California 2009
Evaluation Guideline:	
Guideline Reference:	
Spatial Representation:	Samples were collected at station Ocean Beach, at Sloat Blvd.
Temporal Representation:	Samples were collected approximately once a week from January 2005 to September 2010.
Environmental Conditions:	
QAPP Information:	The samples were collected for the Beach Watch program.
QAPP Information Reference(s):	

Line of Evidence (LOE) for Decision ID 65990, Indicator Bacteria

Region 2

Pacific Ocean at Ocean Beach

LOE ID:	95835
Pollutant:	Total Coliform
LOE Subgroup:	Pollutant-Water
Matrix:	Water
Fraction:	None
Beneficial Use:	Water Contact Recreation
Number of Samples:	6
Number of Exceedances:	2
Data and Information Type:	Not Specified
Data Used to Assess Water Quality:	Two of the 6 geomeans exceeded the total coliform objective.
Data Reference:	Data for Region 2 Beach Watch.
SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	The geometric mean standard for total coliform states that the total coliform density shall not exceed 1,000 per 100 mL. Water Quality Control Plan for Ocean Waters 2009.
Objective/Criterion Reference:	California Ocean Plan Water Quality Control Plan Ocean Waters of California 2009
Evaluation Guideline:	
Guideline Reference:	
Spatial Representation:	Samples were collected at station Ocean Beach, at Pacheco St.
Temporal Representation:	Samples were collected from January 2005 to August 2010.
Environmental Conditions:	
QAPP Information:	The samples were collected for the Beach Watch program.
QAPP Information Reference(s):	

Line of Evidence (LOE) for Decision ID 65990, Indicator Bacteria

Region 2

Pacific Ocean at Ocean Beach

LOE ID:	95836
Pollutant:	Fecal Coliform
LOE Subgroup:	Pollutant-Water
Matrix:	Water
Fraction:	None
Beneficial Use:	Water Contact Recreation
Number of Samples:	6
Number of Exceedances:	1
Data and Information Type:	Not Specified
Data Used to Assess Water Quality:	One of the 6 geomeans exceeded the fecal coliform objective.
Data Reference:	Data for Region 2 Beach Watch.
SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	The geometric mean standard for fecal coliform states that the fecal coliform density shall not exceed 200 per 100 mL. Water Quality Control Plan for Ocean Waters 2009.
Objective/Criterion Reference:	California Ocean Plan Water Quality Control Plan Ocean Waters of California 2009
Evaluation Guideline:	
Guideline Reference:	
Spatial Representation:	Samples were collected at station Ocean Beach, at Pacheco St.
Temporal Representation:	Samples were collected from January 2005 to August 2010.
Environmental Conditions:	
QAPP Information:	The samples were collected for the Beach Watch program.
QAPP Information Reference(s):	

Line of Evidence (LOE) for Decision ID 65990, Indicator Bacteria**Region 2****Pacific Ocean at Ocean Beach**

LOE ID:	95837
Pollutant:	Total Coliform
LOE Subgroup:	Pollutant-Water
Matrix:	Water
Fraction:	None
Beneficial Use:	Water Contact Recreation
Number of Samples:	29
Number of Exceedances:	5
Data and Information Type:	PATHOGEN MONITORING
Data Used to Assess Water Quality:	Water Board staff assessed BeachWatch data for Pacific Ocean at Ocean Beach (at Vicente St) to determine beneficial use support and results are as follows: 5 of 29 samples exceed the criterion for Coliform, Total.
Data Reference:	Data for Region 2 Beach Watch.
SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	California Ocean Plan (2009) single sample maximum states that total coliform density shall not exceed 10,000 MPN/100 mL
Objective/Criterion Reference:	California Ocean Plan Water Quality Control Plan Ocean Waters of California 2009
Evaluation Guideline:	
Guideline Reference:	

Spatial Representation:	Data for this line of evidence for Pacific Ocean at Ocean Beach (at Vicente St) was collected at 1 monitoring site [Ocean Beach, at Vicente St.]
Temporal Representation:	Data was collected over the time period 1/9/2005-1/21/2010.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	The samples were collected for the Beach Watch program.
QAPP Information Reference(s):	

Line of Evidence (LOE) for Decision ID 65990, Indicator Bacteria**Region 2****Pacific Ocean at Ocean Beach**

LOE ID:	95838
Pollutant:	Fecal Coliform
LOE Subgroup:	Pollutant-Water
Matrix:	Water
Fraction:	None
Beneficial Use:	Water Contact Recreation
Number of Samples:	29
Number of Exceedances:	8
Data and Information Type:	PATHOGEN MONITORING
Data Used to Assess Water Quality:	Water Board staff assessed BeachWatch data for Pacific Ocean at Ocean Beach (at Vicente St) to determine beneficial use support and results are as follows: 8 of 29 samples exceed the criterion for Coliform, Fecal.
Data Reference:	Data for Region 2 Beach Watch.
SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	California Ocean Plan (SWRCB 2009) states that the single sample maximum for fecal coliform shall not exceed 400 MPN/100 mL
Objective/Criterion Reference:	California Ocean Plan Water Quality Control Plan Ocean Waters of California 2009
Evaluation Guideline:	
Guideline Reference:	
Spatial Representation:	Data for this line of evidence for Pacific Ocean at Ocean Beach (at Vicente St) was collected at 1 monitoring site [Ocean Beach, at Vicente St.]
Temporal Representation:	Data was collected over the time period 1/9/2005-1/21/2010.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	The samples were collected for the Beach Watch program.
QAPP Information Reference(s):	

Line of Evidence (LOE) for Decision ID 65990, Indicator Bacteria**Region 2****Pacific Ocean at Ocean Beach**

LOE ID:	95839
Pollutant:	Enterococcus
LOE Subgroup:	Pollutant-Water
Matrix:	Water
Fraction:	None
Beneficial Use:	Water Contact Recreation
Number of Samples:	29
Number of Exceedances:	10
Data and Information Type:	PATHOGEN MONITORING

Data Used to Assess Water Quality:	Water Board staff assessed BeachWatch data for Pacific Ocean at Ocean Beach (at Vicente St) to determine beneficial use support and results are as follows: 10 of 29 samples exceed the criterion for Enterococci.
Data Reference:	Data for Region 2 Beach Watch.
SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	California Ocean Plan (SWRCB 2009) states that the single sample maximum for Enterococcus shall not exceed 104 MPN/100 mL.
Objective/Criterion Reference:	California Ocean Plan Water Quality Control Plan Ocean Waters of California 2009
Evaluation Guideline:	
Guideline Reference:	
Spatial Representation:	Data for this line of evidence for Pacific Ocean at Ocean Beach (at Vicente St) was collected at 1 monitoring site [Ocean Beach, at Vicente St.]
Temporal Representation:	Data was collected over the time period 1/9/2005-1/21/2010.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	The samples were collected for the Beach Watch program.
QAPP Information Reference(s):	

Line of Evidence (LOE) for Decision ID 65990, Indicator Bacteria

Region 2

Pacific Ocean at Ocean Beach

LOE ID:	95840
Pollutant:	Enterococcus
LOE Subgroup:	Pollutant-Water
Matrix:	Water
Fraction:	None
Beneficial Use:	Water Contact Recreation
Number of Samples:	3
Number of Exceedances:	3
Data and Information Type:	Not Specified
Data Used to Assess Water Quality:	Three of the 3 geomeans exceeded the enterococcus objective.
Data Reference:	Data for Region 2 Beach Watch.
SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	The geometric mean standard for enterococcus states that the enterococcus density shall not exceed 35 per 100 mL. Water Quality Control Plan for Ocean Waters 2009.
Objective/Criterion Reference:	California Ocean Plan Water Quality Control Plan Ocean Waters of California 2009
Evaluation Guideline:	
Guideline Reference:	
Spatial Representation:	Samples were collected at station Ocean Beach, at Vicente St.
Temporal Representation:	Samples were collected from January 2005 to January 2010.
Environmental Conditions:	
QAPP Information:	The samples were collected for the Beach Watch program.
QAPP Information Reference(s):	

Line of Evidence (LOE) for Decision ID 65990, Indicator Bacteria

Region 2

Pacific Ocean at Ocean Beach

LOE ID:	95819
Pollutant:	Enterococcus

LOE Subgroup:	Pollutant-Water
Matrix:	Water
Fraction:	None
Beneficial Use:	Water Contact Recreation
Number of Samples:	323
Number of Exceedances:	17
Data and Information Type:	PATHOGEN MONITORING
Data Used to Assess Water Quality:	Water Board staff assessed BeachWatch data for Pacific Ocean at Ocean Beach (at Balboa St) to determine beneficial use support and results are as follows: 17 of 323 samples exceed the criterion for Enterococci.
Data Reference:	Data for Region 2 Beach Watch.
SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	California Ocean Plan (SWRCB 2009) states that the single sample maximum for Enterococcus shall not exceed 104 MPN/100 mL.
Objective/Criterion Reference:	California Ocean Plan Water Quality Control Plan Ocean Waters of California 2009
Evaluation Guideline:	
Guideline Reference:	
Spatial Representation:	Data for this line of evidence for Pacific Ocean at Ocean Beach (at Balboa St) was collected at 1 monitoring site [Ocean Beach, at Balboa St.]
Temporal Representation:	Data was collected over the time period 1/4/2005-8/25/2010.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	The samples were collected for the Beach Watch program.
QAPP Information Reference(s):	

Line of Evidence (LOE) for Decision ID 65990, Indicator Bacteria

Region 2

Pacific Ocean at Ocean Beach

LOE ID:	95820
Pollutant:	Total Coliform
LOE Subgroup:	Pollutant-Water
Matrix:	Water
Fraction:	None
Beneficial Use:	Water Contact Recreation
Number of Samples:	323
Number of Exceedances:	5
Data and Information Type:	PATHOGEN MONITORING
Data Used to Assess Water Quality:	Water Board staff assessed BeachWatch data for Pacific Ocean at Ocean Beach (at Balboa St) to determine beneficial use support and results are as follows: 5 of 323 samples exceed the criterion for Coliform, Total.
Data Reference:	Data for Region 2 Beach Watch.
SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	California Ocean Plan (2009) single sample maximum states that total coliform density shall not exceed 10,000 MPN/100 mL
Objective/Criterion Reference:	California Ocean Plan Water Quality Control Plan Ocean Waters of California 2009
Evaluation Guideline:	
Guideline Reference:	
Spatial Representation:	Data for this line of evidence for Pacific Ocean at Ocean Beach (at Balboa St) was

Temporal Representation: collected at 1 monitoring site [Ocean Beach, at Balboa St.]
Environmental Conditions: Data was collected over the time period 1/4/2005-8/25/2010.
QAPP Information: Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information Reference(s): The samples were collected for the Beach Watch program.

Line of Evidence (LOE) for Decision ID 65990, Indicator Bacteria
Pacific Ocean at Ocean Beach

Region 2

LOE ID: 95821

Pollutant: Fecal Coliform
LOE Subgroup: Pollutant-Water
Matrix: Water
Fraction: None

Beneficial Use: Water Contact Recreation

Number of Samples: 323
Number of Exceedances: 10

Data and Information Type: PATHOGEN MONITORING
Data Used to Assess Water Quality: Water Board staff assessed BeachWatch data for Pacific Ocean at Ocean Beach (at Balboa St) to determine beneficial use support and results are as follows: 10 of 323 samples exceed the criterion for Coliform, Fecal.

Data Reference: [Data for Region 2 Beach Watch.](#)

SWAMP Data: Non-SWAMP

Water Quality Objective/Criterion: California Ocean Plan (SWRCB 2009) states that the single sample maximum for fecal coliform shall not exceed 400 MPN/100 mL

Objective/Criterion Reference: [California Ocean Plan Water Quality Control Plan Ocean Waters of California 2009](#)

Evaluation Guideline:
Guideline Reference:

Spatial Representation: Data for this line of evidence for Pacific Ocean at Ocean Beach (at Balboa St) was collected at 1 monitoring site [Ocean Beach, at Balboa St.]

Temporal Representation: Data was collected over the time period 1/4/2005-8/25/2010.

Environmental Conditions: Staff is not aware of any special conditions that might affect interpretation of the data.

QAPP Information: The samples were collected for the Beach Watch program.

QAPP Information Reference(s):

Line of Evidence (LOE) for Decision ID 65990, Indicator Bacteria
Pacific Ocean at Ocean Beach

Region 2

LOE ID: 95822

Pollutant: Enterococcus
LOE Subgroup: Pollutant-Water
Matrix: Water
Fraction: None

Beneficial Use: Water Contact Recreation

Number of Samples: 318
Number of Exceedances: 18

Data and Information Type: Not Specified
Data Used to Assess Water Quality: Eighteen of the 318 geomeans exceeded the enterococcus objective.

Data Reference: [Data for Region 2 Beach Watch.](#)

SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	The geometric mean standard for enterococcus states that the enterococcus density shall not exceed 35 per 100 mL. Water Quality Control Plan for Ocean Waters 2009.
Objective/Criterion Reference:	California Ocean Plan Water Quality Control Plan Ocean Waters of California 2009
Evaluation Guideline:	
Guideline Reference:	
Spatial Representation:	Samples were collected at station Ocean Beach, at Balboa St.
Temporal Representation:	Samples were collected approximately once a week from January 2005 to September 2010.
Environmental Conditions:	
QAPP Information:	The samples were collected for the Beach Watch program.
QAPP Information Reference(s):	

Line of Evidence (LOE) for Decision ID 65990, Indicator Bacteria
Pacific Ocean at Ocean Beach

Region 2

LOE ID:	95823
Pollutant:	Total Coliform
LOE Subgroup:	Pollutant-Water
Matrix:	Water
Fraction:	None
Beneficial Use:	Water Contact Recreation
Number of Samples:	318
Number of Exceedances:	0
Data and Information Type:	Not Specified
Data Used to Assess Water Quality:	Zero of the 318 geomeans exceeded the total coliform objective.
Data Reference:	Data for Region 2 Beach Watch.

SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	The geometric mean standard for total coliform states that the total coliform density shall not exceed 1,000 per 100 mL. Water Quality Control Plan for Ocean Waters 2009.
Objective/Criterion Reference:	California Ocean Plan Water Quality Control Plan Ocean Waters of California 2009
Evaluation Guideline:	
Guideline Reference:	
Spatial Representation:	Samples were collected at station Ocean Beach, at Balboa St.
Temporal Representation:	Samples were collected approximately once a week from January 2005 to September 2010.
Environmental Conditions:	
QAPP Information:	The samples were collected for the Beach Watch program.
QAPP Information Reference(s):	

Line of Evidence (LOE) for Decision ID 65990, Indicator Bacteria
Pacific Ocean at Ocean Beach

Region 2

LOE ID:	95831
Pollutant:	Total Coliform
LOE Subgroup:	Pollutant-Water
Matrix:	Water
Fraction:	None

Beneficial Use:	Water Contact Recreation
Number of Samples:	29
Number of Exceedances:	3
Data and Information Type:	PATHOGEN MONITORING
Data Used to Assess Water Quality:	Water Board staff assessed BeachWatch data for Pacific Ocean at Ocean Beach (at Pacheco St) to determine beneficial use support and results are as follows: 3 of 29 samples exceed the criterion for Coliform, Total.
Data Reference:	Data for Region 2 Beach Watch.
SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	California Ocean Plan (2009) single sample maximum states that total coliform density shall not exceed 10,000 MPN/100 mL
Objective/Criterion Reference:	California Ocean Plan Water Quality Control Plan Ocean Waters of California 2009
Evaluation Guideline:	
Guideline Reference:	
Spatial Representation:	Data for this line of evidence for Pacific Ocean at Ocean Beach (at Pacheco St) was collected at 1 monitoring site [Ocean Beach, at Pacheco St.]
Temporal Representation:	Data was collected over the time period 1/9/2005-1/19/2010.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	The samples were collected for the Beach Watch program.
QAPP Information Reference(s):	

Line of Evidence (LOE) for Decision ID 65990, Indicator Bacteria

Region 2

Pacific Ocean at Ocean Beach

LOE ID:	95832
Pollutant:	Fecal Coliform
LOE Subgroup:	Pollutant-Water
Matrix:	Water
Fraction:	None
Beneficial Use:	Water Contact Recreation
Number of Samples:	29
Number of Exceedances:	6
Data and Information Type:	PATHOGEN MONITORING
Data Used to Assess Water Quality:	Water Board staff assessed BeachWatch data for Pacific Ocean at Ocean Beach (at Pacheco St) to determine beneficial use support and results are as follows: 6 of 29 samples exceed the criterion for Coliform, Fecal.
Data Reference:	Data for Region 2 Beach Watch.
SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	California Ocean Plan (SWRCB 2009) states that the single sample maximum for fecal coliform shall not exceed 400 MPN/100 mL
Objective/Criterion Reference:	California Ocean Plan Water Quality Control Plan Ocean Waters of California 2009
Evaluation Guideline:	
Guideline Reference:	
Spatial Representation:	Data for this line of evidence for Pacific Ocean at Ocean Beach (at Pacheco St) was collected at 1 monitoring site [Ocean Beach, at Pacheco St.]
Temporal Representation:	Data was collected over the time period 1/9/2005-1/19/2010.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.

QAPP Information: The samples were collected for the Beach Watch program.
QAPP Information Reference(s):

Line of Evidence (LOE) for Decision ID 65990, Indicator Bacteria
Pacific Ocean at Ocean Beach

Region 2

LOE ID: 95824

Pollutant: Fecal Coliform
LOE Subgroup: Pollutant-Water
Matrix: Water
Fraction: None

Beneficial Use: Water Contact Recreation

Number of Samples: 318
Number of Exceedances: 0

Data and Information Type: Not Specified
Data Used to Assess Water Quality: Zero of the 318 geomeans exceeded the fecal coliform objective.
Data Reference: [Data for Region 2 Beach Watch.](#)

SWAMP Data: Non-SWAMP

Water Quality Objective/Criterion: The geometric mean standard for fecal coliform states that the fecal coliform density shall not exceed 200 per 100 mL. Water Quality Control Plan for Ocean Waters 2009.
Objective/Criterion Reference: [California Ocean Plan Water Quality Control Plan Ocean Waters of California 2009](#)

Evaluation Guideline:
Guideline Reference:

Spatial Representation: Samples were collected at station Ocean Beach, at Balboa St.
Temporal Representation: Samples were collected approximately once a week from January 2005 to September 2010.

Environmental Conditions:
QAPP Information: The samples were collected for the Beach Watch program.
QAPP Information Reference(s):

Line of Evidence (LOE) for Decision ID 65990, Indicator Bacteria
Pacific Ocean at Ocean Beach

Region 2

LOE ID: 95825

Pollutant: Enterococcus
LOE Subgroup: Pollutant-Water
Matrix: Water
Fraction: None

Beneficial Use: Water Contact Recreation

Number of Samples: 326
Number of Exceedances: 23

Data and Information Type: PATHOGEN MONITORING
Data Used to Assess Water Quality: Water Board staff assessed BeachWatch data for Pacific Ocean at Ocean Beach (at Lincoln Way) to determine beneficial use support and results are as follows: 23 of 326 samples exceed the criterion for Enterococci.
Data Reference: [Data for Region 2 Beach Watch.](#)

SWAMP Data: Non-SWAMP

Water Quality Objective/Criterion:	California Ocean Plan (SWRCB 2009) states that the single sample maximum for Enterococcus shall not exceed 104 MPN/100 mL.
Objective/Criterion Reference:	California Ocean Plan Water Quality Control Plan Ocean Waters of California 2009
Evaluation Guideline:	
Guideline Reference:	
Spatial Representation:	Data for this line of evidence for Pacific Ocean at Ocean Beach (at Lincoln Way) was collected at 1 monitoring site [Ocean Beach, at Lincoln Ave.]
Temporal Representation:	Data was collected over the time period 1/4/2005-8/25/2010.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	The samples were collected for the Beach Watch program.
QAPP Information Reference(s):	

Line of Evidence (LOE) for Decision ID 65990, Indicator Bacteria

Region 2

Pacific Ocean at Ocean Beach

LOE ID:	95826
Pollutant:	Total Coliform
LOE Subgroup:	Pollutant-Water
Matrix:	Water
Fraction:	None
Beneficial Use:	Water Contact Recreation
Number of Samples:	326
Number of Exceedances:	10
Data and Information Type:	PATHOGEN MONITORING
Data Used to Assess Water Quality:	Water Board staff assessed BeachWatch data for Pacific Ocean at Ocean Beach (at Lincoln Way) to determine beneficial use support and results are as follows: 10 of 326 samples exceed the criterion for Coliform, Total.
Data Reference:	Data for Region 2 Beach Watch.
SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	California Ocean Plan (2009) single sample maximum states that total coliform density shall not exceed 10,000 MPN/100 mL
Objective/Criterion Reference:	California Ocean Plan Water Quality Control Plan Ocean Waters of California 2009
Evaluation Guideline:	
Guideline Reference:	
Spatial Representation:	Data for this line of evidence for Pacific Ocean at Ocean Beach (at Lincoln Way) was collected at 1 monitoring site [Ocean Beach, at Lincoln Ave.]
Temporal Representation:	Data was collected over the time period 1/4/2005-8/25/2010.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	The samples were collected for the Beach Watch program.
QAPP Information Reference(s):	

Line of Evidence (LOE) for Decision ID 65990, Indicator Bacteria

Region 2

Pacific Ocean at Ocean Beach

LOE ID:	95827
Pollutant:	Fecal Coliform
LOE Subgroup:	Pollutant-Water
Matrix:	Water
Fraction:	None

Beneficial Use:	Water Contact Recreation
Number of Samples:	326
Number of Exceedances:	16
Data and Information Type:	PATHOGEN MONITORING
Data Used to Assess Water Quality:	Water Board staff assessed BeachWatch data for Pacific Ocean at Ocean Beach (at Lincoln Way) to determine beneficial use support and results are as follows: 16 of 326 samples exceed the criterion for Coliform, Fecal.
Data Reference:	Data for Region 2 Beach Watch.
SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	California Ocean Plan (SWRCB 2009) states that the single sample maximum for fecal coliform shall not exceed 400 MPN/100 mL
Objective/Criterion Reference:	California Ocean Plan Water Quality Control Plan Ocean Waters of California 2009
Evaluation Guideline:	
Guideline Reference:	
Spatial Representation:	Data for this line of evidence for Pacific Ocean at Ocean Beach (at Lincoln Way) was collected at 1 monitoring site [Ocean Beach, at Lincoln Ave.]
Temporal Representation:	Data was collected over the time period 1/4/2005-8/25/2010.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	The samples were collected for the Beach Watch program.
QAPP Information Reference(s):	

Line of Evidence (LOE) for Decision ID 65990, Indicator Bacteria

Region 2

Pacific Ocean at Ocean Beach

LOE ID:	95828
Pollutant:	Enterococcus
LOE Subgroup:	Pollutant-Water
Matrix:	Water
Fraction:	None
Beneficial Use:	Water Contact Recreation
Number of Samples:	318
Number of Exceedances:	31
Data and Information Type:	Not Specified
Data Used to Assess Water Quality:	Thirty-one of the 318 geomeans exceeded the enterococcus objective.
Data Reference:	Data for Region 2 Beach Watch.
SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	The geometric mean standard for enterococcus states that the enterococcus density shall not exceed 35 per 100 mL. Water Quality Control Plan for Ocean Waters 2009.
Objective/Criterion Reference:	California Ocean Plan Water Quality Control Plan Ocean Waters of California 2009
Evaluation Guideline:	
Guideline Reference:	
Spatial Representation:	Samples were collected at station Ocean Beach, at Lincoln Ave.
Temporal Representation:	Samples were collected approximately once a week from January 2005 to September 2010.
Environmental Conditions:	
QAPP Information:	The samples were collected for the Beach Watch program.
QAPP Information Reference(s):	

Line of Evidence (LOE) for Decision ID 65990, Indicator Bacteria**Region 2****Pacific Ocean at Ocean Beach**

LOE ID:	95829
Pollutant:	Total Coliform
LOE Subgroup:	Pollutant-Water
Matrix:	Water
Fraction:	None
Beneficial Use:	Water Contact Recreation
Number of Samples:	318
Number of Exceedances:	0
Data and Information Type:	Not Specified
Data Used to Assess Water Quality:	Zero of the 318 geomeans exceeded the total coliform objective.
Data Reference:	Data for Region 2 Beach Watch.
SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	The geometric mean standard for total coliform states that the total coliform density shall not exceed 1,000 per 100 mL. Water Quality Control Plan for Ocean Waters 2009.
Objective/Criterion Reference:	California Ocean Plan Water Quality Control Plan Ocean Waters of California 2009
Evaluation Guideline:	
Guideline Reference:	
Spatial Representation:	Samples were collected at station Ocean Beach, at Lincoln Ave.
Temporal Representation:	Samples were collected approximately once a week from January 2005 to September 2010.
Environmental Conditions:	
QAPP Information:	The samples were collected for the Beach Watch program.
QAPP Information Reference(s):	

Line of Evidence (LOE) for Decision ID 65990, Indicator Bacteria**Region 2****Pacific Ocean at Ocean Beach**

LOE ID:	95830
Pollutant:	Fecal Coliform
LOE Subgroup:	Pollutant-Water
Matrix:	Water
Fraction:	None
Beneficial Use:	Water Contact Recreation
Number of Samples:	318
Number of Exceedances:	0
Data and Information Type:	Not Specified
Data Used to Assess Water Quality:	Zero of the 318 geomeans exceeded the fecal coliform objective.
Data Reference:	Data for Region 2 Beach Watch.
SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	The geometric mean standard for fecal coliform states that the fecal coliform density shall not exceed 200 per 100 mL. Water Quality Control Plan for Ocean Waters 2009.
Objective/Criterion Reference:	California Ocean Plan Water Quality Control Plan Ocean Waters of California 2009
Evaluation Guideline:	

Guideline Reference:

Spatial Representation: Samples were collected at station Ocean Beach, at Lincoln Ave.
Temporal Representation: Samples were collected approximately once a week from January 2005 to September 2010.
Environmental Conditions:
QAPP Information: The samples were collected for the Beach Watch program.
QAPP Information Reference(s):

Line of Evidence (LOE) for Decision ID 65990, Indicator Bacteria

Region 2

Pacific Ocean at Ocean Beach

LOE ID: 95833

Pollutant: Enterococcus
LOE Subgroup: Pollutant-Water
Matrix: Water
Fraction: None

Beneficial Use: Water Contact Recreation

Number of Samples: 29
Number of Exceedances: 6

Data and Information Type: PATHOGEN MONITORING
Data Used to Assess Water Quality: Water Board staff assessed BeachWatch data for Pacific Ocean at Ocean Beach (at Pacheco St) to determine beneficial use support and results are as follows: 6 of 29 samples exceed the criterion for Enterococci.

Data Reference: [Data for Region 2 Beach Watch.](#)

SWAMP Data: Non-SWAMP

Water Quality Objective/Criterion: California Ocean Plan (SWRCB 2009) states that the single sample maximum for Enterococcus shall not exceed 104 MPN/100 mL.

Objective/Criterion Reference: [California Ocean Plan Water Quality Control Plan Ocean Waters of California 2009](#)

Evaluation Guideline:
Guideline Reference:

Spatial Representation: Data for this line of evidence for Pacific Ocean at Ocean Beach (at Pacheco St) was collected at 1 monitoring site [Ocean Beach, at Pacheco St.]

Temporal Representation: Data was collected over the time period 1/9/2005-1/19/2010.

Environmental Conditions: Staff is not aware of any special conditions that might affect interpretation of the data.

QAPP Information: The samples were collected for the Beach Watch program.

QAPP Information Reference(s):

Line of Evidence (LOE) for Decision ID 65990, Indicator Bacteria

Region 2

Pacific Ocean at Ocean Beach

LOE ID: 95842

Pollutant: Fecal Coliform
LOE Subgroup: Pollutant-Water
Matrix: Water
Fraction: None

Beneficial Use: Water Contact Recreation

Number of Samples: 3
Number of Exceedances: 1

Data and Information Type:	Not Specified
Data Used to Assess Water Quality:	One of the 3 geomeans exceeded the fecal coliform objective.
Data Reference:	Data for Region 2 Beach Watch.
SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	The geometric mean standard for fecal coliform states that the fecal coliform density shall not exceed 200 per 100 mL. Water Quality Control Plan for Ocean Waters 2009.
Objective/Criterion Reference:	California Ocean Plan Water Quality Control Plan Ocean Waters of California 2009
Evaluation Guideline:	
Guideline Reference:	
Spatial Representation:	Samples were collected at station Ocean Beach, at Vicente St.
Temporal Representation:	Samples were collected approximately five times a year from January 2005 to January 2010.
Environmental Conditions:	
QAPP Information:	The samples were collected for the Beach Watch program.
QAPP Information Reference(s):	

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Supporting Information

Regional Board 2 - San Francisco Bay Region

Water Body Name: Oakland Inner Harbor
Water Body ID: CAB2042004020170118033180
Water Body Type: Bay & Harbor

DECISION ID	67329	Region 2
Oakland Inner Harbor		

Pollutant: Indicator Bacteria
Final Listing Decision: List on 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision: New Decision
Revision Status: Revised
Sources: Source Unknown
Expected TMDL Completion Date: 2029
Impairment from Pollutant or Pollution: Pollutant

Regional Board Staff Conclusion: This pollutant is being considered for placement on the CWA section 303(d) List under section 3.3 of the Listing Policy. Under section 3.3 a single line of evidence is necessary to assess listing status.

Two lines of evidence are available in the administrative record to assess this pollutant. twenty-one of twenty-five samples exceed the enterococcus geometric mean objective.

Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification for placing this water segment-pollutant combination on the CWA section 303(d) List.

This conclusion is based on the staff findings that:

1. The data used satisfy the data quality requirements of section 6.1.4 of the Policy.
2. The data used do satisfy the data quantity requirements of section 6.1.5 of the Policy. However, there are concerns about the representativeness of the data. The sites selected during this study were not intended to represent spatially or temporally the water quality in this water body as it reasonably relates to REC1. The sites were not selected based on whether one would expect REC1 to occur at those locations (e.g. beach or swimming areas). Rather, the sites were selected because one would expect to find elevated levels of indicator bacteria near storm drain outfalls in Oakland Inner Harbor where swimming or bathing water contact recreation would be rare and limited.
3. Twenty-one of twenty-five samples exceed the enterococcus single sample maximum objective and this does exceed the allowable frequency listed in Table 3.2 of the Listing Policy.
4. Pursuant to section 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.
5. Despite the lack of spatial representation described above, staff recommend listing.

Regional Board Staff Decision Recommendation: After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should be placed on the section 303(d) list because applicable water quality standards are exceeded and a pollutant contributes to or causes the problem.

There was no QAPP associated with these data. There are concerns that the data used may not satisfy the data quantity requirements of section 6.1.5 of the Policy. The sites selected during this study were not intended to represent spatially or temporally the water quality in this water body as it reasonably relates to REC1. The sites were not selected based on whether one would expect REC1 to occur at those locations (e.g. beach or swimming areas). Rather, the sites were selected because one would expect to find elevated levels of indicator bacteria near storm drain outfalls in Oakland Inner Harbor where swimming or bathing water contact recreation would be rare and limited.

Line of Evidence (LOE) for Decision ID 67329, Indicator Bacteria**Region 2****Oakland Inner Harbor**

LOE ID:	95949
Pollutant:	Enterococcus
LOE Subgroup:	Pollutant-Water
Matrix:	Water
Fraction:	None
Beneficial Use:	Water Contact Recreation
Number of Samples:	25
Number of Exceedances:	21
Data and Information Type:	Not Specified
Data Used to Assess Water Quality:	Twenty-one of the 25 samples exceeded the geomean objective for enterococcus. The number of exceedances at each of the sites was approximately the same. Approximately the same number of exceedances during winter and summer months
Data Reference:	Data for bacteria and temperature in San Francisco Bay
SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	Geometric mean: The enterococcus concentration shall not exceed 35/100 ml. Basin Plan Region 2.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	
Guideline Reference:	
Spatial Representation:	Samples were collected from Union Point, Executive Inn and Jack London. These sites are within the vicinity of three storm drain outfalls to the Oakland Inner Harbor, which is part of Lower San Francisco Bay. Samples were collected from Union Point, Executive Inn and Jack London. These sites are within the vicinity of three storm drain outfalls to the Oakland Inner Harbor, which is part of Lower San Francisco Bay. These sites appear to be chosen not to represent water quality related to REC1 in this water body as a whole, but rather the study targeted locations (storm drain outfalls) where one would expect to find elevated levels of indicator bacteria.
Temporal Representation:	Samples were collected from July 2008 to March 2010. Samples were collected approximately once a week during the summer months of June-September 2008 and 2009 and during the winter months February-March 2009 and 2010.
Environmental Conditions:	
QAPP Information:	This data was collected under the Baykeepers Oakland Storm Drain Monitoring Project. No QAPP was provided but working data sheet and SOP is provided. Follows protocol provided by USEPA.
QAPP Information Reference(s):	Data for bacteria and temperature in San Francisco Bay

Line of Evidence (LOE) for Decision ID 67329, Indicator Bacteria**Region 2****Oakland Inner Harbor**

LOE ID:	95950
Pollutant:	Enterococcus
LOE Subgroup:	Pollutant-Water
Matrix:	Water
Fraction:	None
Beneficial Use:	Water Contact Recreation

Number of Samples:	25
Number of Exceedances:	21
Data and Information Type:	Not Specified
Data Used to Assess Water Quality:	Twenty-one of the 25 samples exceeded the geometric objective for enterococcus. The number of exceedances at each of the sites was approximately the same. Approximately the same number of exceedances during winter and summer months
Data Reference:	Data for bacteria and temperature in San Francisco Bay
SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	Geometric mean: The enterococcus concentration shall not exceed 35/100 ml. Basin Plan Region 2.
Objective/Criterion Reference:	Water Quality Control Plan (Basin Plan) San Francisco Bay Basin (Region 2)
Evaluation Guideline:	
Guideline Reference:	
Spatial Representation:	Samples were collected from Union Point, Executive Inn and Jack London. These sites are within the vicinity of three storm drain outfalls to the Oakland Inner Harbor, which is part of Lower San Francisco Bay. These sites appear to be chosen not to represent water quality related to REC1 in this water body as a whole, but rather the study targeted locations (storm drain outfalls) where one would expect to find elevated levels of indicator bacteria.
Temporal Representation:	Samples were collected from July 2008 to March 2010. Samples were collected approximately once a week during the summer months of June-September 2008 and 2009 and during the winter months February-March 2009 and 2010.
Environmental Conditions:	
QAPP Information:	This data was collected under the Baykeepers Oakland Storm Drain Monitoring Project. No QAPP was provided but working data sheet and SOP is provided. Follows protocol provided by USEPA.
QAPP Information Reference(s):	Data for bacteria and temperature in San Francisco Bay